

# CITY HALL ELECTRICAL RENOVATIONS

## 1 JUNKINS AVENUE PORTSMOUTH, NEW HAMPSHIRE 03801



DESIGNED BY: KTW  
 DRAWN BY: BML  
 CHECKED BY: KTW  
 PROJECT: 21904.15

**CITY OF PORTSMOUTH**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**CITY HALL  
ELECTRICAL RENOVATIONS**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**COVER SHEET**

SCALE: AS NOTED  
 DATE: 06/24/2020  
 DWG.: **G-001**  
 SHEET: **1** OF 33

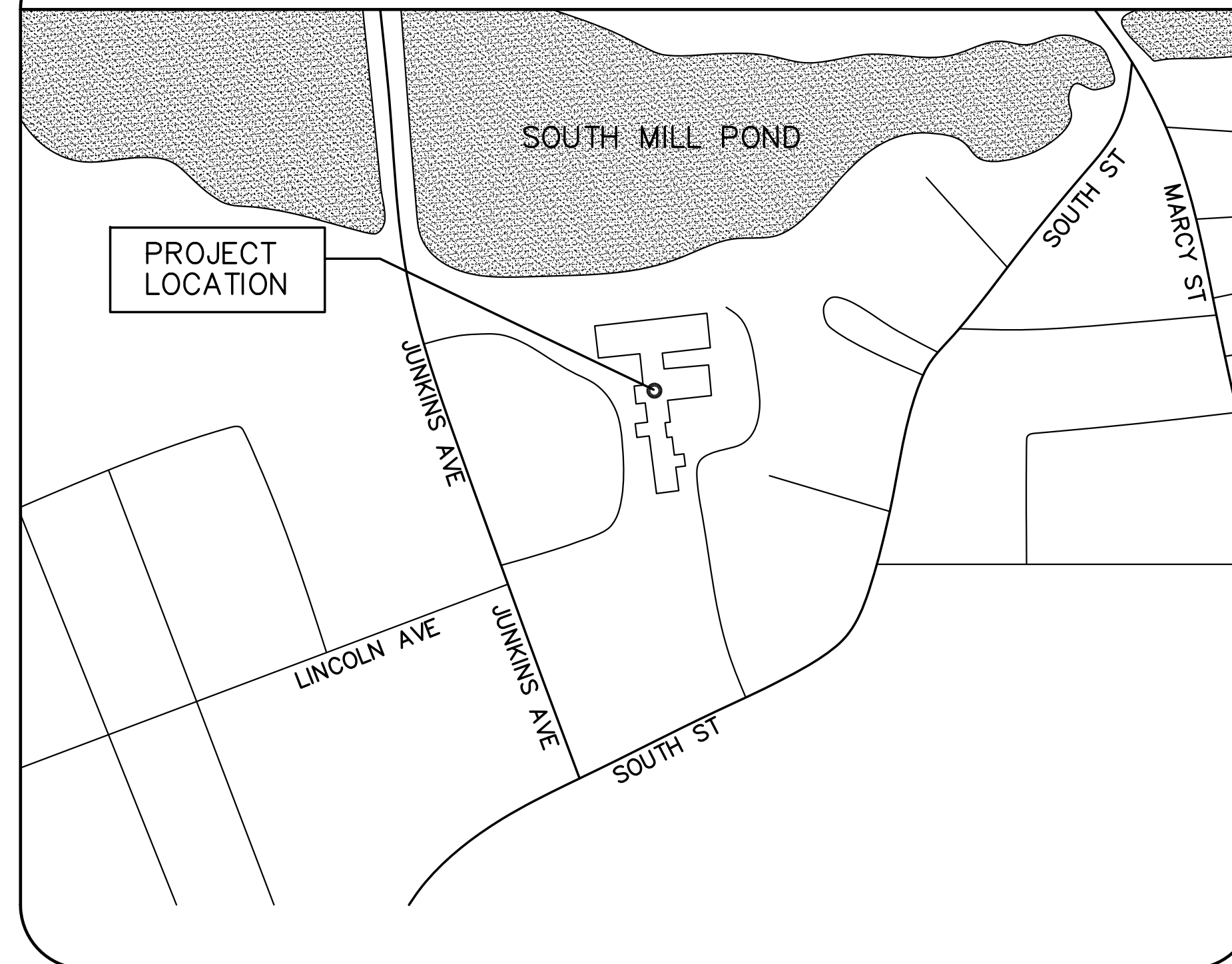
**GENERAL CONSTRUCTION NOTES**

1. WORK INCLUDED IN THIS CONTRACT SHALL CONFORM TO STATE, NATIONAL AND OTHER CODES AND ORDINANCES WHICH APPLY TO THIS PROJECT.
2. OBTAIN PERMITS WHICH ARE REQUIRED FOR THE SATISFACTORY COMPLETION OF THE WORK.
3. COORDINATE THE TIMING AND SEQUENCE OF WORK WITH THE CONTRACT ADMINISTRATOR PRIOR TO COMMENCING WORK.
4. MOBILIZATION, LAY DOWN, AND DUMPSTER LOCATIONS: COORDINATE LOCATION AND USE OF PROPOSED CONTRACTOR LAYDOWN AND STAGING AREAS WITH CONTRACT ADMINISTRATOR PRIOR TO MOBILIZATION.
5. THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR A MINIMUM OF 48 HOURS PRIOR TO INTERRUPTING UTILITY SERVICES.
6. FIELD VERIFY EXISTING CONDITIONS AND REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR. PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCY(IES) HAS(HAVE) BEEN RESOLVED BY THE CONTRACT ADMINISTRATOR.
7. WORK FROM GIVEN DIMENSIONS AND LARGE SCALE DETAILS ONLY. DO NOT SCALE DRAWINGS.
8. ITEMS AND COMPONENTS SHOWN ON THE DRAWINGS ARE NEW AND SHALL BE PROVIDED UNLESS NOTED AS REMOVALS OR EXISTING.
9. DURING THE ENTIRE CONTRACT PERIOD, MAINTAIN THE CONSTRUCTION SITE IN A SECURE, WEATHER TIGHT, NEAT, CLEAN AND SAFE MANNER.
10. WORK PRACTICES, EQUIPMENT, AND PERSONNEL PROTECTION MEASURES SHALL CONFORM TO OSHA STANDARDS.
11. DISPOSE OF AND/OR RECYCLE CONSTRUCTION DEBRIS FROM THE PROJECT SITE AS REQUIRED BY THE STATE OF NEW HAMPSHIRE. OBTAIN DISPOSAL PERMITS WHICH ARE REQUIRED. CONSTRUCTION DEBRIS FROM THE PROJECT SITES SHALL BE DISPOSED OF IN A STATE APPROVED MANNER.
12. MAINTAIN BUILDING EGRESS PATHS DURING THE ENTIRE CONTRACT PERIOD. PROVIDE FENCING AT WORK AREAS TO PREVENT BUILDING OCCUPANTS AND PEDESTRIAN TRAFFIC FROM ENTERING AREAS OF WORK. COORDINATE BARRICADE LOCATIONS WITH THE CONTRACT ADMINISTRATOR.
13. PROTECT EXISTING SURFACES FROM DAMAGE DURING CONSTRUCTION. REPAIR DAMAGED SURFACES IN ACCORDANCE WITH THE CONTRACT ADMINISTRATORS INSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER. FILL, PATCH, PAINT OR OTHERWISE REFINISH EXISTING REMAINING SURFACES DISTURBED BY WORK TO MATCH EXISTING ADJACENT SURFACES. PAINT SURFACES TO NEXT CHANGE IN PLANE.

**ABBREVIATIONS**

±	PLUS OR MINUS	MAX	MAXIMUM
ACT	ASBESTOS COMPOSITION TILE	MFR	MANUFACTURER
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
BLDG	BUILDING	MTL	METAL
BOS	BOTTOM OF STEEL	NO.#	NUMBER
BYND	BEYOND	OC	ON CENTER
CL	CENTERLINE	PNT,PTD	PAINT, PAINTED
CJ	CONTROL JOINT	SIM	SIMILAR
CLR	CLEAR	SS	STAINLESS STEEL
CONC	CONCRETE	STL	STEEL
CONT	CONTINUOUS	STRUCT	STRUCTURAL
DWG	DRAWING	TOS	TOP OF SLAB, TOP OF STEEL
EA	EACH	TYP	TYPICAL
EJ	EXPANSION JOINT	VCT	VINYL COMPOSITION TILE
ELEV,EL	ELEVATION	W/	WITH
EQ	EQUAL		
EXIST	EXISTING		
EXT	EXTERIOR		
FDN	FOUNDATION		
INSUL	INSULATION		
GALV	GALVANIZED		

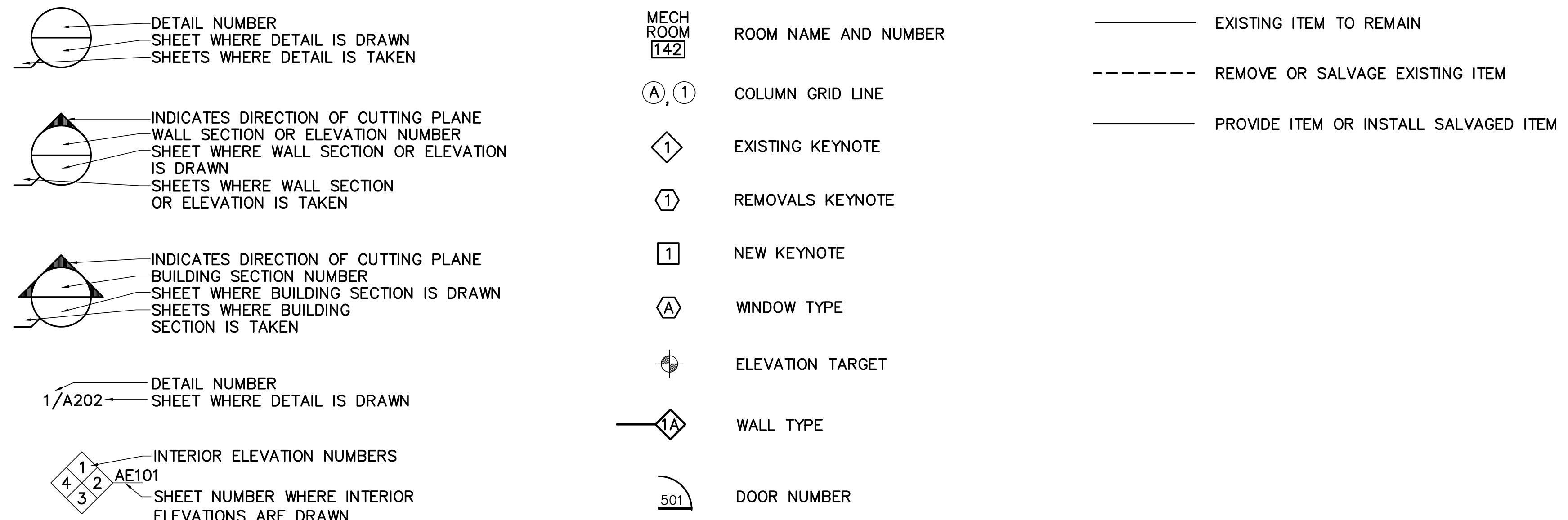
**LOCATION MAP NOT TO SCALE**



**DRAWING LIST**

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20	OF	33	AD701	REMOVALS REFLECTED CEILING PLANS
21	OF	33	AE101	FLOOR PLANS, WALL TYPES AND DETAILS
22	OF	33	AE102	MECHANICAL FLOOR PLANS
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33	OF	33	EL101	PARTIAL FIRST FLOOR LIGHTING PLAN AND SCHEDULE

**LEGEND**



## GENERAL FIRE PROTECTION CODE INFORMATION

**APPLICABLE LIFE SAFETY/BUILDING CODES:**

- 2015 International Building Code (IBC) with New Hampshire Amendments
- 2015 International Existing Building Code (IEBC) with New Hampshire Amendments
- 2015 NFPA 1, Fire Code, as amended by Saf-C 6000
- 2013 NFPA 13, Standard For The Installation of Sprinkler Systems
- 2017 NFPA 70, National Electrical Code with New Hampshire Amendments
- 2015 NFPA 101, Life Safety Code as amended by Saf-C 6000

**AUTOMATIC SUPPRESSION SYSTEM:** Fully Sprinklered

**FIRE DETECTION/ALARM SYSTEM:** Addressable System

**SMOKE PARTITION:** Per NFPA 101 (Section 8.7 Special Hazard Protection) an area having a degree of hazard greater than that normal to the general occupancy shall be protected. Per Section 8.7.1.2, when protecting the area of hazard with automatic extinguishing systems in accordance with section 9.7, the enclosure shall be of smoke partitions.

## ELECTRICAL CODE SUMMARY

**APPLICABLE LIFE SAFETY/BUILDING CODES:**

NFPA 70, Section 110.26(C)(3):

Where there is equipment rated 800A or more and there is a door less than 25'-0" from the nearest edge of the equipment working space, the door shall open in the direction of egress and have listed panic hardware or listed fire exit hardware.  
 - Applicable at door 126

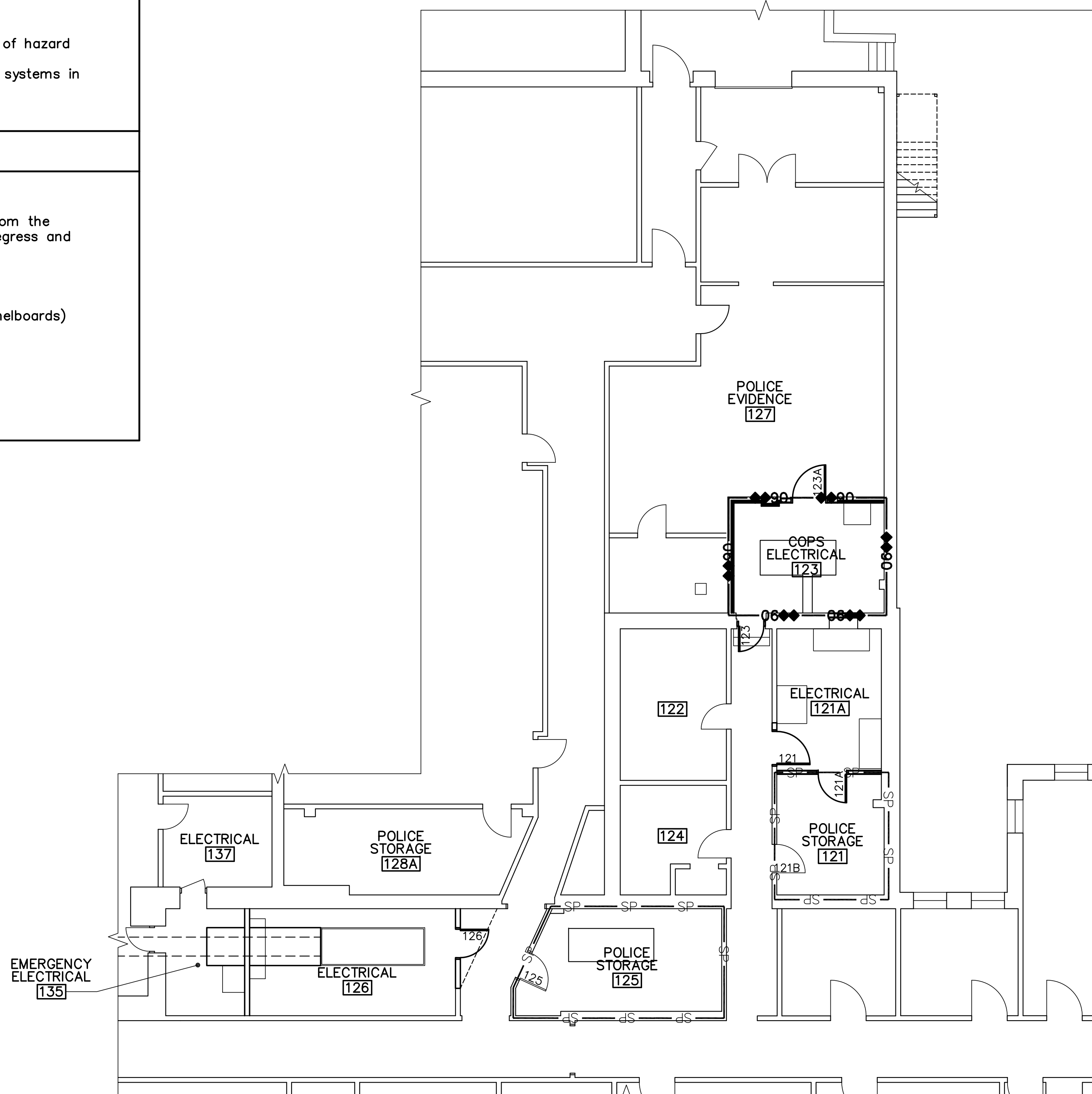
NFPA 70, Article 708.11(B) Branch Circuit and Feeder Distribution Equipment

Equipment for COPS feeder circuits (including transfer equipment, transformers, and panelboards) shall comply with (1) and (2):

- (1) Be located in spaces with a 2-hour fire resistance rating.
- (2) Be located above the 100-year floodplain.

- Applicable at Room 123

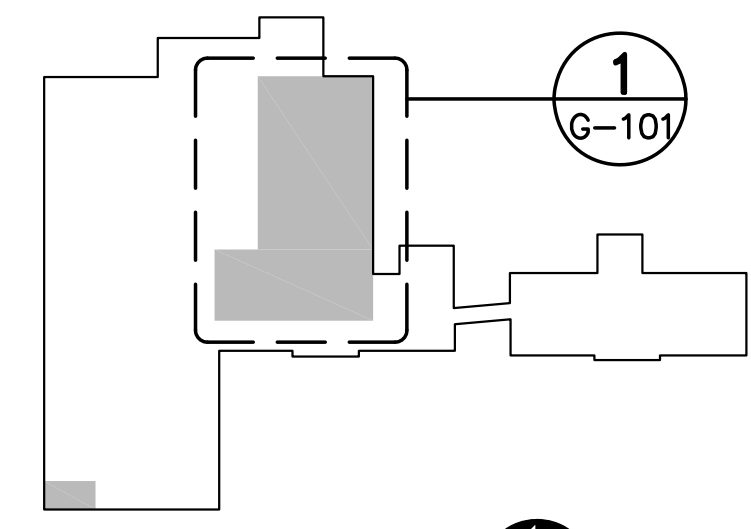
C.O.P.S. = Critical Operations Power Systems



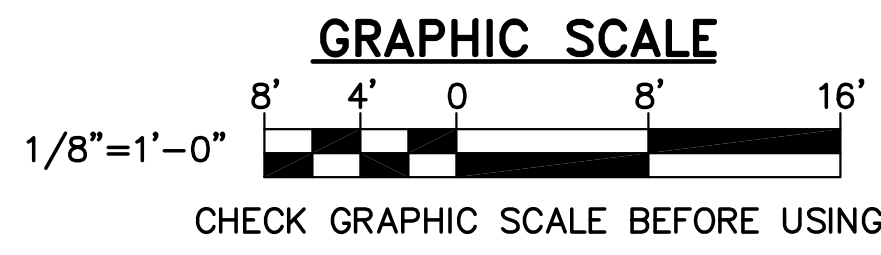
**1 PARTIAL FIRST FLOOR PLAN**  
G-101 SCALE: 1/8"=1'-0"

**LEGEND:**

- ◆90 2-HOUR FIRE RATED SEPARATION WITH 90 MINUTE OPENING PROTECTION, INCLUDING SELF-CLOSING AND SELF-LATCHING DOORS, AND FIRESTOPPED PENETRATIONS AND JOINTS.
- SP SMOKE PARTITION WALLS: PROVIDE SMOKE RESISTANT SEALANT AT PENETRATIONS AND JOINTS AND SELF-CLOSING AND LATCHING DOORS. EXTEND WALLS TO UNDERSIDE OF FLOOR DECK OR ROOF DECK ABOVE.



**KEYPLAN**  
NOT TO SCALE  
PLAN NORTH



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**FIRST FLOOR FIRE RATING PLAN AND CODE INFORMATION**

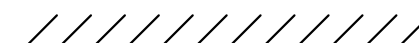
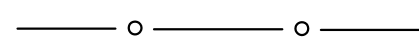
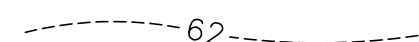


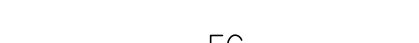





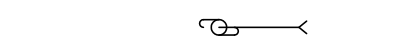

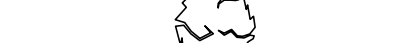
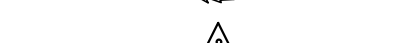



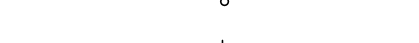
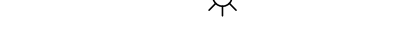



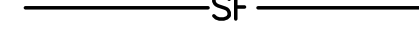








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DWG.: **G-101**

SHEET: **2** OF **33**



**CIVIL LEGEND**

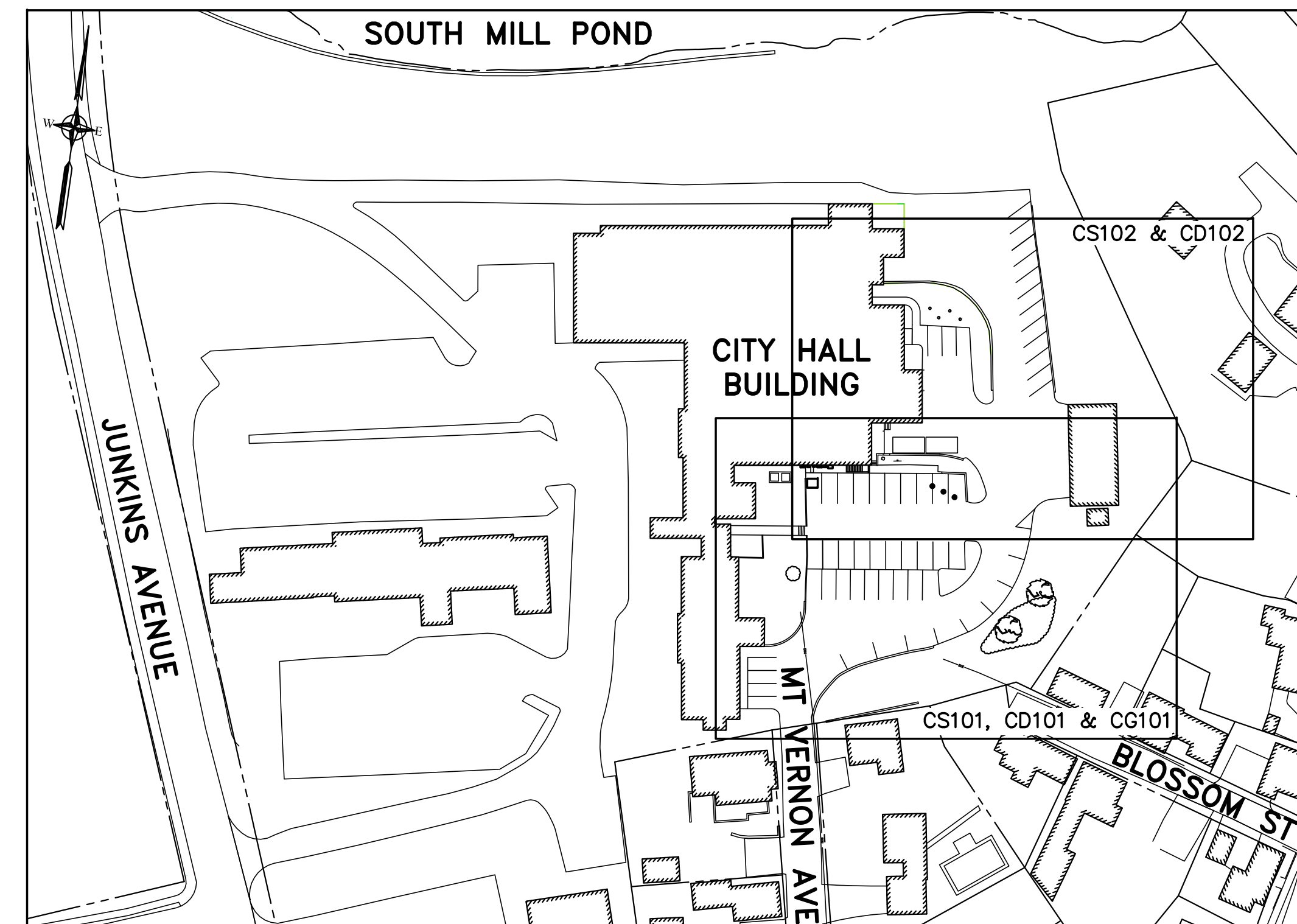
	EXISTING BUILDING
	EXISTING CHAIN LINK FENCE
	EXISTING GRADE CONTOUR LINE
	EXISTING STORM DRAIN LINE (SIZE)
	EXISTING SANITARY SEWER LINE (SIZE)
	EXISTING UNDERGROUND NATURAL GAS LINE
	EXISTING OVERHEAD UTILITIES
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING UNDERGROUND COMMUNICATIONS LINE
	EXISTING UTILITY POLE WITH GUY
	EXISTING CATCH BASIN
	EXISTING TREE
	EXISTING SURVEY CONTROL POINT
	EXISTING SEWER MANHOLE
	EXISTING DRAIN MANHOLE
	EXISTING SIGN
	EXISTING LIGHT POLE
	EXISTING SPOT GRADE ELEVATION
	EXISTING TREE LINE
	BUILDING LINE
	SILT FENCE
	DRAIN LINE (PIPE SIZE AS NOTED)
	UNDERGROUND ELECTRIC LINE (CONDUIT SIZE AS NOTED)
	UNDERDRAIN LINE (PIPE SIZE AS NOTED)
	SAWCUT PAVEMENT
	FINISH GRADE CONTOUR LINE
	FINISH GRADE SPOT ELEVATION
	CATCH BASIN
	ELECTRIC MANHOLE
	SIGN
	DRAINAGE FLOW DIRECTION

**CIVIL NOTES**

1. VERIFY EXISTING CONDITIONS AND DIMENSIONS, AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR. PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCY(IES) HAS(HAVE) BEEN RESOLVED BY THE CONTRACT ADMINISTRATOR.
2. THE DEPICTED LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED ON RECORD DRAWINGS AND/OR FIELD SURVEY AND ARE APPROXIMATE. DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-888-344-7233 AND OBTAIN A "DIG SAFE" PERMIT PRIOR TO COMMENCING EXCAVATION OPERATIONS ON THE SITE.
3. PROTECT EXISTING SYSTEMS AND SURFACES TO REMAIN. DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS APPROVED BY THE CONTRACT ADMINISTRATOR AT NO ADDITIONAL COST TO THE OWNER.
4. PROVIDE A MINIMUM OF 6 INCHES OF PLANTING SOIL, SEED, AND MULCH FOR DISTURBED AREAS NOT OTHERWISE SPECIFIED.
5. PROVIDE A PAVEMENT SURFACE THAT IS FREE OF LOW SPOTS AND PONDING AREAS.
6. EXISTING CONDITIONS ARE BASED ON A TOPOGRAPHIC SURVEY COMPLETED BY OAK POINT ASSOCIATES NOVEMBER 2019 AND CITY OF PORTSMOUTH GIS MAPS
7. HORIZONTAL CONTROL IS BASED ON NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM, NAD83. VERTICAL CONTROL IS BASED ON NAVD88.
8. GIVEN DIMENSIONS ARE FROM FACE OF CURB, FACE OF WALL, FACE OF BUILDING AND CENTERLINE OF MARKINGS UNLESS INDICATED OR NOTED OTHERWISE.
9. COORDINATE ASSOCIATED ELECTRIC SERVICE WORK WITH EVERSOURCE. UTILITY SERVICES SHALL BE PROVIDED IN ACCORDANCE WITH UTILITY COMPANY STANDARDS AND REQUIREMENTS.
10. OBTAIN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL PROTECTION (NHDES) REGISTRATION OF ABOVEGROUND PETROLEUM STORAGE TANK (AST) SYSTEMS FOR GENERATOR FUEL TANK. ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES FOR ABOVEGROUND PETROLEUM STORAGE FACILITIES (ENV-OR 300).

**CIVIL ABBREVIATIONS**

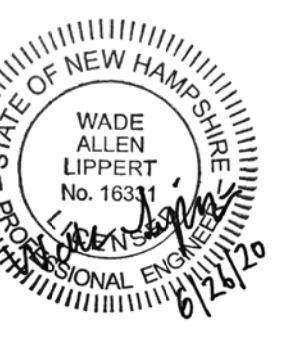
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BLDG	BUILDING
CONC	CONCRETE
COPS	CRITICAL OPERATIONS POWER SYSTEM
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
ELEV	ELEVATION
EM	EMERGENCY
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
FFE	FINISH FLOOR ELEVATION
FT	FEET
GALV	GALVANIZED
HORIZ	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
ID	IDENTIFICATION
INV	INVERT
LB/LBS	POUND/POUNDS
LF	LINEAR FEET
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NHDES	NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
NHDOT	NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSD	OPTIONAL STANDBY DICONNECT
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PE	POLYETHYLENE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RADIUS
REINF	REINFORCED
RGS	RIGID GALVANIZED STEEL
SF	SQUARE FOOT
SIM	SIMILAR
SY	SQUARE YARDS
TOW	TOP OF WALL
TYP	TYPICAL
VERT	VERTICAL
W/	WITH



**LOCATION MAP** (NOT TO SCALE)



**OAK POINT ASSOCIATES**



DESIGNED BY: WAL  
DRAWN BY: WAL  
CHECKED BY: PJM  
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**CIVIL LEGEND, NOTES, AND ABBREVIATIONS**

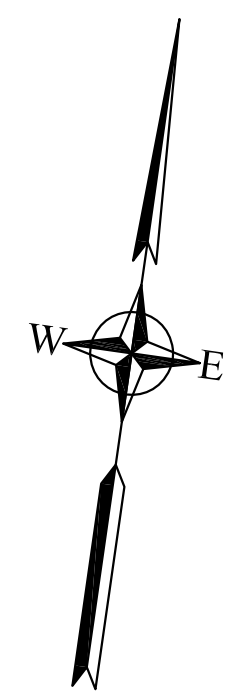
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DWG.: **C-001**

SHEET: **3** OF **33**



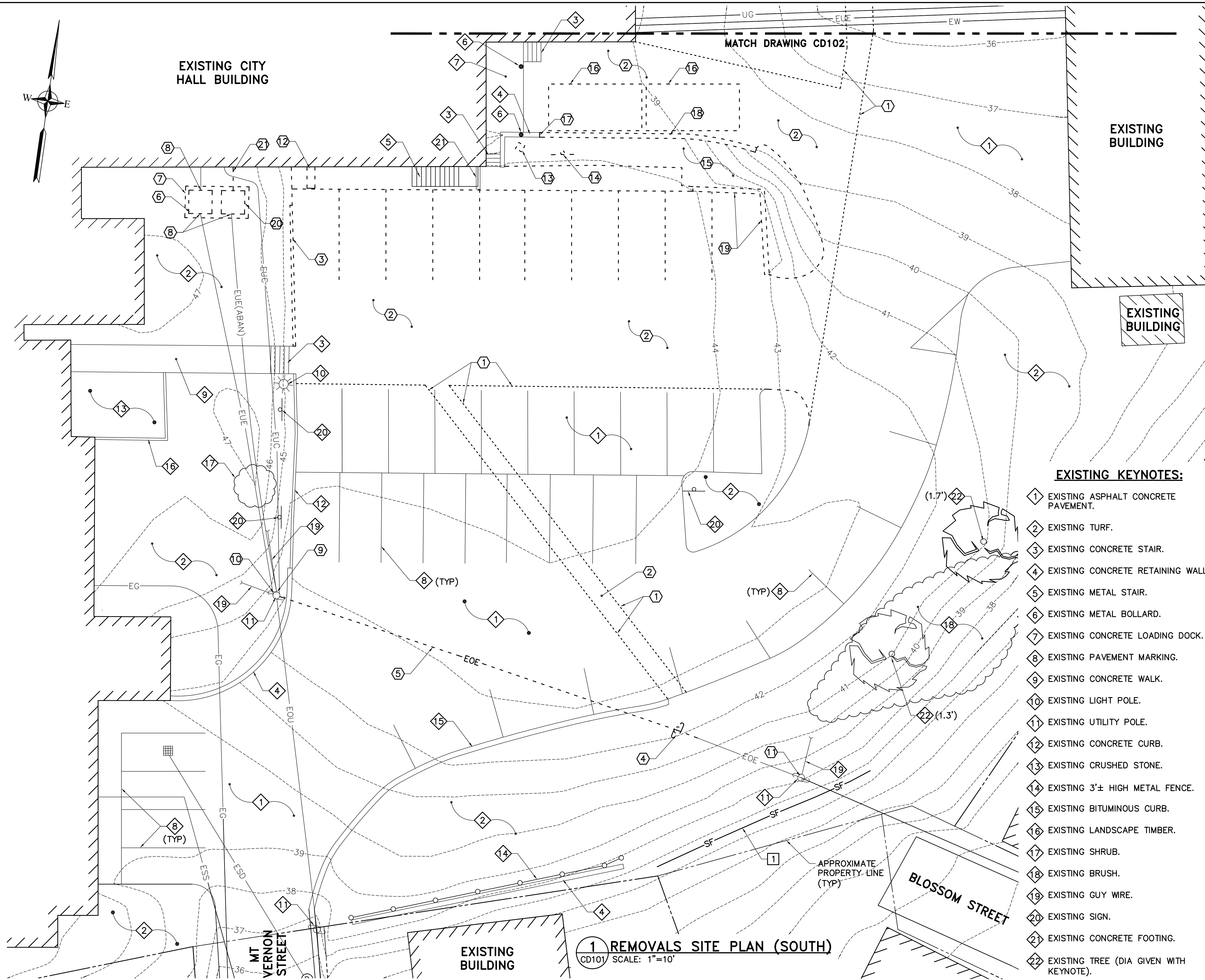


EXISTING CITY HALL BUILDING

MATCH DRAWING CD102

EXISTING BUILDING

EXISTING BUILDING



**1 REMOVALS SITE PLAN (SOUTH)**  
CD101 SCALE: 1"=10'

**NOTES:**

- EXISTING ELECTRICAL SERVICE SHALL REMAIN OPERATIONAL UNTIL REPLACEMENT SERVICE IS INSTALLED AND OPERATIONAL.
- COORDINATE ELECTRICAL REMOVALS WITH EVERSOURCE.

**REMOVAL KEYNOTES:**

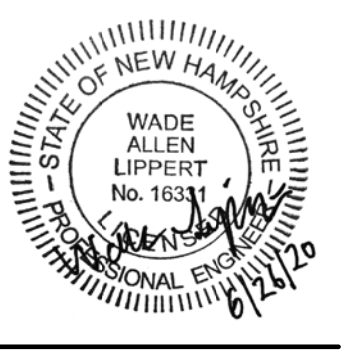
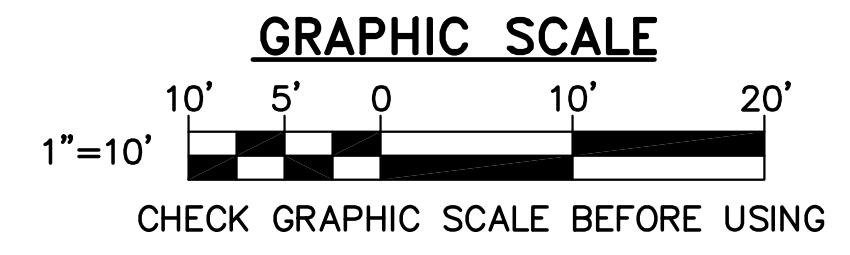
- SAWCUT 4"± THICK ASPHALT CONCRETE PAVEMENT.
- REMOVE 4"± THICK ASPHALT CONCRETE PAVEMENT.
- REMOVE CONCRETE CURB.
- REMOVE UTILITY POLE.
- REMOVE OVERHEAD ELECTRICAL SERVICE (BY EVERSOURCE).
- REMOVE TRANSFORMER (BY EVERSOURCE). SEE NOTE 1.
- REMOVE 14'x7'± CONCRETE TRANSFORMER PAD.
- CAP AND ABANDON EXIST CONDUIT BELOW GRADE. SEE NOTE 1.
- REMOVE 10'± HIGH ABANDONED RGS RISER AND CAP BELOW GRADE.
- REMOVE RGS AND PVC POLE RISERS AND CAP BELOW GRADE.
- REMOVE POLE MOUNTED METER (BY EVERSOURCE).
- REMOVE 2'x4'x6"± THICK CONCRETE PAD.
- REMOVE SHRUB.
- REMOVE "POLICE VEHICLES ONLY" SIGN AND DRIVEN METAL POST AND STORE FOR REINSTALLATION.
- STRIP AND STOCKPILE EXISTING TOPSOIL.
- REMOVE AND SALVAGE 20'x10' CONEX BOX.
- SAWCUT EXISTING 3'± HIGH x 1'± WIDE CONCRETE RETAINING WALL.
- REMOVE EXISTING 3'± HIGH x 1'± WIDE CONCRETE RETAINING WALL AND FOOTING.
- REMOVE EXISTING 1.5'± HIGH x 1'± WIDE CONCRETE RETAINING WALL AND FOOTING.
- REMOVE ABANDONED TRANSFORMER.
- REMOVE ABANDONED UNDERGROUND CONDUITS. CAP AT BUILDING FOUNDATION.

**EXISTING KEYNOTES:**

- EXISTING ASPHALT CONCRETE PAVEMENT.
- EXISTING TURF.
- EXISTING CONCRETE STAIR.
- EXISTING CONCRETE RETAINING WALL.
- EXISTING METAL STAIR.
- EXISTING METAL BOLLARD.
- EXISTING CONCRETE LOADING DOCK.
- EXISTING PAVEMENT MARKING.
- EXISTING CONCRETE WALK.
- EXISTING LIGHT POLE.
- EXISTING UTILITY POLE.
- EXISTING CONCRETE CURB.
- EXISTING CRUSHED STONE.
- EXISTING 3'± HIGH METAL FENCE.
- EXISTING BITUMINOUS CURB.
- EXISTING LANDSCAPE TIMBER.
- EXISTING SHRUB.
- EXISTING BRUSH.
- EXISTING GUY WIRE.
- EXISTING SIGN.
- EXISTING CONCRETE FOOTING.
- EXISTING TREE (DIA GIVEN WITH KEYNOTE).

**KEYNOTES:**

- SILT FENCE. **2**  
C-501



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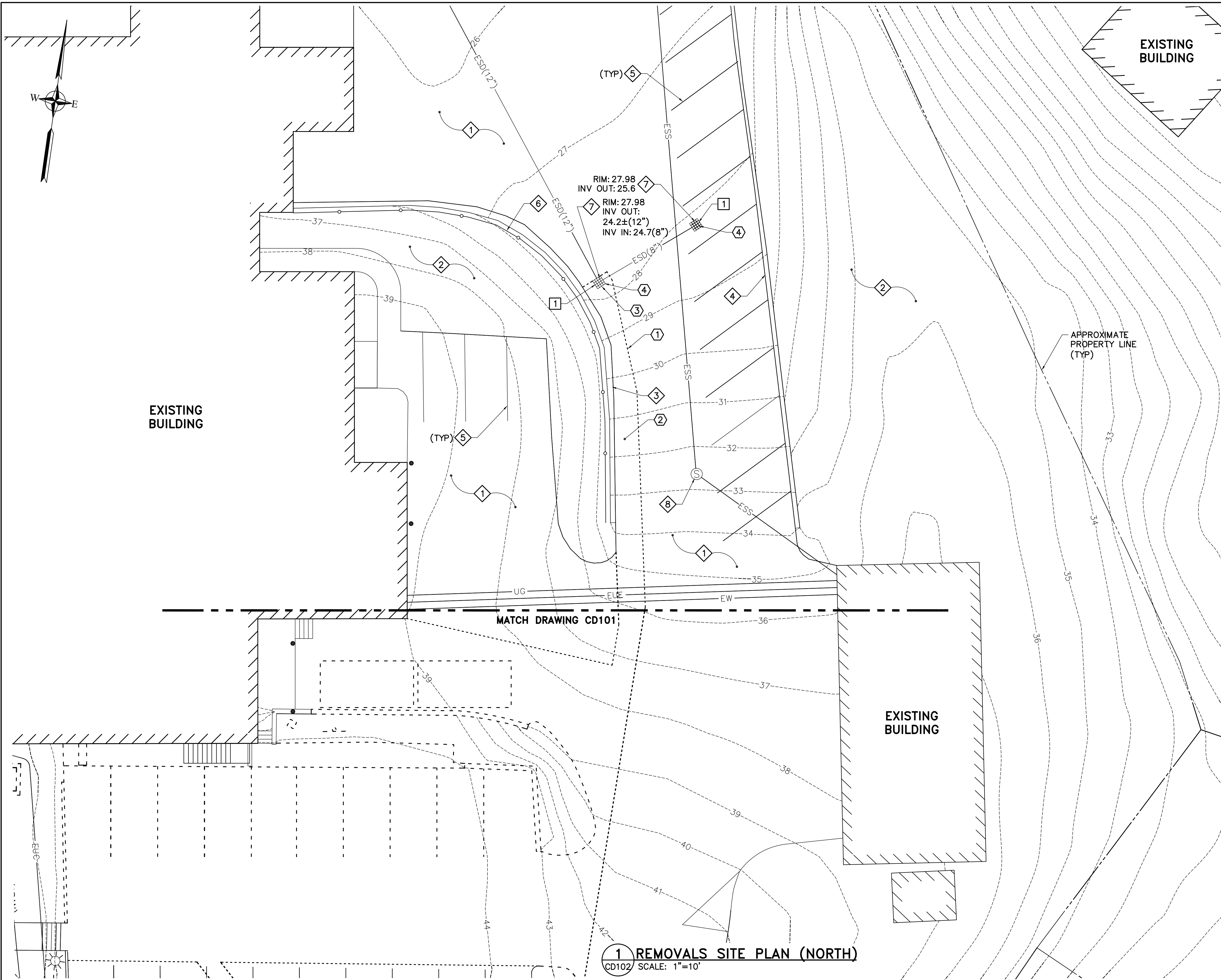
**REMOVALS SITE PLAN (SOUTH)**

SCALE: AS NOTED  
DATE: 06/24/2020

DWG.: **CD101**

SHEET: **4** of **33**





RIM: 27.98  
INV OUT: 25.6

RIM: 27.98  
INV OUT:  
24.2±(12")  
INV IN: 24.7(8")

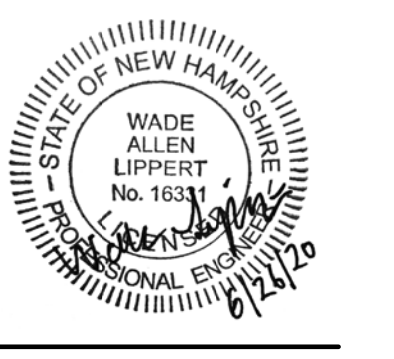
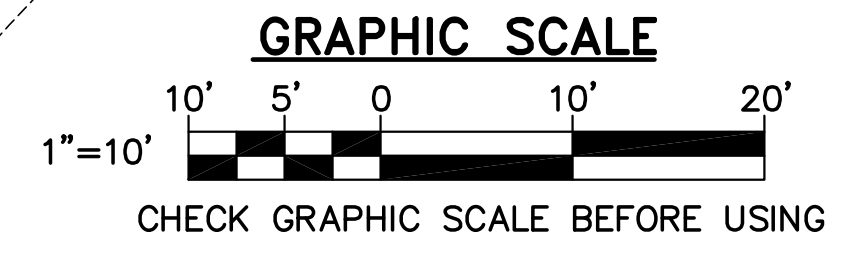
MATCH DRAWING CD101

**1 REMOVALS SITE PLAN (NORTH)**  
CD102 SCALE: 1"=10'

- EXISTING KEYNOTES:**
- 1 EXISTING ASPHALT CONCRETE PAVEMENT.
  - 2 EXISTING TURF.
  - 3 EXISTING CONCRETE RETAINING WALL.
  - 4 EXISTING CONCRETE BLOCK RETAINING WALL.
  - 5 EXISTING PAVEMENT MARKING.
  - 6 EXISTING CHAIN LINK FENCE.
  - 7 EXISTING CATCH BASIN.
  - 8 EXISTING SEWER MANHOLE.

- REMOVAL KEYNOTES:**
- 1 SAWCUT 4"± THICK ASPHALT CONCRETE PAVEMENT.
  - 2 REMOVE 4"± THICK ASPHALT CONCRETE PAVEMENT.
  - 3 CORE EXIST CATCH BASIN FOR 6" INLET AT ELEVATION 24.7±.
  - 4 REMOVE ACCUMULATED CATCH BASIN SEDIMENT AND DEBRIS.

- KEYNOTES:**
- 1 CATCH BASIN INLET PROTECTION. 1  
C-501



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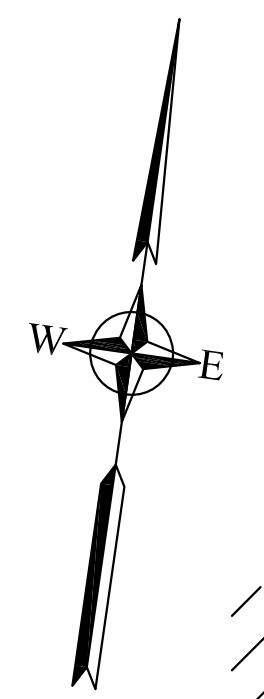
**CITY HALL ELECTRICAL RENOVATIONS**  
1 Junkins Avenue  
Portsmouth, NH 03801

**REMOVALS SITE PLAN (NORTH)**

SCALE: AS NOTED  
DATE: 06/24/2020

DWG.: **CD102**





EXISTING CITY HALL BUILDING

MATCH DRAWING CS102

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING

BLOSSOM STREET

MT VERNON STREET

EXISTING BUILDING

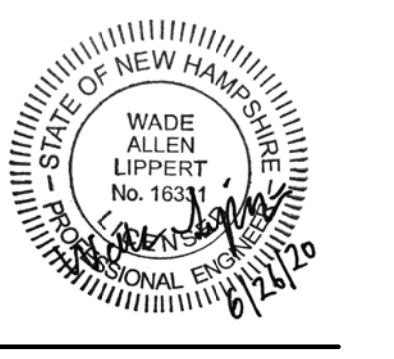
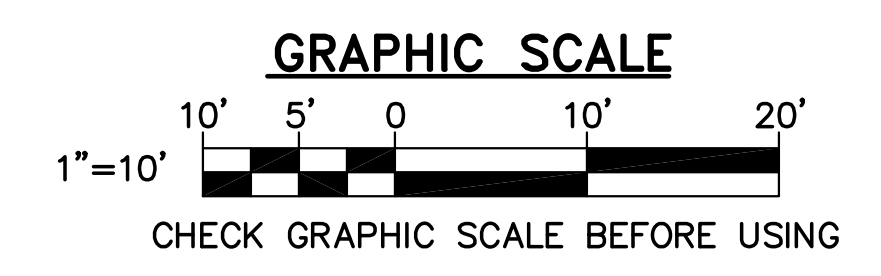
1 SITE PLAN (SOUTH)  
CS101 SCALE: 1"=10'

**KEYNOTES:**

- 1 ASPHALT CONCRETE PAVEMENT. 8  
C-502
- 2 UTILITY POLE AND RISER. 9  
C-502
- 3 UNDERGROUND ELECTRICAL CONDUIT, CONCRETE ENCASE COPS GENERATOR CIRCUIT CONDUITS. REFER TO DRAWING CU101. 6  
C-502
- 4 TRANSFORMER PAD. 1  
C-502
- 5 14'x49' CONCRETE GENERATOR FOUNDATION. COORDINATE PAD SIZE AND ANCHORING REQUIREMENTS WITH GENERATOR ENCLOSURE MANUFACTURER. REFER TO DRAWINGS S-001 AND SB101.
- 6 BOLLARD. 7  
C-502
- 7 4" WIDE WHITE PAVEMENT MARKING.
- 8 6" TOPSOIL, SEED, FERTILIZER AND MULCH.
- 9 GUY WIRE (BY EVERSOURCE).
- 10 CONTRACTOR LAYDOWN AREA.
- 11 METER PEDESTAL. 3  
C-502
- 12 ELECTRIC MANHOLE. 1  
C-503
- 13 DRAIN INLET. INV IN: 37.50 INV OUT: 35.50 2  
C-502
- 14 DRAIN LINE. 3  
C-503
- 15 SEGMENTAL PRECAST CONCRETE BLOCK RETAINING WALL AND WOOD FENCE. 4  
C-503 5  
C-503
- 16 DRAIN CLEANOUT. 2  
C-503
- 17 REINSTALL SALVAGED 10'x20' CONEX BOX. INSTALL LEVEL ON 6"x6" PRESSURE TREATED BLOCKING.
- 18 RETAINING WALL UNDER DRAIN. 4  
C-503
- 19 REINSTALL SALVAGED "POLICE VEHICLES ONLY" SIGN.
- 20 PREFABRICATED METAL STAIR AND HANDRAIL.
- 21 21'± LONG X 1'-8"± WIDE CONCRETE PAD. COORDINATE FINAL LOCATION, SIZE, AND SEISMIC MOUNTING EQUIPMENT REQUIREMENTS WITH THE ELECTRICAL TRADE AND THE EQUIPMENT PROVIDED. THE PAD SHALL NOT EXTEND MORE THAN 6" BEYOND THE FRONT FACE OF THE EQUIPMENT. 6  
C-503

**NOTE:**

REFER TO DRAWING CU101 FOR UNDERGROUND CONDUIT LAYOUT AND SIZING.

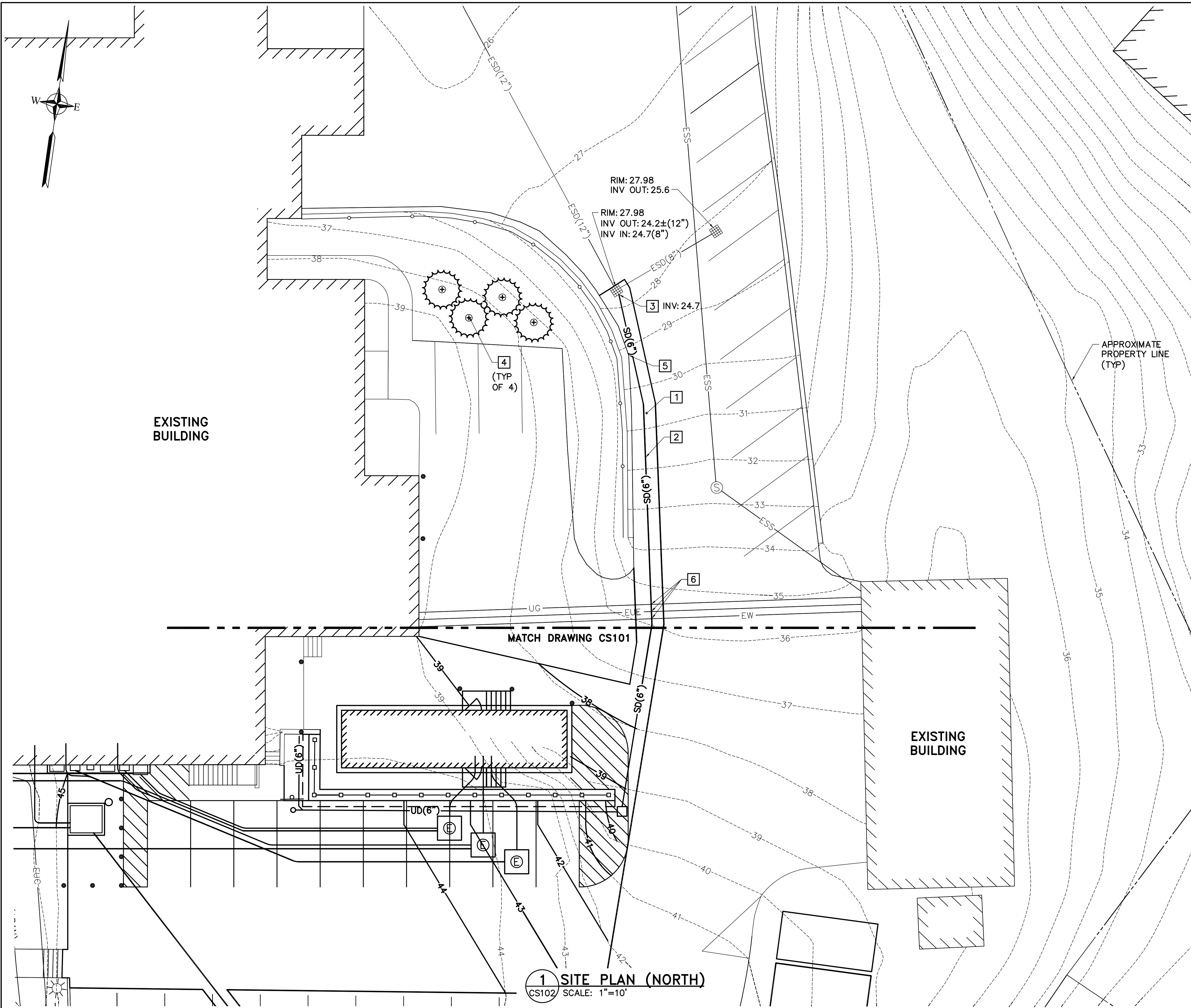


DESIGNED BY: [Blank]  
 DRAWN BY: [Blank]  
 CHECKED BY: [Blank]  
 PROJECT: 21904.15

CITY OF PORTSMOUTH  
 1 Junkins Avenue  
 Portsmouth, NH 03801

CITY HALL  
 ELECTRICAL RENOVATIONS  
 1 Junkins Avenue  
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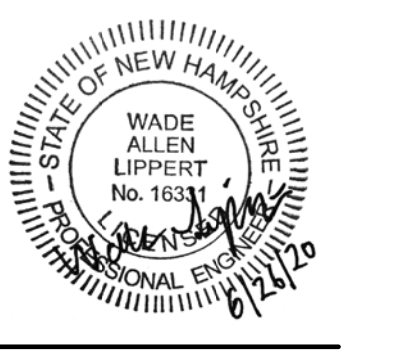
SITE PLAN  
 (SOUTH)



**1 SITE PLAN (NORTH)**  
 CS102 SCALE: 1"=10'

**KEYNOTES:**

- 1 ASPHALT CONCRETE PAVEMENT. 8  
C-502
- 2 DRAIN LINE. 3  
C-503
- 3 CONNECT TO EXISTING CATCH BASIN WITH FLEXIBLE RUBBER BOOT.
- 4 12'-14' PICEA GLAUCA (WHITE SPRUCE) AT 8' ON CENTER. FULL TO GROUND, DENSE FOLIAGE, STRAIGHT, PYRAMIDAL FORM. 1 2 3  
C-504 C-504 C-504
- 5 VERIFY EXISTING FOOTING DEPTH PRIOR TO DRAINAGE CONSTRUCTION. DO NOT UNDERMINE EXISTING FOUNDATION.
- 6 VERIFY DEPTH OF EXISTING UTILITIES AND CHECK FOR CONFLICT WITH DRAIN LINE PRIOR TO CONSTRUCTION OF DRAIN LINE.



DESIGNED BY: WAL  
 DRAWN BY: WAL  
 CHECKED BY: PJM  
 PROJECT: 21904.15

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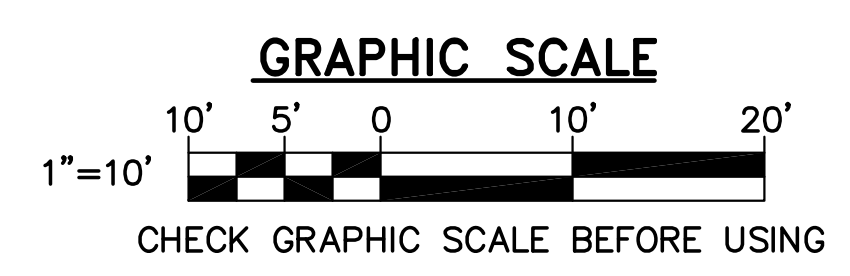
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**SITE PLAN (NORTH)**

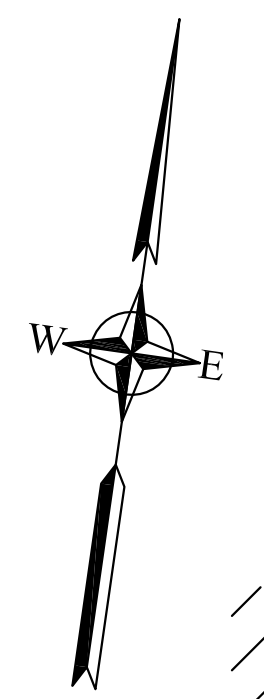
SCALE: AS NOTED  
 DATE: 06/24/2020

DWG.: **CS102**

SHEET: **7** OF **33**







EXISTING CITY HALL BUILDING

MATCH DRAWING CS102

EXISTING BUILDING

EXISTING BUILDING

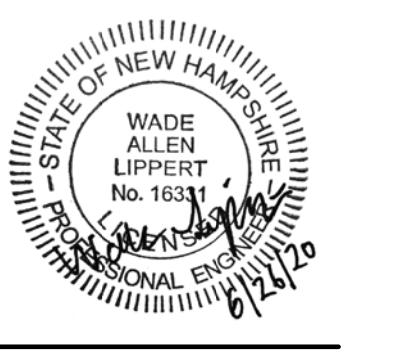
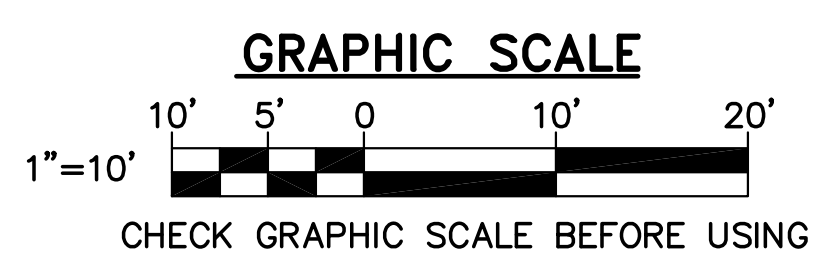
EXISTING BUILDING

BLOSSOM STREET

MT VERNON STREET

EXISTING BUILDING

1 GRADING PLAN  
CG101 SCALE: 1"=10'



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CHECKED BY: PJM  
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CITY HALL  
ELECTRICAL RENOVATIONS  
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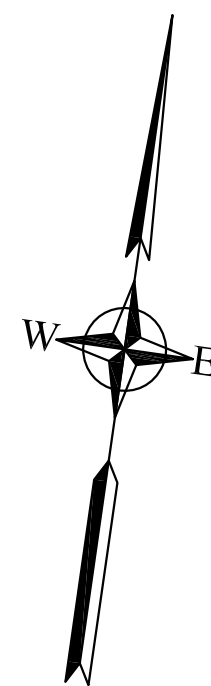
GRADING PLAN

SCALE: AS NOTED  
DATE: 06/24/2020

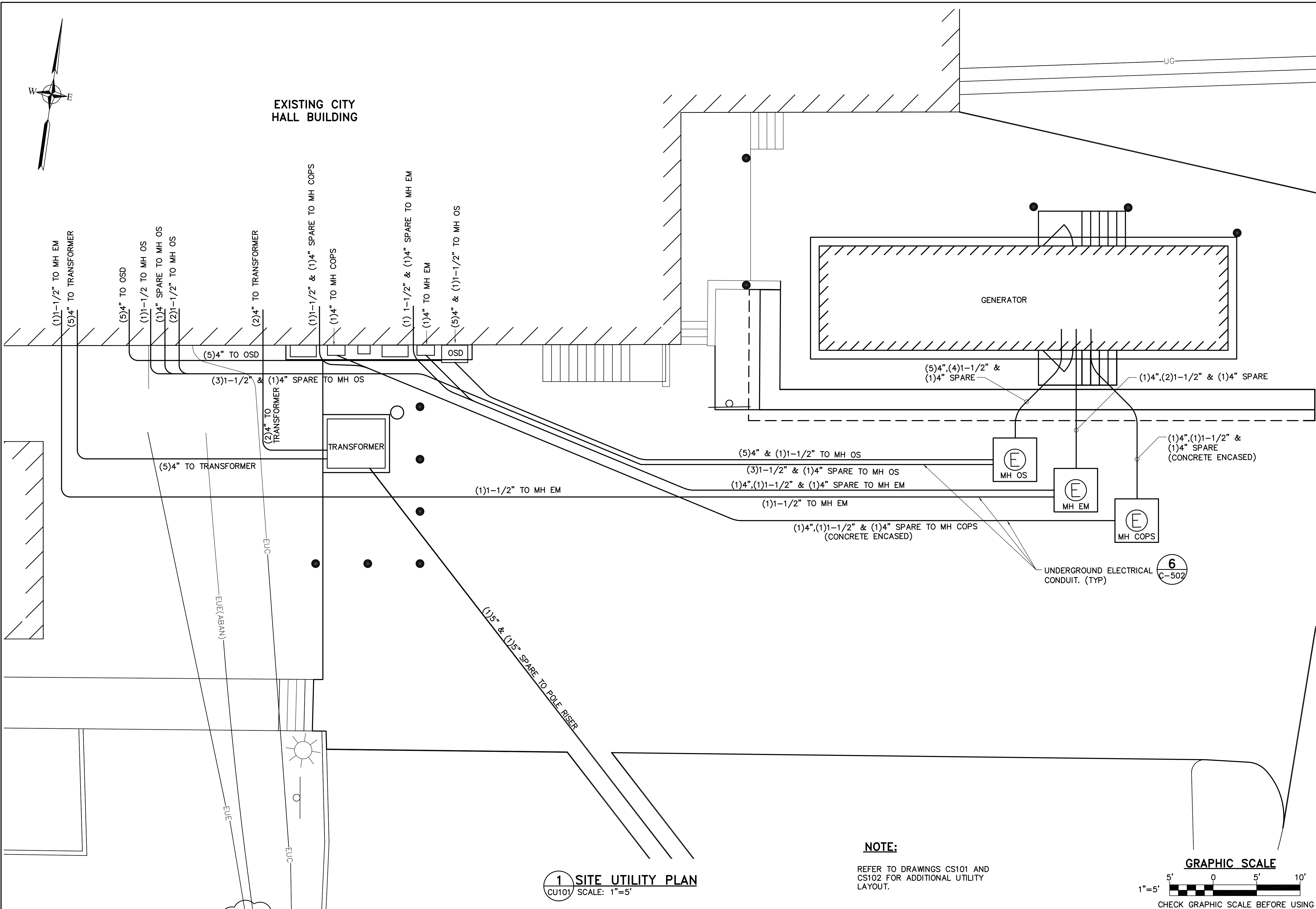
DWG.: CG101

SHEET: 8 OF 33





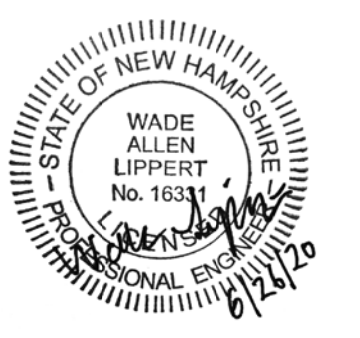
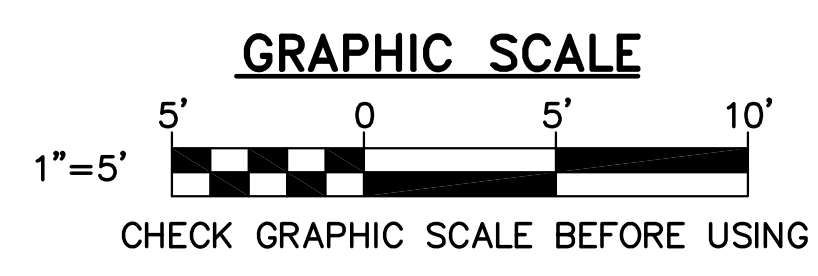
EXISTING CITY HALL BUILDING



**1** SITE UTILITY PLAN  
SCALE: 1"=5'

**NOTE:**

REFER TO DRAWINGS CS101 AND CS102 FOR ADDITIONAL UTILITY LAYOUT.



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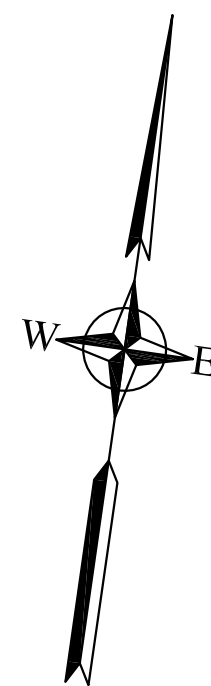
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**SITE UTILITY PLAN**

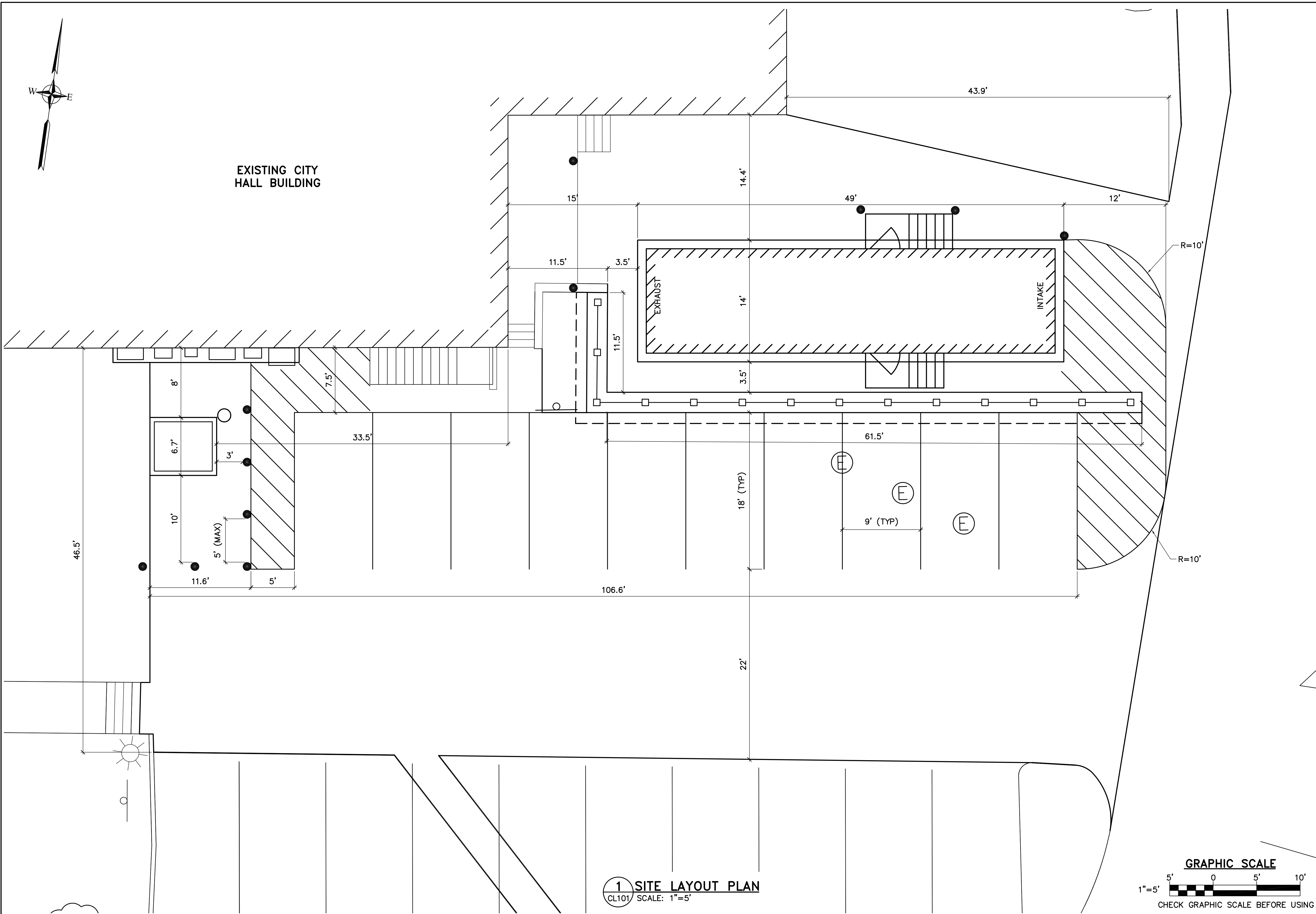
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DWG.: **CU101**

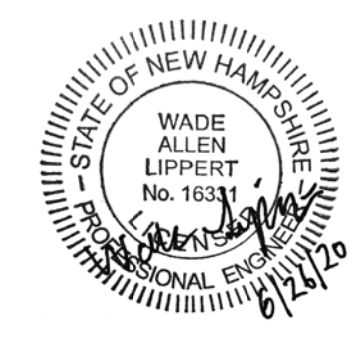
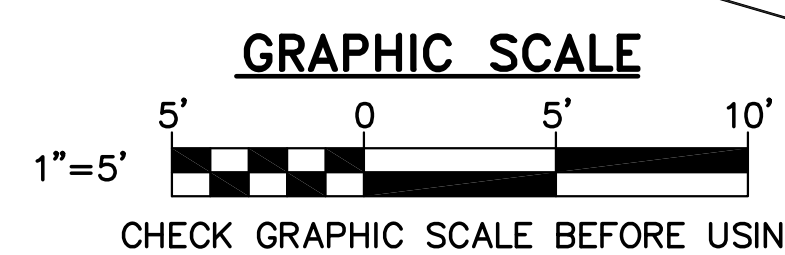




EXISTING CITY HALL BUILDING



1 SITE LAYOUT PLAN  
CL101 SCALE: 1"=5'



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CHECKED BY: PJM  
PROJECT: 21904.15

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ELECTRICAL RENOVATIONS  
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SITE LAYOUT PLAN

SCALE: AS NOTED  
DATE: 06/24/2020

DWG.: CL101

SHEET: 10 OF 33



# EROSION AND SEDIMENT CONTROL NOTES

## A. GENERAL NOTES

- DURING CONSTRUCTION AND THEREAFTER, PROVIDE EROSION CONTROL MEASURES AS INDICATED AND SPECIFIED. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORM WATER MANUAL".
- TEMPORARY EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL DEVICES, TEMPORARY SEEDING AND MULCHING, AND PROVISIONS FOR STABILIZING INACTIVE AREAS. PERMANENT EROSION CONTROL MEASURES INCLUDE PERMANENT SEEDING AND MULCHING.
- PERIMETER EROSION CONTROLS SHALL BE INSTALLED PRIOR TO BEGINNING EARTH MOVING OPERATIONS.
- PROVIDE INLET PROTECTION FOR EACH CATCH BASIN ON THE SAME DAY THAT BACKFILL IS PLACED AROUND THE CATCH BASIN.
- PROVIDE 6-INCHES PLANTING SOIL, SEED AND MULCH ON DISTURBED AREAS NOT OTHERWISE SPECIFIED. PERMANENT SEEDING SHALL BE COMPLETED BETWEEN THE DATES OF APRIL 1 AND OCTOBER 14. WATER VEGETATED AREAS AS NECESSARY TO ESTABLISH A VIGOROUS TURF.
- PROVIDE EROSION CONTROL MEASURES TO CONTROL EROSION AND SEDIMENTATION FROM THE PROJECT SITE. THE MEASURES INDICATED ON THE DRAWINGS ARE A MINIMUM TO BE PROVIDED. PROVIDE ADDITIONAL MEASURES AS NECESSARY AND APPLICABLE TO CONTROL EROSION AND SEDIMENTATION FROM LEAVING THE SITE.
- LIMIT AREAS OF EXPOSED SOILS TO THOSE AREAS THAT WILL ACTIVELY BE WORKED. TEMPORARILY STABILIZE AREAS OF DISTURBED SOIL THAT REMAIN UNWORKED FOR MORE THAN 14 DAYS USING TEMPORARY MULCHING (IF THE SOIL WILL BE PERMANENTLY STABILIZED WITHIN 30 DAYS) OR TEMPORARY SEEDING AND MULCHING (IF THE SOIL WILL NOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS). PERMANENTLY STABILIZE ANY AREA OF DISTURBED SOIL BROUGHT TO FINAL GRADE WITHIN 7 DAYS. DISTURBED SOILS DO NOT INCLUDE COMPACTED BASE COURSES OR STRUCTURAL FILLS USED FOR ROADS AND PARKING LOTS.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
  - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
  - A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
  - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED.
  - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

## B. INSPECTION AND MAINTENANCE

- INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE PROJECT AREA AT LEAST ONCE A WEEK AND BEFORE AND AFTER EACH STORM EVENT, GREATER THAN 0.1", PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE NPDES STANDARDS MUST CONDUCT THE INSPECTION. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
- MAINTAIN EROSION CONTROL MEASURES FOR THE LIFE OF THE PROJECT AND UNTIL PERMANENT STABILIZATION OF THE ENTIRE SITE IS ESTABLISHED. PERMANENT STABILIZATION SHALL CONSIST OF AT LEAST 90-PERCENT VEGETATION OR PAVEMENT.
- PROTECT STABILIZED AREAS FROM EROSION AND IMMEDIATELY REPAIR/REVEGETATE ERODED AREAS.
- SEDIMENT ACCUMULATIONS SHALL BE REMOVED FROM EROSION CONTROL BERM AND SILT FENCES WHEN THE SEDIMENT DEPTH REACHES 6 INCHES.
- REMOVE TEMPORARY EROSION CONTROL MEASURES WITHIN 30 DAYS AFTER THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

## C. SEQUENCE OF CONSTRUCTION

- INITIAL OPERATIONS INCLUDE INSTALLATION OF EROSION CONTROL DEVICES.
- CLEAR TREES, GRUB OUT STUMPS AND STRIP TOPSOIL AND STOCKPILE. PROVIDE SILT FENCE DOWNGRADIENT OF STOCKPILES AND COVER WITH MULCH.
- COMMENCE EARTH MOVING OPERATIONS. CONSTRUCT STORM DRAINAGE SYSTEM BEGINNING AT THE LOW POINT OF THE SYSTEM.
- CONTINUE WITH OTHER UTILITY AND PAVEMENT CONSTRUCTION.
- COMPLETE PAVEMENT CONSTRUCTION. PROVIDE PERMANENT SEEDING, MULCHING, OR OTHER SURFACE TREATMENTS AS INDICATED IMMEDIATELY UPON ESTABLISHMENT OF FINISH GRADES.

## D. SOIL STOCKPILE STABILIZATION

- SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 30 DAYS SHALL BE COVERED WITH HAY MULCH (90 LBS HAY/1000 SF) OR COVERED WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
- SOIL AND FILL STOCKPILES EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE SEEDED WITH A CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LB/1000 SF) AND HAY MULCHED (90 LBS. HAY/1000 SF) WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
- SOIL AND FILL STOCKPILES SHALL HAVE A SEDIMENT BARRIER (e.g. SILT FENCE) INSTALLED AROUND THE DOWNHILL EDGE OF THE STOCKPILE TO TRAP SEDIMENTS.

## E. TEMPORARY SEEDING

- BEDDING - REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT 4" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
- FERTILIZER - FERTILIZER SHALL BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. A 10-10-10 MIX OF FERTILIZER SHOULD BE APPLIED AT A RATE OF 300 LBS PER ACRE.
- SEED MIXTURE - USE ANY OF THE FOLLOWING IN UPLAND AREAS:

SPECIES	ACRE	SEEDING RATES	DATES	DEPTH
WINTER RYE	112 LBS	1,000 SF 2.5 LBS	8/15 - 9/15	1 INCH
OATS	80 LBS	2.0 LBS	SPRING - 5/15	1 INCH
ANNUAL RYEGRASS	40 LBS	1.0 LBS	4/15 - 9/15 WITH MULCH	0.25 INCH

- MULCHING FOR TEMPORARY SEEDING - WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHALL BE MULCHED TO FACILITATE GERMINATION. MULCH IN THE FORM OF HAY OR STRAW SHALL BE APPLIED AT A RATE OF 70 TO 40 90 LBS PER 1,000 SF.
- REMOVE TEMPORARY GROWTH FROM TEMPORARY SEEDING PRIOR TO PERMANENT SEEDING.

## F. MULCHING

PROVIDE TEMPORARY MULCHING ON SLOPES, OTHER EROSION PRONE AREAS, AND EXPOSED SOILS THAT CANNOT RECEIVE PERMANENT COVER WITHIN 14 DAYS OF DISTURBANCE. ALSO PROVIDE MULCH FOLLOWING TEMPORARY AND PERMANENT SEEDING AS SPECIFIED. MULCH ANCHORS SHALL BE USED ON SLOPES GREATER THAN 5% IN FALL (PAST OCTOBER 1, AND OVER WINTER TO APRIL 1).

MULCH TYPE	RATE PER 1000 SF
HAY OR STRAW	70 TO 40 90 LBS
WOOD CHIPS OR BARK MULCH	480 TO 920 LBS
JUTE AND FIBROUS MATTING	AS PER MANUFACTURERS' SPECIFICATIONS
CRUSHED STONE 1/4" TO 1-1/2"	SPREAD MORE THAN 1/2" THICK

## G. TEMPORARY EROSION CONTROL MAT SPECIFICATIONS

- STRAW EROSION CONTROL MAT CONSISTING OF A MACHINE PRODUCED MAT OF 100 PERCENT AGRICULTURAL STRAW FIBER, MINIMUM WEIGHT: 0.5 LBS/SY. NETTINGS SHALL BE LIGHTWEIGHT BIO OR PHOTO DEGRADABLE, TOP SIDE ONLY, MINIMUM WEIGHT: 1.5 LBS/1000 SF. MINIMUM WIDTH: 48", MINIMUM THICKNESS: 0.39 INCH. THE MINIMUM FUNCTIONAL LONGEVITY OF THE EROSION CONTROL MAT SHALL BE 45 DAYS.

## H. EXTENDED USE EROSION CONTROL BLANKET SPECIFICATION

- STRAW EROSION CONTROL MAT CONSISTING OF A MACHINE PRODUCED MAT OF 100 PERCENT AGRICULTURAL STRAW FIBER, MINIMUM WEIGHT: 0.5 LBS/SY. NETTINGS SHALL BE 100 PERCENT BIO OR PHOTO DEGRADABLE WOVEN NATURAL ORGANIC FIBER, TOP SIDE ONLY, MINIMUM WEIGHT: 9.3 LB/1000 SF. MINIMUM WIDTH: 6.7 FT, MINIMUM THICKNESS: 0.24 INCH. THE MINIMUM FUNCTIONAL LONGEVITY OF THE EROSION CONTROL MAT SHALL BE 12 MONTHS.

## I. WINTER STABILIZATION

THE WINTER CONSTRUCTION PERIOD IS FROM OCTOBER 15 THROUGH MAY 15. IF THE SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 85% MATURE VEGETATION COVER OR RIPRAP BY OCTOBER 15 THEN THE SITE SHALL BE PROTECTED WITH OVER-WINTER STABILIZATION.

- PROVIDE STABILIZATION AS FOLLOWS WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:
  - PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX.
  - PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, SHOULD BE SEEDED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCH THICKNESS OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHOULD NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT.
- INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- MULCH APPLIED DURING WINTER SHALL BE ANCHORED (e.g. BY NETTING, TRACKING, WOOD CELLULOSE FIBER).
- STOCKPILES OF SOIL MATERIALS SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. MULCHING SHALL BE DONE WITHIN 24 HOURS OF STOCKING, AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.
- AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE (NHDOT ITEM 304.3).

## J. PERMANENT SEEDING

- REFER TO TURF AND GRASSES SPECIFICATION.

## K. OFF-SITE VEHICLE TRACKING

- SWEEP ADJACENT PAVED AREAS AND ROADS AS NECESSARY AND AS DIRECTED BY THE CONTRACT ADMINISTRATOR TO KEEP THEM FREE OF SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES.

## L. HOUSEKEEPING

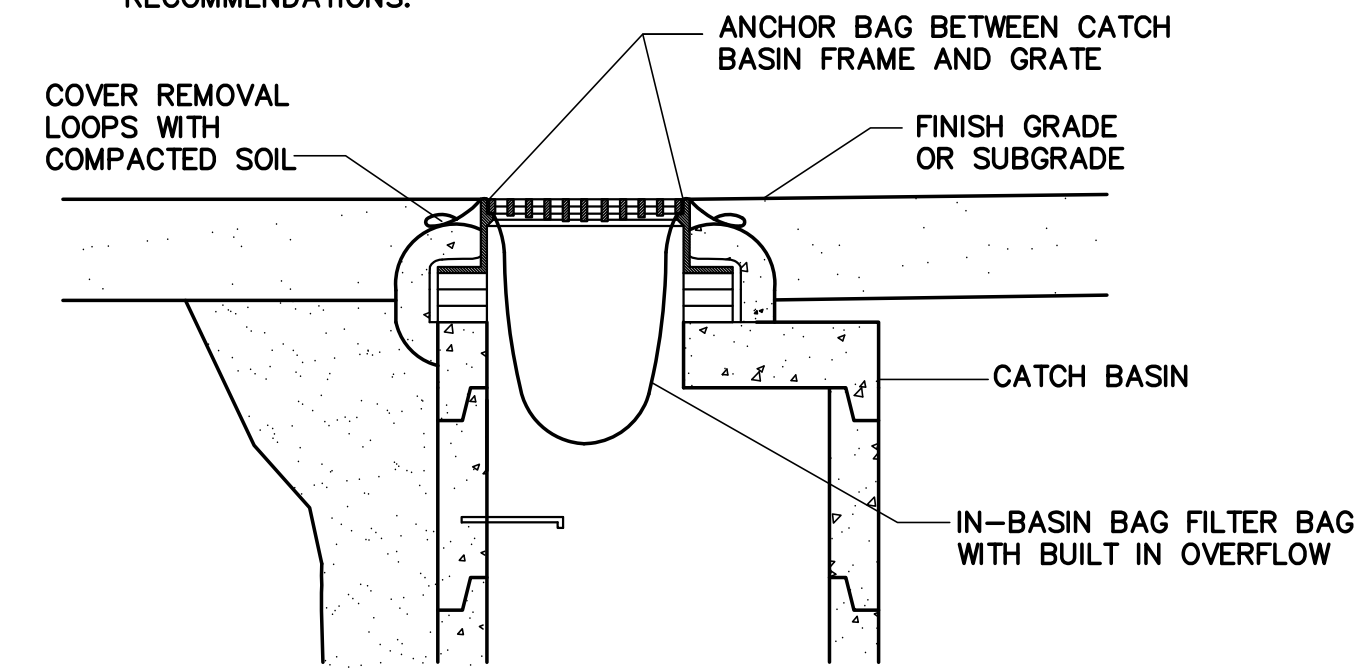
- WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER PROVIDED BY THE CONTRACTOR. CONSTRUCTION WASTE MATERIALS SHALL NOT BE BURIED ON SITE.
- HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
- MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINER AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE. STORE ONLY SUFFICIENT AMOUNTS OF MATERIALS TO COMPLETE THE JOB.
- DISPOSE OF SURPLUS MATERIALS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, STATE AND FEDERAL CODES.
- CONSTRUCTION RELATED EQUIPMENT AND VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO AVOID LEAKAGE.

## M. DUST CONTROL

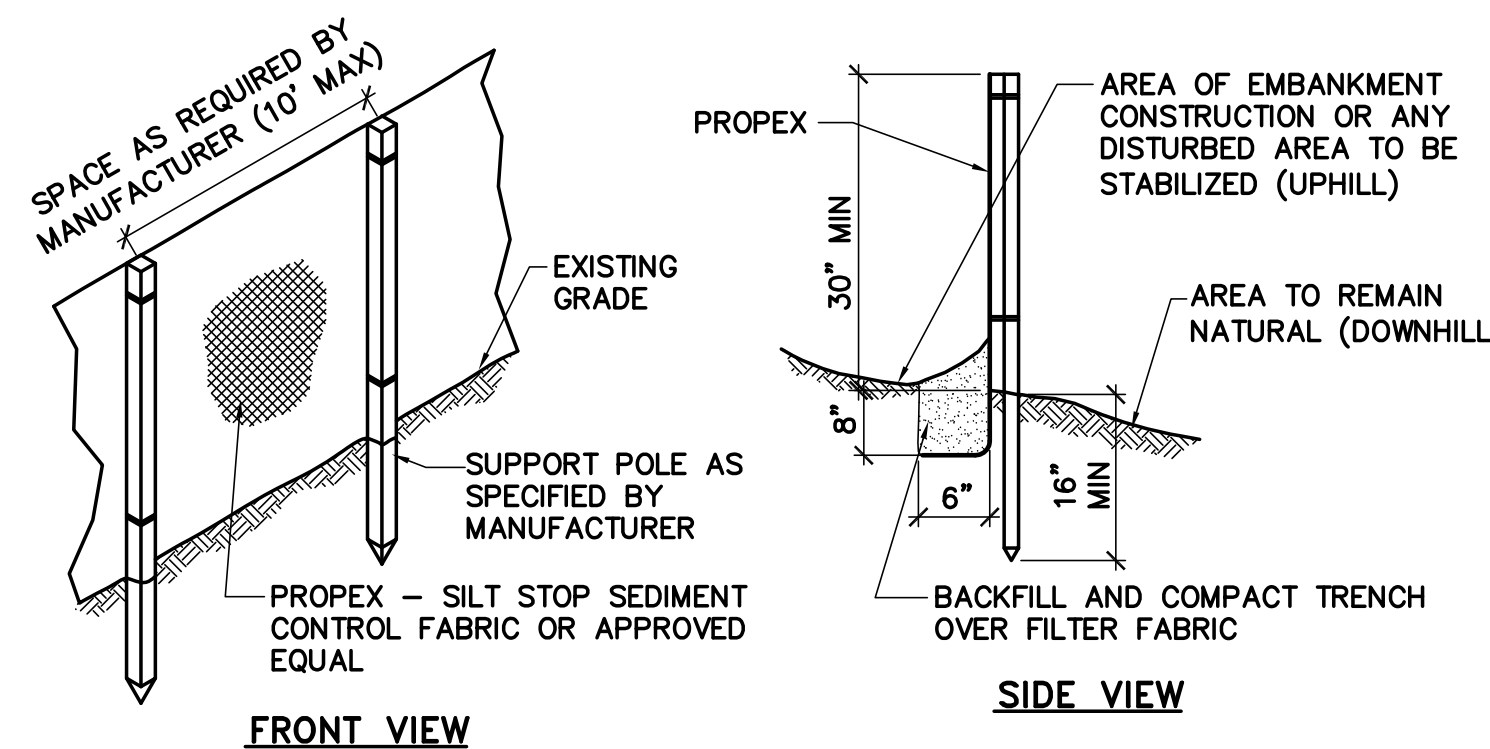
- CONTROL DUST WITH PERIODIC WATERING OF THE EXPOSED SOIL SURFACES WITH ADEQUATE WATER TO CONTROL DUST FROM BECOMING AIRBORNE. REPETITIVE TREATMENTS SHALL BE APPLIED AS NEEDED TO CONTROL DUST THROUGHOUT CONSTRUCTION UNTIL AREAS HAVE BEEN STABILIZED.
- OTHER METHODS TO CONTROL DUST SHALL BE ALLOWED WITH APPROVAL BY THE CONTRACT ADMINISTRATOR.

## NOTES:

- IN-BASIN BAG FILTERS SHALL BE "DANDY SACK" BY TENCATE OR APPROVED EQUAL. INSTALL ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
- REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



**1 CATCH BASIN INLET PROTECTION**  
CD102 C-501 NOT TO SCALE



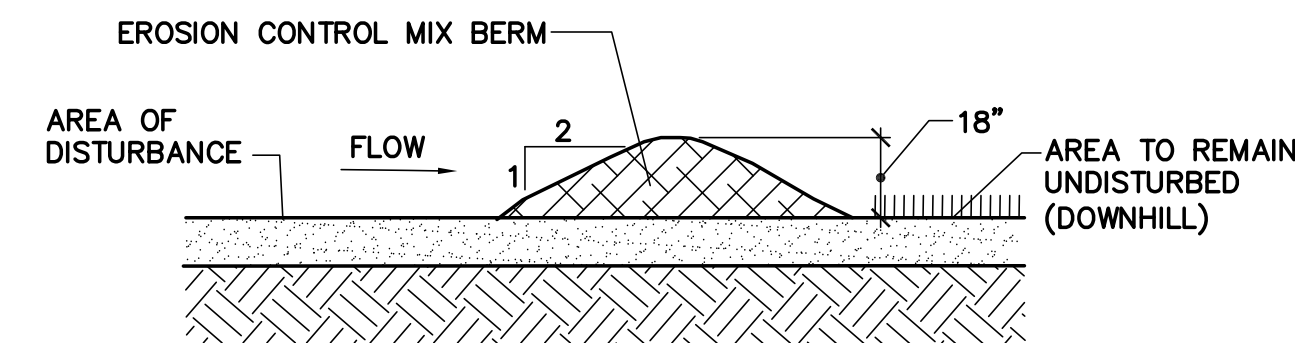
**2 SILT FENCE**  
CD101 C-501 NOT TO SCALE

## NOTES:

- WHEN JOINTS ARE NECESSARY, FILTER FABRIC SHALL BE SPICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6" OVERLAP, AND SECURELY SEALED.
- SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND REPAIRS/REPLACEMENT SHALL BE MADE IMMEDIATELY.
- SEDIMENT DEPOSITS SHALL BE REMOVED AFTER ACCUMULATED DEPTH EXCEEDS 6".
- SILT FENCES SHALL BE REMOVED AFTER SATISFACTORY VEGETATIVE COVER IS ESTABLISHED OR DISTURBED AREAS ARE OTHERWISE STABILIZED. PROVIDE PLANTING SOIL, FINISH GRADE, SEED AND MULCH DISTURBED AREAS.
- EROSION CONTROL MIX BERM OR WATTLES BE USED IN LIEU OF SILT FENCE WHERE APPROVED BY THE CONTRACT ADMINISTRATOR OR TO SUPPLEMENT EROSION CONTROL MEASURES.

## NOTES:

- EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS AND COMPOSTED BARK. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS AND REPROCESSED WOOD PRODUCTS ARE NOT ACCEPTABLE AS A COMPONENT OF THE MIX.
- EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
- THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25 AND 65% DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 3" SCREEN, 90% TO 100% PASSING A 1-INCH SCREEN, 70% TO 100% PASSING A 0.75-INCH SCREEN, AND A MAXIMUM OF 30% TO 75% PASSING A 0.25-INCH SCREEN.
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- THE MIX SHALL NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
- SOLUBLE SALTS CONTENT SHOULD BE < 4.0 MMHOS/CM.
- PH SHALL BE BETWEEN 5.0 AND 8.0.
- REMOVE WHEN THE TRIBUTARY AREAS HAVE BEEN STABILIZED.

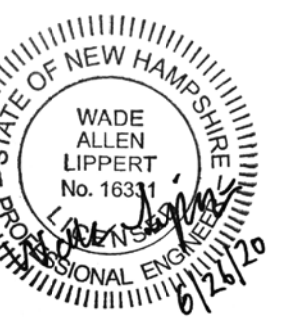


**3 EROSION CONTROL MIX BERM**  
C-501 C-501 NOT TO SCALE



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PROJECT: 21904.15

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ELECTRICAL RENOVATIONS  
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EROSION CONTROL NOTES AND DETAILS

SCALE: AS NOTED

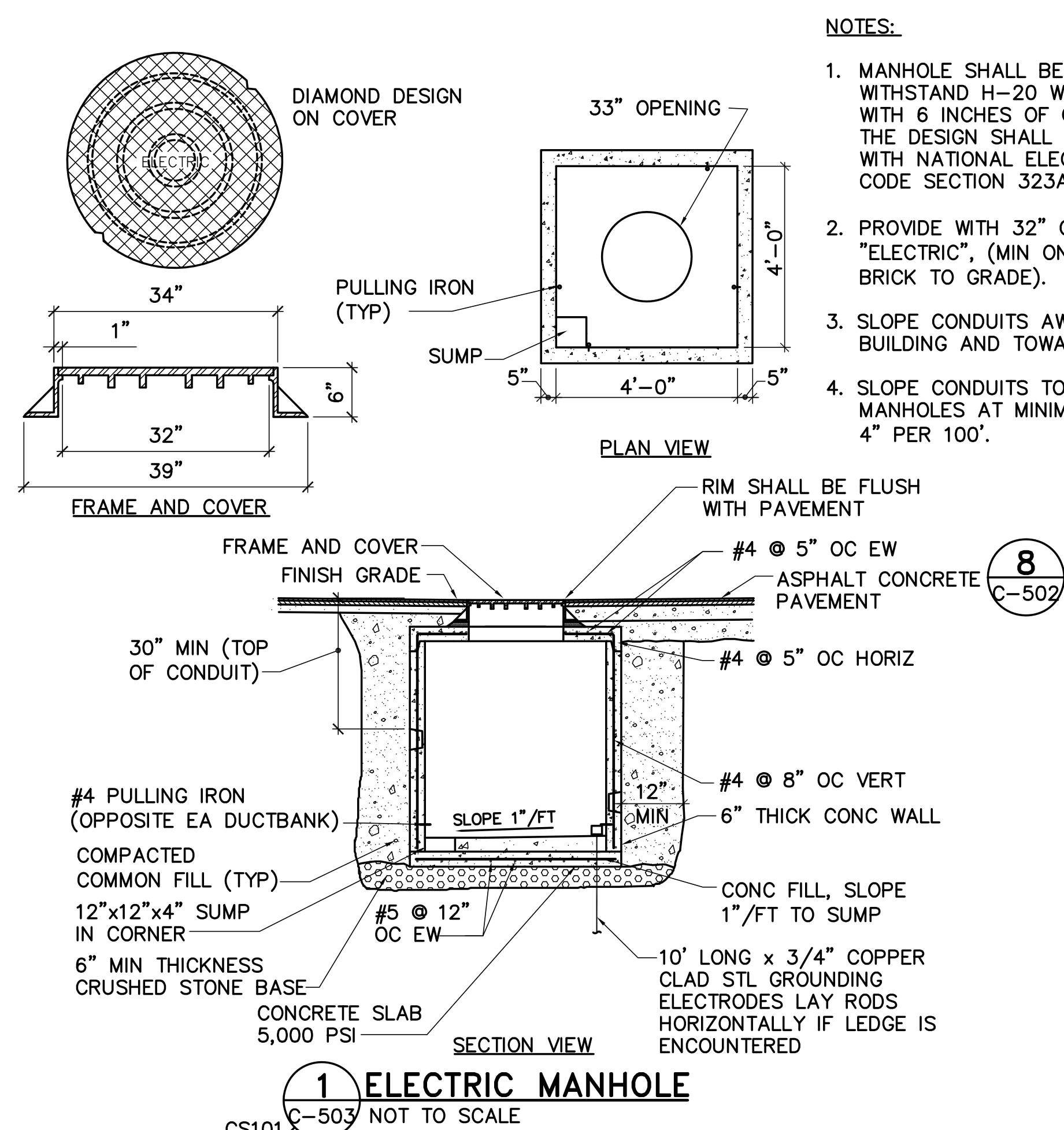
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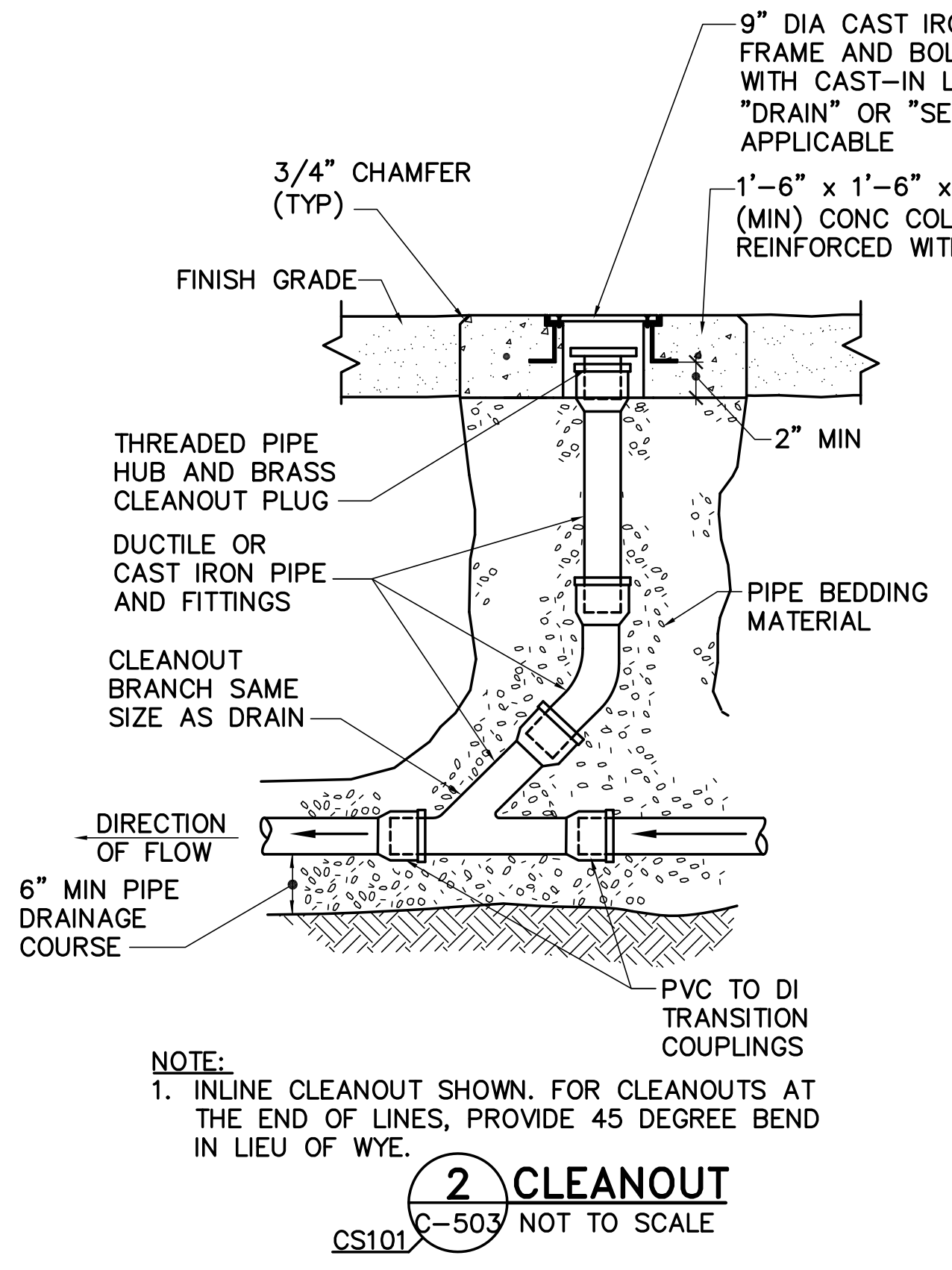
SHEET: 11 OF 33



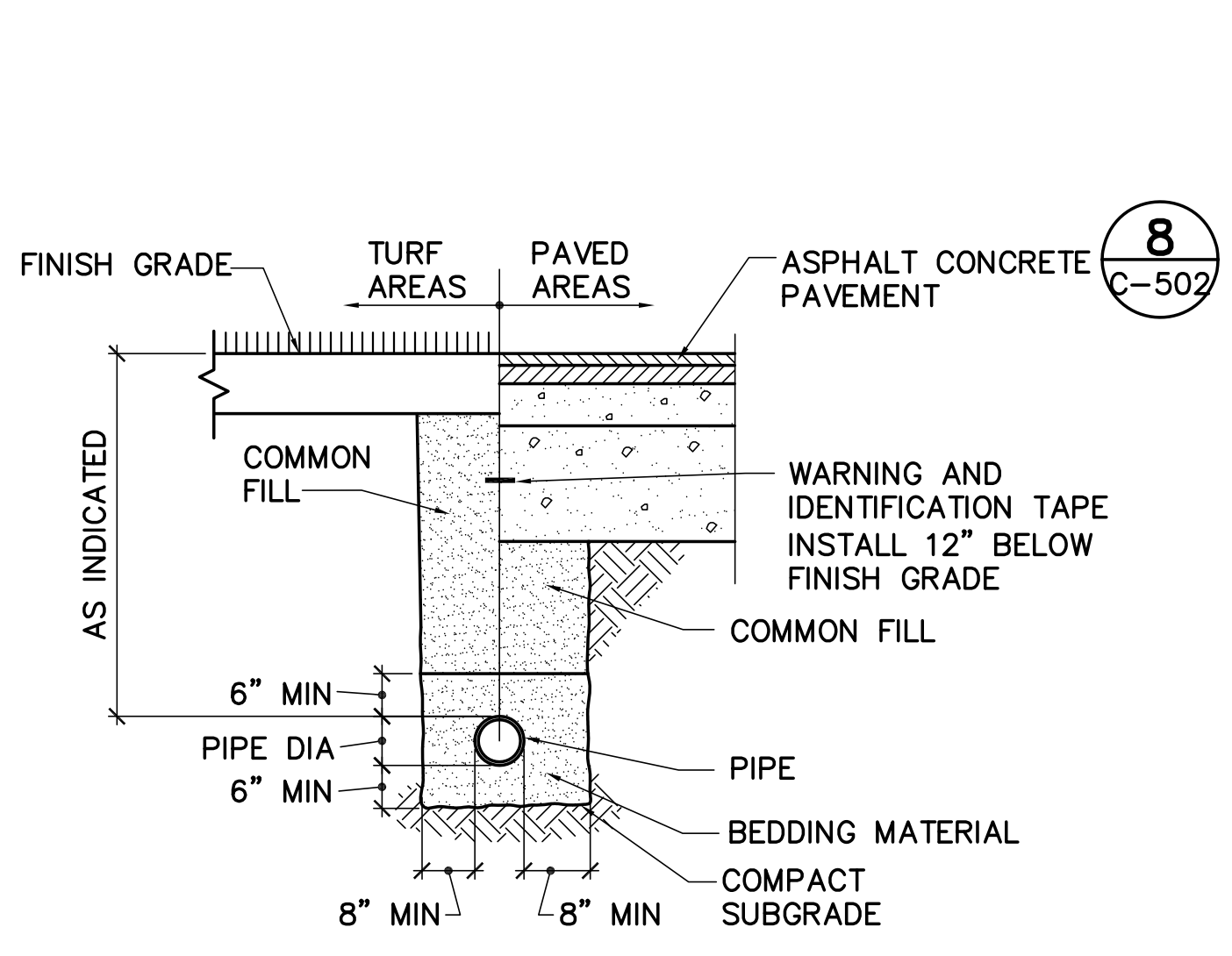




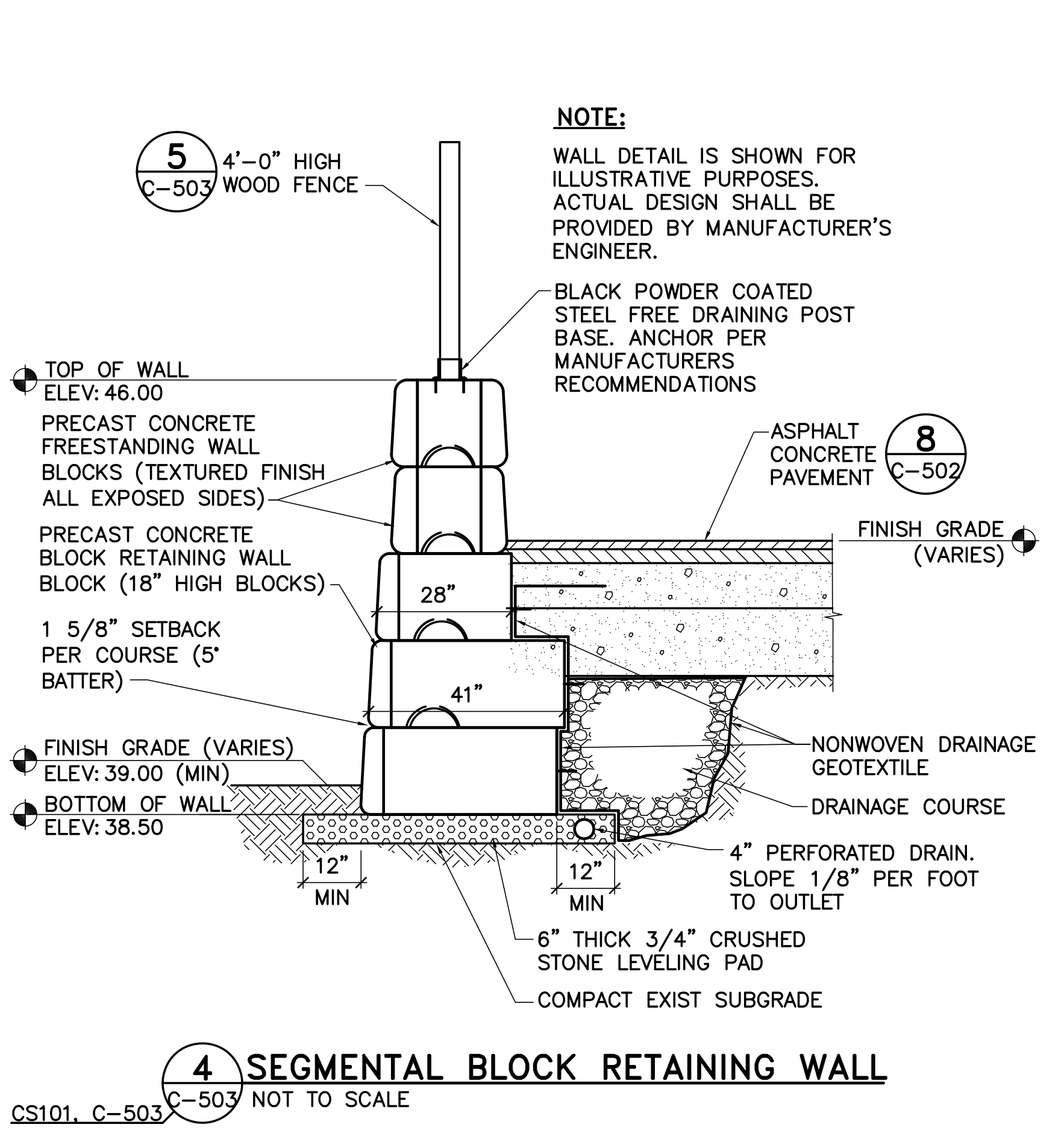
- NOTES:**
1. MANHOLE SHALL BE DESIGNED TO WITHSTAND H-20 WHEEL LOADING WITH 6 INCHES OF OVERBURDEN. THE DESIGN SHALL ALSO COMPLY WITH NATIONAL ELECTRICAL SAFETY CODE SECTION 323A.
  2. PROVIDE WITH 32\"/>



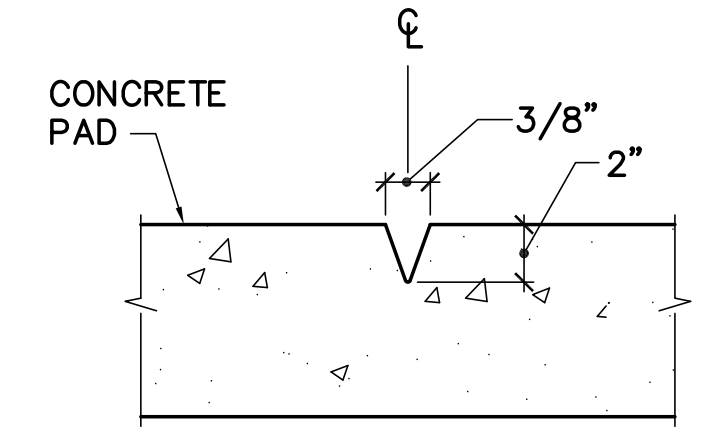
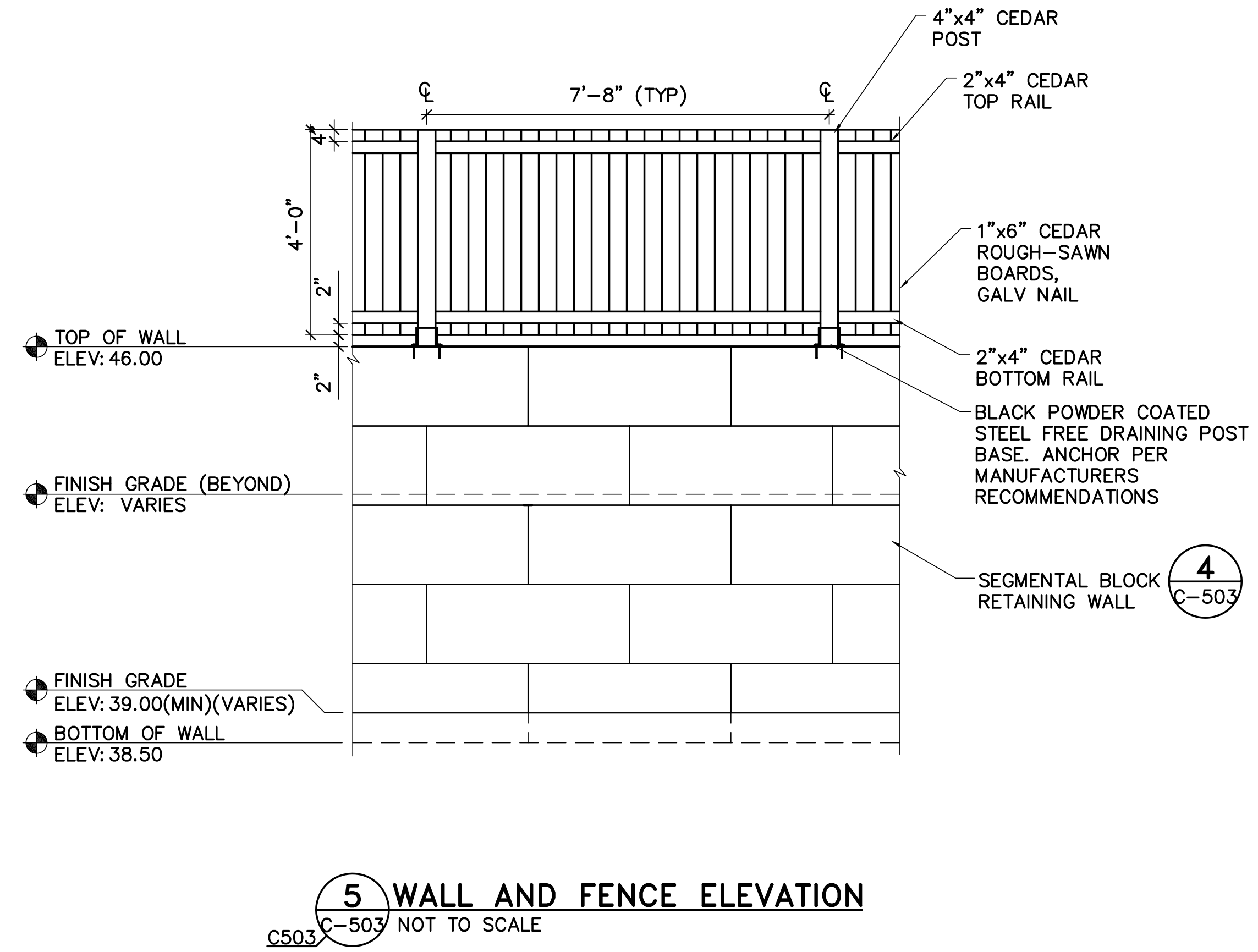
- NOTE:**
1. INLINE CLEANOUT SHOWN. FOR CLEANOUTS AT THE END OF LINES, PROVIDE 45 DEGREE BEND IN LIEU OF WYE.



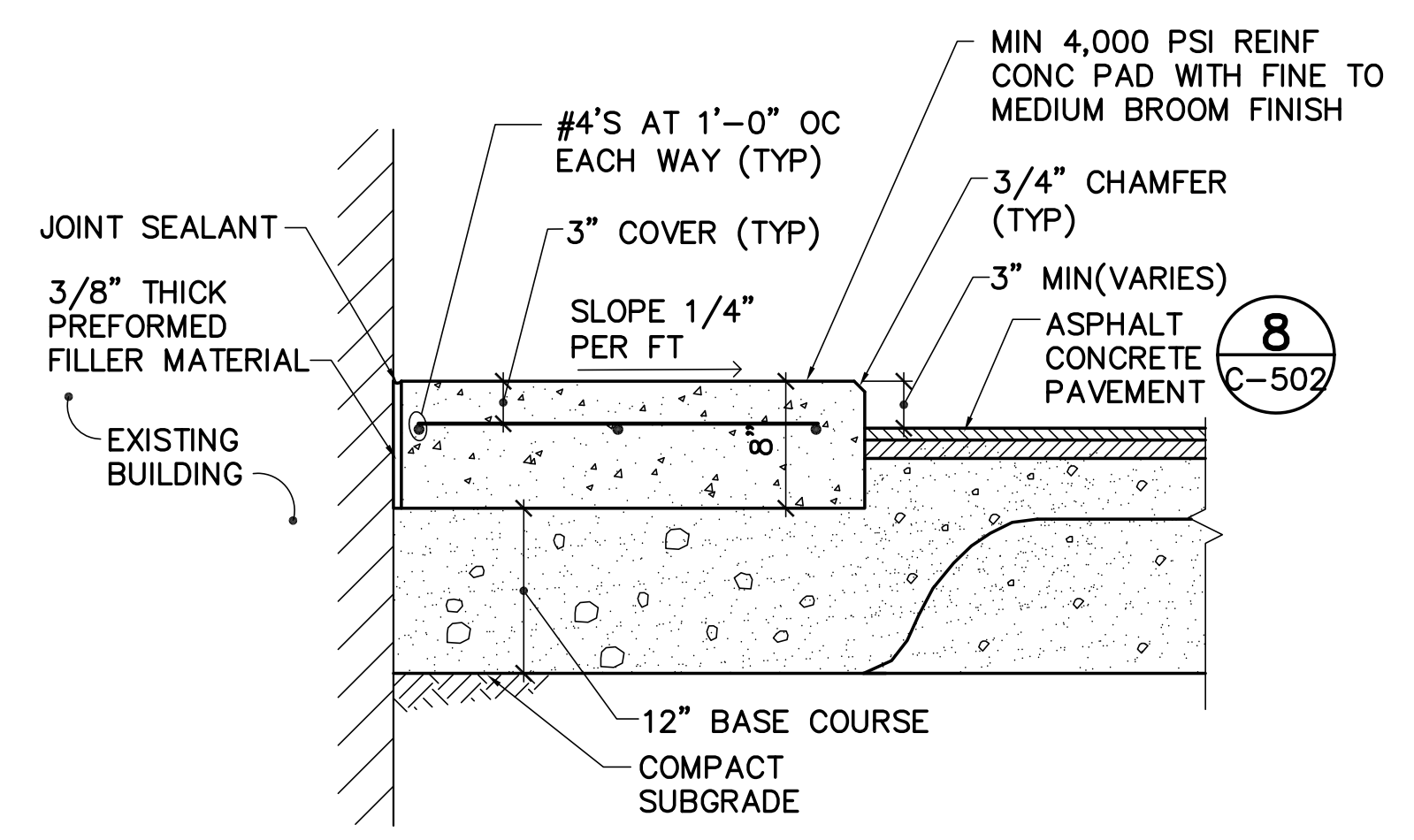
- NOTES:**
1. EXCAVATION WORK SHALL COMPLY WITH OSHA STANDARDS. TRENCH SIDEWALLS SHALL BE VERTICAL FROM TRENCH BOTTOM TO 12\"/>



- NOTE:**
- WALL DETAIL IS SHOWN FOR ILLUSTRATIVE PURPOSES. ACTUAL DESIGN SHALL BE PROVIDED BY MANUFACTURER'S ENGINEER.

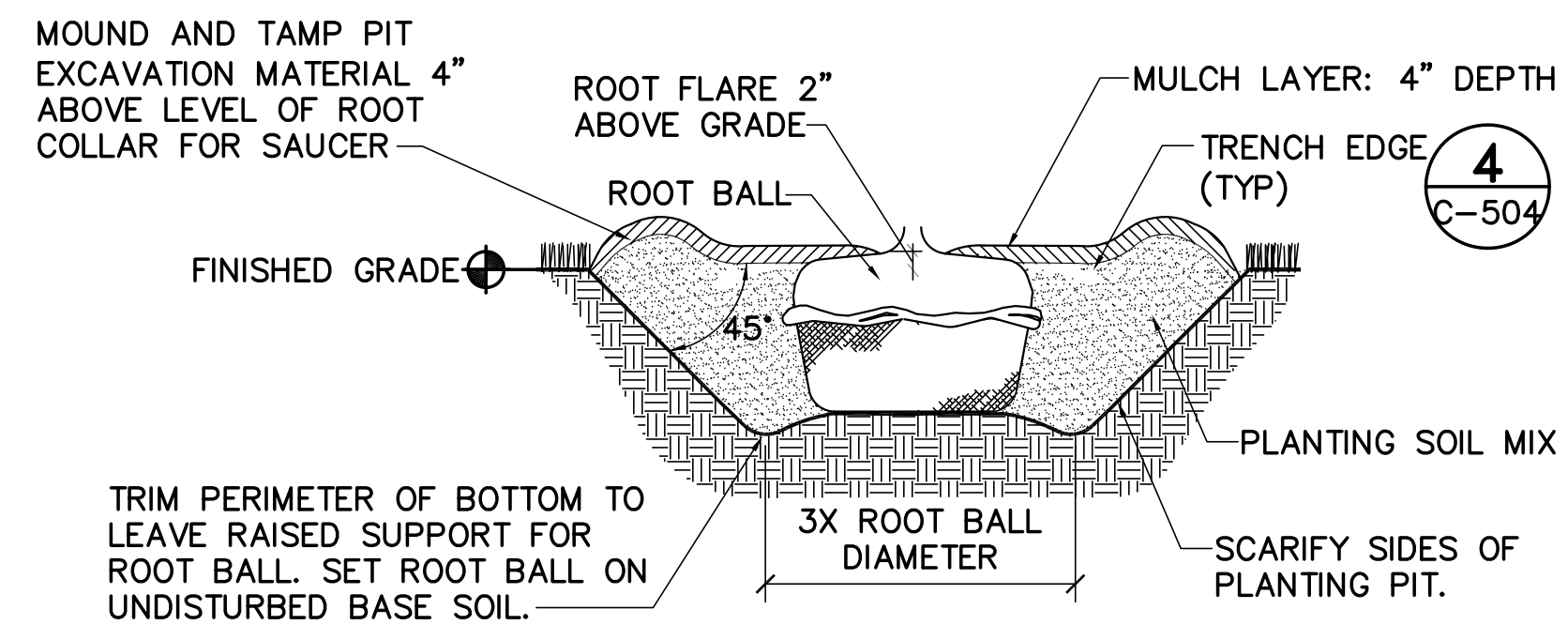


- NOTE:**
1. TOOLED JOINT SURFACE SHALL BE SMOOTH AND AT A CONSTANT DEPTH.



- NOTES:**
1. REINFORCING SHALL BE GALVANIZED.

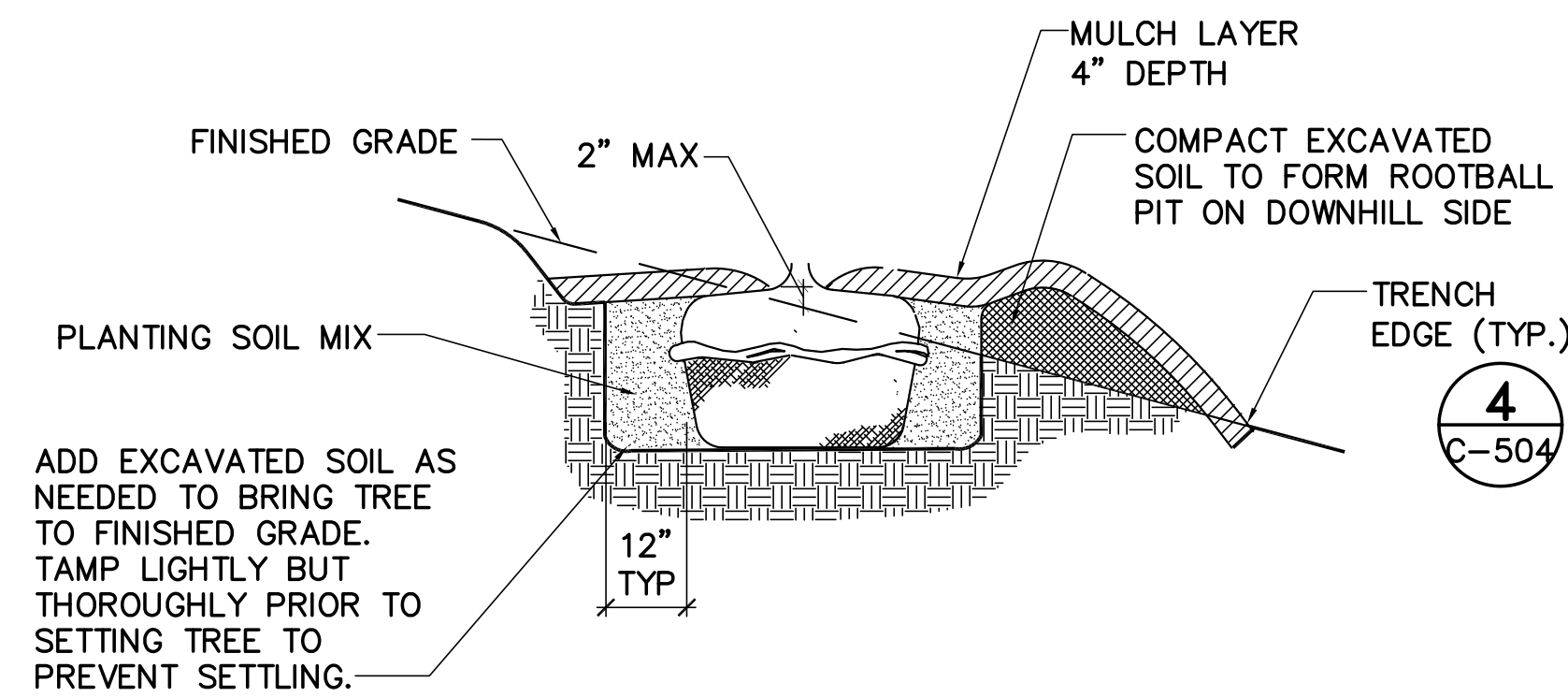




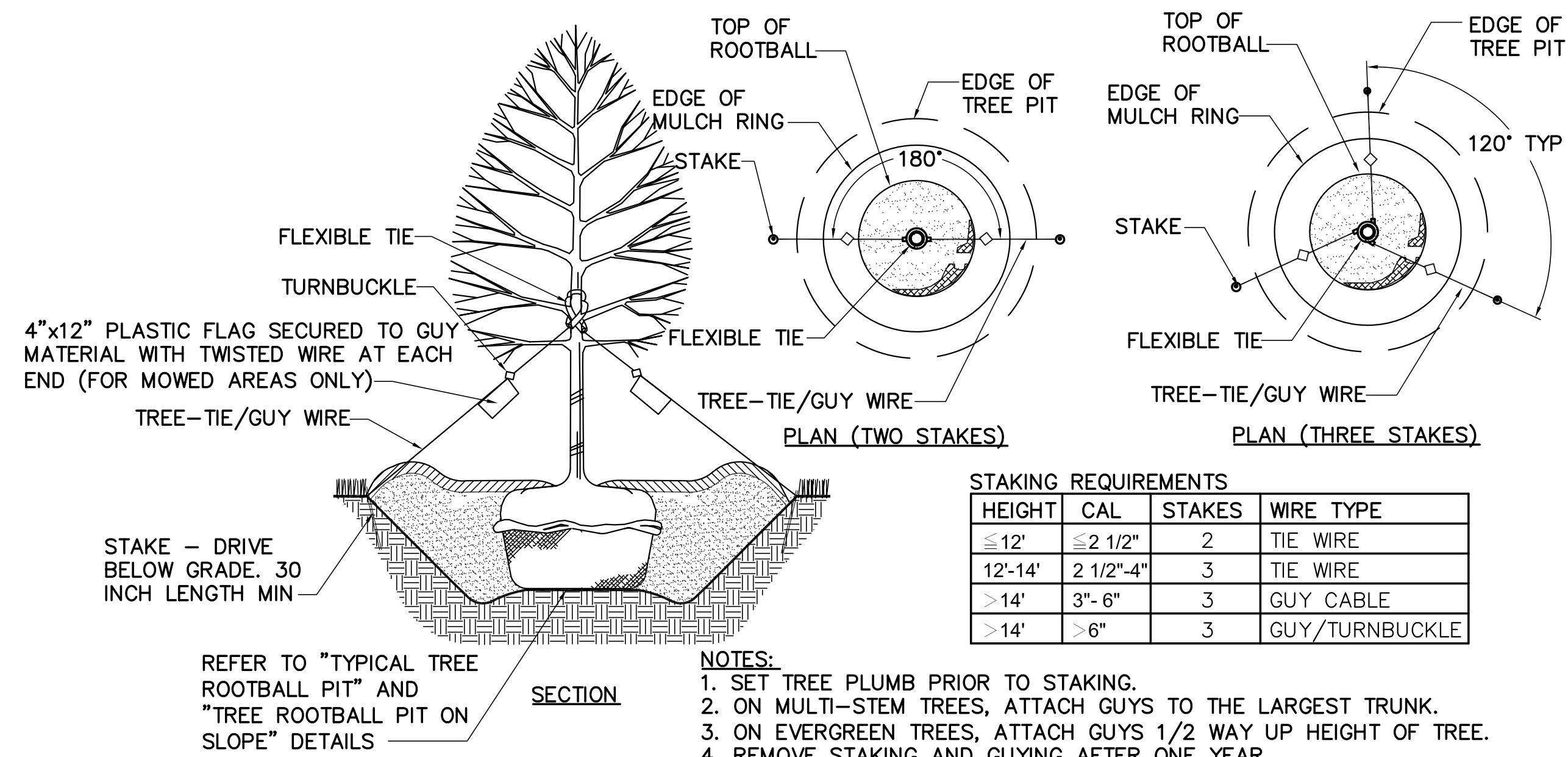
**PLANTING PROCEDURE:**

EXCAVATE CIRCULAR PLANTING PIT 3X THE DIAMETER OF ROOT BALL WITH SIDES SLOPING INWARD AT 45° ANGLE.  
 FILL EXCAVATIONS WITH WATER AND ALLOW TO PERCOLATE. NOTIFY OWNERS REPRESENTATIVE OF UNEXPECTED WATER SEEPAGE OR RETENTION OF WATER.  
 SET TREE WITH ROOT FLARE 2" ABOVE SURROUNDING FINISHED GRADE. DO NOT BREAK ROOT BALL.  
 REMOVE BURLAP, STRAPS, WIRE CAGE AND OTHER MATERIALS FROM TOP 1/4 OF ROOTBALL.  
 BACK FILL WITH PLANTING SOIL MIX IN LAYERS. TAMP LIGHTLY TO ELIMINATE VOIDS AND AIR POCKETS. WATER THOROUGHLY WHEN ONE-HALF OF PLANTING PIT IS FILLED.  
 PLACE FERTILIZER TABLETS ONE INCH FROM ROOT BALL WHEN ONE-HALF OF PLANTING PIT IS FILLED.  
 PLACE REMAINDER OF FILL AND WATER THOROUGHLY.  
 CONSTRUCT TRENCH EDGE AND MULCH AS SPECIFIED. DO NOT PLACE MULCH WITHIN 3 INCHES OF TRUNK.  
 STABILIZE TREE AS SPECIFIED.

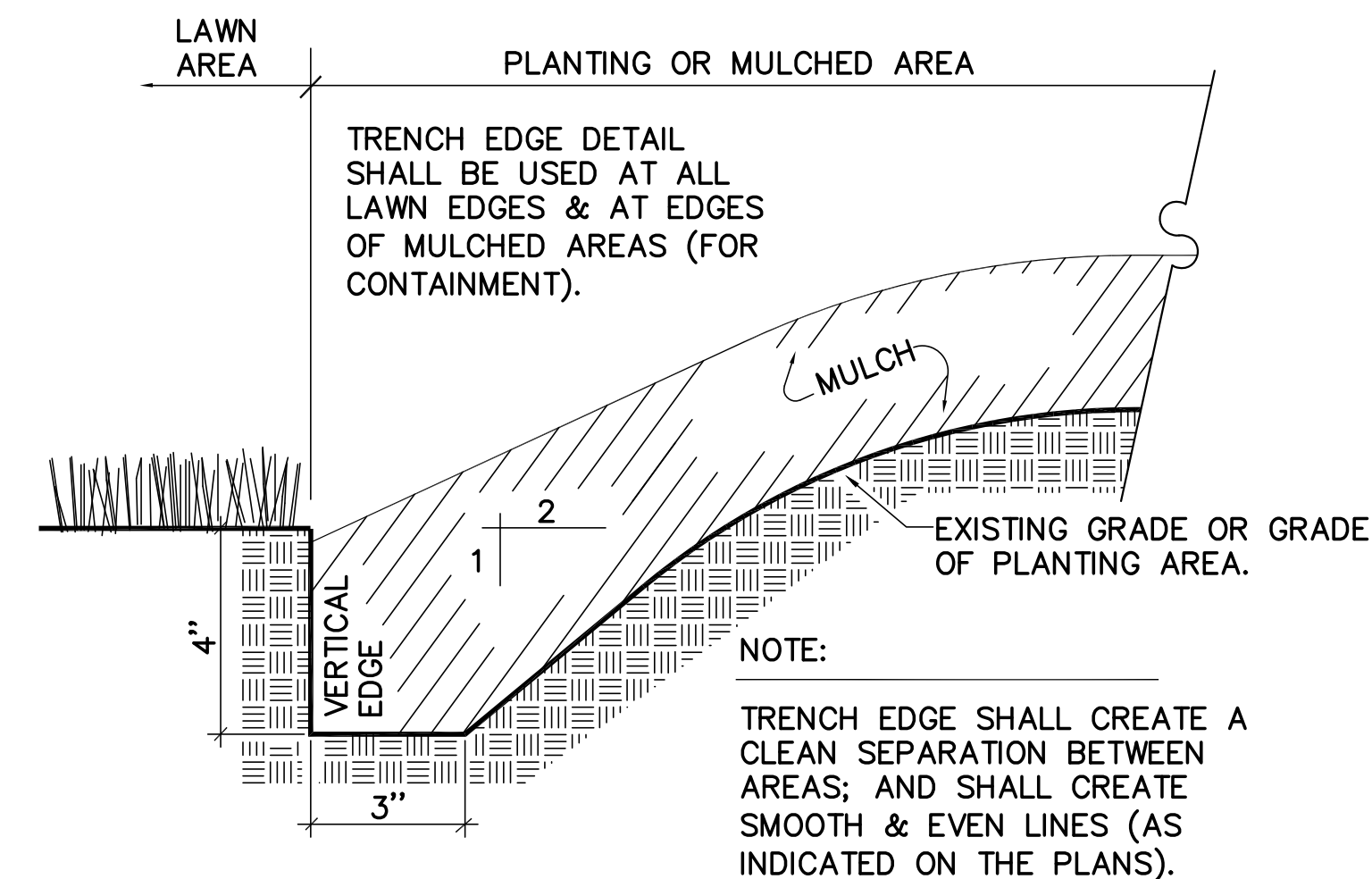
**1 TYPICAL TREE ROOT BALL PIT**  
 CS102 C-504 NOT TO SCALE



**2 TREE ROOT BALL PIT ON SLOPE**  
 CS102 C-504 NOT TO SCALE



**3 TREE STAKING AND GUYING**  
 CS102 C-504 NOT TO SCALE



**4 TRENCH EDGE-SECTION**  
 C-504 C-504 NOT TO SCALE

GENERAL STRUCTURAL NOTES

- A1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (2015 IBC) AND OTHER CODES HAVING JURISDICTION.
- A2. IT IS UNDERSTOOD BY ALL THAT THE GEOTECHNICAL ANALYSIS AND CORRESPONDING STRUCTURAL DYNAMIC ANALYSIS NECESSARY TO REDUCE POSSIBLE VIBRATION EFFECTS CAUSED BY THE GENERATOR IS NOT CURRENTLY IN THE SCOPE OF SERVICES FOR THIS GENERATOR FOUNDATION DESIGN. THE ANALYSIS AND DETAILS ENCLOSED HEREIN ARE BASED ON FOUNDATION GUIDELINES FROM RESPECTED SOURCES, SUCH AS THOSE PUBLISHED BY CATERPILLAR AS PROVIDED BY OPA. SEE "DESIGN ASSUMPTIONS" THIS DRAWING FOR FURTHER DESCRIPTION.

DESIGN PARAMETERS

GENERATOR PARAMETERS SHOWN ARE APPROXIMATE. CONTRACTOR'S BID SHALL ASSUME THESE VALUES MAY BE ADJUSTED BY 15%.

- B1. TOTAL WEIGHT OF GENERATOR AND ENCLOSURE WITHOUT 800 GALLONS OF FUEL IS 72,000 LBS. THIS TOTAL WEIGHT INCLUDES ALL OTHER GENERATOR COMPONENTS AND FLUIDS INCLUDING BUT NOT LIMITED TO:
  - A. PERMANENT SUPPORT FRAME AND LIFTING BEAMS
  - B. ANTIFREEZE COOLANT
  - C. ALL HYDRAULIC FLUIDS
  - D. 1650 GALLON TANK WITH RUPTURE BASIN (PER SHOP DRAWING)
  - E. SILENCER ATTACHMENTS.
- B2. GENERATOR RISK CATEGORY: IV (2015 IBC/TABLE 1604.5)
- B3. GENERATOR ENCLOSURE DIMENSIONS:
  - A. LENGTH = 47'-0"
  - B. WIDTH = 12'-0"
  - C. HEIGHT = 13'-2"
- B3. SEISMIC PARAMETERS:
  - A. SOIL SITE CLASS D
  - B.  $I_p = 1.5$
  - C. SPECTRAL RESPONSE ACCELERATIONS:
    - $S_s = 0.27$
    - $S_1 = 0.08$
  - D. SPECTRAL RESPONSE COEFFICIENTS:
    - $SDS = .285$
    - $SD1 = .128$
  - E. SEISMIC DESIGN CATEGORY = "C"
  - F.  $R = 3.0$  (REFERENCE TABLE 15.4-2: "SEISMIC COEFFICIENTS FOR NONBUILDING STRUCTURES NOT SIMILAR TO BUILDINGS")

FOUNDATIONS

- C1. CONTRACTOR SHALL FIELD VERIFY ADEQUACY OF EXISTING SOILS AND RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE IF EVIDENCE OF POOR SOILS IS OBSERVED OS SUSPECTED (INCLUDING BUT NOT LIMITED TO CLAY OR PEAT OR DEBRIS WITHIN THE SOIL).
- C2. ALL FOOTING EXCAVATIONS ARE TO BE FINISHED BY HAND. ALL FINISHED FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY THE PROJECT FOREMAN BEFORE ANY CONCRETE IS PLACED.
- C3. FROST-FREE STRUCTURAL FILL BELOW MAT FOUNDATION SHALL CONFORM TO THE FOLLOWING GRADATION:
 

SCREEN OR SIEVE SIZE	PERCENT FINER BY WEIGHT
4 INCH	100%
3 INCH	90% - 100%
1/4 INCH	25% - 90%
NO. 40	0% - 30%
NO. 200	0% - 5% (MAX.)
- C4. STRUCTURAL FILL BELOW AND WITHIN 2'-0" OF MAT FOUNDATION PERIMETER SHALL BE COMPACTED IN 6" (MAX) LIFTS (LOOSE MEASURE) TO 98% OF ITS MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557.
- C5. CONTRACTOR SHALL PROVIDE CONTINUOUS DRAINAGE BY MECHANICAL METHODS TO CONTROL SURFACE AND UNDERGROUND WATER AS REQUIRED DURING CONSTRUCTION, SO THAT ALL EXCAVATIONS ARE DRY. WATER LEVEL SHALL BE MAINTAINED AT 12 INCHES BELOW BOTTOM OF EXCAVATIONS AT ALL TIMES.
- C6. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO AVOID DISTURBING EXISTING SOIL DESIGNATED TO REMAIN. AS A MINIMUM, A SMOOTH EDGE BUCKET SHALL BE USED FOR FINAL EXCAVATION.
- C7. WHEN EXCAVATING, CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID DISTURBING EXISTING UTILITIES WHICH MAY EXIST BELOW GRADE.
- C8. FOUNDATION SHALL NOT BEAR ON BEDROCK.
- C9. NO FOUNDATIONS SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

CONCRETE

- E1. ALL CONCRETE WORK SHALL CONFORM TO THE 2014 EDITION OF THE ACI BUILDING CODE (ACI 318), SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301), HOT WEATHER PLACEMENT (ACI 305R), COLD WEATHER PLACEMENT (ACI 306.1) AND TO THE 2015 IBC. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- E2. FOR LOCATIONS LISTED BELOW, CONCRETE SHALL HAVE 3/4" NORMAL WEIGHT AGGREGATE (ASTM C-33), 4" TO 5" SLUMP (MAXIMUM WITHOUT PLASTICIZER), TYPE I OR II ASTM C-150 PORTLAND CEMENT AND DESIGNATED COMPRESSIVE STRENGTH (FC) IN 28 DAYS AS FOLLOWS:

LOCATION	$f'_c$ (psi)	AIR ENTRAINMENT	POLYPROPYLENE FIBERS	MAX. WATER:CEMENT RATIO
MAT FOUNDATION CONCRETE EQUIP. HOUSEKEEPING PADS DUCT BANK ENCASEMENT	3000	4% - 7%	NONE	0.50

QUANTITY OF WATER ADDED AT READY MIX PLANT SHALL BE INDICATED ON THE DELIVERY SLIP FOR EACH TRUCK.

- E3. ALL CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- E4. PROVIDE ALL NECESSARY ACCESSORIES TO HOLD REINFORCING SECURELY IN POSITION. REINFORCEMENT SUPPORTS SHALL BE SPACED NOT MORE THAN 4'-0" ON CENTER AND SHALL CONSIST OF PRE-MANUFACTURED CHAIRS.
- E5. MINIMUM LAP SPLICE FOR #5 BARS SHALL BE 2'-4" (UON).
- E6. FOUNDATION SHALL BE PLACED MONOLITHICALLY.
- E7. PIPES OR CONDUITS PLACED IN CONCRETE SHALL NOT BE PLACED CLOSER THAN 3 DIAMETERS ON CENTER AND SHALL HAVE AN OUTSIDE DIAMETER LESS THAN 1/3 OF THE FOUNDATION THICKNESS.
- E8. ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED 1" UNLESS SHOWN OTHERWISE ON DRAWINGS.
- E9. CALCIUM CHLORIDE, ALUMINUM OR COPPER COMPONENTS SHALL NOT BE PLACED IN CONCRETE.
- E10. EMBEDMENTS IN CONCRETE SHALL BE FIRMLY SECURED BY TIE WIRE (OR OTHER MEANS) TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT. WELDING OF EMBEDMENTS IS NOT PERMITTED.
- E11. ALL CONCRETE MATERIALS, REINFORCEMENT AND FORMS SHALL BE FREE FROM FROST OR DEBRIS.
- E12. CONCRETE SHALL BE MAINTAINED ABOVE 50 DEGREES F, AND IN MOIST CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACEMENT. CONTRACTOR SHALL PROVIDE BLANKETS, TENTING, AND HEAT AS NECESSARY TO ENSURE THIS CONDITION EXISTS. CONTRACTOR SHALL KEEP TWO OPERABLE CONCRETE THERMOMETERS ON SITE THROUGHOUT CONCRETE CONSTRUCTION WHEN TEMPERATURES ARE PREDICTED TO BE LESS THAN 40 DEGREES F.
- E13. CONSOLIDATE ALL CONCRETE WITH A VIBRATOR OR OTHER MEANS RECOMMENDED BY ACI 301. HONEYCOMBED SURFACES WILL NOT BE PERMITTED.
- E14. COORDINATE CONCRETE FINISH WITH OWNER'S REQUIREMENTS.
- E15. MID RANGE PLASTICIZER MAY BE ADDED FOR PUMPING PROVIDED IT IS UNDER THE DIRECT OVERSIGHT OF THE READY MIX CONCRETE SUPPLIER.

SUBMITTALS

- F1. CONCRETE MIX DESIGN
- F2. STEEL REINFORCEMENT
- F3. ANCHOR RODS
- F4. ANCHOR ADHESIVE
- F5. RIGID THERMAL VIBRATION INSULATION

ADDITIONAL ENGINEERING SERVICES RETAINED BY THE CONTRACTOR:

CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE TO PERFORM TWO TEST PITS AT THE GENERATOR PAD LOCATION AND IDENTIFY THE FOLLOWING EXISTING SOIL PARAMETERS:

1. BEARING CAPACITY
2. EXPECTED TOTAL SETTLEMENT
3. EXPECTED DIFFERENTIAL SETTLEMENT
4. FROST DEPTH
5. SOIL SUBGRADE REACTION
6. POTENTIAL FOR EXISTING SOILS TO TRANSFER VIBRATIONS TO ADJACENT STRUCTURES.

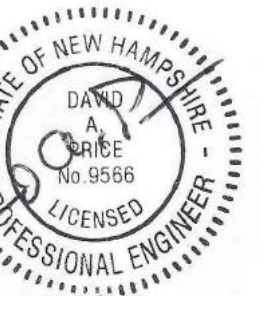
ABBREVIATIONS

&	AND
⊙	AT
CL	CENTERLINE
CLR	CLEAR
CONC	CONCRETE
EL	ELEVATION
FT	FOOT
GEN	GENERATOR
MFR	MANUFACTURER
MIN	MINIMUM
T&B	TOP AND BOTTOM
TYP	TYPICAL



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GENERATOR FOUNDATION NOTES

SCALE: AS NOTED

DATE: 06/24/2020

DWG.: **SB001**

SHEET: 15 OF 33



GENERATOR FOUNDATION DESIGN ASSUMPTIONS

THE STRUCTURAL DESIGN OF THE GENERATOR FOUNDATION IS BASED ON THE FOLLOWING ASSUMPTIONS. PLEASE NOTIFY PRICE STRUCTURAL ENGINEERS, INC. (PSE) IMMEDIATELY IF THESE ASSUMPTIONS NEED TO BE ADJUSTED OR APPEAR TO BE INCORRECT.

1. A GEOTECHNICAL ANALYSIS OF THE SOILS SUPPORTING THIS STRUCTURE IS NOT CURRENTLY AVAILABLE. BASED ON THE INFORMATION AND SOIL DESCRIPTION PROVIDED BY OAK POINT ASSOCIATES (OPA) THE FOLLOWING SOIL PARAMETERS ARE ASSUMED:
  - a. SOIL BEARING CAPACITY: 2500 PSF
  - b. FROST DEPTH: 4'-6"
  - c. SOILS ARE "WELL-DRAINED"
2. ANCHOR RODS CONNECTING THE GENERATOR TO THE TOP OF CONCRETE FOUNDATION ARE TO BE POST-INSTALLED (FIELD - DRILLED) ADHESIVE ANCHORS WITH THE FOLLOWING INFORMATION TO BE SPECIFIED BY THE GENERATOR MANUFACTURER:
  - a. ROD DIAMETER (MINIMUM REQUIRED)
  - b. ROD QUANTITY
  - c. ROD LAYOUT POSITIONS
  - d. ROD PROJECTION ABOVE CONCRETE SURFACE
  - e. ROD STEEL GRADE
  - f. ROD CORROSION RESISTANT FINISH
  - g. MAXIMUM FORCE COMBINATIONS ON STEEL RODS (LATERAL SHEAR, UPLIFT, ETC.)
  - h. LOCATION OF GENERATOR CENTER OF MASS (HORIZONTAL IN BOTH DIRECTIONS AND VERTICAL) INCLUDING ALL COMPONENTS AND LIQUIDS
3. GUIDELINES FROM: DESIGN OF STRUCTURES AND FOUNDATIONS FOR VIBRATING MACHINES, ARYA, O'NEILL, PINKUS (COPYRIGHT 1981)  
"THE FOLLOWING ITEMS APPLY TO BLOCK TYPE FOUNDATIONS RESTING ON SOIL:
  - a. A RIGID BLOCK TYPE FOUNDATION RESTING ON SOIL SHOULD HAVE A MASS OF 2 TO 3 TIMES THE MASS OF THE SUPPORTED MACHINE FOR CENTRIFUGAL MACHINES.
  - b. THE VERTICAL THICKNESS OF THE BLOCK SHOULD NOT BE LESS THAN 2 FEET.
  - c. THE FOUNDATION SHOULD BE WIDE TO INCREASE DAMPING IN THE ROCKING MODE. THE WIDTH SHOULD BE AT LEAST 1 TO 1.5 TIMES THE VERTICAL DISTANCE FROM THE BASE TO THE MACHINE CENTER LINE."
4. GUIDELINES FROM: APPLICATION AND INSTALLATION GUIDE PUBLISHED BY CATERPILLAR, 2012 (PROVIDED BY OPA)
  - a. SUGGESTED CONCRETE 28-DAY COMPRESSIVE STRENGTH: 3000 PSI.
  - b. BARS MUST HAVE 3 INCH CLEARANCE MINIMUM BELOW TOP OF FOUNDATION.
  - c. OUTSIDE FOUNDATION DIMENSIONS SHOULD EXCEED THAT OF THE EQUIPMENT BY A MINIMUM OF 12 INCHES.
5. IT IS ASSUMED THAT THE WEIGHT OF MOVING PARTS DOES NOT EXCEED 40% OF THE TOTAL GENERATOR WEIGHT.
6. THE HORIZONTAL LOCATION OF THE GENERATOR CENTER OF GRAVITY IS ASSUMED TO DEVIATE FROM THE CONCRETE FOUNDATION PLAN VIEW CENTERLINE BY 10% IN BOTH THE NORTH/SOUTH AND EAST/WEST DIRECTIONS.
7. THE VERTICAL LOCATION OF THE GENERATOR CENTER OF GRAVITY IS ASSUMED TO BE 7'-0" ABOVE THE TOP OF CONCRETE. (REFERENCE GENERATOR SHOP DRAWING INDICATING 22" HIGH STEEL LIFTING FRAME BELOW THE GENERATOR WITH A CONTAINMENT BASIN AND TANK).

INSPECTION AND TESTING

A. FIELD INSPECTIONS:

1. REINFORCEMENT - NOTIFY ARCHITECT 72 HOURS BEFORE DATE OF CONCRETE PLACEMENT SO THAT FOUNDATION DIMENSIONS, EMBEDDED REINFORCEMENT AND OTHER FOUNDATION FEATURES AS NECESSARY CAN BE INSPECTED BY THE OWNER'S REPRESENTATIVE.

B. FIELD TESTS:

1. TESTING AGENCY: ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM TESTS AND INSPECTIONS AND TO SUBMIT REPORTS. TESTING AGENCY SHALL REPORT RESULTS OF TESTS AND INSPECTIONS, IN WRITING, TO OWNER, ARCHITECT, CONTRACTOR, AND CONCRETE MANUFACTURER WITHIN 48 HOURS OF INSPECTIONS AND TESTS.
2. CONCRETE TESTS: TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED IN ACCORDANCE WITH ASTM C 172 SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
  - a. TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH 25 CUBIC YARD POUR OF CONCRETE MIXTURE.
  - b. SLUMP: ASTM C143:
    - ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE.
    - PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE.
  - c. AIR CONTENT: ASTM C231 PRESSURE METHOD, FOR NORMAL-WEIGHT CONCRETE:
    - ONE TEST FOR EACH COMPOSITE SAMPLE.
  - d. CONCRETE TEMPERATURE: ASTM C1064:
    - ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW OR 80 DEG F AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.
  - e. UNIT WEIGHT: ASTM C567 FRESH UNIT WEIGHT OF STRUCTURAL LIGHTWEIGHT CONCRETE.
    - ONE TEST FOR EACH COMPOSITE SAMPLE.
  - f. COMPRESSION TEST SPECIMENS: ASTM C31:
    - CAST AND LABORATORY CURE TWO SETS OF THREE 6-INCH BY 12-INCH CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.
  - g. COMPRESSIVE-STRENGTH TESTS: ASTM C39:
    - TEST ONE SET OF TWO LABORATORY-CURED SPECIMENS AT SEVEN DAYS AND ONE SET OF TWO SPECIMENS AT 28 DAYS.
    - REMAINING SET OF TWO MAY BE TESTED AT A LATER DATE IF NEEDED.
    - A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM A SET OF TWO SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT AGE INDICATED.
3. CONCRETE EVALUATION:
  - a. WHEN STRENGTH OF FIELD-CURED CYLINDERS IS LESS THAN 85 PERCENT OF COMPANION LABORATORY-CURED CYLINDERS, CONTRACTOR SHALL EVALUATE OPERATIONS AND PROVIDE CORRECTIVE PROCEDURES FOR PROTECTING AND CURING IN-PLACE CONCRETE.
  - b. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF EVERY AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH, AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI.
  - c. TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ARCHITECT. ACCEPTANCE CRITERIA FOR CONCRETE STRENGTH SHALL BE IN ACCORDANCE WITH ACI 301 SECTION 1.6.6.3.
  - d. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.



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GENERATOR  
FOUNDATION  
NOTES

SCALE: AS NOTED

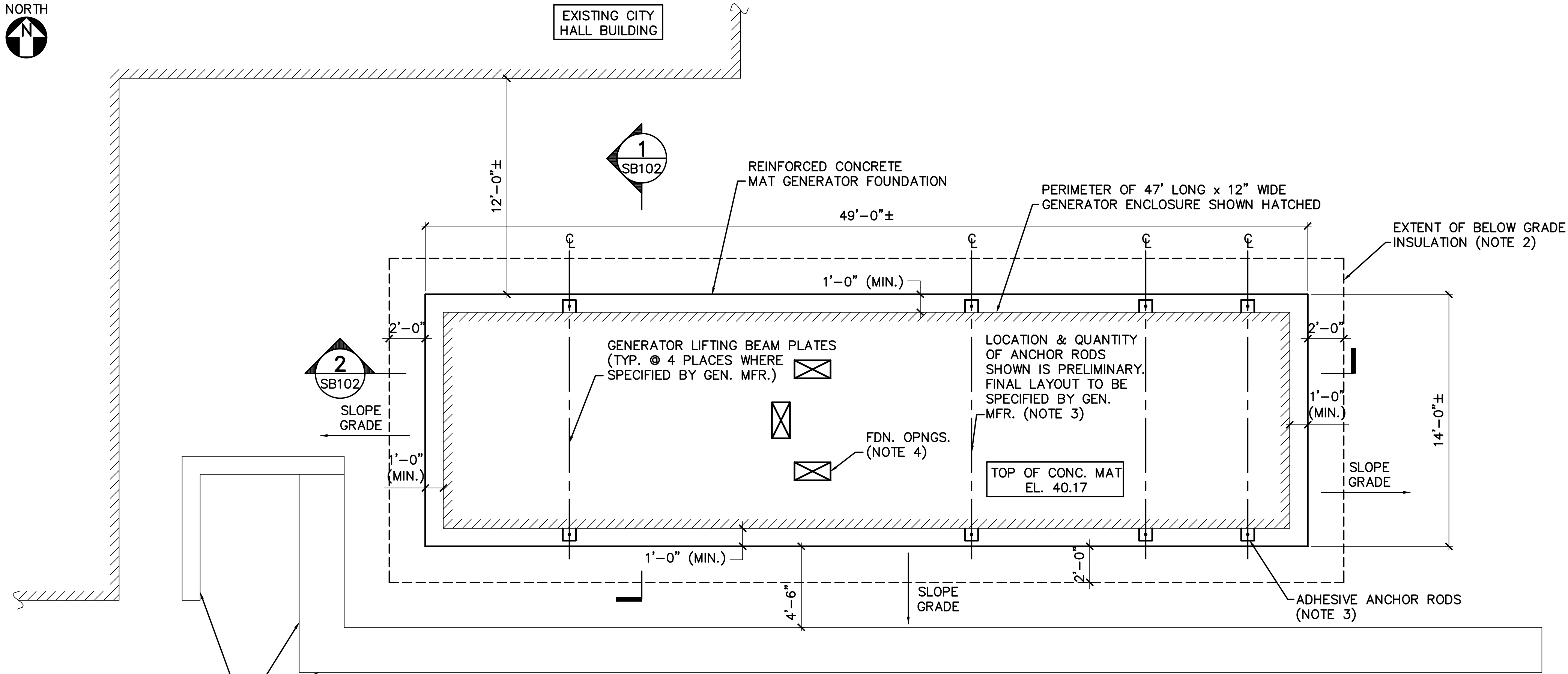
DATE: 06/24/2020

DWG.: SB002

SHEET: 16 OF 33



PLAN NORTH

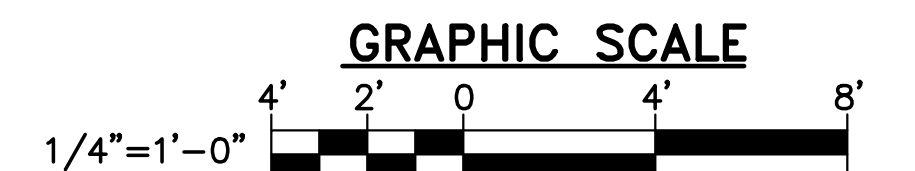


RETAINING WALLS  
(SEE CIVIL SITE PLAN)

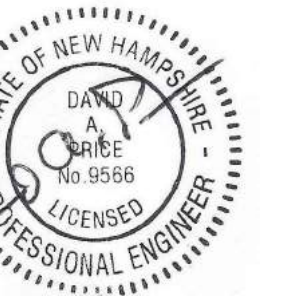
**1 GENERATOR FOUNDATION MAT PLAN**  
 SB101 SCALE: 1/4"=1'-0"

**NOTES:**

1. SEE DRAWINGS SB001 AND SB002 AND OTHER PROJECT DOCUMENTS FOR ADDITIONAL GENERATOR NOTES AND REQUIREMENTS.
2. RIGID THERMAL AND VIBRATION INSULATION BELOW FOUNDATION SHALL BE DOW BLUE STYROFOAM HIGHLOAD 60 R-10 2" THICK (4'x8' SHEETS) OR APPROVED EQUAL. "APPROVED EQUAL" MEANS SUBSTITUTE PRODUCT SUBMITTAL CONTAINS VERIFICATION THAT THE SUBSTITUTE PRODUCT CONFORMS WITH EACH OF THE FOLLOWING:
  - a. PRODUCT HAS PERFORMED SATISFACTORILY ON MULTIPLE PROJECTS WHEN INSTALLED BELOW EXTERIOR GRADE SUPPORTING VIBRATING EQUIPMENT WEIGHING MORE THAN FOUR TONS OR AIRCRAFT RUNWAYS
  - b. PRODUCT THERMAL RESISTANCE IS EQUAL TO OR GREATER THAN R = 10
  - c. PRODUCT THICKNESS IS AS SPECIFIED
  - d. PRODUCT COMPRESSIVE STRENGTH IS 60 PSI OR GREATER
  - e. PRODUCT CONFORMS TO EACH TECHNICAL DATA STANDARD PUBLISHED FOR THE SPECIFIED PRODUCT.
3. ANCHOR ROD ADHESIVE SHALL BE HILTI HIT-RE500 V3 EPOXY ADHESIVE (OR APPROVED EQUAL). FOR INITIAL PRICING ASSUME 1" DIA. x 1'-6" LONG A36 GALV. THREADED ROD WITH 0'-6" PROJECTION ABOVE CONCRETE.
4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING FOUNDATION OPENINGS, EMBEDMENTS, RECESSED SURFACES, AND OTHER FOUNDATION FEATURES AS NECESSARY WITH FINAL APPROVED EQUIPMENT DRAWINGS. ADD (2) #4 TOP & BOTTOM TYPICAL AT EACH SIDE OF EACH OPENING, EXTENDING BEYOND EDGE OF OPENING NOT LESS THAN 2'-0".



CHECK GRAPHIC SCALE BEFORE USING



DESIGNED BY: DAP  
 DRAWN BY: TDP  
 CHECKED BY: DAP  
 PROJECT: 21904.15

**CITY OF PORTSMOUTH**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**CITY HALL ELECTRICAL RENOVATIONS**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

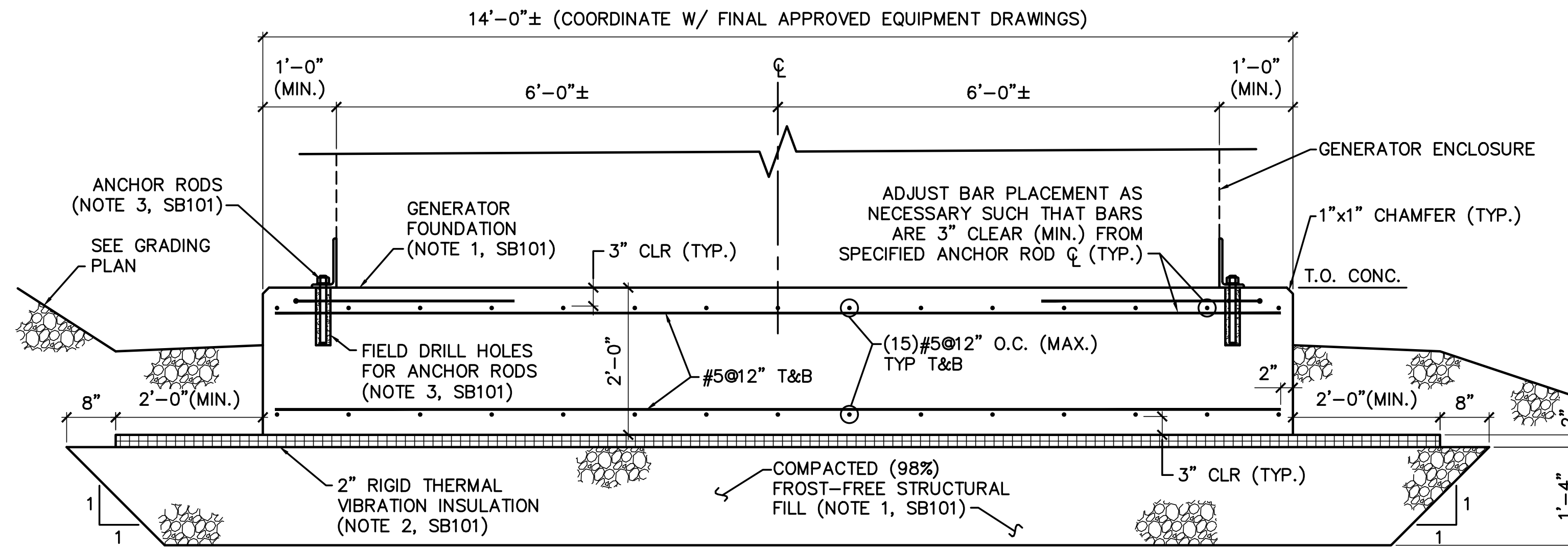
**GENERATOR FOUNDATION PLAN & NOTES**

SCALE: AS NOTED  
 DATE: 06/24/2020

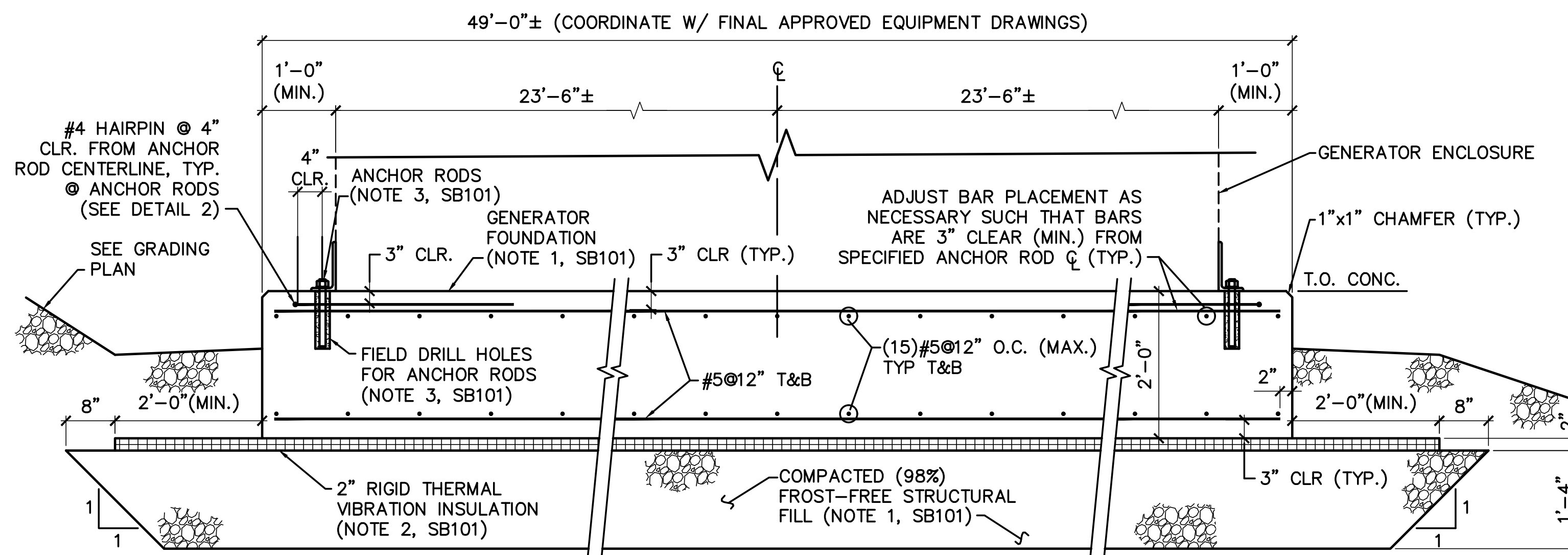
DWG.: **SB101**

SHEET: **17** OF **33**

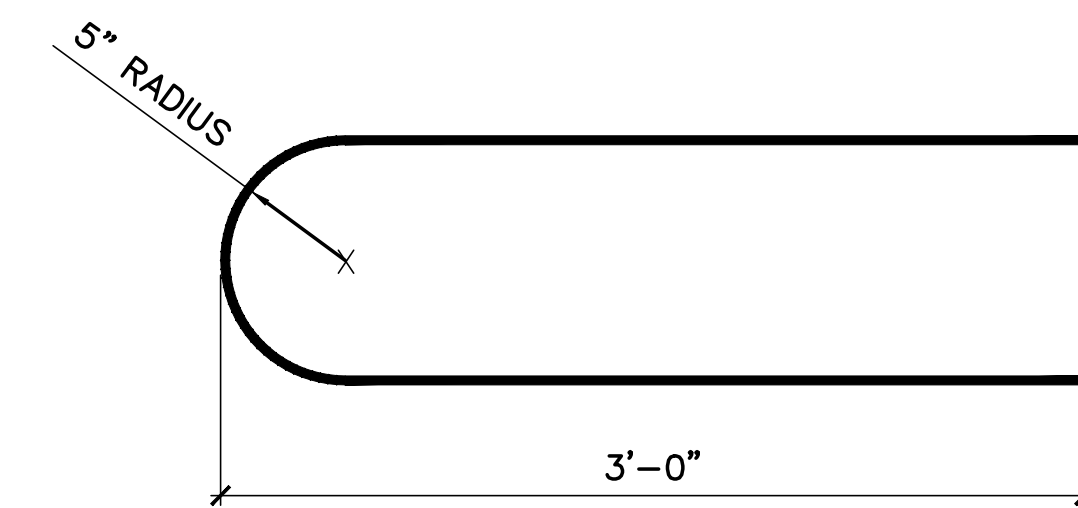




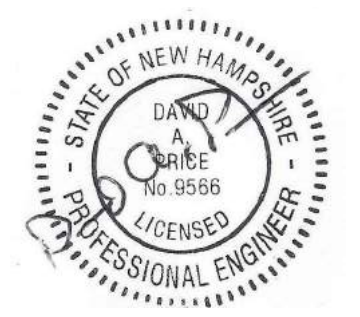
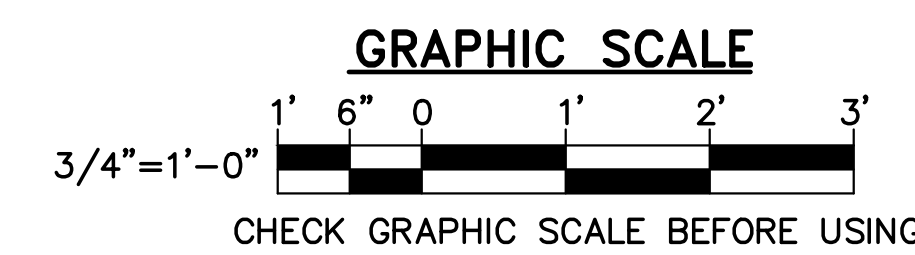
**1 SECTION @ GENERATOR FOUNDATION**  
SB102 SCALE: 3/4"=1'-0"



**2 SECTION @ GENERATOR FOUNDATION**  
SB102 SCALE: 3/4"=1'-0"



**2 HAIRPIN PLAN**  
SB102 SCALE: 1 1/2"=1'-0"



DAP TDP DAP  
DESIGNED BY: TDP  
DRAWN BY: DAP  
CHECKED BY: DAP  
PROJECT: 21904.15

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**GENERATOR FOUNDATION SECTIONS & DETAILS**

SCALE: AS NOTED  
DATE: 06/24/2020

DWG.: **SB102**

SHEET: **18** OF **33**

**GENERAL SHEET NOTES:**

1. CONTRACTOR SHALL INVESTIGATE LAYOUT AND EXTENT OF TRENCH/CABLE TRAY BELOW ROOMS 126 AND 135 PRIOR TO THE COMMENCEMENT OF WORK.
2. CONTRACTOR SHALL PERFORM GROUND PENETRATING RADAR AT EXTERIOR WALLS, CONCRETE/CMU INTERIOR WALLS, AND FLOOR LOCATIONS PRIOR TO CORE-DRILLING PENETRATIONS OR CUTTING THE SLAB.

**HAZARDOUS MATERIALS NOTES:**

1. OBTAIN PERMITS AND LICENSES REQUIRED FOR THE REMOVAL, TRANSPORT AND DISPOSAL OF HAZARDOUS MATERIALS AND DEBRIS AT NO ADDITIONAL COST TO THE GOVERNMENT.
2. REMOVE EXISTING ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS. ASBESTOS MUST BE MANAGED, REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
3. EXISTING PAINT IS ASSUMED TO CONTAIN LEAD. REMOVE AND DISPOSE OF INCIDENTAL EXISTING LOOSE PAINT AND PAINT DUST, AND LOOSE PAINT AND PAINT DUST CAUSED BY CONSTRUCTION ACTIVITIES.
4. MANAGE LEAD PAINT IN AREAS INDICATED FOR REMOVAL SEPARATE FROM THE SUBSTRATE AND TREAT THE REMOVED LEAD PAINT AS HAZARDOUS MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS. LEAD MUST BE MANAGED, REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
5. EXISTING LIGHT FIXTURE BALLASTS ARE ASSUMED TO CONTAIN PCBs AND EXISTING LAMPS ARE ASSUMED TO CONTAIN MERCURY. SEE ELECTRICAL DRAWINGS FOR EXTENT OF REMOVALS. REMOVE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

**REMOVALS KEYNOTES:**

- ① REMOVE PAINTED DOOR, PAINTED FRAME AND ASSOCIATED HARDWARE. PREP OPENING FOR INFILL.
- ② REMOVE 5 1/2" TALL REINFORCED CONCRETE PAD.
- ③ REMOVE PAINTED PLASTER, METAL LATH AND METAL FRAMED PARTITION. PATCH WALL, FLOOR AND CEILING FINISHES WHERE DISTURBED.
- ④ REMOVE CARPET FLOORING AND MASTIC. REMOVE AND DISPOSE OF ASBESTOS-CONTAINING ACT TILE AND MASTIC BELOW.
- ⑤ REMOVE REINFORCED CONCRETE SLAB AS REQUIRED TO ACCESS CABLE TRAY/TRENCH BELOW. COORDINATE WITH ELECTRICAL TRADE.
- ⑥ REMOVE MTL LOUVERS AND PREP OPENING FOR WINDOW INFILL.
- ⑦ CORE DRILL FOR ELECTRICAL CONDUIT, COORDINATE LOCATION AND QUANTITY WITH ELECTRICAL TRADE.
- ⑧ REMOVE 4" TALL REINFORCED CONCRETE PAD.
- ⑨ SAW CUT AND REMOVE REINFORCED CONCRETE SLAB AS REQUIRED. COORDINATE WITH ELECTRICAL TRADE.
- ⑩ REMOVE REINFORCED CONCRETE STEP.
- ⑪ REMOVE VINYL WALL COVERING. PREPARE WALL FOR PAINT.
- ⑫ REMOVE AND DISPOSE OF LOOSE AND FLAKY LEAD-CONTAINING PAINT AND PAINT DUST AT FLOORS, WALLS AND CEILING.
- ⑬ REMOVE VCT FLOORING TILE AND MASTIC.



KTW  
 ENR  
 KTW  
 DESIGNED BY:  
 DRAWN BY:  
 CHECKED BY:  
 PROJECT:  
 21904.15

**CITY OF PORTSMOUTH**  
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 Portsmouth, NH 03801

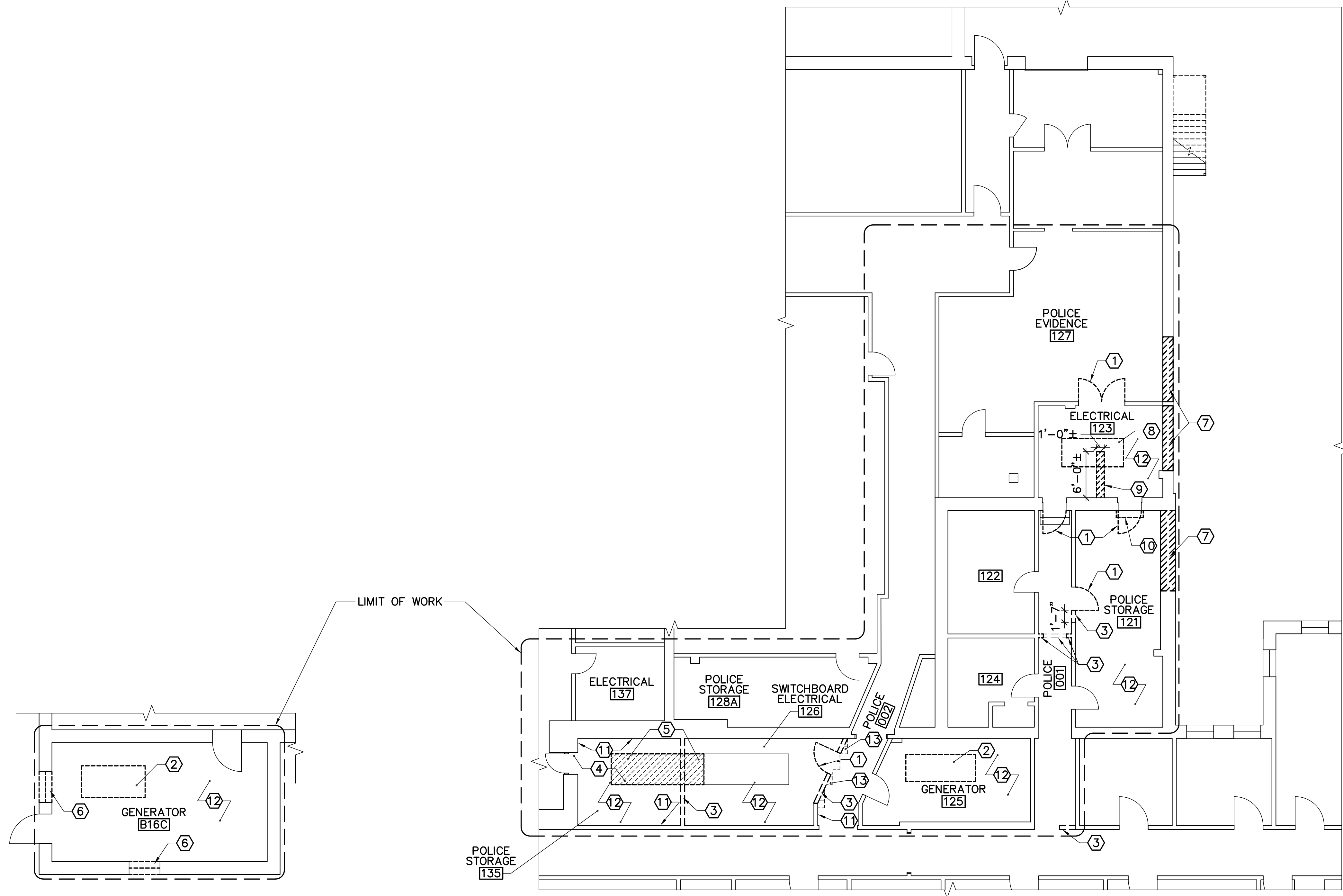
**CITY HALL ELECTRICAL RENOVATIONS**  
 1 Junkins Avenue  
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**REMOVALS FLOOR PLANS**

SCALE: AS NOTED  
 DATE: 06/24/2020

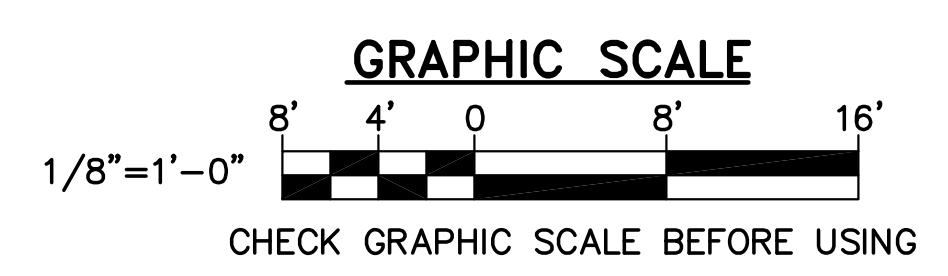
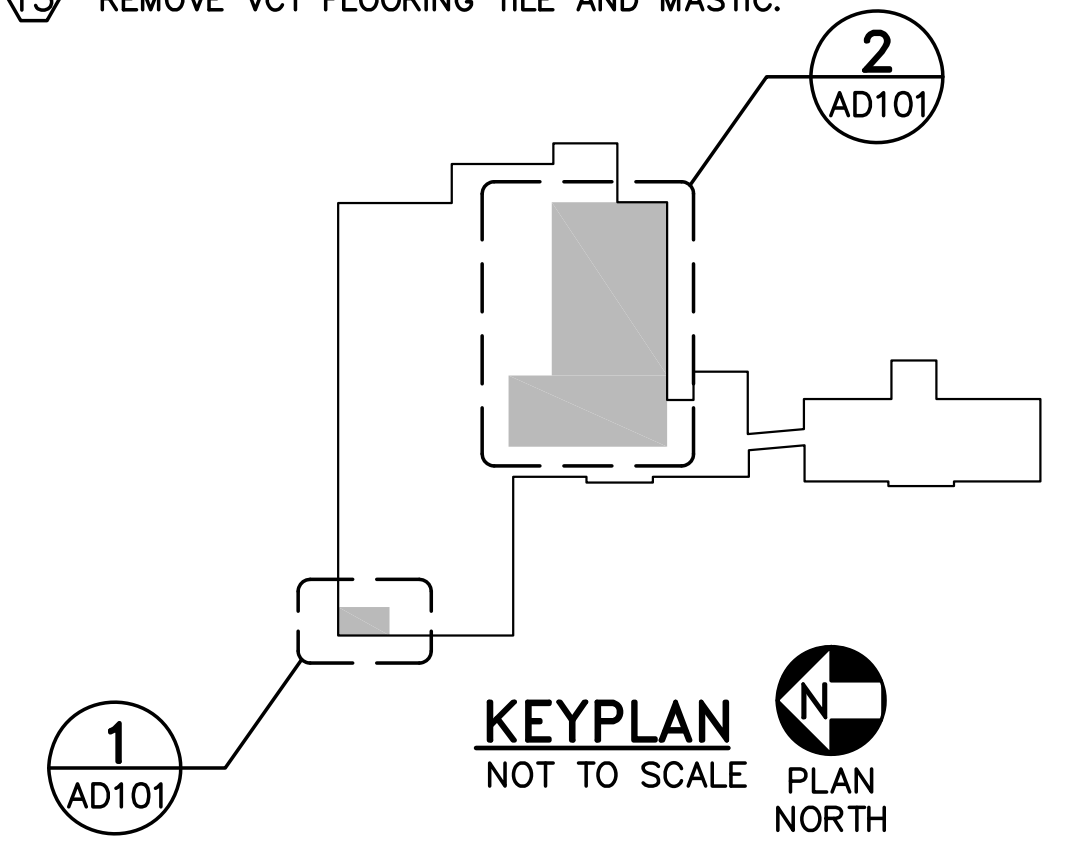
DWG.: **AD101**

SHEET: **19** OF **33**



**1 PARTIAL BASEMENT REMOVALS FLOOR PLAN**  
 AD101 SCALE: 1/8"=1'-0"

**2 PARTIAL FIRST FLOOR REMOVALS PLAN**  
 AD101 SCALE: 1/8"=1'-0"







DESIGNED BY: KTW  
 DRAWN BY: BML  
 CHECKED BY: KTW  
 PROJECT: 21904.15

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**REMOVALS REFLECTED CEILING PLANS**

SCALE: AS NOTED  
 DATE: 06/24/2020

DWG.: **AD701**

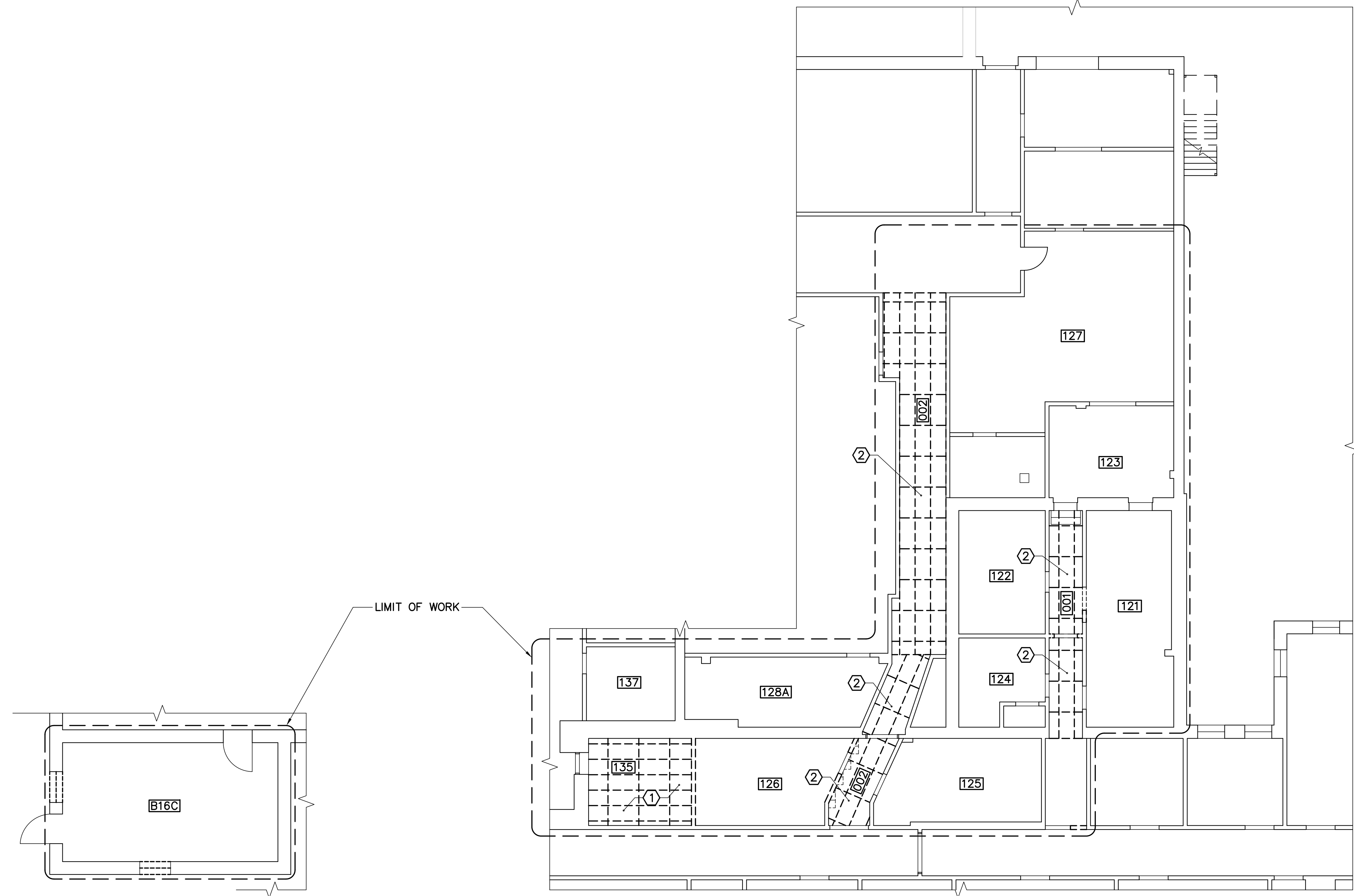
SHEET: **20** OF **33**

**GENERAL REMOVALS SHEET NOTE:**

1. REFER TO SHEET AD101 FOR HAZARDOUS MATERIALS NOTES.

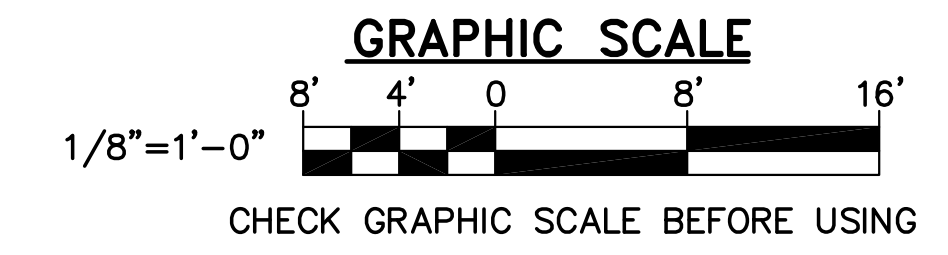
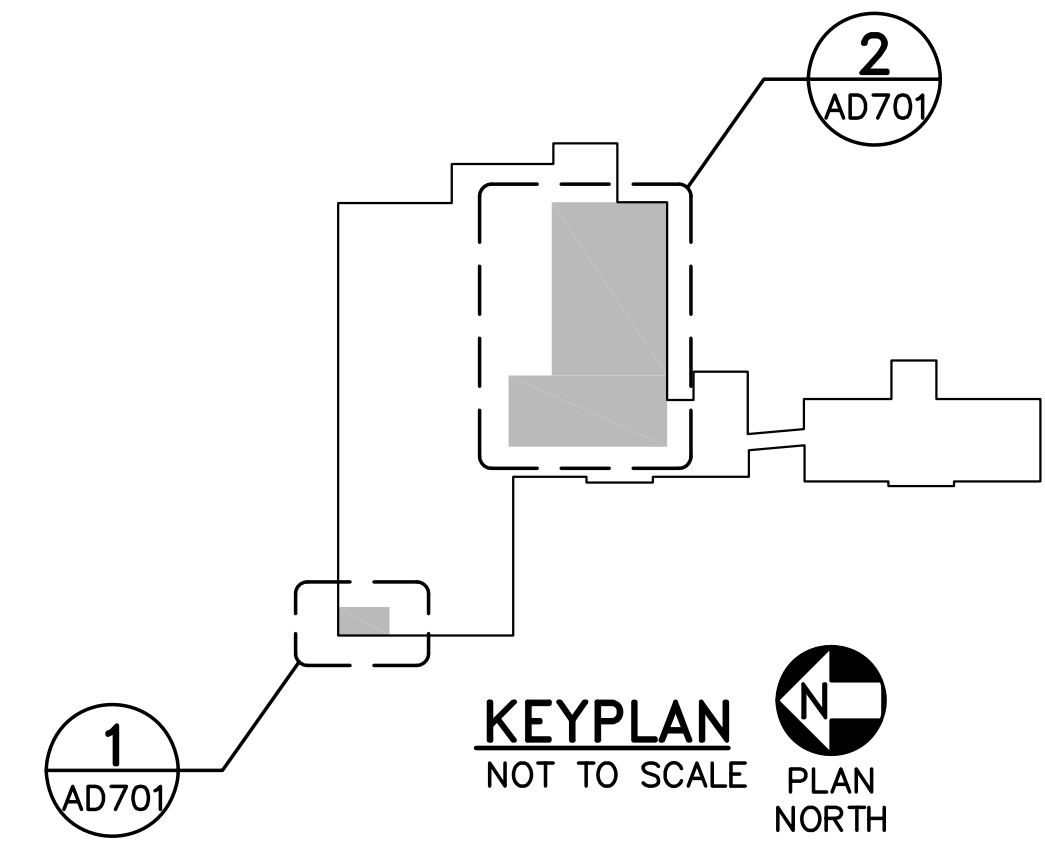
**REMOVALS KEYNOTES:**

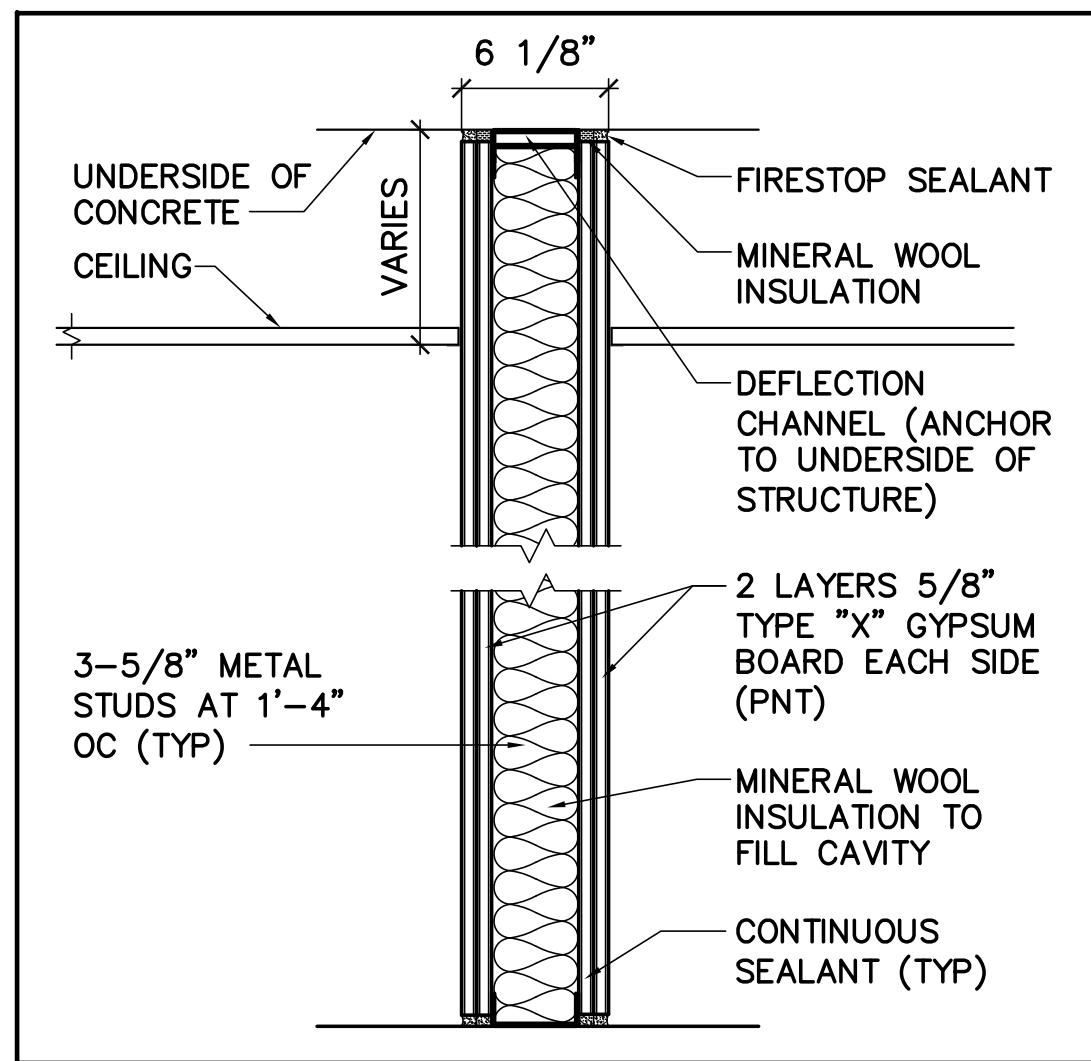
- ① REMOVE SAT CEILING SYSTEM, COORDINATE WITH ELECTRICAL TRADE.
- ② REMOVE SAT CEILING SYSTEM WHERE REQUIRED TO COMPLETE SCOPE OF WORK, AND SALVAGE FOR REINSTALLATION.



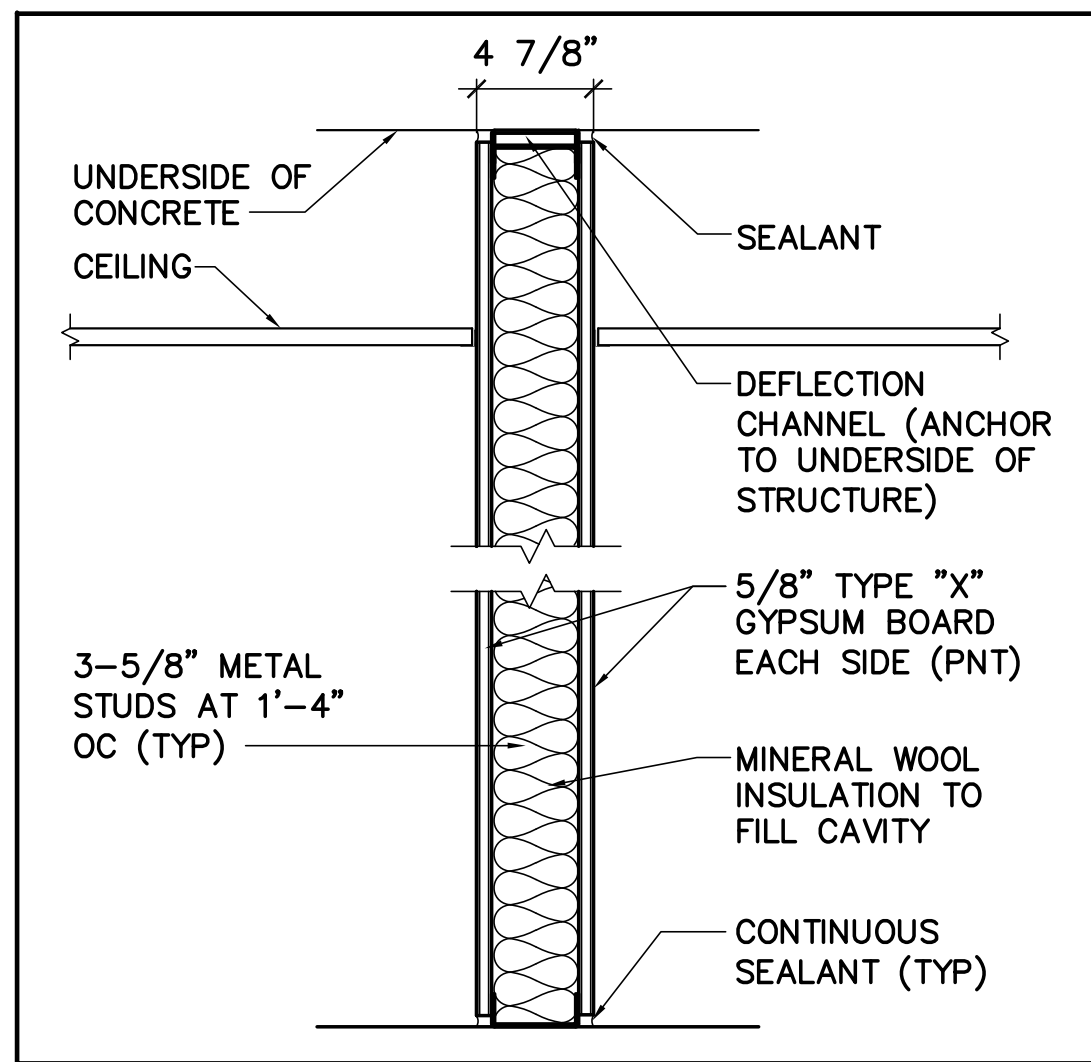
**1 PARTIAL BASEMENT REMOVALS FLOOR PLAN**  
 AD701 SCALE: 1/8"=1'-0"

**2 PARTIAL FIRST FLOOR REMOVALS PLAN**  
 AD701 SCALE: 1/8"=1'-0"



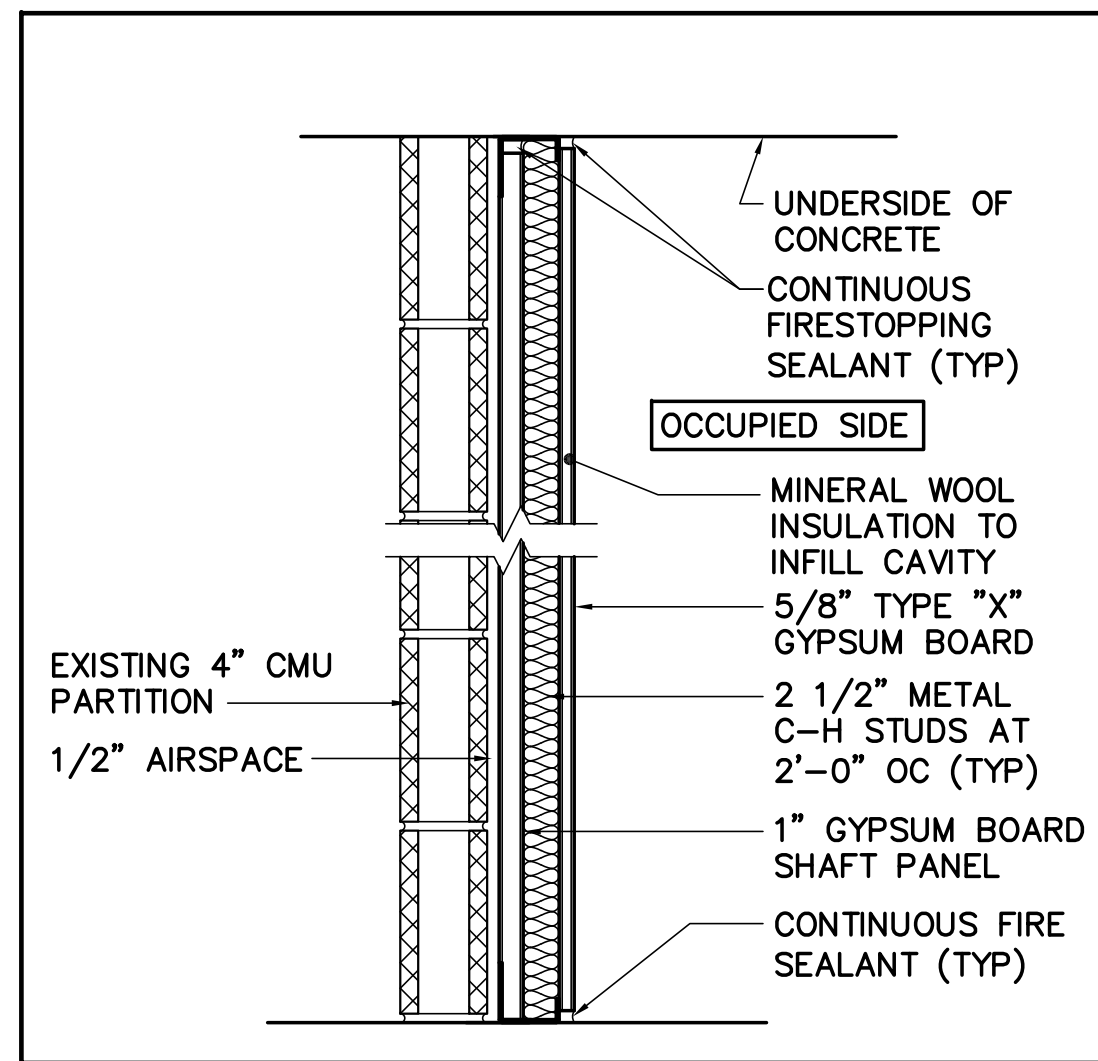


**3-5/8" METAL STUD FULL HEIGHT**  
 STC: 45 (MIN) WIDTH = 6-1/8"  
 2 HR FIRE RATED, UL WALL ASSEMBLY #U419

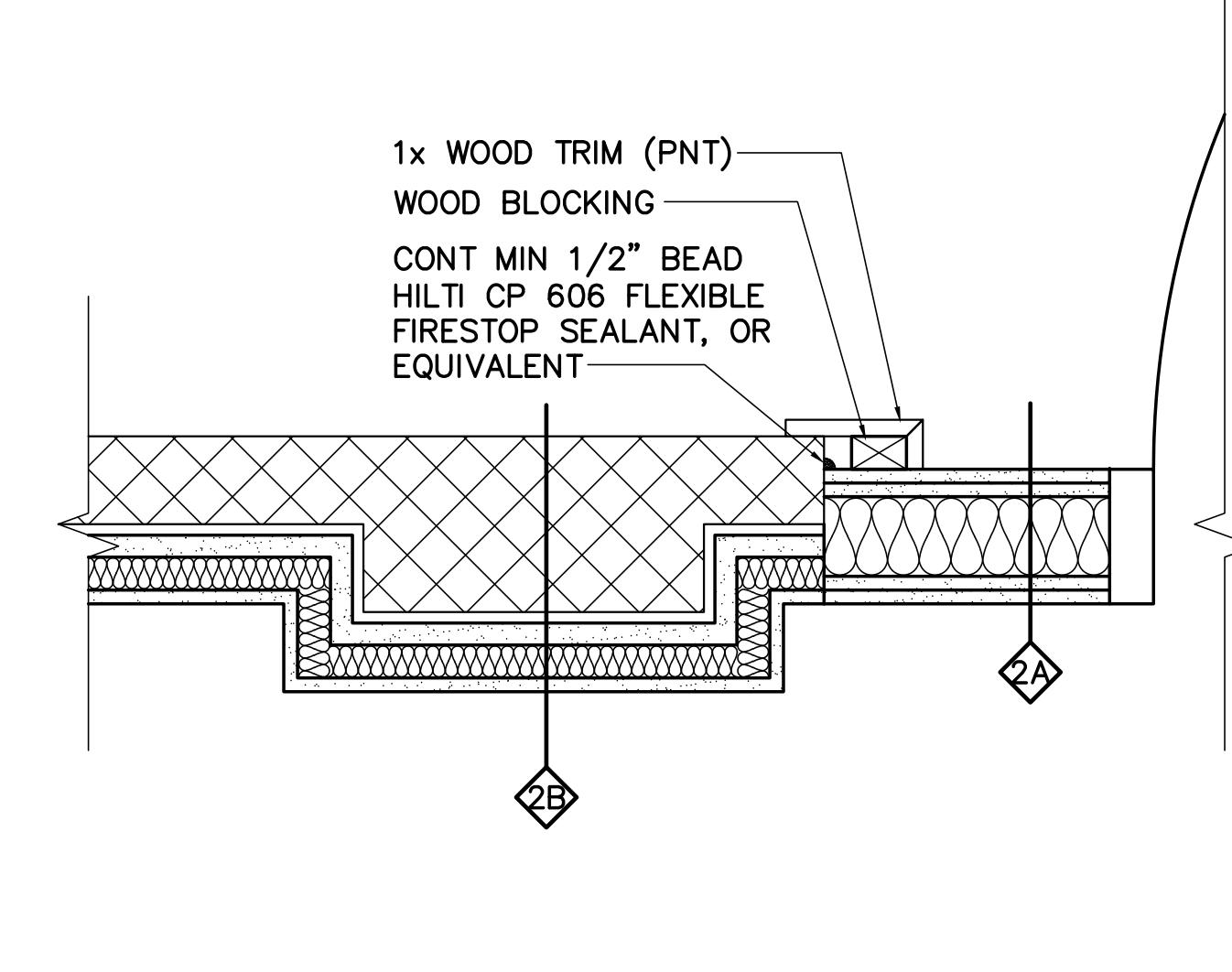


**3-5/8" METAL STUD FULL HEIGHT**  
 STC: 45 (MIN) WIDTH = 4-7/8"  
 SMOKE PARTITION

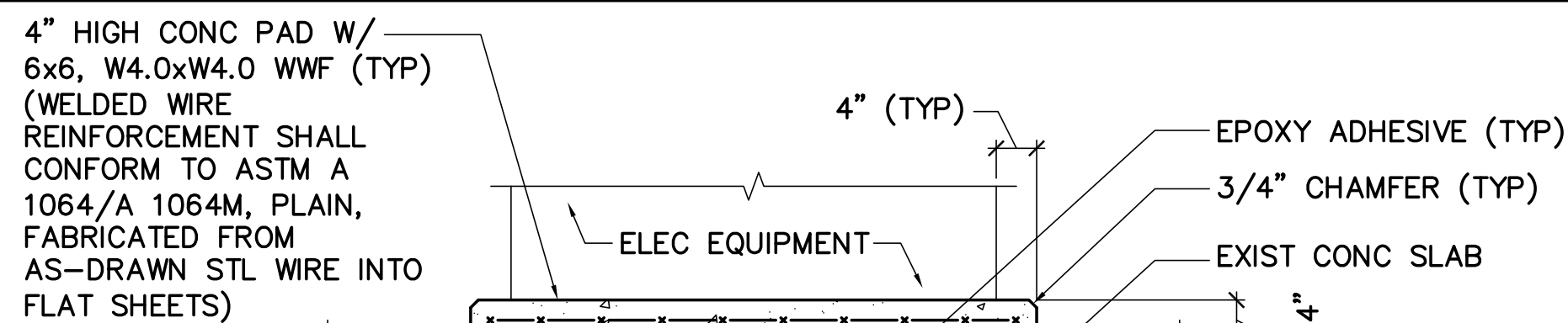
**3 WALL TYPES**  
 AE101 SCALE: 1-1/2"=1'-0"



**4" CMU AND 3" SHAFT WALL**  
 STC: 45 (MIN) WIDTH = 7-5/8"  
 2 HR FIRE RATED



**4 RATED WALL JOINT DETAIL**  
 AE101/ SCALE: 1-1/2"=1'-0"

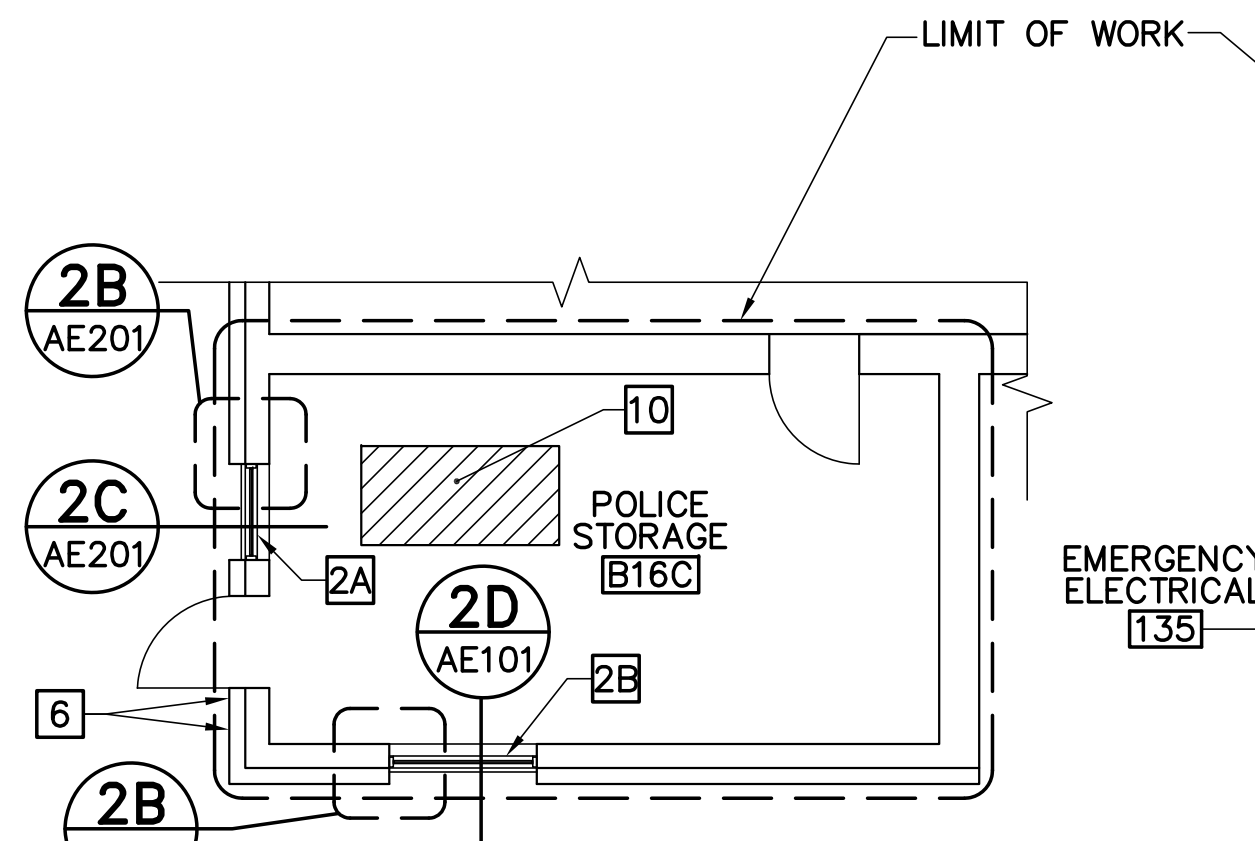


- NOTES:**
- REFER TO SHEETS AE101 AND EP101 FOR LOCATIONS AND APPROXIMATE PAD SIZES. COORDINATE EXACT PAD SIZE WITH EQUIPMENT MANUFACTURER'S PRINTED INSTRUCTIONS.
  - PROVIDE (3) BONDOUTS AT PAD IN ELECTRICAL 126. COORDINATE SIZE WITH ELECTRICAL TRADE.

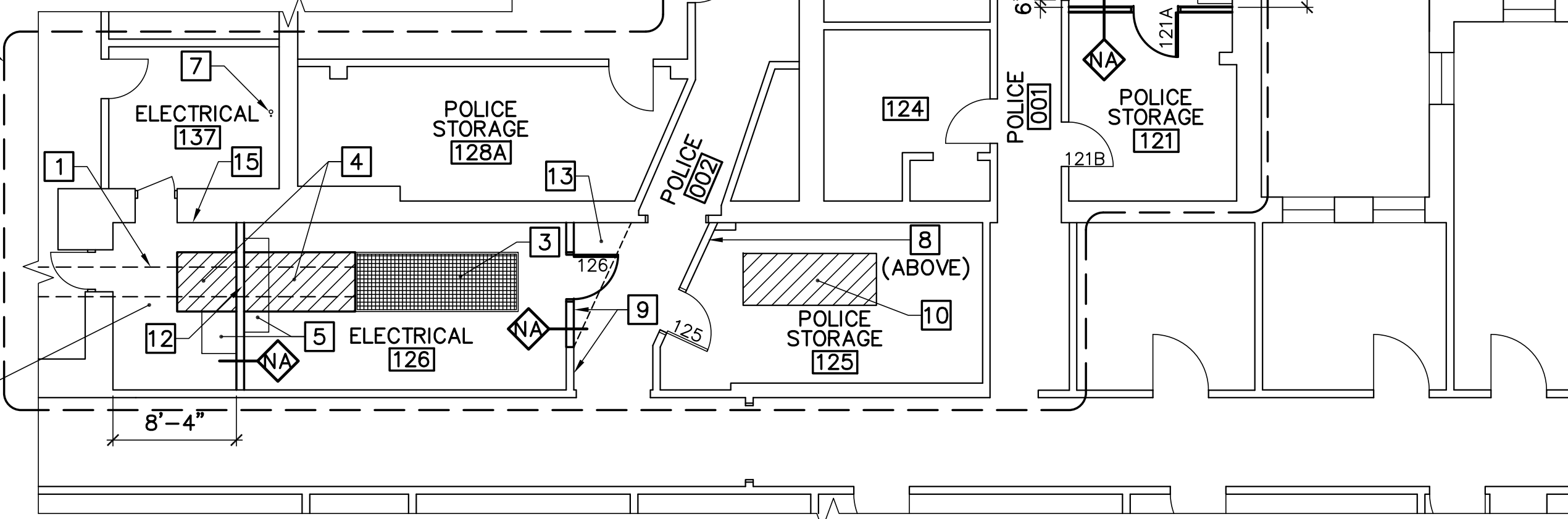
**5 EQUIPMENT HOUSEKEEPING PAD DETAIL**  
 AE101/ SCALE: 3/4"=1'-0"

- KEYNOTES:**
- EXISTING TRENCH/CABLE TRAY.
  - INSTALL ALUMINUM FIXED WINDOW UNIT.  
 A. 44"H x 48"W - VERIFY EXISTING OPENING IN FIELD, SILL HEIGHT TO MATCH ADJACENT WINDOW  
 B. 30 3/4"H x 73 1/2"W - VERIFY EXISTING OPENING IN FIELD
  - PROVIDE METAL GRATING AND FRAMING TO INFILL FLOOR RECESS AND COVER CABLE TRAY/TRENCH ACCESS, SEE DETAIL 3/AE201. TOP OF GRATING SHOULD BE FLUSH WITH FINISH FLOOR SURFACE.
  - INFILL CONCRETE SLAB WHERE DISTURBED.
  - 4" REINFORCED CONCRETE HOUSEKEEPING PAD, SEE DETAIL 5/AE101. COORDINATE FINAL LOCATION, SIZE AND SEISMIC MOUNTED EQUIPMENT REQUIREMENTS WITH ELECTRICAL TRADE.
  - PATCH EXTERIOR WALL WHERE DISTURBED BY FUEL FILL PIPING REMOVAL.
  - PATCH PENETRATIONS FROM REMOVED CONDUIT.
  - PATCH WALL WHERE DISTURBED BY DUCTWORK REMOVAL.
  - PAINT WALL AND PROVIDE WALL BASE TO MATCH EXISTING.
  - PATCH CONCRETE SLAB WHERE DISTURBED.
  - INFILL EXISTING OPENING WITH WALL TYPE NA. ADD MTL FURRING CHANNELS AS NECESSARY TO ALIGN FINISH FACES WITH EXISTING PARTITION. PAINT WALL TO NEXT CHANGE IN PLANE.
  - PROVIDE BLOCKING FOR WALL MOUNTED ELECTRICAL EQUIPMENT, COORDINATE WITH ELECTRICAL DRAWINGS.
  - PROVIDE VCT FLOORING TO MATCH EXISTING ADJACENT.
  - PROVIDE RATED WALL ACCESS PANEL TO MAINTAIN ACCESS TO EXISTING JUNCTION BOX, COORDINATE LOCATION WITH ELECTRICAL TRADE.
  - PROVIDE BACKBOARD FOR ELECTRICAL EQUIPMENT.

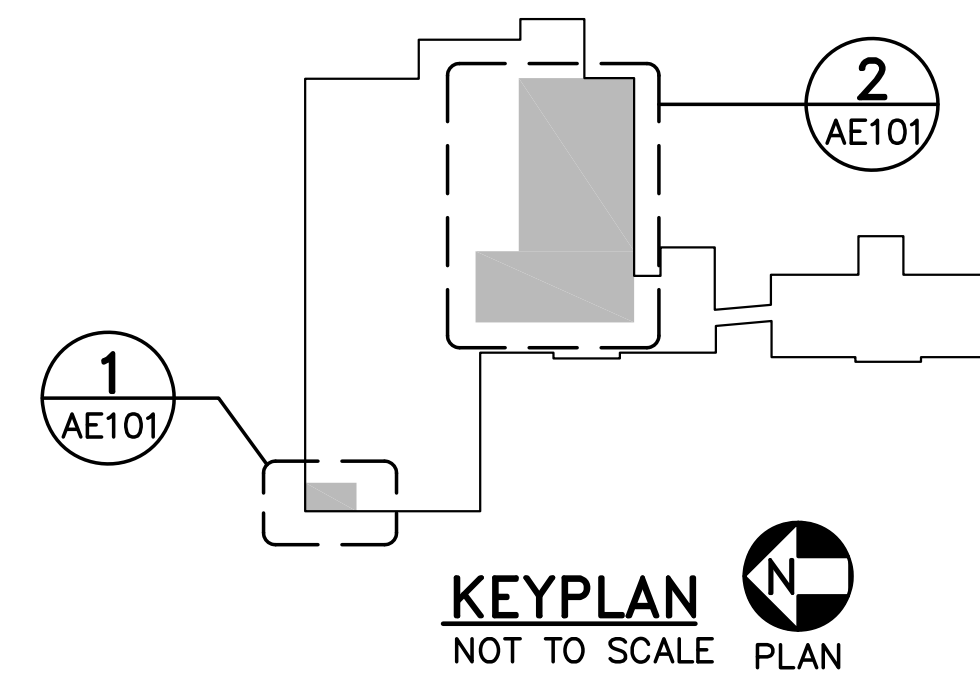
- GENERAL SHEET NOTES:**
- SEE ROOM FINISH SCHEDULE FOR WALL AND WALL BASE FINISHES. SEE REFLECTED CEILING PLANS FOR CEILING FINISH AND HEIGHTS.
  - GYPSUM BOARD SHALL BE INSTALLED A MINIMUM OF 1/2" ABOVE CONCRETE SLAB (TYPICAL) AND AT VERTICAL INTERSECTIONS OF GYPSUM BOARD WALL ASSEMBLY AND CONCRETE WALL. PROVIDE CONTINUOUS SEALANT AT WALL BASE OR INTERSECTION PRIOR TO INTERIOR FINISH INSTALLATION.
  - CONSTRUCT FIRESTOPPING ASSEMBLIES AND FIRE RATED WALL AND CEILING ASSEMBLIES TO LISTED ASSEMBLY REQUIREMENTS AS DETAILED IN THE UL LISTING; SUCH AS FOR FASTENER SPACING, TAPING, AND FIRESTOPPING ASSEMBLY COMPONENTS.
  - SEE SHEET AE201 FOR FIRESTOPPING ASSEMBLY DETAILS.
  - CONTRACTOR SHALL PERFORM GROUND PENETRATING RADAR AT EXTERIOR WALLS, CONCRETE/CMU INTERIOR WALLS, AND FLOOR LOCATIONS PRIOR TO CORE-DRILLING PENETRATIONS OR CUTTING THE SLAB.



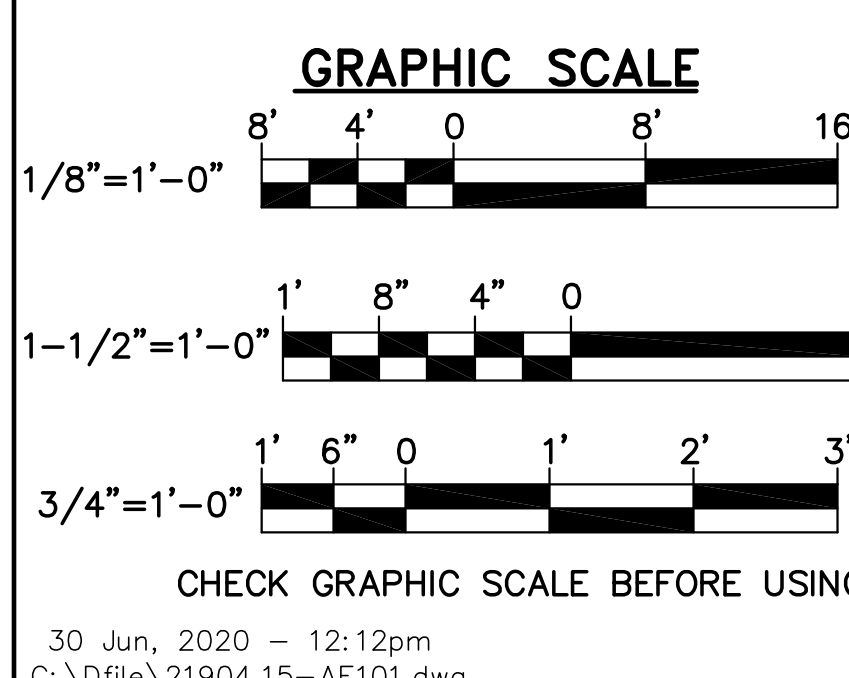
**1 PARTIAL BASEMENT FLOOR PLAN**  
 AE101/ SCALE: 1/8"=1'-0"



**2 PARTIAL FIRST FLOOR PLAN**  
 AE101/ SCALE: 1/8"=1'-0"



**KEYPLAN**  
 NOT TO SCALE PLAN NORTH



CHECK GRAPHIC SCALE BEFORE USING  
 30 Jun, 2020 - 12:12pm  
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 BML  
 KTW  
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 DRAWN BY:  
 CHECKED BY:  
 PROJECT: 21904.15

**CITY OF PORTSMOUTH**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**CITY HALL ELECTRICAL RENOVATIONS**  
 1 Junkins Avenue  
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**MECHANICAL FLOOR PLANS**

SCALE: AS NOTED  
 DATE: 06/24/2020  
 DWG.: **AE102**  
 SHEET: **22** OF **33**

**REMOVALS KEYNOTES:**

- ① REMOVE 100 KW DIESEL ENGINE/GENERATOR UNIT AND AUXILIARIES INCLUDING (2) 10 INCH X 10 INCH X 20 INCH LEAD-ACID BATTERIES AND BATTERY TRAY, EXHAUST SYSTEM INCLUDING 48 INCH X 24 INCH MUFFLER AND CONNECTING PIPING WITH INSULATION, 1 AND 1-1/4 INCH COPPER WATER COOLING SYSTEM PIPING, T-STAT, REGULATOR AND CHECK VALVE. TERMINATE WATER LINE AT ENTRY TO ROOM 125 WITH BALL VALVE, 4 INCH SECTION OF PIPE AND PIPE CAP. REMOVE (2) 60 INCH X 44 INCH X 27 INCH 275 GALLON FUEL TANKS, OIL, THREADED STEEL FILL AND VENT PIPING. REMOVE 3 FT X 2 FT X 1 FT OIL DAY TANK AND PIPING. REMOVE ASSOCIATED VENTING AND CAP AT ROOF LEVEL. PATCH PENETRATION LOCATIONS AT PIPE REMOVALS TO MATCH ADJACENT MATERIALS. LEAD ACID BATTERIES SHALL BE DISPOSED OF IN ACCORDANCE WITH CITY OF PORTSMOUTH AND NEW HAMPSHIRE LAWS AND REGULATIONS.
- ② REMOVE EXISTING 12 INCH BY 14 INCH GALVANIZED STEEL SUPPLY DUCT AND EXHAUST DUCTWORK. CAP DUCTWORK FLUSH WITH WALL. REMOVE DUCTWORK FROM ROOM 125 ACROSS HALL TO AND ALSO WITHIN ELECTRICAL ROOM 126.
- ③ REMOVE AIR-COOLED DIESEL/GENERATOR UNIT ALONG WITH THE ASSOCIATED FUEL SYSTEM PIPING, (2) 275 GALLON FUEL TANKS, OIL AND THREADED STEEL TANK FILL/VENT PIPING, DIESEL/GENERATOR CONTROL PANEL AND DUCTWORK BETWEEN THE ENGINE RADIATOR AND WALL LOUVER. REMOVE STARTER LEAD-ACID BATTERIES. REMOVE DIESEL MUFFLER AND 50 FEET OF DIESEL EXHAUST SYSTEM RISER PIPING FROM THE POLICE GENERATOR ROOM NORTH EXTERIOR WALL TO TERMINATION AT ROOF. LEAD ACID BATTERIES SHALL BE DISPOSED OF IN ACCORDANCE WITH CITY OF PORTSMOUTH AND NEW HAMPSHIRE LAWS AND REGULATIONS.
- ④ REMOVE 2" INSULATED PIPE (V.I.F.).
- ⑤ REMOVE EXISTING SPRINKLER PIPING AND SPRINKLER HEAD.

**KEYNOTES:**

- ① PROVIDE 2" INSULATED PIPE (MATCH EXISTING, V.I.F.) TO ACCOMMODATE NEW ELECTRICAL EQUIPMENT, COORDINATE WITH ELECTRICAL TRADE FOR EXACT LOCATION AND LAYOUT.
- ② EXTEND SPRINKLER PIPING AND PROVIDE SPRINKLER HEAD TO ACCOMMODATE PROVIDED PARTITION AND ELECTRICAL EQUIPMENT. COMPLY WITH NFPA 13.
- ③ PROVIDE ORDINARY HAZARD GROUP 1 SPRINKLER COVERAGE.

**GENERAL SHEET NOTES:**

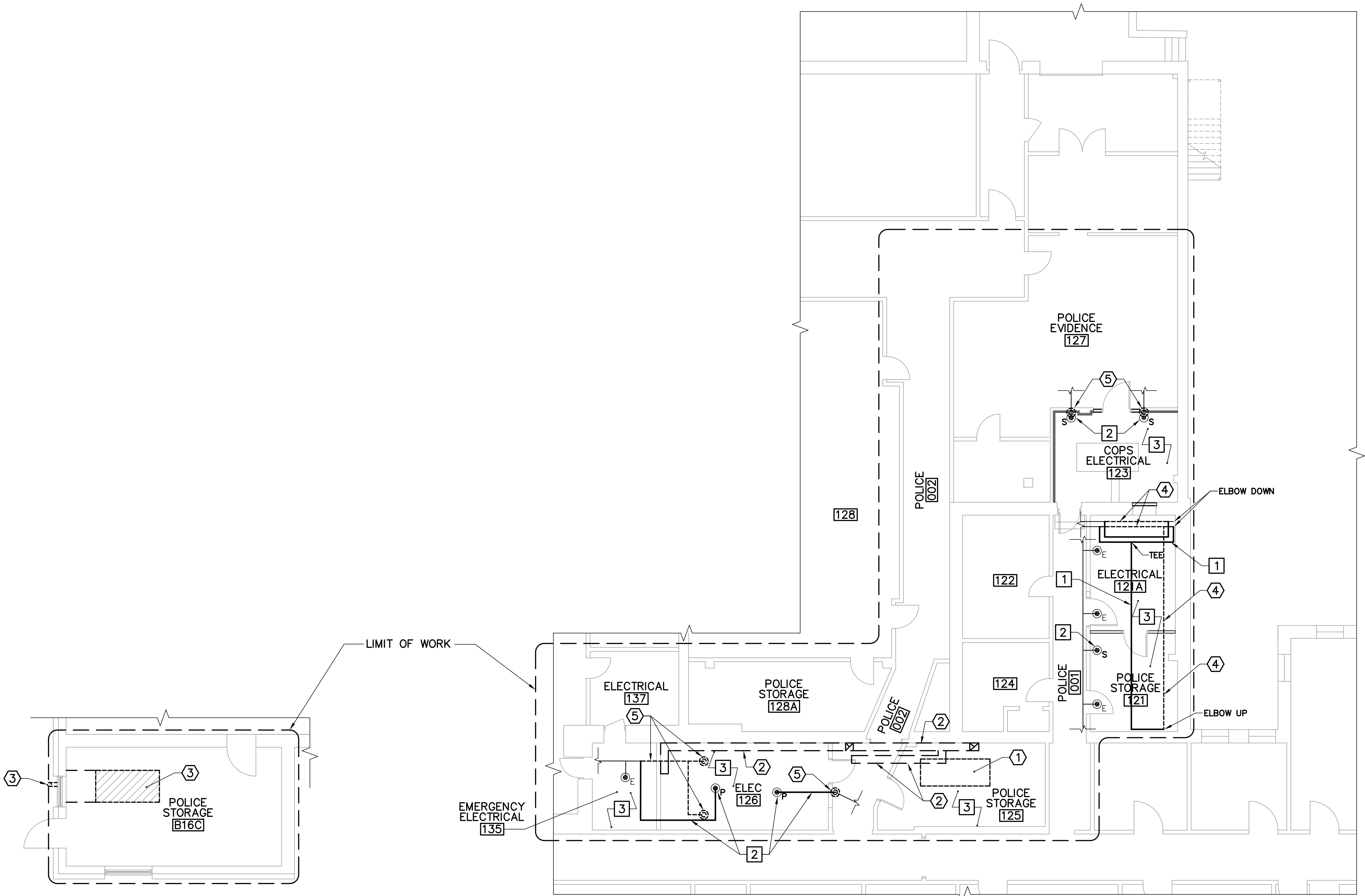
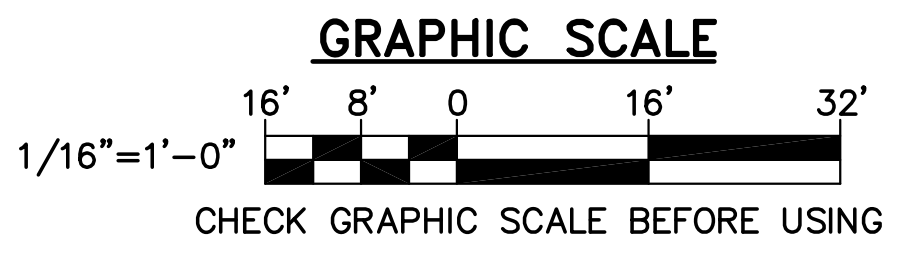
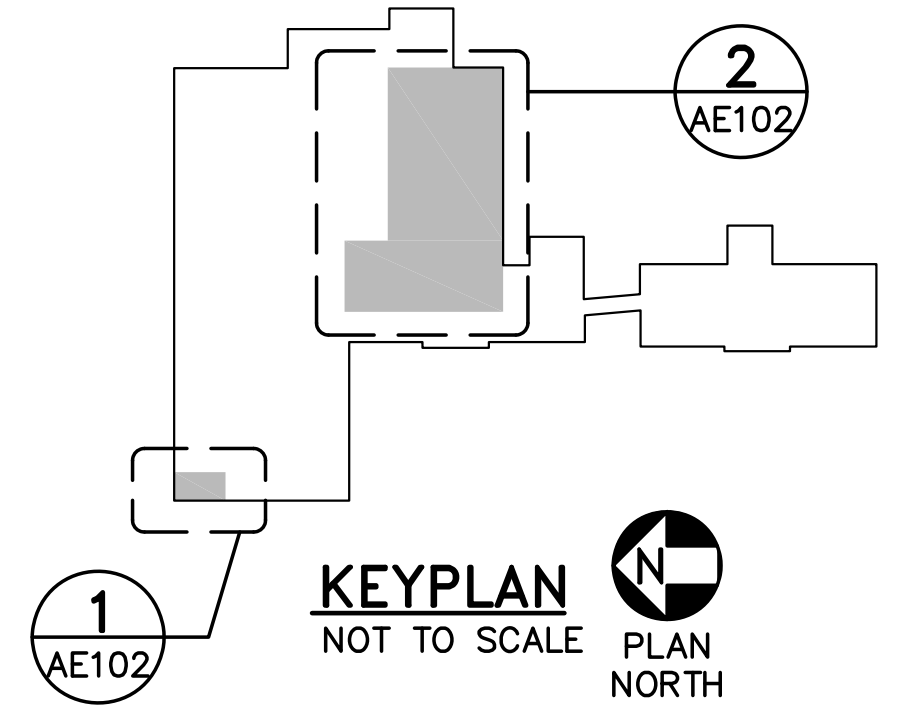
- 1. PIPING AND DUCTWORK SHALL NOT BE INSTALLED OR ROUTED ABOVE ELECTRICAL EQUIPMENT. SEE ELECTRICAL DRAWINGS FOR DETAILS, SCHEDULES AND INTERIOR EQUIPMENT LAYOUT.

**GENERAL SPRINKLER NOTES:**

- 1. THE BUILDING IS CURRENTLY FULLY SPRINKLERED. PROVIDE SPRINKLER SYSTEM MODIFICATIONS IN ACCORDANCE WITH NFPA 13. DESIGN SHALL BE STAMPED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER.
- 2. PIPING SHALL BE PROVIDED WITH UL LISTED ASSEMBLY WHERE IT PENETRATES FIRE OR SMOKE RATED WALLS OR FLOORS.
- 3. SPRINKLER HEAD GUARDS ARE REQUIRED IN ELECTRICAL ROOMS.

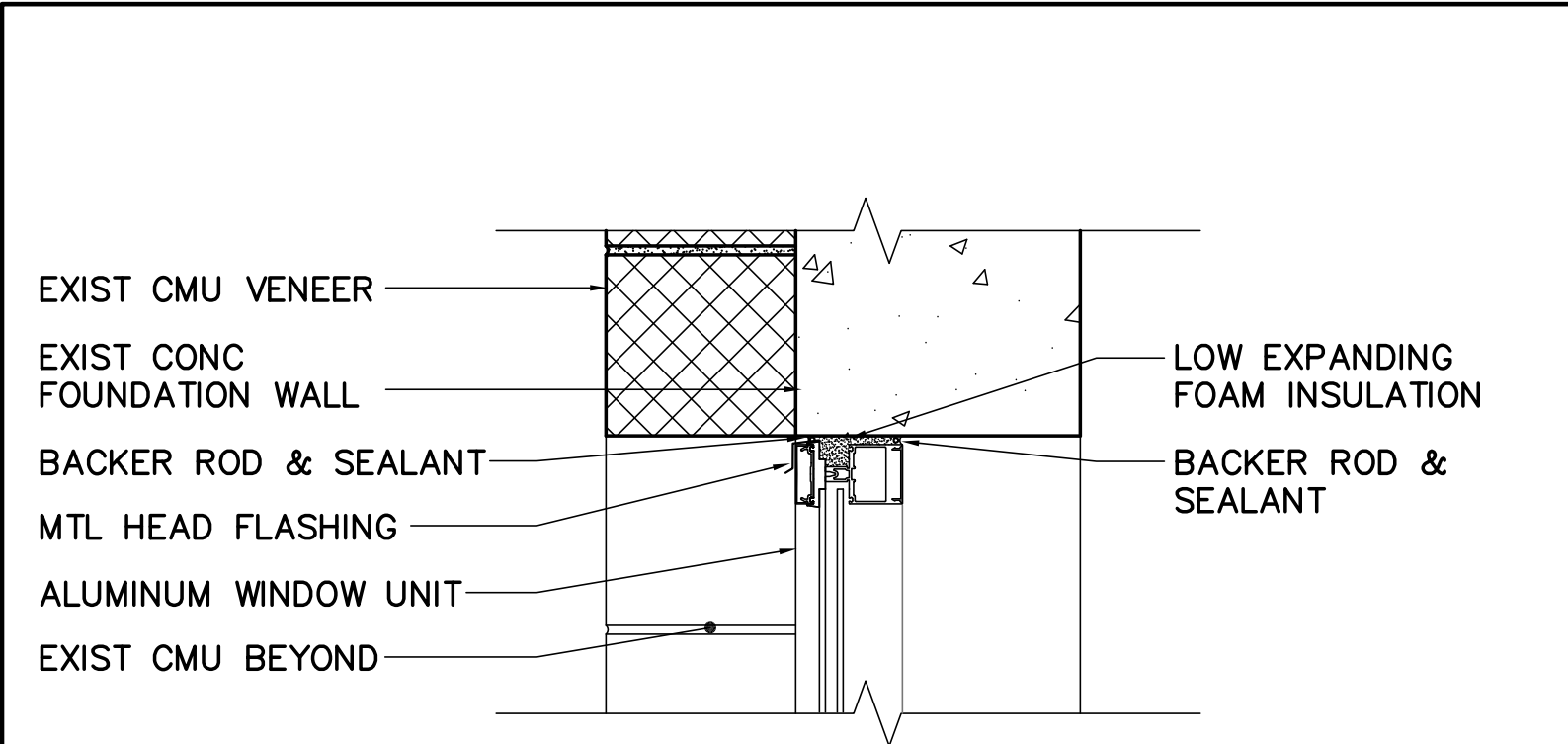
**LEGEND:**

- ⊙ REMOVE SIDEWALL SPRINKLER HEAD
- ⊙<sub>E</sub> EXISTING SPRINKLER HEAD, TO REMAIN
- ⊙<sub>S</sub> SIDEWALL SPRINKLER HEAD
- ⊙<sub>P</sub> PENDANT SPRINKLER HEAD

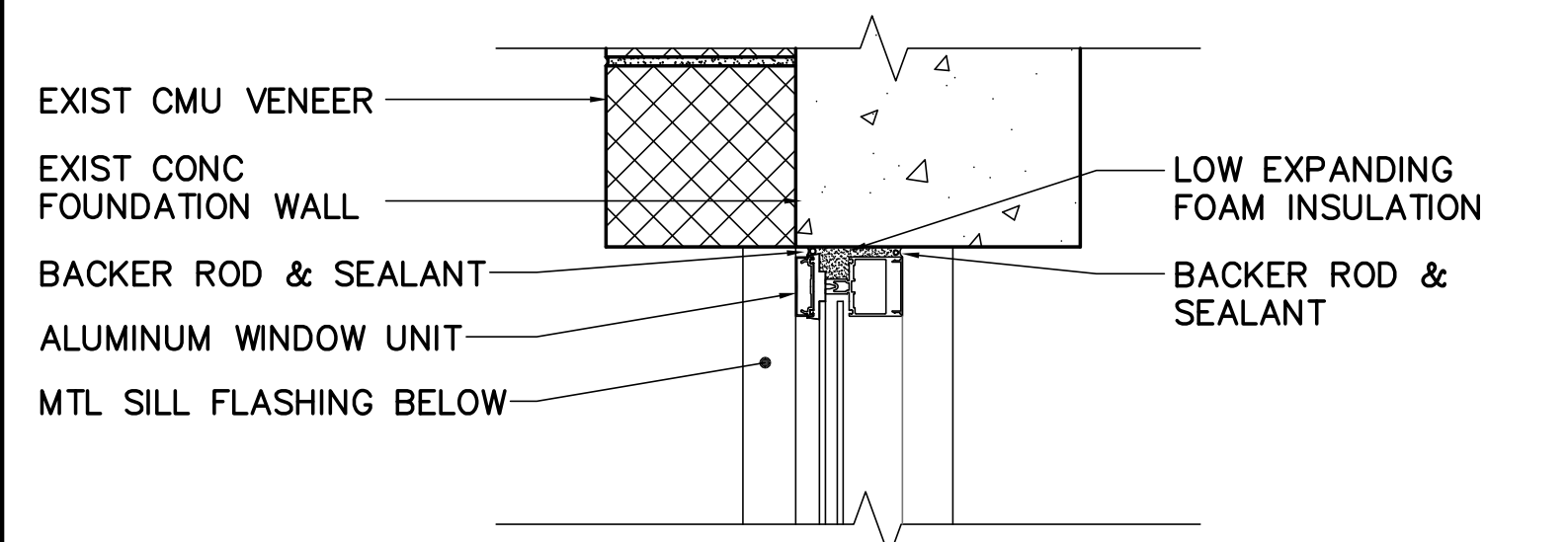


**1 PARTIAL BASEMENT MECHANICAL PLAN**  
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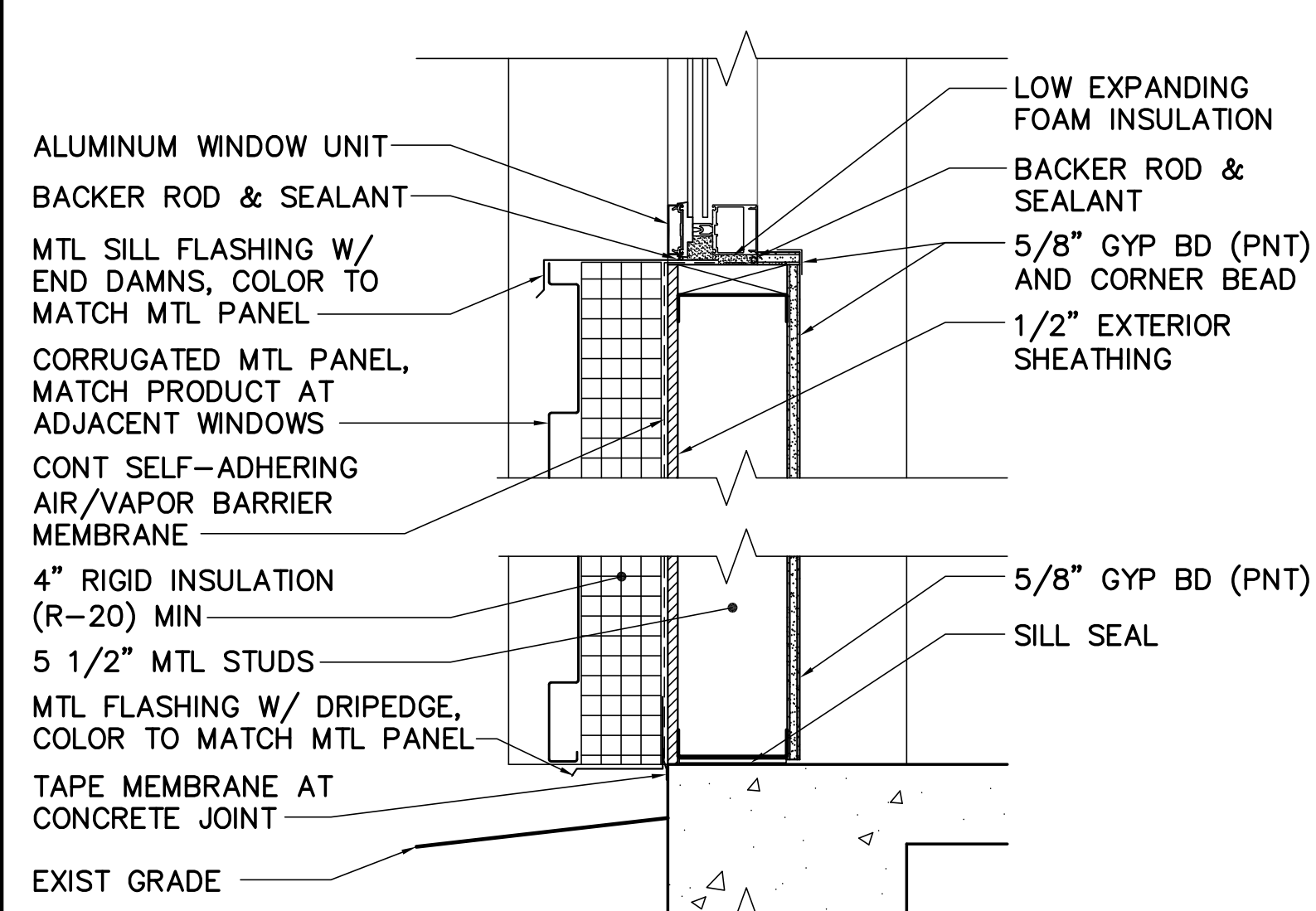
**2 PARTIAL FIRST FLOOR MECHANICAL PLAN**  
SCALE: 1/8"=1'-0"



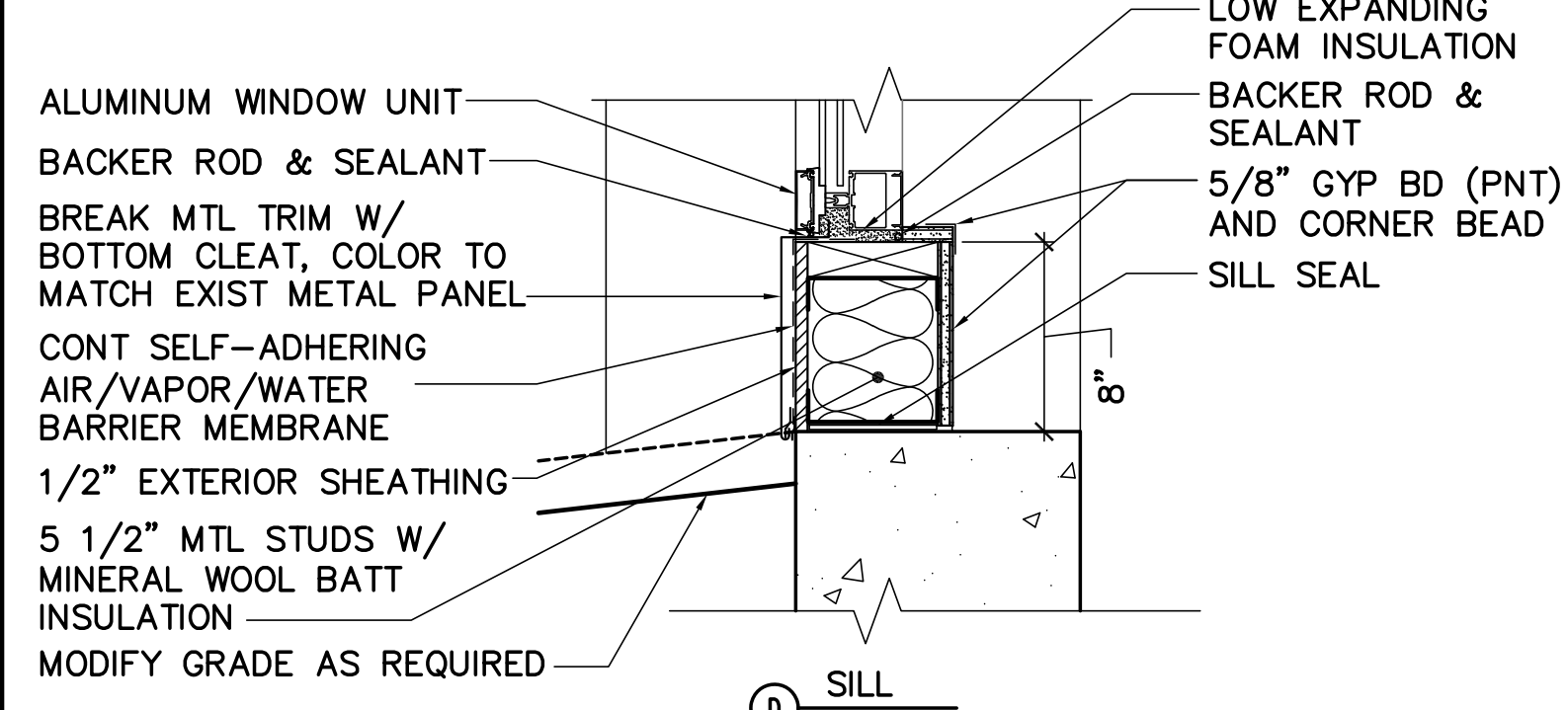
**A HEAD**



**B JAMB**

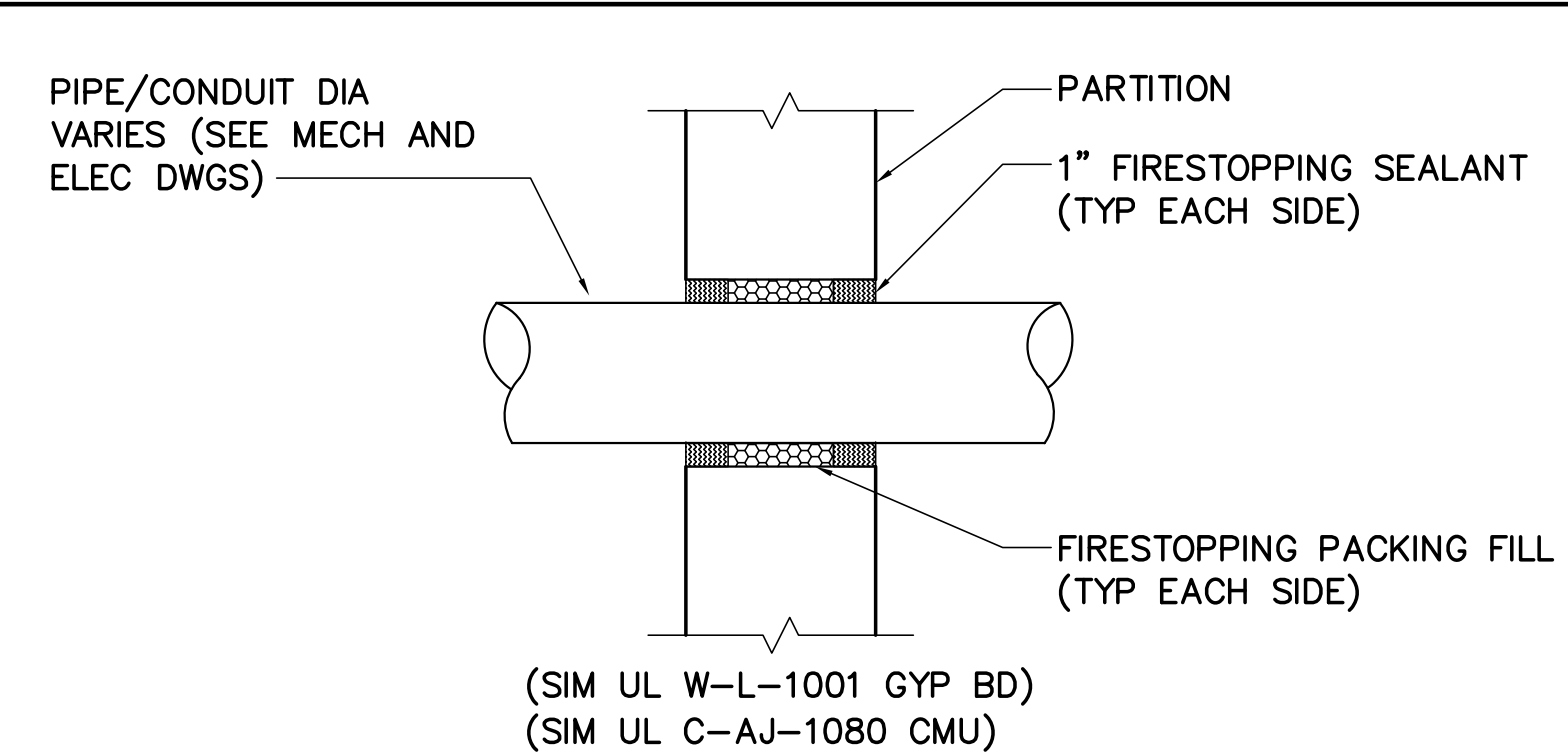


**C SILL**

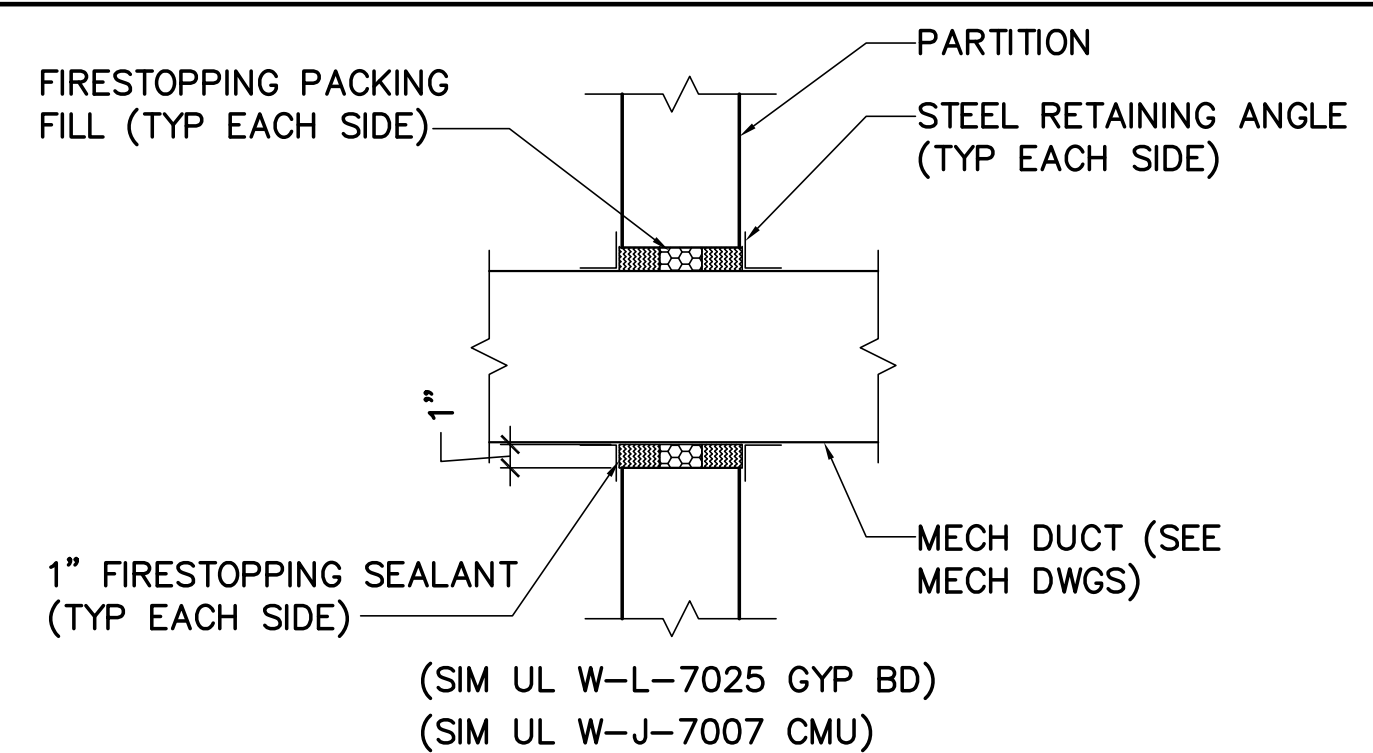


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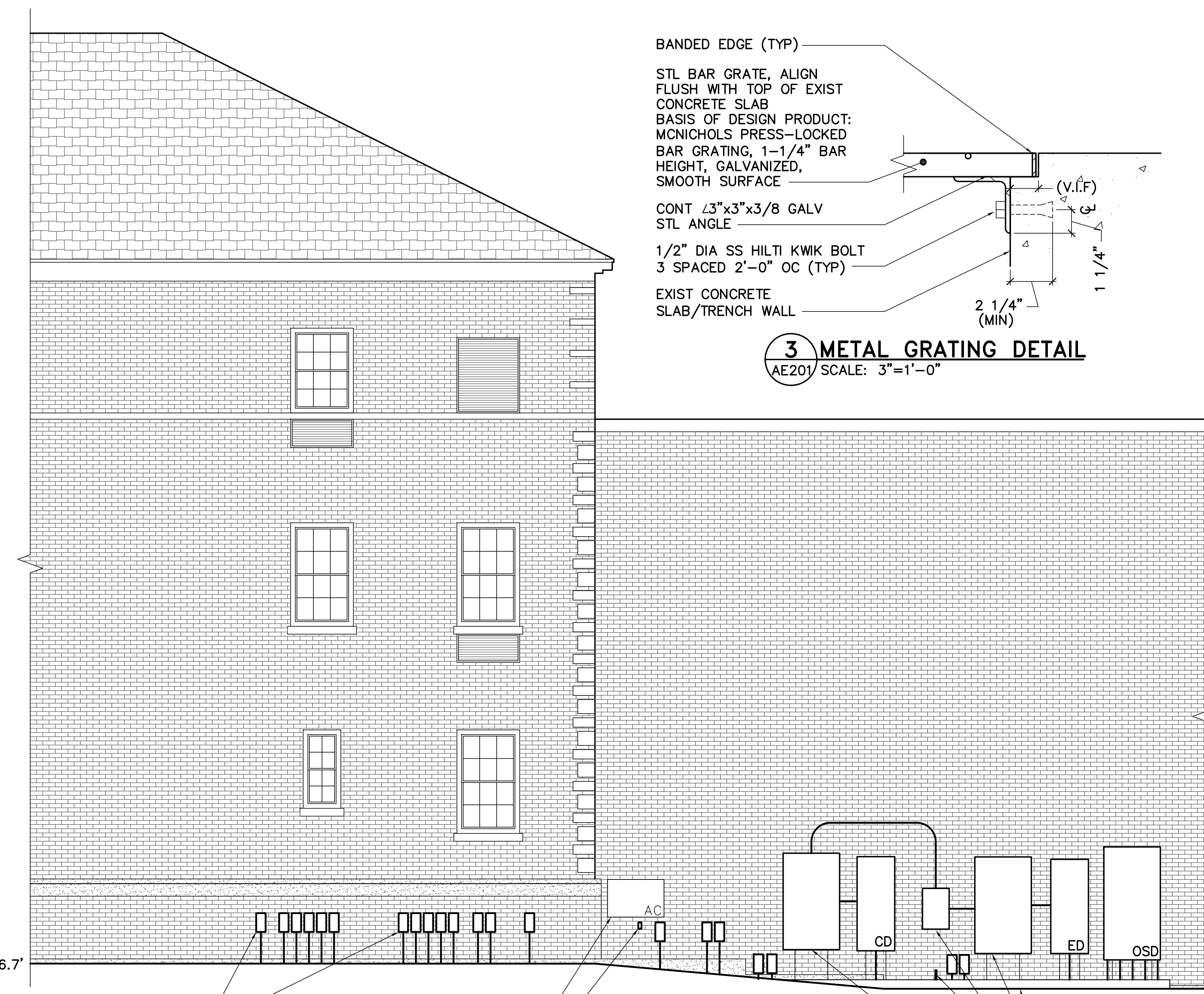
**2 ALUMINUM WINDOW DETAILS**  
AE201 SCALE: 1 1/2"=1'-0"



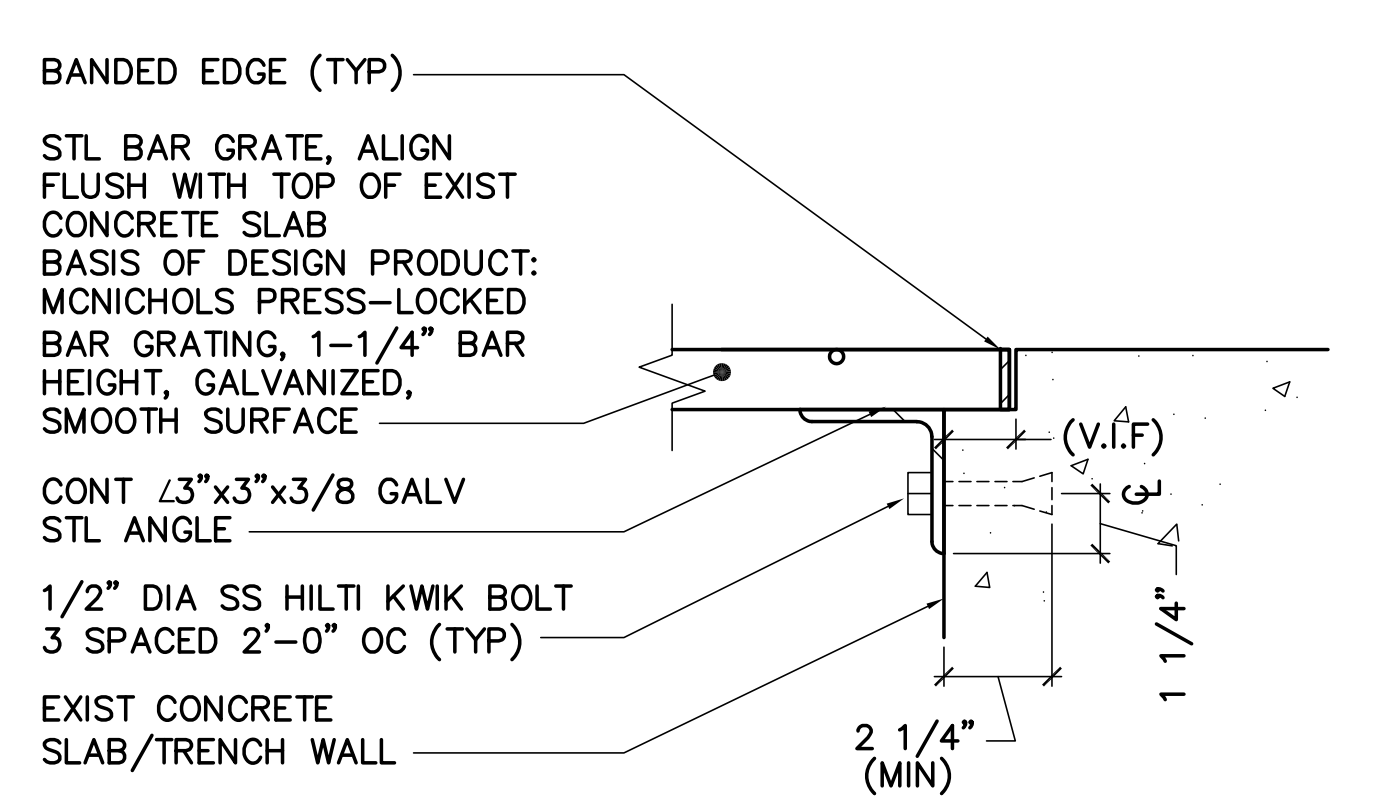
**4 PIPE & CONDUIT WALL PENETRATIONS**  
AE201 SCALE: 1-1/2"=1'-0"



**5 DUCT/WALL PENETRATION**  
AE201 SCALE: 1-1/2"=1'-0"

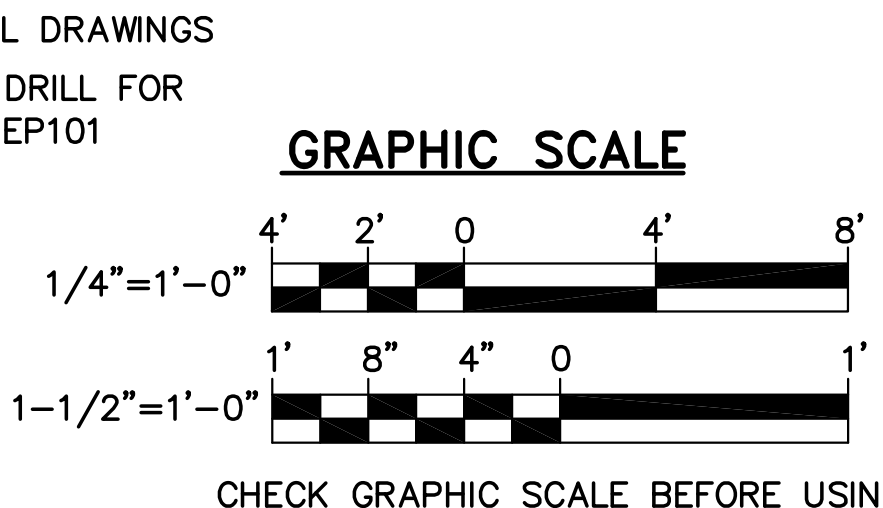
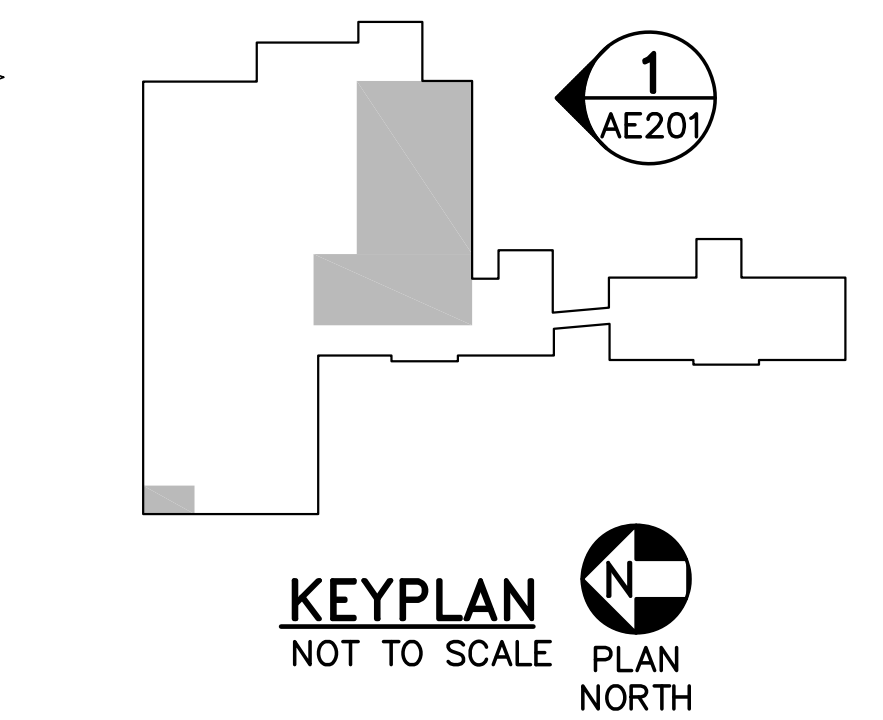


**1 PARTIAL EXTERIOR ELEVATION**  
AE201 SCALE: 1/4"=1'-0"



**3 METAL GRATING DETAIL**  
AE201 SCALE: 3"=1'-0"

- GENERAL SHEET NOTES:**
- SEE ELECTRICAL DRAWINGS FOR DETAILS, SCHEDULES, AND INTERIOR EQUIPMENT LAYOUT.
  - SEE CIVIL DRAWINGS FOR EXTERIOR CONDUIT ROUTING.
  - CONTRACTOR SHALL PERFORM GROUND PENETRATING RADAR AT EXTERIOR WALLS, CONCRETE/CMU INTERIOR WALLS, AND FLOOR LOCATIONS PRIOR TO CORE-DRILLING PENETRATIONS OR CUTTING THE SLAB.
  - FINAL LOCATION AND MOUNTING HEIGHT OF EQUIPMENT SHALL BE COORDINATED IN FIELD WITH INTERIOR CONSTRUCTION AND ROOM LAYOUTS. THE OPERATING HANDLE OF SWITCHES, WHEN IN THEIR HIGHEST POSITION, SHALL NOT BE GREATER THAN 6'-7" ABOVE GRADE.
  - MINIMIZE EXPOSED CONDUIT.
  - COORDINATE EXACT ELEVATION OF CONDUIT PENETRATIONS IN THE FIELD BASED ON EXISTING EXTERIOR CONDITIONS AND INTERIOR EQUIPMENT LOCATIONS. IF CONDUITS PENETRATE BELOW GRADE, PROVIDE SLEEVE SEAL AND SLOPE CONDUIT AWAY FROM THE BUILDING.
  - FIRESTOPPING ASSEMBLIES SHOWN ARE FOR REFERENCE ONLY. FINAL FIRESTOPPING ASSEMBLIES SHALL BE PER THE LISTING OF THE SELECTED PRODUCT FOR THE VARIOUS BARRIER AND PENETRANTS. ENGINEERING JUDGEMENTS SHALL BE PROVIDED WHEN PROJECT CONDITIONS REQUIRE MODIFICATION TO A LISTED SYSTEM





DOOR SCHEDULE															
DOOR						FRAME				DETAILS			FIRE RATE	HDWR SET	REMARKS
NO	QTY	W	H	THK	TYPE	MAT	FINISH	TYPE	MAT	WIDTH	FINISH	HEAD			
FIRST FLOOR															
121	1	3'-6"x7'-0"	x1-3/4"		F	HM	PNT	1	HM	3'-10"	PNT	-	-	-	-
121A	1	3'-0"x7'-0"	x1-3/4"		F	HM	PNT	1	HM	3'-4"	PNT	-	-	-	4
121B	1	EXISTING			-	-	-	-	-	-	-	-	-	-	3
123	1	2'-8"x7'-0"	x1-3/4"		F	HM	PNT	1	HM	3'-0"	PNT	-	-	-	90
123A	1	3'-6"x7'-0"	x1-3/4"		F	HM	PNT	1	HM	3'-10"	PNT	-	-	-	90
125	1	EXISTING			-	-	-	-	-	-	-	-	-	-	3
126	1	3'-0"x7'-0"	x1-3/4"		F	HM	PNT	1	HM	3'-0"	PNT	-	-	-	4

**DOOR SCHEDULE GENERAL NOTES**

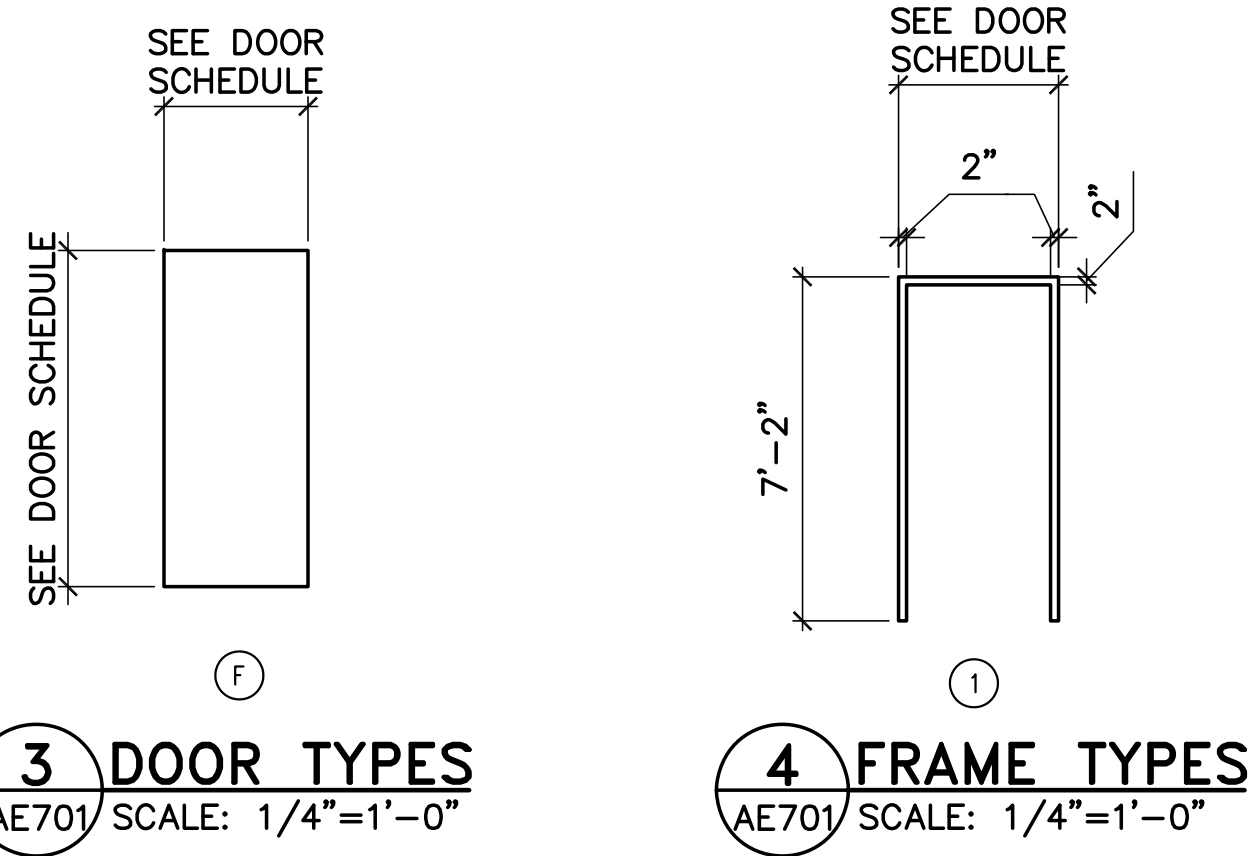
- DOORS BEING PROVIDED SHALL BE SUPPLIED WITH CONSTRUCTION CORES UNTIL FINAL CORES ARE INSTALLED.
- VERIFY DOOR FRAME DEPTHS WITH WALL TYPES AND APPLIED FINISHES.

**DOOR SCHEDULE KEY**

HDWR	HARDWARE	NO	NUMBER
HM	HOLLOW METAL	PNT	PAINT
MAT	MATERIAL	QTY	QUANTITY

**DOOR SCHEDULE REMARKS COLUMN**

- A. SMOKE DOOR.



ROOM FINISH SCHEDULE										
NO	DESCRIPTION	FLOOR	BASE	WALLS				CEILING		NOTES
				NORTH	EAST	SOUTH	WEST	MATERIAL	HEIGHT	
BASEMENT										
B16C	POLICE STORAGE	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-
FIRST FLOOR										
001	POLICE	EXIST	RWB	EXIST	EXIST	GYP-P1	EXIST	EXIST	EXIST	A,B
002	POLICE	VCT	RWB	GYP-P1	EXIST	EXIST	EXIST	SAT	6'-10"±	A
121	POLICE STORAGE	EXIST	RWB	EXIST-P1	GYP-P1	EXIST-P1	EXIST-P1	EXIST-P1	EXIST	A
121A	ELECTRICAL	EXIST	RWB	GYP-P1	EXIST-P1	EXIST-P1	GYP-P1	EXIST-P1	EXIST	A
122	-	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-
123	COPS ELEC	EXIST	RWB	GYP-P1	EXIST-P1	EXIST	GYP-P1	EXIST	EXIST	A
124	-	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-
125	POLICE STORAGE	EXIST	EXIST	EXIST-P1	EXIST-P1	EXIST-P1	EXIST-P1	EXIST-P1	EXIST	-
126	ELECTRICAL	EXIST	RWB	GYP-P1	EXIST-P1	EXIST-P1	EXIST-P1	EXIST-P1	EXIST	A
128	-	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-
128A	POLICE STORAGE	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-
135	EMERGENCY ELEC	EXIST	RWB	EXIST-P1	EXIST-P1	GYP-P1	EXIST-P1	EXIST-P1	-	A
137	ELECTRICAL	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-

**ROOM FINISH LEGEND**

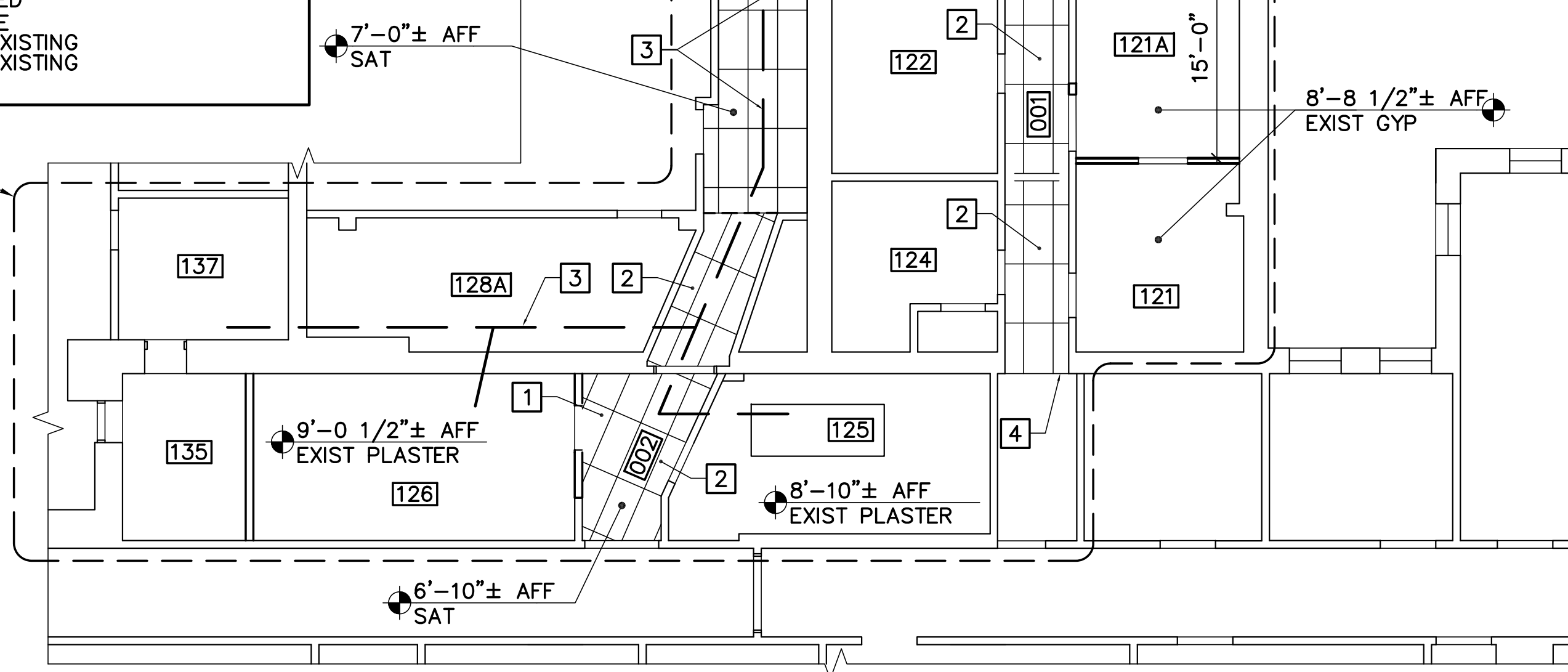
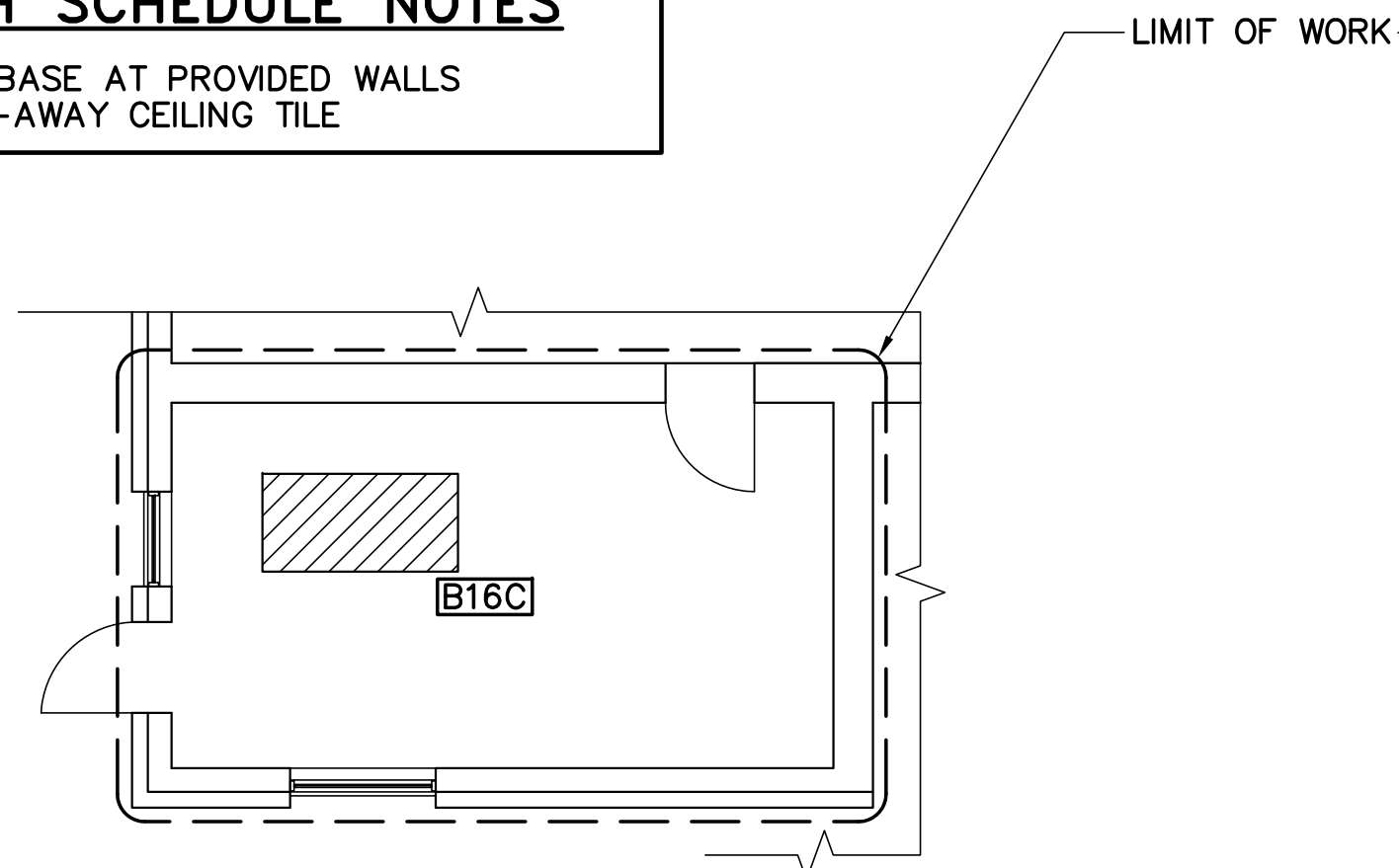
- EXIST EXISTING
- GYP-P GYPSUM BOARD, PAINTED
- SAT SUSPENDED ACOUSTIC TILE
- RWB RESILIENT WALL BASE
- VCT VINYL COMPOSITION TILE

**COLOR KEY / MANUFACTURER GUIDE**

- P1 SHERWIN WILLIAMS, COLOR TO BE SELECTED
- SAT ROCKFON #209, 2'-0"x4'-0", LAY-IN TILE
- RWB MANUFACTURER AND COLOR TO MATCH EXISTING
- VCT MANUFACTURER AND COLOR TO MATCH EXISTING

**ROOM FINISH SCHEDULE NOTES**

- INSTALL WALL BASE AT PROVIDED WALLS
- EXISTING MELT-AWAY CEILING TILE



**KEYNOTES:**

- PROVIDE SAT CEILING SYSTEM TO MATCH EXISTING.
- REINSTALL SALVAGED SAT CEILING SYSTEM.
- PROPOSED CONDUIT PATHWAY BETWEEN ELECTRICAL ROOMS. CONTRACTOR SHALL FIELD VERIFY.
- PATCH REMOVED WALL TO MATCH ADJACENT HEADER.

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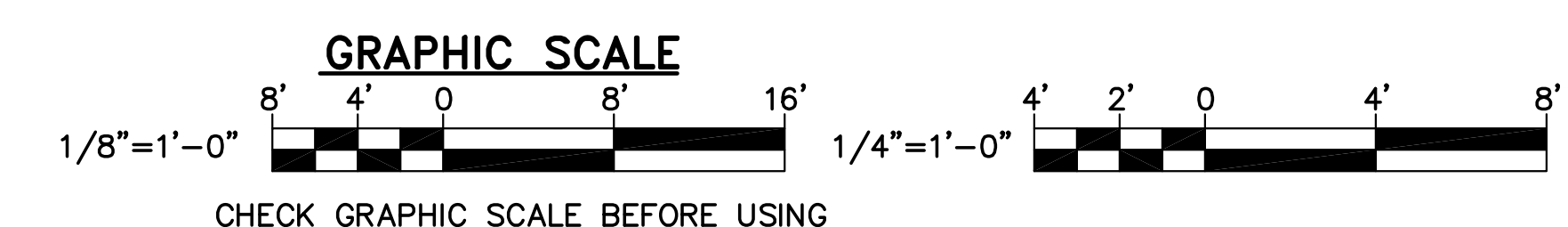
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**REFLECTED CEILING PLANS AND SCHEDULES**

SCALE: AS NOTED  
 DATE: 06/24/2020

DWG.: AE701

SHEET: 24 OF 33



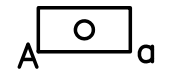
## ELECTRICAL SYMBOLS

### LIGHTING

NOTE: LOWER CASE SUBSCRIPTS INDICATE WHICH SWITCH CONTROLS WHICH FIXTURE. UPPER CASE SUBSCRIPTS INDICATE FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE.

$S_a$  120/277V, 20A LIGHT SWITCH, SPECIFICATION GRADE


$S_3$  120/277V, 20A 3-WAY LIGHT SWITCH, SPECIFICATION GRADE

 LIGHTING FIXTURES

 LIGHTING FIXTURE WIRED AS NIGHT LIGHT

 EMERGENCY LIGHT, BATTERY POWERED TWO LED LAMPS

### COMMUNICATIONS

 SPEAKER

### LINE TYPE LEGEND


----- REMOVE EXISTING ITEMS  
 \_\_\_\_\_ EXIST ITEMS TO REMAIN  
 \_\_\_\_\_ PROVIDE ITEMS

### SWITCH LINE TYPE LEGEND

S REMOVE SWITCH, ED SHEETS  
 S EXISTING SWITCH TO REMAIN  
 S PROVIDE SWITCH, EL SHEET

### RECEPTACLES

 DUPLEX RECEPTACLE, 120V, 20A, SPECIFICATION GRADE, NEMA 5-20 R

 DUPLEX RECEPTACLE, 120V, 20A SPECIFICATION GRADE, NEMA 5-20 R SUBSCRIPT "G" INDICATES GROUND FAULT INTERRUPT, WP INDICATES WEATHERPROOF GROUND FAULT INTERRUPT. SUBSCRIPT "C" INDICATES RECEPTACLE WITH INDICATOR LIGHT TO INDICATE POWER TO THE RECEPTACLE AND BLUE FACE PLATE.

 PORTABLE GENERATOR CONNECTION

### GENERAL

 EMERGENCY GENERATOR

 TRANSFORMER

 ENCLOSED CIRCUIT BREAKER

 NON-FUSED DISCONNECT SWITCH "WP" INDICATES NEMA 4X

 JUNCTION BOX

 A-1 BRANCH CIRCUIT HOMERUN, A-1 INDICATES PANEL DESIGNATION AND CIRCUIT NUMBER

 SURGE PROTECTIVE DEVICE

 PUSHBUTTON

 PUSHBUTTON STATION

 EXISTING PANELBOARD

 PANELBOARD

 AUTOMATIC TRANSFER SWITCH

 GENERATOR REMOTE ANNUNCIATOR


### GROUNDING

 GROUND WIRE, EXOTHERMIC-WELD CONNECTION

### SINGLE LINE DIAGRAM

 TRANSFORMER

 CURRENT TRANSFORMER

 METER SUBSCRIPT "M" INDICATES UTILITY COMPANY METER

 GROUND CONNECTION

 CIRCUIT BREAKER, MANUALLY OPERATED

 FUSE

 MANUAL OR AUTOMATIC TRANSFER SWITCH

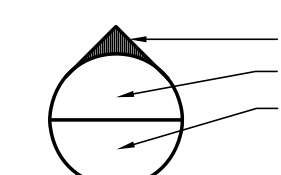
### FIRE ALARM


 FIRE ALARM CONTROL PANEL

 NOTIFICATION APPLIANCE CIRCUIT

 SMOKE DETECTOR

### STANDARD SYMBOLS

 INDICATES DIRECTION OF CUTTING PLANE WALL SECTION OR ELEVATION NUMBER SHEET WHERE WALL SECTION OR ELEVATION IS DRAWN

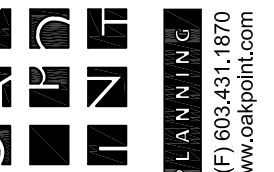
 REMOVALS KEYNOTE ON ED SHEETS WIRE AND CONDUIT SIZE DESIGNATOR ON EP SHEETS. REFER TO SCHEDULE ON SHEET EP501

## ELECTRICAL GENERAL NOTES

- ELECTRICAL INSTALLATION SHALL COMPLY WITH THE CURRENTLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), NFPA, AND STATE AND LOCAL CODES.
- COORDINATE WORK WITH ARCHITECTURAL, CIVIL, STRUCTURAL, FIRE ALARM, FIRE SUPPRESSION, AND MECHANICAL TRADES.
- PROVIDE NEW AND UL LISTED ELECTRICAL EQUIPMENT AND WIRING UNLESS OTHERWISE NOTED.
- COORDINATE LIGHT FIXTURES AND OTHER CEILING MOUNTED ELECTRICAL EQUIPMENT WITH ARCHITECTURAL, STRUCTURAL, FIRE ALARM, FIRE SUPPRESSION, AND MECHANICAL WORK TO AVOID INTERFERENCE.
- PROVIDE A SEPARATE GREEN GROUNDING CONDUCTOR FOR EACH INDIVIDUAL CIRCUIT. METAL CONDUIT SHALL BE GROUNDED BUT SHALL NOT BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.
- VERIFY EXISTING CONDITIONS AND DIMENSIONS AND REPORT DISCREPANCIES TO THE OWNER. PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCIES HAVE BEEN RESOLVED BY THE OWNER.
- PROVIDE MINIMUM #12 AWG COPPER CONDUCTORS UNLESS OTHERWISE NOTED.
- INTERIOR: PROVIDE MINIMUM 1/2" CONDUIT UNLESS OTHERWISE NOTED. EXTERIOR: PROVIDE MINIMUM 1" CONDUIT UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE INDICATED, WIRE AND CONDUIT SIZE FOR EACH 15A 1P, 15A 2P, 20A 1P AND 20A 2P BRANCH CIRCUIT SHALL BE 2 #12 + #12G, IN 1/2"C.
- UNLESS OTHERWISE INDICATED, WIRE AND CONDUIT SIZE FOR EACH 15A 3P AND 20A 3P BRANCH CIRCUIT SHALL BE 3 #12 + #12G, IN 3/4"C.
- PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH INDIVIDUAL 120V CIRCUIT.
- SEAL CONDUIT INTERIOR OF SPARE AND ACTIVE CONDUITS TO PROHIBIT PASSAGE OF MOISTURE. PROVIDE SEALANT PRODUCT INTENDED FOR SUCH USE. PROVIDE AT CONDUITS PENETRATING EXTERIOR WALLS AND AT GENERATOR ENCLOSURE. BASIS OF DESIGN: AMERICAN POLYWATER FST.
- DO NOT COMBINE CRITICAL OPERATIONS POWER SYSTEMS (COPS), EMERGENCY POWER SYSTEMS (EM) OR OPTIONAL STANDBY POWER SYSTEMS (OS) IN THE SAME RACEWAYS OR EQUIPMENT.
- THE OWNER WILL ENGAGE EVERSOURCE FOR INDICATED WORK. COORDINATE WITH THE OWNER FOR SCHEDULING OF WORK BY EVERSOURCE.
- PROVIDE KNOCKOUT SEALS IN EXISTING EQUIPMENT AND BOXES TO REMAIN TO FILL HOLES CREATED BY REMOVED CONDUIT.
- PROVIDE FIRESTOPPING AT EXISTING AND NEW PENETRATIONS OF FIRE-RATED PARTITIONS AND WALLS. COORDINATE WITH THE ARCHITECTURAL TRADE.
- REFER TO SHEET SB001 FOR CONCRETE SPECIFICATIONS AND TESTING REQUIREMENTS.

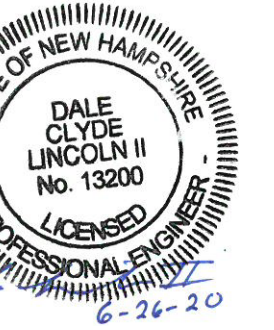
## ELECTRICAL ABBREVIATIONS

A, AMP	AMPERE
A3P	AMPERES, 3-POLE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUCTOR, CONDUIT
CAT	CATALOG, CATEGORY
CB	CIRCUIT BREAKER
CKT	CIRCUIT
COPS	CRITICAL OPERATIONS POWER SYSTEM
CU	COPPER
DS	DISCONNECT SWITCH
DWG	DRAWING
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FACP	FIRE ALARM CONTROL PANEL
G	GROUND; GROUND FAULT CIRCUIT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
IP	IMPORTANCE FACTOR
KCMIL	KILO-CIRCULAR MILS
KVA	KILO-VOLT-AMPERE
KW	KILO-WATT
L	LIGHTING LOAD TYPE FOR PANEL SCHEDULE
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
M	MOTOR LOAD TYPE FOR PANEL SCHEDULE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUG ONLY
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO, #	NUMBER
OS	OPTIONAL STANDBY
Ø	PHASE
P	POLE
P/O	PART OF
R	RECEPTACLE LOAD TYPE FOR PANEL SCHEDULE
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMC	RIGID METAL CONDUIT
SPD	SURGE PROTECTIVE DEVICE
SW	SWITCH
THHN	HEAT RESISTANT THERMOPLASTIC WIRE WITH NYLON JACKET
THWN	MOISTURE & HEAT RESISTANT THERMOPLASTIC WIRE WITH NYLON JACKET
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UL	UNDERWRITERS LABORATORIES
V	VOLT
VA	VOLT AMPERE
W	WATT, WIRE
W/	WITH
WP	WEATHERPROOF



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CITY HALL  
 ELECTRICAL RENOVATIONS

1 Junkins Avenue  
 Portsmouth, NH 03801

### ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

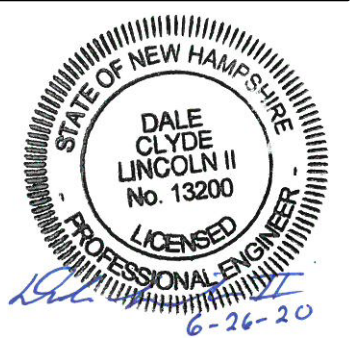
SCALE: AS NOTED

DATE: 06/24/2020

DWG.: **E-001**

SHEET: **25** OF **33**





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BASEMENT & FIRST FLOOR ELECTRICAL RENOVATIONS PLANS

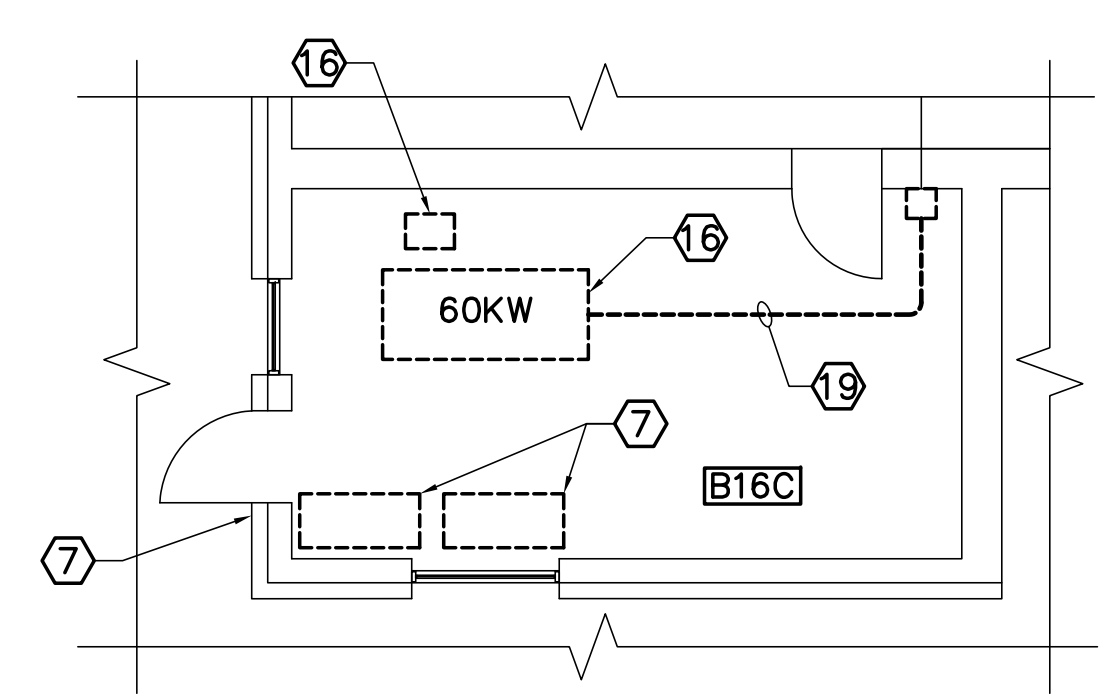
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 DATE: 06/24/2020  
 DWG.: ED101  
 SHEET: 26 OF 33

**DRAWING NOTES**

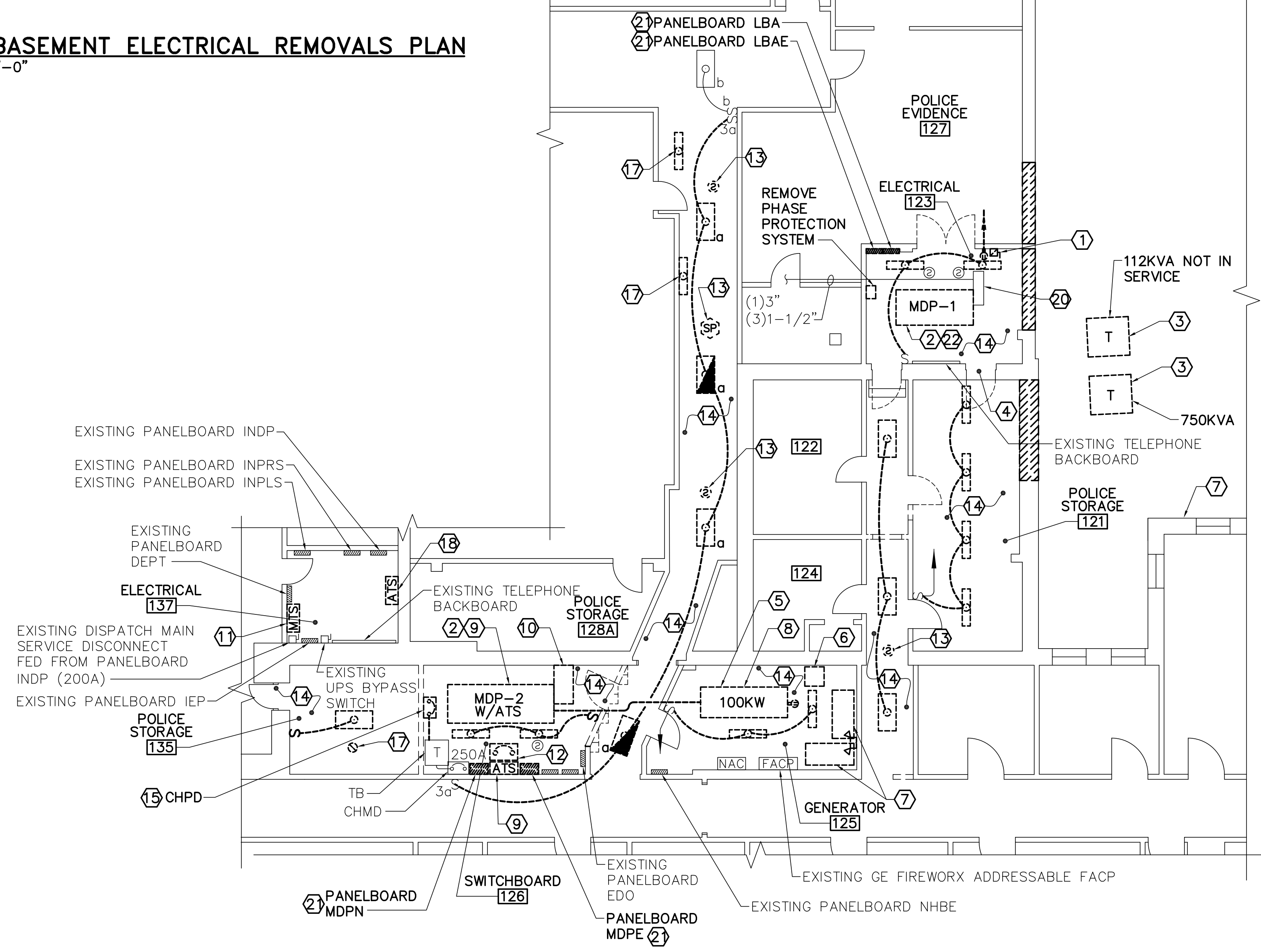
1. REFER TO SHEET ED501 FOR EXISTING PARTIAL ONE-LINE DIAGRAM REMOVALS.
2. PROVIDE SEQUENCED DEMOLITION OF WORK. EXCEPT FOR LIGHTING FIXTURES, EXISTING EQUIPMENT SHALL REMAIN OPERATIONAL UNTIL REPLACEMENT EQUIPMENT IS INSTALLED, AND READY FOR CUT OVER.
3. REFER TO SHEET M-101 FOR ADDITIONAL GENERATOR REMOVALS WORK AND INFORMATION.

**REMOVALS KEYNOTES**

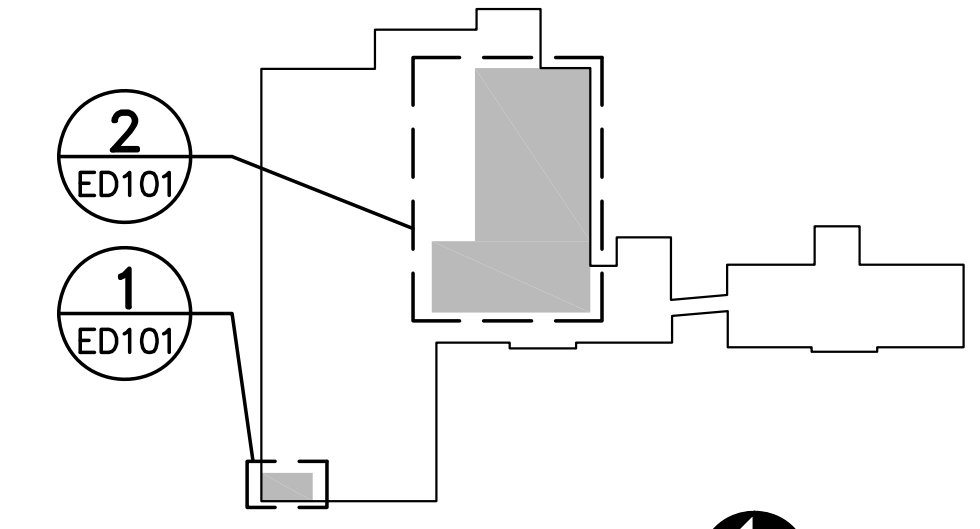
- 1 REMOVE EXISTING XRAY FUSED DISCONNECT SWITCH WITH ASSOCIATED WIRING. CUT EXPOSED CONDUIT FLUSH WITH FLOOR. CAP CONDUIT. SWITCH IS NOT IN SERVICE.
- 2 REMOVE EXISTING SWITCHBOARD AFTER REPLACEMENT SWITCHBOARD IS INSTALLED. REFER TO SHEET ED502.
- 3 COORDINATE WITH EVERSOURCE TO REMOVE EXISTING PAD MOUNTED TRANSFORMERS AFTER REPLACEMENT TRANSFORMER IS INSTALLED.
- 4 REMOVE EXISTING DOOR POSITION SWITCH. COORDINATE WITH THE OWNER FOR THE OWNER TO UPDATE EXISTING SECURITY SYSTEM PROGRAMMING.
- 5 REMOVE EXISTING CUMMINS MARINE DIESEL GENERATOR WITH ASSOCIATED CONDUIT, WIRING, DUCTS AND PIPING. GENERATOR REMOVALS WILL REQUIRE DISASSEMBLY IN PLACE.
- 6 REMOVE EXISTING GENERATOR DAY TANK AND BATTERY CHARGER.
- 7 REMOVE EXISTING GENERATOR FUEL TANKS AND FILL PIPING.
- 8 REMOVE EXISTING GENERATOR EXHAUST PIPING IN THIS ROOM AND AT ROOF LEVEL. COORDINATE WITH THE OWNER FOR EXACT ROOFTOP LOCATION.
- 9 REMOVE EXISTING AUTOMATIC TRANSFER SWITCH WITH ASSOCIATED WIRING AND CONDUIT ASSOCIATED WITH THE 100KW GENERATOR.
- 10 REMOVE EXISTING WIREWAY.
- 11 FIELD VERIFY AND DOCUMENT CONNECTIONS INTO AND OUT OF MANUAL TRANSFER SWITCH. REMOVE EXISTING 2 POLE, 200A MANUAL TRANSFER SWITCH LABELED "BACKUP GENERATOR OR MAIN GENERATOR".
- 12 REMOVE EXISTING 200A ENCLOSED CIRCUIT BREAKER.
- 13 TEST FOR PROPER OPERATION. DOCUMENT TESTING AND SUBMIT DEFICIENCIES TO THE OWNER. TEMPORARILY SUPPORT DURING CONSTRUCTION.
- 14 REMOVE LIGHTING FIXTURE(S) AND ASSOCIATED CONDUIT AND WIRING. CONTROLS AND HOMERUN SHALL REMAIN FOR REUSE WHERE INDICATED.
- 15 TEMPORARILY SUPPORT ENCLOSED CIRCUIT BREAKER CHPD TO FACILITATE WALL REMOVAL. AFTER NEW CHILLER CIRCUIT IS ESTABLISHED, REMOVE CHPD. COORDINATE OUTAGE WITH THE OWNER.
- 16 REMOVE EXISTING 60KW ONAN DIESEL GENERATOR WITH ASSOCIATED CONDUIT, WIRING, PIPING, DUCTS, PUMP AND CONTROLS. SALVAGE TO THE OWNER.
- 17 REMOVE LIGHTING FIXTURE INSTALLED ABOVE THE SUSPENDED CEILING.
- 18 REMOVE EXISTING AUTOMATIC TRANSFER SWITCH AND WIRING ASSOCIATED WITH THE 60KW GENERATOR. SALVAGE TO THE OWNER. CUT EXISTING CONDUIT FLUSH WITH FLOOR AND CAP.
- 19 REMOVE CONDUITS AND LB FITTINGS ASSOCIATED WITH THE GENERATOR BACK TO THE WALL. PROVIDE CAPS.
- 20 EXISTING WIREWAY TO REMAIN FOR REUSE.
- 21 REMOVE EXISTING PANELBOARDS. LABEL AND PROTECT EXISTING BRANCH CIRCUITS FOR EXTENSION AND RECONNECTION. PREPARE TO PROVIDE REPLACEMENT PANELBOARDS. REFER TO SHEETS ED501 AND EP601 FOR ADDITIONAL INFORMATION.
- 22 FIELD VERIFY CONNECTIONS BELOW SLAB THAT WILL REQUIRE EXTENSION TO REPLACEMENT SWITCHBOARD. FOR BIDDING PURPOSES, ASSUME (1) 100A FEEDER. COORDINATE WITH THE ARCHITECTURAL TRADE FOR SLAB REMOVAL.



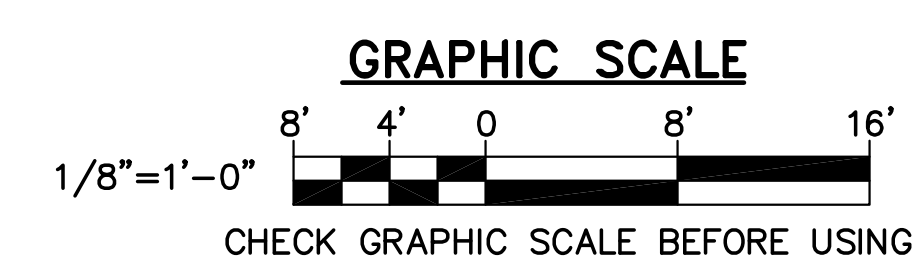
**1 PARTIAL BASEMENT ELECTRICAL REMOVALS PLAN**  
 ED101 SCALE: 1/8"=1'-0"



**2 PARTIAL FIRST FLOOR ELECTRICAL REMOVALS PLAN**  
 ED101 SCALE: 1/8"=1'-0"



KEYPLAN  
 NOT TO SCALE  
 PLAN NORTH







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 PROJECT: 21904.15

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**PARTIAL ONE-LINE DIAGRAM REMOVALS**

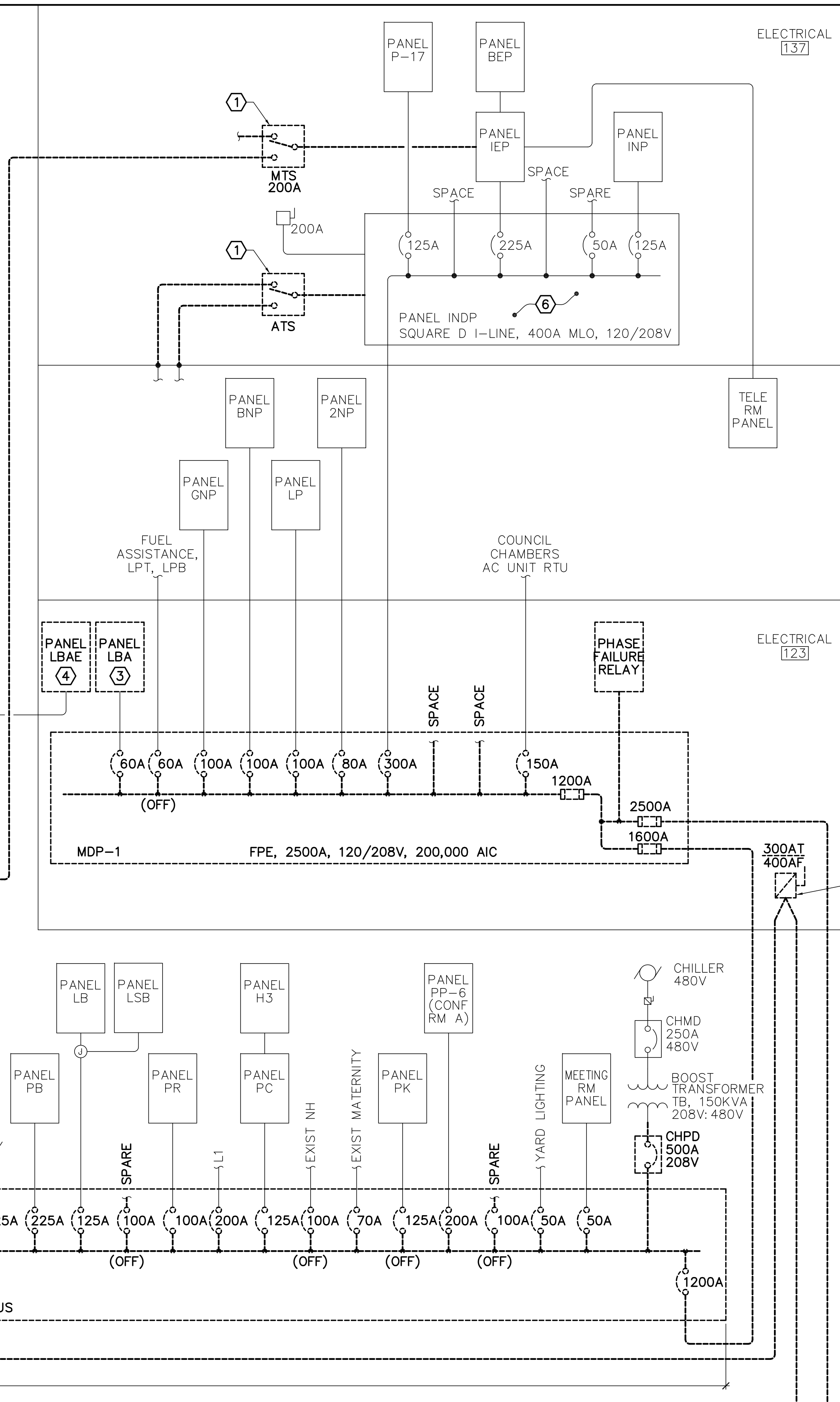
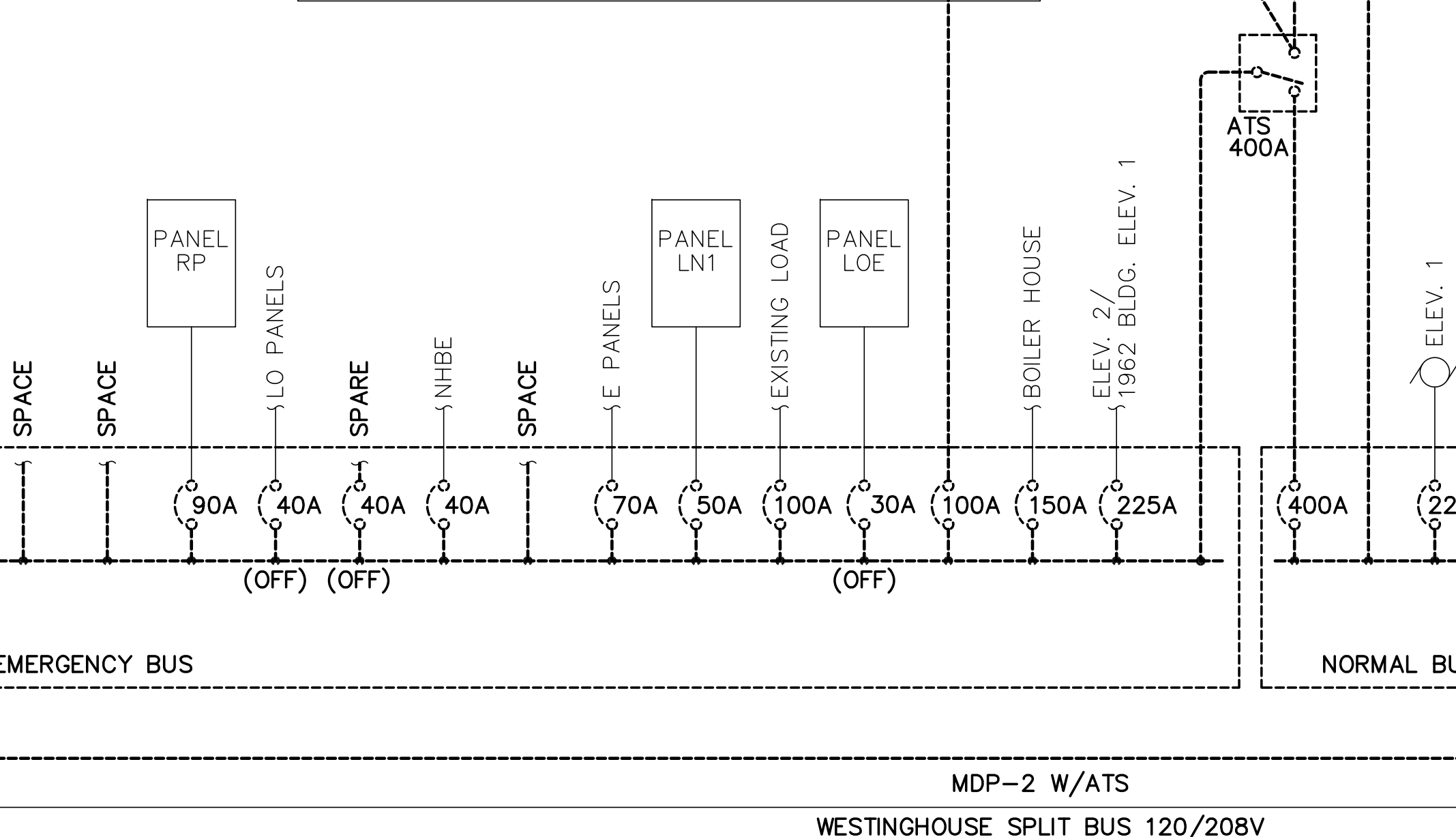
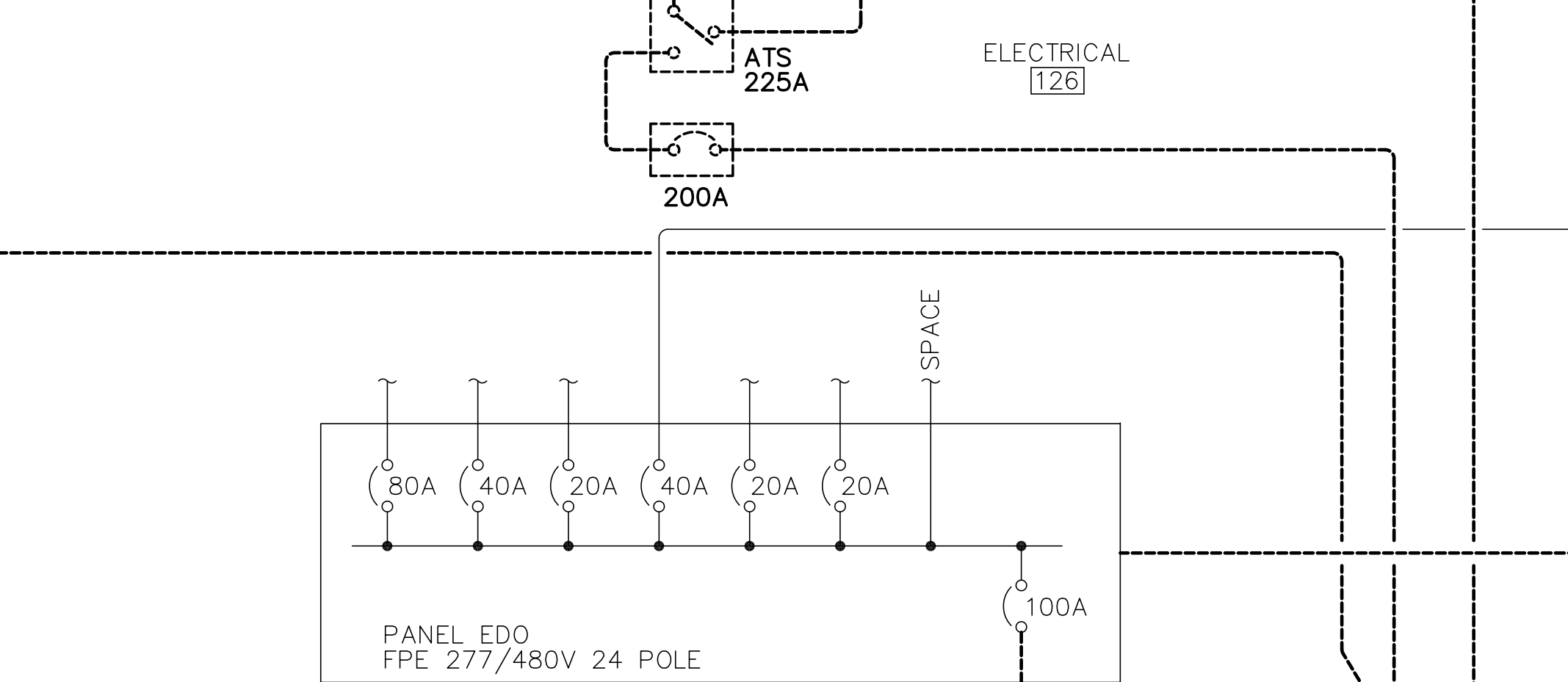
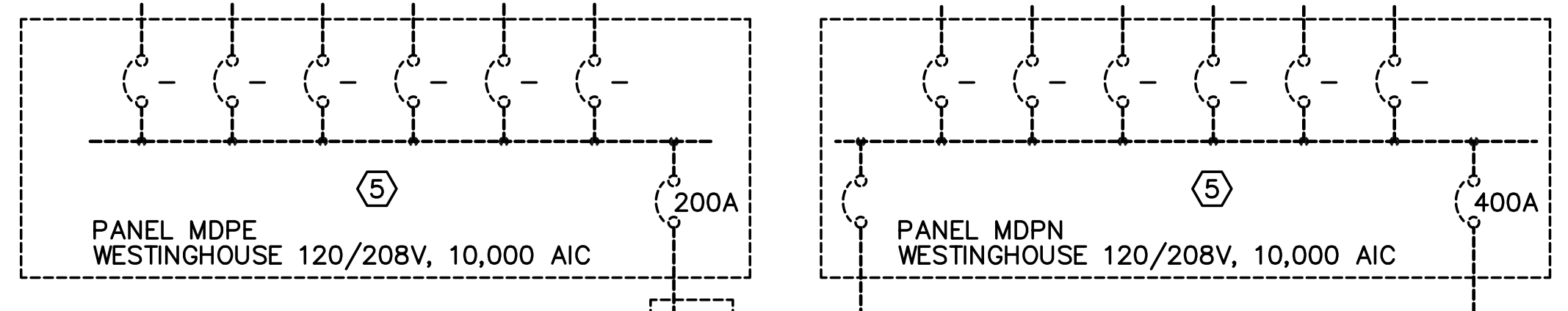
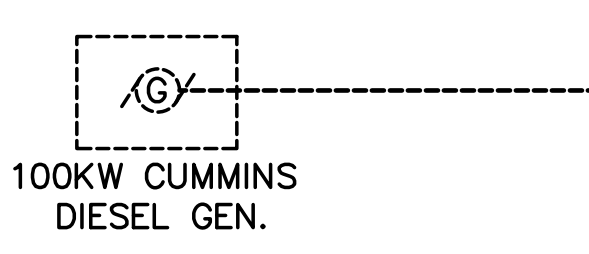
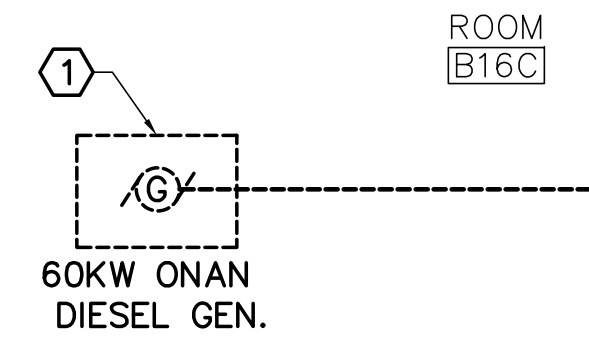
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 DATE: 06/24/2020  
 DWG.: **ED501**  
 SHEET: **27** OF **33**

**DRAWING NOTES**

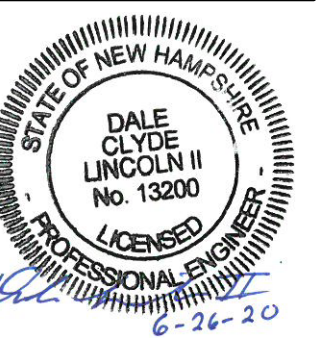
1. PROVIDE SEQUENCED DEMOLITION OF WORK. EXISTING EQUIPMENT SHALL REMAIN OPERATIONAL UNTIL REPLACEMENT EQUIPMENT IS INSTALLED AND READY FOR CUT OVER.
2. FIELD VERIFY CIRCUITS INDICATED AS "(OFF)". FOR (OFF) CIRCUITS THAT ARE ABANDONED OR SPARE, REMOVE WIRING AND EXPOSED CONDUIT. FOR THOSE STILL IN USE, PREPARE TO EXTEND FEEDER. FOR BIDDING PURPOSES, ASSUME EACH INDICATION OF "(OFF)" WILL REQUIRE REMOVAL. REMOVE WIRE IN ITS ENTIRETY. REMOVE CONDUIT TO NEAREST WALL AND CAP.
3. PERFORM PHASE ROTATION TEST AND DOCUMENT EXISTING ELECTRICAL SERVICE PHASE ROTATION PRIOR TO SHUT DOWN AND DISCONNECTION OF SERVICE CONDUCTORS. PROVIDE REPORT TO OWNER.

**REMOVAL KEYNOTES**

1. FIELD VERIFY AND DOCUMENT CONNECTIONS INTO AND OUT OF THE EXISTING MANUAL AND AUTOMATIC TRANSFER SWITCHES. PREPARE TO REFEED VIA NEW COPS AUTOMATIC TRANSFER SWITCH.
2. REMOVE WIRING. REFER TO SHEET CD101 FOR EXTENT OF CONDUIT REMOVAL.
3. REMOVE 24 POLE, 100A, FPE PANELBOARD. SALVAGE EXISTING BRANCH CIRCUITS FOR EXTENSION AND RECONNECTION. FOR BIDDING PURPOSES ASSUME 18 BRANCH CIRCUITS. FIELD VERIFY.
4. REMOVE 12 POLE, 100A, FPE PANELBOARD. SALVAGE EXISTING BRANCH CIRCUITS AND FEEDER FOR EXTENSION AND RECONNECTION. FOR BIDDING PURPOSES ASSUME 10 BRANCH CIRCUITS. FIELD VERIFY.
5. REMOVE PANELBOARD. SALVAGE EXISTING BRANCH CIRCUITS FOR EXTENSION AND RECONNECTION. FIELD VERIFY CIRCUIT BREAKER SIZES AND LOADS SERVED. REFER TO SHEETS EP501 AND EP601 FOR ADDITIONAL PANELBOARD INFORMATION.
6. FIELD VERIFY AIC RATING OF THE EXISTING CIRCUIT BREAKERS. FOR BIDDING PURPOSES, ASSUME REPLACEMENT OF (1) 225A AND (1) 125A BREAKER WITH A BREAKER RATED FOR 22,000 AIC (MINIMUM) IN ORDER TO MEET THE AVAILABLE FAULT CURRENT. COORDINATE WORK WITH THE SHORT CIRCUIT STUDY RESULTS.







HRM RSW DCL  
 21904.15  
 DESIGNED BY:  
 DRAWN BY:  
 CHECKED BY:  
 PROJECT:

**CITY OF PORTSMOUTH**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**CITY HALL ELECTRICAL RENOVATIONS**  
 1 Junkins Avenue  
 Portsmouth, NH 03801

**ELECTRICAL MAIN DISTRIBUTION SWITCHBOARDS ELEVATIONS REMOVALS**

SCALE: AS NOTED

DATE: 06/24/2020

DWG.: **ED502**

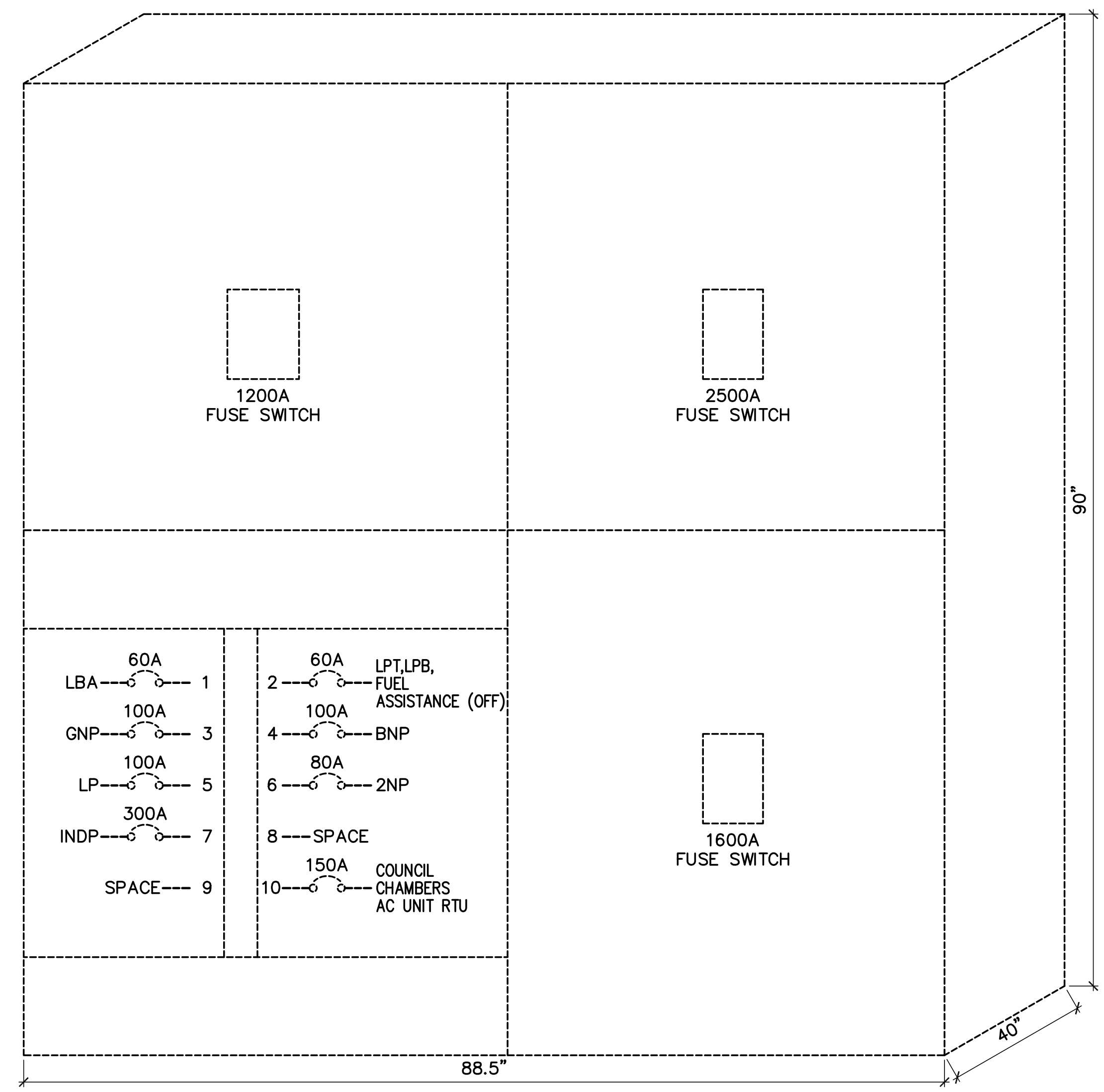
SHEET: **28** OF **33**

**DRAWING NOTE**

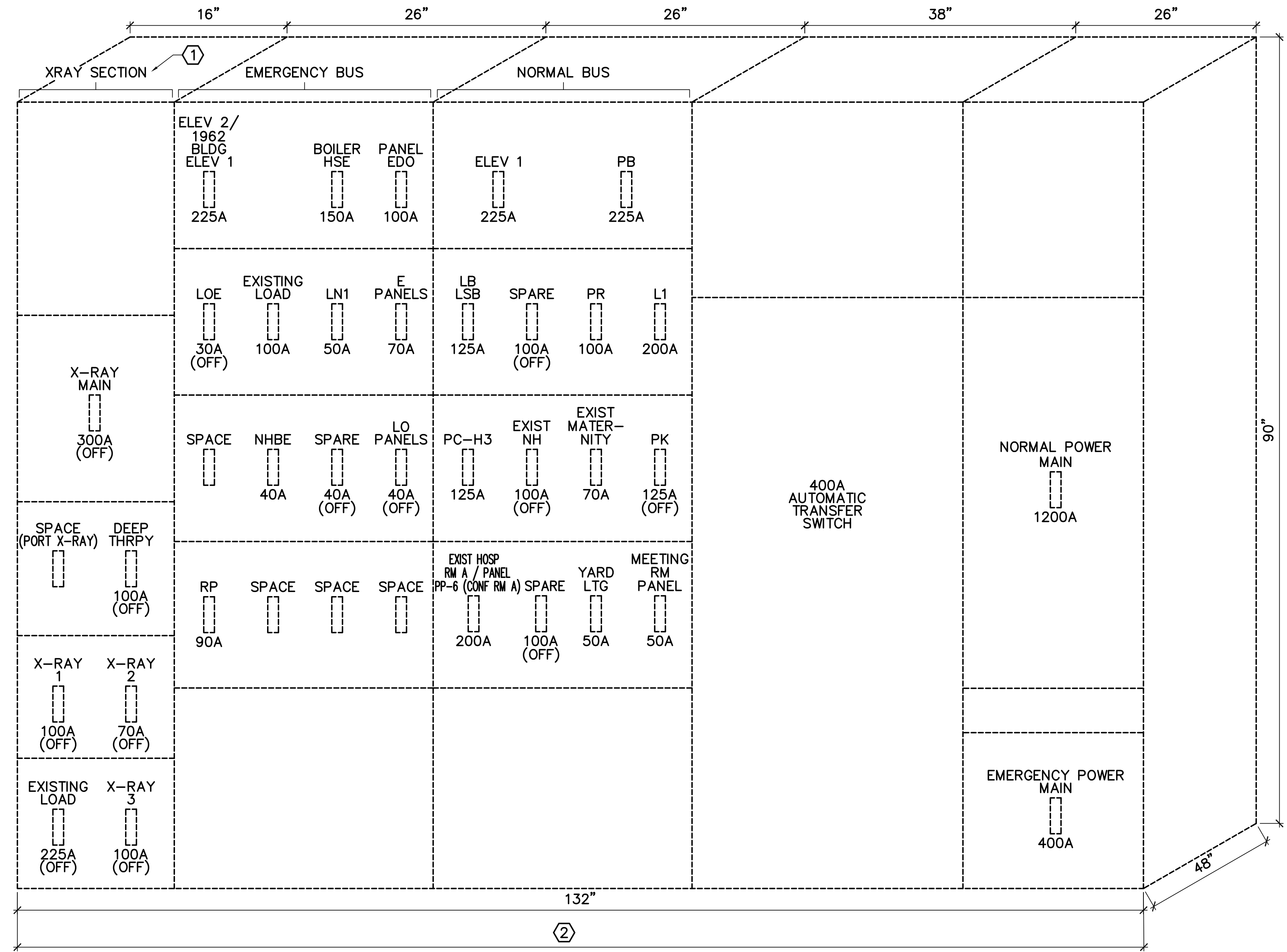
- REFER TO SHEET ED501 FOR PARTIAL ONE-LINE DIAGRAM REMOVALS.

**DRAWING KEYNOTES**

- SECTION IS NOT IN USE.
- EXISTING TRENCH AND CABLE TRAY BELOW THE SWITCHBOARD SHALL REMAIN. PROTECT EXISTING FEEDERS AND BRANCH CIRCUITS EXITING FROM BELOW AND PREPARE TO PULL BACK TO NEW SWITCHBOARD AND PANELBOARD LOCATIONS. PROTECT EXISTING FEEDERS AND BRANCH CIRCUITS EXITING FROM ABOVE AND PREPARE TO PROVIDE WIREWAYS AND EXTEND TO NEW SWITCHBOARD AND PANELBOARD LOCATIONS. REFER TO SHEETS AD101 AND AE101 FOR ADDITIONAL INFORMATION.



**1 MAIN DISTRIBUTION SWITCHBOARD MDP-1 ELEVATION REMOVALS**  
ED502 SCALE: NOT TO SCALE



**2 MAIN DISTRIBUTION SWITCHBOARD MDP-2 ELEVATION REMOVALS**  
ED502 SCALE: NOT TO SCALE

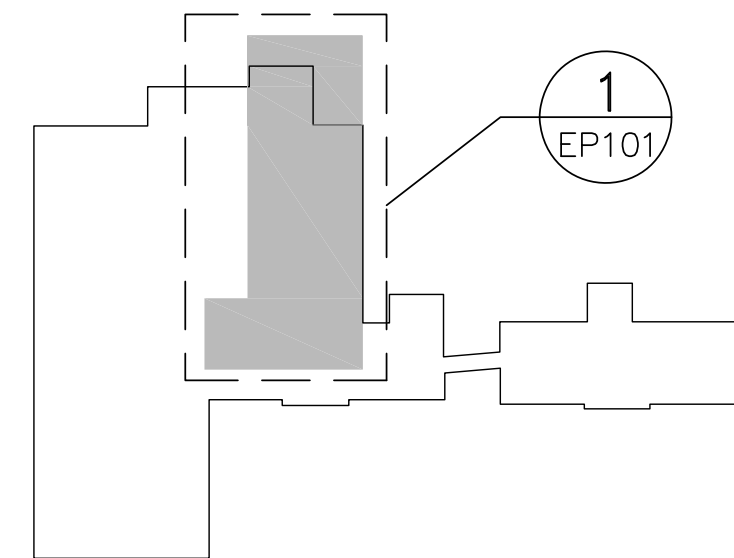


**DRAWING NOTES**

- REFER TO SHEET EP501 FOR PARTIAL ONE-LINE DIAGRAM.
- EXISTING EQUIPMENT SHALL REMAIN OPERATIONAL UNTIL REPLACEMENT EQUIPMENT IS INSTALLED AND READY FOR CUT OVER.
- REFER TO SHEETS CS101 AND CU101 FOR SITE PLAN, GENERATOR LOCATION, TRANSFORMER LOCATION AND EXTERIOR CONDUIT ROUTING. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY ON THIS SHEET.
- PROVIDE COORDINATION DRAWINGS FOR EXTERIOR WALL ELEVATION OUTSIDE ROOMS 121, 121A, 123, AND 127 AND FOR ROOMS 121A, 123, 126, AND 135. DRAWINGS SHALL BE MINIMUM 1/4" SCALE AND INCLUDE PLAN AND ELEVATION VIEWS. ADJUSTMENTS TO ROOM LAYOUT SHALL BE PROVIDED, AS REQUIRED, TO ACCOMMODATE DIMENSIONS OF FINAL EQUIPMENT SELECTED AND TO MEET NEC CLEARANCES. COORDINATE WITH NEW AND EXISTING MECHANICAL DUCTS/PIPING AND SPRINKLER PIPING.
- REFER TO SHEET EL101 FOR ADDITIONAL FIRE ALARM WORK.

**DRAWING KEYNOTES**

- THE FOLLOWING CONDITIONS SHALL BE MONITORED BY THE FIRE ALARM CONTROL PANEL: (1) GENERATOR RUNNING, (2) GENERATOR FAULT, (3) GENERATOR SWITCH IN NON-AUTOMATIC POSITION. PROVIDE MODULES, WIRING, CONDUIT, AND PROGRAMMING TO ACCOMPLISH MONITORING FUNCTIONS. PROVIDE TESTING.
- COORDINATE LOCATION WITH THE OWNER.
- MOUNT EXTERNAL TO EQUIPMENT. COORDINATE EXACT LOCATION IN THE FIELD. WIRE LENGTH SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE HOUSEKEEPING PAD. REFER TO DETAIL 5/AE101.
- PROVIDE CEILING MOUNTED WIREWAY FOR USE IN SPLICING AND EXTENDING EXISTING FEEDERS AND BRANCH CIRCUITS TO NEW SWITCHBOARD/PANELBOARD LOCATION. CRITICAL OPERATIONS POWER SYSTEMS (COPS), EMERGENCY POWER SYSTEMS (EM) AND OPTIONAL STANDBY POWER SYSTEMS (OS) WIRING SHALL NOT SHARE CONDUITS OR WIREWAYS. SIZE WIREWAY PER NEC. COORDINATE EXACT LOCATION IN THE FIELD.
- INSTALL PERPENDICULAR TO EXISTING TRENCH/CABLE TRAY. REFER TO SHEET AE101 AND FIELD VERIFY EXACT LOCATION. PULL BACK EXISTING FEEDERS AND BRANCH CIRCUITS. ROUTE THROUGH BOND OUT/CORE DRILL IN CONCRETE PAD AND TERMINATE IN SWITCHBOARD/PANELBOARD.
- PROVIDE GROUND BUS.
- PROPOSED CONDUIT PATHWAY, SHOWN DIAGRAMMATICALLY. FIELD VERIFY EXACT PATHWAYS AND COORDINATE WITH EXISTING ABOVE CEILING PIPING. REFER TO SHEET AE701 AND COORDINATE WITH ARCHITECTURAL TRADE.
- ASSUMING A RIGHT SWINGING ATS BYPASS DOOR, ORIENT ATS SO FRONT FACES IN THIS DIRECTION AND DOOR OPENS TOWARDS THE WALL. PROVIDE MINIMUM 6' CLEARANCE ON FRONT OF ATS-OS AND MINIMUM 3' CLEARANCE BETWEEN ATS-OS AND MSB-1.
- TO GENERATOR.
- TO ATS-EM.
- GENERATOR TO FACP.
- TO GENERATOR ENCLOSURE PANELBOARD.
- REUSE EXISTING WIREWAY. PROVIDE KNOCKOUT SEALS, AS REQUIRED.
- PROVIDE PRINTED, LAMINATED, OPERATING INSTRUCTIONS FOR EACH MODE OF OPERATION: UTILITY POWER, GENERATOR POWER, PORTABLE GENERATOR POWER. COORDINATE LOCATION WITH THE OWNER.

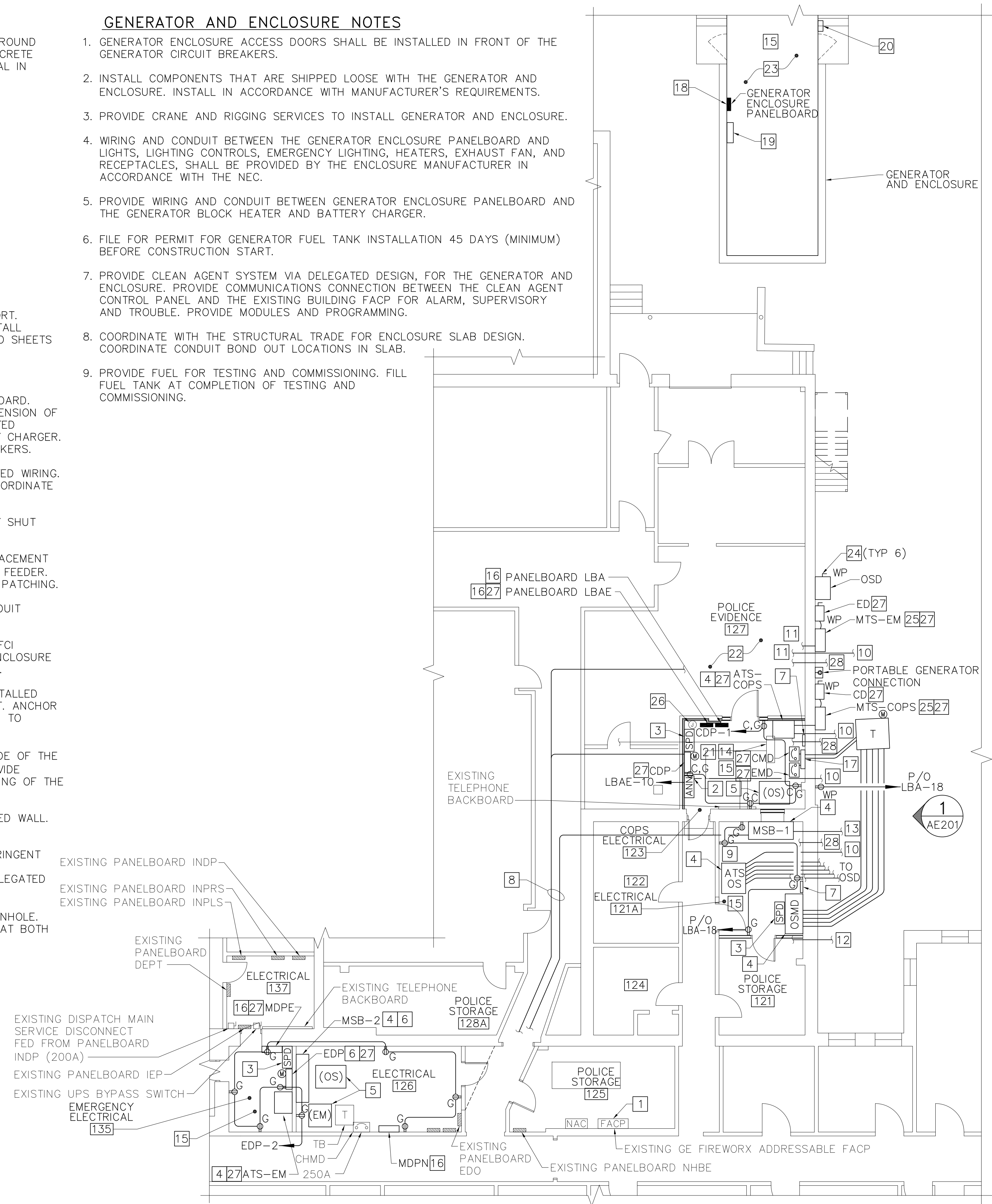


**KEYPLAN**  
NOT TO SCALE  
PLAN  
NORTH

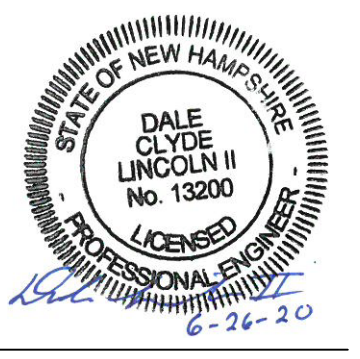
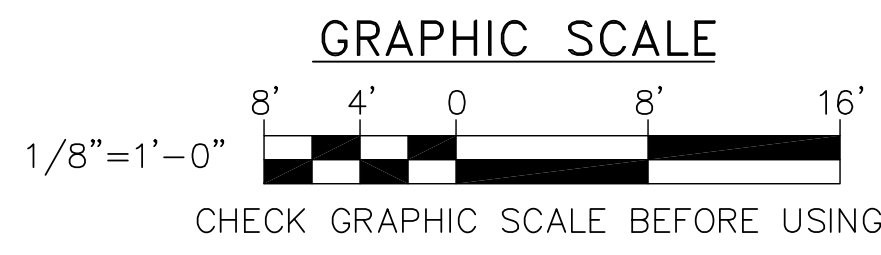
- COORDINATE WITH THE ARCHITECTURAL TRADE AND UTILIZE GROUND PENETRATING RADAR ON EXTERIOR WALLS AND INTERIOR CONCRETE WALLS AND FLOORS BEFORE CORE DRILLING OR SLAB REMOVAL IN ORDER TO AVOID REBAR/STRUCTURAL SUPPORTS.
- PROVIDE PANELBOARD AND STEEL SLOTTED STRUT SUPPORT. COORDINATE EXACT LOCATION IN THE FIELD. DO NOT INSTALL BELOW SPRINKLER HEAD, PIPING OR DUCTWORK. REFER TO SHEETS M-101, EP501, AND EP601 FOR ADDITIONAL INFORMATION.
- PROVIDE WIREWAY ABOVE DISCONNECT SWITCHES.
- THE ENCLOSURE MANUFACTURER SHALL PROVIDE PANELBOARD. COORDINATE EXACT LOCATION. PROVIDE FEEDER AND EXTENSION OF CONDUIT STUB UP. PANELBOARD SHALL CONTAIN DEDICATED BREAKERS FOR GENERATOR BLOCK HEATER AND BATTERY CHARGER. PANELBOARD SHALL INCLUDE, MINIMUM, 20% SPARE BREAKERS.
- INSTALL GENERATOR FUEL PANEL AND PROVIDE ASSOCIATED WIRING. PROVIDE WIRING TO THE GENERATOR CONTROL PANEL. COORDINATE WITH THE GENERATOR AND ENCLOSURE MANUFACTURERS.
- PROVIDE WEATHERPROOF GENERATOR REMOTE EMERGENCY SHUT DOWN.
- FIELD VERIFY AND EXTEND BELOW SLAB FEEDER TO REPLACEMENT SWITCHBOARD. FOR BIDDING PURPOSES ASSUME (1) 100A FEEDER. COORDINATE WITH THE ARCHITECTURAL TRADE FOR SLAB PATCHING.
- COORDINATE CONDUIT PENETRATION LOCATIONS AND CONDUIT ROUTING WITHIN POLICE EVIDENCE WITH THE OWNER.
- THE ENCLOSURE MANUFACTURER SHALL PROVIDE FOUR GFCI RECEPTACLES EVENLY SPACED INSIDE THE GENERATOR ENCLOSURE AND WIRED TO THE GENERATOR ENCLOSURE PANELBOARD.
- PROVIDE STAINLESS STEEL SLOTTED STRUT SUPPORT, INSTALLED VERTICALLY, BEHIND EACH EXTERIOR PIECE OF EQUIPMENT. ANCHOR TO THE WALL AND TO THE CONCRETE PAD BELOW. REFER TO DETAIL 6/C-503.
- PROVIDE THROUGH WALL PENETRATION OUT THE BACK SIDE OF THE MANUAL TRANSFER SWITCH (NO EXPOSED CONDUIT). PROVIDE THREADED, GASKETED HUBS TO MAINTAIN THE NEMA RATING OF THE ENCLOSURE.
- PROVIDE ACCESS TO EXISTING JUNCTION BOX WITHIN RATED WALL. COORDINATE WITH THE ARCHITECTURAL TRADE.
- ANCHOR EQUIPMENT IN ACCORDANCE WITH THE MORE STRINGENT REQUIREMENT OF EITHER THE MANUFACTURERS WRITTEN INSTRUCTIONS OR BY THE ANALYSIS RESULTS OF THE DELEGATED DESIGN.
- PROVIDE (1) 4" CONDUIT BETWEEN THE BUILDING AND MANHOLE. REFER TO SHEET CU101. PROVIDE LABELED PULL STRING AT BOTH ENDS. SEAL CONDUIT AND PROVIDE CAP.

**GENERATOR AND ENCLOSURE NOTES**

- GENERATOR ENCLOSURE ACCESS DOORS SHALL BE INSTALLED IN FRONT OF THE GENERATOR CIRCUIT BREAKERS.
- INSTALL COMPONENTS THAT ARE SHIPPED LOOSE WITH THE GENERATOR AND ENCLOSURE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- PROVIDE CRANE AND RIGGING SERVICES TO INSTALL GENERATOR AND ENCLOSURE.
- WIRING AND CONDUIT BETWEEN THE GENERATOR ENCLOSURE PANELBOARD AND LIGHTS, LIGHTING CONTROLS, EMERGENCY LIGHTING, HEATERS, EXHAUST FAN, AND RECEPTACLES, SHALL BE PROVIDED BY THE ENCLOSURE MANUFACTURER IN ACCORDANCE WITH THE NEC.
- PROVIDE WIRING AND CONDUIT BETWEEN GENERATOR ENCLOSURE PANELBOARD AND THE GENERATOR BLOCK HEATER AND BATTERY CHARGER.
- FILE FOR PERMIT FOR GENERATOR FUEL TANK INSTALLATION 45 DAYS (MINIMUM) BEFORE CONSTRUCTION START.
- PROVIDE CLEAN AGENT SYSTEM VIA DELEGATED DESIGN, FOR THE GENERATOR AND ENCLOSURE. PROVIDE COMMUNICATIONS CONNECTION BETWEEN THE CLEAN AGENT CONTROL PANEL AND THE EXISTING BUILDING FACP FOR ALARM, SUPERVISORY AND TROUBLE. PROVIDE MODULES AND PROGRAMMING.
- COORDINATE WITH THE STRUCTURAL TRADE FOR ENCLOSURE SLAB DESIGN. COORDINATE CONDUIT BOND OUT LOCATIONS IN SLAB.
- PROVIDE FUEL FOR TESTING AND COMMISSIONING. FILL FUEL TANK AT COMPLETION OF TESTING AND COMMISSIONING.



**1 PARTIAL FIRST FLOOR POWER PLAN**  
EP101 SCALE: 1/8"=1'-0"



HRM BFD DCL  
DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
PROJECT: 21904.15

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**CITY HALL ELECTRICAL RENOVATIONS**  
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Portsmouth, NH 03801

**PARTIAL FIRST FLOOR POWER PLAN**

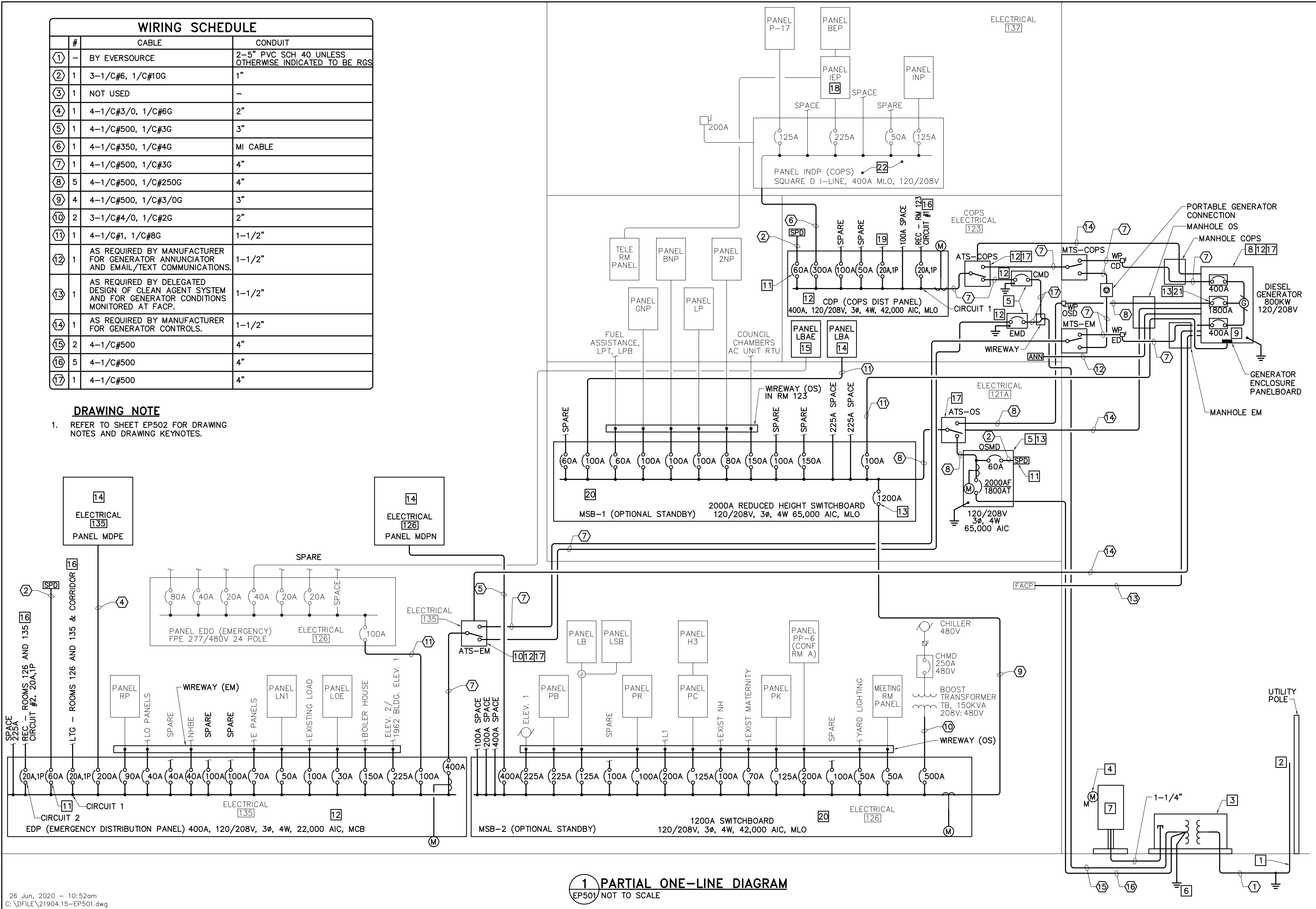
SCALE: AS NOTED  
DATE: 06/24/2020  
DWG.: **EP101**  
SHEET: **29** OF **33**



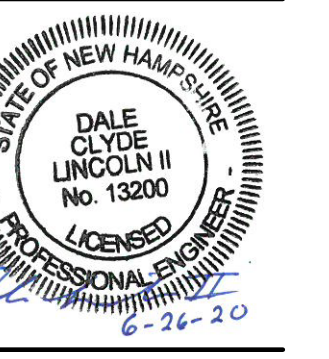
#	CABLE	CONDUIT
①	BY EVERSOURCE	2-5" PVC SCH 40 UNLESS OTHERWISE INDICATED TO BE RGS
②	3-1/C#6, 1/C#10G	1"
③	NOT USED	-
④	4-1/C#3/0, 1/C#6G	2"
⑤	4-1/C#500, 1/C#3G	3"
⑥	4-1/C#350, 1/C#4G	MI CABLE
⑦	4-1/C#500, 1/C#3G	4"
⑧	4-1/C#500, 1/C#250G	4"
⑨	4-1/C#500, 1/C#3/0G	3"
⑩	3-1/C#4/0, 1/C#2G	2"
⑪	4-1/C#1, 1/C#8G	1-1/2"
⑫	AS REQUIRED BY MANUFACTURER FOR GENERATOR ANNUNCIATOR AND EMAIL/TEXT COMMUNICATIONS.	1-1/2"
⑬	AS REQUIRED BY DELEGATED DESIGN OF CLEAN AGENT SYSTEM AND FOR GENERATOR CONDITIONS MONITORED AT FACP.	1-1/2"
⑭	AS REQUIRED BY MANUFACTURER FOR GENERATOR CONTROLS.	1-1/2"
⑮	4-1/C#500	4"
⑯	4-1/C#500	4"
⑰	4-1/C#500	4"

**DRAWING NOTE**

- REFER TO SHEET EP502 FOR DRAWING NOTES AND DRAWING KEYNOTES.



**1 PARTIAL ONE-LINE DIAGRAM**  
EP501 NOT TO SCALE



HRM  
BFD  
DCL  
DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
PROJECT:  
21904.15

**CITY OF PORTSMOUTH**  
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Portsmouth, NH 03801

**CITY HALL ELECTRICAL RENOVATIONS**  
1 Junkins Avenue  
Portsmouth, NH 03801

**PARTIAL ONE-LINE DIAGRAM AND SCHEDULE**

SCALE: AS NOTED  
DATE: 06/24/2020  
DWG.: **EP501**  
SHEET: **30** OF **33**



EQUIPMENT SCHEDULE						
DESIGNATION	DESCRIPTION	AMP/POLE/VOLTAGE	AIC	BASIS OF DESIGN	LABEL (LABEL COLOR)	OTHER
ATS-OS	AUTOMATIC TRANSFER SWITCH WITH DELAYED TRANSITION	2000A/3P SOLID NEUTRAL 120/208V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	ASCO 7000 SERIES WITH ATS ENGINE START MODULE ASCO MODEL 5101-ATS	ATS-OS (BLACK)	PROVIDE IN SECTIONS, FOR FIELD ASSEMBLY, AS REQUIRED TO MANEUVER INTO POSITION.
ATS-EM	AUTOMATIC TRANSFER SWITCH WITH BYPASS ISOLATION AND CLOSED TRANSITION ELECTRICALLY OPERATED, MECHANICALLY HELD	400A/3P SOLID NEUTRAL 120/208V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	ASCO 7000 SERIES WITH ATS ENGINE START MODULE ASCO MODEL 5101-ATS	ATS-EM (RED)	SEISMIC IMPORTANCE FACTOR IP=1.5
ATS-COPS	AUTOMATIC TRANSFER SWITCH WITH BYPASS ISOLATION AND CLOSED TRANSITION ELECTRICALLY OPERATED, MECHANICALLY HELD	400A/3P SOLID NEUTRAL 120/208V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	ASCO 7000 SERIES WITH ATS ENGINE START MODULE ASCO MODEL 5101-ATS	ATS-COPS (BLUE)	SEISMIC IMPORTANCE FACTOR IP=1.5
MTS-EM	MANUAL TRANSFER SWITCH. NEMA 3R, STAINLESS STEEL, STRUT MOUNTED	400A/3P 120/208V	65,000A CONFIRM VIA SHORT CIRCUIT STUDY	ESL POWER SYSTEM STORMSWITCH SERIES 3040 DIRECT WIRE	MTS-EM (RED)	SEISMIC IMPORTANCE FACTOR IP=1.5 PROVIDE MOUNTING LEGS.
MTS-COPS	MANUAL TRANSFER SWITCH. NEMA 3R, STAINLESS STEEL, STRUT MOUNTED	400A/3P 120/208V	65,000A CONFIRM VIA SHORT CIRCUIT STUDY	ESL POWER SYSTEM STORMSWITCH SERIES 3040 DIRECT WIRE	MTS-COPS (BLUE)	SEISMIC IMPORTANCE FACTOR IP=1.5 PROVIDE MOUNTING LEGS.
OSMD	REDUCED HEIGHT SERVICE ENTRANCE RATED SWITCHBOARD WITH METER AND ADJACENT LUG SECTION	2000A FRAME 1800A TRIP, 3P 120/208V 3Ø, 4W	65,000A CONFIRM VIA SHORT CIRCUIT STUDY	70" TALL EQUIPMENT WITH ADDITIONAL TOP HAT	OSMD (BLACK) 	SHALL NOT EXCEED 6' WIDE
OSD	NON-FUSED DISCONNECT SWITCH NEMA 4X STAINLESS STEEL	2000A/3P 240V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	-	OSD (BLACK)	ABILITY TO BE LOCKED IN THE OPEN AND CLOSED POSITIONS. SEISMIC IMPORTANCE FACTOR IP=1.5
EMD	ENCLOSED CIRCUIT BREAKER SERVICE ENTRANCE RATED	400A/3P 120/208V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	-	EMD (RED) 	SEISMIC IMPORTANCE FACTOR IP=1.5
ED	NON-FUSED DISCONNECT SWITCH NEMA 4X STAINLESS STEEL	400A/3P 240V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	-	ED (RED)	ABILITY TO BE LOCKED IN THE OPEN AND CLOSED POSITIONS. SEISMIC IMPORTANCE FACTOR IP=1.5
CMD	ENCLOSED CIRCUIT BREAKER SERVICE ENTRANCE RATED	400A/3P 120/208V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	-	CMD (BLUE) 	SEISMIC IMPORTANCE FACTOR IP=1.5
CD	NON-FUSED DISCONNECT SWITCH NEMA 4X STAINLESS STEEL	400A/3P 240V	50,000A CONFIRM VIA SHORT CIRCUIT STUDY	-	CD (BLUE)	ABILITY TO BE LOCKED IN THE OPEN AND CLOSED POSITIONS. SEISMIC IMPORTANCE FACTOR IP=1.5
DIESEL GENERATOR	DIESEL GENERATOR IN CUSTOM WEATHERPROOF, SOUND ATTENUATED, WALK IN ENCLOSURE. SOUND LEVEL SHALL NOT EXCEED 45dB AT 100 FEET FROM ENCLOSURE. 800 GALLON SUB BASE FUEL TANK. PROVIDE MANUFACTURERS STANDARD PLATFORM WITH STAIRS AT EACH DOOR.	800KW, 3Ø, 4W, 120/208V	NA	CATERPILLAR GENERATOR WITH PRITCHARD BROWN CUSTOM WEATHERPROOF, SOUND ATTENUATED ENCLOSURE WITH GENERATOR ENGINE START MODULE: ASCO MODEL 5101-GEN	NA	AUTOMATIC CLEAN AGENT FIRE EXTINGUISHING SYSTEM CONTACTS: MIKE SCHMITT, MSCHMITT@PRITCHARDBROWN.COM, 410-483-5600  HANS CHRISTENSEN, HANS_CHRISTENSEN@MILTONCAT.COM, 207-974-9393
PORTABLE GENERATOR CONNECTION	GENERATOR TAP BOX WITH CAM LOCK RECEPTACLES, NEMA 3R STAINLESS STEEL	800A, 3Ø, 4W, 120/208V	NA	PSI CONTROL SOLUTIONS		NA

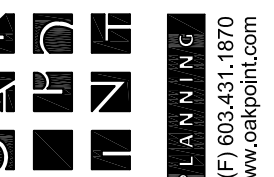
LABELING SCHEDULE		
DESIGNATION	BACKGROUND COLOR (WHITE LETTERS)	TEXT
	BLUE	CAUTION: MULTIPLE SOURCES OF POWER. COPS SERVICE DISCONNECT 1 OF 3. OPTIONAL STANDBY SERVICE DISCONNECT IS LOCATED IN ROOM 121A. EMERGENCY SERVICE DISCONNECT IS LOCATED IN THIS ROOM.
	RED	CAUTION: MULTIPLE SOURCES OF POWER. EMERGENCY SERVICE DISCONNECT 2 OF 3. OPTIONAL STANDBY SERVICE DISCONNECT IS LOCATED IN ROOM 121A. COPS SERVICE DISCONNECT IS LOCATED IN THIS ROOM.
	BLACK	CAUTION: MULTIPLE SOURCES OF POWER. OPTIONAL STANDBY SERVICE DISCONNECT 3 OF 3. COPS SERVICE DISCONNECT AND EMERGENCY SERVICE DISCONNECTS ARE LOCATED IN ROOM 123.
	-	EMERGENCY DIESEL GENERATOR LOCATED OUTSIDE ADJACENT TO THE LOADING DOCK.
	-	(MARK WITH PHASE ROTATION AND SYSTEM BONDING REQUIREMENTS IN ACCORDANC WITH NEC 700.3 (F)(3)).
	-	AVAILABLE FAULT CURRENT: (INSERT VALUE PER STUDY RESULTS) DATE STUDY PERFORMED: (INSERT DATE) STUDY PERFORMED BY: (LIST ENGINEER AND CONTACT INFORMATION).

#### DRAWING NOTES FOR SHEET EP501

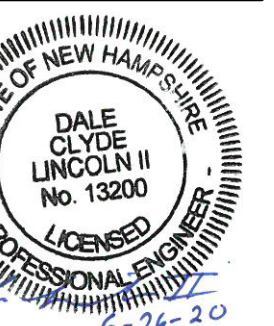
- SPLICE AND EXTEND EXISTING BRANCH CIRCUITS AND FEEDERS TO NEW PANELBOARDS/SWITCHBOARDS AS INDICATED. FIELD VERIFY AND MATCH EXISTING CONDUCTOR AND CONDUIT SIZES. CONFIRM EXISTING AND NEW PHASES ARE NOT REVERSED.
- REFER TO SHEET EP502 FOR LABELING SCHEDULE AND EQUIPMENT SCHEDULE.
- EXISTING EQUIPMENT SHALL REMAIN OPERATIONAL UNTIL REPLACEMENT ELECTRICAL SERVICE AND EQUIPMENT IS INSTALLED, COMMISSIONED AND OPERATIONAL.
- REFER TO SHEETS CS101 AND CU101 FOR SITE PLAN AND EQUIPMENT LOCATIONS.
- ELECTRICAL SERVICE SHALL CONFORM TO EVERSOURCE PUBLICATION "INFORMATION AND REQUIREMENTS FOR ELECTRIC SUPPLY".
- PERFORM SHORT CIRCUIT STUDY, COORDINATION STUDY, AND ARC FLASH STUDY FOR EQUIPMENT SHOWN IN THE ONE-LINE DIAGRAM. PROVIDE LABELING. VALUES ARE SHOWN FOR BIDDING. COORDINATE WITH EVERSOURCE FOR TRANSFORMER SPECIFICATIONS. THEY INDICATED A 500KVA TRANSFORMER WILL BE PROVIDED. CONFIRM TRANSFORMER IMPEDANCE.
- ADJUST CIRCUIT BREAKERS IN ACCORDANCE WITH THE COORDINATION STUDY RESULTS. COMPLY WITH NEC 700.32 AND 708.54 SELECTIVE COORDINATION FOR EMERGENCY AND CRITICAL OPERATIONS POWER SYSTEMS. PROVIDE DOCUMENTATION OF AS-LEFT BREAKER SETTINGS.
- PROVIDE FINAL CONNECTIONS TO GENERATOR AND SECONDARY SIDE OF TRANSFORMER. COORDINATE WITH SUBCONTRACTORS AND EVERSOURCE TO ENSURE A COMPLETE AND OPERATIONAL INSTALLATION.
- PROVIDE SIGNS AT SERVICE ENTRANCE EQUIPMENT INDICATING TYPE AND LOCATION OF EMERGENCY POWER SOURCE. REFER TO LABELING SCHEDULE ON SHEET EP502.
- BREAKERS IN PANELBOARDS/SWITCHBOARDS ARE 3 POLE UNLESS OTHERWISE NOTED.
- FIELD VERIFY EXISTING CIRCUITS BEING REFEED FROM NEW EQUIPMENT. PROVIDE UPDATED DIRECTORIES.
- COORDINATE PHASE ROTATION WHILE PROVIDING REPLACEMENT SERVICE. PERFORM PHASE ROTATION TEST TO ENSURE PROPER ROTATION OF SERVICE POWER PRIOR TO ENERGIZING EQUIPMENT AND OPERATION OF NEW EQUIPMENT. PROVIDE REPORT TO OWNER.
- PROVIDE SPARE CONDUITS AS INDICATED ON SHEET CU101.

#### DRAWING KEYNOTES FOR SHEET EP501

- PROVIDE 5" GROUNDED RGS SWEEP (36" RADIUS) AND 10 FEET (MIN) OF HORIZONTAL RGS. REFER TO DETAIL 9/C-502.
- PROVIDE CONDUIT AND SUPPORTS TO 10' ABOVE GRADE. REMAINDER TO TOP OF POLE BY EVERSOURCE.
- PAD MOUNTED TRANSFORMER AND CURRENT TRANSFORMERS PROVIDED BY EVERSOURCE. PROVIDE PAD. REFER TO DETAIL 1/C-502.
- BY EVERSOURCE.
- REFER TO ELECTRIC SERVICE GROUNDING DETAIL 1/EP601.
- PROVIDE GROUNDING IN ACCORDANCE WITH EVERSOURCE NEW HAMPSHIRE REQUIREMENTS FOR ELECTRIC SERVICE CONNECTIONS.
- INSTALL METER SOCKET AND PEDESTAL. EQUIPMENT SHALL BE FURNISHED BY EVERSOURCE. COORDINATE WITH CIVIL TRADE FOR PEDESTAL CONCRETE BASE. REFER TO DETAIL 3/C-502.
- PROVIDE PAD MOUNTED GENERATOR IN CUSTOM FABRICATED, WEATHERPROOF, SOUND ATTENUATING ENCLOSURE AND SUB BASE MOUNTED FUEL TANK. COORDINATE WITH CIVIL TRADE FOR PERMITTING.
- PROVIDE PERMANENT BARRIER OR SEPARATE ENCLOSURES FOR THE THREE CIRCUIT BREAKERS AND ROUTE LOAD SIDE WIRING FROM EACH BREAKER SEPARATELY FROM ONE ANOTHER. CIRCUIT BREAKERS SHALL BE 100% RATED WITH AN ADJUSTABLE TRIP AND BE LOCKABLE IN THE OPEN POSITION. PROVIDE BARRIERS/SEPARATE ENCLOSURES AND LUGS ON CIRCUIT BREAKERS IN SIZES LARGE ENOUGH TO ACCOMMODATE INDICATED CONNECTIONS.
- TRANSFER FROM NORMAL TO EMERGENCY POWER SHALL NOT EXCEED 10 SECONDS.
- CONFIRM CIRCUIT BREAKER AND WIRING SIZE WITH SPD MANUFACTURER. ASSUME INDICATED BREAKER, WIRING, AND CONDUIT FOR BIDDING PURPOSES.
- SEISMIC IMPORTANCE FACTOR, IP=1.5. PROVIDE SEISMIC RESTRAINTS.
- PROVIDE ENERGY REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICATOR.
- PROVIDE PANELBOARD. EXTEND AND RECONNECT SALVAGED BRANCH CIRCUITS. REFER TO SHEET EP601 FOR PANELBOARD SCHEDULE.
- PROVIDE PANELBOARD. EXTEND AND RECONNECT SALVAGED BRANCH CIRCUITS AND FEEDER. REFER TO SHEET EP601 FOR PANELBOARD SCHEDULE.
- PROVIDE (3) 20A, 1P BREAKERS. UTILIZE ONE FOR LOAD INDICATED. TWO SHALL BE SPARE.
- PROVIDE ATS AND GENERATOR ENGINE START MODULES.
- MODIFY EXISTING WIRING TO ACCOUNT FOR REMOVED TRANSFER SWITCH.
- PROVIDE (3) 20A, 1P SPARE CIRCUIT BREAKERS.
- EQUIPMENT SHALL NOT EXCEED 6' WIDE.
- PROVIDE SHUNT TRIP. PROGRAM SUCH THAT UPON GENERATOR OVERLOAD, THIS BREAKER WILL BE THE FIRST TO TRIP.
- REPLACE CIRCUIT BREAKERS TO MEET THE AVAILABLE FAULT CURRENT. FOR BIDDING PURPOSES ASSUME REPLACEMENT OF (1) 225A AND (1) 125A BREAKER WITH A BREAKER RATED FOR 22,000 AIC (MINIMUM). COORDINATE WORK WITH THE SHORT CIRCUIT STUDY RESULTS.



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BFD  
DCL  
2/19/04.15  
DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
PROJECT:

CITY OF PORTSMOUTH  
1 Junkins Avenue  
Portsmouth, NH 03801

CITY HALL  
ELECTRICAL RENOVATIONS  
1 Junkins Avenue  
Portsmouth, NH 03801

SCHEDULES AND NOTES

SCALE: AS NOTED

DATE: 06/24/2020

DWG.: EP502

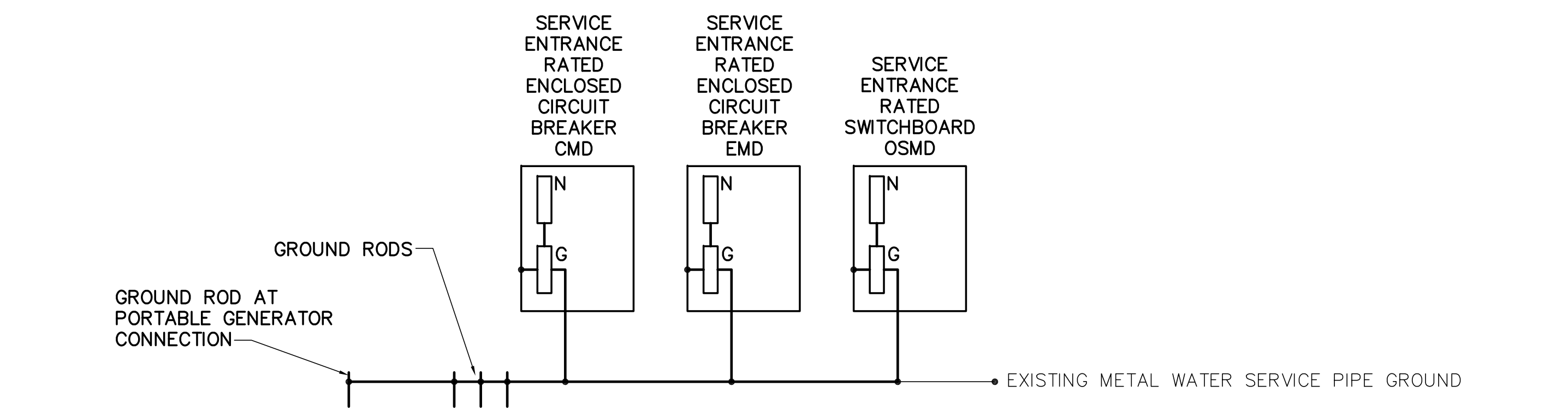
SHEET: 31 OF 33



PANELBOARD SCHEDULE LBA (OPTIONAL STANDBY) 1															
CKT NO	AMPS PER PHASE			DESCRIPTION	LOAD TYPE	CKT BKR		CKT BKR		LOAD TYPE	DESCRIPTION	AMPS PER PHASE			CKT NO
	A	B	C			TRIP	POLE	TRIP	POLE			A	B	C	
1	.	.	.	LIGHTS	-	20	1	20	1	-	OUTLETS	.	.	.	2
3	.	.	.	LIGHTS	-	20	1	20	1	-	EXISTING LOAD	.	.	.	4
5	.	.	.	LIGHTS	-	20	1	20	1	-	UNIT HEATER	.	.	.	6
7	.	.	.	LTG & 4 RECEPTACLES	-	20	1	20	1	-	RECEPTACLE BY ELEC. CLOSET	.	.	.	8
9	.	.	.	AC REC EVIDENCE STORAGE	-	20	2	20	1	-	CLERKS OFFICE	.	.	.	10
11	.	.	.		-			20	1	-	EXISTING LOAD	.	.	.	12
13	.	.	.	AC REC TRANSCRIPT OFFICE	-	20	2	40	2	-	LOAD CENTER WHSE OFFICE	.	.	.	14
15	.	.	.		-					-		.	.	.	16
17	.	.	.	AC REC BUS OFFICE	-	30	2	20	1	R	REC - RM 121A & EXTERIOR 2	.	.	7.5	18
19	.	.	.		-			20	1	-	SPARE	.	.	.	20
21	.	.	.	SPARE	-	20	1	20	1	-	SPARE	.	.	.	22
23	.	.	.	SPARE	-	20	1	20	1	-	SPARE	.	.	.	24
TOTAL/PHASE				VOLTS: 120/208, 3 PHASE, 4 WIRE				DESIGNATION: LBA							
				MCB: <input type="checkbox"/>				MCB AMPS: .				LOCATION: COPS ELECTRICAL 123			
				MLO: <input checked="" type="checkbox"/>				BUS AMPS: 100				MOUNTING: SURFACE STRUT			
				FAULT AMPS: 42,000											

PANELBOARD SCHEDULE LBAE (EMERGENCY) 1															
CKT NO	AMPS PER PHASE			DESCRIPTION	LOAD TYPE	CKT BKR		CKT BKR		LOAD TYPE	DESCRIPTION	AMPS PER PHASE			CKT NO
	A	B	C			TRIP	POLE	TRIP	POLE			A	B	C	
1	.	.	.	24V FOR PHASE	-	20	1	20	1	-	LIGHTS	.	.	.	2
3	.	.	.	LIGHTS	-	20	1	20	1	-	DAY TANK	.	.	.	4
5	.	.	.	LIGHTS	-	20	1	20	1	-	DAY TANK	.	.	.	6
7	.	.	.	EXISTING LOAD	-	20	1	20	1	-	LTS - RMS 121A,123 & CORR 2	2.3	.	.	8
9	.	.	.	SPARE	-	20	1	20	1	-	GENERATOR ANNUNCIATOR 2	.	.	.	10
11	.	.	.	SPARE	-	20	1	20	1	-	SPARE	.	.	.	12
13	.	.	.	SPACE	-	-	-	-	-	-	SPACE	.	.	.	14
15	.	.	.	SPACE	-	-	-	-	-	-	SPACE	.	.	.	16
17	.	.	.	SPACE	-	-	-	-	-	-	SPACE	.	.	.	18
19	.	.	.	SPACE	-	-	-	-	-	-	SPACE	.	.	.	20
21	.	.	.	SPACE	-	-	-	-	-	-	SPACE	.	.	.	22
23	.	.	.	SPACE	-	-	-	-	-	-	SPACE	.	.	.	24
TOTAL/PHASE				VOLTS: 120/208, 3 PHASE, 4 WIRE				DESIGNATION: LBAE							
				MCB: <input type="checkbox"/>				MCB AMPS: .				LOCATION: COPS ELECTRICAL 123			
				MLO: <input checked="" type="checkbox"/>				BUS AMPS: 100				MOUNTING: SURFACE STRUT			
				FAULT AMPS: 22,000											

PANELBOARD SCHEDULE MDPE (EMERGENCY) 1															
CKT NO	AMPS PER PHASE			DESCRIPTION	LOAD TYPE	CKT BKR		CKT BKR		LOAD TYPE	DESCRIPTION	AMPS PER PHASE			CKT NO
	A	B	C			TRIP	POLE	TRIP	POLE			A	B	C	
1	.	.	.	SPARE	-	20	1	20	3	-	MSP-1 CONTROL CIRCUIT	.	.	.	2
3	.	.	.	SPARE	-	30	2					.	.	.	4
5	.	.	.		-							.	.	.	6
7	.	.	.	GENERATOR WATER SOLENOID	-	20	1	100	3	-	ROOM 208 EMERGENCY PANELS	.	.	.	8
9	.	.	.	TELEPHONE OUTLET 1	-	20	1					.	.	.	10
11	.	.	.	TELEPHONE OUTLET 2	-	20	1					.	.	.	12
13	.	.	.	EXISTING LOAD	-	30	2	40	3	-	SPARE	.	.	.	14
15	.	.	.		-							.	.	.	16
17	.	.	.	SPARE	-	40	3					.	.	.	18
19	.	.	.		-			40	3	-	EXISTING LOAD	.	.	.	20
21	.	.	.		-							.	.	.	22
23	.	.	.	POLICE TRAINING RM CONDENSER	-	50	3					.	.	.	24
25	.	.	.		-			20	3	-	ACS-6	.	.	.	26
27	.	.	.		-							.	.	.	28
29	.	.	.	SPARE	-	70	3					.	.	.	30
31	.	.	.		-			100	3	-	SPARE	.	.	.	32
33	.	.	.		-							.	.	.	34
35	.	.	.	SPARE	-	20	1					.	.	.	36
37	.	.	.	SPARE	-	20	1					.	.	.	38
39	.	.	.	SPARE	-	20	1					.	.	.	40
41	.	.	.	SPARE	-	20	1					.	.	.	42
TOTAL/PHASE				VOLTS: 120/208, 3 PHASE, 4 WIRE				DESIGNATION: MDPE							
				MCB: <input type="checkbox"/>				MCB AMPS: .				LOCATION: EMERGENCY ELEC 135			
				MLO: <input checked="" type="checkbox"/>				BUS AMPS: 225				MOUNTING: SURFACE STRUT			
				FAULT AMPS: 22,000											

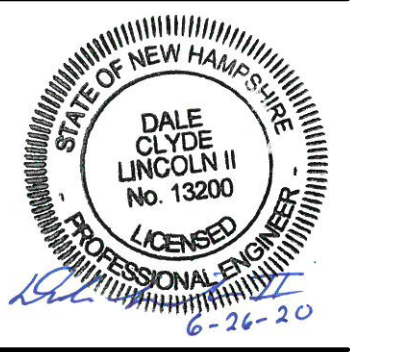


- ELECTRIC SERVICE GROUNDING DETAIL NOTES:**
1. COMPLY WITH NEC, SPECIFICALLY NEC 250.50, 250.52, AND 250.64(D).
  2. PROVIDE THERMAL WELDED OR IRREVERSIBLE COMPRESSION CONNECTIONS.
  3. MINIMUM CONDUCTOR SIZE SHALL BE #3/0, COPPER UNLESS OTHERWISE NOTED.
  4. GROUND ROD CLAMPS SHALL BE UL LISTED, SUITABLE FOR DIRECT BURIAL, THERMAL WELD.
  5. FIELD VERIFY AND DOCUMENT EXISTING GROUNDING CONNECTIONS.
  6. EXTEND EXISTING GROUNDING CONNECTIONS TO NEW SERVICE EQUIPMENT.
  7. PROVIDE GROUND ROD AT LOCATION OF PORTABLE GENERATOR CONNECTION. LEAVE 6" OF ROD EXPOSED.

**1 ELECTRIC SERVICE GROUNDING DETAIL**  
EP501 EP601 NOT TO SCALE

PANELBOARD SCHEDULE MDPN (OPTIONAL STANDBY) 1															
CKT NO	AMPS PER PHASE			DESCRIPTION	LOAD TYPE	CKT BKR		CKT BKR		LOAD TYPE	DESCRIPTION	AMPS PER PHASE			CKT NO
	A	B	C			TRIP	POLE	TRIP	POLE			A	B	C	
1	.	.	.	EXISTING LOAD	-	40	3	100	3	-	SP1, SP1A	.	.	.	2
3	.	.	.		-							.	.	.	4
5	.	.	.		-							.	.	.	6
7	.	.	.	EXISTING LOAD	-	30	3	100	3	-	SPB	.	.	.	8
9	.	.	.		-							.	.	.	10
11	.	.	.		-							.	.	.	12
13	.	.	.	SP3	-	100	3	100	3	-	L-10, L-11	.	.	.	14
15	.	.	.		-							.	.	.	16
17	.	.	.		-							.	.	.	18
19	.	.	.	SP2	-	100	3	60	3	-	EXISTING LOAD	.	.	.	20
21	.	.	.		-							.	.	.	22
23	.	.	.		-							.	.	.	24
25	.	.	.	SPARE	-	3	3	-	3	-	SPACE	.	.	.	26
27	.	.	.		-							.	.	.	28
29	.	.	.		-							.	.	.	30
31	.	.	.	L2, L3	-	3	3	-	3	-	H3	.	.	.	32
33	.	.	.		-							.	.	.	34
35	.	.	.		-							.	.	.	36
37	.	.	.	SPARE	-	20	1	-	3	-	SPACE	.	.	.	38
39	.	.	.	SPARE	-	20	1					.	.	.	40
41	.	.	.	SPARE	-	20	1					.	.	.	42
TOTAL/PHASE				VOLTS: 120/208, 3 PHASE, 4 WIRE				DESIGNATION: MDPN							
				MCB: <input type="checkbox"/>				MCB AMPS: .				LOCATION: ELECTRICAL 126			
				MLO: <input checked="" type="checkbox"/>				BUS AMPS: 400				MOUNTING: SURFACE STRUT			
				FAULT AMPS: 42,000											

- DRAWING KEYNOTES**
1. EXTEND AND CONNECT EXISTING BRANCH CIRCUITS TO REPLACEMENT PANELBOARD. FIELD VERIFY CIRCUITS, CIRCUIT BREAKER SIZES, AND LOADS SERVED. UPDATE PANELBOARD DIRECTORY, AS REQUIRED.
  2. NEW CIRCUIT ADDED TO REPLACEMENT PANELBOARD.
  3. FIELD VERIFY CIRCUIT BREAKER SIZE.



HRM BFD DCL  
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PROJECT: 21904.15

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1 Junkins Avenue  
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ELECTRICAL RENOVATIONS  
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**PANELBOARD SCHEDULES AND DETAIL**

### LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	SOURCE	LUMENS (MIN)	VOLTS	WATTS	MOUNTING	NOTES	BASIS OF DESIGN: MANUFACTURER	BASIS OF DESIGN: CATALOG NUMBER
A	2X4 RECESSED LED	LED	3,217	120	28	RECESSED	3	COLUMBIA	LCA24-35VWG-EU
B	1X4 SURFACE WRAPAROUND LED	LED	3,730	120	31	STEM @ 8' AFF	1,2,3	COLUMBIA	LAW4-35MW-EU
EL	EMERGENCY LIGHTING UNIT	LED	176	120	2	WALL, 7'-6" AFF	3	DUAL LITE	EV2

#### LIGHTING FIXTURE SCHEDULE NOTES:

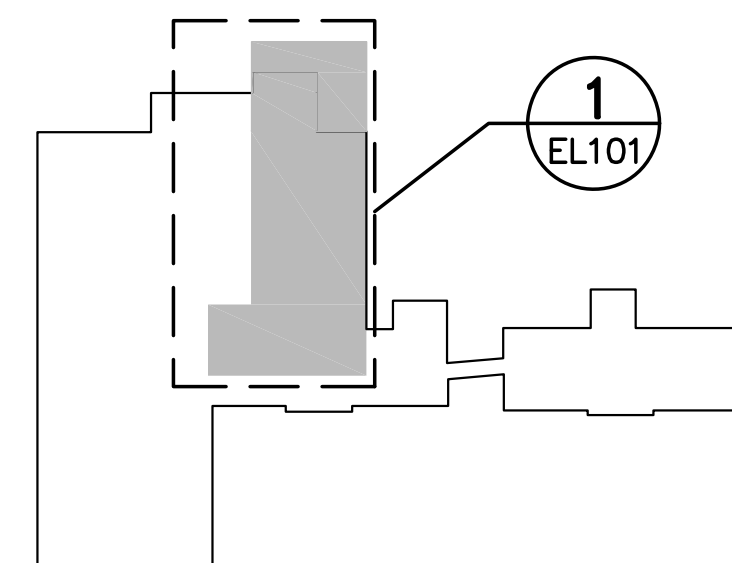
- COORDINATE EXACT LOCATION AND MOUNTING HEIGHT IN THE ROOM WITH EQUIPMENT, CONDUIT, AND PIPING.
- PROVIDE SWIVEL STEM, CANOPY ACCESSORY.
- LIGHTING FIXTURE BASIS OF DESIGN IS TO INDICATE QUALITY, PERFORMANCE, STYLE AND APPEARANCE. EQUIVALENT FIXTURES FROM ALTERNATE MANUFACTURERS WILL BE REVIEWED BY THE DESIGNER OF RECORD DURING THE SUBMITTAL PROCESS. PROVIDE ELECTRONIC IES FILES FOR SUBMITTED EQUIVALENT FIXTURES, IF REQUESTED.

#### DRAWING KEYNOTES

- REUSE SWITCH AND HOMERUN.
- CLEAN, PERMANENTLY RE-SUPPORT AND TEST AT CONSTRUCTION COMPLETION. DOCUMENT TESTING AND SUBMIT REPORT TO THE OWNER.
- REUSE EXISTING SWITCH.
- WIRE AS NIGHT LIGHT, AHEAD OF LOCAL CONTROLS.
- REUSE SALVAGED HOMERUN.
- THE GENERATOR ENCLOSURE MANUFACTURER SHALL PROVIDE AN EMERGENCY LIGHTING UNIT AND ASSOCIATED WIRING. PROVIDE ABOVE EACH DOOR.
- THE GENERATOR ENCLOSURE MANUFACTURER SHALL PROVIDE LED LIGHTING AND CONTROLS WIRED TO THE GENERATOR ENCLOSURE PANELBOARD. PROVIDE 50 FOOT CANDLES AVERAGE ILLUMINATION AT 30" AFF.

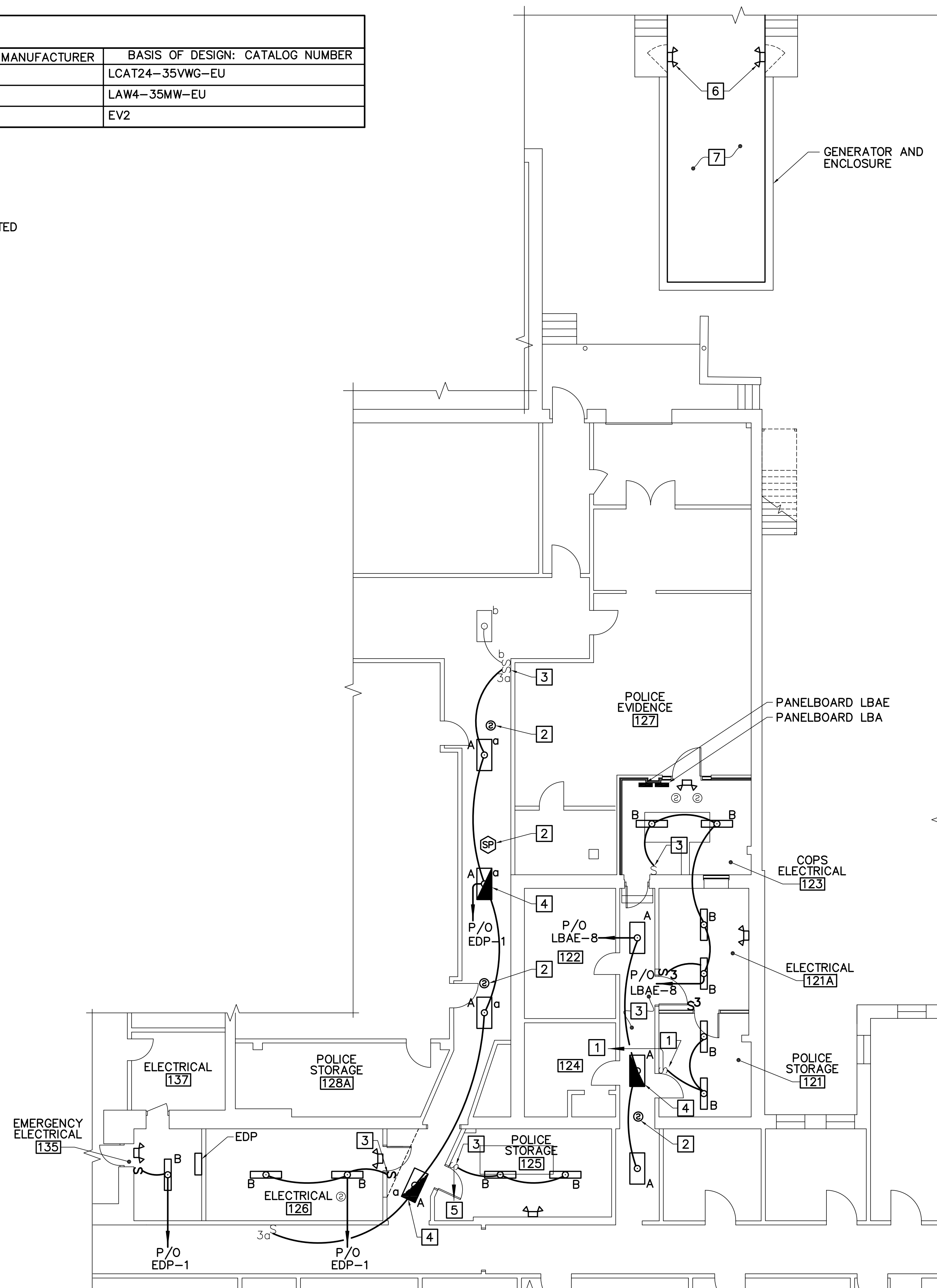
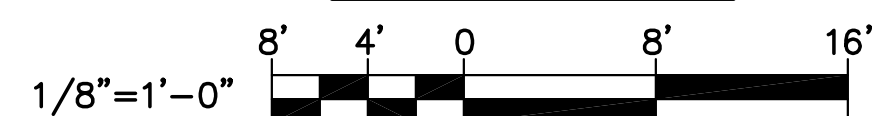
#### DRAWING NOTES

- WIRE EMERGENCY LIGHTING UNITS AHEAD OF LOCAL SWITCHES.
- EXISTING LIGHTING AND CONTROLS NOT SHOWN SHALL REMAIN.
- MAINTAIN CIRCUITS OUTSIDE THE SCOPE OF WORK AREA OPERATIONAL.

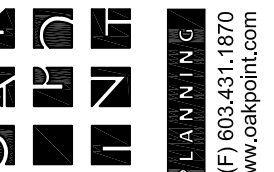


**KEYPLAN**  
NOT TO SCALE PLAN NORTH

**GRAPHIC SCALE**

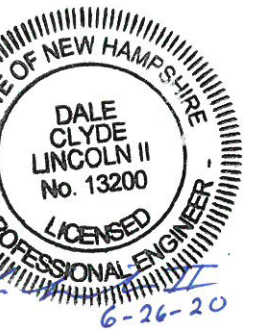


**1 PARTIAL FIRST FLOOR LIGHTING PLAN**  
EL101 SCALE: 1/8"=1'-0"



**OAK POINT ASSOCIATES**

ARCHITECTURE ■ ENGINEERING ■ PLANNING  
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DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
PROJECT: 21904.15

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1 Junkins Avenue  
Portsmouth, NH 03801

**CITY HALL ELECTRICAL RENOVATIONS**  
1 Junkins Avenue  
Portsmouth, NH 03801

**PARTIAL FIRST FLOOR LIGHTING PLAN AND SCHEDULE**

SCALE: AS NOTED

DATE: 06/24/2020

DWG.: **EL101**

SHEET: **33** OF **33**