SYMBOLS - POWER

CONDUIT

- CONDUIT - SINGLE LINE
- EU — ELECTRICAL DUCT BANK
- UC — TELECOMM DUCT BANK
- CONDUIT ROUTED VERTICALLY
- AIMING POINT CENTERLINE REFERENCE

RECEPTACLES (120V, NEMA 5-20R, UON)

- RECESSED SIMPLEX
- RECESSED DUPLEX
- RECESSED QUAD
- SURFACE SIMPLEX
- SURFACE DUPLEX
- SURFACE QUAD
- CEILING RECESSED DUPLEX
- FLOORBOX RECESSED DUPLEX
- FLOORBOX RECESSED QUAD
- SPECIAL RECEPTACLE (REFER TO DRAWINGS FOR NEMA CONFIGURATION)

POWER DEVICES GENERAL INFORMATION

- EF-X / HL-X / GFI — EQUIPMENT IDENTIFICATION
- PANELBOARD - CIRCUIT
- SYMBOL MODIFIER(S)
- MECHANICAL EQUIPMENT CONNECTION
  - SEE MECHANICAL EQUIPMENT SCHEDULE FOR CONNECTION INFORMATION
- REMOTE DISCONNECT SWITCH
  - SEE MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION

EQUIPMENT

LP11 — EQUIPMENT IDENTIFIER

ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, TRANSFORMERS, SWITCHBOARDS AND PANELBOARDS ARE DRAWN TO SCALE IN THE PLANS AND ARE CALLED OUT WITH A UNIQUE IDENTIFIER.

EQUIPMENT CONNECTIONS

- (M) MECHANICAL EQUIPMENT CONNECTION
- (E) SINGLE POINT ELECTRICAL CONNECTION
- (MH) MANHOLE
- HH HANDHOLE

SYMBOLS - GROUNDING/LIGHTNING PROTECTION

- GROUND ROD
- GROUND TEST WELL
- GROUNDING COUNTERPOISE/CONDUCTOR
  - BURIED, BARE CABLE (EXTERIOR)
  - COPPER, #4/0 AWG MINIMUM, UON
- BOLTED GROUND CONNECTION
- EXOTHERMIC WELDED CONNECTION

SYMBOLS - LIGHTING

LIGHTING FIXTURES

- REFER TO FIXTURE SCHEDULE FOR FIXTURE TYPE INFORMATION
- LED DOWNLIGHT, UON
- PHOTOCELL
- EXTERIOR WALL MOUNTED FIXTURE
- EMERGENCY EXTERIOR WALL MOUNTED FIXTURE
- POLE MOUNTED SITE / ROADWAY LIGHTING (H) — H = FIXTURE TYPE, (H#) = FIXTURE DESIGNATION
- AIRFIELD LIGHTING (ELEVATED) (A)
- AIRFIELD LIGHTING (IN-PAVEMENT) (B)
- ROADWAY LIGHT (R)
- ROADWAY WARNING LIGHT

FIXTURE GENERAL INFORMATION

- F1E — FIXTURE TYPE; 'E' DENOTES EMERGENCY FIXTURE
- LP-1 — PANELBOARD - CIRCUIT NUMBER
- 10' - 0" — FIXTURE MOUNTING HEIGHT (IF APPLICABLE)
- a (TYP) — SWITCH 'LEG'
  - THE SWITCH WITH SAME LETTER OPERATES THIS FIXTURE
- FIXTURE TYPE IS TYPICAL FOR THE ROOM

CONTROL DEVICES GENERAL INFORMATION

TOGGLE SWITCH — $3,a$

DEMARCATION
- 3: 3-WAY
- 4: 4-WAY
- D: DIMMER
- EP: EXPLOSION PROOF

SWITCH 'LEG' DESIGNATION

NOTE: NO DEMARCATION OR SWITCH 'LEG' INDICATES THAT THE SWITCH CONTROLS ALL OF THE FIXTURES WITHIN THE SAME ROOM

SYMBOLS - GENERAL

- # — WORK NOTE
- # — CABLE / CONDUCTOR SIZE - SEE CABLE SCHEDULE SHEET E-104
- UTILITY POLE

ABBREVIATIONS

AFG	ABOVE FIXED GROUND
BFG	BELOW FIXED GROUND
MTD	MOUNTED
UON	UNLESS OTHERWISE NOTED

SYMBOLS - ONE-LINE DIAGRAM

- CONNECTION
- CONTINUATION
- SEPARABLE CONNECTOR OR CONNECTION FOR DRAWOUT ASSEMBLIES
- FUSED SWITCH
- FEED-THROUGH (FUSED) TRANSFORMER
- NO FEED-THROUGH (NOT FUSED) TRANSFORMER
- GROUND
- DELTA - WYE TRANSFORMER CONNECTION
- DM — DIGITAL METER
- SPD — SURGE PROTECTION DEVICE
- VFD — VARIABLE FREQUENCY DRIVE
- ST — SHUNT TRIP
- KWH — KILOWATT HOUR METER
- VS — VOLTMETER SELECTOR SWITCH
- AS — AMMETER SELECTOR SWITCH
- V — VOLTMETER
- A — AMMETER
- CIRCUIT BREAKER
- TWO-POLE BREAKER
- SWITCH
- DISCONNECT SWITCH
- M — PANELBOARD (PANELBOARD NAMED 'M')
- LIGHTNING ARRESTOR
- AUTOMATIC TRANSFER SWITCH
- MFM — MULTI-FUNCTION DIGITAL UTILITY METER
- N / G — NEUTRAL CONNECTION TO GROUND
- 20 — ELECTRICAL MOTOR, 20 - MOTOR HORSEPOWER
- BACKUP / NORMAL — AUTOMATIC TRANSFER SWITCH

LEGEND NOTES

1. ORIENTATION UNLESS NOTED AS SUCH.
2. SYMBOL SIZE DOES NOT IMPLY EQUIPMENT SIZE, UON.
3. MOUNTING HEIGHT INDICATED IN LEGEND AND ON THE DRAWINGS IS THE DISTANCE MEASURED FROM THE CENTER OF THE DEVICE TO THE FINISHED FLOOR OR GRADE.
4. NOT ALL SYMBOLS ON THIS SHEET ARE USED AS PART OF THIS PROJECT.

GENERAL NOTES: APPLICABLE TO ALL ELECTRICAL SHEETS

1. PROVIDE ALL CONDUCTORS IN CONDUIT, AND CONCEAL ALL CONDUIT UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. FIELD MARK ALL NEW SWITCHBOARDS AND PANELBOARDS TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARD IN ACCORDANCE WITH NFPA 70 AND 70E.
3. COORDINATE WITH MECHANICAL CONTRACTOR REGARDING ELECTRICAL REQUIREMENTS OF ACTUAL EQUIPMENT PROVIDED.
4. MOUNTING HEIGHT FOR LIGHT FIXTURES IS FROM THE BOTTOM OF FIXTURES TO THE FINISHED FLOOR OR GRADE.
5. ENSURE ALL ELECTRICAL WORK COMPLIES WITH NEC (NFPA 70), NFPA 72, NFPA 101, AND UNIFORM FACILITY CRITERIA, OR TECHNICAL LETTERS, IN ADDITION TO LOCAL CODES AND ORDINANCES.
6. ENSURE ALL GROUNDING COMPLIES WITH NFPA 70, ARTICLE 250 FOR ELECTRICAL SYSTEMS AND NEC ARTICLE 800 AND TIA-607-B FOR TELECOMMUNICATIONS SYSTEMS.
7. PROVIDE A GREEN CONTINUOUS INSULATED EQUIPMENT GROUNDING CONDUCTOR TO ALL ELECTRICAL, TELECOMMUNICATIONS AND SECURITY EQUIPMENT SIZED PER NEC ARTICLE 250.
8. PROVIDE ONLY COPPER CONDUCTORS.
9. MOUNT ALL NEW FLOOR MOUNTED ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO SWITCHBOARDS, TRANSFORMERS, MOTOR CONTROL CENTERS, AND POWER CONDITIONERS ON A COCRETE EQUIPMENT PAD.
10. AIC RATING LISTED ON ELECTRICAL EQUIPMENT IS A MINIMUM RATING.

GENERAL NOTES: APPLICABLE TO DEMOLITION SHEETS

1. EXISTING EQUIPMENT AND DEVICES SHOWN ARE BASED ON CASUAL FIELD OBSERVATION. VERIFY ALL EXISTING CONDITIONS INCLUDING BOTH DEVICES AND CIRCUITRY PRIOR TO COMMENCEMENT OF WORK.
2. EXISTING BACKGROUNDS ARE PROVIDED BY THE GOVERNMENT. VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
3. REMOVE ELECTRICAL EQUIPMENT AND DEVICES AS SPECIFIED ON DEMOLITION SHEETS. MAINTAIN CIRCUIT CONTINUITY TO ANY DOWNSTREAM DEVICES AND EQUIPMENT REMAINING IN SERVICE.

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

NAVFAC

COMMONWEALTH OF VIRGINIA — JIMMY CLARK HIGGINS — Lic. No. 0402057076 — PROFESSIONAL ENGINEER — 9/26/2022 — SEAL

Wiley|Wilson | BURNS McDONNELL JOINT VENTURE

A/E INFO

APPROVED: Jennifer Blazer — FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES	JCH	DRW	JCH	CHK	PO

PMDM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY
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WASHINGTON NAVY YARD

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

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CAMP SPRINGS, MD

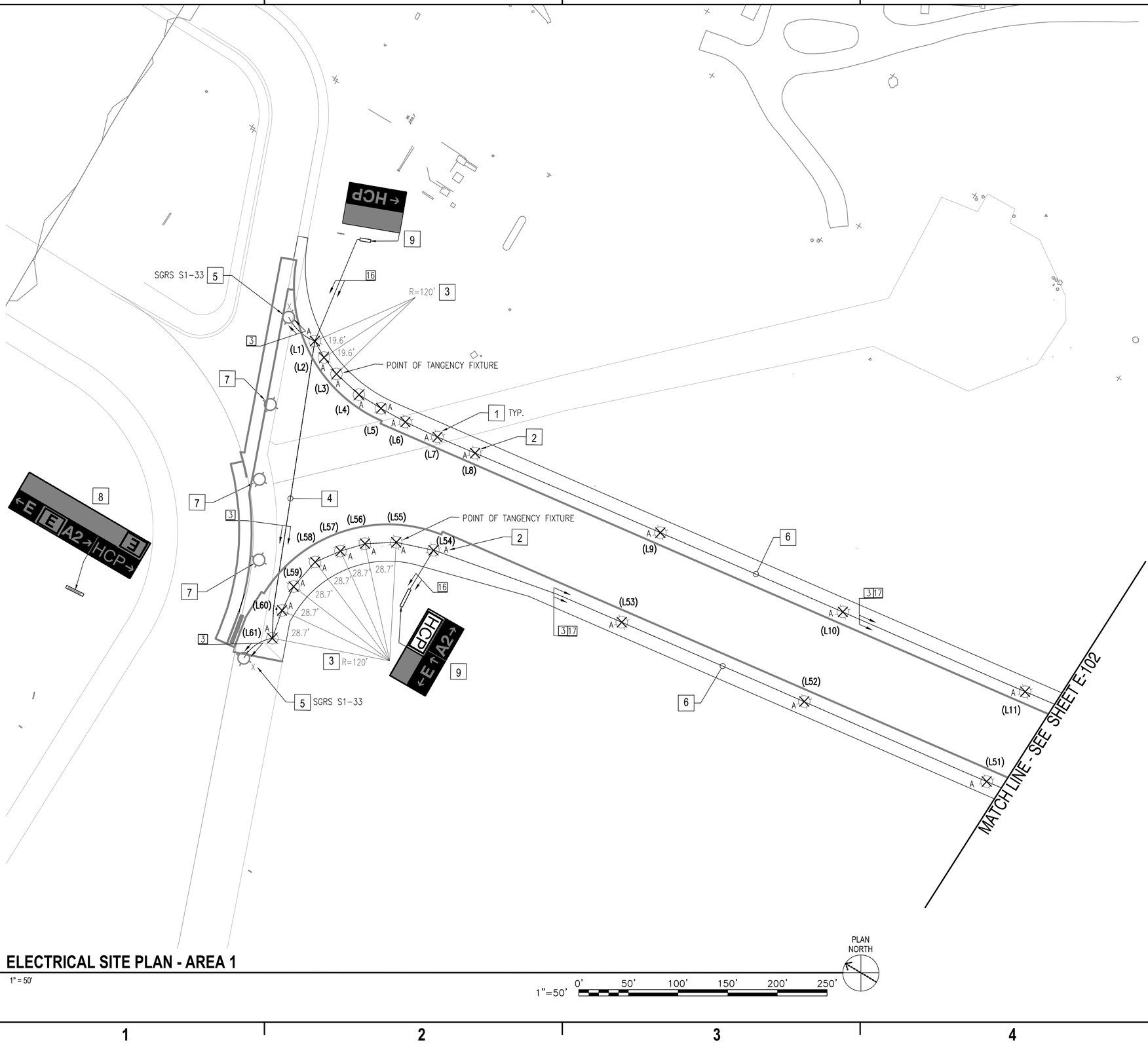
P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL LEGEND

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132523
SHEET	178 OF 212

E-001

DRAWFORM REVISION: 06 APRIL 2017



A1 ELECTRICAL SITE PLAN - AREA 1

1" = 50'

PLAN NORTH

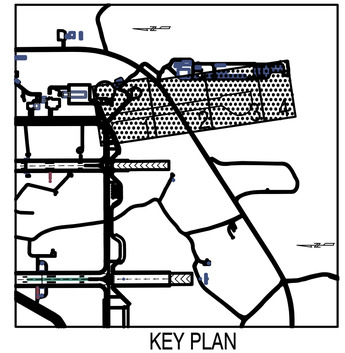
1"=50' 0' 50' 100' 150' 200' 250'

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT TO ANY DAMAGE SUSTAINED TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. SEE SHEET E-501 FOR SITE LIGHTING FIXTURE SCHEDULE.
4. SEE SHEET E-104 FOR CABLE SCHEDULE.
5. COORDINATE SITE LIGHTING POLE BASE EXACT LOCATION WITH THE LANDSCAPING DESIGN.

WORK NOTES

1. PROVIDE AIRFIELD LIGHTING FIXTURES AS INDICATED ON PLAN. ENSURE AIRFIELD LIGHTING FIXTURES ARE LOCATED AT A DISTANCE NO GREATER THAN 200' FROM EACH OTHER AT STRAIGHT TAXIWAY SECTIONS. AIRFIELD LIGHTING FIXTURES LOCATED 10' FROM EDGE OF CONCRETE TAXIWAY.
2. PROVIDE AN ADDITIONAL SINGULAR AIRFIELD LIGHTING FIXTURE 40' FROM END OF STRAIGHT TAXIWAY SECTIONS.
3. PROVIDE AIRFIELD LIGHTING FIXTURES AT CURVED TAXIWAY SECTIONS. PLACE FIXTURES AT A DISTANCE AS INDICATED ON PLANS.
4. PROVIDE CONDUCTOR INDICATED BETWEEN AIRFIELD LIGHTING FIXTURE CANS FOR ISOLATION OF CIRCUIT FOR MAINTENANCE. TERMINATE CONDUCTOR IN CAN WITH FAA L-823 STYLE CONNECTOR.
5. CONNECT TO CIRCUIT 33 AT NEAREST EXISTING AIRFIELD LIGHT FIXTURE AS INDICATED. LIMIT EXISTING AIRFIELD LIGHTS DOWN TIME TO A MINIMUM BY PROVIDING A TEMPORARY JUMPER DURING WORK EVOLUTION IF REQUIRED. CIRCUIT 33 IS LOCATED IN BLDG. 1207, ON SWITCHGEAR SGRS/S1 CABINET.
6. SEE DETAIL A1, SHEET E-504.
7. DISCONNECT AND REMOVE EXISTING AIRFIELD LIGHTING AND RETURN FIXTURES TO GOVERNMENT. PULL BACK CONDUCTORS TO EXISTING AIRFIELD LIGHTING FIXTURE NEAREST EDGE OF TAXIWAY (DENOTED 'X').
8. REMOVE EXISTING AIRFIELD SIGN AND REPLACE AS INDICATED. COORDINATE WITH SIGN VENDOR FOR DIMENSIONS OF PAD AND SIGN. CIRCUIT TO EXISTING CIRCUIT. SEE SHEET E-507 FOR DETAILS.
9. PROVIDE AIRFIELD SIGN AS INDICATED. COORDINATE WITH SIGN VENDOR FOR DIMENSIONS OF PAD AND SIGN. CIRCUIT TO AIRFIELD LIGHTING CIRCUIT AS INDICATED. SEE SHEET E-507 FOR DETAILS.



KEY PLAN

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COMMONWEALTH OF VIRGINIA
JIMMY CLARK HIGGINS
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9/26/2022
PROFESSIONAL ENGINEER
SEAL

Wiley|Wilson | BURNS MCDONNELL
JOINT VENTURE

A/E INFO

APPROVED
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FOR COMMANDER NAVFAC

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FIRE PROTECTION

DEPARTMENT OF THE NAVY
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CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

ELECTRICAL SITE PLAN - AREA 1

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132524
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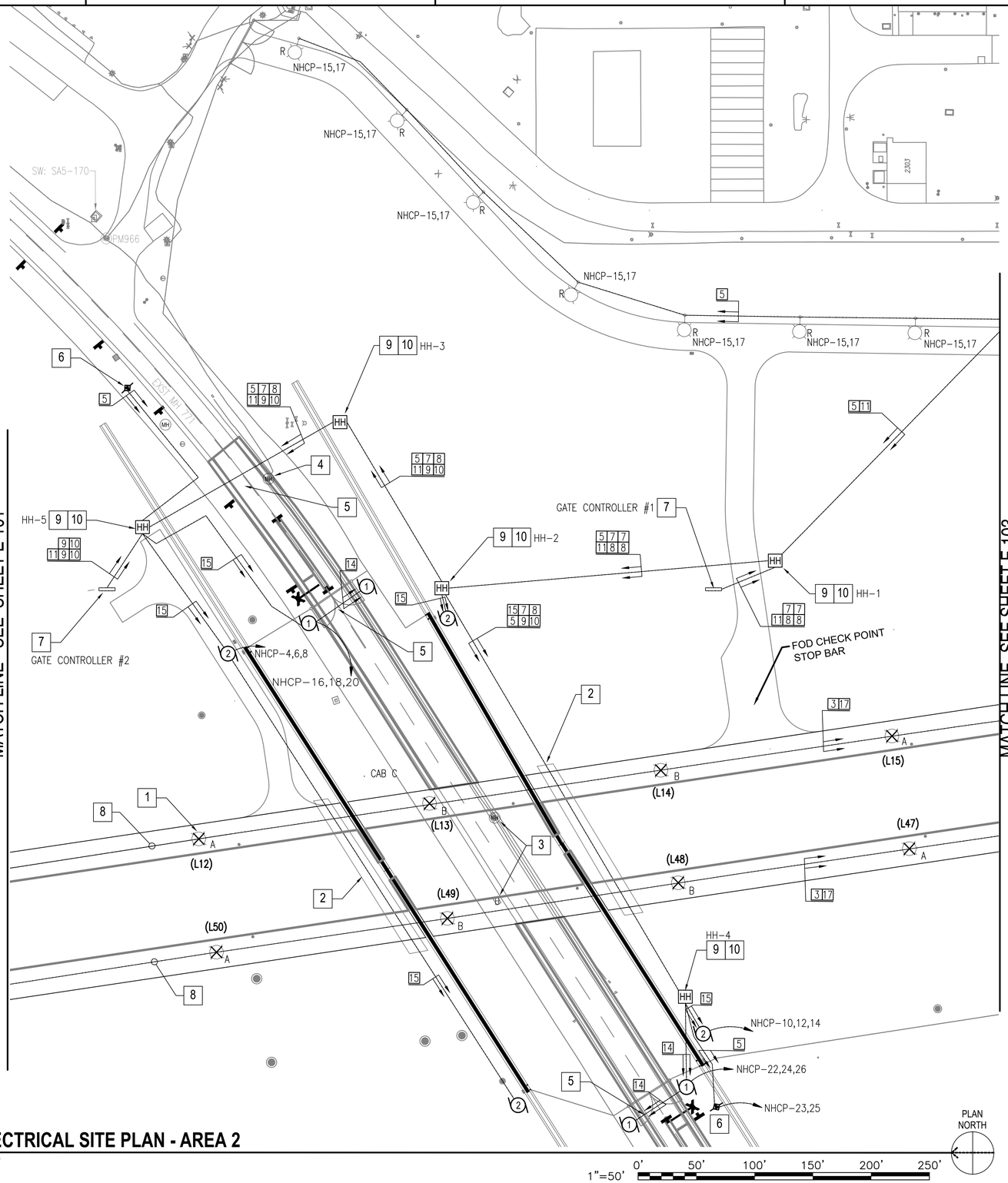


A1 **ELECTRICAL SITE PLAN - AREA 2**

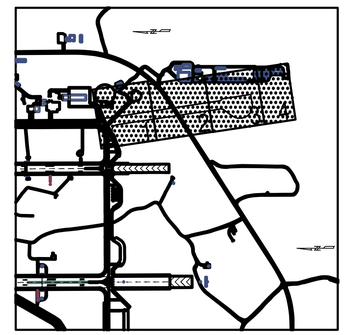
1" = 50'

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT TO ANY DAMAGE TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. SEE SHEET E-501 FOR SITE LIGHTING FIXTURE SCHEDULE.
4. SEE SHEET E-104 FOR CABLE SCHEDULE.
5. COORDINATE SITE LIGHTING POLE BASE EXACT LOCATION WITH THE LANDSCAPING DESIGN.

WORK NOTES

1. PROVIDE AIRFIELD LIGHTING FIXTURES AS INDICATED ON PLAN. ENSURE AIRFIELD LIGHTING FIXTURES ARE LOCATED AT A DISTANCE NO GREATER THAN 200' FROM EACH OTHER AT STRAIGHT TAXIWAY SECTIONS. AIRFIELD LIGHTING FIXTURES LOCATED 10' FROM EDGE OF CONCRETE TAXIWAY.
2. THIS PORTION UNDER PAVED SECTION IS CONCRETE-ENCASED DUCT BANK. SEE CABLE SCHEDULE ON SHEET E-104 TO DETERMINE NUMBER OF WAYS. ROUTE SITE LIGHTING ELECTRICAL CONDUIT/DUCT BANK BELOW GATE FOUNDATION.
3. SEE STRUCTURAL AND CIVIL PLANS FOR DETAILS REGARDING ELECTRICAL AND TELECOMM STRUCTURES.
4. MODIFY EXISTING ELECTRICAL MANHOLE RIM ELEVATION TO MATCH PROPOSED GRADE. SEE CIVIL AND STRUCTURAL SHEETS.
5. PROVIDE DIRECTIONAL BORING FOR LOCATIONS UNDERNEATH OF SOUTH PERIMETER RD. COORDINATE SPECIFIC REQUIREMENTS WITH BASE.
6. PROVIDE ROADWAY FLASHERS FOR TRAFFIC. SEE DETAIL (FIG. 84D) ON SHEET E-501.
7. PROVIDE NEMA-4X, STAINLESS STEEL, C-CHANNEL RACK-MOUNTED, NEMA-4X ENCLOSURE AND CONTROLLERS FOR GATE MOTORS. SEE DETAIL C3 ON SHEET E-502. PROVIDE CONTROL CABLING PER MANUFACTURERS INSTRUCTIONS AND RECOMMENDATION. COORDINATE WITH GATE CONTROLLER VENDOR TO PREVENT SIMULTANEOUS ENERIGIZATION OF ALTERNATE CIRCUITS.
8. SEE DETAIL A1, SHEET E-504.
9. PROVIDE TYPE 10 HANDHOLE. SEE DETAIL C1 ON SHEET E-503.
10. SEE SHEET E-506 FOR MANHOLE AND HANDHOLE DIAGRAMS.



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WASHINGTON, DC
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL SITE PLAN - AREA 2

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132525
SHEET	180 OF 212

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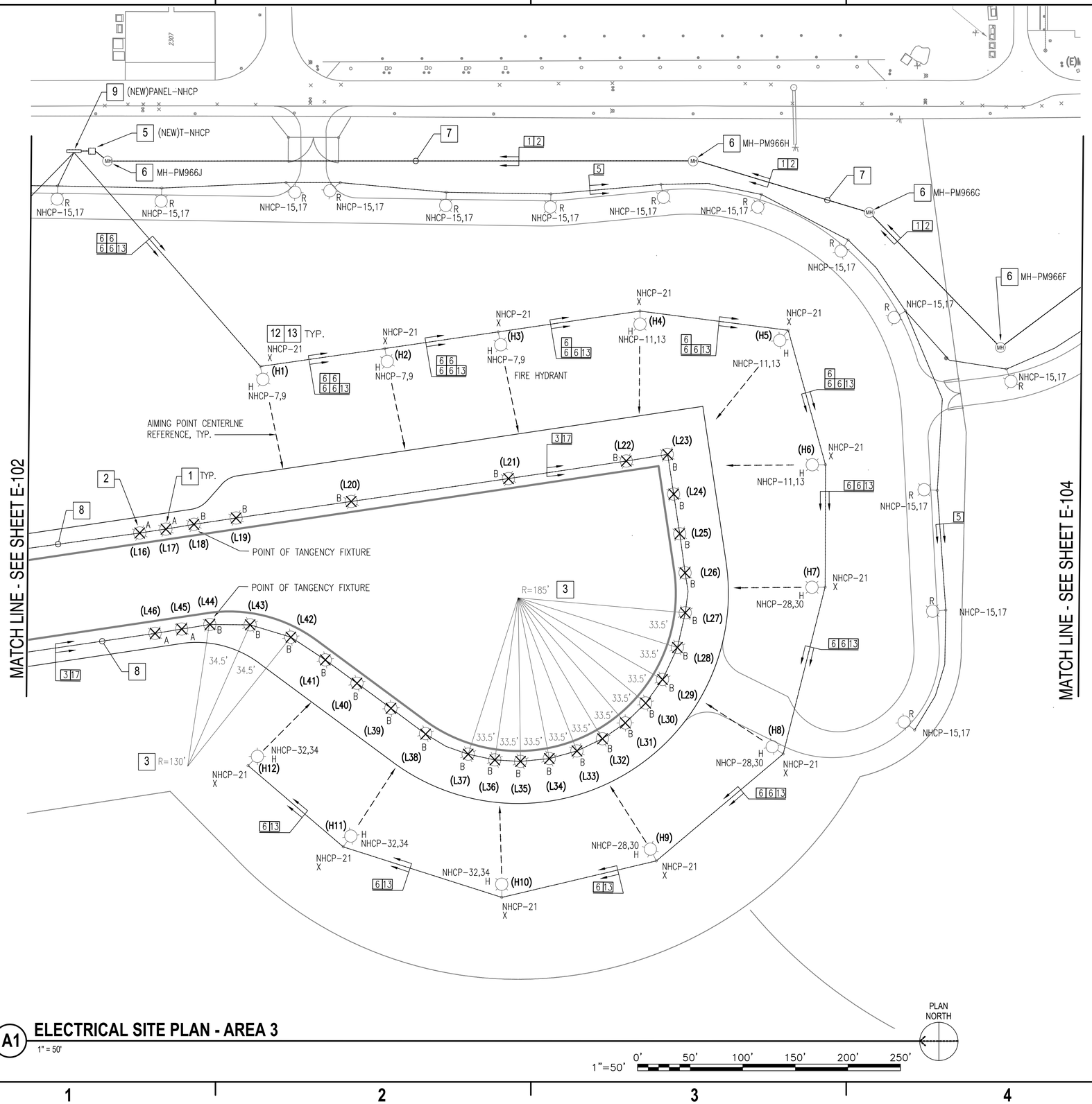
DRAWFORM REVISION: 06 APRIL 2017



A1 ELECTRICAL SITE PLAN - AREA 3

1" = 50'

PLAN NORTH

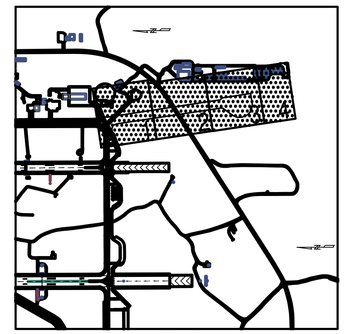
1"=50' 0' 50' 100' 150' 200' 250'

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT ANY DAMAGE SUSTAINED TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. SEE SHEET E-501 FOR SITE LIGHTING FIXTURE SCHEDULE.
4. SEE SHEET E-104 FOR CABLE SCHEDULE.
5. COORDINATE SITE LIGHTING POLE BASE EXACT LOCATION WITH THE LANDSCAPING DESIGN.
6. SEE SHEET E-104 FOR NHCP PANEL SCHEDULE.

WORK NOTES

1. PROVIDE AIRFIELD LIGHTING FIXTURES. AIRFIELD LIGHTING FIXTURES ARE LOCATED AT A DISTANCE NO GREATER THAN 200' FROM EACH OTHER AT STRAIGHT TAXIWAY SECTIONS. AIRFIELD LIGHTING FIXTURES LOCATED 10' FROM EDGE OF CONCRETE TAXIWAY.
2. PROVIDE AN ADDITIONAL SINGULAR AIRFIELD LIGHTING FIXTURE IS PLACED 40' FROM END OF STRAIGHT TAXIWAY SECTIONS.
3. PROVIDE AIRFIELD LIGHTING FIXTURES AT CURVED TAXIWAY SECTIONS. PLACE FIXTURES A MINIMUM OF THREE (3) PER CURVED AREAS THAT ARE GREATER THAN 30 DEGREES.
4. PROVIDE CARD READER PER DETAIL A1/E-501 12" OFF FINISHED CURB.
5. PROVIDE 45KVA, 13200GY/7200V-208V/120, 3Ø, PAD MOUNTED TRANSFORMER.
6. PROVIDE MANHOLE PER SPECIFICATION. SEE DETAIL C3, SHEET E-503.
7. PROVIDE 2-WAY, 2X1, 5"C, CONCRETE ENCASED DUCT BANK.
8. SEE DETAIL A1, SHEET E-504.
9. PROVIDE NEMA 3R C-CHANNEL POWER AND CONTROL RACK, SERVICE DISCONNECT, MANUAL TRANSFER SWITCH WITH GENERATOR CONNECTION AND NEMA 4X 100A PANEL BOARD. SEE ELEVATION AND RISER ON SHEET E-502.
10. NOT USED.
11. NOT USED.
12. PROVIDE HIGH MAST APRON LIGHTS. SEE DETAIL A5 ON SHEET E-502. TYPICAL. BID OPTION.
13. PROVIDE OBSTRUCTION LIGHTS ON TOP OF POLE. SEE DETAIL A5 ON SHEET E-502. TYPICAL. BID OPTION.



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CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL SITE PLAN - AREA 3

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132526
SHEET	181 OF 212

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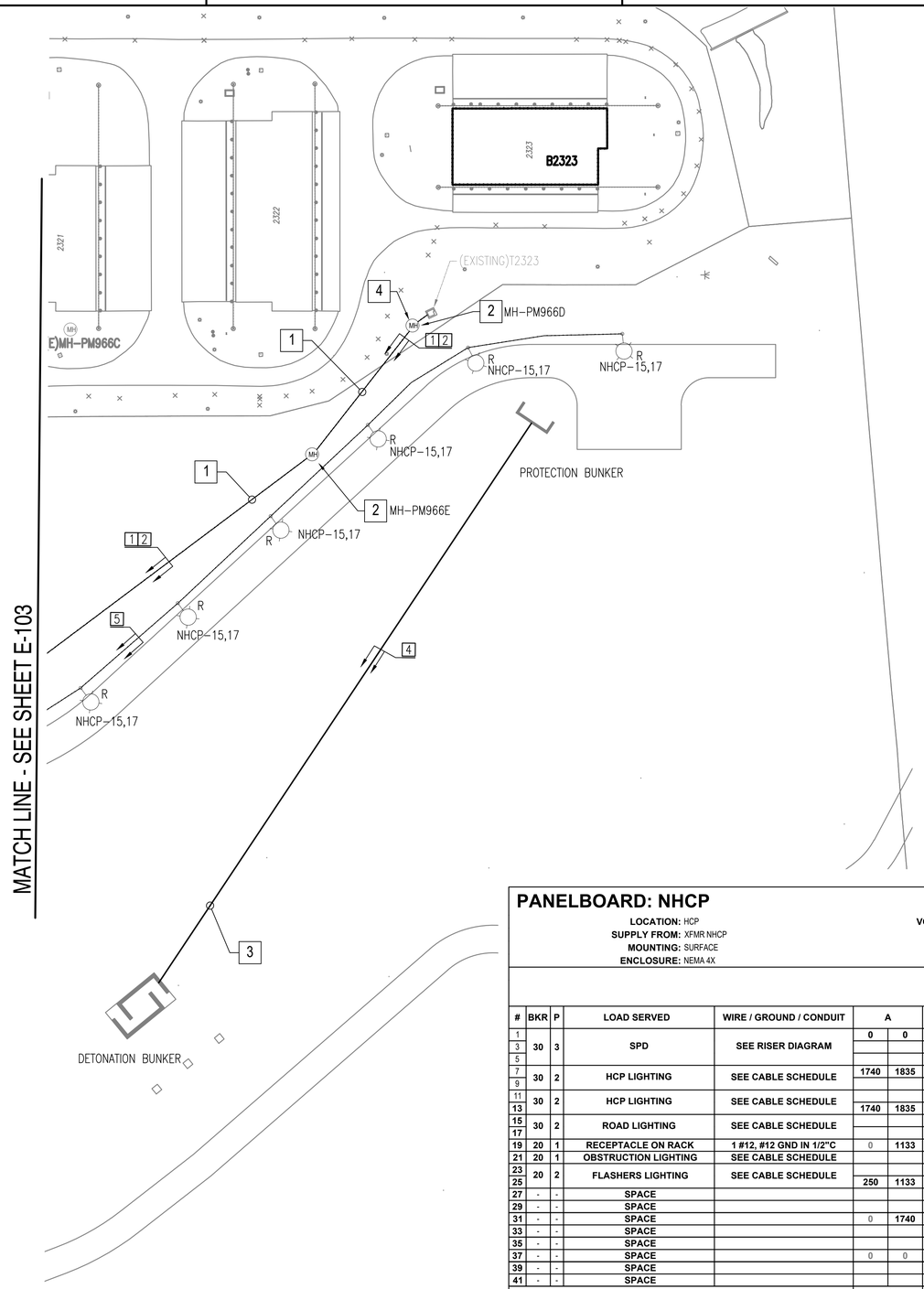
DRAWFORM REVISION: 06 APRIL 2017



APRON LIGHTING FIXTURE AIMING SCHEDULE

LTG FIXTURE IDENTIFICATION	RIGHT FIXTURE AIMING ANGLE		LEFT FIXTURE AIMING ANGLE	
	HORIZ.	VERT.	HORIZ.	VERT.
(H1)	12.0	18.5	20.7	18.5
(H2)	15.0	18.5	15.0	18.5
(H3)	15.0	18.5	10.0	18.5
(H4)	10.0	18.7	10.0	18.6
(H5)	10.7	18.5	12.8	18.5
(H6)	5.1	18.6	7.0	18.7
(H7)	10.0	18.5	12.0	18.5
(H8)	9.0	18.5	10.0	18.4
(H9)	10.0	18.5	14.0	18.5
(H10)	12.0	18.7	13.1	18.6
(H11)	8.8	18.6	15.0	18.5
(H12)	15.8	18.5	25.0	18.7

NOTE: SEE DETAIL A5, SHEET E-502 FOR EXPLANATION OF ANGLES.

CABLE SCHEDULE

CABLE IDENTIFICATION	DESCRIPTION	CONDUIT SIZE (in)	CONCRETE ENCASE	DIRECT BURIED
1	SPARE WITH PULLWIRE	5"	YES	NO
2	3-1/C #2/0, MV-105, 133% EPR, #4 G	5"	YES	NO
3	#8 XLPE, #6 G, L-824C, 5kV	2"	YES	NO
4	2 #18 CONDUCTORS	1"	NO	YES
5	2 #6, #10 G (SITE LIGHTING LOW VOLTAGE)	1"	NO	YES
6	2 #6, #10 G (SITE LIGHTING LOW VOLTAGE)	1-1/4"	NO	YES
7	3 #6, #8 G (GATE CONTROLLER #1)	1"	NO	YES
8	3 #4, #8 G (GATE CONTROLLER #1)	1"	NO	YES
9	3 #6, #8 G (GATE CONTROLLER #2)	1"	NO	YES
10	3 #4, #8 G (GATE CONTROLLER #2)	1"	NO	YES
11	(2) 3 #6, #8 G AND (2) 3 #4, #8 G	2"	NO	YES
12	2 #10, #10 G	1"	NO	YES
13	1 #10, #10 G (OBSTRUCTION LIGHT)	1"	NO	YES
14	3 #6, #8 G	1"	NO	YES
15	3 #4, #8 G	1"	NO	YES
16	(2) #8 AWG L-824C, 5kV	2"	NO	YES
17	SPARE WITH PULLWIRE	2"	YES	NO

PANELBOARD: NHCP

LOCATION: HCP
SUPPLY FROM: XFMR NHCP
MOUNTING: SURFACE
ENCLOSURE: NEMA 4X

VOLTAGE: 120/208 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: 18KAIC
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

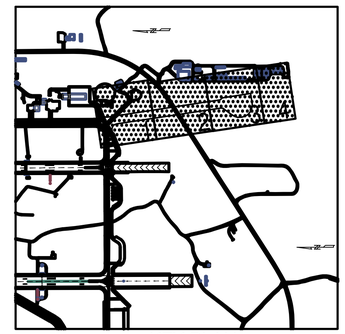
#	BKR	P	LOAD SERVED	WIRE / GROUND / CONDUIT	A		B		C		WIRE / GROUND / CONDUIT	LOAD SERVED	P	BKR	#
1					0	0					--	SPACE	-	-	2
3	30	3	SPD	SEE RISER DIAGRAM			0	1835			SEE CABLE SCHEDULE	TAXIWAY ROAD GATE - NORTH 2 - (2HP)	3	30	4
5									0	1835					6
7	30	2	HCP LIGHTING	SEE CABLE SCHEDULE	1740	1835									8
9							1740	1835			SEE CABLE SCHEDULE	TAXIWAY ROAD GATE - SOUTH 2 - (2HP)	3	30	10
11	30	2	HCP LIGHTING	SEE CABLE SCHEDULE					1740	1835					12
13					1740	1835									14
15	30	2	ROAD LIGHTING	SEE CABLE SCHEDULE			1228	1133			SEE CABLE SCHEDULE	SO. PERIMETER RD. GATE-EAST 2 - (1HP)	3	20	16
17									1229	1133					18
19	20	1	RECEPTACLE ON RACK	1 #12, #12 GND IN 1/2"C	0	1133									20
21	20	1	OBSTRUCTION LIGHTING	SEE CABLE SCHEDULE			828	1133			SEE CABLE SCHEDULE	SO. PERIMETER RD. GATE-WEST 2 - (1HP)	3	20	22
23	20	2	FLASHERS LIGHTING	SEE CABLE SCHEDULE					250	1133					24
25					250	1133									26
27	-	-	SPACE				0	1740			SEE CABLE SCHEDULE	HCP LIGHTING	2	30	28
29	-	-	SPACE						0	1740					30
31	-	-	SPACE		0	1740					SEE CABLE SCHEDULE	HCP LIGHTING	2	30	32
33	-	-	SPACE				0	1740							34
35	-	-	SPACE						0	0		SPACE	-	-	36
37	-	-	SPACE		0	0						SPACE	-	-	38
39	-	-	SPACE				0	0				SPACE	-	-	40
41	-	-	SPACE						0	0		SPACE	-	-	42
					9602		11382		9065		TOTAL VOLT AMPS				
					46		55		44		CONN. AMPS				

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT TO ANY DAMAGE SUSTAINED TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. SEE SHEET E-501 FOR SITE LIGHTING FIXTURE SCHEDULE.
4. SEE SHEET E-104 FOR THE CABLE SCHEDULE.
5. COORDINATE SITE LIGHTING POLE BASE EXACT LOCATION WITH THE LANDSCAPING DESIGN.

WORK NOTES

1. SEE DETAIL A1, SHEET E-504.
2. PROVIDE MANHOLE PER SPECIFICATION. SEE DETAIL C3, SHEET E-503 .
3. PROVIDE CONDUIT BETWEEN DETONATION BUNKER TO PROTECTION BUNKER. PROVIDE PULL ROPE IN CONDUIT. PROVIDE EASILY REMOVABLE CAP ON EACH END OF CONDUIT.
4. CONNECT TO EXISTING TRANSFORMER T2323. SEE SHEET E-506 DETAIL MANHOLE PM966D.



KEY PLAN

A1 **ELECTRICAL SITE PLAN - AREA 4**
1" = 50'

PLAN NORTH

1"=50' 0' 50' 100' 150' 200' 250'

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

NAVFAC

COMMONWEALTH OF VIRGINIA
JIMMY CLARK HIGGINS
Lic. No. 0402057076
9/26/2022
PROFESSIONAL ENGINEER
SEAL

Wiley|Wilson | BURNS MCDONNELL
JOINT VENTURE

A/E INFO

APPROVED
Jennifer Blazer
FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES JCH | DRW JCH | CHK PO

PMDM

BRANCH MANAGER

CHIEF ENGR/RCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD
WASHINGTON, DC

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL SITE PLAN - AREA 4

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13132527
SHEET 182 OF 212

E-104

DRAWFORM REVISION: 06 APRIL 2017

LIGHTNING PROTECTION LEGEND

MAIN CONDUCTOR

GROUND COUNTERPOISE

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT TO ANY DAMAGE SUSTAINED TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. ENSURE THAT MATERIALS USED ARE COMPATIBLE WITH THE AIRFIELD AND DOES NOT CAUSE DAMAGE TO THE AIRFIELD. DO NOT USE DISSIMILAR METALS.
4. ENSURE ALL LIGHTNING PROTECTION CONDUCTORS HAVE A MINIMUM BEND RADIUS OF 8". PROVIDE APPROPRIATE EXOTHERMIC CONNECTION WHEN RADIUS IS LESS THAN 8".
5. GROUND ALL SITE EQUIPMENT IN ACCORDANCE WITH MIL-HDBK-419A, NEC AND APPLICABLE UFC CRITERIA.
6. ENSURE ALL BONDING AND GROUNDING CONNECTIONS ARE EXOTHERMIC TYPE, UON. SEE DETAILS.

WORK NOTES

1. ADD ADDITIONAL GROUND RODS AS REQUIRED FOR LIGHTNING PROTECTION DOWN CONDUCTORS PER LIGHTNING PROTECTION CONTRACTOR'S DESIGN.
2. BOND LIGHTNING COUNTERPOISE CONDUCTOR TO GROUNDING ELECTRODES AT INTERVALS NOT EXCEEDING 2000 FEET.
3. PROVIDE BARE COPPER #4 AWG GROUND COUNTERPOISE AT MINIMUM OF 8" BFG AND NO MORE THAN 12" ABOVE CIRCUIT CABLING. PROVIDE COUNTERPOISE HALFWAY BETWEEN AIRFIELD LIGHTING DUCTBANK AND EDGE OF TAXIWAY.
4. SAWCUT AND PATCH CONCRETE FOR PATHWAY TO EXISTING COUNTERPOISE SYSTEM. BOND COUNTERPOISE TO EXISTING COUNTERPOISE SYSTEM. SEE DETAIL A3, SHEET E-503.

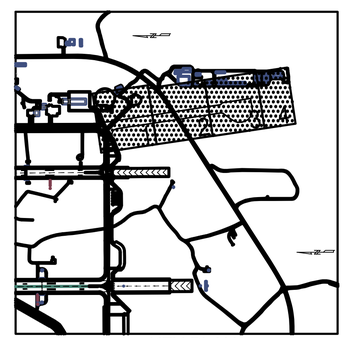
MATCH LINE - SEE SHEET E-202

A1 ELECTRICAL LIGHTNING PROTECTION PLAN - AREA 1

1" = 50'

PLAN NORTH

1"=50' 0' 50' 100' 150' 200' 250'



KEY PLAN

SYM	ISSUE FOR CONSTRUCTION	DATE	APPR
0		9/26/2022	

NAVFAC

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JOINT VENTURE

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SATISFACTORY TO DATE

DES	JCH	DRW	JCH	CHK	PO

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

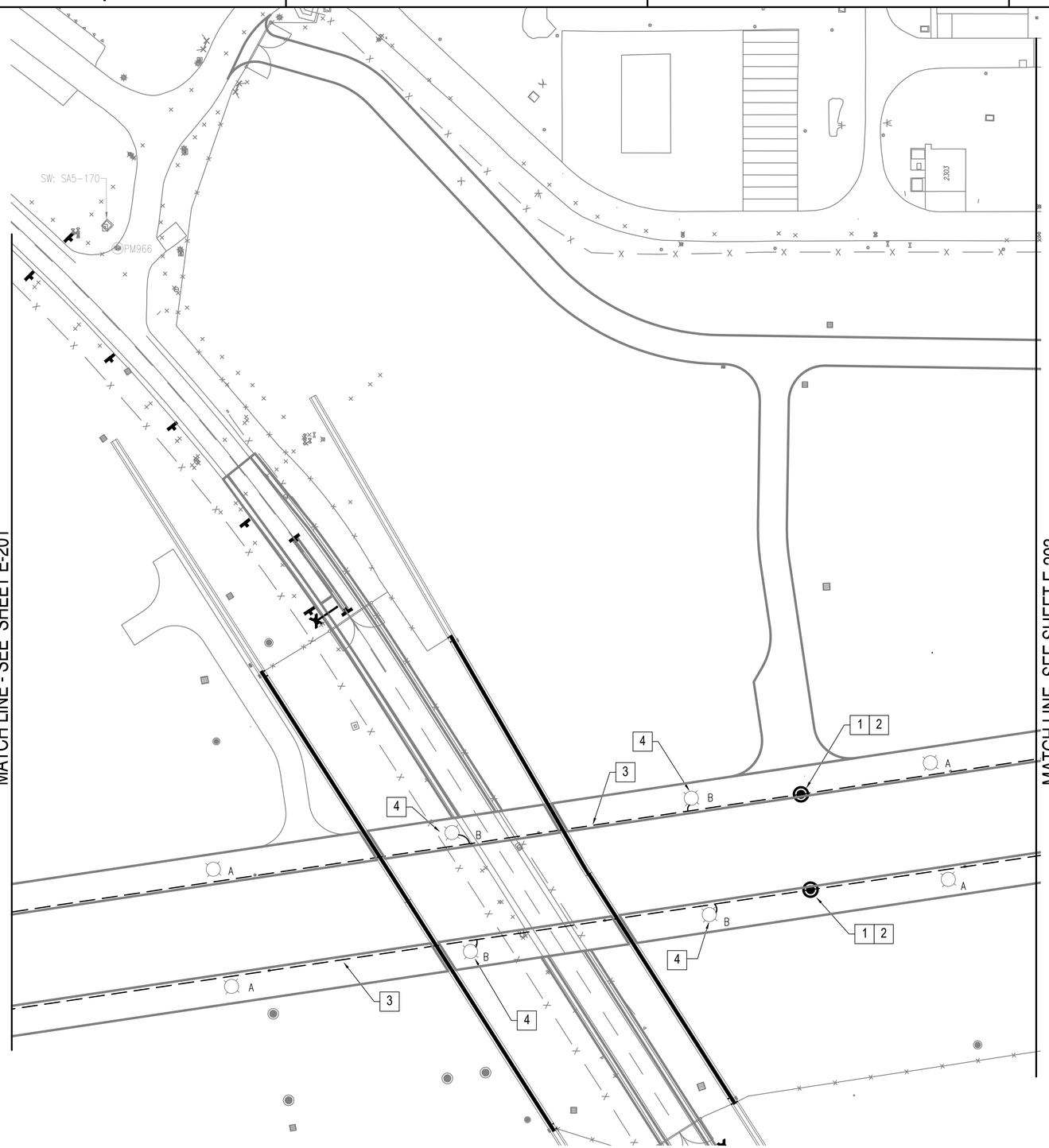
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

LIGHTNING PROTECTION PLAN - AREA 1

SCALE:	AS NOTED
EPROJECT NO.:	139650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132528
SHEET	183 OF 212

E-201

DRAWFORM REVISION: 06 APRIL 2017



A1 ELECTRICAL LIGHTNING PROTECTION PLAN - AREA 2

1" = 50'

PLAN NORTH

1"=50' 0' 50' 100' 150' 200' 250'

LIGHTNING PROTECTION LEGEND

MAIN CONDUCTOR

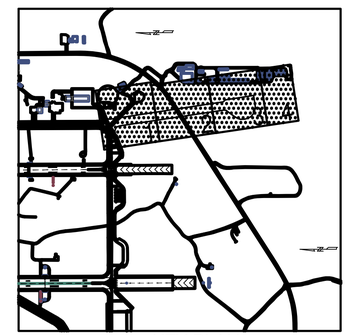
GROUND COUNTERPOISE

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT TO ANY DAMAGE SUSTAINED TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. ENSURE THAT MATERIALS USED ARE COMPATIBLE WITH THE AIRFIELD AND DOES NOT CAUSE DAMAGE TO THE AIRFIELD. DO NOT USE DISSIMILAR METALS.
4. ENSURE ALL LIGHTNING PROTECTION CONDUCTORS HAVE A MINIMUM BEND RADIUS OF 8". PROVIDE APPROPRIATE EXOTHERMIC CONNECTION WHEN RADIUS IS LESS THAN 8".
5. GROUND ALL SITE EQUIPMENT IN ACCORDANCE WITH MIL-HDBK-419A, NEC AND APPLICABLE UFC CRITERIA.
6. ENSURE ALL BONDING AND GROUNDING CONNECTIONS ARE EXOTHERMIC TYPE, UON. SEE DETAILS.

WORK NOTES

1. ADD ADDITIONAL GROUND RODS AS REQUIRED FOR LIGHTNING PROTECTION DOWN CONDUCTORS PER LIGHTNING PROTECTION CONTRACTOR'S DESIGN.
2. BOND LIGHTNING COUNTERPOISE CONDUCTOR TO GROUNDING ELECTRODES AT INTERVALS NOT EXCEEDING 2000 FEET.
3. PROVIDE BARE COPPER #4 AWG GROUND COUNTERPOISE AT MINIMUM OF 8" BFG AND NO MORE THAN 12" ABOVE CIRCUIT CABLING. PROVIDE COUNTERPOISE HALFWAY BETWEEN AIRFIELD LIGHTING DUCTBANK AND EDGE OF TAXIWAY.
4. BOND LIGHTNING COUNTERPOISE CONDUCTOR TO EACH IN-PAVEMENT (FLUSH) 'TYPE B' METALLIC LIGHT FIXTURE REINFORCEMENT CAGE, MOUNTING STAKE AND METALLIC AIRFIELD LIGHTING COMPONENT.



KEY PLAN

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

NAVFAC

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SEAL

Wiley|Wilson | BURNS McDONNELL
JOINT VENTURE

A/E INFO

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NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

LIGHTNING PROTECTION PLAN - AREA 2

SCALE: AS NOTED

EPROJECT NO.: 1396650

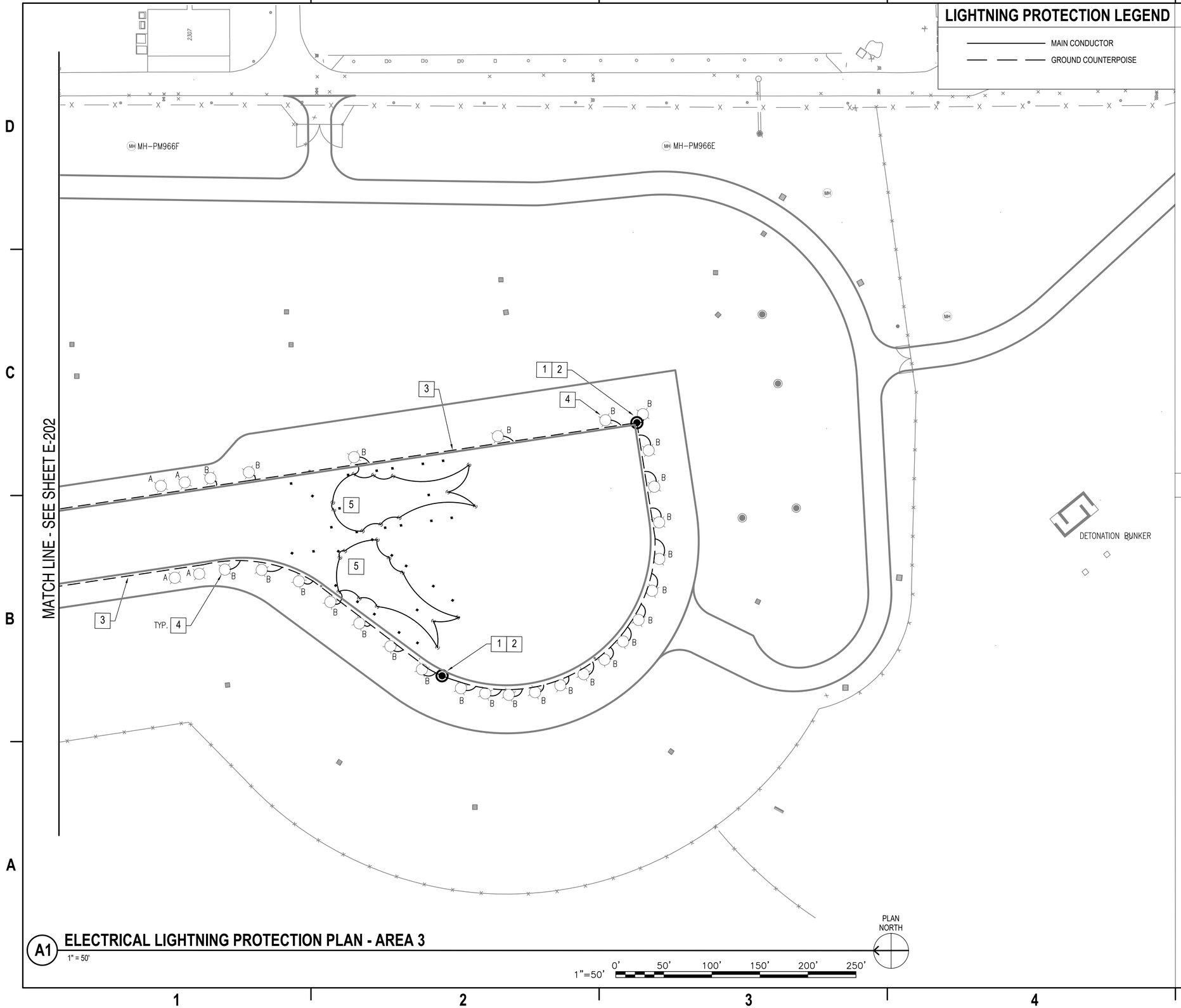
CONSTR. CONTR. NO.
N40080-15-D-0452

NAVFAC DRAWING NO.
13132529

SHEET 184 OF 212

E-202

DRAWFORM REVISION: 06 APRIL 2017



LIGHTNING PROTECTION LEGEND

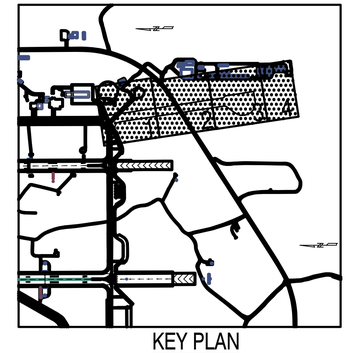
- MAIN CONDUCTOR
- GROUND COUNTERPOISE

GENERAL NOTES

1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES. SOURCE OF EXISTING UTILITY MAPPING: UTILITY LOCATIONS ARE BASED ON QUALITY LEVEL "B" AS DEFINED BY ASCE STANDARD 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". VERIFY EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN AND NOTIFYING ENGINEER OF DISCREPANCIES. REPAIR AND REPATCH AS NEEDED SUBSEQUENT TO ANY DAMAGE SUSTAINED TO PROPERTY OR UTILITIES.
2. CONTACT "MARYLAND MISS UTILITY" AT 1-800-257-7777 PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION.
3. ENSURE THAT MATERIALS USED ARE COMPATIBLE WITH THE AIRFIELD AND DOES NOT CAUSE DAMAGE TO THE AIRFIELD. DO NOT USE DISSIMILAR METALS.
4. ENSURE ALL LIGHTNING PROTECTION CONDUCTORS HAVE A MINIMUM BEND RADIUS OF 8". PROVIDE APPROPRIATE EXOTHERMIC CONNECTION WHEN RADIUS IS LESS THAN 8".
5. GROUND ALL SITE EQUIPMENT IN ACCORDANCE WITH MIL-HDBK-419A, NEC AND APPLICABLE UFC CRITERIA.
6. ENSURE ALL BONDING AND GROUNDING CONNECTIONS ARE EXOTHERMIC TYPE, UON. SEE DETAILS.

WORK NOTES

1. ADD ADDITIONAL GROUND RODS AS REQUIRED FOR LIGHTNING PROTECTION DOWN CONDUCTORS PER LIGHTNING PROTECTION CONTRACTOR'S DESIGN.
2. BOND LIGHTNING COUNTERPOISE CONDUCTOR TO GROUNDING ELECTRODES AT INTERVALS NOT EXCEEDING 2000 FEET.
3. PROVIDE BARE COPPER #4 AWG GROUND COUNTERPOISE AT MINIMUM OF 8" BFG AND NO MORE THAN 12" ABOVE CIRCUIT CABLING. PROVIDE COUNTERPOISE HALFWAY BETWEEN AIRFIELD LIGHTING DUCTBANK AND EDGE OF TAXIWAY.
4. BOND LIGHTNING COUNTERPOISE CONDUCTOR TO EACH IN-PAVEMENT (FLUSH) 'TYPE B' METALLIC LIGHT FIXTURE REINFORCEMENT CAGE, MOUNTING STAKE AND METALLIC AIRFIELD LIGHTING COMPONENT.
5. PROVIDE STATIC GROUNDING AND TIE INTO COUNTERPOISE. SEE CIVIL SHEETS FOR DETAIL.



A1 **ELECTRICAL LIGHTNING PROTECTION PLAN - AREA 3**
1" = 50'

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

NAVFAC

COMMONWEALTH OF VIRGINIA
JIMMY CLARK HIGGINS
Lic. No. 0402057076
9/26/2022
PROFESSIONAL ENGINEER
SEAL

Wiley|Wilson | BURNS McDONNELL
JOINT VENTURE

A/E INFO

APPROVED
Jennifer Blaess
FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES	JCH	DRW	JCH	CHK	PO

PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

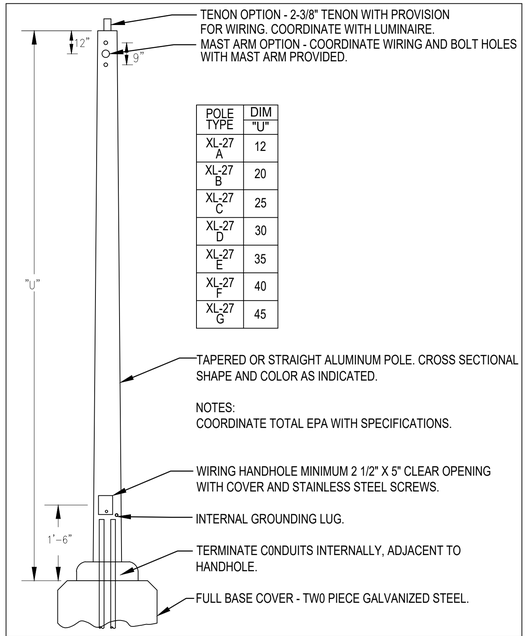
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

LIGHTNING PROTECTION PLAN - AREA 3

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132530
SHEET	185 OF 212

E-203

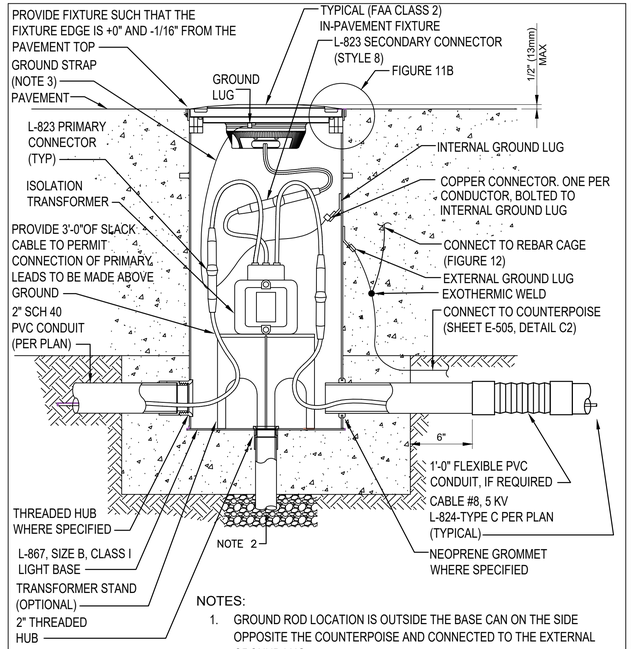
DRAWFORM REVISION: 06 APRIL 2017



POLE TYPE	DIM "U"
XL-27 A	12
XL-27 B	20
XL-27 C	25
XL-27 D	30
XL-27 E	35
XL-27 F	40
XL-27 G	45

ANCHOR BASE ALUMINUM POLE

REVISED: MARCH 2013 | LUMINAIRE PLATE: XL-27

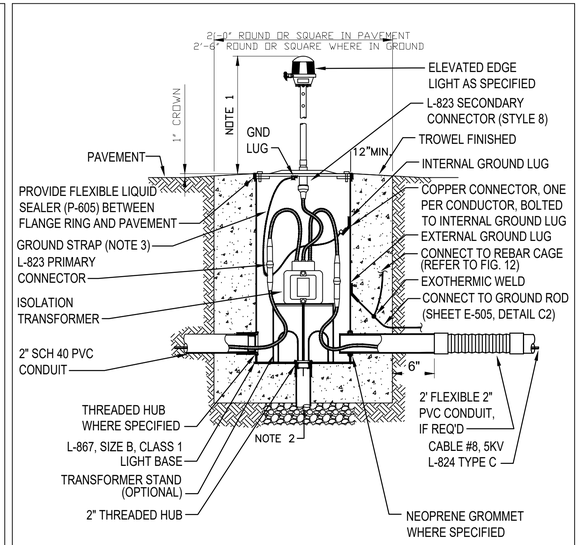


NOTES:

1. GROUND ROD LOCATION IS OUTSIDE THE BASE CAN ON THE SIDE OPPOSITE THE COUNTERPOISE AND CONNECTED TO THE EXTERNAL GROUND LUG.
2. BOTTOM DRAIN IS OPTIONAL.
3. PROVIDE 48" BRAIDED COPPER GROUND STRAP BETWEEN LIGHT BASE CAN AND LIGHT FIXTURE. STRAP MUST BE EQUIVALENT TO NO. 6 CABLE.

TYPICAL AIRFIELD IN-PAVEMENT LIGHTING

REVISED: MARCH 2013 | LUMINAIRE PLATE: TYPE B

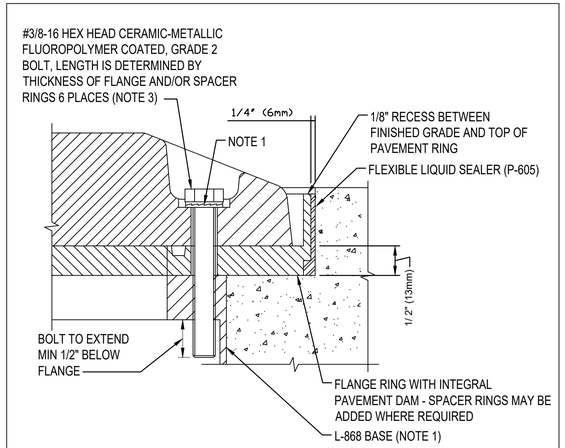


NOTES:

1. STANDARD HEIGHT IS 14".
2. NAVY AIRFIELDS: BOTTOM DRAIN NOT REQUIRED.
3. PROVIDE 48" BRAIDED COPPER GROUNDING STRAP EQUIVALENT TO #6 WIRE.

TYPICAL AIRFIELD ELEVATED LIGHTING

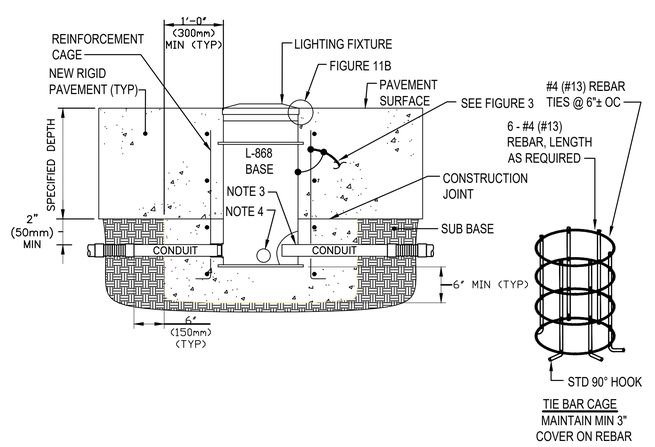
REVISED: MARCH 2013 | LUMINAIRE PLATE: TYPE A



NOTES:

1. TWO-PIECE STAINLESS STEEL LOCKING WASHER. DO NOT USE SPLIT-RING TYPE.
2. SPACER RINGS MAY BE REQUIRED FOR PROPER ALIGNMENT OF THE LIGHT FIXTURE.
3. DO NOT USE ANTI-SEIZE COMPOUND ON CERAMIC-METALLIC FLUOROPOLYMER COATED BOLT.

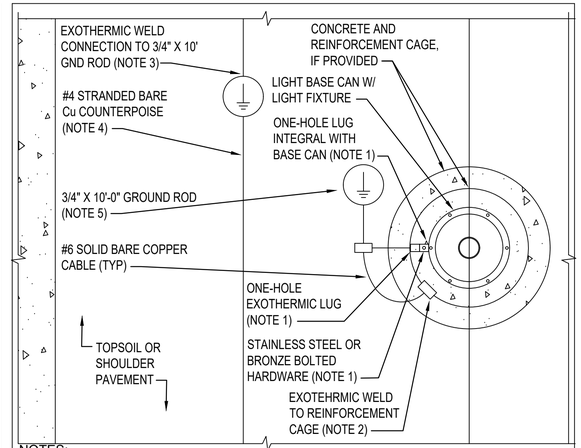
FIG. 11B



NOTES:

1. THE USE OF MUD PLATES, SPACER RINGS, EXTENSIONS, ETC., IS DEPENDENT ON PAVING TECHNIQUES.
2. ORIENTATION TOLERANCE FOR THE BASE IS ±1/2 DEGREE FROM THE CENTERLINE INDICATED ON THE PLANS.
3. CONDUIT ENTRANCE CAN BE MADE WITH EITHER A HUB OR GROMMET. IF GROMMET IS USED, CONDUITS MUST PROTRUDE INTO LIGHT BASE NOT MORE THAN 3/4" FOR STEEL AND 1" TO 1-1/2" FOR PVC.
4. 2" PVC CONDUIT TO NEAREST CATCH BASIN OR FRENCH DRAIN IS OPTIONAL. TYPICAL AT EACH LOW POINT OF LIGHTING SYSTEM. NAVY AIRFIELDS: SIDE DRAIN NOT REQUIRED.

FIG. 12



NOTES:

1. EACH LIGHT BASE CAN MUST HAVE AN EXTERNAL ONE-HOLE GROUND LUG. CONNECT AN EXOTHERMIC ONE-HOLE LUG TO GROUNDING CABLE. CONNECT CABLE LUG TO BASE CAN LUG WITH BRONZE OR STAINLESS STEEL BOLTED HARDWARE.
2. CONNECT GROUNDING CABLE TO REINFORCEMENT CAGE, IF ONE IS PROVIDED. USE EXOTHERMIC WELD.
3. CONNECT GROUND RODS TO COUNTERPOISE AT 2000'-0" MAXIMUM SPACING FOR STRAIGHT RUNS, USING EXOTHERMIC WELDS. DO NOT BREAK COUNTERPOISE.
4. LOCATE COUNTERPOISE HALF WAY BETWEEN FULL-STRENGTH RUNWAY OR TAXIWAY PAVEMENT AND CENTER LINE OF LIGHT BASE CANS.
5. INSTALL THE GROUND ROD ON THE SIDE OF THE TRENCH THAT IS CLOSEST TO THE RUNWAY OR TAXIWAY PAVEMENT. GROUND ROD MUST BE SEPARATED FROM COUNTERPOISE BY MINIMUM 12".

GROUNDING CONNECTIONS TO LIGHT BASE CAN

REVISED: MARCH 2013 | LUMINAIRE PLATE: FIG. 3

SYM	DESCRIPTION	DATE	APPR
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ACTIVITY

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CHIEF ENGR/RCH

FIRE PROTECTION

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NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

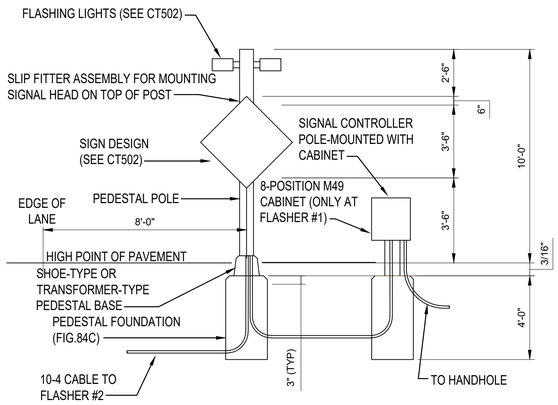
P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13132531
SHEET 186 OF 212

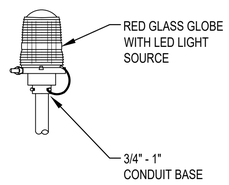
E-500

DRAWFORM REVISION: 06 APRIL 2017



ROADWAY SIGNAL ASSEMBLY DETAIL

REVISED:	MARCH 2013	LUMINAIRE PLATE:	FIG. 84D

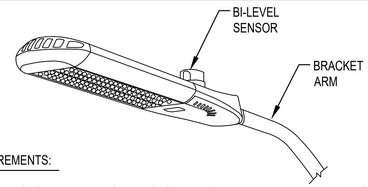


LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE CAST ALUMINUM OR DIE CAST AND EXTRUDED ALUMINUM WITH POLYESTER POWDER COAT FINISH. HARDWARE SHALL BE STAINLESS STEEL. NEMA 4X AND IP66 RATED FOR INGRESS PROTECTION.
2. MOUNTING - 3/4 IN OR 1 IN BOTTOM CONDUIT ENTRY.
3. GLOBE - TEMPERED RED FRESNEL GLASS WITH STAINLESS STEEL LATCHING SYSTEM TO HOLD GLOBE FIRMLY ONTO BASE. PROVIDE CABLE TETHER WIRE.
4. LIGHT SOURCE - RED, HIGH LONG LIFE, 96 W, MEDIUM SCREW BASE INCANDESCENT. LEDS ARE NOT APPROVED FOR USE IN AIR FORCE PROJECTS.
5. CERTIFICATION - FAA L810 PER FAA ADVISORY CIRCULAR 150/5345-43F.
6. OPTIONS - PROVIDE SINGLE OR TWIN GLOBE AS INDICATED IN LUMINAIRE SCHEDULE. FIXTURE SHALL HAVE AUTOMATICALLY SELECTED REDUCED INTENSITY LEVELS FOR NIGHT OPERATIONS.
7. OTHER - THE ABOVE SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS AND IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER'S PREFERENCE. ALL DIMENSIONS ARE NOMINAL AND VARY PER MANUFACTURER.

TYPICAL OBSTRUCTION LUMINAIRE

REVISED:	MARCH 2013	LUMINAIRE PLATE:	TYPE X

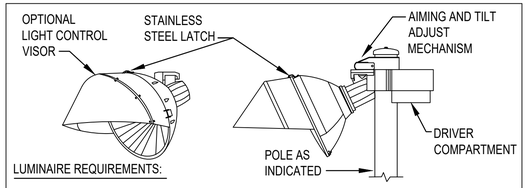


LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE CAST ALUMINUM OR DIE CAST AND EXTRUDED ALUMINUM. HEAT SINK INCORPORATED DIRECTLY INTO HOUSING TO ENSURE MAXIMUM HEAT TRANSFER AND DISSIPATION.
2. FINISH - MULTI-STAGE PRE-TREATMENT, FINISHED WITH BAKED-ON POLYESTER POWDER COAT. ENSURE FINISH PASSES THE 2500 HOUR SALT SPRAY TEST PER ASTM B117. FINISH COLORS INCLUDE DARK BRONZE, SILVER, OR BLACK WITH CUSTOM COLORS AVAILABLE.
3. POWER SUPPLY/LED DRIVER - PROVIDE IN SEPARATE COMPARTMENT ACCESSIBLE WITHOUT THE USE OF HAND TOOLS. ENSURE CLASS 1 DRIVER OPERATES AT 120/277 V, 50/60 Hz. OTHER VOLTAGES OPTIONAL. POWER FACTOR GREATER THAN 0.9 AND THD LESS THAN 20% AT FULL LOAD. MINIMUM EFFICACY SHALL BE 60 LM/W AT MAXIMUM 600 mA OPERATING CURRENT.
4. LED OPTICAL ASSEMBLY - NUMBER OF LED ARRAYS SHALL VARY TO ACCOMMODATE DESIRED LUMINAIRE OUTPUT. PROVIDE WITH EQUIVALENT NEMA TYPE II, III IV, OR V DISTRIBUTION AS INDICATED. BUG UPLIGHT RATING OF U0, WITH BACKLIGHT AND GLARE RATINGS AS DETERMINED BY LIGHTING ZONE INSTALLED. ENSURE MINIMUM COLOR RENDERING INDEX (CRI) IS 70 FOR CORRELATED COLOR TEMPERATURES (CCT) OF 4000 TO 4500 DEGREES K.
5. SURGE PROTECTION - 6 kV MINIMUM, COMPLIANT WITH ANSI C62.41.2.
6. CERTIFICATION - UL AND/OR ETL LISTED, MINIMUM IP65 RATED PER ANSI/IEC 60529, AND RoHS COMPLIANT.
7. OPTIONS - RECEPTACLE, SHORTING CAP, BIRD SPIKES, AND 0-10 VOLT DIMMING DRIVER. BI-LEVEL/OCCUPANCY SENSING. ENSURE SENSOR MODULE, AFTER NO MOTION, RAMPS DOWN BY 30% LIGHT OUTPUT. PROVIDE THE NECESSARY PROGRAMMING TO ENSURE FIXTURE/SENSOR OPERATES AS DESCRIBED. PROVIDE ADDITIONAL ADJUSTMENTS AS REQUIRED.

LED ROADWAY LUMINAIRE

REVISED:	MARCH 2013	LUMINAIRE PLATE:	TYPE R

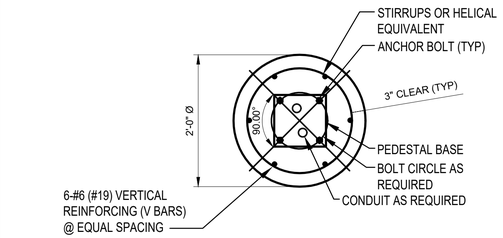


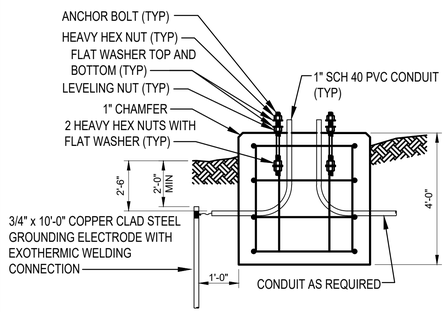
LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST ALUMINUM OR DIE-CAST AND EXTRUDED ALUMINUM WITH INTEGRAL, SELF-CLEANING HEAT SINK FINS, RIBS, OR EQUIVALENT PASSIVE COOLING MECHANISM. HEAT SINK SHALL BE INCORPORATED DIRECTLY INTO HOUSING TO ENSURE MAXIMUM HEAT TRANSFER AND DISSIPATION.
2. FINISH - MULTI-STAGE PRE-TREATMENT, FINISHED WITH BAKED-ON POLYESTER POWDER COAT. ENSURE FINISH PASSES THE 2500 HOUR SALT SPRAY TEST PER ASTM B117. FINISH COLORS INCLUDE DARK BRONZE, SILVER, OR BLACK WITH CUSTOM COLORS AVAILABLE.
3. POWER SUPPLY/LED DRIVER - PROVIDE IN SEPARATE COMPARTMENT ACCESSIBLE WITHOUT THE USE OF HAND TOOLS. ENSURE CLASS 1 DRIVER OPERATES AT 208/120V, 50/60 HZ; OTHER VOLTAGES OPTIONAL. POWER FACTOR GREATER THAN 0.9 AND THD LESS THAN 20% AT FULL LOAD. MINIMUM EFFICACY SHALL BE 60 LM/W AT MAXIMUM 600 mA OPERATING CURRENT.
4. LED OPTICAL ASSEMBLY - ENSURE NUMBER OF LED ARRAYS VARIES TO ACCOMMODATE DESIRED LUMINAIRE OUTPUT. MINIMUM COLOR RENDERING INDEX (CRI) SHALL BE 75 FOR CORRELATED COLOR TEMPERATURE (CCT) OF 4500 K TO 5700 DEGREES K.
5. SURGE PROTECTION - 6 kV MINIMUM, COMPLIANT WITH ANSI C62.41.2.
6. CERTIFICATION - UL AND/OR ETL LISTED, MINIMUM IP65 RATED PER ANSI/IEC 60529, AND RoHS COMPLIANT.
7. OPTIONS - SHORTING CAP, BIRD SPIKES, AND 0-10 VOLT DIMMING DRIVER.
8. OTHER - THE ABOVE SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS AND IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER'S PREFERENCE. ALL DIMENSIONS ARE NOMINAL AND VARY PER MANUFACTURER.

LED AREA LUMINAIRE

REVISED:	MARCH 2013	LUMINAIRE PLATE:	TYPE H





1. INSTALL SIGNAL CONTROLLER WITH 8-POSITION M49 CABINET.

PEDESTAL FOUNDATION

REVISED:	MARCH 2013	LUMINAIRE PLATE:	FIG. 84C

LIGHT FIXTURE SCHEDULE

FIXTURE	FIXTURE INFORMATION					
TYPE	TYPE	VOLTAGE	WATTAGE	LUMENS	DESCRIPTION	NOTES
A	LED	277 V	34 W	2500	GRADE MOUNTED ELEVATED AIRFIELD LIGHT FOR TAXIWAY (L-862)	PROVIDE 10" SQUARE CONCRETE BASE. MTD ~14" AFG.
B	LED	277 V	53 W	2500	GRADE MOUNTED IN-PAVEMENT AIRFIELD LIGHT FOR TAXIWAY (L-852)	PROVIDE 10" SQUARE CONCRETE BASE.
H	LED	208 V	580 W	64,994	POLE MOUNTED SITE / APRON LIGHTING (HCP)	PROVIDE ELEVATED POLE BASE FOUNDATION PER SHEET E-500. MTD ~35' AFG. (TWO FIXTURES PER POLE)
R	LED	208 V	91 W	11,000	POLE MOUNTED ROADWAY LIGHTING WITH R2 DISTRIBUTION	PROVIDE ELEVATED POLE BASE FOUNDATION PER SHEET E-500. MTD ~20' AFG.
X	INCAN	120 V	69 W	N/A	POLE MOUNTED OBSTRUCTION LIGHTING (RED) SINGLE L-810 (L)	PROVIDE ELEVATED POLE BASE FOUNDATION PER SHEET E-500. MTD ~35' AFG.

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

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COMMONWEALTH OF VIRGINIA
JIMMY CLARK HIGGINS
Lic. No. 0402057076
9/26/2022
PROFESSIONAL ENGINEER
SEAL

Wiley|Wilson | BURNS McDONNELL
JOINT VENTURE

A/E INFO

APPROVED
Jennifer Blaess
FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES	JCH	DRW	JCH	CHK	PO

PM/DM
BRANCH MANAGER
CHIEF ENG/ARCH
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD
NAVAL FACILITIES ENGINEERING COMMAND – WASHINGTON
WASHINGTON, DC
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

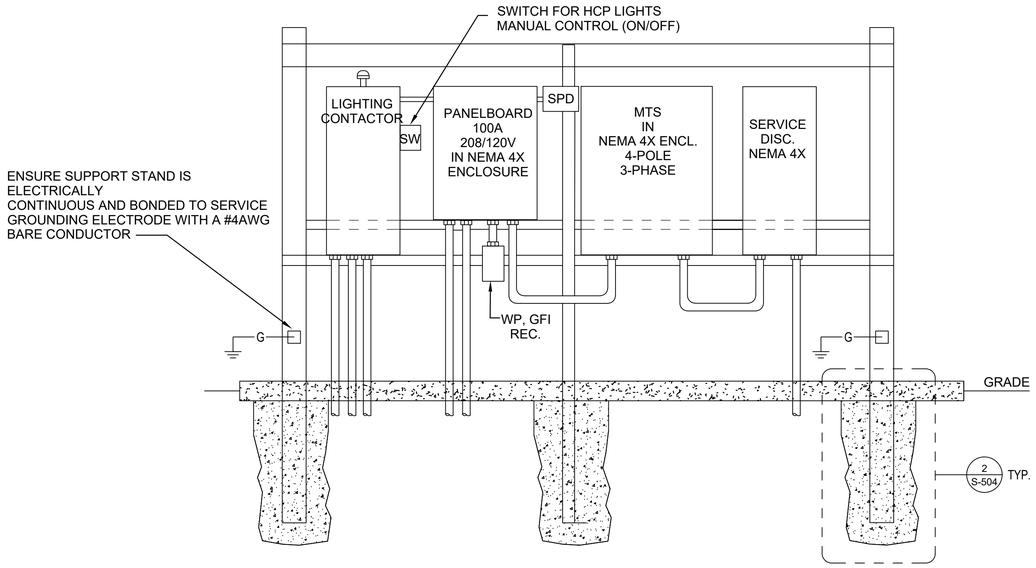
P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132532
SHEET	187 OF 212

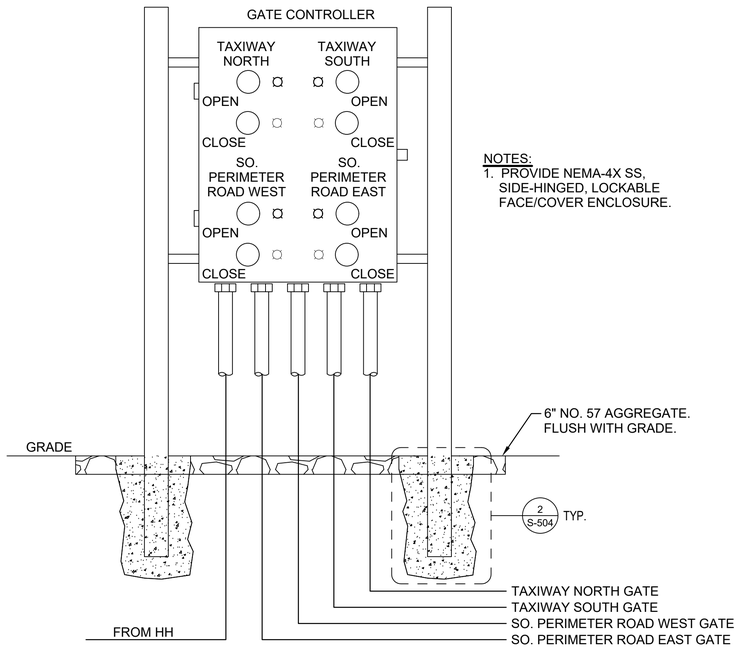
E-501

DRAWFORM REVISION: 06 APRIL 2017



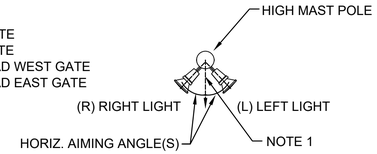
C1 ELECTRICAL POWER AND CONTROL RACK ELEVATION

NOT TO SCALE

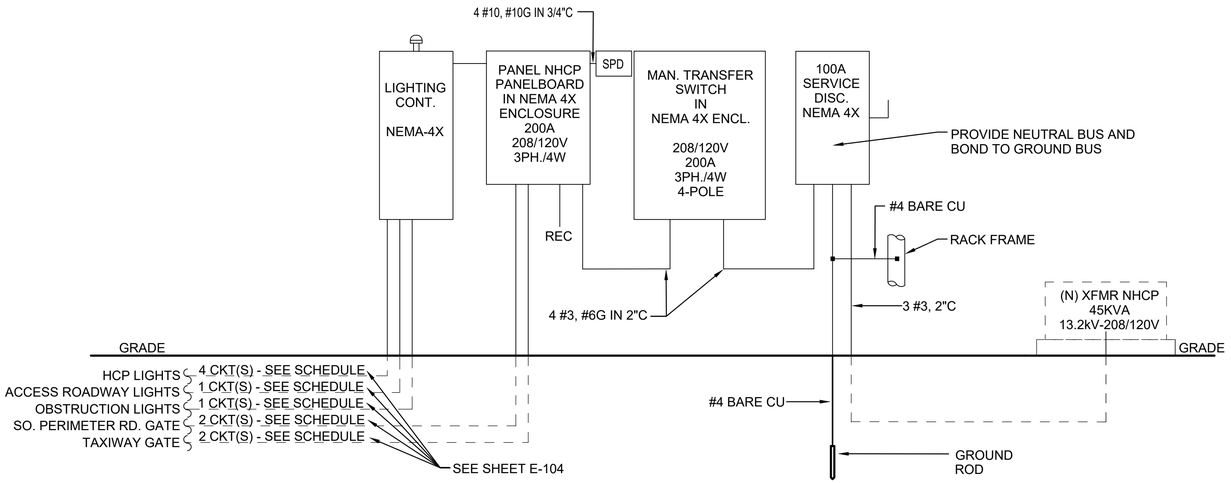


C3 GATE CONTROL RACK ELEVATION (TYPICAL)

NOT TO SCALE



SEE E-104 "LTG FIXTURE AIMING SCHEDULE" FOR HORIZONTAL AIMING ANGLES



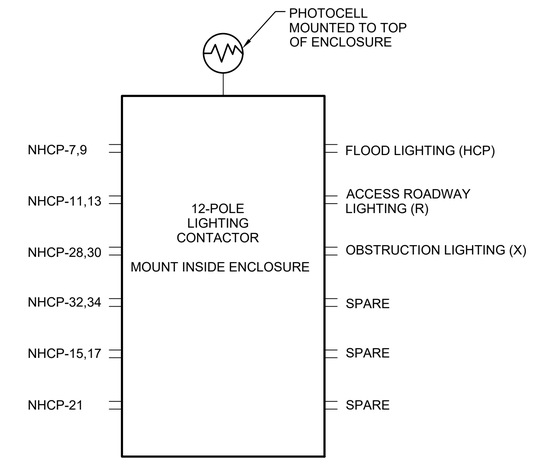
ACCESS ROADWAY LIGHT SEQUENCE OF OPERATIONS:
1. LIGHTS TURN ON WHEN LIGHT LEVEL < 10FC.
2. LIGHTS AUTOMATICALLY REDUCED BY 30% DURING ANY PERIOD WHEN NO ACTIVITY HAS BEEN DETECTED FOR MORE THAN 15 MINUTES.
2. LIGHTS TURN OFF WHEN LIGHT LEVEL >10FC.

HCP LIGHT SEQUENCE OF OPERATIONS:
1. LIGHTS ARE MANUALLY CONTROLLED TO TURN ON/OFF AT LIGHTING PANEL

OBSTRUCTION LIGHT SEQUENCE OF OPERATIONS:
1. ENSURE LIGHTS REMAIN ON AT ALL TIMES AND HAVE AUTOMATICALLY SELECTED REDUCED INTENSITY LEVELS FOR NIGHT OPERATIONS.

A1 ELECTRICAL POWER AND CONTROL RACK RISER

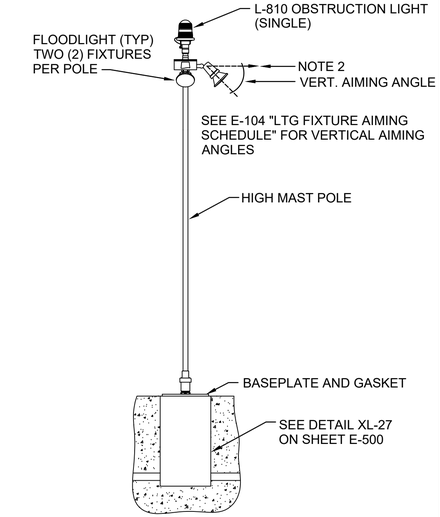
NOT TO SCALE



ENLARGED DETAIL - LIGHTING CONTACTOR PANEL WITH ENCLOSURE

A3 LIGHTING CONTACTOR

NOT TO SCALE



NOTES:
1. HORIZONTAL REFERENCE IS AIMING POINT CENTERLINE. SEE E-104.
2. VERTICAL REFERENCE IS PARALLEL TO HORIZON.

A5 OBSTRUCTION LIGHT DETAIL

NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

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APPROVED
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FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

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PMDM
BRANCH MANAGER
CHIEF ENG/ARCH
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WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

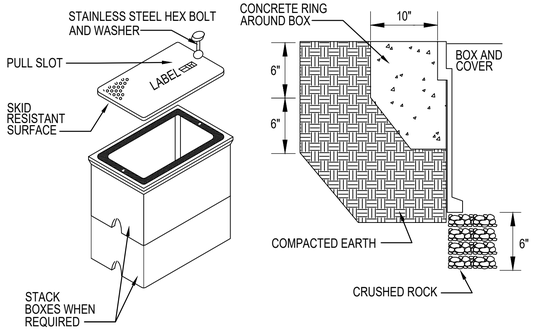
P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132533
SHEET	188 OF 212

E-502

DRAWFORM REVISION: 06 APRIL 2017



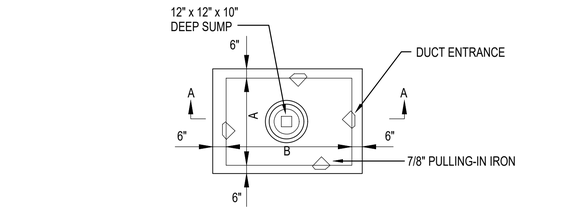
HANDHOLE REQUIREMENTS:

1. ENSURE HOUSING IS A POLYMER CONCRETE REINFORCED WITH A HEAVY WEAVE FIBERGLASS REINFORCING WITH COMPRESSIVE STRENGTH OF NO LESS THAN 10,000 PSI.
2. ENSURE COVER AND BOX WITHSTANDS A SERVICE LOAD OF NO LESS THAN 15,000 LBS OVER A 10" X 10" AREA.
3. PROVIDE STAINLESS STEEL BOLTS AND INSERTS.
4. PROVIDE WITH (2) 2 1/2" MOUSEHOLES.
5. PROVIDE LABEL "ELECTRICAL" FOR POWER HANDHOLES OR "TELEPHONE" FOR TELEPHONE HANDHOLES, OR AS INDICATED.

TYPE	HANDHOLE SIZING
5	12" X 12" X 24" DEEP
6	12" X 18" X 24" DEEP
7	12" X 24" X 24" DEEP
8	24" X 36" X 24" DEEP
9	30" X 48" X 24" DEEP
10	48" X 48" X 60" DEEP

C1 STANDARD ELECTRICAL HANDHOLE

NOT TO SCALE



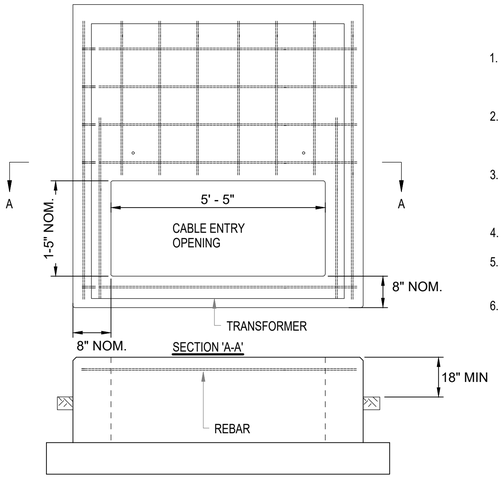
MANHOLE DIMENSIONS		
A	B	C (AT HIGH PT.)
6'-0"	6'-0"	6'-6"

NOTES:

1. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE DETAIL C3, SHEET E-504.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI.
3. BOND GROUND RING TO GROUND ROD. PROVIDE EXOTHERMIC CONNECTION.

C3 STANDARD ELECTRICAL MANHOLE

NOT TO SCALE

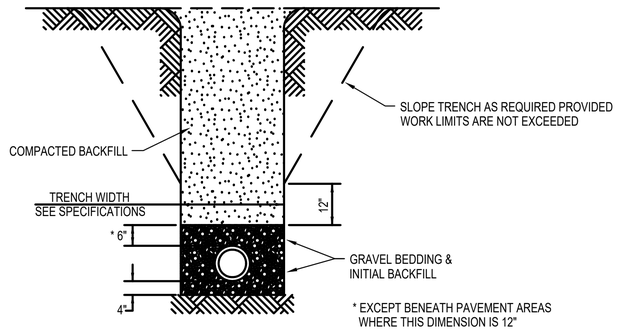


NOTES:

1. PROVIDE TRANSFORMER PADS IN A LOCATION TO REMAIN READILY ACCESSIBLE FOR LINE TRUCKS. ENSURE PADS HAVE A MINIMUM CLEARANCE FROM OBSTRUCTIONS AND BUILDINGS.
2. ENSURE SOIL UNDERNEATH PADS ARE FREE OF ROOTS AND OTHER ORGANIC MATERIALS AND BE THOROUGHLY TAMPED TO PREVENT WASHING. EXERCISE CARE IN BACKFILLING AND GRADING AROUND PAD.
3. REFER TO STRUCTURAL SHEET S-504 FOR DESIGN PARAMETERS WITH RESPECT TO REBAR GRID AND TRANSFORMER PAD GEOMETRY. REFER TO GENERAL NOTES ON SHEET S-002 FOR CONCRETE MIX.
4. TOP SURFACE TO BE LEVEL, SMOOTH AND BEVELED APPROXIMATELY 3/8".
5. COORDINATE PAD DESIGN WITH TRANSFORMER SELECTION PRIOR TO CONSTRUCTION. VERIFY AND MODIFY ALL DIMENSIONS AS REQUIRED.
6. SEE DETAIL C1, SHEET E-504 FOR THREE PHASE TRANSFORMER SECTION.

A1 TRANSFORMER PAD DETAIL

NOT TO SCALE



A3 TRENCHING DETAIL

NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

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PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

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CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE: AS NOTED

EPROJECT NO.: 139650

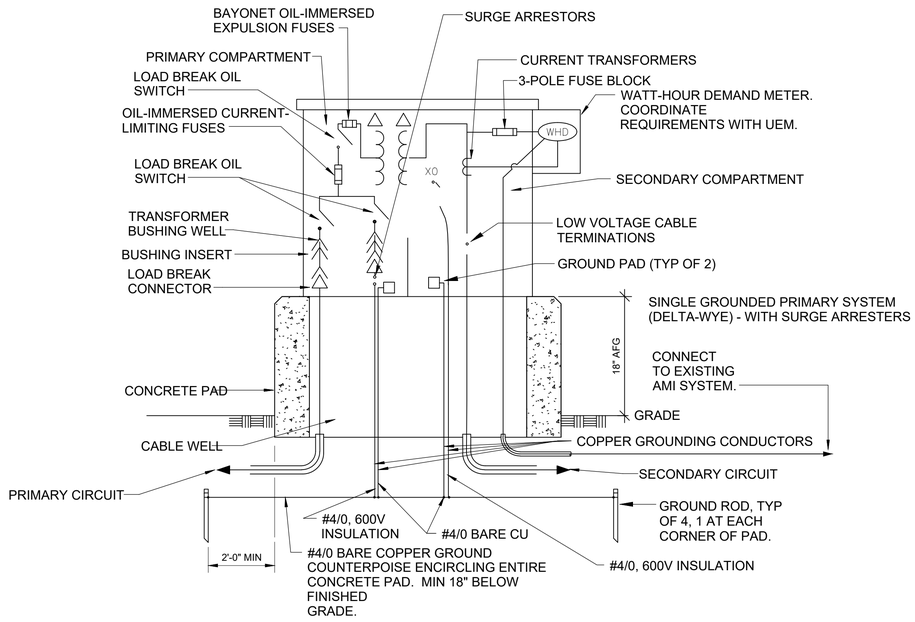
CONSTR. CONTR. NO.: N40080-15-D-0452

NAVFAC DRAWING NO.: 13132534

SHEET 189 OF 212

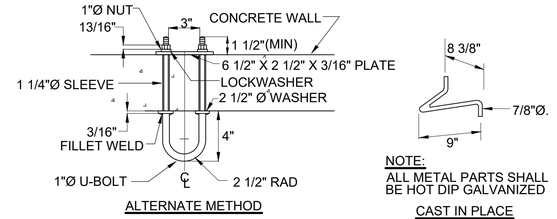
E-503

DRAWFORM REVISION: 06 APRIL 2017

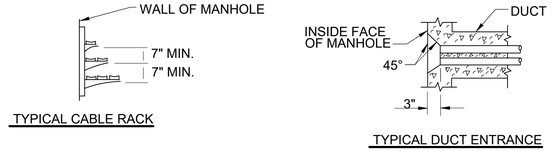


C1 THREE PHASE PAD-MOUNTED TRANSFORMER

NOT TO SCALE

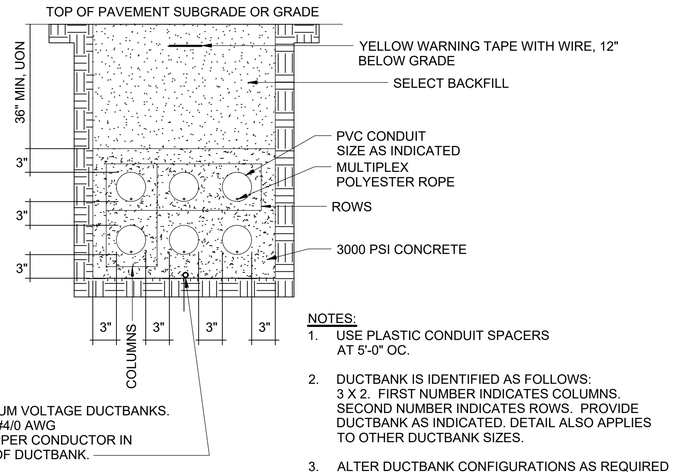


DETAIL OF PULLING-IN IRON



C3 PULLING-IN IRONS, CABLE RACK AND DUCT ENTRANCE

NOT TO SCALE

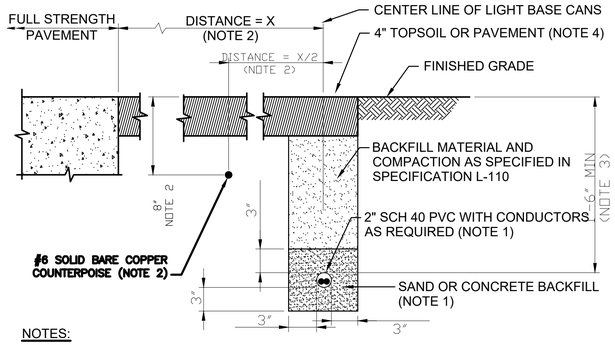


NOTES:

1. USE PLASTIC CONDUIT SPACERS AT 5'-0" OC.
2. DUCTBANK IS IDENTIFIED AS FOLLOWS: 3 X 2. FIRST NUMBER INDICATES COLUMNS. SECOND NUMBER INDICATES ROWS. PROVIDE DUCTBANK AS INDICATED. DETAIL ALSO APPLIES TO OTHER DUCTBANK SIZES.
3. ALTER DUCTBANK CONFIGURATIONS AS REQUIRED TO PROPERLY ENTER HANDHOLES.

A1 TYPICAL CONCRETE ENCASED DUCT BANK

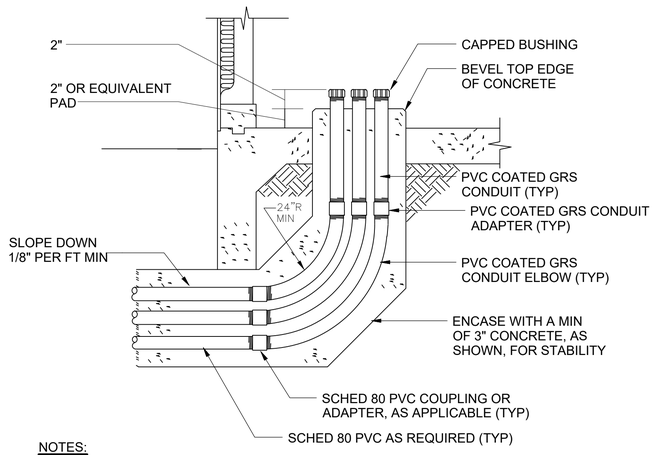
NOT TO SCALE



NOTES:

1. SEE PLANS FOR NUMBER OF CONDUITS TO BE PROVIDED WHERE DUCTS ARE UNDER FULL STRENGTH PAVEMENT. WHERE TWO OR MORE CONDUITS ARE INSTALLED IN ONE TRENCH, PROVIDE PLASTIC CONDUIT SPACERS AT 5' OC LONGITUDINALLY TO ENSURE UNIFORM SPACING BETWEEN CONDUITS. ENSURE SPACERS ARE SECURED IN TRENCH TO PREVENT MISALIGNMENT. CONDUITS MAY BE SPACED VERTICALLY OR HORIZONTALLY. SPACING BETWEEN CONDUITS SHALL BE 3" MINIMUM WITH A 3" THICKNESS OF CONCRETE SURROUNDING THE GROUP OF CONDUITS AS SHOWN. PROVIDE MINIMUM CONDUIT SLOPE OF 0.5 PERCENT WHERE POSSIBLE.
2. ENSURE COUPLINGS OF ADJACENT CONDUITS ARE STAGGERED A MINIMUM OF 12" APART FOR CONDUITS 2" DIAMETER OR SMALLER AND 24" APART FOR CONDUITS LARGER THAN 2" DIAMETER.
3. ENSURE ALL EMPTY DUCTS OVER 15' IN LENGTH ARE PROVIDED WITH A 200 LB. TENSILE STRENGTH POLYPROPYLENE PULL ROPE.
4. CONDUITS MAY BE PLACED IN A SINGLE LAYER WHEN NECESSARY TO MEET VERTICAL CLEARANCES.

A3 TYPICAL EDGE CONDUIT DUCTBANK



NOTES:

1. THIS DETAIL IS A TYP MULTIDUCT ARRANGEMENT.

A4 TYPICAL CONCRETE ENCASED DUCT BANK RISER

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

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CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE: AS NOTED

EPROJECT NO.: 1396650

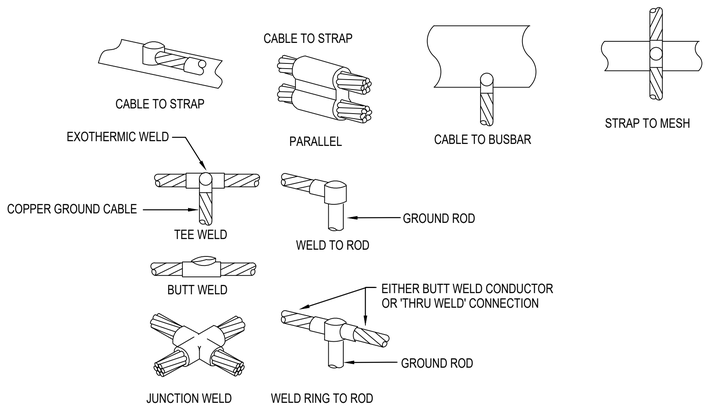
CONSTR. CONTR. NO.: N40080-15-D-0452

NAVFAC DRAWING NO.: 13132535

SHEET 190 OF 212

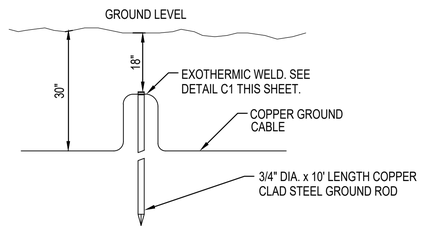
E-504

DRAWFORM REVISION: 06 APRIL 2017



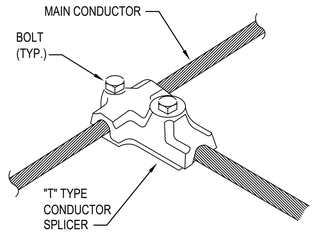
C1 TYPICAL EXOTHERMIC WELDS

NOT TO SCALE



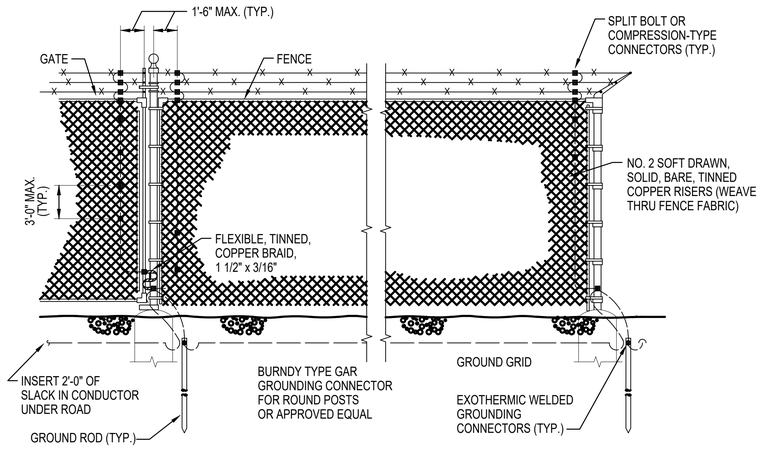
C2 TYPICAL GROUND ROD

NOT TO SCALE



C4 TYPICAL 'T' CABLE SPLICER

NOT TO SCALE



A2 TYPICAL FENCE GROUNDING DETAIL

NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	9/26/2022	

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Lic. No. 0402057076
9/26/2022
PROFESSIONAL ENGINEER
SEAL

Wiley|Wilson | BURNS McDONNELL
JOINT VENTURE

A/E INFO

APPROVED
Jennifer Blaess
FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES	JCH	DRW	JCH	CHK	PO

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON, DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

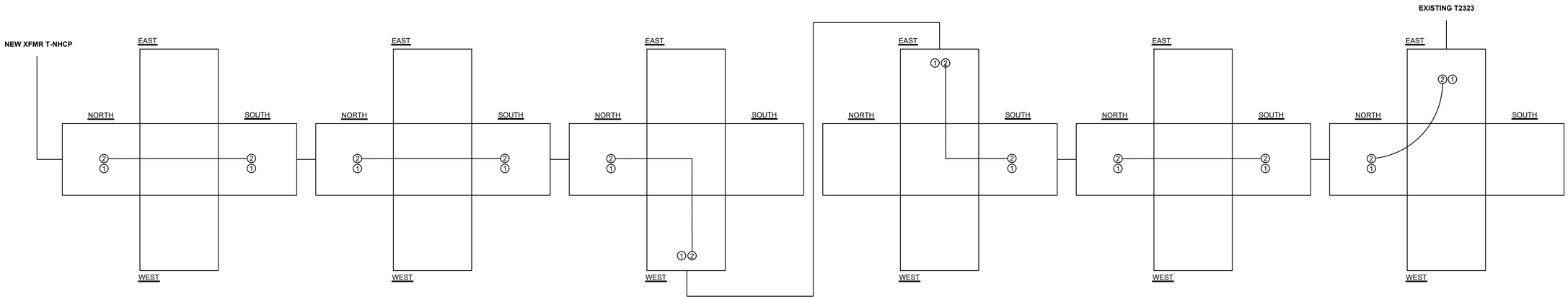
P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1396650
CONSTR. CONTR. NO.	N40080-15-D-0452
NAVFAC DRAWING NO.	13132536
SHEET	191 OF 212

E-505

DRAWFORM REVISION: 06 APRIL 2017

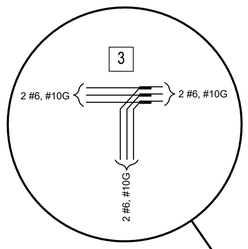


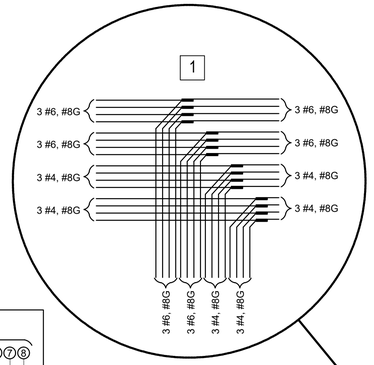
LEGEND

(2) -5" – 3-1/C #2/0, MV-105, 133% EPR, #4G
(1) -5" – SPARE

C1 MANHOLE DIAGRAMS

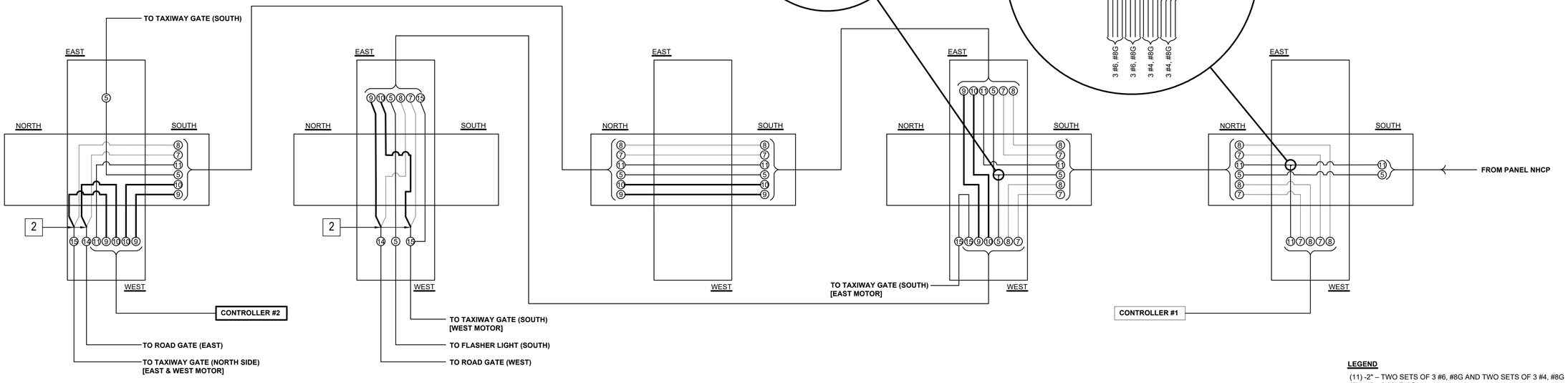
NOT TO SCALE





WORK NOTES

1. PROVIDE SPLICE FOR ALL CONDUCTORS FROM SOURCE TO BOTH GATE CONTROLLER #1 AND GATE CONTROLLER #2.
2. PROVIDE TWO-IN, ONE-OUT SPLICE.
3. PROVIDE SPLICE FOR ALL CONDUCTORS FOR ROADWAY FLASHER CIRCUIT.



LEGEND

(11) -2" – TWO SETS OF 3 #6, #8G AND TWO SETS OF 3 #4, #8G
(5) -1" – 2 #6, #10G
(7) -1" – 3 #6, #8G
(8) -1" – 3 #4, #8G
(9) -1" – 3 #6, #8G
(10) -1" – 3 #4, #8G
(14) -1" – 3 #6, #8G
(15) -1" – 3 #4, #8G

A1 HANDHOLE DIAGRAMS

NOT TO SCALE

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CAMP SPRINGS, MD

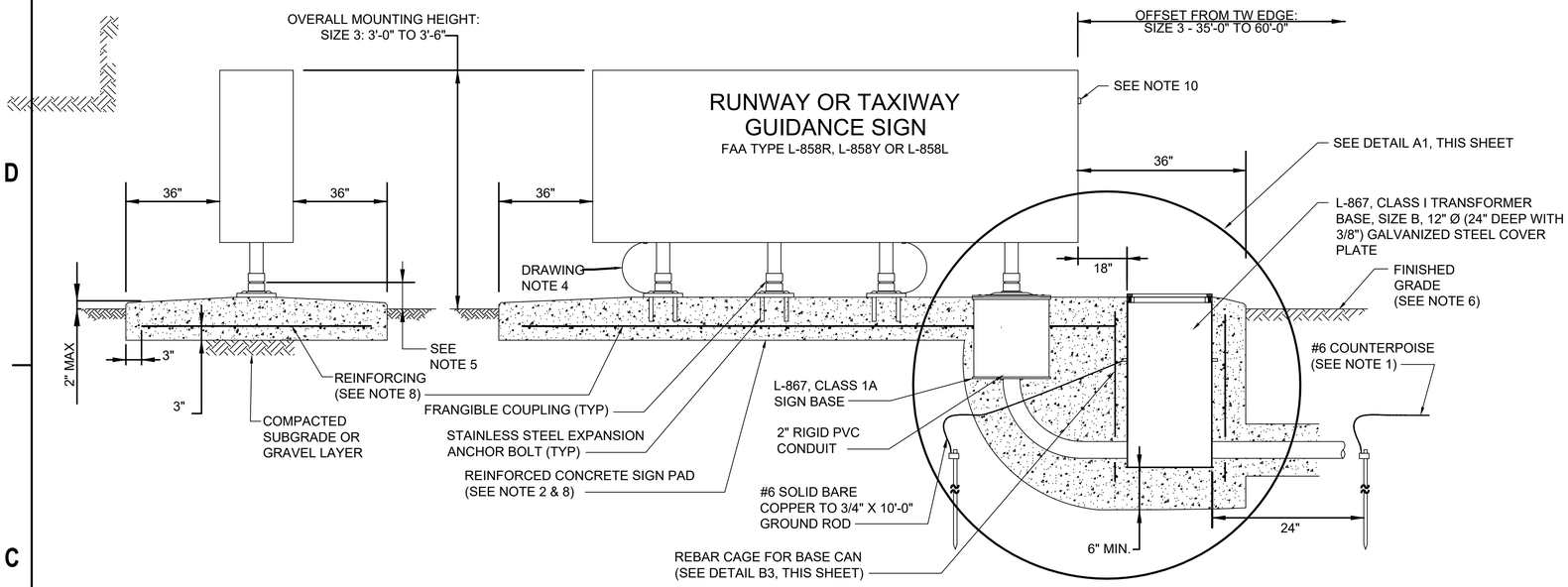
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO.
N40080-15-D-0452
NAVFAC DRAWING NO.
13132537
SHEET 192 OF 212

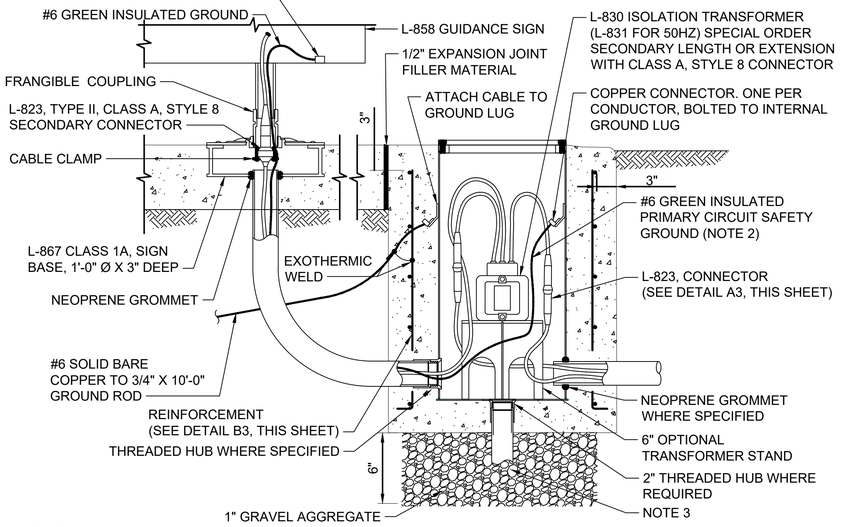
E-506

DRAWFORM REVISION: 06 APRIL 2017



C1 SIGN BASE POWER LEG MOUNTING DETAIL

NOT TO SCALE

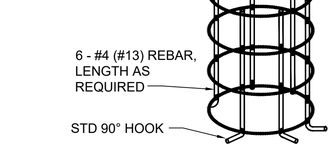


NOTES:

1. SEE SPECIFICATIONS FOR ADDITIONAL GROUNDING REQUIREMENTS INSIDE THE SIGN.
2. GROUNDING CONDUCTORS MUST BE THWN-2 OR XHHW-2.
3. GRAVEL SUMP BELOW FIXTURE BASE IS NOT REQUIRED WHERE DRAIN LINE IS RUN TO PAVEMENT UNDER-DRAIN SYSTEM. THE PREFERRED METHOD FOR DRAINING THE BASE CAN IS TO ROUTE THE DRAIN LINE TO PAVEMENT UNDER DRAIN SYSTEM OR CLOSEST CATCH BASIN. IF A GRAVEL SUMP (FRENCH DRAIN) IS PROVIDED, USE CAUTION TO PREVENT THE UNDERMINING OF THE SIGN FOUNDATION.

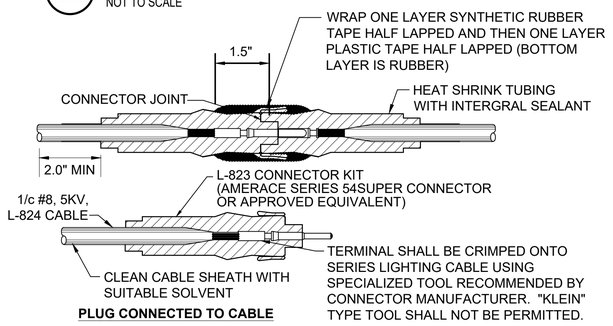
A1 AIRFIELD GUIDANCE SIGN DETAIL

NOT TO SCALE



B3 TIE BAR CAGE DETAIL

NOT TO SCALE



NOTES:

1. PROVIDE CABLE IDENTIFICATION MARKERS ATTACHED TO BOTH SIDES OF EACH CABLE CONNECTION. CABLE IDENTIFICATION MARKERS SHALL BE 3M SCOTCH HEAT-BONDING #SCS-HB21 OR EQUIVALENT.
2. ENTIRE CONNECTOR SHALL BE ENCASED IN HEAT SHRINK TUBING HAVING INTEGRAL GLUE SEALANT.

A3 TYPICAL SPLICE AND CONNECTOR DETAIL

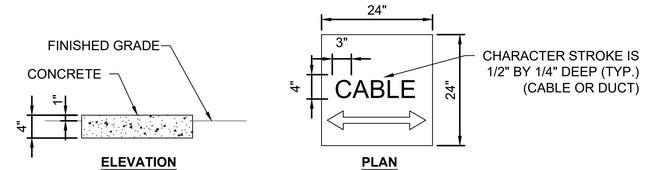
NOT TO SCALE

GENERAL NOTES:

1. ALL MATERIALS, BASE DETAILS ETC. SUBMITTALS GO TO THE ENGINEER FOR APPROVAL.
2. SECURE SECONDARY CONNECTION FROM ISOLATION TRANSFORMER TO FLANGIBLE COUPLING PER MANUFACTURER'S WRITTEN INSTRUCTION. IF FLANGIBLE COUPLING IS BROKE, THE FIXTURE SHALL BE DISCONNECTED FROM ISOLATION TRANSFORMERS WITHOUT DAMAGE.
3. SEE CIVIL DRAWINGS FOR PAVEMENT DESIGN. CONTRACTOR SHALL COORDINATE CAN INSTALLATION WITH CIVIL DETAILS. SIGN FOUNDATION SHOWN IS TYPICAL. ADJUST SIGN PAD DIMENSIONS ACCORDINGLY PER MANUFACTURER'S FINAL SIGN CONFIGURATION.
4. ENSURE LIGHT BASES CONFORM TO LATEST EDITION OF FAA ADVISORY CIRCULAR 150/5345-42, SPECIFICATION FOR AIRPORT LIGHT BASES AND TRANSFORMER HOUSINGS. ORIENTATION AND NUMBER OF HUBS REQUIRED ON LIGHT BASES VARY. SEE LAYOUT PLAN SHEETS FOR DETAILS.
5. PROVIDE ONE 3/4" X 10' GROUND ROD AT EACH CAN BASE AND CONNECTED TO THE BASE AND REBAR CAGE WITH A #6 SOLID AWG GROUND. IF REQUIRED GROUND RESISTANCE IS NOT ACHIEVED, ADD ADDITIONAL GROUND RODS.
6. INSPECT ALL GROUND CONNECTIONS PRIOR TO PLACEMENT OF CONCRETE.
7. ENSURE ALL CONDUITS ARE 2" SCHEDULE 40 PVC.
8. SUBMIT METHOD OF INSTALLATION FOR APPROVAL THAT PROVIDES STEP-BY-STEP SEQUENCE OF OPERATIONS INCLUDING, BUT NOT LIMITED TO, CORING AND TRENCHING, BASE CAN, CONDUIT, COUNTERPOISE, GROUNDING, TIE-BAR CAGE AND CONCRETE PLACEMENT.
9. ENSURE SUBGRADE COMPACTION FOR BACKFILL ON SIGNS, CANS, AND BOXES CONFORM TO SPECIFICATIONS.

SIGNAGE NOTES:

1. DO NOT CONNECT COUNTERPOISE TO THE TRANSFORMER BASE. CONNECT COUNTERPOISE TO SEPARATE GROUND ROD.
2. SIGN PAD MUST HAVE A 1/2-INCH CHAMFER ON ALL EXPOSED HORIZONTAL EDGES. EXTEND PAD 36-INCHES CLEAR ON ALL SIDES OF SIGN. SLOPE THE TOP SURFACE TO DRAIN AWAY FROM SIGN, APPROXIMATELY 1% (1/8-INCH/FOOT). THE TOP OF THE PAD MUST BE APPROXIMATELY 1-INCH ABOVE THE SURROUNDING GRADE.
3. MAXIMUM OVERALL SIGN LENGTH: SIZE 3 - 14' 2".
4. ONE TETHER AT EACH END OF THE SIGN IF SEPARATE SIGN MODULES ARE CONNECTED TOGETHER WITHIN A CONTINUOUS FRAME.
5. THE FRANGIBILITY POINT MUST BE NO GREATER THAN 3-INCHES ABOVE THE GRADE ADJACENT TO THE PAD.
6. SURROUNDING GRADE MUST SLOPE 1/4-INCH PER FOOT AWAY FROM THE PAD FOR 15-FEET. SOD OR SEED IN ACCORDANCE WITH SPECIFICATIONS AS REQUIRED.
7. PAD THICKNESS AND REINFORCING WILL VARY DEPENDING ON THE LENGTH AND NUMBER OF SIGN MODULES AS WELL AS THE WIND LOADING (JET BLAST EXPECTED). ENSURE FOUNDATION PAD EMBEDMENT DEPTH BELOW FROST LINE = 30" BELOW LOWEST ADJACENT GRADE.
8. PROVIDE DESIGN OF A COMPLETE SIGNAGE SYSTEM, INCLUDING SIGN CONNECTIONS, SUPPORT FRAMING SYSTEM AND ANCHORAGE, AND FOUNDATIONS (AS A DELEGATED DESIGN ITEM). SEE SHEET S-003 FOR DELEGATED DESIGN REQUIREMENTS.
9. GROUND SIGN FIXTURE WITH #6 AWG BARE TO STAKE OR BASE CAN. SEE MANUFACTURER'S WRITTEN INSTRUCTION FOR BONDING DETAILS.
10. ENSURE SIGN IS PROVIDED WITH OPTIONAL POWER SWITCH.
11. ENSURE CONCRETE FOR SIGN BASE CONFORMS TO SPECIFICATIONS.
12. PROVIDE ALL NECESSARY EQUIPMENT FOR AIRFIELD SIGNAGE INCLUDING BUT NOT LIMITED TO: BASE CAN AND COVER, GROUNDING ELECTRODE AND ROD, CONDUIT AND CABLE, ISOLATION TRANSFORMER, AND CONCRETE SIGN FOUNDATION, WHICH SHALL ALL BE INCIDENTAL TO SIGN INSTALLATION.



NOTES:

1. PROVIDE DUCT MARKERS AT 200' INTERVALS ALONG 2" CONDUIT HOMERUN ROUTE. ENSURE DUCT MARKERS ARE INCIDENTAL TO THE 2" PVC CONDUIT INSTALLATION.

A4 TYPICAL CABLE MARKER DETAIL

NOT TO SCALE

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CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRICAL DETAILS

SCALE: AS NOTED

EPROJECT NO.: 139650

CONSTR. CONTR. NO.: N40080-15-D-0452

NAVFAC DRAWING NO.: 13132538

SHEET 193 OF 212

E-507

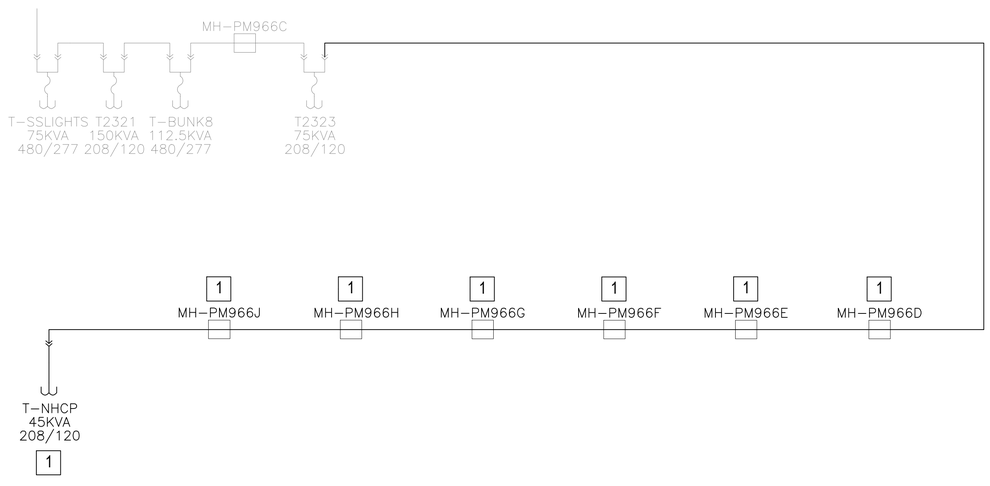
DRAWFORM REVISION: 06 APRIL 2017

POINT COORDINATE TABLE		
NUMBER	NORTHING	EASTING
L1	412064.03	1352103.84
L2	412047.48	1352094.68
L3	412027.97	1352087.27
L4	411994.89	1352075.84
L5	411960.12	1352078.40
L6	411943.44	1352082.98
L7	411908.10	1352087.27
L8	411867.38	1352093.64
L9	411666.65	1352124.61
L10	411468.48	1352154.33
L11	411270.25	1352183.47
L12	411072.14	1352214.14
L13	410874.10	1352244.60
L14	410675.52	1352273.08
L15	410477.18	1352302.50
L16	410280.87	1352329.80
L17	410255.95	1352333.46
L18	410229.30	1352338.03
L19	410189.19	1352344.06
L20	410079.68	1352359.80
L21	409930.07	1352381.57

POINT COORDINATE TABLE		
NUMBER	NORTHING	EASTING
L22	409818.06	1352398.27
L23	409779.05	1352404.54
L24	409773.02	1352366.81
L25	409767.22	1352329.06
L26	409762.09	1352291.93
L27	409761.93	1352253.91
L28	409769.43	1352220.77
L29	409783.53	1352190.40
L30	409799.61	1352168.04
L31	409818.97	1352149.05
L32	409840.74	1352133.97
L33	409865.02	1352122.43
L34	409891.28	1352115.13
L35	409918.58	1352112.46
L36	409943.12	1352113.90
L37	409968.42	1352119.29
L38	410009.04	1352138.91
L39	410041.91	1352163.00
L40	410074.22	1352186.85
L41	410104.38	1352209.08
L42	410137.13	1352230.68

POINT COORDINATE TABLE		
NUMBER	NORTHING	EASTING
L43	410175.86	1352242.40
L44	410214.21	1352242.76
L45	410240.95	1352238.41
L46	410266.27	1352234.29
L47	410462.22	1352205.72
L48	410660.60	1352176.46
L49	410858.74	1352145.92
L50	411056.95	1352116.88
L51	411255.15	1352086.17
L52	411453.61	1352057.13
L53	411651.78	1352027.42
L54	411851.07	1351988.46
L55	411887.11	1351975.35
L56	411913.06	1351957.52
L57	411930.04	1351938.07
L58	411945.86	1351915.26
L59	411951.10	1351882.77
L60	411948.25	1351856.22
L61	411941.72	1351827.30

POINT COORDINATE TABLE		
NUMBER	NORTHING	EASTING
H1	410163.71	1352475.97
H2	410045.36	1352493.01
H3	409937.41	1352508.86
H4	409804.93	1352528.43
H5	409672.04	1352513.05
H6	409641.13	1352394.69
H7	409641.37	1352278.13
H8	409679.23	1352126.47
H9	409795.13	1352028.96
H10	409936.52	1351995.59
H11	410080.05	1352041.37
H12	410168.97	1352117.25



A1 **ELECTRICAL ONE LINE DIAGRAM**
NOT TO SCALE

WORK NOTES

1. SEE PLAN SHEETS.

SYM	DESCRIPTION	DATE	APPR
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P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

ELECTRICAL ONE LINE DIAGRAM

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO.: N40080-15-D-0452
NAVFAC DRAWING NO.: 13132539
SHEET 194 OF 212

E-701

DRAWFORM REVISION: 06 APRIL 2017

SYMBOLS

SECTION REFERENCE BUBBLE

DETAIL REFERENCE BUBBLE WITH ARROW

DETAIL REFERENCE BUBBLE

FULL HEIGHT SECTION INDICATOR

ELEVATION OF WALL OR

ELEVATION OF WALLS OR FRAME,

N

NORTH

SLOP

EARTH

STEPPED SURFACE; FLOOR

SLOPPED

INDICATES SAND OR

INDICATES

TOP OF SLAB

WELDED WIRE
(WWF

X

FOOTING

INDICATES MASONRY

STEEL TUBE

STEEL PIPE

WIDE FLANGE STEEL

MEMBER

(+3")

TOP OF STEEL ±

[X]

NUMBER OF EVENLY
SHEAR

[X-Y-Z]

SPECIAL STUD SPACING SEE
STEEL

<3/4>

BEAM CAMBER AT MID-

STEEL IN CROSS

DIRECTION OF

ANGLE

(2L)

DOUBLE ANGLE

DRAG STRUT

FULL HEIGHT STIFFENER

MOMENT

STEPPED

ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICIAN PLYWOOD ASSOCIATION
APPVD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL; ARCHITECT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWPA	AMERICAN WOOD PRESERVERS ASSOCIATION
AWS	AMERICAN WELDING SOCIETY
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
&	AND
@	AT
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAIL
BNDRY	BOUNDARY
BOT OR B	BOTTOM
BRC	BRACE
BRG	BEARING
BT	BENT
BTWN	BETWEEN
CANT	CANTILEVER
CAM OR C	CAMBER
CC	CENTER TO CENTER
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CL	CENTER LINE
CLR	CLEARANCE; CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSION
CONC	CONCRETE
CONN	CONNECTION; CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE; CONTINUOUS
CONTR	CONTRACTOR
CJP	COMPLETE JOINT PENETRATION WELD
CTR	CENTER
CTSK	COUNTERSINK; COUNTERSUNK
CU FT	CUBIC FOOT
d	PENNY (NAIL OR BAR DIA)
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DOUGLAS FIR/LARCH
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DN	DOWN
DO	DITTO (REPEAT)
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION
EMBED	EMBEDMENT
EN	EDGE NAIL
ENGR	ENGINEER
EQ	EQUAL OR EQUIVALENT
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ET CETERA
EW	EACH WAY
EXIST or (E)	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FF	FAR FACE
FF	FINISHED FLOOR
FIN	FINISH
FJ	FLOOR JOIST
FL	FLOOR LINE
FLG	FLANGE
FLR	FLOOR
FN	FIELD NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONARY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FULL PENETRATION; FIRE PROOFING
FRMG	FRAMING
FS	FULL SIZE; FAR SIDE
FT	FOOT; FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GLB	GLUED LAMINATED BEAM
GR	GRADE
GRND	GROUND
H or HORIZ	HORIZONTAL
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HGT	HEIGHT
HOSP	HOSPITAL
HP	HIGH POINT
HS	HIGH STRENGTH
HSH	HORIZONTALLY SLOTTED HOLES
HT	HEIGHT
HR	HARD ROCK
ID	INSIDE DIAMETER
IF	INSIDE FACE
I-JST	I-JOIST
IN	INCH
INCL	INCLUDE
INFO	INFORMATION
INSP	INSPECTION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS
KSI	KIPS PER SQUARE INCH
LAB	LABORATORY
LB(S) OR #	POUND(S)
LF	LINEAL FOOT
LIN	LINEAL; LINEAR
LLBB	LONG LEGS BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LSL	LONG SLOTTED HOLES
LT WT	LIGHTWEIGHT
LVL	LEVEL
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
M	MISCELLANEOUS CHANNEL SHAPE
MECH	MECHANICAL
MF	MANUFACTURE
MIN	MINIMUM;
MISC	MISCELLANEOU
(N)	NEW
N	NORTH
NF	NEAR
NIC	NOT IN CONTRACT
NORM	NORMA
NO or #	NUMBE
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE
OF	OUTSIDE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
PARA OR //	PARALLEL
PC	PRECAST; PIECE
PERP	PERPENDICULAR
PI	PLYWOOD INDEX
℄	PLATE
PL	PROPERTY
PLF	PONDS PER LINEAL FOOT
PLCS	PLACES
PLY	PLYWOOD
PROP	PROPERTY
PT	POST
PW	PLATE
PJP	PARTIAL JOINT PENETRATION WELD
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
#	POUND; NUMBER
REF	REFERENCE
REINF	REINFORCE; REINFORCING
REQD	REQUIRED
RF	ROOF
RW	RETAINING WALL
°	ROUND; DIAMETER
SCHED	SCHEDULE
SECT	SECTION
SEP	SEPERATION
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SLBB	SHORT LEGS BACK-TO-BACK
SOG	SLAB ON GRADE
SN	SHEAR NAIL
SPCG	SPACING
SPECS	SPECIFICATIONS
SPCL	SPECIAL
SQ	SQUARE
SS	STAINLESS STEEL
SSL	SHORT SLOTTED HOLES
STAGG	STAGGER
STD	STANDARD
STGR	STAGGER
STIFF	STIFFENERS
STIRR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL
STRUCT I	STRUCTURAL I
SW	SHEAR WALL
SYM	SYMMETRICAL
TB	TIE BEAM
T & B	TOP AND BOTTOM
T & G	TONGUE & GROOVE
TO	TOP OF
TOC	TOP OF CURB; TOP OF CONCRETE
TOF	TOP OF FOOTING
TEMP	TEMPERATURE; TEMPORARY
THRU	THROUGH
THK	THICKNESS/THICK
THR	THREADED
TOP or T	TOP
TOS	TOP OF STEEL/TOP OF SLAB
TOW	TOP OF WALL
TSG	TAPPERED STEEL GIRDER
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UFC	UNIFIED FACILITIES CRITERIA
UNO	UNLESS NOTED OTHERWISE
UT	ULTRA-SONIC TEST
VERT	VERTICAL
VSH	VERTICAL SLOTTED HOLES
W	W SHAPE
W/	WITH
W/O	WITHOUT
WD	WOOD
WP	WORK POINT; WATERPROOF
WT	WEIGHT; STRUCTURAL TEE SHAPE
WWF	WELDED WIRE FABRIC

STRUCTURAL STEEL SHAPES

W	W SHAPE
C	AMERICAN STD CHANNEL SHAPE
MC	MISC CHANNEL SHAPE
L	ANGLE SHAPE
WT, ST, MT	STRUCT TEE SHAPE
PIPE	STANDARD PIPE SHAPE
PIPE-X	EXTRA STRONG PIPE SHAPE
PIPE-XX	DBL EXTRA STRONG PIPE SHAPE
TS	STRUCT TUBING SHAPE

Sheet List

Sheet Number	Sheet Name
S-000	SHEET INDEX, ABBREVIATIONS AND SYMBOLS
S-001	GENERAL NOTES
S-002	GENERAL NOTES
S-003	GENERAL NOTES
S-200	PLANS
S-300	SECTIONS
S-301	SECTIONS
S-302	ELEVATIONS
S-400	TELECOM MANHOLE PLANS & DETAILS
S-401	ELECTRIC MANHOLE PLANS & DETAILS
S-500	TYPICAL CONCRETE DETAILS
S-501	TYPICAL CONCRETE DETAILS
S-502	TYPICAL CONCRETE DETAILS
S-503	CONCRETE DETAILS
S-504	CONCRETE DETAILS
S-505	CONCRETE DETAILS
S-600	TYPICAL STEEL DETAILS
S-700	TYPICAL STEEL DECK DETAILS

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	09/26/2022	

NAVFAC

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ACTIVITY

SATISFACTORY TO DATE

DES Designer | DRW Author | CHK Checker

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON D.C.

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

SHEET INDEX, ABBREVIATIONS AND SYMBOLS

SCALE: AS NOTED

EPROJECT NO.: 1396650

CONSTR. CONTR. NO.
N40080-15-D-0452

NAVFAC DRAWING NO.
13132540

SHEET 195 OF 212

S-000

DRAWFORM REVISION: 06 APRIL 2017

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KPFF Project # 190015-22

POST-INSTALLED ANCHORS IN CONCRETE AND

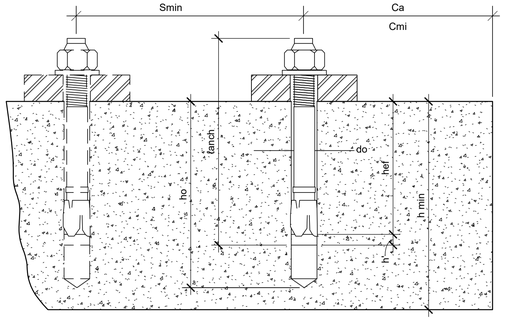
1. POST-INSTALLED ANCHOR CAPACITIES SHALL BE DETERMINED PER ACI 318-14 CHAPTER 17 USING STRENGTH DESIGN.
2. INSTALLATION OF POST-INSTALLED ANCHORS SHALL BE IN ACCORDANCE WITH THE APPLICABLE ICC EVALUATION REPORT.

SUBSTRATE MATERIAL	ANCHOR	ANCHOR	ICC EVALUATION REPORT
CONCRETE	EXPANSION	HILTI KWIK-BOLT TZ2	ICC ESR-4266
CONCRETE	EXPANSION	POWERS POWER-STUD+ SD1	ICC ESR-2818
CONCRETE	EPOXY	HILTI HIT-RE 500 V3	ICC ESR-3814
CONCRETE	SCREW	HILTI HUS-EZ	ICC ESR-3027
CONCRETE	SCREW	POWERS WEDGE	ICC ESR-2526
CONCRETE	POWDER ACTUATED FASTENER	HILTI X-U	ICC ESR-2269
CONCRETE	POWDER ACTUATED FASTENER	POWERS 8MM	ICC ESR-2024
STEEL	POWDER ACTUATED FASTENER	HILTI X-U	ICC ESR-2269
STEEL	POWDER ACTUATED FASTENER	POWERS 8MM	ICC ESR-2024

* 1/4" Ø POWERS POWER - STUD + SD1 IS NOT ALLOWED ON THIS PROJECT.

3. EXPANSION ANCHOR EMBEDMENTS IN THE DRAWINGS ARE MINIMUM "EFFECTIVE EMBEDMENTS" (hef) AS SHOWN IN THE ICC REPORT CORRESPONDING TO THE ANCHOR.

hef = EFFECTIVE EMBEDMENT DEPTH OF
hmin = MINIMUM SUBSTRATE THICKNESS INTO WHICH ANCHOR IS
Cac = CRITICAL SUBSTRATE EDGE
Cmin = MINIMUM EDGE
Smin = MINIMUM
ho = MINIMUM HOLE
anch = ANCHOR
h' = PROJECTION OF ANCHOR BEYOND EFFECTIVE EMBEDMENT
do = DIAMETER OF ANCHOR (EQUAL TO THREAD SIZE OF



4. INSTALLATION CLEARANCE REQUIREMENTS FOR POST-INSTALLED ANCHORS IN THE TOP AND SOFFIT OF CONCRETE OVER METAL DECK FLOOR AND ROOF ASSEMBLIES. REFER TO SPECIFIC DETAILS FOR SPACING REQUIREMENTS.

CONSTRUCTION JOINTS:

1. ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 19 OF UFC 3-301-01 AND IBC AND THE TYPICAL CONSTRUCTION JOINT DETAIL SHOWN ON THE STRUCTURAL DRAWINGS.
2. ALL SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED TO REMOVE DUST, CHIPS, STANDING WATER OR OTHER FOREIGN MATTER PRIOR TO PLACING CONCRETE.
3. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE STARTING CONSTRUCTION.

DESIGN CRITERIA (CONTINUED):

WIND DESIGN DATA:

WIND LOADS ARE IN ACCORDANCE WITH UFC 3-301-01.

RISK CATEGORY: III

WIND SPEED: V_{ul} = 120 MPH (3-SECOND GUST)

WIND EXPOSURE: C

INTERNAL PRESSURE COEFFICIENT: GC_{pi} = ±0.55

EARTHQUAKE DESIGN DATA:

SITE AND OCCUPANCY	
SEISMIC IMPORTANCE FACTOR	I_e = 1.25
RISK CATEGORY	III
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS	S_S = 0.130g
	S_1 = 0.043g
SITE CLASS	E
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS	S_{DS} = 0.208g
	S_{D1} = 0.120g
SEISMIC DESIGN CATEGORY	B

		N-S	E-W
SEISMIC FORCE RESISTING SYSTEM:		ORDINARY REINF CONC SHEAR WALLS	ORDINARY REINF CONC SHEAR WALLS
RESPONSE MODIFICATION FACTOR	R =	4	4
SYSTEM OVERSTRENGTH FACTOR	Ω_0 =	2.5	2.5
DEFLECTION AMPLIFICATION FACTOR	C_d =	4	4

BLAST & EXPLOSIVE SAFETY:

REFERENCE THE "ANTI-TERRORISM/FORCE PROTECTION (AT/FP)" & "EXPLOSIVE SAFETY" SECTIONS OF THE "100% FINAL BASIS OF DESIGN" DATED OCTOBER 7, 2020.

FOUNDATION:

1. GEOTECHNICAL INFORMATION AND FOUNDATION DESIGN IS BASED ON THE FOLLOWING GEOTECHNICAL REPORTS AND SUPPLEMENTS/ADDENDUMS. COPIES OF THE REPORTS SHALL BE AVAILABLE AT THE JOBSITE AT ALL TIMES.

REPORT/ADDENDUM TITLE	PREPARED BY	DATE
DRAFT PRELIMINARY GEOTECHNICAL ENGINEERING REPORT	GEOCONCEPTS ENGINEERING, INC	08/13/2020
FINAL GEOTECHNICAL ENGINEERING REPORT	GEOCONCEPTS ENGINEERING, INC	PENDING

2. LATERAL EARTH PRESSURES:

	EQUIVALENT FLUID PRESSURE		SEISMIC INCREMENT
	LEVEL BACKFILL	3 HORIZ:1 VERT BACKFILL	(TRIANGULAR PRESSURE DISTR.)
CANTILEVERED WALLS (ACTIVE)	SEE SOILS REPORT TABLE C-1	SEE SOILS REPORT TABLE C-1	TBD
RESTRAINED WALLS (AT-REST)	SEE SOILS REPORT TABLE C-1	SEE SOILS REPORT TABLE C-1	TBD

3. SPREAD OR CONTINUOUS FOOTINGS:

ANTICIPATED BEARING MATERIAL	ALLOWABLE BEARING CAPACITY (PSF)	ULTIMATE BEARING CAPACITY (PSF)	ALLOWABLE LATERAL RESISTANCE	
			PASSIVE RESISTANCE (PSF/FT)	FRICTION RESISTANCE
COMPACTED FILL [A]	2000	TBD	SEE SOILS REPORT TABLE C-1	SEE SOILS REPORT TABLE C-1

NOTES:

A. OVEREXCAVATION AND COMPACTED FILL SHOULD BE PREPARED PER THE GEOTECHNICAL REPORT.

4. FOUNDATIONS AND SLAB-ON-GRADE TO BEAR ON FIRM NATURAL SOIL OR COMPACTED FILL. ALL UNSUITABLE SOILS SHALL BE REMOVED AND RECOMPACTED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER OR HIS/HER REPRESENTATIVE. REFER TO THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS FOR EXTENT OF REMOVAL AND COMPACTION REQUIREMENTS.
5. REFER TO GEOTECHNICAL REPORT FOR GROUNDWATER ELEVATION. CONTRACTOR TO PROVIDE DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER, AND/OR SEEPAGE, IF REQUIRED.
6. EXCAVATIONS FOR FOOTINGS TO BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE AND REINFORCING. CONTRACTOR TO NOTIFY THE SOILS ENGINEER WHEN INSPECTION OF EXCAVATION IS READY. SOILS ENGINEER TO SUBMIT LETTER OF COMPLIANCE.
7. ALL EXCAVATIONS TO BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE OR GROUT HAS ATTAINED FULL DESIGN STRENGTH. BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OF SUCH BRACING.
8. FOOTING BACKFILL AND UTILITY BACKFILL WITHIN BUILDING AREA TO BE MECHANICALLY COMPACTED IN LAYERS IN ACCORDANCE WITH THE SOILS REPORT AND APPROVED BY THE SOILS ENGINEER. FLOODING WILL NOT BE PERMITTED. ALL FILLS USED TO SUPPORT FOUNDATIONS TO BE INSPECTED BY THE SOILS ENGINEER REPRESENTATIVE.
9. REMOVE ALL ABANDONED FOOTINGS, UTILITIES, ETC.

GENERAL:

1. STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED WITH OTHER DRAWINGS, SPECIFICATIONS, AND DOCUMENTS ENUMERATED IN THE OWNER/CONTRACTOR AGREEMENT.
2. REVIEW AND COORDINATE THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCY IDENTIFIED SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT SO THAT A CLARIFICATION CAN BE ISSUED. ANY UNCOORDINATED WORK PERFORMED OR WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES:

   UFC 1-200-01 DoD BUILDING CODE (GENERAL BUILDING REQUIREMENTS)
   REFERRED TO HERE AS "THE CODE", AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, AND THOSE CODES AND THOSE CODES & STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.

5. ALL REFERENCE STANDARDS SHALL BE THE VERSION REFERENCED IN THE CODE AND THE FOLLOWING:
   A. UFC 3-260-01 - "AIRFIELD AND HELIPORT PLANNING AND DESIGN" (WITH CHANGE 1, 5 MAY 2020)
   B. UFC 3-260-02 - "PAVEMENT DESIGN FOR AIRFIELDS", 30 JUNE 2001
   C. UFC 3-301-01 - "STRUCTURAL ENGINEERING" (WITH CHANGE 1, 4 FEBRUARY 2022)
   D. UFC 3-340-02 - "STRUCTURES TO RESIST THE EFFECTS OF ACCIDENTAL EXPLOSIONS" (WITH CHANGE 2, 1 SEPTEMBER 2014)
6. VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES.
7. INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, NOTIFY THE ARCHITECT IMMEDIATELY.
8. OBTAIN AN UNDERGROUND SERVICE ALERT INQUIRY IDENTIFICATION NUMBER AT LEAST TWO WORKING DAYS BEFORE STARTING WORK WITH THIS PERMIT.
9. THE CONTRACT DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION, INCLUDING BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER DO NOT INCLUDE REVIEW OF THE ABOVE ITEMS.
10. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATING AND SHORING REQUIRED AND SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.
11. THE CONTRACT STRUCTURAL DRAWINGS SHOW THE BUILDING IN ITS FINAL INTENDED POSITION. MAKE PROVISIONS IN THE CONSTRUCTION SEQUENCING OF THE BUILDING TO TAKE INTO ACCOUNTS SHRINKAGE, CREEP, SHORTENING, THERMAL EXPANSION, ETC.
12. SPREAD OUT CONSTRUCTION MATERIALS IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
13. COORDINATE AND VERIFY EDGE OF SLAB DIMENSIONS PRIOR TO FABRICATION OR PLACEMENT OF FORMWORK.
14. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR THE FOLLOWING:
   A. SIZE AND LOCATION OF ALL CONCRETE CURBS, EQUIPMENT PADS, PITS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGES IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC.
   B. FLOOR AND ROOF FINISHES.
   C. MISCELLANEOUS DRAINAGE AND WATERPROOFING.
   D. ALL FIREPROOFING REQUIREMENTS INCLUDING FIREPROOFING OF STRUCTURAL STEEL.
   E. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
15. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
   A. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
16. CONTRACTOR TO VERIFY THE EXTENT AND LOCATIONS OF SITE UTILITIES PRIOR TO EXCAVATION OR SHORING. SINCE THE SURVEY WAS BASED PRIMARILY ON PUBLIC RECORDS, THERE MAY BE DISCREPANCIES BETWEEN THE LOCATION INDICATED ON THE SITE SURVEY AND ACTUAL VERIFIED LOCATIONS. IF THE ACTUAL FIELD VERIFIED LOCATION OF UTILITIES COULD RESULT IN A CONFLICT WITH THE NEW CONSTRUCTION OR SHORING, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
17. DO NOT LOCATE HEAVY EQUIPMENT, CRANES, AND MATERIAL STOCKPILES ON OR ADJACENT TO BASEMENT WALLS UNLESS APPROVED BY THE ARCHITECT.
18. CONTRACTOR TO COORDINATE SHORING WITH DRAWINGS OF RECORD TO INSURE PROVISIONS FOR POCKETS, BLOCKOUTS, OFFSETS, STEPPED FOOTINGS, AND ANY OTHER ITEMS AFFECTED BY THE SHORING.
19. VERIFY THAT THE ACTUAL OPERATING WEIGHT OF ALL EQUIPMENT DOES NOT EXCEED THAT SHOWN ON THE DRAWINGS. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO INSTALLATION.
20. CONDUITS LARGER THAN 1 1/2" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE OR CMU EXCEPT WHERE SPECIFICALLY APPROVED BY STRUCTURAL ENGINEER. CONDUITS SHALL NOT DISPLACE OR INTERRUPT REINFORCING BARS, SPACE EMBEDDED CONDUITS AND SLEEVES AT A MINIMUM OF 3 DIAMETERS, NO CONDUITS SHALL BE PLACED IN CONCRETE FILL OVER METAL DECK.

DESIGN CRITERIA:

LIVE LOADS:

LIVE LOADS ARE IN ACCORDANCE WITH TABLE D-1 OF UFC 3-301-01

AIRFIELD	MAXIMUM OF: A. 100,000 LB. WHEEL LOAD AT 250 PSI CONTACT PRESSURE B. MOVING LOAD EFFECTS DUE LANDING GEAR FROM THE FOLLOWING AIRCRAFT OPERATING AT MAXIMUM CAPACITY: i. C-5A/B GALAXY ii. C-17A GLOBEMASTER III iii. C-130-J HERCULES
ROOF	20 PSF (REDUCIBLE)

DEAD

SELF WEIGHT

SNOW LOADS:

P_g	25 PSF
EXPOSURE FACTOR:	C_e = 0.9
THERMAL FACTOR:	C_t = 1.2
IMPORTANCE FACTOR:	I_s = 1.10

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	09/26/2022	

NAVFAC

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ACTIVITY
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FIRE PROTECTION

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GENERAL NOTES

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO.
N40080-15-D-0452
NAVFAC DRAWING NO.
13132541
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S-001

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KPFF Project # 1900015-22

STEEL DECK:

1. FABRICATE AND INSTALL STEEL DECK ACCORDING TO THE FOLLOWING PROVISIONS:
   A. ROOF DECK: ANSI/SDI RD-2017, "STANDARDS FOR STEEL ROOF DECK."
   B. COMPOSITE FLOOR DECK: ANSI/SDI C-2017, "STANDARDS FOR COMPOSITE STEEL FLOOR DECK-SLAB."
   C. WELDING OF STEEL DECK: AWS D1.3, "SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES."
2. STEEL ROOF DECK: PROVIDE AND INSTALL ROOF AS NOTED ON THE DRAWINGS MINIMUM PROPERTIES ARE AS FOLLOWS. VALID ICC ESR REQUIRED.

DECK PROFILE AND GAGE	I (IN⁴)	+S(IN³)	-S(IN³)	NOTES
TYPE B x 16 GA DECK	0.306	0.314	0.331	GALVANIZED - G90

3. EXAMINE SUPPORTING FRAME AND FIELD CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS FOR TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE. PROCEED WITH INSTALLATION ONLY UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
   A. PROVIDE 2" MINIMUM DECK BEARING AT ALL SUPPORTS.
4. INSTALL DECK PANELS AND ACCESSORIES ACCORDING TO ANSI/SDI STANDARDS AND MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. INSTALL TEMPORARY SHORING BEFORE PLACING DECK PANELS AS REQUIRED TO MEET DEFLECTION LIMITATIONS.
6. ALL METAL DECK TO BE GALVANIZED.

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCTURAL SYSTEM IN ACCORDANCE WITH THE CODE. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION AT THE CONSTRUCTION SITE OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETE STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE GOVERNMENT OR THE DEPUTY INSPECTOR.
2. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE LISTED SIGNIFICANT CONSTRUCTION STAGES ON THE FOLLOWING STRUCTURAL OBSERVATION/SIGNIFICANT CONSTRUCTION STAGES TABLE REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER.
3. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT FOR EACH SIGNIFICANT STATE OF CONSTRUCTION OBSERVED. A COPY OF THE OBSERVATION REPORT SHALL BE SENT TO THE OWNER, CONTRACTOR, AND INSPECTOR OF RECORD (IOR).

STRUCTURAL OBSERVATION/SIGNIFICANT CONSTRUCTION STAGES
(ONLY CHECKED ITEMS ARE REQUIRED)

FIRM OR INDIVIDUAL TO BE RESPONSIBLE FOR THE "STRUCTURAL OBSERVATION":
NAME: ☐ LICENSED ☒ REGISTERED
PHONE:

CONSTRUCTIO STAGE	CONSTRUCTIO TYPE	ELEMENTS / CONNECTIONS TO BE OBSERVED
FOUNDATION	☒ FOOTING, STEM WALLS, ☐ MAT FOUNDATION ☐ CAISSON, PILE, GRADE BEAMS ☐ STEPPING/RETAINING FOUNDATION, HILLSIDE SPECIAL ANCHORS ☐ OTHERS:	REINFORCING STEEL
VERTICAL GRAVITY RESISTING SYSTEM	☐ COLUMNS ☐ CMU WALLS ☒ CONCRETE WALLS ☐ LIGHT-FRAMED WALLS ☐ OTHERS: ☐ OTHERS:	REINFORCING STEEL
LATERAL FORCE RESISTING SYSTEM	☐ MOMENT RESISTING FRAMES ☒ SHEAR WALLS ☐ BRACED FRAMES ☒ DIAPHRAGMS ☐ OTHERS: ☐ OTHERS:	CONC SHEAR WALL, INCL. REINFORCING; STEEL DECK ATTACHEMENTS; COMPOSITE WELDED STUDS; STEEL DECK ATTACHMENTS; REINFORCING STEEL.

SPECIAL INSPECTIONS:

1. THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL HAVE CONTINUOUS INSPECTION BY A PROJECT INSPECTOR APPROVED BY THE GOVERNMENT.
   A. CONCRETE
   B. BOLTS INSTALLED IN CONCRETE
   C. PLACING OF REINFORCING STEEL
   D. ALL STRUCTURAL WELDING, INCLUDING REINFORCING STEEL
   E. EXPANSION ANCHORS
   F. EPOXY ANCHORS
   G. HIGH STRENGTH BOLTS
   H. SEE GEOTECHNICAL ENGINEER'S REPORT FOR SPECIFIC INSPECTION REQUIREMENTS BY A SOILS ENGINEER REPRESENTATIVE
   I. INSTALLATION OF METAL DECK HEADED STUDS
   J. NDT TEST OF ALL CJP GROOVE WELDS
2. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CODE AND ANY ADDITIONAL REQUIREMENTS STATED IN THESE DRAWINGS AND/OR THE PROJECT SPECIFICATIONS.

REINFORCING STEEL CONTINUED:

12. PROVIDE THE MINIMUM CONCRETE COVER FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE (NON-PRESTRESSED) AS INDICATED IN THE TABLE BELOW.

MINIMUM CONCRETE CLEAR COVER		
LOCATION	BAR SIZE	CLEAR COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	#6 & LARGER	2" UNO
	#5 & SMALLER	1 1/2" UNO
SLABS, WALLS, OR JOISTS NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND	#14 & LARGER	1 1/2"
	#11 & SMALLER	3/4"
BEAM AND COLUMN TIES & STIRRUPS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	ALL	1 1/2"

STRUCTURAL STEEL:

1. DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE FOLLOWING PROVISIONS:
   A. AISC 303 - "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
   B AISC 360 - "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS"
   C. AISC 341 - "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS" FOR MEMBERS OF THE SEISMIC FORCE RESISTING SYSTEM (SFRS)
   D. RCSC's - "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS"
2. COMPLY WITH THE FOLLOWING PROVISIONS FOR ALL WELDED JOINTS:
   A. AWS D1.1 - "STRUCTURAL STEEL WELDING CODE"
   B. AWS D1.8 - "SEISMIC SUPPLEMENT" FOR CONNECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM (SFRS)
3. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC 360 SECTION J2.2b.
4. ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW (UNO): +

TYPE	ASTM
W SHAPES AND WT SHAPES	A992 OR A913, GR 50 (S75) OR A36
ANGLES & CHANNELS	A36
PLATES & BARS	A36 A572, GR 50 (WHERE INDICATED)
PIPE SECTIONS	A53, GR B
HSS SECTIONS	A500 GR B A1085 (WHERE INDICATED)
CORROSION RESISTANT STEEL (WHERE INDICATED)	A588 GR 50 (FOR ROLLED SHAPES) A847 (FOR HSS)
HIGH STRENGTH BOLTS (AS INDICATED IN DETAILS)	A325 OR F1582 (TWIST-OFF TYPE) A490 OR F2280 (TWIST-OFF TYPE)
ANCHOR RODS	F1554 GR 55 F1554 GR 36/105 (WHERE INDICATED)
COMMON/MACHINE BOLTS	A307, GR A
SHEAR CONNECTORS	A108, GRADES 1015 TROUGH 1020 AWS D1.1, TYPE B

5. FURNISH SHOP DRAWINGS TO THE ARCHITECT OF ALL STEEL FOR ARCHITECT'S AND STRUCTURAL ENGINEER'S REVIEW AND APPROVAL BEFORE FABRICATION.
6. LEAVE UNPAINTED ALL BOLT HOLES USED IN STEEL SURFACES THAT ARE ENCASED IN CONCRETE OR MASONRY OR SPRAY ON FIREPROOFING.
7. ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (UNO). ALL WELDS SHALL BE IN CONFORMITY WITH THE PROJECT SPECIFICATIONS AND THE CODE FOR WELDING IN BUILDING CONSTRUCTION (AWS D1.1 LATEST EDITION) OF THE AMERICAN WELDING SOCIETY. SEE SPECIAL INSPECTION SECTION FOR WELDING INSPECTION REQUIREMENTS.
8. ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL EXPOSED TO THE WEATHER TO BE HOT DIP GALVANIZED AFTER FABRICATION OR STAINLESS STEEL WHERE INDICATED ON THE DRAWINGS. PROTECT FIELD WELDS EXPOSED TO THE WEATHER VIA PRIME AND PAINT OR BRUSH/COLD GALVANIZING.
9. DO NOT CUT OR DAMAGE EXISTING REINFORCEMENT. PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED TO REINFORCED CONCRETE/MASONRY USING POST-INSTALLED ANCHORS, LOCATE ALL REINFORCEMENT AND CONFIRM CONSTRUCTABILITY OF ANCHOR LOCATIONS. SHOULD CONFLICTS WITH REINFORCEMENT OCCUR, SUBMIT ALTERNATE ANCHOR LOCATIONS AND REVISED STEEL FABRICATIONS TO ARCHITECT FOR REVIEW AND APPROVAL.
10. BACKUP BARS MAY REMAIN IN PLACE UNLESS NOTED OTHERWISE ON THE DRAWINGS, OR WHEN ULTRASONIC TESTING INDICATES A POSSIBLE WELD DEFECT. IF DEFECTS ARE INDICATED, BACKUP BAR IS TO BE REMOVED AND THE ROOT INSPECTED. IF IMPERFECTIONS ARE FOUND, THEY ARE TO BE REMOVED AND REPAIRED PER AWS REQUIREMENTS.
11. THE USE OF E70T-4 WELDING WIRE IS NOT ALLOWED FOR ANY APPLICATION. ALL WELD FILLER METAL SHALL BE OF THE LOW HYDROGEN TYPE.
12. WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS) PER THE RECOMMENDATION OF THE AMERICAN WELDING SOCIETY (AWS) TO BE DEVELOPED BY THE FABRICATOR/ERECTOR AND SUBMITTED FOR REVIEW TO THE ENGINEER PRIOR TO ANY WELDING OF THE STRUCTURAL STEEL. THE WELDING PROCEDURES SHALL INCLUDE ALL THE WELDED JOINTS AND CONFIGURATIONS TO BE USED ON THIS PROJECT-ONLY WPS WHICH ARE RELEVANT TO THIS PROJECT SHALL BE SUBMITTED. ALL WELDED JOINTS SHALL BE PREQUALIFIED PER AWS OR BE QUALIFIED BY TEST PER AWS. A PROCEDURE QUALIFICATION RECORD (PQR) SHALL BE INCLUDED WITH THE WPS IF THE WELDING PROCEDURE OR JOINT IS QUALIFIED BY TESTING. THE ELECTRODE MANUFACTURER AND PRODUCT/TRADE NAME SHALL BE IDENTIFIED IN THE WPS IN ADDITION TO THE AWS ELECTRODE CLASSIFICATION NAME. A COPY OF THE ELECTRODE MANUFACTURER'S TECHNICAL DATA SHEETS WITH THE RECOMMENDED WELDING PARAMETERS SHALL BE SUBMITTED

HEADED STUDS:

1. ALL HEADED STUDS WELDED TO BEAMS OR CONCRETE CONNECTIONS SHALL BE "NELSON STUD" PER ICC ESR-2856 REPORT OR APPROVED EQUAL.
2. ALL HEADED STUDS SHALL BE AUTOMATICALLY END WELDED IN SHOP OR FIELD WITH EQUIPMENT RECOMMENDED BY MANUFACTURER OF STUDS.
3. HEADED STUD MATERIAL, WELDING, AND INSPECTION SHALL BE IN ACCORDANCE WITH AWS "STRUCTURAL WELDING CODE", D1.1 LATEST EDITION.

CONCRETE:

1. COMPLY WITH THE CODE AND THE PROVISIONS OF ACI 318, ACI 301, AND ACI 117, EXCEPT AS MODIFIED BY THESE CONTRACT DOCUMENTS.
2. REINFORCED CONCRETE IS DESIGNED BY THE "ULTIMATE STRENGTH DESIGN METHOD".
3. MANUFACTURER QUALIFICATIONS: CERTIFIED ACCORDING TO NRMCA's "CERTIFICATION OF READY MIXED CONCRETE PRODUCTION FACILITIES.
4. CONCRETE MIXTURES: PREPARE DESIGN MIXTURES FOR EACH TYPE AND STRENGTH OF CONCRETE, ON THE BASIS OF LABRATORY TRIAL MIXTURES OR FIELD TEST DATA OR BOTH, ACCORDING TO ACI 318.

CONCRETE				
LOCATIONS IN STRUCTURE	DESIG STRENGTH	MAX UNIT WEIGHT	MAX W/C RATIO	EXPOSURE CATEGORIES [a]
MANHOLE FORMED SLABS (TAXIWAY)	5,000 PSI	NWT = 150 PCF	0.40	F3
FOOTINGS AND WALLS	4,500 PSI	NWT = 150 PCF	0.45	F2
MAT SLAB FOUNDATION (DETONATION BUNKER)	4,500 PSI	NWT = 150 PCF	0.45	F2
SLAB ON GRADE (PROTECTION BUNKER)	3,500 PSI	NWT = 150 PCF	0.50	F1
CONCRETE FILL OVER DECK	4,500 PSI	NWT = 150 PCF	0.45	F2
CURBS, PADS, MISC. CONCRETE	3,500 PSI	NWT = 150 PCF	0.50	F1

   a. PROVIDE CONCRETE MIXTURES THAT MEET THE DURABILITY REQUIREMENTS INDICATED IN THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
   b. CONCRETE MIX DESIGN TO BE SIGNED BY A LICENSED ENGINEER.
   c. CONCRETE SHRINKAGE SHALL BE LIMITED TO 0.05 PERCENT PER ASTM C157.
5. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED WITHOUT ARCHITECT REVIEW AND APPROVAL.
6. SCREED CONCRETE FILL OVER STEEL DECK TO A CONSTANT THICKNESS AS SPECIFIED IN THE DECKING SCHEDULE.
7. ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE IS TO BE PLACED SHALL BE CLEANED AND ROUGHENED TO 1/4" AMPLITUDE.
8. SLEEVES FOR CONDUITS AND PIPES OPENINGS IN CONCRETE COMING TOGETHER AT A COLLECTION POINT, SUCH AT STUB-UPS, SHALL BE COORDINATED WITH THE ARCHITECT/ENGINEER PRIOR TO PLACEMENT.
9. CONCRETE TO BE MAINTAINED ABOVE 50 DEGREES FAHRENHEIT AND IN MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT.
10. PORTLAND CEMENT TO CONFORM TO ASTM C-150, TYPE II, OR AS REQUIRED BY THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
11. AGGREGATE FOR HARDROCK CONCRETE TO CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C-33 AND PROJECT SPECIFICATIONS.
12. CONCRETE MIXING OPERATIONS, ETC. TO CONFORM TO ASTM C-94.
13. ALL REINFORCING BARS, ANCHOR BOLTS, AND OTHER CONCRETE INSERTS, INCLUDING PIPES AND CONDUITS, TO BE SECURED IN POSITION PRIOR TO PLACING CONCRETE.
14. PROVIDE SLEEVES FOR PIPES AND CONDUITS PASSING THROUGH CONCRETE MEMBERS INCLUDING CONCRETE OVER METAL DECK BEFORE PLACING. DO NOT CUT REINFORCING WHICH MAY CONFLICT. SLEEVES TO NOT EXCEED 6-INCHES IN DIAMETER AND BE SPACED A MINIMUM OF 3 DIAMETERS APART FROM OTHER SLEEVES USING THE LARGER SLEEVE DIAMETER, OR AS INDICATED ON THE DRAWINGS. CLUSTERS OF SLEEVES ARE NOT PERMITTED WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
15. CORING IN CONCRETE IS NOT PERMITTED WITHOUT ARCHITECT REVIEW AND APPROVAL. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS.
16. DO NOT EMBED CONDUITS LARGER THAN 1-1/2" DIAMETER IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY STRUCTURAL ENGINEER. CONDUITS SHALL NOT DISPLACE OR INTERRUPT REINFORCING BARS. DO NOT STACK CONDUITS. SPACE EMBEDDED CONDUITS A MINIMUM 3 DIAMETERS CLEAR FROM OTHER EMBEDDED CONDUITS USING THE LARGER CONDUIT DIAMETER, AND 1-1/2" CLEAR FROM REINFORCING BARS. NO CONDUITS SHALL BE PLACED IN CONCRETE FILL OVER METAL DECK. EMBEDDED CONDUITS SHALL BE PLACED IN THE MIDDLE THIRD OF SLABS, BEAMS, WALLS, FOOTINGS, ETC. CLUSTERS OF CONDUITS ARE NOT PERMITTED WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
17. PIPES ARE NOT PERMITTED TO BE EMBEDDED IN CONCRETE.

REINFORCING STEEL:

1. REINFORCING BARS TO CONFORM TO THE REQUIREMENTS OF CHAPTER 19 OF UFC 3-301-01 AND IBC, ASTM 706, GRADE 60 (UNO). DEFORMATIONS SHALL BE IN ACCORDANCE WITH ASTM A-305.
2. BARS TO BE CLEAN OF RUST, GREASE, OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
3. DETAIL, FABRICATE, AND INSTALL REINFORCING IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 301, ACI 117, AND THE "CRSI MANUAL OF STANDARD PRACTICE".
4. WELDED WIRE REINFORCEMENT (WWR) TO CONFORM TO ASTM A-185. PROVIDE LAPS AS PER ACI 318 SECTION 25.5.3, 9" MINIMUM. WWR TO BE SUPPORTED ON APPROVED CHAIRS.
5. REINFORCING BAR SPLICES TO BE MADE AS INDICATED ON THE DRAWINGS. MINIMUM SPLICE LENGTH FOR REINFORCING STEEL BARS IN MASONRY SHALL BE 72 BAR DIAMETER, 36" MINIMUM. MINIMUM SPLICE LENGTH FOR REINFORCING STEEL BARS IN CONCRETE TO BE AS REQUIRED FOR CLASS B SPLICE PER ACI 318 SECTION 25.5.2 UNO. LAP ALL HORIZONTAL BARS AT CORNERS AND INTERSECTIONS.
6. ALL BARS TO BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.
7. WHERE WELDING OR REINFORCING IS APPROVED BY THE STRUCTURAL ENGINEER, USE AWS CERTIFIED WELDERS USING E90XX OR APPROVED ELECTRODES. WELDING PROCEDURES TO CONFORM TO THE REQUIREMENTS OF STRUCTURAL WELDING CODE REINFORCING STEEL AWS-D1.4 LATEST REVISION. CONFORM TO THE REQUIREMENTS OF ASTM A-706.
8. BARS IN SLABS TO BE SECURELY SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS, PRIOR TO PLACING CONCRETE.
9. COMPLETE AND DETAILED REINFORCING PLACEMENT DRAWINGS TO BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION IN ACCORDANCE WITH THE SPECIFICATIONS AND APPLICABLE CODES. THESE DRAWINGS TO BE AVAILABLE ON THE JOB SITE PRIOR TO PLACING OF CONCRETE.
10. MILL TEST REPORTS FOR GRADE 60 BARS TO BE SUBMITTED PRIOR TO PLACEMENT OF CONCRETE.
11. CONTINUOUS INSPECTION OF CONCRETE TO INCLUDE INSPECTION DURING INSTALLATION OF REINFORCING STEEL SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT SLEEVES, AND EMBEDDED ITEMS MAY BE CORRECTED PRIOR TO PLACEMENT OF OVERLYING GRIDS OF REINFORCING STEEL.

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PM/DM
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CHIEF ENG/ARCH
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JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD
P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE
GENERAL NOTES

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO.
N40080-15-D-0452
NAVFAC DRAWING NO.
13132542
SHEET 197 OF 212

S-002

DRAWFORM REVISION: 06 APRIL 2017

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KPFF Project # 190015-22

DELEGATED DESIGN ITEMS:

1. SYSTEMS AND ITEMS IDENTIFIED BELOW REQUIRE CONTRACTOR TO OBTAIN DEFFERED APPROVAL BY THE GOVERNMENT.

2. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE DESIGN, ANCHORAGE, AND INSTALLATION OF THE FOLLOWING LIST OF ITEMS NOT DESIGNED BY KPFF CONSULTING ENGINEERS. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS AND STRUCTURAL CALCULATIONS SIGNED BY AND BEARING THE SEAL OF A LICENSED AND REGISTERED CIVIL OR STRUCTURAL ENGINEER TO THE ARCHITECT AND GOVERNMENT. KPFF WILL REVIEW DELEGATED DESIGN SUBMITTALS FOR CONFORMANCE WITH THE PROJECT DESIGN AND PERFORMANCE CRITERIA. AFTER REVIEW BY THE ARCHITECT AND KPFF, THE CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED SUBMITTALS AND APPROVALS BY THE GOVERNMENT.

   A. EQUIPMENT ANCHORAGE, UNLESS EXPLICITLY DETAILED ON THESE DRAWINGS
   B. AIRFIELD SIGNAGE, SIGNAGE SUPPORT FRAMING, AND FOUNDATIONS
   C. MOTORIZED ROLLING GATE TRACK AND ANCHORAGE TO FOUNDATIONS
      i. ROLLING GATE OPERATOR BOX ANCHORAGE TO FOUNDATIONS
   D. MOTORIZED SWING GATE AND CONNECTION TO PRIMARY STRUCTURE
   E. SITE SECURITY FENCING AND ANCHORAGE TO FOUNDATIONS
   F. GATE CONTROL RACK, RACK POST, AND POST EMBEDMENT
   G. ELECTRICAL POWER AND CONTROL RACK, RACK POST, AND POST EMBEDMENT

3. ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS, AND SUPPORTS AND ATTACHMENTS MUST MEET THE REQUIREMENTS OF UFC 3-010-01 AND ASCE 7-16, CH. 13.

   A. CONTRACTOR MUST COMPLY WITH THE FOLLOWING GENERAL REQUIREMENTS PER ASCE 7-16, SECTION 13.2:
      i. DESIGN DOCUMENTATION, SUBMITTAL TO GOVERNMENT, AND SEISMIC QUALIFICATION
      ii. SPECIAL SEISMIC CERTIFICATION
      iii. INTERRELATIONSHIP OF COMPONENTS AND CONSEQUENTIAL DAMAGE

4. THE DESIGN OF DELEGATED ITEMS MUST COMPLY WITH THE CODE FOR AND ALL PROJECT SPECIFICATIONS AND CRITERIA INDICATED ON THE CONSTRUCTION DOCUMENTS. THE DESIGN OF THESE ELEMENTS MUST MAKE PROVISIONS FOR ACCOMMODATING THE APPROPRIATE SEISMIC/WIND FORCES AND DISPLACEMENTS.

5. PRE-APPROVED STANDARD DETAILS MAY BE USED PROVIDED THEY ARE AN ACCEPTABLE APPROVED STANDARD BY THE GOVERNMENT AND THE CODE FOR THIS PROJECT.

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DES Designer | DRW Author | CHK Checker

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CHIEF ENG/ARCH

FIRE PROTECTION

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WASHINGTON DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

GENERAL NOTES

SCALE: AS NOTED

EPROJECT NO.: 1396650

CONSTR. CONTR. NO.
N40080-15-D-0452

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S-003

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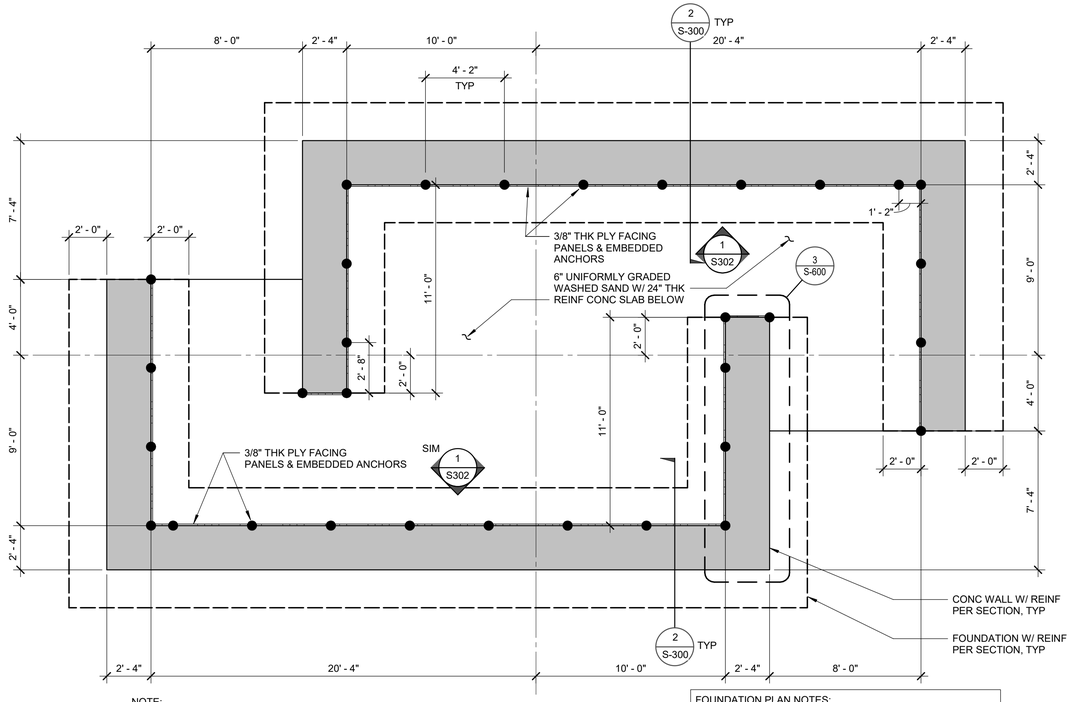
KPFF Project # 190015-22

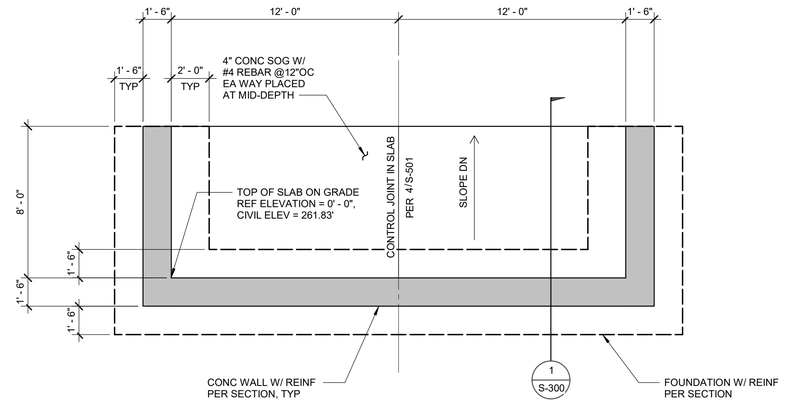


NOTE:

● INDICATES EMBEDDED STEEL CONN FOR PLYWOOD FACING ATTACHMENT PER DETAILS 2/S-600 & 3/S-600

FOUNDATION PLAN NOTES:

1. SEE GENERAL NOTES FOR ADDITIONAL INFO.
2. FOR TYP FOUNDATION DETAILS, SEE SHEET SERIES S-50X.
3. FOR TOP OF SLAB ELEVATION SEE CIVIL DWGS.

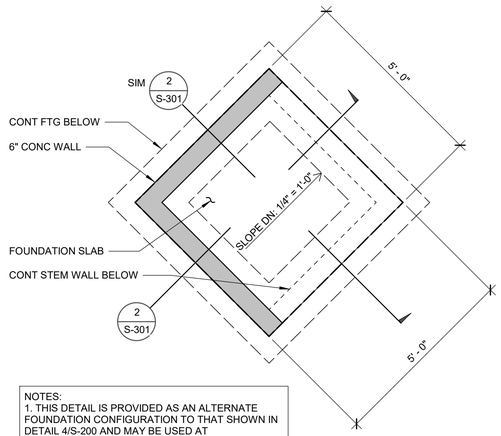


FOUNDATION PLAN NOTES:

1. SEE GENERAL NOTES FOR ADDITIONAL INFO.
2. FOR TYP FOUNDATION DETAILS, SEE SHEET SERIES S-50X.
3. FOR TOP OF SLAB ELEVATION SEE CIVIL DWGS.

3 DETONATION BUNKER FOUNDATION AND SLAB PLAN

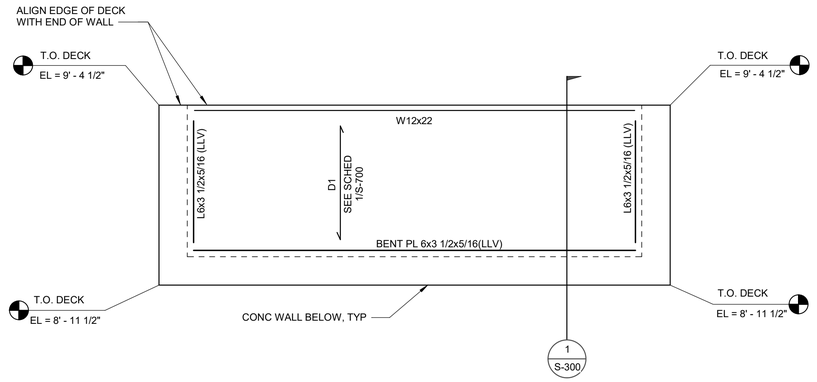
SCALE : 1/4" = 1'-0"



NOTES:
1. THIS DETAIL IS PROVIDED AS AN ALTERNATE FOUNDATION CONFIGURATION TO THAT SHOWN IN DETAIL 4/S-200 AND MAY BE USED AT CONTRACTOR'S PREFERENCE.
2. FOR TOP OF FOUNDATION SLAB ELEVATIONS REFER TO CIVIL DWGS.
3. FOR SITE LOCATION REFER TO DWGS.

1 PROTECTION BUNKER FOUNDATION AND SLAB PLAN

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

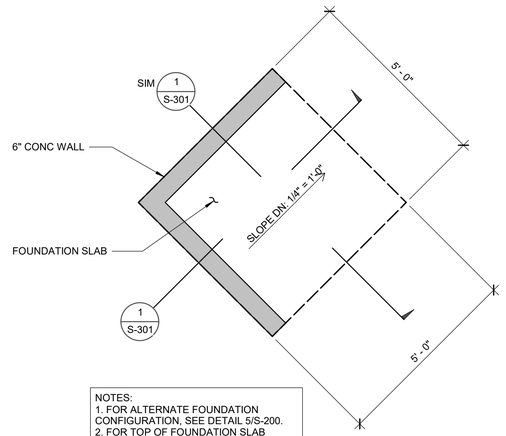


NOTES:

1. ALL STRUCTURAL STEEL SHAPES, EMBEDDED ASSEMBLIES, AND FASTENERS TO BE HOT DIPPED GALV
2. TOP OF DECK ELEVATIONS ARE RELATIVE TO TOP OF SLAB ON GRADE REF ELEVATION. SEE FOUNDATION

5 ALTERNATE HOLDING PAD FOUNDATION PLAN

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



NOTES:
1. FOR ALTERNATE FOUNDATION CONFIGURATION, SEE DETAIL 5/S-200.
2. FOR TOP OF FOUNDATION SLAB ELEVATIONS REFER TO CIVIL DWGS.
3. FOR SITE LOCATION REFER TO DWGS.

4 HOLDING PAD FOUNDATION PLAN

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

2 PROTECTION BUNKER ROOF FRAMING PLAN

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

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PLANS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO.: N40080-15-D-0452
NAVFAC DRAWING NO.: 13132544
SHEET 199 OF 212

S-200

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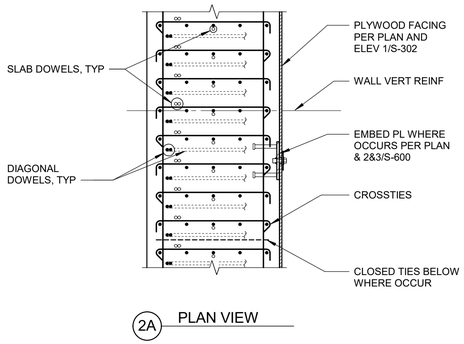
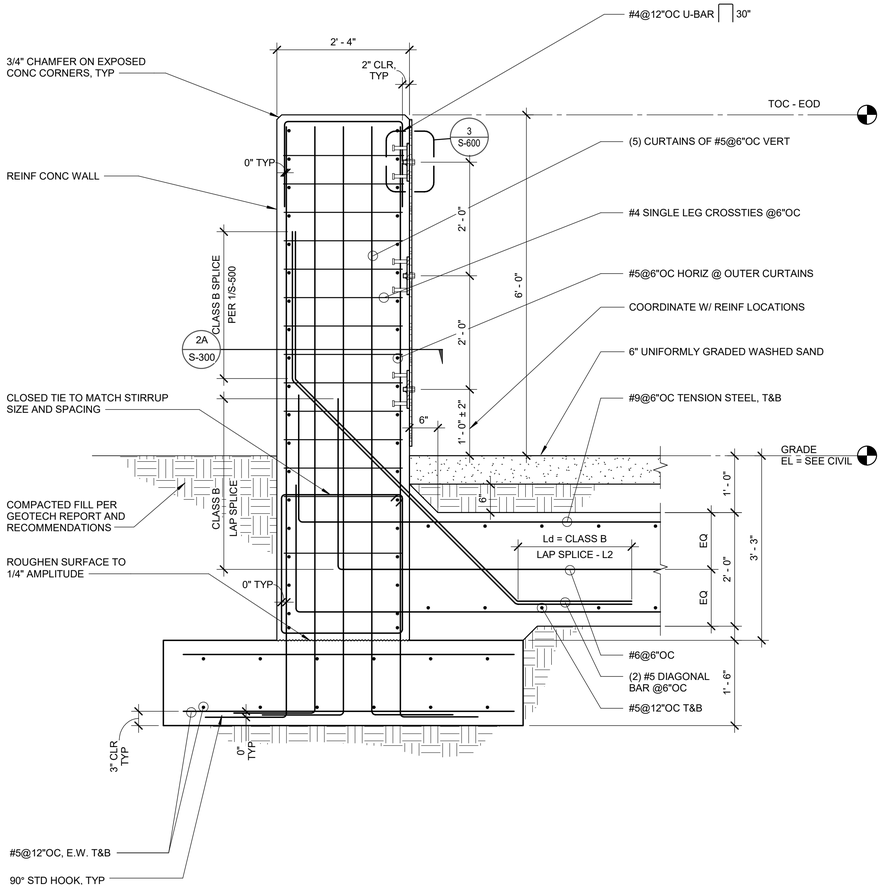
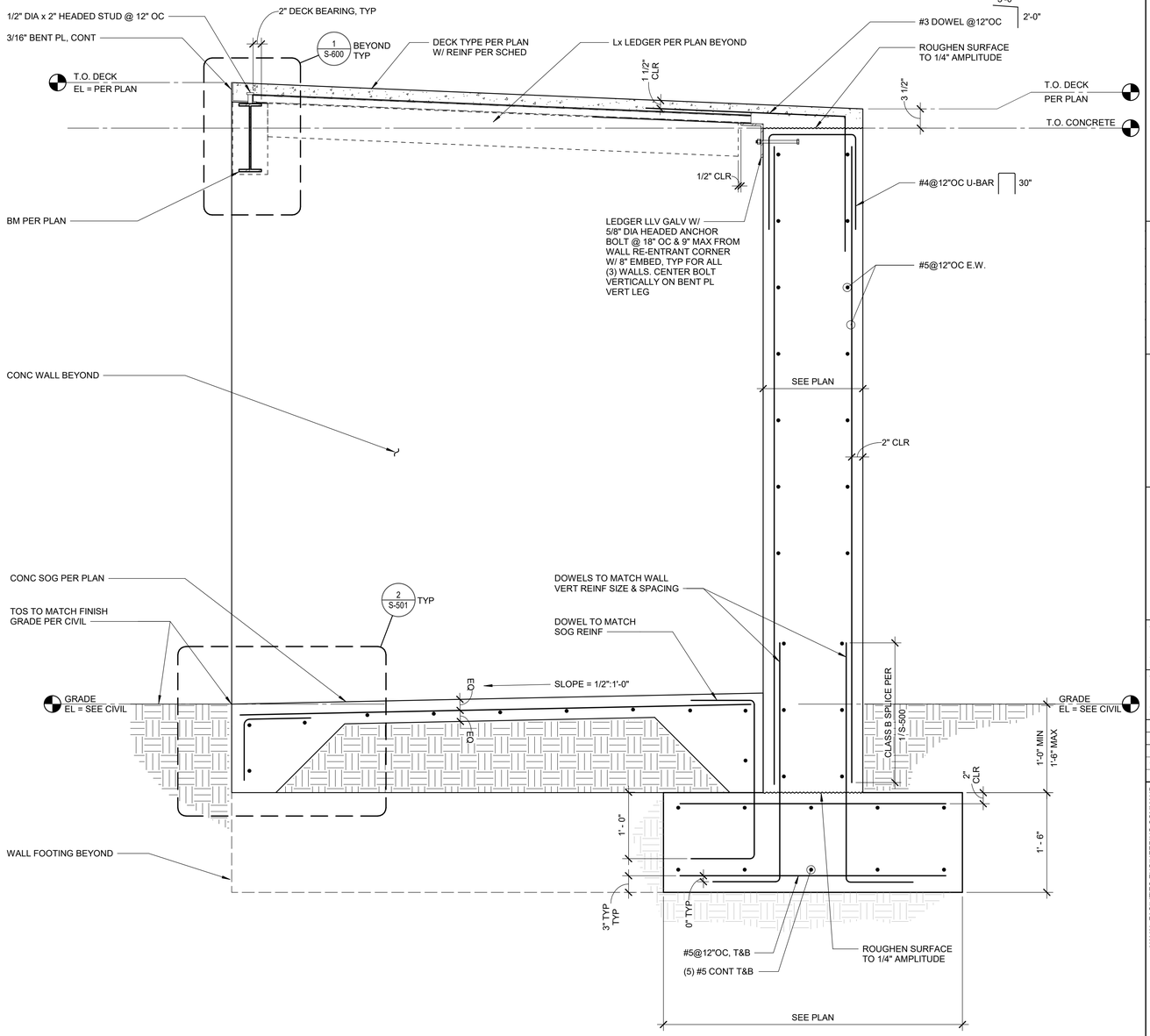
KPFF Project # 190015-22



2A PLAN VIEW



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



1 SECTION
SCALE : 1" = 1'-0"

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DES Designer DRW Author CHK Checker
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P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

SECTIONS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13132545
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S-300

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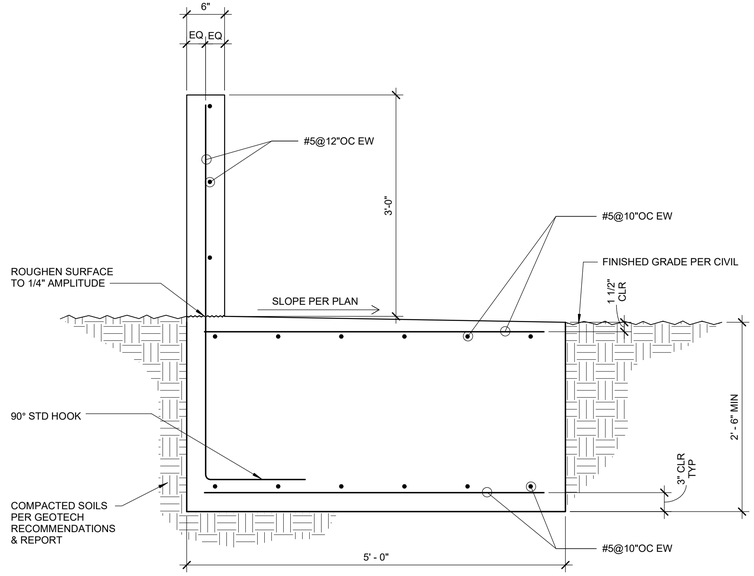
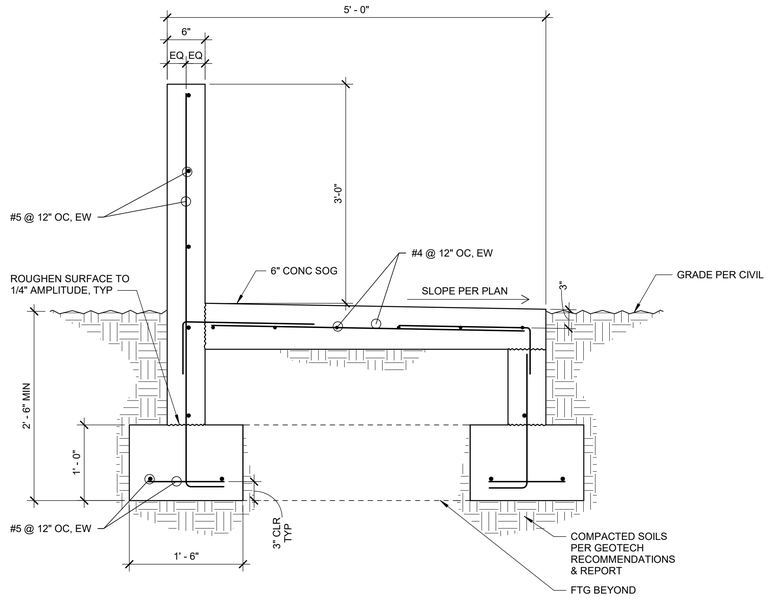


NOTE:

SEE DETAIL 2/S-301 FOR ALTERNATE CONCRETE HOLDING PAD SECTION.

1 SECTION: CONCRETE HOLDING PAD

SCALE : 1" = 1'-0"



2 ALTERNATE SECTION: CONCRETE HOLDING PAD

SCALE : 1" = 1'-0"

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SECTIONS

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EPROJECT NO.: 1396650

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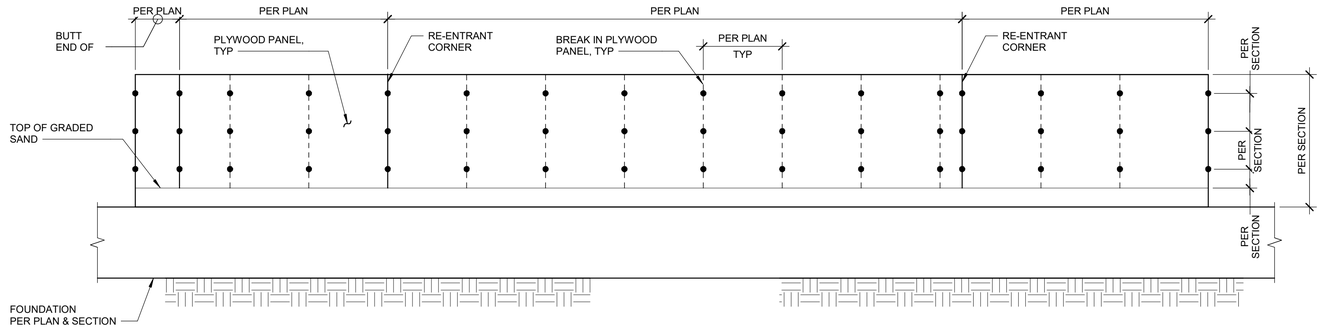

NOTE:

- INDICATES EMBEDDED STEEL CONN FOR PLYWOOD FACING ATTACHMENT PER DETAIL 2/S-600 & 3/S-600.

1 DETONATION BUNKER INTERIOR ELEVATION (UNFOLDED)

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

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P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELEVATIONS

SCALE: AS NOTED

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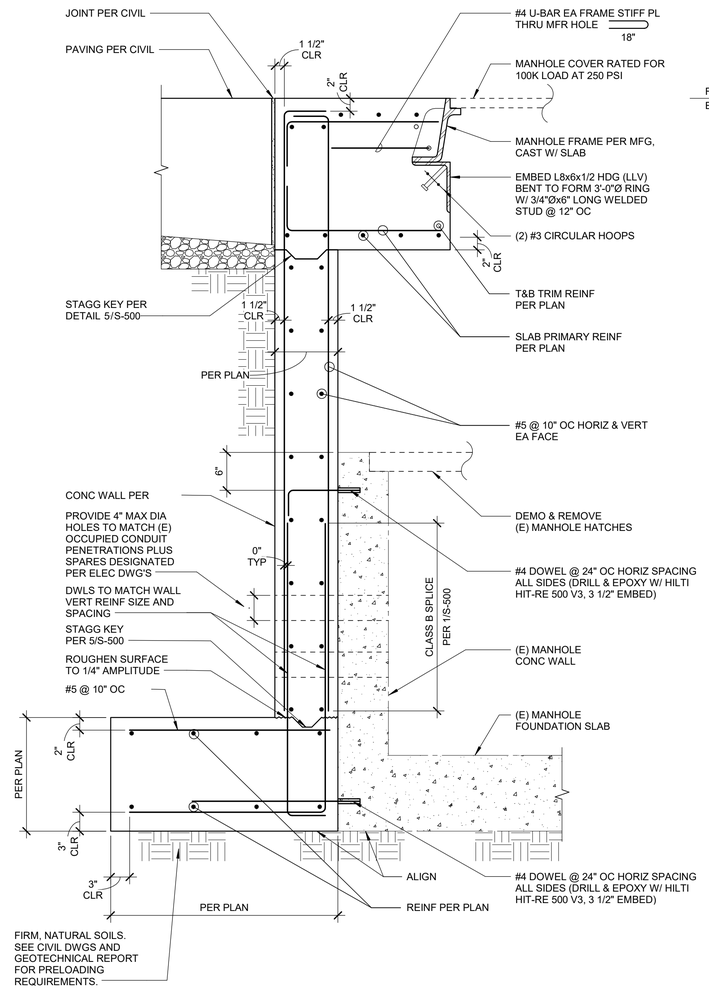
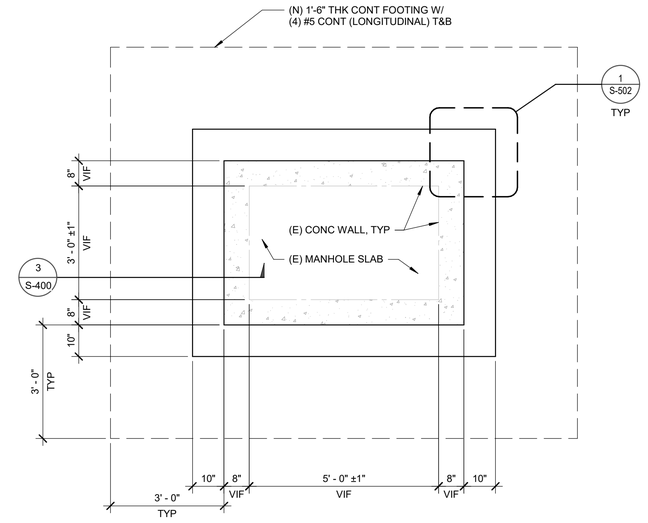


3 FULL HEIGHT WALL SECTION

SCALE : 1" = 1'-0"



1 FOUNDATION PLAN - MANHOLE C-EMH-1

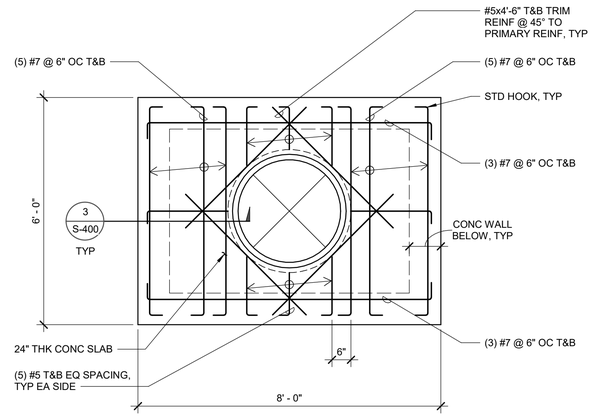
SCALE : 1/2" = 1'-0"

MANHOLE FRAMING NOTES:

1. FOR MANHOLE LOCATION AND PAVING ELEVATIONS, SEE CIVIL DRAWINGS.
2. FOR ADDITIONAL INFORMATION, INCLUDING MATERIAL STRENGTHS, SEE GENERAL NOTES AND PROJECT SPECIFICATIONS.
3. SEE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR EXCAVATION, BACKFILL, AND COMPACTION REQUIREMENTS. AREA SHOULD BE SURCHARGED AS DESCRIBED IN THE GEOTECHNICAL REPORT PRIOR TO INSTALLATION.
4. MANHOLE FOUNDATION DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING PRESSURE EQUAL TO 2000 PSF.
5. MANHOLE STRUCTURE IS DESIGNED FOR THE FOLLOWING AIRCRAFT LOAD CASES:
   A. 100,000 LBS. SINGLE AIRCRAFT WHEEL LOAD AT 250 PSI LOCATED ANYWHERE ON THE MANHOLE LID SLAB.
   B. VERTICAL AND LATERAL SURCHARGE LOADING IMPOSED BY LANDING GEAR FOR THE FOLLOWING AIRCRAFT OPERATING AT MAXIMUM LOAD:
      i. C-5A/B GALAXY
      ii. C-17A GLOBEMASTER III
      iii. C-130-J HERCULES
6. INSTALLATION OF ADHESIVE (DRILL & EPOXY) ANCHORS REQUIRES SPECIAL INSPECTION PER ICC-ES REPORT. PROOF LOAD TESTING IS NOT REQUIRED.

4 MANHOLE FRAMING NOTES

NTS



2 LID SLAB FRAMING PLAN - MANHOLE C-EMH-1

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

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TELECOM MANHOLE PLANS & DETAILS

SCALE: AS NOTED
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NAVFAC DRAWING NO. 13132548
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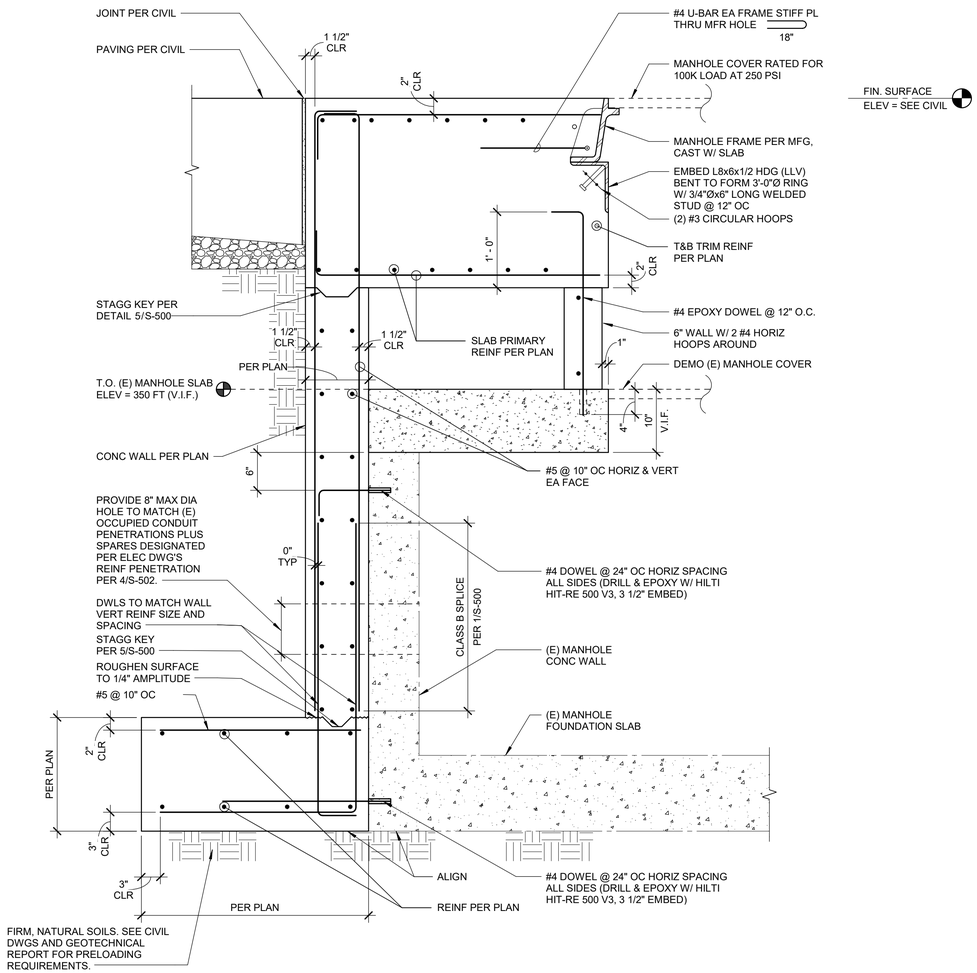
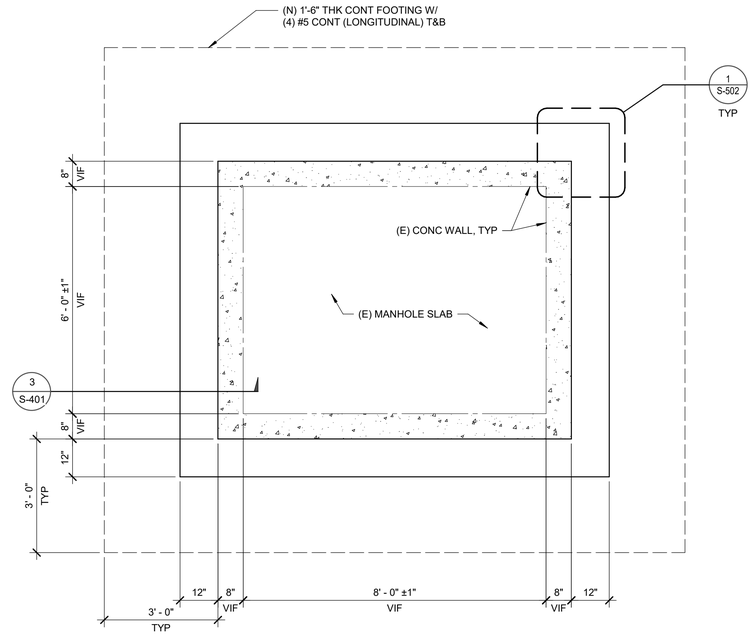


3 FULL HEIGHT WALL SECTION

SCALE : 1" = 1'-0"



1 FOUNDATION PLAN - MANHOLE E-EMH-1

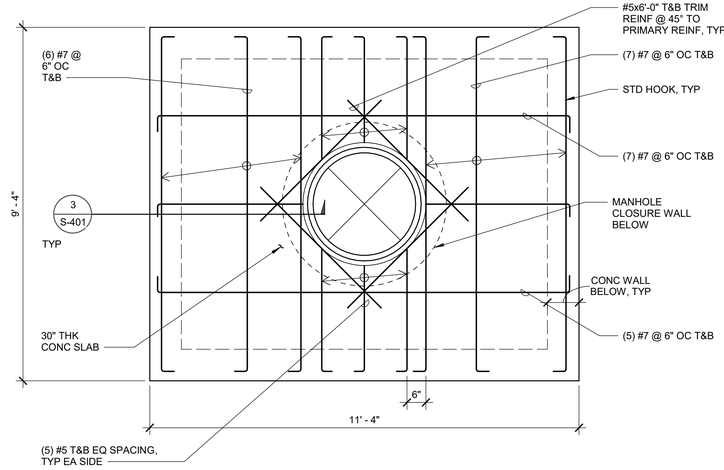
SCALE : 1/2" = 1'-0"

MANHOLE FRAMING NOTES:

1. FOR MANHOLE LOCATION AND PAVING ELEVATIONS, SEE CIVIL DRAWINGS. ORIENTATION OF MANHOLE RELATIVE TO PROJECT NORTH IS UNKNOWN AND WILL REQUIRE FIELD DETERMINATION BY CONTRACTOR PRIOR TO CONSTRUCTION.
2. FOR ADDITIONAL INFORMATION, INCLUDING MATERIAL STRENGTHS, SEE GENERAL NOTES AND PROJECT SPECIFICATIONS.
3. SEE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR EXCAVATION, BACKFILL, AND COMPACTION REQUIREMENTS. AREA SHOULD BE SURCHARGED AS DESCRIBED IN THE GEOTECHNICAL REPORT PRIOR TO INSTALLATION.
4. MANHOLE FOUNDATION DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING PRESSURE EQUAL TO 2000 PSF.
5. MANHOLE STRUCTURE IS DESIGNED FOR THE FOLLOWING AIRCRAFT LOAD CASES:
   A. 100,000 LBS. SINGLE AIRCRAFT WHEEL LOAD AT 250 PSI LOCATED ANYWHERE ON THE MANHOLE LID SLAB.
   B. VERTICAL AND LATERAL SURCHARGE LOADING IMPOSED BY LANDING GEAR FOR THE FOLLOWING AIRCRAFT OPERATING AT MAXIMUM LOAD:
      i. C-5A/B GALAXY
      ii. C-17A GLOBEMASTER III
      iii. C-130-J HERCULES
6. INSTALLATION OF ADHESIVE (DRILL & EPOXY) ANCHORS REQUIRES SPECIAL INSPECTION PER ICC-ES REPORT. PROOF LOAD TESTING IS NOT REQUIRED.

4 MANHOLE FRAMING NOTES

NTS



2 LID SLAB FRAMING PLAN - MANHOLE E-EMH-1

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

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P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

ELECTRIC MANHOLE PLANS & DETAILS

SCALE: AS NOTED

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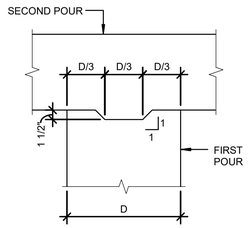
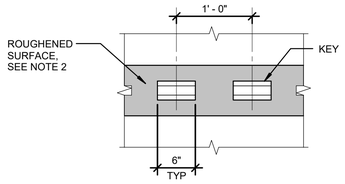


5A ELEVATION VIEW

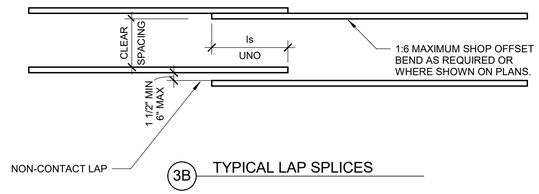


5B PLAN VIEW

NOTES:
1. CONCRETE REINFORCEMENT NOT SHOWN FOR CLARITY.
2. SURFACE OF CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED, ROUGHENED TO 1/4" AMPLITUDE AND LAITANCE REMOVED.
3. KEYS REQUIRED WHERE GRAPHICALLY DEPICTED ON SECTIONS AND/OR DETAILS.

5 TYPICAL KEY DETAIL
SCALE : 1" = 1'-0"

3A STAGGERED SPLICING



3B TYPICAL LAP SPLICES

NOTES:
1. CASES 1 AND 2 WHICH DEPEND ON CLEAR CONCRETE COVER AND THE CENTER-TO-CENTER SPACING OF THE BARS ARE DEFINED AS:
   CASE 1: COVER AT LEAST 1db AND CLEAR SPACING AT LEAST 2db.
   CASE 2: COVER LESS THAN 1db OR CLEAR SPACING LESS THAN 2db.
2. FOR STAGGERED SPLICES, CLEAR SPACING SHOWN IN DIAGRAM MAY BE USED TO DETERMINE CASE 1 OR CASE 2 PER NOTE 1.

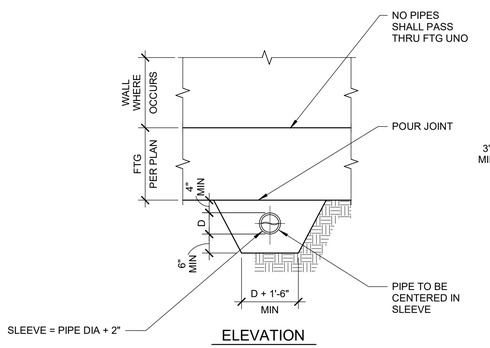
3 TYPICAL LAP SPLICES
SCALE : 1" = 1'-0"

REBAR LAP SPLICE LENGTH SCHEDULE

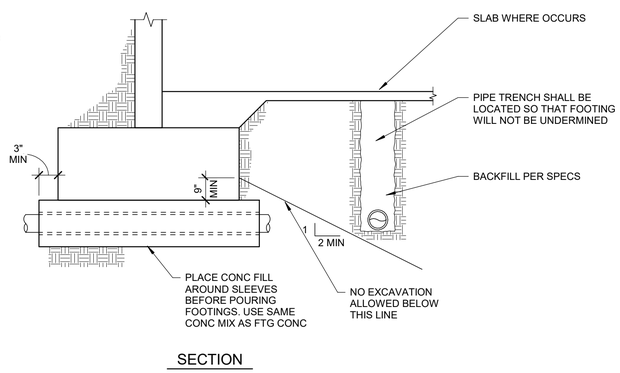
BAR SIZE	LAP CLASS	NORMAL WEIGHT CONCRETE f'c = 3500 psi Top Bars Case 1	Top Bars Case 2	Other Bars Case 1	Other Bars Case 2	f'c = 4500 psi Top Bars Case 1	Top Bars Case 2	Other Bars Case 1	Other Bars Case 2	f'c = 5000 psi Top Bars Case 1	Top Bars Case 2	Other Bars Case 1	Other Bars Case 2
3	A	1'-10"	2'-9"	1'-5"	2'-1"	2'-1"	3'-2"	1'-8"	2'-5"	1'-5"	2'-1"	1'-1"	1'-8"
	B	2'-4"	3'-6"	1'-10"	2'-9"	2'-9"	4'-1"	2'-1"	3'-2"	1'-10"	2'-9"	1'-5"	2'-1"
4	A	2'-5"	3'-7"	1'-10"	2'-9"	2'-10"	4'-2"	2'-2"	3'-3"	1'-11"	2'-10"	1'-5"	2'-2"
	B	3'-2"	4'-8"	2'-5"	3'-7"	3'-8"	5'-5"	2'-10"	4'-2"	2'-5"	3'-8"	1'-11"	2'-10"
5	A	3'-0"	4'-6"	2'-4"	3'-6"	3'-6"	5'-3"	2'-9"	4'-1"	2'-4"	3'-6"	1'-10"	2'-8"
	B	3'-11"	5'-10"	3'-0"	4'-6"	4'-7"	6'-10"	3'-6"	5'-3"	3'-0"	4'-6"	2'-4"	3'-6"
6	A	3'-7"	5'-5"	2'-9"	4'-2"	4'-2"	6'-3"	3'-3"	4'-10"	2'-10"	4'-2"	2'-2"	3'-3"
	B	4'-8"	7'-0"	3'-7"	5'-5"	5'-5"	8'-2"	4'-2"	6'-3"	3'-8"	5'-5"	2'-10"	4'-2"
7	A	5'-3"	7'-10"	4'-0"	6'-0"	6'-1"	9'-2"	4'-9"	7'-1"	4'-1"	6'-1"	3'-2"	4'-8"
	B	6'-9"	10'-2"	5'-3"	7'-10"	7'-11"	11'-11"	6'-1"	9'-2"	5'-3"	7'-11"	4'-1"	6'-1"
8	A	6'-0"	8'-11"	4'-7"	6'-11"	7'-0"	10'-5"	5'-5"	8'-1"	4'-8"	6'-11"	3'-7"	5'-4"
	B	7'-9"	11'-7"	6'-0"	8'-11"	9'-1"	13'-7"	7'-0"	10'-5"	6'-0"	9'-0"	4'-8"	6'-11"
9	A	6'-9"	10'-1"	5'-2"	7'-9"	7'-10"	11'-9"	6'-1"	9'-1"	5'-3"	7'-10"	4'-0"	6'-0"
	B	8'-9"	13'-1"	6'-9"	10'-1"	10'-3"	15'-4"	7'-10"	11'-9"	6'-9"	10'-2"	5'-3"	7'-10"
10	A	7'-7"	11'-4"	5'-10"	8'-9"	8'-10"	13'-3"	6'-10"	10'-3"	5'-11"	8'-10"	4'-6"	6'-9"
	B	9'-10"	14'-9"	7'-7"	11'-4"	11'-6"	17'-3"	8'-10"	13'-3"	7'-8"	11'-5"	5'-11"	8'-10"
11	A	8'-5"	12'-7"	6'-6"	9'-8"	8'-10"	14'-9"	6'-10"	11'-4"	6'-6"	9'-9"	5'-0"	7'-6"
	B	10'-11"	16'-4"	8'-5"	12'-7"	11'-6"	19'-2"	8'-10"	14'-9"	8'-6"	12'-8"	6'-6"	9'-9"

NOTES:
1. CASES 1 AND 2 WHICH DEPEND ON CLEAR CONCRETE COVER AND THE CENTER-TO-CENTER SPACING OF THE BARS ARE DEFINED AS:
   CASE 1: COVER AT LEAST 1db AND CLEAR SPACING AT LEAST 2db.
   CASE 2: COVER LESS THAN 1db OR CLEAR SPACING LESS THAN 2db.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
3. OTHER BARS INCLUDE VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12 INCHES OF CONCRETE CAST BELOW HORIZONTAL BARS.
4. BAR SPLICES NOT COVERED BY THIS SCHEDULE ARE SPECIFICALLY DETAILED AND DIMENSIONED PER PLANS.
5. ALL SPLICES SHALL BE CLASS 'B' UNLESS OTHERWISE ON PLANS.
6. FOR DEVELOPMENT LENGTH, Ld, USE CLASS 'A' LAP SPLICE LENGTH.
7. THIS SCHEDULE IS FOR GR 60 REINFORCEMENT.
8. CAN USE 1.25Ld IN LIEU OF NOTE 7 @ SHEAR WALLS.
9. LAP SPLICES PROVIDED IN THE TABLE ABOVE ARE FOR WALLS, SLABS, & FOOTINGS.

1 TYPICAL REINFORCEMENT LAP SPLICE - NORMAL WEIGHT CONCRETE
SCALE : 12" = 1'-0"

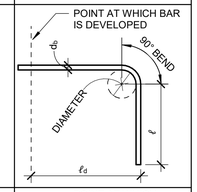
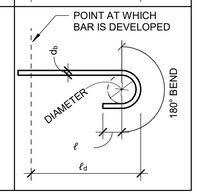


ELEVATION



SECTION

4 PIPE TRENCH BELOW & ADJACENT TO FOOTING DETAIL
SCALE : 1" = 1'-0"

TYPE OF STANDARD HOOK	BAR SIZE	MINIMUM INSIDE BEND DIAMETER, IN	STRAIGHT EXTENSION [1] ℓ_{EXT}, IN	TYPE OF STANDARD HOOK
90-DEGREE HOOK	#3 THROUGH #8	$6d_b$	$12d_b$	
	#9 THROUGH #11	$8d_b$		
	#14 THROUGH #18	$10d_b$		
180-DEGREE HOOK	#3 THROUGH #8	$6d_b$	GREATER OF $4d_b$ AND 2.5 IN	
	#9 THROUGH #11	$8d_b$		
	#14 THROUGH #18	$10d_b$		

NOTE:
1. ACI 318-14 TABLE 25.3.2.

2 STANDARD HOOK GEOMETRY - BARS DEVELOPED IN TENSION
SCALE : 1" = 1'-0"

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P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE
TYPICAL CONCRETE DETAILS

SCALE: AS NOTED
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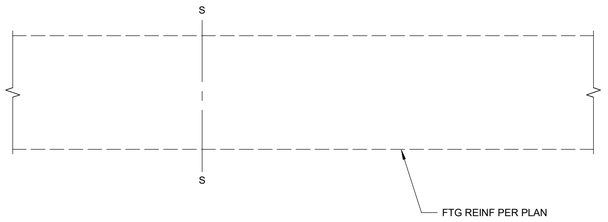
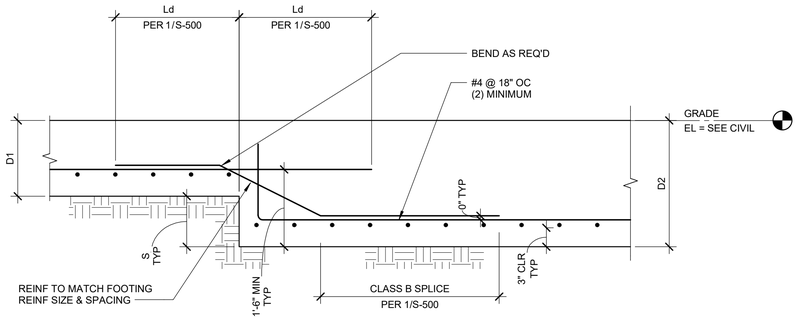


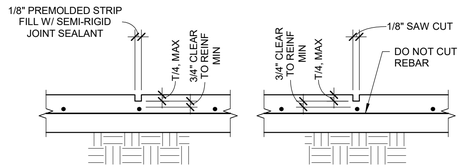


NOTES:

1. D1 = DEPTH OF FOOTING AT TYPICAL SECTION. SEE DETAIL 2/S-503
2. D2 = DEPTH OF FOOTING AT TAXIWAY SECTION. SEE DETAIL 3/S-503
3. S = 1'-6" MAX, UNO
4. Ld = DEVELOPMENT TENGTH
5. SEE S-503 FOR BALANCE OF INFORMATION.

6 STEPPED FOOTING DETAIL

SCALE : 1" = 1'-0"



FORMED JOINT SAW-CUT JOINT

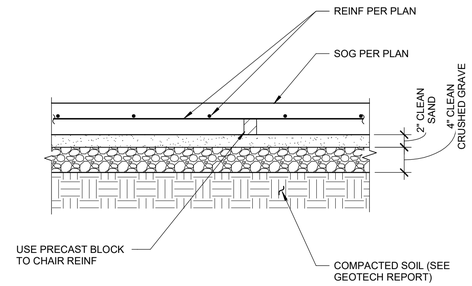
CONTROL JOINTS

NOTE:

1. IF SAW-CUT CONTROL JOINT TO BE USED, SAW-CUT WITHIN 24 HOURS OF POUR.

4 TYPICAL SLAB ON GRADE JOINTS

SCALE : 1" = 1'-0"

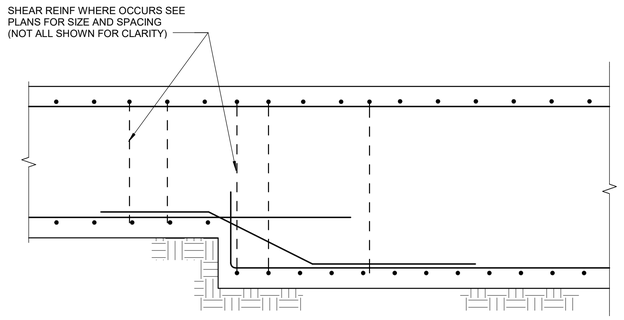


NOTE:

1. REFER TO GEOTECH REPORT FOR ADDITIONAL

5 TYPICAL SOG SUPPORT DETAIL

SCALE : 1" = 1'-0"

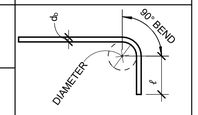
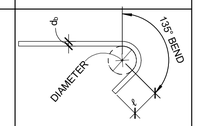
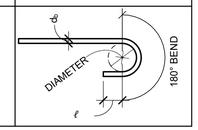


NOTE:

1. SEE S-503 FOR BALANCE OF INFORMATION.

3 NOT USED

SCALE : 1" = 1'-0"

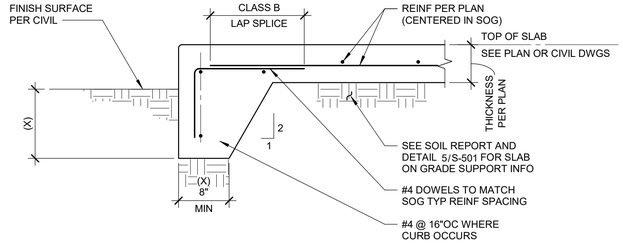
TYPE OF STANDARD HOOK	BAR SIZE	MINIMUM INSIDE BEND DIAMETER, IN	STRAIGHT EXTENSION [1] ℓ_{EXT}, IN	TYPE OF STANDARD HOOK
90-DEGREE HOOK	#3 THROUGH #5	$4d_b$	GREATER OF $6d_b$ AND 3 IN	
	#6 THROUGH #8	$6d_b$	$12d_b$	
135-DEGREE HOOK	#3 THROUGH #5	$4d_b$	GREATER OF $6d_b$ AND 3 IN	
	#6 THROUGH #8	$6d_b$		
180-DEGREE HOOK	#3 THROUGH #5	$4d_b$	GREATER OF $4d_b$ AND 2.5 IN	
	#6 THROUGH #8	$6d_b$		

NOTE:

1. ACI 318-14 TABLE 25.3.2 STANDARD HOOK GEOMETRY-STIRRUPS, TIE &

1 TYP STANDARD HOOK GEOMETRY - STIRRUPS, TIES & HOOPS

SCALE : 1" = 1'-0"



2 SLAB ON GRADE THICKENED EDGE

SCALE : 1" = 1'-0"

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CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

TYPICAL CONCRETE DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13132551
SHEET 206 OF 212

S-501

DRAWFORM REVISION: 06 APRIL 2017

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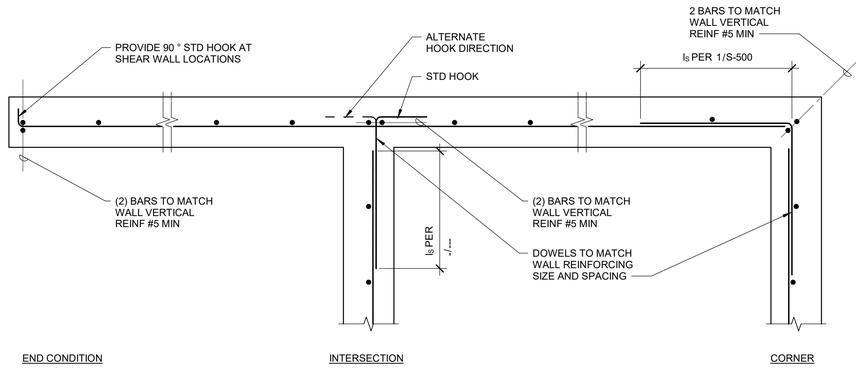
KPFF Project # 190015-22



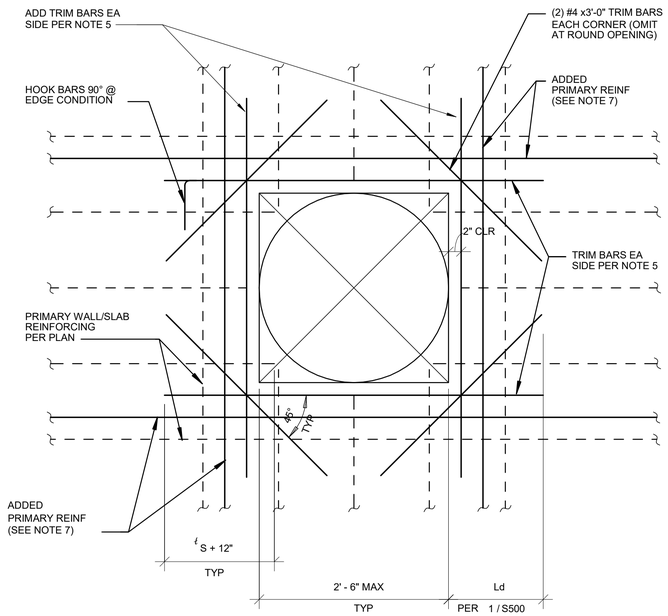
SINGLE LAYER REINFORCING

NOTE:

1. REINFORCEMENT SHOWN ON WALL ELEVATIONS AND OTHER SPECIFICALLY REFERENCED DETAILS TAKE PRECEDENCE OVER REINFORCEMENT SHOWN HERE.

3 PLAN - CONCRETE WALL & FOOTING DETAIL

SCALE : 1" = 1'-0"

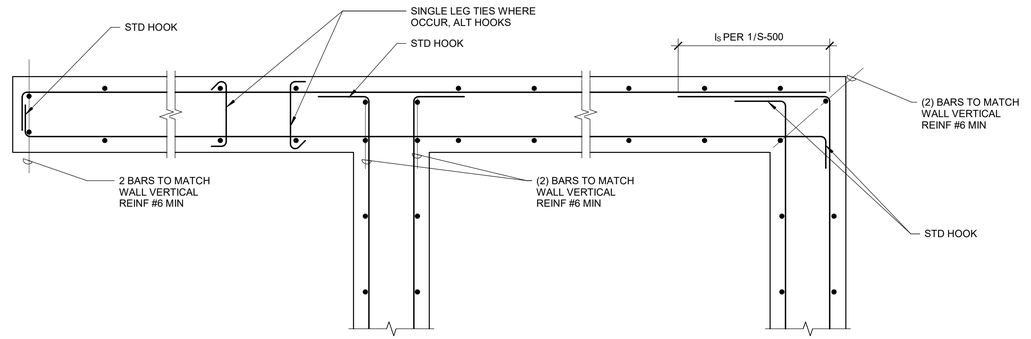


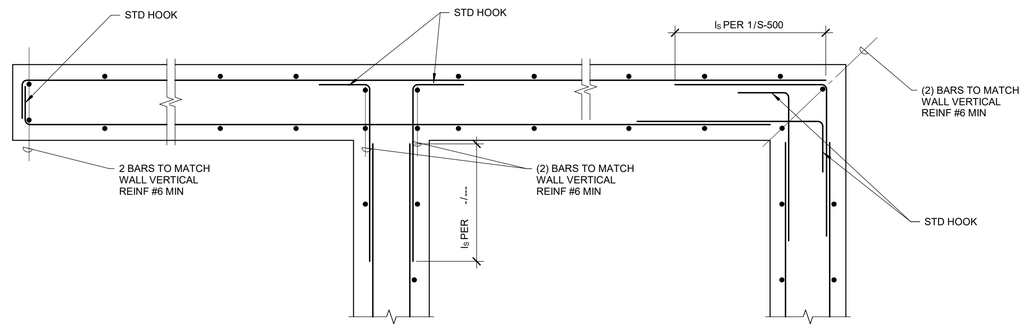
NOTES

1. THIS DETAIL INDICATES MINIMUM REINFORCING FOR OPENING NOT DETAILED ELSEWHERE IN THESE DRAWINGS.
2. SEE WALL ELEVATIONS OR PLANS FOR REINFORCEMENT AT LARGER OPENINGS.
3. CLUSTERS OF SMALL HOLES WHOSE OVERALL MEASUREMENT EXCEEDS 1'-0" SHOULD BE REINFORCED AS ONE OPENING.
4. NO OPENING IN SLAB TO BE LOCATED CLOSER THAN 2'-0" CLEAR FROM COLUMN FACE UNLESS APPROVED BY THE SEOR.
5. TRIM BARS AT EA SIDE OF OPENING TO MATCH SIZE AND QUANTITY OF PRIMARY REINFORCEMENT BARS INTERRUPTED DUE TO OPENING, MIN (2) #5 EA SIDE (EF FOR WALLS, T&B FOR SLABS).
6. ANY OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE SEOR'S ATTENTION BY THE CONTRACTOR PRIOR TO PERFORMING WORK.
7. ADD REINF EQUAL TO INTERRUPTED REINF ON EACH SIDE OF OPENING, TYP. SPACE ADDED BARS AT 3" OC.

4 CONCRETE WALL/SLAB OPENING DETAIL

SCALE : 1" = 1'-0"





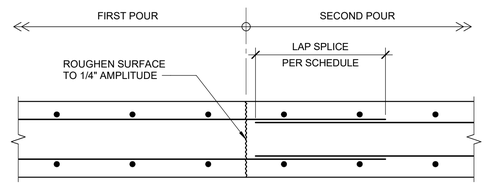
DOUBLE LAYER REINFORCING

NOTE:

1. REINFORCEMENT SHOWN ON WALL ELEVATIONS AND OTHER SPECIFICALLY REFERENCED DETAILS TAKE PRECEDENCE OVER REINFORCEMENT SHOWN HERE.

1 PLAN - CONCRETE WALL & FOOTING DETAIL

SCALE : 1" = 1'-0"



PLAN - VIEW

2 TYPICAL WALL VERTICAL CONSTRUCTION JOINT

SCALE : 1" = 1'-0"

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PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

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JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

TYPICAL CONCRETE DETAILS

SCALE: AS NOTED

EPROJECT NO.: 1396650

CONSTR. CONTR. NO.: N40080-15-D-0452

NAVFAC DRAWING NO.: 13132552

SHEET 207 OF 212

S-502

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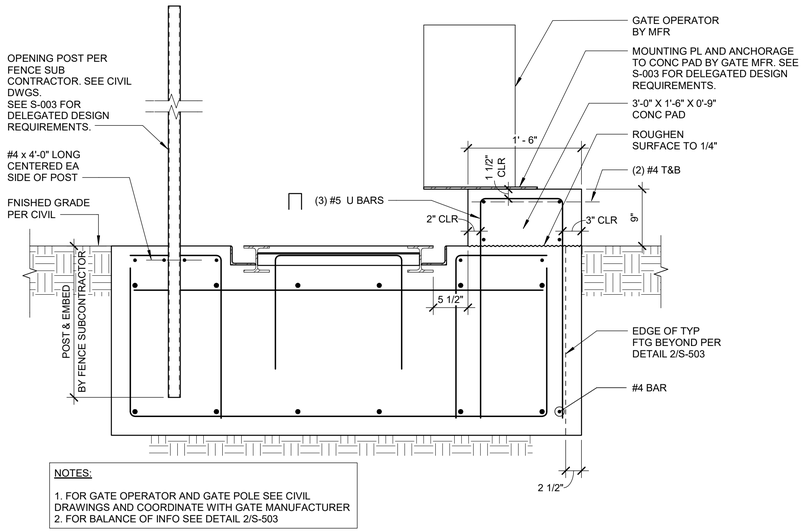
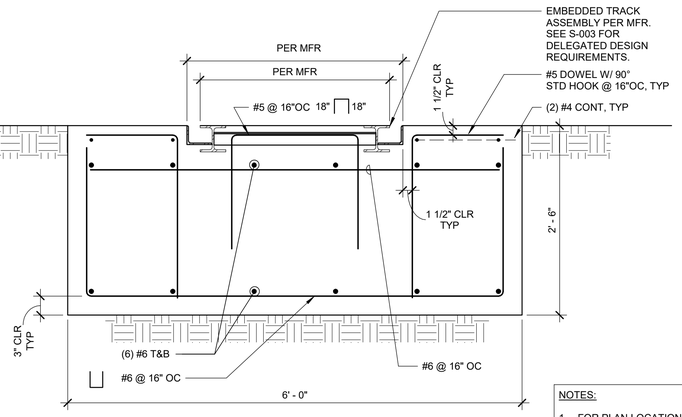


NOTES:

1. FOR GATE OPERATOR AND GATE POLE SEE CIVIL DRAWINGS AND COORDINATE WITH GATE MANUFACTURER
2. FOR BALANCE OF INFO SEE DETAIL 2/S-503

4 MOTORIZED ROLLING GATE FOUNDATION SECTION AT GATE OPERATOR

SCALE : 1" = 1'-0"

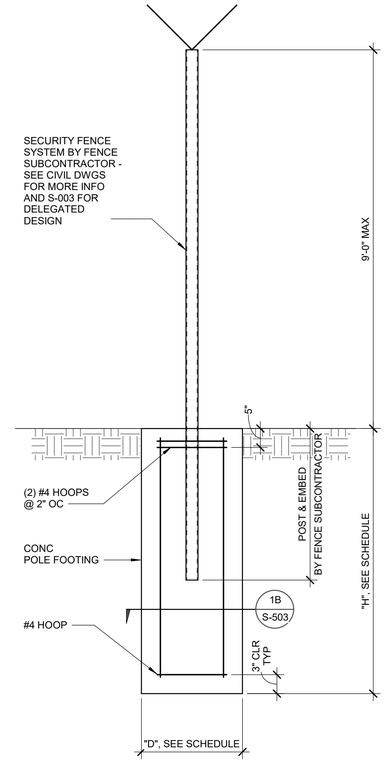


NOTES:

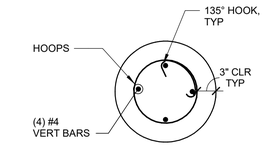
1. FOR PLAN LOCATION AND EXTENT OF GATE FOUNDATION PARALLEL TO TRACKS, SEE CIVIL DWGS.
2. CONCRETE MIX TO MATCH AIRFIELD PAVING MIX PER 32 13 14.13, WITH SLUMP INCREASE TO 4" +/-1".

2 TYPICAL MOTORIZED ROLLING GATE FOUNDATION SECTION

SCALE : 1" = 1'-0"



1A ELEVATION



1B SECTION

FENCE POST FOOTING SCHEDULE

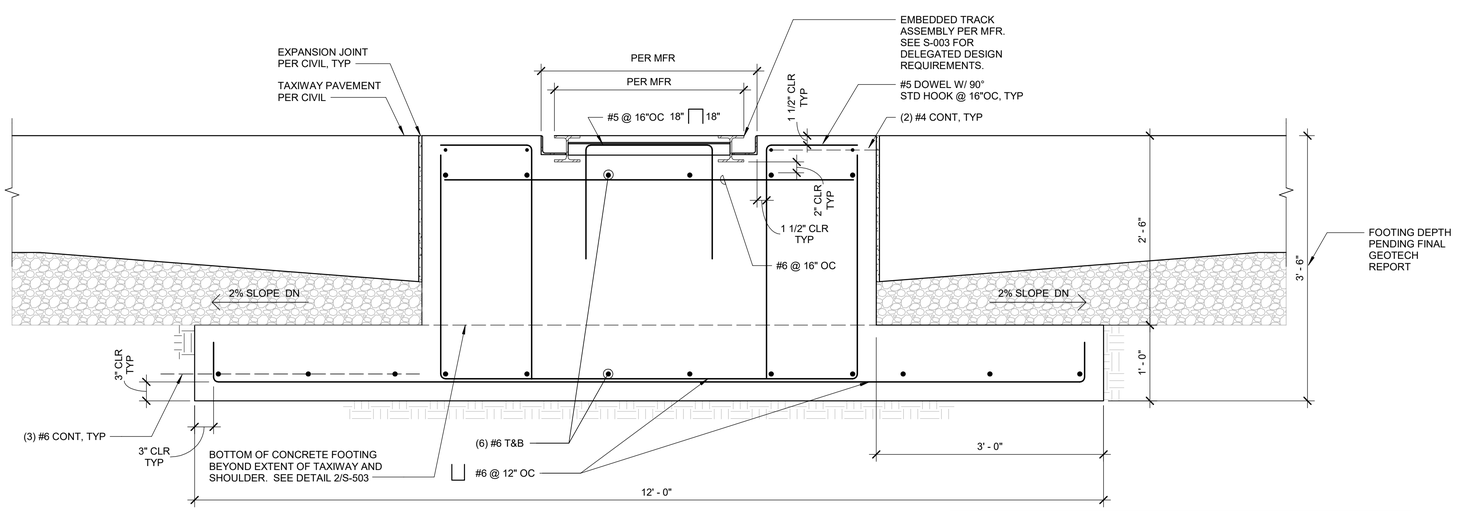
POST TYPE	FOOTING DEPTH, "H" (BOT OF FTG ABV 240' ELEV)	FOOTING DEPTH, "H" (BOT OF FTG BLW 240' ELEV)	FOOTING DIAMETER, "D"	MAX TOP RAIL TENSION
TYP LINE POST	4' - 0"	4' - 9"	1' - 4"	N/A
CORNER/END POST	4' - 6"	5' - 3"	1' - 8"	210 #

NOTES:

1. FENCE TO HAVE 80% MINIMUM FREE AREA.
2. FENCE POSTS TO BE SPACED AT 10 FEET ON CENTER OR LESS.
3. FENCE POST ANCHORAGE BY MANUFACTURER.
4. SEE CIVIL SHEET CS-502 FOR GATE POST AND DROP ROD FOUNDATION INFORMATION.
5. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION REGARDING FENCES AND FENCE POSTS.

1 SECURITY FENCE POLE FOOTING

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



NOTES:

1. FOR PLAN LOCATION AND EXTENT OF GATE FOUNDATION PARALLEL TO TRACKS, SEE CIVIL DWGS.
2. SEE DETAIL 6/S-501 FOR STEPPED FOOTING DETAIL BETWEEN THE TAXIWAY AND TYPICAL FOOTING SECTIONS. FOUNDATION SECTION SHOWN IN 3/S-503 SHALL CONTINUE A MINIMUM OF 7'-0" BEYOND THE EXTREME EDGES OF THE TAXIWAY SHOULDER BEFORE TRANSITIONING TO SECTION 2/S-503.
3. SEE SPECIFICATION SECTION 32 13 14.13 "CONCRETE PAVEMENTS FOR AIRFIELDS AND OTHER HEAVY DUTY PAVEMENTS" FOR REQUIREMENTS OF THE CONCRETE FOR THE GATE FOUNDATION SECTION CROSSING THE AIRFIELD SHOULDER AND TAXIWAY PAVEMENT. MODIFICATIONS TO THE SPECIFICATIONS TO HAVE A MAX 4" SLUMP.

3 MOTORIZED ROLLING GATE FOUNDATION SECTION AT TAXIWAY AND SHOULDER

SCALE : 1" = 1'-0"

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PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

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WASHINGTON DC
JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

CONCRETE DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO.
N40080-15-D-0452
NAVFAC DRAWING NO.
13132553
SHEET 208 OF 212

S-503

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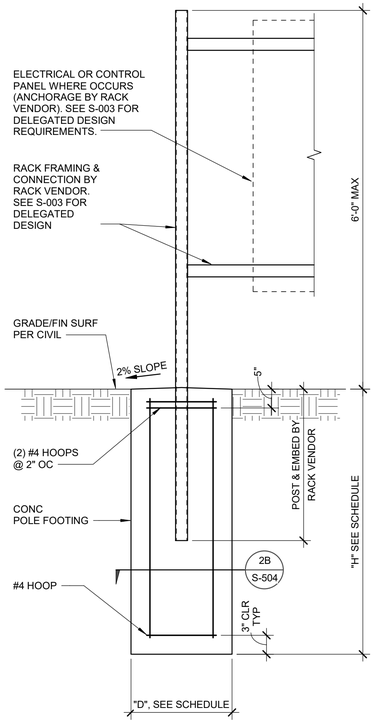
KPFF Project # 190015-22



2A ELEVATION

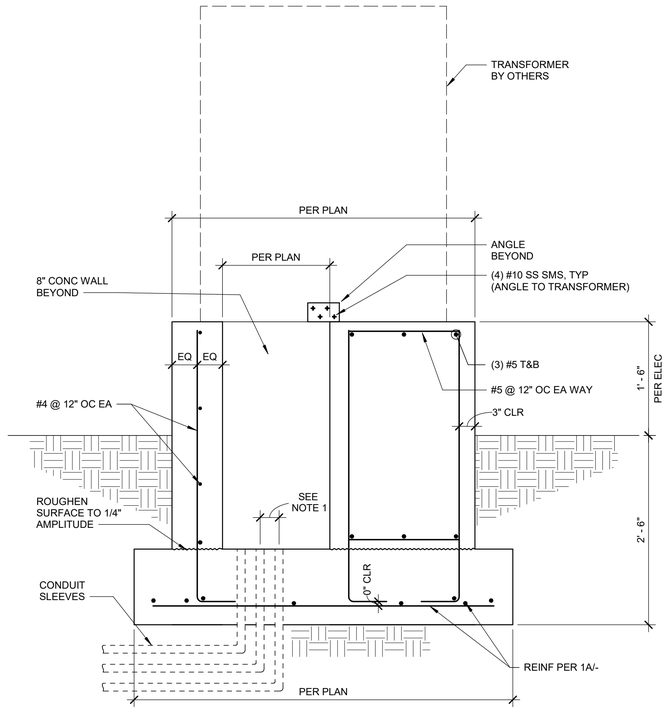
2B SECTION

ELECTRICAL RACK POLE FOOTING SCHEDULE

POST TYPE	FOOTING DEPTH, "H"	FOOTING DIAMETER, "D"	NOTES
ELECTRICAL POWER & CONTROL RACK	5' - 6"	3' - 0"	REF. C1/E-502
GATE CONTROL RACK	5' - 0"	2' - 0"	REF. C3/E-502

NOTE:

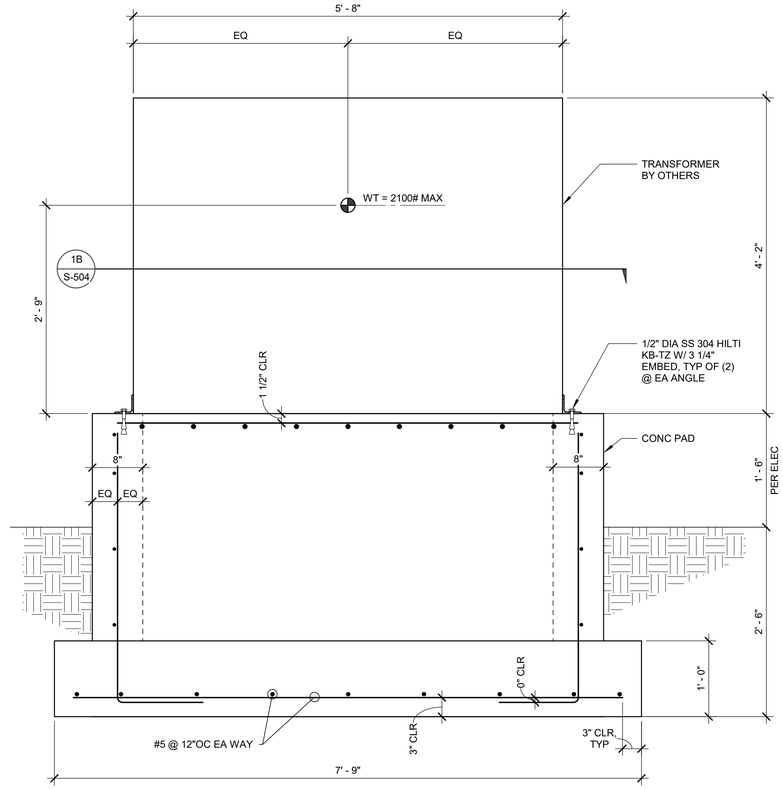
1. DESIGN OF RACK, RACK POST, AND POST EMBEDMENT INTO FOUNDATION BY RACK VENDOR AND/OR RACK SUBCONTRACTOR.



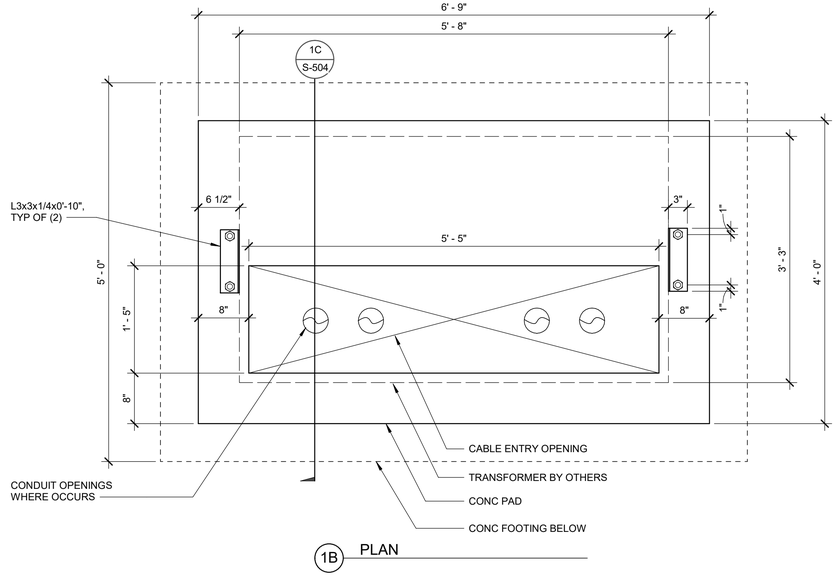
NOTES:

1. SPACE CONDUIT SLEEVES @ 3x SLEEVE DIAMETER. COORDINATE SLEEVE LOCATIONS WITH REINFORCING STEEL. DO NOT CUT OR INTERRUPT REINFORCEMENT.
2. CONCRETE FOUNDATION AND PAD DIMENSIONS BASED ON SIZE OF TRANSFORMER UNIT AS COORDINATED WITH EQUIPMENT VENDOR. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

1C SECTION



1A SECTION



1B PLAN

2 CONTROL RACK POLE FOOTING DETAIL

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

1 TRANSFORMER PAD AND ANCHORAGE DETAIL

SCALE : 1" = 1'-0"

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JOINT BASE ANDREWS NAVAL AIR FACILITY CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

CONCRETE DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13132554
SHEET 209 OF 212

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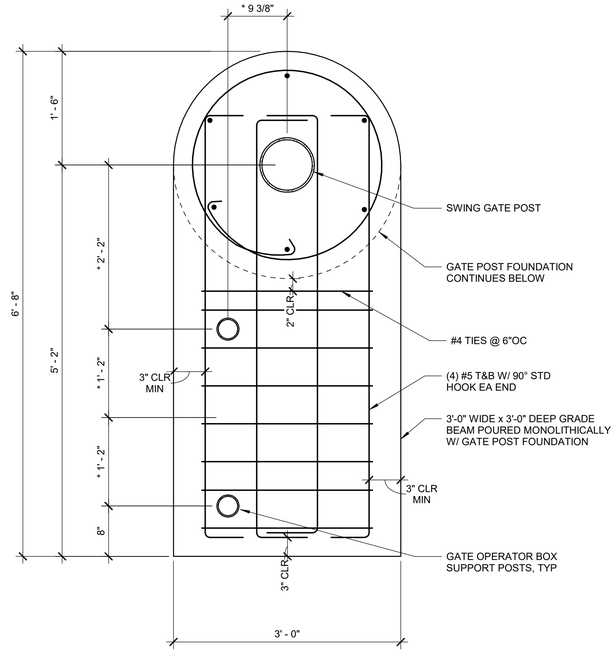
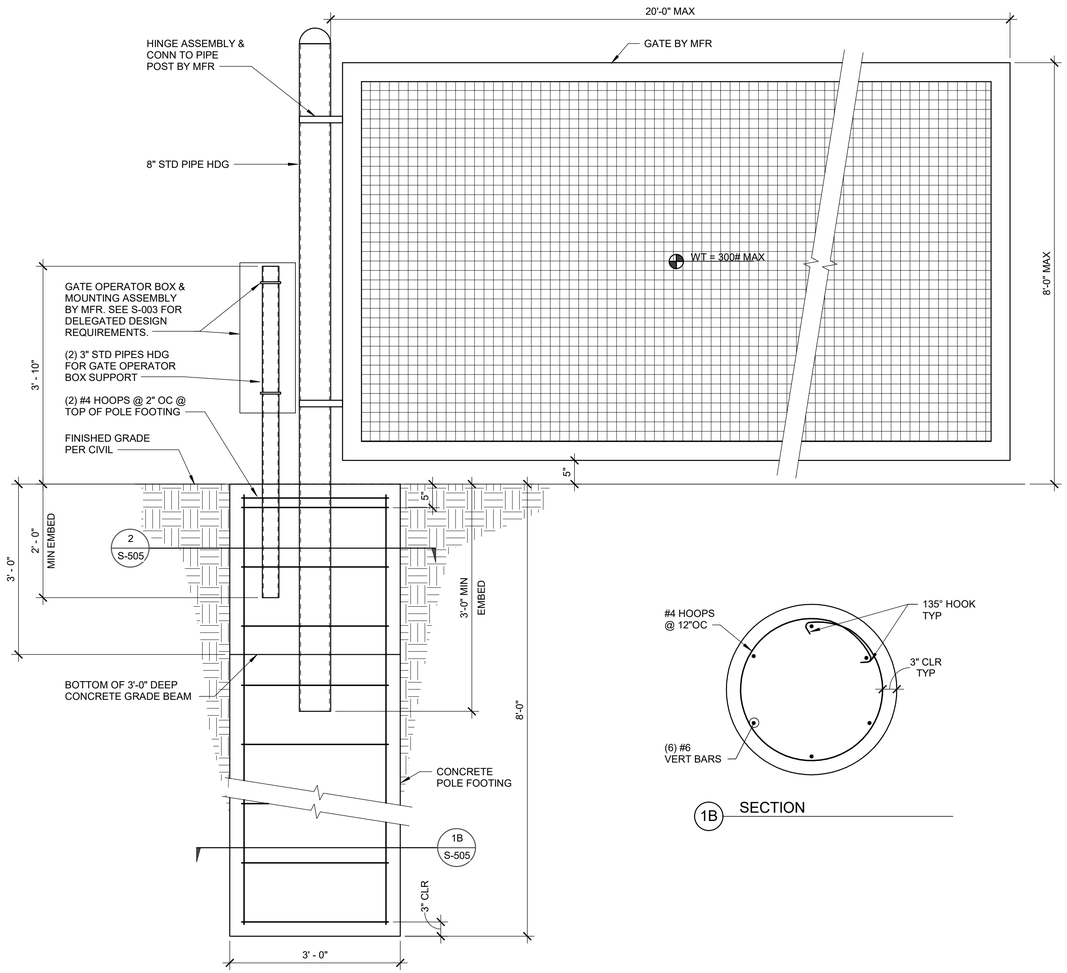


NOTES:

1. *DIMENSION PER MANUFACTURER. VERIFY PRIOR TO FABRICATION AND CONSTRUCTION.
2. FOR BALANCE OF INFO SEE DETAIL 1/S-505.

2 MOTORIZED SWING GATE FOOTING - PLAN VIEW

SCALE : 1" = 1'-0"



1B SECTION

1 MOTORIZED SWING GATE POLE FOOTING DETAIL

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

SYM	DESCRIPTION	DATE	APPR
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P-3002 RELOCATE HAZARDOUS CARGO PAD AND EOD PROFICIENCY RANGE

CONCRETE DETAILS

SCALE: AS NOTED

EPROJECT NO.: 1396650

CONSTR. CONTR. NO.
N40080-15-D-0452

NAVFAC DRAWING NO.
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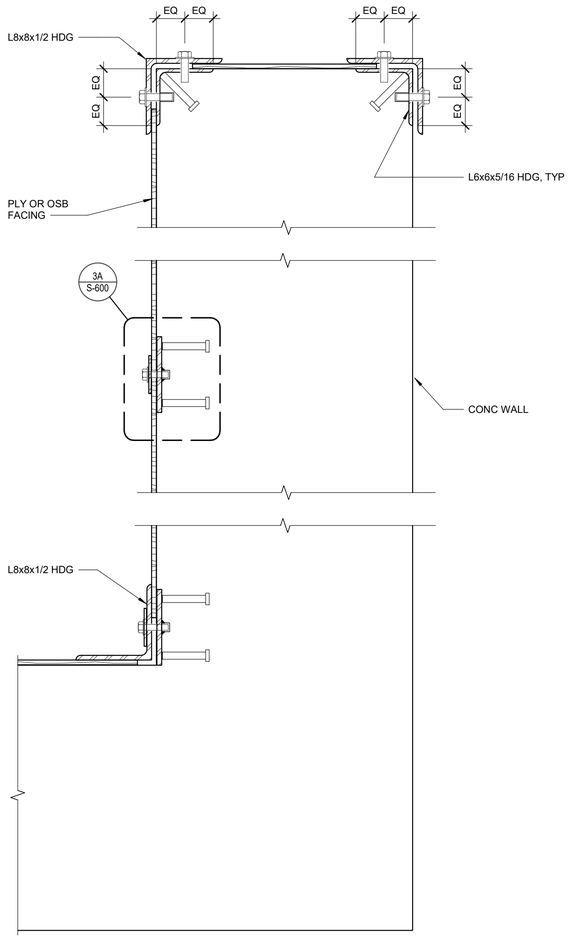
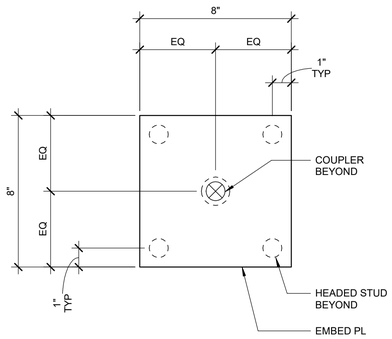
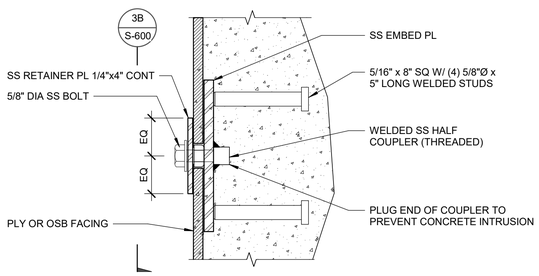


2 CORNER DETAIL - PLAN VIEW

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



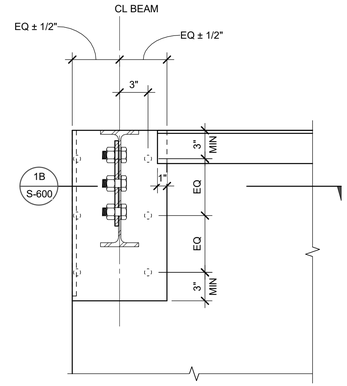
3B EMBED ELEVATION



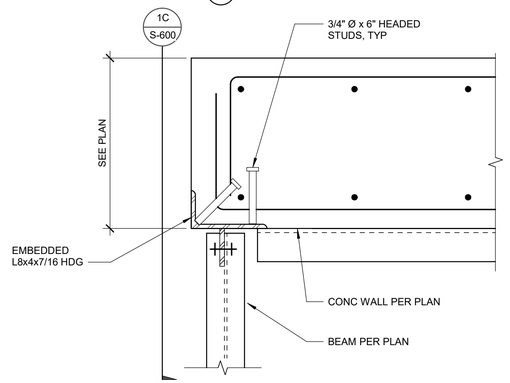
3A PLAN SECTION

3 PLYWOOD FACING CONNECTION ASSEMBLY

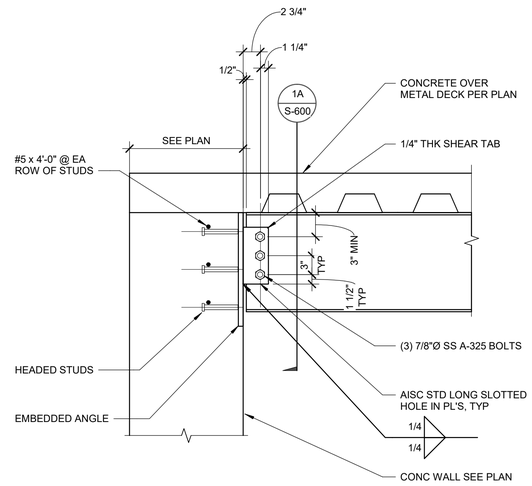
SCALE : 3" = 1'-0"



1A SECTION



1B SECTION



1C ELEVATION

NOTE:
USE A572-GR50 STEEL FOR SHEAR

1 EMBED PLATE CONNECTION DETAIL

SCALE : 1" = 1'-0"

SYM	DESCRIPTION	DATE	APPR
0	ISSUE FOR CONSTRUCTION	09/26/2022	

NAVFAC

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FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES Designer | DRW Author | CHK Checker

PM/DM

BRANCH MANAGER

CHIEF ENG/ARCH

FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
WASHINGTON NAVY YARD

NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
WASHINGTON DC

JOINT BASE ANDREWS NAVAL AIR FACILITY
CAMP SPRINGS, MD

P-3002 RELOCATE HAZARDOUS CARGO
PAD AND EOD PROFICIENCY RANGE

TYPICAL STEEL DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1396650
CONSTR. CONTR. NO. N40080-15-D-0452
NAVFAC DRAWING NO. 13132556
SHEET 211 OF 212

S-600

DRAWFORM REVISION: 06 APRIL 2017

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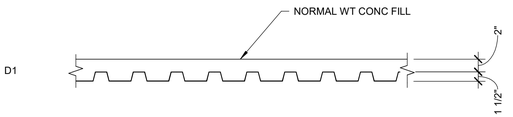
KPFF Project # 1900015-22

MARK	STEEL DECK TYPE	GAGE	TOTAL THICKNESS (t)	CONCRETE TYPE	REINFORCING	REINFORCING				MAX. UNSHORED SPAN			ADDITIONAL DOWEL AT CONSTRUCTION JOINT PER DETAIL
						END	INTERMEDIATE	SEAM	MARGINAL	SINGLE SPAN	DOUBLE SPAN	TRIPLE SPAN	
D1	TYPE B	16	3 1/2"	f'c = 4,500 PSI NORMAL WT	6X6 - W4.0XW4.0	3/4" Ø PUDDLE WELD @ 12" OC	3/4" Ø PUDDLE WELD @ 12" OC	BUTTON PUNCH @ 24" OC	3/4" Ø PUDDLE WELD @ 12" OC	9'-6"	-	-	-

NOTES:

1. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. SEE TYPICAL CONCRETE DETAILS FOR DEVELOPMENT AND SPLICES OF

D1



1 STEEL DECK SCHEDULE

SCALE : 1" = 1'-0"

SYM	DESCRIPTION	DATE	APPR
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TYPICAL STEEL DECK DETAILS

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SHEET 212 OF 212

S-700

DRAWFORM REVISION: 06 APRIL 2017

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