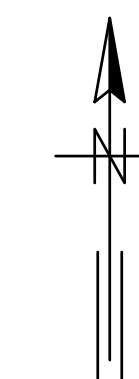
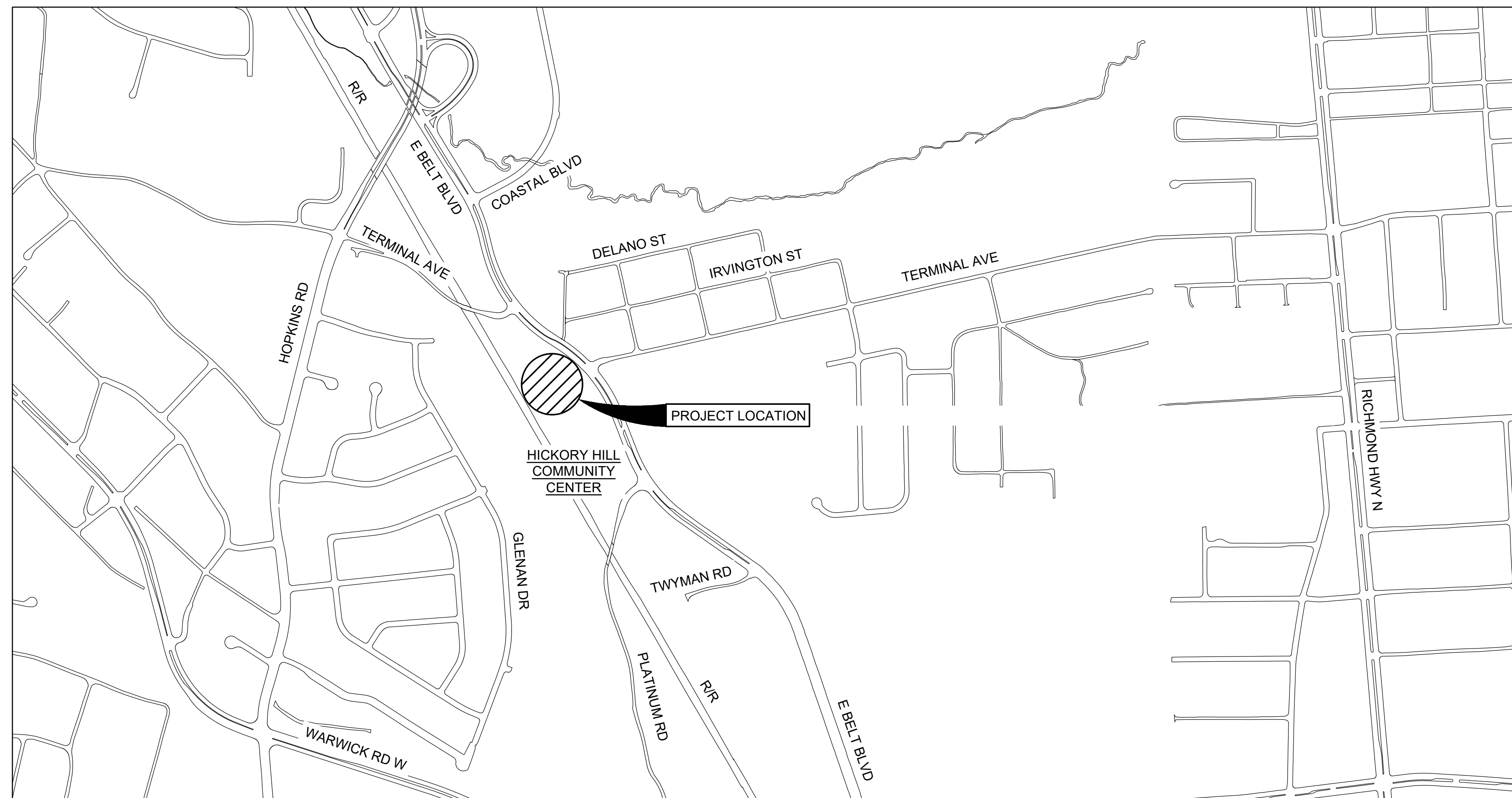
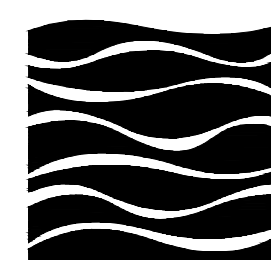


CITY OF RICHMOND, VIRGINIA DEPARTMENT OF PUBLIC WORKS

FIRE DEPARTMENT TRAINING FACILITY PROJECT



VICINITY MAP



GREELEY AND HANSEN

9020 STONY POINT PARKWAY, SUITE 275
RICHMOND, VIRGINIA 23235

IN ASSOCIATION WITH

ECE **Environ-Civil Engineering, Ltd.**
 Engineers • Scientists • Construction Managers
 2108 W Laburnum Avenue, Suite 250 Richmond, VA 23227

DANIELS & ASSOCIATES, P.C.
 Consulting Engineers
 808 Moorefield Park Drive, Suite 105
 Richmond, Virginia 23236

PROJECT ADDRESS

3000 EAST BELT BOULEVARD
RICHMOND, VA 23234
PARCEL ID: C0090612020

OWNER CONTACT

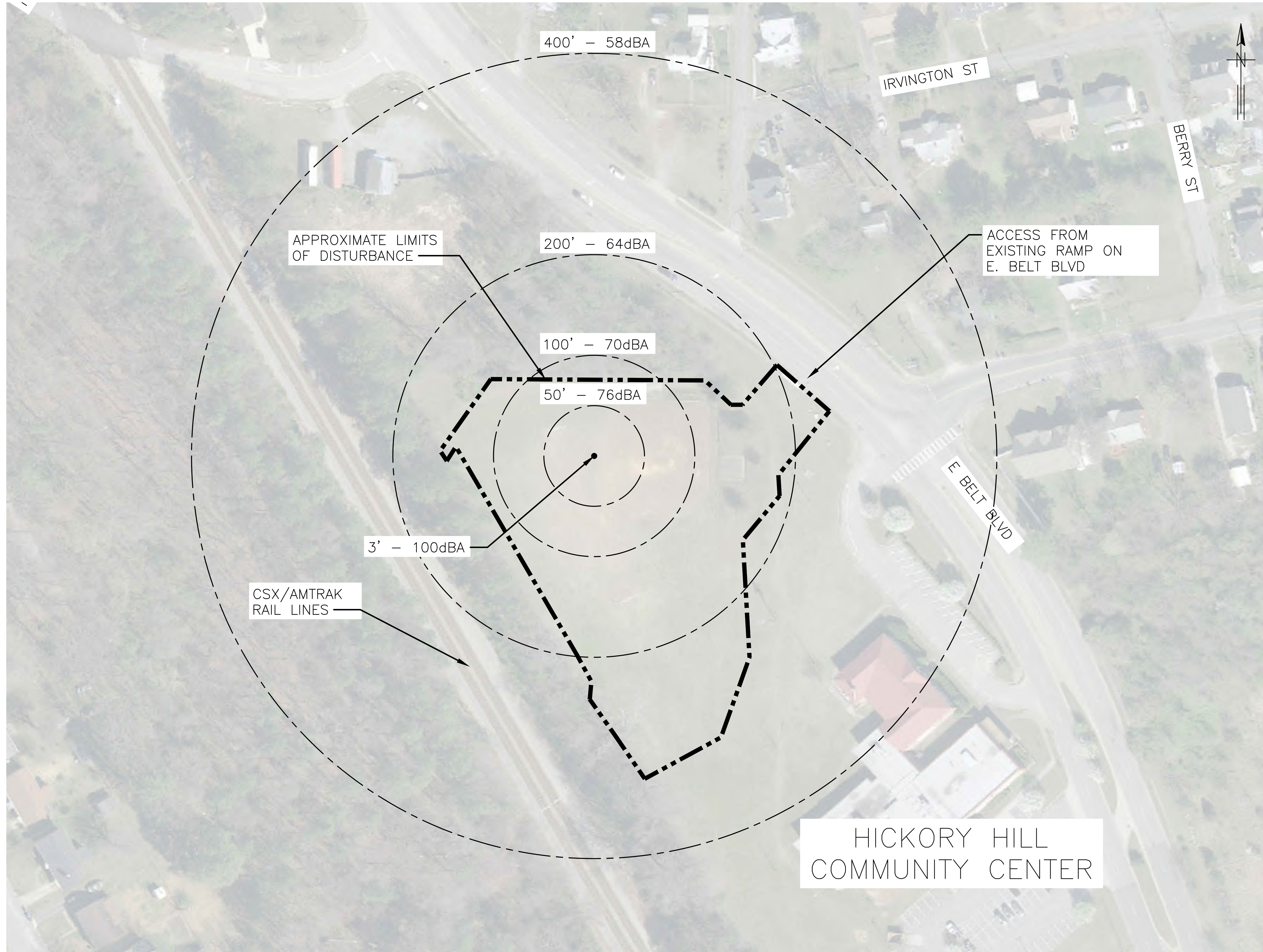
LOUIS D. GOODE
CITY OF RICHMOND DEPARTMENT OF PUBLIC WORKS
900 EAST BROAD STREET - RM. 602
RICHMOND, VA 23219
PHONE: (804) 646-7531

DPU CONTACT

LOUIS D. GOODE
CITY OF RICHMOND DEPARTMENT OF PUBLIC WORKS
900 EAST BROAD STREET - RM. 602
RICHMOND, VA 23219
PHONE: (804) 646-7531

JANUARY 2023

100% SUBMITTAL
NOT FOR CONSTRUCTION



LEGEND

- LIMITS OF DISTURBANCE
- SOUND LEVEL AT VARIABLE DISTANCE FROM SOURCE

NOTES:

1. SOUND-DISTANCE ATTENUATION CALCULATION BASED ON INVERSE SQUARE LAW.
2. NOISE LEVEL CALCULATIONS ASSUME CLEAR VISIBILITY FROM THE SOURCE OF THE NOISE AND DO NOT ACCOUNT FOR EXISTING AND PROPOSED SOUND DAMPENING SITE FEATURES (TREES, ELEVATION, FENCES, HOUSES, ETC.). CALCULATED NOISE LEVELS ARE NOT INDICATIVE OF IN-SITU CONDITIONS AND ACTUAL NOISE LEVELS WILL BE DAMPENED BY EXISTING AND PROPOSED SITE FEATURES.
3. TYPICAL NOISE LEVELS:
 - 30dBA - WHISPER/LEAVES RUSTLING
 - 30-50dBA - AVERAGE ROOM NOISE
 - 60dBA - BACKGROUND MUSIC
 - 70dBA - AVERAGE OFFICE NOISE
 - 75dBA - LANDSCAPING EQUIPMENT (INSIDE HOUSE)
 - 80dBA - INSIDE AN AIRPLANE
 - 85dBA - NOISY RESTAURANT
 - 90dBA - HAIRDRYER
 - 95dBA - PRO-SPORTS GAME/CAR HORN @16 FEET
 - 100dBA - MOTORCYCLE/LEAF BLOWER
 - 105-110dBA - NIGHTCLUBS/BARS/GAS-POWERED LEAF BLOWER

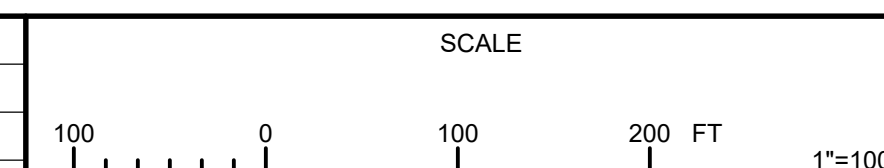
AERIAL PLAN
SCALE: 1" = 100'

EC Environ-Civil Engineering, Ltd.
Engineers • Scientists • Construction Managers
2108 W Laburnum Avenue, Suite 250 Richmond, VA 23227

GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 275
RICHMOND, VIRGINIA 23235

DESIGNED	XXX
DRAWN	XXX
CHECKED	XXX
APPROVED	

NO.	DATE	APPD	REVISION DESCRIPTION

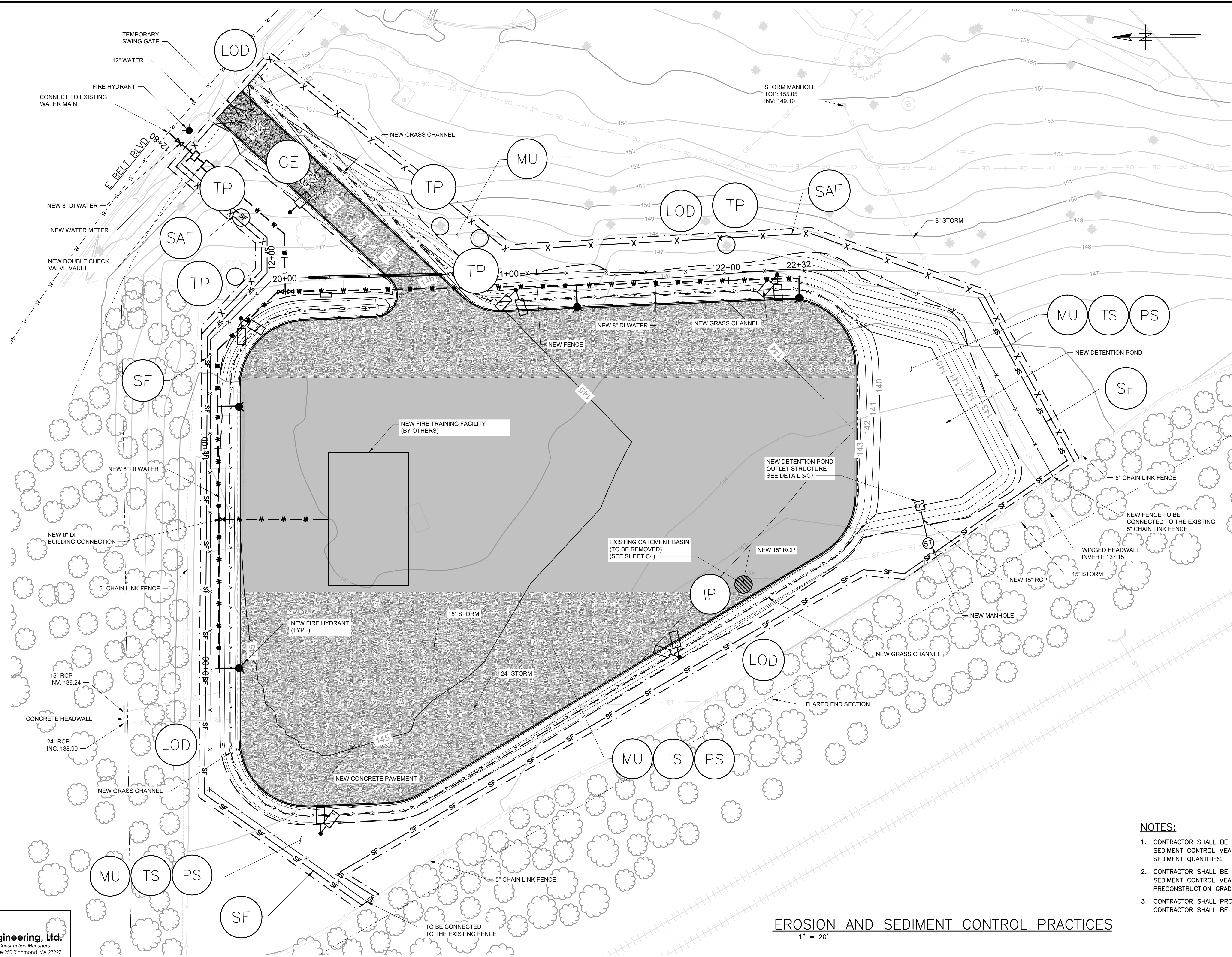


CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
RICHMOND FIRE DEPARTMENT
TRAINING FACILITY



CIVIL
SOUND-DISTANCE ATTENUATION

PROJECT NO.:	0218A-09
DWG:	C3
SHEET:	5 OF 25
DATE:	JANUARY 2023
REV:	0



NOTES:

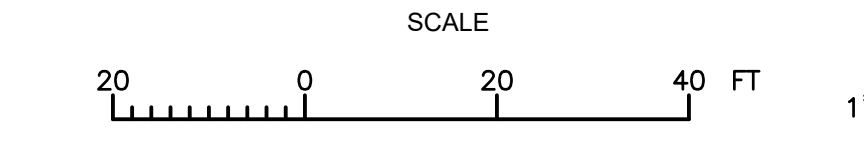
1. CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE EROSION AND SEDIMENT CONTROL MEASURES. REFER TO DWG C8 FOR EROSION AND SEDIMENT QUANTITIES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EROSION AND SEDIMENT CONTROL MEASURES AND RESTORING AREAS TO PRECONSTRUCTION GRADE UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL PROVIDE SITE SAFETY FENCE AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY.

EROSION AND SEDIMENT CONTROL PRACTICES
1" = 20'

EC Environ-Civil Engineering, Ltd.
Engineers • Scientists • Construction Managers
2108 W Laburnum Avenue, Suite 250 Richmond, VA 23227

GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 275
RICHMOND, VIRGINIA 23235

DESIGNED	XXX				
DRAWN	XXX				
CHECKED	XXX				
APPROVED					
NO.	DATE	APPD	REVISION DESCRIPTION		

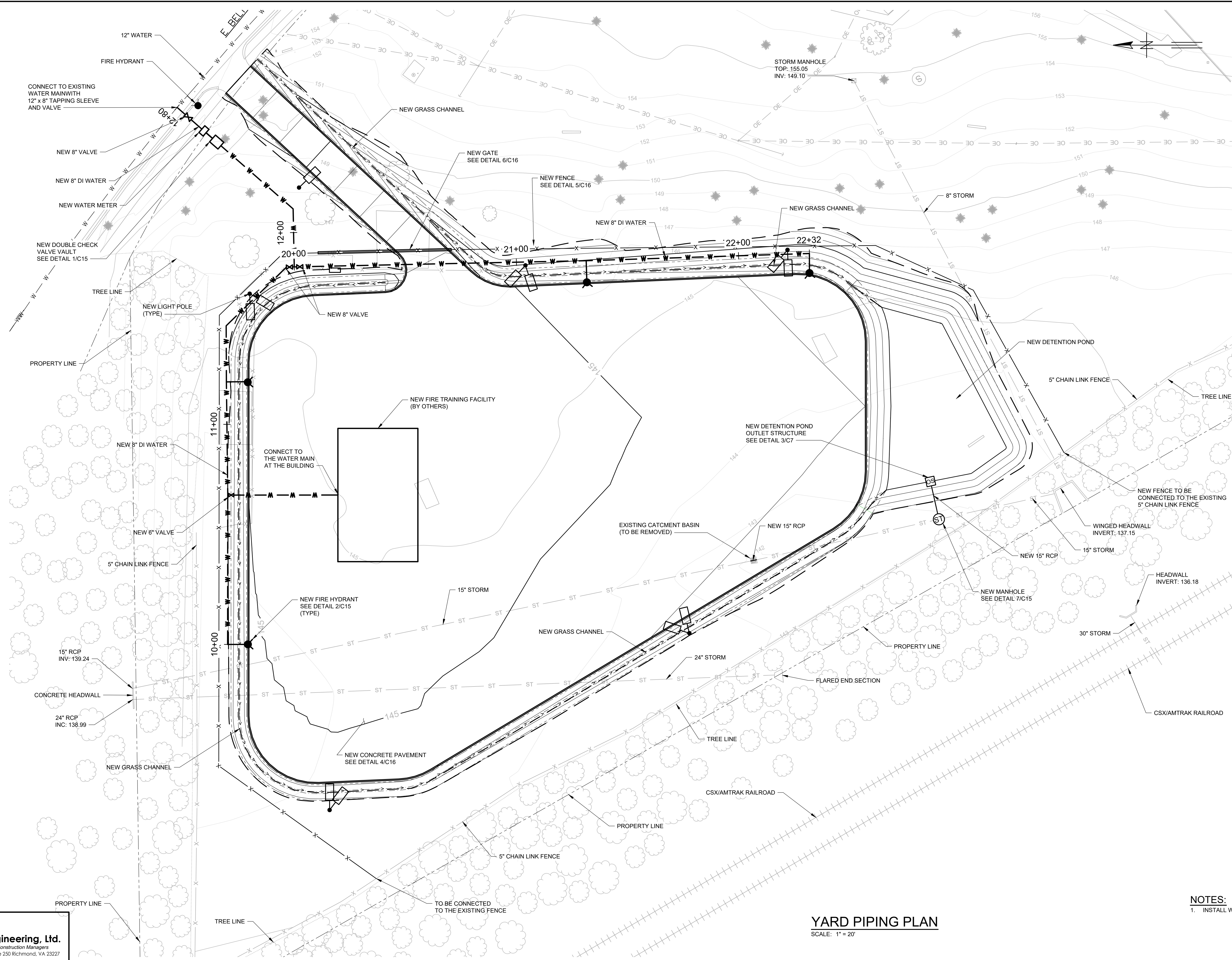


CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
RICHMOND FIRE DEPARTMENT
TRAINING FACILITY



CIVIL
EROSION & SEDIMENT CONTROL PLAN

PROJECT NO.:	0218A-09
DWG.:	C9
SHEET:	11 OF 25
DATE:	JANUARY 2023
REV.:	0



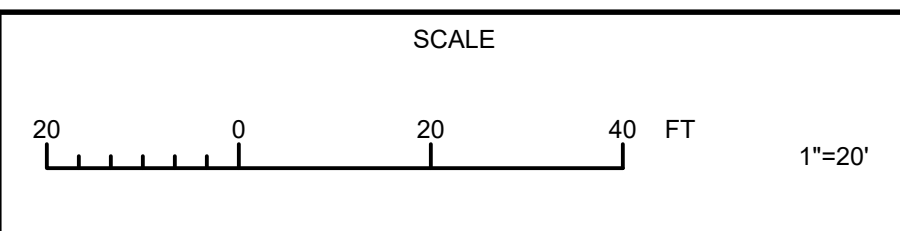
NOTES:
 1. INSTALL WATER MAIN 3.5' (MIN) BELOW FINISHED GRADE

YARD PIPING PLAN
 SCALE: 1" = 20'

Enviro-Civil Engineering, Ltd.
 Engineers • Scientists • Construction Managers
 2108 W Laburnum Avenue, Suite 250 Richmond, VA 23227

GREELEY AND HANSEN
 9020 STONY POINT PARKWAY, SUITE 275
 RICHMOND, VIRGINIA 23235

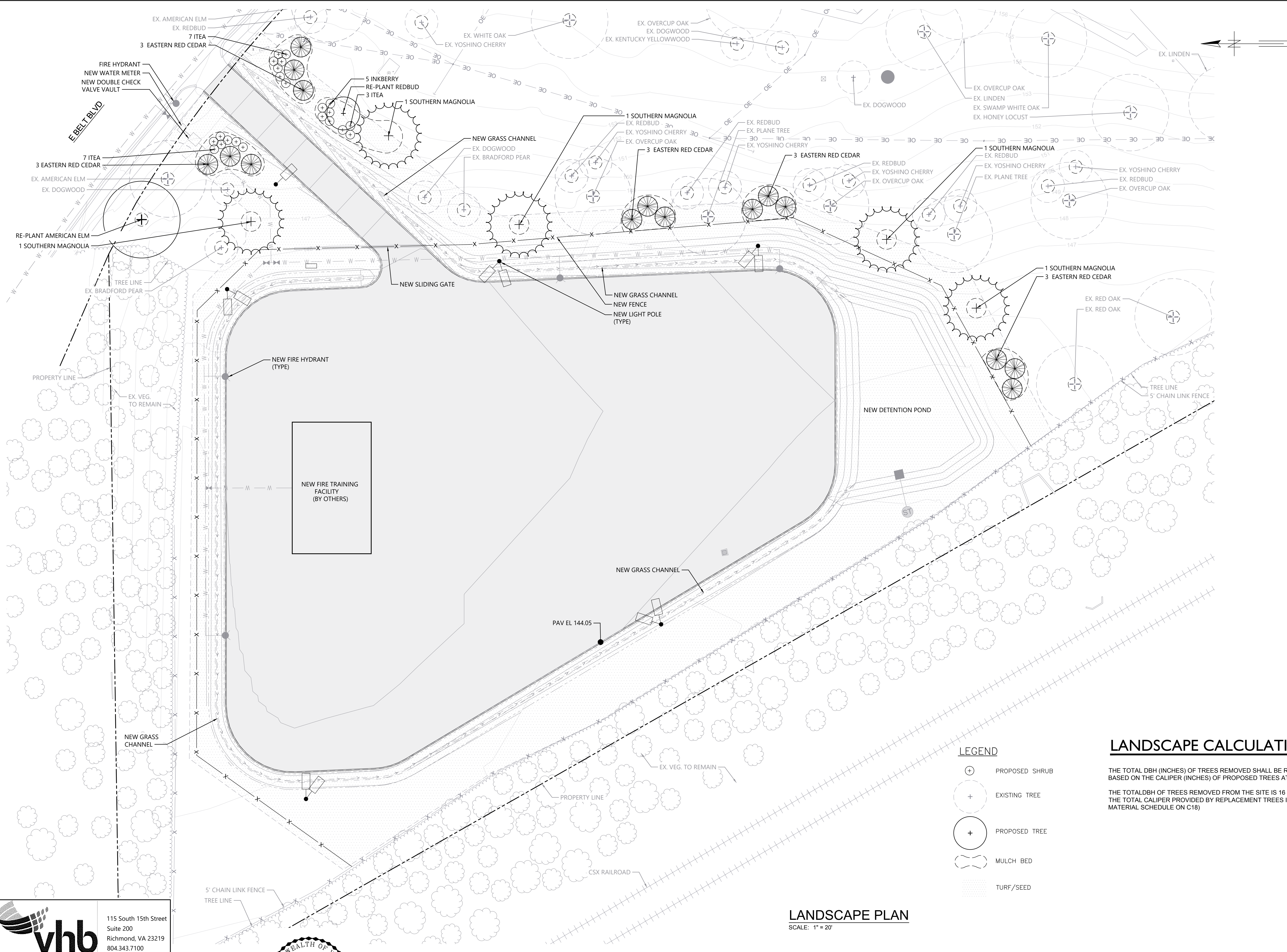
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DRAWN	XXX				
CHECKED	XXX				
APPROVED					
NO.	DATE	APPD	REVISION DESCRIPTION		



CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
RICHMOND FIRE DEPARTMENT
 TRAINING FACILITY



CIVIL	PROJECT NO.: 0218A-09
CIVIL YARD PIPING PLAN	DWG: C12
	SHEET: 14 OF 25
	DATE: JANUARY 2023 REV: 0



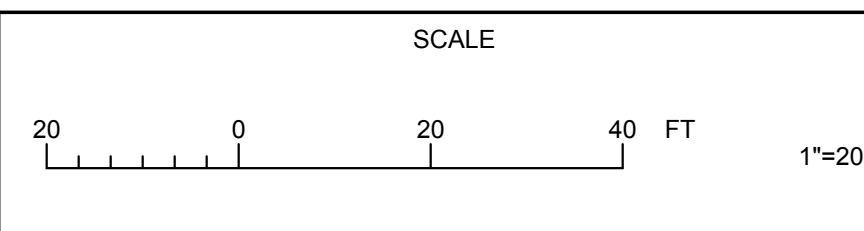
- LEGEND**
- PROPOSED SHRUB
 - EXISTING TREE
 - PROPOSED TREE
 - MULCH BED
 - TURF/SEED

LANDSCAPE CALCULATIONS

THE TOTAL DBH (INCHES) OF TREES REMOVED SHALL BE REPLACED ON A 1:1 BASIS, BASED ON THE CALIPER (INCHES) OF PROPOSED TREES AT PLANTING.

THE TOTAL DBH OF TREES REMOVED FROM THE SITE IS 16 INCHES (SEE TABLE ON C16)
 THE TOTAL CALIPER PROVIDED BY REPLACEMENT TREES IS 32.5 INCHES (SEE PLANT MATERIAL SCHEDULE ON C18)

LANDSCAPE PLAN
 SCALE: 1" = 20'



vhb
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 Suite 200
 Richmond, VA 23219
 804.343.7100

GREELEY AND HANSEN
 9020 STONY POINT PARKWAY, SUITE 275
 RICHMOND, VIRGINIA 23235

DESIGNED EGG
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NO.	DATE	APPD	REVISION DESCRIPTION

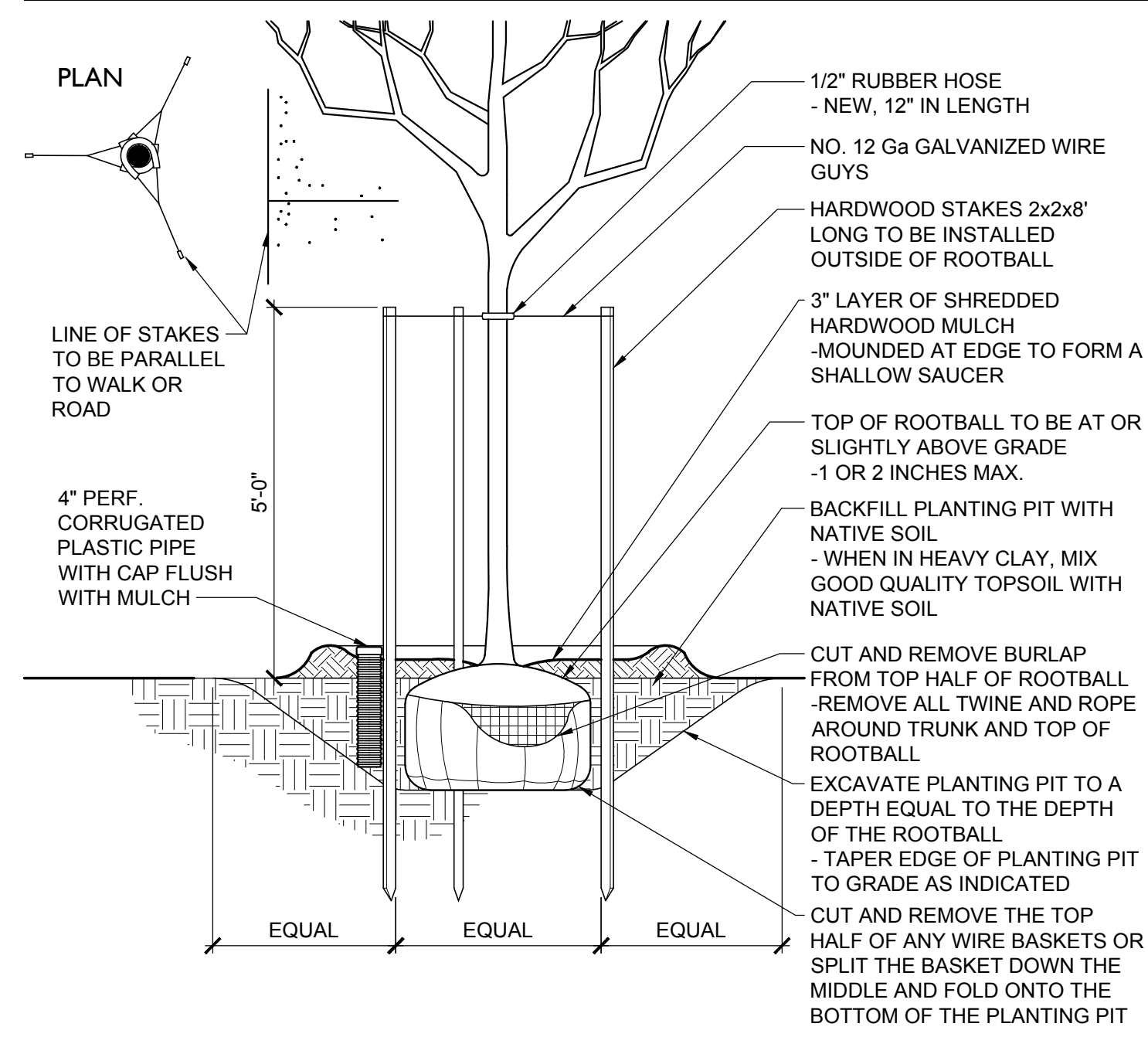
CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
**RICHMOND FIRE DEPARTMENT
 TRAINING FACILITY**



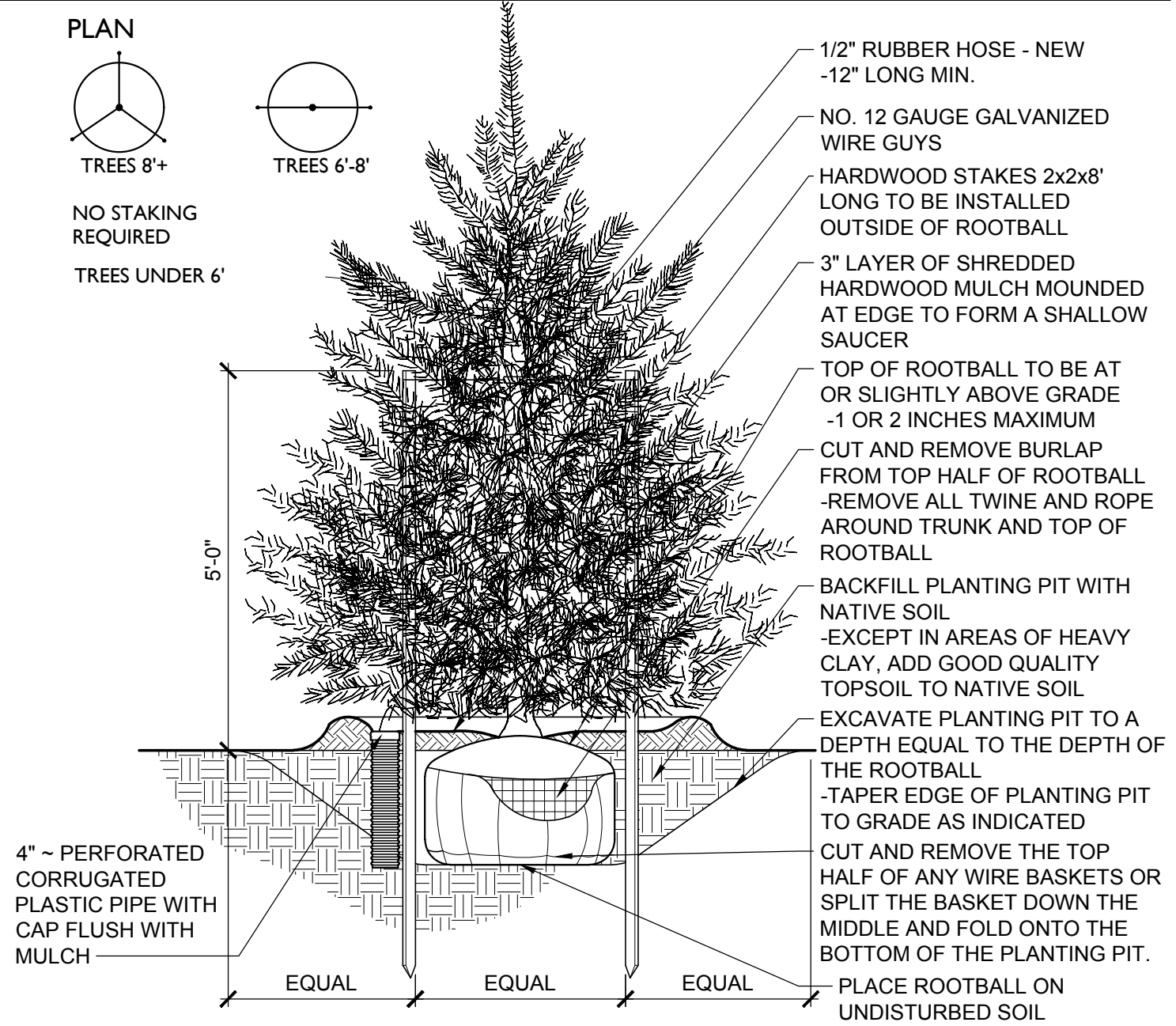
CIVIL
LANDSCAPING PLAN

PROJECT NO.: 0218A-09
 DWG: **C18**
 SHEET: 20 OF 25
 DATE: JANUARY 2023 REV: 0

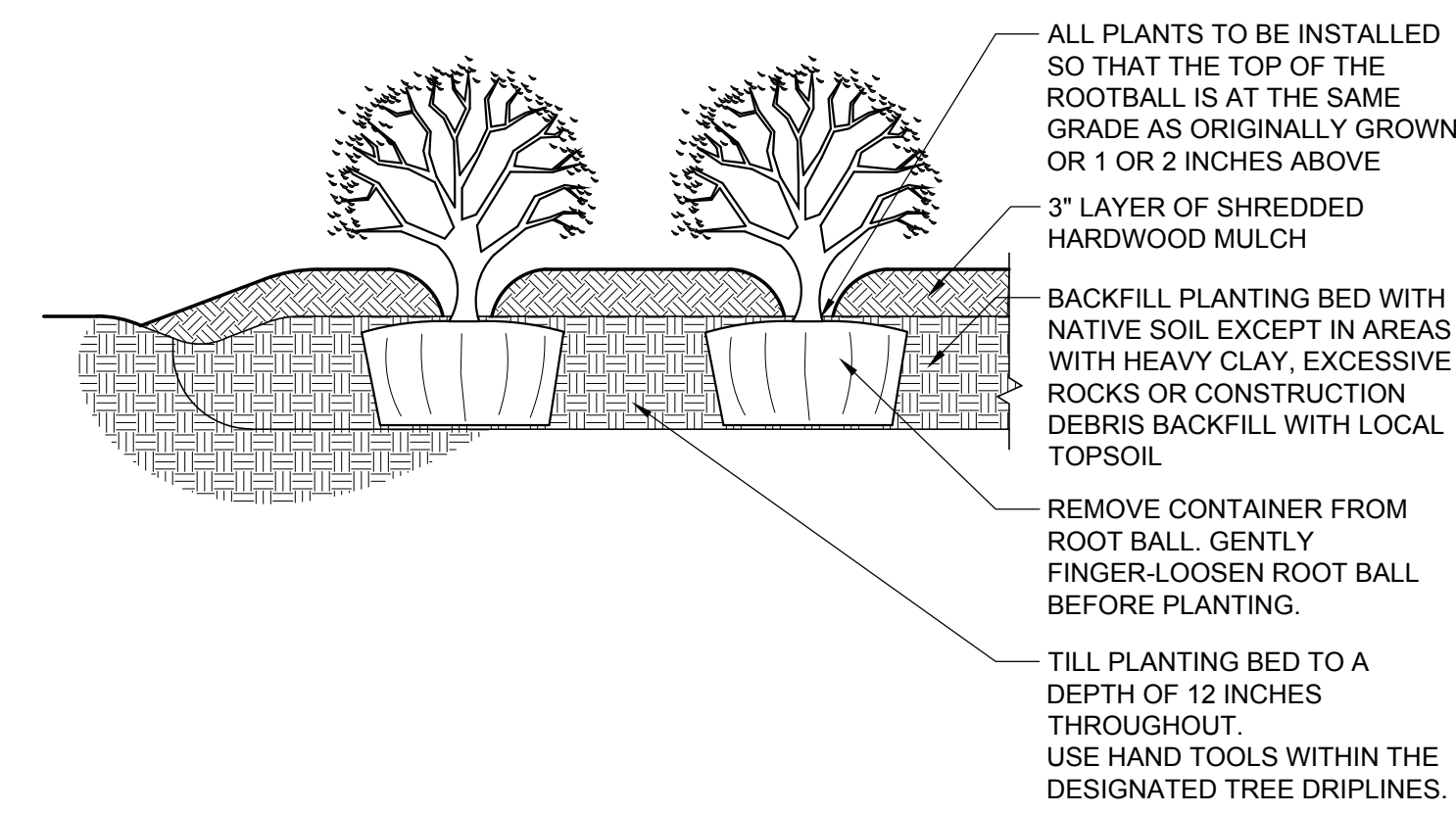
PLANTING DETAILS



A DECIDUOUS TREE STAKING DETAIL
NOT TO SCALE



C EVERGREEN TREE STAKING DETAIL
NOT TO SCALE



D SHRUB PLANTING DETAIL
NOT TO SCALE

PLANT MATERIAL SCHEDULE

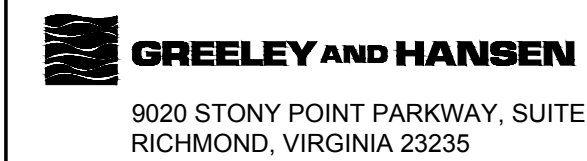
QUANTITY	BOTANICAL NAME	COMMON NAME	SPACING	CALIPER	HEIGHT	ROOT TYPE	DETAIL	REMARKS
TREES								
15	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	AS SHOWN	1.5"	6'	B&B	C	15 X 1.5" = 22.5"
5	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	AS SHOWN	2.0"	10'	B&B	C	5 X 2" = 10"
SHRUBS								
5	ILEX GLABRA	INKBERRY	AS SHOWN		18" HT.	CONT.	D	DENSE, FULL TO GROUND
17	ITEA VIRGINICA	ITEA, VIRGINIA SWEETSPIRE	AS SHOWN		18" HT.	CONT.	D	DENSE, FULL TO GROUND

PLANTING NOTES:

- CONTRACTOR SHALL VERIFY PLANT MATERIAL QUANTITIES SHOWN ON PLAN WITH TOTALS IN PLANTING SCHEDULE. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO FINAL BIDDING. UNIT PRICES SHALL BE SUBMITTED AS PART OF FINAL BID.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE FULL YEAR TO BE IN A HEALTHY GROWING CONDITION. PLANT MATERIALS WHICH DO NOT FULFILL THIS GUARANTEE SHALL BE REPLACED AT NO COST TO THE OWNER. REPLACEMENT SHALL BE GUARANTEED THROUGHOUT THE ORIGINAL GUARANTEE PERIOD. PLANTS THAT DIE SHALL BE REPLACED IMMEDIATELY.
- CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANT MATERIAL DURING INSTALLATION AND UNTIL FINAL INSPECTION AND ACCEPTANCE BY OWNER. CONTRACTOR SHALL NOT ASSUME IRRIGATION SYSTEM IS FULLY OPERATIONAL AT COMPLETION OF PLANTING INSTALLATION.
- CONTRACTOR RESPONSIBLE FOR CONTACTING MISS UTILITY PRIOR TO BEGINNING OF CONSTRUCTION FOR LOCATION OF ALL UTILITY LINES. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS. NOTIFY LANDSCAPE ARCHITECT IF ANY CONFLICTS OCCUR.
- THE LANDSCAPE ARCHITECT IS THE OWNERS REPRESENTATIVE AND SHALL BE THE APPROVING AUTHORITY FOR INFORMATION PROVIDED IN THESE PLANS AND SPECIFICATIONS.
- ALL PLANT MATERIALS, TOPSOIL, MULCH, FERTILIZERS, SOIL AMENITIES, PLANTING SUPPLIES AND METHODS SHALL BE SUBJECT TO LANDSCAPE ARCHITECTS APPROVAL. REJECTED MATERIALS SHALL BE REMOVED FROM THE SITE WITHOUT DELAY.
- ALL PLANT MATERIALS AND PLANTING METHODS SHALL CONFORM TO A.A.N. STANDARDS.
- CONTRACTOR SHALL LAYOUT AND MARK LOCATION FOR ALL PLANT MATERIAL, PLANTING, AND IMPROVEMENTS SHOWN AND REQUEST IN FIELD APPROVAL FROM LANDSCAPE ARCHITECT.
- BEDS TO CONTAIN SHRUBS OR GROUND COVER SHALL BE TILLED TO A DEPTH OF 6" AND THE SOIL CONDITIONED BY ADDING CLEAN, WELL ROTTED MANURE. IF EXISTING SOIL IS CONSIDERED TO BE UNUSABLE BY OWNER, BEDS SHALL BE TREATED TO ELIMINATE WEEDS AND WEED SEEDS.
- ALL PLANTING BED AREAS SHALL BE COVERED WITH A 3" MINIMUM LAYER OF MEDIUM TEXTURE SHREDDED HARDWOOD MULCH UNLESS OTHERWISE NOTED.
- ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE REQUESTED IN WRITING TO THE LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER.
- ALL PLANTING OPERATIONS SHALL BE UNDER THE SUPERVISION OF AN EXPERIENCED PLANTSMAN.
- LANDSCAPE ARCHITECT RESERVES THE RIGHT TO SELECT PLANT MATERIALS IN THE NURSERY.
- FOR TREES BALLED IN WIRE BASKETS, CUT AND REMOVE TOP AND SIDES OF BASKET AFTER INSTALLATION.
- LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS AND MATERIALS THAT ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION, AS WELL AS PLANTS AND MATERIALS THAT DO NOT CONFORM TO A.A.N. STANDARDS. SEE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-(CURRENT EDITION).
- SOIL SHALL BE FREE OF ALL WEEDS.
- PLANT SIZES, QUANTITIES, AND SPECIES WILL BE CHECKED BY COUNTY INSPECTION FOR COMPLIANCE WITH PLANT SCHEDULE AS APPROVED BY THE COUNTY. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR DELAY IN ISSUANCE OF CERTIFICATE OF OCCUPANCY BY THE COUNTY RESULTING FROM UNAUTHORIZED SUBSTITUTIONS OR DOWNSIZING.
- UPON COMPLETION OF LANDSCAPE INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR WHO WILL VERIFY COMPLETENESS, INCLUDING THE REPLACEMENT OF ALL DEAD PLANT MATERIAL, AND SCHEDULE A FINAL INSPECTION FOR ACCEPTANCE BY OWNER.
- THE ONE YEAR GUARANTEE PERIOD SHALL BEGIN UPON THE OWNER'S APPROVAL AND ACCEPTANCE OF THE PLANTING INSTALLATION. THE OWNER SHALL ASSUME RESPONSIBILITY FOR MAINTENANCE INCLUDING WATERING, WEEDING, PEST CONTROL, AND FERTILIZATION.
- CONTRACTOR SHALL REMOVE STAKING FROM TREES AT THE END OF THE ONE YEAR WARRANTY PERIOD.

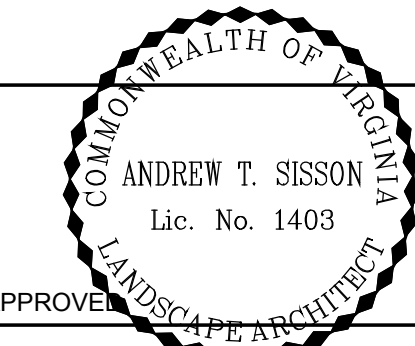


115 South 15th Street
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804.343.7100



9020 STONY POINT PARKWAY, SUITE 275
RICHMOND, VIRGINIA 23235

DESIGNED EGG
DRAWN EGG
CHECKED ATS



NO.	DATE	APPD	REVISION DESCRIPTION

SCALE

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
RICHMOND FIRE DEPARTMENT
TRAINING FACILITY



CIVIL
PLANTING DETAILS, SCHEDULE, AND NOTES

PROJECT NO.: 0218A-09
DWG: **C19**
SHEET: 21 OF 25
DATE: JANUARY 2023 REV: 0

POWER, LIGHTING AND MISCELLANEOUS PLAN SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXPOSED CONDUIT RUN		WALL OR CEILING MOUNTED INCANDESCENT OR HID LIGHTING FIXTURE UPPER LETTER DENOTES FIXTURE TYPE NUMBER DENOTES CIRCUIT NUMBER AND LETTER DENOTES SWITCH CONTROLLING FIXTURE
	CONCEALED CONDUIT RUN ABOVE CEILING OR IN WALLS		EMERGENCY LIGHTING FIXTURE
	CONCEALED CONDUIT RUN IN OR BELOW FLOOR SLAB		WALL OR CEILING MOUNTED EXIT OR DIRECTIONAL SIGN (SHADED SIDE DENOTES ILLUMINATED FACE ARROW INDICATES DIRECTION)
	UNDERGROUND CONDUIT (CONCRETE ENCASED)		EMERGENCY EXIT LIGHT COMBO, BATTERY POWERED, WALL MOUNT
	UNDERGROUND CONDUIT (DIRECT BURIED)		POLE MOUNTED LIGHTING FIXTURE
	UNDERGROUND CABLE (DIRECT BURIED)		FLOODLIGHT
	CONDUIT CAPPED		LED STRIP LIGHTING FIXTURE
	CONDUIT UP		LED LIGHTING FIXTURE
	CONDUIT DOWN		EMERGENCY LED LIGHTING FIXTURE
	CONDUIT WITH HOT, NEUTRAL AND GROUND WIRES (LONG LINE DENOTES NEUTRAL; LONG LINE WITH DOT DENOTES GROUND)		REMOTE TEST PUSHBUTTON AND "ON" INDICATING LIGHT FOR BATTERY EQUIPPED LIGHTING FIXTURES
	HOME RUN TO EQUIPMENT XXX INDICATES CONDUIT TAG		EMERGENCY BATTERY PACK WITH TWO LIGHTING HEADS
	FLEXIBLE CONDUIT OR CABLE		EMERGENCY BATTERY PACK - REMOTE HEAD
	GROUNDING CONDUCTOR		PHOTOELECTRIC CELL
	NEUTRAL CONDUCTOR		SPECIALTY PLUG PER DRAWING
	EQUIPMENT ENCLOSURE AS INDICATED ON PLAN		SINGLE RECEPTACLE 2 POLE, 3 WIRE, 120 VOLT, 20A, OR AS NOTED
	LIGHTING PANELBOARD 480Y/277V, 208Y/120V OR 120/240V		DUPLEX RECEPTACLE 2 POLE, 3 WIRE, 120 VOLT, 20A, OR AS NOTED
	DRY TYPE TRANSFORMER		DUPLEX RECEPTACLE 2 POLE, 3 WIRE, 208 VOLT, 20A, OR AS NOTED
	JUNCTION BOX, PULL BOX OR TERMINAL BOX		FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE 2 POLE, 3 WIRE, 120 VOLT, 20A, OR AS NOTED
	MANUALLY OPERATED DISCONNECTING SWITCH (SEE SPECIFICATIONS)		SINGLE RECEPTACLE - SINGLE PHASE (RATING AS NOTED)
	MANUAL REVERSING DRUM SWITCH, FORWARD-OFF-REVERSE, MAINTAINED CONTACTS		SINGLE RECEPTACLE - THREE PHASE (RATING AS NOTED) CLOCK WITH RECEPTACLE
	FULL VOLTAGE MAGNETIC STARTER OR CONTACTOR		SINGLE POLE SWITCH UNLESS NOTED OTHERWISE 2P - TWO POLE MS - MOTOR STARTING 3 - THREE WAY PL - WITH PILOT LIGHT 4 - FOUR WAY T - THERMAL OVERLOAD D - DOOR SWITCH TS - TIME SWITCH M - MOMENTARY CONTACT
	COMBINATION CIRCUIT BREAKER STARTER		INTERCOM TELEPHONE OUTLET
	MOTOR - THREE PHASE		INTERCOM TELEPHONE FLOOR OUTLET
	MOTOR - SINGLE PHASE		PUBLIC TELEPHONE OUTLET
	MOTOR OPERATED VALVE OR SLUICE GATE WITH INTEGRAL CONTROLLER AND CONTROL STATION		PUBLIC TELEPHONE FLOOR OUTLET
	CONTROL STATION (SEE SCHEMATIC DIAGRAMS FOR ASSOCIATED DEVICES)		SPEAKER
	CONTROL STATION AND FIELD CONTROL DEVICES (SEE ONE LINE DIAGRAMS AND SCHEMATICS FOR DETAILS)		BI-DIRECTIONAL SPEAKER
	GROUND ROD		INTERCOMMUNICATION SPEAKER
	GROUND ROD WITH ACCESS BOX		INTERCOMMUNICATION SPEAKER VOLUME CONTROL
	LIGHTNING ROD		CLOSED CIRCUIT TELEVISION CAMERA
	METER SOCKET		ALARM HORN
	WATER HEATER		ALARM BELL
	UNIT HEATER		FIRE ALARM CONTROL PANEL
	LIGHT LINE DENOTES EXISTING WORK		FIRE ALARM ANNUNCIATOR PANEL
	HEAVY LINE DENOTES NEW WORK		MANUAL PULL STATION
	HATCHING DENOTES WORK TO BE DEMOLISHED		SMOKE DETECTOR
			HEAT DETECTOR
			PHOTOELECTRIC BEAM SMOKE DETECTOR TRANSMITTER
			PHOTOELECTRIC BEAM SMOKE DETECTOR RECEIVER
			AUDIBLE/VISUAL INDICATING DEVICE WITH HORN
			AUDIBLE/VISUAL INDICATING DEVICE WITH BELL
			VISUAL INDICATING DEVICE
			SPRINKLER SYSTEM FLOW SWITCH
			SPRINKLER SYSTEM TAMPER SWITCH
			MAGNETIC DOOR SWITCH
			PASSIVE INFRARED MOTION DETECTOR
			INFRARED BEAM MOTION DETECTION TRANSMITTER

ONE LINE AND SCHEMATIC DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	INCOMING FEEDER		OPERATING COIL (C-CONTACTOR, F-FAST, F-FORWARD, H-HIGH, L-LOW, M-MOTOR STARTER, R-REVERSE, S-SLOW)
	OUTGOING FEEDER		RELAY COIL (AR-AUXILIARY RELAY, CR-CONTROL RELAY, LOR-LOCKOUT RELAY, TR-TIME DELAY RELAY WHERE 'XX' DENOTES RELAY FUNCTION OR NUMBER)
	CONDUCTORS CONNECTED		NORMALLY OPEN CONTACT
	GROUNDING CONNECTION		NORMALLY CLOSED CONTACT
	LIGHTNING OR SURGE ARRESTOR		OVERLOAD RELAY CONTACT
	RECTIFIER OR DIODE		NORMALLY OPEN (SHOWN) OR NORMALLY CLOSED RESET TIMER CONTACT (X-X-O - DENOTES TIMER SEQUENCE FOR RESET-TIMING-TIMED OUT PERIODS. X INDICATES CONTACT CLOSED)
	SURGE CAPACITOR		NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON DELAY)
	POWER TRANSFORMER		NORMALLY CLOSED CONTACT WITH TIME DELAY CLOSING (OFF DELAY)
	CONTROL POWER TRANSFORMER		NORMALLY CLOSED CONTACT WITH TIME DELAY OPENING (ON DELAY)
	CURRENT TRANSFORMER (NUMBER DENOTES QUANTITY REQUIRED)		NORMALLY OPEN CONTACT WITH TIME DELAY OPENING (OFF DELAY)
	CURRENT TRANSFORMER 3 PHASE WINDOW TYPE		LIMIT SWITCH
	POTENTIAL TRANSFORMER (NUMBER DENOTES QUANTITY REQUIRED)		FLOAT SWITCH
	MEDIUM VOLTAGE DRAWOUT TYPE CIRCUIT BREAKER		PRESSURE OR VACUUM SWITCH
	DISCONNECTING OR DRAWOUT DEVICE		FLOW SWITCH
	LOW VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER 800A FRAME AND 600A TRIP		TEMPERATURE SWITCH
	LOW VOLTAGE AIR CIRCUIT BREAKER WITH 100A TRIP 2P - TWO POLE		TORQUE SWITCH
	LOW VOLTAGE AIR CIRCUIT BREAKER 225A FRAME AND 125A TRIP		LATCHING RELAY WITH CLEARING CONTACTS
	LOW VOLTAGE AIR CIRCUIT BREAKER WITH COORDINATED CURRENT LIMITING FUSES - 225A FRAME AND 150A TRIP		SELECTOR SWITCH
	KEY INTERLOCK - DASHED LINE WITH ARROWS INDICATES MOVEMENT OF KEY DURING INTERLOCK PROCEDURE		NORMALLY OPEN PUSHBUTTON
	FULL VOLTAGE MAGNETIC COMBINATION STARTER WITH MOTOR CIRCUIT PROTECTOR, CONTROL TRANSFORMER AND OVERLOAD RELAYS (M - OPERATING COIL)		NORMALLY CLOSED PUSHBUTTON
	FULL VOLTAGE MAGNETIC COMBINATION REVERSING STARTER WITH MOTOR CIRCUIT PROTECTOR, CONTROL TRANSFORMER AND OVERLOAD RELAYS (F - FORWARD, R - REVERSE)		PUSHBUTTON STATION (ONE, TWO OR THREE UNIT)
	REDUCED VOLTAGE MAGNETIC COMBINATION AUTOTRANSFORMER STARTER WITH MOTOR CIRCUIT PROTECTOR, CONTROL TRANSFORMER AND OVERLOAD RELAYS (H - HIGH, L - LOW, F - FAST, S - SLOW)		INDICATING LIGHT (A-AMBER, B-BLUE, G-GREEN, R-RED, W-WHITE)
	SOLID STATE REDUCED VOLTAGE COMBINATION STARTER WITH MOTOR CIRCUIT PROTECTOR AND CONTROL TRANSFORMER		THERMAL OVERLOAD ELEMENT (OL)
	MOTOR - THREE PHASE (NUMBER DENOTES HORSEPOWER)		ON-OFF SWITCH
			RESISTOR
			FUSE
			BATTERY
			HEATING ELEMENT
			MAINTAINED CONTACT PUSHBUTTON WITH MUSHROOM HEAD OPERATOR
			SELECTOR SWITCH X INDICATES CONTACT CLOSED IN CORRESPONDING SWITCH POSITION
			CURRENT SENSOR TRIP SWITCH

NOTES:
1. THIS IS A GENERAL LEGEND PROVIDED TO FACILITATE USE OF THE ELECTRICAL DRAWINGS. ALL SYMBOLS MAY NOT BE USED IN THIS SET OF ELECTRICAL DRAWINGS. REFER TO THE DRAWINGS AND SPECIFICATIONS FOR ITEMS REQUIRED.

ABBREVIATIONS

A - AMPS	ACM - ASBESTOS CONTAINING MATERIAL
AFF - ABOVE FINISHED FLOOR	ATC - AUTOMATIC TRANSFER CONTROLLER
ATS - AUTOMATIC TRANSFER SWITCH	BCP - BREAKER CONTROL PANEL
BKR - BREAKER	BLDG - BUILDING
BOD - BOTTOM OF DUCT	CL - CENTERLINE
CKT - CIRCUIT	CS - CONTROL SWITCH
CT - CURRENT TRANSFORMER	DIA - DIAMETER
DP - DISTRIBUTION PANELBOARD	DPCS - DISTRIBUTED PROCESS CONTROL SYSTEM
ECC - EXTERNAL CONTROL CABINET	EMH - ELECTRICAL MANHOLE
FO - FIBER OPTIC	FNVR - FULL VOLTAGE NON-REVERSING
GFCI - GROUND FAULT CIRCUIT INTERRUPTER	GND - GROUND
GRS - GALVANIZED RIGID STEEL	IPL - INDIANAPOLIS POWER AND LIGHT COMPANY
JB - JUNCTION BOX	KVA - KILOVOLT-AMPERE
LBP - LEAD BASED PAINT	LCS - LOCAL CONTROL STATION
LCP - LIGHTING CONTROL PANEL	LL - LEADLAG
LOR - LOCKOUT	LP - LIGHTING PANELBOARD
N - DEVICE IN NEUTRAL CIRCUIT	LOR - LOCAL OFF REMOTE
PSR - PHASE SENSING	LT - LIGHTING TRANSFORMER
X - AUXILIARY	MCC - MOTOR CONTROL CENTER
	MH - MOUNTING HEIGHT
	MIN - MINIMUM
	MM - MULTIMODE
	O/O - ON/OFF
	PB - PULL BOX
	PLC - PROGRAMMABLE LOGIC CONTROLLER
	PT - POTENTIAL TRANSFORMER
	PVC - POLYVINYL CHLORIDE
	RECEPT - RECEPTACLE
	RST - RESET
	RTU - REMOTE TERMINAL UNIT
	RVSS - REDUCED VOLTAGE SOLID STATE STARTER
	SCCR - SHORT CIRCUIT CURRENT RATING
	SP - SPARE
	TB - TERMINAL BOX
	TCM - TRIP COIL MONITOR
	TCP - TEMPERATURE CONTROL PANEL
	TTC - TELEPHONE TERMINAL CABINET
	TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSOR
	TWSH - TWISTED SHIELDED
	TYP - TYPICAL
	V - VOLTS
	WP - WEATHERPROOF
	XP - EXPLOSION-PROOF

SYMBOL	DESCRIPTION
	PROTECTIVE RELAYS: 25 - SYNCHRONIZING CHECK 27 - UNDERVOLTAGE 32 - REVERSE POWER 43 - SELECTOR SWITCH 47 - PHASE SEQUENCE 49 - THERMAL 50 - INSTANTANEOUS OVERCURRENT 51 - AC TIME OVERCURRENT 52 - AC CIRCUIT BREAKER 59 - OVERVOLTAGE 60 - VOLTAGE OR CURRENT BALANCE 62 - TIME DELAY 64 - GROUND 67 - DIRECTIONAL OVERCURRENT 86 - LOCKOUT 87 - DIFFERENTIAL CURRENT 810 - OVERFREQUENCY 81U - UNDERFREQUENCY BF - BREAKER FAILURE DBX - DEAD BUS AUXILIARY GSR - GROUND SENSING IR - INTERPOSING LOR - LOCKOUT N - DEVICE IN NEUTRAL CIRCUIT P - PHASE PSR - PHASE SENSING X - AUXILIARY
	CONTROL DEVICES: DP - DIFFERENTIAL PRESSURE SWITCH F - FLOAT SWITCH FL - FLOW SWITCH LL - LEVEL SWITCH LS - LIMIT SWITCH P - PRESSURE SWITCH RDS - REVERSING DRUM SWITCH ST - SHUNT TRIP S - SOLENOID VALVE T - THERMOSTAT TQ - TORQUE SWITCH T - TEMPERATURE SWITCH VIB - VIBRATION SWITCH V - VACUUM SWITCH XS - TAMPER SWITCH
	METER, INSTRUMENT OR INSTRUMENT SWITCHES: A - AMMETER AS - AMMETER SWITCH AT - CURRENT TRANSDUCER CS - BREAKER CONTROL SWITCH DT - DUTY TRANSFER SWITCH FPR - FEEDER PROTECTION RELAY LPR - LINE PROTECTION RELAY MMS - MICROPROCESSOR METERING SYSTEM MPR - MOTOR PROTECTION RELAY MSH - MOTOR SPACE HEATER PF - POWER FACTOR METER POT - POTENTIOMETER SI - SPEED INDICATOR SS - SELECTOR SWITCH TM - ELAPSED TIME METER TMR - TIMER V - VOLTMETER VAR - VARMETER VART - VARS TRANSDUCER VS - VOLTMETER SWITCH VT - VOLTAGE TRANSDUCER W - WATTMETER WH - WATTHOUR METER WHD - WATTHOUR DEMAND METER WT - WATTS TRANSDUCER ZT - POSITION TRANSMITTER

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DESIGNED	MSZ	SCALE	
DRAWN	MV	NO SCALE	
CHECKED	TK		
APPROVED			
NO.	DATE	APPD	REVISION DESCRIPTION

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES

**RICHMOND FIRE DEPARTMENT
TRAINING FACILITY**

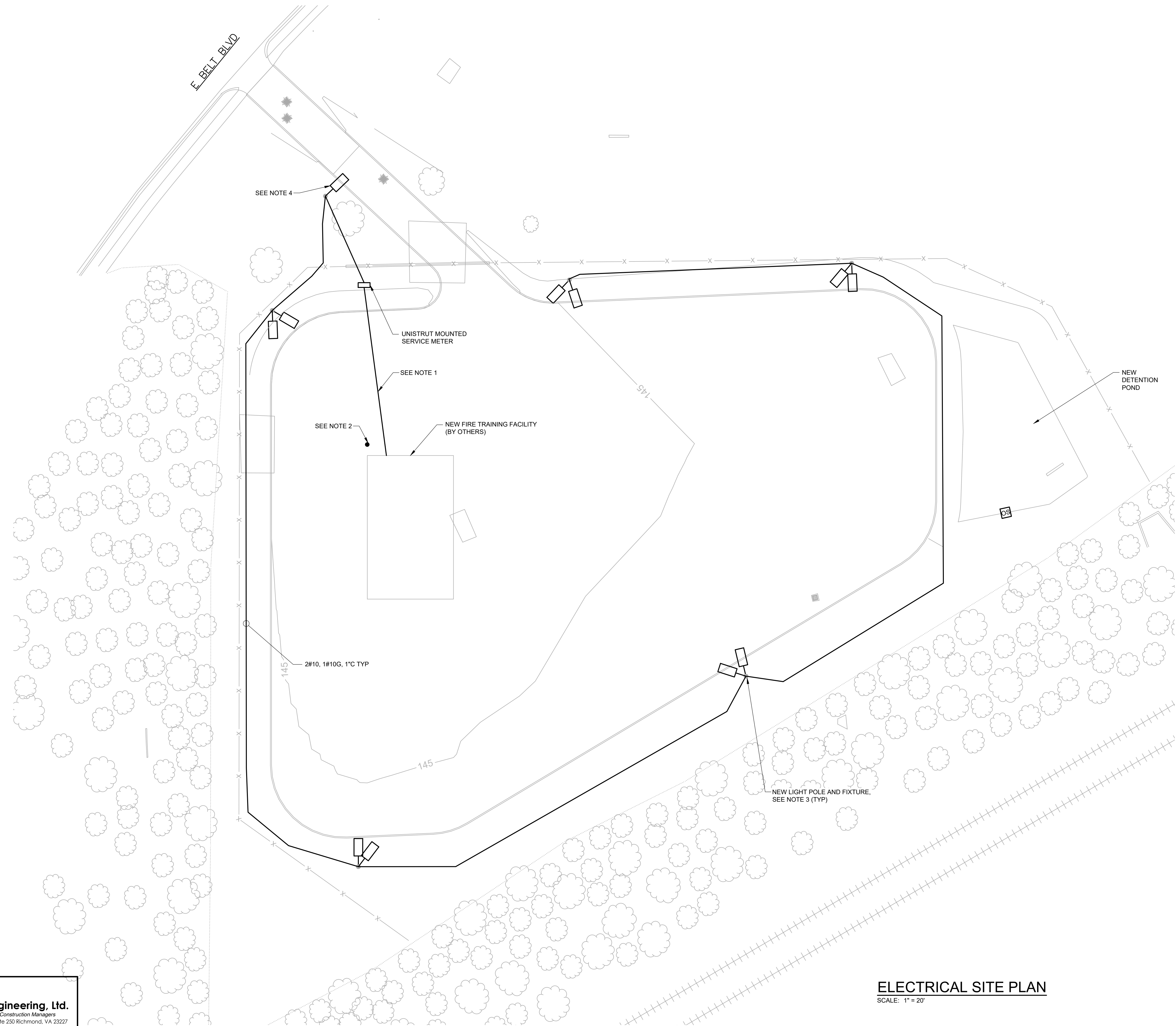
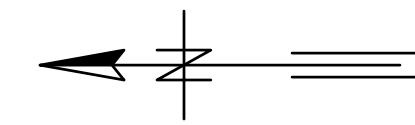
ELECTRICAL

PROJECT NO.: 0218A-09

DWG: **E1**

SHEET: 23 OF 25

DATE: JANUARY 2023 REV: 0



NOTES:

1. ROUTE 2#4/0, 1#4G, 2\"C AND 1\" SPARE CONDUIT FROM FIRE TRAINING FACILITY BREAKER TO NEW BUILDING. CONCRETE ENCASE CONDUITS UNDER COVERED AREAS. STUB CONDUITS UP FOR CONNECTION TO NEW BUILDING DISCONNECT BY OTHERS. PRIOR TO INSTALLATION OF CONDUITS COORDINATE LOCATION OF BUILDING DISCONNECT WITH BUILDING MANUFACTURER.
2. PROVIDE GROUND ROD AT CORNER OF BUILDING FOR GROUNDING OF NEW BUILDING. FIELD COORDINATE LOCATION OF GROUND ROD PRIOR TO INSTALLATION.
3. HOLOPHANE PREDATOR FLOOD LIGHT WITH TENON SLIP FITTER KNUCKLE AND 25FT ROUND TAPERED ALUMINUM POLE AND BULLHORN BRACKET. BLACK FINISH FOR FIXTURE, POLE AND APPURTENANCES. MODEL # PMLD P5 40K MVOLT 65 KM BKSDP NPR WL RTA 25 70E PLN NDR BK ABG BCV BR896 BK ASSY16589 OR APPROVED EQUAL.
4. AMERICA ELECTRIC LIGHTING COBRA HEAD LIGHT WITH TYPE II OPTICS WITH A 25' ALUMINUM ROUND TAPERED POLE AND UMR ARM. BLACK FINISH FOR FIXTURE, POLE AND APPURTENANCES. MODEL # AT6P303 MVOLT 1 R2 BK UMRBK NR RTA 25 60E PLN NDR DK ABG BR1061 BK ASSY16671 OR APPROVED EQUAL.

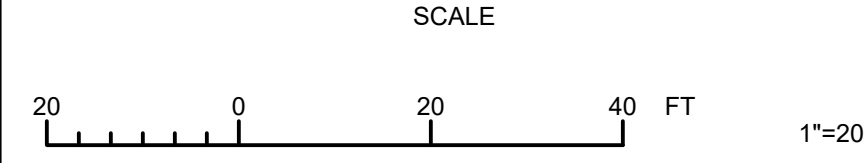
ELECTRICAL SITE PLAN
SCALE: 1" = 20'

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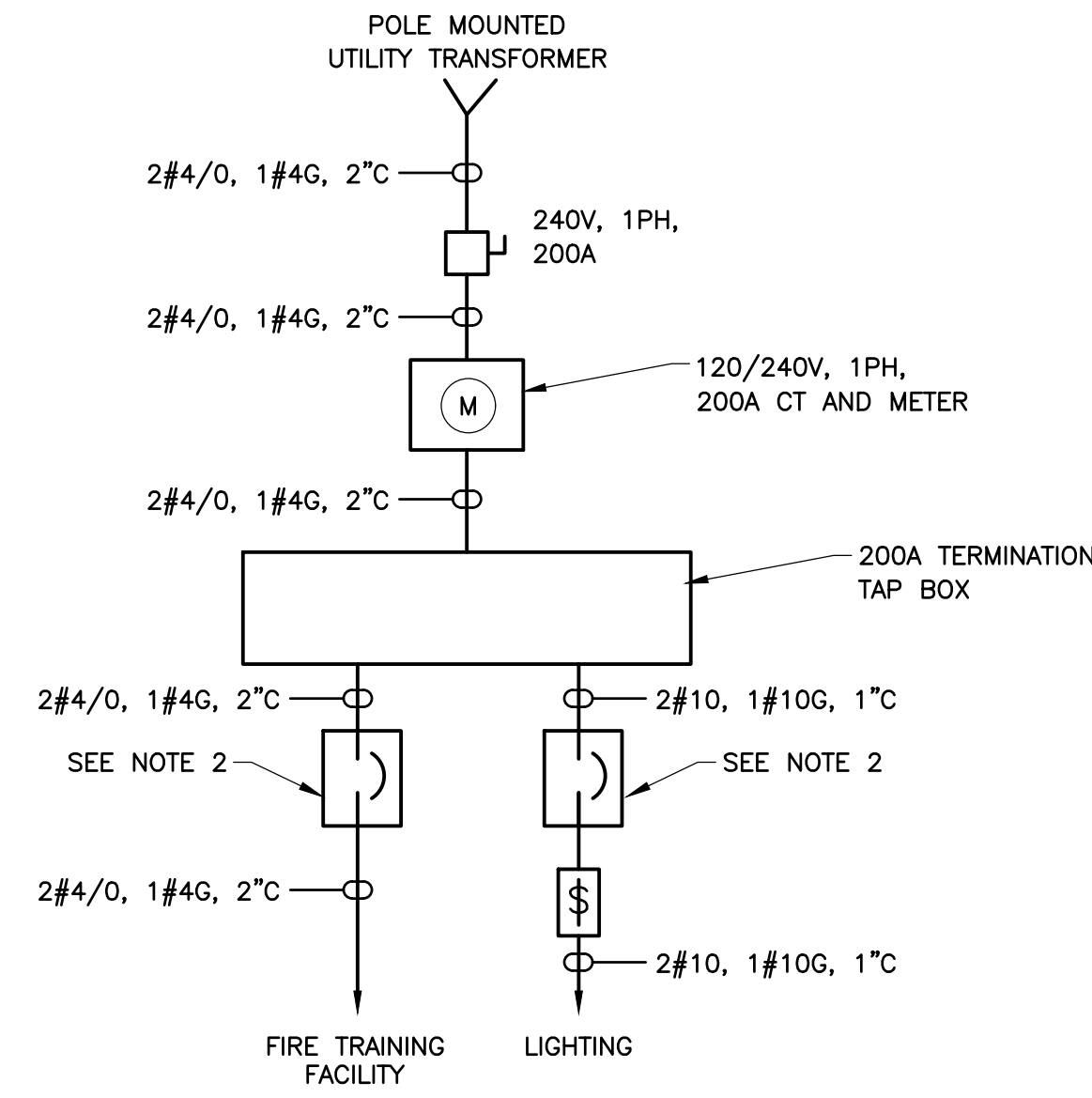
NO.	DATE	APPD	REVISION DESCRIPTION



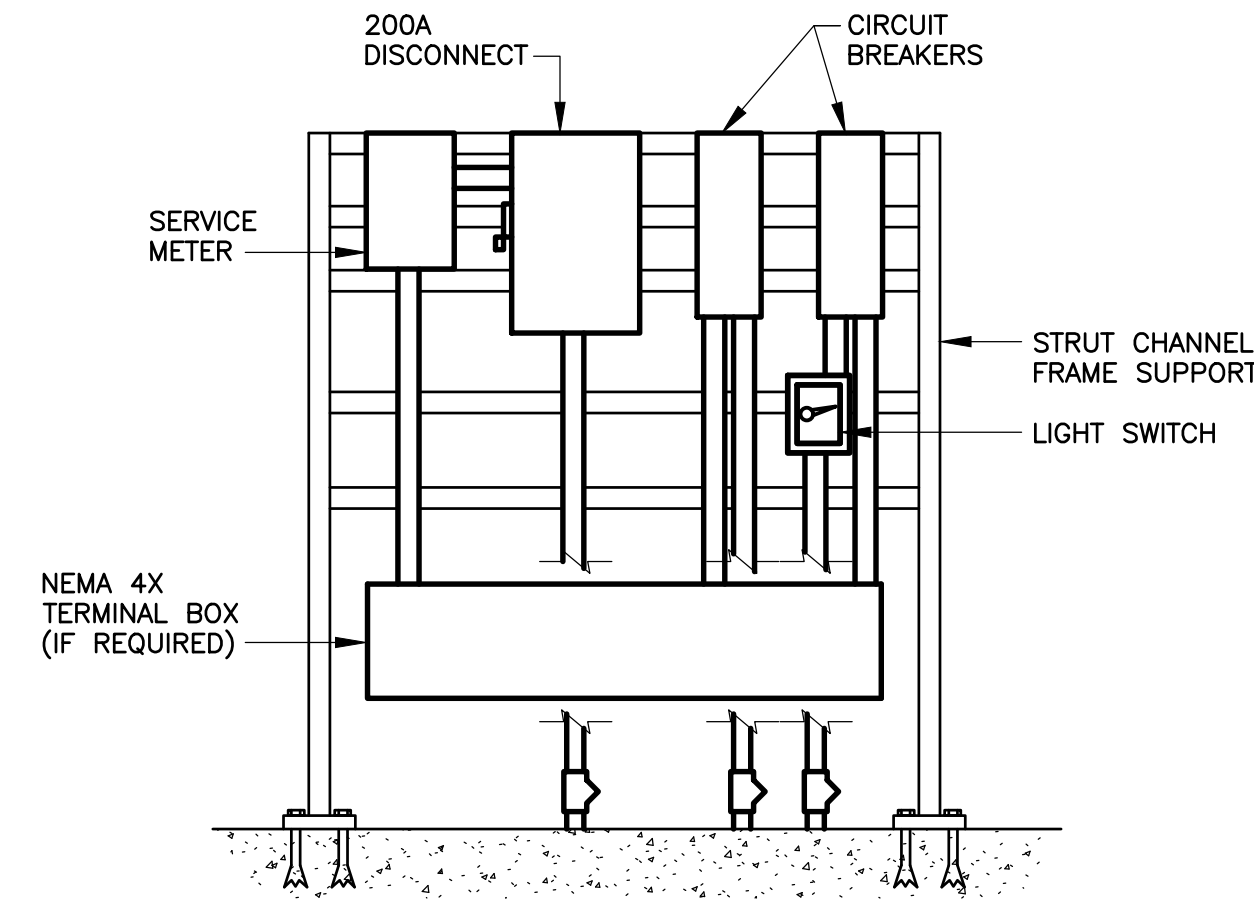
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TRAINING FACILITY**



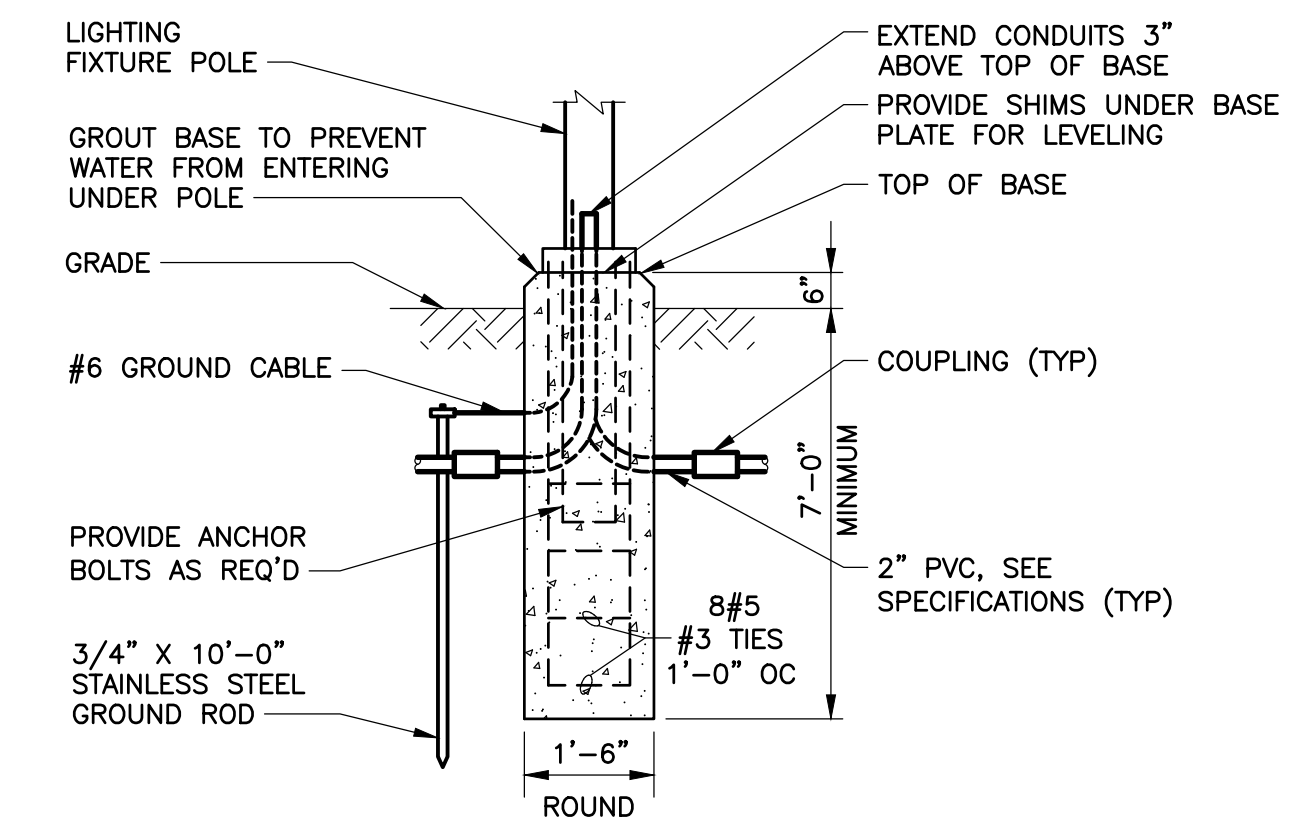
ELECTRICAL	PROJECT NO.: 0218A-09
ELECTRICAL SITE PLAN	DWG: E2
	SHEET: 24 OF 25
	DATE: JANUARY 2023 REV: 0



ONE LINE DIAGRAM
NOT TO SCALE



EQUIPMENT MOUNTING STANDARD FRAME
NOT TO SCALE



GROUNDING LIGHTING FIXTURE POLE BASE
NOT TO SCALE

NOTES:

- 200A CIRCUIT BREAKER, NEMA 4X ENCLOSURE.
- 30A CIRCUIT BREAKER, NEMA 4X ENCLOSURE.
- PROVIDE CONCRETE BASE FOR UNISTRUT STRUCTURE. UNISTRUT AND ALL HARDWARE TO BE STAINLESS STEEL.

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DRAWN	MV				
CHECKED	TK				
APPROVED					
NO.	DATE	APPD	REVISION DESCRIPTION		

SCALE
NO SCALE

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DEPARTMENT OF PUBLIC UTILITIES
RICHMOND FIRE DEPARTMENT
TRAINING FACILITY



ELECTRICAL
DETAILS

PROJECT NO.: 0218A-09
DWG: **E3**
SHEET: 25 OF 25
DATE: JANUARY 2023 REV: 0