

INSTRUCTIONS TO BIDDERS

OWNER:

County of Montgomery
425 Swede Street
Norristown, PA 19404-0311

ARCHITECT:

Seiler+Drury Architecture
420 Dekalb Street, Norristown, PA

To be considered, Bids must be made in accordance with the Instructions to Bidders.

1. BID DOCUMENTS:

- A. Bid Drawings and Project Specifications are available via the Montgomery County Bonfire Procurement Portal: <https://montcopa.bonfirehub.com/portal>. Instructions for registering can be found on the Montgomery County Website: <https://www.montgomerycountypa.gov/1712/Public-Purchase-Opportunities>. Registration is free.
- B. Any questions with regards to access/registration with Bonfire should be addressed to: Montgomery County Purchasing at 610-278-3037.

2. EXAMINATION:

- A. Bidders shall CAREFULLY EXAMINE the Bidding Documents and the construction site to obtain first-hand knowledge of existing conditions and limitations. FAILURE TO VISIT THE SITES WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR SAME nor will extra payment requests be considered for conditions which could have been determined by examination of the Sites and Bidding Documents.

3. MANDATORY PRE-BID CONFERENCE:

- A. A mandatory pre-bid conference will be held for this project as noted on the Montgomery County Procurement Portal. The pre-bid conference will be open to all Bidders, sub-contractors, vendors, suppliers, and other interested parties.

4. QUESTIONS:

- A. Submit all questions about the Drawings and Project Manual through the Messages / Opportunity Q&A section for the solicitation in Bonfire. Answers to questions will be posted in Bonfire and will become part of the Contract. If any item of Work is shown on the Drawings and not specified or mentioned in the Specifications and not shown on the Drawings, the matter should be brought to the attention of the Architect during bidding so an addendum can be issued correcting the omission. If such correction is not made, the Work in question shall be considered to be required as if it had been specified and shown on the Drawings. The Architect and Construction Manager as Advisor WILL NOT BE RESPONSIBLE FOR ORAL

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

CLARIFICATION. Questions must be received in accordance with the date provided on the Montgomery County Purchasing Portal. Questions received after the deadline will not be answered.

5. SUBSTITUTIONS:

- A. Bids shall be based on the products or manufacturers specified. This is not intended to eliminate competition from other manufacturers other than those specified. No pre-bid substitutions are permitted.

6. BASIS OF BID:

- A. The bidder must include any Alternates and Unit Cost items as may be shown on the BID FORM, failure to comply may be cause for rejection of Bid. The Bidder shall include quantity allowances in its base bid that are equal to the unit prices times the quantities indicated in the Section 012100– Unit Allowances.
- B. No combination of Bids or assignments will be considered unless so noted in the Bidding Documents.
- C. Failure to acknowledge any Addendum or any other item listed on the BID FORM may be cause for rejection of the bid.

7. PREPARATION OF BIDS:

- A. Bids shall be made on unaltered BID FORMS. Fill in all blank spaces and upload directly through the noted section in Bonfire. Bidders must review all Alternates and provide pricing regardless of the assignment of the contract in Section 012300 – Add Alternates. If the Bidder believes its contract is not affected, then a bid of zero dollars or a “No Change” should be bid. Failure to indicate dollar amounts or “No Change” may result in the Bid being rejected.

Each Bid must contain the full business address of the Bidder and must be signed by an authorized representative of the Bidder. If the Bid is made by a corporation, the proposal should be signed by the President or Vice President and attested by the Secretary or Assistant Secretary, and identify the name, business address and state of incorporation for the corporation, and have the corporate seal affixed. **ALL UNSIGNED BIDS SHALL BE REJECTED.**

Bidders will also submit their pricing directly into the Bid Table in Bonfire. Completion of BOTH the Word Bid Form (upload) and completion of the Bid Table (entered directly) into Bonfire are **REQUIRED.**

8. BID SECURITY:

- A. Bid Security shall be made payable to the Owner, in the amount of 10 percent (10%) of the Base Bid plus the cost of all alternates. Security shall be either a **CERTIFIED CHECK, BANK CASHIERS CHECK or BID BOND** issued by a Surety licensed to conduct business in the Commonwealth of Pennsylvania. The Owner reserves the right to approve the sufficiency of the required bid security.
- B. A Bid shall be rejected unless accompanied by a Bid Security. Bid Security shall be in the form of a certified check, certified bank treasurer's check or certified bank cashier's check payable to the Owner or a Bid Bond in the form set forth in the Bidding Documents, naming as payee and oblige, Montgomery County

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

- C. The Owner may declare the Bid Security forfeited to the Owner if, following the issuance of a Notice of Intent to Award to the apparent lowest responsible Bidder, such Bidder fails to deliver the items required under Sections 8 and 15 of these Instructions to Bidders within ten (10) days thereafter.
 - D. If Bid Security is submitted in the form of a Bid Bond, the Bid Bond shall be submitted on the form included in the Bidding Documents, and the Attorney-in-Fact who executes the Bid Bond on behalf of the surety shall affix to the Bid Bond a certified and current copy of its Power of Attorney, authorizing said Attorney-in-Fact to act on behalf of the surety. The Power of Attorney must be dated the same date as the Bid Bond and both the Bid Bond and Power of Attorney shall have affixed the raised corporate seal of the surety. The Bid Bond form must be executed by a surety licensed and authorized to conduct business within the Commonwealth of Pennsylvania and named in the current list of companies holding Certificates of Authority as acceptable sureties on federal bonds and/or as acceptable reinsuring companies as published in Circular 570 (as amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department, and the amount of the Bid Bond shall not exceed the underwriting risk of such surety set forth in said circular or revision thereof.
 - E. The Bid Security of each of the Bidders will be returned (unless forfeited as stated above) at the Bidder's request, upon (1) the date of actual execution by Owner of the Agreement Between Owner and Contractor with the Bidder to whom the Award of Contract has been made, or (2) the rejection of all bids by Owner, or (3) the expiration of the firm Bid period set forth in Section 11 of these Supplemental Instructions to Bidders. The Owner shall not be liable for any interest on Bid Security which is held in accordance with these Supplemental Instructions to Bidders.
 - F. Copies of the Bid Security are to be uploaded through Bonfire. Original copies are to be delivered to the Montgomery County Controllers office prior to the Bid closing date and time.
9. PERFORMANCE BOND AND PAYMENT BOND:
- A. Within ten (10) days of receipt of the Notice of Intent to Award, the successful Bidder shall furnish a Performance Bond and a Payment Bond on the forms provided in the Bidding Documents, each in the amount of one hundred percent (100%) of the Contract Sum. The cost of the Performance Bond and the Payment Bond must be included in the bid amount.
 - B. The Attorney-in-Fact who executes the Performance and Payment Bonds on behalf of the surety shall affix to the Performance and Payment Bonds a certified and current copy of its Power of Attorney, authorizing said Attorney-in-Fact to act on behalf of the surety. The Power of Attorney must be dated the same day as the Performance and Payment Bonds and both shall have affixed the raised corporate seal of the surety.
10. NO-LIEN:
- A. The Project subject to the Bidders Documents is owned by a public entity for a purely public use, and as such, may not be liened. For the protection of sub-contractors and the contractor's suppliers, a payment bond will be required.
11. SUBMISSION OF BIDS
- A. All bids are to be submitted/uploaded through the Bonfire website. All required documentation must be submitted by the bid submission time noted in Bonfire.

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

12. MODIFICATION AND WITHDRAWAL:

- A. Bidders have the ability to modify and/or retract their proposals prior to the time set forth for the opening of the Bids.
- B. Bids shall be irrevocable for sixty (60) days after the actual day of opening thereof unless delayed by the required approval of another governmental agency, the sale of bonds or the award of a grant, in which case, Bids shall be irrevocable for one hundred twenty (120) days after Bid opening. Extensions of the date for the award of contract may be made by the mutual written consent of Owner and the lowest responsible and responsive Bidder.
- B. Neither the designation of the apparent lowest responsible and responsive Bidder, nor the issuance of a Notice of Intent to Award to the Bidder so designated shall operate to release any other Bidder from its Bid. Each such other Bidder, unless earlier released from its Bid by specific action of the Owner, shall remain bound by its Bid until the earlier of (1) the date of actual execution by Owner of the Agreement Between Owner and Contractor with the Bidder to whom the Award of Contract has been made, (2) the rejection of all Bids by the Owner or (3) the expiration of the firm Bid period stipulated above.

13. DISQUALIFICATION AND REJECTION OF BIDS:

- A. The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder.
- B. The Owner has the right to reject bids, which are not responsive, and to not award to any bidder which is deemed to be not responsible.
- C. The Owner expressly reserves the right to reject all bids in the best interest of the County.

14. OPENING BIDS:

- A. Bids will be opened electronically. The County will make every effort to post bid results in Bonfire as soon as possible after the bid opening.

15. AWARD:

- A. The Contract, if awarded, will be awarded on the basis of the lowest responsive base bid, including full consideration of any Alternates and Unit Prices, as may appear on the Bid Form to the lowest responsive and responsible Bidder.
- B. The Owner reserves the right to reject any or all Bids, or any part thereof or items therein, and to waive technicalities, as it may deem best to protect the interests of the Owner. If any award is made by the Owner, it will be to the party declared by the Owner to be the lowest responsive and responsible Bidder.
- C. In awarding Bids, the Owner shall have sole discretion in determining the lowest responsive and responsible Bidder and shall have the right to take into consideration the following factors, in addition to price:
 - 1. The character, integrity, reputation and judgment of the Bidder.

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

2. The previous and existing compliance of the Bidder with the requirements of similar installations.
 3. The ability, capacity, experience and skill of the Bidder to perform the Contract.
 4. The financial condition of the Bidder.
- D. The Owner shall have the right to accept Alternates in any order or combination, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.
16. EXECUTION OF CONTRACT:
- A. The Owner reserves the right to accept any Bid, and to reject any or all Bids.
- B. Each Bidder shall be prepared, if so requested by the Owner, to present evidence of his experience, qualifications, and financial ability to carry out the terms of the Agreement.
- The Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if by the evidence submitted, or as the result of investigation, such Bidder fails to satisfy the Owner that the Bidder is properly qualified to carry out the obligations of the Agreement.
- C. Notwithstanding any delay in the preparation and execution of the formal Agreement, the Contractor shall be prepared and agrees to commence work within five (5) days after Notice to Proceed is given, or on the date stipulated in such order.
- D. The Owner will notify the lowest responsive and responsible Bidder of the Owner's intent to accept its proposal and to make a formal award of contract to such Bidder by the Notice of Intent to Award. The Owner will include with the Notice of Intent to Award the Contract to be signed by the successful Bidder. Within ten (10) days of receipt of the Notice of Intent to Award, the successful Bidder shall furnish (1) a Performance Bond and a Payment Bond in the forms provided in the Bidding Documents, each in the amount of one hundred percent (100%) of the Contract Sum; (2) Certificates of Insurance as required pursuant to the General Conditions of Contract; (3) Contractor's Public Works Employment Verification Form; and (4) the signed Contract. The Performance and Payment Bonds, Insurance Certificates, Employment Verification Form and Agreement shall be submitted to the Construction Manager or Architect's office within the required time period.
- E. After approval of the Performance and Payment Bonds and Insurance Certificates, the Owner will sign and date the Agreement. The Owner shall return to the successful Bidder one (1) copy of the dated, executed Agreement within thirty (30) days of the Notice of Intent to Award, unless the time of issuance of such Agreement shall be extended by mutual written agreement of the Owner and successful Bidder or pursuant to Section 20 below.
17. TIME OF COMPLETION:
- A. The successful Bidder who is awarded the Agreement (the Contractor) shall begin the Work on the date of commencement as defined in subparagraph 8.1.2 of the General Conditions and carry the Work forward expeditiously to achieve Substantial Completion as defined in Section 9.8 of the General Conditions on or before the date or time stipulated in the BID SCHEDULE for each milestone and on or before the date, or time stipulated in the Bid Form for completion of the entire Work.

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

- B. The Contractor understands and agrees that TIME IS OF THE ESSENCE and that all schedule dates are minimum performance dates. Notwithstanding anything to the contrary contained in the Contract Documents as defined in Article III of the Standard Form of Agreement Between Owner and Contractor, should the progress of the Project be ahead of scheduled dates, the Contractor agrees to coordinate and complete its Work in accordance with the actual Project progress and the actual pace of the Project without additional compensation. In said case, Contractor waives any right to claim that it has been accelerated.
18. COMPLIANCE WITH GOVERNING LAWS, RESOURCES, POLICIES, PROCEDURES AND REGULATIONS:
- A. The Bidder's attention is directed to the fact that all applicable Federal and State laws, county and municipal ordinances and codes, and Owner policies, resolutions and procedures and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Agreement whether expressly set forth therein or otherwise. The following paragraphs B through M are deemed to be included in the Agreement, the same as though therein written in full.
- B. FEDERAL OCCUPATIONAL SAFETY & HEALTH ACT OF 1970 (O.S.H.A.):
- The Contractor is required to promptly perform all reporting and recording as required by said Act.
- C. PENNSYLVANIA ACT 287 - UTILITIES PROTECTION:
- The Contractor will be responsible for complying with Pennsylvania Act 287 of 1974, as amended, commonly known as the "CALL BEFORE YOU DIG ACT". Excavation or digging Contractors may learn the utilities and authority Owners by calling 1-800-242-1776 statewide prior to work. One call locates utility lines and the utilities are notified.
- D. COMPLIANCE WITH HUMAN RELATIONS ACT:
- The provisions of the Pennsylvania Human Relations Act, Act 222 of October 27, 1955 (P.L. 744) (43 P.S. Section 951, et. seq.) of the Commonwealth of Pennsylvania prohibit discrimination because of race, color, familial status, religious creed, ancestry, age, sex, national origin, handicap, disability or use of guide or support animal, by employers, employment agencies, labor organizations, contractors, and others. The Contractor agrees to comply with the provisions of this Act as amended and said Act is made part of the Contract Documents. Your attention is directed to the language of the Commonwealth's non-discrimination clause in 16 PA. Code 49.101.
- E. PENNSYLVANIA PREVAILING WAGE ACT 442:
1. The general prevailing minimum wage rates including contributions for employee's benefits as shall have been determined by the Secretary of Labor and Industry which must be paid to the workmen employed in the performance of the Contract.
- The Contract shall specifically provide that the Contractor shall pay no less than the wage rates as determined in the decision of the Secretary of Labor and Industry and shall comply with the conditions of the Pennsylvania Prevailing Wage Act approved August 15, 1961 (Act No. 442), as amended August 9, 1963 (Act No. 342), and the Regulations issued pursuant thereto, to assure the full and proper payment of said rates.
2. The contract shall contain the stipulation that such workmen shall be paid no less than such general prevailing minimum wage rates and such other provisions to

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

assure payment thereof, as heretofore set forth in Section 9.103 of Title 34 of the Pennsylvania Administrative Code.

3. The contract provisions shall apply to all work performed on the contract by the Contractor and to all work performed on the contract by all subcontractors.
4. The Contractor shall insert in each of his sub-contracts all of the stipulations contained in these required provisions and such other stipulations as may be required.
5. The Contract shall provide that no workmen may be employed on the public work except in accordance with the classifications set forth in the decision of the Secretary. In the event that additional or different classifications are necessary, the procedure set forth in Section 9.107 of Title 34 of the Pennsylvania Administrative Code shall be followed.
6. The Contract shall provide that all workmen employed or working on the public work shall be paid unconditionally, regardless of whether any contractual relationship exists or the nature of any contractual relationship which may be alleged to exist between any contractor, subcontractor and workmen, not less than once a week without deduction or rebate, on any account, either directly or indirectly, except authorized deductions, the full amounts due at the time of payment, computed at the rates applicable to the time worked in the appropriate classification. Nothing in the contract, the Act or Title 34 of the Pennsylvania Administrative Code shall prohibit the payment of more than the general prevailing minimum wage rates as determined by the Secretary to any workman on public work.
7. The Contract shall provide that the Contractor and each subcontractor shall post for the entire period of construction the wage determination decisions of the Secretary, including the effective date of any changes thereof, in a prominent and easily accessible place or places at the site of the work and at such place or places used by them to pay workmen their wages. The posted notice of wage rates must contain the following information:
 - a. Name of project.
 - b. Name of public body of which it is being constructed.
 - c. The crafts and classifications of workmen listed in the Secretary's general prevailing minimum wage rate determination for the particular project.
 - d. The general prevailing minimum wage rates determined for each craft and classification and the effective date of any changes.
 - e. A statement advising workmen that if they have been paid less than the general prevailing minimum wage rate for their job classification or that the Contractor and/or subcontractor are not complying with the Act or Title 34 of the Pennsylvania Administrative Code in any manner whatsoever they may file a protest in writing with the Secretary of Labor and Industry within three (3) months of the date of the occurrence, objecting to the payment to any Contractor to the extent of the amount or amounts due or to become due to them as wages for work performed on the public work project. Any workmen paid less than the rate specified in the contract shall have a civil right of action for the difference between the wage paid and the wages stipulated in the contract, which right of action must be exercised within six (6) months from the occurrence of the event creating such right.
8. The Contract shall provide that the Contractor and all subcontractors shall keep an accurate record showing the name, craft and/or classification, number of hours worked per day, and the actual hourly rate of wage paid (including employee benefits) to each workman employed by him in connection with the public work and such record must include any deductions from each workman. The record shall be

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

preserved for two years from the date of payment and shall be open at all reasonable hours to the inspection of the public body awarding the contract and to the Secretary of Labor and Industry or his duly authorized representatives.

9. The Contract shall provide that apprentices shall be limited to such numbers as shall be in accordance with a bona fide apprenticeship program registered with and approved by the Pennsylvania Apprenticeship and Training Council and only apprentices whose training and employment are in full compliance with the provisions of the Apprenticeship and Training Act approved July 14, 1961 (Act No. 304) and the Rules and Regulations issued pursuant thereto shall be employed on the public work project. Any workman using the tools of a craft who does not qualify as an apprentice within the provisions of this subsection shall be paid the rate predetermined for journeymen in that particular craft and/or classification.
10. Wages shall be paid without any deductions except authorized deductions. Employers not parties to a contract requiring contributions for employee benefits which the Secretary of Labor and Industry has determined to be included in the general prevailing minimum wage rate shall pay the monetary equivalent thereof directly to the workmen.
11. Payment of compensation to workmen for work performed on public work on a lump sum basis, or a piece work system, or a price certain for the completion of a certain amount of work, or the production of a certain result shall be deemed a violation of the Act and the related resolutions set forth in Title 34, Part I, Chapter 9, Subchapter E of the Pennsylvania Administrative Code regardless of the average hourly earnings resulting therefrom.
12. The Contract shall also provide that each Contractor and each subcontractor shall file a statement each week and a final statement at the conclusion of the work on the contract with the Owner, under oath, and in form satisfactory to the Secretary of Labor and Industry, certifying that all workmen have been paid wages in strict conformity with the provisions of the contract as prescribed by Title 34 of the Pennsylvania Administrative Code, Section 9.103, or if any wages remain unpaid to set forth the amount of wages due and owing to each workman respectively. Owner reserves the right to withhold payment to Contractor if it fails to submit these statements to Owner with the applicable Application for Payment.
13. The provisions of the Act and Title 34, Part F, Chapter 9, Subchapter E of the Pennsylvania Administrative Code shall be incorporated by reference in the contract.

F. DISCRIMINATION PROHIBITED AND COMPLIANCE WITH ADA:

Contractor, at its own expense, shall conform to the nondiscrimination policies and plans required by the Contract Documents, the laws of the Commonwealth of Pennsylvania and all other laws applicable to the Project.

1. In the hiring of employees for the performance of Work under this Agreement, neither the Contractor nor any person or entity acting on behalf of or under contract to the Contractor shall, by reason of gender, race, creed, religion, color, national origin or ancestry, disability, citizenship or any other status protected under the laws of the Commonwealth of Pennsylvania discriminate against any citizen who is qualified and available to perform Work which the employment relates.
2. Neither Contractor nor any person or entity acting on behalf of or under Contractor shall discriminate, in any manner, against or intimidate any employee hired for the performance of Work on account of gender, race, creed, religion, color, national origin or ancestry, disability, citizenship (subject to prevailing law) or any other status protected under the laws of the Commonwealth of Pennsylvania.

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

3. Unless exempted by law, Contractor shall include the requirements of this section in every subcontract or purchase order so that it will be binding upon each subcontractor or supplier of the Contractor.
4. In the event the Contractor believes it necessary to modify its sequence of Work, the work environment or means and methods to comply with the applicable requirements of the Americans with Disabilities Act (ADA), Contractor shall notify the Construction Manager in writing of the proposed modification. The Construction Manager shall have a reasonable period of time to review the request and may seek advice and consent from the Owner and Architect before responding in writing to Contractor. All costs of the proposed modifications shall be borne by Contractor, including impact costs to other Contractors or other parts of the Project, including any claims arising therefrom. Contractor shall implement no modification until he receives written consent from the Construction Manager. Nothing herein shall be construed to make the Owner, Construction Manager or Contractor responsible for conformance of the Architect's design to ADA requirements.
5. If Contractor, its employees, subcontractors, suppliers or any other person or entity responsible to Contractor fails to comply with any applicable law or requirement of this Agreement or the Contract Documents, upon written notice from the Construction Manager, Contractor shall commence to cure such non-compliance within twenty-four (24) hours and shall achieve compliance within seventy-two (72) hours of receipt of written notice. Any failure of Contractor to do so after written notice to comply shall constitute a breach of contract and the Owner, in addition to its other rights in the event of a breach, shall have the right to terminate Contractor's right to perform the Work.
6. This Contract may be cancelled or terminated by Montgomery County and all money due or to become due hereunder may be forfeited, for a violation of the terms or conditions of this portion of the contract.

G. COMPLIANCE WITH STEEL PRODUCTS PROCUREMENT ACT:

PROVISION FOR THE USE OF STEEL AND STEEL PRODUCTS MADE IN THE U.S. In accordance with Act 3 of the 1978 General Assembly of the Commonwealth of Pennsylvania, as amended, 73 P.S. Sections 1881-1887, if any steel or steel products are to be used or supplied in the performance of the contract, only those steel products produced in the United States as defined therein shall be used or supplied in the performance of the contract or any subcontracts thereunder.

In accordance with Act 161 of 1982, as amended, cast iron products shall also be included and produced in the United States. Act 141 of 1984, as amended, further defines "steel products" to include machinery and equipment. The act also provides clarifications and penalties.

Contractors and subcontractors shall also comply with 71 P.S. Section 773.110 dealing with aluminum or steel products made in a foreign country which has been determined to discriminate.

In accordance with the Trade Practices Act of July 23, 1968, P.L. 686 (71 P.S. § 773.101 et seq.), the Contractor cannot and shall not use or permit to be used in the Work any aluminum or steel products made in a foreign country which is listed below as a foreign country which discriminates against aluminum or steel products manufactured in Pennsylvania. The countries of Argentina, Brazil, South Korea, and Spain have been found to discriminate against certain products manufactured in Pennsylvania. Therefore, the purchase or use of those countries' products, as listed below, is not permitted:

1. Argentina: carbon steel wire rod and cold-rolled carbon steel sheet.

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

2. Brazil: welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless steel products, including hot-rolled stainless steel bar; stainless steel wire rod and cold-formed stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet; and cold-rolled carbon steel sheet.
3. South Korea: welded carbon steel pipes and tubes; hot-rolled carbon steel plate; hot-rolled carbon steel sheet; and galvanized steel sheet.
4. Spain: certain stainless steel products, including stainless steel wire rod, hot rolled stainless steel bars; and cold-formed stainless steel bars; pre-stressed concrete steel wire strand; and certain steel products, including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes; galvanized carbon steel sheet, hot-rolled carbon steel bars, and cold-formed carbon steel bars.

Penalties for violation of the above paragraphs may be found in the Trade Practices Act, which penalties include becoming ineligible for public works contracts for a period of three years. This provision in no way relieves the Contractor of responsibility to comply with those provisions of the Contract which prohibit the use of foreign-made steel and cast iron products.

H. STANDARD OF QUALITY:

The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. It is the intent of the specifications to review and approve or reject substitutions in accordance with the terms and conditions of Section 01 60 00 Product Requirements. In addition, it is the intent of the specifications, where specifically noted, to not allow equals or substitutions of certain system(s), product(s) and / or material(s) specified. In such cases, the bidders shall base their bid on the system(s), product(s) and / or material(s) specified only.

I. ALLOWANCES:

Refer to project specifications for the stipulated allowances for each contract and use requirements. The use of Allowances is at the sole discretion of the Owner. Any unused allowances will be credited back to the Owner prior to the completion of the project.

J. RIGHT TO KNOW ACT:

Contractor shall comply with all terms and conditions of the Pennsylvania Right to Know Law, 65 P.S. § 67.101, et seq., as amended and its implementing regulations.

K. COMPETENT WORKMEN:

As required by 24 P.S. Section 7-752, no person shall be employed to do work under this Contract except competent and first-class workmen, and mechanics, meaning those who are duly skilled in their respective branches of labor and who shall be paid not less than such rates of wages and for such hours' work as shall be the established and current rates of wages paid for such hours by employers of organized labor in doing similar work in the geographical area where the work is being done.

L. PREVENTION OF ENVIRONMENTAL POLLUTION

Section 3301 of the Pennsylvania Commonwealth Procurement Code requires that all invitations for Bids and requests for proposals for construction projects issued by any

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

governmental agencies shall set forth any provision of Federal and State statutes, rules, and regulations dealing with prevention of environmental pollution and the preservation of public natural resources that affect the Project. In this regard, Bidder is directed to a Notice of said provisions prepared by the Pennsylvania Department of Environmental Resources under Act 247 of 1972, 52 P.S. § 1612 (repealed). Contractor is hereby notified and agrees to comply with the terms of all statutes, rules and regulations enumerated in said Notice. Where any identified environmental statute, rule and/or regulation has been revised, amended, supplemented, repealed and/or supplanted, Contractor shall comply with such statute, rule and/or regulation as so modified. Notwithstanding the foregoing, failure to include any applicable environmental statute, rule and/or regulation in the Notice shall not relieve Contractor of its obligation to comply with same.

M. E-VERIFY

The Contractor and its subcontractors (as such term is defined in the act) are required to comply with the Public Works Employment Verification Act, Act No. 127, July 5, 2012 (formerly Senate Bill 637) EVA and regulations issued thereunder, as the same may be amended from time to time. Within ten (10) days of receipt of a Notice of Intent to Award, and as a pre-condition of being awarded the Contract, the successful Bidder shall submit to the Owner the employment verification form required by the EVA acknowledging its responsibilities and its compliance with the EVA. Per the EVA, the employment verification form is to be obtained from the Secretary of the Pennsylvania Department of General Services. Per the EVA, the verification form shall include a certification that the information in the statement is true and correct and that the individual signing the statement understands that the submission of false or misleading information in connection with the verification shall subject the individual and the public works Contractor or subcontractor, as the case may be, to sanctions provided by law; and the verification form shall be signed by a representative of the public works Contractor or subcontractor, as applicable, who has sufficient knowledge and authority to make the representations and certifications contained in the statement. Per the EVA, Contractor's subcontractors (as defined in the EVA) shall provide, and Contractor shall cause its subcontractors to provide, their verification forms prior to commencing work on the project.

19. PROPOSAL MISTAKE CLAIMS

- A. Negligence by the Bidder in preparing his proposal confers no right of withdrawal or modification of his proposal after such proposal has been opened. No claims on account of mistakes or omissions of any proposal will be considered. Notwithstanding the above, a Bidder may withdraw his proposal within two (2) business days after the Bid opening time subject to and in accordance with the Public Contracts – Withdrawal of Bids Law, Act of January 23, 1974, P.L. 9, No. 4, 73 P.S. § 1601 et seq., as amended. A Bid which has been opened may be withdrawn only in accordance with the causes set forth in said Act and for no other reasons. Strict compliance with said Act is required to withdraw a Bid after opening.

20. IRREGULAR PROPOSALS

- A. Proposals indicating a qualification of the Bid, conditions or uninvited alternate Bids or which contain alteration of the form request for a proposal, or additions or deductions not called for shall be rejected. Bids containing minor irregularities or informalities, not relating to price, time, or changes affecting the quality of work, may be rejected at Owner's sole discretion. Owner reserves the right to waive any such informalities or irregularities.

21. FAILURE TO EXECUTE CONTRACT

- A. Failure of the Bidder to whom Notice of Intent to Award has been given to deliver appropriate Payment and Performance Bonds, Certificates of Insurance, Employment Verification Form, or execute the Agreement within the time specified, shall constitute a default by such

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

Bidder and the Owner may, at its sole discretion, award the contract to the next lowest responsive and responsible Bidder or re-advertise for Bids, and the defaulting Bidder shall pay to the Owner the difference between the amounts of his Bid and any higher amount for which the Owner may contract for the required work, plus any advertising, consulting, legal or other expenses incurred by reason of the default. The Bid Security of such defaulting Bidder shall be applied on account of said damages, and if the amount of said damages exceeds the amount of the Bid Security, the defaulting Bidder shall pay to the Owner the full amount of the excess.

22. TAXES

- A. Contractor shall be responsible for and shall pay all applicable sales, use, excise or other taxes required by law on all materials, tools, apparatus, equipment, fixtures, services, incidentals or otherwise which may be purchased or used in connection with the Work or portions thereof. The Bid shall be made in accordance with such laws and shall include all applicable taxes in the Bid amount.

Notwithstanding the foregoing, however, Owner is exempt (excluded) from sales and/or use tax in Pennsylvania on certain transactions. Contractor and all subcontractors shall bid and shall purchase as exempt (excluded) from Pennsylvania sales and/or use tax all tangible personal property within the definition of 'building machinery and equipment' as that term is defined in Act No. 45-1998 (72 P.S. § 7201 et seq.). A copy of this portion of such Act is obtainable from Owner upon request. No charges shall be allowed for such exempt items. It shall be the Contractor's responsibility to determine those items for which an exemption will apply, and the Contractor shall obtain legal or other tax advice to determine how and to what extent an exemption from the taxes apply. In order to facilitate such purchase free of sales and/or use tax in Pennsylvania, and upon certification by Contractor that an item is, in fact, tax exempt, the Owner agrees to execute a tax exemption certificate prepared by Contractor or a subcontractor as may be required by the regulations of the Pennsylvania Department of Revenue.

23. USE OF OWNER'S FACILITIES

- A. Contractor, subcontractors and their agents and employees, shall not be permitted in existing facilities absent receiving prior approval from Owner or Owner's Representative. Contractor will comply with all regulations, resolutions, procedures and policies while on Owner property, as well as any special regulations adopted by the Owner relating to this Project. Contractor, subcontractors and their agents and employees shall not socialize with employees of the County or building visitors.
- B. Inappropriate language, dress or conduct will not be tolerated on the construction site. Violations shall be grounds for dismissal.
- C. The entire construction site is 'firearms free', 'drug-free', 'tobacco-free' and 'alcohol-free'.
- D. All persons are prohibited from carrying, possessing or storing a handgun firearm, or weapon of any kind while on the project, regardless of whether the person has registered the weapon or is licensed to carry a concealed weapon.
- E. Failure of a company to abide all terms and conditions of the above policies may result in discipline up to and including termination. Further, possession of any weapon, illegal drugs or any alcohol on the Owner's property in violation of this policy will be considered an act of criminal trespass and will be grounds for immediate removal of that person from the Project Site, and may result in prosecution.

24. ALL APPLICABLE LAWS

**Montgomery County
Lock 60 Workman's Cottage
Phase 2 Renovation**

- A. Contractor shall comply with all applicable federal, state, local, Owner and industry statutes, regulations, ordinances, codes, resolutions, policies, procedures and standards. The failure to specifically reference or include said matters in the Contract Documents does not excuse Contractor from compliance with same.
- B. All Contractors and their subcontractors are required to be registered with the local township or municipality. Contractors and their subcontractors are required to pay any registration or licensing fees as required.

END OF SECTION

DRAFT AIA® Document A232™ – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:

(Name, and location or address)

THE CONSTRUCTION MANAGER:

(Name, legal status, and address)

Skanska USA Building Inc. »
518 East Township Line Rd
Suite 200 »
Blue Bell, PA 19422 »

THE OWNER:

(Name, legal status, and address)

«County of Montgomery »
«Montgomery County Courthouse »
«PO Box 311
Norristown, PA 19404»

THE ARCHITECT:

(Name, legal status, and address)

The Project is subject to the requirements of the Pennsylvania Separations Act (53 P.S. Section 1003). These General Conditions, as amended, shall be applicable to the activities and Work of each of the Contractors separately engaged by the Owner as set forth in their respective Agreements.

It is the desire of the Owner to implement and have all of the participants on the Project utilize and adhere to procedures promulgated by the Lean Construction Institute (collectively, the “Lean Procedures”) which shall be coordinated by the Construction Manager. Contractor shall refer to Specification Section 01-3200.

Notwithstanding anything to the contrary contained herein, each prime Contractor is responsible for scheduling its day-to-day activities and tasks. Each prime Contractor shall provide schedules and updates to the Construction Manager in a timely manner, who shall prepare and manage the overall Construction Schedule as hereinafter defined. The Construction Manager shall oversee the overall progress of the Work and Project.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A132™-2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™-2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™-2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT AND CONSTRUCTION MANAGER
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
8	TIME
9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES



ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement), as amended and consist of the Agreement, Conditions of the Contract (consisting of these General Conditions of the Contract, as amended and any Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to or after the execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of addenda relating to bidding or proposal requirements. The Contractor shall be fully familiar with all documents relating to the Project. In the event of a conflict with other contractors regarding scope, the Construction Manager shall make a determination which shall be binding on the Contractor.

§ 1.1.2 The Contract. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to the performance and enforcement of the obligations under the Contract intended to facilitate the performance of their respective duties. The Owner shall be entitled to performance of the obligations intended for its benefit, and to enforcement thereof. If any Contractor fails to fulfill its responsibilities in the performance of its Work, as described in the Contract Documents, the Contractor shall remain responsible to the Owner for the final completion of the Work and for any damages, losses, costs and expenses incurred by the Owner as a result of claims by a separate contractor engaged by the Owner for the Project. The Contractor acknowledges: a) that the Work is an obligation intended for the benefit of the Owner; and b) that none of the Subcontractors of the Contractor shall have contractual or third party beneficiary rights against the Owner due to any of the Owner's obligations hereunder; and c) each of the prime Contractors engaged by the Owner for the Project may be dependent upon the timely Work of the Contractor. The Contractor shall cause its Subcontractors to so acknowledge in their respective Subcontracts. However, the Owner shall be understood to be a third-party beneficiary of the performance obligations of each and all of the Subcontractors.

§ 1.1.3 The Work. The term "Work" means the construction and services required by the Contract, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor and the Subcontractors, Sub-subcontractors at every level, material suppliers and other entities for whom the Contractor is responsible to fulfill the Contractor's obligations, under its Contract, whether on or off the Property. The Work constitutes a part of the Project.

§ 1.1.4 The Project. The Project is the total construction of which the Work performed under the Contract Documents and which includes construction by other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 The Drawings. The Drawings are the graphic and pictorial portions of the Contract Documents applicable to the Contract and the Work thereunder, whenever issued showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.8 The Specifications. The Specifications are that portion of the Contract Documents applicable to the Contract and the Work thereunder consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.9 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.10 PROPERTY. The Property is the real property and all improvements thereon known as Montgomery County Justice Center and located at 2 East Airy Street, Norristown, Montgomery County, PA 19401.

§ 1.1.11 PROJECT SITE. The Project Site is the Property, including the improvements thereon, and the location of the site where the Work by the respective Contractors is to be performed.

§ 1.1.12 Architect's Supplementary Instructions. Supplementary drawings, written instructions or an order for minor modifications of any of the Work issued by the Architect which does not involve an adjustment to the Contract Sum or an extension of the Contract Time.

§ 1.1.13 Addenda. Forms issued by the Architect prior to or after the execution of the Contract which interpret or modify the Bid Documents by additions, deletions, clarifications or corrections.

§ 1.1.14 Bid Documents. The drawings, specifications and other Contract Documents which are issued to prospective bidders for Contracts for the Work – in conformity with the Separations Act and applicable public bidding requirements – including any requests for proposals or other invitations to bid, and related documents that are to be executed and submitted by the Contractor with its bid proposal for the Work for the Project for which the prospective bidder submitted its bid.

1.1.15 Bulletin (or AIA Form G709 - Proposal Request). Form issued by the Architect after the execution of the Contract at the direction of the Owner, requesting a cost proposal for changes in the Work which are outlined and described in the Bulletin, which may also include revised Drawings and/or revised Specifications.

§ 1.1.16 Notice to Proceed. Written authorization to the Contractor from the Owner to commence construction activities pursuant to the Contract applicable to such Contractor. The Notice to Proceed may be delivered in person by Owner to the Contractor or mailed to the Contractor by certified or registered mail, return receipt requested.

§ 1.1.17 Indemnitees. Owner, the Architect, Construction Manager, and each of their respective officers, directors, employees, agents, representatives, successors, and assigns.

§ 1.1.18 Government Authorities (or Authorities Having Jurisdiction or AHJ). Any federal, state, local governmental entity or authority having jurisdiction over the Work, the Project or the Contractor.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents with respect to the Work of Contractor is to include therein or by reference all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control any Contractor in dividing the Work among its Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 Subject to the provisions of Section 1.2.5, in the event of inconsistencies within or between parts of the Contract Documents applicable to the Work of a Contractor, or between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall (i) provide the better quality or greater quantity of Work, or (ii) comply with the more stringent requirement; either or both in accordance with the Architect's interpretation and direction.

§ 1.2.5 The Architectural and Structural Drawings and details shall govern in the event of any conflicts between such Drawings and the Mechanical and Electrical Drawings, but not to the extent of allowing, nor shall the foregoing relieve the Mechanical or Electrical Contractor of responsibility for the omission of any items shown on Mechanical and Electrical Drawings.

§ 1.2.6 The provisions of the Contract Documents applicable to each Contract are binding on the Contractor, Subcontractors, and Sub-subcontractors for all Work shown or indicated on the original Contract Documents applicable thereto plus any additional work authorized by change order, interpretation or field orders pursuant to such Contract Documents.

§ 1.2.7 Should a conflict occur in or between any drawings and/or specifications, the Contractor is deemed to have estimated on and agreed to perform the more expensive way of doing the Work under its Contract. Manufacturer's equipment specifications are based on models and/or construction and installation procedures prevailing at the date of the invitation and/or advertisement to submit bid proposals. Equipment installations requiring modifications due to manufacturer's model and/or construction changes and other variations from the items specified shall be furnished and installed by the Contractor at no additional cost to Owner.

§ 1.2.8 Requests by the Contractor for written interpretations and/or detail drawings shall be made to the Architect in a timely manner such as will allow ample time for their preparation and delivery without causing delays in the Work or the Project. Failure of the Contractor to request needed clarifications and/or in the event of its proceeding with affected work prior to receiving same, shall indicate its acceptance of any and all costs and/or delays required on account of necessary corrections.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 Instruments of Service, including the Drawings and Specifications, are and shall remain property of the Owner and the Owner will retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. None of the Contractors, Subcontractors, sub-subcontractors, and suppliers shall own or claim a copyright in the Instruments of Service. Submittal or distribution of any Drawings or Specifications to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Owner's reserved rights.

§ 1.5.2 The Contractors, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractors, Subcontractors, Sub-subcontractors, and suppliers

may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific prior written consent of the Owner.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees. The Contractor acknowledges that 3D Computer Model is not a part of the Construction or Contract Documents for the Project and that Architect makes no representations or warranties, express or implied, regarding the 3D Computer Model, the accuracy or completeness of the 3D Model or the data and/or information contained therein. Contractor will be required to execute Architect's standard 3D Computer Model release form prior to Contractor's use of said Model.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative. Contractor recognizes that the Owner is a public body and may only act through its governing body.

§ 2.2 Evidence of the Owner's Financial Arrangements – Intentionally Omitted

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for building permit and related fee that are the specific responsibility of the Owner under the Contract Documents, the Contractor shall secure and pay for all necessary approvals required for construction, and the performance of its Work. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit. The Contractor shall cooperate with the Construction Manager as necessary to enable the Construction Manager to secure the building permit. The Contractor shall be responsible for any and all costs associated with road closures, sidewalk closures, parking fees and such other costs related to their Work including, but not limited to those identified in the Contract Documents.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 2.3.5 The Owner shall furnish available surveys describing physical characteristics, legal limitations and utility locations for the Project Site, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall in any event exercise proper precautions relating to the safe performance of the Work as noted below.

§ 2.3.6 The Contractor shall check such surveys and if the Contractor notes any inaccuracies in such surveys with the observable physical conditions of the Property and the Contract Documents, it shall so promptly notify Owner in writing. Contractor assumes full responsibility for timely acquainting itself by visual observation and review of information contained in the documents provided by Owner, Architect and Construction Manager with the location of its Work, with the location of utilities situated on, near or under its Work site or otherwise affecting its Work as shown on the Drawings and Specifications, the soils, subsurface conditions and all other construction activity and conditions presently occurring on the Project Site, as well as that being proposed at the Project Site whether to be performed by another Contractor or otherwise.

§ 2.3.6.1 The Owner shall furnish any information or services under the Owner's control and relating to the Contractor's performance of its Work with reasonable promptness to avoid delay in the orderly progress of such Work after receiving the Contractor's written request for such information or services.

§ 2.3.7 The Owner and Contractor shall forward all communications to the Construction Manager.

§ 2.389 The Owner shall not be precluded or estopped by any approvals made or given by them under any provision or provisions of any Contract and subject thereto, at any time, either before or after the completion and acceptance of the Work thereunder and payment therefor, from identifying the true and correct amount and character of the Work performed and materials and equipment furnished by the Contractor and its Subcontractors; nor from showing at any time that the Work or materials, equipment or any parts thereof do not conform to the Drawings and Specifications and the other Contract Documents applicable to the Contractor. The Owner shall have the right to reject the whole or any part of the aforesaid Work or materials and equipment should the said Work be inconsistent and not in compliance with the terms of the applicable Contract, or otherwise improperly performed or defective; and the Owner shall not be precluded or estopped from demanding and recovering from the Contractor and its Subcontractors or both, such costs, expenses or damages as it may sustain or incur by reason of their failure to comply with the terms of the Contract Documents applicable to the Contractor, or on account of any over-payments made based on any estimate or certificate. Neither the acceptance by the Owner, nor any certificate approved for payment of money, nor any payments for, nor acceptance of the whole or any part of the Work by the Owner, nor any extension of time, nor any possession taken by the Owner shall operate as a waiver of any portion of the Contract Documents applicable to the obligations of the Contractor or any power herein reserved by the Owner or any right to damages by the Owner, nor shall any waiver of any breach of the such applicable Contract Documents be held to be a waiver of any other or subsequent breach by the Contractor.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents or repeatedly fails to carry out its Work in accordance with such Contract Documents, the Owner by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. Owner's exercise of the right described in this § 2.3 shall not give rise to any extension of the Contract Time nor increase in the Contract Sum.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out its Work in accordance with the Contract Documents and fails within a five-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may immediately, without prejudice to any other remedies the Owner may have, correct such default or neglect and hold the Contractor responsible for all costs and expenses associated therewith, including reasonable professional fees. The Construction Manager or Architect may, pursuant to Section 9.5.1, withhold or nullify any Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and any compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

§ 2.6 Additional Rights

§ 2.6.1 Contractor shall provide access to the Project Site and the Work so that Owner, Architect, Construction Manager and their representatives may perform their functions under the Contract Documents.

§ 2.6.2 The rights stated in this Article 2 shall be in addition to and not in limitation of any other rights of the Owner granted in the Contract Documents or at law or in equity.

§ 2.6.3 Owner shall have right to occupy, take possession of and/or use, or permit any designated person to occupy or use, any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired, but such occupancy, taking possession and use shall not be deemed an acceptance of any Work that is deficient or not completed in accordance with the Contract Documents applicable thereto. Any such occupancy, possession and/or use by the Owner will not relieve any Contractor of its obligation to maintain insurance in accordance with Article 11 of its Contract.

§ 2.6.4 The Owner's exercise of any of its rights or remedies under any of the Contract Documents including, without limitation, ordering changes in the Work or any portion thereof, or directing suspension, or correction of the Work or any portion thereof, and regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as interference, active or otherwise, with the Contractor's performance of the Work under its Contract.

§ 2.6.5 Owner will not be responsible for and will not have control or charge over construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with any of the Work and/or the Project, and Owner will not be responsible for any Contractor's failure to carry out the Work under its Contract in accordance with the applicable Contract Documents and applicable laws, rules and regulations. Owner will not be responsible for or have control or charge over the acts or omissions of any Contractors, Subcontractors, or any of their agents or employees, or any other person performing any of the Work.

§ 2.6.6 Owner has the authority to reject any portion of the Work which does not conform to the Contract Documents applicable thereto or which is otherwise deficient. Whenever, in its sole opinion, Owner considers it necessary or advisable for implementation of the intent of the Contract Documents applicable thereto, Owner will have the authority to require special inspection or testing of the Work in accordance with § 13.5.2 whether or not such Work is then fabricated, installed or completed. However, neither Owner's authority to act under this § 2.5.6, nor any decision made by Owner in good faith, either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of Owner to any Contractors, Subcontractor, any of their agents or employees, or any other person performing any of the Work.

§ 2.6.7 In the event the Owner or Construction Manager determines that the progress of the Work affecting the critical path of the Agreed Construction Schedule is behind or otherwise does not comply with the progress set forth in the Agreed Construction Schedule due to delays of any Contractor or its Subcontractors in performing the Work under its Contract pursuant to the Agreed Construction Schedule, such Contractor is not entitled to receive an extension of the Contract Time or additional compensation in accordance with Contract Documents. Such Contractor shall submit to Owner and Construction Manager for their approval a "Recovery Plan" within 5 business days of request by the Construction Manager which will indicate the manner in which such Contractor intends to get its Work back on schedule in accordance with the Agreed Construction Schedule, which may include, without limitation, increasing the number of workmen performing the Work, utilizing overtime work and requiring additional work shifts and such other information as the Construction Manager may require. Such plan shall be implemented within twenty-four hours of the Construction Manager's approval. The costs and expenses of preparing and implementing the Recovery Plan shall be borne solely by the Contractor and shall not be the subject of a Change Order modifying the Contract Time or Contract Sum. In addition, the Contractor shall bear responsibility for any and all costs, damages, losses and expenses of the Owner, including professional fees, in connection with any Change Orders or claims by other Contractors arising out of or related to delays or impacts from the Contractor failing to comply with the progress set forth in the Agreed Construction Schedule ("Impact Costs"). The Owner shall be entitled to offset such Impact Costs against any sums due the Contractor or if sufficient Contract Sums are not remaining, the Contractor shall pay the Owner for the Impact Costs within seven (7) days of written demand.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number, unless otherwise noted. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor, except for such activities or duties specifically assumed by Owner under any of the Contract Documents.

§ 3.1.4 Except as and to the extent specifically provided in § 2.3 and § 9.7, each Contractor shall proceed diligently with the performance of the Work under its Contract at all times in accordance with the Contract Documents applicable thereto. Such performance shall continue despite any disputes or delays and pending resolution of any request for relief, claim, appeal or other legal or equitable action related to the Contract. Contractor acknowledges and agrees that the timely provision of schedule updates and information is necessary for the overall success of the Project and will be responsible for any and all damage, costs and expenses arising out of its failure to do so. In no event shall Contractor delay the Project in the event of a good faith dispute.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that:

- .1 Contractor has examined all of the applicable documents pertaining to the Work under its Contract and the Project Site.
- .2 Contractor has visited the Project Site, has familiarized itself as to the Work to be performed by the Contractor and by the other Contractors on the Project, and job conditions, and has satisfied itself as to the accessibility to and general character of the Project Site, the nature of the Work under its Contract, visible conditions of any existing buildings and structures at the Project Site, the location of all utilities, the character of the equipment and facilities needed preliminary to and during prosecution of the Work under its Contract, the general and local conditions under which such Work is to be performed, construction hazards, and all other matters which could in any way affect the construction means, methods, techniques and procedures involved in the Contractor's Work under the Contract Documents applicable thereto, and has correlated its observations with the requirements of the Contract Documents applicable to such Work. The Contractor and each Subcontractor shall evaluate

and satisfy themselves as to the conditions and limitations under which the Work is to be performed including without limitation (a) the location, condition, layout, nature of the Project Site and surrounding areas, including space available for the storage or placement of its on-site offices, materials and equipment as well as the other Contractors, as determined and coordinated by the Construction Manager, (b) generally prevailing climatic conditions, (c) anticipated labor supply and cost, (d) availability and costs of materials, tools and equipment and (e) other similar issues unless specified in the Contract Documents. The Owner assumes no responsibility or liability for the safety conditions of or at the Project Site or any improvements located at the Project Site, or any personnel, materials or equipment at any time located thereon in connection with the Project. Contractor has satisfied itself by its own investigation and research regarding the materials and equipment to be furnished by it and as to the meaning and intention of the Drawings and Specifications and these General Conditions, and other Contract Documents, referred to herein. Contractor has based its decision to execute its Contract and the other Contract Documents on its review of the Contract Documents, its own investigation and observations and the information it has obtained from the Bid Documents, Owner, Architect or others and reviewed to its own satisfaction. No verbal agreement or conversation with any representative of Owner, either before or after the execution of its Contract shall affect or modify any of the terms, conditions or obligations contained in the Contract and other Contract Documents. Contractor is not relying on any representations by Owner or any other party with respect to its Work under its Contract and any of the obligations, responsibilities or liabilities imposed upon the Contractor in the Contract Documents.

- .3 Contractor is fully aware of the critical time restrictions for performance and completion of its Contract, and of the importance for its coordination of its scheduling and performance of its Work with the Construction Manager and with those of the other Contractors working on the Project.
- .4 Contractor is fully aware of the state, contents and provisions of the Specifications and Drawings, and other Contract Documents, as of the date of this Contract.
- .5 Contractor is an expert in planning and performing major construction such as the Project and the Work to be performed under its Contract, and in working on multiple prime contract projects such as the Project.

§ 3.2.2 The Contractor shall, prior to starting each portion of its Work and thereafter during the course of such Work, carefully study and compare the Contract Documents applicable thereto with each other and with information furnished by the Owner pursuant to § 2.2.3 and shall at once report to the Architect any errors, inconsistencies or omissions discovered or which the Contractor should have discovered therein or relating thereto, as well as any variance from applicable laws, statutes, ordinances, building codes, rules, regulations or any lawful orders of any governmental body or public or quasi-public authority, which the Contractor knew or should have known. The Contractor shall not be liable to the Owner or Architect for any damages resulting from errors, inconsistencies, omissions, or variances in the Contract Documents unless the Contractor knew of or should have known of such error, inconsistency, omission or variance, and failed to timely report it in writing to the Architect. If the Contractor performs any construction activity which it knew or should have known involved an error, inconsistency, omission, or variance in the Contract Documents without such prior notice to the Architect, the Contractor shall assume responsibility for such performance and shall bear all the attributable costs for correction irrespective of the cause or source thereof.

§ 3.2.3 The Contractor shall take field measurements and verify field conditions relating to the performance of its Work and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Survey drawings describing utility locations are included with the Contract Documents for information purposes only. The Contractor shall, not less than seven days prior to commencing activities, notify or inform the Pennsylvania One Call System of the commencement of any activities relating to its Work that will or may disturb utility service. Errors, inconsistencies or omissions discovered as the result thereof shall be reported to the Architect, Construction Manager and Owner at once, and the Contractor shall not proceed with its Work until written instructions have been received from the Architect. .

§ 3.2.4 Contractor shall promptly notify Architect, Construction Manager and Owner, in writing, of materials, systems, procedures or methods of construction either shown on the Drawings or specified in the Specifications which the Contractor reasonably believes are incorrect or inappropriate for the purposes intended, or for which Contractor objects to furnishing the warranties required by the applicable Contract Documents. Architect, Construction Manager and Owner will make a determination of such matters in writing. Contractor shall be responsible for any additional costs resulting from its failure to promptly notify Architect, Construction Manager

and Owner in writing that such materials, systems, procedures and methods are incorrect or inappropriate to the extent Contractor was aware thereof

§ 3.2.5 The Contractor shall perform its Work in accordance with the Contract Documents applicable thereto and shop drawings and other submittals relating thereto reviewed pursuant to § 3.12. The Contractor shall make no changes therefrom without prior written acceptance by the Construction Manager and Owner. Where there is an ambiguity or discrepancy, or where detailed information is lacking, the Contractor shall inquire of and refer to the Owner, Construction Manager and Architect for clarification or information before ordering any products or proceeding with its Work. The Contractor shall perform its Work reflecting the correction of such errors, inconsistencies, and omissions subject to upon Owner's execution of appropriate Change Orders therefor. Work ordered, fabricated or constructed by the Contractor, when the Contract Documents do not clearly specify in detail the Work to be done or where the Work conflicts with such Contract Documents without the issuance of such Change Orders, shall be corrected by Contractor without claim for an increase in the Contract Sum or an extension of the Contract Time. Recommendations of Architect with regard to such ambiguities or discrepancies shall not make Architect an arbitrator to establish the responsibilities of the Subcontractors to the Contractor with regard to the Subcontractors' portions of its Work.

§ 3.2.6 The Contractor shall furnish, without claim for an increase in the Contract Sum or Contract Time, all work and materials not mentioned or shown, but reasonably inferable from the Contract Documents applicable to its Contract as necessary for the proper execution and completion of its Work. The Contractor shall furnish, without claim for an increase in the Contract Sum or Contract Time, any work and material not mentioned or shown, required to conform the Contractor's Work to all applicable laws and rules and regulations involving construction means, techniques, methods and procedures promulgated by all federal, state, and local governmental and quasi-governmental agencies having jurisdiction over its Work. Except for design responsibility related to its means and methods of construction and delegated design and engineering specifically required by the Contract Documents as outlined in Section 3.12.10.1, nothing in this paragraph shall be construed to impose upon the Contractor any responsibility for the design of its Work, which the Owner acknowledges shall be the responsibility of the Architect.

§ 3.2.7 Dimensions indicated on the Drawings applicable to the Contractor's Work are required dimensions, regardless of measurement per given scale. The Contractor shall verify at the Project Site necessary levels, measurements, etc., for complete fabrication, assembly and installation, fitting of equipment, fixtures and its Work. Where dimensions are not indicated and the exact location is not apparent, the Contractor shall promptly notify the Architect, Construction Manager and Owner, and the Architect shall compute the required measurements. Inadvertent discrepancies, or contradictions, or omissions of details, figures or notes of one drawing which are correctly given on another drawing shall not be cause for additional charges or claims by the Contractor or a change in the Contract Time.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 In conjunction with and subject to the overall direction and coordination by the Construction Manager of the Contractor's Work being performed at the Project, the Contractor shall supervise and direct Work in collaboration and cooperation with the Construction manager and other Contractors as provided in these General Conditions, using the Contractor's best skill and attention provided, however, the Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for performing and coordinating all portions of the Work under its Contract.

§ 3.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing any portions of the Contractor's Work for, or on behalf of, the Contractor or any of its Subcontractors or claiming by, through or under the Contractor, and for any damages, arising out of, relating to and/or resulting from performing portions of the Contractor's Work under a contract with the Contractor.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 Notwithstanding any provision of these General Conditions, the Contractor shall not be relieved of any obligations to perform its Work in accordance with the Contract Documents applicable to its Contract either by the

activities or duties of the Owner, Construction Manager or the Architect in their administration of the Contract, or by any tests, inspections or approvals required or performed by persons other than the Contractor

§ 3.3.5 The Contractor shall be responsible for laying out its Work and shall be responsible for all lines, elevations and measurements of its Work. The Contractor must exercise proper precautions to verify all figures shown on the applicable Drawings before laying out its Work and will be responsible for any errors or omissions resulting from the failure to exercise such precautions.

§ 3.3.6 Contractor shall not cause or permit any disruption to the streets and utilities serving any occupied portion of the Project, the remainder of the Project, work being performed by other Contractors on the Project or other properties (whether or not owned by the Owner or part of the Property) without Owner's prior consent, which may be conditioned upon restrictions in the time, place and manner of such disruption.

§ 3.3.7 The Contractor shall review the construction schedules, shop drawings, product data, samples and reference standards for the work of each Subcontractor to properly execute and complete the Contractor's Work without discrepancy where the work of one trade or Subcontractor joins, or is on or impacts the work of another trade or Subcontractor. The Contractor shall coordinate the relations and activities of the various Subcontractors and trades for the orderly prosecution and progress of its Work and shall ensure that required anchorage, blocking or other interactive elements are furnished and set at proper times in accordance with the detailed requirements for the proper execution of the Contractor's Work.

§ 3.3.8 Every trade or Subcontractor preparing to work in an area previously prepared or worked upon by another trade or Subcontractor shall review and approve the previously installed Work and the area prior to commencing, and shall not commence their Work in the event that the previously installed Work was not performed properly. Contractor shall ensure that any allegedly unsatisfactory conditions in the previously installed Work and/or area are reported to the Construction Manager and Owner and that no Work is done in the affected area until the unsatisfactory conditions have been eliminated or corrected. Commencement of Work by a trade or a Subcontractor of the Contractor shall constitute approval and acceptance of the prior Work and the area by the Contractor and the trade or Subcontractor.

§ 3.3.9 Owner, the Contractor, Construction Manager and Architect, or any of them, shall hold meetings at the Project Site at such times as the Owner requests, including, without limitation with the Contractor and the other Contractors involved with the Project.

§ 3.3.10 Where the Contract Documents applicable to the Contractor's Work refer to particular construction means, methods, techniques, sequences or procedures or indicate or imply that such are to be used on the Contractor's Work, such mention is intended only to indicate that the operations of and as determined by the Contractor shall be such as to produce the quality of Work implied by the operations described, but that the actual determination of whether the described operations may be safely or suitably employed on the Work shall be the responsibility of the Contractor, who shall notify the Architect and Construction Manager in writing of the actual means, methods, techniques, sequences or procedures which will be employed on the Work if these differ from those mentioned in such Contract Documents. All loss, damage or liability, or cost of correcting defective Work of the Contractor arising from the employment of any construction means, methods, techniques, sequences or procedures shall be borne by the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents applicable to the Contractor's Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of its Work, whether temporary or permanent and whether or not incorporated or to be incorporated in such Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out its Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. Contractors and their employees cannot engage in behavior that is rude, threatening, or offensive. Harassment of any type, including sexual harassment is strictly prohibited. Abusive, derogatory, obscene or improper language, gestures, remarks, whistling, cat calls or other disrespectful behavior shall not be tolerated by the Contractor.

§ 3.4.4 The Contractor will be held to be reasonably familiar with all conditions affecting the labor to be utilized by the Contractor in performing its Work on the Project, including but not limited to unions, incentive pay, working conditions, procurement, living and community conditions. The Contractor shall hereby assume responsibility to the Owner for all costs resulting from the failure to verify all conditions potentially affecting its labor for the Project. The Contractor shall be responsible for the maintenance and observance of sound labor practices by its own force in performing its Work, and shall be responsible for the observance of sound labor practices by its Subcontractors and all other Sub-subcontractors, vendors and suppliers performing its Work, and shall comply with the terms of all labor agreements to which it is bound and take all steps necessary to avoid labor disputes and the potential delay and disruption arising therefrom.

§ 3.4.5 All material and equipment delivered to Project Site shall be so stored, handled and secured as to preclude loss, theft, intrusion of any foreign substance or causing of any discoloration or other deterioration therein and to prevent any damage thereto which might reduce its effectiveness and/or warranted condition as part of the Contractor's Work. Any damaged or rejected material or equipment shall be immediately removed from the Project Site.

§ 3.4.6 All Work described or required as part of the Contractor's Work shall be executed in a neat, skillful, workmanlike manner in accordance with best recognized trade practices, and the applicable Contract Documents and governmental laws, rules, regulations and ordinances. Only competent workmen who satisfactorily perform their duties shall be employed by the Contractor on the Project and, when requested by Owner, the Contractor shall discharge and shall not re-employ on the Project any person who commits trespass or who is, in the Owner's opinion, disorderly, dangerous, insubordinate, incompetent or otherwise objectionable.

§ 3.4.7 Any material or equipment specified in the Contract Documents applicable to the Contractor's Work by reference to the number, symbol, or title of a specific standard such as that of the American Society for Testing Materials (ASTM), a Product or Commercial Standard, Federal Specification or other similar standards, or where the applicable Specifications contain no revision date, shall comply with the requirements of the latest revision thereof and any supplement or amendment thereto, in effect on the date of receipt of bids. The standards referred to, except as specifically modified in the applicable Specifications, shall have the same force as if they were printed in full context within the Specifications.

§ 3.4.8 Where it is required in the Specifications that materials, products, processes, equipment or the like be installed or applied in accordance with the manufacturer's instructions, directions, or specifications or words to this effect, it shall be construed to mean that said application or installation shall be in strict accordance with current published instructions furnished by the manufacturer of the materials, products, processes and/or equipment concerned for use under conditions similar to those at the Contractor's Work site. Unless otherwise stated, the Contractor shall furnish one (1) copy each of instructions to Owner, the Construction Manager, and the Architect.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, and Architect that all materials and equipment furnished and installed under the Contract will be of good quality and new unless the Contract Documents applicable thereto require or permit otherwise. The Contractor further warrants that its Work will conform to the requirements of the Contract Documents will be free from defects, except for those inherent in the quality of such Work that the Contract Documents require or permit. Work, materials, or equipment provided as part of the Contractor's Work not conforming to these requirements shall be considered defective. The Contractor's warranty relating to its Work excludes remedy for damage or defect caused by abuse, alterations to its Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner, Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. Contractor shall coordinate all of its Work of like material in order to produce harmony of matching finishes, textures, colors, etc., throughout the various components

of its Work and the Project Notwithstanding anything to the contrary contained in this § 3.5.1, the installation of finish materials in and as part of the Contractor's Work, including without limitation, brick, stone, glass, or wood, that have a naturally occurring variation in appearance, color, grain, or texture, shall be considered defective work if, in the opinion of Owner, Construction Manager or Architect, the result of such installation detracts from the appearance or aesthetic quality of the Contractor's Work or the Project, or any portion thereof. Prior to the installation of any such finish materials in and/or as part of the Contractor's Work, the Contractor shall submit a variety of samples of such finish materials to the Owner, Construction Manager and Architect. The Owner, Construction Manager and Architect shall inspect the samples and shall approve of a range of naturally occurring variations in appearance, color, grain, or texture for such finish materials. Finish materials that are submitted by the Contractor as provided above and within the range approved by Owner, Construction Manager and Architect shall not be considered defective.

§ 3.5.1.1 In addition, the Contractor agrees to perform its Work in such a manner so as to preserve any and all manufacturer's and other warranties or guarantees applicable thereto. The Contractor shall furnish seventy-two (72) hour callback service for all equipment provided by Contractor as part of its Work for a period of one (1) year after the making of final payment for and acceptance of its Work; provided, however, that notwithstanding the foregoing, the Contractor shall provide prompt emergency call back service for all pumping systems, security systems, emergency generator, electric switch gear, smoke exhaust fans, chillers, domestic water heaters and all other vital systems included within its Work.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4. Any fee required for the transfer of any Warranty or Guarantee shall be the sole responsibility of the Contractor.

§ 3.6 Taxes

The Contractor shall pay all sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, assisted by the Construction Manager, and with cooperation from the Contractor, shall secure and pay for the building permit. The Contractor shall secure and pay for all other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of its Work that are customarily secured after execution of the Contract and legally required at the time bids are received, and shall pay all fees and charges for connections to outside utility and other services; the use of municipal or private property for the storage and/or placement of its materials, parking, storage or personnel trailers or similar facilities; all utility services, temporary obstructions, enclosures, opening and patching of streets, etc., off of the Property arising from or related to the performance and completion of its Work.

§ 3.7.2 The Contractor shall comply with and give all notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of its Work.

§ 3.7.3 If the Contractor performs Work when it knew or should have known it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of governmental authorities, the Contractor shall assume full responsibility for such Work and shall bear the costs attributable hereto.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor contends that the actual Project Site or Work site conditions differ materially from the Project Site or Work site conditions disclosed by the Owner to the Contractor in the Contract Documents or ascertainable upon visual observation thereof by the Contractor, the Contractor shall promptly give written notice to the Owner, Architect and Construction Manager of (1) any subsurface or latent physical conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents known physical conditions at the Project Site or Work site of an unusual nature that differ materially from those ordinarily encountered to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, or (3) the existence of toxic or hazardous materials or substances not specifically described and identified in the Contract Documents, the Contractor shall promptly provide notice thereof to the Owner, Construction Manager, and the Architect before any

conditions are disturbed and in no event later than 48 hours after the Contractor's first observance of the conditions. The Owner, Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, determines that they after receiving such notice. If the conditions encountered as the result of such investigation do not differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, the performance of any part of the Contractor's Work pursuant to the Contract Documents applicable thereto, whether or not changed as the result of the conditions, a mutually agreed upon adjustment shall be made in the Contract Sum, and/or Contract Time if applicable, pursuant to the Contractor's Contract. If the Owner, Architect, in consultation with the Construction Manager, if applicable, pursuant to the Contractor's Contract. If the Owner and the Contractor cannot agree on an adjustment to the Contract Sum or the Contract Time, any adjustment relating thereto shall be subject to further proceedings and to the claims and dispute resolution process as provided in Article 15. Notwithstanding anything set forth herein to the contrary, the Contractor shall not be entitled to an adjustment in the Contract Sum or the Contract Time if such unknown or concealed condition(s) is: (i) of a usual nature or does not differ materially from those ordinarily encountered and generally recognized as inherent in construction activities of the character provided for in the Contract Documents; (ii) not materially different from those conditions disclosed or which reasonably should have been discerned or anticipated by the Contractor's prior work, inspection, tests and reviews; or (iii) of a nature which the Contractor or any of its Subcontractor or Sub-subcontractors should reasonably know or anticipate based on any of the foregoing.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action, if any, necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations affected by such discovery until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.7.6 A copy of the building permit(s) applicable to the Contractor's Work shall be delivered to the Architect, Construction Manager and Owner as soon as it is obtained. Upon final completion of its Work, the Contractor shall deliver all original permits, licenses and certificates relating to such Work to the Owner and shall deliver photocopies thereof to the Construction Manager and Architect.

§ 3.7.7 The Contractor shall give all notices and comply with all federal, state and local laws, ordinances and regulations bearing on the Contractor's means, methods, techniques or procedures of the Work under its Contract as exist as of the date of the Contract, or as may be thereafter enacted during the prosecution of its Work by any Governmental Authorities having any jurisdiction or authority over the Work and the performance thereof. The Contractor shall indemnify and save harmless the Indemnitees against any claim or liability (and any and all related costs, expenses or attorneys' fees) arising from, or based on, the violation of any such laws, ordinances, regulations, orders or decrees, whether by itself or its Subcontractors, Sub-subcontractors, suppliers or employees.

§ 3.7.7 The Contractor shall consult with the appropriate departments of the Government Authorities from time to time to ensure that it has satisfied and is satisfying all conditions and requirements of the Government Authorities with regard to the performance and inspection of its Work, and shall use its best efforts to expedite resolution of any conflicts and discrepancies concerning any inspection and performance requirements for issuance of certificates of occupancy relating to its Work. The Owner, Construction Manager and Architect will provide their full cooperation in connection therewith. Any such conflicts or discrepancies which the Contractor may discover at any time shall be promptly brought to the attention of the Owner, Construction Manager and Architect and shall be resolved immediately by the Contractor in consultation with the Owner, the Construction Manager, the Architect and the Government Authorities involved.

§ 3.7.8 Within ten (10) days of Owner's request, the Contractor shall execute and deliver to Owner a certificate addressed to Owner confirming the compliance of the Contractor's Work with the applicable Contract Documents and applicable laws and regulations, the status of completion of its Work, the status of any payments and defaults relating to its Work, and such other matters as Owner may request.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Document. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the Project Site, all labor and all required taxes, less applicable trade discounts; and
- .2 Whenever the actual costs attributed to any allowances; and
- .3 are more than or less than the amount of such allowance, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs incurred and the respective amounts of the allowances established under §3.8.2.1.

§ 3.8.3 Materials and equipment to be provided by the Contractor under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent and Project Manager

§ 3.9.1 The Contractor shall employ a competent Project Superintendent and necessary assistants, all of whom shall be in full-time attendance at the Project Site during the performance of the Contractor's Work. The Contractor shall also employ a Project Manager on a full-time basis to oversee the entire Work of the Contractor. Such persons shall be those named on Exhibit B attached to its Contract, and shall not be changed without the prior written consent of the Owner unless any of them shall cease to be in the Contractor's employ. Upon reasonable request of the Owner, the Contractor shall remove from the Project any member of the Contractor's staff or other employee of the Contractor who, in the Owner's sole opinion, is incompetent, uncooperative, or fails to satisfactorily discharge the Contractor's responsibilities under the Contractor's Contract, or is otherwise reasonably objectionable to the Owner, Construction Manager or Architect. The Contractor shall promptly provide replacements for such removed individuals, who shall be satisfactory to the Owner. The cost and expense of effecting such replacements shall be paid for by and the sole responsibility of the Contractor, as part of its overhead costs, unless the removal was at the Owner's request for reasons other than that the staff member or other employee was incompetent, uncooperative, or failed to satisfactorily discharge the Contractor's responsibilities under its Contract. The Project Superintendent and Project Manager shall represent the Contractor, and all communications given to the Project Manager or Project Superintendent shall be binding as if given directly to the Contractor. The Contractor's Safety Manager shall visit the site on a regular basis and as necessary to ensure the safe performance of Contractor's Work.

§ 3.9.2 The Contractor's Project Superintendent shall devote his or her full time to this Project and the Contractor's Work, and shall maintain his or her offices on the Project Site. The Project Manager and Project Superintendent shall direct, coordinate, and supervise all of the Contractor's Work under its Contract and shall inspect all material and equipment delivered to the Project Site and shall cause the immediate removal from the Project Site of all non-conforming material and equipment which is under the care, custody and control of the Contractor, its Subcontractors or anyone for whose acts it is liable.

§ 3.9.3 The Contractor shall maintain temporary office and administration facilities at the Project Site, which shall be located in space shared with the Construction Manager and the other Contractors. It is anticipated that the Contractors will utilize this as an opportunity to meet informally on a regular basis to discuss the Project, and their respective portions of the Work for the Project, to plan for sequencing of their Work and to provide for cooperatively anticipating, avoiding and resolving potential unforeseen events and contingencies in order to mitigate the delay and/or cost effect of such events or contingencies.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information, and the Construction Manager's use in developing the Project schedule, a Contractor's construction schedule for its Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Contractor's Work to completion and shall not exceed the then current time limits under the Contract Documents. The schedule shall be revised at appropriate

intervals as required by the conditions of the Contractor's Work and Project. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of the other Contractors, or the construction or operations of or by the Owner's own forces or Separate Contractors. The Contractor shall provide updated schedule information upon request and in a timely manner.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Owner, Construction Manager's and Architect's approval. The Owner, Architect and Construction Manager's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, refer to §3.10.1, and (2) allow the Owner, Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum ~~or~~ extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall cooperate with the other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager, for the entire Project (the "Approved Project Schedule"). The Contractor shall make revisions to its construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the schedule for the overall Project.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent construction schedules submitted to and approved by the Owner, Construction Manager, and Architect, and incorporated into the approved agreed Work schedule, for the performance of the Contractor's Work ("Approved Work Schedule"), and the Contractor's submittal schedule, and provide monthly updating thereof showing progress in its Work in comparison to the time limits current under the Contract Documents. As part of their efforts regarding the adoption and implementation of Lean Procedures, it is anticipated that the Contractors will work in a coordinated manner in the development and implementation of their respective Approved Work Schedules to sequence and coordinate their respective Work so as to minimize delay and the cost of re-handling of materials and equipment, and to anticipate, avoid and resolve potential unforeseen events and contingencies in order to mitigate the delay and/or cost effect of such events or contingencies.

§ 3.10.5 The Contractor shall prepare for presentation at each regular construction meeting with the Owner, Construction Manager and Architect an activity look-ahead schedule delineating the construction activities by Contractor planned to occur in the subsequent two weeks, and the relation of these activities to the time limits current under the Contract Documents applicable to the Contractor's Work as reflected in its Approved Work Schedule. Consistent with Lean construction principles to be utilized on the Project, the Contractors shall, with the Construction Manager, meet and confer weekly regarding the development and implementation of their respective Approved Work Schedules, and the Approved Project Schedule, to identify potential delays or obstructions, and to develop a plan of action to address them and/or to provide alternative areas within which Work can be performed while unexpected events or contingencies are being addressed.

§ 3.11 Documents and Samples at the Site

§ 3.11.1 The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Owner, Construction Manager, Architect, and Owner, and delivered in good condition in a single properly organized and compiled package to the Construction Manager and Architect for their use in preparing record documents and for submittal to the Owner upon completion of the Contractor's Work and before final payment is made under its Contract to the Contractor as a record of the Contractor's Work as constructed.

§ 3.11.2 Record drawings shall be kept clean, and notations shall be made on them using clear, concise drafting techniques acceptable to the Architect.

§ 3.11.3 The Contractor shall also maintain at the Project Site for availability to the Owner, Construction Manager and Architect, all inspection reports and other written communications relating to its Work between and among the Architect, Construction Manager, Contractor and its Subcontractors, Sub-subcontractors, materials suppliers, etc.

§ 3.12 Shop Drawings, Product Data, and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for its Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of its Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Contractor's Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of its Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of §4.2.10 through §4.2.12. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by such Contract Documents, in accordance with **the Project** their submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Contractor's Work or in the activities of the other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by the other Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of its Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of its Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal thereof has been reviewed and approved by the Architect.

§ 3.12.8 The Contractor's Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in its Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Construction Manager and Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of its Work or unless the Contractor needs to provide such services in order to carry out the Contractor's

responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional and who has and shall maintain professional liability insurance of no less than \$2,000,000. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner, the Architect, and the Construction Manager shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that its Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Owner, Construction Manager and Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine its operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the Project Site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the Project Site. The Contractors shall meet and confer with the Construction Manager and each other no less than weekly regarding the coordination and planning of delivery and storage of their materials and equipment, and develop coordinated plans to enable each of the Contractors to minimize the need for advance delivery and storage of materials and equipment, and render more efficient the ordering and delivery of such materials and equipment to minimize handling and maintenance before staged for use in the performance of the Work of the respective Contractors at the Project Site.

§ 3.13.3 The Contractor and all of its Subcontractors and Sub-subcontractors shall keep their respective employees out of any areas that are not necessary for actual performance of the Contractor's Work.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete its Work or to make its parts and portions fit together properly as reasonably consistent with the requirements or information contained in the Contract Documents. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of its own Work or fully or partially completed construction of the Owner, Separate Contractors, or of the other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its consent to cutting or otherwise altering the Contractor's Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of stored materials, stored waste materials and stored rubbish caused by operations or activities under or related to the Contractor's

Contract. At completion of its Work, the Contractor shall remove all items including, but not limited to, waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials of the Contractor's and/or its Subcontractors and Sub-subcontractors from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement therefor from the Contractor. In the event that clean-up is due to one or more Contractors, the Owner shall apportion the costs among the responsible Contractors.

§ 3.15.3 The Contractor shall be responsible for all glass broken by its own forces or its Subcontractors and Sub-subcontractors and, at and before completion of its Work, as directed by Owner, shall replace such damaged or broken glass. After such broken glass has been replaced, the Contractor shall remove all labels, wash, and polish both sides of all glass. Further, in addition to general broom cleaning of its Work site, the Contractor shall perform the final cleaning for all trades involved with the Contractor's Work immediately upon completion of its Work, which shall include, but not be limited to, the following: (a) remove temporary protections; (b) remove marks, stains, fingerprints and other soil or dirt from painted, decorated, and natural-finish woodwork and other portions of its Work; (c) remove spots, mortar, plaster, soil and paint from ceramic tile, marble, and other finish materials and wash or wipe clean; (d) clean fixtures, cabinet work and equipment, removing stains, paint, dirt, and dust and leave in undamaged, new condition; (e) clean aluminum in accordance with recommendations of the manufacturer; and (f) clean resilient floors thoroughly with a well-rinsed mop containing only enough moisture to clean off any surface dirt or dust and buff dry by machine to bring the surfaces to sheen.

§ 3.15.4 Costs incurred by Owner under this § 3.15 shall be deducted from any amounts otherwise due to the Contractor under its Contract, or at Owner's option, reimbursed by Contractor to Owner immediately following Owner's demand.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, and Architect with access to its Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees relating to its Contract and the Work thereunder. The Contractor shall defend all suits or claims for infringement of any copyrights and patent rights and shall hold the Owner, Construction Manager, and Architect harmless from any loss on account thereof, (including but not limited to, attorney's fees and any litigation costs and expenses), but shall not be responsible for defense or loss resulting when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner, Architect, or Construction Manager. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall promptly advise the Architect and Owner through the Construction Manager, in the absence of which timely notice the Contractor shall be responsible for such defense or loss.

§ 3.18 Indemnification

§ 3.18.1 The Contractor agrees to indemnify and defend and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them (collectively "Indemnitees" or individually "Indemnitee") from and against any and all claims, demands, causes of action, damages, liabilities, losses, and/or expenses, including, without limitations, attorneys' and consultants' fees, and related costs and expenses attributable to any

- .1 bodily injury, sickness, disease or death,
- .2 injury to or destruction of tangible property (other than the Contractor's Work itself), including the loss of use resulting from herein;
- .3 governmental fines and/or penalties arising out of the performance of the Contractor's Work;
- .4 corrective measures required under the Federal Occupational Safety and Health Act (hereinafter referred to as OSHA);
- .5 delay in completion of the Contractor's Work beyond the Contract Time therefor, as defined in Article 8, caused by proceedings under OSHA;
- .6 any and all damages, costs and expenses associated with any delay, hinderance or impact to the work of other Contractors; and

- .7 Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this § 3.18. This indemnification agreement shall be applicable, and the Indemnitees shall be indemnified, regardless of whether or not such claim, demand, cause of action, damage, liability, loss or expense is caused in whole or in part by an Indemnitee, subject to the terms of § 3.18.3 or § 3.18.4.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, a Sub-subcontractor, materialman or supplier, or anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under § 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor or other such employer under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 The Contractor shall defend each Indemnitee, through counsel approved by such Indemnitee or the majority of such Indemnitees (if applicable), in any action, proceeding, or arbitration brought against the Indemnitee(s) by reason of any such claim described in this § 3.18. The Contractor's obligation to defend an Indemnitee shall not (a) extend to any action, proceeding, or arbitration that asserts or alleges only that the injury to the claimant resulted solely from the negligence or willful misconduct of the Indemnitee, and from no other cause, although the Contractor shall be responsible for all attorneys' fees, costs and expenses relating to the defense of the Indemnitee(s) in the event it is not determined that such injury is solely caused by the negligence or willful misconduct of the Indemnitee(s), or (b) if a final judgment is obtained establishing that the claim for which indemnity is sought resulted solely from the negligence or willful misconduct of the Indemnitee, in which latter event Contractor's obligation to defend the Indemnitee shall cease upon the date such judgment becomes final, and the Indemnitee shall thereupon and thereafter reimburse Contractor for its reasonable attorneys' fees and court costs in so defending the Indemnitee.

§ 3.18.4 If any claim any other demand for payment or security therefor, including claims or demands upon performance and payment bond sureties for the performance of the Contractor under its Contract, is made or filed with the Owner or the Property, by any person claiming that the Contractor or any Subcontractor, Sub-subcontractor or supplier or any other person claiming under them or any of them has failed to properly and timely perform its contractual obligations or to make payment for any labor, services, trust fund contributions, materials, equipment, taxes, or other items furnished or obligation incurred for, or in connection with the Contractor's Work, or if at any time there shall be evidence of such non-performance or nonpayment of any claim or other demand for which, if established, the Owner or Property might become liable, and provided that the Owner has previously paid Contractor for the Contractor's Work for which the claim or other demand for payment has been made (less the applicable retainage, and unless Owner is otherwise permitted to withhold such payment in accordance with the terms of § 9.5.1), then the Owner shall have the right to retain from any payment then or thereafter due under the Contractor's Contract or, at the Owner's sole option, to be promptly reimbursed by the Contractor upon demand for an amount sufficient to (i) satisfy, discharge, and defend against any such claim or other demand, or any action or proceeding thereon that may be brought to judgment or award, (ii) make good any such nonpayment, nonperformance, damage, failure, or default; and (iii) compensate the Owner for and indemnify it against any and all losses, liabilities, damages, costs and expenses (including attorneys' and consultants' fees and costs) sustained or incurred in connection therewith.

§ 3.18.5 In the event that the Contractor fails or refuses to indemnify any Indemnitee hereunder, in addition to all other obligations and upon an adjudication in favor of an Indemnitee, the Contractor shall be responsible for all costs associated with the enforcement of these indemnification obligation including all attorneys' and expert fees and costs.

§ 3.19 Meetings

The Contractor shall send its qualified representative to periodic meetings or web meetings at the option of the Owner relating to the Project and/or Contractor's Work held at such time and at such place as the Architect, Construction Manager or the Owner shall designate. Prior to and in anticipation of such meetings, the Contractors, with the Construction Manager, shall meet and confer about the activities on the Project Site and the progress of the Project, and discuss ways to maintain and improve the progress of the Project and anticipate potential delay events, obstructions or other contingencies that might affect the Approved Project Schedule and their respective efforts on the Project Site.

§ 3.20 Default

§ 3.20.1 The Contractor shall be in default of its Contract, and its duties and obligations thereunder, if:

- .1 Contractor becomes insolvent, is adjudged bankrupt, or makes a general assignment for the benefit of its creditors, or becomes subject of any proceeding commenced under any statute or law for the relief of debtors, but only to the extent permitted by law; or
- .2 a receiver, trustee or liquidator of any of the property or income of the Contractor shall be appointed, but only to the extent permitted by law; or
- .3 Contractor refuses or fails to prosecute its Work in accordance with the applicable Contract Documents; or
- .4 Contractor refuses or fails to timely supply enough properly skilled workers or proper material; or
- .5 Contractor fails to make proper payment when due to Subcontractors or otherwise for materials or labor under its Contract in accordance with the respective agreements between the Contractor and the Subcontractors (provided Owner shall have paid to Contractor any payments due from Owner in connection with such materials or labor, subject to the other provisions of the Contract relating to the right of the Owner to withhold payment); or
- .6 Contractor fails to coordinate its Work with the other Contractors, and its Subcontractors as required under Article 6; or
- .7 Contractor fails to timely comply with the scheduling requirements of its Contract as set forth in § 3.10 and elsewhere as they may appear throughout its Contract, including under its Approved Work Schedule and the Approved Project Schedule; or
- .8 Contractor fails to promptly replace rejected material or correct rejected workmanship; or
- .9 Contractor fails to observe any other terms, provisions, conditions, covenants, and agreements set forth in its Contract and the Contract Documents to be observed and/or performed on the part of the Contractor.

§ 3.20.2 In the event of any default by Contractor under its Contract, Owner shall have the right to terminate such Contract in accordance with § 14.2, in addition to any and all other remedies that Owner may now or hereafter have against the Contractor under its Contract, the Contract Documents, at law and/or at equity.

§ 3.21 Services and Responsibilities of Contractor

Contractor's services under its Contract consist of all services to be performed and rendered by the Contractor under and pursuant to its Contract and the Contract Documents.

§ 3.22 Lean Procedures

§ 3.22.1 Owner desires to implement procedures advocated by the Lean Construction Institute (collectively, the "Lean Procedures") as applicable to the activities of the Architect, Construction Managers and Contractors. Each of the Contractors shall cooperate with Architect, Construction Manager and other Contractors to assist the Construction Manager in the establishment and implementation of these procedures. Specific requirements for collaboration are also included in various locations throughout these General Conditions.

§ 3.22.2 In addition to all other duties and responsibilities of the Architect, Construction Manager and Contractors as set forth on these General Conditions and in their respective Contracts with the Owner, the following are a listing of some of the other activities to be implemented for the Project, in addition to those stated elsewhere in these General Conditions:

.1 "Last Planner System" (LPS) using Pull Scheduling and Percent Planned Complete (PPC)

Tracking: The project will utilize the Last Planner System to develop and implement the detailed work plans for each phase of the project based on the master project schedule. Pull Plans and Percent Planned Complete (PPC) tracking will be utilized on the project. Contractor will actively participate in weekly work planning meetings to review past, current, and future work activities. Contractor shall attend pull planning meetings at the request of Construction Manager To implement the LPS effectively, it is critical for the Contractor's foremen to participate in all planning sessions and have necessary authority to make decisions on manpower, equipment, materials and other required resources to ensure commitments are met. Contractor's foremen shall attend training, provided by the Construction Manager, to orient to this system. Contractor/Supplier shall understand that the Construction Manager

will be tracking major “promises made” on the Project via a reliable promising matrix. All “promised” tasks shall be tracked in the matrix with a task description, Contractor/Supplier responsible, and promised completion date. The Construction Manager will provide Contractor/Supplier feedback on their reliable promising performance during weekly Foreman’s meetings. Overall PPC ratings will be provided to each Contractor/Supplier at the end of the project.

.2 Daily Huddle: The project will have Daily Huddle with all contractors to coordinate with one another, the meetings will be held in person, and should be held at a consistent time; ideally at the beginning, end or during a natural break in the day. Additionally, the huddles should be brief, generally not exceeding 15 minutes. However, the period/frequency of the meetings can be adjusted to meet the needs of the team and the project.

.3 Materials Management: Minimize the amount of materials being stored at the Project Site for extended periods of time through efficient scheduling, and to eliminate unnecessary handling or relocation. Contractor/Supplier shall consent that all material deliveries to the jobsite not already included in a prefabricated assembly, are to be “kitted” specific to their purpose. All “kit” deliveries must be labeled with Subcontractor’s name, delivery date, and location to be installed. Contractors shall reference the project-specific logistics guidelines for material delivery and storage requirements.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

§ 4.1.3 Duties, responsibilities, and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Construction Manager, Architect, and Contractor. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will advise and consult with the Owner and Construction Manager. The Construction Manager and the Architect in cooperation and coordination with one another, will each provide such administration of the Contract and Project as described in the Contract Documents in these General Conditions, and in their respective Contracts with the Owner for the Project during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site regularly, no less than once every two weeks during the period of Pre-construction, Construction and Close-out of the Project, or as otherwise agreed with the Owner, to become generally familiar with, and review the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of such Work, and will promptly report to the Owner and Architect any known deviations

from the Contract Documents and the most recent Approved Project Schedule, and defects and deficiencies observed in the Contractor's Work.

§ 4.2.4 The Construction Manager will be responsible for the preparation and update of the overall Project schedule based upon input from the Contractor and other contractors. It shall be the obligation of the Contractor to schedule and coordinate its activities and to cooperate and coordinate with other contractors and Construction Manager so as not to delay the Project schedule or impede the work of others.

§ 4.2.5 The Construction Manager, except to the extent required by §4.2.4, and Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Contractor's Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents unless the same results from a written directive from the Architect to the Contractor. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, Sub-subcontractors or their agents or employees, or of any other persons or entities performing any portions of the Contractor's Work.

§ 4.2.6 Communications. The Owner shall communicate with the Contractor and the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Construction Manager otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors, Sub-subcontractors and suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor with respect to its Work, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about such rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, Sub-subcontractors, suppliers, their agents or employees, or other persons performing any of the Contractor's Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect and Construction Manager for approval.

§ 4.2.10 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager for dissemination to the Contractor.

§ 4.2.11 Receipt and/or review of the Contractor's submittals by the Construction Manager and Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and

quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect's receipt and/or review of the Contractor's submittals shall not relieve the Contractor of the obligations under §3.3, 3.5, and §3.12. The Construction Manager and Architect's receipt and/or review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.12 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to §9.8; and receive and forward to the Owner written warranties and related documents required by the each Contract for the Project and assembled by the respective Contractors pursuant to §9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.18 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents for the Project on written request of the Construction Manager, Owner, or Contractor through the Construction Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished, then the Architect's response shall be made within a reasonable time. Work which does not conform to the Architect's interpretations shall be nonconforming work subject to the provisions of Article 12.

§ 4.2.19 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.20 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.21 The Construction Manager will receive requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with ~~the~~ a Contractor to perform a portion of the Work at the Project Site. The term “Subcontractor” is referred to throughout the Contract Documents for the Project as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term “Subcontractor” does not include the other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term “Sub-subcontractor” is referred to throughout the Contract Documents for the Project as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager and Architect, of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection nor enter into any subcontract to which the Owner, Construction Manager or Architect has made reasonable and timely objection.. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor’s Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

§ 5.3.1 All portions of the Contractor’s Work that the Contractor’s organization does not perform with its own personnel shall be performed under the Subcontracts or by other appropriate agreements with the Contractor. By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor’s Work, that the Contractor, by these Contract Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Any part of the Contractor's Work performed for the Contractor by a Subcontractor shall be pursuant to a written Subcontract between the Contractor and such Subcontractor, which, the Contractor has submitted to the Owner for its information. Each such Subcontract shall contain provisions that:

- .1 informs the Contractor of any and all Sub-subcontractors of the Subcontractor;
- .2 require that the Work to be performed thereunder be in accordance with the requirements of the Contract Documents;
- .3 fully disclose the payment provisions under Article 5 of the Contract, and Article 9 of the General Conditions, and requires timely submission of applications for payment under each Subcontract in reasonable time to enable the Contractor to apply for payment in accordance with the provisions of the Contractor's Contract;
- .4 waive all right the subcontracting parties may have against one another or that the Subcontractor may have against the Owner for damages caused by fire or other perils covered by the property insurance described in §11.3, except for such rights as they may have to the proceeds of such insurance held by the Owner as trustee under §11.3.8;
- .5 obligate each Subcontractor, at Owner's sole election, to continue to perform under its Subcontract in the event the Contractor is terminated, and Owner takes an assignment of said Subcontract, with Owner's liability thereunder to accrue only after such assignment;
- .6 require the Subcontractor to carry and maintain insurance in accordance with the requirements of the Contract Documents;
- .7 obligate the Subcontractor to specifically acknowledge and consent to the provisions of Article 8 wherein it states that all time limits in the Contract Documents are critical;
- .8 require each Subcontractor to fully cooperate in order to permit the Owner to conduct Owner's Operations at the Property without interruption;
- .9 require each Subcontractor to fully cooperate with the testing representatives of Owner and Contractor on the Project Site;
- .10 require each Subcontractor, Sub-subcontractor and supplier to obtain prior written approval of Owner prior to the publication of any promotional material regarding the Work to be performed by or on behalf of the Contractor;
- .11 preclude any right or entitlement to a Change Order for an adjustment in either the Subcontract sum or the Subcontract time for an error in the Contract Documents applicable to the Contractor's Work if the Subcontractor should reasonably have known of or anticipated the error giving rise to such requested Change Order;
- .12 preserve and protect the rights of Owner under the Contractor's Contract with respect to its Work to be performed under the Subcontract so that the subcontracting thereof will not prejudice such right;
- .13 include the Subcontractor's acknowledgment that Contractor has assigned its interest in the Subcontract to Owner, which assignment shall become effective only upon Contractor's default under the Contract Documents applicable to the Contractor's Work and Subcontractor's receipt of notification from Owner that (a) Contractor is in default under the applicable Contract Documents or Owner has terminated the Contractor's Contract; and (b) the assignment of the Subcontract is effective;
- .14 require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the Contractor's Work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for like claims by Contractor upon Owner;
- .15 limit the amount which the Subcontractor may charge for overhead and profit in connection with a change in the Contractor's Work to the amounts set forth in Article 7 and
- .16 contain no provisions inconsistent with any of the foregoing Subparagraphs of this §5.3.2.

§ 5.3.3 As required by § 5.2.5, the Contractor shall at all times maintain a current list of all Subcontractors, Sub-subcontractors and suppliers performing any of Contractor's Work which it shall provide to the Owner as set forth in § 5.2.5.

§ 5.3.4 All Subcontractors, Sub-subcontractors and suppliers shall waive and release any claims, causes of action or rights against Owner for property damage caused by fire or other casualties or perils for which such Subcontractor, Sub-subcontractor or supplier is or, under the terms of the Contractor's Contract, should have been insured.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to § 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract as of the effective date of such assignment.

§ 5.4.2 Upon assignment to the Owner under § 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the subcontract.

§ 5.5 Payments to Subcontractors by the Contractor

§ 5.5.1 The Contractor shall promptly pay each Subcontractor, materialman, supplier or any other person whom the Contractor has contracted or who is employed directly or indirectly by the Contractor on the Project, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's or other party's portion of the Contractor's Work, the amount to which said Subcontractor or other party is entitled, less the percentage retained by Owner from the payment to the Contractor. The Contractor shall, by an appropriate agreement with each Subcontractor, materialman, supplier or other person, require them to make payments to their Sub-subcontractors, materialmen and suppliers in similar manner.

§ 5.5.2 The Contractor shall defend, indemnify and hold harmless the Indemnitees from and against all claims, demands, damages, losses and expenses, including without limitation, any attorneys' fees, costs and expenses paid or incurred by Indemnitees in connection with the settlement or defense of any such claims, arising out of or in connection with the failure of Contractor to pay a Subcontractor, materialmen, supplier or any other person with whom Contractor has contracted or who is employed directly or indirectly by Contractor provided Contractor has been paid by Owner all sums due for any portion of the Contractor's Work.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the General Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 Each Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Contractor's Work, promptly notify the Construction Manager and Architect of apparent

discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for all costs the Owner incurs, including costs that are payable to a Separate Contractors or to other Contractors, because of the Contractor's delays, improperly timed activities or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction, or to property of the Owner, Separate Contractors, or other Contractors as provided in §10.2.5 and the Contractor shall indemnify, defend and hold the Owner harmless from any claims or damages brought by another Contractor arising out of any actions or omissions of the Contractor in performing its Work pursuant to its Contract.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in §3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, other Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Construction Manager, with notice to the Architect, will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager and Architect and may or may not be agreed to by the Contractor.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.1 Methods used in determining adjustments to the Contract Sum may include those listed in § 7.3.3.

§ 7.2.2 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Contractor's Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the Contract Time applicable thereto.

§ 7.2.3 Notwithstanding anything set forth herein to the contrary, Contractor shall not be entitled to a Change Order for an adjustment in either the Contract Sum or the Contract Time for an error in the Contract Documents if the Contractor should reasonably have known of or anticipated the error giving rise to such requested Change Order.

The preceding sentence shall not be construed to mean that the Contractor has assumed any of the Architect's responsibilities or any of the responsibilities of any engineer retained by the Architect or retained directly by the Owner with respect to the Project.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation, including a breakdown for each trade giving separation of material, equipment and labor, providing quantities and labor hours as outlined in § 7.3.3.3. The fee payable to the Contractor, Subcontractor or Sub-subcontractor shall be the same as permitted in § 7.3.3.3;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon; or
- .3 On a time and material basis by cost (as defined in § 7.3.3.3(d)), plus a percentage fee which shall be established as follows:
 - (a) For extra work performed by the Prime Contractor, the Owner shall pay Prime Contractor cost of the work (materials, equipment & labor) plus 5% markup which is inclusive of all overhead and profit. For change orders in which there are multiple tiers of subcontractors and/or supplier, as noted in § 7.3.3.3 (b) and (c), the total mark-up shall not exceed 10%. Change order markup percentages are inclusive of all allowable Overhead and Profit; Overhead and profit shall be inclusive of the following: home office costs, management supervision (field & office), training, vehicles and pickups, fuel, safety, travel, reproduction, temporary facilities, computers, office equipment, small tools, and other incidentals. Small tools are defined as tools that do not have a new unit cost in excess of \$750.00.
 - (b) For extra work performed by a Subcontractor or equipment supplier, the charges to Owner shall include the Subcontractor's cost, plus a fee (payable to the Subcontractor) in an amount equal to 5% of such cost.
 - (c) For extra work performed by a Sub-subcontractor, the charges to Owner may include: the Sub-subcontractor's cost, plus a fee (payable to the Sub-subcontractor) in an amount equal to 5% of such cost. The aforementioned percentages shall apply unless the Contractor and Owner agree to modify same in writing.
 - (d) "Cost" shall consist exclusively of the actual cost of those expenses for which reimbursement is permitted under § 7.3.7. Cost shall not include any provision for the cost of Contractor's supervision, overhead, profit, and any other general expenses, except as expressly provided under § 7.3.3.3 (a) above.
 - (e) The Contractor shall furnish satisfactory bills, payrolls, vouchers, and other supporting documentation covering all items of cost, and when requested by Owner, shall give the Owner access to accounts relating thereto.
 - (f) The Contractor shall provide detailed labor rate breakdowns to support change order labor rates. The Owner and/or will provide the labor rate breakdown forms that shall be completed and submitted for each trades classification no later than 20 days from Notice To Proceed. The labor rates shall be consistent with prevailing wage rates inclusive of burdens, insurances and allowable mark up.
 - (g) The value of work added and deleted for each item of Work shall be computed on the net difference in quantity.
 - (h) The fees payable to the Contractor, Subcontractors and Sub-subcontractors under § 7.3.3.3(a), § 7.3.3.3(b), § 7.3.3.3(c) and § 7.3.3.3(d) shall constitute the total reimbursement and payment to be made to the Contractor, Subcontractors and Sub-subcontractors on account of supervision, overhead, profit, and other general expenses relating to any change in the Work under the Contractor's Contract.

The Contractor shall provide the Construction Manager with all documentation requested by the Construction Manager in order to determine costs. In no case shall the Contractor include more than 10% mark-up on material, subcontractor work or other incurred cost plus 5% for Overhead and Profit including any and all fees.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Construction Manager and Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Construction Manager and Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order

for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Construction Manager and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Construction Manager that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for the Substantial Completion of the Contractor's Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Contractor's Contract with the Owner.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Contract with the Owner, the Contractor confirms that the Contract Time there in is a reasonable period for performing its Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner, Architect, Construction Manager, or an employee of any of them, or of the Owner's own forces, Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts and the Architect, based on the recommendation of the Construction Manager, determines justify delay, then the Contract Time shall be extended for such reasonable time as the Owner may determine. Nothing herein shall be construed to allow the Contractor to recover time or money in connection with any delay, disruption or impact arising out of Contractor's negligence.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.4 Delay

- .1** "Excusable/Non-compensable" Delay means any delay of the completion of the Contractor's Work beyond the expiration of the Contract Time therefor which could not have reasonably been anticipated and is caused by conditions beyond the reasonable control and without the fault or negligence of the Contractor, such as strikes, embargoes, or unavoidable casualties, unusual delays in transportation, complete shutdowns due to a pandemic, during which the Contractor's Work cannot continue. The financial inability of the Contractor or any of its Subcontractors or Sub-subcontractors and any default of any of its Subcontractors or Sub-subcontractors, without limitation, shall not be deemed conditions beyond Contractor's control. An Excusable/Non-compensable Delay may entitle the Contractor to an extension of the Contract Time applicable to its Work in accordance with § 8.3 but shall not entitle Contractor to any adjustment of the Contract Sum therefor.

- .2 “Excusable/Compensable Delay” means any delay of the completion of the Contractor’s Work beyond the expiration date of the Contract Time therefor, based on impact to the critical path of the Approved Work Schedule for such Work, caused by the gross negligence or willful act of the Owner, Construction Manager or Architect or of an employee of either or of another Contractor, or by changes ordered in the Contractor’s Work, which delay completion of such Work unreasonably under the circumstances involved and not within the contemplation of the parties. A Compensable Delay may entitle the Contractor to an extension of the Contract Time and/or an adjustment of the Contract Sum for its Work, in accordance with § 8.3. Except as expressly provided herein, the Contractor shall have no claim or right to assert a claim for an adjustment of the Contract Sum and/or the Contract Time, or for damages or compensation for any delay, interruption, hindrance, or disruption of its Work.
- .3 “Inexcusable Delay” means any delay of the completion of the Contractor’s Work beyond the expiration of the Contract Time therefor resulting from causes other than those listed in § 8.1.5.1 and § 8.1.5.2 above. An Inexcusable Delay shall not entitle Contractor to an extension of the Contract Time or an adjustment of the Contract Sum for its Work.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Contract and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Contractor’s Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum, the Contractor shall submit a schedule of values to the Construction Manager, before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall not be front-loaded. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Construction Manager and the Architect. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment. The Construction Manager shall forward to the Architect the Contractor’s schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor’s subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under §9.2, for completed portions of its Work. The application shall be fully executed by an authorized agent of the Contractor, notarized, and supported by all data substantiating the Contractor’s right to payment that the Owner, Construction Manager or Architect require, such as copies of requisitions, Certified Payroll documentation and releases of waivers of lien from the Contractor, Subcontractors, Sub-subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 Each Application for Payment by the Contractor for its Work shall be supported by the following documentation, each in a form satisfactory to the Owner:

- .1 Contractor’s release of liens and claims in the form attached to its Contract as Exhibit D.
- .2 Subcontractor certificates, statements and affidavits showing that the Contractor’s Work covered by said Application for Payment has been performed and delivered free of liens.
- .3 Subcontractors’ release of liens and claims in the form attached to the Contractor’s Contract as Exhibit D, and as reasonably required by the Owner, lien and claims releases from their Subcontractors, materialmen and suppliers.
- .4 Statement of Account, indicating the Subcontract amounts, monies paid to date and monies due Subcontractors for Contractor’s Work performed on the Project.

- .4 Contractor's Monthly Progress Report for its Work.
- .5 Monthly update of cash flow projection to final completion of the Contractor's Work.
- .6 Such other documents in form, scope and substance as the Owner or the applicable Contract Documents shall require for disbursement of funds.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The Owner and Contractor acknowledge and agree that an Application for Payment for the Contractor's Work shall not be deemed invalid or unsatisfactory for the sole reason that any lien waiver or release as Owner may require pursuant to §9.3.1.1.3 shall be in a form that purports to make the waiver or release conditioned upon the receipt of payment for the Contractor's Work for which Application for Payment has been submitted.

§ 9.3.1.4 The initial payment by the Owner to the Contractor on account of the Contractor's Work performed by its individual Subcontractors shall be conditioned upon the Owner's prior receipt of the following documentation:

- .1 The fully executed Subcontract;
- .2 the Subcontractor's approved Certificate of Insurance (original);
- .3 the Subcontractor's approved Schedule of Values;
- .4 the Subcontractor's fully executed release of liens and claims form; and
- .5 such other documentation as the Owner may from time to time require.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Owner, Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor or other Contractor;

- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- .8 failure to submit timely schedule updates or recovery within the time designated by the Construction Manager or acceptable to the Construction Manager.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld. In no event may the Contractor stop performing Work in connection with a good faith dispute.

§ 9.5.4 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager, and both will reflect such payment on the next Certificate for Payment. Nothing herein shall require the Owner to issue joint checks.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents and shall so notify the Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 The payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any claim for payment by any Subcontractor or supplier of any tier. Upon

receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use. The Work will not be considered suitable for Substantial Completion review until all Project components included in the area of the Work are operational as design and scheduled, all designated or required governmental inspections and certifications, including certificates of occupancy, have been made and posted. In general, the only remaining Work shall be minor in nature, so that the Owner can occupy the portion of the building on that date for its intended use and the completion of the Work of the Contractor would not materially affect, or hamper the normal business operations or intended use of the Owner.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment ("punch list"). Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. The Owner shall be entitled to withhold one and one-half times the value of the items on the punch list until they are completed or corrected.

§ 9.8.3 Upon receipt of the punch list, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented

to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Construction Manager's and Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. As a condition to final payment, Contractor shall assemble and provide to the Owner all warranties and manuals in the media and format acceptable to the Owner.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6), other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner; (7) final as-built prints of record drawings marked by the Contractor with record information as set forth in the Contract Documents. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the

surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment; or.
- .5 latent failure of the Contractor to comply with the requirements of the Contract Documents; or
- .6 insurance and indemnity obligations hereunder.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager. The Owner assumes no responsibility or liability for the safety of the Project site.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor;
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- .4 construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of

them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party as soon as possible, but not later than 48 hours after the incident. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner, Construction Manager and Architect of the condition as soon as possible, but no later than 24 hours after the discovery.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Liability Insurance

§ 11.1.1 The Contractor shall purchase from and maintain, during the life of its Contract and for the period thereafter as required in the Contract Documents applicable to the Contractor's Work (but no less than three years), in a company or companies acceptable to the Owner and lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor and any additional insured thereunder from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit, employer's liability and other similar employee benefit acts which are applicable to the Contractor's Work to be performed, including, without limitation, private entities performing such Work at the Project Site and exempt from the coverage on account of number of employees or occupation, which entities shall maintain voluntary compensation coverage at the same limits specified for mandatory coverage for the duration of the Contractor's Work;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees or persons or entities excluded by the statute from the requirements of § 11.1.1.1 but required by the Contract Documents applicable to the Contractor's Work to provide the insurance required by that Section;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Contractor's Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and
- .7 Claims for bodily injury or property damage arising out of completed operations (including for the three year period following Final Payment to the Contractor for its Work); and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under § 3.18.

§ 11.1.2 The insurance required by § 11.1.1 shall be written for the greater of the limits of liability specified in the Contract Documents or those required by law. Coverages shall be written on an occurrence basis (unless otherwise specifically noted), shall be maintained without interruption from the Date of Commencement of the Contractor's Work until the date of Final Payment to the Contractor and, as applicable, termination of any coverage required to be maintained after Final Payment and, with respect to the Contractor's completed operations coverage, for a term of three (3) years after Final Payment to the Contractor for its Work.

§ 11.1.3 Certificates of insurance and copies of all insurance policies with endorsements evidencing the insurance required to be provided by the Contract in form acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Contractor's Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this § 11.1 shall contain a provision that coverages afforded under the policies will not be canceled, reduced or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment of the Contractor as required by § 9.10.3 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by § 11.1.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness.

Upon receipt of any notice of cancellation or alteration, Contractor, within ten (10) days, shall procure other policies of insurance, similar in all respects to the policy or policies, about to be canceled or altered; and, if Contractor fails to provide, procure and deliver acceptable policies of insurance or satisfactory evidence thereof, in accordance with the terms hereof, then at Owner's option, Owner may obtain such insurance at the cost and expense of, and back charge, the Contractor, without the need of any notice to Contractor.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include and designate (1) the Indemnitees as additional insureds (except that such insurance shall contain a limitation that the policy will not insure the Architect against the Architect's liability arising out of the acts or omissions described in § 3.18); and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 All insurance to be carried by Contractor hereunder shall state, by endorsement, that Contractor's insurance is primary and that any liability insurance maintained by Owner or any other additional insured is excess and non-contributory. Contractor shall not commence its Work under its Contract until it has obtained all insurance required hereunder and certificates of insurance and copies of all policies and endorsements evidencing such insurance have been submitted to and approved in writing by Owner. Contractor shall not allow any Subcontractor to commence the Contractor's Work until such Subcontractor has obtained insurance as required pursuant to the Contract Documents applicable thereto.

§ 11.1.5 In the event of any inconsistency between the requirements of this § 11.1.5 and the provisions of Article 8 of the Contractor's Contract, the provisions of such Contract shall govern and prevail.

§ 11.2 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 Property Insurance

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum, plus the value of subsequent Contract modifications and cost of materials supplied or installed by others, plus the value of the contents of the entire Project during construction and when completed and occupied, comprising total value for the entire Project at the Project Site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents for the Project or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in § 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this § 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Contractor's Work.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, glass breakage, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect's, Contractor's, and Construction Manager's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires minimum deductibles, and such deductibles are identified in the Contract Documents applicable to the Contractor's Work, the Owner shall pay costs not covered because of such deductibles. If the Owner or insurer increases the required minimum deductibles above the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for

payment of the additional costs not covered because of such increased or voluntary deductibles. If deductibles are not identified in the applicable Contract Documents, the Owner shall pay all costs not covered because of deductibles.

§ 11.3.1.4 The Contractor shall provide insurance coverage for portions of the Contractor's Work stored off the Project Site, after receipt of written approval from the Owner, at the value established in the approval, and also for portions of the Work in transit and all materials stored at the Project Site and to be subsequently incorporated into the Work until covered by the Owner's insurance.

§ 11.3.1.5 Partial occupancy or use in accordance with § 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor (with respect to its Work) shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 Boiler and Machinery Insurance. If applicable, the Contractor shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Construction Manager, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 Loss of Use Insurance. The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential damages due to fire or other hazards to the extent of recovery under any policy pursuant to this clause.

§ 11.3.4 Waivers of Subrogation. To the extent of any insurance proceeds actually received, the Owner and the Contractor waive all rights against (1) each other and any of their Subcontractors, Sub-subcontractors, agents and employees each of the other, and (2) the Construction Manager, Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages to the Contractor's Work caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this § 11.3 or other property insurance applicable to the Work, except such rights as the Owner and Contractor may have to the proceeds of such insurance held by the Owner as fiduciary in good faith. The Owner shall require of the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, the Contractors and the Subcontractors, Sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. Notwithstanding anything set forth herein to the contrary, this waiver shall only be effective with respect to any loss or damage occurring during such time as the appropriate policy of insurance shall contain a clause to the effect that the waiver shall not affect said policy or the right of any insured to recover thereunder.

§ 11.3.5 A loss insured under the property insurance shall be adjusted by the Owner in good faith and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of § 11.3.7. The Contractors shall pay their respective Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.6 The Owner shall deposit in a separate account insurance proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Contract between the Owner and any of the Contractor, as applicable. If after such loss no other special agreement is made and unless the Owner terminates the Contractor's Contract for convenience, replacement of damaged property shall be covered by appropriate Change Order.

§ 11.3.7 The Owner shall have power to adjust and settle any loss with insurers.

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 Each of the Contractors shall furnish surety bonds covering faithful performance of their respective Contracts and payment of all obligations arising thereunder as stipulated in the bidding requirements and as specifically required in the Contract Documents applicable to the Contractor's Work on the date of execution of the Contract. The Owner and Lender (if any) shall be dual obligees on any such bonds. Such bonds shall cover the faithful and full performance of the Contractor's Contract, the payment of all obligations arising thereunder, and the lien-free completion of such Contract and the Contractor's Work. The surety company issuing such bonds shall be duly licensed as such in the Commonwealth of Pennsylvania. Such bonds shall provide "Any alterations which may be made in the terms of the Contract Documents or in the Contractor's Work to be performed thereunder, or the giving by the Obligee of any extension of time for the performance of the Contractor's Work or any other obligations under the applicable Contract Documents, or any other forbearance on the part of either the Obligee or Principal under any bond to the other, shall not in any way release the surety or the Principal from any of the obligations of the bonds, notice to the Surety of any such alteration, extension or forbearance being waived by Surety." All bonds must be provided by a surety listed on the most recent Treasury Circular 570.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under its Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.4.3 The Contractor shall deliver the required bonds to the Owner at least three days before the commencement of any of its Work by the Contractor at the Project Site.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Construction Manager's or Architect's or Owner's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion, and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5. No warranty period shall relieve the Contractor of

responsibility under the Contract Documents. Nothing herein shall be construed to be a limitation of the Owner's remedies either in law or in equity.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner, Separate Contractors, or other Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. The Owner's acceptance of the Work or any portion thereof that is not in accordance with the requirements of the Contract Documents shall be effective only when the Owner's acceptance is memorialized in writing and signed by an agent of the Owner authorized by law to do so.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the Commonwealth of Pennsylvania excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, the Contractor shall not assign the Contract as a whole without written consent of the Owner. If the Contractor attempts to make an assignment without such consent, the Contractor shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Construction Manager and Architect and Owner timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect and Owner may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. All testing required by the Contractor shall be set forth in the Specifications.

§ 13.4.2 If the Construction Manager, Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Construction Manager and Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Construction Manager and Architect and Owner of when and where tests and inspections are to be made so that the Construction Manager and Architect and Owner may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Construction Manager's and Architect's services and expenses, in addition to the procedures and compensation for the Owner's and the independent testing and inspections firm's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.4.7 Tests and inspections for the convenience of the Contractor shall be at the Contractor's expense.

§ 13.5 Interest - Intentionally Deleted

§ 13.6 Electronic Project Management Information System (PMIS)

The Owner has implemented an electronic PMIS, "e-Builder", an internet-based information and project communication system that will allow the entire project team to collaborate in a centralized and secured repository for all projects.

The Contractor shall utilize the PMIS during all phases of the project, unless directed otherwise by the Owner. All project specific correspondence, workflow processes, and documentation will be stored and routed within the PMIS. The Contractors and the Owner shall agree on file name convention of submissions in advance.

The Contractor, or those direct-employee(s) responsible, on the Project will be expected to participate in the necessary training to use the PMIS effectively. Periodic training sessions on the PMIS will be provided by the Owner. It is the responsibility of the Contractor to coordinate with the Owner regarding the training schedule and to register as designated by the Owner. Training will be provided by Montgomery County. All costs for personnel time, travel, meals, and lodging to attend the training shall be borne by the Contractor and, as such, will not be reimbursed by the Owner.

The Contractor shall obtain, at their own cost, the necessary equipment and web connections to access and utilize the PMIS. The Contractor will not incur any registration fees or licensing costs to utilize the PMIS. The Owner will

not entertain or acknowledge any amendment requests by the Contractor for claimed inefficiencies or other costs related to the implementation and subsequent use of the PMIS.

§ 13.7 Use of Unmanned Aircraft ("UA")

If the Work involves the use of UA (Drones), and if UA use is approved by the Owner, the Contractor and those Subcontractors involved in UA use must follow all applicable federal regulations, and all state and local rules, laws and regulations. In addition, a request to operate UA must be submitted to Montgomery County's Capital Projects & Programs Director, a minimum of 48 hours prior to the planned UA usage and UA flight operations may not proceed until approval is granted in writing by the Capital Projects and Programs Director.

§ 13.8 Smoking and Tobacco Policy

Smoking and the use of tobacco are prohibited in and on all County owned or leased properties, facilities, and vehicles except for designated smoking areas. Smoking inside any building may result in the Contractor's employee being immediately and permanently removed from the site.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is more, unless suspension or delay is the result of a governmental order or pandemic.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon fourteen days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed, and reasonable out-of-pocket costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 120 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.1.5 Notwithstanding anything to the contrary set forth herein, the parties agree that if the Work is stopped due to a pandemic and/or any related governmental laws, rules, declarations, regulations or guidance for whatever duration, the Contractor may not terminate the Contract and the parties shall modify the Contract Time and Contract Sum in accordance with the terms of this Agreement. Nothing herein shall require a modification of the Contract Time or Contract Sum to the extent stoppage is a result of the Contractor's failure to abide by governmental laws, rules, declarations, regulations or guidance in existence at the time of execution of the Contract. Contractor bears all risk relating to COVID-19 and compliance with governmental laws, rules, declarations, regulations or guidance in existence at the time of execution of the Contract

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents; or .
- .5 shall institute proceedings or consent to proceedings requesting relief or arrangement under the Federal Bankruptcy Code or any similar or applicable federal or state law; or if a petition under any federal or state bankruptcy or insolvency law is filed against the Contractor and such petition is not dismissed within sixty (60) days from the date of said filing; or if the Contractor admits in writing, his inability to pay his debts generally as they become due, or if it makes a general assignment for the benefit of its creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of its bankruptcy or insolvency; or if a receiver of all or any substantial portion of the Contractor's properties is appointed.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. The Owner's right to terminate the Owner-Contractor Agreement pursuant to this Subparagraph 14.2 shall be in addition to and not in limitation of any rights or remedies existing hereunder or pursuant hereto or at law or in equity.

§ 14.2.4 If the costs and damages incurred by the Owner in finishing the Work, including but not limited to, compensation for the Architect and Construction Manager's services and expenses and professional fees and expenses and other damages incurred by the Owner and not expressly waived, exceed the unpaid balance, the Contractor shall pay the difference to the Owner. This obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine. Any suspension by the Owner for convenience does not constitute grounds for termination by the Contractor under Section 14.1.

§ 14.3.2 Subject to Section 14.1.5, the Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1, to the extent permitted in accordance with the terms of this Agreement. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause, even though the Contractor has not failed to perform any part of the Contract. Termination by the Owner under this Paragraph shall be by written notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.
- .4 proceed to complete the performance of the Work not terminated. Deliver drawings, specifications, instruments of service, warranties, operation and maintenance manuals, project closeout documents and other necessary information to the Owner.

§ 14.4.3 Upon such termination the Contractor shall recover as its sole remedy payment for Work properly performed prior to the effective date of termination as provided in the Agreement, and for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instructions; and reasonable out-of-pocket costs incurred by reason of the termination of subcontractors, proven restocking fees and reasonable out-of-pocket demobilization costs. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation, anticipated and/or unearned profits, consequential or indirect damages.

§ 14.4.4 All obligations of the Contractor under the Contract with respect to completion of the Work, including but not limited to all warranties, guarantees and indemnities, shall apply to all Work completed or Substantially Completed by the Contractor prior to a convenience termination by the Owner. Notwithstanding the above, any convenience termination by the Owner or payments to the Contractor shall be without prejudice to any claims or legal remedies that the Owner may have against the Contractor for any cause.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents. This section does not require the Owner to file a Claim in order to impose and set-off liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Contractor shall commence all Claims and causes of action arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified herein. The Contractor waives all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by the Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the Owner with a copy sent to the Construction Manager and Architect. Claims by the Contractor under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later. The Claim shall identify all causes of action, basis for requested relief including all facts and events, and to the extent possible, an itemization of the claim amount including supporting documentation.

§ 15.1.3.2 Claims by the Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by written notice to the Owner. Failure of the Contractor to timely initiate a Claim in writing shall constitute an irrevocable waiver of such Claim. A statement during a meeting or that is reflected in meeting minutes, or a Change Order Request shall not constitute sufficient or timely notice of a claim.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Owner's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Owner as to Claims.

§ 15.1.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, where they were beyond a fifteen (15) year coverage for the area could not have been reasonably anticipated and had an adverse effect on the scheduled construction. The Contractor shall anticipate adverse weather delays in all-weather dependent activities.

§ 15.1.7 Waiver of Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This waiver includes damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Miscellaneous – Claims

§ 15.2.1 In the event of a dispute giving rise to a Claim, the party making the Claim may request that representatives of the parties meet within fifteen (15) days of receipt of Notice of a Claim in an effort to reach a resolution. If unable to do resolve the Claim at the meeting or if no meeting takes place, the Claim shall be subject to the dispute resolution provisions herein.

§ 15.2.2 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety, and request the surety's assistance in resolving the controversy.

§ 15.2.3 In evaluating Claims, the Owner may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Owner in rendering a decision.

§ 15.2.4 If the Owner requests a Contractor to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Owner when the response or supporting data will be furnished, or (3) advise the Owner that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Owner will either reject or approve the Claim in whole or in part.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent

to binding dispute resolution, and after exhaustion of the informal dispute resolution process set forth in Section 15.2.1.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.3.4 Mediation may include, by consolidation or joinder or in any other manner, persons or entities other than the Owner and Contractor who are substantially involved in a common question of fact or law and whose presence is required if complete relief is to be accorded in mediation. The Contractor specifically consents to the inclusion of such other persons or entities in mediation. The Contractor furthermore waives all objections (and consents) to joinder of the Contractor as a party to any mediation related to the Project in which the Owner is joined or is otherwise positioned as a party and in which the Contractor's conduct or its performance is in any way relevant to the subject of a dispute. The Contractor agrees to participate in good faith in any mediation proceeding in an effort to resolve the dispute(s) at issue therein. The provisions of this § 15.3.4 shall be specifically enforceable under applicable law in any court having jurisdiction thereof. The Contractor also agrees to include the provisions of this § 15.3.4 in all Subcontracts, Purchase Orders, and other agreements to which it is a party concerning the Project, thereby comparably committing its Subcontractors, suppliers, materialmen, and like entities.

§ 15.4 Litigation

§ 15.4.1 Any and all claims shall be subject to litigation in the Court of Common Pleas of Montgomery County, Pennsylvania which shall have exclusive jurisdiction and venue.

ARTICLE 16 ADDITIONAL PROVISIONS

§ 16.1 Project Site Requirements

§ 16.1.1 Temporary Ventilation. The Contractor shall provide temporary ventilation to remove from the structure any excessive heat and/or humidity in enclosed portions of the Work resulting from its construction operations so that the Work may be carried on without interruption and under correct conditions, including required dryness for installation of the various materials. Removing any dangerous or noxious fumes or particles suspended in the air is the responsibility of the Contractor whose construction operations caused these conditions to exist. Temporary equipment used for this temporary ventilation shall produce no hazard to the Work or to any person in or near it. The Contractor shall furnish all such temporary equipment; pay all costs for it and for its operation, including fuel and power supplies during operation both in and out of normal working hours. The Contractor shall remove the equipment when it is no longer required, or when so directed by the Owner.

§ 16.1.2 Work Beyond Limit of Contract. For purposes of performing the Work, the site is defined by the Limit of Contract lines shown on the drawings. The Contractor is responsible for any work performed beyond the limit of Contract.

§ 16.1.3 Advertising. No advertising is permitted within the Work area or adjacent area. This does not apply to corporate vehicles or attire.

§ 16.1.4 Storage and Stockpiling on Roofs. No materials of any type may be stored or stockpiled overnight on roofs.

§ 16.1.5 Temporary Traffic Control. The Project site may have active pedestrian, bike or automobile traffic adjacent to site for the entire duration of the Project. If applicable, the Contractors shall, incorporate, furnish and implement the following work as part of this Project:

Traffic Control – Temporary Traffic Control Guidelines (PennDOT Publication 213): Publication 213 applies to Contractors; utilities; Federal, State, County, township and municipal governments; and others performing applicable construction, maintenance, emergency or utility/permit work on highways or so closely adjacent to a highway that workers, equipment or materials encroach on the highway or interfere with the normal movement of traffic. The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130 and Temporary Traffic Control Guidelines (PennDOT Publication 213) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

§ 16.1.6 Noise Reduction. The Contractor must take reasonable steps to minimize noise and shall perform work in accordance with local noise ordinances. The Contractor shall perform noise-producing work in less sensitive hours of the day or week as directed by the Owner. The Contractor shall maintain noise-producing work at or below the decibel levels and within the time periods specified and shall perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 6:00 p.m. unless otherwise permitted by the Owner and permissible by local ordinance.

§ 16.1.7 Visible Dust Emissions. No person shall perform any construction, demolition, excavation, extraction, or other earthmoving activities unless appropriate measures are sufficiently implemented to limit Visible Dust Emissions (VDE) to 20% opacity and comply with the conditions for a stabilized surface area when applicable. The Contractor shall apply sufficient water to building exterior surfaces, and/or unpaved surface areas where equipment will operate to limit VDE to 20% opacity throughout the duration of razing and demolition activities or handling, storage, and transport of bulk materials on-site or off-site. The Contractor shall apply sufficient dust suppressants to unpaved surface areas within 100 feet where materials from razing or demolition activities will fall in order to limit VDE to 20% opacity. The Contractor shall also apply sufficient dust suppressants to unpaved surface areas where wrecking or hauling equipment will be operated in order to limit VDE to 20% opacity.

§ 16.1.8 Tobacco Use on Project Site. Use of tobacco products (smoke and smokeless, including vapor) shall be restricted on site after the building has been enclosed (with permanent or temporary enclosures). Personnel found in noncompliance with this directive may be removed from the site upon discovery of this noncompliance.

§ 16.2 Federal and A.S.T.M. and Other Specifications. Reference to Federal, A.S.T.M. and other standard specifications references and designations means those in effect at the date of bid. Basic codes and regulations incorporated by reference, standard regulations and codes refer to editions in effect at the date of proposals, including current addenda or errata. The most stringent section of each code applies.

§ 16.3 Prevailing Minimum Wage Predetermination. The Contractor is hereby notified that this Contract is subject to the provisions, duties, obligations, remedies and penalties of the Pennsylvania Prevailing Wage Act, 43 P.S. §165-1 et seq., as amended, which is incorporated herein by reference as if fully set forth herein. In compliance with said Pennsylvania Prevailing Wage Act, the Prevailing Minimum Wage Predetermination is hereto attached and made part hereof as approved by the Secretary of Labor and Industry. If a job classification is not covered by the Prevailing Wage Predetermination, the Contractor may not pay individuals in that classification less than the lowest rate for laborers, as set out in the predetermination.

§ 16.4 Tax Liability and Offset

§ 16.4.1 The Contractor, by execution of this Agreement, certifies that it has no outstanding tax liability to the Commonwealth of Pennsylvania or the Owner; authorizes the Department of Revenue to release information related to its tax liability to the Owner; and authorizes the Owner to set off any State and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount(s) due to the Owner from the Contractor that are not being contested on appeal by the Contractor, against any payment due to the Contractor under an agreement with the Owner.

§ 16.4.2 The foregoing certification of no outstanding tax liability is a material representation of fact upon which reliance is placed by the Owner in entering this Agreement. If it is later determined that the Contractor knowingly rendered an erroneous or inaccurate certification, the Owner may find the Contractor in default and terminate this Agreement. Such erroneous or inaccurate certification may also be grounds for initiation of civil or criminal proceedings.

§ 16.5 Debarment or Suspension

The Owner shall recommend debarment or suspension action against the Contractor whenever there is substantial evidence that there exists a cause for debarment or suspension.

§ 16.6 Contractor's Responsibility

§ 16.6.1 The Contractor certifies, in writing, for itself, its Subcontractors and consultants required to be disclosed or approved by the Owner, that as of the date of its execution of this Agreement, that neither the Contractor, nor any such subcontractors or consultants, are under suspension or debarment by the Commonwealth of Pennsylvania, Owner or any other governmental entity, instrumentality, or authority and, if the Contractor cannot so certify, then it agrees to submit a written explanation of why such certification cannot be made.

§ 16.6.2 The Contractor also certifies, in writing, that as of the date of its execution of this Agreement it has no tax liabilities or other County of Montgomery, PA obligations, or has filed a timely administrative or judicial appeal if such liabilities or obligations exist, or is subject to a duly approved deferred payment plan if such liabilities exist. If the Contractor cannot so certify because of the scope and nature of its organizational structure, then it agrees to make such certification to the best extent possible and to submit, along with its Bid/Contract, a written explanation of why such certification cannot be made in full.

§ 16.6.3 The Contractor's obligations pursuant to these provisions are continuing from and after the effective date of this Agreement through the termination date thereof. Accordingly, the Contractor shall have an obligation to inform the Owner if, at any time during the term of this Agreement, it becomes delinquent in the payment of taxes, or other County of Montgomery, PA obligations, or if it or any of its subcontractors or consultants are suspended or debarred by the Commonwealth of Pennsylvania, Owner, the federal government, or any other state or governmental entity. Such notification shall be made within 15 days of the date of suspension or debarment. To the extent the size or nature of the Contractor prevents it from carrying out this obligation in full, it shall provide written documentation explaining why this obligation cannot be fully complied with and shall have a continuing obligation to report to the greatest extent possible.

§ 16.6.4 The failure of the Contractor to notify the Owner of its suspension or debarment by the Commonwealth of Pennsylvania, Owner, any other state, any other county or the federal government shall constitute an event of default of this Agreement.

§ 16.6.5 The Contractor agrees to reimburse the Owner for the reasonable costs of investigation incurred by any investigative office of the Owner for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Owner that results in the suspension or debarment of the Contractor. Such costs shall include, but shall not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.

§ 16.7 Covenant Against Contingent Fees. The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee (excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business). For breach or violation of this warranty, the Owner shall have the right to annul this Agreement without liability or, in its discretion, to deduct from the Contractor's compensation hereunder, or otherwise recover, the full amount of such commission, percentage, or contingent fee.

§ 16.8 Americans with Disabilities Act. Pursuant to federal regulations promulgated under the authority of the Americans with Disabilities Act (28 C.F.R. 35.101 et seq.), no individual with a disability shall, on the basis of the disability, be excluded from participation in this Agreement or from activities provided for under this Agreement. As a condition of accepting and executing this Agreement, the Contractor agrees to comply with the General Prohibitions Against Discrimination (28 C.F.R. 35.130), and all other regulations promulgated under Title II of the Americans with Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the Owner through contracts with outside contractors. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Owner from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Owner as a result of the Contractor's failure to comply with the provisions of this section.

§ 16.9 Recycled Materials

§ 16.9.1 In accordance with Section 108, Recycled Materials, of the Commonwealth Procurement Code (62 P.S. Section 108), all insulation products incorporated into the Project shall contain the following minimum percentages, by weight, of postconsumer recovered paper or recovered material:

Cellulose Loose-Fill Spray-On	5 % Postconsumer Recovered Paper
Perlite Composite Board	23% Postconsumer Recovered Paper
Plastic Rigid Foam, Polyisocyanurate/Polyurethane:	
Rigid Foam	9% Recovered Material
Foam In-Place	5% Recovered Material
Glass Rigid Foam	6% Recovered Material
Phenolic Rigid Foam	5% Recovered Material
Rock Wool	50% Recovered Material

§ 16.9.2 “Postconsumer Recovered Paper” is defined as “any paper, paperboard, and fibrous wastes from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards and used cordage; as well as all paper, paperboard, and fibrous wastes that enter and are collected from municipal solid waste.”

§ 16.9.3 “Recovered Materials” is defined as “waste material and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.”

§ 16.9.4 Materials and installations specified for the Project by the Architect shall comply with this requirement.

§ 16.10 Trade Practices Act

§ 16.11.1 The Contractor, in the preparation of the design documents for the Project, shall comply with the requirements of the Trade Practices Act (71 P.S. § 773.101, et seq.). The Act prohibits the Owner from specifying, purchasing, or permitting to be furnished or used, in any public works, aluminum or steel products made in a foreign country which has been determined as “discriminating” by the Commonwealth.

§ 16.10.2 Aluminum or Steel Products means aluminum or steel products rolled, formed, shaped, drawn, extruded, forged cast, fabricated, or otherwise similarly processed, or processed by a combination of two or more of such operations, from aluminum or steel not made in the United States.

§ 16.10.3 The countries of Brazil, South Korea, Spain, and Argentina have been found to discriminate against certain aluminum and steel products made in Pennsylvania. Therefore, the purchase or use of those countries’ products, as listed below, is not permitted:

- .1 **Brazil:** Welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless steel bar; stainless steel wire rod and cold-form stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet, and cold-rolled carbon steel sheet.
- .2 **Spain:** Certain stainless steel products, including stainless steel wire rod, hot-rolled stainless steel bars and cold-formed stainless steel bars; pre-formed stainless steel bars; pre-stressed concrete steel wire strand; certain steel products including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes, galvanized carbon steel sheet, hot-rolled carbon steel bars, and cold-formed carbon steel sheet.
- .3 **South Korea:** Welded carbon steel pipes and tubes hot-rolled carbon steel place; hot-rolled carbon steel sheet and galvanized steel sheet.
- .4 **Argentina:** Carbon steel wire rod and cold-rolled carbon steel sheet.

§ 16.11 Steel Products Procurement Act

§ 16.11.1 The Contractor shall comply with the requirements of the Steel Products Procurement Act (73 P.S. 1881, et seq.). The Steel Products Procurement Act requires that any steel products being used or supplied in the performance of the Contract must be “steel products” as defined in the Act. Steel Products are considered to be products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed, or processed by a combination of two or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or other steel making process.

- .1 Includes cast iron products.
- .2 Includes machinery and equipment listed in United States Department of Commerce Standard Industrial Classification 25 (furniture and fixture), 35 (machinery; except electrical), and 37 (transportation equipment) and made of, fabricated from, or containing steel components.
- .3 Does not include steel products which will not be incorporated into the Project (i.e., tools – hammers/wrenches); scaffolding used to construct the Project and removed after completion; and trailers used as offices by contractors and removed after completion of the Project.
- .4 Transportation equipment shall be determined to be a United States steel product only if it complies with Section 165 of Public Law §§ 97-424 (96 Stat. 2136).
- .5 Owner vs. Product. Each “product” in the Owner is identified as a separate and distinct steel product.

§ 16.11.2 When the Owner’s design specifies trade names, catalog numbers, and manufacturers for materials and equipment, they are provided for the purpose of establishing a standard of quality, performance, and appearance, and for establishing a standard of competitive bidding. The use of such descriptive information will not relieve the Contractor with compliance with all respects of the Act.

Origin of Steel.

- .1 If the product contains 100 percent United States manufactured steel, it is a “steel product” under the Act, no matter where the non-steel components of the product are manufactured.
- .2 If the product contains 100 percent steel manufactured in a foreign country, its acquisition is prohibited.
- .3 If the product contains both foreign and United States manufactured steel (no matter how little or how much of each), the product shall be determined to be a United States steel product if at least 75 percent of the total cost of the articles, materials, and supplies have been mined, produced, or manufactured in the United States.

§ 16.11.3 If 100 percent of the steel product is identifiable (i.e., stamped United States Steel), then the Contractor shall submit certification documentation. If the steel product is unidentified, the Contractor shall provide documentation including, but not limited to: invoices, bills of lading, and mill certification. The Owner is authorized to withholding payments until the documentation or certification has been provided. If payments have been made but should not have been made because of noncompliance, the Owner or the Commonwealth Attorney General may recover the payments directly from the Contractor, subcontractor, or manufacturer who did not comply. Additionally, any person who willfully violates the Act shall be prohibited from submitting bids or performing work for the Commonwealth for five years.

§ 16.11.4 The Steel Products Procurement Act requirement may be waived by the Owner when the Owner determines that steel products are not produced in the United States in sufficient quantities to meet the requirements of the Contract and/or when the product appears on the Department of General Services' annual Final List of Exempt Machinery and Equipment Steel Products.

§ 16.12 Environmental Quality Control

§ 16.12.1 All Prime Contractors and their subcontractors shall perform the Work in a manner that shall minimize the possibility of air, water, land, and noise pollution. Each Prime Contractor shall comply with all statutes and regulations, as amended, concerning environmental quality control administered by the Pennsylvania Department of Environmental Protection, including but not limited to:

- .1 Clean Streams Law
- .2 Pennsylvania Sewage Facilities Act
- .3 Air Pollution Control Act
- .4 Surface Mining Conservation and Reclamation Act
- .5 Bituminous Coal Open Pit Mining Conservation Act
- .6 Dams and Encroachments Act
- .7 Water Well Driller's Act
- .8 Water Works Act and Atomic Energy Act

§ 16.12.2 The Contractor shall be solely responsible for securing all required permits and for any violations. Storage, collection, transportation, processing, and final disposal of solid waste shall be in accordance with regulations and standards of the Pennsylvania Department of Environmental Protection (DEP). Immediately upon notice of award of the Contract the Contractor shall apply for the necessary permits from DEP. A copy of this permit must be submitted to the Owner before commencing waste disposal.

§ 16.13 Right to Know Law

§ 16.13.1 Unless otherwise determined by a Pennsylvania appellate court subsequent to the execution of this Agreement, the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104 (“RTKL”), applies to this Agreement. Unless the Contractor provides the Owner, in writing, with the name and contact information of another person who will act on behalf of the Contractor regarding the RTKL, the Owner shall notify the Contractor if the Owner needs the Contractor’s assistance in connection with a request made under the RTKL. The Contractor shall notify the Owner in writing of any change in the name or the contact information within a reasonable time prior to the change.

§ 16.13.2 Upon notification to the Contractor that the Owner has received a request for the Contractor’s records under the RTKL (the “Requested Information”), the Contractor agrees to assist the Owner in responding to the request. Such assistance shall include providing the Owner, within three (3) days, with copies of any Requested Information in the Contractor’s possession that the Contractor deems a Public Record, as that term is defined in the RTKL, or otherwise notify the Owner that the Requested Information is not a Public Record. If the Contractor is unable to provide the Requested Information within three (3) days for one of the reasons specified in the RTKL, the Contractor agrees to timely notify the Owner that it will need up to an additional twenty-five (25) days, and must provide in writing the reason the additional time is needed. If the Contractor makes a determination the Requested Information is within the scope of the RTKL but fails to provide the Requested Information to the Owner within the period specified in this provision, the failure shall be considered an event of default and the Contractor shall pay, indemnify, and hold the Owner harmless for any damages, penalties, detriment, or harm that the Owner may incur as a result of the Contractor’s failure.

§ 16.13.3 The Contractor’s determination as to whether the Requested Information is a Public Record is dispositive of the question as between the parties. The Contractor agrees to provide information and/or to appear before the Office of Open Records or Pennsylvania Courts in support of the Owner’s denial of access to a record the Contractor determined was not a Public Record. The Contractor agrees to indemnify the Owner for any court costs, attorneys’ fees, or civil penalties awarded against the Owner under the RTKL in connection with or as a result of the Contractor’s denial of access to Requested Information.

§ 16.13.4 If in the course of this Agreement, the Owner is provided with information the Contractor clearly identifies as a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, the Owner agrees to abide by the terms of Section 707 of the RTKL and timely provide the Contractor with notice of a request for this information and allow the Contractor the ability to respond, as provided by the RTKL. The Contractor reserves all rights and remedies as allowed by law relating to the Owner’s unauthorized disclosure of the Contractor’s Trade Secret or Confidential Proprietary Information. This provision shall not be construed to limit the sovereign immunity of the Owner.

§ 16.13.5 The Owner will reimburse the Contractor for any costs associated with complying with this provision only to the extent allowed under the applicable fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.

§ 16.13.6 The Contractor agrees to abide by any decision to release a record to the public made by the Office of Open Records after timely appeal to the Pennsylvania Courts.

§ 16.14 Labor Harmony/Jurisdictional Disputes

§ 16.14.1 The Contractor shall hire all personnel necessary for the proper and diligent prosecution of the Work in accordance with the Project Schedule. The Contractor shall maintain labor peace and harmony throughout the duration of the Project. In the event of a labor dispute, the Contractor shall not be entitled to any increase nor shall any adjustment be made to the Contract Sum or Contract Time.

§ 16.14.2 In the event of a jurisdictional dispute among or between any labor unions arising out of or relating to Contractor’s Work, Contractor shall be solely responsible for promptly resolving the same without involvement by the Owner, Construction Manager or Architect. The Contractor shall be responsible for any delays or impacts arising out of jurisdictional disputes arising out of or relating to Contractor’s Work.

§ 17 EQUAL EMPLOYMENT OPPORTUNITY AND NON-DISCRIMINATION

§ 17.1 Non-Discrimination/Sexual Harassment

During the term of this Contract, Contractor agrees as follows:

§ 17.1.1 Contractor shall not discriminate against any employee, applicant for employment, any independent Contractor or any other person because of race, color, religious creed, ancestry, national origin, service in the uniformed services

As defined in state and federal law), veteran status, age, sex, sexual orientation, marital or family status, pregnancy, pregnancy-related conditions, physical or mental disability, gender, perceived gender, gender identity, genetic information or political ideas, or any other basis prohibited by law.

Contractor shall take affirmative action to ensure that applicants are employed, and that employees or agents are treated during employment, without regard to their race, color, religious creed, ancestry, national origin, service in the uniformed services (as defined in state and federal law), veteran status, age, sex, sexual orientation, marital or family status, pregnancy, pregnancy-related conditions, physical or mental disability, gender, perceived gender, gender identity, genetic information or political ideas, or any other basis prohibited by law. Such affirmative action shall include, but is not limited to, the following: Employment upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training. Contractor shall post in conspicuous places, available to employees, agents, applicants for employment and other persons, notices to be provided by the contracting agency setting forth the provisions of this non-discrimination clause.

§ 17.1.2 Contractor shall in solicitations or advertisements placed by it or on its behalf state all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age, or sex.

§ 17.1.3 Contractor shall send each labor union or workers' representative with which it has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representative of its commitment to this non-discrimination clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment. Similar notices shall be sent to every other source of recruitment utilized by Contractor.

§ 17.1.4 It shall be no defense to a finding of a non-compliance with Executive Order 1972-1 or any regulations issued by the Pennsylvania Human Relations Commission or this non-discrimination clause that recipient had delegated some of its employment practices to any union, training program or other source of recruitment which prevents it from meeting its obligations.

§ 17.1.5 Where the practices of a union or any training program or other source of recruitment will result in the exclusion of minority group persons, so that Contractor will be unable to meet its obligations under Executive Order 1972-1 or any regulations issued by the Pennsylvania Human Relations Commission or this non-discrimination clause, the Contractor shall then employ and fill vacancies through other employment procedures without regard to race, color, religious creed, ancestry, national origin, sex, or age, taking affirmative action to obtain qualified minority group persons.

§ 17.1.6 Contractor shall comply with all rules, regulations and orders issued by the Governor, the Attorney General, and the Human Relations Commission relating to laws, prohibiting discrimination in hiring or employment opportunities. In the event of Contractor's non-compliance with the non-discrimination clause of this Contract or with any such rules, regulations or orders, this Contract may be cancelled, terminated or suspended in whole or in part, and recipient may be declared ineligible for further Commonwealth contracts, and such other sanctions may be imposed and remedies invoked as provided by rule, regulation or order of the Governor, Attorney General, or the Human Relations Commission, or as otherwise provided by law.

§ 17.1.7 Contractor shall furnish all information and reports required by the Governor, Attorney General, and the Human Relations Commission and will permit access to its books, records and accounts by the contracting agency and the Human Relations Commission, for purposes of investigation to ascertain compliance with provisions of Executive Order 1972-1 or any regulations issued by the Pennsylvania Human Relations Commission or this non-discrimination clause.

§ 17.1.8 Contractor shall actively recruit minority Subcontractors or Subcontractors with substantial minority representation among their employees.

§ 17.1.9 The Contractor and each of its subcontractors or consultants shall establish and maintain a written sexual harassment policy and shall inform their employees of the policy. The policy must contain a notice that sexual harassment will not be tolerated and employees who practice it will be disciplined.

§ 17.1.9 Contractor shall include the provisions of Paragraphs 17.1.1 through 17.1.90 in every Subcontract or Purchase Order, so that such provisions will be binding upon each Subcontractor or vendor or other person. If the Contractor cannot fully comply with this subsection due to the nature or scope of its organization, it must use best efforts to do so and provide a written explanation as to why it is unable to fully comply.

§17.1.10 The Owner may cancel or terminate this Agreement and all money due or to become due thereunder may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the agency may proceed with debarment or suspension and may place the Contractor in the Contractor Responsibility File.

§ 17.1.10 The terms used in this non-discrimination clause shall have the same meaning as in the Contract Compliance Regulations issued by the Pennsylvania Human Relations Commission, 16 Pa. Code Ch. 49.

DRAFT AIA® Document A101® – 2017

Exhibit A

Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the « » day of « » in the year « »
(In words, indicate day, month and year.)

for the following **PROJECT**:
(Name and location or address)

« »
« »

THE OWNER:
(Name, legal status and address)

« County of Montgomery »« »
« Montgomery County Courthouse »
«PO Box 311 »
«Norristown, PA 19404 »
»

THE CONTRACTOR:
(Name, legal status and address)

« »« »
« »

TABLE OF ARTICLES

- A.1 GENERAL
- A.2 OWNER'S INSURANCE
- A.3 CONTRACTOR'S INSURANCE AND BONDS
- A.4 SPECIAL TERMS AND CONDITIONS

ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201™–2017, General Conditions of the Contract for Construction.

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Document A201®–2017, General Conditions of the Contract for Construction. Article 11 of A201®–2017 contains additional insurance provisions.

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§ A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

§ A.2.3 Required Property Insurance

§ A.2.3.1 Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ A.2.3.1.1 **Causes of Loss.** The insurance required by this Section A.2.3.1 shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. Sub-limits, if any, are as follows:

(Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss	Sub-Limit
N/A	

§ A.2.3.1.2 **Specific Required Coverages.** The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:

(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)

Coverage	Sub-Limit
N/A	

§ A.2.3.1.3 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section A.2.3.1 or, if necessary, replace the insurance policy required under Section A.2.3.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions.

§ A.2.3.1.4 **Deductibles and Self-Insured Retentions.** If the insurance required by this Section A.2.3 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ A.2.3.2 **Occupancy or Use Prior to Substantial Completion.** The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.2.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

§ A.2.3.3 Insurance for Existing Structures

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ A.2.4 Optional Extended Property Insurance.

The Owner shall purchase and maintain the insurance selected and described below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. For each type of insurance selected, indicate applicable limits of coverage or other conditions in the fill point below the selected item.)

- [☐] **§ A.2.4.1 Loss of Use, Business Interruption, and Delay in Completion Insurance**, to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.
- ☐ ☐
- [☐] **§ A.2.4.2 Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.
- ☐ ☐
- [☐] **§ A.2.4.3 Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.
- ☐ ☐
- [☐] **§ A.2.4.4 Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.
- ☐ ☐
- [☐] **§ A.2.4.5 Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.
- ☐ ☐
- [☐] **§ A.2.4.6 Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.
- ☐ ☐
- [☐] **§ A.2.4.7 Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.
- ☐ ☐

§ A.2.5 Other Optional Insurance.

The Owner shall purchase and maintain the insurance selected below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)

[☐] **§ A.2.5.1 Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information. (Indicate applicable limits of coverage or other conditions in the fill point below.)

☐ ☐

[☐] **§ A.2.5.2 Other Insurance**
(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

§ A.3.1 General

§ A.3.1.1 Certificates of Insurance. The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies.

§ A.3.1.2 Deductibles and Self-Insured Retentions. The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.1.3 Additional Insured Obligations. To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

§ A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:
(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)

«Per state Statutes »

§ A.3.2.2 Commercial General Liability

§ A.3.2.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than «Two million dollars» (\$ «2,000,000.00 ») each occurrence, «Four million dollars» (\$ «4,000,000.00 ») general aggregate, and «Four million dollars» (\$ «4,000,000.00 ») aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;

- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than «One million dollars » (\$ «1,000,000.00 ») per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than « » (\$ « ») each accident, « » (\$ « ») each employee, and « » (\$ « ») policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than «One million dollars » (\$ «1,000,000.00 ») per claim and «Five million dollars » (\$ «5,000,000.00 ») in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than «Two million dollars » (\$ «2,000,000.00 ») per claim and «Four million dollars » (\$ «4,000,000.00 ») in the aggregate.

§ A.3.2.10 Coverage under Sections A.3.2.8 and A.3.2.9 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than «Three million dollars » (\$ «3,000,000.00 ») per claim and «Five million dollars » (\$ «5,000,000.00 ») in the aggregate.

§ A.3.2.11 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate.

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate.

§ A.3.3 Contractor's Other Insurance Coverage

§ A.3.3.1 Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)

« »

§ A.3.3.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.

(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)

- [« »] § A.3.3.2.1 Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below: *(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)*

« »

- [« »] § A.3.3.2.2 Railroad Protective Liability Insurance, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate, for Work within fifty (50) feet of railroad property.

- [« »] § A.3.3.2.3 Asbestos Abatement Liability Insurance, with policy limits of not less than «Two million dollars » (\$ «2,000,000.00 ») per claim and «Four million dollars » (\$ «4,000,000.00 ») in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.

- [« »] § A.3.3.2.4 Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

- [« »] § A.3.3.2.5 Property insurance on an "all-risks" completed value form, covering property owned by

the Contractor and used on the Project, including scaffolding and other equipment.

[«V »] **§ A.3.3.2.6 Other Insurance**

(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage

Umbrella Excess Liability

Limits

Limit of Liability; for the Project written on an occurrence form with policy limits of not less than «Five million dollars » (\$ «5,000,000.00 »). Coverage provided shall be over auto liability and general liability.

§ A.3.4 Performance Bond and Payment Bond

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:
(Specify type and penal sum of bonds.)

Type

Payment Bond

Performance Bond

Penal Sum (\$0.00)

Value of Contract

Value of Contract

Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

- A. «Each policy and Certificate of Insurance shall contain: an endorsement naming the County as an Additional Insured party thereunder; and a provision that at least 30 calendar days prior written notice be given to the County in the event coverage is canceled or non-renewed or coverage reduced.»
- B. All insurance provided for in this section shall be obtained under valid and enforceable policies issued by insurers of recognized responsibility which are licensed to do business in the Commonwealth of Pennsylvania. Certificates of Insurance evidencing the existence of such insurance shall be submitted to the County upon execution of the contract by the selected firm. If the term of this contract coincides with the term of the selected firm's insurance coverage, a Certificate from the expiring policy will be accepted, but a Certificate evidencing renewed coverage of a new policy must be presented to the County no later than 30 days after the effective date of the policy.
- C. Liability Coverage: Premise operations, blanket contractual liability, personal injury liability (employee exclusion deleted), products and completed operations, independent contractors, employees and volunteers as additional insureds, joint liability, and broad form property damage (including completed operations).»

»

BID FORM – GENERAL CONTRACTOR PRIME

1. In compliance with the Notice to Bidders and the Contract Documents, we, the undersigned, do hereby agree to provide all labor, materials, services, tools, and equipment, and to perform all of the required work to complete the:

For the:

Montgomery County: Lock 60 Workman's Cottage Phase 2 Renovations

Montgomery County Bid No.

Montgomery County
Purchasing Department
One Montgomery Plaza
425 Swede Street
Norristown, PA 19401

For: Montgomery County, Owner

All in strict accordance with the Specifications, Schedules, Drawings, Allowances, and Conditions for the consideration of the following amounts, including federal, state, and all applicable taxes, for the sum of:

Bid Item No. 1--Base Bid \$

(Write in dollar amount using words)

2. Alternates:

None for this prime package.

3. Unit Prices (See Specification Section 012200)
4. We, the undersigned, agree, if awarded the Contract, to execute an agreement for the above-stated work and compensation on the Form of Agreement contained herein specified.
5. We, the undersigned, agree, if awarded the Contract, to begin work at the site within Five (5) days after Notice to Proceed, and to complete the work in a thoroughly good and workmanlike manner to the satisfaction of the Owner, on or before the Completion Dates as stated in the bid schedule and project specifications.
6. We, the undersigned, acknowledge receipt of and have considered in our proposal Addenda and supplemental information posted on the procurement website, Bonfire.
7. Bid results are available on the website.
8. We, the undersigned agree, if awarded the contract, to adhere to all the requirements of the Community Participation Goal Requirements. Refer to Exhibit A, included in the project documentation.

9. We, the undersigned, agree that this Proposal as submitted shall hold good through the one hundred twenty (120) days following the bid date.

Submitted By: _____

Federal ID Number: _____

PA Vendor Number: _____

Address: _____

Signed By: _____

Authorized Signature

Attest: _____

Surety Name: _____

Surety Address: _____

Date: _____

END OF DOCUMENT

BID FORM – ELECTRICAL CONTRACTOR PRIME

1. In compliance with the Notice to Bidders and the Contract Documents, we, the undersigned, do hereby agree to provide all labor, materials, services, tools, and equipment, and to perform all of the required work to complete the:

For the:

Montgomery County: Lock 60 Workman's Cottage Phase 2 Renovations

Montgomery County Bid No.

Montgomery County
Purchasing Department
One Montgomery Plaza
425 Swede Street
Norristown, PA 19401

For: Montgomery County, Owner

All in strict accordance with the Specifications, Schedules, Drawings, Allowances, and Conditions for the consideration of the following amounts, including federal, state, and all applicable taxes, for the sum of:

Bid Item No. 1--Base Bid \$

(Write in dollar amount using words)

2. Alternates:
 - a. None for this Prime Package
3. Unit Prices (See Specification Section 012200)

4. We, the undersigned, agree, if awarded the Contract, to execute an agreement for the above-stated work and compensation on the Form of Agreement contained herein specified.
5. We, the undersigned, agree, if awarded the Contract, to begin work at the site within Five (5) days after Notice to Proceed, and to complete the work in a thoroughly good and workmanlike manner to the satisfaction of the Owner, on or before the Completion Dates as stated in the bid schedule and project specifications.
6. We, the undersigned, acknowledge receipt of and have considered in our proposal Addenda and supplemental information posted on the procurement website, Bonfire.
7. Bid results are available on the website.
8. We, the undersigned agree, if awarded the contract, to adhere to all the requirements of the Community Participation Goal Requirements. Refer to Exhibit A, included in the project documentation.
9. We, the undersigned, agree that this Proposal as submitted shall hold good through the one hundred twenty (120) days following the bid date.

Submitted By: _____

Federal ID Number: _____

PA Vendor Number: _____

Address: _____

Signed By: _____

Authorized Signature

Attest: _____

04119 - 3

Surety Name: _____

Surety Address: _____

Date: _____

END OF DOCUMENT

BID FORM – HVAC/MECHANICAL CONTRACTOR PRIME

1. In compliance with the Notice to Bidders and the Contract Documents, we, the undersigned, do hereby agree to provide all labor, materials, services, tools, and equipment, and to perform all of the required work to complete the:

For the:

Montgomery County: Lock 60 Workman's Cottage Phase 2 Renovations

Montgomery County Bid No.

Montgomery County
Purchasing Department
One Montgomery Plaza
425 Swede Street
Norristown, PA 19401

For: Montgomery County, Owner

All in strict accordance with the Specifications, Schedules, Drawings, Allowances, and Conditions for the consideration of the following amounts, including federal, state, and all applicable taxes, for the sum of:

Bid Item No. 1--Base Bid \$ _____

(Write in dollar amount using words)

2. Alternates: None for this prime package.
3. Unit Prices (See Specification Section 012200)
4. We, the undersigned, agree, if awarded the Contract, to execute an agreement for the above-stated work and compensation on the Form of Agreement contained herein specified.
5. We, the undersigned, agree, if awarded the Contract, to begin work at the site within Five (5) days after Notice to Proceed, and to complete the work in a thoroughly good and workmanlike manner to the satisfaction of the Owner, on or before the Completion Dates as stated in the bid schedule and project specifications.

04118 - 1

6. We, the undersigned, acknowledge receipt of and have considered in our proposal Addenda and supplemental information posted on the procurement website, Bonfire.
7. Bid results are available on the website.
8. We, the undersigned agree, if awarded the contract, to adhere to all the requirements of the Community Participation Goal Requirements. Refer to Exhibit A, included in the project documentation.
9. We, the undersigned, agree that this Proposal as submitted shall hold good through the one hundred twenty (120) days following the bid date.

Submitted By: _____

Federal ID Number: _____

PA Vendor Number: _____

Address: _____

Signed By: _____

Authorized Signature

Attest: _____

Surety Name: _____

Surety Address: _____

Date: _____

END OF DOCUMENT

BID FORM – PLUMBING CONTRACTOR PRIME

1. In compliance with the Notice to Bidders and the Contract Documents, we, the undersigned, do hereby agree to provide all labor, materials, services, tools, and equipment, and to perform all of the required work to complete the:

For the:

Montgomery County: Lock 60 Workman's Cottage Phase 2 Renovations

Montgomery County Bid No.

Montgomery County
Purchasing Department
One Montgomery Plaza
425 Swede Street
Norristown, PA 19401

For: Montgomery County, Owner

All in strict accordance with the Specifications, Schedules, Drawings, Allowances, and Conditions for the consideration of the following amounts, including federal, state, and all applicable taxes, for the sum of:

Bid Item No. 1--Base Bid \$

(Write in dollar amount using words)

2. Alternates:

None for this prime package.

3. Unit Prices (See Specification Section 012200)

4. We, the undersigned, agree, if awarded the Contract, to execute an agreement for the above-stated work and compensation on the Form of Agreement contained herein specified.
5. We, the undersigned, agree, if awarded the Contract, to begin work at the site within Five (5) days after Notice to Proceed, and to complete the work in a thoroughly good and workmanlike manner to the satisfaction of the Owner, on or before the Completion Dates as stated in the bid schedule and project specifications.
6. We, the undersigned, acknowledge receipt of and have considered in our proposal Addenda and supplemental information posted on the procurement website, Bonfire.
7. Bid results are available on the website.
8. We, the undersigned agree, if awarded the contract, to adhere to all the requirements of the Community Participation Goal Requirements. Refer to Exhibit A, included in the project documentation.
9. We, the undersigned, agree that this Proposal as submitted shall hold good through the one hundred twenty (120) days following the bid date.

Submitted By: _____

Federal ID Number: _____

PA Vendor Number: _____

Address: _____

Signed By: _____

Authorized Signature

Attest: _____

Surety Name: _____

04117 - 3

Surety Address:

Date:

END OF DOCUMENT

Appendix A

SUBMISSION FORMS

The following forms must be submitted and uploaded with the proposal. Failure to include these forms may lead to rejection of the proposal as non-responsive. Each form must be signed by a person authorized to bind the company. Electronic signatures are acceptable.

PUBLIC DISCLOSURE STATEMENT

Provide a YES or NO answer to the following three (3) questions. If you responded "yes" to any question, please explain (responding "yes" does not necessarily disqualify you from doing business with the County).

In the past five (5) years,

1. Has your firm referred any business (whether or not compensated) or otherwise had any financial dealings with any County elected official or County officer?

No

2. Have any officers or principals of your firm engaged in any dealings of a financial or personal nature with any County elected official or County officer?

No

3. Have any officers or principals of your firm been solicited for a campaign contribution by or on behalf of any County elected official or County officer?

No

☒ Confirm that you will comply in all respects with the Pennsylvania Public Official and Employees Ethics Act. 65 Pa.C.S.. § 1101 et seq.

Signature & Date

Typed/Printed Name

Title

CERTIFICATION AND REPRESENTATIONS OF OFFERORS

1. Certification of Eligibility

- a. The bidder certifies that neither the offeror, nor any person or firm which has an interest in the proposal or the offeror's firm:
 - (1) Has been suspended, debarred or otherwise restricted by the County or any Department or Agency of the Federal Government or of any State Government from doing business with such County, Department, Agency or State for the period beginning 5 years prior to the date of this certification;
 - (2) Has experienced default or noncompliance under any contract with any governmental agency with which it has contracts for the period beginning 10 years prior to the date of this certification; or
 - (3) Has unresolved findings raised as a result of federal, state or local government audits, or any other governmental investigations concerning the offeror or any person or firm which has an interest in the offeror's firm under any of the offeror's contracts;
 - (4) Has defaulted on an obligation covered by a bond, and has not been the subject of a claim under any fidelity bond.
 - (5) Has been found by the Commonwealth of Pennsylvania to be in noncompliance with any applicable civil rights laws.
 - (6) Is a County Commissioner, County employee, or otherwise prohibited or limited by law from contracting with the County.
 - (7) Has been convicted of a felony and is not presently the subject of a complaint or indictment charging a felony. (A felony is any offense punishable by imprisonment for more than one year, but does not include any offense classified as a misdemeanor under the laws of a State and punishable by imprisonment of two years or less.)
 - (8) Has been convicted or found liable for any act prohibited by state or federal law involving conspiracy or collusion with respect to proposing or bidding on any public contract within the last three years. If offeror has been convicted of any act prohibited by State or Federal law involving collusion with respect to proposing or bidding on any public contract within the past three years, offeror should attach an explanation of the circumstances surrounding that conviction.
- b. Statements above to which the offeror cannot certify (if any) have been deleted by striking through the words with a pen. The offeror has initialed each deletion (if any) and has attached a true and accurate signed statement (if applicable) to explain the facts and circumstances which qualify the offeror as a responsible offeror for participation in this project.
- c. The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the

offeror knowingly rendered an erroneous certification, the contract may be terminated for default.

2. Contingent Fee Representation and Agreement

- a. The bidder/offeror represents and certifies as part of its bid/offer that, except for full-time bona fide employees working solely for the bidder/offeror, the bidder/offeror:
- (1) ☐ has, ☐ has not employed or retained any person or company to solicit or obtain this contract; and
 - (2) ☐ has, ☐ has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.
- b. If the answer to either (a) (1) or (a) (2) above is affirmative, the bidder/offeror shall make an immediate and full written disclosure to the Chief Procurement Officer.
- c. Any misrepresentation by the bidder/offeror shall give the County the right to (1) terminate the resultant contract; (2) at its discretion, to deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

3. Certificate of Independent Price Determination

- a. The bidder/offeror certifies that:
- (1) The prices in this bid/offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder/offeror or competitor relating to (i) those prices, (ii) the intention to submit a bid/offer, or (iii) the methods or factors used to calculate the prices offered;
 - (2) The prices in this bid/offer have not been and will not be knowingly disclosed by the bidder/offeror, directly or indirectly, to any other bidder/offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law;
 - (3) No attempt has been made or will be made by the bidder/offeror to induce any other concern to submit or not to submit a bid/offer for the purpose of restricting competition; and
- b. Each signature on the bid/offer is considered to be a certification by the signatory that the signatory:
- (1) Is the person in the bidder/offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or
 - (2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.
-
- [insert full name of person(s) in the bidder/offeror's organization responsible for determining

the prices offered in this bid or proposal, and the title of his or her position in the bidder/offeror's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

- c. If the bidder/offeror deletes or modifies subparagraph (a)2 above, the bidder/offeror must furnish with its bid/offer a signed statement setting forth in detail the circumstances of the disclosure.

4. Organizational Conflicts of Interest Certification

- a. The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under a proposed contract and a prospective contractor's organizational, financial, contractual or other interest are such that:

(1) Award of the contract may result in an unfair competitive advantage;

(2) The Contractor's objectivity in performing the contract work may be impaired; or

(3) That the Contractor has disclosed all relevant information and requested the County to make a determination with respect to this Contract.

- b. The Contractor agrees that if after award he or she discovers an organizational conflict of interest with respect to this contract, he or she shall make an immediate and full disclosure in writing to the County which shall include a description of the action which the Contractor has taken or intends to eliminate or neutralize the conflict. The County may, however, terminate the Contract for the convenience of the County if it would be in the best interest of the County.

- c. In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the County, the County may terminate the Contract for default.

- d. The Contractor shall require a disclosure or representation from subcontractors and consultants who may be in a position to influence the advice or assistance rendered to the County and shall include any necessary provisions to eliminate or neutralize conflicts of interest in consultant agreements or subcontracts involving performance or work under this Contract.



In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

5. Authorized Negotiators

The offeror represents that the following persons are authorized to negotiate on its behalf with the County in connection with this request for proposals:
(list names, titles, and telephone numbers of the authorized negotiators):

6. Conflict of Interest

In the absence of any actual or apparent conflict, the offeror, by submission of a proposal, hereby warrants that to the best of its knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement, as described in the clause in this solicitation titled "Organizational Conflict of Interest."

Offeror's Signature

The offeror hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

--	--

Signature & Date

--

Typed/Printed Name

--

Title

LOCAL, SMALL, AND DIVERSE BUSINESS CONCERN CERTIFICATION

The Provider represents and certifies as part of its proposal that it:

☐ is, or ☐ is not a local business concern. A "Local business concern" as used in this provision, means a person, partnership, corporation or other business entity authorized to transact business in this County and having a bona fide establishment for transacting business in this County at which it was transacting business on the date when bids or proposals for the public contract were first solicited.

☐ is, or ☐ is not a small business concern. "Small business concern," as used in this provision, means a person, partnership, corporation or other business entity in the United States which is independently owned and which is not dominant in its field of operation or an affiliate or subsidiary of a business dominant in its field of operation.

☐ is, or ☐ is not a diverse business concern. "Diverse business concern" as used in this provision, means a person, partnership, corporation or other business entity in the United States which is owned or controlled by a majority of persons who are women, minorities, persons with disabilities, veterans, military-service-disabled veterans or LGBTQ+ (Note: Minority-owned businesses include but are not limited to Black/African American, Indigenous/Native American, Asian American or Hispanic/Latino-owned businesses).

The diverse vendor must be certified by a recognized third-party certifying organization.

If you are a qualified diverse vendor, you must (a) identify which minority group(s) apply, and (b) provide the Certifying Agency & Certification Number

(a) Specified Minority Group(s): _____

(b) Certifying Agency & Certification #: _____

--	--

Signature & Date

--

Typed/Printed Name

--

Title

My Commission Expires:

SECTION 000011 NON-DISCRIMINATION AFFIDAVIT

_____, hereinafter referred to as the CONTRACTOR, agrees as follows:

1. CONTRACTOR shall not discriminate against any employee, applicant for employment, independent contractor, or any other person because of race, color, religious creed, ancestry, national origin, age or sex. Contractor shall take affirmative action to insure that applicants are employed, and that employees or agents are treated during employment, without regard to their race, color, religious creed, ancestry, national origin, age or sex. Such affirmative action shall include, but is not limited to, the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation; and selection for training. CONTRACTOR shall post in conspicuous places, available to all employees, agents, and applicants for employment and other persons, a notice to be provided by the contracting agency setting forth the provisions of the non-discrimination clause.
2. CONTRACTOR shall, in advertisement or requests for employment placed by it or on its behalf, state that all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age or sex.
3. CONTRACTOR shall send each labor union or worker's representative with which it has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representative of its commitment to this non-discrimination clause. Similar notice shall be sent to every other source of recruitment regularly utilized by the CONTRACTOR.
4. It shall be no defense to a finding of non-compliance with the Contract Compliance Regulations Commission or this non-discrimination clause that CONTRACTOR had delegated some of its employment practices to any union, training program, or other source of recruitment that prevents it from meeting its obligations. However, if the evidence indicates that the CONTRACTOR was not on notice of the third-party discrimination or made a good faith effort to correct it, such factor shall be considered in mitigation in determining appropriate sanctions.
5. Where the practices of a union or any training program or other source of recruitment will result in the exclusion of minority group persons, so that the CONTRACTOR will be unable to meet its obligations under the Contract Compliance Regulations issued by the Pennsylvania Relations Commission or this non-discrimination clause, CONTRACTOR shall then employ and fill vacancies through other non-discriminatory employment procedures.
6. CONTRACTOR shall comply with the Contract Compliance Regulations of the Pennsylvania Human Relations Commission, 16 PA Code Chapter 49 and with all state and federal laws prohibiting discrimination in hiring or employment opportunities. In the event of the CONTRACTOR'S non-compliance with the non-discrimination clause of this CONTRACT, or with any such laws, this CONTRACT may, after hearing and adjudication, be terminated or suspended, in whole or in part, and the CONTRACTOR may be declared temporarily ineligible for further contracts and other such sanctions may be imposed and remedies invoked as provided by the Contract Compliance Regulations.

7. CONTRACTOR shall furnish all necessary employment documents and records to, and permit access to its books, records and accounts by, the contracting agency, the Office of Administration, Bureau of Affirmative Action, and the Human Relations Commission for purposes of investigation to ascertain compliance with the provision of the Contract Compliance Regulations, pursuant to 49.35 of this title (relating to information concerning compliance by contractors). If CONTRACTOR does not possess documents or records reflecting the necessary information requested, it shall furnish such information on reporting forms supplied by the contracting agency, the Bureau of Affirmative Action or the COMMISSION.
8. CONTRACTOR shall actively recruit minority subcontractors or subcontractors with substantial minority representation among their employees.
9. CONTRACTOR shall include the provisions of this nondiscrimination clause in every subcontract, so that such provisions will be binding upon each subcontractor.
10. The terms used in this non-discrimination clause shall have the same meaning as in the Contract Compliance Regulations issued by the Pennsylvania Human Relations Commission, 16 PA Code Chapter 49.
11. CONTRACTOR obligations under this clause are limited to the CONTRACTOR'S facilities within Pennsylvania, or, where the CONTRACT is for the purchase of goods manufactured outside of Pennsylvania, the facilities at which such goods are actually produced.

By:_____

Witness:_____

CONTRACTOR:_____

Date:_____

DRAFT AIA® Document A305™ – 2020

Contractor's Qualification Statement

THE PARTIES SHOULD EXECUTE A SEPARATE CONFIDENTIALITY AGREEMENT IF THEY INTEND FOR ANY OF THE INFORMATION IN THIS A305-2020 TO BE HELD CONFIDENTIAL.

SUBMITTED BY:

(Organization name and address.)

« »

SUBMITTED TO:

(Organization name and address.)

« »

TYPE OF WORK TYPICALLY PERFORMED

(Indicate the type of work your organization typically performs, such as general contracting, construction manager as constructor services, HVAC contracting, electrical contracting, plumbing contracting, or other.)

« »

THIS CONTRACTOR'S QUALIFICATION STATEMENT INCLUDES THE FOLLOWING:

(Check all that apply.)

- ☐ Exhibit A – General Information
- ☐ Exhibit B – Financial and Performance Information
- ☐ Exhibit C – Project-Specific Information
- ☐ Exhibit D – Past Project Experience
- ☐ Exhibit E – Past Project Experience (Continued)

CONTRACTOR CERTIFICATION

The undersigned certifies under oath that the information provided in this Contractor's Qualification Statement is true and sufficiently complete so as not to be misleading.

Organization's Authorized Representative
Signature

« »

Date

« »

Printed Name and Title

NOTARY

State of: « »

County of: « »

Signed and sworn to before me this « » day of « » « »

Notary Signature

My commission expires: « »

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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DRAFT AIA® Document A305™ – 2020

Exhibit A

General Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by « » and dated the « » day of « » in the year « » (In words, indicate day, month and year.)

§ A.1 ORGANIZATION

§ A.1.1 Name and Location

§ A.1.1.1 Identify the full legal name of your organization.

« »

§ A.1.1.2 List all other names under which your organization currently does business and, for each name, identify jurisdictions in which it is registered to do business under that trade name.

« »

§ A.1.1.3 List all prior names under which your organization has operated and, for each name, indicate the date range and jurisdiction in which it was used.

« »

§ A.1.1.4 Identify the address of your organization's principal place of business and list all office locations out of which your organization conducts business. If your organization has multiple offices, you may attach an exhibit or refer to a website.

« »

§ A.1.2 Legal Status

§ A.1.2.1 Identify the legal status under which your organization does business, such as sole proprietorship, partnership, corporation, limited liability corporation, joint venture, or other.

« »

- 1 If your organization is a corporation, identify the state in which it is incorporated, the date of incorporation, and its four highest-ranking corporate officers and their titles, as applicable.

« »

- 2 If your organization is a partnership, identify its partners and its date of organization.

« »

- 3 If your organization is individually owned, identify its owner and date of organization.

« »

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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- .4 If the form of your organization is other than those listed above, describe it and identify its individual leaders:

« »

§ A.1.2.2 Does your organization own, in whole or in part, any other construction-related businesses? If so, identify and describe those businesses and specify percentage of ownership.

« »

§ A.1.3 Other Information

§ A.1.3.1 How many years has your organization been in business?

« »

§ A.1.3.2 How many full-time employees work for your organization?

« »

§ A.1.3.3 List your North American Industry Classification System (NAICS) codes and titles. Specify which is your primary NAICS code.

« »

§ A.1.3.4 Indicate whether your organization is certified as a governmentally recognized special business class, such as a minority business enterprise, woman business enterprise, service disabled veteran owned small business, woman owned small business, small business in a HUBZone, or a small disadvantaged business in the 8(a) Business Development Program. For each, identify the certifying authority and indicate jurisdictions to which such certification applies.

« »

§ A.2 EXPERIENCE

§ A.2.1 Complete Exhibit D to describe up to four projects, either completed or in progress, that are representative of your organization's experience and capabilities.

§ A.2.2 State your organization's total dollar value of work currently under contract.

« »

§ A.2.3 Of the amount stated in Section A.2.2, state the dollar value of work that remains to be completed:

« »

§ A.2.4 State your organization's average annual dollar value of construction work performed during the last five years.

« »

§ A.3 CAPABILITIES

§ A.3.1 List the categories of work that your organization typically self-performs.

« »

§ A.3.2 Identify qualities, accreditations, services, skills, or personnel that you believe differentiate your organization from others.

« »

§ A.3.3 Does your organization provide design collaboration or pre-construction services? If so, describe those services.

« »

§ A.3.4 Does your organization use building information modeling (BIM)? If so, describe how your organization uses BIM and identify BIM software that your organization regularly uses.

« »

§ A.3.5 Does your organization use a project management information system? If so, identify that system.

« »

§ A.4 REFERENCES

§ A.4.1 Identify three client references:

(Insert name, organization, and contact information)

« »

§ A.4.2 Identify three architect references:

(Insert name, organization, and contact information)

« »

§ A.4.3 Identify one bank reference:

(Insert name, organization, and contact information)

« »

§ A.4.4 Identify three subcontractor or other trade references:

(Insert name, organization, and contact information)

« »

DRAFT AIA® Document A305™ – 2020

Exhibit B

Financial and Performance Information

This Exhibit is part of the Contractor's Qualification Statement, submitted by « » and dated the « » day of « » in the year « » (In words, indicate day, month and year.)

§ B.1 FINANCIAL

§ B.1.1 Federal tax identification number:

« »

§ B.1.2 Attach financial statements for the last three years prepared in accordance with Generally Accepted Accounting Principles, including your organization's latest balance sheet and income statement. Also, indicate the name and contact information of the firm that prepared each financial statement.

« »

§ B.1.3 Has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, been the subject of any bankruptcy proceeding within the last ten years?

« »

§ B.1.4 Identify your organization's preferred credit rating agency and identification information.

(Identify rating agency, such as Dun and Bradstreet or Equifax, and insert your organization's identification number or other method of searching your organization's credit rating with such agency.)

« »

§ B.2 DISPUTES AND DISCIPLINARY ACTIONS

§ B.2.1 Are there any pending or outstanding judgments, arbitration proceedings, bond claims, or lawsuits against your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management, or any of the individuals listed in Exhibit A, Section 1.2, in which the amount in dispute is more than \$75,000? (If the answer is yes, provide an explanation.)

« »

§ B.2.2 In the last five years has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management:
(If the answer to any of the questions below is yes, provide an explanation.)

- .1 failed to complete work awarded to it?

« »

- .2 been terminated for any reason except for an owners' convenience?

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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« »

- .3 had any judgments, settlements, or awards pertaining to a construction project in which your organization was responsible for more than \$75,000?

« »

- .4 filed any lawsuits or requested arbitration regarding a construction project?

« »

§ B.2.3 In the last five years, has your organization, its parent, or a subsidiary, affiliate, or other entity having common ownership or management; or any of the individuals listed in Exhibit A Section 1.2:
(If the answer to any of the questions below is yes, provide an explanation.)

- .1 been convicted of, or indicted for, a business-related crime?

« »

- .2 had any business or professional license subjected to disciplinary action?

« »

- .3 been penalized or fined by a state or federal environmental agency?

« »

Exhibit A

Community Participation Goal

In keeping with Montgomery County's policy to offer assistance to local, small, and disadvantaged businesses, as defined in section 7 of the "Procurement Policy of Montgomery County," the County has adopted a good faith effort goal ("County Participation Goal") for the Montgomery County projects whereby, with respect to the total dollars spent for contracted construction work:

1. Fifteen percent (15%) paid to local businesses AND
2. Five percent (5%) paid to disadvantaged businesses AND
3. Three percent (3%) of total labor hours paid in conjunction with contracted construction work must be paid to individuals residing in zip codes situated no more than five miles from the perimeter of the geographic boundary of the 19401 zip code

Sections 7.b.1-3 of the procurement policy provide the following definitions:

1. "Local" business means a person, partnership, corporation or other business entity authorized to transact business in Montgomery County and having a bona fide establishment for transacting business in this County at which it was transacting business on the date when bids or proposals for the public contract were first solicited.
2. "Disadvantaged" business means a person, partnership, corporation or other business entity in the United States which is owned or controlled by a majority of persons, not limited to members of minority groups, who have been deprived of the opportunity to develop and maintain a competitive position in the economy because of social disadvantages.

All bidders on Montgomery County projects must include as part of their bid submission a commitment to meet this goal, demonstrated by describing how the contractor will proactively seek to accomplish the County's goal. Failure to include a plan to fulfill the stated County goal can render a bid unresponsive. Subcontracting commitments to qualifying businesses made at the time of bid or during contract execution must be maintained throughout the term of the contract. Any proposed change must be submitted to the County for approval.

After award, the successful bidders' commitment to the County Participation Goal will be calculated and credited as follows:

1. Definition and Certification of businesses for the purposes of this project:
 - a. Local businesses: defined by having a center of operation headquartered in Montgomery County, as defined by address zip code
 - b.
2. For the purposes of this Community Participation Goal, the County will consider only those businesses certified by the below entities to be considered "disadvantaged" in meeting the procurement policy definition. Businesses not certified by one of the listed entities will not be considered to fulfill the definition of disadvantaged business.
 - a. ACCEPTABLE CERTIFYING ENTITIES
 1. National
 - a. Women's Business Enterprise National Council (WBENC)

Exhibit A

Community Participation Goal

- b. National Minority Supplier Development Council (NMSDC)
- 2. Local and Regional
 - a. NJ Unified Certification Program - NJ Transit, The Port Authority of NY & NJ, NJDOT
 - b. Delaware Department of Transportation (DelDOT)
 - c. Eastern Minority Supplier Development Council (MSDC) - affiliate for Pennsylvania, New Jersey, Delaware
 - d. Pennsylvania Unified Certification Program (PENNDOT, SEPTA, Allegheny County, PHL PNE, Port Authority)
 - e. City of Philadelphia
 - f. The Enterprise Center
 - g. New Jersey Department of the Treasury
 - h. State of Delaware, Office of Supplier Diversity
 - i. Women's Business Enterprise Center (WBEC-East)
- b. REQUIRED CERTIFICATION TO FULFILL DEFINITION OF DISADVANTAGED BUSINESS
 - 1. A Disadvantaged Business is defined as a Minority Business Enterprises, Women Business Enterprises, LGBT Business Enterprises, Disability-Owned Business Enterprises, and Service-Disabled Veteran Business Enterprises that have a valid and current certification from one or more of the agencies listed above. Proof of certification must be provided.
- 3. Good Faith Effort: While the County has established the percentage goals listed above based on the achievability of these thresholds, Contractors must demonstrate “good-faith efforts” to comply with community program participation goals throughout the project.
 - a. Contractors must take all necessary and reasonable steps to achieve the community participation goals
 - b. Contractors must document its good-faith efforts. This includes documenting all efforts to:
 - i. Solicit certified firms for the project;
 - ii. Negotiate in good faith with all contractors who express an interest in the project; and
 - iii. Assist contractors in obtaining bonding, lines of credit, insurance, equipment, supplies or materials as required by the project owner.
 - c. Prompt and accurate disclosure
 - i. Contractors should disclose changes or developments in its arrangements with local or disadvantaged firms to the owner
 - ii. Relevant disclosures may be made either in a formal manner (e.g., by submitting official, required forms that document utilization) or in an informal manner (e.g., by making telephone calls to project owner personnel), as appropriate for the particular situation.
- 4. Calculation and credit method: contractor participation level will be tracked against the County Participation Goal separately for the three categories utilizing the

Exhibit A

Community Participation Goal

following calculations and dividing that total amount by the total contract award price.

- a. Local or Disadvantaged contractors / subcontractors as defined in County procurement policy and verified as described, performing at least sixty percent (60%) of the subcontract with their own employees will be credited toward the County Participation Goal at 100 percent (100%) total dollar value of the subcontract / supply contract
- b. For crediting of labor hours (workforce):
 - i. Hours worked by individual workers residing in zip codes within Montgomery County will be credited based on submitted payroll reports submitted in keeping with contract requirements, as follows:
 1. One hundred percent (100%) of hours worked by individual workers residing zip codes within five miles of the geographic border of 19401.
- c. Local or Disadvantaged stocking suppliers are credited at sixty percent (60%) of the total cost of the materials or supplies purchased. A stocking supplier is a regular dealer that owns, operates, or maintains a store, warehouse, or other establishment, in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.
- d. Local or Disadvantaged nonstocking suppliers are credited at only the amount of the fee or commission charged by the Local or Disadvantaged nonstocking supplier for assistance in the procurement of the materials and supplies provided the fees or commissions are reasonable and not excessive as compared with fees customarily allowed for similar services and with the understanding that under no circumstances shall the credit, for a Local or Disadvantaged nonstocking supplier, exceed 10% for the purchase order cost. A nonstocking supplier does not carry inventory but orders materials from a manufacturer, manufacturer's representative, or a stocking supplier. In order for a nonstocking supplier to receive credit, it must perform a useful business function by engaging in meaningful work (i.e. negotiating price; AND determining quality and quantity; AND ordering materials; AND paying for the materials) and the fee or commission must be provided with the purchase order and the Local or Disadvantaged utilization report. Industry practices and other relevant factors will be considered.
- e. Local or Disadvantaged manufacturers are credited at 100 percent (100%) of the total cost of the materials or supplies purchased.
- f. Local or Disadvantaged business participation shall include all tiers of design and / or construction.
 - i. The dollar value of any commitment to a Local or Disadvantaged business cannot be double counted. In the event that the Local or Disadvantaged business whose entire subcontract value is counted towards the County Participation Goal then subcontracts a portion of the work or supplies associated with this subcontract to another Local, or Disadvantaged business, the dollar value of the subcontract with/to this lower tier Local, or Disadvantaged business is NOT counted in the

Exhibit A

Community Participation Goal

Contractor's Participation Level in order to prevent the duplicate counting of Local or Disadvantaged business commitment dollars. In this case, the dollar value of this subsequent Local or Disadvantaged business subcontract has already been included within the scope of work and dollar value of the Local or Disadvantaged business commitment already counted as a part of the Contractor's Participation Level.

5. Successful bidders will be required to submit the following documentation on a monthly basis with payment applications to enable County monitoring of the County Participation goals:
 - a. Local or Disadvantaged business utilization report (to be provided by County), electronically submitted monthly, which will be used to assess whether the Contractor is on track to meet or exceed the County Participation Goal by Close-Out inspection, as required. Forms will be submitted to the Construction Manager and uploaded to a web-based tracking software. Access will be provided to each prime contractor.
 - i. Failure to submit a Local, Small, or Disadvantaged business Utilization Report with each Application for Payment will result in an incomplete Application for Payment and it being returned to the Contractor. An incomplete Application for Payment will not be processed.
 - b. The Contractor may also be asked to submit documentation evidencing their good faith effort in pursuit of the County Participation Goal and so should maintain documentation of their efforts throughout the project. At a minimum, such documentation includes the following ("Good Faith Effort documentation"):
 - i. Employees involved in the pre-bid phase of a project must exercise good faith efforts to:
 1. Ensure that as many qualified local and disadvantaged firms as possible are aware of the project and the specific types of work for which contractor may use subcontractors; and
 2. Provide local and disadvantaged firms with every reasonable opportunity to bid for such work.
 - ii. To achieve the community participation goals and to document a good faith effort, the following practices should be followed and documented:
 1. Initial Solicitations of local or disadvantaged firms
 - a. Solicit local or disadvantaged firms through all reasonable and available means, including, but not limited to:
 - b. Obtaining lists of certified local or disadvantaged firms maintained by the certifying agency and contacting local or disadvantaged firms by phone, email, fax or letter or in person to request quotes;
 - c. Attendance at local or disadvantaged firm outreach fairs;
 - d. Consultation with minority, women's and general contractor groups, community organizations and other

Exhibit A

Community Participation Goal

- officials or organizations that could be expected to have information regarding the availability of local or disadvantaged firms; and
 - e. Print and online advertising – including, but not limited to, making sure local or disadvantaged firms are included on recipient mailing lists for potential subcontractors.
2. Ongoing Solicitation Efforts
- a. The solicitation efforts described above should continue through the life of the project, particularly in situations where:
 - i. local or disadvantaged firms who were awarded subcontracts choose not to perform, or cannot perform, such work, leading to a shortfall from the project's local or disadvantaged firms utilization goals; or
 - ii. New local or disadvantaged firms subcontracting opportunities become available due to change orders or other project developments.
3. Thorough Record-Keeping
- a. All reasonable efforts should be taken to document solicitations of local or disadvantaged firms, in as much detail as is practical to record.
 - b. Contractors should maintain written records of:
 - i. All solicitations sent by the contractor to potential local or disadvantaged firms.
 - ii. All names, email addresses and telephone numbers of local or disadvantaged firms that were considered as potential subcontractors.
 - iii. All communications to or from local or disadvantaged firms, including all bids or sub-bids received from local or disadvantaged firms:
 - 1. Letters, faxes, email and any other form of written correspondence should be preserved.
 - 2. Telephone calls should be logged
 - 3. Documentation showing why any local or disadvantaged firm bid was not accepted.
 - 4. Other and all relevant solicitation records and correspondence with local or disadvantaged firms.

END

Responsible Contractor/Subcontractor Certification Cover Sheet

GENERAL INFORMATION

Company Name: _____

Address: _____

City: _____

Telephone Number: _____

Fax Number: _____

Ownership Structure (Please check one):

☐ Sole Proprietorship ☐ Partnership ☐ Corporation ☐ Joint Venture ☐ Other

Description of Services(s) Provided: _____

Contractor's License No.: _____

RESPONSIBLE CONTRACTOR STATUS

Please check one of the following boxes:

1. ☐ Meets all Responsible Contractor requirements (see below)
2. ☐ Meets none of the Responsible Contractor requirements
3. ☐ Meets certain of the Responsible Contractor requirements (provide explanation below)

If you have checked box 3 above, please provide an explanation below (attach additional pages if necessary):

Explanation: _____

RESPONSIBLE CONTRACTOR REQUIREMENTS CHECKLIST

Review the attached checklist and return a completed copy, along with any documents requested therein.

A full list of the Responsible Contractor Requirements can be found on Montgomery County's website (montgomerycountypa.gov) under Administration → County Procurement Policy.

By signing this form, it is understood that contractors have fully reviewed the Responsible Contractor Requirements.

CERTIFICATION OF RESPONSIBLE CONTRACTOR STATUS

On behalf of the above-named company, the undersigned certifies that the information and responses provided herein are true, complete and accurate as of this date, and he/she is aware that any intentionally misrepresented or falsified information may result in disqualification from future contracting opportunities. Further, the above-named company certifies it can provide sufficient written proof that it and all subcontractors comply with the Responsible Contractor Requirements above within five (5) calendar days upon request.

Signature: _____

Name and Title (please print): _____

A copy of this form must be signed and provided to the County before any firm, including subcontractors if requested, may be considered for award of this contract.

Attachment A – Responsible Contractor/Subcontractor Certification Checklist

Complete the following and provide the documents highlighted in the list below. If you answer “no” to any of the below, please provide a detailed explanation on the cover sheet as to why your firm does not meet the requirement and attach additional pages if necessary.

For all contractors and subcontractors:

Requirement	Response
1. My firm and its employees shall have all valid and effective licenses, registrations, or other credentials required by federal, state, county, or local law. I will provide electronic copies of the relevant credentials.	Y: ____ N: ____
2. My firm meets the bonding requirements for the contract, as well as applicable insurance requirements. I will provide electronic copies of these documents, as well as a hard copy of the bond.	Y: ____ N: ____
3. My firm has not been debarred or suspended by any federal, state, or local government agency or authority within the past three (3) years.	Y: ____ N: ____
4. My firm has not defaulted on any project within the past three (3) years.	Y: ____ N: ____
5. My firm has not had any type of license, registration, or other certification revoked or suspended within the past three (3) years.	Y: ____ N: ____
6. My firm and its principals and owners have not been convicted of any crime relating to their contracting business within the past ten (10) years.	Y: ____ N: ____
7. My firm has not been found in violation of any law applicable to its contracting business within the past three (3) years.	Y: ____ N: ____
8. My firm will employ a sufficient number of craft labor personnel or shall use qualified subcontractors to meet the personnel requirement.	Y: ____ N: ____
9. My firm will pay all craft employees on the project, at a minimum, the applicable wage and fringe benefit rates as established for the classification in which the worker is employed.	Y: ____ N: ____
10. My firm will ensure that all craft labor it employs on the project will have completed, prior to working on the project, the OSHA 10-hour training course for safety. I will provide electronic copies of the relevant training certification documents.	Y: ____ N: ____

11. My firm participates in a bona fide apprenticeship program which is registered with and approved by the U.S. Department of Labor or a state apprenticeship agency and has graduated apprentices to journeyperson status for at least three (3) of the past five (5) years. I will provide (1) a list of all trades or classifications of craft employees my firm will employ on the project and (2) documentation verifying that my firm actively participates in a bona fide apprenticeship program, including the name, state, and registration number of the program.	Y: ____ N: ____
12. My firm shall assign craft labor personnel only to work in the craft or trade in which they are employed.	Y: ____ N: ____
13. My firm has all other technical qualifications and resources, including equipment, personnel, and financial resources, to successfully perform the contract and shall maintain such capabilities throughout the duration of the project.	Y: ____ N: ____
14. My firm shall notify the County within seven (7) days of any material changes in its operation related to any matter attested to in this certification.	Y: ____ N: ____
15. My firm will execute this Contractor Responsibility Certification by a person who has sufficient knowledge to address all matters in this certification.	Y: ____ N: ____
16. If my firm has ever operated under another name, or currently controls or is controlled by another company, or has controlled or was controlled by another company within the past 5 years, whether as a parent company, subsidiary, or other business relation, I will provide a written statement explaining in detail the nature of any such relationship.	Y: ____ N: ____

If my firm is a prime contractor on this project:

Requirement	Response
1. My firm will ensure that at least seventy (70) percent of all craft labor workers on the project shall be comprised of either journeyperson workers who have successfully completed a bona fide apprenticeship program or apprentices registered in such programs, and that the apprenticeship participation is in the same trade or craft for which the workers are employed on the project. I will identify on payroll documents whether employees are journeyperson workers, apprentices, or neither.	Y: ____ N: ____
2. My firm will ensure that apprentices are supervised by journeyperson workers in the ratio of one apprentice for the first through fourth journeyperson workers regularly employed; two apprentices for the fifth through ninth journeyperson workers;	Y: ____ N: ____

and so on with an additional apprentice for each unit of five journeyperson workers regularly employed. My firm will provide copies of its workers apprenticeship credentials showing that an appropriate number of employees are currently registered or have graduated from a bona fide apprenticeship program.	
3. My firm will ensure that at least one person on the project will have completed, prior to working on the project, an OSHA 30-hour training course. I will provide an electronic copy of the relevant training certification.	Y: ____ N: ____
4. My firm will make a good-faith effort to employ residents of Montgomery County for at least 40 percent of craft labor hours worked. My firm will provide a statement describing how we will seek to accomplish the community participation goal.	Y: ____ N: ____
5. My firm will ensure that the appropriate workplace postings, to be identified by the Office of Procurement, are displayed at the project site in a location where notices to employees are customarily posted.	Y: ____ N: ____
6. My firm agrees that on or around the project start date, we will schedule a kick-off meeting with the County Labor Liaison to discuss the applicable provisions of this Policy.	

If my firm will be subcontracting work to other firms:

Requirement	Response
1. My firm will provide a Subcontractor List within seven (7) days of receiving a Notice of Intent to Award Contract which includes the names and business addresses of the subcontractors it intends to use on the project and the scope of the work assigned to each subcontractor.	Y: ____ N: ____
2. My firm will submit Subcontractor Responsibility Certifications and all supporting information for all entities listed on the Subcontractor List.	Y: ____ N: ____
3. My firm shall determine whether any firm on its Subcontractor List is organized as a sole proprietorship owned and operated by a single person. For any such entity, my firm will require the subcontractor to supplement its Subcontractor Certification with its Employer Identification Number in addition to the other information required by this certification.	Y: ____ N: ____
4. My firm agrees that it shall not be permitted to use a subcontractor on any work performed for the County unless it has identified the subcontractor on its Subcontractor List and has provided a Subcontractor Responsibility Certification.	Y: ____ N: ____

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project Name:	SPEC 6614 Renovation Services Lock #60 Workman's Cottage
General Description:	Renovate an existing structure/building next to a canal off of Route 29 in Mont Claire PA. 400 Cowpath Rd. Mont Clare PA 19453
Project Locality	Mont Claire
Awarding Agency:	Montgomery County Procurement
Contract Award Date:	10/1/2026
Serial Number:	26-07374
Project Classification:	Building
Determination Date:	8/10/2026
Assigned Field Office:	Philadelphia
Field Office Phone Number:	(215)560-1858
Toll Free Phone Number:	
Project County:	Montgomery County

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 26-07374 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	5/1/2025		\$60.84	\$48.71	\$109.55
Asbestos & Insulation Workers	5/1/2026		\$64.51	\$50.26	\$114.77
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2024		\$36.71	\$19.13	\$55.84
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2026		\$41.34	\$19.23	\$60.57
Boilermakers	1/1/2024		\$52.10	\$35.72	\$87.82
Boilermakers	1/1/2026		\$58.00	\$36.57	\$94.57
Bricklayer	5/1/2025		\$50.00	\$32.57	\$82.57
Bricklayer	5/1/2026		\$51.15	\$34.92	\$86.07
Carpenter - Chief of Party (Surveying & Layout)	5/1/2025		\$54.59	\$29.02	\$83.61
Carpenter - Instrument Person (Surveying & Layout)	5/1/2025		\$47.47	\$29.02	\$76.49
Carpenter - Rodman (Surveying & Layout)	5/1/2025		\$23.74	\$20.62	\$44.36
Carpenters	5/1/2025		\$47.47	\$29.02	\$76.49
Carpenters	5/1/2026		\$48.55	\$30.39	\$78.94
Carpenters	5/1/2027		\$50.46	\$30.74	\$81.20
Carpenters	5/1/2028		\$52.43	\$31.09	\$83.52
Carpenters	5/1/2029		\$54.46	\$31.44	\$85.90
Carpenters	5/1/2030		\$56.55	\$31.79	\$88.34
Cement Finishers & Plasterers	5/1/2022		\$38.57	\$32.39	\$70.96
Cement Masons	5/1/2024		\$46.70	\$32.46	\$79.16
Cement Masons	5/1/2025		\$48.70	\$32.46	\$81.16
Dockbuilder, Pile Drivers	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder, Pile Drivers	5/1/2026		\$56.98	\$37.99	\$94.97
Dockbuilder/Pile Driver Diver	5/1/2025		\$64.35	\$41.74	\$106.09
Dockbuilder/Pile Driver Diver	5/1/2026		\$66.54	\$41.74	\$108.28
Dockbuilder/pile driver tender	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder/pile driver tender	5/1/2026		\$56.98	\$37.99	\$94.97
Drywall Finisher	5/1/2025		\$40.14	\$32.35	\$72.49
Drywall Finisher	5/1/2026		\$41.10	\$32.99	\$74.09
Electricians	5/1/2025		\$58.63	\$47.28	\$105.91
Electricians	5/1/2026		\$62.41	\$48.50	\$110.91
Electricians	5/1/2027		\$66.53	\$50.63	\$117.16
Electricians	5/1/2028		\$70.83	\$52.83	\$123.66
Elevator Constructor	1/1/2025		\$71.85	\$45.77	\$117.62
Elevator Constructor	1/1/2026		\$74.86	\$46.86	\$121.72
Floor Coverer	5/1/2025		\$51.67	\$31.69	\$83.36
Floor Coverer	5/1/2026		\$52.84	\$32.86	\$85.70
Glazier	5/1/2025		\$49.96	\$38.34	\$88.30
Glazier	5/1/2026		\$51.30	\$39.37	\$90.67
Interior Finish	5/1/2023		\$34.60	\$25.80	\$60.40
Iron Workers (Bridge, Structural, Ornamental, Precast)	7/1/2024		\$53.20	\$45.01	\$98.21
Iron Workers (Riggers)	7/1/2025		\$44.77	\$36.27	\$81.04
Iron Workers (Riggers)	7/1/2026		\$48.84	\$36.52	\$85.36
Iron Workers (Rodman/Reinforcing)	7/1/2025		\$47.80	\$36.65	\$84.45

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 26-07374 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Iron Workers (Rodman/Reinforcing)	7/1/2026		\$52.39	\$36.90	\$89.29
Laborers (Class 01 - See notes)	5/1/2025		\$37.25	\$26.10	\$63.35
Laborers (Class 02 - See notes)	5/1/2025		\$41.00	\$27.70	\$68.70
Laborers (Class 03 - See notes)	5/1/2025		\$37.67	\$26.28	\$63.95
Laborers (Class 04 - See notes)	5/1/2025		\$37.67	\$26.28	\$63.95
Laborers (Class 05 - See notes)	5/1/2025		\$37.25	\$26.10	\$63.35
Landscape Laborer	5/1/2024		\$30.70	\$24.23	\$54.93
Landscape Laborer	5/1/2025		\$32.15	\$24.30	\$56.45
Marble Finisher	5/1/2025		\$41.17	\$30.75	\$71.92
Marble Finisher	5/1/2026		\$42.07	\$31.85	\$73.92
Marble Mason	5/1/2023		\$47.20	\$31.95	\$79.15
Marble Setter	5/1/2026		\$51.50	\$33.80	\$85.30
Mason Tender, Cement	5/1/2023		\$35.02	\$25.98	\$61.00
Millwright	5/1/2025		\$57.39	\$35.81	\$93.20
Millwright	5/1/2026		\$60.20	\$35.81	\$96.01
Operators (Building, Class 01 - See Notes)	5/1/2025		\$54.52	\$34.49	\$89.01
Operators (Building, Class 01 - See Notes)	5/1/2026		\$55.67	\$35.34	\$91.01
Operators (Building, Class 01A - See Notes)	5/1/2025		\$57.52	\$35.38	\$92.90
Operators (Building, Class 01A - See Notes)	5/1/2026		\$58.68	\$36.22	\$94.90
Operators (Building, Class 02 - See Notes)	5/1/2025		\$54.27	\$34.42	\$88.69
Operators (Building, Class 02 - See Notes)	5/1/2026		\$55.43	\$35.26	\$90.69
Operators (Building, Class 02A - See Notes)	5/1/2025		\$57.29	\$35.29	\$92.58
Operators (Building, Class 02A - See Notes)	5/1/2026		\$58.44	\$36.14	\$94.58
Operators (Building, Class 03 - See Notes)	5/1/2025		\$50.18	\$33.22	\$83.40
Operators (Building, Class 03 - See Notes)	5/1/2026		\$51.34	\$34.06	\$85.40
Operators (Building, Class 04 - See Notes)	5/1/2025		\$49.88	\$33.13	\$83.01
Operators (Building, Class 04 - See Notes)	5/1/2026		\$51.04	\$33.97	\$85.01
Operators (Building, Class 05 - See Notes)	5/1/2025		\$48.16	\$32.62	\$80.78
Operators (Building, Class 05 - See Notes)	5/1/2026		\$49.32	\$33.46	\$82.78
Operators (Building, Class 06 - See Notes)	5/1/2025		\$47.17	\$32.33	\$79.50
Operators (Building, Class 06 - See Notes)	5/1/2026		\$48.34	\$33.16	\$81.50
Operators (Building, Class 07A- See Notes)	5/1/2025		\$66.26	\$39.55	\$105.81
Operators (Building, Class 07A- See Notes)	5/1/2026		\$67.73	\$40.48	\$108.21
Operators (Building, Class 07B- See Notes)	5/1/2025		\$65.97	\$39.46	\$105.43
Operators (Building, Class 07B- See Notes)	5/1/2026		\$67.44	\$40.39	\$107.83
Painters Class 1 (see notes)	5/1/2025		\$44.38	\$34.55	\$78.93
Painters Class 1 (see notes)	5/1/2026		\$45.71	\$35.22	\$80.93
Painters - Line Stripping	12/1/2024		\$44.12	\$27.91	\$72.03
Painters - Line Stripping	12/1/2025		\$45.12	\$29.41	\$74.53
Painters Class 4 (see notes)	5/1/2025		\$46.47	\$34.55	\$81.02
Painters Class 4 (see notes)	5/1/2026		\$48.45	\$35.22	\$83.67
Plasterers	5/1/2024		\$39.88	\$33.08	\$72.96
plumber	5/1/2025		\$70.53	\$39.46	\$109.99
plumber	5/1/2026		\$73.73	\$40.36	\$114.09

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 26-07374 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Pointers, Caulkers, Cleaners	5/1/2025		\$51.35	\$31.80	\$83.15
Pointers, Caulkers, Cleaners	5/1/2026		\$53.35	\$32.30	\$85.65
Roofers (Composition)	5/1/2025		\$46.03	\$34.77	\$80.80
Roofers (Composition)	5/1/2026		\$47.53	\$35.22	\$82.75
Roofers (Shingle)	5/1/2023		\$32.85	\$22.10	\$54.95
Roofers (Shingle)	5/1/2024		\$34.35	\$22.20	\$56.55
Roofers (Slate & Tile)	5/1/2023		\$35.85	\$22.10	\$57.95
Roofers (Slate & Tile)	5/1/2024		\$37.35	\$22.20	\$59.55
Sheet Metal Workers	5/1/2025		\$62.62	\$52.17	\$114.79
Sheet Metal Workers	5/1/2026		\$65.06	\$54.48	\$119.54
Sign Makers and Hangars	7/15/2024		\$32.32	\$25.82	\$58.14
Sign Makers and Hangars	7/15/2025		\$33.48	\$26.41	\$59.89
Sign Makers and Hangars	7/15/2026		\$36.38	\$25.01	\$61.39
Sprinklerfitters	1/1/2023		\$62.23	\$31.99	\$94.22
Sprinklerfitters	5/1/2025		\$70.37	\$34.85	\$105.22
Steamfitters	5/1/2024		\$70.32	\$43.09	\$113.41
Steamfitters	5/1/2025		\$72.52	\$44.89	\$117.41
Stone Masons	5/1/2025		\$50.00	\$32.80	\$82.80
Stone Masons	5/1/2026		\$51.50	\$33.80	\$85.30
Terrazzo Finisher	5/1/2025		\$45.61	\$29.41	\$75.02
Terrazzo Finisher	5/1/2026		\$47.78	\$29.61	\$77.39
Terrazzo Grinder	5/1/2025		\$45.88	\$29.41	\$75.29
Terrazzo Grinder	5/1/2026		\$47.78	\$29.61	\$77.39
Terrazzo Mechanics	5/1/2025		\$52.21	\$31.26	\$83.47
Terrazzo Mechanics	5/1/2026		\$53.36	\$32.61	\$85.97
Tile Finisher	5/1/2025		\$41.17	\$30.75	\$71.92
Tile Finisher	5/1/2026		\$42.07	\$31.85	\$73.92
Tile Setter	5/1/2025		\$52.21	\$31.26	\$83.47
Tile Setter	5/1/2026		\$53.36	\$32.61	\$85.97
Truckdriver class 1(see notes)	5/1/2024		\$36.79	\$22.54	\$59.33
Truckdriver class 1(see notes)	5/1/2026		\$38.57	\$23.87	\$62.44
Truckdriver class 2 (see notes)	5/1/2024		\$36.89	\$22.54	\$59.43
Truckdriver class 2 (see notes)	5/1/2026		\$38.67	\$23.87	\$62.54
Truckdriver class 3 (see notes)	5/1/2026		\$38.92	\$23.87	\$62.79
Window Film / Tint Installer	6/1/2025		\$27.42	\$15.13	\$42.55
Window Film / Tint Installer	6/1/2026		\$28.35	\$15.60	\$43.95

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 26-07374 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Bricklayer	5/1/2025		\$50.00	\$32.57	\$82.57
Bricklayer	5/1/2026		\$51.15	\$34.92	\$86.07
Carpenter - Chief of Party (Surveying & Layout)	5/1/2025		\$65.96	\$30.09	\$96.05
Carpenter - Chief of Party (Surveying & Layout)	5/1/2026		\$67.52	\$30.44	\$97.96
Carpenter - Instrument Person (Surveying & Layout)	5/1/2025		\$58.39	\$29.06	\$87.45
Carpenter - Instrument Person (Surveying & Layout)	5/1/2026		\$60.09	\$29.06	\$89.15
Carpenter - Rodman (Surveying & Layout)	5/1/2025		\$45.88	\$23.19	\$69.07
Carpenter - Rodman (Surveying & Layout)	5/1/2026		\$46.97	\$23.54	\$70.51
Carpenter	5/1/2025		\$57.36	\$30.09	\$87.45
Carpenter	5/1/2026		\$58.71	\$30.44	\$89.15
Cement Masons	5/1/2023		\$43.20	\$32.91	\$76.11
Cement Masons	5/1/2025		\$46.55	\$32.66	\$79.21
Dockbuilder, Pile Drivers	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder, Pile Drivers	5/1/2026		\$56.98	\$37.99	\$94.97
Dockbuilder/ Pile driver diver	5/1/2025		\$60.31	\$44.97	\$105.28
Dockbuilder/ Pile driver diver	5/1/2026		\$61.88	\$45.47	\$107.35
Dockbuilder/Pile Driver Diver	5/1/2025		\$64.35	\$41.74	\$106.09
Dockbuilder/Pile Driver Diver	5/1/2026		\$66.54	\$41.74	\$108.28
Dockbuilder/pile driver tender	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder/pile driver tender	5/1/2026		\$56.98	\$37.99	\$94.97
Electric Lineman	6/3/2024		\$62.07	\$33.96	\$96.03
Electric Lineman	6/2/2025		\$65.10	\$34.45	\$99.55
Iron Workers (Bridge, Structural, Ornamental, Precast)	7/1/2024		\$53.20	\$45.01	\$98.21
Iron Workers (Riggers)	7/1/2023		\$42.53	\$34.14	\$76.67
Iron Workers (Rodman/Reinforcing)	7/1/2023		\$45.70	\$34.77	\$80.47
Laborers (Class 01 - See notes)	5/1/2025		\$40.20	\$27.80	\$68.00
Laborers (Class 01 - See notes)	5/1/2026		\$41.65	\$27.90	\$69.55
Laborers (Class 02 - See notes)	5/1/2025		\$40.40	\$27.80	\$68.20
Laborers (Class 02 - See notes)	5/1/2026		\$41.85	\$27.90	\$69.75
Laborers (Class 03 - See notes)	5/1/2025		\$40.40	\$27.80	\$68.20
Laborers (Class 03 - See notes)	5/1/2026		\$41.85	\$27.90	\$69.75
Laborers (Class 04 - See notes)	5/1/2025		\$35.00	\$27.80	\$62.80
Laborers (Class 04 - See notes)	5/1/2026		\$36.45	\$27.90	\$64.35
Laborers (Class 05 - See notes)	5/1/2025		\$41.05	\$27.80	\$68.85
Laborers (Class 05 - See notes)	5/1/2026		\$42.50	\$27.90	\$70.40
Laborers (Class 06 - See notes)	5/1/2025		\$41.10	\$27.80	\$68.90
Laborers (Class 06 - See notes)	5/1/2026		\$42.55	\$27.90	\$70.45
Laborers (Class 07 - See notes)	5/1/2025		\$40.95	\$27.80	\$68.75
Laborers (Class 07 - See notes)	5/1/2026		\$42.40	\$27.90	\$70.30
Laborers (Class 08 - See notes)	5/1/2025		\$40.70	\$27.80	\$68.50
Laborers (Class 08 - See notes)	5/1/2026		\$42.15	\$27.90	\$70.05
Laborers (Class 09 - See notes)	5/1/2025		\$40.55	\$27.80	\$68.35
Laborers (Class 09 - See notes)	5/1/2026		\$42.00	\$27.90	\$69.90
Laborers (Class 10- See notes)	5/1/2025		\$40.70	\$27.80	\$68.50

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 26-07374 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 10- See notes)	5/1/2026		\$42.15	\$27.90	\$70.05
Laborers (Class 11 -See Notes)	5/1/2025		\$40.60	\$27.80	\$68.40
Laborers (Class 11 -See Notes)	5/1/2026		\$42.05	\$27.90	\$69.95
Laborers (Class 12 -See Notes)	5/1/2025		\$42.30	\$27.80	\$70.10
Laborers (Class 12 -See Notes)	5/1/2026		\$42.85	\$27.90	\$70.75
Laborers (Class 13 -See Notes)	5/1/2025		\$44.33	\$27.80	\$72.13
Laborers (Class 13 -See Notes)	5/1/2026		\$45.78	\$27.90	\$73.68
Laborers (Class 14 -See Notes)	5/1/2025		\$40.90	\$27.80	\$68.70
Laborers (Class 14 -See Notes)	5/1/2026		\$41.90	\$27.90	\$69.80
Laborers Utility (PGW ONLY) (Flagperson)	5/1/2025		\$34.07	\$19.73	\$53.80
Laborers Utility (PGW ONLY) (Flagperson)	5/1/2026		\$35.52	\$19.83	\$55.35
Laborers Utility (PGW ONLY)	5/1/2025		\$41.10	\$19.73	\$60.83
Laborers Utility (PGW ONLY)	5/1/2026		\$42.55	\$19.83	\$62.38
Landscape Laborer	5/1/2024		\$30.28	\$24.05	\$54.33
Landscape Laborer	5/1/2025		\$31.73	\$24.15	\$55.88
Millwright	5/1/2025		\$57.39	\$35.81	\$93.20
Millwright	5/1/2026		\$60.20	\$35.81	\$96.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2025		\$54.52	\$34.49	\$89.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2026		\$55.67	\$35.34	\$91.01
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2025		\$57.52	\$35.38	\$92.90
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2026		\$58.68	\$36.22	\$94.90
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2025		\$54.27	\$34.42	\$88.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2026		\$55.43	\$35.26	\$90.69
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2025		\$57.29	\$35.29	\$92.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2026		\$58.44	\$36.14	\$94.58
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2025		\$50.18	\$33.22	\$83.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2026		\$51.34	\$34.06	\$85.40
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2025		\$49.88	\$33.13	\$83.01
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2026		\$51.04	\$33.97	\$85.01
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2025		\$48.16	\$32.62	\$80.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2026		\$49.32	\$33.46	\$82.78
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2025		\$47.17	\$32.33	\$79.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2026		\$48.34	\$33.16	\$81.50
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2025		\$66.26	\$39.55	\$105.81

BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 26-07374 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Highway)					
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2026		\$67.73	\$40.48	\$108.21
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2025		\$65.97	\$39.46	\$105.43
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2026		\$67.44	\$40.39	\$107.83
Painters - Line Stripping	12/1/2024		\$44.12	\$27.91	\$72.03
Painters - Line Stripping	12/1/2025		\$45.12	\$29.41	\$74.53
Painters Class 2 (see notes)	2/1/2025		\$50.85	\$33.91	\$84.76
Painters Class 2 (see notes)	2/1/2026		\$51.61	\$35.00	\$86.61
Painters Class 3 (see notes)	2/1/2025		\$61.81	\$33.95	\$95.76
Painters Class 3 (see notes)	2/1/2026		\$62.57	\$35.04	\$97.61
Pointers, Caulkers, Cleaners	5/1/2025		\$51.35	\$31.80	\$83.15
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2024		\$66.80	\$42.93	\$109.73
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2025		\$68.89	\$44.73	\$113.62
Truckdriver class 1(see notes)	5/1/2024		\$36.64	\$22.54	\$59.18
Truckdriver class 1(see notes)	5/1/2026		\$38.42	\$23.87	\$62.29
Truckdriver class 2 (see notes)	5/1/2024		\$36.74	\$22.54	\$59.28
Truckdriver class 2 (see notes)	5/1/2026		\$38.52	\$23.87	\$62.39
Truckdriver class 3 (see notes)	5/1/2026		\$38.77	\$23.87	\$62.64

BASELINE EVALUATION OF POTENTIAL ENVIRONMENTAL CONCERNS

Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania 19453



November 3, 2024

PREPARED FOR:

Seiler + Drury Architecture
420 DeKalb Street
Norristown, Pennsylvania
Attn: Mr. Michael Drury

PREPARED BY:

The Vertex Companies, LLC
2501 Seaport Drive, Suite BH 110
Chester, PA 19013
PHONE: 888-298-5162

TABLE OF CONTENTS

- 1.0 EXECUTIVE SUMMARY**
- 2.0 LIMITATIONS/CERTIFICATION OF RESULTS**
- 3.0 LIMITED ASBESTOS CONTAINING MATERIALS INSPECTION**
- 4.0 LIMITED PAINT CHIP SAMPLING**
- 5.0 REGULATED HAZARDOUS MATERIALS SURVEY**
- 6.0 REGULATORY RECORDS REVIEW**
- 7.0 LOCAL RECORDS REVIEW**

- Appendix A – Bulk Sample Results
- Appendix B – Paint Chip Sample Results
- Appendix C – Photographs
- Appendix D – Regulatory Records
- Appendix E – Local Records

ENVIRONMENTAL CONSULTING SERVICES

**Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania**

1.0 EXECUTIVE SUMMARY

The Vertex Companies, LLC (VERTEX) was retained by Seiler + Drury Architecture (Client) to perform a baseline evaluation of potential environmental conditions for the Workman's Cottage structure located at 400 Tow Path Road in Mont Clare, Pennsylvania (the site).

The scope of services included a site reconnaissance to visually assess the structure and surroundings for potential hazardous materials or conditions, review readily available historical data from local agencies, review governmental databases documentation for the site and surrounding area via Environmental Data Resource (EDR), limited building material sample collection for analysis of asbestos and lead content. Onsite services were conducted on October 11, 2024.

According to Montgomery County property records, the site building is within the southeast corner of an 8.89-acre parcel of land identified as Parcel Number 610003346004 and is owned by Montgomery County. The Workman's Cottage structure is a one-story building with unfinished basement and attic levels with a building footprint of approximately 870 square feet. Based on aerial photographs, the building was constructed prior to 1937. The building has been vacant for an extended period of time. The west side of the 1st floor was inaccessible.

The parcel is part of the Lock 60 Recreation Area and is maintained by the Schuylkill Canal Association. Lock 60 was constructed in the 1820's and the Locktender's House was built in the 1830's. The Workman's Cottage was likely constructed in the early 1900's.



2.0 LIMITATIONS/CERTIFICATION OF RESULTS

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the field of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

Professional opinions presented in this report are based on information made available to VERTEX either by review of data provided by others or data obtained by VERTEX personnel.

The information included in this report contains observations made during VERTEX's October 11, 2024 site visit. Should additional information become available which would affect the status of this report, we reserve the right to amend our opinions and professional judgments.

This report is intended for the sole use of Seiler + Drury Architecture. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations, is at risk of said user.

3.0 LIMITED ASBESTOS CONTAINING MATERIALS INSPECTION

VERTEX conducted limited sample collection/analysis of designated materials to confirm/dismiss the presences of asbestos containing materials. A total of twenty (20) samples of suspect building materials were collected and analyzed for asbestos content. Sample analysis was performed by Polarized Light Microscopy (PLM) in accordance with EPA Method 600/R-93/116 in Eckhart Environmental Services, LLC laboratory located in Media, Pennsylvania. The analytical detection limit of this method is 1% by weight.

Results indicate that the following asbestos containing building materials (ACBMs) were identified:

Space/Area	Material Description	Estimated Quantity	Friable (Y/N)	Condition (G/F/P)	Debris (Y/N)
Exterior	Transite Siding	1,850 SF	N	F	Y
Basement chimney	Flue Packing	6 SF	Y	F	Y
Basement	Boiler Packing	50 SF	Y	F	Y

Key: LF - Linear Feet / SF - Square Feet / EA - Each
 Y - Yes / N - No
 G - Good, material intact
 F - Fair, material with localized damage
 P - Poor, material with significant damage

The following is a list of building materials that were tested as part of this inspection and found to be non-asbestos containing (less than 1% asbestos containing):

- Plaster (smooth & rough coats)
- Tar paper
- Sheet flooring/burlap/tar paper/mastic

Additional documentation can be found in the attached laboratory report. It should be noted that this was not a comprehensive asbestos inspection.

Based on the sampling and analysis of suspect materials, **ACMs were identified** within the inspection area of the structure as described in the table above. AHERA identifies ACM as any material containing greater than 1% asbestos.

ACMs which will be impacted or disturbed are required to be removed prior to renovation by a licensed asbestos abatement contractor in accordance with all applicable regulations.

4.0 LIMITED PAINT CHIP SAMPLING

Limited paint chip sampling was conducted to identify, to the extent feasible, the presence and condition of lead-based paint (LBP) on painted components of the site building that may be impacted by pending renovation activities. Inspection services were performed on October 11, 2024.

VERTEX collected five (5) representative paint chip samples from interior and exterior painted substrates. The collected representative paint chip samples were submitted under a chain-of-custody to Eurofins/IATL of Mount Laurel, New Jersey for Lead in Paint Chips by Flame AAS Analysis (EPA SW846 7000B).

The U.S. Department of Housing and Urban Development (HUD) considers 0.5% of lead by weight, or greater, to be lead-based paint.

Based upon the limited inspection and paint chip sampling, lead-based paint was identified on three (3) of the five (5) components sampled. The remaining two (2) samples (plaster wall & ceiling) collected identified lead containing paint (a detectable concentration yet below 0.5%). See attached results for detailed component information.

Any painted surface that has lead content should not be sanded, demolished or disturbed without the proper engineering controls and work methods, as spelled out under the OSHA's 29 CFR Part 1926.62 Lead Exposure in Construction, Interim Rule. Improper disturbance of any paint with lead content can cause lead to become airborne. The emphasis on controlling lead dust derives from the conclusion that lead dust appears to be the primary route of exposure to lead, especially of low-level exposure.

5.0 REGULATED HAZARDOUS MATERIALS SURVEY

An inventory of hazardous materials was performed on October 11, 2024. The survey consisted of a visual inspection for evidence of the following: PCB-containing light ballasts, PCB-containing oils (hydraulic lifts and electrical transformers), fluorescent light bulbs, mercury switches, refrigerants, ozone-depleting substances, batteries, and containerized waste. No testing of the regulated materials was performed.

A listing of identified hazardous materials identified within the above referenced site can be found on the attached inventory list and includes the type of material, container type/size, and the approximate quantity of the material.

Inventory	Estimated Quantity
275-gallon Aboveground Storage Tank (fuel oil)	3
Groundwater Well – southeast of the building	1

Prior to facility demolition activities the above identified hazardous materials/universal wastes must be collected, properly packaged, transported and either recycled or disposed of in accordance with all applicable regulations. The groundwater well should be tested for applicable contaminants prior to potable water use.

6.0 REGULATORY RECORDS REVIEW

VERTEX obtained a regulatory database report from Environmental Data Resource (EDR). VERTEX's review of these listings assessed the potential for soil, groundwater, and/or vapor impacts to the site from on-site listings or listings at surrounding facilities.

The site was not listed on any of the database listings.

Review of surrounding facilities identified one listing (Upper Providence Landfill – SWF/LF) of potential concern. The solid waste facility/landfill (SWF/LF) is listed as Site ID 616866 denoted for municipal waste operations. The site status is inactive and abandoned. This listing is located upgradient from the site approximately 475 feet to the east northeast. Aerial photographs show a cleared section of wooded area starting sometime between 1968 and 1971 which suggests the initial use as a landfill. Further review of the Upper Providence Landfill (accessed from Lovers Lane) should be conducted.

7.0 LOCAL RECORDS REVIEW

VERTEX submitted a right to know request to Upper Providence Township for information pertaining to the site. The Township did not identify any records for the Workman's Cottage. Four permits for the Locktender's House were found and pertained to a sign permit in 2007 and construction permits in 1982, 2002, and 2003.

APPENDIX A: BULK SAMPLE RESULTS



Eckhart Environmental Services, LLC

Report Prepared For:

The Vertex Companies, LLC
Mr. William Otten
2501 Seaport Drive, Suite BH110
Chester, Pennsylvania 19013

Address of Project/Test Site:

Workman's Cottage
400 Tow Path Road
Mont Claire, PA
(PO 100403)

RE:

Project #: L8385

Sent Via: labresults@vertexeng.com

Date Collected: 10/11/2024

Date Received: 10/14/2024

Date of Analysis: 10/17/2024

Report Date: 10/17/2024

Analytical Testing:

Polarized Light Microscopy – Bulk Asbestos Testing

Approved By:

Kelly L. Eckhart, MPH
Laboratory Director, Analytical Microscopist

Amendments:

Attached please find the results for the sample(s) submitted to Eckhart Environmental Services, LLC for asbestos bulk analysis. Sample analysis was performed by Polarized Light Microscopy in accordance with EPA Method 600/R-93/116 and EPA – “Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in Bulk Insulation Samples.”

Sample results for identified asbestos fibrous materials are reported as a percent (1%) value based on visual area estimation under microscopic examination. Asbestos concentrations are reported as “trace” where limited individual asbestos fibers, or bundles, are identified but not on a consistent basis indicative of a homogenous material. Where requested, point count percentage results are also calculated and presented.

Please note that individual state and local jurisdictions typically establish or adopt specific sampling criteria and threshold values for asbestos sampling results. Federal regulations regarding asbestos are promulgated by both the EPA and OSHA. This report presents the analytical testing results of samples submitted and is not an interpretation in comparison to such criteria or values.

Additional information regarding asbestos can be found at:

<http://www.epa.gov/asbestos>
<http://www.atsdr.cdc.gov/asbestos>

<http://www.osha.gov/SLTC/asbestos/index.html>
<http://www.cdc.gov/niosh/topics/asbestos>

For inquiries of professional decision-making determinations regarding analytical results, contact the individual/firm whom collected the samples at the project site. In consideration of current customer services/restrictions, Eckhart Environmental Services, LLC's Project Management staff may provide site-specific services and professional decision-making determinations under separate agreement and at an additional cost.

ECKHART ENVIRONMENTAL SERVICES, LLC
300 South Pennell Road, Bldg 400-Unit 1B
Media PA 19063
www.eckhartenvironmental.com
Version 1.1, Revision Date: 6/9/2020

“The Gold Standard of Environmental Analytical and Testing Services”

Eckhart Environmental Services, LLC

Restrictions/Limitations:

Laboratory results represent optical microscopic analytical work performed on samples submitted by the customer to Eckhart Environmental Services, LLC for analysis. All supplementary information regarding sample volume, location, activity, etc. was provided by the customer. Analytical results are unique to each project and must be evaluated by the individual whom collected the sample(s). Eckhart Environmental Services, LLC has no control of the sample collection process, sample placement, collection volume/area/size nor activity/conditions present at the collection site. Therefore, Eckhart Environmental Services, LLC shall have no liability with respect to decisions made, or actions taken, regarding reported results. Liability on the part of Eckhart Environmental Services, LLC is limited to the monetary value paid for this report.

Eckhart Environmental Services, LLC

ASBESTOS BULK SAMPLE ANALYSIS REPORT

CLIENT: THE VERTEX COMPANIES, LLC
CHESTER, PENNSYLVANIA

EES PROJECT #: L8385

LOCATION: WORKMAN'S COTTAGE
400 TOW PATH ROAD
MONT CLAIRE, PA
(PO 100403)

DATE RECEIVED: 10/14/2024

DATE ANALYZED: 10/17/2024

SAMPLE NUMBER/ DESCRIPTION/LOCATION	ASBESTOS PRESENT	COLOR	% ASBESTOS AND TYPE	% OTHER MATERIALS
L8385-1: Plaster – Wall; Smooth Coat	No	White	None Detected	100% Non-Fibrous
L8385-1: Plaster – Wall; Rough Coat	No	Gray	None Detected	3% Hair 97% Non-Fibrous
L8385-2: Plaster – Ceiling; Smooth Coat	No	White	None Detected	100% Non-Fibrous
L8385-2: Plaster – Ceiling; Rough Coat	No	Gray	None Detected	<1% Cellulose 100% Non-Fibrous
L8385-3: Plaster – Wall; Smooth Coat	No	White	None Detected	100% Non-Fibrous
L8385-3: Plaster – Wall; Rough Coat	No	Gray	None Detected	<1% Cellulose 3% Hair 97% Non-Fibrous
L8385-4: Transite Siding	Yes	White/Gray	25% Chrysotile	75% Non-Fibrous
L8385-4: Tar Paper	Yes	Black	<1% Chrysotile	30% Cellulose 70% Non-Fibrous
L8385-5: Flue Packing	Yes	Tan/Gray	8% Chrysotile	<1% Cellulose <1% Fibrous Glass 92% Non-Fibrous
L8385-6: Boiler Packing	Yes	Tan/Gray	8% Chrysotile	<1% Cellulose <1% Fibrous Glass 92% Non-Fibrous
L8385-7: Boiler Packing	Yes	Gray	10% Chrysotile	90% Non-Fibrous
L8385-8: Sheet Flooring; top	No	Tan	None Detected*	10% Cellulose 90% Non-Fibrous
L8385-8: Sheet Flooring; backing/burlap/tar paper	No	Black/Brown	None Detected*	40% Cellulose 60% Non-Fibrous
L8385-8(M): Mastic associated with Sheet Flooring	No	Dark Brown	None Detected*	100% Non-Fibrous
L8385-9: Sheet Flooring; top	No	Tan	None Detected*	10% Cellulose 90% Non-Fibrous
L8385-9: Sheet Flooring; backing/burlap/tar paper	No	Black/Brown	None Detected*	40% Cellulose 60% Non-Fibrous
L8385-9(M): Mastic associated with Sheet Flooring	No	Dark Brown	None Detected*	100% Non-Fibrous
L8385-10: Sheet Flooring; top	No	Tan	None Detected*	10% Cellulose 90% Non-Fibrous
L8385-10: Sheet Flooring; backing/burlap/tar paper	No	Black/Brown	None Detected*	40% Cellulose 60% Non-Fibrous
L8385-10(M): Mastic associated with Sheet Flooring	No	Dark Brown	None Detected*	100% Non-Fibrous

NVLAP LAB CODE# 600273-0

Analyzed By: RGS
Analytical Microscopist

Reviewed/Authorized By: 
Kelly L. Eckhart, MPH
Laboratory Director
Analytical Microscopist

Eckhart Environmental Services, LLC

Note: The above results represent analytical work performed on samples collected by the customer and submitted to EES for analysis. All supplementary information regarding the samples (i.e., location, sample type, etc.) was provided by the customer.

The report refers specifically to samples tested, and as received, and shall not be reproduced, except in full, without the written approval of the laboratory. The US EPA defines asbestos containing materials as any material containing greater than 1% asbestos as determined by Polarized Light Microscopy in accordance with EPA Method 600/R-93/116 and EPA – “Appendix E to Subpart E of 40 CFR Part 763; Interim Method for the Determination of Asbestos in in Bulk Insulation Samples”.

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

*EES recommends that NOB materials (such as floor coverings, mastic, roofing products, vinyl materials, etc.) demonstrating negative results by PLM for asbestos be re-analyzed by TEM.

**Sample not analyzed due to customer-requested positive stop.

For samples where no asbestos was detected, a minimum of three (3) slide mounts was examined.

The quantity of samples submitted to EES’s laboratory was determined by the customer. EPA AHERA Regulation 40 CFR 763.86 sampling requires samples to be collected by a certified inspector in a statistically random manner and in sufficient quantity to confirm negative results. The sample quantity for negative asbestos determination varies according to the amount of suspect ACM present as well as the material classification (surfacing material, thermal system insulation, or miscellaneous material). The customer is responsible for verification of EPA requirements for negative asbestos determination prior to utilization of EES’s laboratory findings.

END OF REPORT

APPENDIX B: PAINT CHIP SAMPLE RESULTS



CERTIFICATE OF ANALYSIS

Client: The Vertex Companies LLC
2501 Seaport Dr Suite BH110
Chester PA 19013

Client: VER250

Report Date: 10/16/2024
Report No.: 705723 - Lead Paint
Project: Workman's Cottage
Project No.: 100403

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.: 7795408	Description:	Result (% by Weight): 0.032
Client No.: L-1	Location: Plaster (Wall)	Result (ppm): 320
		Comments:

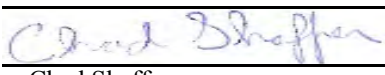
Lab No.: 7795409	Description:	Result (% by Weight): 0.036
Client No.: L-2	Location: Plaster (Ceiling)	Result (ppm): 360
		Comments:

Lab No.: 7795410	Description:	Result (% by Weight): 1.2
Client No.: L-3	Location: Interior Wood Window Frame	Result (ppm): 12000
		Comments:

Lab No.: 7795411	Description:	Result (% by Weight): 21
Client No.: L-4	Location: Exterior Wood Door Frame	Result (ppm): 210000
		Comments:

Lab No.: 7795412	Description:	Result (% by Weight): 10
Client No.: L-5	Location: Exterior Wood Window Frame	Result (ppm): 100000
		Comments:

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/14/2024
Date Analyzed: 10/16/2024
Signature: 
Analyst: Chad Shaffer

Approved By:


Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: The Vertex Companies LLC
2501 Seaport Dr Suite BH110
Chester PA 19013

Client: VER250

Report Date: 10/16/2024
Report No.: 705723 - Lead Paint
Project: Workman's Cottage
Project No.: 100403

Appendix to Analytical Report:

Customer Contact: William Otten

Method: ASTM D3335-85a, US EPA SW846 3050B:7000B

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com

iATL Office Manager: wchampion@iatl.com

iATL Account Representative: House Account

Sample Login Notes: See Batch Sheet Attached

Sample Matrix: Paint

Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by ASTM D3335-85a by AAS

Certification:

- National Lead Laboratory Program (NLLAP): AIHA-LAP, LLC No. 100188

- NYSDOH-ELAP No. 11021

This report meets the standards set forth in the EPA's National Lead Laboratory Accreditation Program (NLLAP) through the Laboratory Quality System Requirements (LQSR) Revision 3.0 November 5, 2007. All Environmental Lead Proficiency Analytical Testing (ELPAT) is through the AIHA-PAT established program.

Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation.

All results are based on the samples as received at the lab. iATL assumes that appropriate sampling methods have been used and that the data upon which these results are based have been accurately supplied by the client.

Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B.

Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies.

LSD=0.2 ppm MDL=0.006% by weight. RL=0.010% by weight (based upon 100 mg sampled).

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a complete list with highlighted disclaimers pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.



CERTIFICATE OF ANALYSIS

Client: The Vertex Companies LLC
2501 Seaport Dr Suite BH110
Chester PA 19013

Client: VER250

Report Date: 10/16/2024
Report No.: 705723 - Lead Paint
Project: Workman's Cottage
Project No.: 100403

* Insufficient sample provided to perform QC reanalysis (<200 mg)
** Not enough sample provided to analyze (<50 mg)
*** Matrix / substrate interference possible.

< less than sign, signifies none-detected below the empirical value based upon sub-sampled mass. This is often below the Reporting Limit (see above).

APPENDIX C: PHOTOGRAPHS

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 1**Description:**

Photo depicts the site with the Schuylkill River Canal in the foreground.

**Photograph: 2****Description:**

Photo depicts the Workman's Cottage with a groundwater well near the southeast corner of the structure.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 3**Description:**

Photo depicts the groundwater well for the Workman's Cottage near the southeast corner of the structure.

**Photograph: 4****Description:**

Photo depicts the south side of the Workman's Cottage with two sets of fuel oil fill and vent lines.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 5**Description:**

Photo depicts a fuel oil fill and vent line along the south side of the Workman's Cottage.

**Photograph: 6****Description:**

Photo depicts a fuel oil fill and vent line along the south side of the Workman's Cottage.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 7

Description:

Photo depicts the kitchen of the Workman's Cottage (1st floor northeast side).



Photograph: 8

Description:

Photo depicts the living room of the Workman's Cottage (1st floor southeast side).



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 9

Description:

Photo depicts two 275-gallon fuel oil tanks along the southside of the basemen in the Workman's Cottage.



Photograph: 10

Description:

Photo depicts an abandoned 275-gallon fuel oil tank on its side in the basement of the Workman's Cottage.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 11

Description:

Photo depicts the basement boiler.



Photograph: 12

Description:

Photo depicts asbestos containing boiler packing associated with the basement boiler.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 13

Description:

Photo depicts a west ward view of the attic.



Photograph: 14

Description:

Photo depicts a southwestward view of the attic.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 15

Description:

Photo depicts the garage building north of the Workman's Cottage.



Photograph: 16

Description:

Photo depicts the Locktender's House further north of the Workman's Cottage.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 17**Description:**

Photo depicts Lock 60 of the Schuylkill River Canal north of the Workman's Cottage.

**Photograph: 18****Description:**

Photo depicts a view east of the Workman's Cottage.



Photographs taken by William Otten on 10/11/24

**Photographic Documentation
Workman's Cottage
400 Tow Path Road
Mont Clare, Pennsylvania
Project No. 100403**

Photograph: 19**Description:**

Photo depicts a view south of the Workman's Cottage.

**Photograph: 20****Description:**

Photo depicts a view west of the Workman's Cottage.



Photographs taken by William Otten on 10/11/24

APPENDIX D: REGULATORY RECORDS

Workmans Cottage

400 Tow Path Road
Mont Clare, PA 19453

Inquiry Number: 7793642.2s
October 16, 2024

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	46
Government Records Searched/Data Currency Tracking	GR-1
 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-14
Physical Setting Source Map Findings	A-16
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

400 TOW PATH ROAD
MONT CLARE, PA 19453

COORDINATES

Latitude (North):	40.1435330 - 40° 8' 36.71"
Longitude (West):	75.5084610 - 75° 30' 30.45"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	456687.7
UTM Y (Meters):	4443602.0
Elevation:	93 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	13944115 PHOENIXVILLE, PA
Version Date:	2019
Northeast Map:	13944059 COLLEGEVILLE, PA
Version Date:	2019

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20191019
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
400 TOW PATH ROAD
MONT CLARE, PA 19453

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	SCHUYLKILL RIVER		PFAS WQP	Lower	350, 0.066, WSW
2	UPPER PROVIDENCE LDF		SWF/LF	Higher	1341, 0.254, East
3	PECO PHOENIXVILLE MG	PENN & MARY ST	VCP	Lower	1364, 0.258, SSW
4	HOLY TRINITY CH	219 DAYTON ST	AUL	Higher	1764, 0.334, SW
A5	CONSOLIDATED SCHUYLK	PENN STREET	EDR MGP	Higher	1767, 0.335, SW
A6	MARCANTONIO RES	13 E HIGH ST	UNREG LTANKS, VCP, LAND REC CLEANUP	Higher	1858, 0.352, SW
7	FRENCH CREEK CTR WES	121 BRIDGE ST	SHWS, LUST, VCP, ARCHIVE AST, ACT 2-DEED, LAND REC..	Higher	3497, 0.662, SSW
8	GAS WORKS	PROSPECT AND MAIN	EDR MGP	Higher	4210, 0.797, SSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL..... National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS..... Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

EXECUTIVE SUMMARY

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

HSCA..... HSCA Remedial Sites Listing

Lists of state and tribal leaking storage tanks

LUST..... Storage Tank Release Sites
LAST..... Storage Tank Release Sites
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST..... Underground Storage Tank Listing
UST..... Listing of Pennsylvania Regulated Underground Storage Tanks
AST..... Listing of Pennsylvania Regulated Aboveground Storage Tanks
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Site Listing
INST CONTROL..... Institutional Controls Site Listing

Lists of state and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
LAND REC CLEANUP..... Land Recycling Cleanup Location Listing

Lists of state and tribal brownfield sites

BROWNFIELDS..... Brownfields Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF..... Abandoned Landfill Inventory
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

EXECUTIVE SUMMARY

US CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

ARCHIVE UST..... Archived Underground Storage Tank Sites
ARCHIVE AST..... Archived Aboveground Storage Tank Sites

Local Land Records

LIENS 2..... CERCLA Lien Information
ACT 2-DEED..... Act 2-Deed Acknowledgment Sites

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... State spills

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
MINES MRDS..... Mineral Resources Data System
ABANDONED MINES..... Abandoned Mines
FINDS..... Facility Index System/Facility Registry System
UXO..... Unexploded Ordnance Sites

EXECUTIVE SUMMARY

ECHO.....	Enforcement & Compliance History Information
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
PFAS NPL.....	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES.....	Federal Sites PFAS Information
PFAS TSCA.....	PFAS Manufacture and Imports Information
PFAS TRIS.....	List of PFAS Added to the TRI
PFAS RCRA MANIFEST.....	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR.....	PFAS Contamination Site Location Listing
PFAS NPDES.....	Clean Water Act Discharge Monitoring Information
PFAS PROJECT.....	NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS ECHO.....	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAIN.....	Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT.....	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC.....	Aqueous Foam Related Incidents Listing
BIOSOLIDS.....	ICIS-NPDES Biosolids Facility Data
UST FINDER RELEASE.....	UST Finder Releases Database
UST FINDER.....	UST Finder Database
E MANIFEST.....	Hazardous Waste Electronic Manifest System
PFAS.....	Sites With Known PFAS Contamination
AIRS.....	Permit and Emissions Inventory Data
ASBESTOS.....	ASBESTOS
DRYCLEANERS.....	Drycleaner Facility Locations
MANIFEST.....	Manifest Information
MINES.....	MINES
NPDES.....	NPDES Permit Listing
UIC.....	Underground Injection Wells

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal (Superfund) equivalent sites

SHWS: The State Hazardous Waste Cleanup Act Site List includes sites listed on PA Priority List, sites delisted from PA Priority List, Interim Response Completed Sites, and Sites being Studied or Response being Planned.

A review of the SHWS list, as provided by EDR, and dated 07/09/2024 has revealed that there is 1 SHWS site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
FRENCH CREEK CTR WES Site Id: 569122 Facility Id: 617007	121 BRIDGE ST	SSW 1/2 - 1 (0.662 mi.)	7	23

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Environmental Resources' Solid Waste Facility Inventory/Transfer Stations.

A review of the SWF/LF list, as provided by EDR, has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
UPPER PROVIDENCE LDF Database: MUN WASTE OPER, Date of Government Version: 01/05/2024		E 1/4 - 1/2 (0.254 mi.)	2	18

Lists of state and tribal leaking storage tanks

UNREG LTANKS: Leaking storage tank cases from unregulated storage tanks.

A review of the UNREG LTANKS list, as provided by EDR, and dated 04/12/2002 has revealed that there is 1 UNREG LTANKS site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MARCANTONIO RES	13 E HIGH ST	SW 1/4 - 1/2 (0.352 mi.)	A6	21

State and tribal institutional control / engineering control registries

AUL: A listing of sites with environmental covenants.

A review of the AUL list, as provided by EDR, and dated 07/09/2024 has revealed that there is 1 AUL

EXECUTIVE SUMMARY

site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HOLY TRINITY CH Facility Id: 587030	219 DAYTON ST	SW 1/4 - 1/2 (0.334 mi.)	4	20

Lists of state and tribal voluntary cleanup sites

VCP: The VCP listings included Completed Sites, Sites in Progress and Act 2 Non-Use Aquifer Determinations Sites. Formerly known as the Act 2, the Land Recycling Program encourages the voluntary cleanup and reuse of contaminated commercial and industrial sites.

A review of the VCP list, as provided by EDR, and dated 07/01/2024 has revealed that there are 2 VCP sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MARCANTONIO RES Activity ID: 617003	13 E HIGH ST	SW 1/4 - 1/2 (0.352 mi.)	A6	21

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PECO PHOENIXVILLE MG Activity ID: 670119	PENN & MARY ST	SSW 1/4 - 1/2 (0.258 mi.)	3	18

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

PFAS WQP: The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

A review of the PFAS WQP list, as provided by EDR, and dated 07/01/2024 has revealed that there is 1 PFAS WQP site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
SCHUYLKILL RIVER		WSW 0 - 1/8 (0.066 mi.)	1	8

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EXECUTIVE SUMMARY

EDR MGP: The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

A review of the EDR MGP list, as provided by EDR, has revealed that there are 2 EDR MGP sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CONSOLIDATED SCHUYLK GAS WORKS	PENN STREET PROSPECT AND MAIN	SW 1/4 - 1/2 (0.335 mi.) SSW 1/2 - 1 (0.797 mi.)	A5 8	20 45

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 5 records.

Site Name

KIMBERLEA LANDFILL
VALLEY FORGE ARMY HOSPITAL
DHUY ENG INC/ BLACK ROCK RD ROAD D
INDEPENDENCE CRAWFORD APTS
HBG MAIN LINE MILEPOST 32.35

Database(s)

SEMS-ARCHIVE
SEMS-ARCHIVE
LUST, AIRS
LUST
LUST

OVERVIEW MAP - 7793642.2S



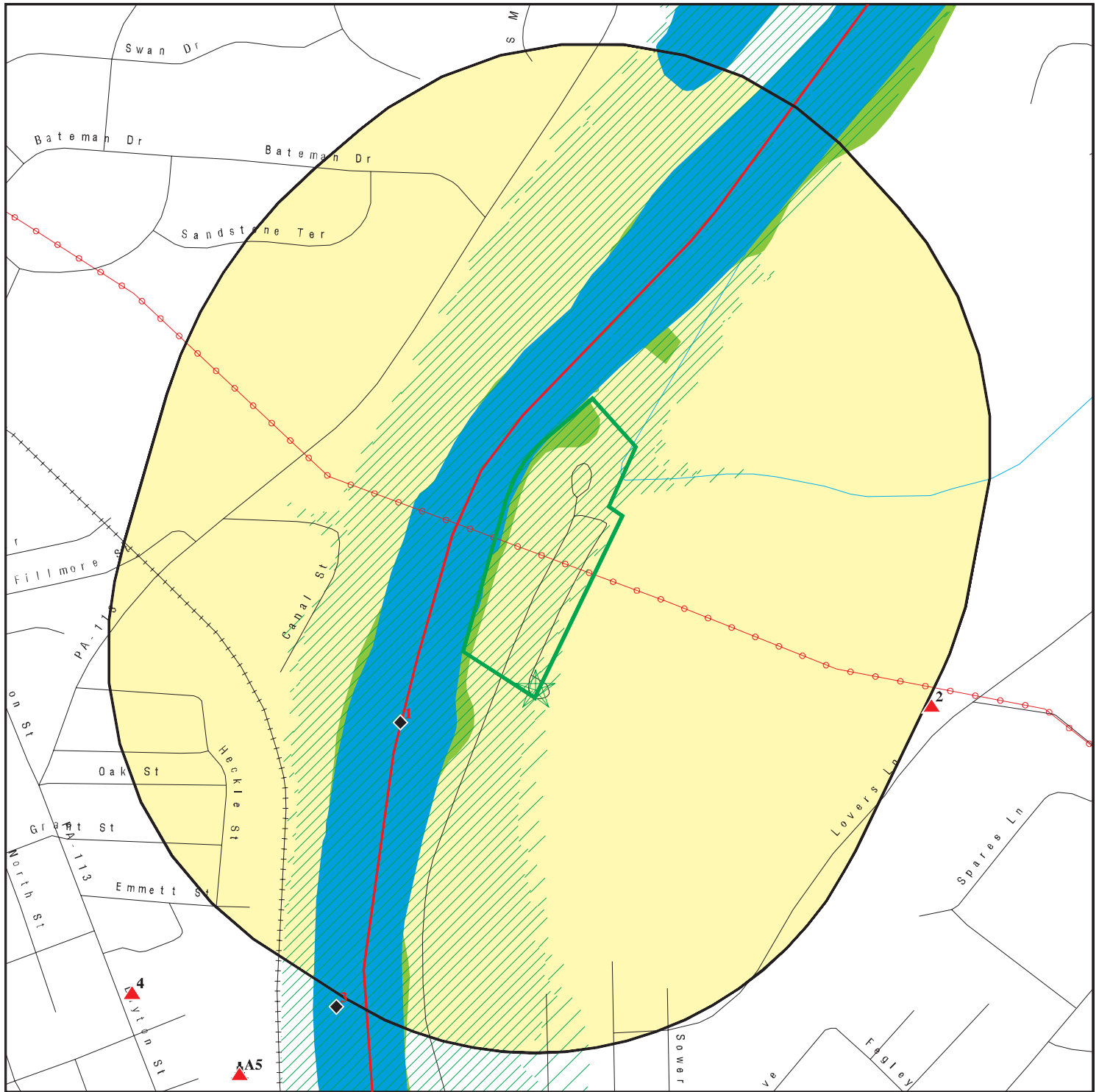
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Workmans Cottage
 ADDRESS: 400 Tow Path Road
 Mont Clare PA 19453
 LAT/LONG: 40.143533 / 75.508461

CLIENT: The Vertex Companies, Inc.
 CONTACT: William Otten
 INQUIRY #: 7793642.2s
 DATE: October 16, 2024 11:59 am

DETAIL MAP - 7793642.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

County Boundary

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare PA 19453
LAT/LONG: 40.143533 / 75.508461

CLIENT: The Vertex Companies, Inc.
CONTACT: William Otten
INQUIRY #: 7793642.2s
DATE: October 16, 2024 12:00 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Lists of Federal NPL (Superfund) sites</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Lists of Federal Delisted NPL sites</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Lists of Federal sites subject to CERCLA removals and CERCLA orders</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Lists of Federal CERCLA sites with NFRAP</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA facilities undergoing Corrective Action</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Lists of Federal RCRA TSD facilities</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Lists of Federal RCRA generators</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>Lists of state- and tribal (Superfund) equivalent sites</i>								
SHWS	1.000		0	0	0	1	NR	1
HSCA	1.000		0	0	0	0	NR	0
<i>Lists of state and tribal landfills and solid waste disposal facilities</i>								
SWF/LF	0.500		0	0	1	NR	NR	1
<i>Lists of state and tribal leaking storage tanks</i>								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LAST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
UNREG LTANKS	0.500		0	0	1	NR	NR	1
<i>Lists of state and tribal registered storage tanks</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal institutional control / engineering control registries</i>								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
AUL	0.500		0	0	1	NR	NR	1
<i>Lists of state and tribal voluntary cleanup sites</i>								
VCP	0.500		0	0	2	NR	NR	2
INDIAN VCP	0.500		0	0	0	NR	NR	0
LAND REC CLEANUP	TP		NR	NR	NR	NR	NR	0
<i>Lists of state and tribal brownfield sites</i>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
<i>Local Lists of Registered Storage Tanks</i>								
ARCHIVE UST	0.250		0	0	NR	NR	NR	0
ARCHIVE AST	TP		NR	NR	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS 2	TP		NR	NR	NR	NR	NR	0
ACT 2-DEED	0.500		0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		1	0	NR	NR	NR	1
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	1	1	NR	2
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0

- Totals --		0	1	0	6	2	0	9
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NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1	SCHUYLKILL RIVER	PFAS WQP	1027311221
WSW			N/A
< 1/8	, PA		
0.066 mi.			
350 ft.			
Relative:	PFAS WQP:		
Lower	Year:	2009	
	Name:	SCHUYLKILL RIVER	
Actual:	Address:	Not reported	
80 ft.	City,State,Zip:	PA	
	Latitude:	40.1431800000	
	Longitude:	-75.5102600000	
	Organization:	USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division	
	Environmental Media Name:	Tissue	
	Activity Identifier:	OST_SHPD-PA030:FT:2009-09-02:541409	
	Activity Type Code:	Sample-Composite With Parents	
	Analysis Start Date:	-	
	Project Identifier:	NRSA0809	
	Monitoring Location Identifier:	OST_SHPD-NRSA0809-PA030	
	Result Detection:	Not Detected	
	PFAS Chemical Name:	Heptafluorobutyric acid	
	Result Measure Value (ppt):	-	
	Result Measure Value:	-	
	Result Unit of Measure:	Not reported	
	Detection/Quantitation Limit Type:	Lower Quantitation Limit	
	Detection/Quantitation Measure Value:	6.13	
	Detection/Quantitation Unit of Measure:	ng/g	
	Laboratory Accreditation Indicator:	Not reported	
	Fish Species:	Smallmouth bass	
	Activity Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}	
	Result Comment:	{"source_analyte_name": "Perfluorobutanoate (PFBA)", "lab_qualifier_flag": "U"}	
	Provider:	STORET	
	EPA Region:	03	
	Project File URL:	Not reported	
	QAPP Approval Agency Name:	USEPA	
	QAPP Approved:	Yes	
	Analytical Method:	Some method name	
	HUC:	02040203	
	EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1	
	Count:	1	
	Year:	2009	
	Name:	SCHUYLKILL RIVER	
	Address:	Not reported	
	City,State,Zip:	PA	
	Latitude:	40.1431800000	
	Longitude:	-75.5102600000	
	Organization:	USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division	
	Environmental Media Name:	Tissue	

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

Activity Identifier: OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code: Sample-Composite With Parents
Analysis Start Date: -
Project Identifier: NRSA0809
Monitoring Location Identifier: OST_SHPD-NRSA0809-PA030
Result Detection: Not Detected
PFAS Chemical Name: Perfluorobutanesulfonic acid
Result Measure Value (ppt): -
Result Measure Value: -
Result Unit of Measure: Not reported
Detection/Quantitation Limit Type: Lower Quantitation Limit
Detection/Quantitation Measure Value: 12.26
Detection/Quantitation Unit of Measure: ng/g
Laboratory Accreditation Indicator: Not reported
Fish Species: Smallmouth bass
Activity Comment: {"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment: {"source_analyte_name": "Perfluorobutane sulfonate (PFBS)", "lab_qualifier_flag": "U"}
Provider: STORET
EPA Region: 03
Project File URL: Not reported
QAPP Approval Agency Name: USEPA
QAPP Approved: Yes
Analytical Method: Some method name
HUC: 02040203
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count: 1
Year: 2009
Name: SCHUYLKILL RIVER
Address: Not reported
City,State,Zip: PA
Latitude: 40.1431800000
Longitude: -75.5102600000
Organization: USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name: Tissue
Activity Identifier: OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code: Sample-Composite With Parents
Analysis Start Date: -
Project Identifier: NRSA0809
Monitoring Location Identifier: OST_SHPD-NRSA0809-PA030
Result Detection: Not Detected
PFAS Chemical Name: Perfluorodecanoic acid
Result Measure Value (ppt): -
Result Measure Value: -
Result Unit of Measure: Not reported
Detection/Quantitation Limit Type: Lower Quantitation Limit
Detection/Quantitation Measure Value: 6.13
Detection/Quantitation Unit of Measure: ng/g
Laboratory Accreditation Indicator: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

Fish Species:	Smallmouth bass
Activity Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment:	{"source_analyte_name": "Perfluorodecanoate (PFDA)", "lab_qualifier_flag": "U"}
Provider:	STORET
EPA Region:	03
Project File URL:	Not reported
QAPP Approval Agency Name:	USEPA
QAPP Approved:	Yes
Analytical Method:	Some method name
HUC:	02040203
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count:	1
Year:	2009
Name:	SCHUYLKILL RIVER
Address:	Not reported
City,State,Zip:	PA
Latitude:	40.1431800000
Longitude:	-75.5102600000
Organization:	USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name:	Tissue
Activity Identifier:	OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code:	Sample-Composite With Parents
Analysis Start Date:	-
Project Identifier:	NRSA0809
Monitoring Location Identifier:	OST_SHPD-NRSA0809-PA030
Result Detection:	Not Detected
PFAS Chemical Name:	Perfluoroheptanoic acid
Result Measure Value (ppt):	-
Result Measure Value:	-
Result Unit of Measure:	Not reported
Detection/Quantitation Limit Type:	Lower Quantitation Limit
Detection/Quantitation Measure Value:	6.13
Detection/Quantitation Unit of Measure:	ng/g
Laboratory Accreditation Indicator:	Not reported
Fish Species:	Smallmouth bass
Activity Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment:	{"source_analyte_name": "Perfluoroheptanoate (PFHpA)", "lab_qualifier_flag": "U"}
Provider:	STORET
EPA Region:	03
Project File URL:	Not reported
QAPP Approval Agency Name:	USEPA
QAPP Approved:	Yes
Analytical Method:	Some method name
HUC:	02040203

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1

Count: 1

Year: 2009

Name: SCHUYLKILL RIVER

Address: Not reported

City,State,Zip: PA

Latitude: 40.1431800000

Longitude: -75.5102600000

Organization: USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division

Environmental Media Name: Tissue

Activity Identifier: OST_SHPD-PA030:FT:2009-09-02:541409

Activity Type Code: Sample-Composite With Parents

Analysis Start Date: -

Project Identifier: NRSA0809

Monitoring Location Identifier: OST_SHPD-NRSA0809-PA030

Result Detection: Not Detected

PFAS Chemical Name: Perfluorohexanesulfonic acid

Result Measure Value (ppt): -

Result Measure Value: -

Result Unit of Measure: Not reported

Detection/Quantitation Limit Type: Lower Quantitation Limit

Detection/Quantitation Measure Value: 12.26

Detection/Quantitation Unit of Measure: ng/g

Laboratory Accreditation Indicator: Not reported

Fish Species: Smallmouth bass

Activity Comment: {"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}

Result Comment: {"source_analyte_name": "Perfluorohexane sulfonate (PFHxS)", "lab_qualifier_flag": "U"}

Provider: STORET

EPA Region: 03

Project File URL: Not reported

QAPP Approval Agency Name: USEPA

QAPP Approved: Yes

Analytical Method: Some method name

HUC: 02040203

EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1

Count: 1

Year: 2009

Name: SCHUYLKILL RIVER

Address: Not reported

City,State,Zip: PA

Latitude: 40.1431800000

Longitude: -75.5102600000

Organization: USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

Environmental Media Name:	Tissue
Activity Identifier:	OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code:	Sample-Composite With Parents
Analysis Start Date:	-
Project Identifier:	NRSA0809
Monitoring Location Identifier:	OST_SHPD-NRSA0809-PA030
Result Detection:	Not Detected
PFAS Chemical Name:	Perfluorohexanoic acid
Result Measure Value (ppt):	-
Result Measure Value:	-
Result Unit of Measure:	Not reported
Detection/Quantitation Limit Type:	Lower Quantitation Limit
Detection/Quantitation Measure Value:	6.13
Detection/Quantitation Unit of Measure:	ng/g
Laboratory Accreditation Indicator:	Not reported
Fish Species:	Smallmouth bass
Activity Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "Instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment:	{"source_analyte_name": "Perfluorohexanoate (PFHxA)", "lab_qualifier_flag": "U"}
Provider:	STORET
EPA Region:	03
Project File URL:	Not reported
QAPP Approval Agency Name:	USEPA
QAPP Approved:	Yes
Analytical Method:	Some method name
HUC:	02040203
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%22%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count:	1
Year:	2009
Name:	SCHUYLKILL RIVER
Address:	Not reported
City,State,Zip:	PA
Latitude:	40.1431800000
Longitude:	-75.5102600000
Organization:	USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name:	Tissue
Activity Identifier:	OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code:	Sample-Composite With Parents
Analysis Start Date:	-
Project Identifier:	NRSA0809
Monitoring Location Identifier:	OST_SHPD-NRSA0809-PA030
Result Detection:	Not Detected
PFAS Chemical Name:	Perfluorononanoic acid
Result Measure Value (ppt):	-
Result Measure Value:	-
Result Unit of Measure:	Not reported
Detection/Quantitation Limit Type:	Lower Quantitation Limit
Detection/Quantitation Measure Value:	6.13
Detection/Quantitation Unit of Measure:	ng/g

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

Laboratory Accreditation Indicator:	Not reported
Fish Species:	Smallmouth bass
Activity Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment:	{"source_analyte_name": "Perfluorononanoate (PFNA)", "lab_qualifier_flag": "U"}
Provider:	STORET
EPA Region:	03
Project File URL:	Not reported
QAPP Approval Agency Name:	USEPA
QAPP Approved:	Yes
Analytical Method:	Some method name
HUC:	02040203
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count:	1
Year:	2009
Name:	SCHUYLKILL RIVER
Address:	Not reported
City,State,Zip:	PA
Latitude:	40.1431800000
Longitude:	-75.5102600000
Organization:	USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name:	Tissue
Activity Identifier:	OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code:	Sample-Composite With Parents
Analysis Start Date:	-
Project Identifier:	NRSA0809
Monitoring Location Identifier:	OST_SHPD-NRSA0809-PA030
Result Detection:	Not Detected
PFAS Chemical Name:	Perfluorooctanesulfonamide
Result Measure Value (ppt):	-
Result Measure Value:	-
Result Unit of Measure:	Not reported
Detection/Quantitation Limit Type:	Lower Quantitation Limit
Detection/Quantitation Measure Value:	6.13
Detection/Quantitation Unit of Measure:	ng/g
Laboratory Accreditation Indicator:	Not reported
Fish Species:	Smallmouth bass
Activity Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment:	{"source_analyte_name": "Perfluorooctane sulfonamide (PFOSA)", "lab_qualifier_flag": "U"}
Provider:	STORET
EPA Region:	03
Project File URL:	Not reported
QAPP Approval Agency Name:	USEPA
QAPP Approved:	Yes
Analytical Method:	Some method name

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

HUC: 02040203
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count: 1
Year: 2009
Name: SCHUYLKILL RIVER
Address: Not reported
City,State,Zip: PA
Latitude: 40.1431800000
Longitude: -75.5102600000
Organization: USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name: Tissue
Activity Identifier: OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code: Sample-Composite With Parents
Analysis Start Date: -
Project Identifier: NRSA0809
Monitoring Location Identifier: OST_SHPD-NRSA0809-PA030
Result Detection: Not Detected
PFAS Chemical Name: Perfluorooctanoic acid
Result Measure Value (ppt): -
Result Measure Value: -
Result Unit of Measure: Not reported
Detection/Quantitation Limit Type: Lower Quantitation Limit
Detection/Quantitation Measure Value: 6.13
Detection/Quantitation Unit of Measure: ng/g
Laboratory Accreditation Indicator: Not reported
Fish Species: Smallmouth bass
Activity Comment: {"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "Instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment: {"source_analyte_name": "Perfluorooctanoate (PFOA)", "lab_qualifier_flag": "U"}
Provider: STORET
EPA Region: 03
Project File URL: Not reported
QAPP Approval Agency Name: USEPA
QAPP Approved: Yes
Analytical Method: Some method name
HUC: 02040203
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count: 1
Year: 2009
Name: SCHUYLKILL RIVER
Address: Not reported
City,State,Zip: PA
Latitude: 40.1431800000
Longitude: -75.5102600000
Organization: USEPA, Office of Water, Office of Science and Technology, Standards

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

Environmental Media Name:	and Health Protection Division
Activity Identifier:	Tissue
Activity Type Code:	OST_SHPD-PA030:FT:2009-09-02:541409
Analysis Start Date:	Sample-Composite With Parents
Project Identifier:	-
Monitoring Location Identifier:	NRSA0809
Result Detection:	OST_SHPD-NRSA0809-PA030
PFAS Chemical Name:	Not Detected
Result Measure Value (ppt):	Perfluorovaleric acid
Result Measure Value:	-
Result Unit of Measure:	-
Detection/Quantitation Limit Type:	Not reported
Detection/Quantitation Measure Value:	Lower Quantitation Limit
Detection/Quantitation Unit of Measure:	6.13
Laboratory Accreditation Indicator:	ng/g
Fish Species:	Not reported
Activity Comment:	Smallmouth bass
Result Comment:	{"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Provider:	{"source_analyte_name": "Perfluoropentanoate (PFPeA)", "lab_qualifier_flag": "U"}
EPA Region:	STORET
Project File URL:	03
QAPP Approval Agency Name:	Not reported
QAPP Approved:	USEPA
Analytical Method:	Yes
HUC:	Some method name
EJSCREEN Report:	02040203
Count:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%22Wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Year:	1
Name:	2009
Address:	SCHUYLKILL RIVER
City,State,Zip:	Not reported
Latitude:	PA
Longitude:	40.1431800000
Organization:	-75.5102600000
Environmental Media Name:	USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Activity Identifier:	Tissue
Activity Type Code:	OST_SHPD-PA030:FT:2009-09-02:541409
Analysis Start Date:	Sample-Composite With Parents
Project Identifier:	-
Monitoring Location Identifier:	NRSA0809
Result Detection:	OST_SHPD-NRSA0809-PA030
PFAS Chemical Name:	PFAS Detected
Result Measure Value (ppt):	Perfluorooctane sulfonic acid
Result Measure Value:	15400
Result Unit of Measure:	15.400000
Detection/Quantitation Limit Type:	ng/g
Detection/Quantitation Measure Value:	Lower Quantitation Limit
	12.26

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

Detection/Quantitation Unit of Measure: ng/g
Laboratory Accreditation Indicator: Not reported
Fish Species: Smallmouth bass
Activity Comment: {"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment: {"source_analyte_name": "Perfluorooctanesulfonate (PFOS)"}
Provider: STORET
EPA Region: 03
Project File URL: Not reported
QAPP Approval Agency Name: USEPA
QAPP Approved: Yes
Analytical Method: Some method name
HUC: 02040203
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count: 1
Year: 2009
Name: SCHUYLKILL RIVER
Address: Not reported
City,State,Zip: PA
Latitude: 40.1431800000
Longitude: -75.5102600000
Organization: USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name: Tissue
Activity Identifier: OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code: Sample-Composite With Parents
Analysis Start Date: -
Project Identifier: NRSA0809
Monitoring Location Identifier: OST_SHPD-NRSA0809-PA030
Result Detection: PFAS Detected
PFAS Chemical Name: Perfluorolauric acid***retired***use Perfluorododecanoic acid
Result Measure Value (ppt): 3000
Result Measure Value: 3.000000
Result Unit of Measure: ng/g
Detection/Quantitation Limit Type: Lower Quantitation Limit
Detection/Quantitation Measure Value: 6.13
Detection/Quantitation Unit of Measure: ng/g
Laboratory Accreditation Indicator: Not reported
Fish Species: Smallmouth bass
Activity Comment: {"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment: {"source_analyte_name": "Perfluorododecanoate (PFDoA)", "comments": "Estimated", "scc_code": "J", "lab_qualifier_flag": "J"}
Provider: STORET
EPA Region: 03
Project File URL: Not reported
QAPP Approval Agency Name: USEPA
QAPP Approved: Yes
Analytical Method: Some method name

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHUYLKILL RIVER (Continued)

1027311221

HUC: 02040203
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count: 1
Year: 2009
Name: SCHUYLKILL RIVER
Address: Not reported
City,State,Zip: PA
Latitude: 40.1431800000
Longitude: -75.5102600000
Organization: USEPA, Office of Water, Office of Science and Technology, Standards and Health Protection Division
Environmental Media Name: Tissue
Activity Identifier: OST_SHPD-PA030:FT:2009-09-02:541409
Activity Type Code: Sample-Composite With Parents
Analysis Start Date: -
Project Identifier: NRSA0809
Monitoring Location Identifier: OST_SHPD-NRSA0809-PA030
Result Detection: PFAS Detected
PFAS Chemical Name: Perfluoroundecanoate
Result Measure Value (ppt): 3500
Result Measure Value: 3.500000
Result Unit of Measure: ng/g
Detection/Quantitation Limit Type: Lower Quantitation Limit
Detection/Quantitation Measure Value: 6.13
Detection/Quantitation Unit of Measure: ng/g
Laboratory Accreditation Indicator: Not reported
Fish Species: Smallmouth bass
Activity Comment: {"CommonName": "Smallmouth bass", "CompositeClassification": "Non-routine", "FishTypeClassification": "Predator", "deviation": "Number", "Instructions": "Process all specimens in the 4-fish composite.", "epa_sample_id": "541409"}
Result Comment: {"source_analyte_name": "Perfluoroundecanoate (PFUnA)", "comments": "Estimated", "scc_code": "J", "lab_qualifier_flag": "J"}
Provider: STORET
EPA Region: 03
Project File URL: Not reported
QAPP Approval Agency Name: USEPA
QAPP Approved: Yes
Analytical Method: Some method name
HUC: 02040203
EJSCREEN Report: https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-75.5102600000,%22y%22:40.1431800000,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1
Count: 1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

2
East
1/4-1/2
0.254 mi.
1341 ft.

UPPER PROVIDENCE LDFL
MONTGOMERY (County), PA

SWF/LF **S129361451**
N/A

Relative:
Higher

MUN WASTE OPER:

Actual:
252 ft.

Site ID: 616866
Name: UPPER PROVIDENCE LDFL
Address: Not reported
Address 2: Not reported
City,State,Zip: PA
Latitude: 4886796.679399997
Longitude: -8404977.6226
Status: ABANDONED
Client ID: 0
Organization Name: Unavailable
Operator Name: Unavailable
Primary Facility Name: UPPER PROVIDENCE LANDFILL
Primary Facility ID: 638013
Sub Facility Name: UPPER PROVIDENCE LANDFILL
Sub Facility ID: 771743
Primary Facility Type: MUNICIPAL WASTE OPERATION
Primary Facility Kind: Unavailable
Other Facility ID: 1-266 100539
Sub Facility Type: LANDFILL
Internal Feature Number: 1-266 100539
Client Relationship: Owner
Primary Facility Status: INACTIVE
Sub Facility Status: ABANDONED
Compliance: YES
Acres: Not reported
Average Volume: Not reported
Max Volume: Not reported
Closed Date: Not reported
Description: Not reported

3
SSW
1/4-1/2
0.258 mi.
1364 ft.

PECO PHOENIXVILLE MGP
PENN & MARY ST
PHOENIXVILLE, PA 19460

VCP **S111073590**
N/A

Relative:
Lower

VCP:

Actual:
80 ft.

Name: PECO PHOENIXVILLE MGP
Address: PENN & MARY ST
City,State,Zip: PHOENIXVILLE, PA 19460

Cleanup Records:

Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 35487
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 06/28/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PECO PHOENIXVILLE MGP (Continued)

S111073590

Media: Groundwater
Latitude: 40.140277
Longitude: -75.511111

Name: PECO PHOENIXVILLE MGP
Address: PENN & MARY ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 35487
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 06/28/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.140277
Longitude: -75.511111

Name: PECO PHOENIXVILLE MGP
Address: PENN & MARY ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 35487
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 06/28/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.140277
Longitude: -75.511111

Name: PECO PHOENIXVILLE MGP
Address: PENN & MARY ST
City,State,Zip: PHOENIXVILLE, PA 19460

Activity:
Activity ID: 670119, 670119, 670119, 670119,
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 35487
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 06/28/2007
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

PECO PHOENIXVILLE MGP (Continued)

S111073590

Latitude: 40.140277
Longitude: -75.511111

4
SW
1/4-1/2
0.334 mi.
1764 ft.

HOLY TRINITY CH
219 DAYTON ST
PHOENIXVILLE, PA 19460

AUL S115869063
N/A

Relative:
Higher

AUL:

Actual:
164 ft.

Name: HOLY TRINITY CH
Address: 219 DAYTON ST
City,State,Zip: PHOENIXVILLE, PA 19460
Facility Id: 587030
Primary Facility Type: Storage Tank Locator
Latitude: Not reported
Longitude: Not reported
Region: Southeast Region
Client Id: Not reported
Client Name: Not reported
Incident Id / Name Description: Not reported
Remediation Id: N/A
Remediation Received Date: Not reported
Address: 219 DAYTON ST PHOENIXVILLE, PA 19460
AUL Code: ENVIRONMENTAL COVENANT
Received Date: 01/05/2012
Action Date: 05/29/2012
Action: DEP SIGNED
Recorded Date: 07/27/2012
Terminated Date: Not reported
Amended Date: Not reported
Activity Use Limitation Code: Not reported
Activity Use Limitation Desc: Not reported
Aul Comment: Not reported
Internal Use EDR Field: Not reported

A5
SW
1/4-1/2
0.335 mi.
1767 ft.

CONSOLIDATED SCHUYLKILL GAS CO
PENN STREET
PHOENIXVILLE, PA 19460

EDR MGP 1008408597
N/A

Site 1 of 2 in cluster A

Relative:
Higher

EDR MGP:

Actual:
121 ft.

Alternate Name: PHILADELPHIA GAS AND ELECTRIC CO. No additional information available

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A6
SW
1/4-1/2
0.352 mi.
1858 ft.
MARCANTONIO RES
13 E HIGH ST
PHOENIXVILLE, PA 19460
Site 2 of 2 in cluster A

UNREG LTANKS
VCP
LAND REC CLEANUP
S102604047
N/A

Relative:
Higher

UNREG LTANKS:

Actual:
129 ft.

Region: South East
Contaminant: FUEL OIL #2
Closed: Not reported
Class: Cleanup of Tanks using authorities other than Act 32

VCP:

Name: MARCANTONIO RES
Address: 13 E HIGH ST
City,State,Zip: PHOENIXVILLE, PA 19460

Cleanup Records:

Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Unleaded Gasoline
Type: Complete Sites
LRP Activity Number: 85
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 01/19/2001
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.241944
Longitude: -75.856666

Name: MARCANTONIO RES
Address: 13 E HIGH ST
City,State,Zip: PHOENIXVILLE, PA 19460

Activity:

Activity ID: 617003, 617003,
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 85
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 01/19/2001
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.241944
Longitude: -75.856666

LAND REC CLEANUP:

Facility ID: 617003
Name: MARCANTONIO RES
Address: 13 E HIGH ST
City,State,Zip: PHOENIXVILLE, PA 19460

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MARCANTONIO RES (Continued)

S102604047

Site ID: 593505
Site Name: MARCANTONIO RES
Primary Facility Status: ACTIVE
Client ID: 0
Organization Name: Unavailable
Client Name: Unavailable
Sub Facility Name: MARCANTONIO RESIDENCE-GW
Sub Facility ID: 731871
Primary Facility Type: LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind: Unavailable
Other Facility ID: 1-15-2-3702
Sub Facility Type: GROUNDWATER MEDIA
S Other ID: 731871
Client Relationship: Owner
Site Status: ACTIVE
Sub Facility Status: Unavailable
Compliance: YES

Facility ID: 617003
Name: MARCANTONIO RES
Address: 13 E HIGH ST
City,State,Zip: PHOENIXVILLE, PA 19460
Site ID: 593505
Site Name: MARCANTONIO RES
Primary Facility Status: ACTIVE
Client ID: 0
Organization Name: Unavailable
Client Name: Unavailable
Sub Facility Name: MARCANTONIO RESIDENCE-GW
Sub Facility ID: 731872
Primary Facility Type: LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind: Unavailable
Other Facility ID: 1-15-2-3702
Sub Facility Type: GROUNDWATER MEDIA
S Other ID: 731872
Client Relationship: Owner
Site Status: ACTIVE
Sub Facility Status: Unavailable
Compliance: YES

Facility ID: 617003
Name: MARCANTONIO RES
Address: 13 E HIGH ST
City,State,Zip: PHOENIXVILLE, PA 19460
Site ID: 593505
Site Name: MARCANTONIO RES
Primary Facility Status: ACTIVE
Client ID: 0
Organization Name: Unavailable
Client Name: Unavailable
Sub Facility Name: MARCANTONIO RESIDENCE-SOIL
Sub Facility ID: 731873
Primary Facility Type: LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind: Unavailable
Other Facility ID: 1-15-2-3702
Sub Facility Type: SOIL MEDIA
S Other ID: 731873

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MARCANTONIO RES (Continued)

S102604047

Client Relationship: Owner
Site Status: ACTIVE
Sub Facility Status: Unavailable
Compliance: YES

7
SSW
1/2-1
0.662 mi.
3497 ft.

FRENCH CREEK CTR WEST
121 BRIDGE ST
PHOENIXVILLE, PA 19460

SHWS
LUST
VCP
ARCHIVE AST
ACT 2-DEED
LAND REC CLEANUP

S105423194
N/A

Relative:
Higher

Actual:
99 ft.

SHWS:

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA
Region: EP SE Rgnl Off Norristown
Facility Id: 617007
Municipality: Phoenixville Boro
Site: PHOENIX IRON & STEEL CO
Site Id: 569122
Program Other Id: 617007
HOR Ref Datum: WGS84
Client Id: Not reported
Client Owner: Not reported
Initiation Id: 88
Initiation Type: HSCA
Notice Date: Not reported
List Date: Not reported
Delist Date: Not reported
Activity Id: 97
Media Id: 731885
Media Name: PHOENIX STEEL/FRENCH CREEK W
Media Type: Waste Media
Substance Code: CLSOL
Substance: Chlorinated Solvents
CASRN: Not reported
Chemical: Not reported
Address Remarks: Not reported
Response Name: PHOENIX STEEL HSCA
Response Action: HSIR - HSCA Interim Response Action
Start Date: 11/01/1995
Finish Date: 04/25/1996
RJD Date: 01/01/1995
Altitude Datum: Not reported
Latitude: 40.134349
Longitude: -75.51282

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA
Region: EP SE Rgnl Off Norristown
Facility Id: 617007
Municipality: Phoenixville Boro
Site: PHOENIX IRON & STEEL CO
Site Id: 569122
Program Other Id: 617007
HOR Ref Datum: WGS84

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Client Id: Not reported
Client Owner: Not reported
Initiation Id: 88
Initiation Type: HSCA
Notice Date: Not reported
List Date: Not reported
Delist Date: Not reported
Activity Id: 97
Media Id: 731885
Media Name: PHOENIX STEEL/FRENCH CREEK W
Media Type: Waste Media
Substance Code: PAH
Substance: PAH
CASRN: Not reported
Chemical: Not reported
Address Remarks: Not reported
Response Name: PHOENIX STEEL HSCA
Response Action: HSIR - HSCA Interim Response Action
Start Date: 11/01/1995
Finish Date: 04/25/1996
RJD Date: 01/01/1995
Altitude Datum: Not reported
Latitude: 40.134349
Longitude: -75.51282

LUST:

Name: PHOENIX PIPE & TUBE LP
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Region: EP SE Rgnl Off Norristown
Municipality: Phoenixville Boro
Facility Id: 585787
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 06/05/1991
Confirmed Date: 09/14/1989
Program Other Id: 15-06359
Client: PHOENIX PIPE & TUBE
Incident Id: 101
Incident Desc: 15-06359 PHOENIX PIPE & TUBE
Suspect Date: Not reported
Source Of Notification: UNDTD
Release Discovered: VISOD
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Ground Water
Substance: Fuel Oil No 2
CAS RN: 71-43-2
Chemical: BENZENE
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 40.135833
Longitude: -75.135833

Name: PHOENIX PIPE & TUBE LP
Address: 121 BRIDGE ST

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

City,State,Zip: PHOENIXVILLE, PA 19460
Region: EP SE Rgnl Off Norristown
Municipality: Phoenixville Boro
Facility Id: 585787
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 06/05/1991
Confirmed Date: 09/14/1989
Program Other Id: 15-06359
Client: PHOENIX PIPE & TUBE
Incident Id: 101
Incident Desc: 15-06359 PHOENIX PIPE & TUBE
Suspect Date: Not reported
Source Of Notification: UNDTD
Release Discovered: VISOD
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Ground Water
Substance: Fuel Oil No 2
CAS RN: 100-41-4
Chemical: ETHYL BENZENE
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 40.135833
Longitude: -75.135833

Name: PHOENIX PIPE & TUBE LP
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Region: EP SE Rgnl Off Norristown
Municipality: Phoenixville Boro
Facility Id: 585787
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 06/05/1991
Confirmed Date: 09/14/1989
Program Other Id: 15-06359
Client: PHOENIX PIPE & TUBE
Incident Id: 101
Incident Desc: 15-06359 PHOENIX PIPE & TUBE
Suspect Date: Not reported
Source Of Notification: UNDTD
Release Discovered: VISOD
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Ground Water
Substance: Fuel Oil No 2
CAS RN: 108-88-3
Chemical: TOLUENE
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 40.135833
Longitude: -75.135833

Name: PHOENIX PIPE & TUBE LP

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Region: EP SE Rgnl Off Norristown
Municipality: Phoenixville Boro
Facility Id: 585787
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 06/05/1991
Confirmed Date: 09/14/1989
Program Other Id: 15-06359
Client: PHOENIX PIPE & TUBE
Incident Id: 101
Incident Desc: 15-06359 PHOENIX PIPE & TUBE
Suspect Date: Not reported
Source Of Notification: UNDTD
Release Discovered: VISOD
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Ground Water
Substance: PAH
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 40.135833
Longitude: -75.135833

Name: PHOENIX PIPE & TUBE LP
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Region: EP SE Rgnl Off Norristown
Municipality: Phoenixville Boro
Facility Id: 585787
Facility Type: Underground Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 06/05/1991
Confirmed Date: 09/14/1989
Program Other Id: 15-06359
Client: PHOENIX PIPE & TUBE
Incident Id: 101
Incident Desc: 15-06359 PHOENIX PIPE & TUBE
Suspect Date: Not reported
Source Of Notification: UNDTD
Release Discovered: VISOD
Source Cause Of Release: INFNP
Tank: Not reported
Impact Desc: Surface Water
Substance: Not reported
CAS RN: Not reported
Chemical: Not reported
Comments: Not reported
Horizontal Ref Datum: WGS84
Altitude Datum: Not reported
Latitude: 40.135833
Longitude: -75.135833

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

VCP:

Name: PHOENIX STEEL/VANDERSLICE PARCELS B & C
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA

Cleanup Records:

Municipality: Not reported
Region: Not reported
Category Desc: Not reported
Type: Not reported
LRP Activity Number: Not reported
Remediation: Not reported
Activity: Not reported
Date Approved: Not reported
Date Received: Not reported
Date Nonuse: 04/16/1999
ICS Code: Not reported
Media: Not reported
Latitude: Not reported
Longitude: Not reported

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460-3401
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Other Organics
Type: Site In Progress
LRP Activity Number: 53249
Remediation: Site-Specific Standard
Activity: Not reported
Date Approved: Not reported
Date Received: 04/01/2019
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135
Longitude: -75.517777

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460-3401
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Inorganics
Type: Site In Progress
LRP Activity Number: 53249
Remediation: Site-Specific Standard
Activity: Not reported
Date Approved: Not reported
Date Received: 04/01/2019
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135
Longitude: -75.517777

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460-3401
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Inorganics
Type: Site In Progress
LRP Activity Number: 53249
Remediation: Site-Specific Standard
Activity: Not reported
Date Approved: Not reported
Date Received: 04/01/2019
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135
Longitude: -75.517777

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460-3401
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Inorganics
Type: Site In Progress
LRP Activity Number: 41803
Remediation: Site-Specific Standard
Activity: Not reported
Date Approved: Not reported
Date Received: 11/05/2010
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135
Longitude: -75.517777

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460-3401
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Inorganics
Type: Complete Sites
LRP Activity Number: 99
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 10/06/1999
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135
Longitude: -75.517777

Name: FRENCH CREEK CTR WEST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460-3401

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Lead
Type:	Complete Sites
LRP Activity Number:	98
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	10/06/1999
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135
Longitude:	-75.517777
Name:	FRENCH CREEK CTR WEST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460-3401
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Other Organics
Type:	Site In Progress
LRP Activity Number:	53249
Remediation:	Site-Specific Standard
Activity:	Not reported
Date Approved:	Not reported
Date Received:	04/01/2019
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135
Longitude:	-75.517777
Name:	FRENCH CREEK CTR WEST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460-3401
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Inorganics
Type:	Site In Progress
LRP Activity Number:	41803
Remediation:	Site-Specific Standard
Activity:	Not reported
Date Approved:	Not reported
Date Received:	11/05/2010
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135
Longitude:	-75.517777
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	PAH

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	PAH
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Surface Water
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	PCB
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Groundwater
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	PCB
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	PCB
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Surface Water
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Unleaded Gasoline
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Groundwater
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Unleaded Gasoline
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Chlorinated Solvents
Type:	Complete Sites
LRP Activity Number:	39320
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Groundwater
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Chlorinated Solvents
Type:	Complete Sites
LRP Activity Number:	39320
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Inorganics
Type:	Complete Sites
LRP Activity Number:	39320
Remediation:	Statewide Health Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Groundwater

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Inorganics
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Lead
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135555
Longitude: -75.514166

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PCB
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PCB
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Unleaded Gasoline
Type: Complete Sites
LRP Activity Number: 39320
Remediation: Statewide Health Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: PAH
Type: Complete Sites
LRP Activity Number: 80
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Lead

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Surface Water
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Lead
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Lead
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Groundwater
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Inorganics
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Surface Water
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Inorganics
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Soil
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Inorganics
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported
Date Nonuse:	Not reported
ICS Code:	Not reported
Media:	Groundwater
Latitude:	40.135555
Longitude:	-75.514166
Name:	FRENCH CREEK CTR EAST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460
Municipality:	Phoenixville Boro
Region:	Southeast Region
Category Desc:	Chlorinated Solvents
Type:	Complete Sites
LRP Activity Number:	80
Remediation:	Site-Specific Standard
Activity:	NO
Date Approved:	05/27/2009
Date Received:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Date Nonuse: Not reported
ICS Code: Not reported
Media: Surface Water
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 80
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Groundwater
Latitude: 40.135555
Longitude: -75.514166

Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460

Activity:

Activity ID: 647411, 617007, 617007, 617007, 617007, 617007, 617007, 617007,
617007, 617001, 617001, 617001, 617001, 617001, 617001, 617001,
617001, 617001, 617001, 617001, 617001, 617001, 617001, 617001,
617001, 617001, 617001, 617001, 617001, 617001, 617001, 617001,
617001, 617001, 617001, 617001, 617001,

Municipality: Phoenixville Boro
Region: Southeast Region
Category Desc: Chlorinated Solvents
Type: Complete Sites
LRP Activity Number: 80
Remediation: Site-Specific Standard
Activity: NO
Date Approved: 05/27/2009
Date Received: Not reported
Date Nonuse: Not reported
ICS Code: Not reported
Media: Soil
Latitude: 40.135555
Longitude: -75.514166

ARCHIVE AST:

Name: PHOENIX PIPE & TUBE LP
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Facility ID: 15-06359
Site ID: Not reported
Client ID: Not reported
Municipality: Phoenixville Boro

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Region Name: Not reported
Owner ID: Not reported
Owner Name: PHOENIX PIPE & TUBE
Owner Phone: Not reported
Owner Address: 121 BRIDGE ST
Owner Address 2: Not reported
Owner City,St,Zip: PHOENIXVILLE, PA 19460-3401
Owner County Code: Not reported
Resp Party Name: PHOENIX PIPE & TUBE LP
RP Address: 121 BRIDGE ST
RP Address 2: Not reported
RP City,St,Zip: PHOENIXVILLE, PA 19460-3401
Regulated Exp Date: Not reported

Tank ID: 620424
Tank Sequence #: 001A
Install Date: Not reported
Status: Not reported
Status Code End Date: Not reported
Capacity: 20000
Substance: HO
Tank Substance End Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: 66941
Chemical Name: PHOENIX PIPE & TUBE
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Y
Contact Name: UNKNOWN
Company: Not reported

Tank ID: 620425
Tank Sequence #: 002A
Install Date: Not reported
Status: Not reported
Status Code End Date: Not reported
Capacity: 20000
Substance: HO
Tank Substance End Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: 66941
Chemical Name: PHOENIX PIPE & TUBE
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Y
Contact Name: UNKNOWN
Company: Not reported

Tank ID: 620426
Tank Sequence #: 003A
Install Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Status: Not reported
Status Code End Date: Not reported
Capacity: 20000
Substance: HO
Tank Substance End Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: 66941
Chemical Name: PHOENIX PIPE & TUBE
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Y
Contact Name: UNKNOWN
Company: Not reported

Tank ID: 620427
Tank Sequence #: 004A
Install Date: Not reported
Status: Not reported
Status Code End Date: Not reported
Capacity: 20000
Substance: HO
Tank Substance End Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: 66941
Chemical Name: PHOENIX PIPE & TUBE
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Y
Contact Name: UNKNOWN
Company: Not reported

Tank ID: 620428
Tank Sequence #: 005A
Install Date: Not reported
Status: Not reported
Status Code End Date: Not reported
Capacity: 500
Substance: DIESEL
Tank Substance End Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: 66941
Chemical Name: PHOENIX PIPE & TUBE
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Y
Contact Name: UNKNOWN
Company: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Tank ID: 620429
Tank Sequence #: 006A
Install Date: Not reported
Status: Not reported
Status Code End Date: Not reported
Capacity: 5000
Substance: OTHER
Tank Substance End Date: Not reported
Tank Code: Not reported
Inspection Code: Not reported
Last Inspection: Not reported
Substance Type: Not reported
CASRN for Hazardous Substances: 66941
Chemical Name: PHOENIX PIPE & TUBE
Other Information Regarding The Tank Substance: Not reported
Undeliverable Address Ind.: Y
Contact Name: UNKNOWN
Company: Not reported

ACT 2-DEED:

Region: 4100
Municipality: Phoenixville
Site Size: Not reported
Cleanup Standard: Site Specific
Cleanup Indicator: Not reported
Response Date: 10/6/1999
Category Description: Inorganics
Land Designation Code: Not reported

Region: 4100
Municipality: Phoenixville
Site Size: Not reported
Cleanup Standard: Statewide Health
Cleanup Indicator: Not reported
Response Date: 5/27/2009
Category Description: Lead, PAH, Unleaded Gasoline
Land Designation Code: Not reported

Region: 4100
Municipality: Phoenixville
Site Size: Not reported
Cleanup Standard: Statewide Health
Cleanup Indicator: Not reported
Response Date: 10/6/1999
Category Description: Lead, PAH, Unleaded Gasoline
Land Designation Code: Not reported

LAND REC CLEANUP:

Facility ID: 617001
Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Site ID: 569122
Site Name: PHOENIX IRON & STEEL CO
Primary Facility Status: INACTIVE
Client ID: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Organization Name: Unavailable
Client Name: Unavailable
Sub Facility Name: PHOENIX STEEL/FRENCH CREEK E
Sub Facility ID: 731849
Primary Facility Type: LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind: PIPELINE
Other Facility ID: 1-15-2-28679
Sub Facility Type: GROUNDWATER MEDIA
S Other ID: 731849
Client Relationship: Owner
Site Status: ACTIVE
Sub Facility Status: Unavailable
Compliance: YES

Facility ID: 617001
Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Site ID: 569122
Site Name: PHOENIX IRON & STEEL CO
Primary Facility Status: INACTIVE
Client ID: 0
Organization Name: Unavailable
Client Name: Unavailable
Sub Facility Name: PHOENIX STEEL/FRENCH CREEK E
Sub Facility ID: 731856
Primary Facility Type: LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind: PIPELINE
Other Facility ID: 1-15-2-28679
Sub Facility Type: SOIL MEDIA
S Other ID: 731856
Client Relationship: Owner
Site Status: ACTIVE
Sub Facility Status: Unavailable
Compliance: YES

Facility ID: 617001
Name: FRENCH CREEK CTR EAST
Address: 121 BRIDGE ST
City,State,Zip: PHOENIXVILLE, PA 19460
Site ID: 569122
Site Name: PHOENIX IRON & STEEL CO
Primary Facility Status: INACTIVE
Client ID: 0
Organization Name: Unavailable
Client Name: Unavailable
Sub Facility Name: PHOENIX STEEL/FRENCH CREEK E
Sub Facility ID: 731863
Primary Facility Type: LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind: PIPELINE
Other Facility ID: 1-15-2-28679
Sub Facility Type: SURFACE WATER MEDIA
S Other ID: 731863
Client Relationship: Owner
Site Status: ACTIVE
Sub Facility Status: Unavailable
Compliance: YES

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Facility ID:	617007
Name:	FRENCH CREEK CTR WEST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460-3401
Site ID:	569122
Site Name:	PHOENIX IRON & STEEL CO
Primary Facility Status:	ACTIVE
Client ID:	0
Organization Name:	Unavailable
Client Name:	Unavailable
Sub Facility Name:	FRENCH CREEK CTR W PROPOSED/PHOENIX STEEL FOUNDRY
Sub Facility ID:	731889
Primary Facility Type:	LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind:	MANUFACTURING - STEEL
Other Facility ID:	617007
Sub Facility Type:	GROUNDWATER MEDIA
S Other ID:	731889
Client Relationship:	Owner
Site Status:	ACTIVE
Sub Facility Status:	ACTIVE
Compliance:	YES
Facility ID:	617007
Name:	FRENCH CREEK CTR WEST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460-3401
Site ID:	569122
Site Name:	PHOENIX IRON & STEEL CO
Primary Facility Status:	ACTIVE
Client ID:	0
Organization Name:	Unavailable
Client Name:	Unavailable
Sub Facility Name:	FRENCH CREEK CTR W PROPOSED/PHOENIX STEEL FOUNDRY-SURF
Sub Facility ID:	731902
Primary Facility Type:	LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind:	MANUFACTURING - STEEL
Other Facility ID:	617007
Sub Facility Type:	SURFACE WATER MEDIA
S Other ID:	731902
Client Relationship:	Owner
Site Status:	ACTIVE
Sub Facility Status:	Unavailable
Compliance:	YES
Facility ID:	617007
Name:	FRENCH CREEK CTR WEST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460-3401
Site ID:	569122
Site Name:	PHOENIX IRON & STEEL CO
Primary Facility Status:	ACTIVE
Client ID:	0
Organization Name:	Unavailable
Client Name:	Unavailable
Sub Facility Name:	PHOENIX STEEL/FRENCH CREEK W
Sub Facility ID:	731885
Primary Facility Type:	LAND RECYCLING CLEANUP LOCATION

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRENCH CREEK CTR WEST (Continued)

S105423194

Primary Facility Kind:	MANUFACTURING - STEEL
Other Facility ID:	617007
Sub Facility Type:	WASTE MEDIA
S Other ID:	731885
Client Relationship:	Owner
Site Status:	ACTIVE
Sub Facility Status:	ACTIVE
Compliance:	YES
Facility ID:	617007
Name:	FRENCH CREEK CTR WEST
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA 19460-3401
Site ID:	569122
Site Name:	PHOENIX IRON & STEEL CO
Primary Facility Status:	ACTIVE
Client ID:	0
Organization Name:	Unavailable
Client Name:	Unavailable
Sub Facility Name:	PHOENIX STEEL/FRENCH CREEK W
Sub Facility ID:	731887
Primary Facility Type:	LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind:	MANUFACTURING - STEEL
Other Facility ID:	617007
Sub Facility Type:	SOIL MEDIA
S Other ID:	731887
Client Relationship:	Owner
Site Status:	ACTIVE
Sub Facility Status:	ACTIVE
Compliance:	YES
Facility ID:	647411
Name:	PHOENIX STEEL/VANDERSLICE PARCELS B & C
Address:	121 BRIDGE ST
City,State,Zip:	PHOENIXVILLE, PA
Site ID:	569122
Site Name:	PHOENIX IRON & STEEL CO
Primary Facility Status:	INACTIVE
Client ID:	0
Organization Name:	Unavailable
Client Name:	Unavailable
Sub Facility Name:	PHOENIX STEEL/VANDERSLICE PARCELS B & C
Sub Facility ID:	791289
Primary Facility Type:	LAND RECYCLING CLEANUP LOCATION
Primary Facility Kind:	Unavailable
Other Facility ID:	647411
Sub Facility Type:	SOIL MEDIA
S Other ID:	791289
Client Relationship:	Owner
Site Status:	ACTIVE
Sub Facility Status:	ACTIVE
Compliance:	YES

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

8
SSW
1/2-1
0.797 mi.
4210 ft.

GAS WORKS
PROSPECT AND MAIN
PHOENIXVILLE, PA 19460

EDR MGP **1009400777**
N/A

Relative:
Higher

EDR MGP:

No additional information available

Actual:
133 ft.

Count: 5 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
KIMBERTON	1012043329	KIMBERLEA LANDFILL	SOUTH OF MILL ROAD & WEST SEVE	19442	SEMS-ARCHIVE
PHOENIXVILLE	S128954649	DHUY ENG INC/ BLACK ROCK RD ROAD D	1286 BLACK ROCK RD	19460	LUST, AIRS
PHOENIXVILLE	1003866785	VALLEY FORGE ARMY HOSPITAL	EVERGREEN DRIVE	19460	SEMS-ARCHIVE
PHOENIXVILLE	S105800083	INDEPENDENCE CRAWFORD APTS	POTTSHOUSE & W BRIDGE RD	19460	LUST
ROYERSFORD	S102734207	HBG MAIN LINE MILEPOST 32.35	RAILROAD PLZ	19468	LUST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 08/27/2024	Source: EPA
Date Data Arrived at EDR: 09/03/2024	Telephone: N/A
Date Made Active in Reports: 09/19/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/06/2025
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 08/27/2024	Source: EPA
Date Data Arrived at EDR: 09/03/2024	Telephone: N/A
Date Made Active in Reports: 09/19/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/06/2025
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 09/03/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/07/2024
Date Data Arrived at EDR: 06/25/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/24/2024
Next Scheduled EDR Contact: 01/09/2025
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/24/2024
Date Data Arrived at EDR: 08/01/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/24/2024	Source: EPA
Date Data Arrived at EDR: 08/01/2024	Telephone: 800-424-9346
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 27	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/03/2024	Source: EPA
Date Data Arrived at EDR: 06/07/2024	Telephone: 800-424-9346
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 800-438-2474
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 800-438-2474
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 800-438-2474
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 800-438-2474
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/15/2024	Source: Department of the Navy
Date Data Arrived at EDR: 07/17/2024	Telephone: 843-820-7326
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 07/31/2024
Number of Days to Update: 84	Next Scheduled EDR Contact: 11/18/2024
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/24/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2024	Telephone: 703-603-0695
Date Made Active in Reports: 08/15/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/24/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2024	Telephone: 703-603-0695
Date Made Active in Reports: 08/15/2024	Last EDR Contact: 08/08/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/11/2024

Date Data Arrived at EDR: 06/17/2024

Date Made Active in Reports: 09/04/2024

Number of Days to Update: 79

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 09/17/2024

Next Scheduled EDR Contact: 12/30/2024

Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

SHWS: Hazardous Sites Cleanup Act Site List

The Hazardous Sites Cleanup Act Site List includes sites listed on PA Priority List, sites delisted from PA Priority List, Interim Response Completed sites, and Sites Being Studied or Response Being Planned.

Date of Government Version: 07/09/2024

Date Data Arrived at EDR: 07/10/2024

Date Made Active in Reports: 10/01/2024

Number of Days to Update: 83

Source: Department Environmental Protection

Telephone: 717-783-7816

Last EDR Contact: 10/09/2024

Next Scheduled EDR Contact: 01/20/2025

Data Release Frequency: Quarterly

HSCA: HSCA Remedial Sites Listing

A list of remedial sites on the PA Priority List. This is the PA state equivalent of the federal NPL superfund list.

Date of Government Version: 06/30/2023

Date Data Arrived at EDR: 07/18/2023

Date Made Active in Reports: 10/05/2023

Number of Days to Update: 79

Source: Department of Environmental Protection

Telephone: 717-783-7816

Last EDR Contact: 09/03/2024

Next Scheduled EDR Contact: 12/16/2024

Data Release Frequency: Annually

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Operating Facilities

The listing includes Municipal Waste Landfills, Construction/Demolition Waste Landfills and Waste-to-Energy Facilities.

Date of Government Version: 05/14/2024

Date Data Arrived at EDR: 05/15/2024

Date Made Active in Reports: 08/12/2024

Number of Days to Update: 89

Source: Department of Environmental Protection

Telephone: 717-787-7564

Last EDR Contact: 08/12/2024

Next Scheduled EDR Contact: 11/26/2024

Data Release Frequency: Semi-Annually

MUN WASTE OPER: Municipal Waste Operations Listing

A Municipal Waste Operation is a DEP primary facility type related to the Waste Management Municipal Waste Program.

The sub-facility types related to Municipal Waste Operations that are included are: Composting: Includes facilities that use land for processing municipal waste by composting. Composting is a process that biologically decomposes organic waste under controlled anaerobic or aerobic conditions to yield a humus-like product. Land Application: Includes facilities that uses agricultural utilization or land reclamation of waste. Sewage sludge is land-applied for its nutrient value or as a soil conditioner.

Date of Government Version: 01/05/2024

Date Data Arrived at EDR: 02/14/2024

Date Made Active in Reports: 05/07/2024

Number of Days to Update: 83

Source: Department of Environmental Protection

Telephone: 717-787-7381

Last EDR Contact: 08/12/2024

Next Scheduled EDR Contact: 11/26/2024

Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RES WASTE OPER: Residual Waste Operations Listing

A Residual Waste Operation is a DEP primary facility type related to the Waste Management Residual Waste Program. Residual waste is waste generated at an industrial, mining, or wastewater treatment facility. The sub-facility types related to Residual Waste that are included are: ____ Generator: A generator is a person, company, institution, or municipality that produces or creates residual waste. Residual waste is waste generated at an industrial, mining, or wastewater treatment facility. Impoundment: An impoundment is a facility designed to hold an accumulation of liquid wastes. Incinerator: An incinerator is an enclosed device using controlled combustion to thermally break down residual waste.

Date of Government Version: 01/05/2024
Date Data Arrived at EDR: 02/14/2024
Date Made Active in Reports: 05/07/2024
Number of Days to Update: 83

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 08/12/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LAST: Storage Tank Release Sites

Leaking Aboveground Storage Tank Incident Reports.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/05/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 09/04/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Quarterly

LUST: Storage Tank Release Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/05/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 09/04/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/07/2024	Source: EPA Region 6
Date Data Arrived at EDR: 05/30/2024	Telephone: 214-665-6597
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2024	Source: EPA Region 10
Date Data Arrived at EDR: 05/30/2024	Telephone: 206-553-2857
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 05/07/2024	Source: EPA Region 1
Date Data Arrived at EDR: 05/30/2024	Telephone: 617-918-1313
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/07/2024	Source: EPA Region 4
Date Data Arrived at EDR: 05/30/2024	Telephone: 404-562-8677
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/07/2024	Source: EPA Region 8
Date Data Arrived at EDR: 05/30/2024	Telephone: 303-312-6271
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

UNREG LTANKS: Unregulated Tank Cases

Leaking storage tank cases from unregulated storage tanks.

Date of Government Version: 04/12/2002	Source: Department of Environmental Protection
Date Data Arrived at EDR: 08/14/2003	Telephone: 717-783-7509
Date Made Active in Reports: 08/29/2003	Last EDR Contact: 08/14/2003
Number of Days to Update: 15	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/15/2024	Source: FEMA
Date Data Arrived at EDR: 03/19/2024	Telephone: 202-646-5797
Date Made Active in Reports: 06/17/2024	Last EDR Contact: 09/25/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Listing of Pennsylvania Regulated Underground Storage Tanks

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/05/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 09/04/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Varies

AST: Listing of Pennsylvania Regulated Aboveground Storage Tanks

Registered Aboveground Storage Tanks.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/05/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 09/04/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/10/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 05/14/2024	Source: EPA, Region 1
Date Data Arrived at EDR: 05/30/2024	Telephone: 617-918-1313
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/14/2024	Source: EPA Region 8
Date Data Arrived at EDR: 05/30/2024	Telephone: 303-312-6137
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/14/2024	Source: EPA Region 9
Date Data Arrived at EDR: 05/30/2024	Telephone: 415-972-3368
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/14/2024	Source: EPA Region 7
Date Data Arrived at EDR: 05/30/2024	Telephone: 913-551-7003
Date Made Active in Reports: 08/28/2024	Last EDR Contact: 07/10/2024
Number of Days to Update: 90	Next Scheduled EDR Contact: 10/28/2024
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing

Under the Land Recycling Act (Act 2) persons who perform a site cleanup using the site-specific standard or the special industrial area standard may use engineering or institutional controls as part of the response action. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/15/2008	Source: Department of Environmental Protection
Date Data Arrived at EDR: 05/16/2008	Telephone: 717-783-9470
Date Made Active in Reports: 06/12/2008	Last EDR Contact: 10/03/2024
Number of Days to Update: 27	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: No Update Planned

AUL: Environmental Covenants Listing

A listing of sites with environmental covenants.

Date of Government Version: 07/09/2024	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/10/2024	Telephone: 717-783-7509
Date Made Active in Reports: 10/01/2024	Last EDR Contact: 10/09/2024
Number of Days to Update: 83	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INST CONTROL: Institutional Controls Site Listing

Under the Land Recycling Act (Act 2) persons who perform a site cleanup using the site-specific standard or the special industrial area standard may use engineering or institutional controls as part of the response action. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/15/2008
Date Data Arrived at EDR: 05/16/2008
Date Made Active in Reports: 06/12/2008
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: 717-783-9470
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: No Update Planned

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Sites

The VCP listings included Completed Sites, Sites in Progress and Act 2 Non-Use Aquifer Determinations Sites. Formerly known as the Act 2, the Land Recycling Program encourages the voluntary cleanup and reuse of contaminated commercial and industrial sites.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 87

Source: Department of Environmental Protection
Telephone: 717-783-2388
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

LAND REC CLEANUP: Land Recycling Cleanup Location Listing

Land Recycling Cleanup Locations (LRCL) are divided into one or more sub-facilities categorized as media: Air, Contained Release or Abandoned Container, Groundwater, Sediment, Soil, Surface Water, and Waste. Media is the environmental resource that is associated with the cleanup effort. The following primary facility kinds describe the Acts from which cleanup locations are derived: Act2 Land Recycling and Environmental Remediation Standards; CERCLA Comprehensive Environmental Response, Compensation, and Liability Act, also known as the Superfund; HSCA Hazardous Sites Cleanup Act; STSP Storage Tank Spill and Prevention Act.

Date of Government Version: 04/16/2024
Date Data Arrived at EDR: 05/22/2024
Date Made Active in Reports: 08/16/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-783-1566
Last EDR Contact: 08/19/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BROWNFIELDS: Brownfields Sites

Brownfields are generally defined as abandoned or underused industrial or commercial properties where redevelopment is complicated by actual or perceived environmental contamination. Brownfields vary in size, location, age and past use. They can range from a small, abandoned corner gas station to a large, multi-acre former manufacturing plant that has been closed for years.

Date of Government Version: 07/09/2024
Date Data Arrived at EDR: 07/10/2024
Date Made Active in Reports: 10/01/2024
Number of Days to Update: 83

Source: Department of Environmental Protection
Telephone: 717-783-1566
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2024
Date Data Arrived at EDR: 06/11/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF INACTIVE: Inactive Facilities List

A listing of inactive non-hazardous facilities (10000 & 300000 series). This listing is no longer updated or maintained by the Department of Environmental Protection. At the time the listing was available, the DEP's name was the Department of Environmental Resources.

Date of Government Version: 12/20/1994
Date Data Arrived at EDR: 07/12/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 06/21/2005
Next Scheduled EDR Contact: 12/19/2005
Data Release Frequency: No Update Planned

HIST LF INVENTORY: Facility Inventory

A listing of solid waste facilities. This listing is no longer updated or maintained by the Department of Environmental Protection. At the time the listing was available, the DEP's name was the Department of Environmental Resources.

Date of Government Version: 06/02/1999
Date Data Arrived at EDR: 07/12/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 09/19/2005
Next Scheduled EDR Contact: 12/19/2005
Data Release Frequency: No Update Planned

HIST LF ALI: Abandoned Landfill Inventory

The report provides facility information recorded in the Pennsylvania Department of Environmental Protection ALI database. Some of this information has been abstracted from old records and may not accurately reflect the current conditions and status at these facilities

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/07/2022
Date Data Arrived at EDR: 04/07/2022
Date Made Active in Reports: 07/06/2022
Number of Days to Update: 90

Source: Department of Environmental Protection
Telephone: 717-787-7564
Last EDR Contact: 03/23/2022
Next Scheduled EDR Contact: 07/18/2022
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/22/2024
Next Scheduled EDR Contact: 11/04/2024
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 07/18/2024
Next Scheduled EDR Contact: 11/04/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/20/2024
Date Data Arrived at EDR: 08/19/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 51

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/20/2024
Date Data Arrived at EDR: 08/19/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 51

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

ARCHIVE UST: Archived Underground Storage Tank Sites

The list includes tanks storing highly hazardous substances that were removed from the DEP's Storage Tank Information database because of the Department's policy on sensitive information. The list also may include tanks that are removed or permanently closed.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/05/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 09/04/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Varies

ARCHIVE AST: Archived Aboveground Storage Tank Sites

The list includes aboveground tanks with a capacity greater than 21,000 gallons that were removed from the DEP's Storage Tank Information database because of the Department's policy on sensitive information. The list also may include tanks that are removed or permanently closed.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/05/2024
Date Made Active in Reports: 08/30/2024
Number of Days to Update: 86

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 09/04/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Varies

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 09/03/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Semi-Annually

ACT 2-DEED: Act 2-Deed Acknowledgment Sites

This listing pertains to sites where the Department has approved a cleanup requiring a deed acknowledgment under Act 2. This list includes sites remediated to a non-residential Statewide health standard (Section 303(g)); all sites demonstrating attainment of a Site-specific standard (Section 304(m)); and sites being remediated as a special industrial area (Section 305(g)). Persons who remediated a site to a standard that requires a deed acknowledgment shall comply with the requirements of the Solid Waste Management Act or the Hazardous Sites Cleanup Act, as referenced in Act 2. These statutes require a property description section in the deed concerning the hazardous substance disposal on the site. The location of disposed hazardous substances and a description of the type of hazardous substances disposed on the site shall be included in the deed acknowledgment. A deed acknowledgment is required at the time of conveyance of the property.

Date of Government Version: 04/23/2010
Date Data Arrived at EDR: 04/28/2010
Date Made Active in Reports: 04/30/2010
Number of Days to Update: 2

Source: Department of Environmental Protection
Telephone: 717-783-9470
Last EDR Contact: 07/22/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/14/2024	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/17/2024	Telephone: 202-366-4555
Date Made Active in Reports: 06/24/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 7	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

SPILLS: State spills

A listing of hazardous material incidents.

Date of Government Version: 06/01/2024	Source: DEP, Emergency Response
Date Data Arrived at EDR: 06/28/2024	Telephone: 717-787-5715
Date Made Active in Reports: 07/24/2024	Last EDR Contact: 09/25/2024
Number of Days to Update: 26	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Semi-Annually

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/03/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/07/2024	Telephone: 800-438-2474
Date Made Active in Reports: 06/20/2024	Last EDR Contact: 09/17/2024
Number of Days to Update: 13	Next Scheduled EDR Contact: 12/30/2024
	Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 07/31/2024	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 08/12/2024	Telephone: 202-528-4285
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 08/12/2024
Number of Days to Update: 58	Next Scheduled EDR Contact: 11/26/2024
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021	Source: USGS
Date Data Arrived at EDR: 07/13/2021	Telephone: 888-275-8747
Date Made Active in Reports: 03/09/2022	Last EDR Contact: 10/10/2024
Number of Days to Update: 239	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/05/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/10/2024
Date Data Arrived at EDR: 06/17/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 07/25/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/11/2024
Date Data Arrived at EDR: 07/11/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 1

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/11/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 09/03/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/12/2024
Date Data Arrived at EDR: 07/17/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/06/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 89

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/18/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/23/2024
Next Scheduled EDR Contact: 11/04/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2024
Date Data Arrived at EDR: 07/08/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 80

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/24/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/08/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 14

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 09/03/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 10/01/2024
Date Data Arrived at EDR: 10/02/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 7

Source: DOL, Mine Safety & Health Admini
Telephone: 202-693-9424
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 1

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/14/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/02/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 50

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2024
Date Data Arrived at EDR: 06/14/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 82

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 8

Source: EPA
Telephone: (215) 814-5000
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023	Source: Department of Defense
Date Data Arrived at EDR: 09/13/2023	Telephone: 703-704-1564
Date Made Active in Reports: 12/11/2023	Last EDR Contact: 10/03/2024
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/20/2025
	Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/21/2021	Telephone: 202-564-0527
Date Made Active in Reports: 08/11/2021	Last EDR Contact: 08/13/2024
Number of Days to Update: 82	Next Scheduled EDR Contact: 12/02/2024
	Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/23/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/28/2024	Telephone: 202-564-2280
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/01/2024
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2024	Source: EPA
Date Data Arrived at EDR: 08/13/2024	Telephone: 800-385-6164
Date Made Active in Reports: 10/09/2024	Last EDR Contact: 08/13/2024
Number of Days to Update: 57	Next Scheduled EDR Contact: 11/26/2024
	Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 703-603-8895
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-566-0250
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020	Source: Department of Health & Human Services
Date Data Arrived at EDR: 03/17/2021	Telephone: 202-741-5770
Date Made Active in Reports: 11/08/2022	Last EDR Contact: 07/18/2024
Number of Days to Update: 601	Next Scheduled EDR Contact: 11/04/2024
	Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 05/19/2023	Source: Social Science Environmental Health Research Institute
Date Data Arrived at EDR: 04/05/2024	Telephone: N/A
Date Made Active in Reports: 06/06/2024	Last EDR Contact: 09/05/2024
Number of Days to Update: 62	Next Scheduled EDR Contact: 12/16/2024
	Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facility's name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/01/2024	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2024	Telephone: 202-272-0167
Date Made Active in Reports: 07/12/2024	Last EDR Contact: 10/02/2024
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/13/2025
	Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration's document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 04/14/2024
Date Data Arrived at EDR: 04/16/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 07/16/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories. UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as e-Manifest, will modernize the nation's cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 04/18/2024
Date Made Active in Reports: 06/06/2024
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Varies

PFAS: Sites With Known PFAS Contamination

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are man-made chemicals, are resistant to heat, water and oil, and persist in the environment and the human body. PFAS are not found naturally in the environment. They have been used to make cookware, carpets, clothing, fabrics for furniture, paper packaging for food, and other materials that are resistant to water, grease, or stains. They are also used in firefighting foams and in a number of industrial processes.

Date of Government Version: 06/13/2024
Date Data Arrived at EDR: 06/13/2024
Date Made Active in Reports: 09/09/2024
Number of Days to Update: 88

Source: Department of Environmental Protection
Telephone: 717-787-4728
Last EDR Contact: 09/06/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Varies

AIRS: Permit and Emissions Inventory Data

Permit and emissions inventory data.

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 09/09/2024
Number of Days to Update: 89

Source: Department of Environmental Protection
Telephone: 717-787-9702
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Annually

ASBESTOS: Asbestos Notification Listing

Asbestos sites

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 08/27/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 1

Source: Department of Labor & Industry
Telephone: 717-703-1092
Last EDR Contact: 08/27/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Facility Locations

A listing of drycleaner facility locations.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 09/09/2024
Number of Days to Update: 89

Source: Department of Environmental Protection
Telephone: 717-787-9702
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Annually

MINES: Abandoned Mine Land Inventory

This data set portrays the approximate location of Abandoned Mine Land Problem Areas containing public health, safety, and public welfare problems created by past coal mining.

Date of Government Version: 07/12/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 10/08/2024
Number of Days to Update: 84

Source: PASDA
Telephone: 814-863-0104
Last EDR Contact: 07/16/2024
Next Scheduled EDR Contact: 10/28/2024
Data Release Frequency: Semi-Annually

NPDES: NPDES Permit Listing

A listing of facilities with an NPDES permit.

Date of Government Version: 05/28/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/26/2024
Number of Days to Update: 88

Source: Department of Environmental Protection
Telephone: 717-787-9642
Last EDR Contact: 08/28/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

UIC: Underground Injection Wells

A listing of underground injection well locations.

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 09/09/2024
Number of Days to Update: 89

Source: Department of Environmental Protection
Telephone: 717-783-7209
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department Environmental Protection in Pennsylvania.

Date of Government Version: N/A	Source: Department Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department Environmental Protection in Pennsylvania.

Date of Government Version: N/A	Source: Department Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/10/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 193	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department Environmental Protection in Pennsylvania.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: Department Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/05/2024
Date Data Arrived at EDR: 05/07/2024
Date Made Active in Reports: 08/01/2024
Number of Days to Update: 86

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/06/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/25/2024
Next Scheduled EDR Contact: 11/04/2024
Data Release Frequency: Quarterly

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 10/28/2019
Date Data Arrived at EDR: 10/29/2019
Date Made Active in Reports: 01/09/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018

Date Data Arrived at EDR: 06/19/2019

Date Made Active in Reports: 09/03/2019

Number of Days to Update: 76

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 08/28/2024

Next Scheduled EDR Contact: 12/16/2024

Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List

Source: Department of Public Welfare

Telephone: 717-783-3856

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Pennsylvania Spatial Data Access
Telephone: 610-344-6105

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WORKMANS COTTAGE
400 TOW PATH ROAD
MONT CLARE, PA 19453

TARGET PROPERTY COORDINATES

Latitude (North):	40.143533 - 40° 8' 36.72"
Longitude (West):	75.508461 - 75° 30' 30.46"
Universal Transverse Mercator:	Zone 18
UTM X (Meters):	456687.7
UTM Y (Meters):	4443602.0
Elevation:	93 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	13944115 PHOENIXVILLE, PA
Version Date:	2019
Northeast Map:	13944059 COLLEGEVILLE, PA
Version Date:	2019

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

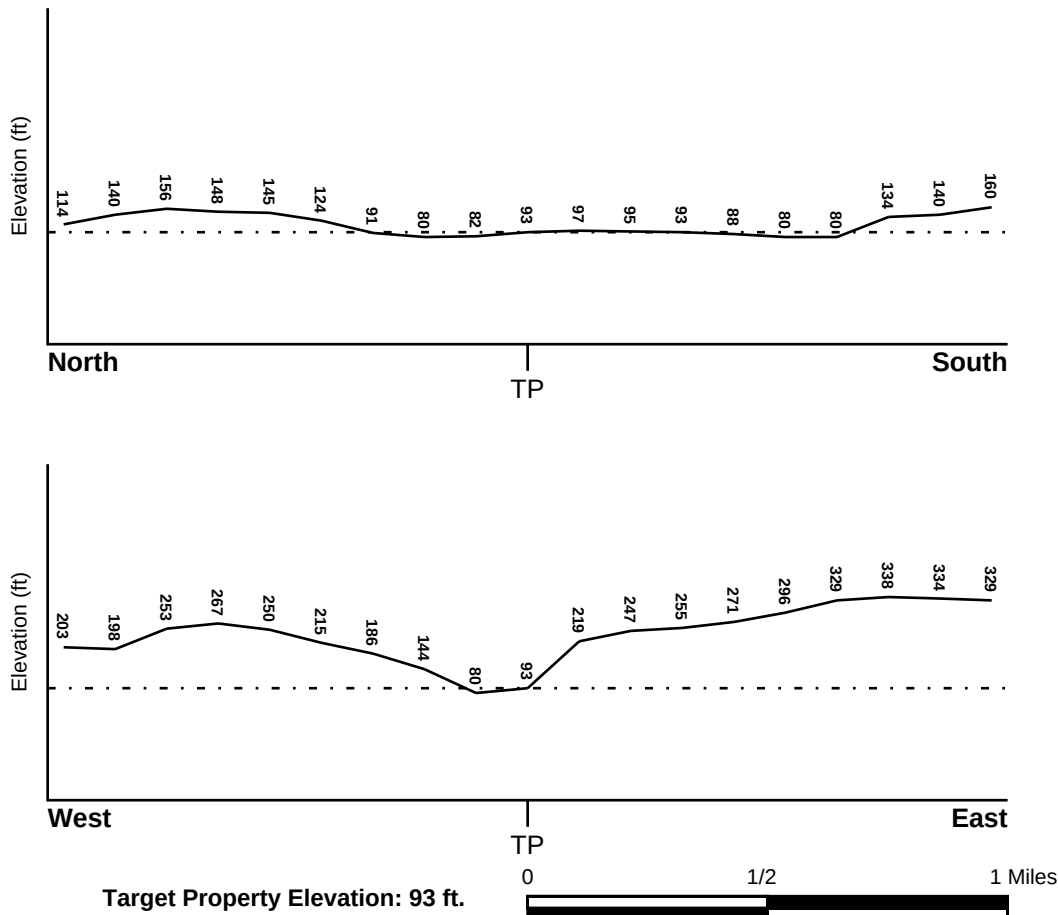
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
42091C0219E	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
42091C0217E	FEMA FIRM Flood data
42091C0238E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
PHOENIXVILLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

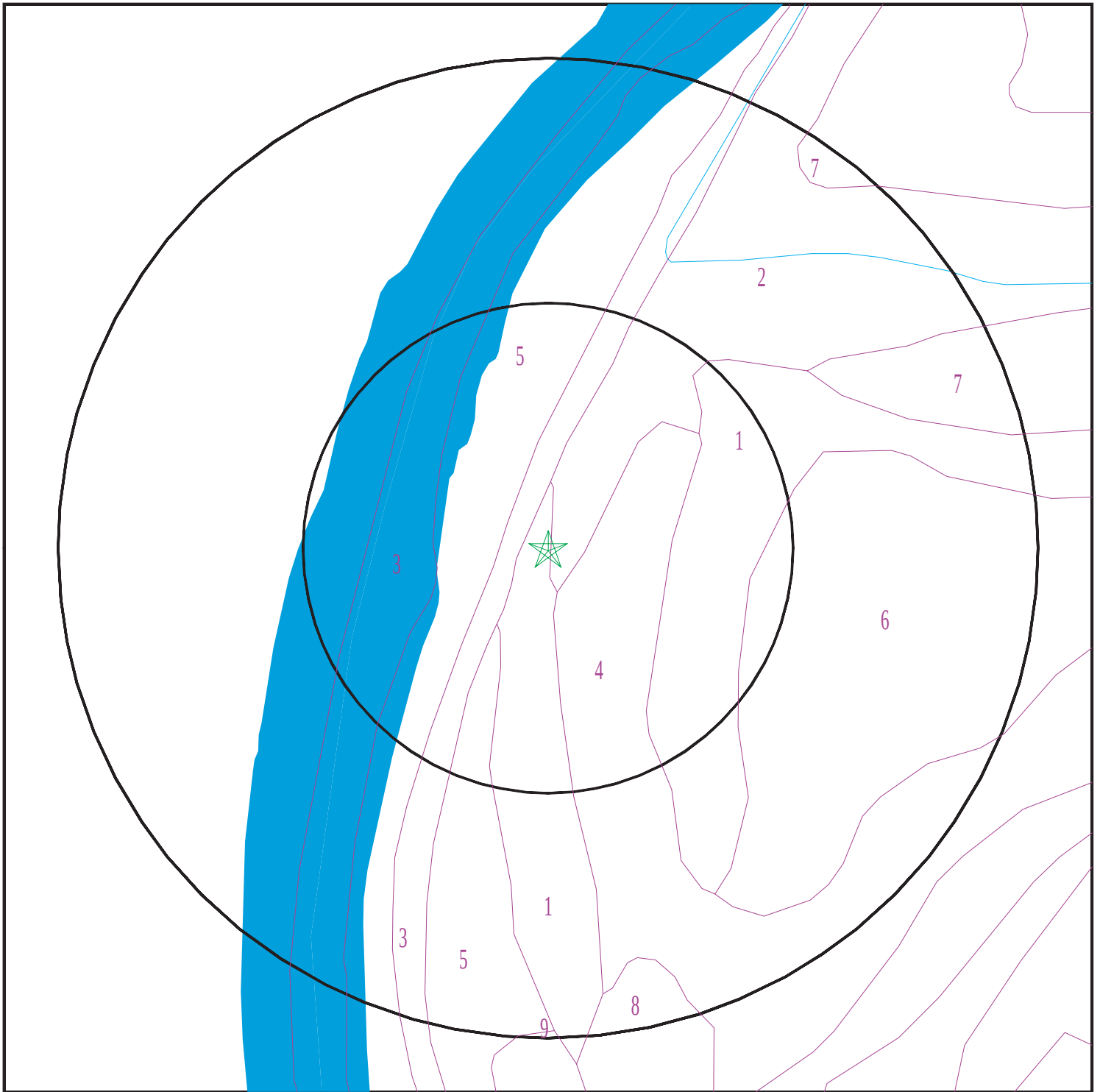
Era:	Mesozoic
System:	Triassic
Series:	Triassic
Code:	Tr (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7793642.2s



- ★ Target Property
- SSURGO Soil
- Water

0 1/16 1/8 1/4 Miles



SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare PA 19453
LAT/LONG: 40.143533 / 75.508461

CLIENT: The Vertex Companies, Inc.
CONTACT: William Otten
INQUIRY #: 7793642.2s
DATE: October 16, 2024 12:00 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Readington

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 69 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	7 inches	29 inches	channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	29 inches	40 inches	channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
4	40 inches	59 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Stony land

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 91 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Lansdale

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	7 inches	40 inches	channery sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	40 inches	70 inches	very channery sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
4	70 inches	74 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 5

Soil Component Name: Rowland

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42.34 Min: 14.11	Max: 6 Min: 4.5
2	11 inches	31 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42.34 Min: 14.11	Max: 6 Min: 4.5
3	31 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42.34 Min: 14.11	Max: 6 Min: 4.5
4	59 inches	63 inches	stratified gravel to sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42.34 Min: 14.11	Max: 6 Min: 4.5

Soil Map ID: 6

Soil Component Name: Readington

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 69 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	7 inches	29 inches	channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	29 inches	40 inches	channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
4	40 inches	59 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 7

Soil Component Name: Penn

Soil Surface Texture: channery silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	7 inches	20 inches	channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	20 inches	31 inches	very channery silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
4	31 inches	35 inches	bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 8

Soil Component Name: Made land

Soil Surface Texture: channery silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 76 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 9

Soil Component Name: Made land

Soil Surface Texture: channery silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 76 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
B6	USGS40001010159	1/2 - 1 Mile SSW
C10	USGS40001010113	1/2 - 1 Mile SSW
E16	USGS40001010093	1/2 - 1 Mile SSW
F18	USGS40001010285	1/2 - 1 Mile WSW
G21	USGS40001010643	1/2 - 1 Mile North
I24	USGS40001010103	1/2 - 1 Mile SW
K31	USGS40001010689	1/2 - 1 Mile North
L33	USGS40001010064	1/2 - 1 Mile SW
M37	USGS40001010094	1/2 - 1 Mile SW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
P41	USGS40001010038	1/2 - 1 Mile SW
Q43	USGS40001009928	1/2 - 1 Mile SSW
R44	USGS40001010086	1/2 - 1 Mile SW
S49	USGS40001009915	1/2 - 1 Mile SSE
T54	USGS40001009961	1/2 - 1 Mile SSW
S58	USGS40001009887	1/2 - 1 Mile South
S61	USGS40001009886	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
23	PA1150077	1/2 - 1 Mile WNW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

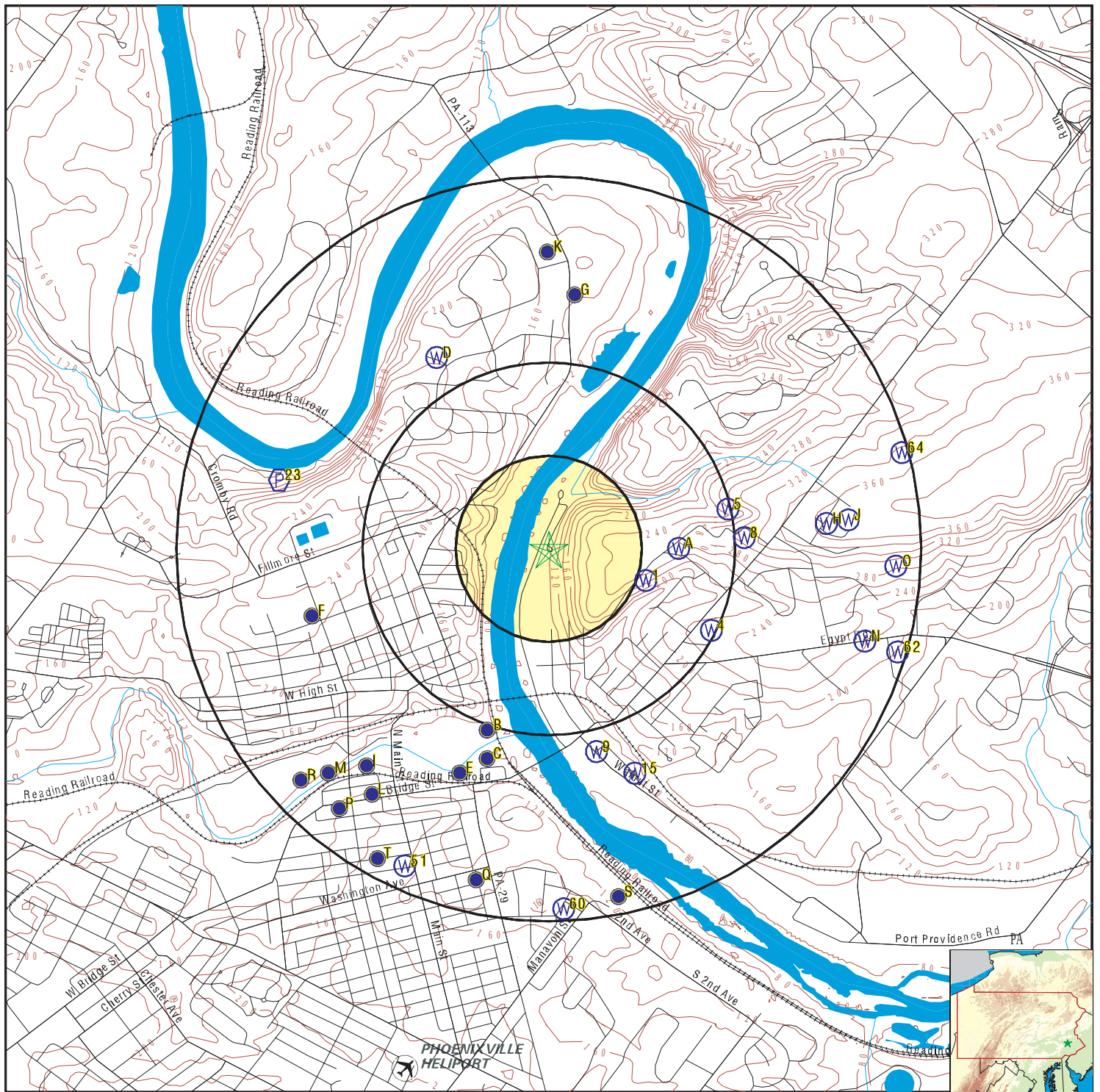
MAP ID	WELL ID	LOCATION FROM TP
1	PASI60000171368	1/4 - 1/2 Mile ESE
A2	PASI60000171523	1/4 - 1/2 Mile East
A3	PASI60000171522	1/4 - 1/2 Mile East
4	PASI60000171529	1/4 - 1/2 Mile ESE
5	PASI60000171499	1/4 - 1/2 Mile ENE
B7	PASI60000012917	1/2 - 1 Mile SSW
8	PASI60000171319	1/2 - 1 Mile East
9	PASI60000171419	1/2 - 1 Mile SSE
C11	PASI60000011921	1/2 - 1 Mile SSW
D12	PASI60000401365	1/2 - 1 Mile NNW
D13	PASI60000401366	1/2 - 1 Mile NNW
D14	PASI60000401367	1/2 - 1 Mile NNW
15	PASI60000171524	1/2 - 1 Mile SSE
E17	PASI60000012915	1/2 - 1 Mile SSW
F19	PASI60000012919	1/2 - 1 Mile WSW
G20	PASI60000012013	1/2 - 1 Mile North
H22	PASI60000171495	1/2 - 1 Mile East
I25	PASI60000012916	1/2 - 1 Mile SW
H26	PASI60000171329	1/2 - 1 Mile East
J27	PASI60000171330	1/2 - 1 Mile East
J28	PASI60000393699	1/2 - 1 Mile East
K29	PASI60000043455	1/2 - 1 Mile North
J30	PASI60000393700	1/2 - 1 Mile East
J32	PASI60000386720	1/2 - 1 Mile East
L34	PASI60000011910	1/2 - 1 Mile SW
J35	PASI60000392229	1/2 - 1 Mile East
J36	PASI60000392228	1/2 - 1 Mile East
M38	PASI60000011915	1/2 - 1 Mile SW
N39	PASI60000171417	1/2 - 1 Mile ESE
O40	PASI60000171339	1/2 - 1 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
P42	PASI60000011905	1/2 - 1 Mile SW
N45	PASI60000171296	1/2 - 1 Mile ESE
Q46	PASI60000011888	1/2 - 1 Mile SSW
R47	PASI60000011913	1/2 - 1 Mile SW
O48	PASI60000171359	1/2 - 1 Mile East
S50	PASI60000011887	1/2 - 1 Mile SSE
51	PASI60000106515	1/2 - 1 Mile SSW
O52	PASI60000171318	1/2 - 1 Mile East
O53	PASI60000171316	1/2 - 1 Mile East
T55	PASI60000011893	1/2 - 1 Mile SSW
O56	PASI60000171317	1/2 - 1 Mile East
O57	PASI60000171315	1/2 - 1 Mile East
S59	PASI60000011880	1/2 - 1 Mile South
60	PASI60000218541	1/2 - 1 Mile South
62	PASI60000171425	1/2 - 1 Mile ESE
S63	PASI60000011879	1/2 - 1 Mile SSE
64	PASI60000408665	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 7793642.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Oil, gas or related wells

SITE NAME: Workmans Cottage
 ADDRESS: 400 Tow Path Road
 Mont Clare PA 19453
 LAT/LONG: 40.143533 / 75.508461

CLIENT: The Vertex Companies, Inc.
 CONTACT: William Otten
 INQUIRY #: 7793642.2s
 DATE: October 16, 2024 12:00 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
ESE
1/4 - 1/2 Mile
Higher

PA WELLS PASI60000171368

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171480	Local Well #:	6777N
Aquifer:	LOCKATONG FORMATION	Topography:	Hilltop
Well Depth:	300	Elevation:	0
Site Type:	W	Depth to Bedrock:	58
Saltwater Zone:	0	Date Drilled:	01-OCT-89
Local Permit #:	Not Reported		
Owner ID:	170599	Ownership Date:	Not Reported
Construction Date:	01-OCT-89	Driller:	248
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Not Reported	Discharge:	35.
Static Water Level (ft):	85.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	2.
SiteStatus at Test:	Not Reported	Date Discharged:	01-OCT-89
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Comments:	Test Yield Method = Blown & Watch And Bucket		

A2
East
1/4 - 1/2 Mile
Higher

PA WELLS PASI60000171523

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171635	Local Well #:	X 1918
Aquifer:	UNKNOWN	Topography:	Hillside
Well Depth:	256	Elevation:	0
Site Type:	W	Depth to Bedrock:	3
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		
Owner ID:	170754	Ownership Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	Not Reported	Driller:	0462
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Unknown	Discharge:	35.
Static Water Level (ft):	94.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	Not Reported
Lithology:	Not Reported	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

A3
East
1/4 - 1/2 Mile
Higher

PA WELLS PASI60000171522

Database:	Pennsylvania Groundwater Information System	Local Well #:	X 1917
GWIS ID:	171634	Topography:	Hillside
Aquifer:	UNKNOWN	Elevation:	0
Well Depth:	257	Depth to Bedrock:	14
Site Type:	W	Date Drilled:	Not Reported
Saltwater Zone:	0		
Local Permit #:	Not Reported		
Owner ID:	170753	Ownership Date:	Not Reported
Construction Date:	Not Reported	Driller:	0462
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Unknown	Discharge:	30.
Static Water Level (ft):	94.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	Not Reported
Lithology:	Not Reported	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

4 ESE 1/4 - 1/2 Mile Higher

PA WELLS PASI60000171529

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171641	Local Well #:	X 1924
Aquifer:	UNKNOWN	Topography:	Hillside
Well Depth:	221	Elevation:	0
Site Type:	W	Depth to Bedrock:	50
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		

Owner ID:	170760	Ownership Date:	Not Reported
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Construction Date:	Not Reported	Driller:	0512
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported

Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Not Reported	Discharge:	15.
Static Water Level (ft):	115.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	Not Reported

Lithology:	Not Reported	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

5 ENE 1/4 - 1/2 Mile Higher

PA WELLS PASI60000171499

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171611	Local Well #:	X 1107
Aquifer:	LOCKATONG FORMATION	Topography:	Not Reported
Well Depth:	400	Elevation:	0
Site Type:	W	Depth to Bedrock:	6
Saltwater Zone:	0	Date Drilled:	01-JAN-72
Local Permit #:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Owner ID:	170730	Ownership Date:	Not Reported
Construction Date:	01-JAN-72	Driller:	0188
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Unknown	Discharge:	1.
Static Water Level (ft):	80.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	320.
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-JAN-72
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

**B6
SSW
1/2 - 1 Mile
Higher**

FED USGS USGS40001010159

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 153	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Stockton Formation	Aquifer Type:	Not Reported
Construction Date:	19530421	Well Depth:	752
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		
Ground water levels,Number of Measurements:	1	Level reading date:	1956-04-10
Feet below surface:	0.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**B7
SSW
1/2 - 1 Mile
Higher**

PA WELLS PASI60000012917

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	12919	Local Well #:	CH 153
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	752	Elevation:	80
Site Type:	W	Depth to Bedrock:	0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Saltwater Zone:	0	Date Drilled:	21-APR-53
Local Permit #:	Not Reported		
Owner ID:	13023	Ownership Date:	21-APR-53
Construction Date:	21-APR-53	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Pitot-tube Meter	Discharge:	500.
Static Water Level (ft):	0.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	110.	Yield (gmp/ft):	4.5
Test Length (min):	6.	SiteStatus at Test:	FLOWING, HEAD NOT MEASURED
Date Discharged:	10-APR-56		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	UNUSED	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

8
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171319

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171431	Local Well #:	6728N
Aquifer:	LOCKATONG FORMATION	Topography:	Hilltop
Well Depth:	160	Elevation:	0
Site Type:	W	Depth to Bedrock:	35
Saltwater Zone:	0	Date Drilled:	01-JUN-90
Local Permit #:	Not Reported		
Owner ID:	170550	Ownership Date:	Not Reported
Construction Date:	01-JUN-90	Driller:	248
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Not Reported	Discharge:	10.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static Water Level (ft):	40.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	2.
SiteStatus at Test:	Not Reported	Date Discharged:	01-JUN-90
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	IRRIGATION	Notes:	Not Reported
Comments:	Test Yield Method = Blown & Watch And Bucket		

9
SSE
1/2 - 1 Mile
Higher

PA WELLS PASI60000171419

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171531	Local Well #:	6831N
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	147	Elevation:	0
Site Type:	W	Depth to Bedrock:	37
Saltwater Zone:	0	Date Drilled:	01-MAY-89
Local Permit #:	Not Reported		
Owner ID:	170650	Ownership Date:	Not Reported
Construction Date:	01-MAY-89	Driller:	188
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Voumetric, Watch and Bucket		
Discharge:	20.	Static Water Level (ft):	23.
Agency Providing Data:	Drillers Record	WL Measurement Method:	REPORTED, METHOD NOT KNOWN
Production Water Level (ft):	147.	Drawdown (ft):	124.
Yield (gmp/ft):	Not Reported	Test Length (min):	0.5
SiteStatus at Test:	Not Reported	Date Discharged:	01-MAY-89
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Comments:	Cas Len = 61'5 - Dia = 6.25		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

C10
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40001010113

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 177	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19521218	Well Depth:	387
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels, Number of Measurements:	1	Level reading date:	1952-12-18
Feet below surface:	5.00	Feet to sea level:	Not Reported
Note:	Not Reported		

C11
SSW
1/2 - 1 Mile
Lower

PA WELLS PASI60000011921

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11923	Local Well #:	CH 177
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	387	Elevation:	100
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	18-DEC-52
Local Permit #:	Not Reported		

Owner ID:	11985	Ownership Date:	18-DEC-52
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Construction Date:	18-DEC-52	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		

Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	550.
Static Water Level (ft):	5.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	45.
Drawdown (ft):	40.	Yield (gmp/ft):	13.8
Test Length (min):	10.	SiteStatus at Test:	Not Reported
Date Discharged:	18-DEC-52		

Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported

Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported
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**D12
NNW
1/2 - 1 Mile
Higher****PA WELLS PASI60000401365**

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	250	Elevation:	0
Site Type:	W	Depth to Bedrock:	7
Saltwater Zone:	0	Date Drilled:	10-AUG-09
Local Permit #:	067958		

Owner ID:	7460464	Ownership Date:	Not Reported
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Site Use:	J	Date of Use:	Not Reported
Water Use:	GEOHERMAL	Notes:	Not Reported

**D13
NNW
1/2 - 1 Mile
Higher****PA WELLS PASI60000401366**

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	250	Elevation:	0
Site Type:	W	Depth to Bedrock:	7
Saltwater Zone:	0	Date Drilled:	10-AUG-09
Local Permit #:	067958		

Owner ID:	7447525	Ownership Date:	Not Reported
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Site Use:	J	Date of Use:	Not Reported
Water Use:	GEOHERMAL	Notes:	Not Reported

**D14
NNW
1/2 - 1 Mile
Higher****PA WELLS PASI60000401367**

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	250	Elevation:	0
Site Type:	W	Depth to Bedrock:	7
Saltwater Zone:	0	Date Drilled:	10-AUG-09
Local Permit #:	067958		

Owner ID:	7453364	Ownership Date:	Not Reported
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Site Use:	J	Date of Use:	Not Reported
Water Use:	GEOTHERMAL	Notes:	Not Reported

**15
SSE
1/2 - 1 Mile
Higher**

PA WELLS PASI60000171524

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171636	Local Well #:	X 1919
Aquifer:	ALLUVIUM	Topography:	Valley Flat
Well Depth:	101	Elevation:	0
Site Type:	W	Depth to Bedrock:	45
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		

Owner ID:	170755	Ownership Date:	Not Reported
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Construction Date:	Not Reported	Driller:	0512
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported

Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Not Reported	Discharge:	60.
Static Water Level (ft):	20.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	Not Reported

Lithology:	Not Reported	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

E16
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40001010093

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 152	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Stockton Formation	Aquifer Type:	Not Reported
Construction Date:	19520801	Well Depth:	750
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	742	Level reading date:	1973-12-19
Feet below surface:	0.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1973-11-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-10-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-09-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-08-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-07-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-06-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-05-23	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-04-23	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-03-23	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-02-23	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1973-01-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1972-12-27	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1972-11-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1972-10-27	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-09-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-08-29	Feet below surface:	0.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-07-27	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-05-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-03-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-01-29	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-12-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-11-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-10-29	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-09-29	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-08-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-07-28	Feet below surface:	0.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-06-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-05-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-04-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-03-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-01-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1970-12-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-11-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-10-27	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-09-24	Feet below surface:	2.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-08-25	Feet below surface:	2.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-07-24	Feet below surface:	1.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-06-24	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-05-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-04-23	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-03-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-02-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-01-22	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-12-18	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-11-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-10-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-09-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-08-28	Feet below surface:	0.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-07-25	Feet below surface:	4.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-06-26	Feet below surface:	2.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-05-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-04-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1969-03-27	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-01-23	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-12-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-11-26	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-10-24	Feet below surface:	2.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-09-23	Feet below surface:	3.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-08-23	Feet below surface:	5.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-07-25	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-06-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-05-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-04-24	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-03-22	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-02-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-01-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-12-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1967-11-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-31	Feet below surface:	0.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-30	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-20	Feet below surface:	1.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-10	Feet below surface:	0.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-05	Feet below surface:	0.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-31	Feet below surface:	2.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-20	Feet below surface:	1.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-15	Feet below surface:	1.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-10	Feet below surface:	0.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-31	Feet below surface:	3.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-25	Feet below surface:	2.20
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1967-07-20	Feet below surface:	2.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-15	Feet below surface:	2.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-10	Feet below surface:	2.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-05	Feet below surface:	2.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-04-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1967-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1966-12-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-10	Feet below surface:	0.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-05	Feet below surface:	0.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-30	Feet below surface:	0.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-25	Feet below surface:	0.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-20	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-15	Feet below surface:	0.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-10	Feet below surface:	0.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-05	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-31	Feet below surface:	0.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-20	Feet below surface:	0.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-15	Feet below surface:	1.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-10	Feet below surface:	1.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-05	Feet below surface:	1.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-30	Feet below surface:	2.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-25	Feet below surface:	3.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-20	Feet below surface:	6.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-15	Feet below surface:	8.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-10	Feet below surface:	11.70
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1966-09-05	Feet below surface:	13.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-31	Feet below surface:	12.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-25	Feet below surface:	11.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-20	Feet below surface:	11.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-15	Feet below surface:	9.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-10	Feet below surface:	9.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-05	Feet below surface:	10.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-31	Feet below surface:	10.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-25	Feet below surface:	9.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-20	Feet below surface:	8.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-15	Feet below surface:	7.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-10	Feet below surface:	6.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-05	Feet below surface:	3.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-30	Feet below surface:	3.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-25	Feet below surface:	2.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-20	Feet below surface:	1.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-15	Feet below surface:	1.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-10	Feet below surface:	0.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-05	Feet below surface:	0.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-05-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-05-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1966-05-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-05-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-05-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-05-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1966-02-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-12-20	Feet below surface:	0.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-12-15	Feet below surface:	0.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-12-10	Feet below surface:	0.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-12-05	Feet below surface:	0.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-30	Feet below surface:	0.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-25	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-20	Feet below surface:	0.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-15	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-10	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-05	Feet below surface:	0.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-10-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-10-25	Feet below surface:	0.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-10-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-10-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1965-10-10	Feet below surface:	0.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-10-05	Feet below surface:	0.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-30	Feet below surface:	1.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-25	Feet below surface:	3.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-20	Feet below surface:	3.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-15	Feet below surface:	2.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-10	Feet below surface:	3.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-05	Feet below surface:	2.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-07-31	Feet below surface:	3.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-07-25	Feet below surface:	3.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-07-20	Feet below surface:	3.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-07-15	Feet below surface:	3.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-07-10	Feet below surface:	3.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-07-05	Feet below surface:	3.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-06-30	Feet below surface:	2.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-06-25	Feet below surface:	1.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-06-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-05-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-05-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-05-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-05-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1965-05-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-05-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-01-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1965-01-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-01-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-01-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-01-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-01-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-12-25	Feet below surface:	0.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-11-25	Feet below surface:	1.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-10-20	Feet below surface:	1.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-10-15	Feet below surface:	1.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-10-10	Feet below surface:	1.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-10-05	Feet below surface:	3.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-30	Feet below surface:	2.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-25	Feet below surface:	4.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-20	Feet below surface:	5.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-15	Feet below surface:	4.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-10	Feet below surface:	6.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-05	Feet below surface:	6.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-08-31	Feet below surface:	5.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-08-25	Feet below surface:	4.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-08-20	Feet below surface:	3.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-08-15	Feet below surface:	3.30
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1964-08-10	Feet below surface:	3.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-08-05	Feet below surface:	3.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-07-31	Feet below surface:	3.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-07-25	Feet below surface:	3.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-06-20	Feet below surface:	2.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-06-15	Feet below surface:	1.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-06-10	Feet below surface:	1.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-06-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-31	Feet below surface:	0.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-25	Feet below surface:	0.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1964-03-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-10	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-05	Feet below surface:	0.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-12-31	Feet below surface:	1.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-12-25	Feet below surface:	0.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-12-20	Feet below surface:	0.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-12-15	Feet below surface:	0.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-12-10	Feet below surface:	0.72
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1963-12-05	Feet below surface:	1.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-30	Feet below surface:	0.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-25	Feet below surface:	1.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-20	Feet below surface:	1.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-15	Feet below surface:	1.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-10	Feet below surface:	2.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-05	Feet below surface:	2.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-31	Feet below surface:	2.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-25	Feet below surface:	2.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-20	Feet below surface:	3.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-15	Feet below surface:	2.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-10	Feet below surface:	2.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-05	Feet below surface:	3.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-30	Feet below surface:	4.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-25	Feet below surface:	3.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-20	Feet below surface:	5.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-15	Feet below surface:	5.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-10	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-05	Feet below surface:	7.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-08-31	Feet below surface:	8.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-08-25	Feet below surface:	9.05
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1963-08-20	Feet below surface:	7.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-08-15	Feet below surface:	7.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-08-10	Feet below surface:	7.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-08-05	Feet below surface:	8.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-31	Feet below surface:	7.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-25	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-20	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-15	Feet below surface:	4.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-10	Feet below surface:	2.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-05	Feet below surface:	4.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-06-30	Feet below surface:	4.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-06-25	Feet below surface:	3.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-31	Feet below surface:	2.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-25	Feet below surface:	1.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-20	Feet below surface:	2.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-15	Feet below surface:	0.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-10	Feet below surface:	2.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-05	Feet below surface:	0.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-20	Feet below surface:	0.90
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1963-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-03-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-12-25	Feet below surface:	0.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-12-20	Feet below surface:	1.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-12-15	Feet below surface:	0.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-12-10	Feet below surface:	0.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-12-05	Feet below surface:	0.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-30	Feet below surface:	0.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-25	Feet below surface:	0.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-20	Feet below surface:	1.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-15	Feet below surface:	1.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-10	Feet below surface:	1.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-05	Feet below surface:	1.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-31	Feet below surface:	2.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-25	Feet below surface:	2.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-20	Feet below surface:	2.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-15	Feet below surface:	2.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-10	Feet below surface:	2.15
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1962-10-05	Feet below surface:	2.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-09-30	Feet below surface:	2.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-09-25	Feet below surface:	2.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-09-20	Feet below surface:	3.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-09-15	Feet below surface:	4.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-09-10	Feet below surface:	5.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-09-05	Feet below surface:	5.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-08-31	Feet below surface:	7.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-08-25	Feet below surface:	6.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-08-20	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-08-15	Feet below surface:	5.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-08-10	Feet below surface:	5.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-08-05	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-07-31	Feet below surface:	5.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-07-25	Feet below surface:	4.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-07-20	Feet below surface:	4.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-07-15	Feet below surface:	4.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-07-10	Feet below surface:	4.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-07-05	Feet below surface:	3.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-06-30	Feet below surface:	3.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-06-25	Feet below surface:	3.50
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1962-06-20	Feet below surface:	3.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-06-15	Feet below surface:	2.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-06-10	Feet below surface:	3.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-06-05	Feet below surface:	2.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-05-31	Feet below surface:	2.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-05-25	Feet below surface:	1.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-05-20	Feet below surface:	0.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-05-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-05-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-05-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-04-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-03-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-03-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-03-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-03-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1962-03-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-02-28	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-02-25	Feet below surface:	1.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-02-20	Feet below surface:	1.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-02-15	Feet below surface:	1.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-02-10	Feet below surface:	1.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-12-31	Feet below surface:	1.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-12-25	Feet below surface:	1.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-12-20	Feet below surface:	1.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-12-15	Feet below surface:	1.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-12-10	Feet below surface:	2.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-12-05	Feet below surface:	1.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-30	Feet below surface:	1.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-25	Feet below surface:	1.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-20	Feet below surface:	2.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-15	Feet below surface:	2.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-10	Feet below surface:	2.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-05	Feet below surface:	3.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-10-31	Feet below surface:	1.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-10-25	Feet below surface:	1.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-10-20	Feet below surface:	1.87
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1961-10-15	Feet below surface:	1.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-10-10	Feet below surface:	1.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-10-05	Feet below surface:	1.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-09-30	Feet below surface:	2.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-09-25	Feet below surface:	3.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-09-20	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-09-15	Feet below surface:	3.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-09-10	Feet below surface:	4.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-09-05	Feet below surface:	3.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-08-31	Feet below surface:	3.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-08-25	Feet below surface:	3.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-08-20	Feet below surface:	2.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-08-15	Feet below surface:	2.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-08-10	Feet below surface:	2.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-08-05	Feet below surface:	2.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-07-31	Feet below surface:	2.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-07-25	Feet below surface:	2.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-07-20	Feet below surface:	2.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-07-15	Feet below surface:	3.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-07-10	Feet below surface:	2.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-07-05	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1961-06-30	Feet below surface:	2.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-06-25	Feet below surface:	2.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-06-20	Feet below surface:	2.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-06-15	Feet below surface:	2.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-06-10	Feet below surface:	2.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-06-05	Feet below surface:	1.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-31	Feet below surface:	0.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-15	Feet below surface:	0.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-05-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-04-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-04-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-04-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-04-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-04-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-03-31	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-03-25	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-03-20	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1961-03-15	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-03-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-03-05	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-02-15	Feet below surface:	1.18
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-02-10	Feet below surface:	1.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-02-05	Feet below surface:	1.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-01-31	Feet below surface:	1.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-01-25	Feet below surface:	1.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-01-20	Feet below surface:	1.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-01-15	Feet below surface:	1.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-01-10	Feet below surface:	1.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-01-05	Feet below surface:	1.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-12-31	Feet below surface:	1.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-12-25	Feet below surface:	1.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-12-20	Feet below surface:	1.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-12-15	Feet below surface:	1.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-12-10	Feet below surface:	1.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-12-05	Feet below surface:	1.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-11-30	Feet below surface:	1.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-11-25	Feet below surface:	1.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-11-20	Feet below surface:	1.20
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1960-11-15	Feet below surface:	1.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-11-10	Feet below surface:	1.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-11-05	Feet below surface:	1.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-31	Feet below surface:	0.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-25	Feet below surface:	0.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-20	Feet below surface:	0.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-15	Feet below surface:	0.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-10	Feet below surface:	0.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-05	Feet below surface:	0.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-09-30	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-09-25	Feet below surface:	0.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-09-20	Feet below surface:	0.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-09-15	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-09-10	Feet below surface:	4.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-09-05	Feet below surface:	4.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-08-31	Feet below surface:	5.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-08-25	Feet below surface:	4.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-08-20	Feet below surface:	4.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-08-15	Feet below surface:	4.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-08-10	Feet below surface:	4.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-08-05	Feet below surface:	4.30
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1960-07-31	Feet below surface:	4.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-07-25	Feet below surface:	4.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-07-20	Feet below surface:	3.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-07-15	Feet below surface:	3.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-07-10	Feet below surface:	4.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-07-05	Feet below surface:	3.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-30	Feet below surface:	3.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-25	Feet below surface:	3.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-20	Feet below surface:	2.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-15	Feet below surface:	1.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-10	Feet below surface:	1.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-05	Feet below surface:	1.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-05-31	Feet below surface:	0.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-05-25	Feet below surface:	0.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-05-20	Feet below surface:	1.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-05-15	Feet below surface:	0.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-05-10	Feet below surface:	0.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-05-05	Feet below surface:	0.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-04-30	Feet below surface:	0.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-04-25	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-04-20	Feet below surface:	0.15
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1960-04-15	Feet below surface:	0.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-04-10	Feet below surface:	0.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-04-05	Feet below surface:	0.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-31	Feet below surface:	0.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-25	Feet below surface:	0.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-20	Feet below surface:	0.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-15	Feet below surface:	0.36
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-10	Feet below surface:	0.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-05	Feet below surface:	0.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-28	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-25	Feet below surface:	0.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-20	Feet below surface:	0.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-15	Feet below surface:	0.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-10	Feet below surface:	0.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-05	Feet below surface:	0.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-01-31	Feet below surface:	0.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-01-25	Feet below surface:	0.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-01-20	Feet below surface:	0.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-01-15	Feet below surface:	0.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-01-10	Feet below surface:	0.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-01-05	Feet below surface:	1.02
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1959-12-31	Feet below surface:	1.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-12-25	Feet below surface:	1.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-12-20	Feet below surface:	1.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-12-15	Feet below surface:	1.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-12-10	Feet below surface:	2.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-12-05	Feet below surface:	2.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-30	Feet below surface:	2.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-25	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-20	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-15	Feet below surface:	2.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-10	Feet below surface:	2.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-05	Feet below surface:	3.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-10-31	Feet below surface:	3.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-10-25	Feet below surface:	3.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-10-20	Feet below surface:	3.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-10-15	Feet below surface:	3.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-10-10	Feet below surface:	4.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-09-10	Feet below surface:	3.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-09-05	Feet below surface:	4.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-08-31	Feet below surface:	7.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-08-25	Feet below surface:	7.18
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1959-08-20	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-08-15	Feet below surface:	6.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-08-10	Feet below surface:	5.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-08-05	Feet below surface:	4.64
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-07-31	Feet below surface:	5.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-07-25	Feet below surface:	4.64
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-07-20	Feet below surface:	5.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-07-15	Feet below surface:	5.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-07-10	Feet below surface:	5.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-07-05	Feet below surface:	5.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-06-30	Feet below surface:	5.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-06-25	Feet below surface:	4.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-06-20	Feet below surface:	3.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-06-15	Feet below surface:	2.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-06-10	Feet below surface:	3.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-06-05	Feet below surface:	2.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-05-31	Feet below surface:	3.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-05-25	Feet below surface:	2.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-05-20	Feet below surface:	2.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-05-15	Feet below surface:	1.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-05-10	Feet below surface:	1.90
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1959-05-05	Feet below surface:	1.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-04-30	Feet below surface:	1.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-04-25	Feet below surface:	1.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-04-20	Feet below surface:	1.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-04-15	Feet below surface:	1.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-04-10	Feet below surface:	1.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-04-05	Feet below surface:	1.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-03-31	Feet below surface:	1.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-03-25	Feet below surface:	1.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-03-20	Feet below surface:	1.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-03-15	Feet below surface:	1.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-03-10	Feet below surface:	2.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-03-05	Feet below surface:	2.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-02-28	Feet below surface:	2.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-02-25	Feet below surface:	2.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-02-20	Feet below surface:	2.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-02-15	Feet below surface:	2.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-02-10	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-02-05	Feet below surface:	2.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-01-31	Feet below surface:	2.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-01-25	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1959-01-20	Feet below surface:	2.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-01-15	Feet below surface:	2.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-12-15	Feet below surface:	2.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-09-10	Feet below surface:	3.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-09-05	Feet below surface:	4.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-31	Feet below surface:	4.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-25	Feet below surface:	4.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-20	Feet below surface:	4.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-15	Feet below surface:	4.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-10	Feet below surface:	4.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-05	Feet below surface:	4.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-07-31	Feet below surface:	4.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-07-25	Feet below surface:	3.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-07-20	Feet below surface:	3.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-07-15	Feet below surface:	3.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-07-10	Feet below surface:	3.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-07-05	Feet below surface:	3.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-06-30	Feet below surface:	3.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-06-25	Feet below surface:	2.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-06-20	Feet below surface:	2.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-06-15	Feet below surface:	2.11
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1958-06-10	Feet below surface:	2.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-06-05	Feet below surface:	2.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-05-31	Feet below surface:	1.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-04-30	Feet below surface:	1.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-04-25	Feet below surface:	1.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-04-20	Feet below surface:	1.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-04-15	Feet below surface:	1.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-04-10	Feet below surface:	0.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-04-05	Feet below surface:	1.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-31	Feet below surface:	0.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-25	Feet below surface:	0.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-20	Feet below surface:	1.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-15	Feet below surface:	1.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-10	Feet below surface:	2.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-05	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-02-28	Feet below surface:	2.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-02-25	Feet below surface:	2.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-02-20	Feet below surface:	3.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-02-15	Feet below surface:	2.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-02-10	Feet below surface:	3.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-02-05	Feet below surface:	3.03
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1958-01-31	Feet below surface:	2.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-01-25	Feet below surface:	3.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-01-20	Feet below surface:	3.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-01-15	Feet below surface:	3.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-01-10	Feet below surface:	3.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-01-05	Feet below surface:	3.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-31	Feet below surface:	3.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-25	Feet below surface:	3.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-20	Feet below surface:	4.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-15	Feet below surface:	4.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-10	Feet below surface:	4.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-05	Feet below surface:	5.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-30	Feet below surface:	5.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-25	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-20	Feet below surface:	5.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-15	Feet below surface:	5.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-10	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-05	Feet below surface:	6.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-10-31	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-10-25	Feet below surface:	9.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-10-20	Feet below surface:	5.80
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1957-10-15	Feet below surface:	6.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-10-10	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-10-05	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-09-20	Feet below surface:	10.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-09-10	Feet below surface:	9.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-09-05	Feet below surface:	10.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-08-31	Feet below surface:	9.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-08-25	Feet below surface:	9.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-08-20	Feet below surface:	10.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-08-15	Feet below surface:	10.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-08-10	Feet below surface:	10.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-08-05	Feet below surface:	10.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-07-31	Feet below surface:	9.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-07-25	Feet below surface:	9.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-07-20	Feet below surface:	9.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-06-20	Feet below surface:	6.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-30	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-25	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-20	Feet below surface:	2.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-15	Feet below surface:	2.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-10	Feet below surface:	2.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1957-04-05	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-03-31	Feet below surface:	2.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-03-25	Feet below surface:	2.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-03-20	Feet below surface:	2.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-03-15	Feet below surface:	2.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-03-10	Feet below surface:	2.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-03-05	Feet below surface:	3.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-02-28	Feet below surface:	3.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-01-31	Feet below surface:	3.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-01-15	Feet below surface:	3.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-01-10	Feet below surface:	3.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-12-10	Feet below surface:	3.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-12-05	Feet below surface:	4.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-04-10	Feet below surface:	2.00
Feet to sea level:	Not Reported	Note:	Not Reported

E17
SSW
1/2 - 1 Mile
Lower

PA WELLS PASI60000012915

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	12917	Local Well #:	CH 152
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	750	Elevation:	90
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-AUG-52
Local Permit #:	Not Reported		
Owner ID:	13021	Ownership Date:	01-AUG-52
Construction Date:	01-AUG-52	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		

Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	800.
Static Water Level (ft):	2.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	152.
Drawdown (ft):	150.	Yield (gmp/ft):	5.3
Test Length (min):	6.	SiteStatus at Test:	Not Reported
Date Discharged:	10-APR-56		

Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

Site Use:	OBSERVATION	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported

Agency Site Use:	Inactive/Discontinued Data Collection Site
Agency Use Date:	Not Reported

F18
WSW
1/2 - 1 Mile
Higher

FED USGS USGS40001010285

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 164	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Lockatong Formation	Aquifer Type:	Not Reported
Construction Date:	1906	Well Depth:	600
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1942-02-19
Feet below surface:	115.00	Feet to sea level:	Not Reported
Note:	Not Reported		

F19
WSW
1/2 - 1 Mile
Higher

PA WELLS PASI60000012919

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	12921	Local Well #:	CH 164
Aquifer:	LOCKATONG FORMATION	Topography:	Hilltop
Well Depth:	600	Elevation:	230
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-JAN-06

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local Permit #:	Not Reported		
Owner ID:	13025	Ownership Date:	01-JAN-06
Owner ID:	13026	Ownership Date:	01-JAN-86
Construction Date:	01-JAN-06	Driller:	1
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	50.
Static Water Level (ft):	115.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	155.
Drawdown (ft):	40.	Yield (gmp/ft):	1.3
Test Length (min):	7.	SiteStatus at Test:	Not Reported
Date Discharged:	19-FEB-42		
Lithology:	SILTSTONE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

G20
North
1/2 - 1 Mile
Higher

PA WELLS PASI60000012013

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	12015	Local Well #:	CH 3167
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	0	Elevation:	140
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		
Owner ID:	12078	Ownership Date:	Not Reported
Construction Date:	Not Reported	Driller:	1
Source of Construction Data:	WELL OWNER	Construction Method:	Dug
How Finished:	Lined, Usually Stone or Tile	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Discharge Type:	Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	Not Reported
Static Water Level (ft):	25.5	Agency Providing Data:	Usqs Or Pags
WL Measurement Method:	ELECTRIC TAPE	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	SiteStatus at Test:	STATIC WATER LEVEL
Date Discharged:	25-NOV-87		

Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported
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G21
North
1/2 - 1 Mile
Higher

FED USGS USGS40001010643

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 3167	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Lockatong Formation	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1987-11-25
Feet below surface:	25.52	Feet to sea level:	Not Reported
Note:	Not Reported		

H22
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171495

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171607	Local Well #:	X 0891
Aquifer:	DIABASE DIKES AND SILLS	Topography:	Not Reported
Well Depth:	390	Elevation:	0
Site Type:	W	Depth to Bedrock:	8
Saltwater Zone:	0	Date Drilled:	01-JAN-74
Local Permit #:	Not Reported		

Owner ID:	170726	Ownership Date:	Not Reported
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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	01-JAN-74	Driller:	0188
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Unknown	Discharge:	2.
Static Water Level (ft):	130.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	260.
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-JAN-74
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

23
WNW
1/2 - 1 Mile
Higher

FRDS PWS PA1150077

Epa region:	03	State:	PA
Pwsid:	PA1150077	Pwsname:	PHOENIXVILLE WATER DEPT
Cityserved:	Not Reported	Stateserved:	PA
Ziperved:	Not Reported	Fipscounty:	42029
Status:	Active	Retpopsrvd:	16438
Pwssvconn:	5776	Psource longname:	Surface_water
Pwstype:	CWS	Owner:	Local_Govt
Contact:	WATER TREATMENT PLANT	Contactorgname:	PHOENIXVILLE WATER DEPT
Contactphone:	610-933-1249	Contactaddress1:	351 BRIDGE STREET, 2ND FL
Contactaddress2:	Not Reported	Contactcity:	PHOENIXVILLE
Contactstate:	PA	Contactzip:	19460
Pwsactivitycode:	A		
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	gaseous chlorination, pre	Factypecode:	TP
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	disinfection
Trtprocess:	gaseous chlorination, post		
Factypecode:	TP		
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	other
Trtprocess:	fluoridation	Factypecode:	TP
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Facactivitycode:	A	Trtobjective:	particulate removal
Trtprocess:	flocculation	Factypecode:	TP
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	particulate removal
Trtprocess:	coagulation	Factypecode:	TP
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	particulate removal
Trtprocess:	sedimentation	Factypecode:	TP
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	particulate removal
Trtprocess:	filtration, rapid sand	Factypecode:	TP
Pwsid:	PA1150077	Facid:	300
Facname:	TREATMENT PLANT 300	Factype:	Treatment_plant
Facactivitycode:	A	Trtobjective:	other
Trtprocess:	innovative	Factypecode:	TP
PWS ID:	PA1150077	PWS name:	PHOENIXVILLE WATER DEPT
Address:	140 CHURCH ST	Care of:	Not Reported
City:	PHOENIXVILLE	State:	PA
Zip:	19460	Owner:	PHOENIXVILLE WATER DEPT
Source code:	Surface water	Population:	16438
PWS ID:	PA1150077	PWS type:	Mailing
PWS name:	PHOENIXVILLE WATER DEPT	PWS address:	ANDREW FABIAN
PWS address:	140 CHURCH ST	PWS city:	PHOENIXVILLE
PWS state:	PA	PWS zip:	19460
PWS name:	PHOENIXVILLE WATER DEPT	PWS type code:	C
Retail population served:	16438	Contact:	ANDREW FABIAN
Contact address:	140 CHURCH ST	Contact address:	PHOENIXVILLE
Contact city:	PA	Contact state:	19
Contact zip:	610-933-12	Contact telephone:	Not Reported
County:	CHESTER	Source:	Surface water
Treatment Objective:	DISINFECTION	Process:	CHLORINE DIOXIDE
Population:	16438		
County:	CHESTER	Source:	Surface water
Treatment Objective:	DISINFECTION	Process:	GASEOUS CHLORINATION, POST
Population:	16438		
County:	CHESTER	Source:	Surface water
Treatment Objective:	DISINFECTION	Process:	GASEOUS CHLORINATION, PRE
Population:	16438		
County:	CHESTER	Source:	Surface water
Treatment Objective:	PARTICULATE REMOVAL	Process:	COAGULATION
Population:	16438		
County:	CHESTER	Source:	Surface water
Treatment Objective:	PARTICULATE REMOVAL	Process:	FILTRATION, RAPID SAND
Population:	16438		
County:	CHESTER	Source:	Surface water
Treatment Objective:	PARTICULATE REMOVAL	Process:	FLOCCULATION
Population:	16438		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

County:	CHESTER	Source:	Surface water
Treatment Objective:	PARTICULATE REMOVAL	Process:	SEDIMENTATION
Population:	16438		
County:	CHESTER	Source:	Surface water
Treatment Objective:	Z	Process:	FLUORIDATION
Population:	16438		
PWS ID:	PA1150077	Activity status:	Active
Date system activated:	Not Reported	Date system deactivated:	Not Reported
Retail population:	00024000	System name:	PHOENIXVILLE WATER DEPT
System address:	Not Reported	System address:	140 CHURCH ST
System city:	PHOENIXVILLE	System state:	PA
System zip:	19460		
Population served:	10,001 - 50,000 Persons	Treatment:	Treated
Latitude:	400846	Longitude:	0753121
State:	PA	Latitude degrees:	40
Latitude minutes:	8	Latitude seconds:	46.0000
Longitude degrees:	75	Longitude minutes:	31
Longitude seconds:	21.0000		
Violation id:	0024032	Orig code:	S
State:	PA	Violation Year:	2000
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	04/01/2000
Cmp edt:	04/30/2000		
Violation id:	00V0001	Orig code:	F
State:	PA	Violation Year:	2000
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	07/01/2000
Cmp edt:	01/31/2001		
Violation id:	0125531	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	01/01/2001
Cmp edt:	01/31/2001		
Violation id:	0129128	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	04/01/2001
Cmp edt:	04/30/2001		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation id:	0129684	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	05/01/2001
Cmp edt:	05/31/2001		
Violation id:	0130430	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	06/01/2001
Cmp edt:	06/30/2001		
Violation id:	0133135	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	07/01/2001
Cmp edt:	07/31/2001		
Violation id:	0134025	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	08/01/2001
Cmp edt:	08/31/2001		
Violation id:	0134804	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	0200	Contamination Name:	SWTR
Violation code:	36		
Violation name:	Monitoring of Treatment (SWTR-Filter)		
Rule code:	121	Rule name:	SWTR
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	09/01/2001
Cmp edt:	09/30/2001		
Violation id:	0201718	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	331	Rule name:	Nitrates
Violation measur:	0	Unit of measure:	Not Reported
State mcl:	0	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	0201719	Orig code:	S
State:	PA	Violation Year:	2001
Contamination code:	2036	Contamination Name:	OXAMYL

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation code: 03
 Rule code: 320
 Violation measur: 0
 State mcl: 0
 Cmp edt: 12/31/2001

Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2001

Violation id: 0201720
 State: PA
 Contamination code: 2039
 Violation code: 03
 Rule code: 320
 Violation measur: 0
 State mcl: 0
 Cmp edt: 12/31/2001

Orig code: S
 Violation Year: 2001
 Contamination Name: Di(2-ethylhexyl) phthalate
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2001

Violation id: 0201721
 State: PA
 Contamination code: 2046
 Violation code: 03
 Rule code: 320
 Violation measur: 0
 State mcl: 0
 Cmp edt: 12/31/2001

Orig code: S
 Violation Year: 2001
 Contamination Name: Carbofuran
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2001

Violation id: 0201722
 State: PA
 Contamination code: 2050
 Violation code: 03
 Rule code: 320
 Violation measur: 0
 State mcl: 0
 Cmp edt: 12/31/2001

Orig code: S
 Violation Year: 2001
 Contamination Name: Atrazine
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2001

Violation id: 0404665
 State: PA
 Contamination code: 0200
 Violation code: 41
 Rule code: 121
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 11/30/2003

Orig code: S
 Violation Year: 2003
 Contamination Name: SWTR
 Violation name: Treatment Technique (SWTR and GWR)
 Rule name: SWTR
 Unit of measure: Not Reported
 Cmp bdt: 11/01/2003

Violation id: 0406238
 State: PA
 Contamination code: 0999
 Violation code: 27
 Rule code: 210
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2003

Orig code: S
 Violation Year: 2003
 Contamination Name: Chlorine
 Violation name: Monitoring and Reporting (DBP)
 Rule name: St1 DBP
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2003

Violation id: 0406294
 State: PA
 Contamination code: 0200
 Violation code: 41
 Rule code: 121
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2003

Orig code: S
 Violation Year: 2003
 Contamination Name: SWTR
 Violation name: Treatment Technique (SWTR and GWR)
 Rule name: SWTR
 Unit of measure: Not Reported
 Cmp bdt: 12/01/2003

Violation id: 0425030
 State: PA

Orig code: S
 Violation Year: 2003

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contamination code: 2920
 Violation code: 27
 Rule code: 210
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2003

Contamination Name: CARBON, TOTAL
 Violation name: Monitoring and Reporting (DBP)
 Rule name: St1 DBP
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2003

Violation id: 0626742
 State: PA
 Contamination code: 7000
 Violation code: 71
 Rule code: 420
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: Not Reported

Orig code: S
 Violation Year: 2006
 Contamination Name: Consumer Confidence Rule
 Violation name: CCR Complete Failure to Report
 Rule name: CCR
 Unit of measure: Not Reported
 Cmp bdt: 07/01/2006

Violation id: 1132906
 State: PA
 Contamination code: 7000
 Violation code: 71
 Rule code: 420
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: Not Reported

Orig code: S
 Violation Year: 2011
 Contamination Name: Consumer Confidence Rule
 Violation name: CCR Complete Failure to Report
 Rule name: CCR
 Unit of measure: Not Reported
 Cmp bdt: 07/01/2011

Violation id: 1303387
 State: PA
 Contamination code: 2036
 Violation code: 03
 Rule code: 320
 Violation measur: Not Reported
 State mcl: Not Reported
 Cmp edt: 12/31/2012

Orig code: S
 Violation Year: 2012
 Contamination Name: OXAMYL
 Violation name: Monitoring, Regular
 Rule name: SOC
 Unit of measure: Not Reported
 Cmp bdt: 10/01/2012

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301786
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Violation source ID: 101
 Contaminant: Benzene
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301785
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Violation source ID: 101
 Contaminant: Trichloroethylene
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301784
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192

Violation source ID: 101
 Contaminant: Carbon Tetrachloride
 Violation start date: 100192
 Violation period (months): 003

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301783
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Violation source ID: 101
 Contaminant: 1,1,1-Trichloroethane
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301782
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Violation source ID: 101
 Contaminant: 1,2-Dichloroethane
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301781
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Violation source ID: 101
 Contaminant: 1,1-Dichloroethylene
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301780
 PWS telephone: 2159338801
 Violation type: Monitoring, Regular
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: 000
 Analysis result: Not Reported

Violation source ID: 101
 Contaminant: P-Dichlorobenzene
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Yes
 Number of required samples: 001
 Analysis method: Not Reported

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9301779
 PWS telephone: 2159338801
 Violation type: Max Contaminant Level, Average
 Violation start date: 100192
 Violation period (months): 003
 Major violator: Not Reported
 Number of required samples: Not Reported
 Analysis method: Not Reported

Violation source ID: Not Reported
 Contaminant: Tthm
 Violation end date: 123192
 Violation awareness date: 020893
 Maximum contaminant level: Not Reported
 Number of samples taken: Not Reported
 Analysis result: 000000011000000

PWS currently has or had major violation(s) or enforcement: Yes

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Violation ID: 9319061	Violation source ID: 101
PWS telephone: Not Reported	Contaminant: Nitrate
Violation type: Monitoring, Regular	Violation start date: 070193
Violation end date: 093093	Violation period (months): 003
Violation awareness date: 121393	Major violator: Yes
Maximum contaminant level: Not Reported	Number of required samples: 000
Number of samples taken: 000	Analysis method: Not Reported
Analysis result: Not Reported	

PWS currently has or had major violation(s) or enforcement: Yes

Violation ID: 9318678	Violation source ID: 101
PWS telephone: Not Reported	Contaminant: Nitrate
Violation type: Monitoring, Regular	Violation start date: 040193
Violation end date: 063093	Violation period (months): 003
Violation awareness date: 120893	Major violator: Yes
Maximum contaminant level: Not Reported	Number of required samples: 000
Number of samples taken: 000	Analysis method: Not Reported
Analysis result: Not Reported	

Violation ID: 0024032	Orig Code: S
Enforcement FY: 2000	Enforcement Action: 06/13/2000
Enforcement Detail: St Compliance achieved	Enforcement Category: Resolving

Violation ID: 0024032	Orig Code: S
Enforcement FY: 2000	Enforcement Action: 06/13/2000
Enforcement Detail: St Violation/Reminder Notice	
Enforcement Category: Informal	

Violation ID: 00V0001	Orig Code: F
Enforcement FY: 2001	Enforcement Action: 01/31/2001
Enforcement Detail: Fed Compliance achieved	Enforcement Category: Resolving

Violation ID: 00V0001	Orig Code: F
Enforcement FY: 2001	Enforcement Action: 11/28/2000
Enforcement Detail: Fed Formal NOV issued	Enforcement Category: Informal

Violation ID: 0125531	Orig Code: S
Enforcement FY: 2001	Enforcement Action: 04/24/2001
Enforcement Detail: St Compliance achieved	Enforcement Category: Resolving

Violation ID: 0125531	Orig Code: S
Enforcement FY: 2001	Enforcement Action: 04/24/2001
Enforcement Detail: St Violation/Reminder Notice	
Enforcement Category: Informal	

Violation ID: 0129128	Orig Code: S
Enforcement FY: 2001	Enforcement Action: 08/20/2001
Enforcement Detail: St Compliance achieved	Enforcement Category: Resolving

Violation ID: 0129128	Orig Code: S
Enforcement FY: 2001	Enforcement Action: 08/20/2001
Enforcement Detail: St Violation/Reminder Notice	
Enforcement Category: Informal	

Violation ID: 0129684	Orig Code: S
Enforcement FY: 2001	Enforcement Action: 08/20/2001
Enforcement Detail: St Compliance achieved	Enforcement Category: Resolving

Violation ID: 0129684	Orig Code: S
Enforcement FY: 2001	Enforcement Action: 08/20/2001
Enforcement Detail: St Violation/Reminder Notice	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Enforcement Category:	Informal		
Violation ID:	0130430	Orig Code:	S
Enforcement FY:	2001	Enforcement Action:	08/20/2001
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0130430	Orig Code:	S
Enforcement FY:	2001	Enforcement Action:	08/20/2001
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0133135	Orig Code:	S
Enforcement FY:	2001	Enforcement Action:	09/21/2001
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0133135	Orig Code:	S
Enforcement FY:	2001	Enforcement Action:	09/21/2001
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0134025	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	11/20/2001
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0134025	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	11/20/2001
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0134804	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	11/20/2001
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0134804	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	11/20/2001
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0201718	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0201718	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0201719	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0201719	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0201720	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0201720	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0201721	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0201721	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0201722	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0201722	Orig Code:	S
Enforcement FY:	2002	Enforcement Action:	04/03/2002
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0404665	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	02/12/2004
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0404665	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	02/12/2004
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0406238	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	02/12/2004
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0406238	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	02/12/2004
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0406294	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	02/12/2004
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0406294	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	02/12/2004
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0425030	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	04/15/2004
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0425030	Orig Code:	S
Enforcement FY:	2004	Enforcement Action:	04/15/2004
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	0626742	Orig Code:	S
Enforcement FY:	2007	Enforcement Action:	11/20/2006
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0626742	Orig Code:	S

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Enforcement FY:	2007	Enforcement Action:	10/11/2006
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	1132906	Orig Code:	S
Enforcement FY:	2012	Enforcement Action:	11/18/2011
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	1132906	Orig Code:	S
Enforcement FY:	2012	Enforcement Action:	01/11/2012
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
Violation ID:	1303387	Orig Code:	S
Enforcement FY:	2013	Enforcement Action:	02/22/2013
Enforcement Detail:	St Violation/Reminder Notice		
Enforcement Category:	Informal		
Violation ID:	1303387	Orig Code:	S
Enforcement FY:	2013	Enforcement Action:	03/12/2013
Enforcement Detail:	St Compliance achieved	Enforcement Category:	Resolving
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0024032
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	4/1/2000 0:00:00	Compliance end date:	4/30/2000 0:00:00
Enforcement date:	6/13/2000 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0024032
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	4/1/2000 0:00:00	Compliance end date:	4/30/2000 0:00:00
Enforcement date:	6/13/2000 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	00V0001
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2000 0:00:00	Compliance end date:	1/31/2001 0:00:00
Enforcement date:	1/31/2001 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	00V0001
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2000 0:00:00	Compliance end date:	1/31/2001 0:00:00
Enforcement date:	11/28/2000 0:00:00	Enforcement action:	Fed Formal NOV Issued
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0125531
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	1/31/2001 0:00:00
Enforcement date:	4/24/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0125531

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	1/31/2001 0:00:00
Enforcement date:	4/24/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0129128
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	4/1/2001 0:00:00	Compliance end date:	4/30/2001 0:00:00
Enforcement date:	8/20/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0129128
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	4/1/2001 0:00:00	Compliance end date:	4/30/2001 0:00:00
Enforcement date:	8/20/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0129684
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	5/1/2001 0:00:00	Compliance end date:	5/31/2001 0:00:00
Enforcement date:	8/20/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0129684
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	5/1/2001 0:00:00	Compliance end date:	5/31/2001 0:00:00
Enforcement date:	8/20/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0130430
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	6/1/2001 0:00:00	Compliance end date:	6/30/2001 0:00:00
Enforcement date:	8/20/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0130430
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	6/1/2001 0:00:00	Compliance end date:	6/30/2001 0:00:00
Enforcement date:	8/20/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0133135
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	7/1/2001 0:00:00	Compliance end date:	7/31/2001 0:00:00
Enforcement date:	9/21/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0133135
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	7/1/2001 0:00:00	Compliance end date:	7/31/2001 0:00:00
Enforcement date:	9/21/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0134025
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	8/1/2001 0:00:00	Compliance end date:	8/31/2001 0:00:00
Enforcement date:	11/20/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0134025
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	8/1/2001 0:00:00	Compliance end date:	8/31/2001 0:00:00
Enforcement date:	11/20/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0134804
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	9/1/2001 0:00:00	Compliance end date:	9/30/2001 0:00:00
Enforcement date:	11/20/2001 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0134804
Contaminant:	Swtr		
Violation type:	Monitoring, Routine/Repeat (SWTR-Filter)		
Compliance start date:	9/1/2001 0:00:00	Compliance end date:	9/30/2001 0:00:00
Enforcement date:	11/20/2001 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201718
Contaminant:	Nitrate	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201718
Contaminant:	Nitrate	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201719
Contaminant:	Oxamyl (Vydate)	Violation type:	3
Compliance start date:	10/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS type code:	C	Violation ID:	0201719
Contaminant:	Oxamyl (Vydate)	Violation type:	3
Compliance start date:	10/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201720
Contaminant:	Di (2-Ethylhexyl) Phthalate		
Violation type:	3	Compliance start date:	10/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	4/3/2002 0:00:00
Enforcement action:	State Violation/Reminder Notice		
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201720
Contaminant:	Di (2-Ethylhexyl) Phthalate		
Violation type:	3	Compliance start date:	10/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	4/3/2002 0:00:00
Enforcement action:	State Compliance Achieved	Violation measurement:	0
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201721
Contaminant:	Carbofuran	Violation type:	3
Compliance start date:	10/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201721
Contaminant:	Carbofuran	Violation type:	3
Compliance start date:	10/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201722
Contaminant:	Atrazine	Violation type:	3
Compliance start date:	10/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0201722
Contaminant:	Atrazine	Violation type:	3
Compliance start date:	10/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	4/3/2002 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	0		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0404665
Contaminant:	Swtr	Violation type:	Treatment Technique (SWTR)
Compliance start date:	11/1/2003 0:00:00	Compliance end date:	11/30/2003 0:00:00
Enforcement date:	2/12/2004 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0404665
Contaminant:	Swtr	Violation type:	Treatment Technique (SWTR)
Compliance start date:	11/1/2003 0:00:00	Compliance end date:	11/30/2003 0:00:00
Enforcement date:	2/12/2004 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0406238
Contaminant:	0999	Violation type:	27
Compliance start date:	10/1/2003 0:00:00	Compliance end date:	12/31/2003 0:00:00
Enforcement date:	2/12/2004 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0406238
Contaminant:	0999	Violation type:	27
Compliance start date:	10/1/2003 0:00:00	Compliance end date:	12/31/2003 0:00:00
Enforcement date:	2/12/2004 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0406294
Contaminant:	Swtr	Violation type:	Treatment Technique (SWTR)
Compliance start date:	12/1/2003 0:00:00	Compliance end date:	12/31/2003 0:00:00
Enforcement date:	2/12/2004 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0406294
Contaminant:	Swtr	Violation type:	Treatment Technique (SWTR)
Compliance start date:	12/1/2003 0:00:00	Compliance end date:	12/31/2003 0:00:00
Enforcement date:	2/12/2004 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0425030
Contaminant:	Carbon, Total-Organic	Violation type:	27
Compliance start date:	10/1/2003 0:00:00	Compliance end date:	12/31/2003 0:00:00
Enforcement date:	4/15/2004 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0425030
Contaminant:	Carbon, Total-Organic	Violation type:	27
Compliance start date:	10/1/2003 0:00:00	Compliance end date:	12/31/2003 0:00:00
Enforcement date:	4/15/2004 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0626742
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2006 0:00:00	Compliance end date:	11/20/2006 0:00:00
Enforcement date:	10/11/2006 0:00:00	Enforcement action:	State Violation/Reminder Notice
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0626742
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2006 0:00:00	Compliance end date:	11/20/2006 0:00:00
Enforcement date:	11/20/2006 0:00:00	Enforcement action:	State Consent Decree/Judgement
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0626742
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2006 0:00:00	Compliance end date:	11/20/2006 0:00:00
Enforcement date:	11/20/2006 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0902105
Contaminant:	Gross Beta Particle Activity		
Violation type:	3	Compliance start date:	10/1/2008 0:00:00
Compliance end date:	12/31/2008 0:00:00	Enforcement date:	1/21/2009 0:00:00
Enforcement action:	State Violation/Reminder Notice		
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0902105
Contaminant:	Gross Beta Particle Activity		
Violation type:	3	Compliance start date:	10/1/2008 0:00:00
Compliance end date:	12/31/2008 0:00:00	Enforcement date:	2/24/2009 0:00:00
Enforcement action:	State Compliance Achieved	Violation measurement:	Not Reported
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0902373
Contaminant:	7500	Violation type:	75
Compliance start date:	2/10/2009 0:00:00	Compliance end date:	2/26/2009 0:00:00
Enforcement date:	2/26/2009 0:00:00	Enforcement action:	State Consent Decree/Judgement
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0902373
Contaminant:	7500	Violation type:	75
Compliance start date:	2/10/2009 0:00:00	Compliance end date:	2/26/2009 0:00:00
Enforcement date:	2/26/2009 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0902374
Contaminant:	Swtr	Violation type:	Treatment Technique (SWTR)
Compliance start date:	12/1/2008 0:00:00	Compliance end date:	12/31/2008 0:00:00
Enforcement date:	2/26/2009 0:00:00	Enforcement action:	State Consent Decree/Judgement
Violation measurement:	Not Reported		
PWS name:	PHOENIXVILLE WATER DEPT	Population served:	16438
PWS type code:	C	Violation ID:	0902374
Contaminant:	Swtr	Violation type:	Treatment Technique (SWTR)
Compliance start date:	12/1/2008 0:00:00	Compliance end date:	12/31/2008 0:00:00
Enforcement date:	2/26/2009 0:00:00	Enforcement action:	State Compliance Achieved
Violation measurement:	Not Reported		

**I24
SW
1/2 - 1 Mile
Higher**

FED USGS USGS40001010103

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 151	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Stockton Formation	Aquifer Type:	Not Reported
Construction Date:	19520513	Well Depth:	785
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground water levels, Number of Measurements:	1	Level reading date:	1956-04-10
Feet below surface:	0.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**I25
SW
1/2 - 1 Mile
Higher**

PA WELLS PASI60000012916

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	12918	Local Well #:	CH 151
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	785	Elevation:	90
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	13-MAY-52
Local Permit #:	Not Reported		
Owner ID:	13022	Ownership Date:	13-MAY-52
Construction Date:	13-MAY-52	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Entire Length Cased, Open End	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	220.
Static Water Level (ft):	0.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	150.	Yield (gmp/ft):	1.5
Test Length (min):	6.	Site Status at Test:	FLOWING, HEAD NOT MEASURED
Date Discharged:	10-APR-56		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	UNUSED	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

**H26
East
1/2 - 1 Mile
Higher**

PA WELLS PASI600000171329

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171441	Local Well #:	6738N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	495	Elevation:	0
Site Type:	W	Depth to Bedrock:	55
Saltwater Zone:	0	Date Drilled:	01-MAR-90

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local Permit #:	Not Reported		
Owner ID:	170560	Ownership Date:	Not Reported
Construction Date:	01-MAR-90	Driller:	308
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	80.
Discharge:	1.5	WL Measurement Method:	REPORTED, METHOD NOT KNOWN
Agency Providing Data:	Drillers Record	Drawdown (ft):	270.
Production Water Level (ft):	350.	Test Length (min):	0.5
Yield (gmp/ft):	Not Reported	Date Discharged:	01-MAR-90
SiteStatus at Test:	Not Reported		
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Comments:	Cas Dia = 6.25		

J27
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171330

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171442	Local Well #:	6739N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	495	Elevation:	0
Site Type:	W	Depth to Bedrock:	55
Saltwater Zone:	0	Date Drilled:	01-MAR-90
Local Permit #:	Not Reported		
Owner ID:	170561	Ownership Date:	Not Reported
Construction Date:	01-MAR-90	Driller:	308
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	80.
Discharge:	2.	WL Measurement Method:	REPORTED, METHOD NOT KNOWN
Agency Providing Data:	Drillers Record	Drawdown (ft):	400.
Production Water Level (ft):	480.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Yield (gmp/ft):	Not Reported	Test Length (min):	0.5
SiteStatus at Test:	Not Reported	Date Discharged:	01-MAR-90
 Lithology:	 UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
 Site Use:	 WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
 Comments:	 Cas Dia = 6.25		

J28
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000393699

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	253	Elevation:	0
Site Type:	W	Depth to Bedrock:	5
Saltwater Zone:	0	Date Drilled:	07-OCT-10
Local Permit #:	Loop # 1		
 Owner ID:	 7459680	Ownership Date:	Not Reported
 Discharge Type:	 Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	100.
Discharge:	0.	WL Measurement Method:	Not Reported
Agency Providing Data:	Not Reported	Drawdown (ft):	Not Reported
Production Water Level (ft):	253.	Test Length (min):	10.
Yield (gmp/ft):	Not Reported	Date Discharged:	Not Reported
SiteStatus at Test:	Not Reported		
 Site Use:	 J	Date of Use:	Not Reported
Water Use:	GEOTHERMAL	Notes:	Not Reported

K29
North
1/2 - 1 Mile
Higher

PA WELLS PASI60000043455

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	43457	Local Well #:	CH 4768
Aquifer:	LOCKATONG FORMATION	Topography:	Not Reported
Well Depth:	0	Elevation:	0
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		
 Owner ID:	 43127	Ownership Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	Not Reported	Contributing Unit:	Not Reported
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

J30
East
1/2 - 1 Mile
Higher

PA WELLS **PASI60000393700**

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	253	Elevation:	0
Site Type:	W	Depth to Bedrock:	5
Saltwater Zone:	0	Date Drilled:	08-OCT-10
Local Permit #:	Loop # 2		
Owner ID:	7451084	Ownership Date:	Not Reported
Discharge Type:	Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Volumetric, Watch and Bucket		
Discharge:	0.	Static Water Level (ft):	100.
Agency Providing Data:	Not Reported	WL Measurement Method:	Not Reported
Production Water Level (ft):	253.	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	10.
SiteStatus at Test:	Not Reported	Date Discharged:	Not Reported
Site Use:	J	Date of Use:	Not Reported
Water Use:	GEOTHERMAL	Notes:	Not Reported

K31
North
1/2 - 1 Mile
Higher

FED USGS **USGS40001010689**

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 4768	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Lockatong Formation	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground water levels, Number of Measurements:	2	Level reading date:	1995-08-14
Feet below surface:	42.61	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1995-08-09	Feet below surface:	39.40
Feet to sea level:	Not Reported	Note:	Not Reported

J32
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000386720

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	253	Elevation:	0
Site Type:	W	Depth to Bedrock:	5
Saltwater Zone:	0	Date Drilled:	11-OCT-10
Local Permit #:	Loop # 3		
Owner ID:	7465084	Ownership Date:	Not Reported
Discharge Type:	Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Voumetric, Watch and Bucket		
Discharge:	0.	Static Water Level (ft):	100.
Agency Providing Data:	Not Reported	WL Measurement Method:	Not Reported
Production Water Level (ft):	253.	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	10.
SiteStatus at Test:	Not Reported	Date Discharged:	Not Reported
Site Use:	J	Date of Use:	Not Reported
Water Use:	GEOTHERMAL	Notes:	Not Reported

L33
SW
1/2 - 1 Mile
Higher

FED USGS USGS40001010064

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 175	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

L34
SW
1/2 - 1 Mile
Higher

PA WELLS PASI60000011910

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11912	Local Well #:	CH 175
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	0	Elevation:	120
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		
Owner ID:	11974	Ownership Date:	01-JAN-51
Construction Date:	Not Reported	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Entire Length Cased, Open End		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	Not Reported	Original Driller Name:	Not Reported
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	80.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	SiteStatus at Test:	Not Reported
Date Discharged:	13-SEP-57		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	AIR CONDITIONING	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

J35
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000392229

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	302	Elevation:	0
Site Type:	W	Depth to Bedrock:	20
Saltwater Zone:	0	Date Drilled:	06-NOV-09
Local Permit #:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Owner ID:	7451088	Ownership Date:	Not Reported
Discharge Type:	Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	90.
Discharge:	0.	WL Measurement Method:	Not Reported
Agency Providing Data:	Not Reported	Drawdown (ft):	Not Reported
Production Water Level (ft):	302.	Test Length (min):	0.
Yield (gmp/ft):	Not Reported	Date Discharged:	Not Reported
SiteStatus at Test:	Not Reported		
Site Use:	GEOTHERMAL	Date of Use:	Not Reported
Water Use:	GEOTHERMAL	Notes:	Not Reported

J36 East 1/2 - 1 Mile Higher

PA WELLS PASI60000392228

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	302	Elevation:	0
Site Type:	W	Depth to Bedrock:	20
Saltwater Zone:	0	Date Drilled:	05-NOV-09
Local Permit #:	Not Reported		
Owner ID:	7457311	Ownership Date:	Not Reported
Discharge Type:	Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	90.
Discharge:	0.	WL Measurement Method:	Not Reported
Agency Providing Data:	Not Reported	Drawdown (ft):	Not Reported
Production Water Level (ft):	302.	Test Length (min):	0.
Yield (gmp/ft):	Not Reported	Date Discharged:	Not Reported
SiteStatus at Test:	Not Reported		
Site Use:	GEOTHERMAL	Date of Use:	Not Reported
Water Use:	GEOTHERMAL	Notes:	Not Reported

M37 SW 1/2 - 1 Mile Higher

FED USGS USGS40001010094

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 140	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1920	Well Depth:	300
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels, Number of Measurements:	1	Level reading date:	1950-10-01
Feet below surface:	15.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**M38
SW
1/2 - 1 Mile
Higher**

PA WELLS PASI60000011915

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11917	Local Well #:	CH 140
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	300	Elevation:	110
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-JAN-20
Local Permit #:	Not Reported		
Owner ID:	11979	Ownership Date:	01-JAN-20
Construction Date:	01-JAN-20	Driller:	1
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	20.
Static Water Level (ft):	15.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	17.
Drawdown (ft):	2.	Yield (gmp/ft):	10.
Test Length (min):	Not Reported	Site Status at Test:	Not Reported
Date Discharged:	01-OCT-50		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

N39
ESE
1/2 - 1 Mile
Higher

PA WELLS PASI60000171417

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171529	Local Well #:	6829N
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	377	Elevation:	0
Site Type:	W	Depth to Bedrock:	68
Saltwater Zone:	0	Date Drilled:	01-DEC-88
Local Permit #:	Not Reported		
Owner ID:	170648	Ownership Date:	Not Reported
Construction Date:	01-DEC-88	Driller:	188
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	130.
Discharge:	20.	WL Measurement Method:	REPORTED, METHOD NOT KNOWN
Agency Providing Data:	Drillers Record	Drawdown (ft):	247.
Production Water Level (ft):	377.	Test Length (min):	0.5
Yield (gmp/ft):	Not Reported	Date Discharged:	01-DEC-88
SiteStatus at Test:	Not Reported		
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Comments:	Cas Len=84'2 -Dia=6.25 /Dwbz=4)361 /Wlbt=Ris. /Rt=Traprock		

O40
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171339

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171451	Local Well #:	6748N
Aquifer:	UNKNOWN	Topography:	Hillside
Well Depth:	343	Elevation:	0
Site Type:	W	Depth to Bedrock:	20
Saltwater Zone:	0	Date Drilled:	01-DEC-89
Local Permit #:	Not Reported		
Owner ID:	170570	Ownership Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	01-DEC-89	Driller:	512
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Estimated	Discharge:	7.5
Static Water Level (ft):	128.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-DEC-89
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

**P41
SW
1/2 - 1 Mile
Higher**

FED USGS USGS40001010038

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 316	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	193805	Well Depth:	250
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

**P42
SW
1/2 - 1 Mile
Higher**

PA WELLS PASI60000011905

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11907	Local Well #:	CH 316
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	250	Elevation:	100
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-MAY-38
Local Permit #:	Not Reported		
Owner ID:	11969	Ownership Date:	01-JAN-38

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	01-MAY-38	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Cable Tool
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	Not Reported	Original Driller Name:	Not Reported
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	85.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	SiteStatus at Test:	Not Reported
Date Discharged:	01-MAY-38		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	COMMERCIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

Q43
SSW
1/2 - 1 Mile
Higher

FED USGS USGS40001009928

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 314	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Stockton Formation	Aquifer Type:	Not Reported
Construction Date:	19510706	Well Depth:	207
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		
Ground water levels,Number of Measurements:	1	Level reading date:	1951-07-06
Feet below surface:	8.00	Feet to sea level:	Not Reported
Note:	Not Reported		

R44
SW
1/2 - 1 Mile
Higher

FED USGS USGS40001010086

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 176	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers	Aquifer Type:	Not Reported
Formation Type:	Not Reported	Well Depth:	410
Construction Date:	19560831	Well Hole Depth:	Not Reported
Well Depth Units:	ft		
Well Hole Depth Units:	Not Reported		

Ground water levels, Number of Measurements:	1	Level reading date:	1956-08-31
Feet below surface:	12.00	Feet to sea level:	Not Reported
Note:	Not Reported		

**N45
ESE
1/2 - 1 Mile
Higher**

PA WELLS PASI60000171296

Database:	Pennsylvania Groundwater Information System	Local Well #:	6704N
GWIS ID:	171408	Topography:	Hillside
Aquifer:	STOCKTON FORMATION	Elevation:	0
Well Depth:	247	Depth to Bedrock:	22
Site Type:	W	Date Drilled:	01-FEB-93
Saltwater Zone:	0		
Local Permit #:	Not Reported		

Owner ID:	170527	Ownership Date:	Not Reported
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Construction Date:	01-FEB-93	Driller:	188
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		

Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	100.
Discharge:	20.	WL Measurement Method:	REPORTED, METHOD NOT KNOWN
Agency Providing Data:	Drillers Record	Drawdown (ft):	147.
Production Water Level (ft):	247.	Test Length (min):	0.5
Yield (gmp/ft):	Not Reported	Date Discharged:	01-FEB-93
SiteStatus at Test:	Not Reported		

Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

Comments: Dia=6.25 /Wlbt=Ris /Rt=Trap /Dwbz=1)4 2)7 3)10 4)240(20)

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

Q46
SSW
1/2 - 1 Mile
Higher

PA WELLS PASI60000011888

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11890	Local Well #:	CH 314
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	207	Elevation:	140
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	06-JUL-51
Local Permit #:	Not Reported		
Owner ID:	11952	Ownership Date:	01-JAN-51
Construction Date:	06-JUL-51	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Cable Tool
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	Not Reported	Original Driller Name:	Not Reported
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	150.
Static Water Level (ft):	8.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	80.
Drawdown (ft):	72.	Yield (gmp/ft):	2.08
Test Length (min):	Not Reported	SiteStatus at Test:	Not Reported
Date Discharged:	06-JUL-51		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

R47
SW
1/2 - 1 Mile
Higher

PA WELLS PASI60000011913

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11915	Local Well #:	CH 176
Aquifer:	STOCKTON FORMATION	Topography:	Valley Flat
Well Depth:	410	Elevation:	100
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	31-AUG-56
Local Permit #:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Owner ID:	11977	Ownership Date:	31-AUG-56
Construction Date:	31-AUG-56	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Entire Length Cased, Open End	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	350.
Static Water Level (ft):	12.	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	150.
Drawdown (ft):	138.	Yield (gmp/ft):	2.5
Test Length (min):	24.	SiteStatus at Test:	Not Reported
Date Discharged:	31-AUG-56		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

O48
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171359

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171471	Local Well #:	6768N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	508	Elevation:	0
Site Type:	W	Depth to Bedrock:	10
Saltwater Zone:	0	Date Drilled:	01-JAN-90
Local Permit #:	Not Reported		
Owner ID:	170590	Ownership Date:	Not Reported
Construction Date:	01-JAN-90	Driller:	512
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Estimated	Discharge:	4.5
Static Water Level (ft):	Not Reported	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN	Drawdown (ft):	Not Reported
Production Water Level (ft):	118.	Test Length (min):	Not Reported
Yield (gmp/ft):	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Site Status at Test:	Not Reported	Date Discharged:	01-JAN-90
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

S49
SSE
1/2 - 1 Mile
Higher

FED USGS USGS40001009915

Organization ID:	USGS-PA	Type:	Well
Organization Name:	USGS Pennsylvania Water Science Center	HUC:	02040203
Monitor Location:	CH 163	Drainage Area Units:	Not Reported
Description:	Not Reported	Contrib Drainage Area Units:	Not Reported
Drainage Area:	Not Reported	Aquifer Type:	Not Reported
Contrib Drainage Area:	Not Reported	Well Depth:	Not Reported
Aquifer:	Early Mesozoic basin aquifers	Well Hole Depth:	Not Reported
Formation Type:	Stockton Formation		
Construction Date:	Not Reported		
Well Depth Units:	Not Reported		
Well Hole Depth Units:	Not Reported		

Ground water levels, Number of Measurements:	1	Level reading date:	2001-07-25
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was flowing, but the head could not be measured without additional equipment.		

S50
SSE
1/2 - 1 Mile
Higher

PA WELLS PASI60000011887

Database:	Pennsylvania Groundwater Information System	Local Well #:	CH 163
GWIS ID:	11889	Topography:	Hillside
Aquifer:	STOCKTON FORMATION	Elevation:	120
Well Depth:	0	Depth to Bedrock:	0
Site Type:	W	Date Drilled:	Not Reported
Saltwater Zone:	0		
Local Permit #:	Not Reported		

Owner ID:	11951	Ownership Date:	01-JAN-56
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Construction Date:	Not Reported	Driller:	1
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		

Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	30.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static Water Level (ft):	Not Reported	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	SiteStatus at Test:	Not Reported
Date Discharged:	12-APR-56		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	UNUSED	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

51
SSW
1/2 - 1 Mile
Higher

PA WELLS PASI60000106515

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	106619	Local Well #:	X 0570
Aquifer:	STOCKTON FORMATION	Topography:	Flat Surface
Well Depth:	155	Elevation:	0
Site Type:	W	Depth to Bedrock:	20
Saltwater Zone:	0	Date Drilled:	01-JAN-67
Local Permit #:	Not Reported		
Owner ID:	105903	Ownership Date:	Not Reported
Construction Date:	01-JAN-67	Driller:	0248
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Other	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	New Well
Original Driller Name:	Not Reported		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Unknown	Discharge:	10.
Static Water Level (ft):	37.	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	117.
Yield (gmp/ft):	Not Reported	Test Length (min):	2.
SiteStatus at Test:	Not Reported	Date Discharged:	01-JAN-67
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

O52
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171318

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171430	Local Well #:	6727N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	610	Elevation:	0
Site Type:	W	Depth to Bedrock:	8
Saltwater Zone:	0	Date Drilled:	01-OCT-90
Local Permit #:	Not Reported		
Owner ID:	170549	Ownership Date:	Not Reported
Construction Date:	01-OCT-90	Driller:	1959
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Estimated	Discharge:	20.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	131.	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-OCT-90
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

O53
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171316

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171428	Local Well #:	6725N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	220	Elevation:	0
Site Type:	W	Depth to Bedrock:	4
Saltwater Zone:	0	Date Drilled:	01-OCT-90
Local Permit #:	Not Reported		
Owner ID:	170547	Ownership Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	01-OCT-90	Driller:	1959
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Estimated	Discharge:	17.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	96.	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-OCT-90
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

T54
SSW
1/2 - 1 Mile
Higher

FED USGS USGS40001009961

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 174	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1951	Well Depth:	300
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

T55
SSW
1/2 - 1 Mile
Higher

PA WELLS PASI60000011893

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11895	Local Well #:	CH 174
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	300	Elevation:	150
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-JAN-51
Local Permit #:	Not Reported		
Owner ID:	11957	Ownership Date:	31-DEC-51

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	01-JAN-51	Driller:	0561
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Entire Length Cased, Open End		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	Not Reported	Original Driller Name:	Not Reported
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	84.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	SiteStatus at Test:	Not Reported
Date Discharged:	13-SEP-57		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	AIR CONDITIONING	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

O56
East
1/2 - 1 Mile
Higher

PA WELLS PASI60000171317

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171429	Local Well #:	6726N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	345	Elevation:	0
Site Type:	W	Depth to Bedrock:	4
Saltwater Zone:	0	Date Drilled:	01-AUG-90
Local Permit #:	Not Reported		
Owner ID:	170548	Ownership Date:	Not Reported
Construction Date:	01-AUG-90	Driller:	1959
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole		
Driller Well ID:	Not Reported	Reason Abandoned:	Not Reported
Construction Type:	New Well	Original Driller Name:	Not Reported
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Estimated	Discharge:	10.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-AUG-90

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Comments:	Rock Type = Bluestone		

O57 East 1/2 - 1 Mile Higher

PA WELLS PASI60000171315

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171427	Local Well #:	6724N
Aquifer:	LOCKATONG FORMATION	Topography:	Hillside
Well Depth:	220	Elevation:	0
Site Type:	W	Depth to Bedrock:	8
Saltwater Zone:	0	Date Drilled:	01-JUL-90
Local Permit #:	Not Reported		
Owner ID:	170546	Ownership Date:	Not Reported
Construction Date:	01-JUL-90	Driller:	1959
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Estimated	Discharge:	15.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	55.	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-JUL-90
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

S58 South 1/2 - 1 Mile Higher

FED USGS USGS40001009887

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 161	Type:	Well

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Stockton Formation	Aquifer Type:	Not Reported
Construction Date:	1910	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels, Number of Measurements:	1	Level reading date:	2001-07-25
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was flowing, but the head could not be measured without additional equipment.		

S59
South
1/2 - 1 Mile
Higher

PA WELLS PASI60000011880

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11882	Local Well #:	CH 161
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	0	Elevation:	120
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-JAN-10
Local Permit #:	Not Reported		
Owner ID:	11943	Ownership Date:	01-JAN-10
Construction Date:	01-JAN-10	Driller:	1
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	30.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	Site Status at Test:	Not Reported
Date Discharged:	12-SEP-56		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	UNUSED	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

60
South
1/2 - 1 Mile
Higher

PA WELLS PASI60000218541

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	219102	Local Well #:	Not Reported
Aquifer:	UNKNOWN	Topography:	Not Reported
Well Depth:	0	Elevation:	0
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	Not Reported
Local Permit #:	Not Reported		

Owner ID:	218072	Ownership Date:	Not Reported
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Construction Date:	Not Reported	Driller:	Not Reported
Source of Construction Data:	Not Reported	Construction Method:	Not Reported
How Finished:	Not Reported	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		

Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	COMMERCIAL	Notes:	Not Reported

Other Identifier:	1150387	Assigned By:	PA DEP PWSID
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Comments:	Population Served = 500
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S61
SSE
1/2 - 1 Mile
Higher

FED USGS USGS40001009886

Organization ID:	USGS-PA		
Organization Name:	USGS Pennsylvania Water Science Center		
Monitor Location:	CH 162	Type:	Well
Description:	Not Reported	HUC:	02040203
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Early Mesozoic basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1910	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels, Number of Measurements:	1	Level reading date:	2001-07-25
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was flowing, but the head could not be measured without additional equipment.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

62
ESE
1/2 - 1 Mile
Higher

PA WELLS PASI60000171425

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	171537	Local Well #:	6837N
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	255	Elevation:	0
Site Type:	W	Depth to Bedrock:	38
Saltwater Zone:	0	Date Drilled:	01-JUL-87
Local Permit #:	Not Reported		
Owner ID:	170656	Ownership Date:	Not Reported
Construction Date:	01-JUL-87	Driller:	1628
Source of Construction Data:	DRILLERS RECORD	Construction Method:	Not Reported
How Finished:	Unsupported (Uncased) Borehole	Reason Abandoned:	Not Reported
Driller Well ID:	Not Reported	Original Driller Name:	Not Reported
Construction Type:	New Well		
Discharge Type:	Unknown	Data Source:	DRILLERS RECORD
Discharge Measurement Method:	Not Reported	Discharge:	5.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Drillers Record
WL Measurement Method:	REPORTED, METHOD NOT KNOWN		
Production Water Level (ft):	Not Reported	Drawdown (ft):	Not Reported
Yield (gmp/ft):	Not Reported	Test Length (min):	Not Reported
SiteStatus at Test:	Not Reported	Date Discharged:	01-JUL-87
Lithology:	UNKNOWN	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported
Comments:	Test Yield Method = Pumped And Meter		

S63
SSE
1/2 - 1 Mile
Higher

PA WELLS PASI60000011879

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	11881	Local Well #:	CH 162
Aquifer:	STOCKTON FORMATION	Topography:	Hillside
Well Depth:	0	Elevation:	120
Site Type:	W	Depth to Bedrock:	0
Saltwater Zone:	0	Date Drilled:	01-JAN-10
Local Permit #:	Not Reported		
Owner ID:	11942	Ownership Date:	01-JAN-10

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Construction Date:	01-JAN-10	Driller:	1
Source of Construction Data:	OTHER/UNKNOWN/UNSPECIFIED	Construction Method:	Other/Unknown
How Finished:	Unknown	Driller Well ID:	Not Reported
Reason Abandoned:	Not Reported	Construction Type:	Not Reported
Original Driller Name:	Not Reported		
Discharge Type:	Pumped	Data Source:	Not Reported
Discharge Measurement Method:	Not Reported	Discharge:	30.
Static Water Level (ft):	Not Reported	Agency Providing Data:	Not Reported
WL Measurement Method:	Not Reported	Production Water Level (ft):	Not Reported
Drawdown (ft):	Not Reported	Yield (gmp/ft):	Not Reported
Test Length (min):	Not Reported	SiteStatus at Test:	Not Reported
Date Discharged:	12-APR-56		
Lithology:	SANDSTONE AND SHALE	Contributing Unit:	Primary
Top of Interval:	Not Reported	Bottom of Interval:	Not Reported
Site Use:	UNUSED	Date of Use:	Not Reported
Water Use:	INDUSTRIAL	Notes:	Not Reported
Agency Site Use:	Inventory Data Site Only	Agency Use Date:	Not Reported

**64
ENE
1/2 - 1 Mile
Higher**

PA WELLS PASI60000408665

Database:	Pennsylvania Groundwater Information System		
GWIS ID:	0	Local Well #:	Not Reported
Aquifer:	Not Reported	Topography:	Not Reported
Well Depth:	600	Elevation:	0
Site Type:	W	Depth to Bedrock:	8
Saltwater Zone:	0	Date Drilled:	11-SEP-12
Local Permit #:	W61053		
Owner ID:	7472053	Ownership Date:	Not Reported
Discharge Type:	Not Reported	Data Source:	Not Reported
Discharge Measurement Method:	Voumetric, Watch and Bucket	Static Water Level (ft):	Not Reported
Discharge:	1.	WL Measurement Method:	Not Reported
Agency Providing Data:	Not Reported	Drawdown (ft):	Not Reported
Production Water Level (ft):	Not Reported	Test Length (min):	Not Reported
Yield (gmp/ft):	Not Reported	Date Discharged:	Not Reported
SiteStatus at Test:	Not Reported		
Site Use:	WITHDRAWAL	Date of Use:	Not Reported
Water Use:	DOMESTIC	Notes:	Not Reported

Comments: Located Off Of Rt. 29 On Macdade Rd. To The Site On The Left.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

RADON

AREA RADON INFORMATION

State Database: PA Radon

Radon Test Results

Zipcode	Num Tests	Min pCi/L	Max pCi/L	Avg pCi/L
19453	94	0.1	50.5	5.3

EPA Region 3 Statistical Summary Readings for Zip Code: 19453

Number of sites tested: 36.

Maximum Radon Level: 29.4 pCi/L.

Minimum Radon Level: 0.5 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
22 (61.11%)	7 (19.44%)	3 (8.33%)	4 (11.11%)	0 (0.00%)	0 (0.00%)

Federal EPA Radon Zone for MONTGOMERY County: 1

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Pennsylvania Spatial Data Access

Telephone: 610-344-6105

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Pennsylvania Groundwater Information System

Source: Department of Conservation and Natural Resources

Telephone: 717-702-2045

OTHER STATE DATABASE INFORMATION

Pennsylvania Oil and Gas Locations

Source: Pennsylvania Department of Environmental Protection

Telephone: 814-863-0104

An Oil and Gas Location is a DEP primary facility type related to the Oil & Gas Program. The sub-facility types related to Oil and Gas that are included in this layer are: Land Application -- An area where drilling cuttings or waste are disposed by land application; Well -- A well associated with oil and/or gas production; Pit -- An approved pit that is used for storage of oil and gas well fluids. Some sub facility types are not included in this layer due to security policies.

RADON

State Database: PA Radon

Source: Department of Environmental Protection

Telephone: 717-783-3594

Radon Test Results Statistics by Zip Code

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Region 3 Statistical Summary Readings

Source: Region 3 EPA

Telephone: 215-814-2082

Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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Workmans Cottage

400 Tow Path Road

Mont Clare, PA 19453

Inquiry Number: 7793642.8

October 16, 2024

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/16/24

Site Name:

Workmans Cottage
400 Tow Path Road
Mont Clare, PA 19453
EDR Inquiry # 7793642.8

Client Name:

The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189-0000
Contact: William Otten



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2019	1"=500'	Flight Year: 2019	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
2002	1"=500'	Acquisition Date: January 01, 2002	USGS/DOQQ
1992	1"=500'	Acquisition Date: March 29, 1992	USGS/DOQQ
1987	1"=500'	Flight Date: September 04, 1987	USGS
1981	1"=500'	Flight Date: May 08, 1981	USDA
1975	1"=500'	Flight Date: March 09, 1975	EDR Proprietary Aerial Viewpoint
1971	1"=500'	Flight Date: August 06, 1971	USDA
1968	1"=500'	Flight Date: May 07, 1968	USDI
1965	1"=500'	Flight Date: May 13, 1965	EDR Proprietary Aerial Viewpoint
1957	1"=500'	Flight Date: October 04, 1957	USDA
1950	1"=500'	Flight Date: March 17, 1950	USGS
1945	1"=500'	Flight Date: March 08, 1945	EDR Proprietary Aerial Viewpoint
1942	1"=500'	Flight Date: October 08, 1942	USDA
1937	1"=500'	Flight Date: November 04, 1937	USDA

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INQUIRY #: 7793642.8

YEAR: 2019

— = 500'



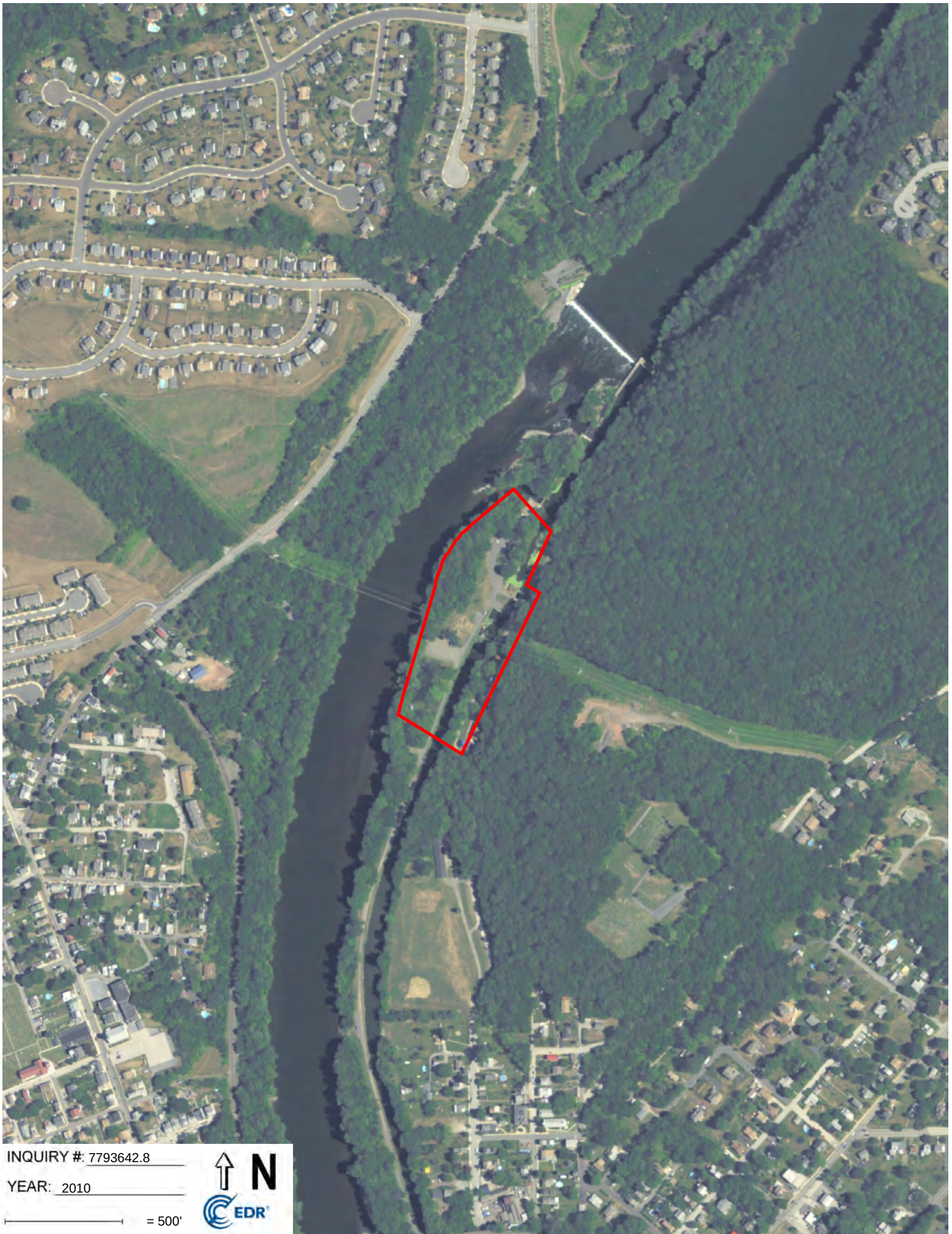


INQUIRY #: 7793642.8

YEAR: 2015

— = 500'





INQUIRY #: 7793642.8

YEAR: 2010

500'



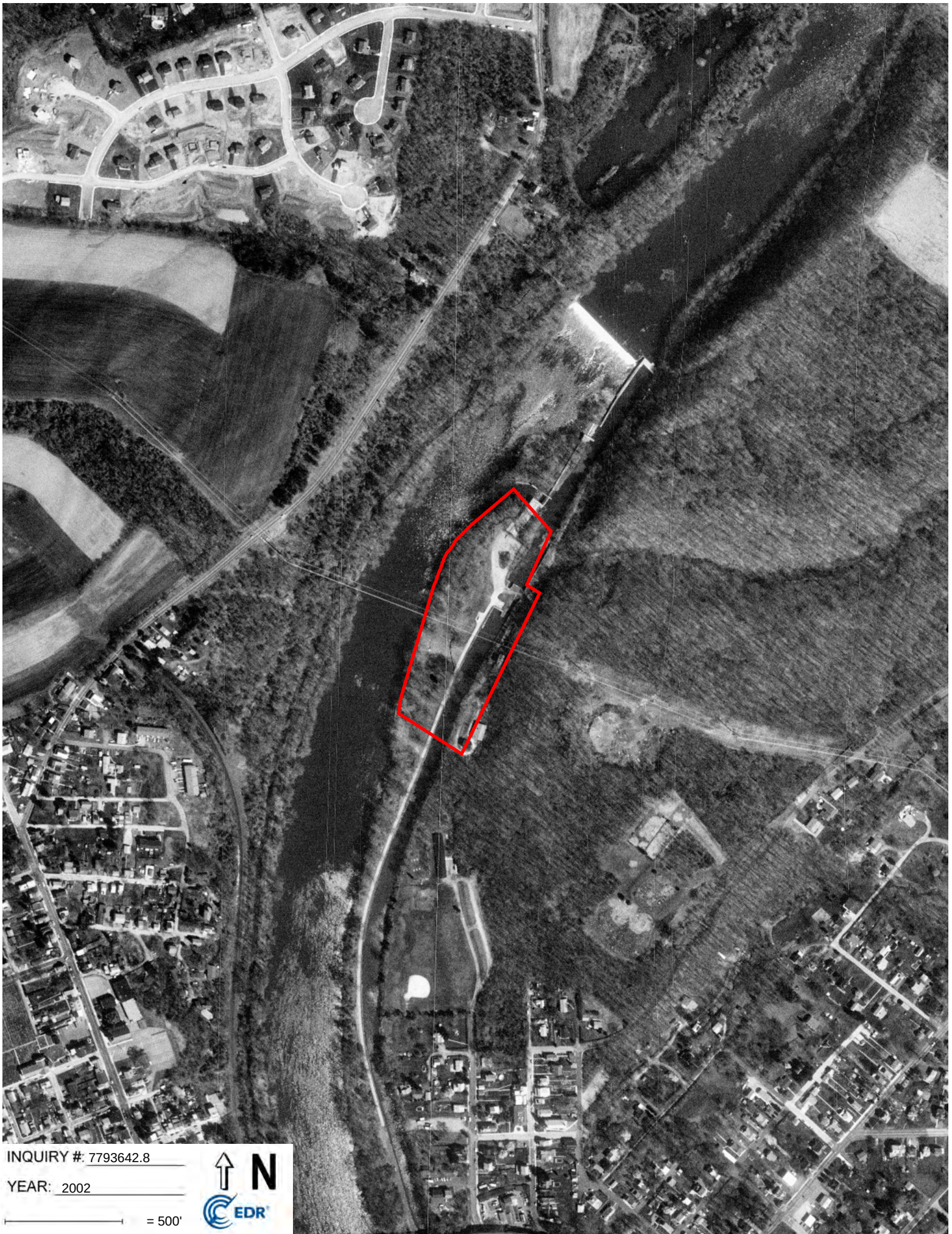


INQUIRY #: 7793642.8

YEAR: 2005

— = 500'





INQUIRY #: 7793642.8

YEAR: 2002

— = 500'





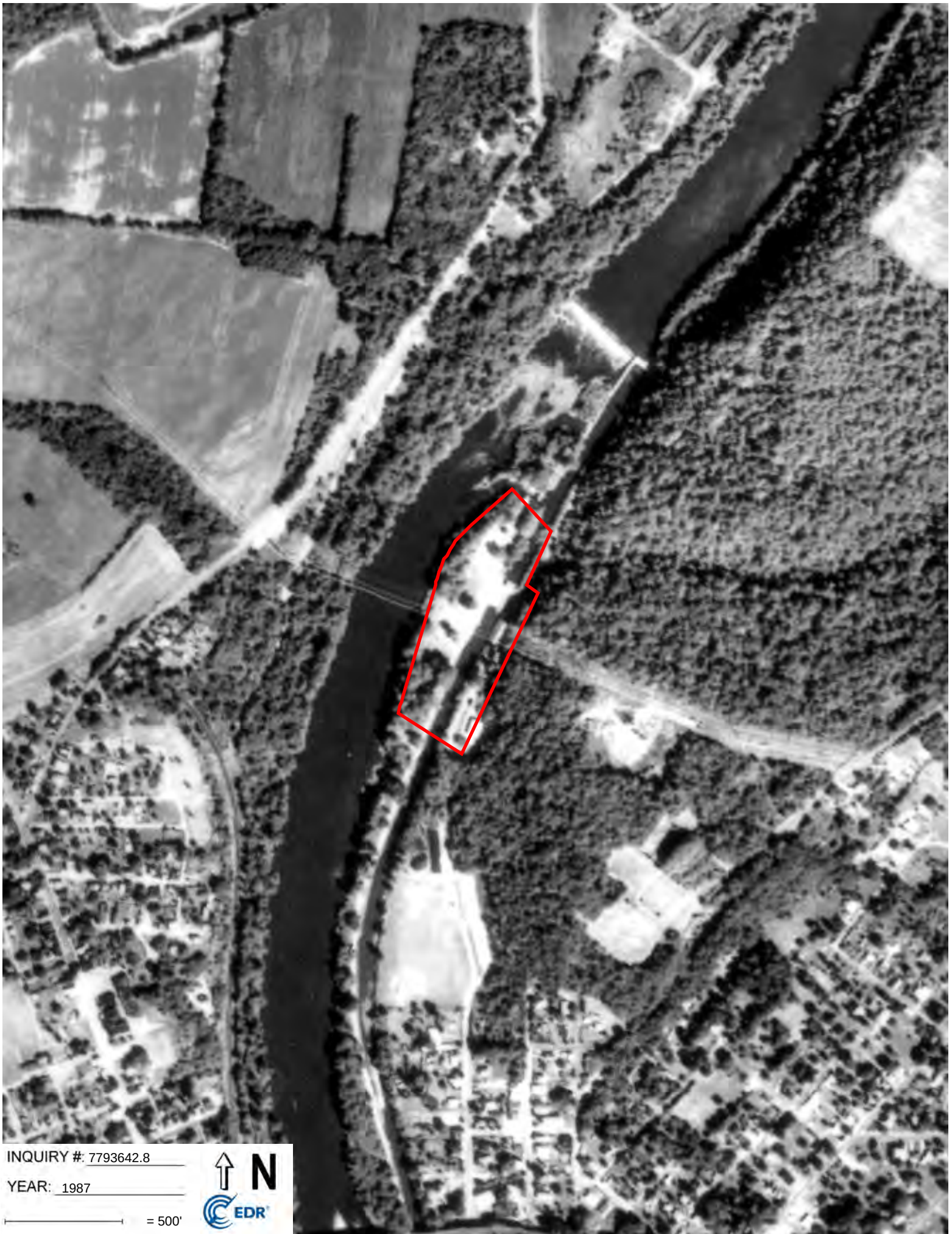
INQUIRY #: 7793642.8

YEAR: 1992

— = 500'



Subject boundary not shown because it exceeds image extent or image is not georeferenced.



INQUIRY #: 7793642.8

YEAR: 1987

— = 500'



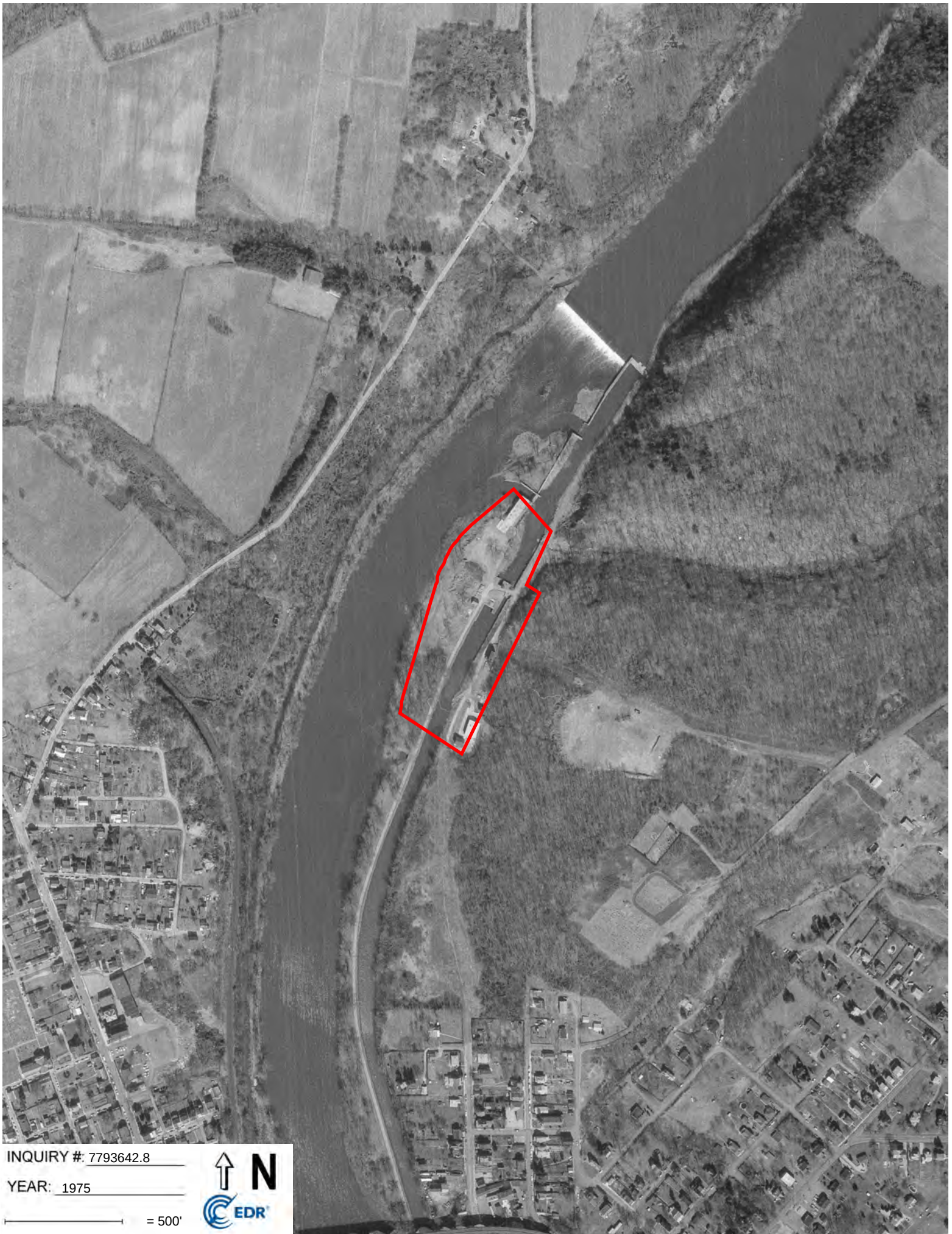


INQUIRY #: 7793642.8

YEAR: 1981

500'



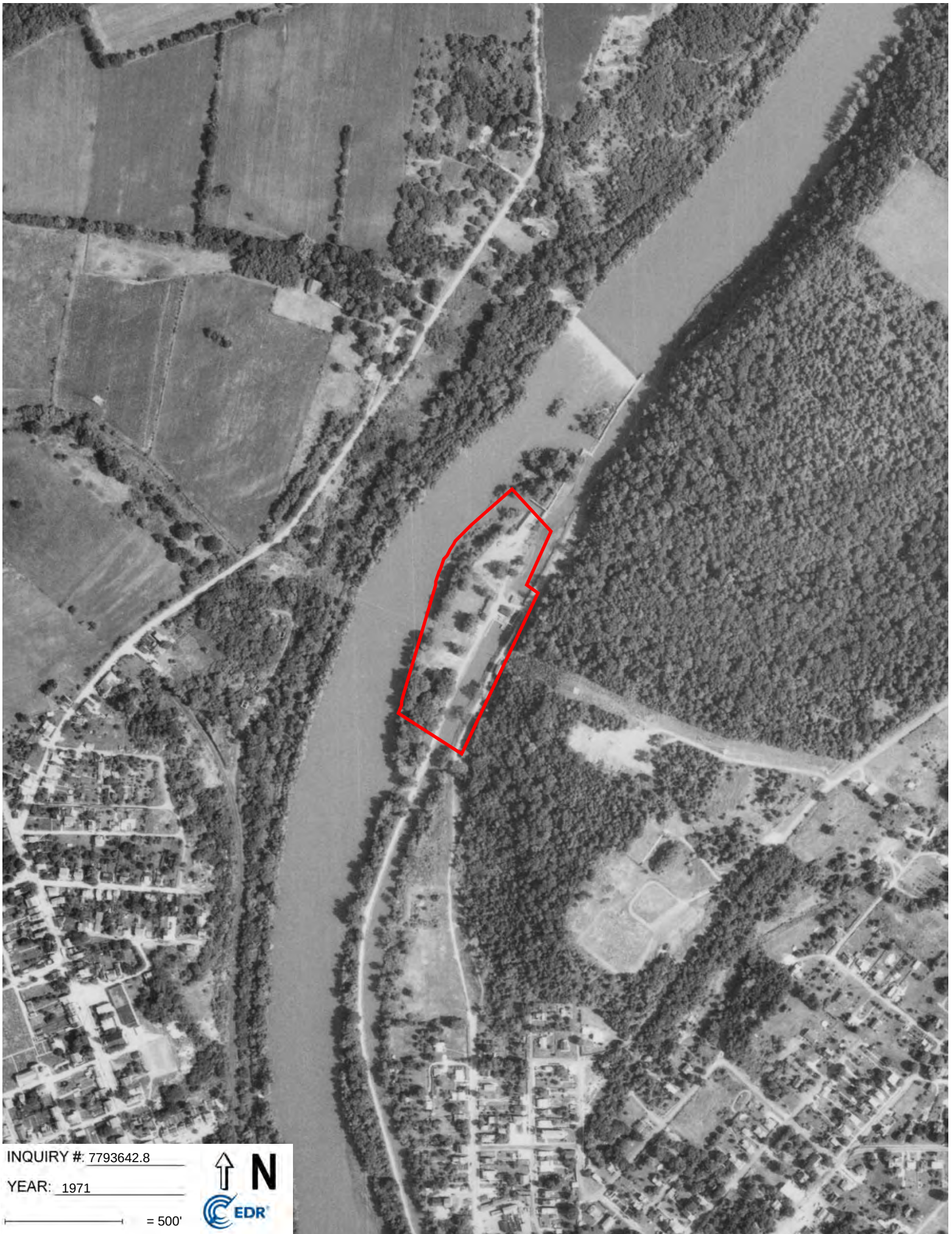


INQUIRY #: 7793642.8

YEAR: 1975

— = 500'



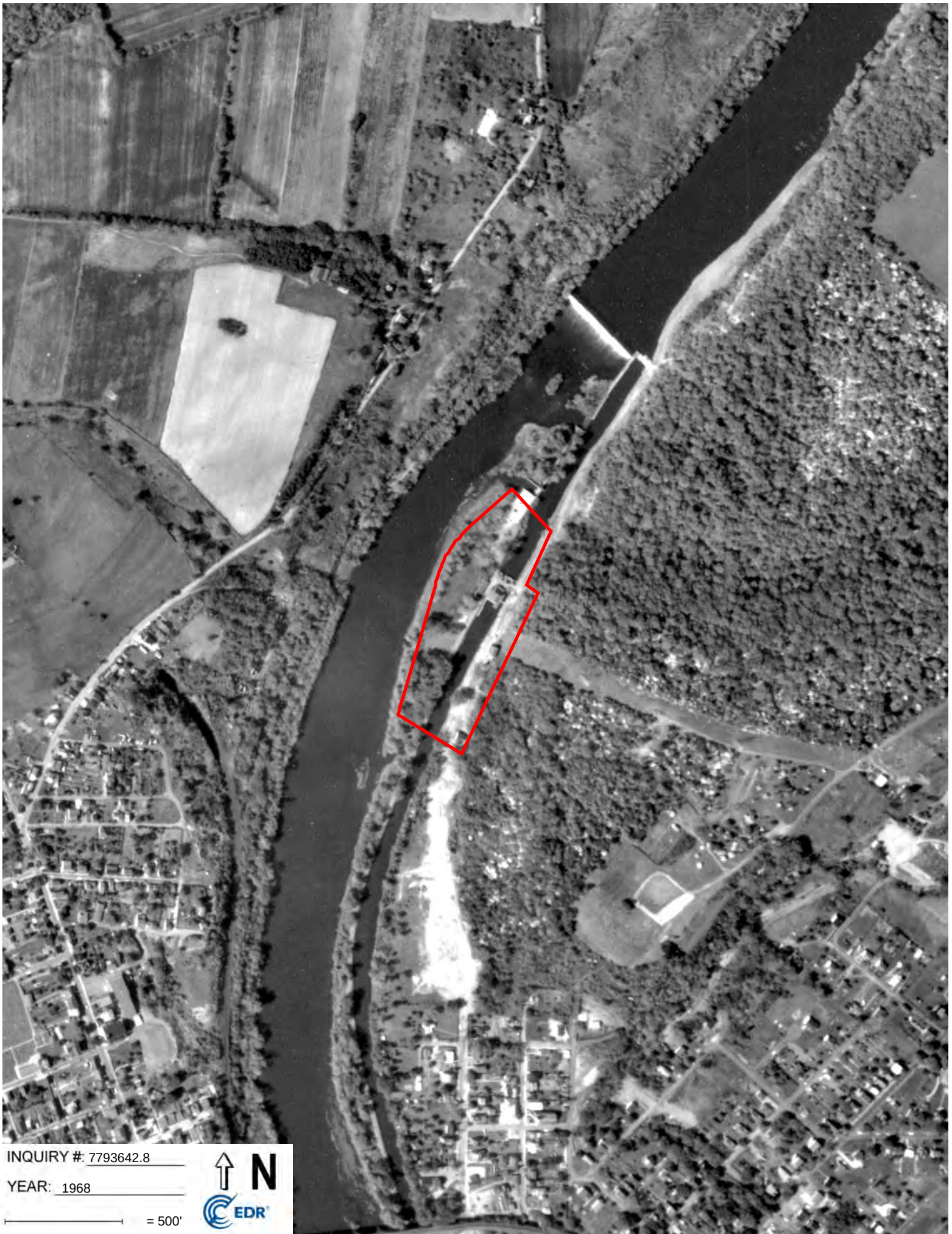


INQUIRY #: 7793642.8

YEAR: 1971

— = 500'



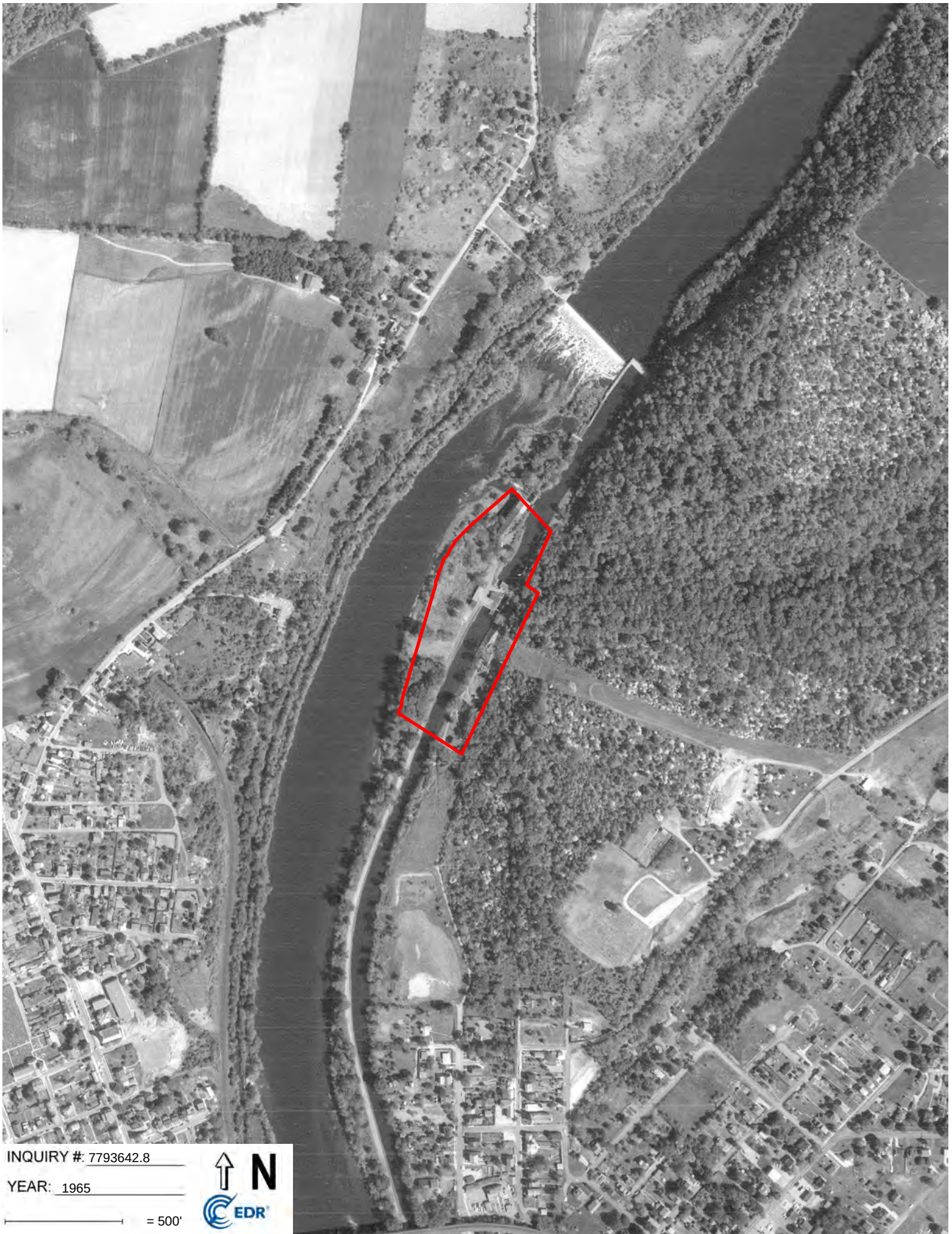


INQUIRY #: 7793642.8

YEAR: 1968

— = 500'



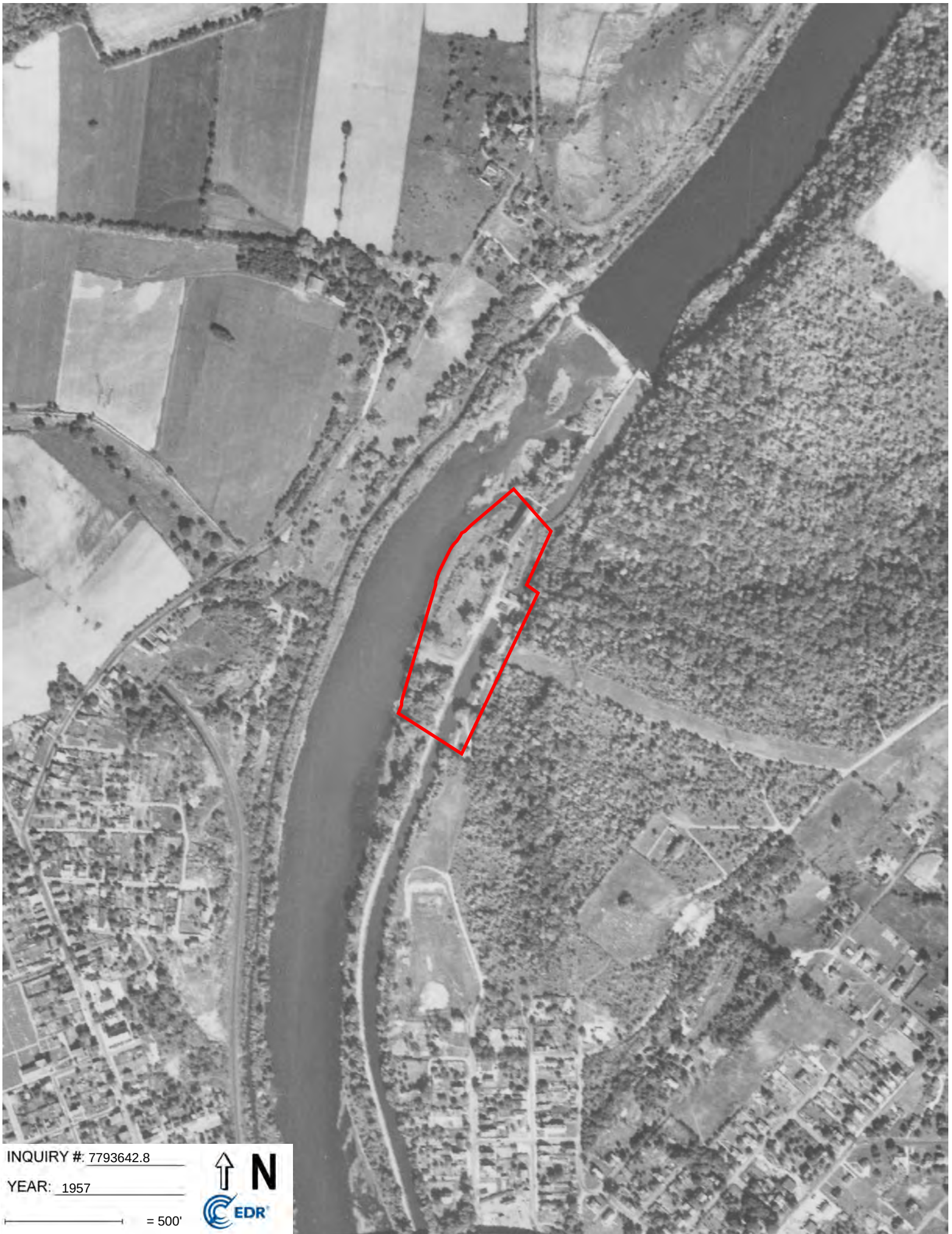


INQUIRY #: 7793642.8

YEAR: 1965

— = 500'



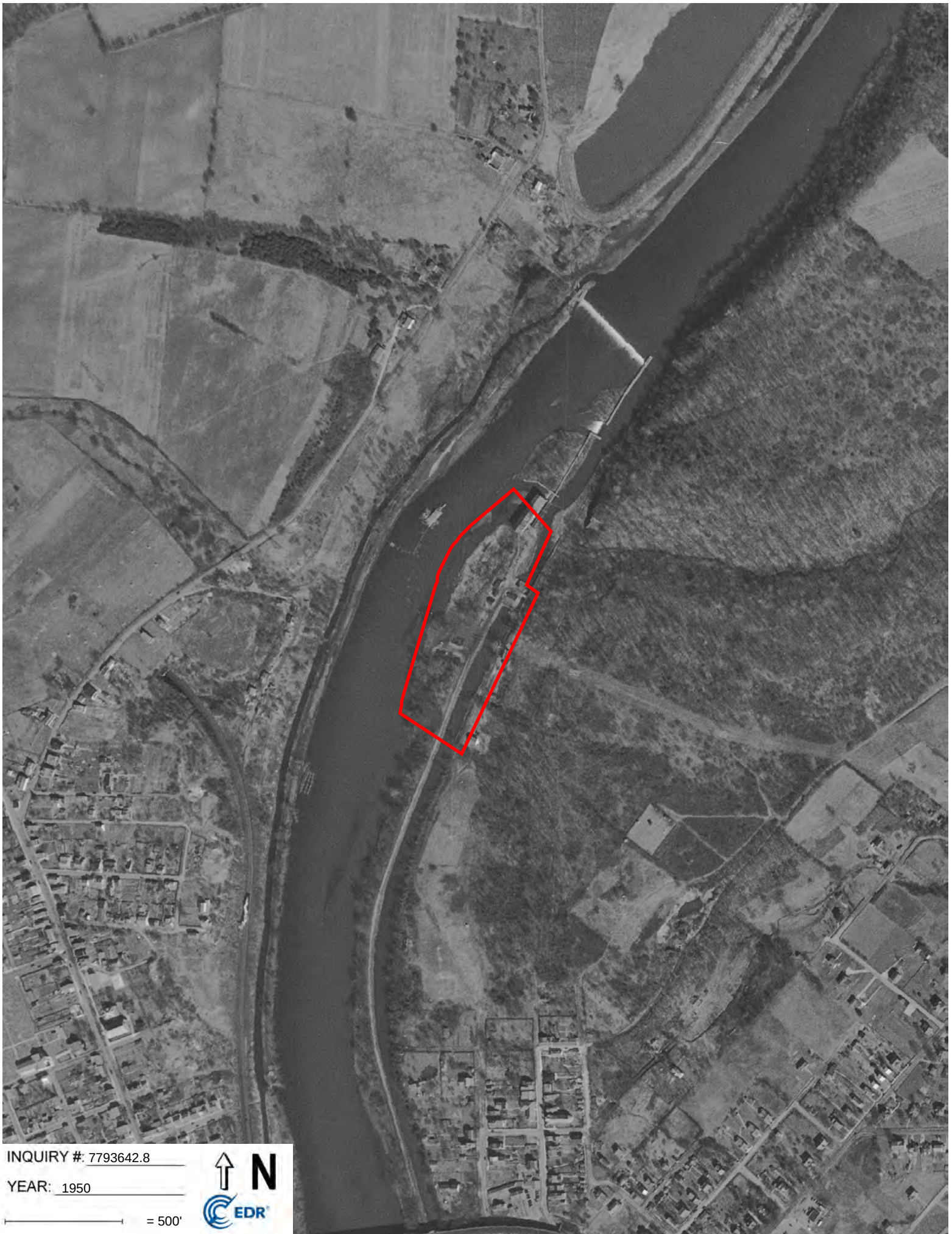


INQUIRY #: 7793642.8

YEAR: 1957

— = 500'



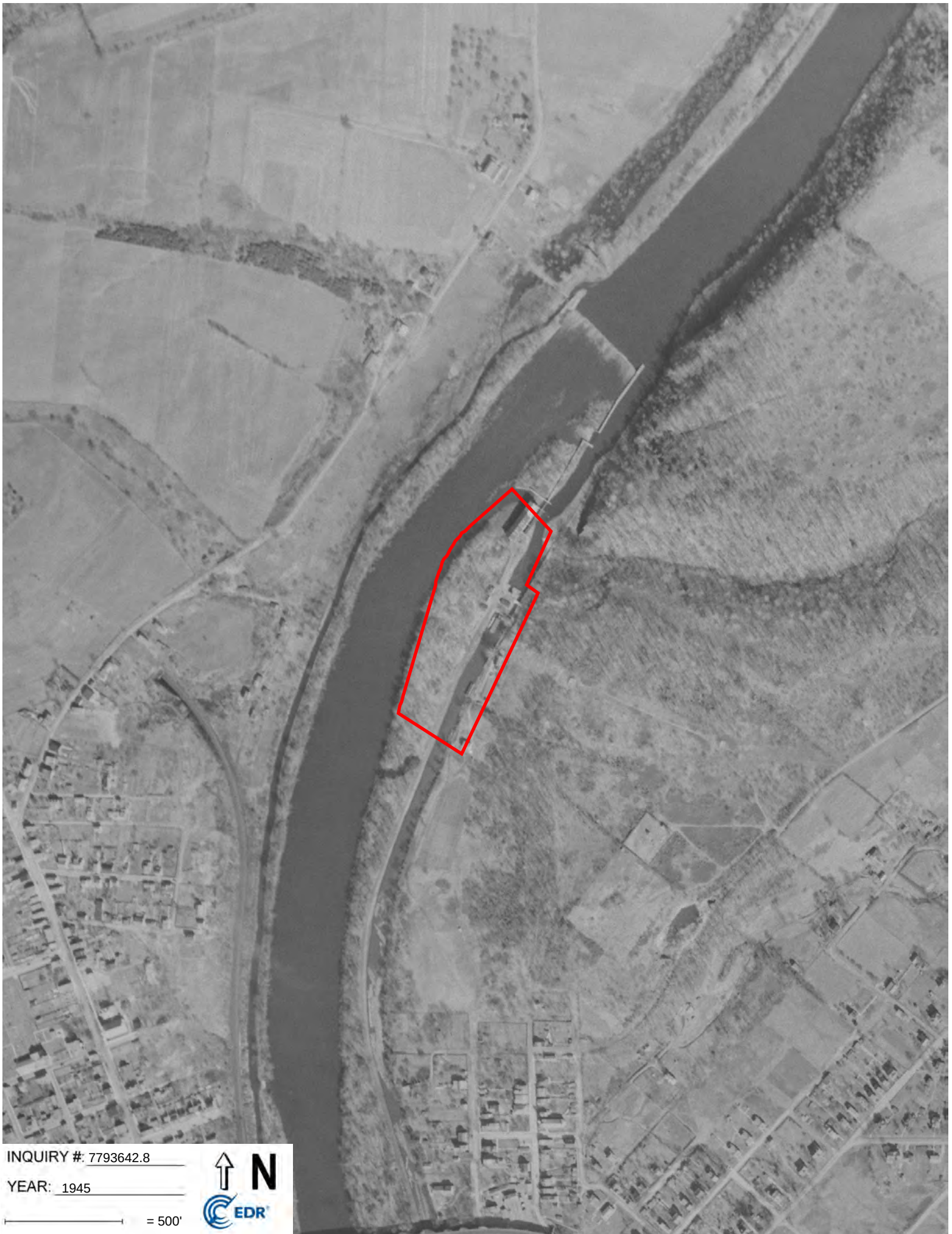


INQUIRY #: 7793642.8

YEAR: 1950

— = 500'



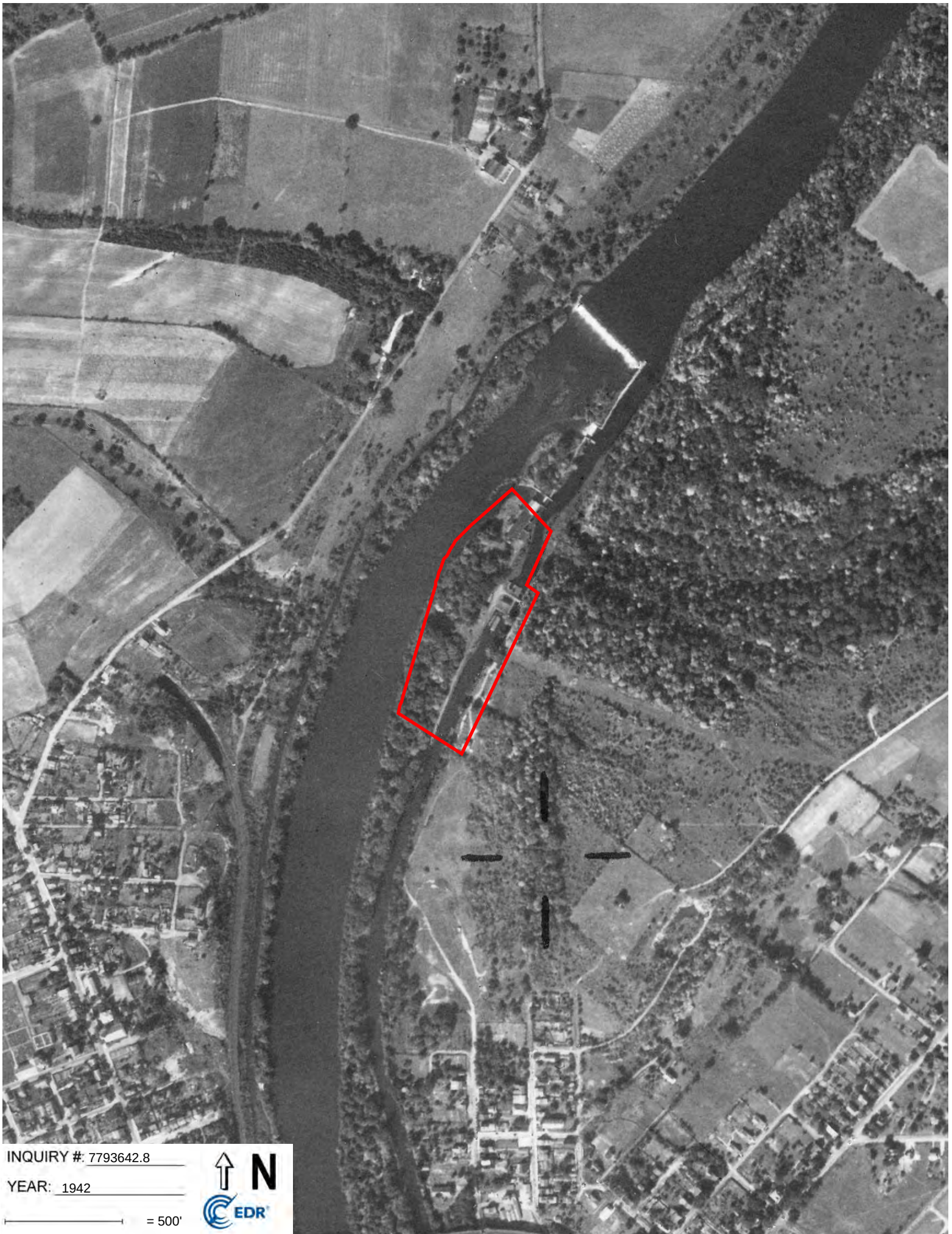


INQUIRY #: 7793642.8

YEAR: 1945

— = 500'



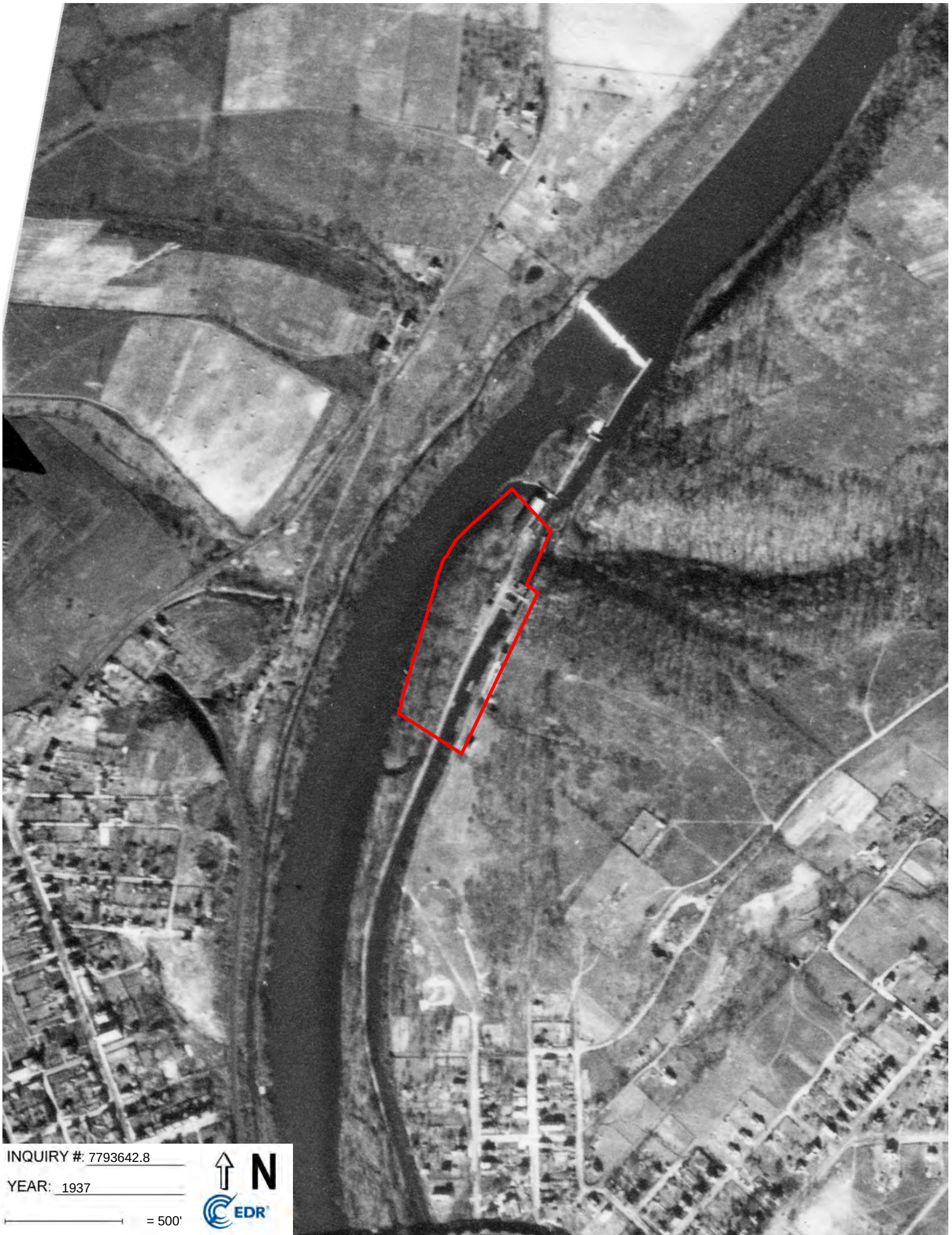


INQUIRY #: 7793642.8

YEAR: 1942

— = 500'





INQUIRY #: 7793642.8

YEAR: 1937

— = 500'





Workmans Cottage
400 Tow Path Road
Mont Clare, PA 19453

Inquiry Number: 7793642.4
October 16, 2024

EDR Historical Topo Map Report

with QuadMatch™



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Shelton, CT 06484
Toll Free: 800.352.0050
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EDR Historical Topo Map Report

10/16/24

Site Name:

Workmans Cottage
400 Tow Path Road
Mont Clare, PA 19453
EDR Inquiry # 7793642.4

Client Name:

The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189-0000
Contact: William Otten



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Search Results:**Coordinates:**

P.O.#	NA	Latitude:	40.143533 40° 8' 37" North
Project:	100403	Longitude:	-75.508461 -75° 30' 30" West
		UTM Zone:	Zone 18 North
		UTM X Meters:	456688.84
		UTM Y Meters:	4443812.08
		Elevation:	95.02' above sea level

Maps Provided:

2019	1943
2016	1942
2013	1906
1992	1896
1981, 1983	1895
1973	1894
1966, 1968	
1951, 1952, 1955	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2019 Source Sheets



Phoenixville
2019
7.5-minute, 24000



Collegeville
2019
7.5-minute, 24000



Malvern
2019
7.5-minute, 24000



Valley Forge
2019
7.5-minute, 24000

2016 Source Sheets



Phoenixville
2016
7.5-minute, 24000



Collegeville
2016
7.5-minute, 24000



Malvern
2016
7.5-minute, 24000



Valley Forge
2016
7.5-minute, 24000

2013 Source Sheets



Phoenixville
2013
7.5-minute, 24000



Collegeville
2013
7.5-minute, 24000



Malvern
2013
7.5-minute, 24000



Valley Forge
2013
7.5-minute, 24000

1992 Source Sheets



Valley Forge
1992
7.5-minute, 24000
Aerial Photo Revised 1992

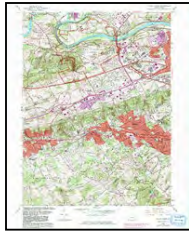


Collegeville
1992
7.5-minute, 24000
Aerial Photo Revised 1992

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

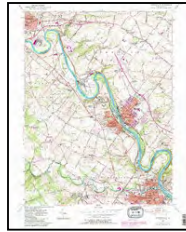
1981, 1983 Source Sheets



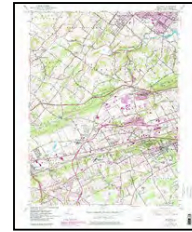
Valley Forge
1981
7.5-minute, 24000
Aerial Photo Revised 1980



Collegeville
1983
7.5-minute, 24000
Aerial Photo Revised 1981



Phoenixville
1983
7.5-minute, 24000
Aerial Photo Revised 1981



Malvern
1983
7.5-minute, 24000
Aerial Photo Revised 1981

1973 Source Sheets



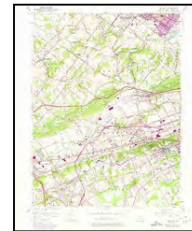
Valley Forge
1973
7.5-minute, 24000
Aerial Photo Revised 1973



Phoenixville
1973
7.5-minute, 24000
Aerial Photo Revised 1973



Collegeville
1973
7.5-minute, 24000
Aerial Photo Revised 1973



Malvern
1973
7.5-minute, 24000
Aerial Photo Revised 1973

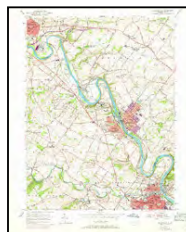
1966, 1968 Source Sheets



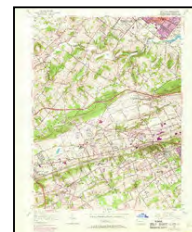
Collegeville
1966
7.5-minute, 24000
Aerial Photo Revised 1965



Valley Forge
1966
7.5-minute, 24000
Aerial Photo Revised 1965



Phoenixville
1968
7.5-minute, 24000
Aerial Photo Revised 1968



Malvern
1968
7.5-minute, 24000
Aerial Photo Revised 1968

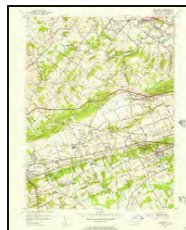
1951, 1952, 1955 Source Sheets



Collegeville
1951
7.5-minute, 24000
Aerial Photo Revised 1950



Valley Forge
1952
7.5-minute, 24000
Aerial Photo Revised 1950



Malvern
1955
7.5-minute, 24000
Aerial Photo Revised 1951



Phoenixville
1955
7.5-minute, 24000
Aerial Photo Revised 1951

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1943 Source Sheets



NORRISTOWN
1943
15-minute, 50000



PHOENIXVILLE
1943
15-minute, 50000

1942 Source Sheets



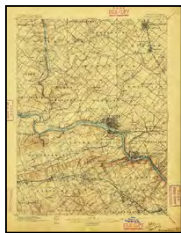
Norristown
1942
30-minute, 125000

1906 Source Sheets



Phoenixville
1906
15-minute, 62500

1896 Source Sheets



Norristown
1896
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1895 Source Sheets

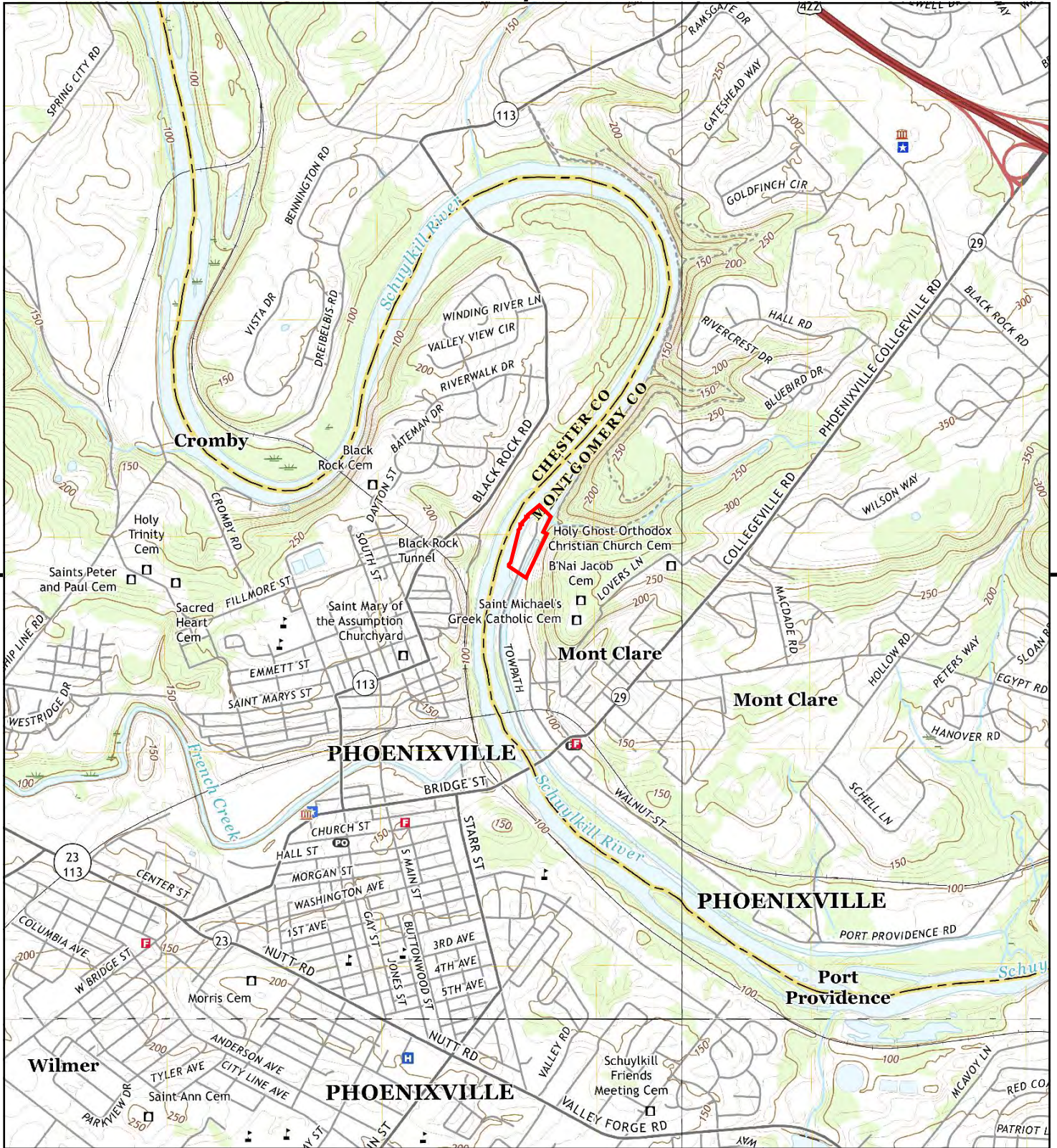


Norristown
1895
15-minute, 62500

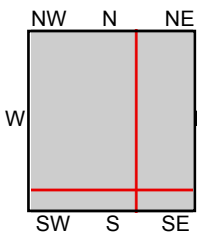
1894 Source Sheets



Norristown
1894
15-minute, 62500



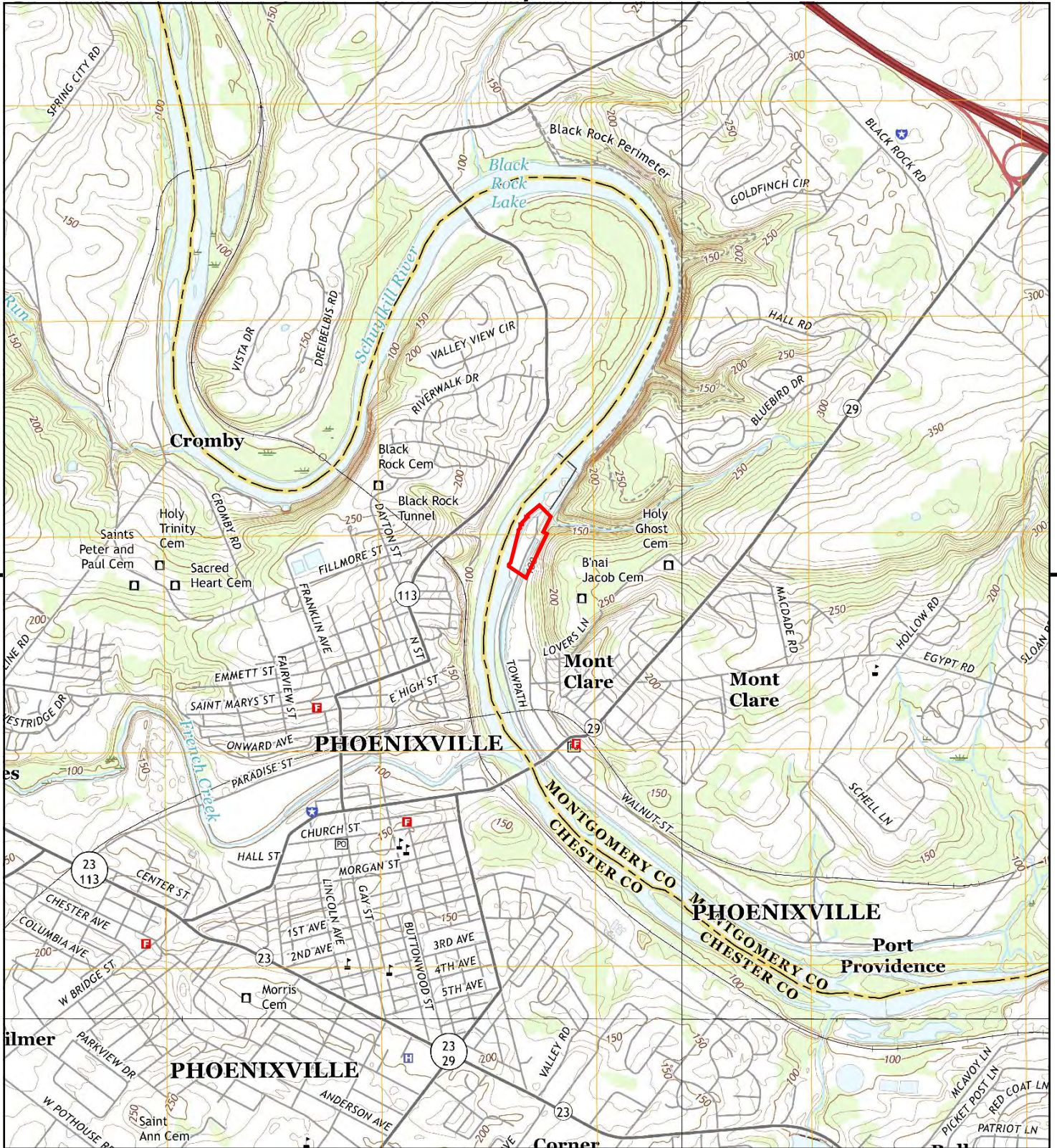
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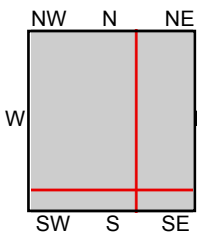
TP, Phoenixville, 2019, 7.5-minute
NE, Collegeville, 2019, 7.5-minute
SE, Valley Forge, 2019, 7.5-minute
SW, Malvern, 2019, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





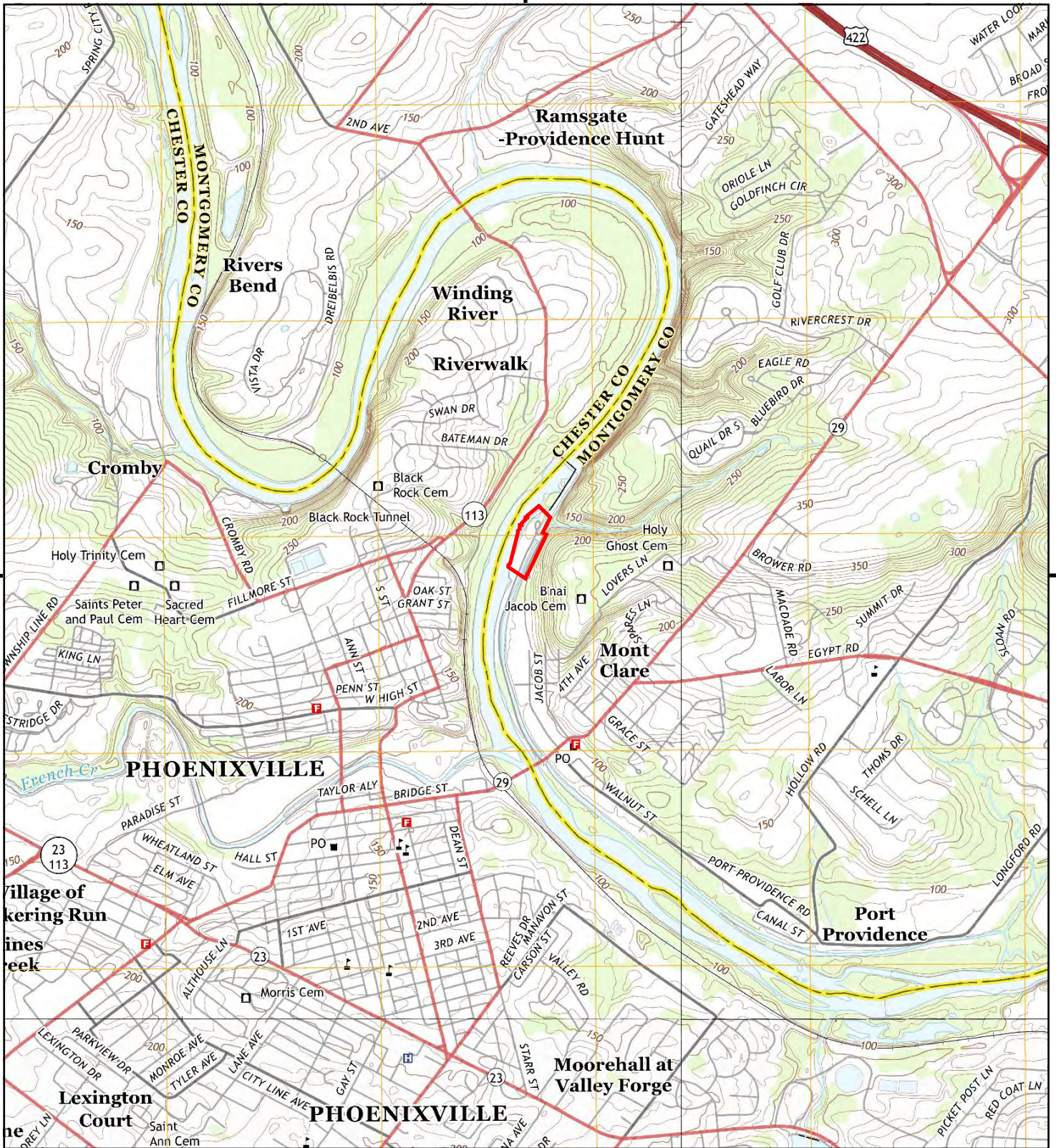
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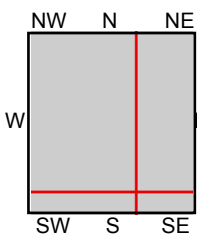
TP, Phoenixville, 2016, 7.5-minute
NE, Collegeville, 2016, 7.5-minute
SE, Valley Forge, 2016, 7.5-minute
SW, Malvern, 2016, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





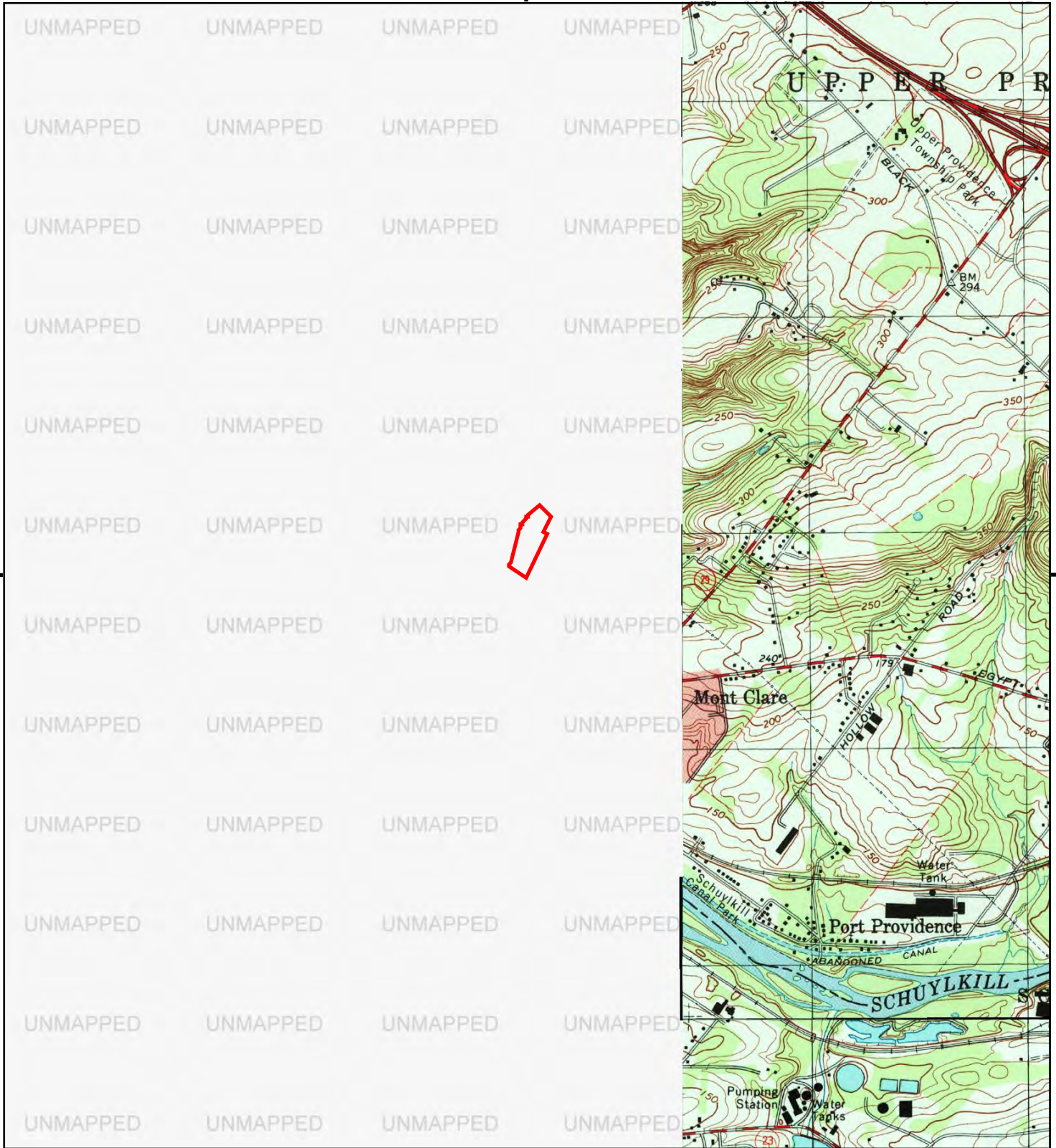
This report includes information from the following map sheet(s).



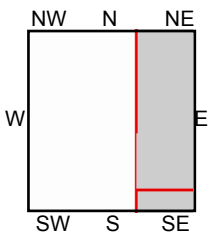
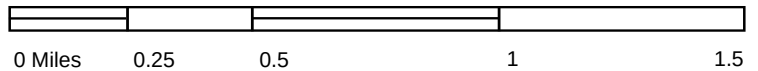
TP, Phoenixville, 2013, 7.5-minute
NE, Collegeville, 2013, 7.5-minute
SE, Valley Forge, 2013, 7.5-minute
SW, Malvern, 2013, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





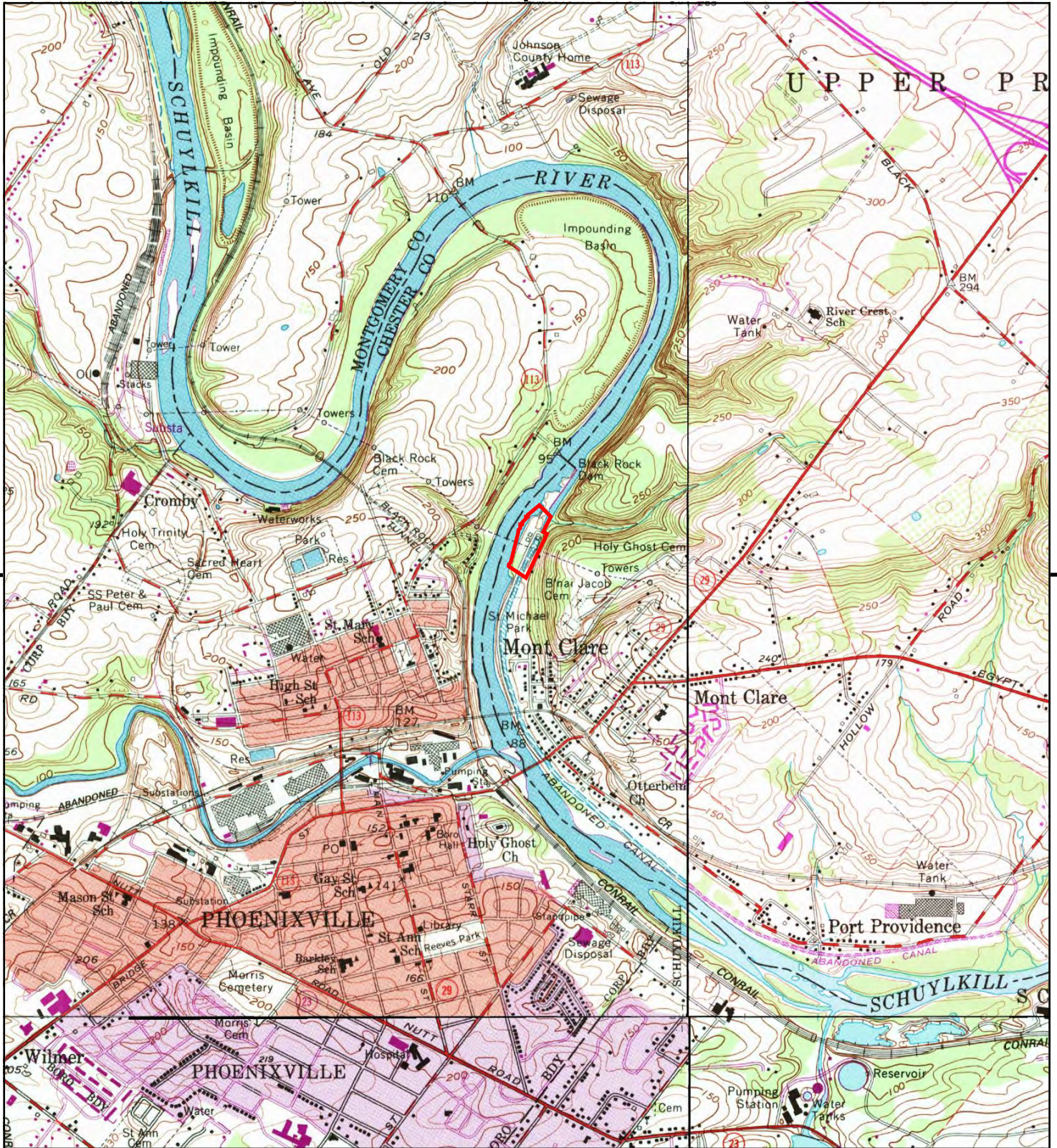
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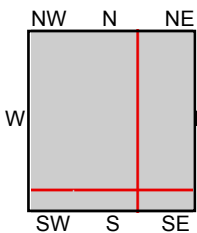
NE, Collegeville, 1992, 7.5-minute
SE, Valley Forge, 1992, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





This report includes information from the following map sheet(s).



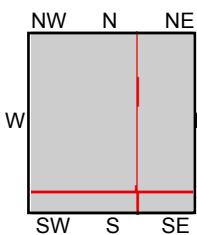
TP, Phoenixville, 1983, 7.5-minute
NE, Collegeville, 1983, 7.5-minute
SE, Valley Forge, 1981, 7.5-minute
SW, Malvern, 1983, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





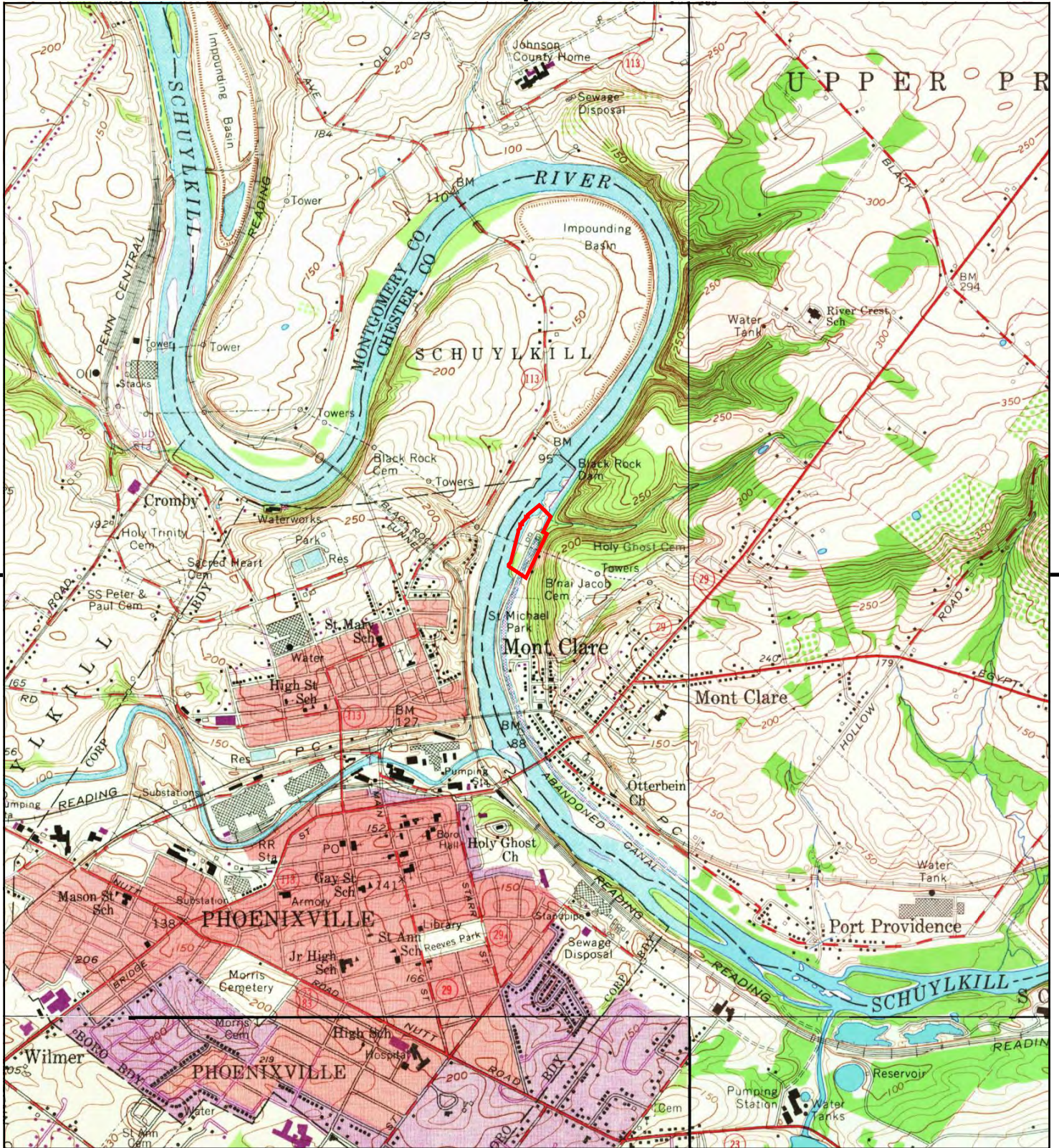
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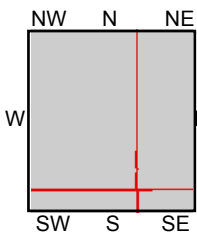
TP, Phoenixville, 1973, 7.5-minute
NE, Collegeville, 1973, 7.5-minute
SE, Valley Forge, 1973, 7.5-minute
SW, Malvern, 1973, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





This report includes information from the following map sheet(s).



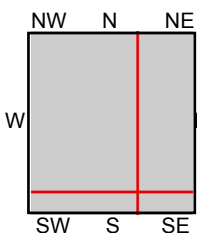
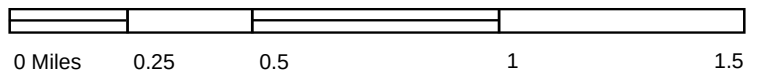
TP, Phoenixville, 1968, 7.5-minute
NE, Collegeville, 1966, 7.5-minute
SE, Valley Forge, 1966, 7.5-minute
SW, Malvern, 1968, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





This report includes information from the following map sheet(s).



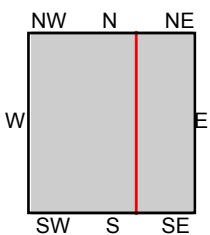
TP, Phoenixville, 1955, 7.5-minute
NE, Collegeville, 1951, 7.5-minute
SE, Valley Forge, 1952, 7.5-minute
SW, Malvern, 1955, 7.5-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





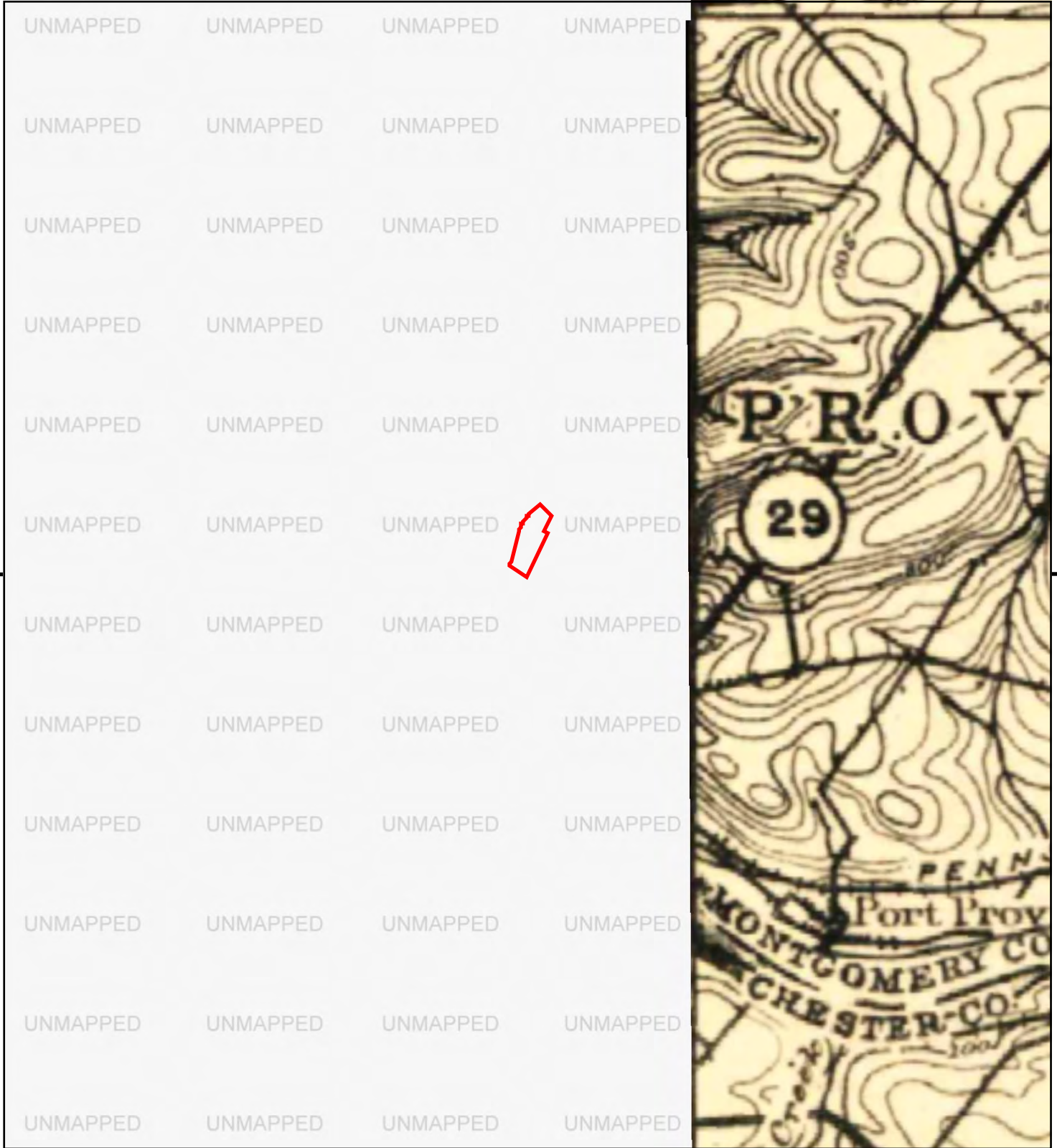
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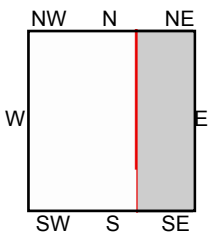
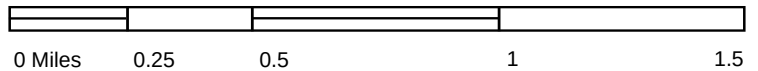
TP, PHOENIXVILLE, 1943, 15-minute
E, NORRISTOWN, 1943, 15-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.





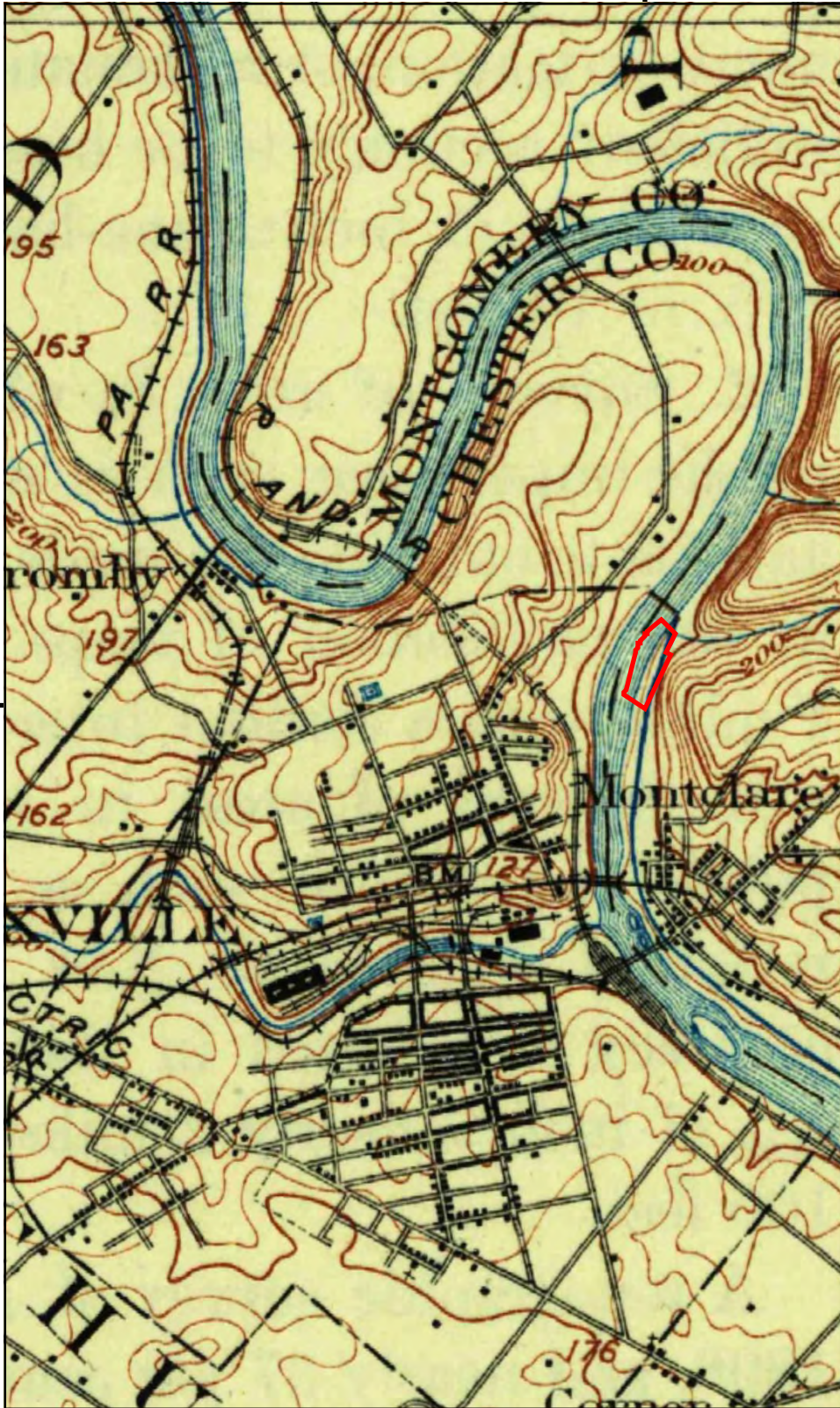
This report includes information from the following map sheet(s).



NE, Norristown, 1942, 30-minute

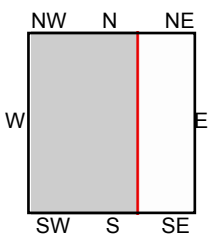
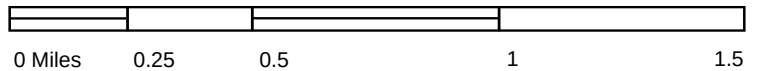
SITE NAME: Workmans Cottage
 ADDRESS: 400 Tow Path Road
 Mont Clare, PA 19453
 CLIENT: The Vertex Companies, Inc.





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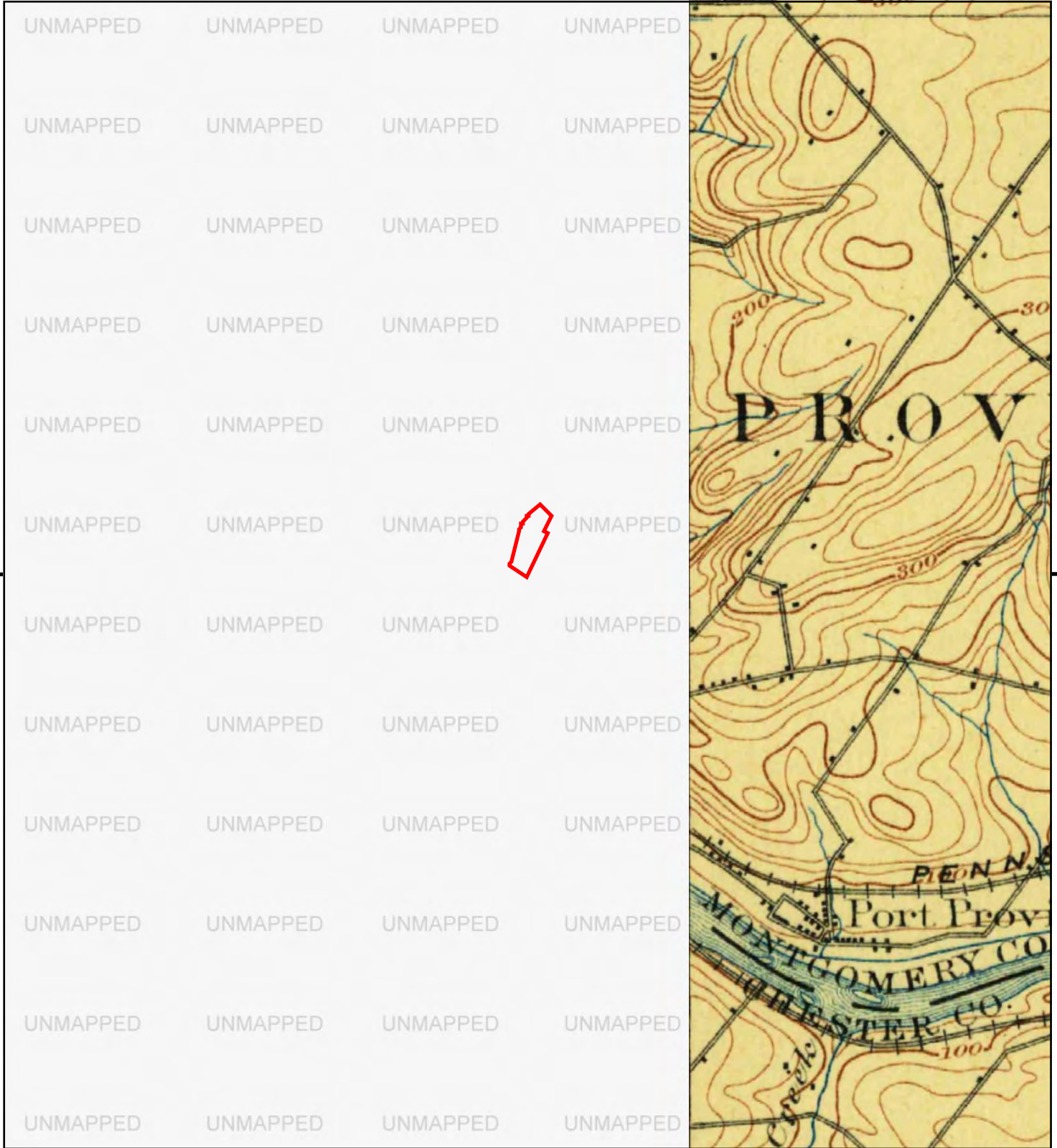
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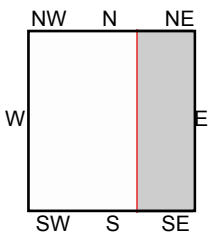
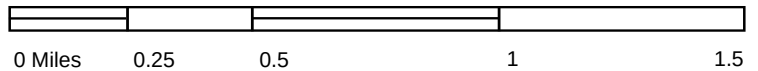
TP, Phoenixville, 1906, 15-minute

SITE NAME: Workmans Cottage
 ADDRESS: 400 Tow Path Road
 Mont Clare, PA 19453
 CLIENT: The Vertex Companies, Inc.





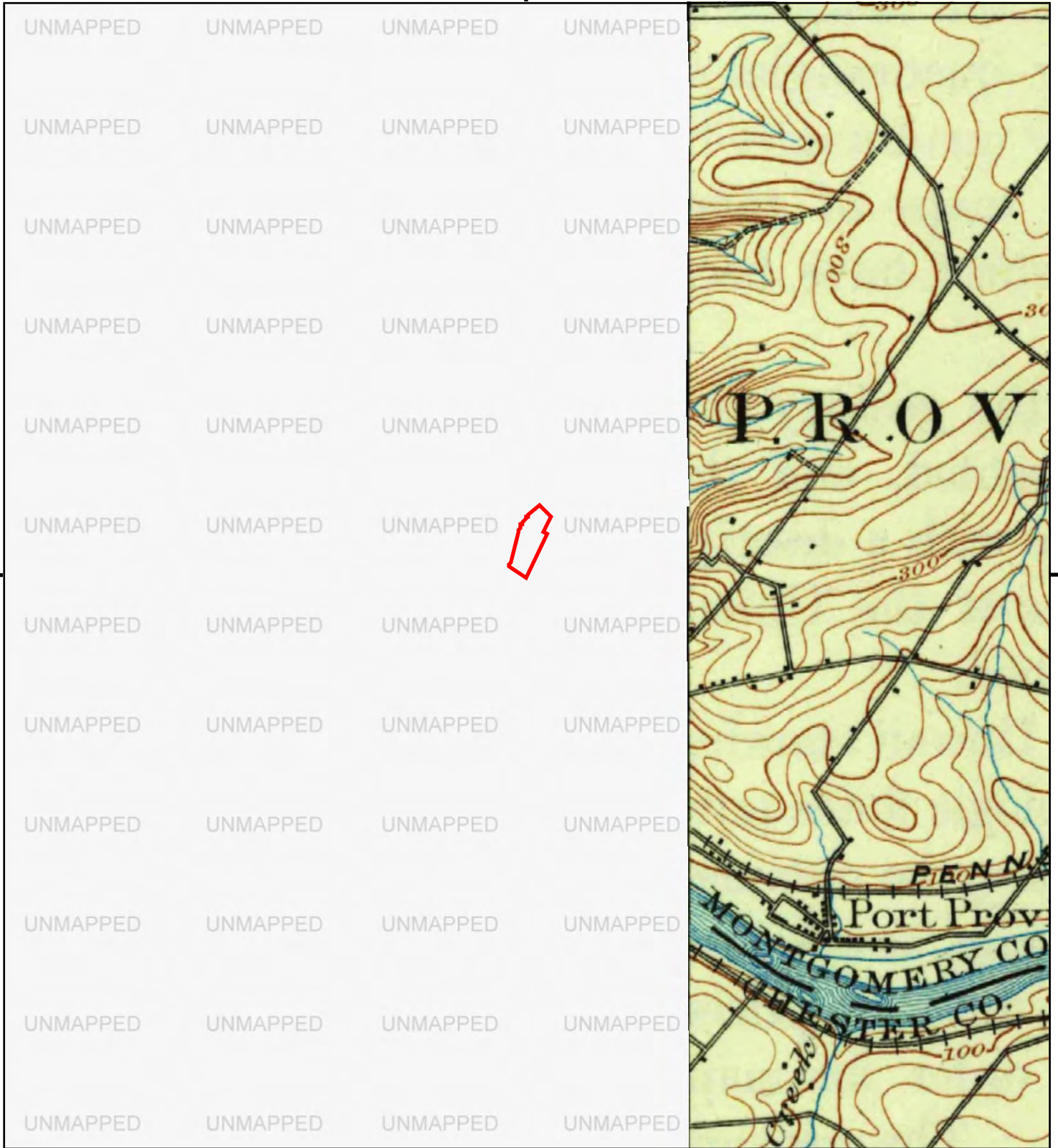
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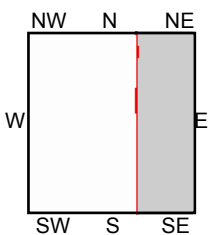
E, Norristown, 1896, 15-minute

SITE NAME: Workmans Cottage
 ADDRESS: 400 Tow Path Road
 Mont Clare, PA 19453
 CLIENT: The Vertex Companies, Inc.





This report includes information from the following map sheet(s).



E, Norristown, 1895, 15-minute

SITE NAME: Workmans Cottage
ADDRESS: 400 Tow Path Road
Mont Clare, PA 19453
CLIENT: The Vertex Companies, Inc.







Workmans Cottage
400 Tow Path Road
Mont Clare, PA 19453

Inquiry Number: 7793642.3

October 16, 2024

Certified Sanborn® Map Report



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Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/16/24

Site Name:

Workmans Cottage
400 Tow Path Road
Mont Clare, PA 19453
EDR Inquiry # 7793642.3

Client Name:

The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189-0000
Contact: William Otten



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Certification # 4428-4615-BFBA

PO # NA

Project 100403

UNMAPED PROPERTY

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Sanborn® Library search results

Certification #: 4428-4615-BFBA

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- ☒ Library of Congress
- ☒ University Publications of America
- ☒ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Workmans Cottage

400 Tow Path Road
Mont Clare, PA 19453

Inquiry Number: 7793642.5

October 18, 2024

The EDR-City Directory Image Report

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.

Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2020	☒	☐	EDR Digital Archive
2017	☒	☐	Cole Information
2014	☐	☐	Cole Information
2010	☐	☐	Cole Information
2005	☐	☐	Cole Information
2000	☐	☐	Cole Information
1995	☐	☐	Cole Information
1992	☐	☐	Cole Information
1987	☐	☐	Cole Criss-Cross Directory
1982	☐	☐	Cole Criss-Cross Directory
1976	☐	☐	Cole Criss-Cross Directory
1972	☐	☐	Cole Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

400 Tow Path Road
Mont Clare, PA 19453

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

TOWPATH

2017	pg A2	Cole Information	
2014	-	Cole Information	Street not listed in Source
2010	-	Cole Information	Street not listed in Source
2005	-	Cole Information	Street not listed in Source
2000	-	Cole Information	Street not listed in Source
1995	-	Cole Information	Street not listed in Source
1992	-	Cole Information	Street not listed in Source
1987	-	Cole Criss-Cross Directory	Street not listed in Source
1982	-	Cole Criss-Cross Directory	Street not listed in Source
1976	-	Cole Criss-Cross Directory	Street not listed in Source
1972	-	Cole Criss-Cross Directory	Street not listed in Source

TOWPATH RD

2020	pg A1	EDR Digital Archive
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FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

TOWPATH RD 2020

400 SCHUYLKILL CANAL ASSN

Target Street

✓

Cross Street

-

Source

Cole Information

TOWPATH 2017

400 SCHUYLKILL CANAL ASSOC

APPENDIX E: LOCAL RECORDS

PARID: 610003346004
MONTGOMERY COUNTY

LOVERS LN

Parcel

TaxMapID	61025 035
Parid	61-00-03346-00-4
Land Use Code	9930
Land Use Description	E - EXEMPT - COUNTY GOVERNMENT
Property Location	LOVERS LN
Lot #	
Lot Size	8.89 ACRES
Front Feet	
Municipality	UPPER PROVIDENCE
School District	SPRING FORD AREA
Utilities	NONE//

Owner

Name(s)	MONTGOMERY COUNTY
Name(s)	
Mailing Address	PO BOX 311
Care Of	SOLICITOR OFFICE
Mailing Address	
Mailing Address	NORRISTOWN PA 19404 0311

Current Assessment

Appraised Value	Assessed Value	Restrict Code
122,460	122,460	Exempt

Estimated Taxes

County	0
Montco Community College	0
Municipality	0
School District	0
Total	0
Tax Lien	Tax Claim Bureau Parcel Search

Last Sale

Sale Date	26-OCT-2009
Sale Price	
Tax Stamps	
Deed Book and Page	5763-00977
Grantor	COMMONWEALTH OF PENNSYLVANIA
Grantee	MONTGOMERY COUNTY
Date Recorded	07-APR-2010

The Schuylkill Canal

The Locktender's House, built during the navigation's first expansion period, 1836 to 1839, was home to the lock tender and his family. It sits on the high bank on the land side of the canal and overlooks Lock 60 and the head of the canal. This simple stucco-over-fieldstone house has three stories. Each floor has a central hall with one room on each side. The third floor is under a steeply pitched roof, and all the windows are under such low eaves that they were given the nickname "belly windows" because one had to lie on one's belly to look out them. The house has plank floors, four fireplaces, and, except for the third floor, 8-foot ceilings. Runoff from the steep hill behind the house is so severe that during the days of the last lock tender, wooden walkways were laid all around the house.

During the active canal era, the lock tender and his family were as self-sufficient as possible. The remains of a hand-dug well, an outhouse, a smokehouse and a small barn have been found on the downstream end of the property. Field crops were grown in the area between the canal and the river, and vegetables, herbs and flowers were raised around the house. All products grown or made at home could be sold to or bartered with the passing boats. Running water was not brought into the house until the early 1930s. Timbers from the lock were used as beams to support a one-story kitchen wing containing a sink and pump. The privy remained outdoors.



Emmanuel Schaeffer was the last lock tender who lived in the house with his widowed sister, Ethel Croll, when the state came into possession of the navigation in the 1949. They continued to live in the house until the early 1970s and eventually moved after it became too hard for the elderly residents to maintain the house and grounds. At that time the house was boarded up and left to neglect. In 1983, when Upper Providence Township became the lessee and the Association joined it in taking responsibility for the area, the house had been badly vandalized over 10 years time. Their first move was to make the house minimally livable and install a tenant. The kitchen was modernized and the indoor bathroom and furnace installed. Over the next dozen years Association volunteers made many other modest improvements. All the tenants were also active SCA members and volunteers.

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The Locktender's House: TODAY

The house is now the Schuylkill Canal Association's Visitors' Center and the hub for many programs and events. The house is

open to the general public on the third Sunday each month, from 1 PM to 4 PM except in June (Canal Day/last Sur in June, and December for the Holiday Luminaria) and by appointment.

The Open House provides an opportunity for the public to take a brief tour of the house free-of-charge.

There is ample seating for visitors on the front porch and the first-floor living room and both downstairs rooms have exhibit historic photographs and documents, a library about canals, information about regional heritage corridor activities, event schedules and various books and souvenir items for sale. The living room even has an old player piano that belonged to the Schaeffer family, the last locktender. Public restrooms meeting American Disabilities Act standards are located in the maintenance garage south of the Locktender's House, with an adjacent handicap 2-car parking area.

Montgomery County has extended the Schuylkill River Trail west from the mouth of the Perkiomen to the Longford Road Trailhead in Port Providence where it meets the end of the canal. Lock 60 is short 2.5-mile bicycle ride from the trailhead. SCA installed Interpretive signage for the area's main historical landmarks; visitors have a better appreciation for what they are looking at. Plan to stop in at the Locktender's House, when open, to learn more about the history & heritage of the area, get questions answered and to generally feel welcome at Lock 60 on the Schuylkill Canal.

The Schuylkill Canal

Once the state and other agencies began supporting heritage corridor projects, SCA chose the Locktender's House as its first major restoration program. Over a period of five years all exterior woodwork, including 25 window sashes, porch and front door, were either repaired or replaced. The entire exterior was repainted and restuccoed, and the yard was beautifully landscaped.

Access to the house was greatly improved, including channeling the runoff from the hill behind the house into underground conduits and laying field stone walkways to the front porch and back yard. The old stone steps cut into the steep bank on which the house sits were rebuilt to a moderate grade, and provided with hand railings and ground lights.

From: [Cheryll Schinski](#)
To: [William Otten](#)
Subject: Response to Right-to-Know request
Date: Wednesday, October 23, 2024 12:50:26 PM
Attachments: [image001.png](#)
[82-73.pdf](#)
[20020640.pdf](#)
[20030774.pdf](#)
[07-08.pdf](#)

William:

Thank you for your Right-to-Know request pertaining to 400 Tow Path Road. Your request is granted in part, no records exist in part.

Your request mentions a “workman’s cottage”. The township has no records with this title; however, I’ve attached four permits relative to the Lock Tender’s House on the property.

No records exist for the fire department or underground storage tanks, chemical use, or petroleum use.

This email shall serve to close out this request as permitted by law.

Best,

Cheryll Schinski, Pa.C.P.
Admin. Services Manager/Paralegal

TOWNSHIP OF UPPER PROVIDENCE
Montgomery County, PA

Phone: **610.933.9179**
Email: **cschinski@uprov-montco.org**
Address: **Upper Providence Township**
1286 Black Rock Road
Phoenixville, PA 19460

www.uprov-montco.org



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UPPER PROVIDENCE TOWNSHIP SIGN PERMIT

NUMBER 07-08

WORK SHEET:

APPLICANT/OWNER Sandyville Canal Assoc.

USE Perm. TYPE Gr.D. ZONING SECTION 182-144

ACREAGE OF SITE N/A
SQUARE FOOTAGE OF OCC. ↓
PERCENT OF PRIMARY FACE ↓

CONDITIONS OF APPROVAL:

9 - Directional, Informational, & Identification Signs
Note: PERMITS ARE NOT REQUIRED FOR HISTORICAL
IDENTIFICATION PLACARDS.

This sign application Permit No 07-08 is hereby approved pursuant to the application here attached and subject to any terms and conditions listed hereon.


C. Lee Milligan, M.C.P.
Planning & Zoning Administrator

2/2/07
Date:

PERMIT FEES: Signs

- Temporary Signs \$35 plus \$50 removal deposit
Code of Upper Providence (Political Campaign)
Township Section 182-154
- Special Sales \$35 plus \$50 removal deposit
Code of Upper Providence
Township Section 182-155
- All Other Signs \$50 under 25 square feet
\$75 over 25 square feet

Rev. 8/05

one \$75.00 fee @ 2/2/07
fee waived by BOS 2/5/07

FORM NO. BOCA - BP 1969

fine

FILE COPY

BUILDING PERMIT

N.C.

DATE 13 December 19 82 PERMIT NO. 82-73

APPLICANT General State Authority ADDRESS Upper Providence Twp., 1301 Black Rock Road, Box G, Oaks, Penna. 19436

PERMIT TO Restore House () STORY 1 NUMBER OF DWELLING UNITS 1

(TYPE OF IMPROVEMENT) NO. (PROPOSED USE)

AT (LOCATION) Lock 60, Lock House ZONING DISTRICT Inst.

(NO.) (STREET)

BETWEEN Bridge Street AND Tow Path (Dend End)

(CROSS STREET) (CROSS STREET)

SUBDIVISION _____ LOT 35 BLOCK 25 LOT SIZE +5 Acres

BUILDING IS TO BE _____ FT. WIDE BY _____ FT. LONG BY _____ FT. IN HEIGHT AND SHALL CONFORM IN CONSTRUCTION

TO TYPE _____ USE GROUP _____ BASEMENT WALLS OR FOUNDATION _____ (TYPE)

REMARKS: _____

AREA OR VOLUME _____ ESTIMATED COST \$ 11,800.00 PERMIT FEE \$ N.C.

(CUBIC/SQUARE FEET)

OWNER Same as above BUILDING DEPT. BY _____

ADDRESS _____

CONSTRUCTION PERMIT

UPPER PROVIDENCE TOWNSHIP

PERMIT NUMBER: 20020640

DATE: 12/10/2002

CONTROL: 6955

APP. DATE 12/10/2002

OWNER/PROPERTY DETAILS:

BLOCK <u>25</u>	UNIT <u>40</u>	ZONING DISTRICT _____
WORK SITE <u>Lock 60 Access Road</u>	CONTRACTOR <u>Gothiestone Tile Gallery</u>	
OWNER <u>Commonwealth Of PA</u>	ADDRESS _____	
ADDRESS _____	<u>Wayne, PA 19087</u>	
PHONE _____	PHONE _____	

CROSS STREETS _____ AND _____
SUBDIVISION _____ FEE \$ 0.00

DESCRIPTION OF WORK:

Miscellaneous- Repairs to Exterior

\$40,000.00

THIS PERMIT CONVEYS NO RIGHT TO OCCUPY ANY STREET, ALLEY OR SIDEWALK OR ANY PART THEREOF. THIS PERMIT DOES NOT RELEASE THE APPLICANT FROM THE CONDITIONS OF ANY APPLICABLE SUBDIVISION RESTRICTIONS. APPROVED PLANS MUST BE RETAINED ON JOB AND THE PERMIT KEPT POSTED UNTIL FINAL INSPECTION HAS BEEN MADE AND PASSED. WHERE A CERTIFICATE OF OCCUPANCY IS REQUIRED, SUCH BUILDINGS SHALL NOT BE OCCUPIED UNTIL FINAL INSPECTION HAS BEEN MADE. WHERE APPLICABLE SEPARATE PERMITS FOR MECHANICALS MAY BE REQUIRED.

MINIMUM OF THREE REQUIRED

CALLED FOR INSPECTIONS

FOR ALL CONSTRUCTION WORK

1. FOOTING AND FOUNDATION PRIOR TO CONCRETE PLACEMENT

2. FRAMING- PRIOR TO COVERING STRUCTURAL MEMBERS

3. FINAL INSPECTION BEFORE OCCUPANCY

INSPECTIONS INDICATED CAN BE ARRANGED FOR BY TELEPHONE OR IN WRITING.

THE APPLICANT & OWNER ARE RESPONSIBLE FOR INSURING ALL INSPECTIONS HAVE PASSED BEFORE PROCEEDING WITH WORK.

NOTES: _____

INSPECTIONS: FOOTING _____ FRAMING _____ FINAL _____ ELEC. _____ & _____
SEWER _____ FOR INSPECTIONS CALL 610-933-9179 (24hr. NOTICE REQ'D.)

CONSTRUCTION PERMIT

UPPER PROVIDENCE TOWNSHIP

PERMIT NUMBER: 20030774

DATE: 10/08/2003

CONTROL: 7794

APP. DATE 10/08/2003

OWNER/PROPERTY DETAILS:

BLOCK 025 UNIT 040

ZONING DISTRICT _____

WORK SITE 400 TOEPATH ROAD

CONTRACTOR BETHANY GROUP, INC.

OWNER COMMONWEALTH OF PENNSYLVANIA

ADDRESS P.O. BOX 987

ADDRESS _____

VALLEY FORGE, PA 19482

PHONE _____

PHONE _____

CROSS STREETS _____

AND _____

SUBDIVISION _____

FEE \$ 590.00

DESCRIPTION OF WORK:

ALTERATION TO LOCK KEEPER HOUSE

SCHUYLKILL CANAL LOCK 60 ---\$ 60,601.00

NOTE2000 ICC INTERNATIONAL PLUMBING CODE IN EFFECT ACCESSIBILITY REQUIREMENTS
APPLY

THIS PERMIT CONVEYS NO RIGHT TO OCCUPY ANY STREET, ALLEY OR SIDEWALK OR ANY PART THEREOF. THIS PERMIT DOES NOT RELEASE THE APPLICANT FROM THE CONDITIONS OF ANY APPLICABLE SUBDIVISION RESTRICTIONS. APPROVED PLANS MUST BE RETAINED ON JOB AND THE PERMIT KEPT POSTED UNTIL FINAL INSPECTION HAS BEEN MADE AND PASSED. WHERE A CERTIFICATE OF OCCUPANCY IS REQUIRED, SUCH BUILDINGS SHALL NOT BE OCCUPIED UNTIL FINAL INSPECTION HAS BEEN MADE. WHERE APPLICABLE SEPARATE PERMITS FOR MECHANICALS MAY BE REQUIRED.

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INSPECTIONS INDICATED CAN BE ARRANGED FOR BY TELEPHONE OR IN WRITING.

THE APPLICANT & OWNER ARE RESPONSIBLE FOR INSURING ALL INSPECTIONS HAVE PASSED BEFORE PROCEEDING WITH WORK.

NOTES: IMPORTANT NOTES ON PERMIT - READ & FOLLOW CAREFULLY

INSPECTIONS: FOOTING _____ FRAMING _____ FINAL _____ ELEC. _____ & _____
SEWER _____ FOR INSPECTIONS CALL 484-391-2364 (24hr. NOTICE REQ'D.)

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The Vertex Companies, LLC

For All Inquiries call (888) 298-5162

TABLE OF CONTENTS

***DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS**

Refer to Montgomery County Bonfire bid website for Division 00 materials not contained in this specification

000110	TABLE OF CONTENTS
003126	EXISTING HAZARDOUS MATERIAL INFORMATION
003126A	EXISTING HAZARDOUS MATERIAL REPORT (ATTACHMENT)
004116	GENERAL CONSTRUCTION BID FORM
004117	PLUMBING CONSTRUCTION BID FORM
004118	MECHANICAL CONSTRUCTION BID FORM
004119	ELECTRICAL CONSTRUCTION BID FORM
007300	SUPPLEMENTARY CONDITIONS
008200	SAFETY & HEALTH MANAGEMENT

***DIVISION 01 – GENERAL REQUIREMENTS**

011000	SUMMARY OF WORK
011200	MULTIPLE CONTRACT SUMMARY
012100	ALLOWANCES
012200	UNIT PRICES
012500	SUBSTITUTION PROCEDURES
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
013200	CONSTRUCTION PROGRESS DOCUMENTATION
013300	SUBMITTAL PROCEDURES
014000	QUALITY REQUIREMENTS
014200	REFERENCES
015000	TEMPORARY FACILITIES AND CONTROLS
016000	PRODUCT REQUIREMENTS
017000	EXECUTION AND CLOSEOUT REQUIREMENTS

DIVISION 02 – EXISTING CONDITIONS

024100	DEMOLITION
--------	------------

DIVISION 03 – CONCRETE

033000	CAST-IN-PLACE CONCRETE
--------	------------------------

DIVISION 04 – MASONRY

040100	MAINTENANCE OF MASONRY
040511	MASONRY MORTAR AND GROUTING

DIVISION 05 – METALS

055000	METAL FABRICATIONS
--------	--------------------

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

060300	CONSERVATION TREATMENT FOR PERIOD WOOD
061000	ROUGH CARPENTRY
062000	FINISH CARPENTRY

064100	ARCHITECTURAL WOOD CASEWORK
064300	WOOD STAIRS AND RAILINGS
066300	PLASTIC RAILINGS

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

072100	THERMAL INSULATION
072113	FOAM BOARD INSULATION
072119	FOAMED-IN-PLACE INSULATION
072500	WEATHER BARRIERS
074113	METAL ROOF PANELS
074643	COMPOSITION SIDING
076200	SHEET METAL FLASHING AND TRIM
077123	MANUFACTURED GUTTERS AND DOWNSPOUTS
079200	JOINT SEALANTS

DIVISION 08 – OPENINGS

080152	WOOD DOOR RESTORATION
081433	STILE AND RAIL WOOD DOORS
081613	FIBERGLASS DOORS
085313	VINYL WINDOWS
087100	DOOR HARDWARE – DORMAKABA

DIVISION 09 – FINISHES

090300	RESTORATION AND REPLACEMENT OF PLASTER FINISHES
092116	GYPSUM BOARD ASSEMBLIES
092400	CEMENT PLASTERING
093000	TILING
096500	RESILIENT FLOORING
099100	PAINTING AND COATING

DIVISION 10 – SPECIALTIES

101423	PANEL SIGNAGE
102800	TOILET ACCESSORIES
104400	FIRE PROTECTION SPECIALTIES
105723	CLOSET AND UTILITY SHELVING

DIVISION 10 – SPECIALTIES

123600	COUNTERTOPS
--------	-------------

DIVISION 22 – PLUMBING

REFER TO PLUMBING DRAWINGS

DIVISION 23 – MECHANICAL

REFER TO MECHANICAL DRAWINGS

DIVISION 26 – ELECTRICAL

REFER TO ELECTRICAL DRAWINGS

DIVISION 32 – EXTERIOR IMPROVEMENTS

323313	SITE BICYCLE RACKS
--------	--------------------

REFER TO CIVIL DRAWINGS

SECTION 00.3126
EXISTING HAZARDOUS MATERIAL INFORMATION

PART 1 GENERAL

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

- A. This Section with its referenced attachments is part of the Procurement and Contracting Requirements of the Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidder's own investigations. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions.
- B. An existing hazardous material report for the Project, prepared by The Vertex Companies, LLC , dated November 3, 2024, is available for viewing as appended to this Document.

1.2 QUALITY ASSURANCE

- A. Hazardous Remediation Contractor Qualifications: Perform removal and disposal of hazardous materials under direct supervision of Contractor experienced in this type of work and licensed in the State in which the Project is located. Perform all work in accordance with OSHA , NAICS, and local codes. Provide proof of qualifications to local authorities having jurisdiction prior to start of work.
- B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of type specified in this section.
- C. Post Hazardous Removal Testing: Perform air quality testing and other testing as required by all applicable codes and authorities prior to the occupancy of the building for regular construction operations. Provide copies of all reports to Owner and to authorities as required.

SECTION 011000 SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Project information.
- 2. Work covered by Contract Documents.
- 3. Work by Owner.
- 4. Work under separate contracts.
- 5. Owner-furnished products.
- 6. Contractor-furnished, Owner-installed products.
- 7. Access to site.
- 8. Coordination with occupants.
- 9. Work restrictions.
- 10. Specification and drawing conventions.
- 11. Miscellaneous provisions.

- B. Related Requirements:

- 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: Lock 60 Workman's Cottage Renovations

- 1. Project Location: 400 Tow Path Road, Mont Clare, PA 19453

- B. Owner: Montgomery County

- C. Architect: Seiler Drury Architecture

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Interior and exterior renovations to existing Workman's Cottage at Lock 60 park owned by Montgomery County.

B. Type of Contract:

1. Project will be constructed under coordinated, concurrent multiple contracts. See Section 011200 "Multiple Contract Summary" for a description of work included under each of the multiple contracts. Contracts for this Project include the following:
 - a. General Construction
 - b. Mechanical (HVAC) Work
 - c. Plumbing
 - d. Electrical Work

1.5 WORK BY OWNER

A. General:

1. Not applicable.

1.6 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated by requirements of this Section.

- B. Use of Site: Limit use of Project site to work in areas indicated. Do not use or disturb portions of Project site beyond areas in which the Work is indicated except as approved by Owner.

1. Off-hours work:

- a. For the Base Bid, Contractor may assume that all work will occur during regular business hours.

b. Definition of off-hours:

- 1) From 5:00 PM to 6:00 AM.

2. Site Access

- a. All construction related deliveries and work personnel shall enter the campus via the main access to Lock 60 park.
- b. Construction access to the site will be the main entrance off of Route 29.

- 1) The construction fence shall remain closed during off-hours.

- c. Tools and Materials are to be contained within designated construction areas.

3. See Section 015000 Temporary Facilities and Refer to Construction Logistics Plan included as Appendix B in the Project Manual. Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.8 COORDINATION WITH OCCUPANTS

- A. Partial Owner Occupancy: Owner will occupy the park during entire construction period. Cooperate with Owner during construction operations to perform the work so as not to interfere with Owner's operations.
 1. Except as specifically indicated herein, notify Owner not less than 72 hours in advance of activities that will affect Owner's operations in any way not anticipated in the approved Construction Logistics Plan.

1.9 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: 7:00 AM – 3:30 PM Monday through Friday, unless otherwise indicated.
 1. Off Hours: 5:00 PM to 6:00 AM
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Owner not less than ten (10) business days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in elevated levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
- E. Nonsmoking Building: Smoking is not permitted within the building, on the building roof or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- F. Controlled Substances: Use of tobacco products within the existing building is not permitted.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 01 12 00

MULTIPLE CONTRACT SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.
- B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.
- C. Related Requirements:
 - 1. Section 011000 "Summary" for the Work covered by the Contract Documents, restrictions on use of Project site, phased construction and work restrictions.
 - 2. Section 013100 "Project Management and Coordination" for general coordination requirements.

1.3 DEFINITIONS

- A. Not used.

1.4 WORK BY OWNER

- A. N/A

1.5 ACCESS TO SITE

- A. General: Contractors shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to work in areas indicated. Do not use or disturb portions

of Project site beyond areas in which the Work is indicated except as approved by Owner.

1. Limits: Refer to drawings and logistics plan.
 - a. There are limited staging and storage available onsite. Each prime contractor shall coordinate the use of the available space onsite.
 - b. Work outside the perimeter fence and barrier shall be coordinated with the Owner. The barriers shall remain in place as shown at all times.
2. Owner Activities & Operations:
 - a. Active operations for the prison and emergency management services will be in full operation throughout the duration of the project. Contractors shall not block roadway access and control noise, vibration, and disruption to the greatest extent possible.

C. Building Access

1. An access plan is required as part of an overall site logistics plan and specified under Section 015000 Temporary Facilities and Controls.
 2. Refer to Construction Logistics Plan included as an Appendix in the project specifications. The Logistic plan shall be followed at all times. Work that requires the fence to be displaced and/or relocated shall be repaired at the end of each shift. In the event the fence is displaced, a temporary fence and barrier shall be installed to segregate construction activities.
- D. See Section 01 50 00 Temporary Facilities and Controls for further information regarding use of stairs, driveways, walkways, and entrances: Refer to Construction Logistics Plan included as an appendix document. Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
1. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
- B. On-Site Normal Work Hours: 7:00 AM – 3:30 PM Monday through Friday. Contractors intending to work outside normal work hours and/or weekends shall receive approval from the Owner.
 1. Off Hours: From 5:00 PM to 6:00 AM
 2. If second shift is required hours shall be approved by Owner.

- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than ten (10) business days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Other General Provisions
 - 1. The use of tobacco, alcohol, vaping, illegal substances, and/or other similar substances is prohibited. Workers found using these substances will immediately be removed from the project.
 - 2. Weapons, including but not limited to firearms, mace, explosives are prohibited on site. Any person found with weapons will be permanently removed.
 - 3. The General Construction Prime Contractor shall be responsible to establish in cooperation with the Owner, a protocol for securing all construction access points during and at the end of each shift. At a minimum, GC Prime is responsible for opening the construction site at the beginning of each shift and securing at the end of each shift.
 - 4. If deliveries or any other access is required outside of the normal shift hours identified herein, the Contractor shall coordinate with the County.

1.7 PROJECT COORDINATION

- A. All Prime Contractors shall each be fully responsible for the coordination of the work performed by their own forces and those of their contractors. Each of these Contractors is also responsible to cooperate with each other to coordinate the entire work as far as their individual work affects the work of the others and the whole. See Section 013100 – Project Management and Coordination and Section 013200 Construction Progress Documentation for LEAN PROCEDURES which includes requirements for participation in specification coordination and scheduling activities.
- B. MEP Coordination-
 - 1. All Prime contractors are required to fully participate in the MEP coordination process. Reference 01 31 00 for further requirements.
 - 2. The Plumbing Prime will lead the coordination effort for the under-slab coordination, and the HVAC Prime will be the lead for MEP coordination process for above ceiling.
 - 3. The Plumbing Prime will facilitate meetings for the under-slab coordination work and HVAC Prime will facilitate meetings for the above ceiling and coordinate all updates with all prime contractors. Finalized coordination drawings will be

submitted to the EOR for review and approval.

4. General guidelines

- i. Provide clearances for ceiling construction, access doors, clearances for above ceiling equipment, valve access, filter change access, equipment maintenance, damper access.
- ii. Locate accessible items above accessible ceilings to the greatest extent possible.

- C. Scheduling: The GC Prime shall coordinate the scheduling activities of the multiple contracts, prepare an overall project schedule, and monitor and update project schedule periodically based on the input of each Multiple-Prime Contractor. Each Multiple-Prime Contractor shall be fully responsible for the development and maintenance of a project schedule associated with their own work, updated as required to coordinate with the overall project schedule. Refer to specific requirements listed in specification 013100 & 013200.

1.8 GENERAL REQUIREMENTS OF CONTRACTS (ALL PRIMES)

- A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each Contract, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of the Project.

1. Contractor acknowledges and agrees that it has considered all items necessary to complete the Work of each contract. The Work shall be provided in accordance with the Contract Documents and shall include, but not limited to all labor, supervision, material, supports, engineering, tools, equipment, access to work, hoisting, rigging, transportation, permits, taxes, insurance, fees, warranties and guarantees required to perform the complete Work as shown or described in this Summary and the Contract Documents. Contractor shall include all items necessary and/or implied but not necessarily detailed on the Contract Documents or as may be required by local codes and jurisdictions for complete and working systems. No extra compensation will be allowed for any errors or omissions on the part of the Contractor or its contractors and/or Suppliers.
2. It is the responsibility of each contractor to review all the Contract Documents provided. All Contract Drawings, Specifications, and supplemental information are part of each contract. Where specifications, drawings, other information provided contain conflicting information, then the provisions, terms, and conditions of the more stringent shall take precedence.
3. Contractor has visited the site and is familiar with all work conditions. Contractor has reviewed existing conditions in the field and is familiar with security requirements, traffic regulations and other restrictions affecting access to the Work.
4. Unless otherwise indicated, the work described in this Section for each contract shall be

complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.

5. All prime and sub-tier contractors are required to be licensed with all jurisdictions required including but not limited to the State of Pennsylvania, the local municipality, etc.
6. Contractor will secure and pay for all permits required to complete this scope of work including but not limited to building, street & sidewalk closures (which includes lost parking revenue), utility tie ins, etc. Owner will be responsible for the cost of the general building permit. Contractor is responsible for filling out necessary forms, submitting them to the township and filing after award. Contractor will include the building permit cost as a change order with no mark-up.
7. Provide labor and supervision for all AHJ inspections and specialty inspections.
8. Contractor is fully knowledgeable of all applicable local municipality having jurisdiction, Pennsylvania Dept. of Transportation (PENNDOT) and Manual on Uniform Traffic Control Devices (MUTCD) requirements and will comply with same throughout the duration of this project.
9. Contractor shall provide updated As Built CAD file at the completion of the project. As builts related to utility and site improvements shall be completed by a licensed surveyor and all deviations from the design documents clearly noted.
10. Contractors are not permitted to use owner's facilities.
11. Contractors must take necessary measures to protect the existing buildings and site improvements from damage resulting from work within their scope.
12. Contractor is responsible for resolving labor disputes and jurisdictional claims for all work associated with this bid package.
13. Placement of storage containers and other trailers for the MEP Primes must be coordinated with GC Prime for location on site.
14. Delivery and Storage:
 - 1) All materials and equipment shall be delivered to the site and stored at locations coordinated with all other Contractors. Each Contractor shall be responsible for proper care and protection of materials stored on site and shall protect and be responsible for any damage to stored materials. If stored material impacts other contractors work, remove or relocate materials as necessary.
15. Contractors will locate valves, junction boxes and other accessible items above accessible ceilings to the greatest extent possible to avoid the need for access panels. Where access panels are needed, Contractor will provide layout for and supply access panels to the GC Contractor for installation.

16. Each prime contractor will provide blocking, backing, sleeves, and metal fabrication supports for its own work.
17. Prior to installing ceiling tiles and closing hard ceilings, Contractors must ensure above ceiling inspection was completed by AHJ. Contractors will be responsible for labor and material for damaged ceilings to complete work after final ceilings are installed. Above ceiling work is to be completed so as not to delay schedule and the installation of ceiling tile.
18. All Prime Contractors superintendents will accompany the AHJ during the Above Ceiling and final inspections. If re-inspection is required for incomplete work, the Prime contractor responsible will be required to compensate the AHJ for re-inspections.
19. Each Prime Contractor will provide fire stopping and acoustic sealants for its own work. Unless specifically otherwise shown in the Construction Contract Documents it should be assumed that each penetration is independent and not ganged. Fire stopping sealants and materials shall be "red" in color.
20. Construction Cleaning
 - a. General Contractor will provide and maintain dumpsters at the exterior of the building for all prime contractors' use. Each Prime Contractor shall remove trash and construction debris DAILY throughout the construction duration, and each Prime Contractor shall provide means of transport for trash to the exterior dumpsters provided. Each prime contractor shall rough broom sweep work areas DAILY at the end of each shift.
 - b. Access pathways shall be kept clean and free of debris.
 - c. Areas that are not kept clean per the contract requirements or cleaned in a timely manner will be cleaned by others, as directed by the Owner at the Contractor's expense.
 - d. All contractors are responsible for cleaning tools, work surfaces and all common surfaces as required to prevent and mitigate the spread of infectious diseases. Each prime and sub-tier contractor is required to develop and implement protocols to protect its workers including cleaning, temperature screening and other measures deemed necessary.
21. All Prime Contractors shall coordinate under slab utility work sequence. Installation and pipe system tested as complete systems or as partial systems as required to meet the schedule and flow of work so as not to impede the progression of construction.

22. GC Prime will provide only concrete curbs and equipment pads shown on the drawings. Additional supports, pads, curbs, or other concrete required for a complete scope but not shown on the drawings will be the responsibility of this contractor. Each Contractor is to furnish equipment layout drawing(s) for those pads. Drawing(s) shall indicate the anchor bolt layout. Each Contractor shall furnish the necessary equipment anchor bolts for installation by the GC Prime. Each Contractor will provide the field layout of each pad.
23. Layout, control lines and benchmarks are provided for the use of all contractors. If the layout provided is not used for installation of contractors' work, compensation will not be considered for any remedial work required.
24. Contractor understands temporary lighting will be provided at the levels required by OSHA by the Electrical Prime. If additional lighting is required to perform work of this bid package, each Prime Contractor will provide the additional temporary lighting needed.
25. All contractors are responsible for providing their own temporary power until the Electrical Prime Contractor completes the temporary power distribution.
26. All Prime Contractors are responsible for hoisting materials and equipment necessary for the completion of their work.
27. Reference the logistics plan provided for the perimeter fence, barriers, and gates. If removal of any of these components is required to perform work, the contractor requiring will remove and restore at the end of the shift. The perimeter must be secured at the end of each workday.
28. Asset management:
 - a. Asset Management Data (see Exhibit C: Asset Management Information Strategy): Contractor will provide Asset Management information as outlined in the project specifications (See Section 017000 Execution and Closeout Requirements), Exhibit C, and as required based on Contractor's role and scope of work. See Exhibit C for list of asset types and attributes required for this package and process by which to provide asset information.
 - b. Each prime contractor, inclusive of any and all sub-tier contractors, will be responsible for complying with all requirements stipulated as part of the contract documents. Periodic updates shall be provided to ensure compliance. Payments may be withheld for contractors that do not comply with the requirements.
 - c. Each prime contractor shall identify an individual or individuals responsible for developing the asset management data.

1. Contractor's Quality-Control Plan

- a. Each prime contractor is responsible to develop and submit a project specific quality assurance/quality control (QA/QC) plan. This plan shall be submitted to the Owner and A/E within 25 days of the Notice to Proceed (NTP). The Owner and A/E will approve and/or provide comments that must be addressed prior to commencing work. Contractors shall thoroughly review the project documentation requirements and address all required QA/QC requirements related to their scope of work. As a minimum standard, the QA/QC plan shall address the following items:
- 1) Quality Control Organization
 - 2) Design and Procurement Coordination
 - 3) Submittals & Approvals
 - 4) Virtual Design and Construction Utilization
 - a. Coordination and clash detection
 - b. Field management for construction
 - 5) Pre-Installation Conferences
 - 6) Testing and Inspection Activities
 - a. AHJ Inspection requirements & test reporting
 - b. Quality Control Testing Plan
 - c. Checklist
 - 7) Material and Equipment Management
 - 8) Housekeeping & Dust Control
 - 9) Documentation & Reporting of Quality Control Activities
 - a. Documentation
 - b. Non – Conformance
 - c. Tracking
 - d. Completion
 - 10) Commissioning Assistance
 - 11) Turnover & Closeout
- b. The plan shall clearly define the contractor's approach and methodology for each item. Provide sufficient detail describing the contractor's implementation and management of the plan throughout the project.
- c. Once the plan is approved, the Contractor shall notify the Owner in writing of all changes for review and acceptance. This includes changing individual(s) specifically named as part of the QA/QC plan.
- d. Each prime contractor's plan shall include subcontractors' work and specific controls that will be put in place to ensure compliance with the QA/QC plan.
- e. The Owner will schedule periodic meetings to review the QA/QC plan and its implementation. Lead QA/QC individuals from each contractor are required to attend.

GENERAL SAFETY REQUIREMENTS

- a. The General Construction Prime Contractor is the controlling contractor as defined by OSHA.
- b. Prime contractors and associated contractors working onsite shall comply with all applicable government regulations, specific client rules and regulations, and requirements dictated within the project specification requirements. If any of these standards, requirements, rules or procedures conflict, the most stringent one will prevail.
- c. It is the responsibility of ALL Prime Contractors to make sure their employees and contractors understand all job site rules, safety procedures and come to the site prepared to complete their scheduled work with clear direction from the Prime Contractor on the scope of the work, schedule, current drawings, specifications and sketches.
- d. Minimum PPE will include hard hat, high visibility clothing, cut resistant gloves, safety glasses and sturdy work boots/foot protection & work attire including long pants and sleeved shirts. ANSI reflectivity requirements must be met when working in traffic and/or at night. It is the Prime Contractor's responsibility to provide additional PPE as required for their task. PPE shall be worn at all times.
- e. Each prime shall submit a Project Specific Safety & Environmental Plan addressing the hazards of their scope of work and mitigation plans to control the hazards. Plan shall be submitted two weeks prior to the start of the prime's work for review by the Owner. Contractors shall refer to the table contained below to reference minimum worker training requirements. The PSSP shall:
 - i. Identify each component of the work that the contractor is responsible for completing.
 - ii. Identify hazards associated with the work and the proper equipment and tools to perform the work.
 - iii. Plan adequate and sufficient controls to protect their work crews.
 - iv. If the project specific safety plan needs revision due to scope of work changes, unanticipated or new hazards, other condition changes, etc., then all work pertaining to that work component will stop until a new project specific safety plan is completed.
- e. Crew Daily Pre-Task Safety & Hazard Analysis Planning (DHA)
 - 1) A Daily Pre-Task Safety & Hazard Analysis Plan will be completed daily by each crew performing work on this project.
 - 2) Each foreman/first-line supervisor will analyze task(s) to be performed by their crew and identify the work sequences, hazards, training, controls, and emergency action plans necessary to protect workers from the identified hazards.
 - 3) The work will be broken down into individual steps (i.e. all the steps the work crew will have to take in order to complete that task); the known hazards associated with the work; and the hazard controls (tools, safety equipment, safety rules, safe work

- practices, etc.). This is a time for workers to provide input into the pre-task plan.
- 4) Foreman/first-line supervisors will review the plan with their respective work crew so that each worker is aware of what work activities will occur during the shift, what hazards to be aware of and how to properly control or eliminate those hazards. Each worker will sign the plan stating that they understand the work activities, hazards, and controls. This is also an acknowledgement that each worker agrees to work according to the plan.
 - 5) The completed pre-task plan shall be posted in a conspicuous location near the work activity.
 - 6) Those tasks with similar work can use prior pre-task plans, but the plan must still be dated and reviewed with crew members at the beginning of the shift. If the scope of work changes or a new hazard appears during the work, the first-line supervisor will stop their crew members and revise the pre-task plan.
 - 7) End of shift sign off. Each worker is required to sign off at the end of shift confirming that any injuries were reported.
- f. Hazardous Materials
- 1) In the event that unknown suspected hazardous materials are uncovered during the work, all workers shall stop work and notify the owner.
- g. Each contractor will be held in strict accordance with all safety and environmental regulations and requirements. Any worker that fails to follow the policies will be dealt with in accordance with the disciplinary program as described below. Prime and/or contractor supervision (including onsite and office personnel) that oversee workers that have recurring safety or disciplinary infractions will be removed from the project site in addition to worker(s) violating the project requirements.
- 1) Disciplinary Program
 - a) At-risk behavior on this project that could contribute to an incident or injury will not be tolerated. Each worker has an individual responsibility to work safely, and each first-line supervisor is responsible to correct at-risk behavior of workers under their direction.

At-risk behaviors considered Immediately Dangerous to Life or Health that may result in immediate termination from the project, include, but are not limited to:

 - Failure to follow the Fall Protection Policy
 - Failure to follow the Substance Abuse Policy
 - Possession of firearms, explosives, or dangerous weapons
 - Theft and other criminal activity
 - Entering or allowing to enter an unprotected trench or excavation.
 - Failure to follow lockout/tagout procedures.
 - Fighting, horseplay, or practical joking
 - Entering or allowing to enter, a confined space without following procedures.
 - Unsafe and/or reckless operation of motorized vehicles or equipment

- b) For those acts or practices not considered Immediately Dangerous to Life or Health the following will apply:
 - First occurrence: Verbal, written warning, and/or re-training by the prime contractor
 - Second occurrence: Written warning, re-training, suspension, or termination from the project
 - Third occurrence: Termination from the project
- h. No work will be performed on any energized electrical circuit, buss-bars, equipment, or panels unless an approved written work plan is developed in accordance with Chapter 1 of NFPA 70E and submitted to A/E and Owner for review prior to performance of work.
- i. Electrical equipment and tools used on this project shall be inspected by a competent person to prevent any worker from receiving an accidental electrical shock. This rule will apply to all cord sets, portable electrical equipment, tools, and appliances not part of any permanent building or structural electrical systems.
- j. All temporary cords will be three wire, 16 gauge or heavier, with a hard or extra hard duty rating.
- k. Electrical Cord Management
 - 1) All cord sets will be elevated above the work surface when practical.
 - 2) Wire, nails, or other conductive material will not be used to hang or attach cord sets or welding leads.
 - 3) Cord sets that cross roadways will be protected from damage by vehicle and equipment traffic by devices such as hose bridges.
- l. General Electrical Requirements
 - 1) Light stringers and halogen lamps will have the lamps protected from accidental contact or breakage and will be hung per manufacturer specifications.
 - 2) UL approved covers are required on all panels, load centers, pull boxes, etc. prior to energizing. Necessary steps will be taken to prevent unauthorized or unqualified workers' access to energized electrical parts or equipment.
- m. Additional Fall Protection Requirements
 - 1) Prime contractors, subcontractors, vendors, or other third-party individuals will take all practical measures to eliminate, prevent, and control fall hazards. All work will be planned with the intent to eliminate identified fall hazards. When a fall hazard has been identified and cannot be eliminated, then effective means of fall protection will be implemented. Acceptable fall protection systems included the following:
 - a) Guardrail systems
 - b) Safety netting
 - c) Covers for floor, roof, and wall openings.
 - d) Positioning device systems
 - e) Protection from falling objects.
 - f) Personal fall arrest systems
 - 2) Retractable lifelines shall be utilized with personal fall arrest systems; lanyards will not be acceptable.

- 3) 100% Fall Protection Required. All employees will be 100 percent protected while working six feet or higher off the ground or when hazards below six feet dictate enforcement at a lesser height. This policy will apply to all contractors, even when OSHA allows exceptions. In the event where local statutes require fall protection at less than six feet the more stringent standard will apply.
 - 4) Workers engaged in steel erection activities, including but not limited to connecting, decking, and bolt up, are not exempt from the 100 percent fall protection requirements when working from heights of six feet or greater.
- n. Fire Protection and Prevention
- 1) Prime contractor shall develop and provide a Fire Protection Plan in accordance with OSHA 29 CFR 1926 Subpart F.
 - 2) All activities that require welding, cutting or an open flame is present require a minimum of 1 hour fire watch and 2hour fire watch for new and existing roof areas. Provide continuous fire watch, including off hours, for temporary heating using open flame units. Refer to specification 01 50 00 Temporary Facilities & Controls for further fire watch requirements.
 - 3) Any temporary structures or protection shall be construction of non-combustible material or have a fire resistance rating of one (1) hour.
 - 4) Hot work is defined as the use of open flames, other heat sources, and/or spark producing devices in areas where combustible or flammable materials are present and/or where there is potential for explosion or fire. Hot work activities include burning, welding, cutting, grinding or other operations that produce a flame, heat, or sparks.
 - a) Prior to performing "Hot Work" operations, workers shall notify the Owner in accordance with requirements set forth in the contract documents.
- o. Flammable Liquid Storage & Dispensing
- 1) All storage tanks/drums will be placed in a berm or other secondary containment. Berms will be lined with minimum 6-mil plastic sheeting that is fuel resistant. PVC linings are not allowed.
- p. Prime Contractor Safety Personnel
- 1) Each contractor expected to have less than thirty (30) workers on-site will designate a safety representative prior to mobilization. This on-site safety representative will be a competent worker who has completed at least 30 hours of OSHA awareness training and who may have other onsite duties.

Contractors that plan to have thirty (30) or more workers (including tiered subcontractors) will provide a full-time on-site safety professional upon mobilization. This person shall have no other responsibilities.

Contractors will submit the resume of their proposed safety professional or representative to be reviewed by the Owner. The Owner will determine if the

proposed safety professional or representative has the training and experience required for this project. This person will have the authority and responsibility to ensure the proper implementation of safety requirements stipulated within their PSSP and project requirements.

Contractor safety professionals and representatives will have the full authority to implement safety corrections and recommendations. Subcontractor safety professionals and representatives will have authority to stop any work they deem unsafe.

- 2) When prime contractor crew sizes 30 workers and larger, inclusive of sub tier contractors, the contractor shall employ a full-time on-site safety professional. This individual shall be dedicated to safety oversight and not have a dual role. The safety professional shall have the following minimum qualifications:
 - a) Five years’ construction experience, one year of which includes on-site construction safety responsibilities.
 - b) Specialized training relevant to scope of work.
 - c) OSHA 30hour construction safety awareness course.
 - d) Working knowledge of safety regulations and hazard control methods.
 - e) Demonstrated ability to conduct safety training.
 - f) The minimum duties of the designated safety professional and/or representative will be:
 - g) Investigate any incident or near miss and report the findings to Owner.
 - h) Attend safety meetings as required
 - i) Conduct regular safety meetings with workers to instruct them on project safety practices and requirements.
 - j) Conduct written daily safety inspections of their work activities and make available to Owner for review to ensure compliance with safe work practices and this Safety & Health Management Program.
 - k) Take direction from Owner related to timely abatement and control of hazards.
- 1. Safety Meetings
 - 1) Safety personnel are required to attend all meetings stipulated in the “Lean Procedures”
including but not limited to Last Planner and Daily Huddles.
- 2. Silica- if there is a potential for silica exposure, the contractor shall submit a Silica Control Plan. If the contractor opts not to follow Table 1 from OSHA 1926.1153 Respirable crystalline Silica standard, historical data must be provided.

PSSP Minimum Worker Training Requirements		
Topic	Who Needs Training	What Training is Needed

Project Specific Safety Orientation	All project management, supervision, and workers entering the project	Safety rules and procedures contained in the Safety & Health Management Program (SHMP), site-specific emergency action plan, each worker's responsibilities, disciplinary program, and warm up and stretching exercises
Hazard Communication	All workers entering the project	Hazard Communication Basic Training (Refer to Hazard Communication Program in this SHMP)
Hazardous Chemical or Substance	Workers exposed to a hazardous chemical or substance	Specific Hazard Communication Training (Refer to Hazard Communication Program in this SHMP)
Respiratory Protection	Workers require respiratory protection, including common dust masks	OSHA 29 CFR 1910.134 & 139 or 1926.103
Fall Protection	Any worker who might be exposed to a fall hazard	• The nature of fall hazards • Procedures for erecting, disassembling, maintaining, and inspecting fall protection systems

		• Use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, controlled access zones and other fall protection • Procedures for handling equipment and erection of overhead protection • Fall protection standards • Rescue Plan
PPE	Workers using PPE	Refer to section on PPE or regulatory standards
Forklifts	Operators of powered industrial trucks	• Types of trucks operated • Hazards of the workplace • Hands-on performance evaluation
Confined Spaces	Any worker attending to, supervising, entering, or working within a confined space	• Hazards of the space • Duties of entrants, attendants, supervisors • Air monitoring

1 Permit-Required Confined Spaces	Any worker attending to, supervising, entering, or working within a permit- required confined space	• Hazards of the space • Duties of entrants, attendants, supervisors • Measures used to eliminate or control hazards • Air monitoring requirements • Emergency procedures/rescue equipment • Communications • Permitting procedure • PPE
Excavations/ Trenches	Workers entering or working within an excavation/tre nch	• Hazards of the space (slides, cave-ins, water accumulation, etc.) • Safe means of access/egress • Proper support system procedures (erection, maintenance, disassembly, and inspection)
Lockout/Tagout	Workers affected by hazardous energy sources	• Nature of known hazardous energy sources • Project-specific Lockout/Tagout procedures
Gas Welding & Cutting	Workers conducting gas welding and/or cutting	• The safe use of fuel gas
Arc Welding & Cutting	Workers conducting arc welding and/or cutting	• What to do with unattended machines and electrode holders • Operations around water • Shielding arc welding
Hot Work	Workers conducting hot work activities	• Hazards of the area • Permits • Duties of Fire Watch • How to use a fire extinguisher
Scaffolding	Workers working from scaffolding	• The nature of any known hazards • Proper erection, maintenance, and disassembly of fall protection systems • Falling object protection • Material/equipment handling from scaffold • Maximum load-carrying capacity • Scaffold tagging system • Access and egress

Crane Baskets	Workers working from crane baskets	• Safe work rules • 100% fall protection • Lift plans contents • Emergency procedures
Silica	Workers potentially exposed to Respirable crystalline silica	• Hazards of Respirable crystalline silica • Understanding Table 1 • If needed, respiratory protection program

11. Radios, headphones, and other music devices are prohibited. Any contractor using these devices will be removed from the project.
12. Testing and Inspections
 - a. All Prime Contractors shall fully cooperate with any Testing and Inspection agencies retained by Montgomery County, including implementation of any remedial work recommended as a result of such inspections. It will be the responsibility of the Contractors to provide proper coordination and timely notification to the testing agency, inspecting authorities, etc.
 - i. The County's testing and inspection agency will provide required structural steel, concrete, masonry, Spray on Fireproofing, Acoustical Spray Applied Attenuation, soil compaction and asphalt testing. All re-inspection costs due to failures and non-conformance will be the responsibility of contractor. All specialized testing and/or inspections needed for temporary or permanent construction methodologies, not listed above, are the responsibility of the appropriate Prime or sub-tier contractor.
 - b. All Prime Contractors shall fully cooperate with any local and/or State inspection authority and coordinate inspections including any remedial work recommended as a result of such inspections. Any premium labor costs associated with such inspections will be the responsibility of the Contractor. Contractors shall identify inspection dates on weekly work schedule.
 - c. Prime Contractors will provide labor to assist in inspections by the AHJ and independent testing agencies.
13. Daily Construction Reports
 - a. Daily Construction Reports shall be submitted electronically to the Owner and should be completed per project specifications. Each Prime Contractor is required to complete and submit daily reports which shall be written and signed by the contractors lead supervisor or foreman on site. The Owner will verify the reports to ensure details are accurately documented. Payments may be withheld upon failure to submit these reports.
14. Site Condition Reports
 - a. Submit at time of discovery of differing conditions. All primes are responsible for reviewing the project conditions prior to starting their work. Contractors shall report prior to the start of work any differing conditions and/or damages part of existing materials that exist to remain. Issues that are not reported will be the responsibility of the prime contractor.

15. Finished Work & Protection

- a. All Contractors are responsible for the protection of finished work, both their own and that of others, as may be required to perform their own work. Each Contractor is responsible for any damage which may occur to the property of any other Contractor connected with the work or to adjacent private or public properties, or to any portion of the structure that in any way results from the acts of or neglect of his/her employees.
- B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.
- C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 015000 "Temporary Facilities and Controls," each contractor is responsible for the following:
 1. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
 2. Computers, printers, and office supplies necessary for their own activities.
 3. Temporary enclosures for its own construction activities except that the temporary construction barrier required to separate the work area from Owner's operations shall be the responsibility of the General Contractor.
 4. Staging and scaffolding for its own construction activities.
 5. General hoisting facilities for its own construction activities.
 6. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
 7. Progress cleaning of work areas affected by its operations daily.
 8. Secure lockup of its own tools, materials, and equipment.
 9. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
- D. Project Security, Background Checks and Badging Requirements
 1. The project site perimeter (existing or temporary) must be maintained and left secure at the end of each shift. Prime Contractors shall provide barriers to restrict unauthorized access into the building at all times.
 2. Badging requirements will not be instituted for the Archives Building.

2.0 GENERAL CONSTRUCTION CONTRACT (GC Prime)

- A. Work in the General Construction Contract includes, but is not limited to, the following:

Specifications

- a) Division 0 Bidding & Contracts
- b) Division 1 General Requirements
- c) Division 2 Selective Demolition

- d) Division 3 Concrete
- e) Division 4 Masonry
- f) Division 5 Metals
- g) Division 6 Wood, Plastics, and Composites
- h) Division 7 Thermal and Moisture Protection
- i) Division 8 Openings
- j) Division 9 Finishes
- k) Division 10 Specialties
- l) Division 11 Equipment
- m) Division 31 Earthwork
- n) Division 32 Exterior Improvements
- o) Division 33 Utilities
- p) Division 34 Traffic Control Signage

GENERAL

1. Remaining work not identified as work under other contracts.
2. Contractor will provide engineered layout for all work associated with this contract and provide layout control lines and elevations for use of all contractors. CAD files will be provided by the A/E for layout control points for site improvements. Protect and extend layout points established during construction.
3. Contractor will use their own surveyor to verify existing conditions, including but not limited to, utility inverts, paving elevations, curb and sidewalk elevations, lines, and grades. Survey will be performed prior to starting work to allow the designers sufficient time to address any errors found between existing conditions and contract documents. Within 20 days of notice to proceed NTP Survey existing conditions and notify the Owner and A/E of discrepancies that could impact the work of this Bid Package.
4. Contractor will padlock and secure all gates and entrances at the end of each shift. Contractor will open the gates at the beginning of each shift.
5. Contractor will provide and maintain portable temporary sanitary facilities and hand wash stations with water for use of all Contractors. Provide soap, hand sanitizer and disposable towels at hand wash stations. Portable toilets are to be cleaned and sanitized a minimum of two times a week. GC shall perform more frequent cleaning to ensure surfaces are wiped down with appropriate cleaners to mitigate disease spread. Provide trash receptacles for disposable towels at each toilet and handwashing station. GC shall empty trash receptacles daily. Provide sufficient items described to support the number of workers on site.
6. Contractor will provide and maintain temporary storage for its own use. Utilize an area on site for storage facilities that will not impact the work.
7. Contractor shall provide snow removal for clear pathways within the construction

fence. Snow removal is required in all areas of active construction, construction entrances, construction parking lots, and staging areas.

8. Temporary electric with general convenience power and lighting will be provided by the Electrical Prime Contractor. If needed, Contractors will make arrangements with the Electrical Prime and pay for connections to the temporary electric services for specialty equipment and special needs. Reference the Electrical Prime Scope of Work for further information.

EARTHWORK

1. GC Prime is responsible for hiring a 3rd party utility locator in addition to PA One Call; Site utility survey shall be performed prior to mobilization. Report any conflicts immediately to Owner.
2. Earthwork and utility inspections will be performed by the Owner's independent inspection agency. Provide sufficient notice of inspections required to allow for scheduling inspections. Provide at least 24-hour notice of adjustments or cancellations to the inspection schedule. Contractor will be responsible for inspection costs resulting from untimely cancelled inspections and for special inspections of deficient work.
3. Partial testing of systems may be required so that other contractors can complete their work in a timely manner. These tests will be performed as directed by the A/E at no additional cost to the owner. Any additional valving or capping of lines required for this testing will be this contractor's responsibility.
4. Contractor will keep the site, and public roads free of dirt and mud during construction. Sweep the roads as needed or at the discretion of the Owner. Remove mud from vehicle and equipment tires prior to leaving the site.
5. Provide dust control by appropriate means to ensure the protection of existing facilities, adjacent properties, roads, and other areas that could be affected by dust.
6. Provide and maintain erosion and sediment (E&S) control measures as indicated or required. GC Prime Contractor will inspect the erosion and sediment control measures a minimum of once per week and following each rain event. Repair, replace and/or de-silt any erosion and sediment control measures that are compromised because of construction activities or weather events. Remove all E&S control systems and measures in accordance with NPDES requirements.
7. Unsuitable material: "Unsuitable Material" is defined as material that does not meet the compaction criteria as outlined in the Geotechnical report only after a reasonable effort acceptable to the Geotechnical Engineer or the onsite inspection agency to scarify, moisten or aerate these materials has proved to be unsuccessful. The final determination as to whether the material is "unsuitable" shall be determined solely by the third-party inspection agency.

Removal and replacement of unsuitable material will be on a unit price basis. If this contractor fails to protect excavated soils from exposure to moisture or freezing, removal and replacement will be at the cost of this contractor.

8. The Owner and Consultants make no representation that the sub-surface information is accurate, or that the actual conditions or materials encountered will be as indicated in the geotechnical report. The Contractor is thoroughly familiar with the conditions at the site and the materials to be encountered, and assumes all risk and responsibility for demolition, earth retention, excavation and backfill as indicated and required by the contract documents.
9. Bulk excavation and trenching is on an UNCLASSIFIED basis. Contractor will remove all materials encountered to subgrade elevations indicated. Unsuitable material below subgrade elevation will be removed and replaced on a unit price basis.
10. Provide site utility systems including storm, sanitary and domestic water. All services shall be installed to the first flange inside the building, except where noted otherwise. Coordinate testing, connections, sleeves, etc. with MEP prime contractors. The EC prime is responsible for providing the electrical duct bank from utility pole to building. All utility installation across roads shall be sequenced not to block traffic.
11. Coordinate all access, deliveries, laydown areas, concrete wash out, and equipment locations.
12. Provide all weather protection necessary to accomplish the scope of work in accordance with the schedule requirements. This shall include but not limited to dewatering of excavations, winter protection and temporary heat and frost protection of subgrade as required.
13. Include restoration, stabilization and seeding of any disturbed grassy areas.
14. Include restoration of the area where the construction trailers currently sit upon removal at the completion of the project. This includes removal of stone walkways, grading to flat surface, and installing grass seed.
15. Include cleaning of construction trailer once a week. This includes cleaning bathrooms, mopping/sweeping floor, and emptying of trash cans to dumpster.
16. Provide a dumpster at the conclusion of the project for cleanout of the construction trailer.

GC PRIME ADDITIONAL SCOPE

1. The GC Prime Contractor will assume the role of controlling contractor as defined by OSHA.
2. GC Prime will lay out and provide concrete housekeeping pads, curbs, and bases for MEP equipment shown on all drawings. Review all documents provided for scope. All pads shall be

coordinated with the related Prime Contractor and shall have metal trowel finished and chamfered edges. Any housekeeping pad needed but not shown on drawings will be provided by that MEP Prime.

3. Layout provided by the GC Prime will be for use of all trades.
4. Contractor understands temporary lighting will be provided at the levels required by OSHA by the Electrical Prime. If additional lighting is required to perform work of this bid package, The GC Prime Contractor will provide the additional temporary lighting needed.
5. Prior to the installation of drywall, Contractor will vacuum clean the bottom track of partitions and inside chases and remove all trash and debris regardless of the source.
6. GC Prime will provide red painted 4" stenciled identification at a minimum of 6' intervals on walls approximately 6" above the ceiling indicating the required fire rating and or smoke rating and the UL assembly number.
7. Provide in-wall blocking and backing for work related to this bid package. Each Prime Contractor is responsible for their own blocking and backing.
8. Verify Mock-up requirements in final documents.
9. GC Prime Contractor will install all wall and ceiling access panels furnished by the MEP Primes that are shown on the MEP drawings. Contractor will include framing and blocking for the installation of access panels. Provide an add/deduct unit price for access panel installation and framing beyond what is described above. Reference 01 22 00 for unit prices.
10. Ensure coordination with Plumbing Prime for final drain heights in bathrooms based on thickness of floor finishes. Ensure positive drainage at loading dock floor drains.
11. Provide a building envelope to make a completely weather tight system.
12. Temporary heating, cooling, and ventilation: The GC Prime is responsible for temporary heating, cooling and dehumidification including utility-use charges, temporary meters, and temporary connections until the weather tight milestone is reached. Refer to the Mechanical Prime Scope of work for temporary heating, cooling requirements following the weathertight milestone.
13. Provide and maintain temporary fire extinguishers throughout construction as required.
14. All safety rails, closures, and barricades are to be maintained in place until permanent construction eliminates any hazard entirely.
15. All primes are responsible for the layout of their work. GC is responsible for establishing control lines and benchmarks for the use by all primes. Control lines and benchmark

elevations must be maintained by GC throughout the project.

16. Include furnishing and installing blocking for any OFCI equipment noted on drawings.
17. Include painter for 1 week for paint touch-up after finish coat is applied. This time is outside the required punch list items and to be directed by the Owner.
18. Include specified allowances to be for miscellaneous work as directed by the Owner. See Allowance Specification.
19. Include maintenance and watering of landscaping and grass seed until substantial completion.
20. GC is responsible for penetrations and weathertightness/caulking in wall/roof panels. GC to coordinate penetrations with other primes.
21. GC is responsible for caulking dissimilar materials to ensure a weathertight exterior skin enclosure and in accordance with specification section 079200 – Joint Sealants.

2.1 PLUMBING CONSTRUCTION CONTRACT - Work in the Plumbing Contract includes, but is not limited to, the following:

Specifications:

- Division 0 Bidding & Contracts
- Division 1 General Requirements
- Division 3 Concrete
- Division 22 Plumbing

A. SCOPE OF WORK

1. The Plumbing Contractor shall provide all labor, material, tools, equipment, and supervision necessary to complete the work of this bid package.
2. This Contractor is responsible for all survey, engineering and layout required for work of this bid package from control lines and benchmarks established by the GC.
3. PC Prime to take the lead-role in the below slab coordination drawings. Coordinate with all Primes.
4. Partial testing of systems may be required so that other Contractors can complete their work in a timely manner. These tests will be performed as directed by the A/E at no additional cost to the Owner. Any additional valving and capping of lines required for this testing will be this Contractor's responsibility.

5. Coordinate all access, deliveries, laydown and stockpile areas, equipment locations and sequencing of work with the A/E and Owner.
6. Coordinate the work of this bid package with all other Prime Contractors.
7. This contractor is responsible to removal all trash related to his work to dumpsters provided by the GC.
8. This Contractor will comply with all OSHA requirements pertaining to the performance of his work.
9. Provide and install all sealants, firestop and caulking at all penetrations required in the performance of this Work and as specified in the Contract Documents. The integrity of fire, smoke and sound walls must be maintained. Sealants required at interface points between materials supplied by others and materials supplied by this Bid Package will be this Contractor's responsibility.
10. Provide all hoisting required to complete the work of this bid package.
11. This Contractor is responsible to install the sanitary and domestic water systems. Domestic/Sanitary water shall be installed to first flange inside the building. Perform all final connections to the Work of the GC package. Contractor is responsible for coordinating installation, connections and testing with the GC prime.
12. All excavation for under slab plumbing work is the responsibility of this contractor. PC shall coordinate and sequence floor drains with GC. PC shall protect drains and grates from damage, freezing conditions, and debris. PC is responsible for cleaning floor drains at project completion.
13. Ensure coordination with Plumbing Prime for final drain heights in bathrooms based on thickness of floor finishes. Ensure positive drainage at loading dock floor drains.
14. Provide all insulation as required per the plans and specifications.
15. Provide all plumbing fixtures and final connections said plumbing fixtures and any OFCI equipment.
16. Temporary facilities and controls in the Plumbing Contract include, but are not limited to, the following: Refer to 01 50 00 Temporary Facilities and Controls specification for requirements.
17. Upon substantial completion, or as directed by Owner, this contractor will provide a complete cleaning of the entire plumbing systems. Contractor will wipe clean the tops of the piping and equipment in mechanical rooms and open ceiling spaces. Contractor will provide filter changes for all equipment immediately prior to Owner final acceptance. Contractor will clean the interior of the equipment at substantial

completion.

18. Provide temporary water for construction from permanent installation. Include meter pit and permits and cost of water. Energize when freezing is no longer issue, tied to temporary building conditioning.
19. Furnish all access panels and access doors required for this package to the General Construction for Installation.
20. Provide and maintain temporary water service for use during construction. Coordinate locations with GC. Remove temporary waters service back to the source when directed by the Owner. Use charges are paid by the PC until the domestic water systems are operational.
21. Coordinate installation venting with GC. Cutting penetrations through metal wall/roof panels is GC's responsibility. All other penetrations by Plumbing Contractor.
22. Provide support for openings and equipment required for this Work where support is not shown on the Structural Drawings.
23. Perform the sterilization of all potable water systems and submit final test results from an independent lab showing satisfactory results.
24. This Contractor must procure all equipment in a timely fashion in order to properly incorporate them into the building. Failure to meet this requirement may result in additional costs to this Contractor because of schedule delays by other Contractors.
25. Cleaning and flushing of all water piping. This includes cleaning strainers and cleaning materials required to properly clean systems. Cleaning of all equipment (inside and outside) before final acceptance by the Owner.
26. Install and test all under slab piping, including sleeves, without delaying the placement of foundation and slab-on-grade concrete. Housekeeping pad to be coordinated with GC.
27. Provide all necessary start up required for equipment supplied by this contractor.
28. Provide labeling of piping per specifications.
29. Connections to equipment furnished by all Contracts.
30. All shutdowns of water services will be performed off hours and coordinated with Owner and MC prior to work being performed.
31. Contractor will provide excavation, compacted backfill, restoration and spoils removal for all work related to this bid package. Restore subgrade after completion of

under slab installations.

32. Dewatering necessary for the work within this package.
33. Provide all related requirements for early start-up and usage of the HVAC system. This includes but not limited to water fill/supply and drainage requirements. Refer to HVAC Prime Scope for the early startup of HVAC systems for temporary usage.
34. Pre-test sections and systems during the progress of installation, this includes but not limited to, wall close-in, ceiling close-in, casework and millwork installations. This contractor is responsible for any leaks and damages to finish materials caused by this contractor's work. This contractor is responsible for costs of any repairs by other Prime Contractors and schedule impacts.
35. All exterior utilities will be brought into the building to the first flange by the site contractor except where noted otherwise.
36. Include specified allowances to be for miscellaneous work as directed by the Owner. See Allowance Specification.

2.2 HVAC CONTRACT - Work in the HVAC Contract includes, but is not limited to, the following:

A. GENERAL

SPEC SECTIONS & Description of Work:

Division 00 – Bidding and Contracts
Division 01 – General Requirements
Division 23 - Mechanical

1. The Mechanical Contractor shall provide all labor, material, tools, equipment, and supervision necessary to complete the work of this bid package.
2. This contractor is responsible for all survey engineering and layout required for work of this bid package from control lines and benchmarks established by the GC.
3. Coordinate equipment start up, both temporary and permanent, with Electrical Prime Contractor.
4. Coordinate all access, deliveries, laydown and stockpile areas, equipment locations and sequencing of work with the Owner. Coordinate the work of this bid package with all other Prime Contractors.

5. MC Prime to take the lead with above ceiling coordination. Facilitate meetings and coordinate with all prime contractors.
6. The MC Prime to assume temporary heating, cooling, dehumidification either by utilizing the permanent equipment or bringing in temporary equipment. MC Prime is responsible for use and consumption costs. If utilizing permanent systems, include costs for extended warranty.
7. Contractor will protect (via temporary filter media) all return ducts, air handling equipment, outside air plenums/louvers, and return registers during construction and during periods of operating the air handling and heating units for temporary heating and cooling. Contractor shall change and/or clean filters as required for project duration.
8. Upon substantial completion, or as directed by Owner, this contractor will provide a complete cleaning of the entire mechanical systems Contractor will broom clean the tops of the ductwork and equipment in mechanical rooms. Contractor will provide filter changes for all equipment immediately prior to Owner final acceptance. Contractor will clean the interior of the AHU's and plenums at substantial completion.
9. Contractor will provide the interim maintenance of the equipment during the construction, water treatment as required, startup, temporary usage, and commissioning periods until acceptance by the Owner. This Contractor includes all extended warranties required for equipment used, started and operating prior to Owner acceptance. Maintenance records shall be kept during this period and turned over to the Owner upon request.
10. Contractor will install the duct smoke detectors furnished by the Electrical Prime. Locations are to be coordinated with the Electrical Prime.
11. Contractor will provide protection of the ductwork during the construction period by covering the open ends of the ductwork prior to shipment and recovering the open ends at the end of each day to prevent debris and dirt from entering. Ductwork will not be stored directly on the ground.
12. Pre-test sections and systems during the progress of installation, this includes but not limited to, wall close-in, ceiling close-in, casework and millwork installations. This contractor is responsible for any leaks and damages to finish materials caused by this contractor's work. This contractor is responsible for costs of any repairs by other Prime Contractors and schedule impacts.
13. Partial testing of systems may be required so that other Contractors can complete their work in a timely manner. These tests will be performed as directed at no additional cost to the Owner. Any additional valving and capping of lines required for this testing

will be this Contractor's responsibility.

14. Provide all hoisting required to complete the work of this bid package.
15. This contractor is responsible to removal all trash related to his work to dumpsters provided by the GC.
16. Provide and install all sealants, firestop and caulking at all penetrations required in the performance of this Work and as specified in the Contract Documents. The integrity of fire, smoke and sound walls must be maintained. Sealants required at interface points between materials supplied by others and materials supplied by this Bid Package will be this Contractor's responsibility.
17. Coordinate and layout all pads, curbs, bases, support and thrust blocks required to complete the work of this Bid Package. GC prime is responsible for forming and pouring items noted above if shown on the drawings. Any additional pads/curbs required that are not shown are by this contractor.
18. Provide shop drawings for the locations of all openings and sleeves. Furnish, coordinate, layout sleeves, box outs and openings as required to complete the work of this Bid Package.
19. Cleaning and testing of all systems installed in this Work in accordance with the Contract Documents. The A/E will witness all testing. This Contractor will submit for approval the test reports and procedures that will be used.
20. Provide all touch-up and repair of factory finish surfaces.
21. Provide support for openings and equipment required for this Work where support is not shown on the Structural Drawings.
22. Furnish all access panels and access doors required for this package to the GC prime for installation.
23. This Contractor must procure all equipment in a timely fashion in order to properly incorporate them into the building. Failure to meet this requirement may result in additional costs to this Contractor because of schedule delays by other Contractors.
24. This contractor is responsible for including 2 sets of spare filters to use during construction. Additional spare sets stipulated in the contract documents will be turned over to the owner at closeout.
25. Provide all louvers attached to Mechanical Equipment. Coordinate installation with GC. GC to make all penetrations in metal wall/roof panels.
26. Provide all HVAC equipment and piping accessories required for a functional system

per the plans and specifications - Power for electrical devices for HVAC equipment to be coordinated between Electrical and Mechanical Primes.

27. Provide all controls per specifications and drawings. Control's subcontractor shall provide sufficient start up assistance and troubleshooting until HVAC systems is operating per contract requirements.
28. Provide all equipment, duct, and accessories per contract documents. Coordinate connections and installation with other prime contractors.
29. Provide start up and testing of all new equipment supplied by this contractor. Owner training will not occur at the time of startup and testing. Owner training will be scheduled at a later date.
30. Provide testing and balancing for the work associated with this contract. Make preliminary TAB report available for final inspection.
31. Provide insulation per the specifications.
32. Provide labeling per the specifications.
33. Provide water treatment of the HW system per the specifications.
34. Temporary facilities and controls in the Mechanical Contract include, but are not limited to, the following: Refer to 01 71 00 Temporary Facilities and Controls specification for requirements.
35. Include specified allowances to be for miscellaneous work as directed by the Owner. See Allowance Specification.
36. Coordinate final equipment locations with Owner/Architect prior to installation.

2.3 ELECTRICAL CONTRACT - Work in the Electrical Contract includes, but is not limited to, the following:

SPECIFICATIONS:

Division 0	Bidding & Contracts
Division 1	General Requirements
Divisions	26, 27, 28

A. GENERAL

1. Provide all labor, material, equipment, and supervision necessary to perform the Electrical Work in accordance with all project plans and specifications included in the bid package.

SITE / BUILDING TEMPORARY POWER & LIGHTING

1. Contractor will provide and maintain all temporary power and lighting services to satisfy OSHA, NFPA and NEC requirements.
2. Contractor will secure an underwriter inspection for all work.
3. Contractor includes application for and cost of all permits and inspections related to temporary electric work. Coordinate with utility company.
4. Contractor includes the removal of all work associated with the temporary service as installed when no longer needed and when directed by the Owner. Underground conduit will be capped underground at ends and abandoned in place.
5. Contractor includes any fees or connection charges associated with the connection by the utility company.
6. Contractor includes installing the rigid conduit underground to avoid damage by earth moving equipment and delivery trucks from the temporary service to the building. Coordinate with site utilities and other Prime Contractors work.
7. The physical switching on and off of the temporary (or permanent) lighting systems for the project will be performed via a timer provided by this Contractor. Temporary lighting in all areas shall have a separate circuit for the lights in the means of egress paths which will remain on 24 hours and not tied into to a time clock.
8. Reconfigure and relocate temporary lighting distribution as necessary to accommodate new construction. Patch and repair surfaces damaged due to the installation or removal of the temporary lighting system.
9. Maintain all temporary service equipment, lamps, etc. as required until the permanent service equipment is installed and activated.
10. Temporary power will be distributed sufficiently to accommodate not more than a 50' extension cord at any time. All devices are to be GFCI protected (not breakers), mounted on portable stands and must be tested weekly by this Contractor.
11. Switch over of the temporary service onto the permanent service shall be at a time so as not to affect the on-going construction activities. There will not be additional compensation if conditions require that switchover be performed off hours.
12. Install permanent light fixtures as ceiling framing progresses. Energize permanent light fixtures for temporary lighting as they are installed and remove all temporary above-ceilings prior to ceiling tile installation.
13. All shutdowns related to this contractor's scope of work shall be conducted off hours. The contractor shall provide a written plan and notification to the Owner 72 hours prior to any scheduled work. The Owner and owner will provide confirmation the work can proceed within 24 hours.

NEW CONSTRUCTION

1. Provide and install all electrical power, lighting, grounding, fire alarm, lightning protection and special systems and associated equipment necessary for a fully complete electrical system.

2. Coordination of under slab work with all Primes.
3. Contractor will provide excavation, rock removal, compacted backfill, restoration and spoils removal for all work related to this bid package. Restore subgrade after completion of under slab installations.
4. Provide all primary electrical & data services, concrete encased duct banks, utility protection, spare conduit, perimeter fence and barricade maintenance, road closures, signage and permits. Cover excavations daily and provide specified restoration. Coordinate with utility company, Owner, and Owner prior to starting work.
5. Contractor will provide the interim maintenance of the permanent electrical equipment during the construction, startup, and commissioning periods until acceptance by the Owner. This Contractor will include all extended warranties for equipment used, started and operating prior to Owner acceptance. Maintenance records shall be kept during this period and turned over to the Owner upon request. At a minimum, permanent electric systems will be used for the following prior to substantial completion.
 - a. Light and power during construction
 - b. Permanent HVAC equipment used for temporary heat, cooling, and ventilation.
 - c. Early startup of systems for testing and commissioning
6. Reference the milestone date in the project schedule for startup of permanent HVAC equipment and systems for the use of temporary conditioning. Contractor must provide permanent power for all equipment needed for temporary conditioning.
7. Upon substantial completion, or as directed by Owner, this Contractor will provide a complete cleaning of all electrical equipment, including and not limited to, interior of switchgear and substation components shall be vacuumed and wiped clean. This work will be performed at off- hours and any required shutdown will be scheduled with Owner.
8. GC Prime will provide only concrete equipment pads shown on the drawings. Additional supports, pads, or curbs not shown on the drawings will be the responsibility of this contractor. This Contractor is to furnish equipment layout drawing(s) for those pads. Drawing(s) shall indicate the anchor bolt layout.
9. Contractor will furnish the fire & non-fire rated drywall access doors required to access this Contractor's installation needing access for maintenance and provide the physical layout in the field for installation by the GC Prime. All above ceiling junction boxes and items requiring access will be installed above accessible ceilings to the greatest extent possible.
10. Cutting penetrations through metal wall/roof panels is GC's responsibility. All other penetrations by Electrical Prime.

11. Contractor will expedite the purchase of major equipment.
12. This Contractor is responsible for all final electrical connections to the Work of other prime packages.
13. Partial testing of systems will be required so that other Contractors can complete their work in a timely manner. These tests will be performed as directed by the A/E at no additional cost to the Owner. Any additional work associated with this will be this Contractor's responsibility.
14. Cleaning and protection of the equipment and materials installed in this Work are the responsibility of this Contractor until Final Completion including those items of equipment and materials furnished by others to this Contractor for its installation.
15. Cleaning and testing of all systems installed in this Work in accordance with the Contract Documents. The A/E will witness all testing. This Contractor will submit for approval the test reports and procedures that will be used.
16. This Contractor is responsible for all survey engineering and layout required for work of this bid package from control lines and benchmarks established by the general contractor.
17. Provide support for openings and equipment required for this Work where support is not shown on the Structural Drawings.
18. This contractor is responsible to removal all trash related to his work to dumpsters provided by the GC.
19. This contractor will comply with all OSHA requirements pertaining to the performance of his work.
20. This Contractor must procure all equipment in a timely fashion in order to properly incorporate them into the building. Failure to meet this requirement may result in additional costs to this Contractor because of schedule delays by other Contractors.
21. Provide 120V four plex GFCI receptacles at sufficient Receptacles shall conform to NEC and rules and regulations prescribed by OSHA as well as other agencies having authority. When such codes or regulations are inconsistent, the more stringent will prevail.
22. Provide all heat tracing associated with the Temporary Water as specified in plumbing primes scope of work.

ELECTRICAL CORD MANAGEMENT

1. All cord sets will be elevated above the work surface when practical.

2. Cord sets that cross roadways will be protected from damage by vehicle and equipment traffic by devices such as hose bridges.

GENERAL ELECTRICAL REQUIREMENTS

1. Provide all site electrical per plans and specifications. EC prime is responsible for all excavation, backfill and concrete and asphalt patching required for site electric including the duct banks for both electrical and telecom. EC shall coordinate utility pole, transformer installation and terminations with PECO.
2. Provide all interior and exterior lighting as shown; EC to include all excavation, backfill, and return to subgrade.
3. Provide all electrical gear and distribution equipment per the plans and specifications.
4. Coordinate with other primes to provide final connections of equipment.
5. The Electrical Prime Contractor shall furnish all duct detectors and associated wiring. Installation of detectors is by HVAC Prime Contractor.
6. General Trades contractor to provide all hardware specified and scheduled in Section 08 71 00 in coordination with 28 13 00. Electrical contractor to provide power to each location and coordinate with door hardware vendor and telecom prime contractor. Hardware supplier shall furnish all wiring diagrams to operate electrified hardware.
7. The Electrical Prime Contractor shall provide all straps, connectors, exothermic welds, ground clamps, wiring, ground rods, ground bars accessories and components required for complete and functional building grounding system as required for the Electrical Prime Contractor's scope of work and meets or exceeds all current NEC and local code requirements.
8. Provide start up and testing of all new equipment supplied by this contractor. Owner training will not occur at the time of startup and testing. Owner training will be scheduled at a later date.
9. Upon substantial completion, or as directed by Owner, this Contractor will provide a complete cleaning of all electrical equipment, including and not limited to, interior of electrical panels and exposed conduit in open ceiling areas shall be vacuumed and wiped clean. This work will be performed off-hours, and any required shutdown will be scheduled with Owner.
10. General Trades contractor to provide all hardware specified and scheduled in Section 08 71 00 in coordination with 28 13 00. Electrical contractor to provide power to each location and coordinate with door hardware vendor and telecom prime contractor. Telecom contractor to provide all wiring and make all final

connections for electrified hardware. Hardware supplier shall furnish all wiring diagrams to operate electrified hardware.

11. Coordinate locations of electrical devices with Owner/Architect in field prior to closing in walls.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order. Allowances are to be used at the sole discretion of the Owner. Any unused allowance will be credited back to the Owner via a deduct change order.
 - 2. Contractor Markup: Prime contractors are not allowed mark up on labor, material, and/or equipment when allowances are used. Sub-tier contractors are allowed mark ups consistent with the Owner contract.
- B. Types of allowances include the following:
 - 1. Contingency allowances.
- C. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. As applicable and at Owner's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form

specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 CONTINGENCY ALLOWANCE

- A. Use the contingency allowance only as directed for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Use of allowance will be authorized on a unit price, T&M or Lump Sum basis at the Owners sole option.
- C. Contractor's overhead and profit, on all work ordered by Owner under the contingency allowance are part of the Contract Sum and are not part of the allowance.
- D. Each Prime Contractor's proposed Schedule of Values submitted for approval shall list the designated contract allowance as separate line items.
- E. Each Prime Contractor shall proceed with all allowance work upon authorization from the Owner. When authorized on a unit price or T&M basis, the work shall be properly documented daily by Prime submissions of field tickets to the Owner for signature to verify the hours of work performed or other approved measure. The Owner, at their option, may reach an agreement with the Prime Contractor on a lump sum cost of the work, or a unit rate, at which the Prime Contractor shall perform the entire scope of work. The scope of the work is all inclusive and includes all labor, equipment, supervision, OSHA Safety compliance, materials, and any other special conditions.
- F. The Owner retains sole control over the allowance amount in the contract. Upon completion of the authorized work- with a positive balance remaining for the allowance the Owner shall apply a contract credit in the form of a Change Order to each Prime's contract for the full remaining amount. If during the course of the work the allowance amount is used up, the Owner will issue a Change order to the Prime Contractor for the overage amount. All work that has been properly authorized by the Owner and exceeds the completed allowance amount shall fall under the terms and conditions of the Change

Order compensation section of the Contract Documents for allowable charges and mark-up.

1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
 - 2. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

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3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Existing & Unforeseen Conditions (GC)
 - 1. General Construction Prime Contractor shall include this allowance in the base bid.
 - 2. Amount: \$15,000
- B. Allowance No. 2: Electrical Removal/Relocation/Replacement (EC)
 - 1. Electrical Prime Contractor shall include this allowance in the base bid.
 - 2. Amount: \$15,000

C. Allowance No. 3: HVAC Removal/Relocation/Replacement (MC)

1. HVAC Prime Contractor shall include this allowance amount in the base bid.
2. Amount: \$15,000

D. Allowance No. 4: Plumbing Removal/Relocation/Replacement (PC)

1. Plumbing Prime Contractor shall include this allowance in the base bid.
2. Amount: \$15,000

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 2. Section 014000 "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery and installation, exclusive of insurance, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. A: Unsuitable Material.

1. Description: Removal and replacement of unsuitable material using compacted on- site material
2. Unit of Measurement: CY
3. Quantity Allowance: For unit pricing, assume a quantity of approximately 25CY

B. Unit Price No. B: Unsuitable Material

1. Description: Removal and Replacement of unsuitable material using compacted imported 2A stone.
2. Unit of Measurement: CY
3. Quantity Allowance: For unit pricing, assume a quantity of approximately 25CY

C. Unit Price No. C: Access Panels

1. Description: The cost to frame and install access panels furnished by the MEP Contractors
2. Unit of Measurement: Each

END OF SECTION 012200

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Substitutions.

1.2 ACTION SUBMITTALS

- A. Substitution Requests: Identify product, fabrication, and installation method to be replaced. Include affected Specification Section number and title and Drawing numbers and titles. Indicate specific Drawing detail, where applicable.
 - 1. Submit PDF electronic files of each request for consideration.
 - 2. Submit three copies of each request for consideration that cannot be submitted electronically.
 - 3. Substitution Request Form: Use CSI Form 13.1A or other Architect accepted form.
 - 4. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product, fabrication, and installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, which will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified. Indicate modifications to Work in place required to accommodate substitution.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and

interpreting test results for compliance with specified requirements.

- i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES or other organization acceptable to authority having jurisdiction.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 - n. Draft Change Order documenting substitution acceptance prepared on form specified in Section 012600 "Contract Modification Procedures."
5. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.
 - c. Architect will consider only one request for substitution for each product. If substitution request is not accepted, provide specified product.

1.3 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved

substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions for Consideration: Architect will consider Contractor's request for substitution when the following conditions are satisfied. When any condition for consideration is not satisfied, Architect will return request without action, except to record noncompliance with these requirements:
1. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 2. Requested substitution will not adversely affect Contractor's construction schedule.
 3. Requested substitution has received necessary approvals of authorities having jurisdiction.
 4. Requested substitution is compatible with other portions of the Work.
 5. Requested substitution has been coordinated with other portions of the Work.
 6. Requested substitution provides specified warranty.
 7. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions will not be considered:
1. When indicated or implied on Shop Drawing or Product Data submittals, without separate written request.
 2. When acceptance will require Contract Documents revision.
 3. When request is not from Contractor.
 4. During Bidding Phase.
- C. Substitutions for Cause: Submit requests for substitution required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
1. Submit requests immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 2. Additional Conditions for Consideration:
 - a. Specified product, through no fault of Contractor, is not available or cannot be delivered in time to meet Project schedule. Failure of Contractor to order specified product in time to meet schedule is not a condition necessitating substitution.
 - b. Specified product, through no fault of Contractor, cannot comply with changed Project conditions.

- D. Substitutions for Convenience: Architect will consider requests for substitution offering advantage to Contractor or Owner.
 - 1. Submit requests within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.
 - 2. Additional Conditions for Consideration:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require revisions to the Contract Documents.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Minor changes in the Work.
 - 2. Proposal requests.
 - 3. Change Orders.
 - 4. Construction Change Directives.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.
 - 1. Minor Change Form: AIA Document G710, "Architect's Supplemental Instructions."

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receiving Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity

duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- e. Quotation Form: Use CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail." or other Architect accepted form.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to the Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 - 7. Proposal Request Form: Use CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail." or other Architect accepted form.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor.
 - 1. Change Order Form: AIA Document G701 or other Architect accepted form.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive Form: AIA Document G714 or other Architect

accepted form.

2. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 -GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 01 21 00 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Section 01 22 00 "Unit Prices" for administrative requirements governing the use of unit prices.
 - 3. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 4. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.
 - 5. Section 01 81 13 "Sustainable Design Requirements"

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.

1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 2. Submit the schedule of values to the A/E and Owner for review and comment at earliest possible date, but no later than 20 days from NTP submittal of initial Applications for Payment.
 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
 4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
 5. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide subschedules showing values coordinated with the scope of each design services contract, as described in Section 01 10 00 "Summary."
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Owner's name.
 - c. Owner's Project number.
 - d. Name of Architect.
 - e. Architect's Project number.
 - f. Contractor's name and address.
 - g. Date of submittal.
 2. Arrange schedule of values consistent with format of AIA Document G703 Application and Certificate for Payment.
 3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.

- e. Name of supplier.
- f. Change Orders (numbers) that affect value.
- g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
- 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
- 5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
- 6. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
- 7. Purchase Contracts: Provide a separate line item in the schedule of values for each Purchase contract. Show line-item value of Purchase contract. Indicate Owner payments or deposits, if any, and balance to be paid by Contractor.
- 8. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.
- 9. Overhead Costs, Separate Line Items: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
- 10. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
- 11. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
- 12. Schedule of Values Revisions: Revise the schedule of values when Change

Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by the A/E and paid for by Owner.
 - 1. Process shall follow as noted below:
 - a. Pencil copy submitted to A/E for review
 - b. Comments returned by A/E within 7 days
 - c. Prime contractors revise application and resubmits final notarized copy with back-up documents (certified payroll, local/dbe participation forms, lien waiver, steel certificates & stored material back-up, and other required documents)
 - d. A/E review & certify invoice
 - e. A/E transmits to Montgomery County for processing
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Draft Application for Payment by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
- D. Application for Payment Forms: Use AIA Document G732 'Application and Certificate for Payment and AIA Document G703 'Continuation Sheet' as forms for Applications for Payment.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. A/E will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored but not yet installed. Differentiate between items stored on-site and items stored off-site.
 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. Transmittal: Electronic copies signed and notarized, of each Application for Payment uploaded into eBuilder. Include waivers of lien and similar attachments if required.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- I. Progress Payment Additional Documentation

1. Submit Local and Diverse Business Goal participation forms with each application. Submissions shall follow the guidelines defined in Exhibit A. The County will provide all necessary forms for the contractors to complete.
- J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule.
 4. Key personnel
 5. Submittal schedule
 6. Combined Contractor's construction schedule (preliminary if not final), incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 7. Products list (preliminary if not final).
 8. Asset Management Information Strategy
 9. Sustainable design action plans, including preliminary project materials cost data.
 10. List of Contractor's staff assignments.
 11. List of Contractor's principal consultants.
 12. Copies of building permits.
 13. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 14. Initial progress report.
 15. Report on preconstruction conference.
- K. Certificates of insurance and insurance policies.
1. Performance and payment bonds.
 2. Data needed to acquire Owner's insurance.
- L. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 01 70 00 "Execution and Closeout Procedures."
 2. This application shall reflect Certificate(s) of Substantial Completion

issued previously for Owner occupancy of designated portions of the Work.

- M. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Certification of completion of final punch list items.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Updated final statement, accounting for final changes to the Contract Sum.
 5. AIA Document G706.
 6. AIA Document G706A.
 7. AIA Document G707.
 8. Evidence that claims have been settled.
 9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 10. Final liquidated damages settlement statement.
 11. Proof that taxes, fees, and similar obligations are paid.
 12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. General: This Section specifies administrative and procedural requirements for Project Management and Coordination, including but not limited to:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Lean Procedures
 - 4. Requests for Information (RFIs).
 - 5. Project Web site.
 - 6. Project meetings
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

1.2 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within fifteen (15) days of Notice to Proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site or elsewhere. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
 - 1. Post copies of list in project meeting room, in temporary field office, on Project Web site, and by each temporary telephone. Keep list current at all times.

1.3 PROJECT MEETINGS

- A. General: A/E to schedule and administer project meetings throughout the progress of the Work. Prepare agenda, conduct meetings, record meeting results, and distribute recorded proceedings and decisions to participants and other affected parties.
- B. Regularly Scheduled Project Meetings
 - 1. Notification: For meetings not regularly scheduled, give participants not less than three (3) days prior notice.
 - 2. Attendees: The Owner, Architect and their consultants, all Prime Contractors, their Project Executives, Project Managers and their Superintendents, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project. Discuss items of significance that could affect progress including review of the present and future needs of each entity present and such topics as:
 - a. Lean procedures
 - b. Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - c. Critical Work sequencing and interface requirements.
 - d. Quality and Work standards.
 - e. Designation of responsible personnel.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for processing Applications for Payment.
 - h. Distribution of Contract Documents.
 - i. Submittal of Shop Drawings, Product Data and Samples.
 - j. Preparation of record documents.
 - k. Site utilization, use of the premises and access.
 - l. Office, Work, and storage areas.
 - m. Equipment deliveries and priorities.
 - n. Non-compliance issues.
 - o. Bulletins and Change Orders.
 - p. Architect's Supplemental Instructions (ASI's) and Requests for information

(RFI's).

- q. Documentation of information for payment requests.
- r. Off-site fabrication problems
- s. Security.
- t. Housekeeping.
- u. Working hours.
- v. Prior to the execution of the Work, and in addition to pre-construction or pre-installation meetings specified in technical specification sections, schedule a pre-construction conference with each sub-contractor to review product selection, the procedures for executing the Work and the coordination required with other trades.
- w. Insurance COI Updates.
- x. Applications for Payment and pencil copies.
- y. Certified Payroll.
- z. Waivers and Releases.
- aa. O&M Manuals, Warranties.
- bb. Start-ups and Commissioning.
- cc. Safety.
- dd. Housekeeping.

- 4. Reporting: No later than 5 days after each meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

C. Coordination Meetings

- 1. Conduct Project coordination meetings at regularly scheduled times convenient for parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation or pre-construction meetings.
- 2. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- 3. Record meeting results and distribute copies within 3 days to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

D. Pre-Construction Conference

- 1. A/E and Owner will schedule and conduct a preconstruction conference before starting construction and prior to the installation of building components, at a time convenient to Contractor, Owner, and Architect, but no later than ten (10) days after execution of the Agreement or prior to commencement of work.

2. Schedule a pre-construction conference and organizational meeting, prior to commencement of each category of the Work to review the material selections, fabrication and installation procedures, and coordination among the various trades. The categories of Work shall generally correspond with the Sections of the Specifications. Installer, manufacturers' representatives, and any trade that requires coordination with the Work, shall meet at the project site or other location as mutually agreed. Conduct the meeting to review responsibilities and personnel assignments. A/E to record meeting results and distribute copies within 3 days to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

E. Special Meetings

1. Special meetings may be called as required, at a place and time as coordinated by the Owner/A-E.

F. Project Closeout Conference

1. The GC will schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than 90 calendar days prior to the scheduled date of Substantial Completion.

1.4 GENERAL COORDINATION PROCEDURES

- A. General: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, fit, connection, and operation.
 1. Sequence of Construction Activities Schedule: Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain coordinated results.
- B. Accessibility in Limited Space: Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
- C. Provisions for Later Installation: Make adequate provisions to accommodate items scheduled for later installation.
- D. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- E. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Pre-installation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- F. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1.5 COORDINATION DRAWINGS

- A. General (All Primes): The Contractors shall produce and submit project specific information for coordination purposes, a set of color-coded "Coordination Drawings" to confirm that the work of subcontractors is coordinated.
1. Each prime shall provide 3-D AutoCAD coordination of their work with those of the other contractors as well as the concrete foundation, structural and architectural packages. As part of this effort each prime contractor and key subcontractors shall attend all coordination meetings & provide work plans on a weekly basis coordinated with the Owner. Drawings shall be drawn accurately to scale to show the interrelationship of components shown on separate shop drawings and shall indicate mechanical, plumbing, electrical, structural, fire protection, cable trays and contiguous architectural Work in sufficient detail so as to verify that contractors will accomplish their respective Work without conflicting with other contiguous trades. The Mechanical/HVAC will lead the coordination process, after receipt of the Tekla model, and

develop the base floor plan drawings to be utilized by all prime contractors to prepare and model their respective work. Upon completion and sign-off by all Contractors, the Mechanical/HVAC Contractor shall submit final coordination drawings to Architect/Engineer for review and acceptance. Refer to MEP specifications for additional information.

2. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
3. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
4. Indicate required installation sequences.
5. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
6. The following is a list of such Work requiring coordination drawings:
 - a. Ceiling assemblies and cavities.
 - b. Roof Systems & Equipment
 - 1) Screen Layout
 - 2) Slopes/Crickets
 - 3) Drain locations
 - 4) Equipment
 - 5) Access Hatches
 - 6) Penetrations
 - c. MEPFP, A/V, Low Voltage Systems
 - 1) Above and below slab
 - d. Structural Systems
 - 1) Building structure
 - 2) Slab Edges/Thickness transitions
 - 3) Slab elevations
 - 4) Slab Openings

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Roof and Wall Penetrations: Indicate all penetrations required for all disciplines.
7. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as Equipment, dampers, valves, diffusers, access doors, cleanouts, and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
8. Electrical, A/V & Low Voltage Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 in. in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switch board, switchgear, transformer, busway, generator,

and motor-control center locations.

- d. Location of pull boxes and junction boxes, dimensioned from column center lines.
 - e. Main distribution for low-voltage conduit.
 - f. A/V and Low voltage equipment and components
9. Review: Architect will review coordination drawings to confirm that in general the Work is being coordinated, but not for the details of the coordination, which are Contractors' responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will direct the Contractors make suitable modifications and resubmit.
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
- 1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
 - 2. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format or PDF format as agreed upon.
 - 3. Architect and/or consultants will furnish Contractors one set of digital data files of BIM model for use in preparing coordination digital data files.
 - a. Architect and/or consultants makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
 - b. Digital Data Software Program: Drawings are available in REVIT
 - c. Contractor shall execute a data licensing agreement in the form of Agreement included in this Project Manual.
 - 4. Modification of Original Coordination Digital Files: At completion of the Work, original coordination digital files shall be modified by Contractors to indicate as- built conditions and transmitted to the Owner.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.6 ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS

- A. Architect's Supplemental Instructions (ASI): An Architect's Supplemental Instruction is

an instruction issued by the Architect to make minor changes in the Work that are consistent with the Contract Documents, fall within the Contract Sum and do not involve an extension of Contract Time. This document describes the change and references any attached documents supporting the description.

1.7 PROJECT MANAGEMENT INFORMATION SYSTEM

A. Managing the Project Management Information System (PMIS)

1. This project will utilize eBuilder for all facets of the project including but not limited to communication, document control management and invoicing. Each prime will be provided up to 5 access log-ins.
2. Access to the PMIS system shall be granted the entire length of the project and for 3 months after the final completion date.
3. All prime contractors will submit RFI's and submittals through eBuilder for processing to Architect. As part of the training and preconstruction conference, PMIS system workflow will be established.
4. Prime Contractors are required to submit updated submittal registers on a weekly basis until all submittals have been issued. This shall be uploaded to eBuilder and sent to the A/E for coordination.

B. Project PMIS and Training

1. The Owner will provide training on the usage and functionality of eBuilder. The Owner will coordinate and schedule (2) training sessions within fifteen (15) business days of the Notice to Proceed. All primes are required to attend one or both sessions.

C. PMIS Closeout

1. Project PMIS will remain open for a period of three (3) months after Final Completion to allow all parties access to necessary information. The Owner has discretion to deny access to users at any time.

D. Contractor, subcontractors, and other parties granted access by Contractor shall execute a data licensing agreement.

1.8 REQUESTS FOR INFORMATION

- ##### A. Definition:
- During the bidding process or progress of the Work, the Contractor may uncover situations for which they believe the Contract Documents are not clear in their requirements whereupon they may submit a Request for Information (RFI) to the A/E.

- B. Correspondence: Contractor correspondence related to the Work shall be addressed to the Architect.
- C. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit to the A/E an RFI in the form specified.
 - 1. A/E will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- D. Conditions for Requests for Information: If, after issuance of the "Notice to Proceed" clarification from the Architect concerning questions which may have arisen during the course of the Work, the Contractors may initiate a process of standard form letters identified as "Request(s) for Information" (RFI) subject to the following conditions:
- E. RFI Forms: Software generated form with substantially the same content noted below, and acceptable to the Architect and Owner. RFI's and attachments shall be submitted in PDF format.
 - 1. RFIs shall contain specific reference to the project name, project number, name of Contractor, Architect, and the drawing number and detail references, specification section and paragraph number, schedule type, or other related document which is pertinent to the Contractor's inquiry. The date of referenced documents or drawings must be clearly identified.
 - 2. RFIs for the Architect shall be numbered sequentially and are not to be skipped, with the date of issue clearly noted. RFI's shall be submitted in an agreed upon electronic digital format and shall be forwarded to the Architect.
 - 3. RFIs shall include all field dimensions, sketches, descriptions, measurements, photos, product data or other information necessary to fully describe items needing interpretation. Contractor is to provide a suggested solution. If the suggested solution may impact the Contract Time, Contract Sum, or schedule, the Contractor must state the impact.
 - 4. RFIs shall originate only from the Contractor's on-site staff and shall be signed by the Contractor.
 - 5. Architect will respond to and return RFI's to Contractor in 10 business days.
 - 6. On receipt of Architect's action, update RFI log and immediately distribute

the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.

- a. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request as appropriate.
 - b. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
7. RFI logs shall reflect the date on which an RFI has been responded to in addition to when they have been fully resolved. If an RFI is delayed due to additional testing or information, this delay shall be noted and the response will read as such until the new information becomes available in which case a revision to that original RFI will be issued.
8. It shall be the responsibility of the Contractor to maintain an up-to-date electronic log of RFI's and to advise the Owner/A-E, in writing of the status and disposition of RFI's at the weekly progress meetings.
- F. RFI logs: Prepare, maintain, and submit tabular log of RFIs organized by the RFI number. Contractor's RFI logs should be provided one day prior to weekly meeting to intercept and mark up incorrect or misleading information.
 1. RFI logs shall include the following information: Project name, name and address of contractor, name and address of Architect, RFI number, including RFIs that were returned without action or withdrawn, RFI description, date RFI was submitted, and date Architect's response was received.
 2. RFI logs shall reflect the date on which an RFI has been responded to in addition to when they have been fully resolved. If an RFI is delayed due to additional testing or information, this delay shall be noted and the response will read as such until the new information becomes available in which case a revision to that original RFI will be issued.
 3. RFIs shall not be utilized by the Contractors to request approval of submittals or to solicit consideration by the Architect of a "substitution".
 4. RFIs shall not be utilized by the Contractors to request any extension of Contract time or to request any revision of Contract cost. If the Contractors believes that the response received from the Architect to any RFI warrants adjustment of the Contract time or cost, he shall advise the Owner/A-E in writing immediately upon receipt of the response.
 5. RFIs shall not be utilized by the Contractors to request coordination information already indicated in the Contract Documents or to solicit clarification of comments that have been communicated to the Contractor by the Architect in the course of shop drawing review or the review of other required submittals.

6. The Owner reserves the right to assess the Contractors for the cost (based on time and materials) of the review process performed by the Architect and/or any of the Architect's or Owner consultants when RFI's fail to conform to the requirements stated herein, or in the opinion of the Architect, are unnecessary or frivolous (i.e.; the subject of the inquiry noted in the RFI is suitably and/or clearly addressed in the Contract Documents).
7. The Contractors shall submit RFI's sufficiently in advance of the Work to be performed as it relates to the Construction Schedule such that the Architect has ample time to review and respond to RFI's. The Architect will respond to RFI's sequentially in the order they are received.
8. Any written or electronic procedure selected by the Contractors to solicit responses to questions which arise during the course of the Work shall be required to comply with the procedures stated in paragraphs above.
9. RFIs not to be used for:
 - a. Resolving Contractor error.
 - b. Assisting in the development of a shop drawing.
 - c. Confirming a conversation, correspondence, discussion, or decision.
 - d. Requesting information not pertaining to the contracted scope of work.
 - e. Seeking direction for client directed work or changes unrelated to deficiencies in the contract documents.
 - f. Seeking direction for contractor materials and methods procedures.

1.9 PROJECT MEETINGS

- A. General: Owner to schedule and conduct the project meetings throughout the progress of the Work unless otherwise noted. The Owner will prepare agenda, conduct meetings, record meeting results, and distribute recorded proceedings and decisions to participants and other affected parties.
- B. Regularly Scheduled Project Meetings
 1. Notification: For meetings not regularly scheduled, give participants not less than three (3) days prior notice.
 2. Attendees: The Owner, Architect and their consultants, all Prime Contractors, their Project Executives, Project Managers and their Superintendents, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include

topics for discussion as appropriate to the current status of the Project. Discuss items of significance that could affect progress including review of the present and future needs of each entity present and such topics as:

- a. Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Critical Work sequencing and interface requirements.
 - c. Quality and Work standards.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of Contract Documents.
 - h. Submittal of Shop Drawings, Product Data and Samples.
 - i. Preparation of record documents.
 - j. Site utilization, use of the premises and access.
 - k. Office, Work and storage areas.
 - l. Equipment deliveries and priorities.
 - m. Non-compliance issues.
 - n. Bulletins and Change Orders.
 - o. Architect's Supplemental Instructions (ASI's) and Requests for information (RFI's).
 - p. Documentation of information for payment requests.
 - q. Off-site fabrication problems
 - r. Security.
 - s. Housekeeping.
 - t. Working hours.
 - u. Prior to the execution of the Work, and in addition to pre-construction or pre-installation meetings specified in technical specification sections, schedule a pre-construction conference with each sub-contractor to review product selection, the procedures for executing the Work and the coordination required with other trades.
 - v. Insurance COI Updates.
 - w. Applications for Payment and pencil copies.
 - x. Certified Payroll.
 - y. Waivers and Releases.
 - z. O&M Manuals, Warranties.
 - aa. Start-ups and Commissioning.
 - bb. Safety.
 - cc. Housekeeping.
4. Reporting: No later than 5 days after each meeting date, distribute copies of

minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

C. Pre-Construction Conference

1. Owner will schedule and conduct a preconstruction conference before starting construction and prior to the installation of building components, at a time convenient to Contractor, Owner and Architect, but no later than ten (10) days after execution of the Agreement or prior to commencement of work.
2. Schedule a pre-construction conference and organizational meeting, prior to commencement of each category of the Work to review the material selections, fabrication and installation procedures, and coordination among the various trades. The categories of Work shall generally correspond with the Sections of the Specifications. Installer, manufacturers' representatives, and any trade that requires coordination with the Work, shall meet at the project site or other location as mutually agreed. Conduct the meeting to review responsibilities and personnel assignments. A/E to record meeting results and distribute copies within 3 days to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of record documents.
 - m. Use of the premises and existing building.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Construction waste management and recycling.
 - u. Parking availability.

- v. Office, work, and storage areas.
- w. Equipment deliveries and priorities.
- x. First aid.
- y. Security.
- z. Progress cleaning.

D. Special Meetings

- 1. Special meetings may be called as required, at a place and time as coordinated by the Owner.

E. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction. Pre- installation conferences shall be scheduled 4-6 weeks prior to the specific activity commencing. Each prime contractor shall coordinate meeting dates.

- 1. Attendees: Prime contractors (Involved with direct coordination of work), Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, Owner of scheduled meeting dates.
- 2. Meeting Minutes: Prime contractor entity responsible for specific activity being reviewed. Prime contractor shall publish meeting minutes to all attendees within 72 hours of the meeting.
- 3. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility requirements.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.

- q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
 - 4. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 5. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 6. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
 - 7. At a minimum, pre-installation conferences are required for:
 - a. Slab on Grade
 - b. Millwork Installation
 - c. Finishes (Flooring, Ceilings & Walls)
 - d. Door Hardware & Keying
- F. Progress Meetings: Owner will conduct progress meetings at biweekly intervals.
- 1. Coordinate dates of meetings with preparation of payment requests.
 - 2. Attendees: In addition to Owner and Architect, each prime contractor, subcontractor, suppliers, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure

commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Access.
 - 5) Site utilization.
 - 6) Temporary facilities and controls.
 - 7) Progress cleaning.
 - 8) Quality and work standards.
 - 9) Status of correction of deficient items.
 - 10) Field observations.
 - 11) Status of RFIs.
 - 12) Status of proposal requests.
 - 13) Pending changes.
 - 14) Status of Change Orders.
 - 15) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- G. Project Phase Closeout Conference: Owner will schedule and conduct a project closeout conference, at a time convenient to Contractor, Owner and Architect, but no later than sixty (60) days prior to the scheduled date of Substantial Completion.
 1. Attendees: Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect or delay Phase closeout, including the following:

- a. Procedures required prior to inspection for Substantial Completion.
 - b. Submittal of written warranties.
 - c. Requirements for demonstration and training.
 - d. Preparation of Contractor's punch list.
 - e. Coordination of separate contracts.
 - f. Owner's partial occupancy requirements.
 - g. Preparation for next Phase.
 - h. Installation of Owner's furniture, fixtures, and equipment.
 - i. Removal of temporary facilities and controls.
 3. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- H. Project Closeout Conference: Owner will schedule and conduct a project closeout conference, at a time convenient to Contractor, Owner and Architect, but no later than sixty (60) days prior to the scheduled date of Substantial Completion of the final phase.
 1. Attendees: Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect or delay Phase closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing operations and maintenance data.
 - e. Requirements for delivery of material samples, attic stock, and spare parts.
 - f. Requirements for demonstration and training.
 - g. Preparation of Contractor's punch list.
 - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - i. Submittal procedures.
 - j. Coordination of separate contracts.
 - k. Owner's partial occupancy requirements.
 - l. Installation of Owner's furniture, fixtures, and equipment.
 - m. Responsibility for removing temporary facilities and controls.
 3. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- I. Coordination Meetings: Owner will conduct Project coordination meetings regularly scheduled times intervals, no less than monthly. The meeting frequency will be increased as the discretion of the Owner. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-

installation conferences.

1. Attendees: In addition to Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. General: The Owner shall provide administrative management and related services to assist coordination of scheduled activities and responsibilities of the Prime Contractors with each other and with those of the Owner and the Architect. The Owner shall assist coordination of the Prime Contractors activities in accordance with the latest Approved Project Schedule and the Contract Documents. Each prime contractor is responsible to follow the schedule requirements stipulated below. The GC Prime will lead the development of the overall schedule.
- B. Contractors shall provide the documentation of the progress of construction during performance of the Work and includes, but is not limited to:
 - 1. Preliminary Construction Schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Submittals Schedule.
 - 4. Progress Schedule.
 - 5. Daily Construction Reports and Progress Reports.
 - 6. Schedule of Values and Trade Payments Breakdowns.
 - 7. Construction Survey Data.
 - 8. Material location reports.
 - 9. Field condition reports.
 - 10. Special reports
 - 11. Construction Photographs.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 2. Predecessor activity is an activity that must be completed before a given activity can be started.
 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Architect.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project
- D. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity
1. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
 2. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date
- G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.
- H. Milestone: A key or critical point in time for reference or measurement.
- I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

1.3 SUBMITTALS

- A. Contractors shall submit the following information, which shall be submitted for Architect's review and comment or information.
- B. Submittal Schedule: Submit an electronic copy of submittal schedule, within 15 days

of NTP, using software, format and media storage as agreed upon, and labeled to comply with requirements for submittals. Include type of schedule ("Initial" or "Updated") and revision date and revision number.

- C. Submittals Log: An electronic version of an updated submittals log allowing the Architect live access to open and closed submittals and reports at all times, which will also be provided at weekly progress meetings or other agreed upon intervals. These logs are to be updated and coordinated with updated construction schedules throughout the project.
- D. Contractor's Construction Schedule: Submit an electronic copy of construction schedule, using Oracle Primavera P6 software in .xer format and labeled to comply with requirements for submittals. Include type of schedule ("Initial" or "Updated") and revision date and revision number.
- E. Schedule Reports:
 - 1. CPM Reports: Concurrent with CPM schedule, submit reports via web-based project management software. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in workdays.
 - a. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
 - b. Logic Report: List of preceding and succeeding activities for activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - c. Total Float Report: List of activities sorted in ascending order of total float.
 - d. A written schedule narrative to include the following at a minimum:
 - 1) Executive Summary
 - 2) Summary of work completed since the previous update.
 - 3) Status of major deliveries
 - 4) Items affecting progress
 - 5) Upcoming work planned
 - 6) Schedule revisions
 - 7) Basis and assumptions

- 8) Impacts due to severe or unusually extreme weather conditions.
 - e. Construction Schedule Updating Reports: Submit with Applications for Payment.
 - f. 3 Week Look Ahead Schedule: General Contractor Prime shall submit a 3 week look ahead schedule on a weekly interval. GC shall integrate all other prime contractors' activities into look ahead schedule. GC to submit schedule to Owner weekly.
 - g. Qualification Data: For project scheduler and/or scheduling consultant. Project scheduler or consultant shall have minimum of 5 years scheduling experience with similar projects using Primavera P6. Scheduler qualifications shall be submitted within 10 days of the Notice to Proceed.
- F. Other Reports:
- 1. Daily Construction Reports: Submit electronic copies at weekly intervals.
 - 2. Material Location Reports: Submit electronic copies at weekly intervals.
 - 3. Field Condition Reports: Submit electronic copies at time of discovery of differing conditions.
 - 4. Special Reports: Submit electronic copies at time of unusual event.
- J. Photographic Media: Submit for Owner's Documentation and Architect's information.
- 1. Digital Images: Submit a complete set of digital image electronic files using software, format and media storage as agreed upon as a Project Record Document. Submit images that have same aspect ratio as the sensor, uncropped.
 - a. Identification: Identify electronic media with the following information:
 - 1) Name of Project.
 - 2) Name and address of photographer.
 - 3) Name of Architect.
 - 4) Name of Contractor.
 - 5) Date photograph was taken.
 - 6) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.

1.4 QUALITY ASSURANCE

- A. Scheduling Consultants: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of request.
- B. Pre-Scheduling Conference: Conduct conference at Project site to comply with requirements in Division 1 Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including work stages, interim milestones and partial Owner occupancy.
 - 4. Review delivery dates for Owner-furnished products.
 - 5. Review schedule for work of Owner's separate contracts.
 - 6. Review time required for review of submittals and resubmittals.
 - 7. Review requirements for tests and inspections by independent testing and inspecting agencies, including mock-up testing.
 - 8. Review time required for completion and startup procedures.
 - 9. Review and finalize list of construction activities to be included in schedule.
 - 10. Review submittal requirements and procedures.
 - 11. Review procedures for updating schedule.

1.5 COORDINATION

- A. Schedules and Reports of Construction Activities and Separate Contractors: Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordination of Contractors' Construction Schedules: Coordinate Contractors' Construction Schedules with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- C. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities including temporary lighting.

PART 2 - PRODUCTS

2.1 SUBMITTAL SCHEDULE

- A. Preparation of Submittal Schedule: Prepare a submittal schedule arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates that contains a complete listing of submittals required by Contract. Submit the schedule to the Architect a minimum of 10 days prior to submitting any submittals grouped and regulated so as not to burden the reviewing facilities, while maintaining job progress. Organize the submittal schedule by specification section number. Each submittal is to be assigned the relevant section number and a sequential number for identification and tracking purposes.
1. The Submittal Schedule shall be submitted for the Architect's information. Include the following information:
 - a. Title of Submittal/Description.
 - b. Submittal Number (sequential).
 - c. Scheduled date for the first submittal.
 - d. Drawing Number (if applicable).
 - e. Applicable specification Section title and number.
 - f. Name of subcontractor/vendor.
 - g. Submittal category (action or informational).
 2. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule

2.2 SUBMITTALS LOG

- A. Submittals Log: Prepare, submit, maintain, and update a single live electronic version of a submittals log for the entire project, using approved software, format and media storage as agreed upon. The submittals log shall be accessible to the Architect at all times and shall contain relevant information related to submittals and the submittal process progress which will be reviewed at the weekly progress

meetings or other agreed upon intervals. The submittals log shall provide the Architect with the ability to filter open and reviewed items, have ongoing access to live updates, as well as confirm receipt and response dates for every submittal. The submittal log shall be based on the CSI numbering system and the Project specifications and shall be available to Project team members.

2.3 SCHEDULE OF VALUES

- A. Contractual Requirements: Refer to General Conditions, for contractual requirements governing schedule of values.
- B. Relation to Sections and Divisions of the Work: The schedule of values shall be related to Sections and Divisions of the Work, aggregating the total Contract Sum and shall include overhead and profit as separate line items.
- C. Schedule of Anticipated Monthly Requisition Amounts: The Contractor shall also submit a schedule of anticipated monthly requisition amounts which shall be related to the progress schedule.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Based on sequencing, phasing and durations provided, a Project Master Construction Schedule will be prepared by the GC Prime Contractor. The process to develop the Project Master Construction Schedule will be facilitated by the GC Prime Contractor with participation as required by each Prime Contractor. The Project Master Construction Schedule will be the basis for measuring progress of work and performance and, upon acceptance by the Owner and A/E, the Prime Contractors will be the schedule of record. Each Prime Contractor shall provide an acceptable construction schedule, in .XER Format, within 20 days of NTP which is compliant with the bid schedule and includes all task required to complete the contractor's work. All costs incurred by the Prime Contractors in preparing and updating the Schedules are included in the Work of the Contract.
 - 1. For clarity, the GC Prime Contractor will have the sole duty to maintain the Project Master Construction Schedule of record which shall indicate the work of all Prime Contractors and Subcontractors.
 - 2. Each Prime Contractor shall be responsible for development of schedules subject to all the same requirements and appropriate for integration by the GC Prime into the Master Schedule. All Prime Contractors agree in advance that the integration of schedules is an iterative process and that durations are subject to adjustment, within reason, to align with the properly scheduled work of other prime contractors and subcontractors.
 - 3. No claims for delay or additional costs associated with the work of preparing and modifying schedules to compile an acceptable Master Construction Schedule or updates will be entertained.

- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate Work Breakdown Structure (WBS) for each main element of the Work. Comply with the following:
 - 1. Activities shall be sufficiently detailed to indicate each element of work, by specific trade and area the work is taking place.
 - 2. Activity Duration: Define activities so no activity is longer than 10 days.
 - 3. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 4. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 5. Startup and Testing Time: Include not less than fifteen (15) days for startup and testing.
 - 6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's and Owner's administrative procedures necessary for certification of Substantial Completion.
 - 7. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items on any phase and punch-list items and close-out requirements for final completion at final phase.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work under More Than One Contract: Include a separate activity for each contract.

3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work". Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work". Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 - i. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - 1) Subcontract awards.
 - 2) Submittals.
 - 3) Purchases.
 - 4) Mockups.
 - 5) Fabrication.
 - 6) Sample testing.
 - 7) Deliveries.
 - 8) Installation.
 - 9) Tests and inspections.
 - 10) Adjusting.
 - 11) Curing.
 - 12) Startup and placement into final use and operation.
 - j. Construction Areas or Area Separations: Identify each major area of

construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

- 1) New Facility
 - a) Mobilization, site preparation and utilities
 - b) Excavation and Foundations
 - c) Building Structure
 - d) MEP Spaces including electrical and tele-data rooms
 - e) Interior fit-out by area
 - f) FF&E Installation by area
- 2) Exterior Building and Site Restoration
- 3) Roadways, streets, and areas outside project fence
7. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion and the following interim milestones:
 - a. Start Construction
 - b. Foundations Complete
 - c. Construction Complete
 - d. Building Weather-tight
 - e. Exterior Façade Complete
 - f. Temporary Conditioning Online
 - g. Permanent MEP Systems Complete
 - h. MEP Start Up Complete
8. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
9. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate

the effect of the proposed change on the overall project schedule.

- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to commence prior to submittal of next schedule update. Summarize the following issues:
 - 1. Unresolved issues.
 - 2. Unanswered Requests for Information.
 - 3. Rejected or unreturned submittals.
 - 4. Notations on returned submittals.
 - 5. Pending modifications affecting the Work and Contract Time.
- F. Recovery Schedule: When periodic update indicates the Work is ten (10) or more workdays behind any milestone as identified in section 2.4.D.7, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 - 1. Use Oracle Primavera P6, version 16 or later. Include electronic schedule in .xer format with all schedule submissions.
 - 2. There shall be no additional costs for updating to the most current version of the required software even if this occurs during the project.

2.5 STARTUP CONSTRUCTION SCHEDULE

- A. Startup Construction Schedule is intended to be preparatory to preliminary Pull Planning activity defined in Lean Procedures. Startup Construction Schedule should generally reflect milestones contained in the Overall Project Bid Schedule contained in the Contract Documents and provided in electronic format each awarded Contractor. This initial schedule should be considered preliminary and prepared only to allow Contractor to participate knowledgeably in a Pull Planning process that will result in further direction in response to constraints determined in jointly with all separate Contractors. Submit with ten (10) days of NTP
- B. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within ten (10) days of the Notice of Award.
- C. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first ninety (90) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.6 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. Based on the Bid Schedule, the Contractor shall prepare a construction schedule in the format and program defined herein and which will be integrated into the Overall Project Schedule such that the Overall Project Schedule shall be acceptable to each Contractor and binding with respect to the performance of the work of each Contractor for its own part.
- B. General: Format schedule using Work Breakdown Structure (WBS) to delineate procurement packages, phases, work areas, etc. Develop WBS to sufficiently organize and group activities so workflow can be easily understood.
 - 1. Each Prime Contractor shall prepare schedule activities for their respective work.
 - 2. The General Contractor shall integrate and coordinate all schedule activities including those of the various Prime Contractors into the Master Construction Schedule.
- C. CPM Schedule
 - 1. Develop the Project Master Construction Schedule no later than Fifteen (15) days after Contract Award, NTP which timeframe is established to allow for the Overall Schedule to be prepared within twenty (20) days. The initial project schedule shall be submitted to Owner for Approval.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule
 - 2. Each Prime Contractor shall attend a sufficient number of workshops to coordinate the methodologies facilitate integration of the initial Master Project Construction schedule and monthly updates.
 - 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 - 4. Use "one workday" as the unit of time for individual activities. Nonworking days and holidays shall be incorporated into the schedule in order to coordinate with the Contract Time.
 - 5. The Contractor shall not schedule, allow or direct materials or products to

be installed prematurely when it is obvious that such materials may be damaged by his own subsequent work or that of another Contractor. When recognized construction procedures or design requirements prescribe that materials be installed before execution of other work which may damage or deface such completed work, the Contractor shall then take such steps as are necessary to protect such completed work.

- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing.
 - j. Punch list and final completion.
 - k. Activities occurring following final completion.
 2. Processing: Process data to produce output data on a computer-drawn, time- scaled network. Revise data, reorganize activity sequences, and reproduce as often necessary to produce the CPM schedule within the limitations of the Contract Time.
 3. Contract Modifications: For each proposed contract modification and concurrent its submission, prepare a time-impact analysis using a network fragment to the effect of the proposed change on the overall project schedule.
 - a. As determined by CPM analysis, only delays in activities which affect critical path dates or Contract completion dates will be considered for a time extension.
 - b. Extensions of time granted to one Prime Contractor shall not affect any other Prime Contractor or any subcontractor except those identified and approved as part of the extension.

01 32 00 - 15

- c. If the Contractor requests a time extension of any milestone date or Contract completion date, the Contractor shall provide documentation as required to enable the A/E and Owner to determine whether a time extension is appropriate under the terms the Contract. The contract completion date will be adjusted only for causes specified in the Contract documents.
- 4. Initial Issue of Schedule: Prepare initial network diagram from an indicating straight "early start-total float." Identify critical activities. Prepare reports showing the following:
 - a. Contractor or subcontractor and the Work or activity.
 - b. Description of activity.
 - c. Main events of activity.
 - d. Immediate preceding and succeeding activities.
 - e. Early and late start dates.
 - f. Early and late finish dates.
 - g. Activity duration in workdays.
 - h. Total float or slack time.
- 5. Schedule Updating: Concurrent with revising schedule, prepare tabulated reports showing the following:
 - a. Identification of activities that have changed.
 - b. Changes in early and late start dates.
 - c. Changes in early and late finish dates.
 - d. Changes in activity durations in workdays.
 - e. Changes in the critical path.
 - f. Changes in total float or slack time.
 - g. Changes in the Contract Time.
- B. Steps to Improve Progress Schedule: If the Contractor falls behind the progress schedule, the Contractor shall take steps as necessary to improve the progress and shall submit for review revised schedules to demonstrate that the rate of progress will be regained; without additional cost to the Owner.

2.2 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.

2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions.
 7. Accidents.
 8. Meetings and significant decisions.
 9. Unusual events (refer to special reports).
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.
 12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Construction Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial Completions and occupancies.
 19. Substantial Completions authorized.
- B. Material Location Reports: At appropriate intervals, or as requested, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
1. Material stored prior to previous report and remaining in storage.
 2. Material stored prior to previous report and since removed from storage and installed.

3. Material stored following previous report and remaining in storage.

- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.3 SPECIAL REPORTS

- A. General: Submit special reports within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
- C. CPM Schedule Reports: Refer to section 1.3E of this specification for schedule reporting requirements.

2.4 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in uncompressed PDF, TIFF or JPEG format, produced by a digital camera with minimum sensor size of 8.0 megapixels.

PART 3 - EXECUTION

3.1 CONTRACTORS' CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 2. Meetings: Scheduling consultant shall attend all meetings related to Lean Process Pull Planning, Development of the Overall Project Schedule, Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule on the 28th of each month. A schedule progress meeting will be held one week after to review updates and comments. After the schedule progress meeting, each Contractor shall finalize schedule updates, and the General Construction Prime Contractor shall integrate all

changes and reissue the schedule within 3 days.

1. Revise Contractor's portion of schedule immediately after each meeting or other activity where revisions have been recognized or made. Provide revisions to GC Prime for integration into the Overall Project Schedule.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations. The report shall include a narrative explaining modifications and changes that were made including but not limited to logic, durations, and activity ties. The narrative shall explain schedule risk and mitigation procedures the GC and other primes will implement to address these risks.
 3. As the Work progresses, indicate final completion percentage for each activity.
- C. Distribution and Acceptance: issue updated integrated Overall Project Schedule to Contractors, Architect and Owner within seven (7) days following Monthly Progress Meetings.
1. Contractors shall review and accept updated Overall Project Schedule within three (3) days of receipt or, within the same period, notify A/E and Owner of nonacceptance and reason therefore.
 2. Contractors shall distribute accepted revised Overall Project Schedule and any coordinated sub-schedules to their subcontractors within one (1) day of acceptance
 3. GC Prime shall post copies in Project meeting rooms and temporary field offices.

3.2 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
- B. Maintain key plan with each set of construction digital images that identifies each photographic location.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 1. Date and Time: Include date and time in filename for each image.
 2. Field Office Images: Maintain one set of images in the field office at Project site, available at all times for reference. Identify images same as for those submitted

to Architect.

D. Quantity and Timing of Construction Photographs

1. Preconstruction Photographs: Before starting construction, take digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
2. Periodic Construction Photographs: Take color, digital photographs, weekly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
3. Final Completion Construction Photographs: Take color digital photographs after date of Substantial Completion for submission as Project Record Documents.

END OF SECTION

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Shop Drawings.
2. Product Data.
3. Samples.
4. Other submittals.
5. Delegated-design services.

1.2 DEFINITIONS

- A. Action Submittals:** Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals:** Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 ACTION SUBMITTALS

- A. Submittal Schedule:** Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. All Submittals are due no later than 30 days after Notice of Intent to Award.
 2. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 3. Format: Arrange the following information in a tabular format:

- a. Scheduled date for first submittal.
- b. Specification Section number and title.
- c. Submittal category: Action; informational.
- d. Name of subcontractor.
- e. Description of the Work covered.
- f. Scheduled date for Architect's final release or approval.
- g. Scheduled date of fabrication.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
 - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Digital Drawing Software Program: The Contract Drawings are available in format to be determined.
 - c. Contractor shall execute a data licensing agreement in the form of AIA Document C106, Digital Data Licensing Agreement.
- B. Asset Management Data: Refer to Specification 017000 Execution and Closeout Requirements, Section 1.4 Asset Management Data, Specification 011200 Multiple Contract Summary and Exhibit C.
- C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

- D. Processing Time: Allow time for submittal review, including time for resubmittals. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract

Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 - a. Submittal items requiring sequential review will be identified by Architect when submittal schedule is submitted for review.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal.
 - a. Submittal items permitted to be reviewed concurrently will be identified by Architect when submittal schedule is submitted for review.

- E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable

to Architect, containing the following information:

- a. Project name.
- b. Date.
- c. Name and address of Architect.
- d. Name of Contractor.
- e. Name of firm or entity that prepared submittal.
- f. Names of subcontractor, manufacturer, and supplier.

- g. Category and type of submittal.
- h. Submittal purpose and description.
- i. Specification Section number and title.
- j. Specification paragraph number or drawing designation and generic name for each of multiple items.
- k. Drawing number and detail references, as appropriate.
- l. Location(s) where product is to be installed, as appropriate.
- m. Related physical samples submitted directly.
- n. Indication of full or partial submittal.
- o. Transmittal number numbered consecutively.
- p. Submittal and transmittal distribution record.
- q. Other necessary identification.
- r. Remarks.

- F. Options: Identify options requiring selection by Architect.

- G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Submit electronic submittals via project website as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Submit paper submittals or material submittals only when impossible to provide electronic submittal, as follows:
 - a. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
 - b. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
 - c. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - d. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - e. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.

- f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 - 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 - 5. Submit Product Data before or concurrent with Samples.
- C. Asset Management Data: Provide itemized asset and attribute information per the project Submittal Schedule and in consideration of Exhibit C, Section 4.c Asset Data Drop Phases. Data must be submitted in accordance with Specification 017000 Execution and Closeout Requirements, Section 1.4 Asset Management Data.
- D. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 - 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
- E. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 - 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 - 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.

- b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect will retain one Sample set; remainder will be returned to contractor.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets

of paired units that show approximate limits of variations.

- F. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 - 2. Manufacturer and product name, and model number if applicable.
 - 3. Number and name of room or space.
 - 4. Location within room or space.
- G. Coordination Drawing Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."
- H. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
- I. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- J. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."
- K. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017000 "Execution and Closeout Procedures."
- L. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."
- M. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other specified information.
- N. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- O. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- P. Manufacturer Certificates: Submit written statements on manufacturer's letterhead

certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

- Q. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- R. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- S. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- T. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: Submit Shop Drawings, Product Data, performance and design criteria, design calculations, and other required submittals acceptable to authority having jurisdiction, in form of digitally signed PDF electronic file and three paper copies, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting it to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

- D. Submittals not required by the Contract Documents may be returned by the Architect without action.
- E. Asset Management Data: Managed Assets are defined as any fixture, furnishing, equipment, or similar element to the facility installed as part of the project contained in one of the functional areas and systems defined as "in-scope" for the asset management information strategy, requiring routine maintenance, containing information required by a facilities engineer to conduct work order maintenance and is not a consumable replaced on a regular schedule
 - 1. Subcontractors shall provide an itemized digital log of in-scope assets and corresponding attributes using a template supplied by the Contractor, along with information and examples outlines in Exhibit C.

END OF SECTION

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Quality assurance requirements.
 - 2. Quality control requirements.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality- assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.2 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Contractor's quality-control personnel.
- B. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the wind- force-resisting system quality-assurance plan prepared by Architect.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

1.4 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking, testing, and inspecting.

11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

- B. Manufacturer's Field Service Reports: Prepare written information documenting manufacturer's technical or factory-authorized representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

1. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with specific requirements indicated; and having complied with requirements of authorities having jurisdiction.

- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or

assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, which is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing

- and analyzing results to prevent delaying the Work.
 - c. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - d. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
- 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect
 - 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 - 3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
 - 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 - 6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 7. Demolish and remove mockups when directed unless otherwise specified to remain as part of complete Work.

1.6 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
- 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are

Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Do not employ same entity engaged by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when work that requires testing or inspection will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of

personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.7 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.

2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- B. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- C. "Provide": Furnish and install, complete and ready for the intended use.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents except where a specific date is specified or is established by code.
- C. Copies of Standards: When copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.
- D. When specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.
- E. Neither the contractual relationships, duties, nor responsibilities of the parties in Contract nor those of the Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Arrange for and provide temporary facilities and controls as specified herein and as required for the proper expeditious execution of the Work. Pay all costs, except as otherwise specified, until final acceptance of the Work.
- B. Related Sections include the following:
 - 1. Division 01 Section "Summary of Work" for project conditions and construction schedule.
 - 2. Division 02 Section "Selective Demolition"
 - 3. Division 06 Section "Rough Carpentry" for temporary framing, enclosures, dust control, framing and building security.
 - 4. Divisions 22, 23 and 26 for Plumbing Mechanical and Electrical requirements.

1.3 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of governmental agencies having jurisdiction, including but not limited to:
 - 1. Building Code requirements.
 - 2. Occupational, Safety and Health standards (OSHA).
 - 3. Utility company regulations.
 - 4. Police, Fire Department and Rescue Squad requirements and regulations.
 - 5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities".
 - 1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services," prepared jointly by AGC and ASC, for industry recommendations.
 - 2. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
 - 3. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with ICC electrical Code.

- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary facility before use. Obtain required certifications and permits.

1.4 PROJECT CONDITIONS

- A. Operate temporary services and facilities in a clean, neat, and safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities or permit them to interfere with progress. Work in a manner so that hazardous, dangerous, or unsanitary conditions or public nuisances will not develop or persist on the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for the use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."
- C. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins, minimum 4-mil thickness.
- D. Portable Chain-Link Fencing: Minimum 2-inch galvanized coated steel fabric.
- E. Electrical Power Cords: Each Contractor shall provide their own grounded extension cords; use "hard service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress.
- F. Water Hoses: Each Contractor shall provide their own 3/4-inch size heavy-duty, abrasion-resistant, flexible rubber hoses in lengths as required, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.

PART 3 - EXECUTION

3.1 OPERATION, MAINTENANCE, AND REMOVAL

- A. General: Use qualified personnel for installation of temporary facilities. Provide each facility ready for use when needed, so as to avoid delays. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

- C. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
- D. Unless the Architect requests that it be maintained longer, remove each temporary facility when the need for such has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.

3.2 TEMPORARY UTILITIES

- A. Water:
 - 1. The Owner will designate locations from which Contractor's may obtain water.
 - 2. Each Prime Contractor shall provide and maintain temporary piping and/or hoses necessary to carry water from designated locations to locations where required for the Work of his/her contract.
 - 3. Conserve water.
- B. Electrical Service, Power, and Light:
 - 1. The existing service may be used for required power during construction except that the Electrical Contractor shall provide temporary electrical service including poles, wiring for power distribution, and metering, for the temporary office trailers and other locations indicated on the Drawings.
 - 2. The Electrical Contractor shall provide temporary connections in locations which are acceptable to the Owner. Temporary connections shall not interfere with the operation of the existing facility.
 - 3. Wiring for all temporary services shall be in accordance with the ICC electrical Code.
 - 4. The Electrical Contractor shall provide and maintain a temporary lighting system as required to satisfy minimum requirements of safety and security. The temporary construction lighting system shall supply not less than 30-foot candles of light for illumination in the areas of the building where work is being performed. Corridors shall have a minimum of one 100-watt lamp at 20-foot centers. Lighting fixtures shall comply with governing Codes and OSHA.
 - 5. The Electrical Contractor shall provide at least eight (8) 120-volt receptacle branch circuit outlets and one (1) 208-volt single phase branch circuit receptacle outlet where directed by the General Contractor. Branch circuits shall include ground fault protection devices. Each Prime Contractor shall provide extension cords, receptacles, and additional lighting as he may require, and shall provide and pay for any electrician services he may require in excess of those specified above;
 - 6. Electrical power consumed during construction will be paid for by the Owner except as otherwise indicated below;
 - 7. Power for welding shall be furnished from temporary generator(s) provided by the Contractor performing welding operations. The Owner's electrical service shall not be used for welding operations;
 - 8. Electrical power consumed by Contractor's office trailers shall be paid for by

- the General Contractor.
- 9. Conserve electricity.

3.4 COMMUNICATION EQUIPMENT

- A. Each Prime Contractor shall furnish and pay for cellular telephone service for his site representative.

3.5 SANITARY FACILITIES

- A. The General Contractor shall provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material, in the quantity required, for use of all personnel including employees of other Contractors.
- B. Comply with the requirements and regulations of the State Department of Health or of other bodies or agencies having jurisdiction thereof. Contractor shall permit no public nuisance or unsanitary condition to exist on the project site.

3.6 MATERIAL AND TOOL STORAGE FACILITIES

- A. Storage Trailers or Sheds: Each Contractor shall provide, maintain, and remove, when directed, suitable substantial watertight storage sheds or trailers which shall be used for storage of all materials which may be damaged by the weather.
 - 1. All storage sheds or trailers shall have floors raised at least 6 inches above the ground on heavy joists or sleepers.
 - 2. Locate sheds and/or trailers shall be located where directed by the Owner.
- B. Tool Storage Chests: Each Contractor shall provide, maintain, and remove when directed, suitable substantial, lockable, theft proof tool storage chests which shall be used for the storage of all tools maintained at the job site.

3.7 BUILDING ENCLOSURES

- A. The General Contractor shall provide all temporary enclosures required for protecting the project from the exterior, for providing safe passageways and exit ways, for the protection of openings both exterior and interior, and at other locations where temporary enclosures and protection may be required. The General Contractor shall be responsible to maintain and secure the areas of work against intruders and persons not involved with this construction program by the provision of substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

3.8 DUST AND FUME CONTROLS

- A. The General Contractor shall provide and maintain temporary controls against the migration of dust, fumes, and other airborne irritants from areas of work to occupied areas of the

existing building including, but not necessarily limited to, the following:

1. Seal off all openings between areas of work and occupied areas with two layers of 4- mil plastic sheet. Seal all joints with tape.
2. Provide local exhaust systems in the areas of work. Local exhaust equipment must be sufficient to maintain a negative pressure differential in the areas of work relative to adjacent occupied areas. Operate local exhaust systems whenever construction operations may generate dust or fumes. Continue local exhaust operations until generation of dust and/or fumes have ceased and all such airborne irritants are completely dissipated.
3. Coordinate with the Owner to schedule operations that may generate dust, fumes or other airborne irritants including, but not necessarily limited to, the application of coatings, the use of adhesives and sealants, welding, roofing, and demolition and removal operations. As far as possible, schedule these operations to be performed during periods when the building is not occupied by students or staff.

3.9 TEMPORARY FIRE PROTECTION

- A. The General Contractor shall provide and maintain temporary fire protection facilities of the types needed to protect against reasonable predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."
- B. Take adequate precautions against fire; keep flammable material at an absolute minimum and ensure that such material is properly handled and stored. Except as otherwise provided herein, do not permit fires to be built or open salamanders to be used in any part of the work.
- C. During operations such as welding, cutting, temporary heating, etc., provide a sufficient quantity of standby fire extinguishers immediate to the area of these operations.

3.10 PROJECT SIGNS

- A. Provide any signs required by regulatory agencies.
- B. No other signs or advertisements will be allowed on the premises.

3.11 PATHWAY MAINTENANCE

- A. Where mud, snow, ice, or other hazardous conditions exist, the General Contractor shall remove the hazards so as to provide and maintain such temporary pathways as are required for safe and expeditious prosecution and inspection of the work of all trades and for the protection of the public.
- B. The General Contractor shall clean and maintain sufficient areas free of snow and ice to provide parking and safe walking conditions for all construction personnel and their vehicles.

3.12 OTHER TEMPORARY FACILITIES AND CONTROLS

- A. Each Prime Contractor shall provide other temporary facilities and controls, not

specifically described, but required for the complete and proper execution of their Work,
as selected by the Contractor.

END OF SECTION 01 50 00

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Product delivery, storage, and handling.
 2. Product warranties.
 3. Product selection procedures.
 4. Comparable products.

1.2 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
1. Each contractor is responsible for providing products and construction

methods compatible with products and construction methods of other contractors.

2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 6. Protect stored products from damage and liquids from freezing.

1.5 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
1. Products:
 - a. Non-restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements. Comply with requirements in Division 01 Section "Substitution Procedures" for

consideration of an unnamed product.

2. Manufacturers:

- a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.

3. Basis-of-Design Product: Where Specifications or Drawings name a product, and include a list of products or manufacturers, provide the basis of design product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether the proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. General: This Section specifies administrative requirements for execution and closeout requirements.

1.2 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected by governing authorities and/or agencies, and that Work is complete in compliance with Contract Documents and ready for inspection.
- B. Substantial Completion:
 - 1. Work is not Substantially Complete unless following has been completed:
 - a. All Work, other than incidental corrective or punch list work, including appropriate cleaning.
 - b. Obtain applicable occupancy permits, pressure vessel permits, elevator permits, and similar approvals or certificates by Authorities Having Jurisdiction, assuring Contractor's and Owner's full access and use of completed Work.
 - c. Contractor's punch list of items to be completed or corrected and written request for inspection has been submitted to Architect.
 - d. Complete final start-up and testing and commence instruction and training sessions on major systems including HVAC and controls, telephone and intercom, data communications, fire alarm, fire sprinkler, security, and clocks.
 - e. Make final changeover of locks and transmit new keys to Owner and advise Owner of changeover in security provisions.
 - f. Submit proof of required extended insurance coverages.
 - g. Designated systems and components are commissioned and usable.
 - h. Utilities are connected and operating normally.
 - i. As-Built Drawings, Operation and Maintenance Manuals, and Warranties

have been submitted, reviewed, and approved.

- j. Asset Management Data has been submitted, reviewed, and approved in accordance with this Specification, Specification 011200 Multiple Contract Summary and Exhibit C.
 - k. Work is accessible by normal vehicle and pedestrian traffic routes.
- 2. Occupancy of Work by Owner does not indicate that Work is Substantially Complete or is acceptable in whole or in part.
 - 3. Issuance of Certificate of Substantial Completion does not indicate final acceptance of Project by Owner, and Contractor is not relieved of any responsibility for Project except those outlined by document.
 - 4. When Contractor considers Work, or designated portion thereof, is substantially complete, he/she shall submit to Architect:
 - a. Written notification Work, or designated portion thereof, is substantially complete
 - b. A list of items to be completed or corrected
 - 5. Within a reasonable period of time after receipt of such notice, Architect will inspect to determine status of completion.
 - 6. Should Architect determine that Work is not substantially complete:
 - a. Architect will promptly notify Contractor in writing, giving reasons thereof.
 - b. Contractor shall remedy deficiencies in Work and send a second written notice to Architect.
 - c. Architect will re-inspect Work.
 - 7. When Architect, on basis of an inspection, determines that Work or designated portion thereof is Substantially Complete he/she shall prepare for submission to Contractor a list of items to be completed or corrected (aka Punchlist).
 - a. Contractor shall fully cooperate with such efforts to establish Punchlist.
 - b. Punchlist items shall be completed within 90 days after Date of Substantial Completion.

8. When Architect agrees that Work is substantially complete, he/she will:
 - a. Provide punchlist to Architect, who will attach it to their prepared Certificate of Substantial Completion, which shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.
- C. Requirements Preparatory to Final Inspection:
 1. Punchlist items shall be completed.
 2. Temporary facilities and construction shall be removed from Site.
 3. Building and Site shall be thoroughly cleaned as specified herein.
 4. Systems and equipment shall function and operate as designed to meet specified requirements.
 5. Contractor's personnel or manufacturer's authorized representatives where applicable, shall have completed instruction for Owner's personnel in proper operation and maintenance of systems, equipment, and other portions of Project.
 6. Operational instructions for equipment shall be mounted and posted as needed.
 7. Electrical panels shall be properly labeled (typewritten), valves, pipes ducts, etc., properly marked, and color-coded.
 8. Submittals; refer to Section 01 33 00 "Submittal Procedures".
 9. Forward certificates to Architect with a letter requesting inspection.
- D. Final Inspection:
 1. After preparatory requirements have been completed, Contractor shall notify Owner and Architect so that final inspection can be performed.
 - a. Contractor shall schedule final inspection in a sequential manner to facilitate inspection.
 2. Architect shall perform inspection of Project within 7 days following receipt of certifications and notification.
 3. Should Architect determine that Work is not complete for final

inspection:

- a. Contractor shall be promptly notified in writing, stating reasons.
 - b. Contractor shall immediately remedy deficiencies in Work and send a second written notice to Owner and Architect.
 - c. Architect will re-inspect Project within 7 days following receipt of notification.
4. When Owner and Architect concur that Project is finally complete, Owner/Architect will request Contractor to make closeout submittals.

E. Re-inspection Fees:

1. Architect will make only one (1) inspection each to determine Substantial Completion and Final Completion. If these inspections determine that work does not comply with claims of status by Contractor, either because of major items not completed or an excessive number of punchlist items, successive inspections requested by Architect shall be charged to Contractor as follows.
 - a. Owner will compensate Architect for such additional services.
 - b. Owner will then deduct, by change order, amount of such compensation from Final Payment to Contractor.

F. Final Payment:

- a. Prior to approval of final request for payment, Contractor shall have completed following items and placed on file:
 - a) Release of liens from subcontractors signed by each.
 - b) Written or printed operating instructions or manuals. This material shall not be submitted with shop drawings. When manuals or printed operating instructions for equipment are specified, they shall be delivered to Owner.
 - c) Systems completely in operation with balancing completed in compliance with specifications.
 - d) Completion of punchlist corrections or provided a value of uncompleted items.

- e) Final requisition to list previous and additional change orders, requests of extras, previous requests for extension of time, etc.
 - f) Certification of final inspection from municipal agencies as needed.
- G. Submit Final Application for Payment in compliance with procedures and requirements stated in Contract.

1.3 FINAL CLEANING

- A. Condition of Premises and the Job Site: Maintain the premises and the job site in a reasonably neat and orderly condition and free from accumulations of waste materials and rubbish during the entire construction period. Remove crates, cartons and other flammable waste materials or trash from the Work areas each working day.
- B. Cleaning of Generally Unfinished Spaces: Elevator shafts, electrical closets, pipe and duct shafts, chases, furred spaces, and similar spaces which are generally unfinished shall be cleaned and left free from rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt, and dust.
- C. Chutes, Hoists and Receptacles: Remove rubbish by means of chutes, hoists, or receptacles. Do not drop or throw rubbish or waste from one level to another within or outside the building.
- D. Care of Finished Spaces: Care shall be taken by workmen not to mark, soil or otherwise deface finished surfaces. In the event that finished surfaces become defaced, clean and restore such surfaces to their original condition.
- E. Schedule of Clean Up: Clean up immediately upon completion of each trade's work.
- F. Cleaning of Areas to Be Painted and Finished: Clean areas in which painting and finishing work is to be performed just prior to the start of this work and maintain these areas in a clean condition. Cleaning includes the removal of rubbish, broom cleaning of floors, the removal of any plaster, mortar, dust and other extraneous materials from finish surfaces, and surfaces that will remain visible after the Project work is complete. Clean exposed exterior and hard-surfaced interior finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Remove labels that are not permanent labels. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
- G. Preparation of Building for Occupancy: In addition to the cleaning specified above and the more specific cleaning which may be required in various sections of the Specifications, prepare the building for occupancy by a thorough cleaning, including

- washing (or cleaning by other appropriate methods) surfaces on which dirt or dust has collected and by washing glass on both sides. Wash exterior glass using a window cleaning contractor specializing in such work. Provide and maintain adequate runner strips of non-staining reinforced Kraft building paper on finished floors for protection. Leave equipment in an undamaged, bright, clean, polished condition. Re-cleaning will not be required after the Work has been accepted unless later operations of the Contract make re-cleaning necessary.
- H. Cleaning of Site: Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
 - I. Completion of the Work: Upon completion of the work, dismantle the temporary construction facilities and remove construction equipment, fences, scaffolding, surplus materials, and rubbish of every kind from the site.
 - J. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of them in a legal manner.

1.4 ASSET MANAGEMENT DATA

- A. Owner has the goal to achieve day one operational readiness, using a computerized maintenance management system (CMMS) for work order management, preventive maintenance, space management, capital management, and other related functions. In furtherance of the goal of day one operational readiness, the Developer aims to collect managed asset data in a structured format from the network of Contractors furnishing and installing said managed assets through their contractual relationship with Contractor.
- B. This Specification, along with Specification 011200 Multiple Contract Summary and Exhibit C, defines information deliverable requirements specific to the Procurement and Installation phases to be provided by Seller (suppliers/vendors), where direct procurement contracts between a Seller, Installing Subcontractor, and Contractor exist.
- C. Developer defines an in-scope managed asset that falls within the governance of the Asset Management Information Strategy, referred to as Managed Asset, as any installed item that physically resides within the systems and functional areas outlined in Exhibit C that:
 - 1. Requires routine maintenance or has a preventive maintenance schedule
 - 2. Has attributes a facility manager would need to reference in performing work order maintenance
 - 3. Is not consumable or otherwise replaced on a predetermined schedule
- D. Each unique managed asset will be categorized into a general functional grouping, referred to

as Asset Type. Every unique asset will require one or more sets of attributes or meta-data, referred to as Asset Data, related to their asset type grouping. Exhibit C, Appendix A: Asset Type List, provides a matrix of the asset types that reside in each project specification section and the attribute sets required by the Seller or Subcontractor responsible for those specification sections at the various data drops described in Exhibit C, Table 4.1: Asset Data Drop Phases.

- E. All relevant asset attributes will be obtained iteratively during the phased data drops summarized in Exhibit C, Table 4.1: Asset Data Drop Phases.
- F. Representative examples of what Developer defines as managed assets are described in Exhibit C, Table 4.2. Table 4.2 is not all encompassing but rather meant to serve as a reference to expand on the definition.
- G. Contractors with managed assets in their work packages are required to provide asset data as it relates to the performance, properties, and characteristics of managed assets to satisfy their contractual obligations for the respective work package. Contractors with responsibility to furnish or install managed assets falling within the governance of the Asset Management Information Strategy, as defined in this document, shall perform the following tasks:
 - 4. Incorporate cost to furnish asset data as described by this exhibit into their bid. Bidder may be asked to break out this cost in their bid sheet.
 - 5. Within 15 days of bid submission, Contractor shall provide contact information for the representative of their firm with whom the Asset Management Data Integrator will coordinate asset data expectations and deliverables upon Subcontract award.
 - 6. Coordinate all required activities to submit asset data through the designated Asset Management Data Integrator.
 - 7. Attend through conference call, web meeting, or in-person meeting, a post-award briefing with the Asset Management Data Integrator to review Contractor expectations for completion and submission of required asset data.
 - 8. Use the Developer-provided spreadsheet template or similar electronic form to capture required asset data, completely and accurately.
 - 9. Follow any direction given by Asset Management Data Integrator to provide completed asset data with regard to specific units, format, nomenclature, or other data or naming standards as required.
 - 10. Use the submittals systems and procedures as prescribed in specification Section 013300 Submittal Procedures and confirmed by the Asset Management Data Integrator in the post- award briefing.
- H. In addition to these required tasks, Contractors may also expect that:
 - 11. Developer will provide Contractors documentation, instructions, and on-call help to assist in completing asset data forms through the Asset Management Data Integrator or other designated representatives of Developer.
 - 12. Developer does not expect that any one asset will require in excess of 40 attributes and considers 20 minutes per managed asset a reasonable estimate of time to complete asset

data requirements.

1.5 OPERATING AND MAINTENANCE DOCUMENTATION

- A. Manuals: Under the direction of the Contractor, each subcontractor shall furnish operation and maintenance instruction manuals. The manuals shall contain the manufacturers' instructions for each item of equipment and apparatus furnished under the Contract, together with any additional data as may be required by the various sections of the Specifications. Furnish manufacturer's original brochures.
1. Provide Operating and Maintenance Documentation in electronic PDF form to the Architect and Owner. Assemble each manual into a composite electronically indexed file.
 2. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
 3. Printed O&M binders are not required. Owner shall access Operation and Maintenance information via digitally catalogued PDF files, organized in accordance with Section 1.6 Organization herein.
- B. Endorsement: By submission of manuals, the Contractor acknowledges that each of the manuals is complete and accurate.
- C. Submittal of Manuals: Prior to the Contractor's applications for final payment, and as a condition to approval of the applications, each subcontractor shall deliver to the Contractor the manuals arranged in proper order, indexed, and endorsed. Assemble the manuals for all divisions of the Work, review them for completeness, and submit them to the Owner. If hardcopy format is required by Owner, deliver the manuals in suitable transfer cases indexed and marked for each division of the Work

1.6 ORGANIZATION

- A. Contents
1. Prepare a table of contents for each volume, with each product or system description identified.
- B. Part 1 - Directory
1. List names, addresses, and telephone numbers of Architect and Contractors.
 2. List subcontractors, service organizations, and principal vendors, including

names, addresses, and telephone numbers where they can be reached for emergency service, including nights, weekends, and holidays.

C. Part 2 – Asset Management Data

D. Part 3 - Operation and Maintenance Instructions

1. Arrange instructions by system and subdivide by specification section.
2. Identify following for each category:
 - a. List of equipment
 - b. Parts list for each asset
 - c. Startup and operating procedures
 - d. Maintenance procedures for equipment and systems
 - e. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions and detrimental agents
 - f. Names, addresses, and telephones of subcontractors and suppliers

E. Part 4 - Project documents and certificates

1. Shop drawings and product data
2. Startup reports
3. Test and balance reports
4. Commissioning reports
5. Spare parts list
6. Training materials
7. Certificates
8. Photocopies of warranties and bonds

1.7 OPERATING INSTRUCTIONS

- A. Operating instructions shall be divided into four subsections as follows:

1. Start-up - Give complete instructions for energizing equipment and making initial settings and adjustments whenever applicable. If equipment is fully automatic, a statement to that effect shall be all that is needed. If a specific sequence or steps shall be performed, give step-by-step instructions in proper sequence. If timing (such as warm-up between power-on and adjustment) is important, clearly state specific minimum time needed at proper point in procedure. Refer to controls and indicators by panel; make references consistent with nomenclature used in illustrations and tables of controls and indicators. If preliminary settings differ from different modes of operations, give procedures for each mode.
2. Operation - Give detailed instruction in proper sequence for each mode of operation. When, for a given action on part of operator, alternate equipment responses are possible, give appropriate operation reaction to each.
3. Emergency Operation - If some functions of equipment can be operated while other functions are disabled, give instructions for operations under these conditions. Include here only those alternate methods from operation (from normal) that operator can follow when there is a partial failure or malfunctioning of components, or other unusual condition.
4. Shutdown - Include instructions for stopping and securing equipment after operation. If a particular sequence is needed, give step-by-step instructions in that order.

1.8 MAINTENANCE INSTRUCTIONS

- A. Maintenance instructions shall be divided into two subsections as follows:
 1. Preventive Maintenance - Provide a schedule for preventive maintenance. State, preferably in tabular form, recommended frequency of performance for each preventive task (cleaning, inspection, and scheduled overhaul).
 - a. Provide instruction and schedules for routine cleaning and inspection, with recommended lubricants where applicable.
 - b. If periodic inspection of equipment is needed for operation, cleaning, or other reasons, indicate items to be inspected and give inspection criteria for, but not limited to motors, controls filters, heat exchangers, etc.
 - c. Provide instruction for minor repairs or adjustments needed for preventive maintenance routines. Minor repairs and adjustments shall be limited to repairs and adjustments that may be performed without

special tools or test equipment, and that require no special training or skills. Identify test points and give values for each.

2. Corrective Maintenance - Provide instructions predicated upon a logical effect-to-cause trouble-shooting philosophy to minimize equipment down time. Instructions and data shall appear in normal sequence of corrective maintenance, for example, troubleshooting first, repair and replacement of parts second, and then parts list.
 - a. Trouble-shooting - shall describe general procedure for locating malfunctions and shall give, in detail, any specific remedial procedures or techniques. Data shown is intended to isolate only most common equipment deficiencies. Trouble-shooting tables, charts, or diagrams may be used to present specific procedures. A guide to this type shall be a three-column chart. Columns shall be entitled Malfunction, Probable Cause, and Recommended Action. Information shall be alphabetically arranged by component, and each component shall, in turn, list deficiencies that may be expected. Each deficiency shall contain one or more problems with a recommended correction.
 - b. Repair and Replacement - Indicate procedures most likely to be needed in maintenance of systems and equipment. Information included here shall consist of step-by-step instructions for repair and replacement of defective items. Include all information needed to accomplish repair and replacement, including information such as torque values. Identify tools, special equipment, and materials that may be needed. Identify uses for maintenance equipment. Paragraphs shall contain headings to identify topics covered.
 - c. Safety Precautions - shall comprise a listing of safety precautions and instructions to be followed before, during, and after repairs or adjustments are made or routine maintenance is performed.

B. Spare Parts Lists:

1. Include recommended spare parts for equipment furnished for Project. List shall include a tabulation of descriptive data for all electrical electronic spare parts and all mechanical spare parts for each type of equipment or system. Each part shall be properly identified by part number and manufacturer.

1.9 SUBMISSION REQUIREMENTS

- A. For Final Inspection: Submit one digital copy of completed volumes in final form 15 days prior to final inspection. This copy will be returned with Architect's comments. Revise content of documents as needed prior to final submittal.

- B. Submit final volumes revised, in PDF and if requested, as hard copies, within 10 days following final inspection.
- C. PDF Format: PDF format for Operation and Maintenance Manuals shall be organized using the same method as the hard copy manuals. Parts and specifications sections shall be bookmarked and have searchable functionality.
- D. Verify with Owner for additional PDF File organization.

1.10 OPERATING AND MAINTENANCE TRAINING AND INSTRUCTIONS

- A. Items in Detailed Review: Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:
 - 1. Maintenance manuals.
 - 2. Record documents.
 - 3. Spare parts and materials.
 - 4. Tools.
 - 5. Lubricants.
 - 6. Fuels.
 - 7. Identification systems.
 - 8. Control sequences.
 - 9. Hazards.
 - 10. Cleaning.
 - 11. Warranties and bonds.
 - 12. Maintenance agreements and similar continuing commitments.
- B. Demonstration of Procedures: As part of instruction for operating equipment, demonstrate the following procedures:
 - 1. Start-up.

2. Shutdown.
 3. Emergency operations.
 4. Noise and vibration adjustments.
 5. Safety procedures.
 6. Economy and efficiency adjustments.
 7. Effective energy utilization.
- C. Video Recordings: Videography documenting equipment startup, inspections and/or training shall adhere to the following requirements:
1. Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 2. At beginning of each training module, record each chart containing learning objective and lesson outline.
 3. Provide high quality color video recordings with menu navigation in format acceptable to Professional.
 4. Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.
 5. Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.
 6. Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.
 7. Provide video recordings used as a component of training modules in same format as recordings of live training.

1.11 PROJECT RECORD DOCUMENTS

- A. Contractual Requirements: Refer to General Conditions, for contractual requirements governing record documents.
- B. Record Set: Make a complete and accurate record of the changes or deviations from the Contract Documents and shop drawings, indicating the Work as actually installed. The Contractor, and the subcontractor for each part of the Work, shall record the changes under the direction of the Contractor as the Work progresses. Neatly and correctly mark such changes on blackline prints of the Drawings affected, or on a copy of the Specifications, together with appropriate supplementary notes. Arrange the record Drawings in proper order and index the shop drawing information in accordance with the various sections of the Specifications. Keep the record set of

Drawings, shop drawings and Specifications at the job site for review by the Architect or Owner.

1. Provide version of record set drawings in PDF format, indexed by discipline, and drawings series within each discipline.
- C. Endorsement: At the completion of the Work the Contractor acknowledges, that each of the revised prints of the Drawings and Specifications constitutes a complete and accurate record of the Work as installed or constructed.
- D. Record of Changes or Deviations from the Contract Documents and the shop drawings:
As the work progresses keep a complete and accurate record of changes or deviations from the Contract Documents and the shop drawings, indicating the Work as installed. Show changes neatly and correctly on the affected document using black line prints of the Drawings or the Specifications, with appropriate supplementary notes. Keep this record set of Drawings, shop drawings and Specifications at the job site available to the Architect and Owner.
- E. Delivery of the Record Documents: Prior to application for final payment, and as a condition to its acceptance by the Architect and Owner, deliver the record documents in proper order. Deliver the records digitally or in suitable transfer cases, indexed and marked, for each Division of the Work.
- F. Responsibility of the Contractor: Acceptance of such records by the Architect or Owner shall not be a waiver of any deviation from the Contract Documents or the shop drawings or in any way relieve the Contractor from his responsibility to perform the Work in accordance with the Contract Documents and the shop drawings to the extent they are in accordance with the Contract Documents.
- G. Sustainable Building Manual: The Contractor shall compile a Sustainable Building Manual of items required in Section 01 81 13 "Sustainable Design Requirements", in a loose-leaf binder with tabs for each section of the specifications which has such a requirement. Provide subdivided tabs by the specific requirement (Low Emitting Materials, Recycled Content, Certified Wood). The Contractor shall include each product data, manufacturer's specifications and installation requirements, certifications and other data which specifically address each product's compliance with specified requirements. The Contractor shall maintain 3 copies of this binder. One on site for the Contractor's use, one with the Owner's Environmental Consultant, and the final one to be submitted to the Owner at Project Completion.

1.12 WARRANTIES AND GUARANTEES

- A. Terms of the Contractor's Special Warranties and Guarantees: Refer to the General Conditions for terms of the Contractor's special warranties and guarantees of workmanship and materials.

1. Warranties and guarantees required by the Technical Sections of the Specifications shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and are in addition to and run concurrent with other warranties and guarantees made by the Contractor under requirements of the Contract Documents.

B. Definitions

1. Standard Product Warranties and/or Guarantees are preprinted written documents published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
2. Special Warranties and/or Guarantees are written documents required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties and/or guarantees or to provide greater rights for the Owner. When a special warranty and/or guarantee is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner for Owner's approval prior to final execution.

C. Submission Requirements

1. Submit documents to Owner and Architect within 10 days following Date of Substantial Completion. For item accepted after Date of Substantial Completion, submit documents within 10 days following each individual acceptance.
 - a. When a designated portion of Work is completed and occupied or used by Owner, by separate agreement with Contractor during construction period, submit properly executed warranties to Owner within 15 days of completion of that designated portion of Work.
2. When special warranty is required to be executed by Contractor, or Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by required parties. Submit a draft to Owner.

D. Organization

1. Compile specified warranties and service and maintenance agreements. Execute and assemble documents from subcontractors, suppliers, and manufacturers.
2. Prepare a table of contents, in an orderly sequence, with information as follows:

- a. Product or assembly
- b. Firm, with name of principal, address, and telephone number
- c. Scope
- d. Date of beginning and duration of warranty, bond, or service agreement
- e. Provide information for proper procedure to be followed in case of failure, and in instances that may affect validity of warranty.

1.13 WARRANTY REQUIREMENTS

- A. Written warranties made to Owner are in addition to implied warranties and shall not limit duties, obligations, right and remedies otherwise available under law, nor shall warranty periods be interpreted as limitations on time in which Owner can enforce such other duties, obligations, rights, or remedies.
- B. Manufacturer's disclaimers and limitations on product warranties shall not relieve Contractor of warranty on Work that incorporates products, nor shall it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.
- C. Warranties shall become valid and operative upon issuance of Certificate of Substantial Completion.
- D. For items of Work delayed beyond Date of Substantial Completion, provide an updated schedule within 10 days after acceptance, listing date of acceptance as start of warranty.
- E. Related Damages and Losses:
 1. When correcting warranted and/or guaranteed Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted and/or guaranteed Work.
- F. Reinstatement of Warranty and/or Guarantee
 1. When Work covered by a warranty and/or guarantee has failed and been corrected by replacement or rebuilding, reinstate the warranty and/or guarantee by written endorsement. The reinstated warranty and/or guarantee shall be equal to the original warranty and/or guarantee with an equitable adjustment for depreciation.
- G. Replacement Cost
 1. Upon determination that Work covered by a warranty and/or guarantee has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents.

2. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- H. Owner's Recourse: Written warranties and/or guarantees made to the Owner are in addition to implied warranties and/or guarantees, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty and/or guarantee periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
1. Rejection of Warranties and/or Guarantees: The Owner reserves the right to reject warranties and/or guarantees and to limit selections to products with warranties and/or guarantees not in conflict with requirements of the Contract Documents.
- I. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, guarantee, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.
- J. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties and/or guarantees do not relieve the Contractor of the warranty and/or guarantee on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties and/or guarantees with the Contractor.
- K. Documents to be Provided to the Owner Prior to Final Payment: Prior to final payment and before the issuance of a final Certificate for Payment, in accordance with the provisions of the General Conditions, provide the following documents directly to the Owner:
1. Warranties and/or Guarantees: The warranties and/or guarantees required by the General Conditions and any other extended warranties and/or guarantees stated in the technical Sections of the Specifications.
 2. Release or Waiver of Liens: As required by the General Conditions.
 3. Service and Maintenance Contracts: Furnish properly executed contracts for any extended service or maintenance as required by the technical sections of the Specifications.

1.14 CERTIFICATE OF OCCUPANCY

- A. Filing of Documents with the Architect for Transmittal to the Owner: Prior to final payment and before the issuance of a final Certificate for Payment, in accordance

with the provisions of the General Conditions, file the following documents with the Architect for transmittal to the Owner:

- B. Certificate of Occupancy: Where the local law at the site of the building requires either a temporary and/or permanent Certificate of Occupancy, obtain and pay for these certificates and deliver to the Architect.

PART 2 - PRODUCTS
(NOT APPLICABLE)

PART 3 - EXECUTION
(NOT APPLICABLE)

END OF SECTION

SECTION 02.4100
DEMOLITION

PART 1 GENERAL

1.1 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.2 FIELD CONDITIONS

- A. Owner will occupy portions of site adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: Refer to Section 003126 - Existing Hazardous Material Information and attached hazardous material report. All HAZMAT removal shall be completed prior to general demolition.
 - 1. If additional suspected hazardous materials are encountered, do not disturb; immediately notify the Owner.
- D. Utility Service: Maintain existing active site utilities and protect them against damage during selective demolition operations.
 - 1. Notify Owner in advance of any disruptions to existing services on the site.
 - 2. Contractor is responsible to identify and locate all underground utility services in the area of work.
- E. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 EXECUTION

3.1 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, trails, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
- C. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated.
 - 1. Protect adjacent buildings and facilities from damage due to demolition activities.
 - 2. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 3. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 - 4. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
 - 5. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
 - 6. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
 - 7. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
 - 8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- D. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- E. Existing Utilities to Remain: Maintain utility services and mains to remain and protect from damage during demolition operations. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
- F. Protect existing structures and other elements to remain in place and not removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.

3.2 EXISTING UTILITIES

- A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without 10 days prior written notification to Owner.
- F. Locate and mark utilities to remain, including underground utilities; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Unused underground piping may be abandoned in place, provided it is completely drained and capped; remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.3 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 4. Maintain fire watch during and for at least 8 hours after flame-cutting operations.
 - 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 6. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

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- D. Remove existing work as indicated on drawings and as required to accomplish new work.
 - E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

SECTION 03.3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
- B. Jointing plan
- C. Mix Design: Submit proposed concrete mix design.
- D. Test Reports: Submit report for each test or series of tests specified.
- E. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.2 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
 - 1. Maintain one copy of each document on site.
- B. Follow recommendations of ACI PRC-305 when concreting during hot weather.
- C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

PART 2 PRODUCTS

2.1 FORMWORK

- A. Formwork Design and Construction: As recommended by the engineer in the field (if required).

2.2 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) or 60 (60,000 psi).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Galvanized in accordance with ASTM A767/A767M, Class I, unless otherwise indicated.
- B. Steel Welded Wire Reinforcement (WWR): Galvanized, plain type, ASTM A1064/A1064M.
- C. Reinforcement Accessories:

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1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
 2. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
 1. Acquire cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C33/C33M.
 1. Acquire aggregates for entire project from same source.
- C. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.4 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

2.5 BONDING AND JOINTING PRODUCTS

- A. Epoxy Bonding System:
 1. Complying with ASTM C881/C881M and of Type required for specific application.
- B. Waterstops: Type and locations as suitable for application
- C. Slab Isolation Joint Filler: 1/2-inch thick, height equal to slab thickness, with removable top section forming 1/2-inch deep sealant pocket after removal.
- D. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches on center; ribbed steel stakes for setting.

2.6 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
 1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.
- D. Normal Weight Concrete:
 1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,000 pounds per square inch unless otherwise noted.

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2. Water-Cement Ratio: Maximum 40 percent by weight.
 3. Maximum Aggregate Size: 5/8 inch.

2.7 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION

- A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R.
- E. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.

3.3 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.4 PLACING CONCRETE

- A. Place concrete in accordance with ACI PRC-304.
- B. Notify Architect not less than 24 hours prior to commencement of placement operations.
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

3.5 SLAB JOINTING

- A. Contractor to prepare and submit a jointing plan for approval.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
 - 1. Install wherever necessary to separate slab from other building members, including columns, walls, equipment foundations, footings, stairs, manholes, sumps, and drains.
- D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.
- E. Construction Joints: Where not otherwise indicated, use metal combination screed and key form, with removable top section for joint sealant.

3.6 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.
- C. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
 - 1. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.7 CURING AND PROTECTION

- A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than seven days.
 - 2. High early strength concrete: Not less than four days.
- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

3.8 FIELD QUALITY CONTROL

- A. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards or less of each class of concrete placed.
- B. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- C. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.9 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Architect/Owner. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.10 PROTECTION

- A. Do not permit traffic over unprotected concrete floor surface until fully cured.

SECTION 04.0100
MAINTENANCE OF MASONRY

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: For each type of product indicated
- B. Manufacturer's Instructions: For cleaning materials, indicate special procedures, conditions requiring special attention

PART 2 PRODUCTS

2.1 CLEANING MATERIALS

- A. Cleaning Agent: Non-ionic Detergent type.
- B. Micro-abrasive Cleaner: Quintek ROTEC VORTEX Cleaning System
- C. Biological Cleaner: Prosoco Revive

2.2 MASONRY MATERIALS

- A. Stone: Provide salvaged units where required to be removed and reinstalled
- B. CMU Block: Section 04.2000.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces to be cleaned are ready for work of this section.

3.2 PREPARATION

- A. Protect surrounding elements from damage due to restoration procedures.
- B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.
- C. Separate areas to be protected from restoration areas using means adequate to prevent damage.

-
- D. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.
 - E. When using cleaning methods that involve water or other liquids, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.
 - F. Do not allow cleaning runoff to drain into sanitary or storm sewers.

3.3 CLEANING EXISTING MASONRY

- A. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions; use brush or low pressure spray application. Do not allow chemicals to remain on surface
- B. Clean masonry surfaces of dirt, staining, biological material or other contamination using the gentlest method that is effective as required for installation / adhesion of new work.
- C. Use only those cleaning methods which will not damage the masonry.
- D. Follow local laws regarding the collection and disposal of rinse water generated by the application of cleaning and paint removing products.

3.4 CLEANING

- A. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
 - 1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
- B. Final Cleaning: After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
- C. Immediately remove stains, efflorescence, or other excess resulting from the Work.
- D. Remove excess mortar, smears, and droppings as work proceeds and upon completion.
- E. Clean surrounding surfaces.

SECTION 04.0511

MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.3 FIELD CONDITIONS

- A. Maintain materials and surrounding air temperature to minimum 45 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 MORTAR AND GROUT APPLICATIONS

- A. Mortar Mix Designs: ASTM C270, Proportion Specification.
 - 1. Masonry at or below grade: Type S.

2.2 MATERIALS

- A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
 - 1. Color: Standard gray.
 - 2. Water repellent mortar for use with water repellent masonry units.
- B. Portland Cement: ASTM C150/C150M.
 - 1. Type: Type I or Type II; ASTM C150/C150M.
 - 2. Color: Standard gray.

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3. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.
 - C. Hydrated Lime: ASTM C207, Type S.
 - D. Mortar Aggregate: ASTM C144 unless otherwise indicated.
 - E. Grout Aggregate: ASTM C404.
 - F. Water: Clean and potable.
 - G. Bonding Agent: Latex type.
 - H. Integral Water Repellent Admixture: Polymeric liquid admixture added to mortar at the time of manufacture.
 1. Performance of Mortar with Integral Water Repellent:
 - a. Water Permeance: When tested per ASTM E514/E514M and for a minimum of 72 hours:
 - 1) No water visible on back of wall above flashing at the end of 24 hours.
 - 2) No flow of water from flashing equal to or greater than 0.032 gallons per hour at the end of 24 hours.
 - 3) No more than 25 percent of wall area above flashing visibly damp at end of test.
 - b. Flexural Bond Strength: ASTM C1072; minimum 10 percent increase.
 - c. Compressive Strength: ASTM C1314; maximum 5 percent decrease.
 2. Use only in combination with masonry units produced with integral water repellent admixture.

2.3 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in accordance with ASTM C270 and in quantities needed for immediate use.
- B. Maintain sand uniformly damp immediately before the mixing process.
- C. Add admixtures in accordance with manufacturer's instructions; mix uniformly.
- D. Do not use anti-freeze compounds to lower the freezing point of mortar.
- E. If water is lost by evaporation, re-temper only within two hours of mixing.

2.4 GROUT MIXING

- A. Mix grout in accordance with ASTM C94/C94M.
- B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

- C. Add admixtures in accordance with manufacturer's instructions; mix uniformly.

PART 3 EXECUTION

3.1 PREPARATION

- A. Apply bonding agent to existing concrete surfaces.

3.2 POINTING WITH MORTAR

- A. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
- B. Point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
- C. When mortar is thumbprint hard, tool joints. Remove excess mortar from edge of joint by brushing.
- D. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
 - 1. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
- E. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.
- F. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.
- G. Install mortar and grout to requirements of section(s) in which masonry is specified.

3.3 GROUTING

- A. Use either high-lift or low-lift grouting techniques, at Contractor's option, subject to other limitations of Contract Documents.
- B. Low-Lift Grouting:
 - 1. Limit height of pours to 12 inches.
 - 2. Limit height of masonry to 16 inches above each pour.
 - 3. Pour grout only after vertical reinforcing is in place; place horizontal reinforcing as grout is poured. Prevent displacement of bars as grout is poured.

4. Place grout for each pour continuously and consolidate immediately; do not interrupt pours for more than 1-1/2 hours.
- C. High-Lift Grouting:
1. Verify that horizontal and vertical reinforcement is in proper position and adequately secured before beginning pours.
 2. Place grout for spanning elements in single, continuous pour.

SECTION 04.2000
UNIT MASONRY

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide data for masonry units, mortar, and masonry accessories.
- B. Manufacturer's Certificate: Certify that water repellent admixture manufacturer has certified masonry unit manufacturer as an approved user of water repellent admixture in the manufacture of concrete block.

1.2 QUALITY ASSURANCE

- A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.
- B. Delegated Design: Perform design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

1.4 FIELD CONDITIONS - MASONRY WORK

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F (5 degrees C)[45] degrees F ([7] degrees C) prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F (32 degrees C) prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations. GC to verify depth with existing masonry to be infilled.

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2. Nonloadbearing Units: ASTM C129.
 - a. Both hollow and solid block.
 3. Units with Integral Water Repellent: Concrete block units as specified in this section with polymeric liquid admixture added to concrete masonry units at the time of manufacture.
 - a. Performance of Units with Integral Water Repellent:
 - 1) Water Permeance: When tested per ASTM E514/E514M and for a minimum of 72 hours.
 - a) No water visible on back of wall above flashing at the end of 24 hours.
 - b) No flow of water from flashing equal to or greater than 0.032 gallons per hour at the end of 24 hours.
 - c) No more than 25 percent of wall area above flashing visibly damp at end of test.
 - 2) Flexural Bond Strength: ASTM C1072; minimum 10 percent increase.
 - 3) Compressive Strength: ASTM C1314; maximum 5 percent decrease.
 - b. Use only in combination with mortar that also has integral water repellent admixture.
 - c. Use water repellent admixtures for masonry units and mortar by a single manufacturer.

2.2 MORTAR MATERIALS

- A. Mortar and Grout: As specified in Section 04.0511.

2.3 ACCESSORIES

- A. All accessories as required for a complete and proper installation of masonry units.
- B. Compressible Joint Filler: Pre-molded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane, or PVC.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

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- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.3 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

3.4 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- D. Remove excess mortar and mortar smears as work progresses.
- E. Remove excess mortar with water repellent admixture promptly. Do not use acids, sandblasting or high pressure cleaning methods.
- F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- H. Isolate CMU infill from existing masonry walls with a control joint as required.

3.5 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
- B. Install flashing in accordance with manufacturer's instructions and BIA Technical Notes No. 7.

3.6 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Replace defective mortar. Match adjacent work.
- C. Clean soiled surfaces with cleaning solution.
- D. Use non-metallic tools in cleaning operations.

SECTION 05.5000
METAL FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Miscellaneous shop fabricated steel and aluminum items.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

PART 2 PRODUCTS

2.1 METALS - GENERAL

- A. Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.2 MATERIALS - STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
- C. Plates: ASTM A283/A283M.
- D. Stainless Steel, General: ASTM A666/A666M, Type 304 or Type 316
- E. Stainless Steel Tubing: ASTM A554, Type 316, 16 gauge, 0.0625 inch minimum metal thickness, 1-1/2 inch diameter.
- F. Stainless Steel Bars, Shapes and Moldings: ASTM A276/A276M, Type 304.
- G. Mechanical Fasteners: Same material as or compatible with materials being fastened; type consistent with design and specified quality level.
- H. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- I. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.3 MATERIALS - ALUMINUM

- A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.
- B. Sheet Aluminum: ASTM B209/B209M, 5052 alloy, H32 or H22 temper.
- C. Bolts, Nuts, and Washers: Stainless steel.
- D. Welding Materials: AWS D1.2/D1.2M; type required for materials being welded.

2.4 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.5 FABRICATED ITEMS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 INSTALLATION

- A. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- B. Perform field welding in accordance with AWS D1.1/D1.1M.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.

3.3 REPAIRS

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

SECTION 06.0300
CONSERVATION TREATMENT FOR PERIOD WOOD

PART 1 GENERAL

1.1 DEFINITIONS

- A. Consolidant: Chemical product to strengthen loose or deteriorated wood.
- B. Dutchman: Repair method in which deteriorated wood component is removed in part and replaced with salvaged, harvested, or new wood.
- C. In situ: Repair procedure in which wood elements and components remain in place and are repaired without removal from the system they are a part of.
- D. New Elements: New, nonhistoric materials added to wood structures to aid in resistance to structural loads or water infiltration.
- E. Patch: Use of substitute repair materials to treat damaged or deteriorated components in situ.
- F. Surface Treatment: Application of traditional materials or contemporary chemical products to the surface of wood components to provide protection and reduce water infiltration.

1.2 QUALITY ASSURANCE

- A. Contractors Field Testing / Evaluation: Prior to commencing work of this section, receive written approval of scope of proposed wood restoration and repair work.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.1 REPLACEMENT ROUGH CARPENTRY MATERIALS

- A. Sizes: Nominal sizes as indicated on drawings, to match items being replaced.
- B. Moisture Content: S-dry or MC19.

2.2 REPLACEMENT FINISH CARPENTRY MATERIALS

- A. Exterior Finish Carpentry Items: Matching existing elements.
- B. Interior Finish Carpentry Items: Matching existing elements.
 - 1. Moldings, Bases, Casings, and Miscellaneous Trim: Prepare for opaque or transparent finish as scheduled.
 - 2. Window Sills: Prepare for opaque finish.
 - 3. Stairs and Handrails: Prepare for transparent finish.

2.3 CLEANING MATERIALS

- A. Cleaning Agent: Detergent type.
- B. Cleaning Agent: 0.5 lb of sodium hydrosulfite mixture to one gallon of water.

2.4 MOLD REMOVAL MATERIALS

- A. Field-Formulated Removal Agent: Solution of one part household bleach to ten parts water.
- B. Field-Formulated Heavy-Duty Removal Agent: Solution of one part household detergent, ten parts bleach, and twenty parts warm water.
- C. Commercial Mold Removal Agent: Biodegradable, nontoxic, neutral pH formulation of surfactants and 7.5 percent hydrogen solution as active components.

2.5 PAINT REMOVERS

- A. Manufacturers:
 - 1. American Building Restoration Products, Inc; _____: www.abrp.com/#sle.
 - 2. PROSOCO, Inc; _____: www.prosoco.com/#sle.
- B. Water-Based: Formulated without methylene chloride or methanol and intended for removal of multiple coats of oil-based, water-based, acrylic-based, epoxy-based, urethane-based, elastomeric, and lead-based paints.
 - 1. Formulation: Thixotropic paste or gel.
 - 2. Neutral Types: 5.5 pH.

2.6 WOOD REPAIR MATERIALS

- A. Source Limitations: Obtain compatible consolidants and patching and filling compounds from single manufacturer.
- B. Manufacturers:
 - 1. Abatron; _____: www.abatron.com/#sle.
 - 2. Conserve Epoxy; _____: www.conservepoxy.com/#sle.
 - 3. Protective Coatings Company; _____: www.pcepoxy.com/#sle.

- C. Consolidants:
 - 1. Water Based: Single-component, low-viscosity adhesive to penetrate and restore deteriorated wood.
 - a. Primer for patching and filling compounds.
 - 2. Epoxy Based: Two-component clear epoxy liquid system to penetrate and restore deteriorated wood.
 - a. Mix Ratio: Recommended by manufacturer.
 - b. Additional Uses: Primer for patching and filling compounds.
- D. Patching and Filling Compounds:
 - 1. Epoxy Based: Two-part, adhesive system designed to fill voids in wood and be painted, stained, sawed, nailed, planed, sanded carved, and machined like wood.
 - a. Mix Ratio: Recommended by manufacturer.

2.7 BONDING ADHESIVES

- A. Manufacturers:
 - 1. Abatron; _____: www.abatron.com/#sle.
 - 2. Protective Coatings, Inc; _____: www.pcepoxy.com/#sle.
 - 3. Conserve Epoxy; _____: www.conservepoxy.com/#sle.
- B. General: Products for repairing and bonding wood and wood-based materials.
- C. Epoxy Adhesive: Two-part; clear resin and amber hardener adhesive with medium viscosity.
 - 1. Mix Ratio: Recommended by manufacturer.
 - 2. Cured Properties:
 - a. Tensile Strength: 2,044 psi minimum at 7 days, tested in accordance with ASTM D638.
 - b. Compressive Strength: 8,182 psi minimum at 7 days, tested in accordance with ASTM D695.
 - c. Flexural Strength: 9,896 psi minimum at 7 days, tested in accordance with ASTM D790.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces to be cleaned and restored are ready for work of this section.

3.2 PREPARATION

- A. Protect surrounding elements from damage that may result due to performance of restoration procedures.
- B. Remove and store removable items located in areas to be restored including, but not limited to, fixtures, fittings, finish hardware, and accessories; reinstall upon completion.

- C. Separate areas to be protected from restoration areas to prevent damage.
- D. Mask or cover adjacent surfaces and permanent equipment. Secure coverings without nails or tapes that leave residue. Do not use impervious sheeting which produces condensation.
 - 1. Use materials that withstand cleaning and restoration procedures.
- E. When using liquid cleaning methods, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.
- F. Do not allow cleaning runoff to drain into sanitary or storm sewers.

3.3 IN SITU RESTORATION

- A. Do not mix or apply materials or products when the ambient temperature or humidity are outside range recommended by their manufacturers.
- B. Schedule conservation treatments to avoid weather-related failures.

3.4 PAINT REMOVAL

- A. Remove existing coatings to bare substrate or first sound paint layer.
- B. Removal with Hand Tools: Use tools to remove flaking, cracking, blistering, peeling, or otherwise deteriorated coatings without marring or otherwise damaging substrates.
- C. Removal with Chemical Products: Use products in accordance with manufacturer's instructions.
 - 1. Allow product to dwell on existing surface for time period recommended by manufacturer or until existing coating dissolves. Periodically agitate remover paste with a stiff bristle brush to improve penetration into coating.
 - 2. Remove all traces of chemicals and coating residue from substrate.
- D. Leave surfaces in a clean, residue-free condition, ready for subsequent restoration procedures.
- E. Dispose of waste products and residue in accordance with applicable laws and regulations.

3.5 MOLD REMOVAL

- A. Apply removal formulation with foaming sprayer, airless sprayer, HVLP sprayer, pressure sprayer, trigger sprayer, brush, or mop, as required for surfaces being treated.
- B. Apply to contaminated elements and allow surfaces to remain wet minimum 10 minutes to allow remover to penetrate, unless otherwise recommended by chemical manufacturer.
- C. At areas of heavy, persistent contamination, scrub with stiff bristle brush to accelerate cleaning action and work remover deeper into substrate.

3.6 REPLACEMENT ELEMENT INSTALLATION

- A. Match existing elements unless otherwise required for protection of wood materials from the weather and approved by Architect.
- B. Rough Carpentry Elements:
 - 1. Set structural members level and plumb.
 - 2. Provide for erection loads, and temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
 - 3. Do not field cut or alter structural members without approval of Architect.
- C. Finish Carpentry:
 - 1. Exterior Elements: Coordinate sequence of reinstallation with period treatment sequences of other exterior elements.
 - a. General: Use corrosion-resistant fasteners.
 - b. Set and secure materials and components in place, plumb, and level.
 - c. Scribe to abutting components, with gaps of 1/32 inch, maximum. Do not use overlay trim to conceal larger gaps.
 - 2. Interior Elements:
 - a. Do not begin installation until wood materials have been acclimated to interior conditions.
 - b. Standing and Running Trim: Attach using finishing nails. Set finish nail heads just below the surface of trim.
 - 1) Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use overlay trim to conceal larger gaps.
 - 2) Attach using finishing nails. Set finish nail heads just below the surface of trim.
 - c. Stairs, Balustrades, and Handrails: Fit replacement pieces in with remaining elements.
 - 1) Securely fasten and tightly fit elements with flush joints.
 - 3. Field Finishing: Prepare elements for field finishing.
 - a. Preparation: On exposed portions of woodwork remove handling marks or effects of exposure to moisture by sanding exposed surfaces with appropriate grit sandpaper.
 - b. Clean before applying sealer or finish.
 - c. Concealed Surfaces: Prime period woodwork that may be exposed to moisture, such as elements adjacent to exterior concrete or masonry walls.
 - d. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
 - e. Field Finishing: Finish woodwork to match appearance of adjacent, restored woodwork / as indicated on the drawings.

3.7 REPAIR

- A. General: Use corrosion-resistant or nonferrous fasteners. Isolate dissimilar metals from each other.

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- B. Consolidation: For wood elements identified via Contractor's field testing.
1. Apply consolidant to deteriorated wood by brushing, pouring, or injection, as required.
 2. Repeat applications until wood to be consolidated is saturated.
- C. Patching: For wood elements identified via Contractor's field testing.
1. Mix patching compound components and colorants as recommended by manufacturer.
 2. Mask off areas to be kept free of compound.
 3. Apply with putty knife or similar implement into and over areas to be repaired.
 4. Sand, plane, and shape repair area after patch has set for time period recommended by manufacturer.

SECTION 06.1000
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUBMITTALS

- A. Material Certificates:
 - 1. For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
 - 2. For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained.
- B. Structural Composite Lumber: Submit manufacturer's published structural data including span tables, marked to indicate which sizes and grades are being used; if structural composite lumber is being substituted for dimension lumber or timbers, submit grading agency structural tables marked for comparison.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
 - 2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER

- A. Sizes: Nominal sizes as indicated on drawings; if not indicated, provide size as required for application; S4S.
- B. Moisture Content: Kiln-dry or MC19.

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- C. Stud Framing (2 by 2 through 2 by 12 :
 - 1. Grade: No. 2. or better Hem-Fir, Southern Pine, or Spruce-Pine-Fir.
 - D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):
 - 1. Grade: No. 2 or better Hem-Fir, Southern Pine, or Spruce-Pine-Fir.
 - E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.3 STRUCTURAL COMPOSITE LUMBER

- A. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.
 - 1. Beams: Marked LVL or PSL shall be as manufactured by the Trus Joist Microllam MacMillan division of Weyerhaeuser WP ($E=2.0 \times 10^6$ psi). Similar products are not acceptable.

2.4 CONSTRUCTION PANELS

- A. Roof Sheathing: PS 2 type, rated Structural I Sheathing.
 - 1. Bond Classification: Exterior.
 - 2. Span Rating: 32 min..
 - 3. Performance Category: 3/4 PERF CAT.
- B. Wall Sheathing: See 07.2113 for nailable insulation wall sheathing.

2.5 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Unless otherwise show on the drawings, follow the recommendations of the Fastening Schedule, IBC, Chapter 2304.9.1 and Table 2309.9.1, or as directed by the Engineer.
 - 2. TimberLOK screws shall be as manufactured by Fasten Master or approved equal. Submit product data to the engineer for each application indicated on the drawings before proceeding with the work.
 - 3. Metal and Finish: Stainless steel for high humidity, weather exposed, and preservative-treated wood locations.
- B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
 - 1. All flush framing to be Simpson LU series with fasteners as recommended by the manufacturer, Simpson Strong-tie.
- C. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

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- D. Sill Gasket on Top of Foundation Wall: 1/4 inch thick, plate width, closed cell plastic foam from continuous rolls.
 - E. Termite-Resistant Sill Plate Barrier: Self-adhesive, film-backed barrier with release sheet; adheres to concrete substrates and blocks termite access.
 - 1. Thickness: 68 mil, 0.068 inch.
 - 2. Termite Resistance: 100 percent when tested in accordance with ICC-ES AC380.
 - F. General Purpose Construction Adhesives: Comply with ASTM C557.

2.6 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWWA standards.
 - a. Treat all lumber in contact with roofing, flashing, waterproofing, masonry, or concrete.

PART 3 EXECUTION

3.1 PREPARATION

- A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.
- B. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.
- C. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.3 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

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- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
 - C. Install structural members full length without splices unless otherwise specifically detailed.
 - D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.
 - E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
 - F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.4 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Provide the following specific nonstructural framing and blocking:
 - 1. Cabinets and shelf supports.
 - 2. Wall brackets.
 - 3. Handrails.
 - 4. Grab bars.
 - 5. Restroom accessories.
 - 6. Wall-mounted door stops.

3.5 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction and roofing assembly installation.

3.6 INSTALLATION OF CONSTRUCTION PANELS

- A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. Nail panels to framing; staples are not permitted.

3.7 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.8 CLEANING

- A. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
- B. Prevent sawdust and wood shavings from entering the storm drainage system.

SECTION 06.2000
FINISH CARPENTRY

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data:
 - 1. Provide manufacturer's product data, storage and handling instructions for factory-fabricated units.
- B. Samples: Submit two samples of each type or profile of wood trim 6 inch long.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-fabricated units to project site in original packages, containers or bundles bearing brand name and identification.
- B. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.
- C. Protect from moisture damage.
- D. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.1 FINISH CARPENTRY ITEMS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Interior Woodwork Items:
 - 1. Moldings, Bases, Casings, and Miscellaneous Trim: prepare for paint finish.
 - 2. Door Frames: prepare for paint finish.
 - 3. Window Sills: prepare for paint finish
 - 4. Stairs, Balustrades, and Handrails: prepare for paint or stained finish as scheduled.

2.2 LUMBER MATERIALS

- A. Hardwood Lumber: any closed-grain hardwood species, , maximum moisture content of 8 percent of quality suitable for painted finish.

2.3 FASTENINGS

- A. Fasteners for interior application: Of size and type to suit application

2.4 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Primer: Type to suit application.
- C. Wood Filler: Solvent base, tinted to match surface finish color.

2.5 SITE FINISHING MATERIALS

- A. Stain, Shellac, Varnish, and Finishing Materials: Comply with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

2.6 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.
- B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.2 INSTALLATION

- A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.
- B. Install factory-fabricated units in accordance with manufacturer's printed installation instructions.
- C. Set and secure materials and components in place, plumb and level.
- D. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.3 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

SECTION 06.4100
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.1 SUBMITTALS

- A. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - 1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
 - 2. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
- B. Product Data: Provide data for hardware accessories.
- C. Samples: Submit samples for each exposed product and for each color and texture specified.

1.2 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from moisture damage.

1.4 FIELD CONDITIONS

- A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.1 CABINETS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Cabinets:
 - 1. Finish - Exposed Exterior Surfaces: Wood.
 - 2. Finish - Exposed Interior Surfaces: Wood
 - 3. Finish - Semi-Exposed Surfaces: Wood

4. Casework Construction Type: Type A - Frameless.
5. Adjustable Shelf Loading: 40 psf.
6. Cabinet Style: Flush overlay.
7. Cabinet Doors and Drawer Fronts: Stile and rail, flat panel style.
8. Drawer Construction Technique: Dovetail joints.

2.2 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.
- B. Wood: Maple or Birch; type as suitable for painted finish.

2.3 PANEL CORE MATERIALS

- A. Medium Density Fiberboard (MDF): Composite panel composed of cellulosic fibers, additives, and bonding system; cured under heat and pressure; comply with ANSI A208.2.
 1. Use for concealed components, components indicated on the drawings, and components not indicated as another material.
 2. Use moisture resistant product at wet and damp locations

2.4 HARDWOOD PLYWOOD PANELS

- A. Hardwood Plywood: Plywood manufactured for nonstructural decorative applications; consisting of faces and backs applied to a variety of core types; comply with HPVA HP-1.
 1. Face: Maple or Birch

2.5 COUNTERTOPS

- A. Countertops: See Section 12.3600.

2.6 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Fasteners: Size and type to suit application.
- C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.

2.7 HARDWARE

- A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

- B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, satin chrome finish, for nominal 1 inch spacing adjustments.
- C. Drawer and Door Pulls: "U" shaped wire pull, steel with satin finish, 4 inch centers; Finish TBD by Owner/Architect..
- D. Cabinet Catches:
 - 1. Type: Magnetic catch [ANSI/BHMA A156., B03131].
- E. Drawer Slides: ANSI/BHMA A156.9.
 - 1. Type: Full extension.
 - 2. Static Load Capacity: Commercial grade.
 - 3. Mounting: Side mounted.
 - 4. Stops: Integral type.
 - 5. Features: Provide soft-closing type.
- F. Soft-Close, Door and Drawer Adjustable Dampers: ANSI/BHMA A156.16, L03011.
- G. Hinges: European style concealed soft-closing type, BHMA No. B01602 , steel with satin finish.

2.8 SITE FINISHING MATERIALS

- A. Finishing: Field finished, see Section 09.9000.

2.9 FABRICATION

- A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- B. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- C. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

2.10 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. For opaque field finishing, apply wood filler in exposed nail and screw indentations and sand smooth.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

3.2 INSTALLATION

- A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.
- B. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.
- C. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- D. Use fixture attachments in concealed locations for wall mounted components.
- E. Use concealed joint fasteners to align and secure adjoining cabinet units.
- F. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- G. Secure cabinets to floor using appropriate angles and anchorages.

3.3 ADJUSTING

- A. Adjust installed work.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.4 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

SECTION 06.4300
WOOD STAIRS AND RAILINGS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Handrail brackets.

PART 2 PRODUCTS

2.1 PERFORMANCE CRITERIA

- A. All components to be in accordance with 2018 IEBC, and 2018 IBC Sections 1011, 1014, and 1015 (Locally amended versions) as applicable.
- B. Design of stairs and railings to be design-build by contractor as needed to conform to all applicable codes and existing conditions.

2.2 WOOD STAIRS AND RAILS

- A. All stair components to conform to IEBC (current local addition). The replacement of the existing damaged stair shall be considered as a repair.
- B. Stairwork and Rails: Common grade.
 - 1. Wood Species: Any closed-grain hardwood.
 - 2. Finishes for Stair Parts: Stained and sealed; TBD by Owner Architect
- C. Treads: 5/4-inch thick treads with rounded nosings.
- D. Handrails: Circular cross section; outside diameter of not less than 1 1/4 inches (32 mm) and not greater than 2 inches (51 mm).
 - 1. Height: Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm).
- E. Accessories:
 - 1. Metal handrail brackets; finish TBD by Owner/architect

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install treads level, plumb, true, and straight. Shim as required with concealed shims.

- B. Handrails: Support handrails on metal brackets securely fastened to wall framing.

SECTION 06.6300
PLASTIC RAILINGS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.2 WARRANTY

- A. Manufacturer's Warranty for Cellular PVC Railings Systems: Manufacturer agrees to replace components that fails due to defects in manufacturing within specified warranty period.
 - 1. Warranty Period: Limited Lifetime Warranty. Refer to manufacturer's website for details.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Plastic Handrails and Railings: Basis-of-Design
 - 1. Intex Millwork Solutions; Hampton Extruded Railing System ; www.intexmillwork.com

2.2 PLASTIC GUARDRAIL SYSTEMS

- A. Performance Requirements:
 - 1. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 125 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set, when tested in accordance with ASTM D7032.
 - 2. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set, when tested in accordance with ASTM D7032.
- B. Design Requirements:
 - 1. Allow for expansion and contraction of members and building movement without damage to connections or members.
 - 2. Provide anchors and other components as required to attach to structure; where exposed fasteners are unavoidable provide flush countersunk fasteners.
 - a. Provide inserts to be cast into concrete, for bolting anchors.

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- C. Plastic Rails:
 - 1. Top & Bottom Rails: 1-1/2 inch high by 2-15/16 inch wide extruded rigid cellular PVC contoured rail profile.
 - D. Plastic Newel Posts: Provide post mounts, caps, and trim required for the installation.
 - E. Aluminum Reinforcing Insert: 1 inch high by 1-3/4 inch wide 6063-T5 extruded aluminum "C" section (0.12 inch thick web; 0.06 inch thick flanges) with four raceway channels running the entire length. Used in top and bottom rail of all systems.
 - F. Support Block: 1-1/4 inch square extruded rigid cellular PVC picket cut to length and secured to the underside of the bottom rail.
 - G. Rail to Post Connection: Manufacturer's standard.
 - H. Support Post: Preservative-treated wood (Southern Pine) 4 by 4 inches.
 - I. Railing Infill:
 - 1. Baluster: 1-1/4 inch square extruded rigid cellular PVC pickets.
 - J. Color: To be selected by Architect from manufacturer's full range.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's recommended
- B. Adhesive & Sealants: Manufacturer's recommended; waterproof, air cure type, cartridge dispensed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that railing locations and substrates are ready to receive work.

3.2 PREPARATION

- A. Provide items cast into concrete or embedded in masonry with setting templates.

3.3 INSTALLATION

- A. Install according to manufacturer's written instructions, and applicable ICC-ES report.
- B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.
- C. Install railings in compliance with ADA Standards for accessible design at applicable locations.

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- D. Anchor railings securely to structure.
 - E. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

3.4 CLEANING

- A. Clean surfaces according to manufacturer's written instructions.

3.5 PROTECTION

- A. Protect installed work from subsequent construction operations. Repair damaged surfaces. Remove and replace work which cannot be repaired.

SECTION 07.2100
THERMAL INSULATION

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- B. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and accessories in insulation manufacturer's original packaging with identification labels intact and in sizes to suit project.
 - 1. Ensure insulation materials are not exposed to moisture during delivery.
 - 2. Replace wet or damaged insulation materials.
- B. Store materials off ground in dry location and protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer; store in original packaging until installed.
- C. Packaging Waste Management: Remove waste packaging materials from site and dispose of packaging materials at appropriate recycling facilities. Collect and separate for disposal paper and plastic material in appropriate on-site storage containers for recycling.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Thermal Insulation: Basis-of-Design
 - 1. ROCKWOOL: www.rockwool.com/#sle.
 - 2. Owens Corning: www.owenscorning.com
 - 3. TimberHP: www.timberhp.com

2.2 MINERAL FIBER BLANKET INSULATION MATERIALS

- A. Mineral Fiber Blanket Thermal Insulation: Semi-rigid stone wool insulation that is noncombustible; Type 1 in accordance with ASTM C665.
 - 1. Applications: Insulation for wood stud exterior walls and floors/ceilings for thermal control and fire protection.

2. Flame Spread Index (FSI): 25 or less, when tested in accordance with ASTM E84 or UL 723.
 3. Smoke Developed Index (SDI): 50 or less, when tested in accordance with ASTM E84 or UL 723.
 4. Facing: Unfaced.
 5. R-Value: As indicated on drawings and as required by energy code for specific installation.
 6. Board Edges: Square.
 7. Density: Greater than 2 pcf, nominal.
 8. Moisture Resistance: Absorption of less than 0.03 percent by weight.
 9. Metallic Corrosion Resistance: Noncorrosive/passed, when tested in accordance with ASTM C665 for steel, and ASTM C795 for stress corrosion cracking tendency of austenitic stainless steel.
 10. Melting Point: 2,150 degrees F, minimum.
 11. Fungi Resistance: Zero mold growth when tested in accordance with ASTM C1338.
 12. Environmental Product Declaration (EPD): Material included on UL-certified EPD in accordance with EN 15804 and ISO 14025; see 01.6000 - Product Requirements for additional information.
 13. Low-Emitting VOC Material Certification: Greenguard Gold certified and listed in UL (GGG).
 14. Products Basis of Design:
 - a. ROCKWOOL; COMFORTBATT: www.rockwool.com/#sle.
- B. Mineral Fiber Blanket Acoustical Insulation: Lightweight stone wool insulation that is noncombustible; Type 1 in accordance with ASTM C665, and Type 7 in accordance with ASTM C553.
1. Applications: Insulation for wood stud interior walls and floors for sound control and fire protection.
 2. Flame Spread Index (FSI): 25 or less, when tested in accordance with ASTM E84 or UL 723.
 3. Smoke Developed Index (SDI): 50 or less, when tested in accordance with ASTM E84 or UL 723.
 4. Facing: Unfaced.
 5. Board Thickness: 3 inches.
 6. Board Size: 15-1/4 by 47 inches or 23 by 47 inches as required.
 7. Noise Reduction Coefficient (NRC): Not less than 1.05 for 3 inches (76 mm) thick when measured and calculated in accordance with ASTM C423.
 8. Board Edges: Square.
 9. Density: Greater than 2.5 pcf, nominal.
 10. Metallic Corrosion Resistance: Noncorrosive/passed, when tested in accordance with ASTM C665 for steel, and ASTM C795 for stress corrosion cracking tendency of austenitic stainless steel.
 11. Melting Point: 2,150 degrees F, minimum.
 12. Environmental Product Declaration (EPD): Material included on UL-certified EPD in accordance with EN 15804 and ISO 14025
 13. Low-Emitting VOC Material Certification: Greenguard Gold certified and listed in UL (GGG).

14. Products basis-of-design:
- a. ROCKWOOL; AFB (Acoustical Fire Batt) Insulation/ Safe'n'Sound:
www.rockwool.com/#sle.

- C. Accessories: As required for installation type and location.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

3.2 INSTALLATION

- A. Install insulation in accordance with manufacturer's written installation instructions.
- B. Ensure that insulation installation maintains continuity of thermal protection to building interior spaces.
- C. Do not compress insulation to fit into spaces.

3.3 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

SECTION 07.2113
FOAM BOARD INSULATION

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- B. Manufacturer's Installation Instructions: Include information on installation techniques and environmental conditions required for installation.

1.2 FIELD CONDITIONS

- A. Protect materials from moisture and direct sunlight. Elevate packages above ground. Slit shrink wrap and poly packaging to prevent moisture accumulation within package. Cover with waterproof tarpaulins.
- B. Do not install insulation tapes, sealant, or adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. R-Shield; Nailbase: www.rshield.premierbuildingsystems.com
- B. Atlas: [ACFoam-II/III & ACFoam Nailbase]: <https://www.atlasrwi.com/>
- C. Or approved equal.

2.2 FOAM BOARD INSULATION MATERIALS

- A. Polyisocyanurate Foam - Exposed to the Interior:
 - 1. Comply with ASTM C1289.
 - 2. Pressure washable 15 mil reinforced foil facer; one side reflective, one side white acrylic coating.
 - 3. Thickness and R-value at 75 Degrees F, ASTM C518: As indicated on drawings.
 - 4. Compressive Strength, ASTM D1621: Grade 3, 25 psi, minimum.
 - 5. Moisture Vapor Permeance, ASTM E96/E96M: Less than 0.04 perm.
 - 6. Flame Spread Index, ASTM E84: Less than 25.
 - 7. Smoke Developed Index, ASTM E84: Less than 250.

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8. Room Fire Growth, NFPA 286: Pass when used on walls or ceilings but not both, and meeting acceptance criteria stipulated in ICC (IBC).
 9. Air Permeance of Building Material, ASTM E2178: Less than 0.0005 cu ft/sq ft/min at 0.0108 psi.
 10. Air Leakage of Air Barrier Assemblies, ASTM E2357: No leakage.
- B. Polyisocyanurate Foam - Composite Panel-Insulation Board:
1. Polyisocyanurate foam bonded to wood structural panel on the other.
 2. OSB Structural Panel: 7/16 inch thick, Exposure I rated, complying with PS 2.
 - a. Composite Thickness and R-value at 75 Degrees F, ASTM C518: As indicated on drawings.
 3. Foam Insulation: Comply with ASTM C1289.
 4. Compressive Strength, ASTM D1621: Grade 2, 20 psi, minimum.
 5. Moisture Vapor Permeance, ASTM E96/E96M: Less than 1.1 perm.
 6. Flame Spread Index, ASTM E84: Less than 75.
 7. Smoke Developed Index, ASTM E84: Less than 450.
 8. Termite-Resistance: Manufactured with a proven and safe additive that effectively resists termites. Meet ICC ES AC239, "Acceptance Criteria for Termite-Resistant Foam Plastics"
 9. Compatibility with claddings: Claddings that are approved to be installed over 7/16" structural OSB sheathing. Refere to manufacturer's instructions, and techincal bulletin "Nailbase No.4011" dated April 2024.

2.3 ACCESSORIES

- A. Provide manufacturer's recommended accessories for complete installation.
- B. Fasteners for Foam Insulation:
 1. Provide screw-type fasteners with washers, approved by panel manufacturer.
- C. Fasteners for Composite Board: Provide screw fasteners, type approved by panel manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until walls to receive insulation have been properly prepared and, where required, inspected or approved before covering.
- B. Verify substrate surfaces are flat, free of materials or substances that may impede adhesive bond.
- C. Verify construction is complete and approved and ready for installation of insulation.
- D. Verify mechanical and electrical services in walls have been installed and tested and, if appropriate, verify that adjacent materials and finishes are dry and ready to receive insulation.

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- E. If wall assembly preparation is responsibility of another installer, notify Architect.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under project conditions.

3.3 INSTALLATION - GENERAL

- A. Install in accordance with manufacturer's instructions.
- B. Install without gaps or voids. Do not compress insulation.
- C. Fit insulation tight to exterior side of mechanical and electrical services within plane of insulation.
- D. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- E. Ensure overall installation presents flush, level surface.
- F. Tape joints between insulation panels to form continuous air-vapor-thermal control layer.
- G. Tape perimeter of insulation that abuts adjacent materials to form continuous air-vapor-thermal control layer.
- H. Coordinate installation of exterior cladding over nailable insulation with cladding manufacturer. Use fasteners/ fastening pattern approved by both the cladding and insulation manufacturer.
- I. Use white tape where insulation is exposed to interior.

3.4 INSTALLATION OF COMPOSITE BOARD INSULATION AT EXTERIOR WALLS

- A. Arrange panels with long dimension parallel to wall studs, with ends over firm bearing. Stagger vertical joints between courses by one or more studs.
- B. Locate panel edges over solid framing members unless otherwise required or permitted.
- C. Observe fastening pattern indicated in Contract Documents or, if none indicated, observe board manufacturer's recommendations.
- D. Use maximum board lengths to minimize joints.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Do not allow UV exposure of panels beyond manufacturer's recommended limits.

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- C. Protect insulation from open flame.
 - D. Cover top and edges of unfinished wall panel work to protect it from weather and to prevent accumulation of water in cores of panels.
 - E. If panels become wet inadvertently, allow wet panels to completely dry prior to application of subsequent coverings.
 - F. Repair or replace damaged products before Date of Substantial Completion.

SECTION 07.2119
FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide product description, insulation properties, overcoat properties, and preparation requirements.
- B. Manufacturer's Installation Instructions: Indicate special procedures, and perimeter conditions requiring special attention.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Thermal Barrier: Comply with applicable code for flame and smoke, concealment, and fire protection requirements.
 - 1. Provide 15-minute thermal barrier of 1/2-inch gypsum board or equivalent material complying with NFPA 275 test method.
 - 2. Provide foamed-in-place insulation either exposed or with protective covering complying with FM 4880, NFPA 286, UL 1040, or UL 1715.

2.2 MATERIALS

- A. Foamed-In-Place Insulation: Medium-density, rigid or semi-rigid, closed cell polyurethane foam; foamed on-site. Use non-ozone-depleting and non-flammable blowing agent compliant with state environmental regulations.
 - 1. Thermal Resistance: R-value of 6.9, minimum, per 1-inch thickness at 75 degrees F mean temperature when tested in accordance with ASTM C518.
 - 2. Water Vapor Permeance: Vapor retarder; 1 perm, maximum, when tested at intended thickness in accordance with ASTM E96/E96M, desiccant method.
 - 3. Water Absorption: Less than 2 percent by volume, maximum, when tested in accordance with ASTM D2842.
 - 4. Air Permeance: 0.04 cfm/sq ft, maximum, when tested at intended thickness in accordance with ASTM E2178 at 1.57 psf.
 - 5. Closed Cell Content: At least 90 percent.
 - 6. Surface Burning Characteristics: Flame spread/smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.

2.3 ACCESSORIES

- A. Primer: As required by insulation manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify work within construction spaces or crevices is complete before insulation application.
- B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation adhesion.

3.2 PREPARATION

- A. Mask and protect adjacent surfaces from overspray or dusting.
- B. Apply primer in accordance with manufacturer's instructions.

3.3 APPLICATION

- A. Apply insulation in accordance with manufacturer's instructions.

3.4 PROTECTION

- A. Do not permit subsequent construction work to disturb applied insulation.

SECTION 07.2500
WEATHER BARRIERS

PART 1 GENERAL

1.1 DEFINITIONS

- A. Weather Barriers: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.
- B. Water-Resistive Barrier: A material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the exterior wall assembly.

1.2 SUBMITTALS

- A. Product Data: Provide data on material characteristics and performance criteria.
- B. Manufacturer's Installation Instructions: Indicate preparation, installation methods, and storage and handling criteria.

1.3 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

1.4 WARRANTY

- A. Manufacturer's standard 10-year and 15-year-limited warranty.

PART 2 PRODUCTS

2.1 WATER-RESISTIVE BARRIER MATERIALS

- A. Source weather barrier, flashing, sealants and tape from a single manufacturer whenever possible.
- B. Drainable Barrier Sheet:
 - 1. Width: 5 feet, minimum.
 - 2. Water Vapor Permeance: 30 perms, minimum, when tested in accordance with ASTM E96/E96M
 - 3. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 270 days of weather exposure.

4. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less, Class A when tested in accordance with ASTM E84.
5. Seam and Perimeter Tape: As recommended by sheet manufacturer.
6. Products: Basis-of-Design
 - a. DuPont Tyvex CommercialWrap D.

2.2 ACCESSORIES

- A. Provide only accessories that are approved by weather barrier manufacturer as compatible with selected product.
- B. Sealants, Tapes, and Accessories Used for Sealing Water-Resistive Barrier and Adjacent Substrates: As indicated or complying with water-resistive barrier manufacturer's installation instructions.
- C. Flexible Flashing: Self-adhering or mechanically attached flashing used for wall penetrations in accordance with ICC-ES AC148 requirements.
- D. Liquid Flashing: One part, fast curing, nonsag, elastomeric, gun grade, trowelable liquid flashing.
- E. Stainless Steel Flashing: Flexible flashing with 2 mil, 0.002 inch thick Type 304 stainless steel sheet, 8 mil, 0.008 inch of butyl adhesive and siliconized release liner.
 1. Roll Length: 50 feet long.
 2. Width: 4 inches wide.
- F. Fasteners: As recommended by manufacturer to help seal against air and moisture penetration through weather barrier assembly.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces and conditions comply with requirements of this section.

3.2 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
- B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.

3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's installation instructions.

- B. Water-Resistive Barriers: Install continuous water-resistive barrier over surfaces indicated, with sheets lapped to shed water but with seams not sealed.
- C. Apply sealants and adhesives within recommended temperature range in accordance with manufacturer's installation instructions.
- D. For Mechanically Fastened Exterior Sheets:
 - 1. Install sheets shingle-fashion to shed water, with seams aligned horizontal.
 - 2. Overlap seams as recommended by manufacturer, 6 inches, minimum.
 - 3. Overlap at outside and inside corners as recommended by manufacturer, 12 inches, minimum.
 - 4. Attach to framed construction with fasteners extending through sheathing into framing, and space fasteners at 12 to 18 inches on center along each framing member supporting sheathing.
 - 5. Seal seams, laps, penetrations, tears, and cuts with self-adhesive tape; use only large-headed, gasketed fasteners as recommended by manufacturer.
 - 6. Where stud framing rests on concrete or masonry substrate, extend lower edge of barrier sheets at least 4 inches below bottom of framing and seal to substrate with sealant or approved mounting tape.
 - 7. Install water-resistive barrier over jamb flashings.
 - 8. Install head flashings under water-resistive barrier.
 - 9. At framed openings with frames having nailing flanges, extend sheet into opening and over flanges; at head of opening, seal sheet over flange and flashing.
- E. Openings and Penetrations in Exterior Water-Resistive Barriers:
 - 1. Install flashing over sills, covering entire sill framing member, and extend at least 5 inches onto water-resistive barrier and at least 6 inches up jambs; mechanically fasten stretched edges.
 - 2. At openings filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with sealing tape at least 4 inches wide; do not seal sill flange.
 - 3. At openings filled with nonflanged frames, seal water-resistive barrier to each side of framing at opening using flashing at least 9 inches wide, and covering entire depth of framing.
 - 4. At head of openings, install flashing under water-resistive barrier extending at least 2 inches beyond face of jambs; seal water-resistive barrier to flashing.
 - 5. At interior face of openings, seal gaps between window and door frames and rough framing using appropriate joint sealant over backer rod.
 - 6. Service and Other Penetrations: Form flashing around penetrating items and seal to surface of water-resistive barrier.

3.4 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.

SECTION 07.4113
METAL ROOF PANELS

PART 2 PRODUCTS

1.1 MANUFACTURERS

- A. Architectural Metal Roof Panel Manufacturers:
 - 1. ATAS International, Inc; Field-Lok ____: www.atas.com/#sle.
 - 2. Drexel Metals Inc: www.drexmet.com/#sle.
 - 3. Petersen Aluminum Corporation; PAC-150 180 Degree Double Lock: www.pac-clad.com/#sle.

1.2 PERFORMANCE REQUIREMENTS

- A. Metal Roof Panels: Provide complete roofing assemblies, including roof panels, clips, fasteners, connectors, and miscellaneous accessories, tested for compliance with the following minimum standards:
 - 1. Structural Design Criteria: Provide panel assemblies designed to safely support design loads at support spacing indicated, with deflection not to exceed L/180 of span length(L) when tested in accordance with ASTM E1592.
 - 2. Overall: Complete weathertight system tested and approved in accordance with ASTM E1592.
 - 3. Thermal Movement: Design system to accommodate without deformation anticipated thermal movement over ambient temperature range of 100 degrees F.

1.3 METAL ROOF PANELS

- A. Metal Roof Panels: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.
- B. Metal Panels: Factory-formed panels with factory-applied finish.
 - 1. Profile: Standing seam, with minimum 1-inch seam height; concealed fastener system lapped seam in standing seam profile.
 - 2. Texture: Smooth.
 - 3. Width: Maximum panel coverage of 12 inches.

1.4 ATTACHMENT SYSTEM

- A. Concealed System: Provide manufacturer's standard stainless steel concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.

1.5 ACCESSORIES

- A. Miscellaneous Sheet Metal Items: Provide flashings, trim, closure strips, preformed crickets, caps, and diverters of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.
- B. Sealants:
 - 1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
 - 2. Concealed Sealant: Non-curing butyl sealant or tape sealant.

PART 3 EXECUTION

2.1 EXAMINATION

- A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

2.2 PREPARATION

- A. Coordinate roofing work with provisions for roof drainage, flashing, trim, penetrations, and other adjoining work to ensure that completed roof will be free of leaks.
- B. Separate dissimilar metals by applying a bituminous coating, self-adhering rubberized asphalt sheet, or other permanent method approved by metal roof panel manufacturer.
- C. At locations where metal will be in contact with wood or other absorbent material subject to wetting, seal joints with sealing compound and apply one coat of heavy-bodied bituminous paint.

2.3 INSTALLATION

- A. Overall: Install roofing system in accordance with metal roof panel manufacturer's instructions and recommendations, as applicable to specific project conditions; securely anchor components of roofing system in place allowing for thermal and structural movement.
 - 1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.
 - 2. Minimize field cutting of panels. Where field cutting is required, use methods that will not distort panel profiles. Use of torches for field cutting is prohibited.
- B. Accessories: Install necessary components that are required for complete roofing assembly, including flashings, trim, closure strips, preformed crickets, rib closures, ridge closures, and similar roof accessory items.

- C. Roof Panels: Install metal roof panels in accordance with manufacturer's installation instructions, minimizing transverse joints except at junction with penetrations.

2.4 PROTECTION

- A. Do not permit storage of materials or roof traffic on installed roof panels. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect roofing until completion of project.
- B. Touch-up, repair, or replace damaged roof panels or accessories before Date of Substantial Completion.

SECTION 07.4643
COMPOSITION SIDING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Exterior composition siding.

1.2 SUBMITTALS

- A. See Section 01.3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
 - 1. Manufacturer's requirements for related materials to be installed by others.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Installation methods, including nail patterns.
- C. Test Report: Showing compliance with specified performance requirements.
- D. Installer's qualification statement.
- E. Maintenance Instructions: Periodic inspection recommendations and maintenance procedures.
- F. Executed warranty.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original packaging and clearly identified.
- B. Store materials under dry and waterproof cover, well ventilated, and elevated above grade on a flat surface.
- C. Protect materials from harmful environmental elements, construction dust, and other potentially detrimental conditions.

1.4 FIELD CONDITIONS

- A. Do not install siding when air temperature or relative humidity are outside manufacturer's limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Composition Siding:
 - 1. Boral TruExterior; Craftsman Collection: Dutch Lap Siding and trim: www.TruExterior.com
 - a. Note: Hardie Board, Azek, or similar fiber cement or PVC based products are **not** approved equals.

2.2 COMPOSITION SIDING

- A. Composition Siding: Poly-ash siding
 - 1. Craftmans Collection: Dutch Lap Siding
 - 2. Surface Texture: Smooth
 - 3. Finish: Factory primed; field finished
- B. Trim Boards: Poly-ash trim
 - 1. Application: Used as soffit, trim, fascia, sills, casings.
 - 2. Size and profile: As suited for application and location per design intent.
 - 3. Surface Texture: Match siding.
 - 4. Finish: Factory primed; field finished

2.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Comply with local building code in accordance with authorities having jurisdiction (AHJ) for wind load resistance requirements of project location.

2.4 ACCESSORIES

- A. Fasteners, Stainless Steel: As recommended by Manufacturer; Type 304 or 316 stainless steel #9 composite decking screws complying with ASTM C1002; length as required to penetrate wall sheathing at least 1/4 inch/ in accordanc with manufacturer's instructions for installation over 7/16" structural OSB sheathing.
- B. Clips and Anchors: Provide as indicated in accordance with siding manufacturer; conceal unless otherwise indicated.
- C. Wood filler or acrylic caulk as recemended by manufacturer.
- D. Flashing: See Section 07.6200 and as recommended by manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrate, clean and repair as required to eliminate conditions that would be detrimental to proper installation.
- B. Verify that water-resistive barrier has been installed.
- C. Inspect products prior to installation; do not install products that may have been damaged in shipment or appear to have a damaged or irregular finish.
- D. Do not begin until unacceptable conditions have been corrected.
- E. If substrate preparation is responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Protect surrounding areas and adjacent surfaces during execution of this work.
- B. Install Sheet Metal Flashing: Secure using concealed fastening method in accordance with siding manufacturer's instructions. In locations included but not limited to:
 - 1. Above door and window trim and casings.
 - 2. Above horizontal trim in field of siding.
 - 3. Above top of lower board for vertical installation with walls exceeding available length of boards.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
 - 1. Use trim details as indicated on drawings.
 - 2. Touch-up field cut edges before installing.
 - 3. Predrill screw holes if necessary to prevent breakage.
- B. Securely attach siding boards using fastener size, number, spacing, and minimum dimensions from board edges and ends in accordance with manufacturer's recommendations.
 - 1. Cut and route siding boards using carbide-tipped blades to prevent frayed edge cuts.
 - 2. Predrill holes located less than 1-1/2 inches from ends of boards, 1 inch from board edges, and in siding boards 3 inches wide or less.
 - 3. Install with flush, tight joints.
 - 4. Install fasteners perpendicular to siding substrates and flush with surface of board and in accordance with local building codes.
 - 5. Fill nail holes with acrylic caulk or wood filler.
- C. Horizontal Board Orientation:
 - 1. Begin siding installation at lowest established level.

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- 2. Center butt joints over vertical furring, and as siding courses are added, stagger butt joints in a consistent stair-step manner.
 - 3. Install lengths of siding to span at least three furring members.
 - 4. Provide width of siding open joint at boards abutting ends in accordance with manufacturer's instructions, as spacing dimensions are temperature dependent.
 - 5. Provide width of open joints and locations as indicated, and in accordance with manufacturer's instructions.
- D. Allow space for thermal movement between both ends of siding boards that butt against each other and trim.

3.4 CLEANING

- A. Clean siding boards in accordance with manufacturer's maintenance instructions, using cleaning materials and methods acceptable to siding manufacturer.

3.5 PROTECTION

- A. Protect installed products until Date of Substantial Completion.
- B. Repair damage to adjacent substrates and surfaces.
- C. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

SECTION 07.6200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Store all metal sheets off the ground in an enclosed structure so as to maintain dry conditions and exclude condensation. Do not store on bare ground under tarp.
- B. Handle sheets and formed shapes in a manner to reduce scratches
- C. Store material to prevent twisting, bending, and abrasion, and to provide ventilation.
- D. Prevent contact with materials that could cause discoloration or staining.

1.3 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: 10 years from date of sale

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

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- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET MATERIALS

- A. Pre-Finished Aluminum: ASTM B209/B209M, 3005 alloy, H12 or H14 temper; 18 gauge, 0.040 inch thick; plain finish shop pre-coated with fluoropolymer coating.
1. Fluoropolymer Coating: High performance organic powder coating, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
 2. Color: As selected by Architect from manufacturer's colors.
- B. Stainless Steel: ASTM A666/A666M, Type 304 alloy, soft temper, 28 gauge, 0.0156 inch thick; smooth No. 4 - Brushed finish.

2.3 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
- D. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
- E. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
- F. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- G. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- H. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.
- I. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- J. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.

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- K. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

2.4 EXTERIOR PENETRATION FLASHING PANELS

- A. Flashing Panels for Exterior Wall Penetrations: Premanufactured components and accessories as required to preserve integrity of building envelope; suitable for conduits and facade materials to be installed.

2.5 ACCESSORIES

- A. Install all accessories per manufacturers written instructions
- B. Fasteners: stainless steel, as appropriate for specific installation and adjacent materials
- C. Primer Type: Zinc chromate.
- D. Concealed Sealants: ASTM C1311; Non-curing butyl sealant.
- E. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.3 INSTALLATION

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or

corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

- C. Counterflashing: Coordinate installation of counterflashing with installation of base flashing.
- D. Secure flashings in place using concealed fasteners
- E. Apply plastic cement compound between metal flashings and felt flashings.
- F. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
- G. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- H. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance. Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- I. Exterior Flashing Receivers, reglets, and accessories: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction.
- J. Seal joints as required for watertight construction.

3.4 FIELD QUALITY CONTROL

- A. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

3.5 CLEANING & PROTECTION

- A. Do not chemically or abrasively clean metal flashing. If necessary, construction dirt may be washed from metal with clean, fresh water only. Do not use soaps, detergents, or other cleaning agents.
- B. Protect metal flashing from oils, greases, masonry cleaning compounds, iron and steel fines and fasteners, and other construction materials that may stain or discolor metal surface.

SECTION 07.7123
MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.1 ADMINISTRATIVE REQUIREMENTS

- A. Comply with applicable code for size and method of rain water discharge.

1.2 SUBMITTALS

- A. Product Data: Provide data on prefabricated components.
- B. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations, and installation details.
- C. Samples: Physical color sample.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
- B. Prevent contact with materials that could cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Gutters and Downspouts:
 - 1. ATAS International, Inc; ____: www.atas.com/#sle.
 - 2. Drexel Metals Inc; ____: www.drexmet.com/#sle.

2.2 MATERIALS

- A. Polyvinyl Chloride (PVC): ASTM D2665, virgin vinyl, SDR 20 pipe and fittings, normal impact type, colorfast; color as selected.
- B. Aluminum Sheet: ASTM B209/B209M; 0.032 inch thick.
 - 1. Finish: Mill.
- C. Pre-Finished Aluminum Sheet: ASTM B209/B209M; 0.032 inch thick.
 - 1. Finish: Plain, shop pre-coated with modified silicone coating.

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2. Color: As selected from manufacturer's standard colors.

2.3 COMPONENTS

- A. Gutters: SMACNA semi-circular style profile.
- B. Downspouts: SMACNA round profile.
- C. Connectors: Furnish required connector pieces for polyvinyl chloride (PVC) components.
- D. Anchors and Supports: Profiled to suit gutters and downspouts.
 - 1. Anchoring Devices: Type recommended by fabricator.
- E. Fasteners: Same material and finish as gutters and downspouts, with soft neoprene washers.

2.4 FABRICATION

- A. Form gutters and downspouts of profiles and size indicated.
- B. Fabricate with required connection pieces.
- C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
- D. Hem exposed edges of metal.
- E. Fabricate gutter and downspout accessories; seal watertight.

2.5 ACCESSORIES

- A. Provide all accessories as needed for a complete and proper installation and in accordance with manufacturer's instructions.
- B. Downspout Boots: Smooth interior without boxed corners or choke points; include integral lug slots and on-body cleanout and cover with neoprene gaskets.
 - 1. Configuration: Angular.
 - 2. Material: PVC

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.

3.2 INSTALLATION

- A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.
- B. Slope gutters 1/4 inch per foot .
- C. Connect downspouts to downspout boots at 4 inches above grade. Seal connection watertight.

SECTION 07.9200
JOINT SEALANTS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Backing material recommended by sealant manufacturer.
 - 4. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 5. Substrates the product should not be used on.
 - 6. Substrates for which use of primer is required.
 - 7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
- B. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- C. Installation Plan: Submit at least four weeks prior to start of installation.
- D. Installation Log: Submit filled-out log for each length or instance of sealant installed.
- E. Executed warranty.

1.2 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document covering installation requirements on site.
- B. Installation Plan: Include schedule of sealed joints, including the following information:
 - 1. Sealant type, location, substrates, prep work/primer, accessories
- C. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or another applicable method as recommended by manufacturer.

1.3 WARRANTY

- A. See Section 01.7700 - Closeout Procedures for additional warranty requirements.

- B. Manufacturer Warranty: Provide 5 year manufacturer warranty for installed sealants and accessories that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.
- C. Installers Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.1 SEALANTS - GENERAL

- A. Sealant types not specified elsewhere in the documents and as needed to complete the Work.

2.2 MANUFACTURERS

- A. Nonsag Sealants: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Dow: www.dow.com/#sle.
 - 2. Pecora Corporation: www.pecora.com/#sle.
 - 3. Sika Corporation; _____: www.usa.sika.com/#sle.
 - 4. Tremco Commercial Sealants & Waterproofing; ____: www.tremcosealants.com/#sle.
- B. Self-Leveling Sealants: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Dow; ____: www.dow.com/#sle.
 - 2. Pecora Corporation: www.pecora.com/#sle.
 - 3. Sika Corporation: www.usa.sika.com/#sle.

2.3 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Exterior Joints:
 - a. Do not seal exterior joints that would prevent water from draining from assemblies.
 - b. Seal the following joints:
 - 1) Wall expansion and control joints.
 - 2) Joints between doors, windows, and other frames or adjacent construction.
 - 3) Joints between different exposed materials.
 - 2. Interior Joints:
 - a. Seal the following joints:
 - 1) Joints between door frames and window frames and adjacent construction.
 - 2) Gaps at electrical outlets, wiring devices, and piping penetrations.
 - 3) In sound-rated wall and ceiling assemblies, seal joints between wall assemblies and ceiling assemblies; between wall assemblies and other construction; between ceiling assemblies and other construction.
 - 3. Do Not Seal:

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- a. Intentional weep holes in masonry or other locations that would prevent flashings from adequately draining water
 - b. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
 - c. Joints where sealant installation is specified in other sections.
 - B. Use sealant type(s) and accessories required to suit intended application and adjacent materials. Adhere to manufacturer's recommendation when applicable.

2.4 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products with acceptable levels of volatile organic compound (VOC) content

2.5 ACCESSORIES

- A. Sealant Backing Materials, General: Materials placed in joint before applying sealants; assists sealant performance and service life by developing optimum sealant profile and preventing three-sided adhesion; type and size recommended by sealant manufacturer for compatibility with sealant, substrate, and application.
- B. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- C. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- D. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.2 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

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- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.
 - E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in an inconspicuous area to verify that it does not stain or discolor slab.

3.3 INSTALLATION

- A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Provide joint sealant installations complying with ASTM C1193.
- C. Install acoustical sealant application work in accordance with ASTM C919.
- D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.
- E. Install bond breaker backing tape where backer rod cannot be used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.
- I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.4 FIELD QUALITY CONTROL

- A. See Section 01.4000 - Quality Requirements for additional requirements.
- B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
- C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

3.5 POST-OCCUPANCY

- A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width, i.e., at low temperature in thermal cycle. Report failures immediately and repair them.

SECTION 08.0152
WOOD DOOR RESTORATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Restoration of existing elements.
 - 1. Door casings and frames and associated trim.
 - 2. Doors.
- B. Replacement of hardware.

1.2 RELATED REQUIREMENTS

- A. Section 06.0300 - Conservation Treatment for Period Wood

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Prior to final bid, contractor is to review existing condition of door and trim to be restored and confirm the extent of work. Notify Architect if additional work/specification is required.

PART 2 PRODUCTS

2.1 OPERATING HARDWARE

- A. Refer to Section 087100-Door Hardware

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces to be cleaned and restored are ready for work of this section.
- B. Notify Owner/Architect of any extent of damaged beyond what was anticipated and confirm next steps before proceeding.

3.2 PREPARATION

- A. Protect surrounding elements from damage due to restoration procedures.

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- B. Remove or dismantle and store removable items located in areas to be restored including, but not limited to, fixtures, fittings, finish hardware, and accessories; reinstall upon completion of restoration work.

3.3 IN SITU RESTORATION

- A. Restore damaged and nonoperating elements or components
- B. See Section 06.0300 for treatments involving consolidation, patching, and dutchman installation of wood components.

3.4 IN-SHOP REPAIR

- A. Restore damaged or nonoperating elements or components, in on-site or off-site shop, as required
- B. Record locations of items, prior to removal, at the site by any combination of digital photography, videography, or marking them in inconspicuous location.
- C. Repair elements in a shop properly staffed and equipped to perform necessary restoration procedures.

3.5 HARDWARE CLEANING

- A. Surface Preparation: Remove hardware. Store in secure location for reinstallation after refinishing is complete.
- B. Cleaning: Remove adhesive residue and paint and varnish drips using paint stripper applied with soft cloths. If required, apply light pressure using natural bristle brush.
 - 1. Retain statuary finish on bronze items. Do not apply solvents which may remove patina.

3.6 HARDWARE INSTALLATION

- A. Install replacement hardware in doors that complements functionality of existing hardware.
- B. Install hardware in accordance with manufacturer's instructions and applicable codes.
- C. Use templates provided by hardware item manufacturer.
- D. Do not install surface-mounted items until substrate finishes are complete.

3.7 CLEANING

- A. Immediately remove stains resulting from the work of this section.
- B. Clean surrounding surfaces.

- C. Glazing: At completion of project, remove protective coverings and reclean soiled surfaces using indicated procedures and materials.

3.8 SCHEDULE

- A. Repair and refinish (1) interior door.
- B. Repair and refinish all existing wood trim and mouldings to remain in the area of work and as designated on the drawings.

SECTION 08.1300
METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.
- B. Shop Drawings: Details of each opening, showing elevations, frame profiles, and any indicated finish requirements.
- C. Samples: Color samples sets of manufacturer's full range of finish colors for selection.
- D. Executed warranty. Provide manufacturer's standard limited lifetime door and frame warranty.

1.2 QUALITY ASSURANCE

- A. Pre-Submittal Conference: Conduct conference with attendance by representatives of Supplier, Installer, Architect's Hardware Consultant, and Contractor to review proper methods and procedures for prepping and installing metal doors and frames and hardware.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design: Provia; Legacy Steel Exterior Doors: www.provia.com
- B. Source Limitations: Furnish products produced by single manufacturer and obtained from single supplier.

2.2 PERFORMANCE REQUIREMENTS

- A. Accessibility: Comply with ICC A117.1 and ADA Standards.
- B. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

2.3 PRE-HUNG METAL DOORS AND FRAMES

- A. Exterior Doors: Thermally insulated.

1. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
 2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
 3. Door Thickness: 1-3/4 inches, nominal.
- B. Frames:
1. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
 2. PermaTech Composite Frame
 3. Frame Finish: Factory primed and field finished.

2.4 ACCESSORIES

- A. Manufacturer's Hardware:
1. Hinges: Stainless steel ball bearing.
 2. Kick-plate: Installed on inside of doors only.
 3. Finishes: Factory primed; field painted.
- B. Other Hardware:
1. See Division 08 Section "Door Hardware."
 2. Furnish templates as required.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

3.2 PREPARATION

- A. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."

3.3 INSTALLATION

- A. Interface With Other Work:
1. Install door hardware as specified in Section 08.7100.
- B. Touch up damaged factory finishes and painting

3.4 TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.5 ADJUSTING

- A. Adjust for smooth and balanced door movement and hardware for complete and proper operating condition.

3.6 PROTECTION

- A. Protect installed products from subsequent construction operations.

3.7 SCHEDULES

- A. Refer to Door and Frame Schedule on the drawings.

SECTION 08.1433
STILE AND RAIL WOOD DOORS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data
- B. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, and factory finishing criteria.
- C. Manufacturer's Installation Instructions: Indicate special installation instructions.
- D. Warranty, executed in Owner's name.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver, and store doors in accordance with quality standard specified.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.
- C. Protect doors with resilient packaging; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges if stored more than one week, and break seal on site to permit ventilation.

1.3 WARRANTY

- A. Interior Doors: Provide manufacturer's warranty for the life of the installation.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.1 DOORS

- A. Quality Standard: Custom Grade, Standard Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; solid core construction; mortise and tenon joints. Opaque finish.

2.2 DOOR CONSTRUCTION

- A. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware.
 - 1. Coordinate with Hardware specs and Architect's Hardware Consultant.
- B. Cut and configure door edge to receive recessed weatherstripping devices where required. Provide edge clearances in accordance with referenced quality standards.

2.3 ACCESSORIES

- A. Wood Door Frames: See Section 06.2000.
- B. Door Hardware: See Section 08.7100.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out of tolerance for size or alignment.

3.2 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standards.
- B. Field-Finished Doors: Trimming to fit is acceptable.
 - 1. Adjust width of non-rated doors by cutting equally on both jamb edges.
 - 2. Trim door height by cutting bottom edges to a maximum of 3/4 inch.
- C. Machine cut for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.

3.3 TOLERANCES

- A. Comply with specified quality standard for fit, clearance, and joinery tolerances.

3.4 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

3.5 SCHEDULE - SEE DRAWINGS

SECTION 08.5313
VINYL WINDOWS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide component dimensions, anchors, fasteners, and glass.
- B. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work, and installation requirements.
- C. Manufacturer's Certificate: Certify that products of this section meet or exceed specified requirements.
- D. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.
- E. Installer's qualification statement.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Protect finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.3 WARRANTY

- A. Manufacturer Warranty: Standard limited lifetime warranty. Complete form in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Vinyl Windows: Basis-of-Design
 - 1. Milgard Windows; V250 Style Line Series : www.milgard.com

2.2 DESCRIPTION

- A. Vinyl Windows: Factory-fabricated frame and sash members of extruded, hollow, ultraviolet-resistant, polyvinyl chloride (PVC) with integral color; with factory-installed glazing, hardware, related flashings, anchorage and attachment devices.
 - 1. Configuration: As indicated on drawings.

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- a. Product Type: AP - Awning projected window and H - Hung window, vertically sliding in accordance with AAMA/WDMA/CSA 101/I.S.2/A440.
 2. Interior Color: As selected by Architect from manufacturer's full line of colors.
 3. Exterior Color: As selected by Architect from manufacturer's full line of colors.
 4. Size to fit openings with minimum clearance around perimeter of assembly providing necessary space for perimeter seals.
 5. System Internal Drainage: Drain to exterior side by means of weep drainage network any water entering joints, condensation within glazing channel, or other migrating moisture within system.
 6. Glazing Stops, Trim, Flashings, and Accessory Pieces: Formed of rigid PVC, fitting tightly into frame assembly.

2.3 PERFORMANCE REQUIREMENTS

- A. Design Pressure: In accordance with applicable codes.
- B. Overall Thermal Transmittance (U-value): 0.45, maximum, including glazing, measured on window sizes required for this project.

2.4 COMPONENTS

- A. Glazing: Insulated double pane, tempered glass, clear, low-E coated, manufacturer's standard fill, with glass thicknesses as recommended by manufacturer for specified wind conditions.
- B. Frame Depth: Manufacturer's standard.
- C. Divided Lite Grid: Installed on exterior face of insulating glass, 5/8 inch wide flat metal bars, color to match frame and sash.
 1. Pattern: Custom design, refer to drawings.
- D. Insect Screens: Aluminum, extruded or roll-formed frame with mitered and reinforced corners; apply screen mesh taut to frame; secure to window with hardware to allow easy removal.
 1. Hardware: Manufacturer's standard; quantity as required per screen.
 2. Screen Mesh: Vinyl-coated fiberglass, window manufacturer's standard mesh.
 3. Frame Finish: Manufacturer's standard, color to match window frame and sash color.
- E. Fasteners: Stainless steel.
- F. Accessories: Provide related flashings, anchorage and attachment devices as necessary for full assembly.
- G. Sealants for Setting Window Sill Pan Flashing: Provide butyl tape, non-hardening butyl, polyurethane, or silicone sealant; in compliance with ASTM E2112 installation practices.

2.5 HARDWARE

- A. Finish of Exposed Hardware: Baked enamel, match interior sash and frame color.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify wall openings and adjoining water-resistive barrier seal materials are ready to receive this work.
- B. Verify work that is the responsibility of other trades is complete and ready to receive the Work. Notify Architect of unsatisfactory conditions.

3.2 INSTALLATION

- A. Install window unit assemblies in accordance with manufacturers instructions and applicable building codes.
- B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities as necessary.
- C. Align window plumb and level, free of warp or twist, and maintain dimensional tolerances and alignment with adjacent work.
- D. Set sill members and sill flashing in continuous bead of sealant.
- E. Provide thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- F. Install operating hardware.

3.3 TOLERANCES

- A. Maximum Variation from Level or Plumb: 0.06 inches every 3 ft non-cumulative or 0.5 inches per 100 ft, whichever is less.

3.4 FIELD QUALITY CONTROL

- A. Provide services of vinyl window manufacturer's field representative to observe for proper installation of system and submit report.
- B. Provide field testing of installed vinyl windows by independent laboratory in accordance with AAMA 502 and AAMA/WDMA/CSA 101/I.S.2/A440 during construction process and before installation of interior finishes.
 - 1. Field test for water penetration in accordance with ASTM E1105 using Procedure B - cyclic static air pressure difference; test pressure shall not be less than 1.9 psf.

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- 2. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference of 6.27 psf.
 - C. Repair or replace fenestration components that have failed designated field testing, and retest to verify performance complies with specified requirements.

3.5 ADJUSTING

- A. Adjust hardware for smooth operation and secure weathertight closure.

3.6 CLEANING

- A. Remove protective material from pre-finished surfaces.
- B. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.
- C. Remove excess glazing sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer and appropriate for application indicated.

SECTION 08.7100
DOOR HARDWARE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Lock cylinders for doors with balance of hardware specified in other sections.
- B. Thresholds.
- C. Weatherstripping and gasketing.

1.2 RELATED REQUIREMENTS

- A. Section 081113 - Hollow Metal Doors and Frames.
- B. Section 081416 - Flush Wood Doors.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure facility services connections are achieved in an orderly and expeditious manner.
- C. Preinstallation Meeting: Convene a preinstallation meeting four weeks prior to commencing work of this section; require attendance by affected installers and the following:
 - 1. Architect.
 - 2. Installer's Architectural Hardware Consultant (AHC).
 - 3. Hardware Installer.
 - 4. Owner's Security Consultant.
- D. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- E. Keying Requirements Meeting: Arrange meeting with Owner, Architect and finish hardware supplier to determine keying requirements immediately upon receipt of finishing hardware schedule.

1.4 SUBMITTALS

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- A. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
 - B. Shop Drawings - Door Hardware Schedule: A detailed listing that includes each item of hardware to be installed on each door.
 - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 - 2. Comply with DHI (H&S) using door numbering scheme and hardware set numbers as indicated in Contract Documents.
 - a. Submit in vertical format.
 - 3. List groups and suffixes in proper sequence.
 - 4. Include complete description for each door listed.
 - 5. Include manufacturer's and product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
 - 6. Include account of abbreviations and symbols used in schedule.
 - C. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
 - D. Installer's qualification statement.
 - E. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
 - 1. Include manufacturer's parts lists and templates.
 - 2. Bitting List: List of combinations as furnished.
 - F. Keying Schedule:
 - 1. Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.
 - G. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
 - H. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.
 - I. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
 - 1. Tools: One set of each special wrench or tool applicable for each different or special hardware component, whether supplied by hardware component manufacturer or not.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

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- C. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) to assist in work of this section.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.7 WARRANTY

- A. Manufacturer Warranty: Provide manufacturer warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion. Complete forms in Owner's name and register with manufacturer.
 - 1. Closers: Ten years, minimum.
 - 2. Exit Devices: Five years, minimum.
 - 3. Locksets and Cylinders: Ten years, minimum.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Locks: Provide a lock for each door, unless it's indicated that lock is not required.
 - 1. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's Series. As indicated in hardware sets.
 - 2. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.
 - 3. Strikes:
 - a. Finish: To match lock or latch.
 - b. Curved-Lip Strikes: Provide as standard, with extended lip to protect frame, unless otherwise indicated.
 - c. Center Strike At Pairs of Doors: 7/8 inch (22.2 mm) lip.
- D. Closers:
 - 1. Provide door closer on each exterior door, unless otherwise indicated.
 - 2. Provide door closer on each fire-rated and smoke-rated door.
 - 3. Spring hinges are not an acceptable self-closing device, unless otherwise indicated.
- E. Overhead Stops and Holders (Door Checks).
 - 1. Provide stop for every swinging door, unless otherwise indicated.
 - 2. Overhead Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop, unless otherwise indicated.

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- 3. Overhead stop is not required if a floor or wall stop has been specified for the door.
 - F. Drip Guards: Provide at head of outswinging exterior doors unless protected by roof or canopy directly overhead.
 - G. Thresholds:
 - 1. Exterior Applications: Provide at each exterior door, unless otherwise indicated.
 - H. Smoke and Draft Control Seals:
 - 1. Provide gasketing for smoke and draft control doors that complies with local codes, requirements of assemblies tested in accordance with UL 1784.
 - I. Weatherstripping and Gasketing:
 - 1. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated.
 - 2. Provide door bottom sweep on each exterior door, unless otherwise indicated.
 - J. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
 - a. Aluminum fasteners are not permitted.
 - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
 - 2. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
 - a. Self-drilling (Tek) type screws are not permitted.
 - 3. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
 - 4. Provide wall grip inserts for hollow wall construction.

2.2 PERFORMANCE REQUIREMENTS

- A. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
 - 4. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.

2.3 HINGES

- A. Manufacturers: Conventional butt hinges.
 - 1. BEST; dormakaba Group:
- B. Properties:
 - 1. Butt Hinges: As applicable to each item specified.
 - a. Standard Weight Hinges: Minimum of two (2) permanently lubricated non-detachable bearings.
 - b. Heavy Weight Hinges: Minimum of four (4) permanently lubricated bearings on heavy weight hinges.

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- c. Template screw hole locations.
 - d. Bearings: Concealed fully hardened bearings.
 - e. UL 10C listed for fire-resistance-rated doors.
 - C. Sizes: See Door Hardware Schedule.
 - 1. Hinge Widths: As required to clear surrounding trim.
 - 2. Sufficient size to allow 180 degree swing of door.
 - D. Finishes: See Door Hardware Schedule.
 - 1. Fully polish hinges; front, back, and barrel.
 - E. Grades:
 - 1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
 - 2. Comply with BHMA A156.18 Materials and Finishes.
 - F. Material: Base metal as indicated for each item by BHMA material and finish designation.
 - G. Types:
 - 1. Butt Hinges: Include full mortise hinges.
 - H. Options: As applicable to each item specified.
 - I. Quantities:
 - 1. Butt Hinges: Three (3) hinges per leaves up to 90 inches (2286 mm) in height. Add one (1) for each additional 30 inches (762 mm) in height or fraction thereof.
 - a. Hinge weight and size unless otherwise indicated in hardware sets:
 - 1) For doors up to 36 inches (914 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.134 inch (3.4 mm) and a minimum of 4-1/2 inches (114 mm) in height.
 - 2) For doors from 36 inches (914 mm) wide up to 42 inches (1067 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.145 inch (3.7 mm) and a minimum of 4-1/2 inches (114 mm) in height.
 - 3) For doors from 42 inches (1067 mm) wide up to 48 inches (1219 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.180 inch (4.6 mm) and a minimum of 5 inches (127 mm) in height.
 - 4) For doors greater than 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.180 inch (4.6 mm) and a minimum of 5 inches (127 mm) in height.
 - J. Applications: At swinging doors.
 - 1. Provide non-removable pins at out-swinging doors with locking hardware and all exterior doors.
 - K. Products:
 - 1. Butt Hinges:
 - a. Ball Bearing, Five (5) Knuckle.

2.4 BOLTS

- A. Manufacturers:
 - 1. ABH.
- B. Properties:
 - 1. Dustproof Strikes: For bolting into floor, provide except at metal thresholds.
- C. Options:
 - 1. Extension Bolts: In leading edge of door, one bolt into floor, one bolt into top of frame.
 - 2. Lever extensions: Provide for top bolt at oversized doors.

2.5 LOCK CYLINDERS

- A. Manufacturers:
 - 1. BEST No substitution – Exist System.
- B. Material:
 - 1. Manufacturer's standard corrosion-resistant brass alloy.
- C. Types: As applicable to each item specified.
 - 1. Patented small format interchangeable core (SFIC) type cylinders, with seven pin cores.

2.6 MORTISE LOCKS

- A. Manufacturers:
 - 1. BEST, 45H Series No substitution – Exist System.
- B. Properties:
 - 1. Mechanical Locks: Manufacturer's standard.
 - a. Fitting modified ANSI A115.1 door preparation.
 - b. Door Thickness Coordination Fitting 1-3/4 inch (44 mm) to 2-1/4 inch (57 mm) thick doors.
 - c. Latch: Solid, one-piece, anti-friction, self-lubricating stainless steel.
 - 1) Latchbolt Throw: 3/4 inch (19 mm), minimum.
 - d. Auxiliary Deadlatch: One piece stainless steel, permanently lubricated.
 - e. Backset: 2-3/4 inch (70 mm).
 - f. Lever Trim:
 - 1) Functionality: Allow the lever handle to move up to 45 degrees from horizontal position prior to engaging the latchbolt assembly.
 - 2) Strength: Locksets outside locked lever designed to withstand minimum 1,400 inch-lbs (158.2 Nm) of torque. In excess of that, a replaceable part will shear. Key from outside and/or inside lever will still operate lockset.
 - 3) Spindle: Designed to prevent forced entry from attacking of lever.
 - 4) Independent spring mechanism for each lever.
 - a) Trim to be self-aligning and thru-bolted.
 - 2. Electrified Locks: Same properties as standard locks, and as follows:

- a. Function: Electrically locked (Fail Safe) or unlocked (Fail Secure), as indicated for each lock in Door Hardware Schedule.
- C. Finishes: See Door Hardware Schedule.
 - 1. Core Faces: Match finish of lockset.
- D. Grades:
- E. Products: Mortise locks, including standard and electrified types.
 - 1. 45H.

2.7 CYLINDRICAL LOCKS

- A. Manufacturers:
 - 1. BEST 7KC Series No Substitution – Exist System
- B. Properties:
 - 1. Mechanical Locks:
 - a. Fitting modified ANSI A115.2 door preparation.
 - b. Bored Hole: 2-1/8 inch (54 mm) diameter.
 - c. Backset: 2-3/4 inches (70 mm) unless otherwise indicated.
 - d. Cylinders:
 - 1) Cylinder Core Types: Locks capable of supporting manufacturers' cores, as applicable.
 - e. Lever Trim:
 - 1) Style: See Door Hardware Schedule.
- C. Finishes: See Door Hardware Schedule.
 - 1. Core Faces: Match finish of lockset.
- D. Grades: Comply Grade 2, Series 4000.
- E. Material: Manufacturer's standard for specified lock.
- F. Products: Cylindrical locks, including mechanical and electrified types.
 - 1. 7K (Grade 2).

2.8 DOOR PULLS AND PUSH PLATES

- A. Manufacturers:
 - 1. ABH.
 - 2. Burns.
 - 3. Trimco.
- B. Material: Stainless steel, unless otherwise indicated.

2.9 CLOSERS

- A. Manufacturers:
 - 1. Dorma 8900 Series No Substitutions
- B. Grades:
 - 1. Closers: Comply with BHMA A156.4, Grade 1.
 - a. Underwriters Laboratories Compliance:
 - 1) Product Listing: UL (DIR) and ULC for use on fire-resistance-rated doors.
 - a) UL 228 - Door Closers-Holders, With or Without Integral Smoke Detectors.
- C. Installation:
 - 1. Mounting: Includes surface mounted installations.
 - 2. Mount closers on non-public side of door and stair side of stair doors unless otherwise noted in hardware sets.
 - 3. At outswinging exterior doors, mount closer on interior side of door.
 - 4. Provide adapter plates, shim spacers, and blade stop spacers as required by frame and door conditions.
 - 5. Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.

2.10 PROTECTION PLATES

- A. Manufacturers:
 - 1. ABH.
- B. Properties:
 - 1. Plates:
 - a. Kick Plates: Provide along bottom edge of push side of every wood door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.
 - 1) Size: 10 inches (254 mm) high by 2 inch (51 mm) less door width (LDW) on push side of door.
 - b. Mop Plates: Provide along bottom edge of push side of doors to provide protection from cleaning liquids and equipment damage to door surface.
 - c. Edges: Beveled, on four (4) unless otherwise indicated. CSK Screws.
- C. Grades: Comply with BHMA A156.6.
- D. Material: As indicated for each item by BHMA material and finish designation.
 - 1. Metal Properties: Stainless steel.
 - a. Metal, Standard Duty: Thickness 0.050 inch (1.27 mm), minimum.
- E. Installation:
 - 1. Fasteners: Countersunk screw fasteners

2.11 STOPS AND HOLDERS

- A. Manufacturers:
 - 1. ABH.
 - 2. Burns.
 - 3. Trimco.
- B. General: Provide overhead stop/holder when wall or floor stop is not feasible.
- C. Grades:
 - 1. Door Holders, Wall Bumpers, and Floor Stops: Comply with BHMA A156.16 and Resilient Material Retention Test as described in this standard.
- D. Types:

2.12 THRESHOLDS

- A. Manufacturers:
 - 1. National Guard Products
 - 2. Pemko.
 - 3. Reese.
- B. Properties:
 - 1. Threshold Surface: Fluted horizontal grooves across full width.
- C. Grades: Thresholds: Comply with BHMA A156.21.
- D. Material: Base metal as indicated for each item by BHMA material and finish designation.
- E. Types: As applicable to project conditions. Provide barrier-free type at every location where specified.
 - 1. Saddle Thresholds: Without thermal break.
 - 2. Bumper Seal Thresholds with Gasket: Use silicone gaskets.

2.13 WEATHERSTRIPPING AND GASKETING

- A. Manufacturers:
 - 1. National Guard Products, Inc: www.ngpinc.com/#sle.
 - 2. Pemko .
 - 3. Reese.
- B. Products:
 - 1. Weatherstripping: See Door Hardware Schedule.
 - 2. Smoke Seals: See Door Hardware Schedule.
 - 3. Meeting Stile Seals: See Door Hardware Schedule.
 - 4. Door Bottom Seals:
 - a. Door Sweeps: See Door Hardware Schedule.

2.14 KEYS AND CORES

- A. Manufacturers:
 - 1. BEST, No Substitution, Existing System.
- B. Properties: Complying with guidelines of BHMA A156.28.
 - 1. Provide small format interchangeable core.
 - 2. Provide interchangeable cores for all locks listed in the hardware spec by one supplier even if door supplied by different manufacturer.
 - 3. Provide Standard keys and cores.
 - 4. Provide keying information in compliance with DHI (KSN) standards.
 - 5. Keying Schedule: Arrange for a keying meeting, with Architect, Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying complies with project requirements.
 - 6. Keying: Master keyed.
 - 7. Include construction keying and control keying with Brass removable core cylinders.
 - 8. Supply keys in following quantities:
 - a. Grand Master Keys: 2 each.
 - b. Master Keys: 4 each each group.
 - c. Construction Master Keys: 4 each.
 - d. Construction Control Keys: 2 each.
 - e. Perm Core Control Keys: 4 each.
 - f. Change Keys: 2 each change keys for each keyed core.
 - 9. Deliver keys with identifying tags to Owner by security shipment direct from manufacturer.
 - 10. Include installation of permanent cores and return construction cores to hardware supplier. Construction cores and keys to remain property of hardware supplier.

2.15 KEY CABINETS

- A. Manufacturers:
 - 1. Lund Equipment Company, Inc
 - 2. Telkee
- B. Properties:
 - 1. Key Management System: For each keyed lock on project, provide one set of consecutively numbered duplicate key tags with hanging hole and snap catch.
 - 2. Security Key Tags: For each keyed lock on project, provide one set of matching key tags for permanent attachment to one key of each set.
 - 3. Provide key collection envelopes, receipt cards, and index cards in quantity suitable to manage number of keys.
 - 4. Mounting: Wall surface mounted.
 - 5. Capacity: Actual quantity of keys, plus 50 percent additional capacity.
 - 6. Key cabinet lock to facility's keying system.
- C. Finishes: Baked enamel, manufacturer's standard color.
- D. Material: Sheet steel.

2.16 FINISHES

- A. Finishes: Identified in Hardware Sets.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.
- B. Correct all defects prior to proceeding with installation.
- C. Verify that electric power is available to power operated devices and of correct characteristics.

3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Install hardware using the manufacturer's fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.
- C. Use templates provided by hardware item manufacturer.
- D. Do not install surface mounted items until application of finishes to substrate are fully completed.
- E. Wash down masonry walls and complete painting or staining of doors and frames.
- F. Complete finish flooring prior to installation of thresholds.
- G. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.3 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014000 - Quality Requirements.

3.4 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation activities.

3.5 PROTECTION

- A. Protect finished Work under provisions of Section 017000 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

3.6 SCHEDULE: REFER TO DRAWINGS

SECTION 09.0300
RESTORATION AND REPLACEMENT OF PLASTER FINISHES

PART 1 GENERAL

1.1 SUBMITTALS

- A. Plaster Materials Product Data: Plaster materials, characteristics, and limitations of products.

1.2 QUALITY ASSURANCE

- A. Materials Testing: Visual inspection and in-situ/lab testing of existing plaster materials to determine the type, proportions, and other physical properties as required to produce a matching finish in both appearance and performance.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original and unopened packaging, with brand names and manufacturer's labels intact and legible.
- B. Store materials in dry location, fully protected from weather and direct exposure to sunlight.

1.4 FIELD CONDITIONS

- A. Maintain temperature between 50 degrees F and 80 degrees F for not less than one week prior to applying plaster and continuously after applying plaster.
- B. Maintain adequate ventilation to remove excess water while plaster dries.
- C. Maintain minimum ambient temperature of 50 degrees F (10 degrees C) during and after installation of plaster.

PART 2 PRODUCTS

2.1 PLASTERING

- A. Applications:
 - 1. Flat plaster walls.

- B. Final materials to be used are to be determined by the Contractor after confirming the type, proportions, and other physical properties of existing plaster materials as required to produce a matching finish in both appearance and performance.
 - 1. Ready-Mixed Gypsum Plaster: ASTM C28/C28M; mill-mixed, requiring only the addition of water.
 - 2. Lime: ASTM C206, Type S; special finishing hydrated lime.
 - 3. Aggregate for Base Coats: ASTM C35; sand and lightweight aggregates.
 - 4. Aggregate for Finish Coats: Comply with ASTM C842.
 - 5. Water: Clean, fresh, potable and free of mineral or organic matter that could adversely affect plaster.
 - a. Temperature: Do not use hot or very cold water. Follow recommendations of plaster product manufacturer.
- C. Plaster Mixes: Manufacturer's recommend mix for specified applications.
- D. Plaster Repair Adhesives and Consolidants: Manufacturer's recommend products.
- E. Plaster Mixing:
 - 1. Mix materials using a roller mill mixer. Do not use drum-type cement mixers or paddle-type mortar mixers.
 - 2. Mix materials in accordance with manufacturer's instructions.
- F. Lath and Accessories:
 - 1. Wood Lath: Pine, fir, or cedar strips, kiln-dried. Match width and thickness dimensions of existing lath.
 - 2. Fasteners: Nails, staples, or other approved metal supports, of type and size to suit application, compatible with lath and plaster, and capable of rigidly securing lath and accessories in place.
 - 3. Acoustic Sealant: Acrylic emulsion latex elastomeric sealant.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions are satisfactory before starting work.
- B. Examine areas indicated for partial removal and sound them out to confirm extent of work. Additional sections of existing plaster may have deteriorated subsequent to issuance of Contract Documents.
- C. Plastering Substrates:
 - 1. Lath: Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are in place.
- D. Mechanical and Electrical Elements: Verify services within walls and above inaccessible ceiling construction have been tested and approved.

3.2 PREPARATION

- A. General: Remove and salvage elements and hardware for reinstallation; tag and protect surface-mounted items.
- B. Install temporary protection measures.
- C. Removal of Existing Damaged Plaster: Remove only portions indicated to be repaired or replaced.
 - 1. Remove soft or crumbled plaster using hand tools.
 - 2. Remove each coat to extent that will allow blending or keying new work into edges of existing installation.

3.3 PLASTER MIXING ON SITE

- A. Mix plaster in accordance with manufacturer's instructions. Do not add water or other materials unless recommended by the manufacturer to obtain desired workability.

3.4 INSTALLATION - LATH AND ACCESSORIES

- A. Install wood lath to match key spacing of existing lath, but leave keys no narrower than 1/4 inch, unless indicated otherwise.
- B. Install interior lath and furring for gypsum plaster in accordance with ASTM C841.
- C. Coordinate installation of frames plumb and level in opening.
- D. Place acoustic sealant at gypsum lath perimeter in accordance with manufacturer's instructions.

3.5 FLAT PLASTER ADHESIVE REPAIR

- A. Confirm the substrates to which the plaster will be re-adhered are sound and free of debris and defects affecting proper application of plaster adhesive repair products.
- B. Determine the spacing pattern of wood lath to accurately locate injection holes directly over lath to ensure plaster repair adhesives will bond plaster to lath.
- C. Injection Holes for Plaster: Drill holes through the surface plaster layer at lath locations and into the void between the plaster and substrate, either lath or masonry, to create injection portholes for plaster repair adhesive products to bond the plaster to the substrate.
 - 1. At Cracks: Drill along both sides of crack approximately 1-1/2 inches from the crack at approximately every 3 to 4 inches parallel to the crack line.
 - 2. At Loose Plaster Areas: Drill holes through the plaster layer, 6 to 8 inches apart, throughout area of loose plaster.

3. Adjust hole spacing so as to ensure that voids can be saturated with plaster repair adhesive.
 4. Clean holes using a vacuum to remove debris from drilling operation.
 5. Remove debris caught between areas of repaired plaster and lath to ensure reattachment and alignment with adjacent existing surfaces.
- D. Adhesive Application: Inject sufficient amount of adhesive into drilled and pretreated holes to ensure the void between the plaster and lath is filled.

3.6 STATIC CRACK PLASTER REPAIR

- A. Fill crack with plaster finish coat material.

3.7 FLAT PLASTERING

- A. Apply plaster in accordance with ASTM C842 and manufacturer's instructions.
- B. Finish Texture: Match existing.
- C. Perform work in panels to nearest natural break or between accessories.

3.8 CURING

- A. Protect plaster against uneven and excessive evaporation of moisture and from strong, dry airflow according to manufacturers instructions.

3.9 ADJUSTING

- A. Corrective Measures: Cut out and replace defective areas and repair to match acceptable work.
- B. Defective Work: Includes, but is not limited to:
1. Areas showing cracks, dents, crazing, blisters, and other surface imperfections.
 2. Areas where bond to substrate has failed.

3.10 CLEANING

- A. Remove and discard temporary protection after plaster work in each area has been completed. Remove plaster from other exposed surfaces, leaving them in undamaged condition; dispose of packaging materials and plaster debris.

SECTION 09.2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the installation of gypsum board assemblies with size, location, and installation of service utilities, equipment, and devices.
- B. Sequencing: Do not close-in walls until rough-in and device locations have been confirmed via a walk-through with Owner/Architect.

1.2 SUBMITTALS

- A. Product Data:
 - 1. Provide data on gypsum board, accessories, and joint finishing system.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
 - 2. Provide sound attenuation batts at interior walls as indicated on the drawings.

2.2 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. CertainTeed Corporation; ____: www.certainteed.com/#sle.
 - 2. Georgia-Pacific Gypsum; ____: www.gpgypsum.com/#sle.
 - 3. USG Corporation; ____: www.usg.com/#sle.
 - 4. Substitutions: See Section 01.6000 - Product Requirements.

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- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place;
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - a. Mold resistant board is required in all restrooms and wet locations.
 4. Long Edges: Tapered
 5. Thickness:
 - a. Vertical Surfaces: 5/8 inch.
 - b. Ceilings: 1/2 inch.
- C. Backing Board For Wet Areas:
1. Application: Surfaces behind tile in wet areas
 2. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
 - a. Thickness: 5/8 inch.

2.3 GYPSUM BOARD ACCESSORIES

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Thermal Insulation: See Section 07.2100
- C. Acoustic Insulation: See Section 07.2100.
- D. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
- E. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, unless noted otherwise.
1. Corner Beads: Low profile, for 90 degree outside corners.
- F. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Paper Tape: 2 inch wide, creased paper tape for joints and corners.
 2. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - a. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 - b. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - 1) Use setting-type compound for installing paper-faced metal trim accessories.
 - c. Fill Coat: For second coat, use setting-type, sandable topping compound.
 - d. Finish Coat: For third coat, use setting-type, sandable topping compound.

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- e. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.2 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.3 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
 - 1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- D. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.
- E. Cementitious Backing Board: Install over steel framing members and wood framing members where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- F. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For nonrated assemblies, install as follows:
 - 1. Single-Layer Applications: Screw attachment.

3.4 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
 - 1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.5 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 2. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
- C. Prefill open joints and damaged surface areas.
- D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 - 2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
- E. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.6 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

3.7 PROTECTION

- A. Protect installed gypsum board assemblies from subsequent construction operations.
- B. Replace panels that are damaged, deteriorated, or have mold/mildew.

SECTION 09.2400
CEMENT PLASTERING

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide data on plaster materials and trim accessories.
- B. Jointing plan: Sketch showing proposed locations of control/expansion joints.
- C. Samples for Selection:
 - 1. Submit a range of samples / physical color chart of manufacturers standard and/or custom colors as directed by Architect.

1.2 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.3 FIELD CONDITIONS

- A. Exterior Plaster Work: Do not apply plaster when substrate or ambient air temperature is 40 degrees F or lower, or when temperature is expected to drop below 40 degrees F within 48 hours of application.

PART 2 PRODUCTS

2.1 CEMENT PLASTER APPLICATIONS

- A. Applications:
 - 1. Parging at concrete foundations.
- B. Solid Plaster Base: Cast-in-place concrete, Concrete masonry, and Stone masonry.
 - 1. Plaster Type: Factory prepared plaster mix.
 - 2. Number of Coats: Three.

2.2 FACTORY PREPARED CEMENT PLASTER

- A. Premixed Base Coats: Mixture of cement, aggregate, and proprietary admixtures for scratch and brown coats; install in accordance with ASTM C926.
- B. Primer: Acrylic, as recommended by coating manufacturer and compatible with plaster base coat.

- C. Premixed Finish Coating: Integrally colored, cementitious coating.
 - 1. Color: As selected by Architect from manufacturer's custom colors.

2.3 ACCESSORIES

- A. As recommended by manufacturer/ installer for a complete and proper installation.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions are acceptable prior to starting this work.
- B. Verify masonry joints are flush and surfaces are ready to receive work of this section, and that there are no existing bituminous or water repellent coatings on masonry surfaces.
- C. Verify concrete surfaces are flat, honeycombs are filled flush, and surfaces are ready to receive work of this section, and that there are no existing bituminous, water repellent, or form release agent coatings on concrete surfaces that may be detrimental to plaster bond.
- D. Verify mechanical and electrical equipment and services located within areas to receive this work have been properly tested and approved.

3.2 PREPARATION

- A. Dampen masonry surfaces to reduce excessive suction.
- B. Clean concrete surfaces of foreign matter using approved acid solutions, solvents, or detergents, and then rinse surfaces thoroughly with clean water.
- C. Roughen smooth concrete surfaces and apply bonding compound in accordance with manufacturer's written installation instructions.
- D. Apply dash bond coat of plaster to solid bases and moist cure for at least 24 hours before applying first coat of jobsite mixed plaster.

3.3 INSTALLATION - WATER-RESISTIVE BARRIER

- A. Where cement plaster is installed as part of a barrier wall system, install two layers of water-resistive barrier in accordance with water-resistive barrier manufacturer's instructions.
- B. Integrate water-resistive barrier with flashing accessories, and adjacent doors, windows, penetrations, and cladding transitions.

3.4 MIXING

- A. Mix only as much plaster as can be used prior to initial set.

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- B. Mix materials dry, to uniform color and consistency, before adding water.
 - C. Do not retemper mixes after initial set has occurred.
 - D. Protect mixtures from frost or freezing temperatures, contamination, and excessive evaporation.

3.5 APPLICATION

- A. Apply plaster and applicable accessories in accordance with manufacturer's written instructions and comply with ASTM C926.
- B. Base Coats:
 - 1. Follow guidelines in ASTM C926 and manufacturer's written installation instructions for moist curing base coats and application of subsequent coats.
- C. Finish Coats:
 - 1. Cement Plaster:
 - a. Apply with sufficient material and pressure to ensure complete coverage of base.
 - b. Apply desired surface texture while mix is still workable.
 - 2. Primer and Acrylic Coatings:
 - a. Remove surface contaminants such as dust and dirt without damaging substrate.
 - b. Apply primer in accordance with manufacturer's instructions.
 - c. Apply finish coating in number of coats and to thickness recommended by manufacturer.

3.6 TOLERANCES

- A. Maximum Variation from True Flatness: 1/4 inch in 10 feet.

3.7 REPAIR

- A. Patching: Remove loose, damaged or defective plaster and replace with plaster of same composition; finish to match surrounding area.

SECTION 09.3000
TILING

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- B. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
- C. Sustainable Design Submittals: Verify adhesives have a VOC content of 65 g/L or less.
- D. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches in size illustrating pattern, color variations, and grout joint size variations.
- E. Installer's Qualification Statement:
- F. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01.6000 - Product Requirements, for additional provisions.
 - 2. Extra Tile: 2 percent of each size, color, and surface finish combination, but not less than 2 of each type.

1.2 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.3 MOCK-UPS

- A. Construct tile mock-up in location as directed by Owner for each tile and installation type, incorporating all components specified for the location.
 - 1. Minimum size of mock-up: 2 feet by 2 feet.
 - 2. Approved mock-up may remain as part of work.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.5 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

PART 2 PRODUCTS

2.1 TILE

- A. Manufacturers: Basis of Design .
 - 1. Nasco Stone + Tile; <https://nascostonetile.com/>
- B. Porcelain Tile; Floors:
 - 1. Surface Finish: Non-slip. Coefficient of Friction: Not less than 0.42
 - 2. Refer to drawings for specifications.
- C. Porcelain Tile; Walls:
 - 1. Refer to drawings for specifications.

2.2 TRIM AND ACCESSORIES

- A. Non-Ceramic Trim: Brushed stainless steel, style and dimensions to suit application, set with tile mortar or adhesive.
 - 1. Applications:
 - a. Open edges of wall tile.
 - 2. Products basis-of-design:
 - a. Schluter-Systems; JOLLY: www.schluter.com/#sle.
- B. Thresholds: 4 inches wide by full width of wall or frame opening; beveled edge on both long edges; without holes, cracks, or open seams.
 - 1. Thickness: 1/2 inch or less.
 - a. ICC A117.1: Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.
 - 2. Material: Marble, honed finish.
 - 3. Applications:
 - a. At doorways where tile terminates.

2.3 SETTING MATERIALS

- A. Provide setting and grout materials from same manufacturer.
- B. Manufacturers:
 - 1. Custom Building Products: www.custombuildingproducts.com/#sle.
 - 2. LATICRETE International, Inc: www.laticrete.com/#sle.
 - 3. Mapei Corporation: www.mapei.com/#sle.
- C. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3.
 - 1. Applications: Use this type of bond coat at floors where thinset or medium-bed mortar is applicable
 - a. For wall applications, provide non-sagging mortar.
- D. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, latex additive, and water.

2.4 GROUTS

- A. Provide setting and grout materials from same manufacturer.
- B. Manufacturers:
 - 1. Custom Building Products; _____: www.custombuildingproducts.com/#sle.
 - 2. LATICRETE International, Inc; _____: www.laticrete.com/#sle.
 - 3. Mapei Corporation; _____: www.mapei.com/#sle.
- C. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
 - 1. Color(s): As indicated on drawings.

2.5 MAINTENANCE MATERIALS

- A. Tile Sealant: Gunnable, silicone sealant; moisture and mildew resistant type.
 - 1. Applications: Between tile and plumbing fixtures.
 - 2. Color(s): As selected by Architect from manufacturer's full line.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- D. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.
- E. Install underlayments in accordance with manufacturers' instructions and as warranted by existing conditions and as required for intended/preferred application.
- F. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.3 INSTALLATION - GENERAL

- A. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.20, manufacturer's instructions, and TCNA (HB) or TCNA (HB-GP) recommendations, as applicable.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners neatly. Align floor and wall joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
- E. Form internal angles square
- F. Install non-ceramic trim in accordance with manufacturer's instructions.
- G. Install thresholds where indicated.
- H. Sound tile after setting. Replace hollow sounding units.
- I. Keep control and expansion joints free of mortar, grout, and adhesive.
- J. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- K. Grout tile joints unless otherwise indicated.

3.4 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over wood substrates, install in accordance with TCNA (HB) Method F142

1. Where epoxy bond coat and grout are indicated, install in accordance with TCNA (HB) Method F143.

3.5 INSTALLATION - FLOORS - MORTAR BED METHODS

- A. Over wood substrates, install in accordance with TCNA (HB)
- B. Cleavage Membrane: Lap edges and ends.
- C. Mortar Bed Thickness: 5/8 inch, unless otherwise indicated.

3.6 INSTALLATION - WALL TILE

- A. Over gypsum wallboard on wood or metal studs install in accordance with TCNA (HB) Method W243, thin-set with dry-set or latex-Portland cement bond coat, unless otherwise indicated.

3.7 CLEANING

- A. Clean tile and grout surfaces.

3.8 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

3.9 SCHEDULE

- A. Refer to drawings

SECTION 09.6500
RESILIENT FLOORING

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide data on specified products, underlayment, and accessories describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- B. Verification Samples: Submit two samples, illustrating color and pattern for each resilient flooring product specified.
- C. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.2 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Store all materials off of the floor in an acclimatized, weather-tight space.
- C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- D. Protect roll materials from damage by storing on end.
- E. Do not double stack pallets.

PART 2 PRODUCTS

2.1 RESILIENT FLOORING

- A. PVC-Free Resilient Plank Flooring: Mineral and thermoplastic polymer construction; ionomer-impregnated wear surface.
 - 1. Plank Tile Size: 10 by 59 inch.
 - 2. Thickness: 0.098 inch nominal.
 - 3. Installation: Direct Glue
 - 4. Warranty: 15 year commercial limited warranty

5. Pattern: As indicated on drawings
6. Color: As indicated on drawings.

2.2 ACCESSORIES

- A. Transition strips for use between flooring of dissimilar thicknesses unless otherwise indicated.
 1. Basis of Design: Schluter systems; stainless steel; accessibility code compliant
- B. Underlayment: APA underlayment grade panels designed for installation under bio-based flooring.
 1. Follow the underlayment manufacturer's installation instructions.
 2. Particleboard, chipboard, flakeboard, OSB, hardboard, treated ply-wood, or similar are not recommended sub floor materials and require the additional layer of an APA 1/4" underlayment grade panel

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- C. Wood subfloors must be structurally sound and conform to guidelines of ASTM F 1482 and in compliance with local building codes
- D. Verify that required floor-mounted utilities are in correct location.

3.2 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
 1. Substrate flatness must conform to the following tolerances:
 - a. Maximum deviation of 1/8 inch over 6 feet
 - b. Maximum deviation of 3/16 inch over 10 feet
 2. All substrates must be structurally sound, clean, dry, and flat prior to installation. Surfaces must be free of contaminants including, but not limited to: dust, dirt, oil, grease, paint, curing compounds, concrete sealers, adhesive residues, loosely bonded toppings, and any other materials or conditions that may inhibit proper adhesion.
- B. Clean substrate.

3.3 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions.
- C. Adhesive-Applied Installation:
 - 1. Plank or tiles must be installed joint-tight and tension-free.
 - 2. To properly cut the flooring, score the top side of the material with a utility knife. Bend the product and finish the cut through the backside. This will ensure the cleanest cut.
 - 3. Roll each plank or tile at the time of placement into the adhesive with a hand roller.
 - 4. Roll the plank or tile with a 3 section 100 lb. roller. Re-roll the entire glued flooring area with the 100 lb. roller within the working time of the adhesive. Continue to roll the floor throughout the working day to ensure a proper bond.
 - 5. Traffic: Wait 24 hours before allowing heavy traffic or rolling loads.
- D. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.4 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.
- B. Make sure cut edges are always against the wall.
- C. Install plank tile with a random offset of at least 6 inches from adjacent rows.

3.5 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.

3.6 PROTECTION

- A. Prohibit traffic on resilient flooring for 48 hours after installation.

3.7 SCHEDULE

- A. Refer to drawings

SECTION 09.9000

INTERIOR, EXTERIOR PAINTS AND COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Interior paint and coating commercial systems including surface preparation.
- B. Exterior paint and coating systems including surface preparation.

1.2 REFERENCES

- A. Steel Structures Painting Council (SSPC):
 - 1. SSPC-SP 1 - Solvent Cleaning.
 - 2. SSPC-SP 2 - Hand Tool Cleaning.
 - 3. SSPC-SP 3 - Power Tool Cleaning.
- B. Material Safety Data Sheets / Environmental Data Sheets: Per manufacturer's MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.

1.3 SUBMITTALS

- A. Product Data: For each paint system indicated, including.
 - 1. Product characteristics.
 - 2. Surface preparation instructions and recommendations.
 - 3. Primer requirements and finish specification.
 - 4. Storage and handling requirements and recommendations.
 - 5. Application methods.
 - 6. Cautions for storage, handling and installation.
- B. Verification Samples: For each finished product specified, submit samples that represent the actual product, color, and sheen.
- C. Coating Maintenance Manual: Upon conclusion of project, the Contractor or paint manufacturer/supplier will furnish a coating maintenance manual, such as Sherwin-Williams, "Custodian Project Color and Product Information" report or equal. Manual will include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.
- D. Only submit complying products based on project requirements (i.e. LEED). One must also comply with the regulations regarding VOCs (CARB, OTC, SCAQMD, LADCO). To ensure

compliance with district regulations and other rules, businesses that perform coating activities should contact the local district in each area where the coating will be used.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Paint exposed surfaces. If a color of finish, or a surface is not specifically mentioned, Architect will select from standard products, colors, and sheens available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels unless indicated.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish surfaces for verification of products, colors, and sheens.
 - 2. Finish area designated by Architect.
 - 3. Provide samples that designate primer and finish coats.
 - 4. Compatibility and Adhesion: Check after one week of drying and curing by testing in accordance with ASTM D3359; Adhesion by tape test. If the coating system is incompatible, additional surface preparation up to and including complete removal may be required.
 - 5. Do not proceed with remaining work until the Architect approves the mock-up.
 - 6. Approved mock-up may remain as part of Work.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging will bear the manufacturer's name, label, and the following list of information.
 - 1. Product name, and type (description).
 - 2. Application and use instructions.
 - 3. Surface preparation.
 - 4. VOC content.
 - 5. Environmental handling.
 - 6. Batch date.
 - 7. Color number.
- B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
- D. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.7 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and, in the quantities, described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Sherwin-Williams: Local Office: 711 First Ave. King of Prussia, PA 19406
 - a. Local Rep: Rica Suhanec, Phone: 215-806-3579, Email: Rica.Suhanec@sherwin.com
 - 2. Benjamin Moore:
 - a. Local Rep: Linda Cipriano, Phone: 267-406-3494, Email: Linda.Cipriano@benjaminmoore.com

2.2 APPLICATIONS/SCOPE

- A. Interior Paint and Coating Commercial Systems:
 - 1. Wood: Walls, ceilings, doors, trim and similar items.
 - 2. Drywall: Drywall board, Gypsum board/Gypsum plaster.
- B. Exterior Paint and Coating Systems:
 - 1. Metal: Miscellaneous iron, ornamental iron, ferrous metal.
 - 2. Wood or Composite: Siding, trim, shutters, sash, and miscellaneous hardboard.

2.3 PAINT MATERIALS - GENERAL

- A. Paints and Coatings:
 - 1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 - 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.

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- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use a primer categorized as "best" by the manufacturer.
 - C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.
 - D. Color: Refer to Finish Schedule for paint colors, and as selected.

2.4 INTERIOR PAINT AND COATING COMMERCIAL SYSTEMS

- A. Interior Wood: Trim
 - 1. Alkyd Systems; Waterbased:
 - a. Semi-Gloss Finish:
 - 1) 1st Coat: S-W [ProMar 200 Zero VOC Interior Latex Primer](#), B28W2600 (4 mils. wet, 1.5 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss T546; VOC 0 g/l
 - 2) 2nd Coat: S-W [Pro Industrial Waterbased Alkyd Urethane Enamel](#) Semi-Gloss, B53-1150 Series or Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss T546; VOC 0 g/l
 - 3) 3rd Coat: S-W Pro Industrial Waterbased Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series (4.0-5.0 mils. wet, 1.4 - 1.7 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss T546; VOC 0 g/l
 - b. Low Sheen Finish: Wood Cabinets
 - 1) 1st Coat: S-W [Premium Wood and Wall Primer](#), B28W8111 (4 mils. wet, 1.8 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Primer N534
 - 2) 2nd Coat: S-W Pro Industrial Waterbased Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series or Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss T546; VOC 0 g/l.
 - 3) 3rd Coat: S-W Pro Industrial Waterbased Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series (4.0-5.0 mils. wet, 1.4 - 1.7 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Semi-Gloss T546; VOC 0 g/l.
 - 2. Latex Systems: Low Traffic and Dry Areas
 - a. Eg-Shel / Satin Finish:
 - 1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils. wet, 1.5 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Primer N534; VOC 0 g/l
 - 2) 2nd Coat: S-W [ProMar 200 Zero VOC Latex](#) Eg-Shel, B20-2600 Series or Benjamin Moore Ultra Spec 500 Interior Latex Eggshell T538; VOC 0 g/l.
 - 3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils. wet, 1.7 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Eggshell T538; VOC 0 g/l.
 - b. Flat Finish: Ceilings

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- 1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils. wet, 1.5 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Primer N534; VOC 0 g/l.
 - 2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-12600 Series or Benjamin Moore Ultra Spec 500 Interior Latex Flat T535; VOC 0 g/l.
 - 3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-12600 Series (4 mils. wet, 1.6 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Flat T535; VOC 0 g/l.
3. Epoxy Systems; Waterbased: High Traffic and Wet Areas
 - a. Eg-Shel/Low Luster Finish:
 - 1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils. wet, 1.5 mils. dry per coat) or Benjamin Moore Ultra Spec 500 Interior Latex Primer N534; VOC 0 g/l.
 - 2) 2nd Coat: S-W Pro Industrial Pre-Catalyzed Waterbased Epoxy, K45-Series or Benjamin Moore HP Pre-Catalyzed Waterborne Epoxy Eggshell HP3420; VOC 91 g/l.
 - 3) 3rd Coat: S-W Pro Industrial Pre-Catalyzed Waterbased Epoxy, K45- Series (4 mils. wet, 1.5 mils. dry per coat) or Benjamin Moore HP Pre-Catalyzed Waterborne Epoxy Eggshell HP3420; VOC 91 g/l.

2.5 EXTERIOR PAINT AND COATING SYSTEMS

- A. Metal: Exterior Steel Doors
 1. Enamel Systems; Waterbased:
 - a. Semi-Gloss Finish:
 - 1) 1st Coat: S-W [Pro Industrial Pro-Cryl Universal Primer](#), B66-1310 Series (5.0 mils. wet, 2.0 mils. dry per coat) or Benjamin Moore HP Acrylic Metal Primer HP1100.
 - 2) 2nd Coat: S-W Pro Industrial Waterbased Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series or Benjamin Moore HP DTM Acrylic Enamel Semi-Gloss HP3310.
 - 3) 3rd Coat: S-W Pro Industrial Waterbased Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series (4.0-5.0 mils. wet, 1.4 - 1.7 mils. dry per coat) or Benjamin Moore HP DTM Acrylic Enamel Semi-Gloss HP3310.
- B. Wood and Composite: Siding, Trim, Shutters, Sashes, and Hardboard-Bare/Primed.
 1. Latex Systems:
 - a. Gloss Finish: Trim & Decorative Elements
 - 1) 1st Coat: S-W [Exterior Latex Wood Primer](#), B42W8041 (4.0 mils. wet, 1.4 mils. dry per coat) or Benjamin Moore Fresh Start High Hiding All Purpose Primer 046.
 - 2) 2nd Coat: S-W [A-100 Exterior Latex](#) Gloss, A8 Series or 2 coats Benjamin Moore Ultra Spec EXT Soft Gloss W449.
 - 3) 3rd Coat: S-W A-100 Exterior Latex Gloss, A8 Series (4.0 mils. wet, 1.3 mils. dry per coat) or 2 coats Benjamin Moore Ultra Spec EXT Soft Gloss W449.

b. Low Sheen/satin Finish: Siding

- 1) 1st Coat: S-W Exterior Latex Wood Primer, B42W8041 (4 mils. wet, 1.4 mils. dry per coat) or Benjamin Moore Fresh Start High Hiding All Purpose Primer 046.
- 2) 2nd Coat: S-W A-100 Exterior Latex Low-sheen or Benjamin Moore Ultra Spec EXT Satin W448.
- 3) 3rd Coat: S-W A-100 Exterior Latex Low-sheen (4.0 mils. wet, 1.2 mils. dry per coat) or Benjamin Moore Ultra Spec EXT Satin W448.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until the substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION

- A. General: Surfaces will be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint, or other contamination to ensure good adhesion.
 1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
 2. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply solution and scrub the mildewed area. Allow solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
 3. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
 4. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface, and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.

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- B. Aluminum: Remove all oil, grease, dirt, oxide, and other foreign material by cleaning per SSPC-SP 1, Solvent Cleaning.
- C. Exterior Composition Board (Hardboard): Some composition boards may exude a waxy material that must be removed with a solvent prior to coating. Whether factory primed or unprimed, exterior composition board siding (hardboard) must be cleaned thoroughly and primed with an alkyd primer.
- D. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth, and all dust removed prior to painting.
- E. Galvanized Metal: Clean per SSPC-SP 1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply to a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP 16 is necessary to remove these treatments.
- F. Plaster: Must be allowed to dry thoroughly for at least 30 days before painting unless the products are designed to be used in high pH environments. Room must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.
- G. Steel: Structural, Plate, And Similar Items: Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which they can be specified follow.
1. Solvent Cleaning, SSPC-SP 1: Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
 2. Hand Tool Cleaning, SSPC-SP 2: Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Beforehand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP 1.
 3. Power Tool Cleaning, SSPC-SP 3: Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP 1.
- H. Wood: Must be clean and dry. Prime and paint as soon as possible. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

3.3 INSTALLATION

- A. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.
- B. Do not apply it to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.
- C. Apply coatings using methods recommended by manufacturer.
- D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.
- F. Regardless of the number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.
- G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

3.4 PROTECTION

- A. Protect finished coatings from damage until completion of project.
- B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

SECTION 10.1423
PANEL SIGNAGE

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Manufacturer's product literature for each type of panel sign, indicating styles, font, foreground and background colors, locations, and overall dimensions of each sign.
- B. Selection Samples: Where colors, materials, and finishes are not specified, submit two sets of color selection charts or chips.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.

1.3 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain minimum ambient temperature during and after installation.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Accessibility Requirements: Comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most restrictive requirements.

2.2 PANEL SIGNAGE

- A. Panel Signage:
 - 1. Application: All project signs as scheduled
 - 2. Description: Flat signs with applied character panel media, tactile characters.
 - 3. Sign Size: As indicated on drawings.
 - 4. Color and Font, unless otherwise indicated:
 - a. Character Font: Helvetica, Arial, or other sans serif font.
 - b. Character Case: Upper case only.
 - c. Background Color: As selected by Architect/Owner from manufacturers full range.
 - d. Character Color: Contrasting color.

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5. Material: Photopolymer face sheet with raised graphics laminated over subsurface graphics to acrylic backing sheet to produce composite sheet.
 6. Profile: Flat panel without frame.
 7. Tactile Letters: Raised 1/32 inch minimum.
 8. Braille: Grade II, ADA-compliant.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined, and complying with the following:
 1. Use concealed fasteners and anchors unless indicated to be exposed.
- B. Adhesive: As recommended by sign manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Notify Architect if conditions are not suitable for installation of signs; do not proceed until conditions are satisfactory.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install with horizontal edges level.
- C. Locate panel signs and mount at heights indicated on drawings and in accordance with ADA Standards and ICC A117.1.
- D. Protect from damage until substantial completion; repair or replace damaged items.
- E. Remove temporary protective coverings and strippable films as signs are installed.

3.3 MOUNTING METHODS

- A. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.
- B. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support

weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

SECTION 10.2800
TOILET ACCESSORIES

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

- A. Section 061000: Concealed supports for accessories, including in wall blocking.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with the placement of internal wall reinforcement to receive anchor attachments.

1.3 SUBMITTALS

- A. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- B. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.
- C. Sample Warranties
- D. Maintenance Data

1.4 WARRANTY

- A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Design accessories and fasteners to comply with the following requirements:
 - 1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.
- B. Single Source Requirements: To the greatest extent possible, provide products from a single manufacturer

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- C. Tamper Resistant Requirements: To the greatest extent possible, provide products that are tamper/ vandal resistance

2.2 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
- B. Keys: Provide 4 keys for each accessory to Owner; master key lockable accessories.
- C. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
- D. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

2.3 COMMERCIAL TOILET ACCESSORIES

- A. Soap Dispenser: Liquid soap dispenser, wall-mounted, surface
 - 1. Products: Gojo FMX-20; no substitutions
- B. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
 - 1. Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
 - 2. Size: 24 inches by 36 inches.
 - 3. Frame: 0.05 inch angle shapes, with mitered and welded and ground corners, and tamperproof hanging system; satin finish.
 - 4. Backing: Manufacturer's standard shock-absorbing and water-resistant padding
- C. Grab Bars: Stainless steel, smooth surface.
 - 1. Standard Duty Grab Bars:
 - a. Push/Pull Point Load: 250 pound-force, minimum.
 - b. Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, concealed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar. 2" diameter flange covers.
 - c. Finish: Satin.
 - d. Length and Configuration: As indicated on drawings.
 - e. Products: Subject to compliance with requirements.
 - 1) Bobrick B9806 Series or approved equal

2.4 COMMERCIAL SHOWER AND BATH ACCESSORIES

- A. Robe/Coat Hook: Heavy-duty stainless steel, single-prong bracket and backplate for concealed attachment, satin finish.

2.5 UNDER-LAVATORY PIPE AND SUPPLY COVERS

- A. Under-Lavatory Pipe and Supply Covers:
 - 1. Insulate exposed drainage piping, including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
 - 2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
 - 3. Construction: 1/8 inch flexible PVC.
 - a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 - b. Comply with ASTM C1822, type indicated.
 - c. Comply with ASME A112.18.9.
 - d. Comply with ICC A117.1.
 - e. Microbial and Fungal Resistance: Comply with ASTM G21.
 - 4. Color: White.

2.6 DIAPER CHANGING STATIONS

- A. Diaper Changing Station: Wall-mounted folding diaper changing station for use in commercial toilet facilities, meeting or exceeding ASTM F2285.
 - 1. Material: Polypropylene.
 - a. Include antimicrobial product protection
 - 2. Mounting: Surface.
 - a. Vertical Unit
 - b. Protrusion Limit: Installed unit protrudes maximum 4 inches from wall surface
 - 3. Color: As selected.
 - 4. Minimum Rated Load: .

2.7 UTILITY ROOM ACCESSORIES

- A. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
 - 1. Mop/broom holders: Three spring-loaded rubber cam holders at shelf front.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as instructed by the manufacturer and as required by accessibility code.
- D. See Section 061000 for installation of blocking in walls.

3.2 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings and in compliance with all applicable accessibility codes.
- B. Install accessories scheduled to be supplied by Owner.
- C. Install plumb and level, securely and rigidly anchored to substrate.
- D. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

3.4 PROTECTION

- A. Protect installed accessories from damage due to subsequent construction operations.

3.5 SCHEDULE

- A. Refer to drawings for basis of design and Owner supplied/Gc installed products.

SECTION 10.4400
FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Provide extinguisher operational features and extinguisher ratings and classifications.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.2 FIELD CONDITIONS

- A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Fire Extinguishers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include,
 - 1. Activar Construction Products Group, Inc. - JL Industries: www.activarcpg.com/#sle.
 - 2. Potter-Roemer: www.potterroemer.com/#sle.
 - 3. Larsens Manufacturing Company.
 - 4. Substitutions: See Section 01.6000 - Product Requirements.
- B. Fire Extinguisher Cabinets and Accessories:
 - 1. Activar Construction Products Group, Inc. - JL Industries: www.activarcpg.com/#sle.
 - 2. Larsen's Manufacturing Co: www.larsensmfg.com/#sle.
 - 3. Substitutions: See Section 01.6000 - Product Requirements.

2.2 FIRE EXTINGUISHERS

- A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
 - 1. Provide extinguishers labeled by UL (DIR) or FM (AG) for purpose specified and as indicated.

- B. Multipurpose Dry Chemical Type Fire Extinguishers: Manufacturer's standard tank, with pressure gauge.
 - 1. Class: A:B:C type.
 - 2. UL Rating: 3A-40
 - 3. Size: 5 pound.
 - 4. Finish: manufacturer's standard enameled container.
 - 5. Temperature range: Minus 40 degrees F to 120 degrees F.

2.3 ACCESSORIES

- A. Extinguisher Brackets: Formed steel, chrome-plated.
 - 1. Surface Mounted Bracket: Bracket fully exposed and mounted directly on wall with no trim, designed to secure fire extinguisher to wall, of sizes required for types and capacities of fire extinguishers indicated
- B. Lettering: "FIRE EXTINGUISHER" decal, or vinyl self-adhering, prespaced red lettering in accordance with authorities having jurisdiction (AHJ).
 - 1. Location: Applied to cabinet
 - 2. Application Process: Pressure-sensitive vinyl letters
 - 3. Orientation: Vertical

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install in location as instructed by Owner/architect in accordance with code and authorities having jurisdiction.
- C. Secure rigidly in place.
- D. Place extinguishers on wall brackets.

SECTION 12.3600
COUNTERTOPS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Countertops for architectural cabinet work.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Specimen warranty.
- B. Verification Samples: For each finish product specified, minimum size 6 inches square, representing actual product, color, and patterns.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.5 FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 COUNTERTOPS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
 - 1. Flat Sheet Thickness: 1/2 inch, minimum.
 - 2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
 - a. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
 - b. Color and Pattern: As selected by Architect from manufacturer's full line.
 - 3. Other Components Thickness: 1/2 inch, minimum.
 - 4. Exposed Edge Treatment: Built up to minimum 1-1/4 inch thick; eased edge.

2.2 MATERIALS

- A. Plywood for Supporting Substrate: PS 1 Exterior Grade, A-C veneer grade, minimum 5-ply; minimum 3/4 inch thick; join lengths using metal splines.
- B. Particleboard for Supporting Substrate: ANSI A208.1 Grade 2-M-2, 45 pcf minimum density; minimum 3/4 inch thick; join lengths using metal splines.
- C. Medium Density Fiberboard for Supporting Substrate: ANSI A208.2.
- D. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
- E. Joint Sealant: Mildew-resistant silicone sealant, color selected by Architect from manufacturer's full range.

2.3 FABRICATION

- A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
 - 1. Join lengths of tops using best method recommended by manufacturer.
 - 2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
 - 3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
- B. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts
- C. Seal joint between back/end splashes and vertical surfaces.

3.4 TOLERANCES

- A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.
- B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.
- C. Field Joints: 1/16 inch wide, maximum.

3.5 CLEANING

- A. Clean countertops surfaces thoroughly.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

SECTION 32.3313
SITE BICYCLE RACKS

PART 1 GENERAL

1.1 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

PART 2 PRODUCTS

2.1 BICYCLE RACKS

- A. Exterior Bicycle Racks: Device allows user-provided lock to simultaneously secure one wheel and part of the frame on each bicycle parked or racked.
 - 1. Style: Serpentine rack formed from a continuous round pipe.
 - 2. Capacity: Seven bicycles.
 - 3. Mounting, Ground: In-ground anchor.
 - 4. Finish: Powder coat, maintenance-free and weather-resistant.
 - 5. Accessories: In-ground grout cover.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive bicycle racks.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory conditions before proceeding.
- C. Do not begin installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install level, plumb, square, and correctly located as indicated on drawings.
- C. In-Ground Anchor Installation:
 - 1. Prepare holes in size according to manufacturer's instructions.

2. Place anchoring bolts through the holes in pipe.
3. Lower rack into holes, ensuring the bottom of lower bends are at least 1-1/2 inch from the ground.
4. Place concrete.
5. Level rack before concrete sets.
6. Support until dry.

3.3 CLEANING

- A. Clean installed work to like-new condition. Do not use cleaning materials or methods that could damage finish.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.