

SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS AT THE DELAWARE COUNTY GOVERNMENT CENTER BUILDINGS

LOCATED IN
MEDIA, PENNSYLVANIA
FOR
THE COUNTY OF DELAWARE
CONSTRUCTION CONTRACT NO. ePW-121422-2



DRAWING LIST

CS-1 COVER SHEET

ARCHITECTURAL DRAWINGS

A-100 CH ARCH. DEMO & NEW WORK COURTHOUSE BASEMENT FLOOR
A-101 PG ARCH. DEMO & NEW WORK PARKING GARAGE - LEVEL A & B

LANDSCAPE DRAWINGS

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FP-202 PG FIRE PROTECTION NEW WORK PLAN PARKING GARAGE - LEVEL B
FP-203 PG FIRE PROTECTION NEW WORK PLAN PARKING GARAGE - LEVEL C
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FP-205 CH FIRE PROTECTION NEW WORK PLAN COURTHOUSE - BASEMENT
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FP-207 CH FIRE PROTECTION NEW FIRE PUMP HOUSE - COURTHOUSE
FP-300 FIRE PROTECTION DETAILS
FP-400 FIRE PROTECTION SCHEDULES

PLUMBING DRAWINGS

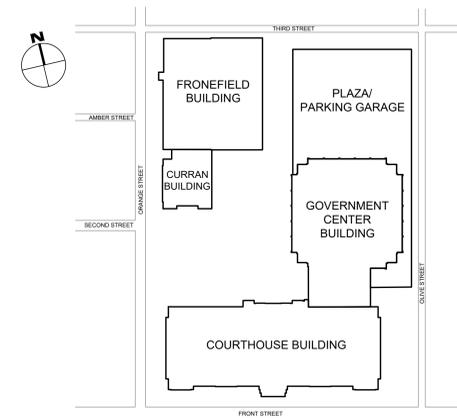
P-100 PLUMBING REMOVALS, NEW WORK, AND SCHEDULES
P-101 PLUMBING REMOVALS, NEW WORK, LEGEND, AND ABBREVIATIONS

HVAC DRAWINGS

H-100 HVAC REMOVALS AND NEW WORK
H-101 HVAC REMOVALS, SCHEDULES, LEGEND, AND ABBREVIATIONS

ELECTRICAL DRAWINGS

E-001 ELECTRICAL LEGEND, NOTES, DETAILS AND SCHEDULES
E-200 PG ELECTRICAL REMOVAL AND NEW WORK PLAN PARKING GARAGE - SINGLE LINE DIAGRAM, ELECTRICAL ROOM, FIRE PUMP ROOM, AND MECH. ROOM
E-201 PG ELECTRICAL NEW WORK PLAN PARKING GARAGE - LEVEL A
E-202 PG ELECTRICAL NEW WORK PLAN PARKING GARAGE - LEVEL B
E-203 PG ELECTRICAL NEW WORK PLAN PARKING GARAGE - LEVEL C
E-204 PG ELECTRICAL NEW WORK PLAN PARKING GARAGE - LEVEL D
E-205 CH ELECTRICAL REMOVAL AND NEW WORK PLAN COURTHOUSE - BASEMENT
E-206 CH ELECTRICAL NEW COURTHOUSE FIRE PUMP HOUSE AND EMERGENCY GENERATOR PLAN AND SINGLE LINE DIAGRAM



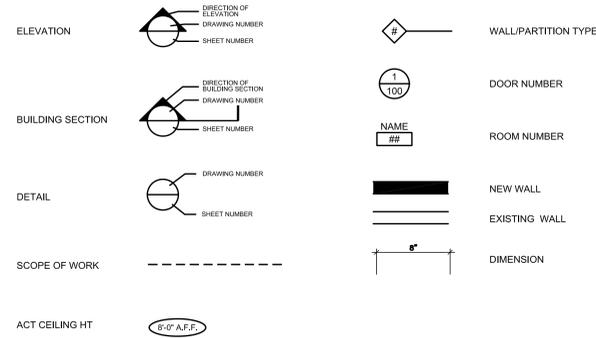
LOCATION MAP

09/23/2022
FOR COUNTY REVIEW
NOT FOR CONSTRUCTION

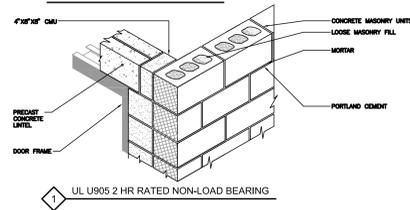
REV	DATE	DESCRIPTION	APP

SEAL	<p style="text-align: center;">SHEET TITLE COVER SHEET</p> <p style="text-align: center;">PROJECT DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS</p>						
SEAL	 Gillan & Hartmann, Inc. <small>MECHANICAL AND ELECTRICAL ENGINEERS VALLEY FORGE, PA. 19481 610-655-0101 FAX: 610-655-7500 215-238-0510 609-347-1593 902-654-0909 www.gillan-hartmann.com</small>						
DRAWN BY	DTS	DATE	10/28/2022	JOB NO.	2020-183	SHEET	CS-1
CHECKED BY	RAS	SCALE	NONE	DATE	2020-183	COMB. NO.	

REFERENCE SYMBOLS:

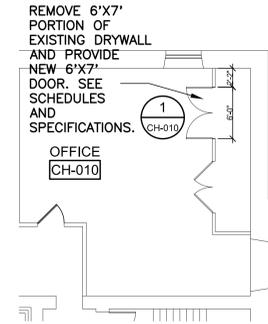


PARTITION TYPES:



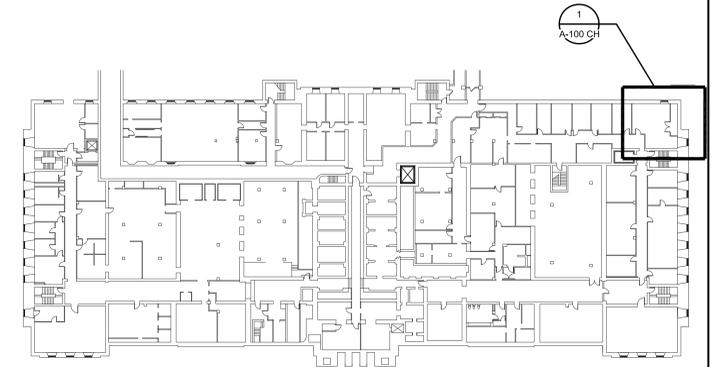
NEW WORK GENERAL NOTES:

- GENERAL NOTES APPLY TO ALL A-SERIES ARCHITECTURAL DRAWINGS.
- DO NOT SCALE DRAWINGS.
- SCHEDULE ALL TEMPORARY SHUTDOWNS OF EQUIPMENT OR SYSTEMS WITH THE OCCUPANT PRIOR TO WORK.
- FIELD VERIFY ALL DIMENSIONS, SIZES, CLEARANCES AND LOCATIONS PRIOR TO THE START OF CONSTRUCTION. WHEN CONFLICTS ARISE, MAKE ANY NECESSARY CHANGES AT NO ADDITIONAL COST TO THE OWNER.
- FIELD VERIFY EXISTING CONDITIONS AND LOCATIONS PRIOR TO WORK. IMMEDIATELY REPORT ANY DISCREPANCIES OR CONDITIONS NOT SHOWN ON THE DRAWINGS TO THE DESIGN PROFESSIONAL AND THE OWNER.
- COORDINATE ALL WORK WITH ALL CONTRACT DOCUMENTS.
- DETAILS SHOWN ARE INTENDED FOR SPECIFIC LOCATIONS AND CONDITIONS. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT SIMILAR CONDITIONS AND SHALL BE CONSIDERED PART OF THE WORK.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS AS BEING NIC, ALL ITEMS, MATERIALS, ETC. AND INSTALLATION OF SAME ARE A PART OF THE CONTRACT WORK.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS APPLICABLE TO CONSTRUCTION. THE CONTRACTOR WILL SECURE ALL NECESSARY PERMITS AND PAY ALL REQUIRED FEES.
- INSTALL ALL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, CONTRACT DOCUMENTS AND ALL APPLICABLE CODES, REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERATE SYSTEMS AS SHOWN ON THESE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
- PROVIDE ALL FASTENERS AND/OR SUPPORTS TO FACILITATE INSTALLATION OF ALL EQUIPMENT.
- DOOR AND WINDOW NOTES:
 - PROVIDE 1/4" SHIM AND CAULK SPACE AT INTERIOR OPENINGS.
 - FIELD VERIFY ALL OPENING DIMENSIONS PRIOR TO FABRICATION.
 - GROUT ALL HOLLOW METAL JAMBS SOLID WHEN LOCATED IN CMU WALLS.
 - DIMENSIONS OF ALL OPENINGS SHALL BE VERIFIED PRIOR TO FABRICATION.



**DELAWARE COUNTY COURTHOUSE
 BASEMENT PLAN - NEW WORK**

1
 A-100 CH SCALE: 1/8" = 1'-0"



KEY PLAN:
 NOT TO SCALE

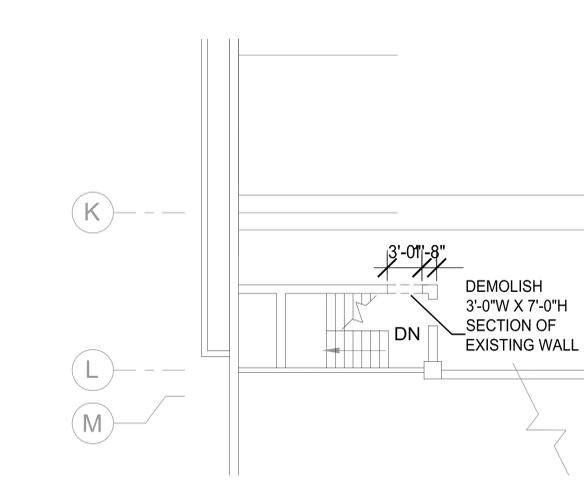


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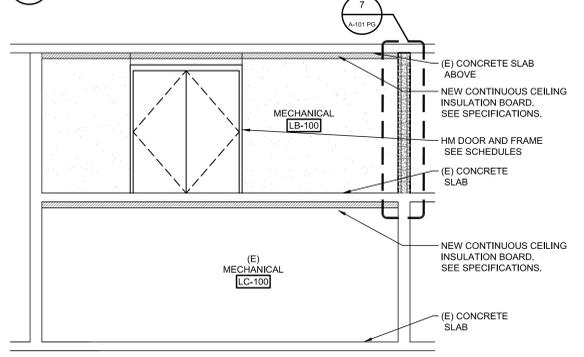
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SEAL	SHEET TITLE	ARCHITECTURAL DEMOLITION AND NEW WORK COURTHOUSE - BASEMENT FLOOR	
SEAL	PROJECT	DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS	
 Gillan & Hartmann, Inc. MECHANICAL AND ELECTRICAL ENGINEERS VALLEY FORGE, PA. 19481 610-655-6101 FAX: 610-655-7500 <small>www.gillan-hartmann.com</small>		DRAWN BY: TGI DATE: 10/28/2022 JOB NO.: 2020-183 SHEET: A-100 CH CHECKED BY: MSG SCALE: AS NOTED CORR. NO.:	

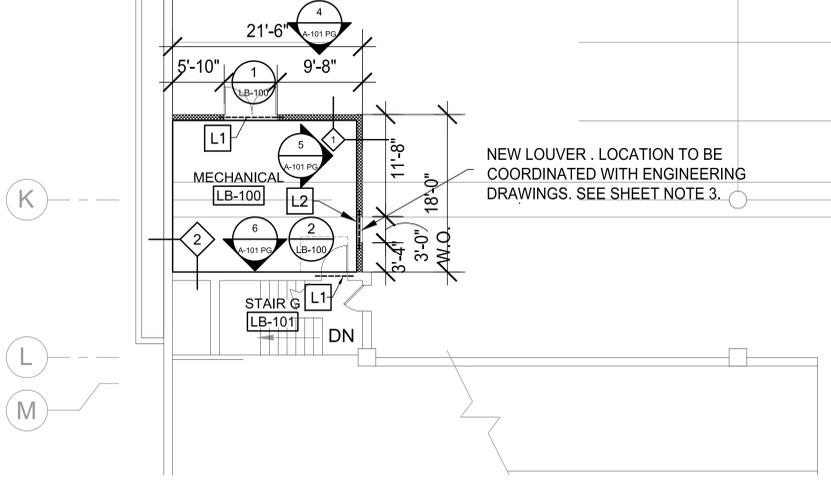




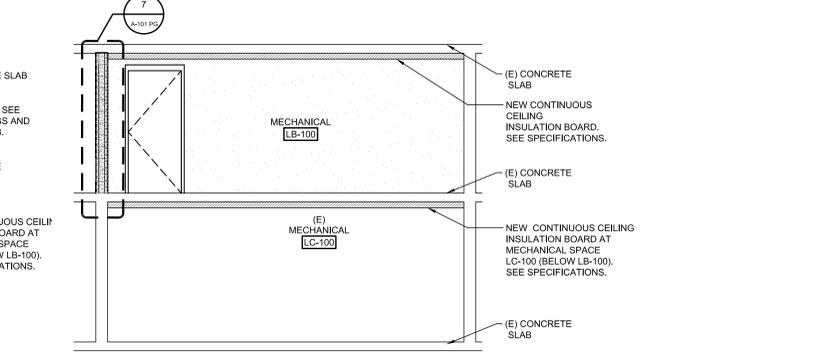
1 DELAWARE COUNTY PARKING GARAGE LEVEL B - DEMOLITION
A-101 PG SCALE: 1/8" = 1'-0"



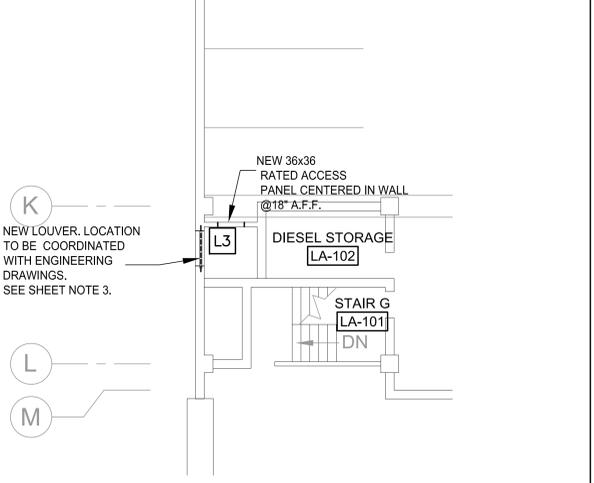
4 DELAWARE COUNTY PARKING GARAGE LEVEL B - ELEVATION
A-101 PG SCALE: 1/4" = 1'-0"



2 DELAWARE COUNTY PARKING GARAGE LEVEL B - NEW WORK
A-101 PG SCALE: 1/8" = 1'-0"



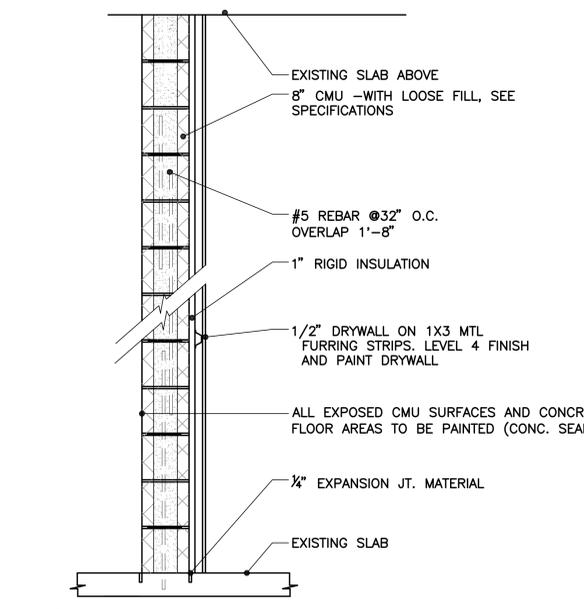
6 DELAWARE COUNTY PARKING GARAGE LEVEL B - ELEVATION
A-101 PG SCALE: 1/8" = 1'-0"



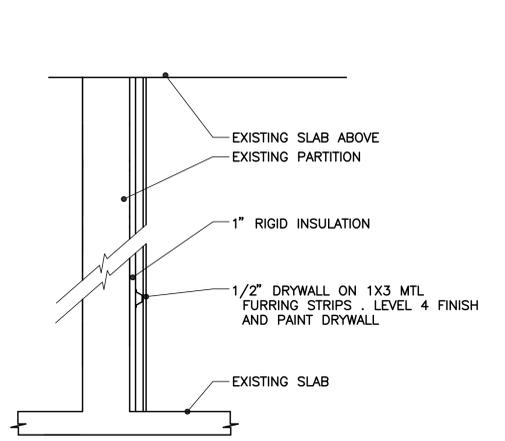
3 DELAWARE COUNTY PARKING GARAGE LEVEL A - NEW WORK
A-101 PG SCALE: 1/8" = 1'-0"



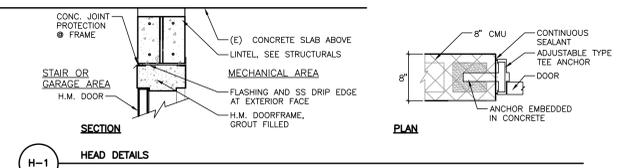
7 DELAWARE COUNTY PARKING GARAGE LEVEL B - WALL DETAIL
A-101 PG SCALE: 1/4" = 1'-0"



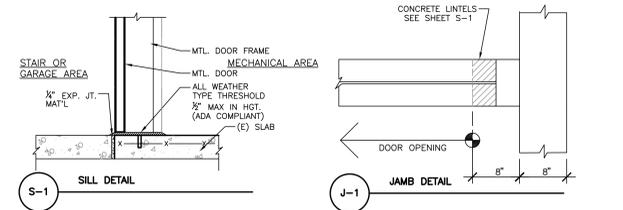
1 PARTITION TYPE 1
SEE SHEET A-100 CH FOR 2 HR RATED CONSTRUCTION UL905



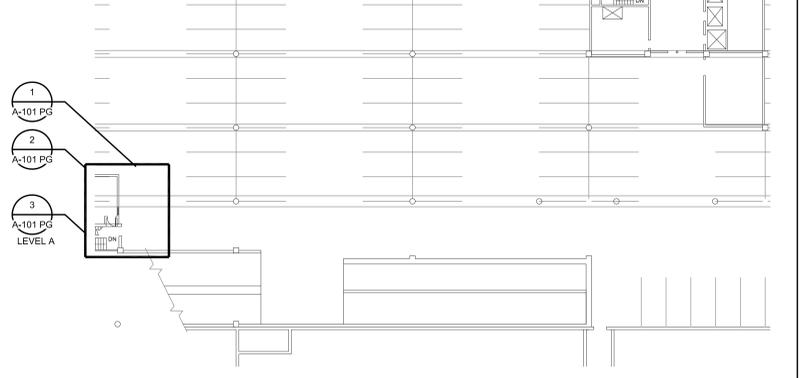
2 PARTITION TYPE 2



H-1 HEAD DETAILS

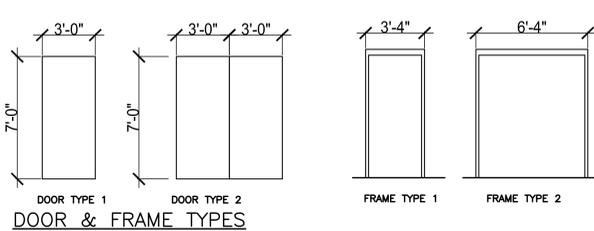


S-1 SILL DETAILS



KEY PLAN:
NOT TO SCALE

DOOR SCHEDULE											
DOOR NO.	ROOM NAME	DOOR SIZE			DOORS			FRAME			REMARKS
		WIDTH	HEIGHT	THK.	DOOR TYPE	MATL	FINISH	FRAME TYPE	MATL	FINISH	
1-LB 100	MECHANICAL	(2)3'-0"	7'-0"	1 1/2"	2	H.M.	PT	2	H.M.	PT	
2-LB 100	MECHANICAL	3'-0"	7'-0"	1 1/2"	1	H.M.	PT	1	H.M.	PT	
1-CH 010	OFFICE	(2)3'-0"	7'-0"	1 1/2"	2	H.M.	PT	2	H.M.	PT	



DOOR & FRAME TYPES

DOOR HARDWARE GROUPS	
#1	SARGENT AL SERIES STOREROOM LOCK

PRECAST CONCRETE LINTEL SCHEDULE							
DESIGNATION	QTY	CLEAR OP'G SPAN	WIDTH	HEIGHT	REINF.	WT/FT	Fc
L1	1	SEE STRUCTURAL					
L2	1	SEE STRUCTURAL					
L3	1	SEE STRUCTURAL					

- SHEET NOTES:**
- REFER TO DRAWING A-100 CH FOR LEGEND AND ABBREVIATIONS.
 - REFER TO DRAWING A-100 CH FOR NEW WORK NOTES.
 - LOUVER FURNISHED BY MECHANICAL CONTRACTOR FOR INSTALLATION BY GENERAL CONTRACTOR.

REV	DATE	DESCRIPTION	APP

GILLAN & HARTMANN, INC.
MECHANICAL AND ELECTRICAL ENGINEERS
VALLEY FORGE, PA. 19481
610-655-6101 FAX: 610-655-7500
www.gillan-hartmann.com

ARCHITECTURAL DEMOLITION AND NEW WORK PARKING GARAGE- LEVEL A AND LEVEL B

DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS

PROJECT: DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS

DATE: 10/28/2022

SCALE: AS NOTED

SHEET: 2020-183

APP: A-101 PG

TARA Inglesby DESIGN GROUP
140 Whitaker Ave., Suite 101 484-920-6309 www.inglesby-ae.com

FILE PATH: G:\Projects - TIDG\2021\2021-1801 Delaware County Courthouse\Drawings\A-100.CH AND A-101.PG.dwg
LAST SAVED: 2022.10.27 01:58 PM PLOTTED: 2022.10.28 10:27 AM PLOTTED BY: TGI

GENERAL STRUCTURAL NOTES

GENERAL STRUCTURAL NOTES:

- The structural drawings shall be used in conjunction with the drawings of all other disciplines and the specifications. The contractor shall verify the requirements of other trades as to sleeves, chases, hangers, inserts, anchors, holes and other items to be placed or set in the structural work.
- The contractor shall be responsible for complying with all safety precautions and regulations during the work. The engineer will not advise on nor issue direction as to safety precautions and programs.
- The structural drawings herein represent the finished structure. The investigation, design, safety, adequacy and inspection of erection bracing, shoring, temporary supports, etc. is the sole responsibility of the contractor.
- The engineer shall not be responsible for the methods, techniques and sequences of procedures to perform the work. The supervision of the work is the sole responsibility of the contractor.
- Drawings indicate general and typical details of construction. Where conditions are not specifically shown, similar details of construction shall be used, subject to approval by the engineer.
- Loading applied to the structure during the process of construction shall not exceed the safe load-carrying capacity of the structural members. The live loadings used in the design of this structure are indicated in the "Design Criteria Notes". Do not apply any construction loads until structural framing is properly connected together and until all temporary bracing is in place.
- All ASTM and other references are per the latest editions of these standards, unless otherwise noted.
- In accordance with Section 1704 of IBC 2018, special inspections will be required for this project. Special inspections shall be performed in accordance with the "Schedule of Special Inspections". All fabricators shall satisfy the "Exception" noted in section 1704.2.5.1, which requires the fabricator to maintain an agreement with an approved independent inspection or quality control agency. The contractor shall notify the special inspector at least 48 hours in advance for work that will require inspection or testing
- Unless otherwise indicated, all items noted to be demolished shall become the contractor's property and be removed from the site.
- Contractors shall visit the site prior to bid to ascertain conditions which may adversely affect the work or cost thereof.

11. Dimensions shown on the architectural, mechanical, electrical, and plumbing drawings shall govern over dimensions shown on the structural drawings. The contractor shall generate an RFI regarding discrepancies prior to construction.

SHOP DRAWINGS AND SUBMITTALS NOTES:

1. Shop drawings and other items shall be submitted to the engineer for review prior to fabrication. The engineer's review is to be for conformance with the design concept and general compliance with the relevant contract documents. The engineer's review does not relieve the contractor of the sole responsibility to review, check and coordinate the shop drawings prior to submission. The contractor remains solely responsible for errors and omissions associated with the preparation of shop drawings as they pertain to member sizes, details, dimensions, etc.

2. Submit shop drawings as per note #3 below. In no case shall reproduction of the contract drawings be used as shop drawings. As a minimum, submit the following items for review:
 A. Concrete mix design(s)
 B. Reinforcing steel shop drawings
 C. Structural/miscellaneous steel shop drawings

Other submittals may be required per the "Schedule of Special Inspections" or the separate notes contained herein.

3. Contractor shall submit electronic shop drawings. Any additional shop drawings submitted will not be reviewed or returned.

4. All notes or questions from the detailer to the engineer or architect shall be clouded, numbered and with the text "Arch/Engr. review." Any notes or questions from the detailer to the contractor shall be clouded, numbered and with the text "C.C. Review."

5. All shop drawings shall be reviewed by the contractor before submittal to the engineer or architect. Shop drawings will be rejected if the contractor has not reviewed the shop drawings prior to submittal to engineer or architect.

6. The contractor shall produce all shop drawings. Copying, scanning and/or reusing any portion of the structural drawings as part of the shop drawings submittal is not permitted. Submittals that include reproduced portions of the structural drawings will be rejected without review.

DESIGN CRITERIA NOTES:

- The intended design standards and/or criteria are as follows:
 General: Uniform statewide bldg. code (IBC 2018, Chapter 16 as amended)
 Concrete: ACI 318-14
 Masonry: TMS 402/602-16
 Structural Steel: ANSI/AISC 360-16 A.S.D. (15th Edition)
- Design gravity dead loads used in the design of this structure are as follows (refer to IBC 2018 section 1606):
 Existing concrete framing Actual weight
- Design gravity live loads used in the design of this structure are as follows (refer to IBC 2018 section 1607):
 Garage parking 40 PSF
 Stairs 100 PSF
- This structure has been designed with "safety factors" in accordance with generally accepted principles of structural engineering. The fundamental nature of the "safety factor" is to compensate for uncertainties in the design, fabrication and erection of structural building components. It is intended that "safety factors" be used so that the load carrying capacity of the structure does not fall below the design load and that the building will perform under design load without distress. While the use of "safety factors" implies some excess capacity beyond design load, such excess capacity cannot be adequately predicted and SHALL NOT BE RELIED UPON.

EXISTING CONSTRUCTION NOTES:

- Before proceeding with any work within the existing facility, the contractor shall familiarize himself with existing structural and other conditions. It shall be the contractor's responsibility to provide all necessary bracing, shoring and other safeguards to maintain all parts of the existing work in a safe condition during the process of demolition and construction and to protect from damage those portions of the existing work which are to remain.
 Recommendations to prevent these hazards include:
 A. Fire hazard – protect existing combustibles prior to welding. Keep a separate watchman and several fire extinguishers on hand.
 B. Structural liquefaction – weld in small increments. Allow welds to harden before continuing to the next increment.
 C. Do not leave the site until satisfied that no fire hazard exists.
- Existing reinforced concrete members including slabs, joists, beams, girders, columns, walls where new construction is connecting to shall be GPR scanned prior to any drilling to locate and mark locations of reinforcing steel. Reinforcing steel shall not be drilled, cut, or damaged. Refer to individual notes and details throughout drawing set for additional direction.
- Information used in preparing these drawings was taken from drawings prepared by the firm of The Gerner and White Associates, dated February 1975.

DEMOLITION NOTES:

- The contractor is to obtain and pay for all necessary permits for the demolition and removal work required.
- Demolition procedures, shoring requirements, sequences, techniques, etc. either given in or implied to by these drawings are suggestions only.
- Prior to undertaking any demolition work, the contractor shall ascertain, by survey, the existing conditions of the property and the extent of the demolition work involved.
- The contractor shall perform all demolition work in such a manner as to protect the existing structure and be responsible to properly repair any damage which may occur as a result of his demolition work. If the contractor damaged the existing structure to remain, he shall notify the owner and engineer immediately and all repair costs, including design and inspection expenses.
- The contractor shall cease demolition operations and notify the owner and engineer immediately if it appears that the integrity of the structure has been affected by the demolition work.
- The contractor shall not cut or alter any structural members to remain without written authorization by the engineer or as indicated on the structural drawings.
- All existing dimensions (distances, elevations, member sizes, etc.) shown on the drawings shall be verified in the field by the contractor.
- The contractor shall provide a temporary platform to catch debris from slab removal. Do not allow resulting debris to accumulate in the work area. All debris shall be disposed of in a legal manner with as little disturbance to adjacent spaces and occupants as possible.
- Cutting of existing concrete slabs and walls shall be performed in a neat professional manner. Drill corners and saw cut straight lines around the perimeter of the new opening. Refer to detail C/S-4 for additional information.

SUBGRADE PREPARATION NOTES:

- All site preparation at exterior concrete pads shall conform to the requirements of IBC 2018 Chapter 18.
- Within the area of excavation, excavate a minimum of 4" of existing soil. Remove all organics, pavement, roots, debris and otherwise unsuitable material.
- The surface of the exposed subgrade shall be inspected by probing or testing to check for pockets of soft or unsuitable material. Excavate unsuitable soil as directed by the geotechnical engineer/testing agency.
- Proofroll the surface of the exposed subgrade. Remove all soils which pump or do not compact properly as directed by the geotechnical engineer/testing agency.
- Fill all excavated areas with approved controlled fill. Place in 8 inch loose lifts and compact to a minimum of 95% of the maximum dry density in accordance with ASTM D-698.
- All controlled fill material shall be a select granular material free from all organics or otherwise deleterious material with not more than 20% by weight passing a No. 200 sieve (classified as SC, SM, SP or better in accordance with the unified soil classification system) and with a plasticity index not exceeding 6%.
- Provide field density tests for each lift of controlled fill.

CONCRETE NOTES:

- Concrete construction shall conform to the requirements of ACI 301, "Specification for Structural Concrete Buildings" and IBC 2018 Chapters 18 and 19. Hot weather concreting shall be in accordance with ACI 305. Cold weather concreting shall be in accordance with ACI 306.
- Concrete mixes shall be designed per ACI 301, using Portland cement conforming to ASTM C150 or C595, aggregate conforming to ASTM C33, and admixtures conforming to ASTM C494, C1017, C618, C989 and C260. Concrete shall be ready-mixed in accordance with ASTM C94.
- Concrete shall conform to the following compressive strength, slump and water/cement ratio requirements:

Min. f'c (28 days)	Slump*	W/C ratio
4000 psi	2" to 4"	.50

*At contractor's option, an approved admixture may be used to produce flowable concrete. Maximum slump shall not exceed 10 inches. The contractor shall submit test results of the proposed concrete mixes along with the manufacturer's technical data for approval prior to pouring concrete.
- All concrete to be permanently exposed to weather shall be air entrained to 5% (4-1%) with an admixture that conforms to ASTM C-260.
- All reinforcing steel shall conform to ASTM A-615, Grade 60. Reinforcing shall be detailed and installed per ACI 315 and CRSI Manual of Standard Practice.
- All reinforcing steel indicated as being continuous (cont) shall be lapped with a type 2 lap splice unless otherwise noted.
- All reinforcing steel shall be set and tied in place prior to pouring of concrete. Do not field bend bars partially embedded in hardened concrete unless specifically indicated or approved by the engineer.
- Unless otherwise noted, the following concrete cover shall be provided for reinforcement.
 A) Concrete cast against and permanently exposed to earth: 3"
 B) Concrete exposed to earth or weather:
 #6 through #18 bars: 2"
 #5 bar, W31 or D31 wire and smaller: 1-1/2"
- All edges of permanently exposed concrete surfaces shall be chamfered 3/4" unless otherwise noted.
- All concrete pads have been designed based upon an assumed soil bearing pressure of 2,000 psf. All foundations shall bear on undisturbed, firm natural soil or compacted fill. All excavations shall be evaluated by the geotechnical engineer/testing agency prior to pouring foundation concrete.
- All porous fill material shall be a clean granular material with 100% passing a 1-1/2" sieve and no more than 5% passing a no. 4 sieve. Porous fill shall be compacted to 95% max. dry density per ASTM D-698.
- The contractor shall provide the engineer with documentation that all materials conform to the quality standards specified in IBC 2018.
- In accordance with IBC 2018, special inspections are required for the concrete work. The owner will hire the special inspector to perform all required special inspections.
- Prior to commencing any foundation concrete work, coordinate work with any existing utilities.

MASONRY NOTES:

- Masonry construction shall conform to the requirements of the "Building Code Requirements and Specification for Masonry Structures (TMS 402/602-16)", published by The Masonry Society, Longmont, Colorado, and IBC 2018 Chapter 21.
- Hollow masonry units shall conform to ASTM C-90 and be made with lightweight or normalweight aggregate. The minimum prism compressive strength (f' m) shall be 1,500 psi at an age of 28 days, as determined by the unit strength method of ACI 530.1.
- Fill all bond beams and reinforced cells solidly with grout. Grout shall conform to ASTM C-476 and shall obtain a min. 28 day compressive strength of 2,500 psi.
- Reinforcing steel shall be in accordance with ASTM A-615, grade 60. Shop fabricate reinforcing bars which are shown to be hooked or bent. Provide a minimum lap of 48 x bar diameters at all splices, unless indicated otherwise.
- The use of masonry-cement mortar is strictly prohibited. Mortar shall conform to ASTM C-270, type S. All mortar shall meet the "Proportion Specification" of ASTM C-270 and be made with Portland cement/lime (non air-entrained).
- Unless otherwise indicated, all walls shall be laid in running bond. Bond corners and intersections of load-bearing walls.
- Provide vertical reinforcing bars of the given size and spacing as indicated. Provide bars at all wall corners, intersections and opening edges.
- Provide standard, galvanized 9 gauge horizontal joint reinforcing at 16" on center in all walls. Provide truss type joints reinforcing for all concrete masonry.
- Provide lintels above all wall openings per typical details and schedule. See the architectural drawings for locations of all door and window openings.
- Hot weather masonry work shall be in accordance with ACI 530.1. Cold weather masonry work shall be in accordance with ACI 530.1.

STRUCTURAL STEEL NOTES:

- All structural steel shall conform to the AISC "Manual of Steel Construction" (15th Edition) and IBC 2018 Chapter 22.
- Unless otherwise noted, all materials shall be in accordance with the following ASTM specifications:

Member	ASTM	Fy (Min. Strength)
W	A992	50 KSI
C	A36	36 KSI
Angles	A36	36 KSI
Steel pipe	A53 (Gr. B)	36 KSI
Plates/shapes	A36/A572 (Gr. 50)	36 KSI/50 KSI
Connection bolts	F3125 (Gr. A325)	90 KSI (Fu)
Threaded rods	A36	36 KSI
Non-shrink grout	C1107	8000 PSI
- All welding shall be in accordance with AWS D1.1 using E70XX electrodes. Unless otherwise noted, provide cont. min. size fillet welds per AISC requirements. All filler material shall have a minimum yield strength of 70 KSI.
- Holes in steel shall be drilled or punched. All slotted holes shall be provided with smooth edges. Burning of holes and torch cutting at the site is not permitted.
- Unless otherwise noted, all structural steel permanently exposed to the weather, including all brick loose lintels, shall be hot-dipped galvanized in accordance with ASTM A153.
- Protective coatings damaged during the transporting, erecting and field welding processes shall be repaired in the field to match the shop applied coating.
- Finish welds shall be ground smooth and free of burrs.
- Finished galvanized surfaces shall be smooth and free of galvanized paint bead build up from multiple layer applications.
- The owner will hire an independent testing agency to provide special inspections of bolting, welding and other items in accordance with IBC 2018, Section 1704.

SYMBOL KEY	
CMU	STEEL
BRICK	GRATING
CONCRETE	ALUMINUM
PRECAST CONCRETE	SHEAR WALL
WOOD	EARTH
ELEVATION	CRUSHED STONE/ BUILDING STONE
WOOD SECTION	

STRUCTURAL DRAWING LIST	
S-1	GENERAL STRUCTURAL NOTES & SCHEDULES
S-2	SCHEDULES OF SPECIAL INSPECTIONS
S-3	PARTIAL PLANS AND DETAILS
S-4	TYPICAL DETAILS

ABBREVIATIONS	
Ø	AT
Ø	DIAMETER
2X	TWO BY
(4)	QUANTITY OF 4
A.B.	ANCHOR BOLT
A.P.	ANCHOR POINT
ADD.L.	ADDITIONAL
ADJ.	ADJACENT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL.	ALUMINUM
ARCH.	ARCHITECT/ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AWS	AMERICAN WELDING SOCIETY
BCX	BOTTOM CHORD EXTENSION
BECL.	BELOW
BLKG.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
B.O.	BOTTOM OF
BTWN.	BETWEEN
C.	CHANNEL
CL.	CENTERS/COLUMN LINE
CLR.	CLEAR
C.J.	CONTROL/CONSTRUCTION JOINT
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
COORD.	COORDINATE
DBL.	DOUBLE
DET.	DETAIL
DOW.	DOWEL
DOWL.	DOWEL
DWG.	DRAWING
E.A.	EACH
E.F.	EACH FACE
ELEV.	ELEVATION
E.Q.	EQUAL
E.S.	EACH SIDE
E.W.	EACH WAY
EX.	EXISTING
EXP.	EXPANSION
FLG.	FLANGE
FLR.	FLOOR
FDN.	FOUNDATION
F.O.	FACE OF
F.S.	FAR SIDE
FTG.	FOOTING
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
HK.	HOOK
HGR.	HANGER
HSS	HOLLOW STRUCTURAL SECTION
HORIZ.	HORIZONTAL
HT.	HEIGHT
INT.	INTERIOR
JST.	JOIST
JT.	JOINT
K	KIPS
L	ANGLE
LM	LIGHT GAGE METAL
(LH)	LONG LEG HORIZONTAL
(LV)	LONG LEG VERTICAL
LOC.	LOCATION
LG.	LONG
L.R.F.D.	LOAD & RESISTANCE FACTOR DESIGN
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
M.A.	MASONRY ANCHOR
MAX.	MAXIMUM
MIN.	MINIMUM/MINIMIZE
MANF.	MANUFACTURER
MECH.	MECHANICAL
M.O.	MASONRY OPENING
MTL.	METAL
(N)	NEW
N.S.	NEAR SIDE
N.S.G.	NON-SHRINK GROUT
ON	ON CENTER
OPN.G.	OPENING
OPP.	OPPOSITE
P.C.	PRE-CAST
PL	PLATE
PLYWD.	PLYWOOD
PMF	PRE-MOLDED FILLER
PSL	PARALLEL STRAND LUMBER
P.T.	PRESSURE TREATED
R/C	REINFORCED CONCRETE
REINF.	REINFORCING
REQ.D.	REQUIRED
RFU	ROOF TOP UNIT
SCH.	SCHEDULE
SECT.	SECTION
SF	STRIP FOOTING
SHT.G.	SHEATHING
SIM.	SIMILAR
SL.	SLOPE
S.O.G.	SLAB-ON-GRADE
S.S.	STAINLESS STEEL
STL.	STEEL
SO.	SQUARE
T&B	TOP AND BOTTOM
TCX	TOP CHORD EXTENSION
THK.	THICK
TJI	TRUSS JOIST I-SHAPED JOISTS
T.O.	TOP OF
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
V.L.D.	VERTICAL LEG DOWN
V.I.F.	VERIFY IN FIELD
WD.	WOOD
W/	WITH
W/O	WITHOUT
W.P.	WORK POINT
W.R.T.	WITH RESPECT TO
W.W.F.	WELDED WIRE FABRIC
WF	WIDE FLANGE BEAM
W	WIDE FLANGE BEAM
X	CROSS

REV	DATE	DESCRIPTION	APP

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BEAL	SHEET TITLE	GENERAL STRUCTURAL NOTES & SCHEDULES	
PROJECT	DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS		
BEAL	Gillan & Hartmann, Inc. MECHANICAL AND ELECTRICAL ENGINEERS VALLEY Forge, PA 19441 610-658-0101 FAX 610-658-7920 215-239-8510 609-347-1993 302-654-9569 gha@gillan-hartmann.com www.gillan-hartmann.com		SHEET S-1
DRAWN BY	DATE	JOB NO.	
RF	10/28/2022	2020-183	
CHECKED BY	SCALE	COMM. NO.	
MHS	AS NOTED		

JBA Joseph Barabato Associates
 STRUCTURAL ENGINEERS • ACHIEVING A HIGHER LEVEL
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 6 Dickinson Drive, Suite 103
 Chadds Ford, PA 19317-9689
 phone: 610-558-6050
 www.JBarabato.com

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS: IBC 2018 TABLE 1705.6		
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	—	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	—	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	—	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	—
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	—	X

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION: IBC 2018 TABLE 1705.3				
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT.	—	X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. INSPECT ANCHORS CAST IN CONCRETE.	—	X	ACI 318: 17.8.2	—
3. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	X	—	ACI 318: 17.8.2.4	—
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.		X	ACI 318: 17.8.2	—
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	—	X	ACI 318: 17.8.2	—
4. VERIFY USE OF REQUIRED DESIGN MIX.	—	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	—	ASTM C172 ASTM C31 ACI 318: 26.4, 26.12	1908.10
6. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	—	ACI 318: 26.5	1908.6, 1908.7, 1908.8
7. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	—	X	ACI 318: 26.5.3-26.5.5	1908.9
8. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	—	X	ACI 318: 26.11.1-2(b)	—

REQUIRED SPECIAL INSPECTIONS FOR MASONRY CONSTRUCTION: IBC 2018 1705.4 & TMS 402/ACI 520/ASCE5 & TMS 602/ACI 530.1/ASCE 6				
TABLE 3.1.2 - LEVEL B QUALITY ASSURANCE				
MINIMUM TESTS				
VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5 B.1.b.3 FOR SELF CONSOLIDATING GROUT				
VERIFICATION OF f'_m IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4 B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE				
MINIMUM SPECIAL INSPECTION				
INSPECTION TASKS	FREQUENCY (a)		REFERENCE FOR CRITERIA	
	CONTINUOUS	PERIODIC	TMS 402/ACI 530/ASCE 5	TMS 602/ACI 530.1/ASCE 6
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS		X		Art. 1.5
2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
a. PROPORTIONS OF SITE-PREPARED MORTAR		X		Art. 2.1, 2.6 A
b. CONSTRUCTION OF MORTAR JOINTS		X		Art. 3.3 B
c. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES		X		Art. 3.4 B, 3.6 A
3. PRIOR TO GROUTING, VERIFY THE FOLLOWING ARE IN COMPLIANCE:				
a. GROUT SPACE		X		Art. 3.2 D, 3.2 F
b. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHORAGES		X	SEC. 6.1	Art. 2.4, 3.4
c. PLACEMENT OF REINFORCEMENT AND ANCHORS		X	SEC. 6.1, 6.2.1, 6.2.6, 6.2.7	Art. 3.2 E, 3.4, 3.6 A
d. PROPORTIONS OF SITE-PREPARED GROUT		X		Art. 2.6 B, 2.4 G.1.b
e. CONSTRUCTION OF MORTAR JOINTS		X		Art. 3.3 B
4. VERIFY DURING CONSTRUCTION				
a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS		X		Art. 3.3 F
b. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION		X	SEC. 1.2.1 (e), 6.1.4.3, 6.2.1	
c. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))		X		Art. 1.8 C, 1.8 D
d. PLACEMENT OF GROUT IS IN COMPLIANCE	X			Art. 3.5, 3.6 C
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		X		Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL STEEL: IBC 2018 1705.2.1 & AISC 360-16		
TABLE NS.4-1 INSPECTION TASKS PRIOR TO WELDING		
INSPECTION TASKS PRIOR TO WELDING	QC	QA
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
WELDER IDENTIFICATION SYSTEM ¹	O	O
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)		
O JOINT PENETRATION		
O DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	O	O
O CLEANLINESS (CONDITION OF STEEL SURFACES)		
O TACKING (TACK WELD QUALITY AND LOCATION)		
O BACKING TYPE AND FIT (IF APPLICABLE)		
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT-UP OF FILLET WELDS		
O DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	O	O
O CLEANLINESS (CONDITION OF STEEL SURFACES)		
O TACKING (TACK WELD QUALITY AND LOCATION)		
CHECK WELDING EQUIPMENT	O	—

¹ THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS IF USED, SHALL BE THE LOW-STRESS TYPE

FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL FOR STATICALLY LOADED STRUCTURES SHALL APPLY.

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL STEEL: IBC 2018 1705.2.1 & AISC 360-16		
TABLE NS.4-2 INSPECTION TASKS DURING WELDING		
INSPECTION TASKS DURING WELDING	QC	QA
USE QUALIFIED WELDERS	O	O
CONTROL AND HANDLING OF WELDING CONSUMABLES		
O PACKAGING	O	O
O EXPOSURE CONTROL		
NO WELDING OVER CRACKED TACK WELDS	O	O
ENVIRONMENTAL CONDITIONS		
O WIND SPEED WITHIN LIMITS	O	O
O PRECIPITATION AND TEMPERATURE		
WPS FOLLOWED		
O SETTINGS ON WELDING EQUIPMENT		
O TRAVEL SPEED		
O SELECTING WELDING MATERIALS		
O SHIELDING GAS TYPE/FLOW RATE		
O PREHEAT APPLIED		
O INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.)		
O PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES		
O INTERPASS AND FINAL CLEANING	O	O
O EACH PASS WITHIN PROFILE LIMITATIONS		
O EACH PASS MEETS QUALITY REQUIREMENTS		

FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL FOR STATICALLY LOADED STRUCTURES SHALL APPLY.

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL STEEL: IBC 2018 1705.2.1 & AISC 360-16		
TABLE NS.4-3 INSPECTION TASKS AFTER WELDING		
INSPECTION TASKS AFTER WELDING	QC	QA
WELDS CLEANED	O	O
SIZE, LENGTH AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA		
O CRACK PROHIBITION		
O WELD/BASE-METAL FUSION	P	P
O CRATER CROSS SECTION		
O WELD PROFILES		
O WELD SIZE		
O UNDERCUT		
O POROSITY		
ARC STRIKES	P	P
k-AREA ¹	P	P
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P
REPAIR ACTIVITIES	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P

¹ WHEN WELDING OF DOUBLE PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN (77 MM) OF THE WELD.

FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL FOR STATICALLY LOADED STRUCTURES SHALL APPLY.

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL STEEL: IBC 2018 1705.2.1 & AISC 360-16		
TABLE NS.6-1 INSPECTION TASKS PRIOR TO BOLTING		
INSPECTION TASKS PRIOR TO BOLTING	QC	QA
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL STEEL: IBC 2018 1705.2.1 & AISC 360-16		
TABLE NS.6-2 INSPECTION TASKS DURING BOLTING		
INSPECTION TASKS DURING BOLTING	QC	QA
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O
JOINT BROUGHT TO THE TIGHT-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES.	O	O

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL STEEL: IBC 2018 1705.2.1 & AISC 360-16		
TABLE NS.6-3 INSPECTION TASKS AFTER BOLTING		
INSPECTION TASKS AFTER BOLTING	QC	QA
DOCUMENT ACCEPTANCE OR REJECTION OF BOLT CONNECTIONS	P	P

STRUCTURAL STEEL NOTES:		
1. QUALITY CONTROL (QC) - SHALL BE PROVIDED BY THE FABRICATOR OR ERECTOR		
2. QUALITY ASSURANCE (QA) - SHALL BE PROVIDED BY OTHERS WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ), APPLICABLE BUILDING CODE (ABC), PURCHASER, OWNER, OR ENGINEER OF RECORD (EOR).		
3. O - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS		
4. P - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER, EACH BOLTED CONNECTION, AND/OR EACH STEEL ELEMENT.		

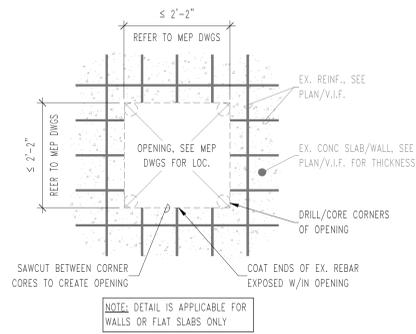
REV	DATE	DESCRIPTION	APP

SCHEDULES OF SPECIAL INSPECTIONS			
PROJECT	DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS		
DRAWN BY	RF	DATE	10/28/2022
CHECKED BY	MHS	SCALE	AS NOTED
JOB NO.	2020-183	COMMITTEE NO.	
SHEET	S-2		

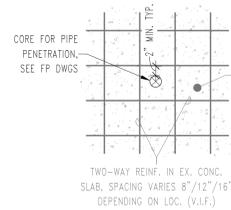
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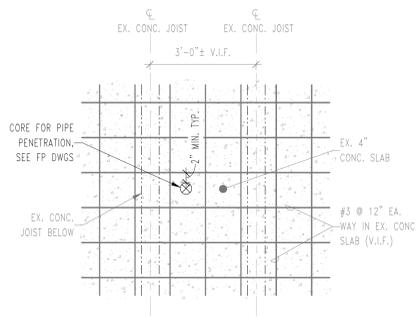
Gillan & Hartmann, Inc.
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gillan@GILLAN-HARTMANN.COM www.gillan-hartmann.com



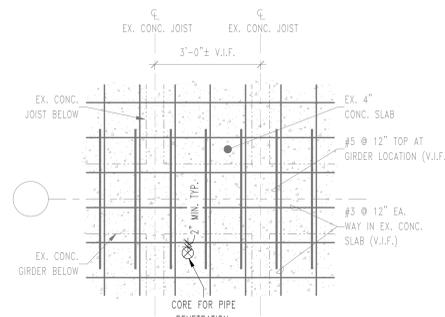
G TYPICAL OPENING IN CONC WALL/SLAB
 SCALE: N.T.S.



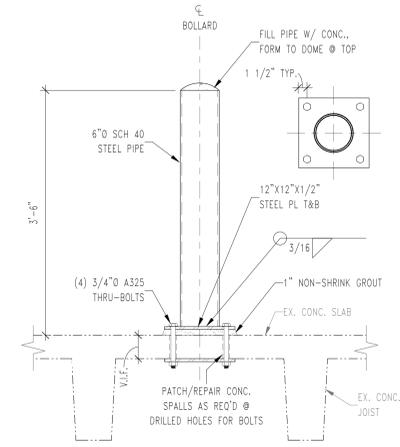
CORE AT STRUCTURAL SLAB



CORE AT TYPICAL CONCRETE JOIST SYSTEM

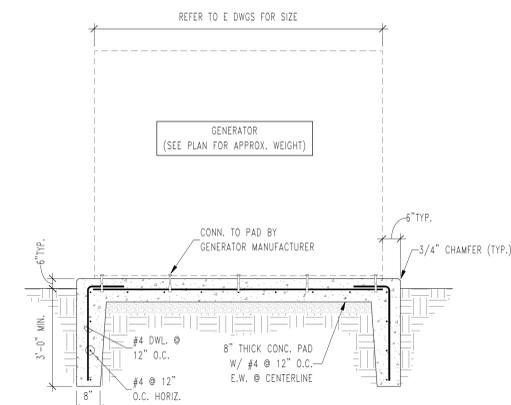


CORE ADJACENT TO GIRDER



NOTES:
 1. REFER TO FP DWGS FOR QUANTITY AND GENERAL LOCATIONS OF BOLLARDS. EXACT LOCATIONS TO BE COORDINATED IN THE FIELD TO ENSURE BOLLARDS DO NOT CONFLICT WITH EXISTING JOIST LOCATIONS. REVIEW FINAL PROPOSED LOCATIONS WITH ENGINEER AND OWNER PRIOR TO INSTALLATION.
 2. ALL BOLLARDS ARE TO BE PAINTED YELLOW.

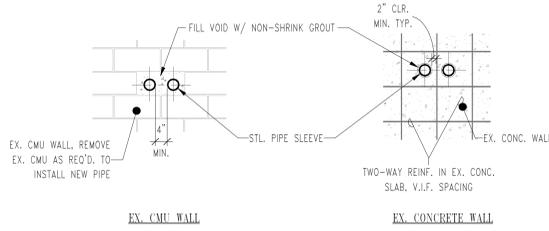
A TYPICAL BOLLARD - LEVELS A-C
 SCALE: N.T.S.



H TYPICAL GENERATOR PAD
 SCALE: N.T.S.

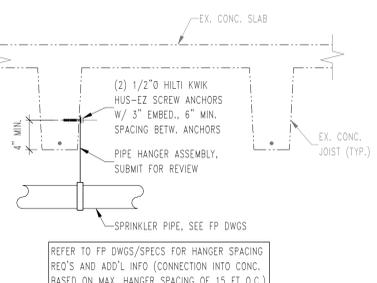
NOTES:
 1. CORES SHALL BE MADE THROUGH EXISTING CONCRETE SLABS ONLY (EITHER FLAT STRUCTURAL SLABS OR SLABS BETWEEN JOISTS). CORES SHALL NOT BE MADE THROUGH EXISTING CONCRETE JOISTS, BEAMS, OR GIRDERS.
 2. CORES SHALL BE MADE WITHIN SPACES BETWEEN EXISTING REINFORCING. CONTRACTOR SHALL CONDUCT A GPR SCAN IN THE AREA OF THE CORE TO LOCATE AND MARK THE REINFORCING LOCATIONS PRIOR TO CORING. PROVIDE MIN. 2" CLR. BTWN. EX. REBAR & EDGE OF CORE.
 3. REFER TO MEP DWGS FOR SIZES AND LOCATIONS OF PIPE PENETRATIONS.
 4. REFER TO DETAILS ON FP-300 FOR ADDITIONAL INFO ON PENETRATIONS.

C TYPICAL PIPE CORE THROUGH EXISTING FLOOR
 SCALE: N.T.S.

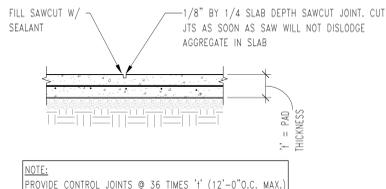


NOTES:
 1. REFER TO MEP DWGS FOR SIZES AND LOCATIONS OF PIPE PENETRATIONS.
 2. REFER TO DETAILS ON FP-300 FOR ADDITIONAL INFO ON PENETRATIONS.
 3. PROVIDE MIN. 4" CLR. FOR GROUT BETWEEN ADJACENT PENETRATIONS IN EX. CMU
 4. AT EX. CONCRETE WALLS PENETRATIONS SHALL BE MADE WITHIN SPACES BETWEEN EXISTING REINFORCING. CONTRACTOR SHALL CONDUCT A GPR SCAN IN THE AREA OF THE PENETRATION TO LOCATE AND MARK THE REINFORCING LOCATIONS PRIOR TO CORING. PROVIDE MIN. 2" CLR. BTWN. EX. REBAR & EDGE OF PENETRATION.

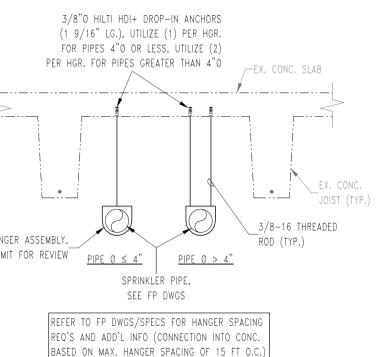
D TYPICAL PIPE CORE THROUGH EXISTING WALL
 SCALE: N.T.S.



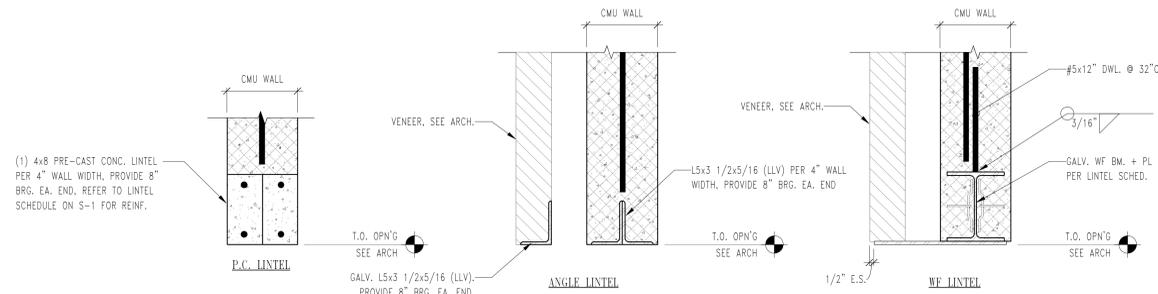
J TYPICAL PIPE HANGER CONNECTION TO EX. JOIST
 SCALE: N.T.S.



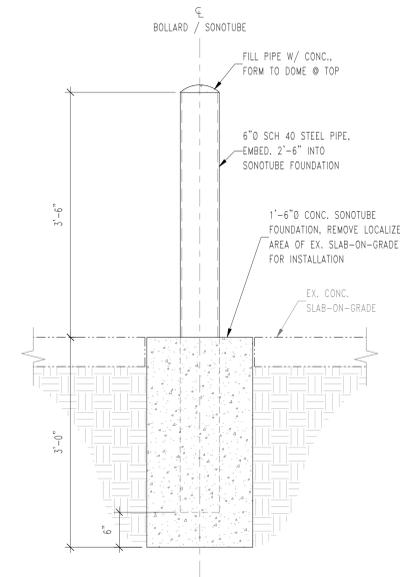
E TYPICAL CONCRETE SLAB CONTROL JOINT
 SCALE: N.T.S.



K TYPICAL PIPE HANGER CONNECTION TO EX. SLAB
 SCALE: N.T.S.



F TYPICAL LINTEL DETAILS
 SCALE: N.T.S.

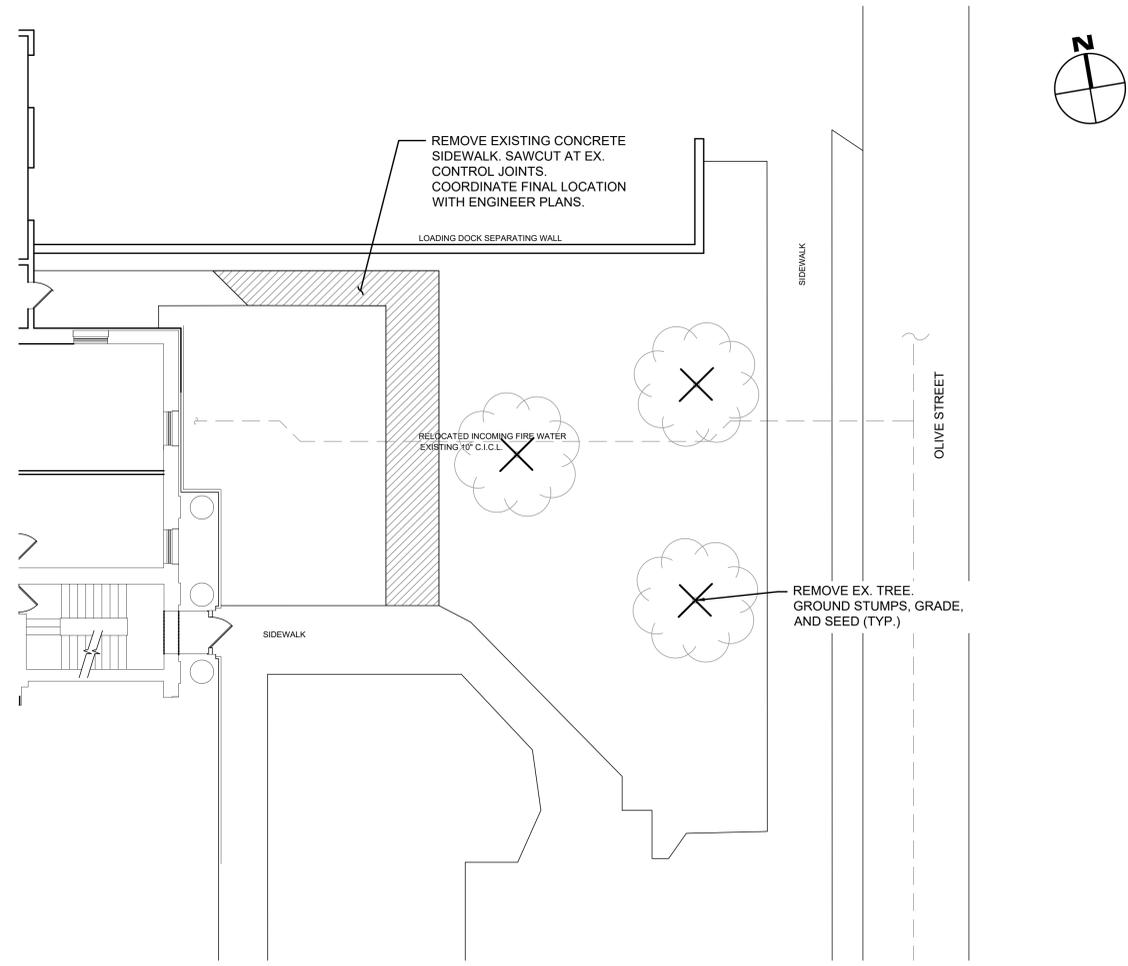


NOTES:
 1. REFER TO FP DWGS FOR QUANTITY AND GENERAL LOCATIONS OF BOLLARDS. REVIEW FINAL PROPOSED LOCATIONS WITH ENGINEER AND OWNER PRIOR TO INSTALLATION.
 2. ALL BOLLARDS ARE TO BE PAINTED YELLOW.

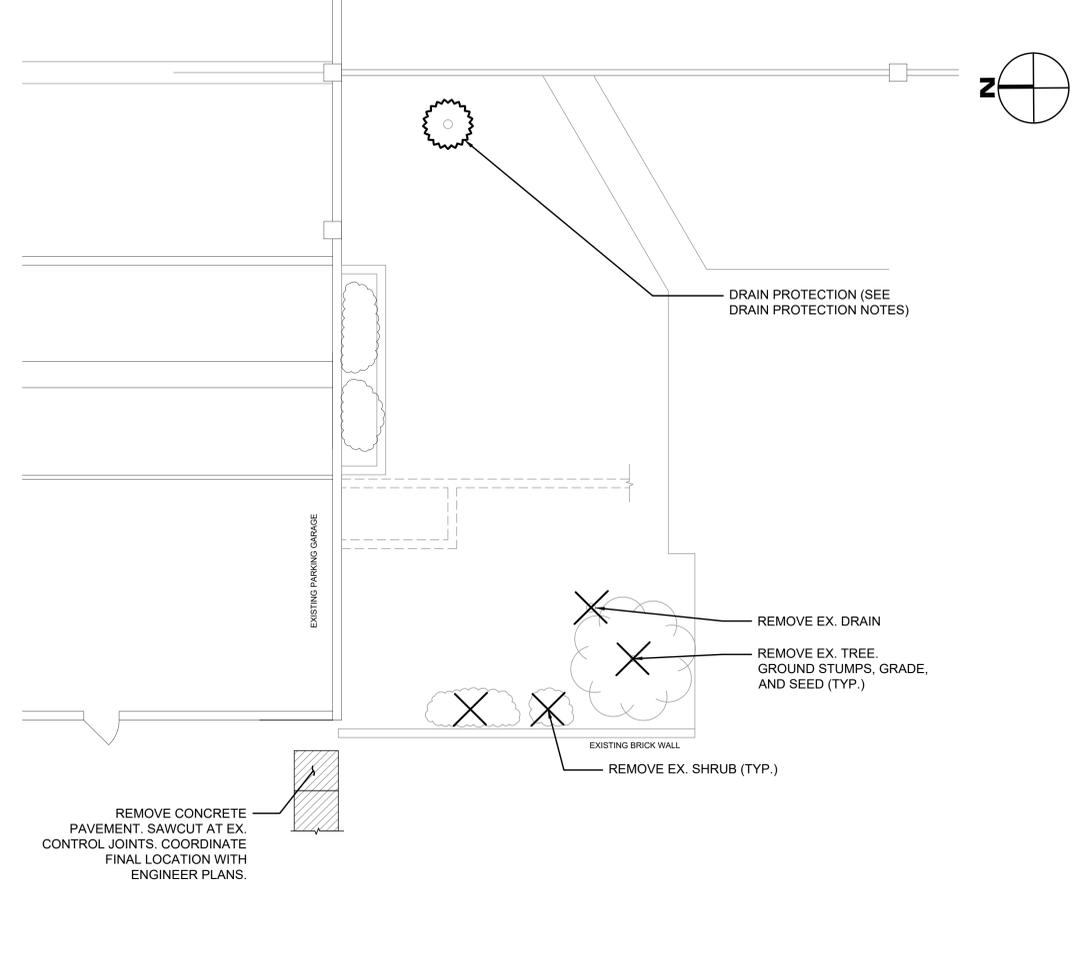
II TYPICAL BOLLARD - LEVEL D
 SCALE: N.T.S.

JBA Joseph Barbato Associates
 STRUCTURAL ENGINEERS • ACHIEVING A HIGHER LEVEL
 100 Chadds Ford Professional Center
 6 Dickinson Drive, Suite 103
 Chadds Ford, PA 19317-9689
 phone: 610-558-6050
 www.JBarbato.com

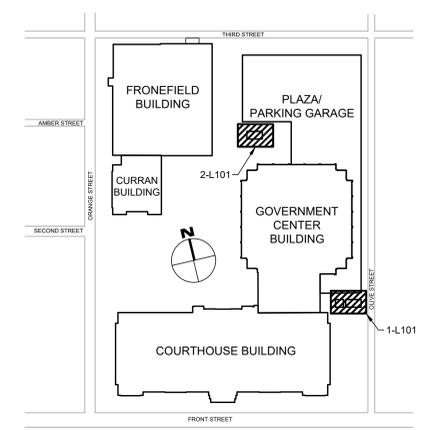
REV	DATE	DESCRIPTION	APP
SHEET TITLE			
TYPICAL DETAILS			
PROJECT			
DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS			
SHEET			
Gillan & Hartmann, Inc. MECHANICAL AND ELECTRICAL ENGINEERS VALLEY Forge, PA 19481 610-935-0101 FAX: 610-935-7520 215-239-8510 609-347-1593 302-654-9599 gih@gillan-hartmann.com www.gillan-hartmann.com			
DRAWN BY	DATE	JOB NO.	SHEET
RF	10/28/2022	2020-183	S-4
CHECKED BY	SCALE	COMM. NO.	
MHS	AS NOTED		



1 GOVERNMENT CENTER COURTHOUSE DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



2 GOVERNMENT CENTER PARKING GARAGE DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



3 KEY PLAN
SCALE: NTS

DRAIN PROTECTION NOTES:

1. DRAIN PROTECTION FENCING TO BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ON SITE.
2. LOCATE DRAIN PROTECTION FENCING 4' DIA. FROM THE CENTER OF THE DRAIN.
3. FENCING MUST REMAIN THROUGH THE DURATION OF ALL CONSTRUCTION ACTIVITIES.
4. ACTIVITIES WITHIN DRAIN PROTECTION AREA ARE NOT PERMITTED, INCLUDING STAGING OF MATERIALS, PARKING, PEDESTRIAN ACCESS, ETC.
5. SECURE FENCING MATERIAL TO 2"x2" P.T. WOOD STAKES OR METAL FENCE POSTS, SPACED AT 6' O.C. MAXIMUM. STAKES TO BE 4" MINIMUM ABOVE GRADE AND 2" MINIMUM BELOW GRADE.



Before You Dig Anywhere
In... [Redacted]
STOP! CALL 1-800-242-1776
PA Act 187 (1996) requires notification to ONE CALL SYSTEM 3 working days for construction phase and 10 working days for design phase before you excavate.
PA ONE CALL SYSTEM, INC.
DESIGN PHASE SERIAL #



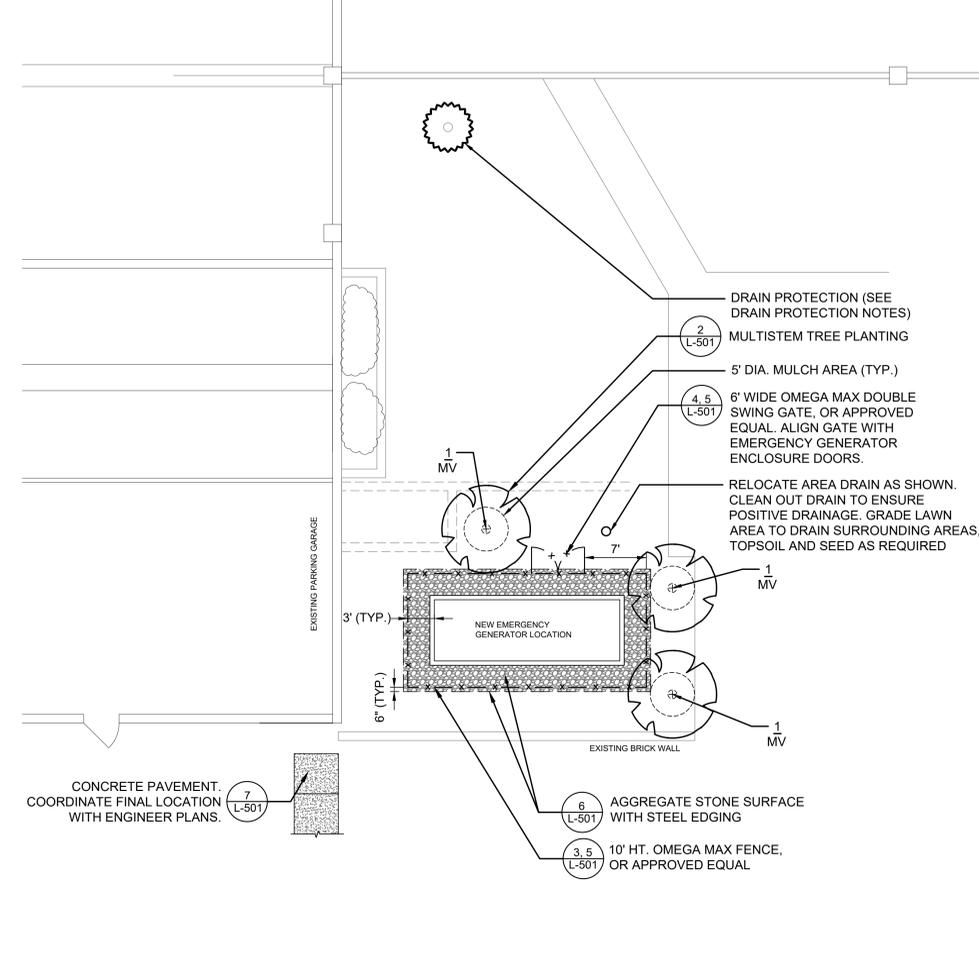
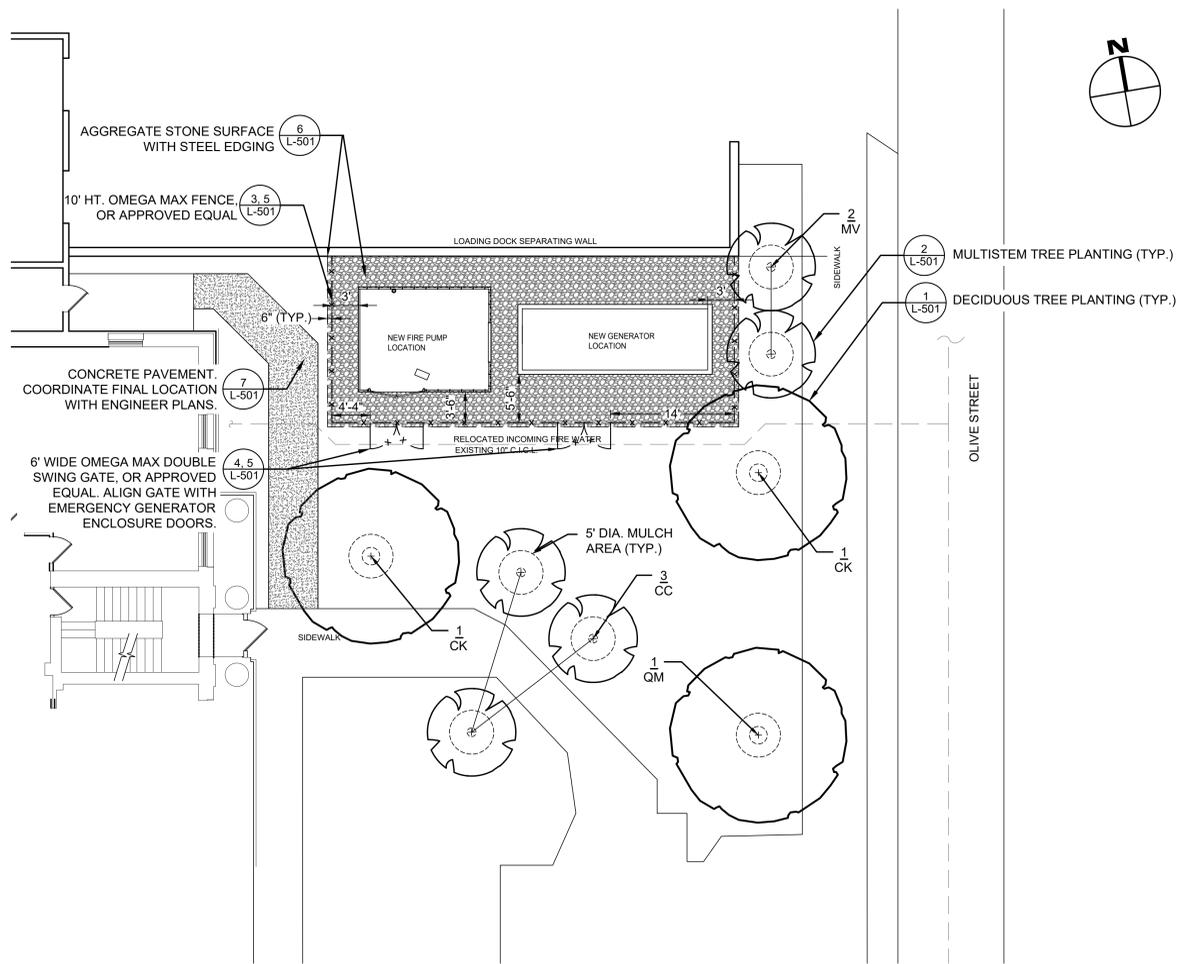
REV	DATE	DESCRIPTION	APP

SHEET TITLE
SITE DEMOLITION PLAN

PROJECT
DELAWARE COUNTY GOVERNMENT CENTER
SPRINKLER PIPING AND FIRE PUMP
MODIFICATIONS

SIMONE COLLINS
LANDSCAPE ARCHITECTURE
511 OLD LANCASTER RD. BERWYN, PA 19319
PHONE: (610) 889-0248 FAX: (610) 889-7523
EMAIL: SC@SIMONCOLLINS.COM
WWW.SIMONCOLLINS.COM

DRAWN BY ENH	DATE 10/28/2022	SHEET NO. 21044.10	SHEET L-101
CHECKED BY PS	SCALE AS NOTED	COMM NO.	

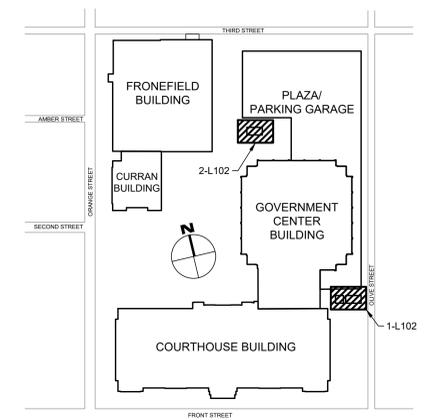


Government Center Courthouse Plant List						
Key	Qty.	Botanical Name	Common Name	Condition	Size	Spacing
Deciduous Trees						
CK	2	<i>Cladrastis kentukea</i>	Yellowwood	B&B	2 1/2 - 3" CAL	PER PLAN
QM	1	<i>Quercus muehlenbergii</i>	Chinquapin oak	B&B	2 1/2 - 3" CAL	PER PLAN
Ornamental Trees						
CC	3	<i>Cercis canadensis</i>	Eastern Redbud	B&B	8-10 FT, MULTISTEM	PER PLAN
MV	2	<i>Magnolia virginiana 'Moonglow'</i>	Moonglow Sweetbay Magnolia	B&B	8-10 FT, MULTISTEM	10 FT O.C.

Government Center Parking Garage Plant List						
Key	Qty.	Botanical Name	Common Name	Condition	Size	Spacing
Ornamental Trees						
MV	3	<i>Magnolia virginiana 'Moonglow'</i>	Moonglow Sweetbay Magnolia	B&B	8-10 FT, MULTISTEM	PER PLAN

1 GOVERNMENT CENTER COURTHOUSE SITE IMPROVEMENTS & PLANTING PLAN
SCALE: 1/8" = 1'-0"

2 GOVERNMENT CENTER PARKING GARAGE SITE IMPROVEMENTS & PLANTING PLAN
SCALE: 1/8" = 1'-0"



3 KEY PLAN
SCALE: NTS

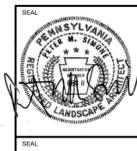
PLANTING NOTES:

- LANDSCAPE ARCHITECT WILL INSPECT PLANT MATERIAL AT THE PLACE OF GROWTH AND AT THE PROJECT SITE, BEFORE PLANTING, AND RETAINS THE RIGHT TO REJECT UNSATISFACTORY OR DEFECTIVE PLANT MATERIAL AT ANY TIME DURING THE PROGRESS OF WORK. THE LANDSCAPE CONTRACTOR WILL IMMEDIATELY REMOVE REJECTED PLANT MATERIALS FROM THE PROJECT SITE, AND REPLACE WITH ACCEPTABLE MATERIAL AT NO ADDITIONAL COST.
- NO SUBSTITUTIONS SHALL BE PERMITTED, EXCEPT BY WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT GRANTED PRIOR TO THE PURCHASE AND DELIVERY OF PLANT MATERIAL.
- DELIVER FRESHLY DUG TREES. DO NOT PRUNE BEFORE DELIVERY. PROTECT BUDS, BARK, BRANCHES, AND ROOT SYSTEMS FROM SUNSCALD, DRYING, SWEATING, WHIPPING, SCRAPING, AND OTHER HANDLING AND TYING DAMAGE. TAKE SPECIAL PRECAUTION TO PROTECT TREE TRUNKS DURING TRANSPORT FROM SHIFTING, SWAYING, AND WORKING LOOSE FROM ROOT BALL. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY NATURAL SHAPE OR STRIP BARK.
- RESEED LAWN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES.

- TOPSOIL WILL BE FURNISHED BY THE LANDSCAPE CONTRACTOR AS REQUIRED FOR BED AREAS, BERMS, AND PLANT BACKFILL MIX. IMPORTED TOPSOIL SHALL BE AT LEAST SIX (6) PERCENT ORGANIC CONTENT, ACIDITY RANGE SHALL BE PH 5.9 TO 7.0 INCLUSIVE, NITROGEN CONTENT OF TEN (10) PERCENT, PHOSPHORUS CONTENT OF SIX (6) PERCENT, AND POTASSIUM CONTENT OF FOUR (4) PERCENT. SUBMIT SOIL TESTS FOR ALL IMPORTED TOPSOIL FOR APPROVAL BY LANDSCAPE ARCHITECT BEFORE BRINGING ANY TOPSOIL TO SITE.
- EIGHTEEN (18) INCHES OF TOPSOIL SHOULD BE PLACED IN THE TREE PITS AND PLANTING BED AREAS WHERE TREES ARE TO BE PLANTED. MIX THREE (3) INCHES OF LEAF MOLD OR EARTH LIFE INTO TOPSOIL. PLACE APPROXIMATELY ONE-HALF (1/2) OF TOTAL AMOUNT OF PLANTING SOIL REQUIRED; WORK INTO TOP OF LOOSENEED SUBGRADE TO CREATE A TRANSITION LAYER; AND THEN PLACE REMAINDER OF THE PLANTING SOIL.
- MULCH ALL PLANTED AREAS WITH THREE (3) INCHES OF DOUBLE-SHREDDED HARDWOOD BARK MULCH. SUBMIT SAMPLE OF MULCH TO OWNERS REPRESENTATIVE / LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO BRINGING ANY MULCH TO THE SITE.



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In... [Redacted]
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PA ONE CALL SYSTEM, INC.
DESIGN PHASE SERIAL #

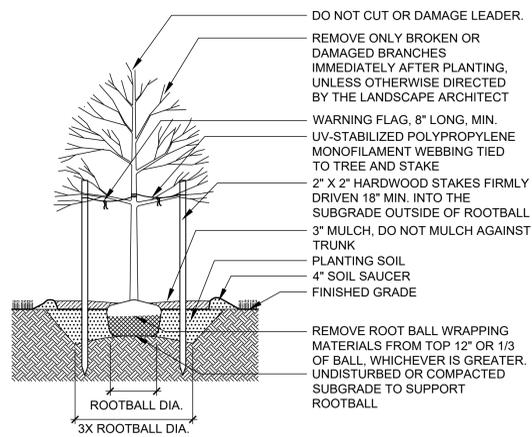


SHEET TITLE
SITE IMPROVEMENTS & PLANTING PLAN

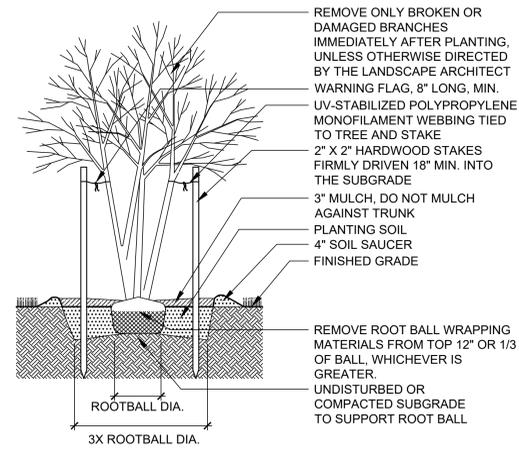
PROJECT
**DELAWARE COUNTY GOVERNMENT CENTER
SPRINKLER PIPING AND FIRE PUMP
MODIFICATIONS**

**SIMONE COLLINS
LANDSCAPE ARCHITECTURE**
511 OLD LANCASTER RD. BERWYN, PA 19319
PHONE: (610) 889-0248 FAX: (610) 889-7521
EMAIL: SC@SIMONECOLLINS.COM
WWW.SIMONECOLLINS.COM

DRAWN BY ENH	DATE 10/28/2022	SHEET NO. 21044.10	SHEET L-102
CHECKED BY PS	SCALE AS NOTED	COMM NO.	



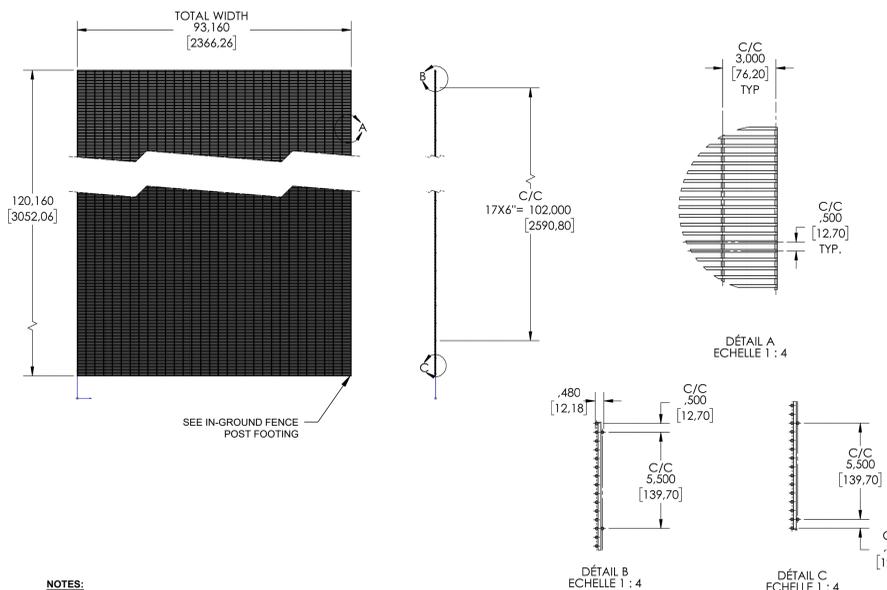
- NOTES:**
1. STAKE TREES ONLY WHEN CONDITIONS REQUIRE ADDITIONAL STABILIZATION, AS DESCRIBED IN SPECIFICATIONS.
 2. SET TOP OF BALL 2\"/>



- NOTES:**
1. SET TOP OF BALL 2\"/>

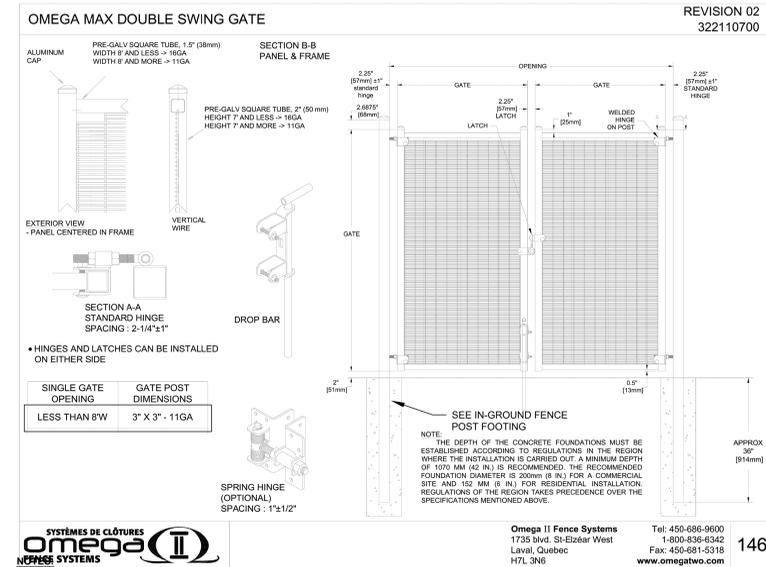
1 DECIDUOUS TREE PLANTING
SCALE: 1/2"=1'-0"

2 MULTISTEM TREE PLANTING
SCALE: 1/2"=1'-0"



- NOTES:**
1. MANUFACTURER: OMEGA II FENCE SYSTEMS, OR APPROVED EQUAL. MODEL: 10' HT. OMEGA MAX DOUBLE WIRE, OR APPROVED EQUAL.
 2. ALL HARDWARE AND FASTENERS PROVIDED BY MANUFACTURER, AND ARE HOT DIP GALVANIZED.
 3. ALL POSTS TO BE SPECIFIED AT 3\"/>

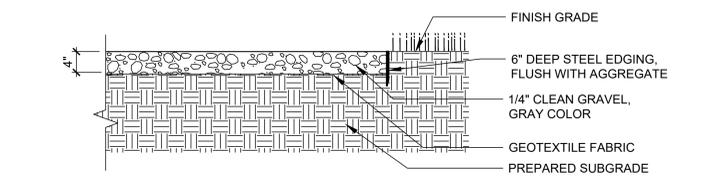
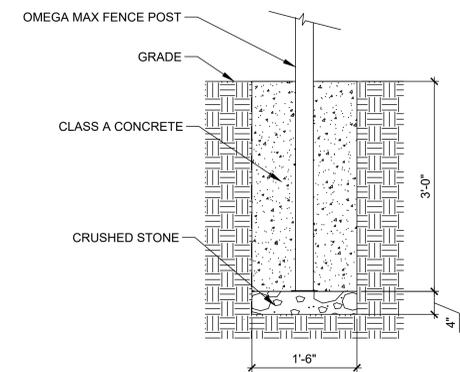
3 10' HT. OMEGA MAX FENCE
SCALE: N.T.S.



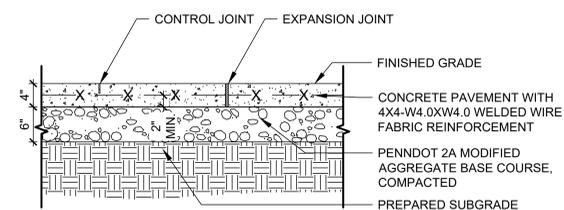
- NOTES:**
1. MANUFACTURER: OMEGA II FENCE SYSTEMS, OR APPROVED EQUAL. POST SIZE TO BE CUSTOM ENGINEERED BY OMEGA II FENCE SYSTEMS MANUFACTURER.
 3. GATE FRAMES TO PROVIDE ONE (1) SUPPLEMENTARY 16 GAUGE (1.6 MM) 2 IN X 2 IN (50.8 MM X 50.8 MM) VERTICAL SUPPORT, IN ACCORDANCE WITH ASTM F700.
 4. ALL HARDWARE AND FASTENERS PROVIDED BY MANUFACTURER, AND ARE PRE-GALVANIZED AND POLYESTER POWDER COATED.
 5. SEE SPECIFICATIONS AND INSTALLATION INSTRUCTIONS BY MANUFACTURER.
 6. COLOR: BLACK.

4 6' WIDE OMEGA MAX DOUBLE SWING GATE
SCALE: N.T.S.

5 IN-GROUND FENCE POST FOOTING
SCALE: 1"=1'-0"

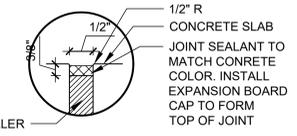


6 AGGREGATE STONE SURFACE
SCALE: 1"=1'-0"



- NOTES:**
1. CONTROL JOINTS TO BE PLACED 5' MINIMUM UNLESS OTHERWISE NOTED.
 2. INSTALL EXPANSION JOINTS 20' MINIMUM UNLESS OTHERWISE NOTED, AND WHERE WALK ABUTS ANOTHER STRUCTURE OR EXISTING CONCRETE PAVING.
 3. ALL SIDEWALK THAT IS BROKEN, CRACKED, OR OUT OF ALIGNMENT SHALL BE REPLACED PRIOR TO ACCEPTANCE.

7 CONCRETE PAVEMENT
SCALE: 1"=1'-0"



EXPANSION JOINT

REV	DATE	DESCRIPTION	APP

SITE IMPROVEMENTS & PLANTING DETAILS

PROJECT: DELAWARE COUNTY GOVERNMENT CENTER SPRINKLER PIPING AND FIRE PUMP MODIFICATIONS

SIMONE COLLINS LANDSCAPE ARCHITECTURE
511 OLD LANCASTER RD. BERWYN, PA 19319
PHONE: (610) 889-0248 FAX: (610) 889-7521
EMAIL: SC@SIMONECOLLINS.COM WWW.SIMONECOLLINS.COM

DRAWN BY: ENH DATE: 10/28/2022 SHEET NO: 21044.10
CHECKED BY: PS SCALE: AS NOTED COMM NO: L-501

FILE PATH: X:\21044.00\Delco Gov't.cir - GARDWACTIVE\Sheet SHIP-501 - PLANTING DETAILS.dwg
LAST SAVED: 2022.10.27 10:04 AM PLOTTED: 2022.10.27 10:21 AM PLOTTED BY: ##