

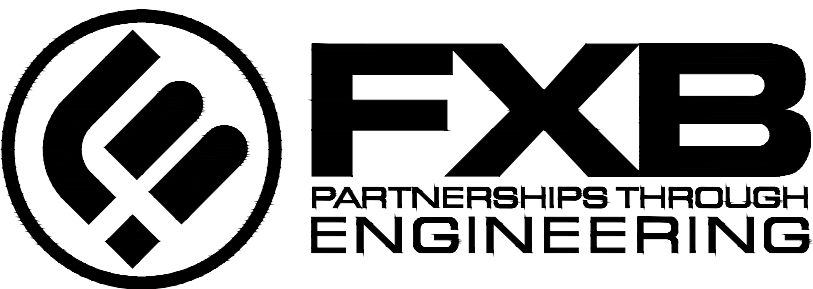
UNDERGROUND ELECTRICAL CONSTRUCTION PROJECT
CHARLOTTE AMALIE
(FEEDER 9A PHASE 1)
ST. THOMAS, USVI

DRAWINGS INCLUDED IN THIS PACKAGE

DRAWING #	DRAWING NAME	ISSUE A: 06.24.2022	ISSUE B: 12.02.2022	ISSUE C: 04.21.2023	ISSUE D: 07.26.2024	ISSUE E: 10.25.2024	ISSUE F: 12.06.2024	ISSUE G: 05.21.2025
		ISSUE FOR EHP REVIEW	ISSUE FOR FEMA REVIEW (75%)	ISSUE FOR 100% REVIEW	ISSUE FOR BID REVIEW	ISSUE FOR FINAL BID REVIEW	ISSUE FOR BID	ADDENDUM TO ISSUE FOR BID
GENERAL								
ST-20131-9A-G-100	GENERAL CONSTRUCTION NOTES & ABBREVIATIONS	○	○	○	○	○	○	●
ST-20131-9A-G-101	GENERAL CONSTRUCTION DETAILS	○	○	○	○	○	○	
ELECTRICAL								
STT-20131-9A-E-100	ELECTRICAL DETAILS AND SCHEDULES	○	○	○	○	○	○	●
STT-20131-9A-E-101	STANDARD MANHOLE DETAILS		○	○	○	○	○	
STT-20131-9A-E-102	TRANSFORMER DETAILS		○	○	○	○	○	
STT-20131-9A-E-103	SWITCHGEAR / SECTIONALIZING CABINET PAD DETAILS & HANDHOLE DETAILS		○	○	○	○	○	
STT-20131-9A-E-103	DUCT BANK DETAILS		○	○	○	○	○	
STT-20131-9A-E-104	GROUNDING DETAILS	○	○	○	○	○	○	
ST-20131-9A-E-200	ONE LINE DIAGRAM (FEEDER 9A MAIN FEEDER, PHASE 1)	○	○	○	○	○	○	
ST-20131-9A-E-201	ONE LINE DIAGRAM (FEEDER 9A LATERAL FEEDERS)	○	○	○	○	○	○	
ST-20131-9A-E-300	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-301	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-302	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-303	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-304	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-305	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-306	FEEDER 9A DUCT BANK PLAN	○	○	○	○	○	○	
ST-20131-9A-E-400	ELECTRICAL EQUIPMENT AND ACCESSORIES SCHEDULES	○			○	○	○	●
ST-20131-9A-E-401	DUCT BANK AND CABLE, AND MISC. SCHEDULES				○	○	○	
ST-20131-9A-E-500	ENLARGED PLANS FEEDER 9A	○			○	○	○	
ST-20131-9A-E-501	ENLARGED PLANS FEEDER 9A	○	○	○	○	○	○	
ST-20131-9A-E-502	ENLARGED PLANS FEEDER 9A			○	○	○	○	
ST-20131-9A-E-503	ENLARGED PLANS FEEDER 9A			○	○	○	○	
ST-20131-9A-E-504	ENLARGED PLANS FEEDER 9A			○	○	○	○	
ST-20131-9A-E-600	DUCT BANK PROFILES				○	○	○	
TRAFFIC CONTROL								
ST-20131-9A-TC-100	TRAFFIC CONTROL DETAILS	○	○		○	○	○	
ST-20131-9A-TC-101	TRAFFIC CONTROL SYMBOLS & DETAILS	○	○		○	○	○	

ENGINEER / PROJECT MANAGER:

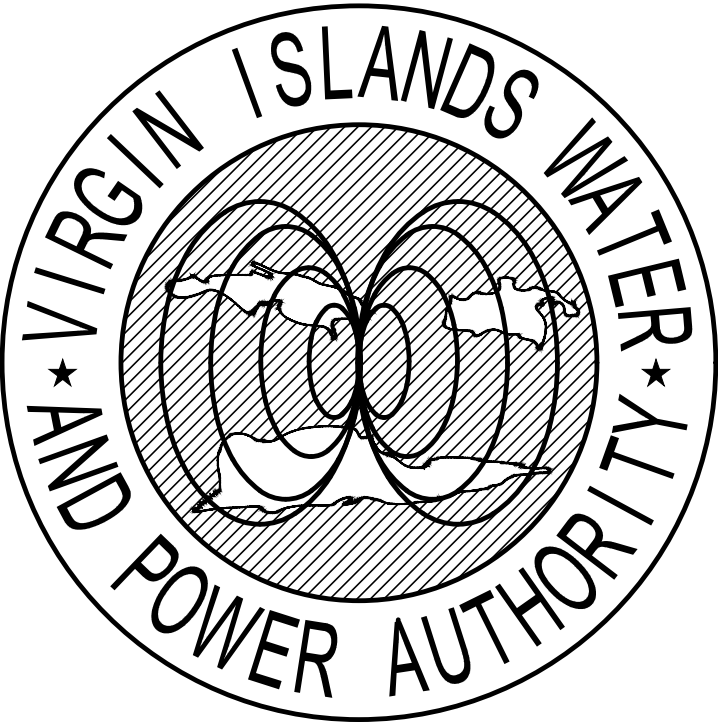
OWNER:



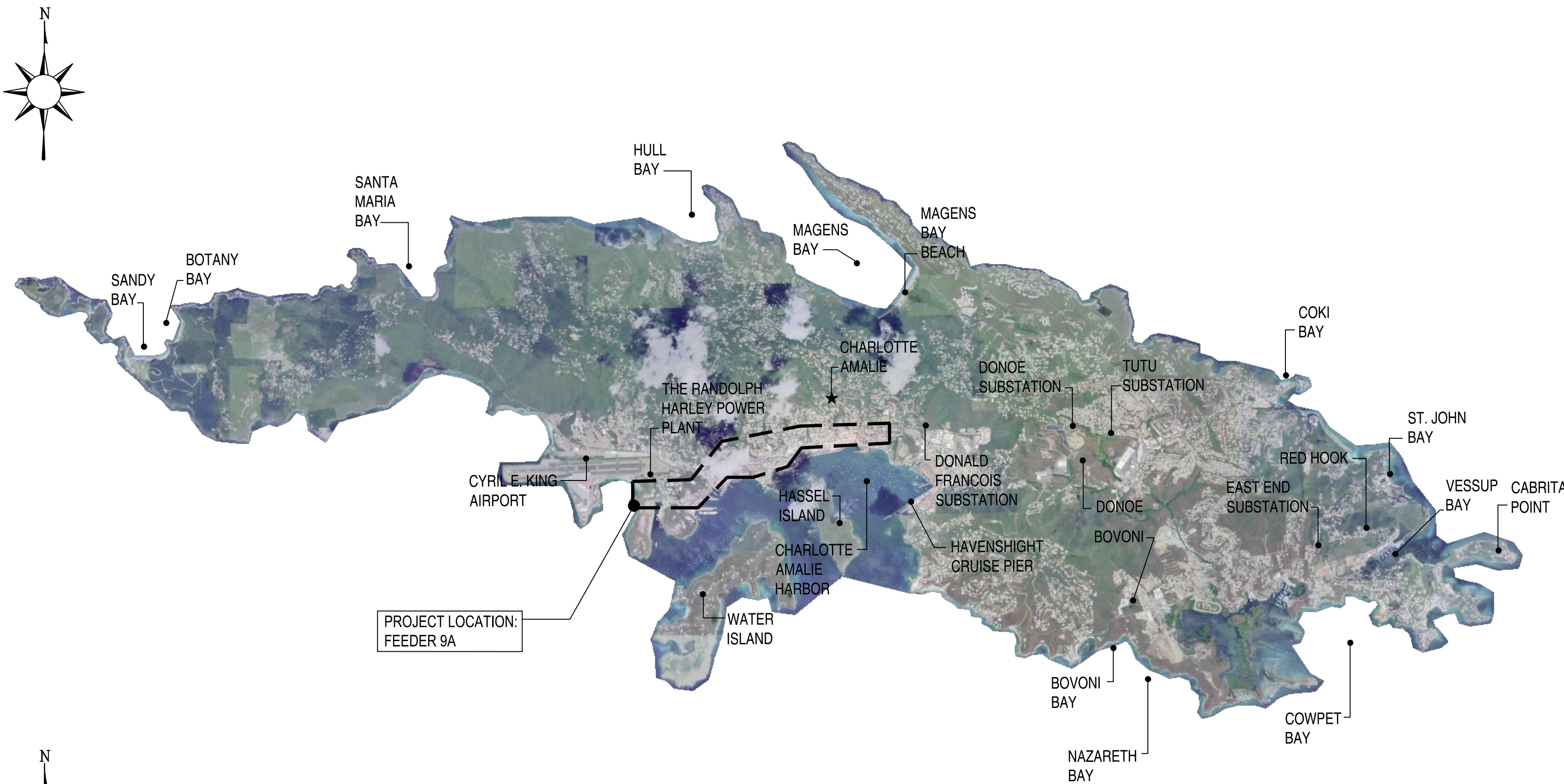
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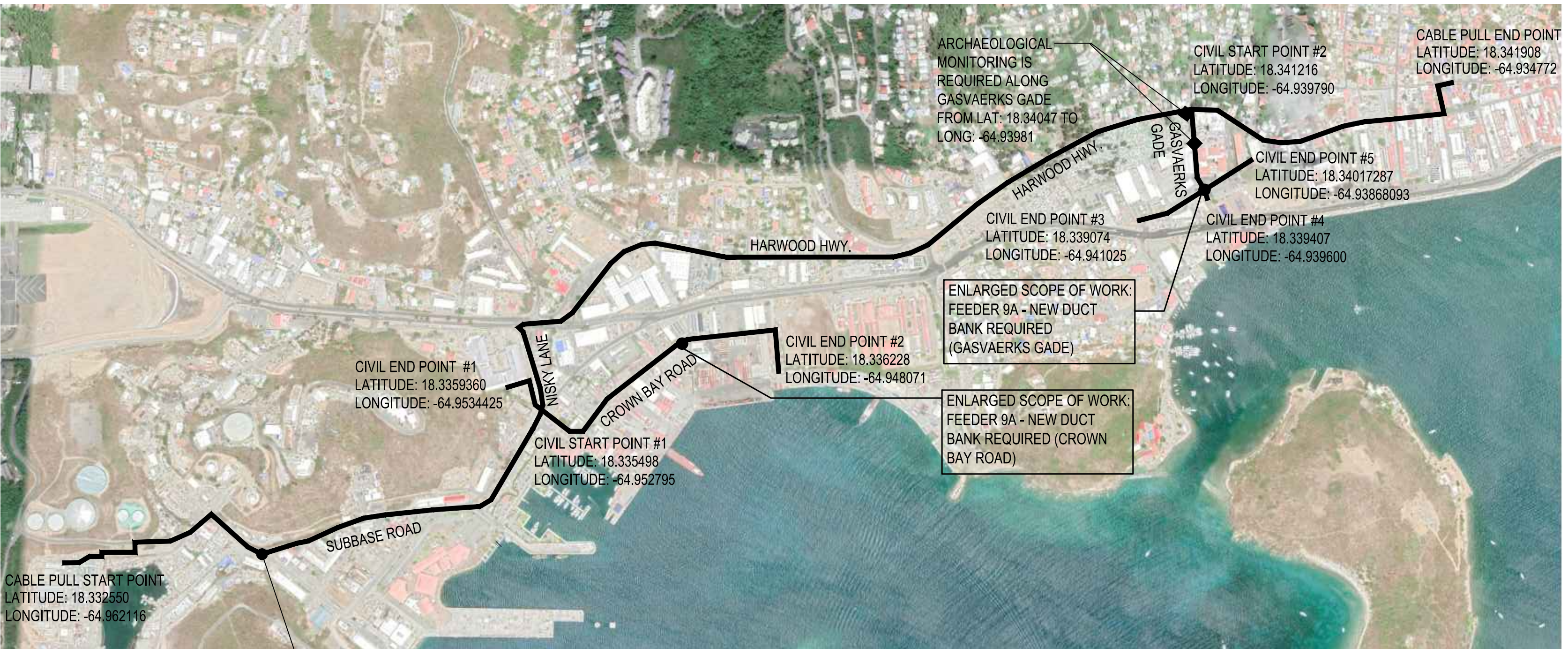
Virgin Islands Water &
Power Authority St. Thomas
U.S. Virgin Islands



PROJECT LOCATION MAP:
FEEDER 9A



ENLARGED PROJECT
LOCATION MAP:
FEEDER 9A - PHASE 1



ENLARGED PROJECT
LOCATION MAP:
FEEDER 9A - PHASE 2
(FOR REFERENE ONLY:
NOT IN CONTRACT)



ABBREVIATIONS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	AMPERES	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISH FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISH GRADE	KMIL	THOUSAND CIRCULAR MILS
AHU	AIR HANDLING UNIT	MCP	MOTOR CIRCUIT PROTECTOR
AL	ALUMINUM	MSC	MISCELLANEOUS
ARCH	ARCHITECT	ML	MAIN LUGS ONLY
ATC	AIR TERMINAL CHAMBER	(N)	NEW
ATS	AUTOMATIC TRANSFER SWITCH	N.C.	NORMALLY CLOSED
AWG	AMERICAN WIRE GAUGE	N.O.	NORMALLY OPEN
BL	BASIC IMPULSE LEVEL	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	NFSS	NON-FUSED SAFETY SWITCH
C	CONDUIT – RACEWAY	NGR	NEUTRAL GROUNDING RESISTOR
CC1	CLOSE COIL 1	NL	NIGHT LIGHT
CKT	CIRCUIT	NTS	NOT TO SCALE
C/L	CENTERLINE	P	POLE
COL	COLUMN	(PH1)	PHASE 1
CU	COPPER	(PH2)	PHASE 2
C/B	CIRCUIT BREAKER	PNL	PANEL OR PANELBOARD
CT	CURRENT TRANSFORMER	PVC	POLYVINYL CHLORIDE
DWG	DRAWING	PWR	POWER
DN	DOWN	PT	POTENTIAL TRANSFORMER
EC	ELECTRICAL CONTRACTOR	PRIM	PRIMARY
ECB	ENCLOSED CIRCUIT BREAKER	(R)	TO BE REMOVED
EM	EMERGENCY	RTU	ROOF TOP UNIT
(E)	EXISTING TO REMAIN	SA	SURGE ARRESTER
F	FUSE	SEC	SECONDARY
FA	FIRE ALARM	SP	SPARE
FAP	FIRE ALARM ANNUNCIATOR PANEL	SW	SWITCH
FACP	FIRE ALARM CONTROL PANEL	TC1	TRIP COIL 1
FBO	FURNISHED BY OTHERS	TC2	TRIP COIL 2
F/S	FUSED SWITCH	TEL	TELEPHONE
FT	FEET	V	VOLT
FU	FUSES	W	WIRE
G	GROUND OR GROUNDING	WP	WEATHERPROOF
GRD	GROUND OR GROUNDING	WG	WITH WIREGUARD
KVA	KILOVOLT AMPERES	TRANSF	TRANSFORMER
KW	KILOWATTS	Ø	PHASE
LTG	LIGHTING	ΣZ	TOTAL IMPEDANCE
		VB	VISIBLE BREAK
		VFI	VACUUM FAULT INTERRUPTER

METHOD OF PROCEDURE ("M.O.P.")

WHERE CALLED FOR THROUGHOUT THE CONSTRUCTION DOCUMENTS, OR AS REQUESTED THROUGH THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL SUBMIT A M.O.P. FOR ANY ACTIVITY DEEMED BY THE OWNER/ENGINEER TO POTENTIALLY IMPACT UTILITY CUSTOMER SERVICE. THE CONTRACTOR TO RELEASE M.O.P. TO THE ENGINEER FOR REVIEW AND COMMENT A MINIMUM OF TWO WEEKS PRIOR TO THE SCHEDULED ACTIVITY. THE M.O.P. SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO:

1. SHORT DESCRIPTION OF ACTIVITY
2. PROPOSED SCHEDULE/ CALENDAR DAY(S) OF ACTIVITY
3. ESTIMATED START AND END TIME
4. IDENTIFICATION AND REQUIRED ACTION FOR CRITICAL PATH MILESTONES, INCLUDING OWNER DEPENDENCIES.
5. LENGTH OF ANY PLANNED DOWNTIME OF LIVE POWER SYSTEMS.
6. STEP BY STEP PROCEDURE WITH ITEMIZED TIME ESTIMATE FOR EACH MAJOR STEP.
7. EMERGENCY BACK OUT PROCEDURE WHERE APPLICABLE.
8. SAFETY EQUIPMENT AND/OR ANY OTHER SPECIAL SAFETY MEASURES TO BE TAKEN.
9. IDENTIFY LEAD PERSONNEL INVOLVED, INCLUDING 24 HR. CONTACT INFORMATION.
10. IDENTIFY REQUIRED TRADES TO PARTICIPATE AND TASKS TO BE PERFORMED.

ELECTRICAL TESTING REQUIREMENTS

CONTRACTOR SHALL PERFORM ELECTRICAL ACCEPTANCE TESTING OR NEW EQUIPMENT AND MATERIALS AS DESCRIBED BELOW. NOTE THAT TESTING IS NOT REQUIRED FOR EXISTING EQUIPMENT AND COMPONENTS. IF QUALIFIED, THE CONTRACTOR MAY SELF PERFORM ALL MV CABLE AND LV CABLE TESTING.

ACCEPTANCE TESTING- RESPONSIBILITIES

SWITCHGEAR (REFERENCE: ANSI/NETA ATS–2021 SECTION 7.1)

1. PROVIDE VISUAL AND MECHANICAL INSPECTION IN ACCORDANCE WITH 7.1.A
2. PROVIDE ELECTRICAL TESTS IN ACCORDANCE WITH 7.1.B

MEDIUM VOLTAGE CABLES (REFERENCE: ANSI/NETA ATS–2021 SECTION 7.3.3)

1. PROVIDE VISUAL AND MECHANICAL INSPECTION IN ACCORDANCE WITH 7.3.3.A
2. PERFORM ELECTRICAL TESTS IN ACCORDANCE WITH ANSI/NETA ATS–2021 SECTION 7.3.3.B AND IEEE STANDARD 400.2

TRANSFORMERS, LIQUID FILLED (REFERENCE: ANSI/NETA ATS–2021 SECTION 7.2.2)

1. PROVIDE VISUAL AND MECHANICAL INSPECTION IN ACCORDANCE WITH 7.2.2.A
2. PERFORM ELECTRICAL TESTS IN ACCORDANCE WITH ANSI/NETA ATS–2021 SECTION 7.2.2.B AND IEEE STANDARD 400.2
3. REFER TO SPECIFICATION 260800.01 "ELECTRICAL INSPECTION & TESTING" FOR ADDITIONAL INFORMATION.

CABLES, LOW VOLTAGE, 600–VOLT MAXIMUM (REFERENCE: ANSI/NETA ATS–2021 SECTION 7.2.2)

1. PROVIDE VISUAL AND MECHANICAL INSPECTION IN ACCORDANCE WITH 7.2.2.A
2. PERFORM ELECTRICAL TESTS IN ACCORDANCE WITH ANSI/NETA ATS–2021 SECTION 7.3.2.B AND IEEE STANDARD 400.2

OWNER FURNISHED EQUIPMENT:

THIS PROJECT INCLUDES OWNER FURNISHED EQUIPMENT. REFER TO ELECTRICAL EQUIPMENT SCHEDULE ON DRAWING #E400. FOR ALL OWNER FURNISHED EQUIPMENT, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:

1. RECEVE EQUIPMENT AT THE HOME DEPOT YARD SITE, IN ST. THOMAS, UNLESS SPECIFICALLY NOTED OTHERWISE.
2. TRANSPORT EQUIPMENT, AS NEEDED, TO THE JOB SITE.
3. OFFLOAD EQUIPMENT AND SET IN PLACE IN ITS FINAL LOCATION.
4. ANCHOR EQUIPMENT IN PLACE IN ACCORDANCE WITH DRAWINGS & MANUFACTURER'S INSTALLATION INSTRUCTIONS/SHOP DRAWINGS.
5. INSTALL ANY COMPONENTS THAT SHIPPED LOOSE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. PROVIDE VISUAL INSPECTION AND TESTS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
7. PROVIDE SUPPORT DURING START UP & TESTING SUCH AS RE-TORQUING, PHASE ROTATION CHECK, OPEN TRANSFORMER & SWITCHGEAR DOORS, ETC.

GENERAL CONSTRUCTION NOTES

GENERAL CONSTRUCTION NOTES:

1. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE LATEST ADOPTED VERSION OF ALL RELEVANT CODES, REGULATIONS AND REQUIREMENTS INCLUDING FEMA, HUD, IBC, OSHA, NESC, NFPA 70, DFW, VISHPO, DPMR, CZM, FISH & WILDLIFE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ON SITE SAFETY AND SECURITY OF EMPLOYEES, SUBCONTRACTORS, OUTSIDE CONSULTANTS, OWNERS REPRESENTATIVE, AND THE PUBLIC, FROM MOBILIZATION THRU CONTRACT CLOSEOUT. ALL WORK SHALL BE IN COMPLETE COMPLIANCE WITH THE LATEST OSHA REQUIREMENTS, AND ALL LOCAL AND FEDERAL AGENCIES.
3. THE CONTRACTOR MUST MAINTAIN A FULL SIZE SET OF THE LATEST SET OF WORKING DRAWINGS, AND SPECIFICATIONS, ON THE PROJECT JOBSITE AT ALL TIMES.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES, AND DEVICES AND ROAD CLOSURE PERMITS (WHERE REQUIRED) AND ASSOCIATED COSTS. THE CONTRACTOR SHALL REFER TO THE TRAFFIC CONTROL DRAWINGS AND SPECIFICATIONS CONTAINED WITHIN THE CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

COORDINATION/PROTECTION OF EXISTING UTILITIES AND STRUCTURES:

1. THE CONTRACT DRAWINGS INDICATE GENERAL LOCATIONS OF EXISTING UTILITIES BASED ON AVAILABLE DRAWINGS AND NON-INVASIVE FIELD SURVEYS. HOWEVER, PRECISE LOCATIONS, SIZES AND TYPES OF UTILITIES HAVE NOT BEEN CONFIRMED. THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR BY MEANS OF A SUBSURFACE UTILITY ENGINEERING (SUE) STUDY, AND CLOSE COORDINATION WITH DPW, VINCN, LIBERTY, AND OTHER COMMUNICATIONS CARRIERS, VIWAPA'S POWER & WATER DEPARTMENT, THE DEPARTMENT OF PUBLIC WORKS, AND WASTE MANAGEMENT. REFER TO SUE STUDY NOTES BELOW, AND PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL AVOID INTERFERENCE WITH EXISTING UTILITIES TO THE EXTENT THAT IS PRACTICAL. IF IT IS DETERMINED BY THE CONTRACTOR THAT AN EXISTING UTILITY MUST BE REWORKED/REROUTED IN ORDER TO ACCOMMODATE THE NEW WORK, WRITTEN APPROVAL FROM VIWAPA, THE PROJECT MANAGEMENT COMPANY, AND THE OWNER OF THE EXISTING UTILITY IS REQUIRED. PRIOR TO PERFORMING ANY OF THE RELOCATION WORK, ALL REROUTED UTILITIES MUST BE RECONNECTED AND PLACED BACK INTO SERVICE.
3. THE CONTRACTOR IS RESPONSIBLE TO PROTECT EXISTING UTILITIES, AND STRUCTURES, PRIOR TO PERFORMING EXCAVATION. WHERE NEWLY PROPOSED DUCT BANKS ARE TO CROSS BELOW EXISTING WATER, SANITARY, COMMUNICATIONS DUCTS, ELECTRIC DUCTS, OR STORM SEWER PIPING OR DRAINAGE, THE EXISTING UTILITY MUST BE PROPERLY PROTECTED AND SUPPORTED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE UTILITY, AND UTILIZING MEANS AND METHODS AS APPROVED BY THE PROJECT MANAGEMENT TEAM.
4. WHERE POSSIBLE AND PRACTICAL, ALL NEW ELECTRICAL DUCT BANKS RUNS SHALL MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 5'-0" AND VERTICAL SEPARATION OF 18" FROM FROM POTABLE WATER LINES. MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF 2'-0" AND VERTICAL SEPARATION OF 12" FROM ALL OTHER UTILITIES. WHERE A MINIMUM OF 12" VERTICAL SEPARATION CANNOT BE MAINTAINED, CONCRETE ENCASEMENT OF THE PROPOSED DUCT BANK IS REQUIRED AND WRITTEN APPROVAL OF THE PROJECT MANAGER IS REQUIRED.
5. WHERE NECESSARY, THE CONTRACTOR SHALL UTILIZE TEMPORARY RETAINING STRUCTURES TO PROTECT ADJACENT STRUCTURES, AND UTILITIES DURING CONSTRUCTION.
6. ALL EXCAVATION IN CLOSE PROXIMITY TO EXISTING UTILITIES SHALL BE PERFORMED BY HAND IN ORDER TO DETERMINE THE PRECISE UTILITY LOCATION, PRIOR TO MACHINE EXCAVATION.
7. ANY EXISTING UTILITIES THAT ARE DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PROCESS SHALL BE REPAIRED AND FULLY RESTORED AND PLACED BACK INTO SERVICE, AT THE CONTRACTORS EXPENSE. ALL REPAIRS SHALL BE CLOSELY COORDINATED WITH THE APPROPRIATE UTILITY COMPANY AND THE PROJECT MANAGEMENT TEAM. ALL DAMAGED UTILITIES MUST BE RESTORED AND PLACED BACK INTO SERVICE AS QUICKLY AS POSSIBLE IN ORDER TO MITIGATE THE DURATION OF THE INTERRUPTION.

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL EQUIPMENT AND MATERIAL SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.
2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH LATEST VERSION OF THE NESC, NEC AND VIWAPA STANDARDS.
3. ALL ELECTRICAL EQUIPMENT, INCLUDING, BUT NOT LIMITED TO CONDUIT, WIRE, BOXES, AND FITTINGS, SHALL BE NEW AND FREE OF DEFECTS, SHALL BEAR THE UL LABEL, AND SHALL MEET NEMA AND ANSI STANDARDS.
4. ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF SUBSTANTIAL COMPLETION OF WORK UNLESS NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS.
5. ELECTRICAL CONTRACTOR MUST SUBMIT A METHOD OF PROCEDURE "MOP" FOR ALL POWER TRANSITIONS AND FEEDER/EQUIPMENT SHUTDOWNS, INTERCEPTION OF EXISTING CONDUITS, BREAKING INTO EXISTING ELECTRICAL MANHOLES, RETEEDING OF EXISTING PAD MOUNTED EQUIPMENT, AND WHERE SPECIFICALLY CALLED FOR ON THE CONTRACT DRAWINGS. MOPS MUST BE REVIEWED & APPROVED BY THE ENGINEER AND VIWAPA. REFER TO "MOP" REQUIREMENTS ON THIS DRAWING.

EARTHWORK

1. THE CONTRACTOR SHALL ENSURE THAT ALL TEMPORARY EROSION & SEDIMENT CONTROL, DUST CONTROL MEASURES, AND POLLUTION CONTROL MEASURES ARE IN PLACE PRIOR TO PERFORMING ANY EXCAVATION WORK. ALL TEMPORARY CONTROLS MEANS AND METHODS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND ALL LOCAL AND FEDERAL AGENCY REQUIREMENTS.
2. THE CONTRACTOR SHALL ENSURE THAT ALL TEMPORARY TREE AND PLANT PROTECTION MEASURES ARE IN PLACE PRIOR TO PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL SUBMIT A TREE PROTECTION PLAN IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND EHP REQUIREMENTS, FOR REVIEW AND APPROVAL.
3. THE CONTRACTOR SHALL LOCATE AND MARK OUT ALL PROPOSED MANHOLES & HANDHOLES, AND MARK OUT ALL PROPOSED DUCT BANK STATION NUMBERS (EVERY 50'-0") PRIOR TO PERFORMING ANY EXCAVATION WORK. THE MARKED LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE PROJECT MANAGEMENT TEAM PRIOR TO EXCAVATION.

RECORD CONTRACT DRAWINGS

REFER TO GENERAL SPECIFICATION 01000, SECTION 19 FOR DETAILED REQUIREMENTS FOR "RECORD" DRAWINGS, AND REFER TO A BRIEF SUMMARY BELOW:

1. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL LAND SURVEYOR OR CIVIL ENGINEER, CURRENTLY LICENSED IN THE USA, TO PROVIDE ONSITE VERIFICATION AND CONFIRMATION OF "RECORD" CIVIL CONDITIONS FOR THIS PROJECT. THESE SERVICES SHALL BE IN ACCORDANCE WITH ASCE STANDARD 75--22 "STANDARD GUIDELINE FOR RECORDING AND EXCHANGING UTILITY INFRASTRUCTURE DATA."
2. THE "AS BUILT" / "RECORD" DRAWINGS SHALL DOCUMENT ALL DEVIATIONS TO THE CONTRACT DRAWINGS INCLUDING BUT NOT LIMITED TO DUCT BANK SIZING & ROUTING MODIFICATIONS, MANHOLE AND HANDHOLE LOCATION MODIFICATIONS, EQUIPMENT LOCATION MODIFICATIONS, ADJUSTMENTS TO ALL ELECTRICAL SCHEDULES TO INDICATE ALL DEVIATIONS, ADJUSTMENT TO THE DUCT BANK PLAN & PROFILE DRAWINGS TO INDICATE ALL DEVIATIONS, AND ALL KNOWN UTILITY LOCATIONS (AND DEPTHS), MODIFICATIONS TO THE ENLARGED PLANS TO INDICATE ALL DEVIATIONS, AND UPDATES TO ALL GPS COORDINATES.
3. THE "AS BUILT" / "RECORD" DRAWINGS SHALL INCLUDE GPS COORDINATES AND ELEVATIONS (WHERE APPROPRIATE) OF ALL PAD MOUNTED EQUIPMENT, MANHOLES, HANDHOLES, DUCT BANKS, AND PEDESTAL MOUNTED EQUIPMENT.
4. THE "AS BUILT" / "RECORD" DRAWINGS SHALL BE SUBMITTED IN HARD COPY FORMAT AND DIGITAL/ELECTRICAL FORMAT.
5. THE "AS BUILT" / "RECORD" DRAWINGS MUST BE CERTIFIED (REFER TO SPECIFICATION SECTION 01000 FOR DETAILS).

EXISTING MANHOLE EVALUATION AND IMPROVEMENTS

THIS PROJECT INCLUDES PULLING NEW MEDIUM VOLTAGE CABLES THROUGH EXISTING MANHOLES. UNDER THIS SCOPE OF WORK, THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN EVALUATION OF ALL EXISTING ELECTRIC MANHOLES INDICATED ON THE CONTRACT DRAWINGS, AND PROVIDE IMPROVEMENTS AS INDICATED BELOW:

1. PUMP OUT THE WATER IN EACH MANHOLE, PRIOR TO PERFORMING THE MANHOLE INSPECTION.
2. REMOVE DEBRIS, MUD, AND VEGETATION FROM THE MANHOLE INTERIOR, AND FROM THE EXISTING CABLES (MEDIUM VOLTAGE, FIBER/COMMUNICATIONS AND GROUNDING CABLES).
3. IDENTIFY ALL CRACKS, VOIDS, JOINTS AND DAMAGED AREAS.
4. CLEAN AND WIDEN CRACKS AS NECESSARY, AND APPLY AN EPOXY (OR EQUIVALENT) SEALANT.
5. SEAL ALL EXISTING JOINTS WITH A HIGH PERFORMANCE JOINT SEALANT.
6. SEAL ALL CONDUIT PENETRATIONS WITH WATERTIGHT/FIRE RESISTANT/RODENT PROOF DUCT SEALING SYSTEM (NOFIRNO OR APPROVED EQUAL).
7. APPLY A WATERPROOFING MEMBRANE (PROVIDE SUBMITAL FOR APPROVAL) TO THE INTERIOR WALLS AND THE FLOOR OF THE MANHOLE.
8. PROVIDE A VISUAL INSPECTION OF THE GROUNDING & BONDING SYSTEM WITHIN EACH MANHOLE, AND PROVIDE AN ASSESSMENT. THE ASSESSMENT SHALL NOTE ANY EXISTING DEFICIENCIES, AND RECOMMENDATIONS FOR CORRECTIVE ACTION.
9. PROVIDE A VISUAL INSPECTION OF THE EXISTING STANCHIONS, RACK ARMS AND ASSOCIATED HARDWARE AND PROVIDE RECOMMENDATIONS FOR CORRECTIVE ACTION.

SOIL DATA

A SOIL SURVEY HAS NOT BEEN CONDUCTED BY VIWAPA IN THE AREA OF THIS PROJECT'S SCOPE. IN LIEU OF THE ABOVE, THE FOLLOWING PUBLIC DATA HAS BEEN EXTRACTED FROM THE "SOIL SURVEY OF UNITED STATES VIRGIN ISLANDS" (PUBLISHED AS PART OF THE NATIONAL COOPERATIVE SOIL SURVEY, 2000.)

RECORDED SOILS IN THIS PROJECT'S SCOPE	
SOIL MAP UNIT	DESCRIPTION
Ubd – (URBAN LAND)	URBAN LAND IS CLASSIFIED AS AREAS COVERED BY IMPERVIOUS SURFACES LIKE BUILDING, ROAD, AND PARKING LOTS. SMALL PATCHES OF NATURAL SOIL (LAWNS & PARKS, e.g.) SLOPES RANGE FROM 0–20%, OCCASIONALLY UP TO 60%.
Ucc – (URBAN LAND – CINNAMON BAY)	URBAN LAND – CINNAMON BAY IS CLASSIFIED AS AREAS OF DEEP, WELL DRAINED LOAMY SOIL WITH MODERATE PERMEABILITY, AND OCCASIONAL BRIEF FLOODING. SLOPES RANGE FROM 0–12%. DEPTH TO BED ROCK IS 60". TOP SOIL MAY CONSIST OF SMALL STONES.

THE SCOPE OF WORK REQUIRING EXCAVATION WILL BE IN AREAS WHERE THE SOIL IS CLASSIFIED BY THE ABOVE SOIL TYPES. THE CONTRACTOR CAN EXPECT TO WORK MOSTLY WITH DEEP SOIL WITH A STONY TOP LAYER THAT IS BENEATH EXISTING FINISHED GRASSES SUCH AS ASPHALT AND CONCRETE ROADWAY. BED ROCK CAN BE EXPECTED AT 60" BELOW GRADE.

SCHEDULE OF SPECIAL INSPECTIONS

(SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE TABLE BELOW.)

SPECIAL INSPECTION	FREQUENCY	STANDARD
SOILS:		
1. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	PERIODIC	GEOTECHNICAL ENGINEERING REPORT; IBC 1705.6
2. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	PERIODIC	
3. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	CONTINUOUS	
4. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	
CONCRETE:		
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT.	PERIODIC	ACI 318: 3.5, 7.1–7.7
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5B.		AWS D14; ACI 318: 3.5.2
3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE, PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	CONTINUOUS	ACI 318: 8. 1. 3, 21.2.8; IBC 1908.4, 1908.5
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	PERIODIC	ACI 318: 3.8.6, 8.1.3, 21.2.8; IBC 1908.5
5. VERIFYING USE OF REQUIRED DESIGN MIX.	PERIODIC	ACI 318: CH. 4, 5.2–5.4; IBC 1905.
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	CONTINUOUS	ASTM C172; ASTM C31; ACI 318: 5.6, 5.8
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	CONTINUOUS	ACI 318: 5.9, 5.10:
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	ACI 318: 5.11–5.13
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	ACI 318: 6.1.1
ADHESIVE ANCHORS:		
1. DURING PLACEMENT OF ADHESIVE ANCHORS EMBEDDED WITH ADHESIVE (AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS) IN CONCRETE:		
a. SIZE AND EMBEDMENT OF ANCHORS.	CONTINUOUS	
b. ANCHORS INSTALLED PER MANUFACTURERS RECOMMENDATIONS.	CONTINUOUS	

ELECTRICAL SYMBOLS (ONE LINE DIAGRAM)

	TRANSFORMER
	SWITCH, AIR INSULATED UNLESS NOTED OTHERWISE
	FUSED CUTOUT
	FUSE
	SURGE ARRESTER
	CURRENT TRANSFORMER; 3 INDICATES QUANTITY; 600-5A INDICATES PRIMARY/SECONDARY RATINGS
	POTENTIAL TRANSFORMER; 2 INDICATES QUANTITY; 13,200:120V INDICATES PRIMARY/SECONDARY RATINGS
	LIVE LINE INDICATOR
	METER OR MOTOR OPERATOR
	GROUND
	DELTA –CONNECTED WINDING
	WYE–CONNECTED WINDING
	GROUNDWED WYE–CONNECTED WINDING
	DEAD FRONT CABLE TERMINATION/CONNECTION
	PREPARED DEAD FRONT CONNECTION
	LIVE FRONT CABLE TERMINATION/CONNECTION
	PREPARED LIVE FRONT CONNECTION
	ELECTRICAL EQUIPMENT TAG. IDENTIFIED ON EQUIPMENT SCHEDULE
	RACEWAY TAG FOR MEDIUM VOLTAGE FEEDER; IDENTIFIED ON MEDIUM VOLTAGE RACEWAY SCHEDULE
	COLD SHRINK MEDIUM VOLTAGE SPLICE
	GROUNDWED DELTA–CONNECTED WINDING
	VACUUM FAULT INTERRUPTER

SPECIALTY CONSULTANTS

ARCHAEOLOGY CONSULTANT

REFER TO MISCELLANEOUS REQUIREMENTS SPECIFICATION 01005, SECTION 3 AND 4 FOR DETAILED REQUIREMENTS FOR OBTAINING THE SERVICES OF AN ARCHAEOLOGIST, AND REFER TO A BRIEF SUMMARY BELOW:

1. CONTRACTOR SHALL RETAIN THE SERVICES OF AN SOI QUALIFIED ARCHAEOLOGIST TO PREPARE SCOPE OF WORK PLANS FOR FEMA APPROVAL THROUGH VISHPO CONSULTATION.
2. THE ARCHAEOLOGIST SHALL PERFORM ONSITE MONITORING DURING ALL EXCAVATION ACTIVITIES IN THE VICINITY OF THE CEMETARY, AND AS FURTHER DEFINED IN SPECIFICATION 01005, SECTION 4.

ARBORIST CONSULTANT

REFER TO MISCELLANEOUS REQUIREMENTS SPECIFICATION 01005, SECTION 5 AND SECTION 015639 (TEMPORARY TREE AND PLANT PROTECTION) FOR DETAILED REQUIREMENTS FOR OBTAINING THE SERVICES OF AN ARBORIST, AND REFER TO A BRIEF SUMMARY BELOW:

1. CONTRACTOR SHALL RETAIN THE SERVICES OF AN ARBORIST TO IDENTIFY SPECIFIC TREES THAT WILL REQUIRE PROTECTION, DURING ALL EARTHWORK ACTIVITIES.

SUBSURFACE ENGINEERING STUDY

REFER TO MISCELLANEOUS REQUIREMENTS SPECIFICATION 01005, SECTION 6 FOR DETAILED REQUIREMENTS FOR A SUBSURFACE UTILITY ENGINEERING (SUE) STUDY, AND REFER TO A BRIEF SUMMARY BELOW:

1. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL CIVIL ENGINEER, OR LAND SURVEYOR, TO PERFORM AN SUE STUDY TO DETERMINE, AND DOCUMENT THE ACTUAL LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO THE START OF ANY EXCAVATION WORK.
2. THE PROFESSIONAL SHALL BE EXPERIENCED IN PERFORMING SUE STUDIES, AND SHALL BE LICENSED IN THE USVI.
3. THE PROFESSIONAL SHALL PERFORM THE SUE STUDY IN ACCORDANCE WITH ASCE STANDARD 38--22 "STANDARD GUIDELINE FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

Engineer:



5 Christy Drive, Suite 307
Chadds Ford, PA 19317
610.558.3464 office
www.fxbsinc.com

Engineering Excellence Since 1998

Engineers Seal



Peter J. Bonnes
05.21.2025

Client:



Virgin Islands
Water and Power
Authority
U.S. Virgin Islands

Project Name:

Underground Electrical
Construction Project,
Charlotte Amalie
(Feeder 9A Phase 1),
St Thomas, USVI

Issue / Revision:

#	Date	Description
A	06/24/22	Issue for EHP Review
B	12/02/23	Issue for FEMA Review (75%)
C	04/21/24	Issue for 100% Review
D	07/26/24	Issue for Bid Review
E	10/25/24	Issue for Final Bid Review
F	12/06/24	Issue for Bid
G	05/21/25	Addendum To Issue For Bid

Drawn By: BN/NS/BA/CM/CO/PJB

Checked By: PJB

Date: 05.21.2025

Scale: As Noted

Project Number: VIT 20131

Drawing Title:

GENERAL CONSTRUCTION
NOTES
& ABBREVIATIONS

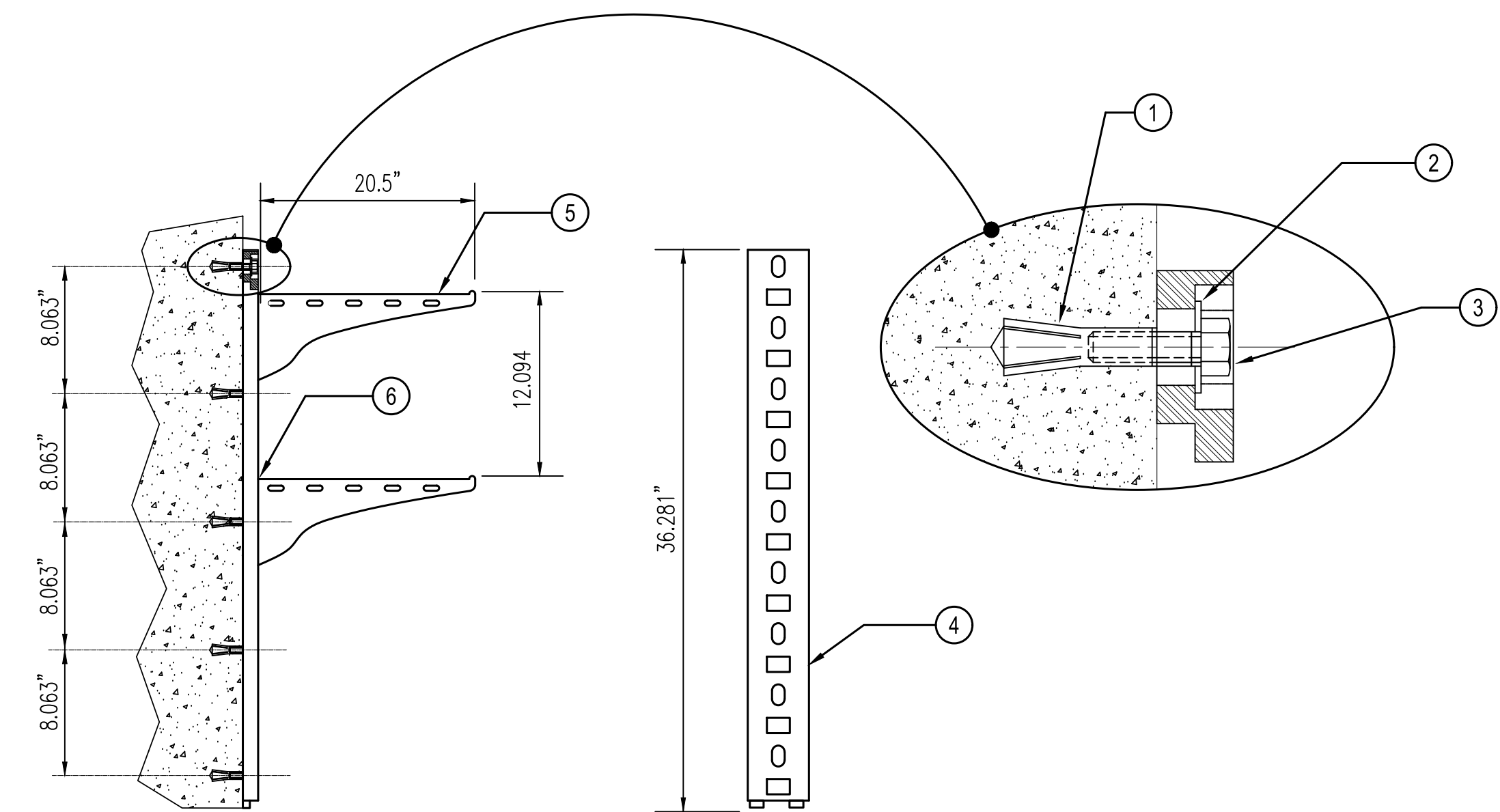
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STT-20131-9A-G-100

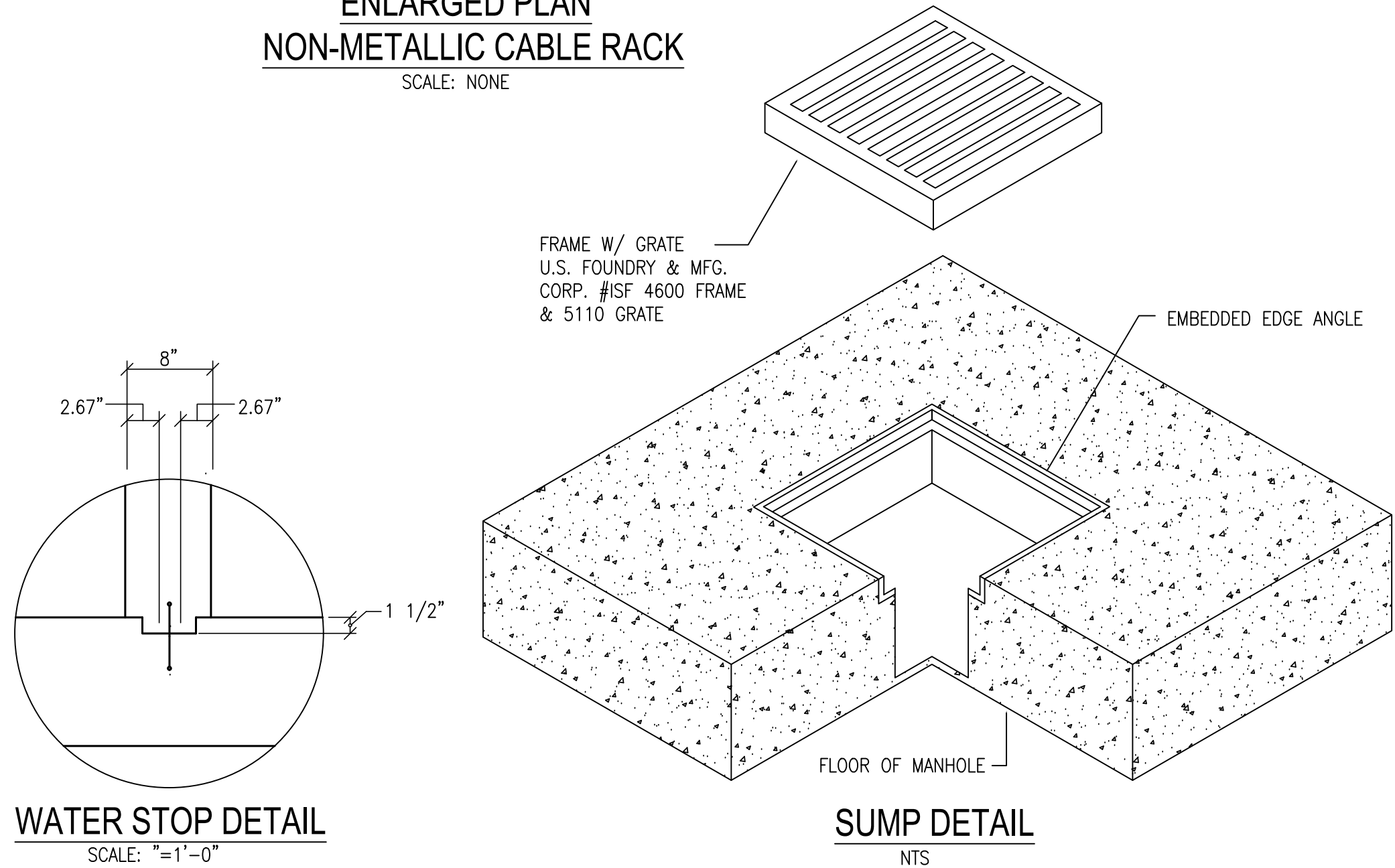
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TYPICAL MANHOLE ACCESSORY BILL OF MATERIAL (PER MANHOLE)				
ITEM NUMBER	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	QTY. REQ. (PER MANHOLE)
①	UNDERGROUND DEVICES	FSRM-12	1/2"-13 DROP-IN ANCHOR MATERIAL: 18-6 STAINLESS STEEL	80
②	UNDERGROUND DEVICES	FFW316-18-40	FLAT WASHER I.D.=.562 O.D.=1.25, THK=.078 MATERIAL: 316 STAINLESS STEEL	80
③	UNDERGROUND DEVICES	FHC316-16-044	1/2"-13 X 1-3/8" LG. HEX HEAD CAP SCREW MATERIAL: 316 STAINLESS STEEL	80
④	UNDERGROUND DEVICES	CR36-B	36" LONG X 4" WIDE STANCHION MATERIAL: 50% GLASS REINFORCED NYLON	16
⑤	UNDERGROUND DEVICES	RA20	RA20 ARM (20" LONG) MATERIAL: 50% GLASS REINFORCED NYLON	16
⑥	UNDERGROUND DEVICES	HDL	HDL LOCK MATERIAL: POLYCARBONATE	16
NOT SHOWN	UNDERGROUND DEVICES	FRT-112	SETTING TOOL TO INSTALL DROP-IN ANCHORS	1

- NOTES:
- ALL MATERIAL LISTED ABOVE SHALL BE FURNISHED & INSTALLED BY THE CONTRACTOR.
 - ALL MATERIAL LISTED ABOVE SHALL BE AS SPECIFIED, OR APPROVED EQUAL. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR REVIEW AND APPROVAL.

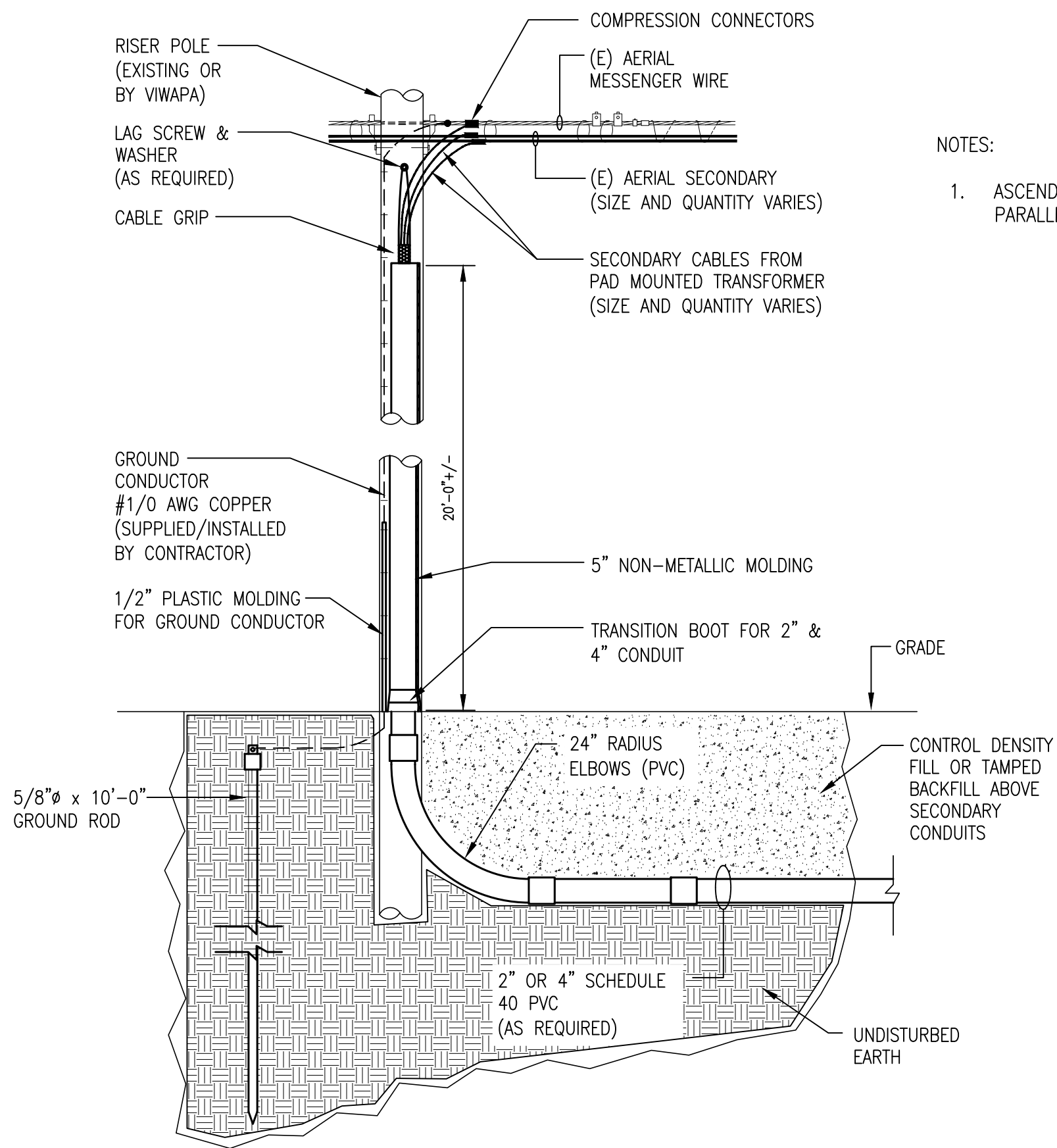


ENLARGED PLAN
NON-METALLIC CABLE RACK
SCALE: NONE

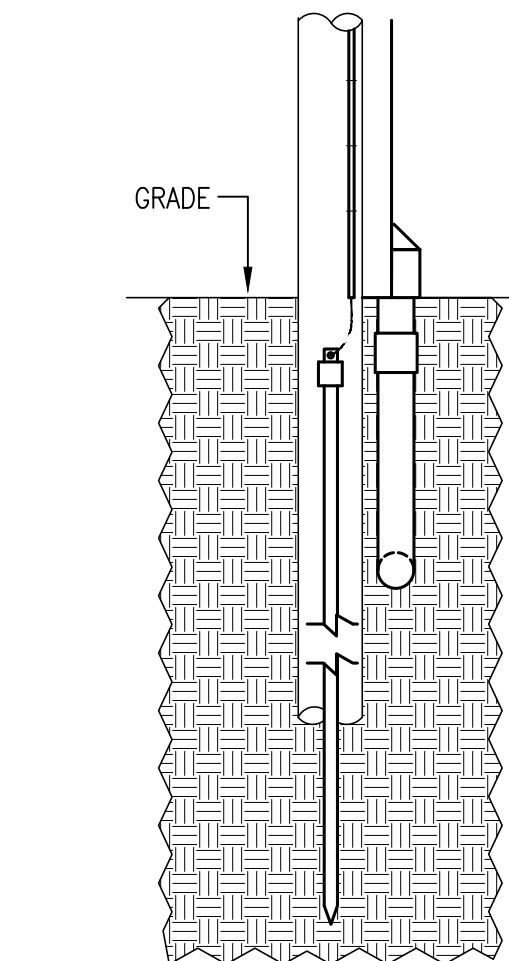


WATER STOP DETAIL
SCALE: 1/2" = 1'-0"

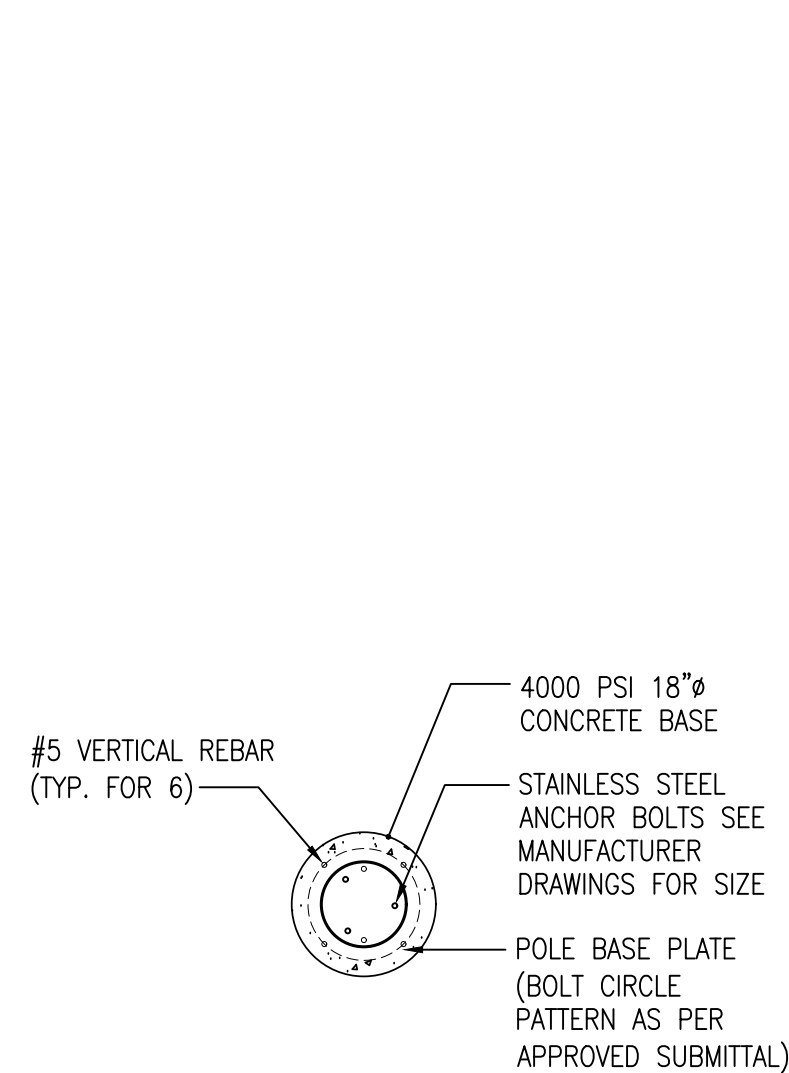
SUMP DETAIL
NTS



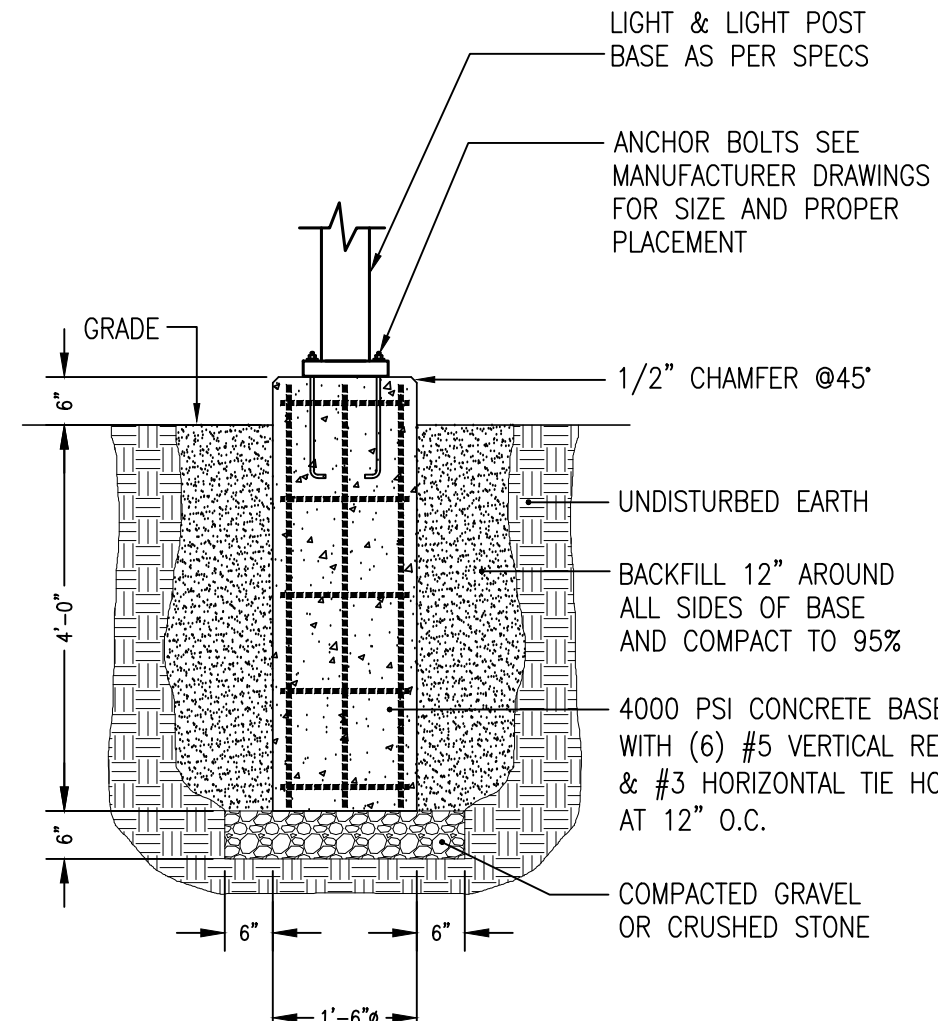
SECONDARY RISER POLE BASE
DETAIL - FRONT VIEW
SCALE: 1/2" = 1'-0"



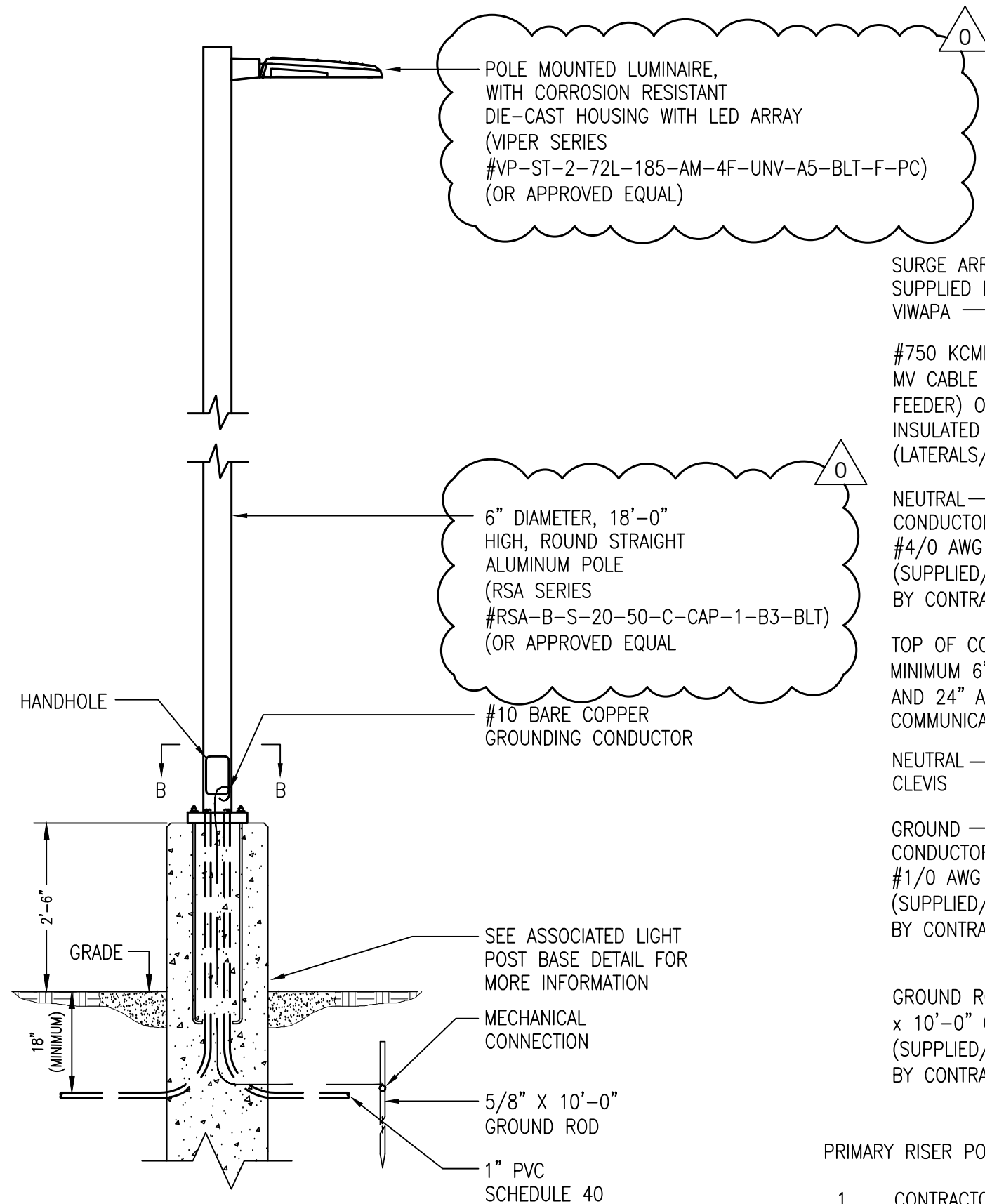
SECONDARY RISER POLE BASE
DETAIL - SIDE VIEW
SCALE: 1/2" = 1'-0"



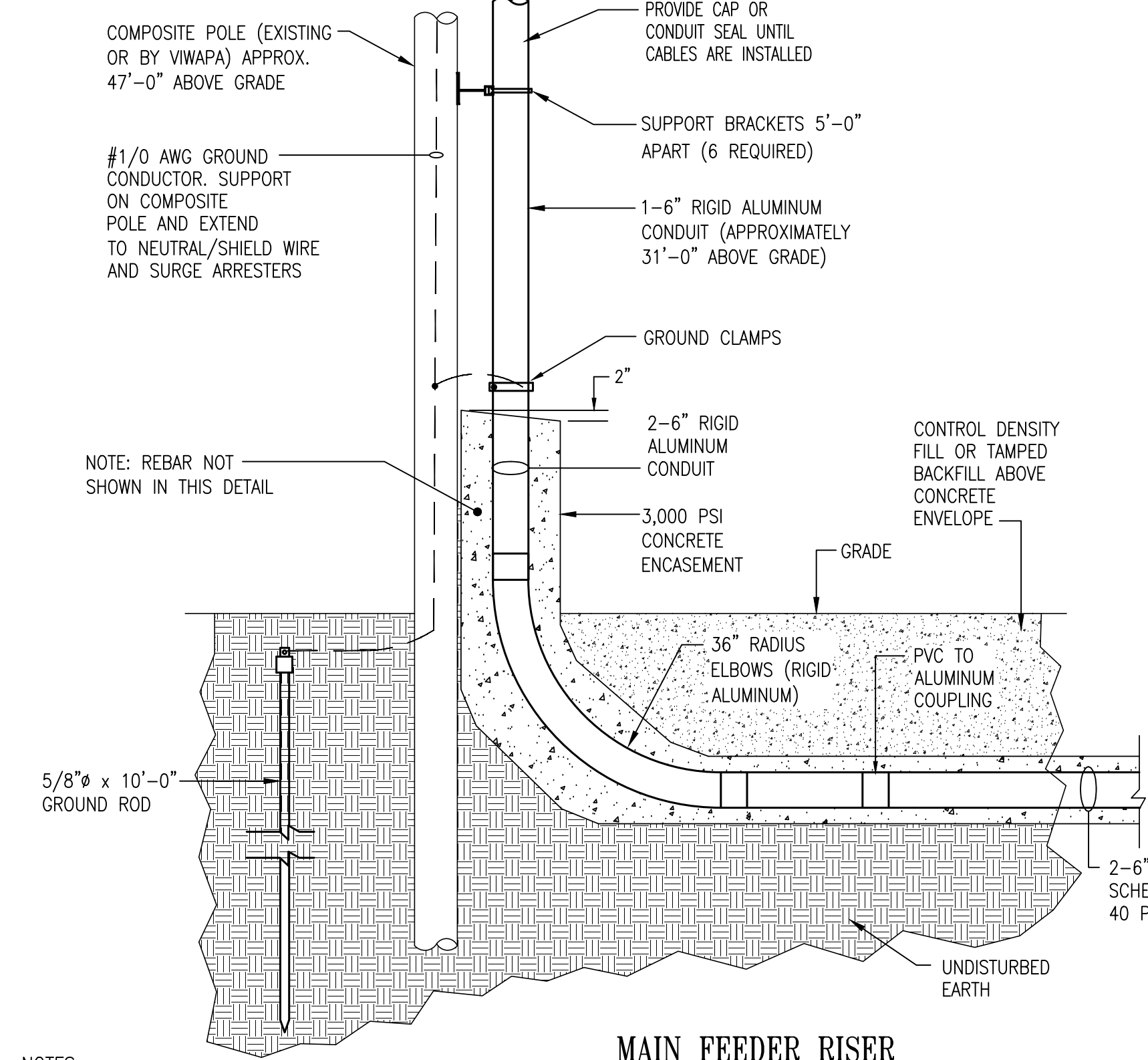
SECTION B-B
SCALE: 1/2" = 1'-0"



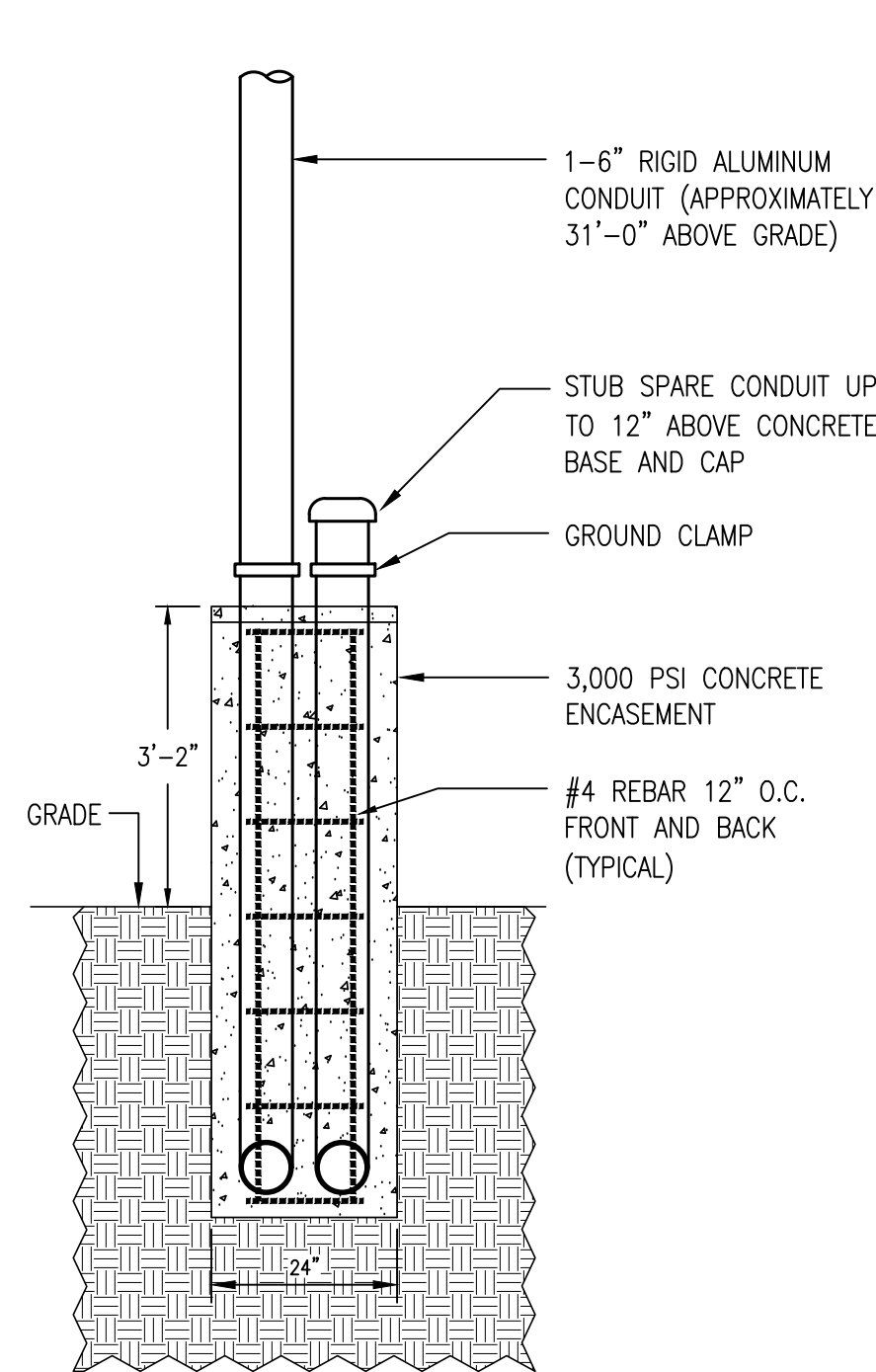
LIGHT POST
BASE DETAIL
SCALE: 1/2" = 1'-0"



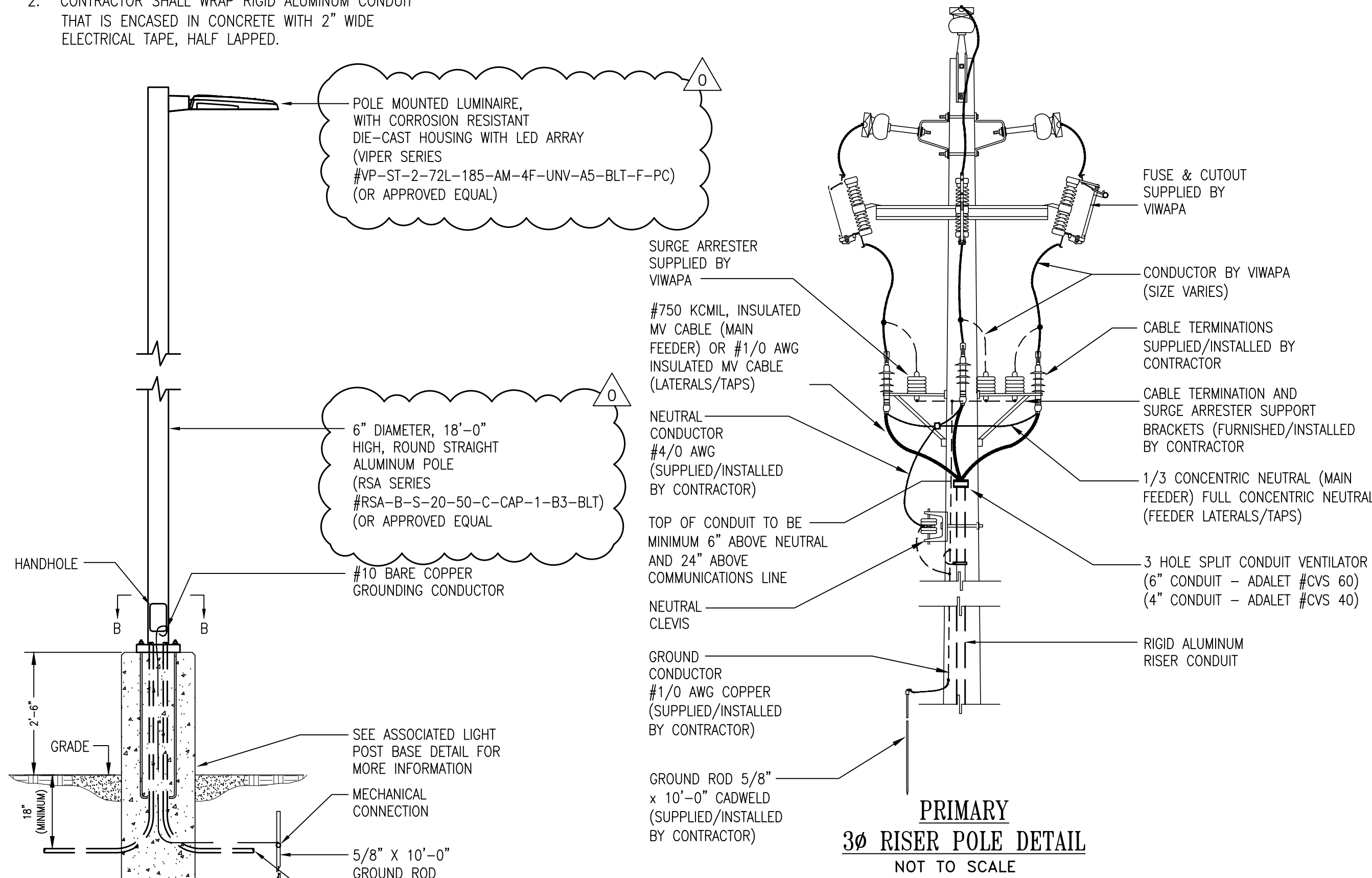
LIGHT POST BASE
DETAIL "SL2"
SCALE: 1/2" = 1'-0"



MAIN FEEDER RISER
POLE BASE DETAIL
(#750 KCMIL CABLE)
SCALE: NONE

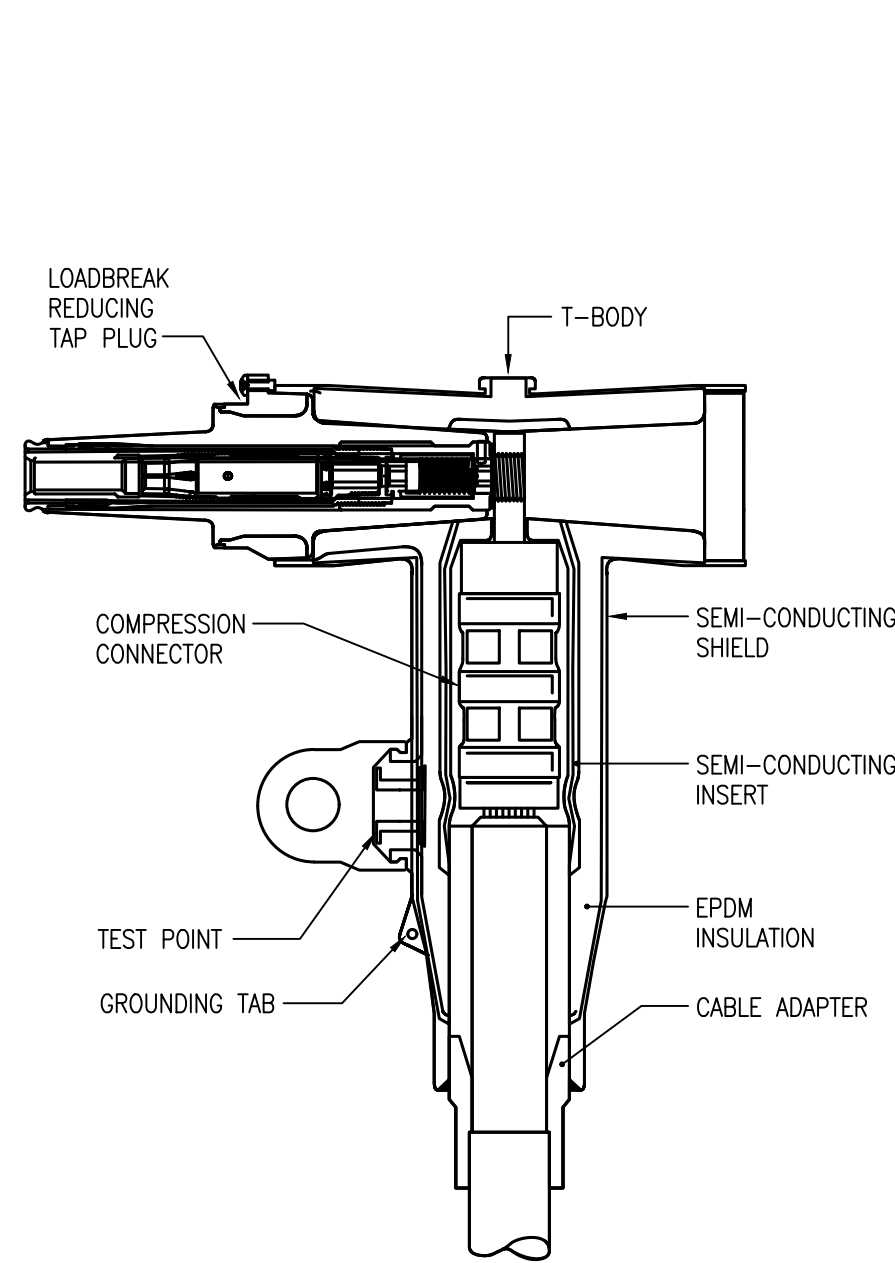


MAIN FEEDER RISER
POLE BASE DETAIL -
FRONT VIEW
(#750 KCMIL CABLE)
SCALE: NONE

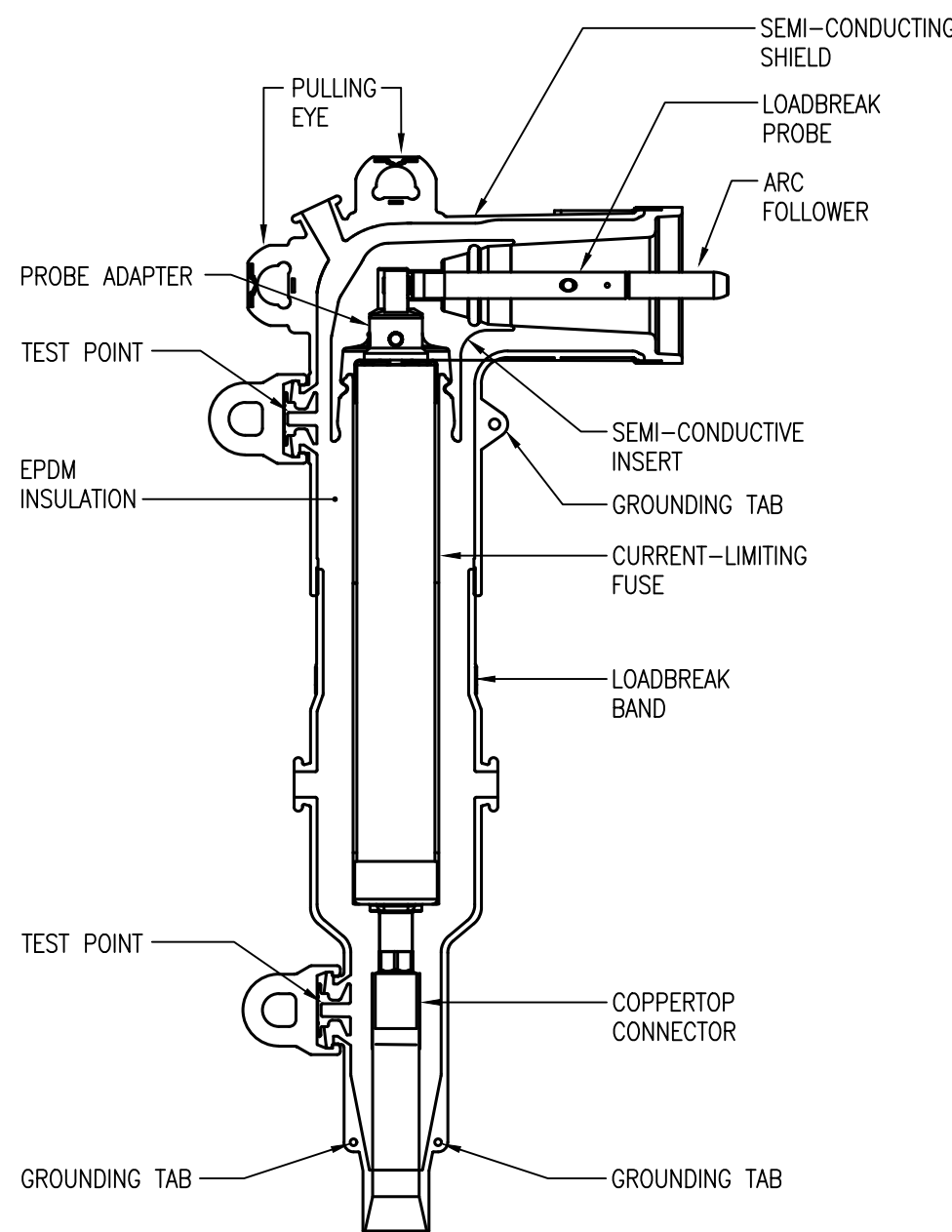


PRIMARY
3Ø RISER POLE DETAIL
NOT TO SCALE

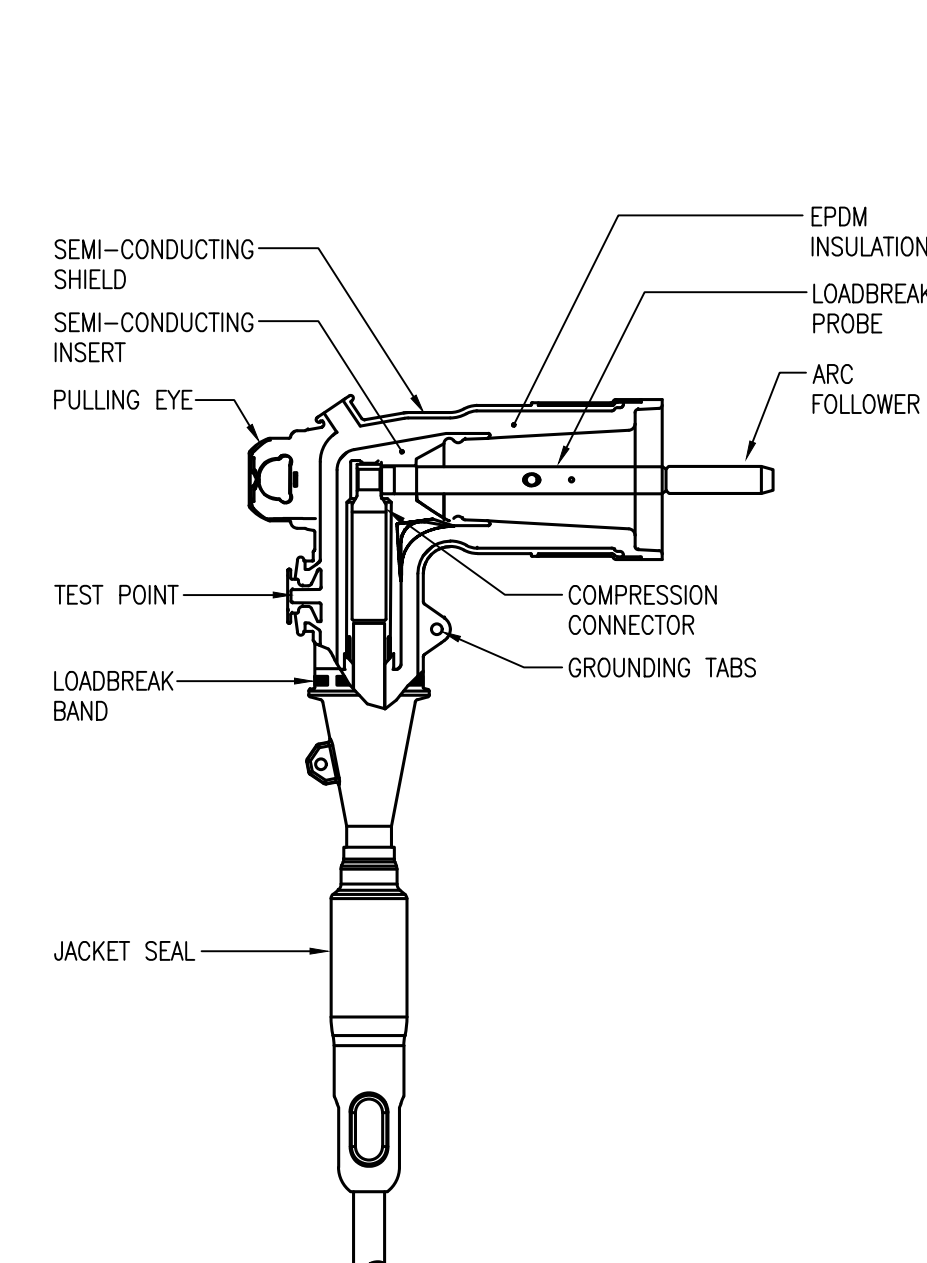
- PRIMARY RISER POLE DETAIL NOTES:
- CONTRACTOR TO RUN #1/0 AWG INSULATED COPPER GROUND CONDUCTOR TO SURGE ARRESTERS, AND TO METAL CONDUIT RISER, AND BOND TO SYSTEM NEUTRAL.
 - CONTRACTOR TO CONNECT MV CABLE CONCENTRIC NEUTRALS TO SYSTEM NEUTRAL WITH #4/0 AWG BARE COPPER CONDUCTOR.



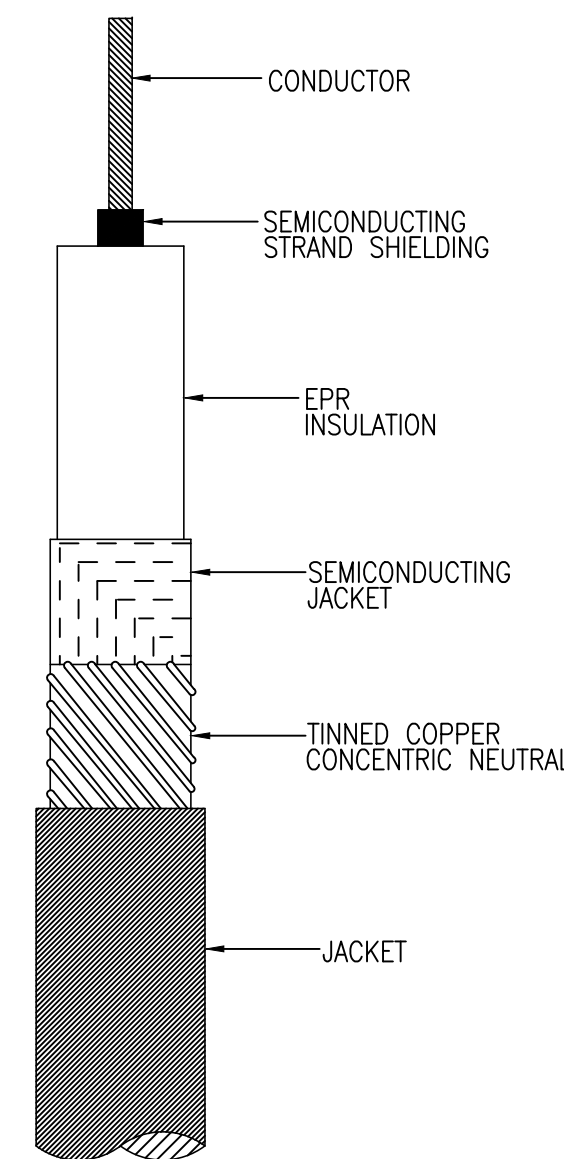
15kV DEADBREAK ELBOW
SCALE: NO SCALE



15kV FUSED LOADBREAK ELBOW
SCALE: NO SCALE

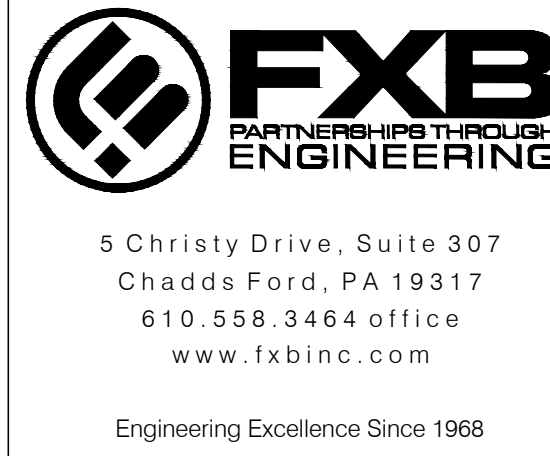


15kV DEADBREAK ELBOW
SCALE: NO SCALE

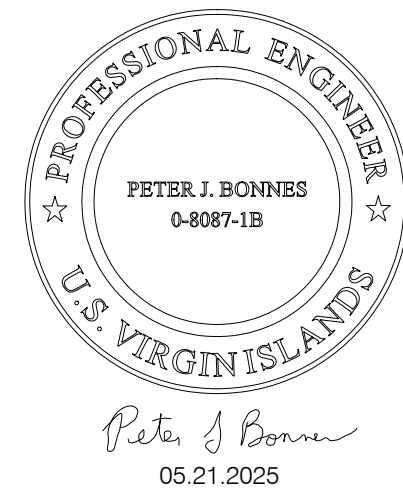


CONCENTRIC NEUTRAL CABLE DETAIL
(PRIMARY CABLE IS FURNISHED BY VIMAPA)
SCALE: NO SCALE

Engineer:



Engineers Seal



Client:



Virgin Islands
Water and Power
Authority
U.S. Virgin Islands

Project Name:

Underground Electrical
Construction Project,
Charlotte Amalie
(Feeder 9A Phase 1),
St Thomas, USVI

Issue / Revision:

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G	05/21/25	0 Addendum to Issue For Bid

Drawn By: BN/NS/IM/CM/CC/PJB
 Chkd By: PJB
 Date: 05.21.2025
 Scale: As Noted
 Project Number: VIT 20131
 Drawing Title:

ELECTRICAL DETAILS
AND SCHEDULES

Drawing Number:

STT-20131-9A-E-100

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FEEDER 9A - MEDIUM VOLTAGE CABLE ACCESSORY SCHEDULE						
ITEM	QUANTITY	DETAILS	BASIS OF DESIGN	MODEL #	DESCRIPTION	FURNISHED BY
1A	9	15KV, COLD SHRINK CABLE SPICE FOR #1/0 AWG CABLE, WITH 100% CONCENTRIC NEUTRAL, 100% INSULATION (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET) WITH SHEAR BOLT OR COMPRESSION CONNECTOR	TE CONNECTIVITY 3M ELASTIMOLD	CSJA-1521 (M0 OR M4) QS-III 5415A S51115CX240	EPDM STRAIGHT THROUGH COLD SHRINK CABLE SPICE KIT FOR IN LINE SPLICES IN MANHOLE	E.C.
1B	9	15KV, COLD SHRINK CABLE SPICE FOR #750 KCMIL CABLE, WITH 1/3 CONCENTRIC NEUTRAL, 100% INSULATION (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET) WITH SHEAR BOLT OR COMPRESSION CONNECTOR	TE CONNECTIVITY 3M ELASTIMOLD	CSJA-1524 (M3 OR M9) QS-III 5418A S51415CX360	EPDM STRAIGHT THROUGH COLD SHRINK CABLE SPICE KIT FOR IN LINE SPLICES IN MANHOLE	E.C.
2A	151	15KV, 200 AMP LOADBREAK ELBOW CONNECTOR, WITH JACKET SEAL AND TEST POINT FOR #1/0 AWG, 100% INSULATION, CONCENTRIC NEUTRAL CABLE (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET), 10 KAC SYMMETRICAL, WITH TEST POINT CAP	ELASTIMOLD HUBBELL COOPER	162LRJS-W5X W/156-7 215LE35FIJ L2215 CR1 CC1 T CSX	200A LOADBREAK ELBOW CONNECTOR	E.C.
3A	0	15KV, 200 AMP FUSED LOADBREAK ELBOW CONNECTOR, WITH TEST POINT FOR #1/0 AWG, 100% INSULATION, CONCENTRIC NEUTRAL CABLE (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET), PROVIDE JACKET SEAL AND MATCHING FUSE, USED PER ONE LINE DIAGRAM	ELASTIMOLD HUBBELL COOPER	168 FLR 1 X Ø 240 215FEH85J LFEF215TEFC CR3 CC2 AT	200A FUSED LOADBREAK ELBOW W/ FUSES	E.C.
4	214	CABLE FAULT INDICATOR, SELF POWERED, LOCAL LED INDICATION WITH 8 HOUR AUTOMATIC RESET, AND DETACHABLE 6' REMOTE FIBER-OPTIC DISPLAY LEAD	SEL POWER DELIVERY PRODUCTS,	ARU 18ARUZP8BGY2 29-6-1-14-3FO	FAULT INDICATOR	E.C.
5	76	15/25KV, 600 AMP DEADBREAK ELBOW CONNECTOR FOR #750 KCMIL, WITH 1/3 CONCENTRIC NEUTRAL, 100% INSULATION, (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET), WITH INSULATING PLUG, STUD, VOLTAGE DETECTION CAP, COMPRESSION LUG AND CABLE ADAPTER AND JACKET SEAL KIT	ELASTIMOLD HUBBELL COOPER	K659LR W7 5 380 S 626RTN35U1 TP615 CR5 CC4 T CS	600A DEADBREAK ELBOW (T BODY) CONNECTOR AT JUNCTION	E.C.
6A	12	15KV, REDUCING TAP PLUG WITH STUD	ELASTIMOLD HUBBELL	K650RTP-S W/600SW 615LRTP	REDUCING TAP PLUG	E.C.
7A	34	12KV/10.2KV MOV METAL OXIDE VARISTOR ELBOW TYPE SURGE ARRESTER	ELASTIMOLD HUBBELL COOPER	167ESA-12 215553_LA12 3238019C12W	MOV ELBOW ARRESTER	E.C.
8A	13	15KV LOAD BREAK FEED-THRU INSERT	ELASTIMOLD HUBBELL COOPER	1602A3R 215FT1 LK215	15KV FEED THRU INSERT	E.C.
10A	6	15KV CABLE TERMINATION KIT, CABLE SIZE #1/0 AWG, 100% CONCENTRIC NEUTRAL CABLE, 100% INSULATION (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET), WITH JACKET SEAL, 2 HOLE SPADE CONNECTOR, MOUNTING BRACKET	ELASTIMOLD TE CONNECTIVITY HUBBELL 3M BURNDY	R2T 15 J 2 NO 240 B3 CST0-1524-3C-CL2 1512-J SERIES QTH1 7640-S SERIES CSUD02528140J W/ YA25A7	LIVE FRONT SWITCHGEAR CABLE TERMINATION AND CABLE TERMINATION AT RISER POLE	E.C.
10B	6	15KV CABLE TERMINATION KIT, CABLE SIZE #750 KCMIL, 1/3 CONCENTRIC NEUTRAL CABLE, 100% INSULATION (EXACT MODEL # TO BE SELECTED BASED ON APPROVED CABLE DATA SHEET), WITH JACKET SEAL, 2 HOLE SPADE CONNECTOR, MOUNTING BRACKET	ELASTIMOLD TE CONNECTIVITY HUBBELL 3M BURNDY	R2T 15 J 4 NO 380 B4 CST0-154J-3E-CL8 1512-J SERIES QTH1 7640-S SERIES CSUD055001500J W/ YA39A5	LIVE FRONT SWITCHGEAR CABLE TERMINATION AND CABLE TERMINATION AT RISER POLE	E.C.
11B	18	15KV, 4 POINT, 200A JUNCTION LOCATED IN MANHOLE OR SECTIONALIZING CABINET, W/ SS MOUNTING BRACKET & PARKING STAND	ELASTIMOLD HUBBELL COOPER	J4-2222-15-L-R 215J4B LK1215C-4-B	200A, 4 POINT JUNCTION	E.C.
11D	48	15KV, 600A, 4 POINT, VARIABLE JUNCTION LOCATED IN MANHOLE OR SECTIONALIZING CABINET, W/ SS MOUNTING BRACKET & PARKING STAND	ELASTIMOLD	J4-6226-15-L-R	600A, 4 POINT JUNCTION WITH 2-200A TAPS	E.C.
11F	0	15KV, 600A, 2 POINT JUNCTION LOCATED IN MANHOLE OR SECTIONALIZING CABINET, W/ SS MOUNTING BRACKET & PARKING STAND	ELASTIMOLD	J4-66-15-L-R	600A, 2 POINT JUNCTION	E.C.
12A	8	15KV, INSULATING CAP FOR 200A BUSHING	ELASTIMOLD HUBBELL COOPER	167DRG 215GJ LPC215	INSULATING CAP	E.C.
13	24	15KV/25KV, INSULATING CAP FOR 600A BUSHING	ELASTIMOLD HUBBELL COOPER	K65DRG 625JC DPC625	INSULATING CAP	E.C.
15	3	600 AMP MODULAR SPLICING KIT TO INCLOUE 2 T-BODIES, 2 INSULATING PLUGS, 1 CONNECTING PLUG, 2 CABLE ADAPTERS, AND 2 COMPRESSION LUGS	HUBBELL ELASTIMOLD	615L2T, 615CAP, 615LUG3B K65SL2-WOX (2-WAY L KIT		E.C.

- NOTES:
1. ALL EQUIPMENT IS TO BE FURNISHED & INSTALLED THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
 2. ALL EQUIPMENT SHALL BE AS SPECIFIED, OR APPROVED EQUAL.
 3. SUBMITTALS ARE REQUIRED FOR ALL EQUIPMENT LISTED ABOVE.
 4. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO ORDERING MATERIAL.
 5. CONTRACTOR SHALL ORDER THE QUANTITY LISTED ABOVE & VERIFIED AT THE TIME OF ORDERING, PLUS 10% (ROUNDED TO THE NEAREST UNIT) AND A MINIMUM OF (1) ADDITIONAL UNIT. IF THE ADDITIONAL COMPONENTS ARE NOT USED, THEY SHALL BE TURNED OVER TO VMAPA AT THE COMPLETION OF THE PROJECT.

FEEDER 9A MEDIUM VOLTAGE CABLE & RACEWAY SCHEDULE

TAG	FROM	TO	CABLES / CONDUCTORS PER CONDUIT					CONDUIT		PURPOSE	CABLE REELS
			VOLTAGE	PHASE	NEUTRAL	GROUND	INSULATION	TEMP/ RATING	QUANTITY		
1	MANHOLE	MANHOLE, SWITCHGEAR OR SECTIONALIZER	15KV	3-1/C #750 KCMIL AL.	1/3 NEUTRAL	N/A	100%	MV105	1	6"	SCHEDULE 40 PVC
2	SWITCHGEAR, SECTIONALIZER OR TRANSFORMER	3ø TRANSFORMER OR METERING CABINET	15KV	3-1/C #1/0 AL.	FULL NEUTRAL	N/A	100%	MV105	1	4"	SCHEDULE 40 PVC
3	SWITCHGEAR, SECTIONALIZER OR TRANSFORMER	1ø TRANSFORMER	15KV	1-1/C #1/0 AL.	FULL NEUTRAL	N/A	100%	MV105	1	4"	SCHEDULE 40 PVC

NOTE: MEDIUM VOLTAGE CABLE IS SUPPLIED BY VMAPA AND RECEIVED, TRANSPORTED, TESTED AND INSTALLED BY CONTRACTOR

FEEDER 9A - PAD MOUNTED SWITCHGEAR SCHEDULE

TAG	LABEL	NAME	QUANTITY	DESCRIPTION	MANUFACTURER	MODEL/TYPE	SC RATING	DIMENSIONS	WEIGHT	ACCESS REQUIRED	INSTALLED BY	CABLE ENTRY / EXIT	FURNISHED BY
51	UCS-9A-1	PAD MOUNTED DISTRIBUTION SWITCHGEAR	1	PAD MOUNTED OUTDOOR DISTRIBUTION SWITCHGEAR, 4WAY, 600A, 15KV, 95KV BIL, 25KA SYMMETRICAL, 1 600A SOURCE WAY, 1 600A TAP WAY, & 2 200A TAP WAYS, MOTOR OPERATED SOURCE SWITCH, VFI 600A TAP SWITCH, VFI 200A TAP SWITCHES, WITH INTERNAL PT, ELECTRONIC TRIP CONTROL & SCADA/ACCESSORY BOARD AND STAINLESS STEEL ENCLOSURE,	REFER TO SPECIFICATIONS	REFER TO SPECIFICATIONS	25KA SYM.	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
52	UCS-9A-5	PAD MOUNTED DISTRIBUTION SWITCHGEAR	1	PAD MOUNTED OUTDOOR DISTRIBUTION SWITCHGEAR, 5WAY, 600A, 15KV, 95KV BIL, 25KA SYMMETRICAL, 2 SOURCE WAYS & 3 TAP WAYS, MOTOR OPERATED SOURCE SWITCH, VFI TAP SWITCHES, WITH INTERNAL PT, ELECTRONIC TRIP CONTROL & SCADA/ACCESSORY BOARD AND STAINLESS STEEL ENCLOSURE	REFER TO SPECIFICATIONS	REFER TO SPECIFICATIONS	25KA SYM.	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
53	UCS-6B-9A-10A	PAD MOUNTED DISTRIBUTION SWITCHGEAR	1	PAD MOUNTED OUTDOOR DISTRIBUTION SWITCHGEAR, 5WAY, 600A, 15KV, 95KV BIL, 25KA SYMMETRICAL, 4 SOURCE WAYS & 1 TAP WAY, MOTOR OPERATED SOURCE SWITCHES, VFI TAP SWITCH, WITH INTERNAL PT, ELECTRONIC TRIP CONTROL & SCADA/ACCESSORY BOARD AND STAINLESS STEEL ENCLOSURE	REFER TO SPECIFICATIONS	REFER TO SPECIFICATIONS	25KA SYM.	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA

- NOTES:
1. SWITCHGEAR IS SUPPLIED BY VMAPA AND RECEIVED, TRANSPORTED, INSTALLED & TESTED BY CONTRACTOR.

FEEDER 9A PAD MOUNTED TRANSFORMER SCHEDULE

TAG	LABEL	RATING	PRIMARY	SECONDINARY	QUANTITY	DESCRIPTION	MANUFACTURER	DIMENSIONS	TOTAL WEIGHT	ACCESS REQUIRED	INSTALLED BY	CABLE ENTRY / EXIT	FURNISHED BY
11A	TX-9A1-1, TX-9A5-1	25KVA/1ø TRANSFORMER	13.8/7.98KV	120/240V	2	25KVA: 1ø PAD MOUNTED TRANSFORMER, 65°C RISE, CLASS KNNAN, DEAD FRONT, LOOP FEED, UL LISTED, DOE 2016 EFFICIENCY, STAINLESS STEEL TANK, COPPER WINDINGS, CURRENT LIMITING FUSES, DE-ENERGIZED TAP CHANGER (2 ABOVE, 2 BELOW) LOAD BREAK SWITCH, 95KV BIL	TBD	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
13A	TX-9A2-1	50KVA/1ø TRANSFORMER	13.8/7.98KV	120/240V	1	50KVA: 1ø PAD MOUNTED TRANSFORMER, 65°C RISE, CLASS KNNAN, DEAD FRONT, LOOP FEED, UL LISTED, DOE 2016 EFFICIENCY, STAINLESS STEEL TANK, COPPER WINDINGS, CURRENT LIMITING FUSES, DE-ENERGIZED TAP CHANGER (2 ABOVE, 2 BELOW) LOAD BREAK SWITCH, 95KV BIL	TBD	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
14A	TX-9A4-1	75KVA/1ø TRANSFORMER	13.8/7.98KV	120/240V	1	75KVA: 1ø PAD MOUNTED TRANSFORMER, 65°C RISE, CLASS KNNAN, DEAD FRONT, LOOP FEED, UL LISTED, DOE 2016 EFFICIENCY, STAINLESS STEEL TANK, COPPER WINDINGS, CURRENT LIMITING FUSES, DE-ENERGIZED TAP CHANGER (2 ABOVE, 2 BELOW) LOAD BREAK SWITCH, 95KV BIL	TBD	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
110A	TX-9A4-2, TX-9A6-1	225KVA/3ø TRANSFORMER	13.8KV	208/120V	2	225kVA: 3ø PAD MOUNTED TRANSFORMER, 65°C RISE, CLASS KNNAN, DEAD FRONT, LOOP FEED, UL LISTED, DOE 2016 EFFICIENCY, STAINLESS STEEL TANK, COPPER WINDINGS, BAY-0-NET FUSES AND CURRENT LIMITING FUSES, DE-ENERGIZED TAP CHANGER (2 ABOVE, 2 BELOW) LOAD BREAK SWITCH, XXX IMPEDANCE, 95KV BIL	TBD	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
111A	TX-9A7-1, TX-9A3B-1	300KVA/3ø TRANSFORMER	13.8KV	208/120V	2	300kVA: 3ø PAD MOUNTED TRANSFORMER, 65°C RISE, CLASS KNNAN, DEAD FRONT, LOOP FEED, UL LISTED, DOE 2016 EFFICIENCY, STAINLESS STEEL TANK, COPPER WINDINGS, BAY-0-NET FUSES AND CURRENT LIMITING FUSES, DE-ENERGIZED TAP CHANGER (2 ABOVE, 2 BELOW) LOAD BREAK SWITCH, XXX IMPEDANCE, 95KV BIL	TBD	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA
112A	TX-9A6-2, TX-9A6-3	500KVA/3ø TRANSFORMER	13.8KV	208/120V	2	500kVA: 3ø PAD MOUNTED TRANSFORMER, 65°C RISE, CLASS KNNAN, DEAD FRONT, LOOP FEED, UL LISTED, DOE 2016 EFFICIENCY, STAINLESS STEEL TANK, COPPER WINDINGS, BAY-0-NET FUSES AND CURRENT LIMITING FUSES, DE-ENERGIZED TAP CHANGER (2 ABOVE, 2 BELOW) LOAD BREAK SWITCH, XXX IMPEDANCE, 95KV BIL	TBD	TBD	TBD	6' FRONT 3' REAR/SIDES	E.C.	BOTTOM	VMAPA

NOTE: TRANSFORMERS ARE SUPPLIED BY VMAPA AND RECEIVED, TRANSPORTED, INSTALLED & TESTED BY CONTRACTOR.

MEDIUM VOLTAGE EQUIPMENT SCHEDULE

TAG	QUANTITY	DETAILS	BASIS OF DESIGN	MODEL #	DESCRIPTION	INSTALLED BY	FURNISHED BY
SC1	6	STAINLESS STEEL SECTIONALIZING CABINET, 30"H x 66"W x 22"D TO ACCOMMODATE 3ø JUNCTIONS UP TO 4 POINT, 15KV OR 25KV, 200 AMP LOAD BREAK JUNCTIONS OR 600A DEAD BREAK JUNCTIONS, WITH 18" HIGH BASE EXTENSION.	HUBBELL/TRINETICS COOPER	CC366-22TH(R)-SS W/63343944 SEC36623F000050 W/SBE188422		E.C.	E.C.
M1	3	PAD MOUNTED, 15KV, 95KV BIL, METERING CABINET, DEAD FRONT, RADIAL FEED, STAINLESS STEEL ENCLOSURE, MUNSIE GREEN, WITH VMAPA APPROVED OUTDOOR RATED 15.5KV CT'S (3) AND SINGLE BUSHING PT'S 7.62/13.2KV GY (3), INSTALLED, AND WITH VMAPA APPROVED FORM 6S METER SOCKET INSTALLED, WITH STAINLESS STEEL HARDWARE. PT'S AND CT'S MUST BE CONNECTED WITH #2 AWG, 5/15KV FLEXIBLE JUMPER CABLE. PROVIDE SEALTIE RACEWAYS FOR LV WIRING.	FEDERAL PACIFIC TRINETICS GE GRID SOLUTIONS GE GRID SOLUTIONS OMNI CABLE MILBANK	PMDF-315-R6-200 ME311122XXXXGM JCK-SC, 0.3 B-0.5 ACCURACY JW-W-SC, 0.3 Z, 0.6 ZZ ACCURACY, 63.5:1 #2 AWG, PART #B40201 FORM 6S, 13 TERMINAL	PRIMARY METERING CABINET CURRENT TRANSFORMERS VOLTAGE TRANSFORMERS FLEXIBLE JUMPER CABLE METER SOCKET	E.C. E.C. E.C. E.C.	E.C. E.C. E.C. E.C.

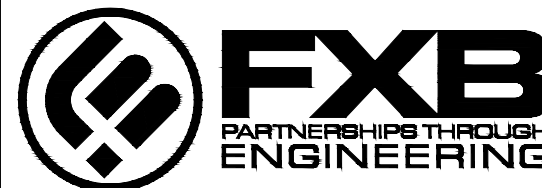
- NOTES:
1. ALL EQUIPMENT IS TO BE FURNISHED & INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
 2. ALL EQUIPMENT SHALL BE AS SPECIFIED, OR APPROVED EQUAL.
 3. SUBMITTALS ARE REQUIRED FOR ALL EQUIPMENT LISTED ABOVE.
 4. CT RATIOS & PT RATIOS, AND FEATURES SHALL BE COORDINATED DIRECTLY WITH VMAPA.

FEEDER 9A - MANHOLE / HANDHOLE & BOLLARD SCHEDULE

ITEM	QUANTITY	DETAILS	BASIS OF DESIGN	MODEL #	DIMENSIONS	INSTALLED BY	FURNISHED BY
H2	8	CONCRETE MANHOLE (3000 PSI), 6'-0"W x 6'-0"L x 6'-0"D CLEAR, WITH A 30" DIAMETER OPENING, H=20 (TRAFFIC) RATED FRAME & COVER, MARKED "ELECTRIC"	TBD	TBD	6'-0"W x 6'-0"L x 6'-0"D	E.C.	E.C.
H5	8	CONCRETE MANHOLE (3000 PSI), 4'-0"W x 4'-0"L x 4'-0"D CLEAR, WITH A 30" DIAMETER OPENING, H=20 (TRAFFIC) RATED FRAME & COVER, MARKED "ELECTRIC" OR "COMMUNICATIONS"	TBD	TBD	4'-0"W x 4'-0"L x 4'-0"D	E.C.	E.C.
H6	5	POLYMER CONCRETE HANDHOLE, 24"W x 24"L x 24"D CLEAR, STRAIGHT WALL, OPEN BOTTOM, TIER 22 RATING, ANS/SCITE 77 CERTIFIED WITH "ELECTRIC" OR "COMMUNICATIONS" LOGO CODE	HUBBELL BOX HUBBELL COVER	PG2424B424 PG2424HH00XX	24"W x 24"L x 24"D	E.C.	E.C.
H9	7	POLYMER CONCRETE HANDHOLE, 24"W x 36"L x 24"D CLEAR, STRAIGHT WALL, OPEN BOTTOM, TIER 22 RATING, ANS/SCITE 77 CERTIFIED WITH "ELECTRIC" LOGO CODE	HUBBELL BOX HUBBELL COVER	PG2436B424 PG2436HH00XX	24"W x 36"L x 24"D	E.C.	E.C.
N/A	37	4" DIAMETER CONCRETE PROTECTIVE BOLLARD WITH PVC COVER (YELLOW WITH RED STRIPES) 3' DEPTH BELOW GRADE (SEE DETAIL ON SHEET E-102), 2 BOLLARDS PER EACH PAD MOUNTED EQUIPMENT OR AS PER DUCT BANK PLANS AND ENLARGED DUCT BANK PLANS.	TBD	TBD	4"D X 7'H	E.C.	E.C.

NOTE: THIS EQUIPMENT AND MATERIAL IS TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. THE BASIS OF DESIGN IS FOR REFERENCE ONLY. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIAL, FOR REVIEW AND APPROVAL.

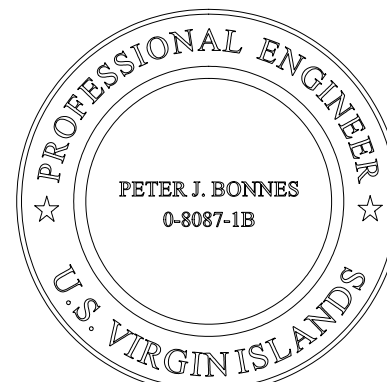
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Peter J. Bonnes
05.21.2025

Client:



Virgin Islands
Water and Power
Authority
U.S. Virgin Islands

Project Name:

Underground Electrical
Construction Project,
Charlotte Amalie
(Feeder 9A Phase 1),
St Thomas, USVI

Issue / Revision:

#	Date	Description
A	06/24/22	Issue for EHP Review
B	12/02/23	Issue for FEMA Review (75%)
C	04/21/24	Issue for 100% Review
D	07/26/24	Issue for Bid Review
E	10/25/24	Issue for Final Bid Review
F	12/06/24	Issue for Bid
G	05/21/25	0 Addendum To Issue For Bid

Drawn By: BN/NS/BSM/CM/CC/PJB
Chkd By: PJB
Date: 05.21.2025
Scale: As Noted
Project Number: VIT-20131
Drawing Title:

ELECTRICAL
EQUIPMENT AND
ACCESSORIES
SCHEDULES

Drawing Number:

STT-20131-9A-E-400

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