



DELAWARE RIVER AND BAY AUTHORITY

DRBA CONTRACT NO. 33N-24-A



CONTRACT DRAWINGS  
FOR THE CONSTRUCTION OF

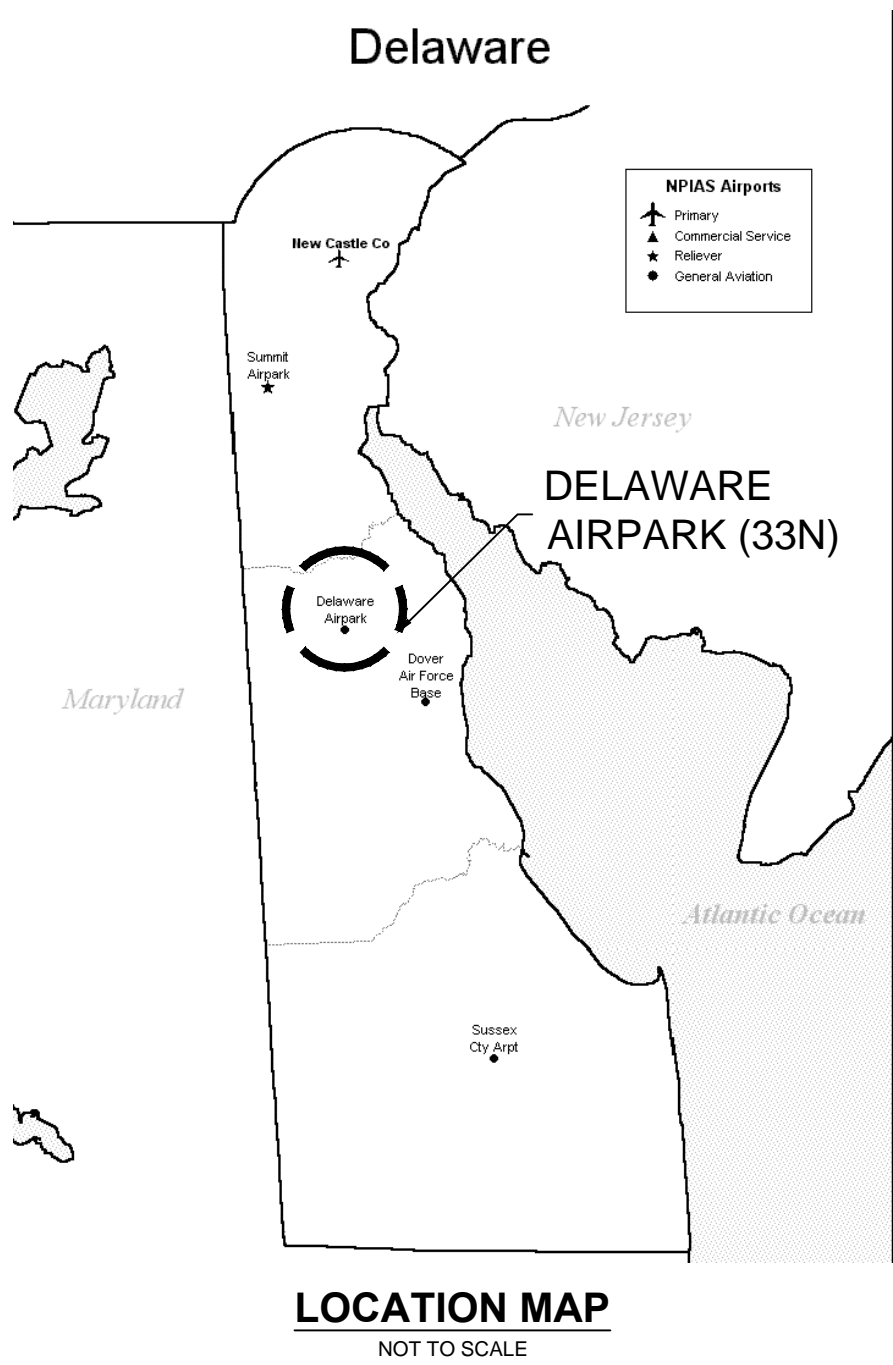
BOX HANGAR CONSTRUCTION

DELAWARE AIRPARK (33N)

DOVER COUNTY,  
DOVER, DELAWARE

OCTOBER 2023

C&S PROJECT: 872.013.079




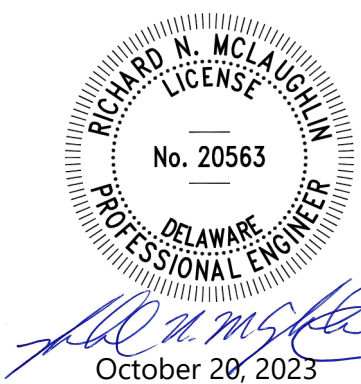
DELAWARE AIRPARK (33N)  
DELAWARE RIVER AND BAY AUTHORITY

ITEM NO.	FAA SPEC	DESCRIPTION	QUANTITY	UNITS
1	C-105-6.1	MOBILIZATION (4%+/- MAXIMUM)	1	LS
2	C-106-3.1	SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC	1	LS
3	L-102-4.1a	ELECTRIC UTILITY ALLOWANCE	1	LS
4	L-102-4.1b	UTILITY COORDINATION	1	LS
5	L-108-5.1a	NO. 3/0 AWG, 600V, THWN CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	300	LF
6	L-108-5.2b	NO. 6 AWG, INSULATED, STRANDED EQUIPMENT BONDING INSTALLED IN DUCT BANK OR CONDUIT	100	LF
7	L-110-5.1a	CONCRETE ENCASED ELECTRICAL DUCT BANK, 2-WAY - 4" PVC CONDUIT, IN PAVEMENT	100	LF
8	L-110-5.1b	CONCRETE ENCASED ELECTRICAL DUCT BANK, 2-WAY, 2" PVC CONDUIT IN PAVEMENT	50	LF
9	L-110-5.1c	NON ENCASED ELECTRICAL DUCT BANK, 2-WAY 2" RGS CONDUIT, IN TURF	50	LF
10	P-101-5.1	JOINT AND CRACK REPAIR	820	LF
11	11000-1.6-B-1	BOX HANGAR	1	LS

SHEET NO.	SHEET REFERENCE NO.	SHEET TITLE
1	G-001	TITLE SHEET
2	G-100	GENERAL CONSTRUCTION AND SAFETY NOTES 1
3	G-101	GENERAL CONSTRUCTION AND SAFETY NOTES 2
4	G-110	MAXIMUM EQUIPMENT HEIGHT PLAN
5	GC-101	CONSTRUCTION SAFETY AND PHASING PLAN
6	A-001	SYMBOLS, ABBREVIATIONS, LEGENDS AND NOTES
7	A-002	CODE COMPLIANCE PLAN
8	A-101	FLOOR PLAN
9	A-102	ROOF PLAN
10	A-201	EXTERIOR ELEVATIONS
11	EL-001	ELECTRICAL NOTES, SYMBOLS, ABB
12	EL-101	ELECTRICAL SITE PLAN
13	EL-102	ELECTRICAL PLAN
14	EL-501	ELECTRICAL DETAILS
15	EL-601	ELECTRICAL SCHEDULES
16	S 1.0	EXISTING FOUNDATION PLAN
17	S 2.0	DETAIL AND NOTES

PREPARED BY:

  
RICHARD N. MCLAUGHLIN D.E., PROFESSIONAL ENGINEER LICENSE NO. 20563  
C&S ENGINEERS, INC. DATE



NO ALTERATION ON THESE DRAWINGS IS ALLOWED UNLESS SAID ALTERATIONS ARE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF AN ITEM BOUND BY THE SEAL OF AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE SPECIFIC DESCRIPTION OF SUCH ALTERATION.

PROJECT FILE NO. 872.013.079  
CADD FILE NO. 33N BOX HANGAR CONSTRUCTION.DWG

G-001



Jul 19, 2023 - 1:49pm  
O:\33N\Projects\2023-0901 Box Hangar Installation\CAD\SHEETS\G1.00\_GENERAL CONSTRUCTION AND SAFETY NOTES 1.dwg

D

C

B

A

GENERAL CONSTRUCTION NOTES

- 1

THIS PROJECT IS FOR WORK AT DELAWARE AIRPARK (33N),  
HEREAFTER REFERRED TO AS 'THE AIRPORT'.
- 2

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE  
CONTRACT PLANS AND SPECIFICATIONS AND ANY RULES,  
REGULATIONS, STANDARDS, OR SPECIFICATIONS REFERENCED  
THEREIN. THE PROJECT IS SUBJECT TO INSPECTION BY  
REPRESENTATIVES OF THE DELAWARE DEPARTMENT OF  
TRANSPORTATION (DELDOT), THE FEDERAL AVIATION  
ADMINISTRATION (FAA), AND OTHER GOVERNING AGENCIES.
- 3

PROJECT PHASING - UPON COMPLETION OF ANY STAGE OR PHASE  
OF WORK, THE ENGINEER WILL ARRANGE A PHYSICAL INSPECTION  
OF THE AREA WITH AIRPORT OPERATIONS PERSONNEL PRIOR TO  
THE OPENING OF ANY TAXIWAY, RUNWAY, RAMP AREA OR AIRPORT  
ROADWAY THAT HAS BEEN CLOSED FOR WORK OR USED FOR A  
CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR.
- 4

PROJECT COMPLETION TIMES - THE CONTRACTOR IS EXPECTED TO  
COMPLETE CRITICAL PORTIONS OF THE PROJECT WITHIN THE  
SPECIFIED TIMEFRAMES AND TO COMPLETE THE ENTIRE PROJECT  
ON TIME. LIQUIDATED DAMAGES, IF SPECIFIED, WILL BE ASSESSED  
SHOULD THE TIMEFRAME BE EXCEEDED.
- 5

AIRPORT OPERATIONS - THE AIRPORT MAY BE IN OPERATION  
DURING THE CONSTRUCTION OF THIS PROJECT. RUNWAY 9-27  
OPERATES AS A 4,200 FOOT RUNWAY DAWN TO DUSK DAILY.  
COORDINATION OF WORK WITH AIRPORT OPERATIONS IS  
MANDATORY TO MINIMIZE IMPACTS TO AIRPORT USERS.
- 6

CONTRACTOR COORDINATION - CONSTRUCTION AND MAINTENANCE  
OPERATIONS BY OTHERS MAY OCCUR CONCURRENTLY AND IN THE  
VICINITY OF CONSTRUCTION ASSOCIATED WITH THIS PROJECT. THE  
CONTRACTOR SHALL COORDINATE OPERATIONS AND COOPERATE  
WITH MAINTENANCE CREWS AND OTHER CONTRACTORS WORKING  
AT THE AIRPORT. CONTRACTOR COORDINATION WITH APPROPRIATE  
GOVERNMENT AND UTILITY AGENCIES IS ALSO REQUIRED PRIOR TO 6.  
AND DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE  
WITH THE RPR AND THE RPR SHALL COORDINATE WITH  
DELDOT/ATC.
- 7

FACILITY CLOSURES - PRIOR TO CONSTRUCTION, THE CONTRACTOR  
SHALL ARRANGE TO MEET WITH AIRPORT OPERATIONS, THE FAA,  
AND THE ENGINEER TO EVALUATE AND ESTABLISH ANY RUNWAY  
AND TAXIWAY CLOSURE TIMES AND DURATIONS. TO THE EXTENT  
POSSIBLE, THE CONTRACTOR SHALL COORDINATE CONSTRUCTION  
TO COINCIDE WITH RUNWAY AND TAXIWAY CLOSURES ALREADY  
SCHEDULED FOR CONSTRUCTION AND MAINTENANCE OPERATIONS  
BY OTHERS. CONTRACTOR SHALL COORDINATE WITH THE RPR AND  
THE RPR SHALL COORDINATE WITH DELDOT/ATC.
- 8

WASTE MATERIALS (i.e. TREES, STUMPS, EXCESS SOIL, ETC.) SHALL  
BE DISPOSED OF OFF AIRPORT PROPERTY. TRASH (i.e. CUPS, CANS,  
BOTTLES, PAPER, ETC.) SHALL BE DISPOSED OF THROUGH PROPER  
SANITARY METHODS.
- 9

EXISTING AIRFIELD LIGHTING SYSTEMS - INTERRUPTION OF  
EXISTING AIRFIELD LIGHTING SYSTEMS NOT INCLUDED IN THIS  
PROJECT SHALL NOT BE PERMITTED. ALL AIRFIELD LIGHTING  
CIRCUITS AFFECTED BY THIS PROJECT SHALL BE TEMPORARILY  
MAINTAINED BY THE CONTRACTOR DURING OPERATIONAL PERIODS.
- 10

PORTABLE FLOODLIGHTING - THE CONTRACTOR SHALL PROVIDE  
PORTABLE FLOODLIGHTING AS REQUIRED FOR NIGHT  
CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL PROVIDE  
SUFFICIENT UNITS SO THAT ALL WORK AREAS ARE ILLUMINATED TO  
A LEVEL OF FIVE (5) HORIZONTAL FOOT CANDLES. THE LIGHTING  
LEVELS SHALL BE CALCULATED AND MEASURED IN ACCORDANCE  
WITH THE CURRENT STANDARDS OF THE ILLUMINATION  
ENGINEERING SOCIETY. THE CONTRACTOR SHALL COORDINATE THE  
USE OF FLOODLIGHTING WITH THE CONTROL TOWER TO ENSURE  
THAT THE LIGHTING DOES NOT COMPROMISE THE CONTROL  
TOWER'S VISIBILITY OR CAUSE CONFUSION TO PILOTS.
- 11

THE CONTRACTOR SHALL PROVIDE LOW PROFILE CONSTRUCTION  
BARRICADES WITH FLASHING RED LIGHTS AS SHOWN ON THE  
DRAWINGS TO DELINEATE THE WORK AREAS WHEN CLOSED TO  
AIRPORT TRAFFIC. OPEN TRENCHES, EXCAVATIONS AND  
STOCKPILE MATERIAL LOCATED IN THE AOA SHALL BE  
PROMINENTLY MARKED WITH ORANGE FLAGS AND LIGHTED BY  
APPROVED LIGHT UNITS DURING HOURS OF LIMITED VISIBILITY AND  
DARKNESS.
- 12

THE CONTRACTOR SHALL PROVIDE AN ADEQUATE NUMBER OF  
WATER TRUCKS TO CONTROL DUST IN THE PROJECT WORK AREA,  
STAGING/STORAGE AREAS, HAUL ROUTES AND THE WASTE SITE.
- 13

ALL THE PERMITS AND LICENSES REQUIRED FOR THE PROJECT  
WORK SHALL BE OBTAINED AT THE CONTRACTOR'S EXPENSE.
- 14

EXISTING TOPOGRAPHIC FIELD SURVEYS HAS NOT BEEN  
CONDUCTED PRIOR TO THIS SUBMISSION. THE CONTROL ON THIS  
PROJECT IS TIED TO THE NAD 83/91 HORIZONTAL DATUM AND NAVD  
88 VERTICAL DATUM. SURVEY UNITS SHALL BE IN U.S. SURVEY  
FOOT.
- 15

IN ACCORDANCE WITH THE SPECIFICATIONS, FEDERAL WAGE RATES  
SHALL BE POSTED OUTSIDE THE SITE FIELD OFFICE(S) IN A  
WEATHERPROOF ENCLOSURE. (FOR FEDERALLY FUNDED PROJECTS  
ONLY.)

GENERAL AIRFIELD SAFETY DURING CONSTRUCTION

- 1

THE CONTRACTOR SHALL ACQUAINT SUPERVISORS AND  
EMPLOYEES WITH ACTIVITY AND OPERATIONS THAT ARE INHERENT  
TO THE AIRPORT AND SHALL CONDUCT CONSTRUCTION ACTIVITIES  
TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC  
REQUIREMENTS AND GUIDELINES FOR SAFETY SPECIFIED HEREIN.
- 2

THE CONTRACTOR AND HIS/HER SUBCONTRACTOR(S) SHALL  
PROTECT WORKERS, DELDOT AND AIRPORT TENANT EMPLOYEES,  
AND THE GENERAL PUBLIC. THE CONTRACTOR SHALL ALSO ENSURE  
THAT PROPERTY OR EQUIPMENT, UNRELATED TO WORK, WHICH  
BELONGS TO DELDOT OR AIRPORT TENANTS IS NOT DAMAGED  
DURING CONSTRUCTION.
- 3

THE CONTRACTOR SHALL NOT ALLOW EMPLOYEES,  
SUBCONTRACTORS, SUPPLIERS, OR ANY OTHER UNAUTHORIZED  
PERSON TO ENTER OR REMAIN IN ANY AIRPORT AREA WHICH  
WOULD BE HAZARDOUS TO PERSONS OR TO AIRCRAFT  
OPERATIONS.
- 4

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL  
NECESSARY PROTECTIVE GEAR AND EQUIPMENT REQUIRED FOR  
THE PROTECTION OF THE CONTRACTOR'S PERSONNEL DURING  
CONSTRUCTION.
- 5

DURING PERFORMANCE OF THIS CONTRACT, THE AIRPORT  
RUNWAYS, TAXIWAYS, AND AIRCRAFT PARKING APRONS SHALL  
REMAIN IN USE BY AIRCRAFT TO THE MAXIMUM EXTENT POSSIBLE.  
ALL AIRCRAFT TRAFFIC ON THESE SURFACES SHALL HAVE PRIORITY  
OVER CONTRACTOR'S TRAFFIC. WHILE USE OF AREAS NEAR THE  
CONTRACTOR'S WORK MAY BE CONTROLLED TO MINIMIZE  
DISTURBANCE TO THE CONTRACTOR'S OPERATION, THE OWNER  
RESERVES THE RIGHT TO ORDER THE CONTRACTOR, AT ANY TIME,  
TO VACATE ANY AREA NECESSARY TO MAINTAIN SAFE AIRCRAFT  
OPERATIONS.
- 7

ALL WORK TO BE PERFORMED WITHIN CERTAIN LIMITS OF AN  
ACTIVE RUNWAY, TAXIWAY, OR APRON UNDER OPERATIONAL  
CONDITIONS SHALL BE PERFORMED WHEN THE RUNWAY, TAXIWAY  
OR APRON IS NOT IN USE. SUCH WORK SHALL ONLY BE  
ACCOMPLISHED WITH PRIOR PERMISSION FROM THE ENGINEER.  
REQUESTS FOR RUNWAY CLOSURES SHALL BE MADE AT LEAST 7  
DAYS IN ADVANCE. REQUESTS FOR TAXIWAY OR APRON CLOSURES  
SHALL BE MADE AT LEAST 96 HOURS IN ADVANCE.
- 8

THE CONTRACTOR SHALL BE AWARE OF THE FOLLOWING TYPES OF  
SAFETY PROBLEMS AND/OR HAZARDS:

a

TRENCHES, HOLES, OR EXCAVATION ON OR ADJACENT TO ANY  
OPEN RUNWAY OR IN SAFETY AREAS.

b

PAVEMENT DROP-OFFS OR PAVEMENT TURF-LIPS GREATER  
THAN 1½ INCHES WHETHER PERMANENT OR TEMPORARY.

c

UNMARKED/UNLIGHTED HOLES OR EXCAVATION IN ANY APRON,  
OPEN TAXIWAY, OPEN TAXILANE, OR RELATED SAFETY AREA.

d

MOUNDS OR PILES OF EARTH, CONSTRUCTION MATERIALS,  
TEMPORARY STRUCTURES, OR OTHER OBJECTS IN THE  
VICINITY OF ANY OPEN RUNWAY, TAXIWAY, TAXILANE, OR IN A  
RELATED SAFETY AREA, APPROACH, OR DEPARTURE AREA.

e

VEHICLES OR EQUIPMENT, WHETHER OPERATING OR IDLE, ON  
ANY OPEN RUNWAY, TAXIWAY, TAXILANE, OR IN ANY RELATED  
SAFETY AREA, APPROACH, OR DEPARTURE AREA.

f

VEHICLES, EQUIPMENT, EXCAVATION, STOCKPILES, OR OTHER  
MATERIALS WHICH COULD DEGRADE OR OTHERWISE  
INTERFERE WITH ELECTRONIC SIGNALS FROM RADIOS OR  
ELECTRONIC NAVIGATIONAL AIDS (NAVAIDS).

g

UNMARKED UTILITY, NAVAID, WEATHER SERVICE, RUNWAY  
LIGHTING, OR OTHER POWER OR SIGNAL CABLES THAT COULD  
BE DAMAGED DURING CONSTRUCTION.

h

OBJECTS, WHETHER OR NOT MARKED OR FLAGGED, OR  
ACTIVITIES ANYWHERE ON OR IN THE VICINITY OF THE AIRPORT 11.  
WHICH COULD BE DISTRACTING, CONFUSING, OR ALARMING TO  
PILOTS DURING AIRCRAFT OPERATIONS.

i

UNFLAGGED/UNLIGHTED LOW VISIBILITY ITEMS SUCH AS TALL  
CRANES, DRILLS, ETC. ANYWHERE IN THE VICINITY OF ACTIVE  
RUNWAYS OR IN ANY APPROACH OR DEPARTURE AREA. SUCH  
EQUIPMENT SHALL BE PARKED IN THE CONTRACTOR'S STAGING  
AREA AND THE BOOM(S) LOWERED TO THE GROUND WHEN NOT  
IN USE.

j

MISLEADING OR MALFUNCTIONING LIGHTS OR  
UNLIGHTED/UNMARKED OBSTRUCTIONS IN THE APPROACH TO  
ANY ACTIVE RUNWAY.

k

INADEQUATE APPROACH OR DEPARTURE SURFACES (THESE  
SURFACES ARE NEEDED TO ASSURE ADEQUATE LANDING OR  
TAKEOFF CLEARANCE OVER OBSTRUCTIONS, INCLUDING THE  
CONTRACTOR'S WORK AND STORAGE AREAS).
- i

MARKING AND LIGHTING OF RUNWAYS, TAXIWAYS OR  
TAXILANES THAT COULD BE CONFUSING OR MISLEADING TO  
PILOTS, INCLUDING IMPROPERLY MARKED DISPLACED OR  
RELOCATED THRESHOLDS.

m

INADEQUATE OR IMPROPER METHODS OF MARKING,  
BARRICADING, AND LIGHTING OF TEMPORARILY CLOSED  
PORTIONS OF THE AIRPORT AOA.

n

WATER, SNOW, DIRT, DEBRIS, OR OTHER TRANSIENT  
ACCUMULATION WHICH TEMPORARILY OBSCURES PAVEMENT  
MARKINGS OR PAVEMENT EDGES, OR DIMINISHES THE  
VISIBILITY OF RUNWAY OR TAXIWAY LIGHTING.

o

BIRD ATTRACTANTS SUCH AS EDIBLES (FOOD SCRAPS, ETC.),  
MISCELLANEOUS TRASH, OR PONDED WATER. FOOD SCRAPS  
AND MISCELLANEOUS TRASH SHALL BE SECURED BY THE  
CONTRACTOR AND DISPOSED OF USING PROPER SANITARY  
METHODS.

p

FOREIGN OBJECTS DEBRIS:

i

DEBRIS, WASTE, LOOSE MATERIAL (INCLUDING DUST AND DIRT),  
TRASH OR OTHER MATERIALS WHETHER ON RUNWAYS,  
TAXIWAYS, APRONS, OR IN RELATED SAFETY AREAS IS  
CONSIDERED FOREIGN OBJECT DEBRIS AND PRESENTS THE  
POTENTIAL FOR DAMAGE TO AIRCRAFT. SUCH MATERIAL SHALL 14.  
NOT BE ALLOWED ON ANY AIRCRAFT MOVEMENT AREAS  
(REGARDLESS OF WHETHER THE AREA IS OPEN OR CLOSED) OR  
ADJACENT GRASSED AREAS. ANY DEBRIS (WHETHER CAUSED  
BY THE CONTRACTOR OR NOT) OBSERVED TO BE WITHIN THESE  
AREAS SHALL BE REMOVED IMMEDIATELY AND CONTINUOUSLY  
BY THE CONTRACTOR.

ii

THE CONTRACTOR SHALL BE REQUIRED TO HAVE A VACUUM  
SWEEPER WITH PLASTIC BRUSHES (NOT STEEL) AND  
OPERATOR ON SITE AND READY AT ALL TIMES DURING  
CONSTRUCTION ACTIVITY.

iii

WHERE TRAVEL ON OR ACROSS RUNWAYS, RAMP AREAS,  
TAXIWAYS, OR AIRCRAFT APRONS IS REQUIRED, THE  
CONTRACTOR SHALL PROVIDE ADEQUATE PERSONNEL AND  
EQUIPMENT TO KEEP SUCH SURFACES CLEAR OF DEBRIS.

iv

ALL MATERIALS THAT COULD BLOW ACROSS ANY PAVEMENTS  
SHALL BE SECURED BY THE CONTRACTOR AND DISPOSED OF  
USING PROPER SANITARY METHODS.

q

INADEQUATE BARRICADING OR OTHER MARKING WHICH IS  
PLACED TO SEPARATE CONSTRUCTION OR MAINTENANCE  
AREAS FROM OPEN AIRCRAFT OPERATING AREAS.

r

FAILURE TO CONTROL UNAUTHORIZED VEHICLE AND HUMAN  
ACCESS THROUGH ACTIVE AIRCRAFT OPERATING AREAS.

s

FAILURE TO MAINTAIN RADIO COMMUNICATION BETWEEN  
CONSTRUCTION AND MAINTENANCE VEHICLES AND ATC.

t

CONSTRUCTION AND MAINTENANCE ACTIVITIES OR MATERIALS  
WHICH COULD HAMPER THE RESPONSE OF AIRCRAFT RESCUE  
AND FIRE FIGHTING EQUIPMENT FROM REACHING AIRCRAFT,  
ALL OR ANY PART OF THE RUNWAY/TAXIWAY SYSTEM, RUNWAY  
APPROACH AND DEPARTURE AREAS, AND AIRCRAFT PARKING  
LOCATIONS.

9

THE CONTRACTOR SHALL CONDUCT ACTIVITIES SO AS NOT TO  
VIOLATE ANY SAFETY STANDARDS CONTAINED HEREIN. THE  
CONTRACTOR SHALL INSPECT ALL CONSTRUCTION AND STORAGE  
AREAS AS OFTEN AS NECESSARY AND PROMPTLY TAKE ALL STEPS  
NECESSARY TO PREVENT OR REMEDY ANY UNSAFE OR  
POTENTIALLY UNSAFE CONDITIONS OR ACTIVITIES DISCOVERED.

10

AT LEAST 48 HOURS BEFORE ACTUAL COMMENCEMENT OF  
CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY  
DELDOT, IN WRITING, INDICATING THE PROPOSED TIME, DATE, AND  
AREA OF WHICH COMMENCEMENT IS TO OCCUR. UPON COMPLETION  
OF WORK AND RETURN OF ALL RELATED AREAS TO STANDARD  
CONDITIONS, THE CONTRACTOR SHALL AGAIN NOTIFY DELDOT, IN  
WRITING, AND DESCRIBE THE AREA THAT IS COMPLETE AND  
AVAILABLE FOR NORMAL AIRPORT OPERATIONS. DELDOT REQUIRES  
THIS INFORMATION SO THEY MAY ISSUE APPROPRIATE NOTICE TO  
MISSION CONCERNING CONSTRUCTION ACTIVITY ON THE AIRFIELD.

12

MOTORIZED VEHICLES - THIS PROJECT INCLUDES WORK WITHIN THE  
ACTIVE AIRCRAFT OPERATIONS AREA (AOA) (i.e. THE SECURE  
PORTION OF THE AIRPORT). ALL PERMITTED VEHICLES SHALL  
DISPLAY IN FULL VIEW ABOVE THE VEHICLE A 3 FOOT BY 3 FOOT OR  
LARGER, ORANGE AND WHITE CHECKERBOARD, PLASTIC FLAG.  
EACH CHECKERBOARD COLOR SHALL BE 1 FOOT SQUARE. ANY  
VEHICLE OPERATING IN THE AOA DURING THE HOURS OF DARKNESS  
SHOULD BE EQUIPPED WITH A FLASHING AMBER (YELLOW)  
DOME-TYPE LIGHT, MOUNTED ON TOP OF THE VEHICLE AND OF  
SUCH INTENSITY TO CONFORM TO LOCAL CODES FOR  
MAINTENANCE AND EMERGENCY VEHICLES. DARKNESS SHALL BE  
DEFINED AS ONE HOUR BEFORE OFFICIAL SUNSET UNTIL ONE HOUR  
AFTER SUNRISE. ALL VEHICLES OPERATING WITHIN THE AIRFIELD  
BOUNDARY SHALL BE IDENTIFIED WITH A SIGN ON EACH SIDE OF  
THE VEHICLE BEARING THE CONTRACTOR'S NAME WITH A 12 INCH  
MINIMUM LETTER HEIGHT.

13

RADIO COMMUNICATIONS - RADIO COMMUNICATIONS ARE REQUIRED  
BETWEEN THE CONTRACTOR'S REPRESENTATIVE AND THE AIR

TRAFFIC CONTROL (ATC). RADIO CONTACT IS REQUIRED AT ALL  
TIMES WHILE THE CONTRACTOR HAS PERSONNEL AND EQUIPMENT  
ON THE PROJECT SITE AND WHILE THEY ARE IN AN ACTIVE AIR  
OPERATIONS AREA (AOA). RADIOS SHALL BE FURNISHED BY THE  
CONTRACTOR AND SHALL BE CAPABLE OF TRANSMITTING AND  
RECEIVING AT A GROUND CONTROL FREQUENCY OF 121.8 MHZ. THIS  
FREQUENCY IS TO BE UTILIZED WHEN CROSSING ACTIVE FACILITIES.  
SUFFICIENT RADIOS SHALL BE ON SITE AND OPERATING AT ALL  
TIMES SO THAT INSTRUCTIONS OR COMMUNICATIONS MAY BE  
DISPATCHED TO ALL CREWS WITHIN AN ACTIVE AOA WITHIN ONE  
MINUTE AFTER RECEIPT OF DIRECTION FROM THE ATC.

13. FLAGMEN - IN ACCORDANCE WITH THE SPECIFICATIONS, THE  
CONTRACTOR SHALL FURNISH, AT HIS OWN EXPENSE, FLAGMEN AS  
NECESSARY TO CONTROL CONSTRUCTION TRAFFIC UNLESS  
OTHERWISE DIRECTED BY THE ENGINEER. ALL CONTRACTOR  
VEHICLES THAT ARE REQUIRED TO CROSS ACTIVE RUNWAYS,  
RUNWAY SAFETY AREAS, TAXIWAYS AND APRONS SHALL DO SO  
UNDER THE DIRECT CONTROL OF A COMPETENT FLAGMAN WHO IS  
IN DIRECT RADIO CONTACT WITH FAA ATC GROUND CONTROL. ALL  
AIRCRAFT TRAFFIC ON RUNWAYS, TAXIWAYS AND APRONS SHALL  
HAVE PRIORITY OVER CONTRACTOR'S TRAFFIC. AT NO TIME SHALL  
THE CONTRACTOR'S VEHICLES OR PERSONNEL BE ALLOWED TO  
ENTER OR CROSS ACTIVE RUNWAYS OR CLEAR ZONES WITHOUT  
PROPER AUTHORIZATION OBTAINED THROUGH GROUND CONTROL.

OPEN FLAME, WELDING OR TORCH CUTTING OPERATIONS ARE  
PROHIBITED UNLESS ADEQUATE FIRE AND SAFETY PRECAUTIONS  
HAVE BEEN TAKEN AND THE PROCEDURE PREVIOUSLY APPROVED  
BY THE ENGINEER. A FIRE WATCH IS REQUIRED. OPEN FLAME  
OPERATIONS REQUIRE A BURNING/WELDING PERMIT THAT SHOULD  
BE COORDINATED WITH AIRPORT MANAGEMENT 302-571-6312.

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO:	872.013.079	
DATE:	TBD	
PROJECT MANAGER:	RNM	
DRAWN BY:	GCS	
DESIGNED BY:	MPP	
CHECKED BY:	MPP	
NO ALTERATION ON THESE DRAWINGS IS ALLOWED UNLESS SAID ALTERATIONS ARE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF AN ITEM BOUND BY THE SEAL OF AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE SPECIFIC DESCRIPTION OF SUCH ALTERATION.		

GENERAL  
CONSTRUCTION  
AND SAFETY  
NOTES 1

SHEET REFERENCE NO.

G-100

SHEET OF —

33N BOX HANGAR  
DELAWARE AIRPARK  
  
DELAWARE RIVER AND BAY AUTHORITY  
KENT COUNTY  
DELAWARE

Copyright



D

C

B

A

SITE ACCESS, CONTRACTOR STAGING, HAUL ROUTES AND MATERIAL STORAGE

- ACCESS TO THE SITE - THE CONTRACTOR'S ACCESS POINTS TO THE SITE SHALL BE AS SHOWN ON THE OVERALL SAFETY AND PHASING PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL VEHICLES AND PERSONNEL WHO ENTER THE AIRPORT THROUGH THESE ACCESS POINTS. GATES SHALL BE SECURED WHEN NOT IN USE. THE CONTRACTOR SHALL PROVIDE AIRPORT OPERATIONS WITH A SCHEDULE OF TIMES THAT THE GATE WILL BE MANNED FOR ENTRY BY THE CONTRACTOR.
- ALL OFF-SITE HAUL ROUTES SHALL BE SELECTED TO MINIMIZE DISTURBANCE TO THE PUBLIC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS, OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. THE CONTRACTOR'S ON-AIRPORT HAUL ROUTES ARE TO BE COORDINATED WITH THE AIRPORT AND DELDOT. THESE SHALL BE EXISTING HAUL ROADS, WHERE AVAILABLE, OR ALONG TAXIWAY/TAXILANE PAVEMENTS UNLESS OTHERWISE INDICATED IN THE CONTRACT DRAWINGS.
- ON-SITE ROADS AND OTHER AIRFIELD PAVEMENTS USED AS HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE, UNLESS OTHERWISE DIRECTED BY THE CONTRACT DOCUMENTS OR BY THE ENGINEER. THE BEFORE AND AFTER CONDITION OF ALL ON-SITE HAUL ROUTES (TEMPORARY OR PERMANENT) SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE CONTRACTOR AND THE ENGINEER THROUGH THE USE OF DIGITAL PHOTOGRAPHY AND/OR VIDEO. THE CONTRACTOR MAY NEED TO COORDINATE HAUL ROUTE USAGE WITH OTHER CONTRACTORS WORKING ON THE AIRPORT.
- FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT OR RESTORE TEMPORARY OR PERMANENT HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT WILL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING THE WORK.
- ALL ON-SITE ACCESS ROADS TO AIRPORT FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES.
- CONTRACTOR'S STAGING AREA - AN AREA WILL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION AND STORAGE. THE CONTRACTOR'S STAGING AREA SHALL BE FREE OF DEBRIS. IF DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL BE REQUIRED TO STAKE OUT AND FLAG THE STAGING AREA LIMITS. NO STAGING WILL BE ALLOWED WITHIN RUNWAY SAFETY AREAS. UPON COMPLETION OF THE PROJECT, THE STAGING AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- ALL MATERIALS AND EQUIPMENT (INCLUDING STOCKPILED MATERIAL) WHEN NOT IN USE SHALL BE PLACED IN APPROVED AREAS WHERE THEY WILL NOT CONSTITUTE A HAZARD TO AIRCRAFT OPERATIONS AND NOT PENETRATE CLEARANCE SURFACES SHOWN ON THE GENERAL PROJECT LAYOUT.
  - THE OBSTACLE FREE ZONE (OFZ) GOVERNS EQUIPMENT CLEARANCE DURING CONSTRUCTION ADJACENT TO AN ACTIVE RUNWAY. UNDER NO CIRCUMSTANCES SHALL ANY MEN OR EQUIPMENT PENETRATE THESE SURFACES UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH AIRPORT OPERATIONS.
  - THE FAR PART 77 APPROACH, PRIMARY, AND TRANSITIONAL SURFACES GOVERN STOCKPILES AND PARKED EQUIPMENT. UNDER NO CIRCUMSTANCES SHALL STOCKPILES, PARKED EQUIPMENT, OR OTHER CONSTRUCTION ITEMS PENETRATE THESE SURFACES ADJACENT TO AN ACTIVE RUNWAY.
- EQUIPMENT SHALL BE PARKED AT THE CONTRACTOR'S STAGING AREA WHEN NOT IN USE. TALL EQUIPMENT SUCH AS CRANES SHALL BE LOWERED TO THE GROUND WHEN NOT IN USE. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT JET BLAST OR WIND CONDITIONS IN EXCESS OF 10 KNOTS.
- ALL CONTRACTOR VEHICLES AND TRAFFIC (UNLESS OTHERWISE AUTHORIZED) SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES.

SECURITY

- THE AIRPORT WILL NOT PROVIDE AIRFIELD OPERATIONS AREA ESCORTS. THE CONTRACTOR MUST PROVIDE RADIOS TO THE CREW AND AQUAINT PERTINENT PERSONNEL WITH THE PROPER PROCEDURES IN COMMUNICATIONS WITH GROUND CONTROL.
- THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CURRENT LIST OF ALL EMPLOYEES WORKING ON THE AIRPORT. THE LIST SHALL BE MAINTAINED CURRENT BY THE CONTRACTOR AND APPLIES TO BOTH THE CONTRACTOR AND SUBCONTRACTORS.
- THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT FOR ADDITIONAL SECURITY REQUIREMENTS.

UTILITIES

- UNDERGROUND UTILITIES - LOCATIONS OF KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE. ALL UTILITY LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR IS REQUIRED TO COMPLETE A DIGGING AUTHORIZATION FORM, AS SUPPLIED BY THE ENGINEER, PRIOR TO INITIATION OF EXCAVATION OPERATIONS.
- REPAIR OF UTILITIES DAMAGED DURING CONSTRUCTION MUST BE STARTED IMMEDIATELY AND CONTINUE UNTIL COMPLETED.
- ALL SUCH REPAIRS SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER AND SHALL BE AT THE CONTRACTOR'S EXPENSE.
- IF FAA CABLES ARE DAMAGED, REPAIRS SHALL BE DONE IN ACCORDANCE WITH FAA REQUIREMENTS AND IN THE PRESENCE OF AN FAA REPRESENTATIVE. THE FAA MAY ELECT TO HAVE THE REPAIR PERFORMED BY OTHERS IN WHICH CASE THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE INCURRED COSTS OF REPAIRS.
- UTILITIES NOTIFICATION - AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OWNER OF EACH UNDERGROUND UTILITY AFFECTED.

EMERGENCY CONTACT INFORMATION

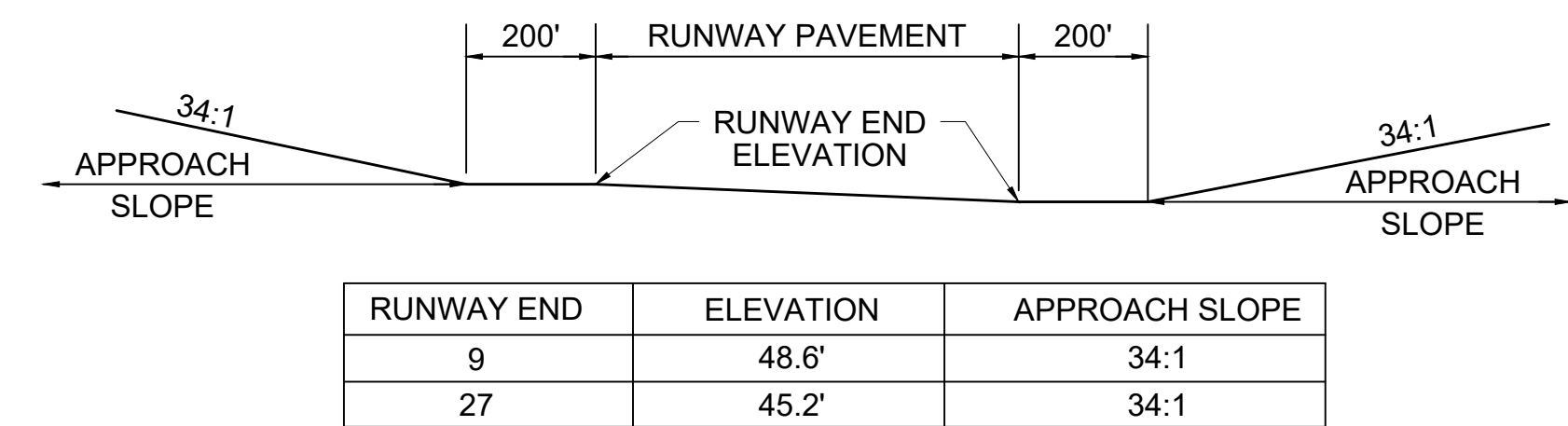
- EXCEPT FOR EMERGENCIES, ALL CONTACT WITH AIRPORT PERSONNEL SHALL BE MADE THROUGH THE ENGINEER. FOR EMERGENCIES INVOLVING SAFETY (INJURIES, FIRES, SECURITY BREACHES, ETC.) THE CONTRACTOR SHALL MAKE DIRECT CONTACT WITH AIRPORT OPERATIONS FOLLOWED BY NOTIFICATION TO THE ENGINEER AS SOON AS POSSIBLE.
- THE PROJECT SUPERVISORS SHALL HAVE THE FOLLOWING TELEPHONE NUMBERS WITH THEM AT ALL TIMES:
  - OWNER: DELAWARE DEPARTMENT OF TRANSPORTATION  
a.a. 127 DURHAM LANE, DOVER, DE 19904: (302) 571-6312
  - MANAGER: BENJAMIN S. CLENDANIEL  
a.a. 127 DURHAM LANE, DOVER, DE 19904: (302) 571-6312
  - THE FOLLOWING CONTACTS MUST BE OBTAINED PRIOR TO CONSTRUCTION
  - 33N FIRE MARSHAL
  - 33N FIRE/POLICE EMERGENCY (911)
  - 33N OPERATIONS
  - 33N ATC
  - AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC)
- THE CONTRACTOR SHALL PROVIDE THE PHONE NUMBERS OF THREE PERSONNEL, INCLUDING THE PROJECT SUPERINTENDENT, WHO MAY BE CONTACTED IN AN EMERGENCY. PERSONNEL SHALL BE ON CALL 24 HOURS PER DAY FOR MAINTAINING AIRPORT HAZARD LIGHTING AND BARRICADES.

RELATED DOCUMENTS

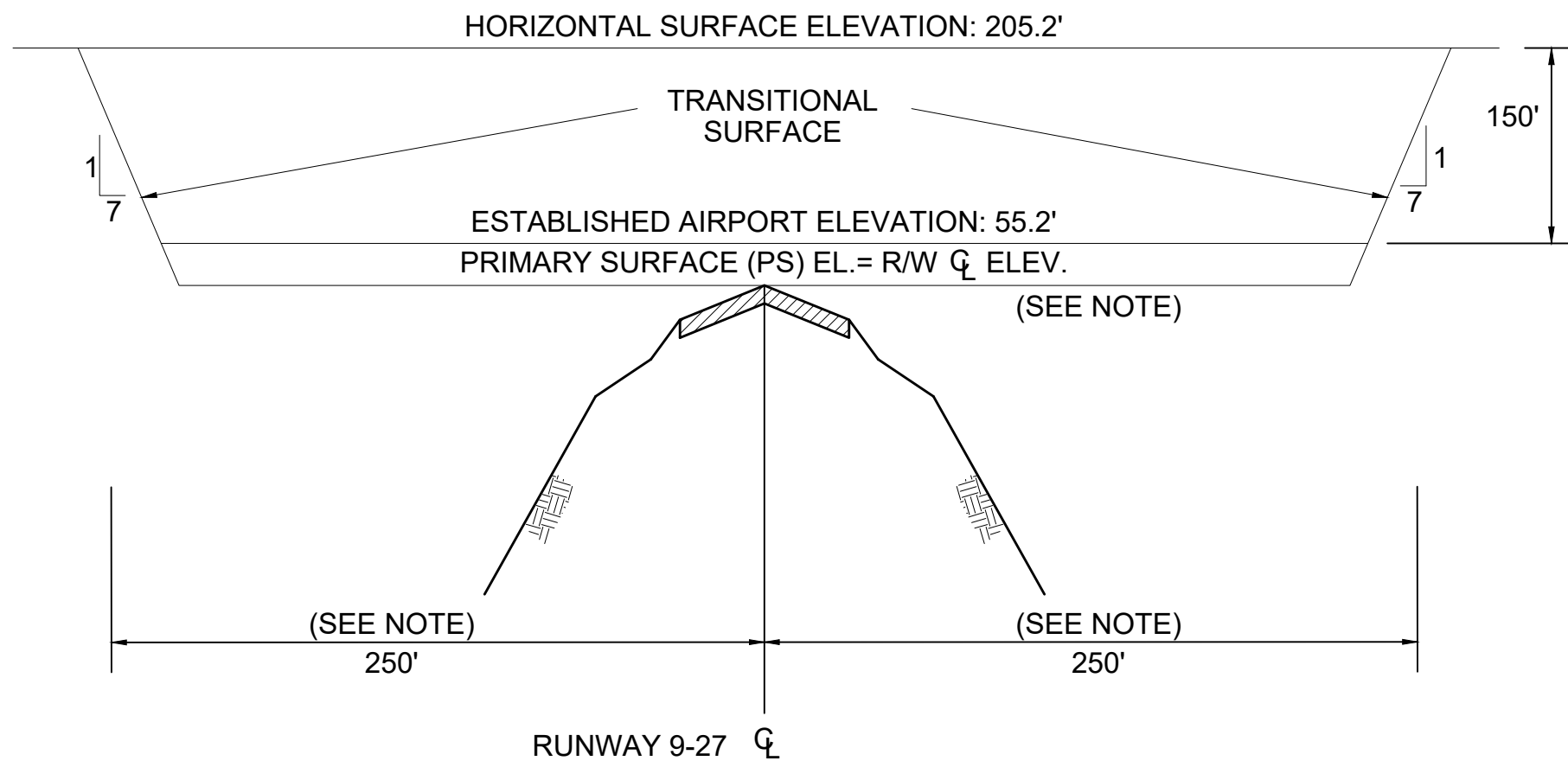
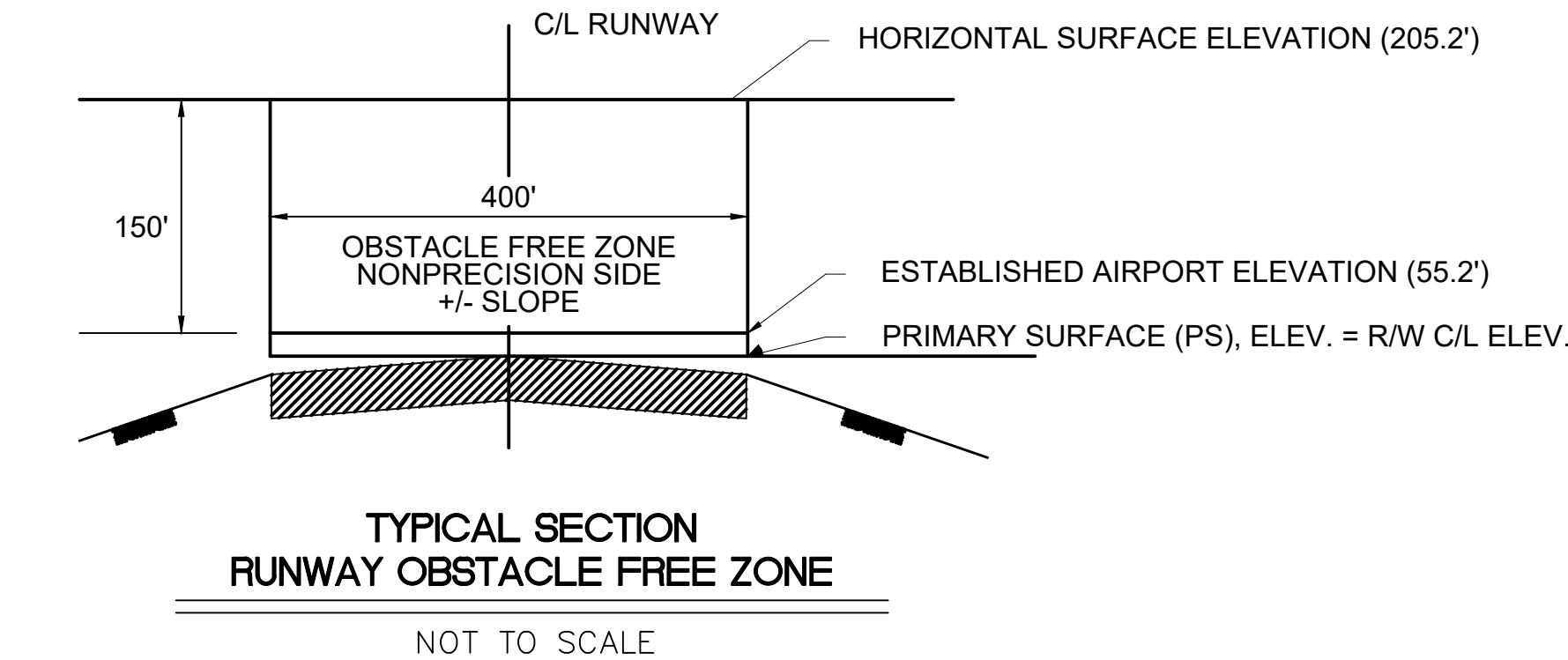
- FAA ADVISORY CIRCULARS (AC's), ORDERS AND FEDERAL AVIATION REGULATIONS (FAR's) - THE FOLLOWING PUBLICATIONS CONTAIN DEFINITIONS OR DESCRIPTIONS OF CRITICAL AIRPORT OPERATING AREAS. COPIES OF THESE PUBLICATIONS ARE AVAILABLE THROUGH THE FAA AT WWW.FAA.GOV AND CAN BE REVIEWED AT THE OFFICES OF THE MAA.

THE ITEMS OUTLINED BELOW PERTAIN TO AIRFIELD SAFETY REQUIREMENTS AND ARE REFERENCED THROUGHOUT THE CONTRACT DOCUMENTS.

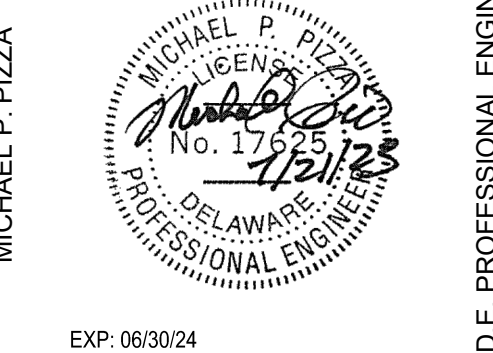
- AC 150/5370-2G, 'OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION', CURRENT EDITION, SETS FORTH GUIDELINES TO ASSIST AIRPORT OPERATORS IN COMPLYING WITH FAR PART 139, "CERTIFICATION AND OPERATION: LAND AIRPORTS SERVING CERTAIN AIR CARRIERS" AND WITH THE REQUIREMENTS OF FEDERALLY FUNDED AIRPORT CONSTRUCTION PROJECTS.
- FAR PART 77 'OBJECTS AFFECTING NAVIGABLE AIRSPACE', CURRENT EDITION:
  - ESTABLISHES STANDARDS FOR DETERMINING OBSTRUCTIONS TO NAVIGABLE AIRSPACE. IMAGINARY SURFACES ARE DEFINED IN THE PUBLICATION AND ARE SHOWN ON THIS SHEET.
  - ESTABLISHES REQUIREMENTS FOR FILING NOTICE TO THE FAA FOR CERTAIN PROPOSED CONSTRUCTION OR ALTERATION PROPOSALS. COMPLETION OF THE 'NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION' FORM (FAA FORM 7460-1) IS DISCUSSED IN AC 70/7460-1 'OBSTRUCTION MARKING AND LIGHTING', CURRENT EDITION.
- AC 70/7460-2, 'PROPOSED CONSTRUCTION OF OBJECTS THAT MAY AFFECT THE NAVIGABLE AIRSPACE', CURRENT EDITION, PROVIDES INFORMATION TO PERSONS PROPOSING TO ERECT OR ALTER AN OBJECT THAT MAY AFFECT NAVIGABLE AIRSPACE. THE AC EXPLAINS THE REQUIREMENT TO NOTIFY THE FAA BEFORE CONSTRUCTION BEGINS AND THE FAA'S RESPONSIBILITY TO RESPOND TO THESE NOTICES.
- AC 150/5300-13B, 'AIRPORT DESIGN', CURRENT EDITION, ESTABLISHES DESIGN AND OPERATIONAL STANDARDS FOR AIRPORTS. STANDARD TERMS USED IN THE CONTRACT PLANS AND SPECIFICATIONS ARE DEFINED BELOW.
  - OBSTACLE FREE ZONE (OFZ) - A VOLUME OF SPACE WHICH IS FREE OF ALL FIXED OBJECTS AND CLEAR OF VEHICLES IN THE PROXIMITY OF AN AIRPLANE CONDUCTING AN APPROACH, MISSED APPROACH, LANDING, TAKEOFF, OR DEPARTURE. AN OFZ TYPICAL SECTION IS SHOWN ON GENERAL PROJECT LAYOUT.
  - OBJECT FREE AREA (OFA) - A TWO DIMENSIONAL GROUND AREA SURROUNDING RUNWAYS, TAXIWAYS, AND TAXILANES WHICH IS CLEAR OF OBJECTS EXCEPT FOR OBJECTS WHOSE LOCATION IS FIXED BY FUNCTION.
  - SAFETY AREA - THE SURFACE ADJACENT TO RUNWAYS, TAXIWAYS, AND TAXILANES OVER WHICH AIRCRAFT SHOULD, IN DRY WEATHER, BE ABLE TO CROSS AT NORMAL SPEEDS WITHOUT INCURRING ANY SIGNIFICANT DAMAGE. A SAFETY AREA IS GRADED, DRAINED AND COMPACTED. IT IS FREE OF ANY HOLES, TRENCHES, BUMPS OR OTHER SIGNIFICANT SURFACE VARIATIONS OR OBJECTS OTHER THAN THOSE WHICH MUST BE THERE BECAUSE OF THEIR ESSENTIAL AERONAUTICAL FUNCTION. THE SAFETY AREA REQUIRES THE CAPABILITY OF SUPPORTING MAINTENANCE VEHICLES AND AIRCRAFT RESCUE AND FIRE FIGHTING VEHICLES UNDER NORMAL (DRY) CONDITIONS.



**TYPICAL PROFILE**  
**F A R PART 77 IMAGINARY SURFACES**  
NOT TO SCALE



**NOTE**  
SEE "SAFETY REQUIREMENTS DURING CONSTRUCTION" AS CONTAINED IN THE SPECIFICATIONS, AND PLANS REGARDING RESTRICTED AREAS IN THE VICINITY OF ACTIVE RUNWAYS AND TAXIWAYS.



33N BOX HANGAR  
DELAWARE AIRPARK  
DELAWARE RIVER AND BAY AUTHORITY  
KENT COUNTY  
DELAWARE

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 872.013.079		
DATE: TBD		
PROJECT MANAGER: RNM		
DRAWN BY: GCS		
DESIGNED BY: MPP		
CHECKED BY: MPP		
NO ALTERATION ON THESE DRAWINGS IS ALLOWED UNLESS SAID ALTERATIONS ARE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF AN ITEM BOUND BY THE SEAL OF AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE SPECIFIC DESCRIPTION OF SUCH ALTERATION.		

**GENERAL  
CONSTRUCTION  
AND SAFETY  
NOTES 2**

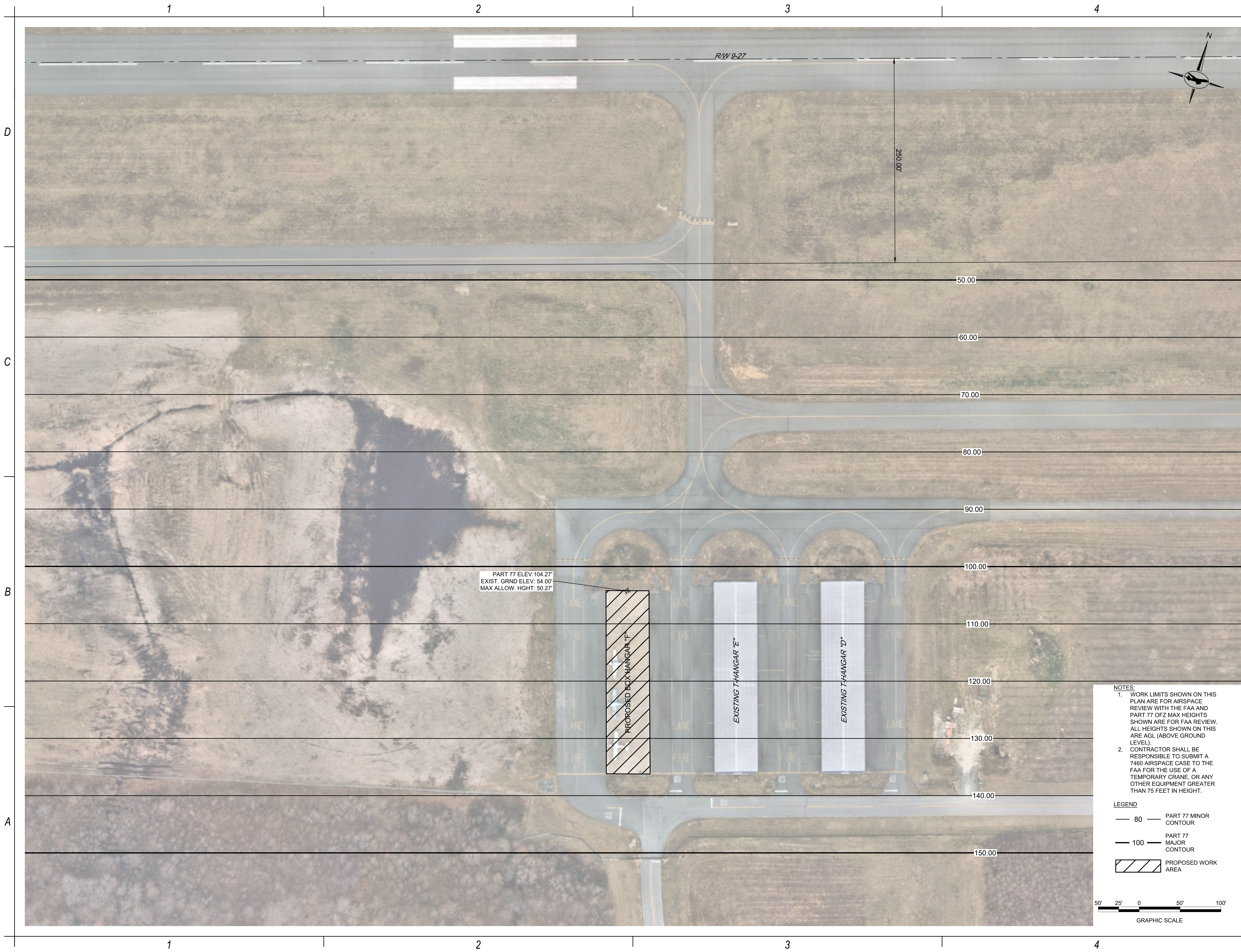
SHEET REFERENCE NO.

**G-101**

SHEET OF



JUL 19, 2023 - 1:47pm  
C:\33N\Projects\2023-0901 Box Hangar Installation\CAD\SHEETS\SG1.10\_MAXIMUM EQUIPMENT HEIGHT PLAN.dwg



PART 77 ELEV: 104.27'  
EXIST. GRND ELEV: 54.00'  
MAX ALLOW. HIGHT: 50.27'

PROPOSED BOX HANGAR "F"

EXISTING THANGAR "E"

EXISTING THANGAR "D"

- NOTES:
1. WORK LIMITS SHOWN ON THIS PLAN ARE FOR AIRSPACE REVIEW WITH THE FAA AND PART 77 OFZ MAX HEIGHTS SHOWN ARE FOR FAA REVIEW. ALL HEIGHTS SHOWN ON THIS ARE AGL (ABOVE GROUND LEVEL).
  2. CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT A 7460 AIRSPACE CASE TO THE FAA FOR THE USE OF A TEMPORARY CRANE, OR ANY OTHER EQUIPMENT GREATER THAN 75 FEET IN HEIGHT.

- LEGEND
- 80 PART 77 MINOR CONTOUR
  - 100 PART 77 MAJOR CONTOUR
  - PROPOSED WORK AREA



**ADCI**  
AIRPORT DESIGN CONSULTANTS, INC.  
1880 JFK BLVD, SUITE 1140  
PHILADELPHIA, PA 19103

MICHAEL P. PIZZA  
D.E. PROFESSIONAL ENGINEER  
NO. 17625  
EXP: 06/30/24

**DRBA**  
DELAWARE RIVER  
& BAY AUTHORITY

33N BOX HANGAR  
DELAWARE AIRPARK  
DELAWARE RIVER AND BAY AUTHORITY  
KENT COUNTY  
DELAWARE

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO:	872.013.079	
DATE:	TBD	
PROJECT MANAGER:	RNM	
DRAWN BY:	GCS	
DESIGNED BY:	MPP	
CHECKED BY:	MPP	
NO ALTERATION ON THESE DRAWINGS IS ALLOWED UNLESS SAID ALTERATIONS ARE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF AN ITEM BOUND BY THE SEAL OF AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE SPECIFIC DESCRIPTION OF SUCH ALTERATION.		

MAXIMUM  
EQUIPMENT  
HEIGHT PLAN

SHEET REFERENCE NO.

G-110

SHEET OF



Oct 06, 2023 - 5:35pm  
F:\Project\072 - DELAWARE RIVER & BAY AUTHORITY\072013079 33N Box Hangar Design\Deliverables (PDF)\Pavement Plan Sheets\33N Box Hangar Construction.dwg



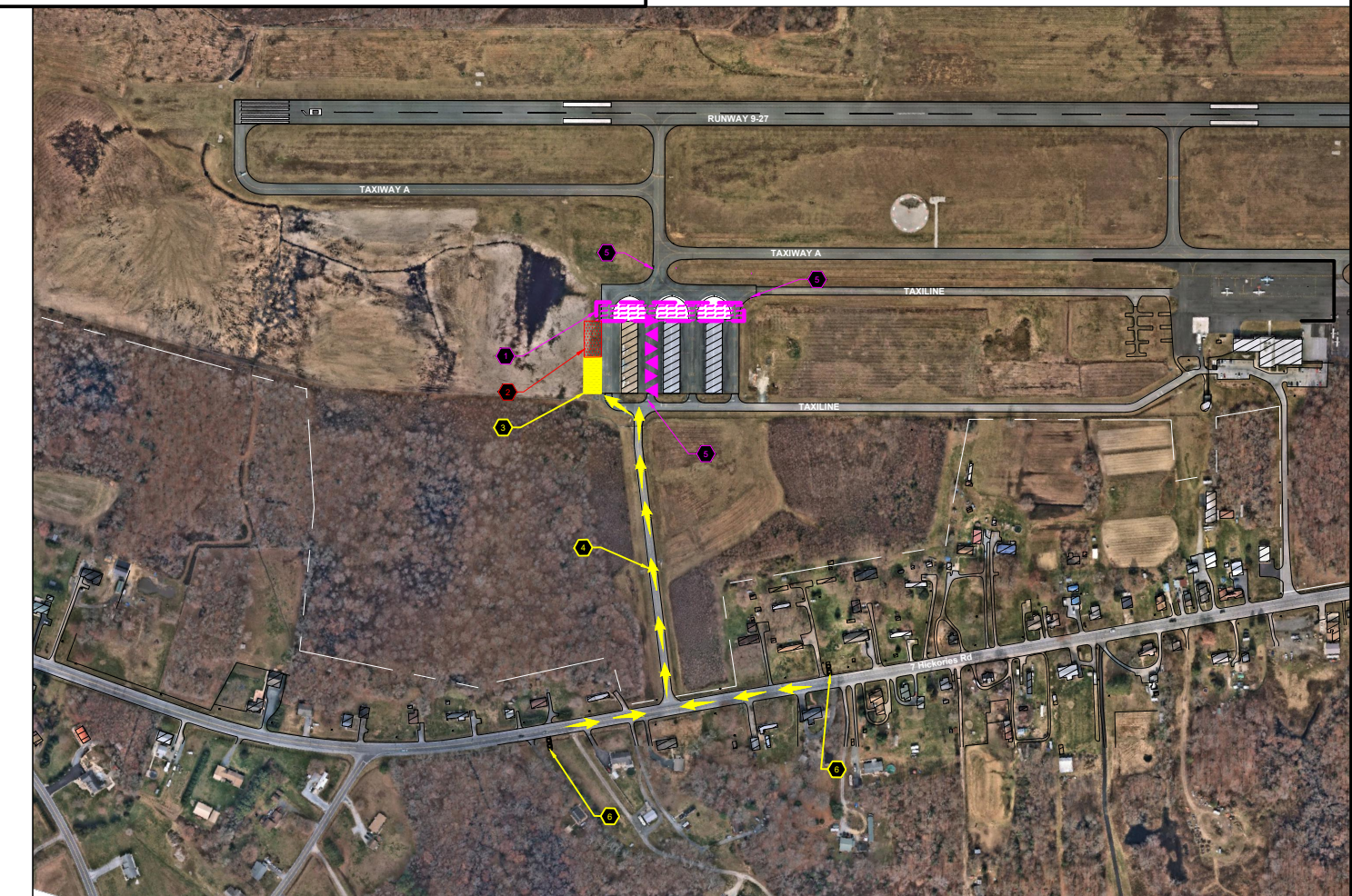
**B1** CONSTRUCTION SAFETY AND PHASING PLAN  
SCALE: NOT TO SCALE

**KEYED NOTES**

- 1. WORK AREA A**
- 2. CONTRACTOR'S STAGING AREA & MATERIAL STOCKPILES: ALL WORK AREAS**
- 3. CONTRACTOR EMPLOYEE PARKING: ALL WORK AREAS**
- 4. CONTRACTOR'S HAUL ROUTE TO STAGING AREA, EMPLOYEE PARKING & WORK AREA**
- 5. LOW PROFILE AVIATION BARRICADES: WORK AREA A**
- 6. SIGNS: "CAUTION TRUCKS ENTERING ROADWAY"; 500 FROM INTERSECTION**

**LEGEND**

- BARRICADES**
- HAUL ROUTE ARROW**
- GUIDANCE SIGN**
- WORK AREA A**
- CONTRACTOR'S STAGING AND STOCKPIILING AREA**
- CONTRACTOR EMPLOYEE PARKING**



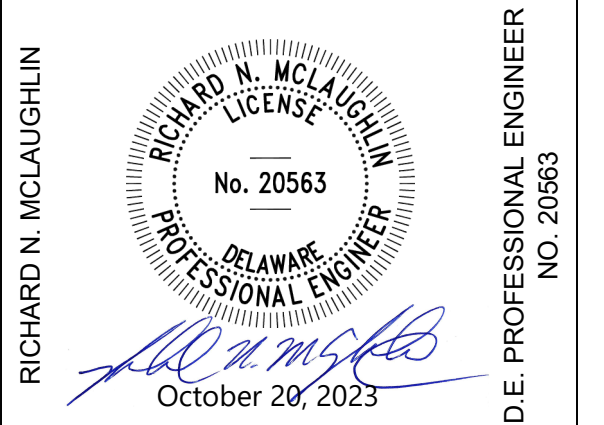
**A4** KEY MAP  
SCALE: NOT TO SCALE

**A1** KEYED NOTES  
SCALE: NOT TO SCALE

**A3** LEGEND  
SCALE: NOT TO SCALE



**C&S Engineers, Inc.**  
1500 Market Street, Suite W2410  
Philadelphia, PA 19102  
Phone: 215-709-4340  
www.cscos.com



**BOX HANGAR CONSTRUCTION**  
**DELAWARE AIRPARK**  
**DELAWARE RIVER AND BAY AUTHORITY**  
**KENT COUNTY**  
**DELAWARE**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO:	872.013.079	
DATE:	OCTOBER 2023	
PROJECT MANAGER:	RNM	
DRAWN BY:	CW	
DESIGNED BY:	CW	
CHECKED BY:	JD	
NO ALTERATION ON THESE DRAWINGS IS ALLOWED UNLESS SAID ALTERATIONS ARE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF AN ITEM BOUND BY THE SEAL OF AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE SPECIFIC DESCRIPTION OF SUCH ALTERATION.		

**CONSTRUCTION**  
**SAFETY AND**  
**PHASING PLAN**

SHEET REFERENCE NO.

**GC-101**

SHEET 5 OF 5

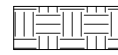
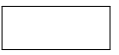

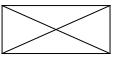
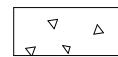
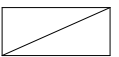
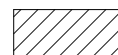



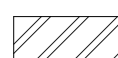
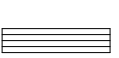


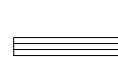

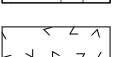



D

C

B

A

	EARTH		WOOD (FINISHED)
	GRANULAR FILL		WOOD (CONTINUOUS)
	CONCRETE		WOOD (BLOCKING)
	BRICK		INSULATION (LOOSE OR BATT)
	CONCRETE MASONRY UNIT		INSULATION (RIGID BOARD)
	STEEL SECTION		GLASS
	STRUCTURAL STEEL		ACOUSTIC/CERAMIC TILE
	PLYWOOD		GYPSUM WALL BOARD, SAND, PLASTER, CEMENT, GROUT
			TERRAZZO
			CARPET




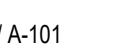
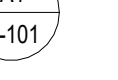
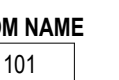

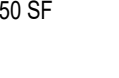



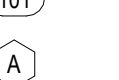


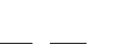
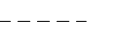

D3 MATERIAL LEGEND  
SCALE: 1:1

WORKING HEIGHTS			
ITEM	COMMON FIXTURE	PHYSICALLY HANDICAPPED (ADA)	REMARKS
DRINKING FOUNTAIN (SPOUT)	42	36 MAX	
GRAB BAR (WALL MOUNTED)	33	33 - 36	
LAV AND SINK (TO RIM)	34	34 MAX	
LAV AND SINK (BOT OF APRON)	---	29 MIN	
LIGHT SWITCH (CL)	42	48 MAX	ADA REACH STANDARDS
HAND DRYER	40	48 MAX	
SOAP DISPENSER (CL & TOP)	37	48 MAX	ADA REACH STANDARDS
TOILET PAPER HOLDER (CL)	19 MIN	29 MIN	ADA REACH STANDARDS
URINAL (RIM)	22	17 MAX	
URINAL (CL OF FLUSH VALVE)	---	44 MAX	
WATER CLOSET (SEAT)	15	17 - 19	
WATER CLOSET (CL OF FLUSH VALVE)	---	44 MAX	18 (TYP)

NOTE:

- HEIGHTS OF ITEMS NOT INDICATED ON THIS CHART SHALL BE AS DETAILED, SPECIFIED, OR AS DIRECTED BY THE PRODUCT MANUFACTURER'S INSTALLATION REQUIREMENTS.
- ALL HEIGHTS ARE SHOWN IN INCHES ABOVE THE FINISHED FLOOR LINE.

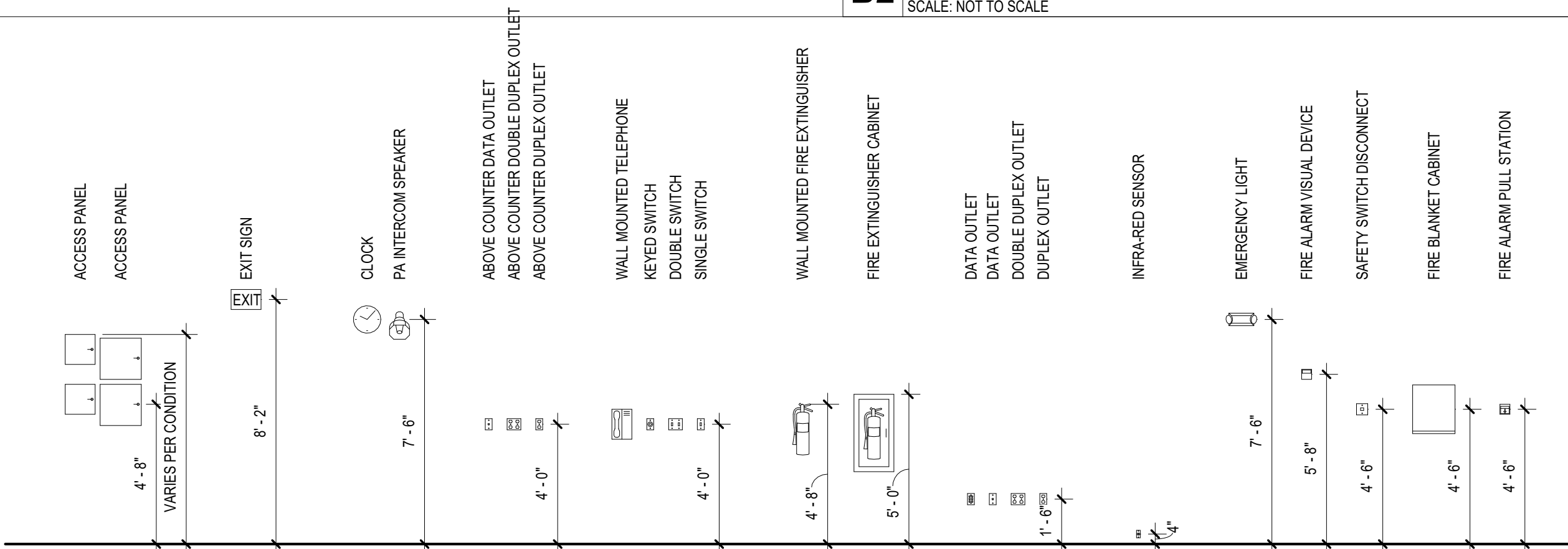
B3 WORKING HEIGHTS OF FIXTURES, HARDWARE, & EQUIPMENT  
SCALE: 1/2" = 1'-0"

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	STRUCTURAL GRID		LEVEL REFERENCE
	EXTERIOR ELEVATION		VIEW REFERENCE
	INTERIOR ELEVATION		ROOM TAG
	BUILDING SECTION		WALL TAG
	WALL SECTION		DOOR TAG
	DETAIL CALLOUT		WINDOW TAG
			REVISION TAG
			STRUCTURAL GRID LINE
			FINISHED SURFACE LINE
			DEMOLITION LINE
			OVERHEAD/HIDDEN LINE

A3 SYMBOLS  
SCALE: NOT TO SCALE

<b>A</b> AFF ACT AMP ALUM L	ABOVE FINISHED FLOOR ACOUSTICAL CEILING TILE ACOUSTICAL METAL PANEL ALUMINUM ANGLE	<b>L</b> LAM LAV L LF LG LLH LLV LPT	LAMINATE LAVATORY LENGTH / LONG LINEAL FEET LAMINATED GLASS LONG LEG HORIZONTAL LONG LEG VERTICAL LOW POINT
<b>B</b> BLK BD BOT BLDG BL	BLOCK BOARD BOTTOM BUILDING BUILDING LINE	<b>M</b> MFR MO MATL MAX MECH MTL MEZZ MIN	MANUFACTURER MASONRY OPENING MATERIAL MAXIMUM MECHANICAL METAL MEZZANINE MINIMUM
<b>C</b> CPT CLKG CLG CBB CTR CL CT CH BD CLR CLO COL CONC CMU CONT CJ CS CORR CTR CRS CRN	CARPET TILE CAULK(ING) CEILING CEMENTITIOUS BACKER BOARD CENTER LINE CERAMIC TILE CHALKBOARD CLEAR / CLEARANCE CLOSET COLUMN CONCRETE CONCRETE MASONRY UNIT CONTINUOUS CONTROL JOINT CORNER GUARD CORRIDOR COUNTER COURSE(S) CROWN	<b>N</b> NOM NA NIC NO NTS	NOMINAL NOT APPLICABLE NOT IN CONTRACT NUMBER NOT TO SCALE
<b>D</b> DEMO DET DIA DIM DISP DN DWG DF	DEMOLISH / DEMOLITION DETAIL DIAMETER DIMENSION DISPENSER DOWN DRAWING DRINKING FOUNTAIN	<b>O</b> OC OPNG OPP OD OH	ON CENTER OPENING OPPOSITE OD OVERHEAD
<b>E</b> EA ELEC EWC EL ELEV ENCL ENTR EQ EQUIP EXH EXIST ETR EXP EJ EXP EXT	EACH ELECTRIC ELECTRIC WATER COOLER ELEVATION ELEVATOR ENCLOSURE ENTRANCE EQUAL EQUIPMENT EXHAUST EXISTING EXISTING TO REMAIN EXPANSION EXPANSION JOINT EXPOSED EXTERIOR	<b>Q</b> QT QTZ	QUARRY TILE QUARTZ
<b>F</b> FOF FOM FOS FOW F/F FT FRP FGL FIN FF FIN GR FFL FA FEC FHC FP FRT FP FIXT FLASH FLR FD FTG FDN FURN FBO FURG	FACE OF FINISH FACE OF MASONRY FACE OF STUDS FACE OF WALL FACE TO FACE FEET/FOOT FIBER REINFORCED POLYESTER FIBERGLASS FINISHED FINISH FLOOR FINISH GRADE FINISHED FLOOR FIRE ALARM FIRE EXTINGUISHER CABINET FIRE HOSE CABINET FIRE PROTECTION FIRE RETARDANT FIREPROOF FIXTURE FLASHING FLOOR FLOOR DRAIN FOOTING FOUNDATION FURNISH FURNISHED BY OTHERS FURRED(ING)	<b>R</b> R REIN REQD RF REV R RD RL RTU RM RO RBR RB	RADIUS REINFORCE REQUIRED RESILIENT FLOORING REVISION / REVISED RISER ROOF DRAIN ROOF LEADER ROOF TOP UNIT ROOM ROUGH OPENING RUBBER RUBBER BASE
<b>G</b> GA GALV GC GL GL BLK GB GRL GWB	GAGE / GAUGE GALVANIZED GENERAL CONTRACTOR GLASS GLASS BLOCK GRAB BAR GRILLE GYPSUM BOARD	<b>S</b> SCH SLNT SLR SECT SHTHG SIM SD SAFB SPEC SF STAIN SS SST STL STOR STRUCT SUSP SYS	SCHEDULE (D) SEALANT SEALER SECTION SHEATHING SIMILAR SOAP DISPENSER SOUND ATTENUATION FIBERGLASS BATT SPECIFICATION SQUARE FEET STAIN SOLID SURFACE STAINLESS STEEL STEEL STORAGE STRUCTURAL SUSPENDED SYSTEM
<b>H</b> HCP HNDRL HDWD HT HP HM	HANDICAPPED HANDRAIL HARDWOOD HEIGHT HIGH POINT HOLLOW METAL	<b>I</b> IRWC ID INSUL INT	IMPACT RESISTANT WALL COVERING INSIDE DIAMETER INSULATION / INSULATED INTERIOR
<b>J</b> JAN CL	JANITOR'S CLOSET	<b>U</b> UNFIN UCN	UNFINISHED UNLESS OTHERWISE NOTED
<b>K</b> KD	KNOCKDOWN	<b>V</b> VB VR VTR VIF VERT VEST VCT VWB VWC VP	VAPOR BARRIER VAPOR RETARDER VENT THROUGH ROOF VERIFY IN FIELD VERTICAL VESTIBULE VINYL COMPOSITION TILE VINYL WALL BASE VINYL WALL COVERING VISION PANEL
		<b>W</b> WSCOT W CAB WC W WG WV WM WD WBL	WAINSCOT WALL CABINET WATER CLOSET WIDE WIRE GLASS WITH WIRE MESH WOOD WOOD BLOCKING

A4 ABBREVIATION LIST  
SCALE: 1 1/2" = 1'-0"



A1 TYPICAL FIXTURE MOUNTING HEIGHT  
SCALE: 1/4" = 1'-0"

B2 GENERAL WALL NOTES  
SCALE: NOT TO SCALE

- THE TERM "WALL" AND "PARTITION" ARE USED INTERCHANGEABLY.
- ALL DIMENSIONS ARE NOMINAL CENTERLINE OF METAL STUD PARTITION OR FACE OF MASONRY UNLESS OTHERWISE NOTED.
- ALL GYPSUM BOARD SHALL BE INSTALLED VERTICALLY WITH JOINTS STAGGERED WHERE THERE ARE TWO LAYERS. NO GLUING ALLOWED.
- PROVIDE ACOUSTICAL SEALANT AT ALL PARTITION PERIMETERS, RUNNERS, ELECTRICAL OUTLETS, PENETRATIONS AND OPENINGS. TO MINIMIZE SOUND TRANSMISSION ELECTRICAL OUTLETS SHALL BE SEPARATED BY A MINIMUM OF ONE STUD, BACK TO BACK.
- THE LOCATIONS OF FIRE RATED WALLS ARE SHOWN ON THE DRAWINGS. PENETRATIONS IN RATED ASSEMBLIES SHALL BE FIRE STOPPED TO MAINTAIN REQUIRED RATING.
- WALL HEIGHTS:  
-ALL FIRE RATED WALLS SHALL BE FULL HEIGHT TO UNDERSIDE OF STRUCTURE. UNLESS OTHERWISE NOTED ON THE DRAWINGS ALL WALLS SHALL BE PARTIAL HEIGHT TO 0" ABOVE CEILING. STUDS MAY CONTINUE TO STRUCTURE FOR BRACING, OR BRACED AS NOTED BELOW.
- LATERAL BRACING:  
-PROVIDE APPROPRIATE LATERAL BRACING FOR WALLS EXCEEDING THE UNBRACED HEIGHT INDICATED OR THOSE THAT DO NOT EXTEND TO STRUCTURE. SEE LATERAL BRACING DETAILS FOR ADDITIONAL REQUIREMENTS.
- GYPSUM WALL BOARD CONSTRUCTION SHALL BE ISOLATED WITH CONTROL JOINTS WHERE:  
-PARTITIONS OR CEILINGS OF DISSIMILAR CONSTRUCTION MEET AND REMAIN IN THE SAME PLANE.  
-EXPANSION OR CONTROL JOINTS OCCUR IN THE BUILDING STRUCTURE OR WALL CONSTRUCTION.  
PROVIDE CONTROL JOINTS IN THE FACE OF GWB PARTITIONS AND CEILINGS WHEN THE SIZE OF THE SURFACE EXCEEDS THE FOLLOWING CONTROL JOINT SPACING:  
-PARTITIONS: 30' MAX. IN EITHER DIRECTION  
-CEILINGS: 50' MAX. IN EITHER DIRECTION (WITH PERIMETER RELIEF)
- PROVIDE METAL STUD INSERT BLOCKING AT ALL WALLS RECEIVING WALL MOUNTED EQUIPMENT AND/OR ACCESSORIES. COORDINATE WITH ALL TRADES AND OWNER EQUIPMENT LAYOUTS.
- SEE PARTITION TYPES FOR LOCATIONS OF ACOUSTIC AND THERMAL INSULATION.
- PROVIDE GYPSUM BOARD CONTROL JOINTS AT WALLS AND CEILINGS WITHOUT PERIMETER RELIEF EVERY 30 FEET. WITH PERIMETER RELIEF EVERY 50 FEET.

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KENT COUNTY DELEWARE



C&S Engineers, Inc.  
1500 Market Street, Suite W2410  
Philadelphia, PA 19102  
Phone: 215-709-4340  
www.cscos.com



MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	872.013.079
DATE:	AUGUST 2023
DRAWN BY:	G. N. EURE
DESIGNED BY:	G. N. EURE
CHECKED BY:	M. LAMONTAGNE, AIA

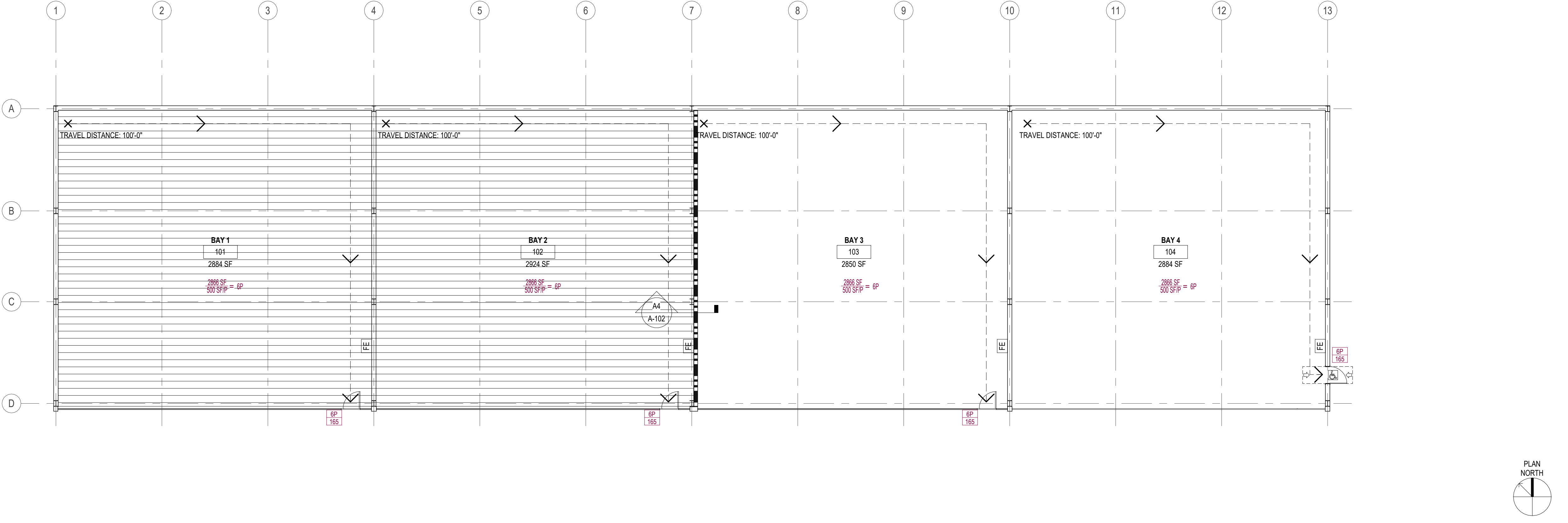
SYMBOLS,  
ABBREVIATIONS,  
LEGENDS AND NOTES

SHEET REFERENCE NO.

A-001



	1	2	3	4
D	<p>GOVERNING CODES:</p> <p>2015 INTERNATIONAL BUILDING CODE IBC 2015 INTERNATIONAL MECHANICAL CODE - IMC 2015 INTERNATIONAL PLUMBING CODE - IPC 2018 INTERNATIONAL ENERGY CONSERVATION CODE - IECC 2018 NFPA 70 NATIONAL ELECTRICAL CODE, of the NATIONAL FIRE PROTECTION ASSOC. INC. 2010 ICC/ANSI A117.1 ACCESSIBLE and USABLE BUILDINGS and FACILITIES ANSI 2018 INTERNATIONAL FIRE CODE - IFC 2018 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD (NFPA) 101 - LIFE SAFETY CODE 2018 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD (NFPA) 409 - STANDARD ON AIRCRAFT HANGARS 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN 2022 NFPA 409 STANDARD AIRCRAFT HANGARS TITLE 1 AUTHORITIES, BOARDS AND COMMISSIONS, DELAWARE ADMINISTRATIVE CODE - DELAWARE STATE FIRE PREVENTION COMMISSION</p>	<p>CONSTRUCTION TYPE CLASSIFICATION (IBC TABLE 601):</p> <p>FIRE RESISTANCE RATED CONSTRUCTION PROVIDED (IBC TABLE 601):</p> <p>INTERIOR FINISHES (IBC TABLE 803.13):</p> <p>PORTABLE FIRE EXTINGUISHERS (IBC 906.1):</p> <p>OCCUPANT LOAD (IBC TABLE 1004.5):</p> <p>EGRESS WIDTHS (IBC 1005.3):</p> <p>EGRESS CAPACITY OF DOORS (IBC 1005.1):</p>	<p>TYPE IIB - NONCOMBUSTIBLE, UNPROTECTED - NEW CONSTRUCTION</p> <p>STRUCTURAL FRAME: 0 HRS BEARING WALLS, EXTERIOR 0 HRS, SEPARATION DISTANCE &lt;30FT BEARING WALLS, INTERIOR 0 HRS NON-BEARING WALLS 0 HRS FLOOR CONSTRUCTION 0 HRS ROOF CONSTRUCTION 0 HRS</p> <p>USE GROUP S1, NONSPRINKLED ALL EXITS HAVE MINIMUM CLASS B INTERIOR FINISH ALL CORRIDORS HAVE MINIMUM CLASS B INTERIOR FINISH ALL ROOMS &amp; ENCLOSED SPACES HAVE MINIMUM CLASS C INTERIOR FINISH</p> <p>PORTABLE FIRE EXTINGUISHERS - PROVIDED</p> <p>AIRCRAFT HANGAR STORAGE: 500 GROSS</p> <p>DOORS AND CORRIDORS: 0.2" PER OCCUPANT STAIRS: 0.3" PER OCCUPANT</p> <p>DOORS WITH STANDARD HOLLOW METAL FRAMES AND BUTT HINGES SIZE CLEAR WIDTH MAX. OCC. LOAD (CAP = 2"/OCC) (1) 3'-0" 33.125" 165 OCCUPANTS</p> <p>SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY (IBC TABLE 1006.2.1):</p> <p>MEANS OF EGRESS ILLUMINATION (IBC 1008.2):</p> <p>EXIT ACCESS TRAVEL DISTANCE (IBC TABLE 1017.2):</p> <p>RISK CATEGORY (BCNJ TABLE 1604.5):</p> <p>PLUMBING FIXTURES (IBC TABLE 2902.1):</p> <p>ENVELOPE REQUIREMENTS (IECC):</p>	<p>RAISED ADA GRAPHIC</p> <p>1" RAISED ADA TEXT</p> <p>RAISED BRAILLE</p> <p>RAISED ADA TEXT</p> <p>RAISED ADA BRAILLE</p> <p>NOTES:</p> <p>1. MOUNT IN EACH BAY. MOUNTING HEIGHT TO BE IN ACCORDANCE WITH ADA REQUIREMENTS AND BE VERIFIED BY OWNER AND ENGINEER.</p> <p>2. PROVIDE BRAILLE TEXT AS REQUIRED BY CODE.</p> <p>3. SIGNS, LETTERINGS, ETC. SHALL COMPLY WITH ADA REQUIREMENTS.</p>
C	<p>OCCUPANCY CLASSIFICATION (IBC 311.2, NFPA 409 4.1.3):</p> <p>ENCLOSED GARAGE, VENTILATION (IBC 406.6.2):</p> <p>EXTERIOR WALLS (NFPA 409 5.3):</p> <p>INTERNAL SEPARATION (NFPA 409 5.2.1):</p> <p>CLEAR SPACE DISTANCE FOR SINGLE HANGAR BUILDINGS (NFPA 409 TABLE 5.3.1):</p> <p>HANGAR FLOOR SURFACE (IBC 412.3.3):</p> <p>FIRE SUPPRESSION ( NFPA 409 4.1.3, FIRE FLOW TABLE 2)</p> <p>ALLOWABLE BUILDING HEIGHT / AREA ( NFPA 409 4.1.3, TABLE 4.1.3):</p> <p>GROUP III AIRCRAFT HANGAR (NFPA 409 4.1.3):</p>	<p>MODERATE-HAZARD STORAGE GROUP - S1, AIRCRAFT STORAGE, GROUP III AIRCRAFT HANGAR</p> <p>MECHANICAL VENTILATION AND EXHAUST SYSTEM - NOT REQUIRED</p> <p>EXTERIOR WALL PERIMETER MINIMUM SEPARATION, 50 FT - 2HR RATED EXTERIOR WALLS - NOT REQUIRED</p> <p>INTERNAL SEPARATION WALLS 2HR MINIMUM - SQUARE FOOTAGE BELOW FIRE AREA REQUIREMENT - NOT REQUIRED</p> <p>EXTERIOR WALLS ON ALL SIDES OF BUILDING PERIMETER 50 FT MINIMUM - PROVIDED</p> <p>STORAGE FLOOR SURFACES GRADED TOWARDS DOORS - NO FLOOR DRAINS REQUIRED</p> <p>UNSPRINKLERED, NOT REQUIRED - REFER TO LIFE SAFETY PLAN FIRE SUPPRESSION SYSTEM PER DELAWARE STATE FIRE PREVENTION COMMISSION GROUP III AIRCRAFT HANGAR WITH CONSTRUCTION TYPE II (NFPA 220 - 000) MAXIMUM SINGLE FIRE AREA FOR INDUSTRIAL STORAGE CLASSIFICATION = 10,000 SF 2HR SEPARATION WALLS REQUIRED FOR SINGLE FIRE AREAS OVER 10,000 SF - PROVIDED</p> <p>BUILDING HEIGHT ALLOWABLE (STORY/FEET): 55.0 FT BUILDING HEIGHT PROVIDED (STORY/FEET): 1 STORY / 16.6 FT</p> <p>BUILDING AREA ALLOWABLE: 26,000 SF + ALLOWABLE FRONTAGE INCREASE (EQ. 5-1) BUILDING AREA PROVIDED: 11,584 SF</p> <p>MAXIMUM 28 FT DOOR HEIGHT - PROVIDED</p>		
C1	<p><b>BUILDING CODE INFORMATION</b></p> <p>SCALE: NOT TO SCALE</p>			<p><b>D4 EXIT SIGN - RAISED CHARACTER &amp; BRAILLE</b></p> <p>SCALE: 3" = 1'-0"</p> <p>1.5" RADIUS, TYPICAL</p> <p>3/8" DIAMETER HOLE, TYPICAL</p> <p>1" ADA TEXT</p> <p>RAISED ADA BRAILLE</p> <p>NOTES:</p> <p>1. MOUNT IN EACH BAY. MOUNTING HEIGHT TO BE IN ACCORDANCE WITH ADA REQUIREMENTS AND BE VERIFIED BY OWNER AND ENGINEER.</p> <p>2. PROVIDE BRAILLE TEXT AS REQUIRED BY CODE.</p> <p>3. SIGNS, LETTERINGS, ETC. SHALL COMPLY WITH ADA REQUIREMENTS.</p>

	1	2	3	4
B				
A	<p><b>A1 LIFE SAFETY PLAN</b></p> <p>SCALE: 3/32" = 1'-0"</p>			
A	<p><b>C4 ACCESSIBLE ENTRANCE SIGNAGE</b></p> <p>SCALE: 3" = 1'-0"</p>			



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Philadelphia, PA 19102  
Phone: 215-709-4340  
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</		

CODE COMPLIANCE  
PLAN

SHEET REFERENCE NO.

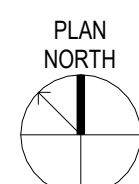
A-002





- |           |                     |
|-----------|---------------------|
| <b>D3</b> | <b>KEYED NOTES</b>  |
|           | SCALE: NOT TO SCALE |

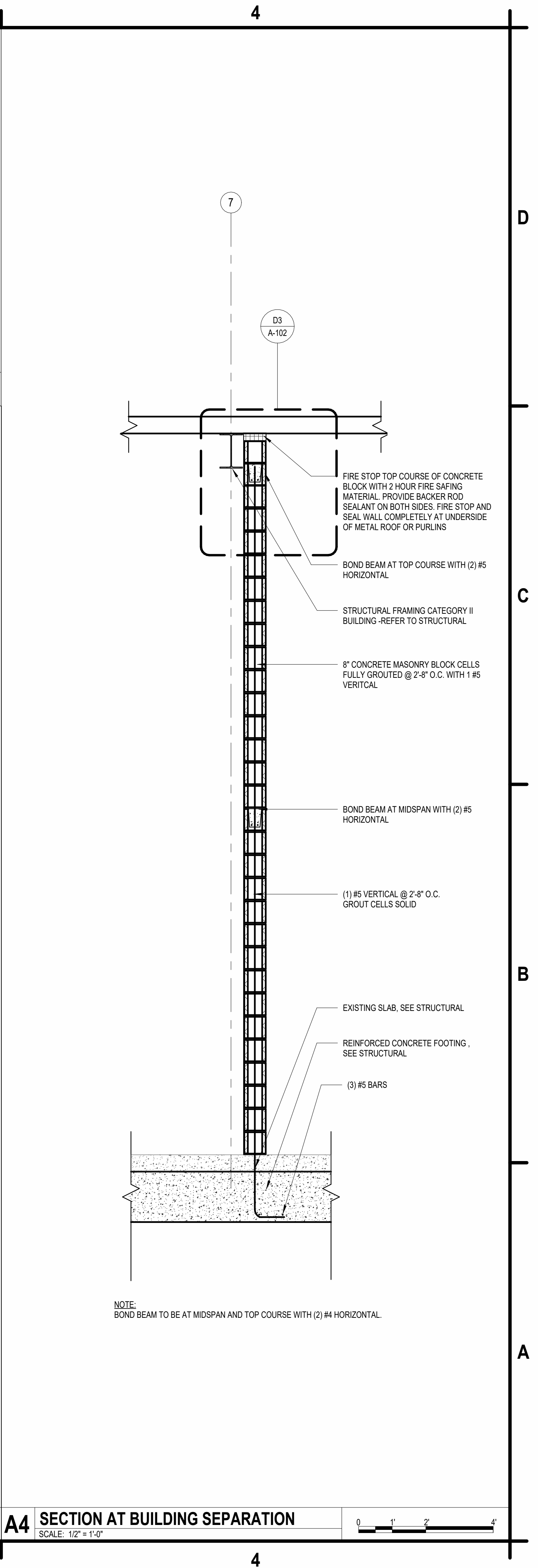
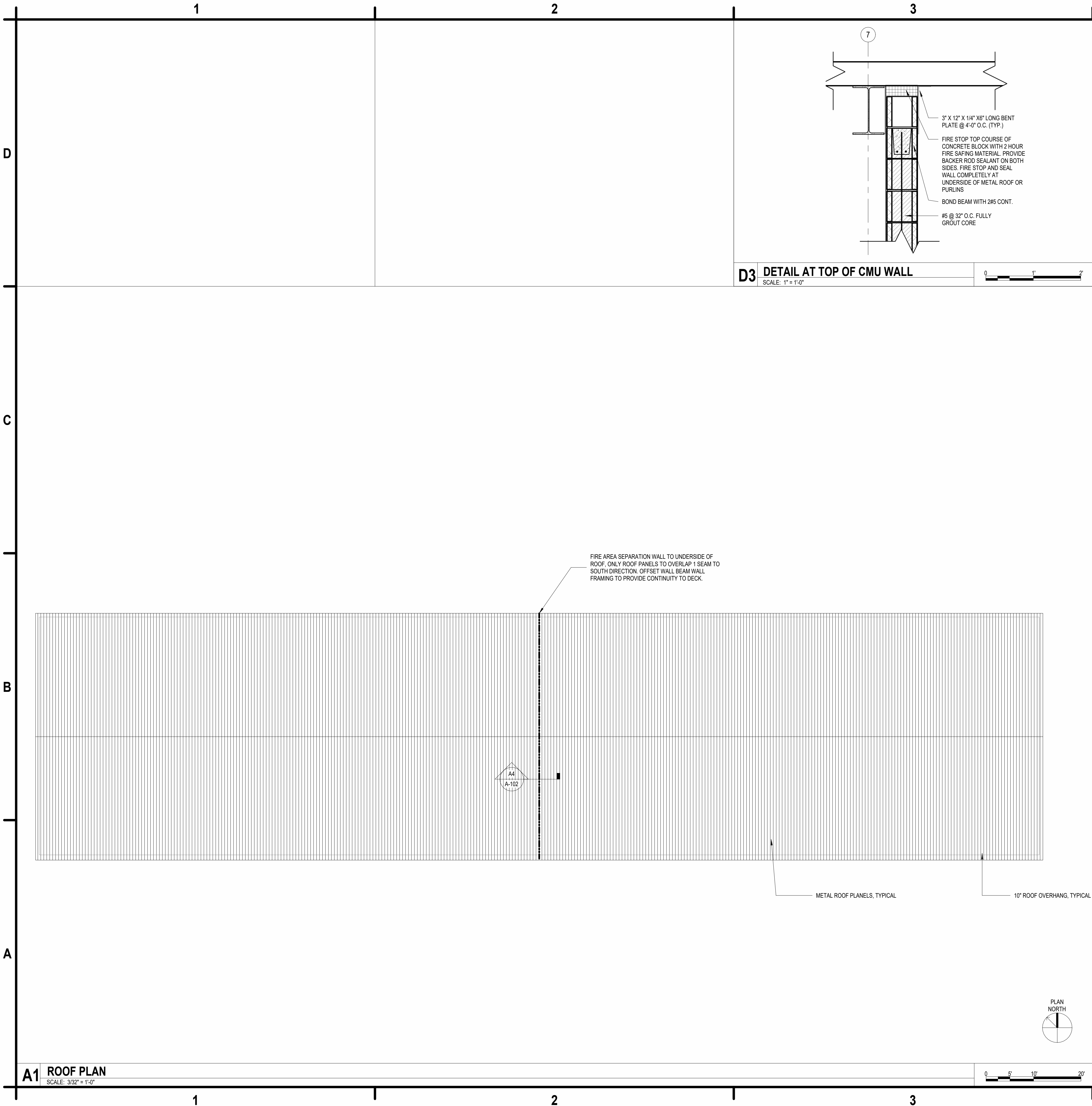
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| <b>D4</b> | <b>GENERAL NOTES</b> |
|           | SCALE: NOT TO SCALE  |



<b>A1</b>	<b>FIRST FLOOR - FLOOR PLAN</b>
	SCALE: 3/32" = 1'-0"







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Philadelphia, PA 19102  
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MICHAEL LAMONTAGNE  
No. SS-0019017  
STATE OF DELAWARE  
REGISTERED ARCHITECT  
D.E. REGISTERED ARCHITECT  
NO. SS-0019017

**DRBA**  
DELAWARE RIVER  
& BAY AUTHORITY

**33N BOX HANGAER**  
**DELEWARE RIVER AND BAY AUTHORITY**  
**KENT COUNTY DELEWARE**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 872.013.079		
DATE: AUGUST 2023		
DRAWN BY: G. N. EURE		
DESIGNED BY: G. N. EURE		
CHECKED BY: M. LAMONTAGNE, AIA		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

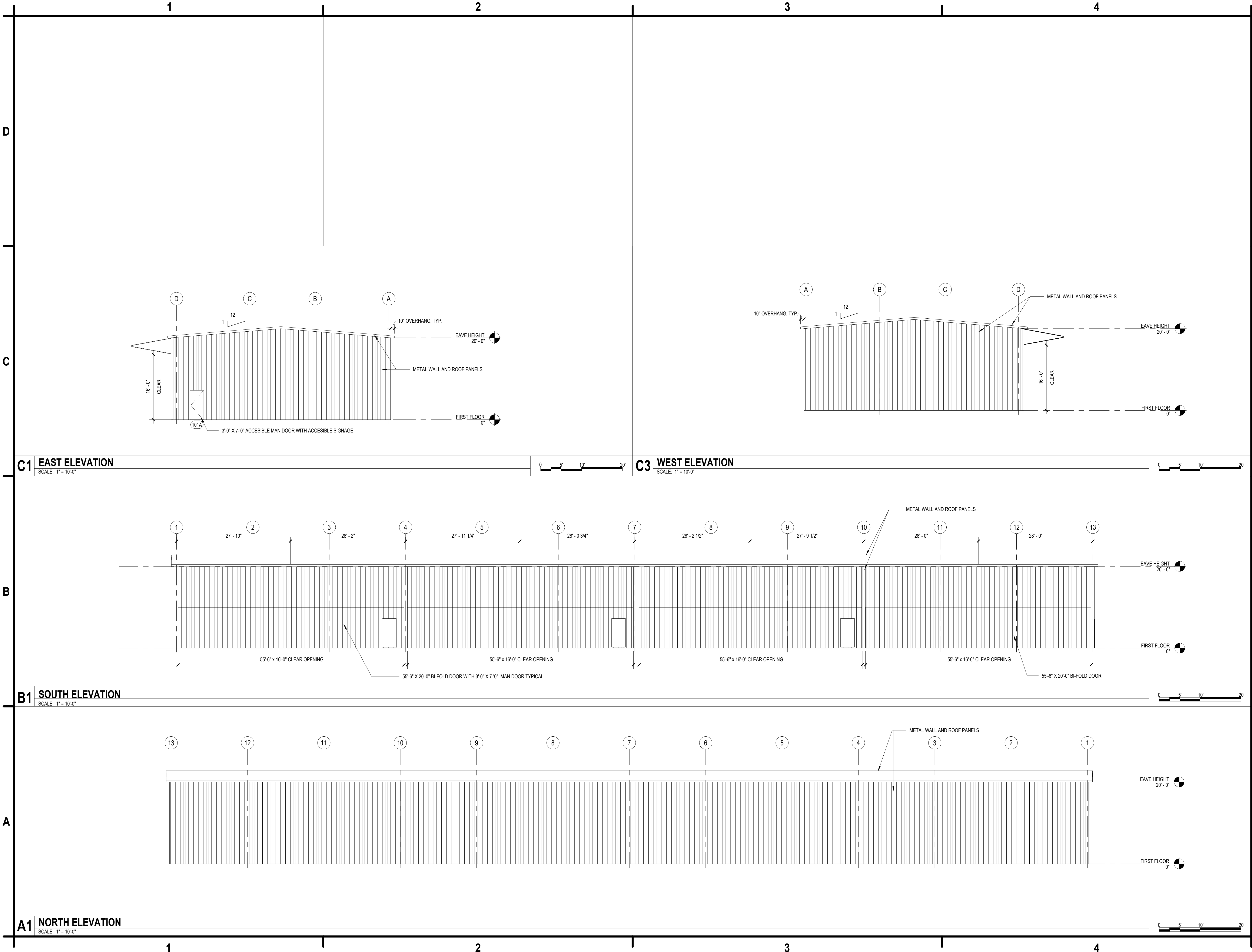
**ROOF PLAN**

SHEET REFERENCE NO.

**A-102**

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33N BOX HANGAR  
DELAWARE RIVER AND BAY AUTHORITY  
KENT COUNTY DELEWARE

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 872.013.079		
DATE: AUGUST 2023		
DRAWN BY: G. N. EURE		
DESIGNED BY: G. N. EURE		
CHECKED BY: M. LAMONTAGNE, AIA		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

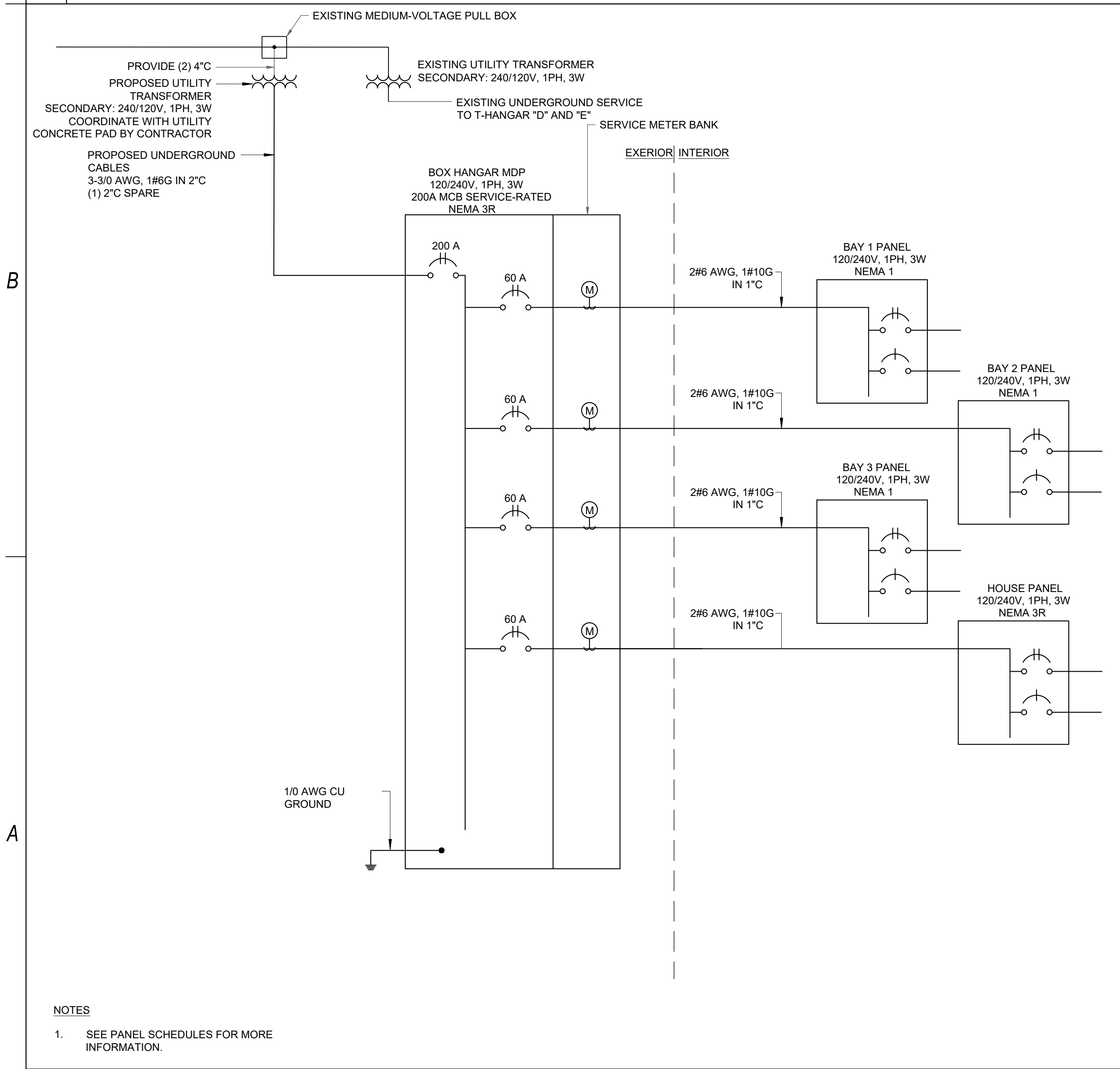
EXTERIOR ELEVATIONS

SHEET REFERENCE NO.  
**A-201**



C	ONE-LINE SYMBOLS			
		DISCONNECT SWITCH (TICKS INDICATE NUMBER OF POLES)		UTILITY POLE
		CIRCUIT BREAKER (TICKS INDICATE NUMBER OF POLES)		METER
		FUSED DISCONNECT SWITCH (TICKS INDICATE NUMBER OF POLES)		CONTACTOR ("M" DENOTES MOTOR CONTACTOR)
		BOLTED PRESSURE SWITCH w/FUSE		CONTACTS (NORMALLY OPEN)
		TRANSFORMER		CONTACTS (NORMALLY CLOSED)
		GROUND		INDICATOR LIGHT LETTER INDICANTS COLOR: R=RED, G=GREEN, Y=YELLOW, B=BLUE, NO LETTER=CLEAR
		CONNECTION POINT OR CABLE SPLICE		FUSE
		GENERATOR		PANELBOARD
		TRANSFER SWITCH		

C1 ONE-LINE SYMBOLS  
SCALE: NOT TO SCALE



A1 ONE-LINE DIAGRAM  
SCALE: NOT TO SCALE

PLAN SYMBOLS	
	EXISTING WORK LINETYPE
or 	DEMOLITION WORK LINETYPES
	NEW WORK LINETYPE
	GFI = GROUND FAULT CIRCUIT INTERRUPTER, MOUNT AT 48" AFF UNLESS OTHERWISE NOTED WP = GFI WITH WEATHERPROOF COVER, MOUNT AT 42" AFF UNLESS OTHERWISE NOTED
	QUAD RECEPTACLE, MOUNT 18" AFF UNLESS OTHERWISE NOTED
	SPECIAL RECEPTACLE
	SINGLE POLE SWITCH, UNLESS NOTATION INDICATES OTHERWISE OS = OCCUPANCY SENSOR OSD = OCCUPANCY SENSOR WITH DIMMER 2 = DOUBLE POLE SWITCH 3 = THREE-WAY SWITCH 4 = FOUR-WAY SWITCH D = DIMMER SWITCH K = KEYED SWITCH M = MANUAL MOTOR STARTER T = TIMER SWITCH LV = LOW VOLTAGE SWITCH
	PHOTO CELL FOR EXTERIOR LIGHTING CONTROL
	COMBINATION MOTOR STARTER/CIRCUIT BREAKER DISCONNECT SWITCH VFD = VARIABLE FREQUENCY DRIVE
	FUSED DISCONNECT SWITCH
	NON FUSED DISCONNECT SWITCH
	JUNCTION BOX
	ELECTRICAL MOTOR
	PANEL BOARD, REFER TO PANEL BOARD SCHEDULE
	BRANCH CIRCUIT HOME RUN WITH CIRCUIT NUMBER SEE PANEL SCHEDULES FOR DETAILS
	LUMINAIRE, LETTER DENOTES TYPE, SEE LUMINAIRE SCHEDULE
	CEILING MOUNTED OCCUPANCY SENSOR
	MANHOLE
	HANDHOLE
	UNDERGROUND ELECTRIC
	UNDERGROUND ELECTRIC DUCTBANK
	EXIT LUMINAIRE, SHADED AREA DENOTES FACE, LETTER DENOTES TYPE, CIRCUIT WITH AREA LIGHTING CIRCUIT

A3 PLAN SYMBOLS  
SCALE: NOT TO SCALE

- ALL ELECTRICAL WORK SHALL CONFORM TO ALL STATE, LOCAL, AND NATIONAL ELECTRICAL CODES.
- ELECTRICAL CHARACTERISTICS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER.
- ITEMS OF SPECIFIC MANUFACTURERS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND/OR MANUFACTURER'S REPRESENTATIVE'S DIRECTIONS.
- THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND DIMENSIONS SHOWN ON DRAWINGS.
- ALL CONDUIT AND WIRING SCHEDULES SHALL BE VERIFIED BEFORE INSTALLATION.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL EQUIPMENT WITH OTHER CONTRACTORS.
- ALL AREAS DISTURBED BY WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL AS DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE RACEWAYS, WIRING, AND CONNECTIONS FOR ALL CONTROL CIRCUITS AND INTERLOCK.
- ALL ELECTRICAL CONDUIT AND CONDUCTORS DISCONNECTED AND NOT TO BE REUSED SHALL BE REMOVED.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE STARTING WORK. IF ONLY PORTION OF AN EXISTING CIRCUIT IS BEING REMOVED FOR DEMOLITION, CONTINUITY SHALL BE MAINTAINED TO THE REST OF THE REMAINING CIRCUIT.
- ALL BRANCH CIRCUIT CONDUCTORS SHALL BE #12AWG UNLESS OTHERWISE SHOWN.
- ALL BRANCH CIRCUITS SHALL CONSIST OF 2 CONDUCTORS PLUS GROUND, UNLESS OTHERWISE SHOWN.

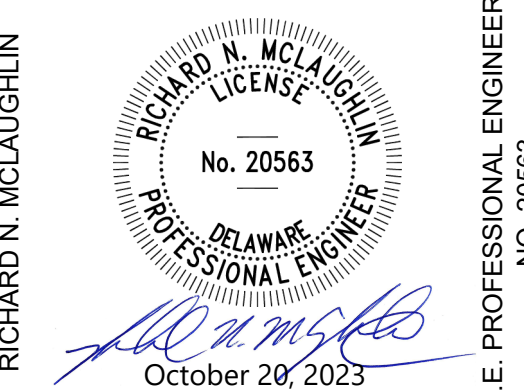
C4 ELECTRICAL GENERAL NOTES  
SCALE: NOT TO SCALE

A	AMPERE	L	LENGTH, LONG
A/C	AIR CONDITIONING	LGT	LIGHTING
AC	ALTERNATE CURRENT		
ACCU	AIR COOLED CONDENSING UNIT	MA	MILLIAMPERES
AF	AMPERE FRAME	MBB	MONITOR BREAKOUT BOX
AFF	ABOVE FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISHED GRADE	MCC	MOTOR CONTROL CENTER
A/H	AIR HANDLER	MCM	1000 CIRCULAR MILLS
AIC	AMPERE INTERRUPTING CAPACITY	MECH	MECHANICAL
AT	AMPERE TRIP	MIC	MICROPHONE
ATS	AUTOMATIC TRANSFER SWITCH	MIN	MINIMUM
AU	AT UNIT	MISC	MISCELLANEOUS
AUX	AUXILIARY	MLO	MAIN LUGS ONLY
AWG	AMERICAN WIRE GAUGE	MM	MULTI MODE
		MTD	MOUNTED
BC	BARE COPPER	N/A	NOT APPLICABLE
BFG	BELOW FINISHED GRADE	NC	NORMALLY CLOSED
BRK	BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASS.
BOH	BACK OF HOUSE		
C	CONDUIT	NF	NON-FUSED
CA	CABLE	NFPA	NATIONAL FIRE PROTECTION ASS.
CAB	CABINET	NO	NORMALLY OPEN
CAT5E	CATEGORY-5E	NTS	NOT TO SCALE
CC	CABLED CONDUCTORS		
CH	CHILLER	OLS	OVERLOADS
CKT	CIRCUIT	OC	ON
CLL	CONTRACT LIMIT LINE		
CMH	COMMUNICATION MANHOLE	P	POLE
CO	CONDUIT ONLY	PB	PULLBOX
COMM	COMMUNICATION	PNL	PANEL
CPB	COMMUNICATION PULLBOX	PR	PAIR
CT	CURRENT TRANSFORMER	PVC	POLYVINYL CHLORIDE
CTR	ABOVE COUNTER	PWR	POWER
CUC	COMMON USER CABLE	POC	POINT OF CONNECTION
CUTC	COMMON USER TERMINAL CABINET	POS	POINT OF SALES
		PT	POTENTIAL
D	DEEP		
DC	DIRECT CURRENT	REF	REFERENCE
DISC	DISCONNECT	REM	REMARKS
DOWN	DOWN	RGS	RIGID GALVANIZED STEEL
DP	DISTRIBUTION PANEL	RM	ROOM
DPST	DOUBLE POLE SINGLE THROW	RMS	ROOT-MEAN-SQUARE
DPDT	DOUBLE POLE DOUBLE THROW	RCPT	RECEPTACLE
EER	ELECTRICAL EQUIPMENT ROOM	SBB	SOUND BREAKOUT BOX
ELECT	ELECTRICAL	SDB	SOUND DISTRIBUTION BOX
ELEV	ELEVATION	SILC	SIGNALING LINE CIRCUIT
EMT	ELECTRICAL METALLIC TUBING	SM	SINGLE MODE
EQUIP	EQUIPMENT	SPECS	SPECIFICATIONS
EXIST	EXISTING	SPKR	SPEAKER
		SPST	SINGLE POLE SINGLE THROW
F	FUSE	SPDT	SINGLE POLE DOUBLE THROW
FA	FIRE ALARM	SR	SOUND RACK
FACP	FIRE ALARM CONTROL PANEL	SST	STAINLESS STEEL
FAT	FIRE ALARM TERMINATION	ST	SHUNT TRIP
FBO	FURNISHED BY OWNER	SW	SWITCH
FD/SD	FIRE DAMPER / SMOKE DETECTOR	SWBD	SWITCHBOARD
FDR	FEEDER		
FLA	FULL LOAD	TEL	TELEPHONE
		TP	TWISTED PAIR CABLE
GFI	AMPERES	TTB	TELEPHONE TERMINAL BOARD
GND	GROUND FAULT INTERRUPT GROUND	TYP	TYPICAL
H	HIGH	UON	UNLESS OTHERWISE
HP	HORSEPOWER		
HZ	HERTZ	V	VOLT
		VFD	VARIABLE FREQUENCY DRIVE
IC	INTERCOM		
IG	ISOLATED GROUND	W	WATT, WIRE, WIDE
IMC	INTERMEDIATE METAL CONDUIT	WP	WEATHERPROOF
JB	JUNCTION BOX	XFMR	TRANSFORMER
KA	KILOAMP	XP	EXPLOSION PROOF
KV	KILOVOLT		
KVA	KILOVOLT AMPERES		
KW	KILOWATT		
KWH	KILOWATT HOUR		
KWHD	KILOWATT HOUR DEMAND METER		

A4 ABBREVIATIONS  
SCALE: NOT TO SCALE



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1500 Market Street, Suite W2410  
Philadelphia, PA 19102  
Phone: 215-709-4340  
www.cscos.com



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DELAWARE AIRPARK  
DELAWARE RIVER AND BAY AUTHORITY  
DOVER COUNTY  
DELAWARE

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO.: 872.013.079		
DATE: TBD		
PROJECT MANAGER: RNM		
DRAWN BY: F.K. NEILEY, P.E.		
DESIGNED BY: F.K. NEILEY, P.E.		
CHECKED BY: S.H. SHOVA		

NO ALTERATION ON THESE DRAWINGS IS ALLOWED UNLESS SAID ALTERATIONS ARE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF AN ITEM BOUND BY THE SEAL OF AN ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE SPECIFIC DESCRIPTION OF SUCH ALTERATION.

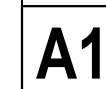
ELECTRICAL  
NOTES, SYMBOLS,  
ABBREVIATIONS,  
AND ONE-LINE

SHEET REFERENCE NO.

EL-001

SHEET OF \_





SCALE: 1" = 30'-0"



BOX HANGAR CONSTRUCTION  
DELAWARE AIRPARK  
DELAWARE RIVER AND BAY AUTHORITY  
KENT COUNTY  
DELAWARE


MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 872.013.079		
DATE: OCTOBER 2023		
PROJECT MANAGER: RNM		
DRAWN BY: F.K. NEILEY, P.E.		
DESIGNED BY: F.K. NEILEY, P.E.		
CHECKED BY: S.H. SHOVA		

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## ELECTRICAL SITE PLAN

SHEET REFERENCE NO.

**EL-101**

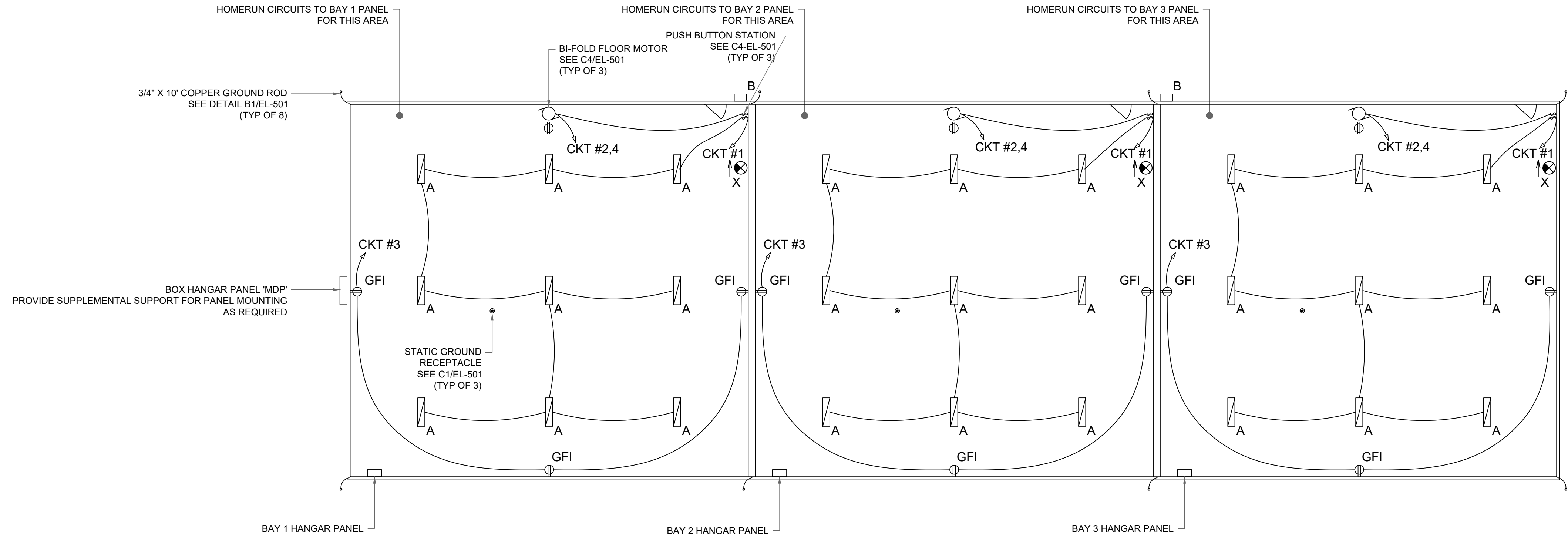
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Jun 26, 2023 - 10:51 am  
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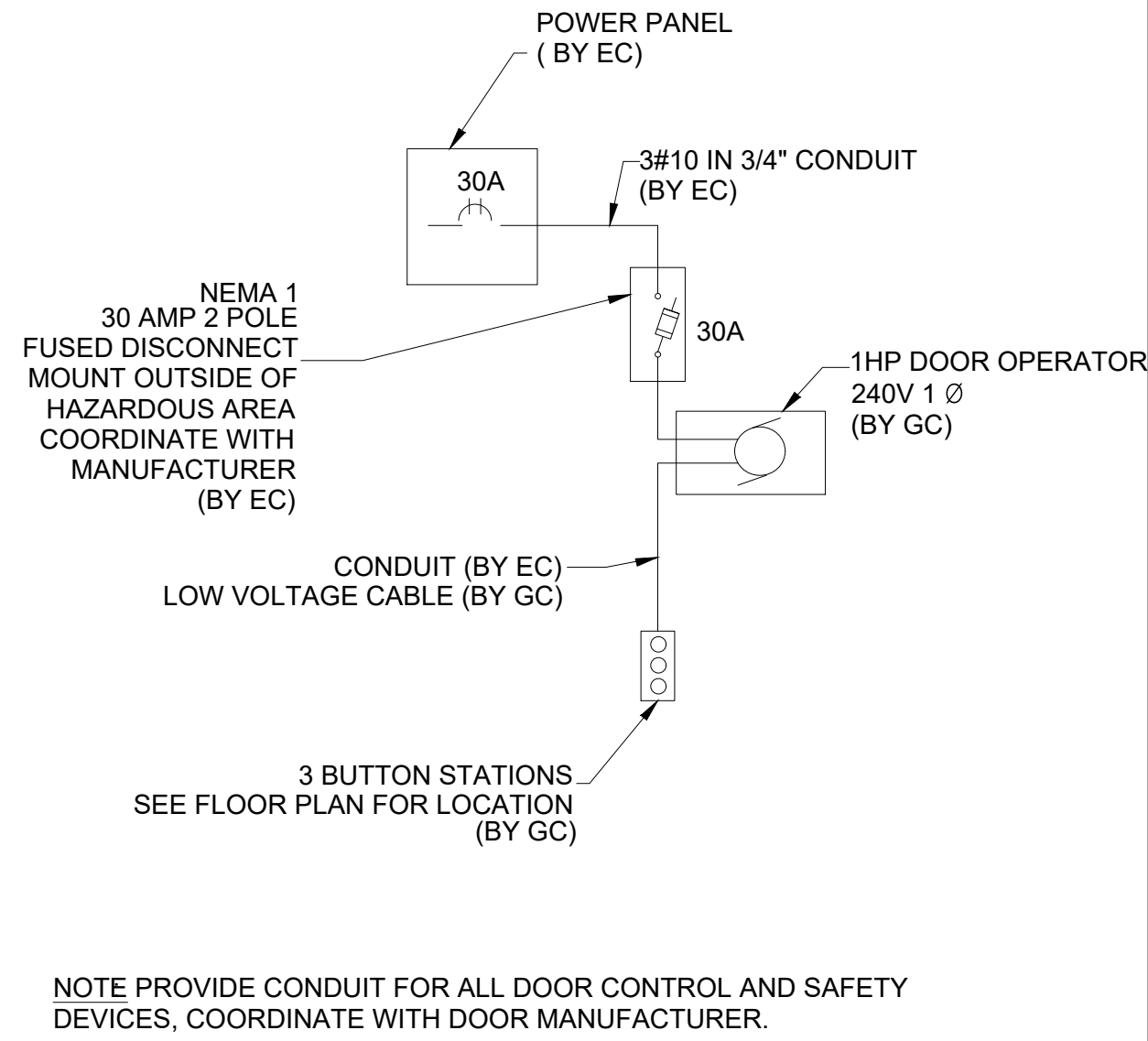
A1 FLOOR PLAN

SCALE: 1" = 10'-0"

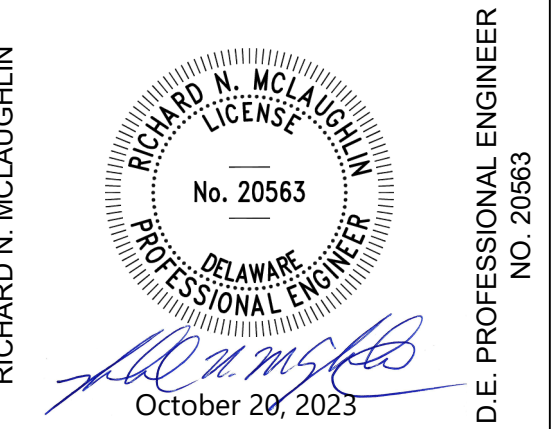


C4 BI-FOLD DOOR CONTROL DIAGRAM

SCALE: NOT TO SCALE



C&S Engineers, Inc.  
1500 Market Street, Suite W2410  
Philadelphia, PA 19102  
Phone: 215-709-4340  
www.cscos.com



33N BOX HANGAR  
DELAWARE AIRPARK  
DELAWARE RIVER AND BAY AUTHORITY  
DOVER COUNTY  
DELAWARE

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 872.013.079		
DATE: TBD		
PROJECT MANAGER: RNM		
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DESIGNED BY: F.K. NEILEY, P.E.		
CHECKED BY: S.H. SHOVA		

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ELECTRICAL PLAN

SHEET REFERENCE NO.

EL-102

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**EL-501**

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PANEL SCHEDULE BOX HANGAR MDP														
BUS SIZE: 200 A VOLTS: 120/240 Single PHASE: 1 WIRE: 3 POLES: 18					MAIN TYPE: MCB MAIN BREAKER: 200 A GND. BAR TYPE: COPPER SC RATING: 42 ENCLOSURE: TYPE 1					INSTALLATION: SURFACE LOCATION: NOTES:				
CIRCUIT DESCRIPTION	WIRE SIZE	CONDUIT	CB. AMPS	Poles	CKT	A	B	CKT	Poles	CB. AMPS	CONDUIT	WIRE SIZE	CIRCUIT DESCRIPTION	
BAY 1 PANEL	2-#6, 1-#6, 1-#10	1"	60 A	2	1			2	2	60 A	1"	2-#6, 1-#6, 1-#10	BAY 2 PANEL	
BAY 3 PANEL	2-#6, 1-#6, 1-#10	1"	60 A	2	3			4						
EXTERIOR LIGHTING	1-#12, 1-#12, 1-#12	3/4"	20 A	1	5			6						
					7			8						
					9			10						
					11			12						
					13			14						
					15			16						
					17			18						

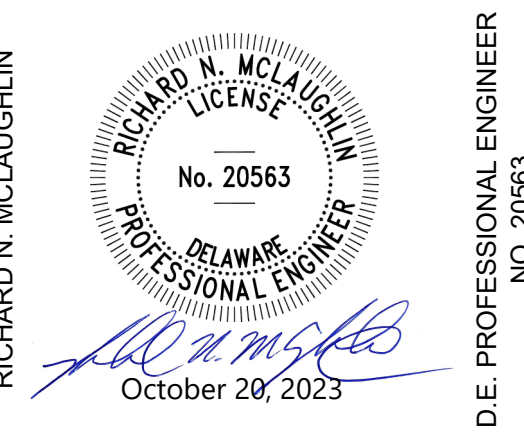
PANEL SCHEDULE BAY X PANEL														
BUS SIZE: 100 A VOLTS: 120/240 Single PHASE: 1 WIRE: 3 POLES: 12					MAIN TYPE: MLO GND. BAR TYPE: COPPER SC RATING: 42 ENCLOSURE: TYPE 1					INSTALLATION: SURFACE LOCATION: NOTES: TYPICAL OF 3 LOCATIONS X = BAY NUMBER				
CIRCUIT DESCRIPTION	WIRE SIZE	CONDUIT	CB. AMPS	Poles	CKT	A	B	CKT	Poles	CB. AMPS	CONDUIT	WIRE SIZE	CIRCUIT DESCRIPTION	
LIGHTING	1-#12, 1-#12, 1-#12	3/4"	20 A	1	1			2	2	30 A	3/4"	2-#10, 1-#10	BI-FOLD DOOR POWER	
RECEPTACLES	1-#12, 1-#12, 1-#12	3/4"	20 A	1	3			4						
SPARE	--	--	20 A	1	5			6	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	7			8	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	9			10	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	11			12	1	20 A	--	--	SPARE	

PANEL SCHEDULE HOUSE PANEL														
BUS SIZE: 100 A VOLTS: 120/240 Single PHASE: 1 WIRE: 3 POLES: 12					MAIN TYPE: MLO GND. BAR TYPE: COPPER SC RATING: 42 ENCLOSURE: TYPE 1					INSTALLATION: SURFACE LOCATION: NOTES: TYPICAL OF 3 LOCATIONS X = BAY NUMBER				
CIRCUIT DESCRIPTION	WIRE SIZE	CONDUIT	CB. AMPS	Poles	CKT	A	B	CKT	Poles	CB. AMPS	CONDUIT	WIRE SIZE	CIRCUIT DESCRIPTION	
LIGHTING	1-#12, 1-#12, 1-#12	3/4"	20 A	1	1			2	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	3			4	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	5			6	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	7			8	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	9			10	1	20 A	--	--	SPARE	
SPARE	--	--	20 A	1	11			12	1	20 A	--	--	SPARE	

MASTER LUMINAIRE SCHEDULE						
FIXTURE DESCRIPTION	MANUFACTURER AND MODEL NUMBER		NUMBER AND TYPE OF LAMP	VOLTS	DRIVER	REMARKS
A	H.E. WILLIAMS #96-4-L110/840-HIAFR-DWET/1-SSCMB-DRV-120 OR APPROVED EQUAL		88W LED	120	LED DRIVER	SUSPENDED @ 22'-0" A.F.F.
B	VISIONAIRE #VSF-1-7X5-48L C-5-4K-UNV-KM-BZ-PC(120) OR APPROVED EQUAL		78W LED	120	LED DRIVER	WALL MOUNT @ 23'-0" A.F.F.
X	H.E. WILLIAMS #EXIT/EMW-SF-R-GRAY-SDT OR APPROVED EQUAL		7.2W LED	120	LED DRIVER	WALL MOUNT 6" ABOVE DOOR



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MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 872.013.079		
DATE: TBD		
PROJECT MANAGER: RNM		
DRAWN BY: F.K. NEILEY, P.E.		
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CHECKED BY: S.H. SHOVA		

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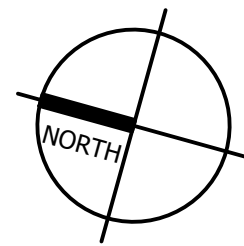
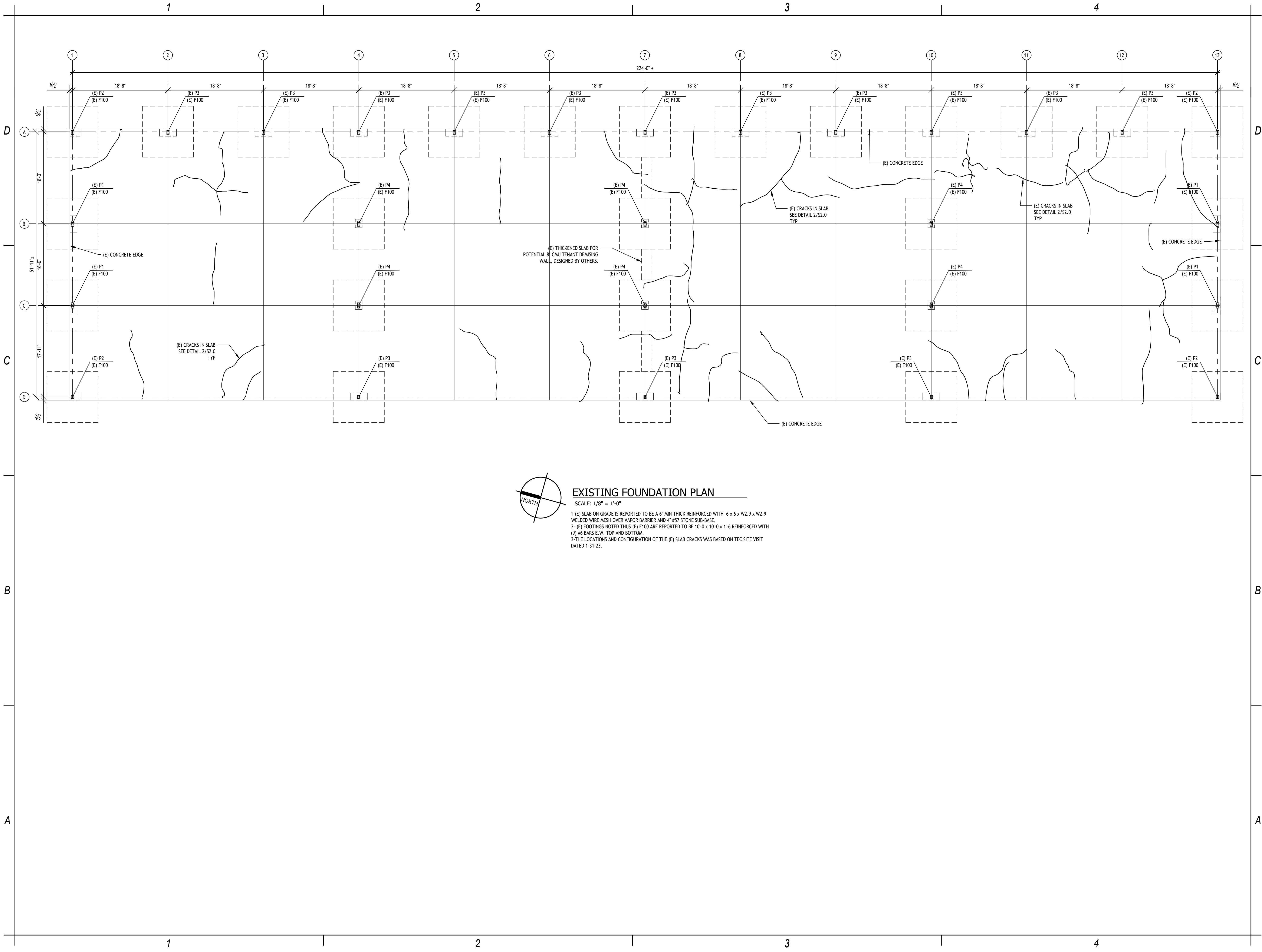
ELECTRICAL SCHEDULES

SHEET REFERENCE NO.

EL-601

SHEET OF





EXISTING FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

- 1- (E) SLAB ON GRADE IS REPORTED TO BE A 6" MIN THICK REINFORCED WITH 6 x 6 x W2.9 x W2.9 WELDED WIRE MESH OVER VAPOR BARRIER AND 4" #57 STONE SUB-BASE.  
2- (E) FOOTINGS NOTED THUS (E) F100 ARE REPORTED TO BE 10'-0 x 10'-0 x 1'-6" REINFORCED WITH (9) #6 BARS E.W. TOP AND BOTTOM.  
3- THE LOCATIONS AND CONFIGURATION OF THE (E) SLAB CRACKS WAS BASED ON TEC SITE VISIT DATED 1-31-23.

"PROFESSIONAL CERTIFICATION:  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME,  
AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF  
THE STATE OF DELAWARE."  
MARK W. DUNLAP, LICENSE NO. 25674  
EXPIRATION DATE: 6/30/2024

CONSULTANT. 22-254DH  
**TEC** Tarantino Engineering  
Consultants, PC  
8115 Maple Lawn Blvd,  
Suite 350  
Fulton, MD 20759  
410-921-7678  
www.tarantinoec.com

MARK W. DUNLAP, P.E.  
  
DE PROFESSIONAL ENGINEER  
NO. 25674



33N BOX HANGAR  
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DELAWARE RIVER AND BAY AUTHORITY  
KENT COUNTY  
DELAWARE

		07/21/23
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EXISTING FOUNDATION PLAN

SHEET REFERENCE NO.

S1.0

SHEET OF



PRE-ENGINEERED METAL BUILDING DESIGN CRITERIA LOADS AND REACTIONS.  
THE DETAILS AND FOUNDATIONS WERE BASED ON THE LOADS AND REACTIONS AS LISTED BELOW. IF ANOTHER FABRICATOR IS USED OR FINAL LOADS DIFFER, THEN ANY RE-DESIGN OR ADDITIONAL ELEMENTS INSTALLED MUST BE BORNE AT THE FULL EXPENSE OF THE GENERAL CONTRACTOR.



Entry Date: April 17, 2023  
Rev(1):

Sheet:



Model No.: RG 52-56  
No. of Sheds: 3

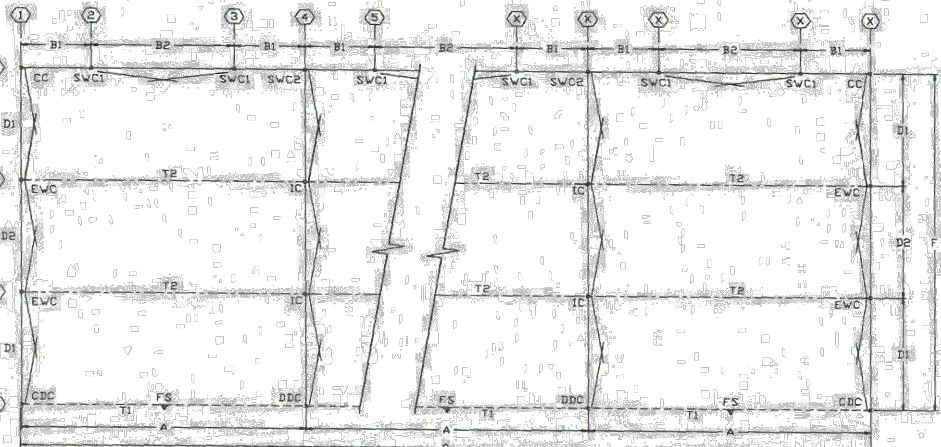
Location: DOVER, DE

Job No.: 18477

Customer Name: BID

Dim.	Feet	Description
A	56.00	Build Width
B1	18.67	Endwall Lengths
B2	18.67	Endwall Lengths
C	52.50	Total End Wall Width
D1	18.00	Trans. Wingbay Cl. - Cl.
D2	18.00	Trans. Wingbay Cl. - Cl.
F	168.50	Sidewall Length, Sl. - Sl.
	20.00	Lower Eave Height
	22.17	Higher Eave Height
	1:12	Roof Pitch
Basic Design Wind Speed, V =		115 mph, 3 second gust
Allowable Stress Design Wind Speed, V <sub>ASD</sub> =		90 mph, 3 second gust
Wind Exposure		C

2021 IBC Model Building Code	
25.00	psf Ground Snow Load Per Map
20.00	psf Roof Snow Load, Balanced
1.00	Importance Factor
0.90	Exposure Factor
S-1	Building Use Group
II	Unheated
II	Building Risk Category
3.00	psf Dead Load
0.00	psf Collateral Load
0.00	psf Additional Load
23.00	psf Total Roof Load, balanced
37.24	psf Total Roof Load, unbalanced



Out to out of concrete foundation 169.083 ft. by 53.083 ft. Qty. of Piers 22  
Qty. of FS 6

Summary of Building Reactions...Allowable Stress Design (ASD) Loads

Key	Vdown - Total	Vdown - kips			Vlateral - kips		
		Vel	VH	Vl	V <sub>ASD</sub>	V <sub>H</sub>	V <sub>ASD</sub>
CC	3.13	0.25	0.00	2.88	3.15	1.51	2.81
IC	39.25	8.68	0.00	32.60	10.51	2.00	2.08
EWC	18.13	2.83	0.00	16.30	8.91	2.03	2.08
DDC	25.35	8.09	0.00	17.26	8.96	1.51	4.46
CDC	12.87	4.04	0.00	8.83	8.42	1.51	4.98
SWC1	9.29	0.50	0.00	5.75	8.68	3.81	3.33
SWC2	6.26	0.50	0.00	5.75	7.79	3.33	1.96
FS	N/A	N/A	N/A	N/A	N/A	N/A	2.03

UNBALANCED SNOW LOADS ARE FIGURED INTO THE COLUMN REACTIONS

- General Notes
- Reaction values are at ASD level and are in kips.
  - Any values less than 1 kip, use 1 kip.
  - V<sub>up</sub>, H<sub>x</sub> and H<sub>y</sub> are due to lateral load, worst case between wind and seismic.
  - All horizontal reactions can act positive or negative direction.
  - All column base plates are designed for four 3/4" diameter anchor bolts, for this, comply with the OSHA Regulations of March 2003 for steel erection.
  - All anchor bolts not provided by Erect-A-Tube, Inc.
  - Floor joists are an embedment supplied by Erect-A-Tube, Inc.
  - Concrete C.S. to be 3,000 p.s.i., minimum at age 30 days. Refer to bid specifications.

GENERAL NOTES

SITE INSPECTION

CONTRACTORS BIDDING ON THIS WORK SHALL VISIT THE SITE BEFORE SUBMITTING THEIR BIDS TO ACQUAINT THEMSELVES WITH ALL EXISTING CONDITIONS, MEANS OF ACCESS, AVAILABLE WORK AND STORAGE AREAS, AND ALL OTHER CONDITIONS WHICH MAY AFFECT THEIR WORK. INCLUDED IN SITE INSPECTION WILL BE THE DETERMINATION OF ROUTE TO BE FOLLOWED FOR DELIVERY AND DISPOSAL OF ALL THE CONSTRUCTION MATERIALS AND DEBRIS. ALL NECESSARY PERMITS, FEES, APPROVALS AND SAFEGUARDS REQUIRED BY LOCAL AUTHORITIES FOR DELIVERY AND DISPOSAL OF MATERIALS SHALL BE OBTAINED, PAID FOR BY THE CONTRACTOR.

SPECIAL CONDITIONS

COORDINATE AND SCHEDULE ALL WORK WITH PLANT OPERATIONS. SCHEDULE TO BE SUBMITTED AND APPROVED BY THE LANDLORD PRIOR TO STARTING.

POST INSTALLED ADHESIVE ANCHORS IN CONCRETE

- HILTI HIT-HY 200-A ICC-ES ESR-3187 & 3963 (CONCRETE)

EXISTING INFORMATION

ALL INFORMATION SHOWN ON THESE PLANS ARE BASED ON EXISTING BUILDING DRAWINGS S-1B AND S-2B, AS PREPARED BY STEINLE CONSTRUCTION ENGINEERS AND DATED 2/27/2015.

ACCORDING TO INSPECTION REPORTS AND FOUNDATION SUMMARY LETTER, DATED 4/5/2015, AS PREPARED BY HILLI-CARNES ENGINEERING ASSOCIATES, INC., ALL FOUNDATIONS AND SLABS WERE PLACED IN ACCORDANCE WITH THE DRAWINGS LISTED ABOVE, AND CONCRETE CYLINDER BREAKS VERIFIED THAT THE IN-PLACE CONCRETE MEETS OR EXCEEDS THE DESIGN STRENGTH OF 4,000 P.S.I.

INSPECTIONS

ALL ANCHORS SHALL BE INSPECTED, DURING INSTALLATION, BY AN APPROVED THIRD PARTY INSPECTION AGENCY. ANY ANCHOR INSTALLED WITHOUT THE INSPECTION AGENCY OBSERVING AND DOCUMENTING, SHALL EITHER BE REJECTED OR SUBJECTED TO A PULL TEST. PULL TEST RESULTS SHALL EXCEED A MINIMUM OF 125% OF THE FULL IN-PLACE ALLOWABLE WORKING LOAD FOR THAT ANCHOR.

MAJOR CODES AND STANDARDS

- INTERNATIONAL BUILDING CODE (IBC 2018)
- ASCE 7-16 (Formerly ANSI A58.1) CURRENT EDITION
- ACI 318-14
- AISC ASD 15th Edition.
- ASTM Current Edition.

1 COLUMN BASE DETAIL

SCALE : 3/4" = 1'-0"

2 REPAIR DETAIL

SLAB CRACK REPAIR

SCALE : 1 1/2" = 1'-0"

BEFORE METAL BUILDING HAS BEEN INSTALLED:

- ROUT OUT EXISTING CRACKS TO A MINIMUM OF 1/4" WIDTH AND MINIMUM OF 1 1/2" DEEP OR TO TOP OF WELDED WIRE MESH. DO NOT CUT WELDED WIRE MESH.
- PRESSURE AIR BLOW CLEAN OUT ALL DUST AND DEBRIS
- FILL CRACKS WITH A SELF LEVELING 6,000 P.S.I. EPOXY TO TOP OF SLAB.
- GRIND DOWN EPOXY OVERAGE AT JOINTS SMOOTH TO MATCH ADJACENT SURFACES.
- APPLY AN EPOXY TYPE PAINT.

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22-254DH

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DE PROFESSIONAL ENGINEER  
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33N BOX HANGAR  
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DETAILS & NOTES

SHEET REFERENCE NO.

SHEET **S2.0** OF **2**