

A. SUPPLEMENTAL GENERAL CONDITIONS

- 1. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSTALLATION THAT IS COMPLETE WITH ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING ELECTRICAL SYSTEM IN SAFE WORKING ORDER.
2. SYMBOLS FOR VARIOUS ELEMENTS AND SYSTEMS ARE SHOWN ON THE DRAWINGS. SHOULD THERE BE ANY DOUBT REGARDING THE MEANING OR INTENT OF THE SYMBOLS USED, AN INTERPRETATION SHALL BE OBTAINED FROM THE ARCHITECT IN WRITING. THE DECISION OF THE ARCHITECT SHALL BE FINAL.
3. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO EXAMINE THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING THEIR BID, WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ARCHITECT FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND ADJUSTED IN WRITING BEFORE SIGNING THE CONTRACT OR PROCEEDING WITH THE WORK. OTHERWISE, THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, SUPPORT THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DEFECTS OR DISCREPANCY OR TO PROVIDE THE RESULTS OBTAINED THEREFROM, CAUSED BY SUCH DISCREPANCY.
4. WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, THE BETTER QUALITY, OR LARGER SIZE SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING.
5. THE SCALE OF EACH DRAWING IS RELATIVELY ACCURATE; ANY DIMENSIONS SHOWN ARE APPROXIMATE TO CENTERLINE FROM ASSUMED BUILDING PERIMETER. THE CONTRACTOR SHALL OBTAIN THE NECESSARY DIMENSIONS FOR ANY EXACT TAKEOFFS FROM THE ARCHITECT. NO ADDITIONAL COST TO THE OWNER WILL BE CONSIDERED FOR FAILURE TO OBTAIN EXACT DIMENSIONS WHERE NOT CLEAR OR IN ERROR ON THE DRAWINGS. ANY DEVICE OR FIXTURE ROUGHED IN IMPROPERLY AND NOT POSITIONED ON IMPLIED CENTER-LINES OR AS REQUIRED BY GOOD PRACTICE MUST BE REPOSITIONED AT NO COST TO THE OWNER.
6. ONLY EXPERIENCED CRAFTSMEN KNOWLEDGEABLE IN THEIR RESPECTIVE TRADE SHALL PERFORM THE WORK DESCRIBED IN THE CONSTRUCTION DOCUMENTS.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF NFPA STANDARD 70 (NATIONAL ELECTRICAL CODE). CONTRACTOR SHALL ALSO CONFORM TO ALL APPLICABLE LOCAL CODES AND ORDINANCES.
8. UNLESS OTHERWISE INDICATED, ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND SHALL MEET NEMA AND ANSI STANDARDS. THEY SHALL ALSO BE LISTED/LABELED BY A NATIONALLY RECOGNIZED LABORATORY IN ACCORDANCE WITH NFPA 70. EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND WITHIN THEIR LISTING/UL LABELING.
9. PROVIDE SHOP DRAWINGS FOR ENGINEER'S REVIEW FOR ALL ELECTRICAL EQUIPMENT, DEVICES, AND MATERIALS PROPOSED TO BE PROVIDED UNDER THIS CONTRACT. ANY DEVIATIONS FROM ITEMS SPECIFIED SHALL BE CLEARLY IDENTIFIED AND SEPARATELY SUBMITTED WITH A FORMAL SUBSTITUTION REQUEST. REFER TO SPECIFICATIONS (PROJECT MANUAL) FOR REQUIREMENTS.
10. PROVIDE MINIMUM 2-HOUR FIRE STOPPING AT ALL ELECTRICAL PENETRATIONS THROUGH WALLS. REFER TO SPECIFICATION SECTION 078400 FIRE STOPPING. REFER TO 078400 SECTION 3.6 SCHEDULES FOR LIST OF ACCEPTABLE FIRE STOPPING ASSEMBLIES

B. ELECTRICAL EQUIPMENT

- 1. PROVIDE AN IDENTIFICATION NAMEPLATE FOR EACH ELECTRICAL EQUIPMENT. IDENTIFICATION DESIGNATION INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
2. WEATHERPROOF ENCLOSURES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT, DEVICES AND APPURTENANCES (ALL SYSTEMS) INSTALLED OUTDOORS.
3. COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH OWNER. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
4. SPACE ALLOCATIONS FOR MATERIALS, EQUIPMENT AND DEVICES HAVE BEEN MADE ON THE BASIS OF PRESENT AND KNOWN FUTURE REQUIREMENTS AND THE DIMENSIONS OF ITEMS OF EQUIPMENT OR DEVICES OF A PARTICULAR MANUFACTURER. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS, EQUIPMENT AND DEVICES PROPOSED FOR USE ON THIS PROJECT ARE WITHIN THE CONSTRAINTS OF THE ALLOCATED SPACE.
5. DO NOT USE PERMANENT INK WHEN MAKING FIELD MARKINGS OR TEMPORARY CIRCUIT LABELS ON PANELS. CONTRACTOR SHALL USE REMOVABLE TAPE/TAGS FOR ALL TEMPORARY MARKINGS AND SHALL REMOVE THESE TEMPORARY MARKINGS AT THE CONCLUSION OF THIS PROJECT.

C. SITE WORK

- 1. COORDINATE WITH THE SITE WORK FOR THE LOCATION, DIMENSIONS AND ELEVATION OF ALL DUCTBANKS/SERVICE CONDUITS EXTERNAL TO THE BUILDING PRIOR TO INSTALLATION OF ALL DUCTBANKS/SERVICE CONDUITS INTERNAL TO THE BUILDING.
2. COORDINATE ALL ELECTRICAL UTILITY SERVICE REQUIREMENTS WITH UTILITIES REPRESENTATIVE PRIOR TO COMMENCING ANY ELECTRICAL SITE WORK. CONTRACTOR SHALL SCHEDULE ALL NECESSARY MEETINGS BETWEEN UTILITY COMPANIES CONSTRUCTION FOREMAN, ELECTRICAL SUBCONTRACTORS, AND VARIOUS SUBCONTRACTORS RESPONSIBLE FOR SITE CONSTRUCTION PRIOR TO ELECTRICAL ROUGH-IN.

D. CONDUIT & RACEWAY

- 1. ALL WORK SHALL BE COORDINATED SO THAT INTERFERENCES ARE AVOIDED. PROVIDE ALL NECESSARY OFFSETS IN CONDUITS, RACEWAYS, ETC., REQUIRED TO PROPERLY INSTALL THE WORK. EXPOSED WORK MUST BE KEPT AS CLOSE AS POSSIBLE TO WALLS, CEILINGS, COLUMNS, ETC., SO AS TO TAKE UP MINIMUM AMOUNT OF SPACE; ALL OFFSETS, FITTINGS, ETC., REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WORK SHALL BE COORDINATED WITH OTHER TRADES.
2. ALL RUNS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR SIZING AND LOCATING PULL BOXES PER NFPA 70 AND FOR COORDINATION WITH OTHER DISCIPLINES.
3. PENETRATIONS OF WALLS, FLOORS, AND ROOFS FOR THE PASSAGE OF ELECTRICAL RACEWAYS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF WORK. ALL SUCH PENETRATIONS SHALL BE PROPERLY SEALED OFF AFTER INSTALLATION OF RACEWAY SO AS TO MAINTAIN THE STRUCTURAL WATER PROOF, AND FIRE PROOF INTEGRITY OF THE WALL, FLOOR, OR ROOF SYSTEM PENETRATED.
4. SEAL ALL CONDUITS THAT PENETRATE THE FLOOR SLAB TO MAKE THEM WATER TIGHT. THE CONDUITS SHALL BE DRIED PRIOR TO INSTALLATION OF WIRE/CABLE AND SHALL BE SEALED AT TERMINATIONS.
5. ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE MADE IN ACCORDANCE WITH UL "FIRE RESISTANCE DIRECTORY". PENETRATIONS SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE RATED SEALANT. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED WALLS.
6. ALL EMPTY CONDUIT SYSTEMS SHALL CONTAIN A PULL WIRE FOR FUTURE PULLING OF CONDUCTORS.
7. OR FROM BUILDING CONTROL POWER DISTRIBUTION SYSTEM.

E. BRANCH CIRCUITS AND FEEDERS

- 1. CIRCUITING IS SHOWN DIAGRAMMATICALLY.
2. UNLESS OTHERWISE INDICATED, ALL CIRCUITS 100' OR LESS SHALL BE MINIMUM #12 AWG WIRE SIZE. CIRCUITS OVER 100' BUT LESS THAN 200' SHALL BE MINIMUM #10 AWG WIRE SIZE. CIRCUITS OVER 200' BUT LESS THAN 300' SHALL BE MINIMUM #8 AWG WIRE SIZE.
3. UNLESS OTHERWISE INDICATED, ALL CONDUCTORS SHALL BE COPPER, 89% CONDUCTIVITY CONDUITS SHALL NOT BE USED AS THE ONLY CONDUIT.
4. UNLESS OTHERWISE INDICATED, CONDUCTOR SIZES #12 AWG AND #10 AWG SHALL BE SOLID. CONDUCTOR SIZES #8 AWG AND LARGER MAY BE STRANDED.
5. A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PULLED WITH THE CIRCUIT CONDUCTORS FOR GROUNDING WHETHER OR NOT INDICATED ON THE DRAWINGS. METAL RACEWAY, OR ARCHITECT FINISH SHALL NOT BE USED AS THE ONLY EQUIPMENT GROUNDING CONDUCTOR.
6. HOMERUN CIRCUITS FOR ISOLATED GROUND RECEPTACLES SHALL BE SEPARATED FROM OTHER CIRCUITS. EACH CIRCUIT SHALL HAVE ITS OWN NEUTRAL CONDUCTOR AND EACH HOMERUN SHALL CONTAIN AN ISOLATED AND EQUIPMENT GROUND CONDUCTOR.

F. WIRING DEVICES

- 1. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATION AND MOUNTING HEIGHT OF ALL WALL AND FLOOR MOUNTED ELEMENTS (OUTLETS, LIGHT SWITCHES, CONTROLLERS, POKE-THRU, ETC.). ALL WALL/FLOOR MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL WALL/FLOOR TYPES IN ALL AREAS. DO NOT SCALE OR DIMENSION LOCATIONS FROM THESE DRAWINGS.
2. COORDINATE THE LOCATION AND INSTALLATION DETAIL OF OUTLETS IN MILLWORK WITH ARCHITECTURAL DRAWINGS (WALL ELEVATIONS, MILLWORK DETAILS, ETC.) AND WITH MILLWORK MANUFACTURER PRIOR TO ELECTRICAL ROUGH-IN.
3. WALL AND FLOOR MOUNTED POWER RECEPTACLES SHOWN NEAR DATA OUTLETS SHALL BE LOCATED WITHIN SIX (6) INCHES OF THE DATA OUTLET. LOCATE AT SAME MOUNTING HEIGHT UNLESS NOTED OTHERWISE.
4. VERIFY THE EXACT POWER CONNECTION TYPE AND NEMA CONFIGURATION OF RECEPTACLES FOR EQUIPMENT FURNISHED BY THE OWNER. OTHER TRADES, OR UNDER A SEPARATE SECTION OF THIS CONTRACT PRIOR TO ELECTRICAL ROUGH-IN.
5. ALL RECEPTACLES LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE HOUSED IN ENCLOSURES THAT ARE RATED WEATHER-PROOF-WHILE-IN-USE AND SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION.
6. ALL GFCI RECEPTACLES SHALL BE CONNECTED SO THAT ALL DEVICES ON THE SAME CIRCUIT AS THE GFCI RECEPTACLE DO NOT DE-ENERGIZE UNWANTINGLY. ALL GFCI RECEPTACLES SHALL INCLUDE A LOCK-OUT FUNCTION TO PROTECT AGAINST THE USE OF MISWIRED DEVICES OR DEVICES THAT HAVE BEEN DAMAGED DUE TO DISABLING SURGES.

G. LIGHTING SYSTEM

- 1. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATION OF ALL CEILING ELEMENTS (LIGHTS, SPRINKLERS, DIFFUSERS, ETC.). ALL CEILING MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL CEILING TYPES IN ALL AREAS. DO NOT SCALE OR DIMENSION LOCATIONS FROM THESE DRAWINGS.
2. PROVIDE AND INSTALL ALL SUPPORTS FOR LIGHT FIXTURES, SUPPORTS SHALL BE INDEPENDENT OF THE CEILING GRID SUPPORT SYSTEM.
3. LIGHT SWITCHES / OCCUPANCY SENSORS LOCATED IN A ROOM SHALL CONTROL ALL THE LIGHT FIXTURES IN THAT ROOM UNLESS NOTED OTHERWISE. CONTRACTOR SHALL GANG TOGETHER ALL SWITCHES/DIMMERS UNDER A SINGLE COVER PLATE IN ALL AREAS THAT REQUIRE MORE THAN ONE SWITCH TO CONTROL ELECTRICAL DEVICES.
4. IN INSTANCES WHERE A TRACK LIGHT IS PROVIDED AND/OR RELOCATED AND/OR LIGHTING CONTROL SYSTEM IS SPECIFIED, THE CONTRACTOR SHALL COORDINATE ALL NECESSARY COMPONENTS OF SUCH SYSTEM(S) WITH THE MANUFACTURER PRIOR TO BID AND INCLUDE ALL NECESSARY ACCESSORIES TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.

H. 2-POST LIFT COORDINATION

- 1. LIFTS MAY BE PROVIDED AS PART OF PROJECT SCOPE OR BY USPS. REVIEW DRAWINGS AND LIFT SCHEDULE FOR SITE SPECIFIC INFORMATION.
2. MINIMUM VERTICAL CLEARANCE ABOVE ALL LIFTS IS 15'-3".
3. COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE MINIMUM 15'-3" CLEARANCE ABOVE ALL NEW LIFTS, WHETHER LIFT(S) ARE PROVIDED AS PART OF SCOPE FOR THE PROJECT OR PROVIDED BY OWNER. MAKE SAFE AND DISCONNECT ANY EQUIPMENT, DEVICES, LIGHTS, AND/OR CONDUIT WITH POWER RUNNING ALONG LIFT VEHICLE CLEARANCE AREA THAT INTERFERES WITH 15'-3" MINIMUM VERTICAL CLEARANCE REQUIREMENT. COORDINATE WITH GENERAL CONTRACTOR TO SHIFT/ADJUST ANY ELECTRICAL DEVICE/EQUIPMENT/RACEWAY/WIRING/ELEMENT RUNNING ALONG VERTICAL CLEAR AREA BEYOND 15'-3".
4. ANY NEW LIGHTING, CONTROLS, POWER, CONDUIT AND APPURTENANCES ROUTED AS PART OF THE PROJECT SHALL NOT INTERFERE WITH VEHICLE LIFT CLEARANCE AREA.
5. REFER TO A500 FOR LIFT CLEARANCE DETAIL.
6. THIS SCOPE OF WORK DOES NOT APPLY TO ALIGNMENT LIFTS.

I. DEMO GENERAL NOTES

- 1. PROVIDE UPDATED, TYPE WRITTEN DIRECTORY OF ALL CORRECT CIRCUITS WITH LOAD DEFINITIONS FOR EACH PANEL BOARD. DIRECTORY SHALL BE LOCATED INSIDE PANEL DOOR.
2. INFORMATION PROVIDED ON THESE DRAWINGS HAVE BEEN TAKEN FROM DESIGN DRAWING AND FIELD OBSERVATIONS CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO PRICING AND COMMENCEMENT OF WORK.
3. WHERE EXISTING WALLS ARE DEMOLISHED, REMOVE ALL EXISTING ELECTRICAL DEVICES AND THEIR ASSOCIATED CONDUITS AND WIRING BACK TO THE POINT OF ORIGINATION. ENERGIZE ALL EXISTING DEVICES THAT WERE INTERRUPTED DURING DEMOLITION. WHERE ENTIRE CIRCUITS ARE REMOVED, TURN THE CIRCUIT BREAKER OFF AND LABEL AS "SPARE".
4. PROVIDE FOR ANY AND ALL DEMOLITION WORK NECESSARY TO ACCOMMODATE ALL NEW CONSTRUCTION, INCLUDING ARCHITECTURAL, MECHANICAL, PLUMBING OR ELECTRICAL WORK.
5. IF DEMOLITION IS REQUIRED TO INSTALL AN ITEM, THE CONTRACTOR SHALL RESTORE THE AREA TO PREVIOUS CONDITION, OR REPLACE DAMAGED ITEMS WITH NEW ITEMS TO MATCH EXISTING.
6. DESIGNATION 'EX' REPRESENTS EXISTING DEVICE OR LIGHT FIXTURE TO REMAIN AS CIRCUITED AND SWITCHED UNLESS NOTED OTHERWISE. EXISTING LIGHT FIXTURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
7. A DEVICE WITH AN 'X' INDICATES EXISTING DEVICE TO BE REMOVED INCLUDING ALL ASSOCIATED CONDUIT AND WIRING.
8. A DEVICE WITH AN 'R' INDICATES EXISTING DEVICE TO BE RELOCATED INCLUDING ALL ASSOCIATED CONDUIT AND WIRING.
9. CONTRACTOR SHALL REMOVE ALL CONDUIT AND WIRING ASSOCIATED WITH DEVICES AND EQUIPMENT TO BE REMOVED AND/OR RELOCATED UNLESS NOTED OTHERWISE. PROVIDE AND INSTALL ALL NECESSARY DEVICES, EQUIPMENT AND ACCESSORIES REQUIRED TO MAINTAIN SERVICE TO ALL "EXISTING TO REMAIN" DEVICES AND EQUIPMENT THAT MAY BE INTERRUPTED DURING DEMOLITION.
10. WHERE EXISTING MECHANICAL/PLUMBING EQUIPMENT IS DEMOLISHED, REMOVE ALL RELATED ELECTRICAL FEEDS TO THE EQUIPMENT AND THEIR ASSOCIATED CONDUITS BACK TO THE POINT OF ORIGINATION.
11. REFER TO ARCHITECTURAL PLANS FOR AREAS WHERE CEILING IS DEMOLISHED. REMOVE ALL LIGHTING FIXTURES AND ASSOCIATED CONDUIT AND WIRING FROM THESE LOCATIONS.

ELECTRICAL ABBREVIATIONS

Table with 2 columns: Symbol and Description. Includes abbreviations for AFC, AFF, AFS, AHS, BFC, BOF, CB, C/B, OR, CKT, BKR, C, C/KT, C/KT, CLOS, CLG, CR, CUH, EC, ELEC, EMS, EVSE, EP, EVWC, EX, F, FA, FACP, FAP, FCU, FIXT, FLR, FLUOR, FTP, FTS, OR, FUT, G, GND, GEF, GEN, GFCL, GFI, HP, HV, HWAT, IC, ICAND, IG, IGF, JB, KEF, LTG, LTS, LV, MATV, MCB, MCC, MDP, MH, MLO, MTD, MW, N, NC (N.C.), NEC, NEMA, NF, NIC, NL, NO (N.O.), OH, PLG, PLGMLD, PNL, PWR, R, RCPT(S) OR, RECEPT, RF, SEF, SF, SO (S.O.), SP, ST (S.T.), SW, TEL, TP, TV, TVSS, UF, UG, UH, UNO (U.N.O.), U.N.K, V, VFD, VP, VV, W, WG, WP, WT, XFMR, XX, UCR.

POWER SYMBOLS LEGEND

Table with 3 columns: Symbol, Description, Mntg. Ht. (U.N.O.). Includes symbols for single receptacle, duplex receptacle, GFCI, GFCI with tamper resistant, GFCI with weather resistant, GFCI with enclosure, quadruplex receptacle, duplex receptacle on emergency circuit, special purpose receptacle, floor mounted receptacle, ceiling mounted receptacle, junction box, motor, wall mounted junction box, power pole, plug/mold, disconnect switch, disconnect switch non-fused, manual motor starter switch, emergency power off button, 208Y/120V panelboard, 480Y/277V panelboard, 208Y/120V distribution panelboard, 480Y/277V distribution panelboard, switchboard, step-down transformer, automatic transfer switch, ground bar, automatic transfer switch annunciator panel.

GENERAL NOTATIONS AND MOUNTING HEIGHTS

NOTE 1: ALL MOUNTING HEIGHTS REFER TO BOTTOM OF DEVICE, UNLESS OTHERWISE INDICATED.
A) 24" AFF INDICATES TO BOTTOM OF DEVICE;
B) 42" AFF INDICATES TO CENTER OF DEVICE;
C) 60" AFF INDICATES TO BOTTOM OF DEVICE;
D) 80" AFF INDICATES TO BOTTOM OF DEVICE;
NOTE 2: CONFIRM ALL BACKBOX SIZE WITH VENDOR SHOP DRAWINGS PRIOR TO ELECTRICAL ROUGH-IN.
LEGEND NOTES: DENOTES "SEE LEGEND NOTE NO. 2"
02/E100: DENOTES: REFERENCE DETAIL 02 ON DRAWING (SHEET) E100
E100: DENOTES: REFERENCE ENLARGED DETAIL PLAN 02 ON DRAWING (SHEET) E100
717629: EQUIPMENT (ID) NUMBER FOR OWNER PROVIDED EQUIPMENT. REFER TO OWNER'S EQUIPMENT BOOK / FBE DOCUMENTS FOR DEFINITION AND REQUIREMENTS.

CODES AND STANDARDS

Table with 2 columns: Year, Code Name. Includes Washington State Building Code, Washington State Existing Building Code, ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities Design Standard, International Energy Conservation Code (IECC) with State Amendments, Washington State Mechanical Code, Fuel Gas Code of Washington, Washington State Plumbing Code, National Electric Code (NEC / NFPA 70), International Fire Code (IFC), USPS Standards for Facility Accessibility (RE-4), USPS Standards Design Criteria, USPS Building and Site Security Requirements Handbook RE-5.

LIGHTING SYMBOLS LEGEND

Table with 3 columns: Symbol, Description, Mntg. Ht. (U.N.O.). Includes symbols for 2x4' light fixture, 2x4' light fixture (emergency), 2x2' light fixture, 2x2' light fixture (emergency), wall mounted linear fixture, wall mounted linear fixture (emergency), recessed/surface mounted linear fixture, recessed/surface mounted linear fixture (emergency), recessed/surface downlight fixture, recessed/surface downlight fixture (emergency), wall mounted fixture, wall mounted fixture (emergency), recessed downlight fixture with wall wash, recessed downlight fixture with wall wash (emergency), hanging rectangular pendant fixture, hanging rectangular pendant fixture (emergency), hanging circular pendant fixture, hanging circular pendant fixture (emergency), emergency lighting unit, ceiling mounted exit sign, end mounted exit sign, wall mounted exit sign, wall pack light fixture, wall pack light fixture (emergency), exterior light pole fixture, spot/flood light fixture, wall switch spst, wall dimmer switch, key operated wall switch, low voltage wall switch, wall switch with pilot light, wall switch with adjustable countdown timer.

LIGHTING NOTES:
1. ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS. SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.
2. REFER TO LIGHT FIXTURE SCHEDULE FOR SPECIFIC FIXTURE INFORMATION.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR MOUNTING HEIGHTS. IT IS THE INTENT, UNLESS NOTED OTHERWISE, THAT SURFACE AND RECESSED FIXTURES ARE TO BE MOUNTED AT ARCHITECTS CEILING PLANE.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR MOUNTING HEIGHTS OF PENDANT FIXTURES. REFER TO LIGHTING FIXTURE SCHEDULE FOR PENDANT MATERIAL.
5. REFER TO ARCHITECTURAL DRAWINGS FOR TYPICAL MOUNTING HEIGHTS. WHERE MOUNTING HEIGHT IS NOT INDICATED BY ARCHITECT, PROVIDE AT 42" AFF TO CENTER.

OCCUPANCY SENSOR/CONTROLS SYMBOLS LEGEND

Table with 3 columns: Symbol, Description, Mntg. Ht. (U.N.O.). Includes symbols for occupancy sensor, dual technology, occupancy sensor, ultrasonic, vacancy sensor, dual technology, wall switch occupancy sensor control, wall timer switch occupancy sensor control, wall switch vacancy sensor control.

OCCUPANCY SENSOR/CONTROLS NOTES:
1. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

SHEET INDEX

Table with 2 columns: Sheet Number, Sheet Name. Includes E001 Electrical General Information, ES100 Electrical Site Plan, ED100 Electrical Demolition Plan, E100 Electrical Power & Lighting Plans, E400 Electrical One-Line Diagram, E401 Electrical Schedules, E500 Electrical Details, E501 Electrical Details.

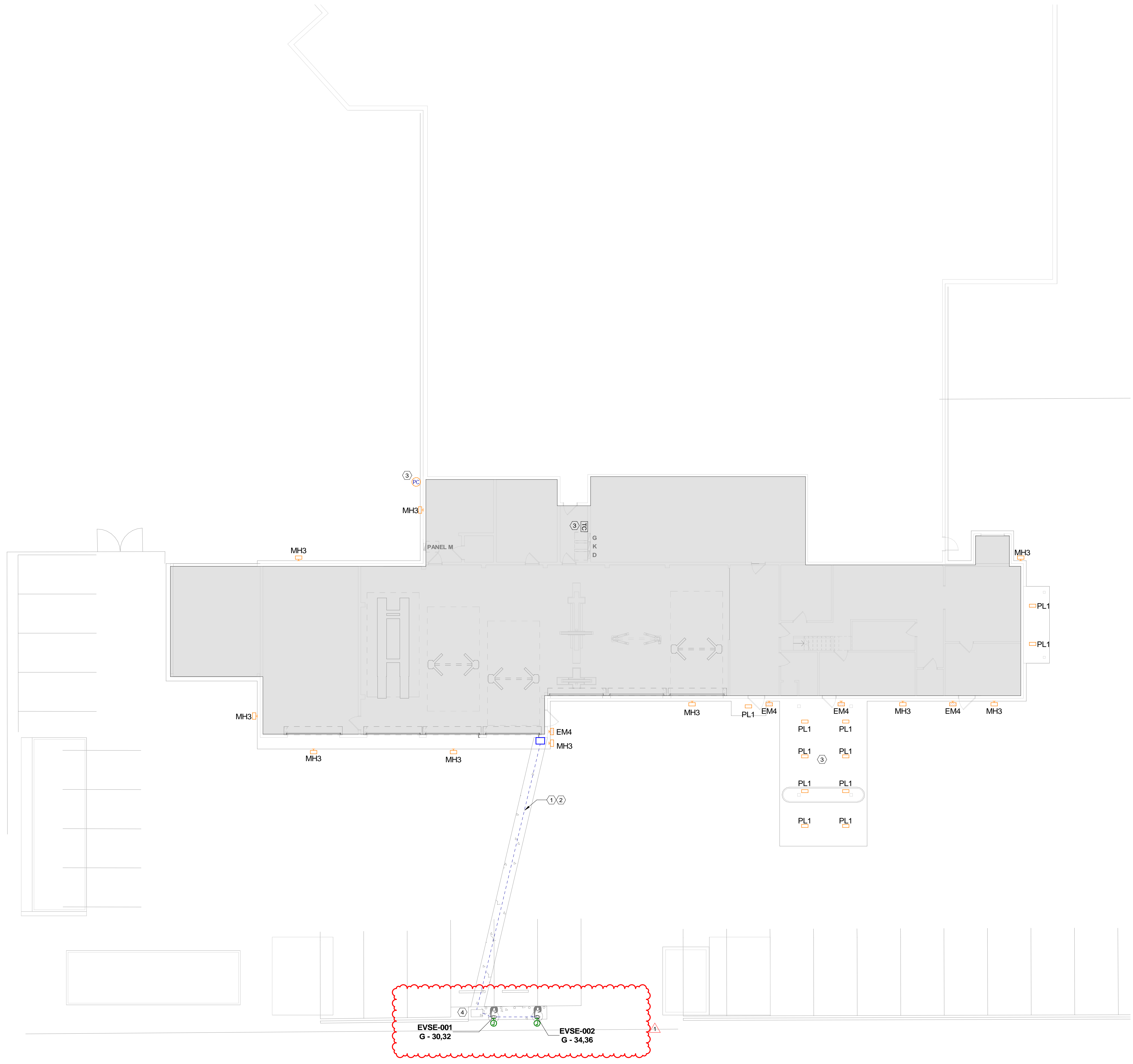
Vertical banner on the right side of the page containing logos for KORTE, WSP, and United States Postal Service, along with project information: E001 Scale: AS NOTED Information Date: Jan 26, 2024 Project: TACOMA VMF USPS File Number: E1024



DATE & TIME: 2024-03-28 12:53:26 PM

# ELECTRICAL SITE PLAN

1  
ES100  
SCALE: 1" = 10'-0"

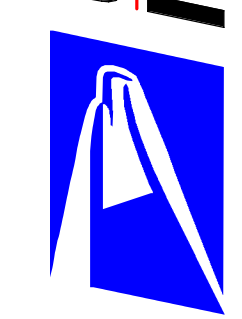
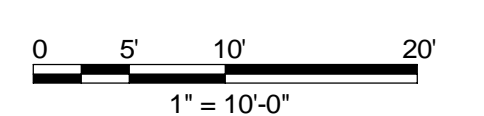


## GENERAL NOTES

- A. REFER TO E001 FOR SYMBOLS LEGEND.
- B. PROTECT EXISTING TO REMAIN CONDITIONS FROM DAMAGE DURING DEMOLITION AND/OR NEW CONSTRUCTION OPERATIONS.
- C. EXISTING CIRCUITING TO REMAIN SHALL BE RECONNECTED AS REQUIRED WHERE AFFECTED BY DEMOLITION OR NEW WORK TO MAINTAIN THE CONTINUITY OF THE CIRCUIT.
- D. ROUTING SHOWN ON PLANS DOES NOT ACCOUNT FOR EXISTING UTILITIES OR RACEWAYS THAT MAY BE PRESENT. COORDINATE ALL EXCAVATION WITH GENERAL CONTRACTOR AND CIVIL CONTRACTOR.
- E. PROVIDE HAND HOLES PER NEC FOR POWER.
- F. ALL BUILDING ENTRY POINTS SHALL BE COORDINATED WITH GENERAL CONTRACTOR/USPS FOR PHASING AND EXACT LOCATION.
- G. PROVIDE CONCRETE DUCTBANK FOR AREAS UNDER VEHICLE TRAFFIC OR PARKING.
- H. ALL CONDUIT SIZING AND ROUTING SHOWN FOR PROCUREMENT AND COORDINATION PURPOSES AND SHALL BE VERIFIED WITH FINAL EQUIPMENT DIMENSIONS.
- I. ALL UNDERGROUND WIRING SHALL BE INSTALLED IN PVC CONDUIT AND BURIED AT A DEPTH OF NOT LESS THAN 2 FT. BELOW GRADE. SEAL CONDUITS TERMINATING BELOW GRADE TO PREVENT ENTRY OF DIRT OR MOISTURE. PROVIDE RED DETECTABLE WARNING TAPE 12 INCHES ABOVE ALL UNDERGROUND CONDUIT ROUTINGS. SPLICES SHALL BE TERMINATED ABOVE GRADE. PROVIDE PVC ELBOWS AND CONDUIT TURNING UP FROM GRADE.
- J. COORDINATE WITH GC AND ALL TRADES TO DISCONNECT AND MAKE SAFE ANY POWERED EQUIPMENT THAT SHALL BE DEMOLISHED.
- K. MAINTAIN AT LEAST 12" SEPARATION BETWEEN 480V AND 208V CONDUIT WHERE POSSIBLE.
- L. REFER TO E100s SECTION FOR LIGHTING CIRCUITING INFORMATION.
- M. REFER TO E500s SECTION FOR EXTERIOR LIGHTING CONTROL INFORMATION.
- N. REFER TO E500s SECTION FOR EVSE DETAIL.
- O. ALL THE EXTERIOR AND CANOPY LIGHTS ARE CONTROLLED BY PHOTOCELL AND TIME SWITCH.

## LEGEND NOTES

- 1 TRANSITION ELECTRICAL RACEWAYS FOR CHARGERS OVERHEAD FROM HALL TO UNDERGROUND. PROVIDE PULL BOXES AS NECESSARY PER NEC AND COORDINATE LOCATION WITH EXISTING UTILITIES AND STRUCTURE. COORDINATE EXCAVATION PATHWAYS WITH GC. COORDINATE PHASING OF EXCAVATION/SAWCUTTING FOR ELECTRICAL WORK WITH GC AS TO NOT AFFECT NEW PAVEMENT AND STRIPING WORK.
- 2 REFER TO DETAILS 1 AND 2 ON E500s SECTION FOR UNDERGROUND ELECTRICAL RACEWAY REQUIREMENTS.
- 3 CANOPY AND EXTERIOR WALL MOUNTED LIGHTS ARE CONTROLLED BY PHOTOCELL AND TIME SWITCH. REFER SHEET E500s SECTION FOR SITE LIGHTING CONTROL DETAILS.
- 4 ROUTE AND TERMINATE SPARE CONDUIT AT THE PULL BOX PRIOR TO ELECTRICAL EQUIPMENT FOR FUTURE EVSE EXPANSION. USE ELECTRICAL PULL BOX SUITABLE FOR CONDUIT DUCT BANK SIZE AND ADDITIONAL NOTES ON PULL BOX REQUIREMENTS, AS SHOWN ON E500s SECTION.



### DEMO NOTES - POWER

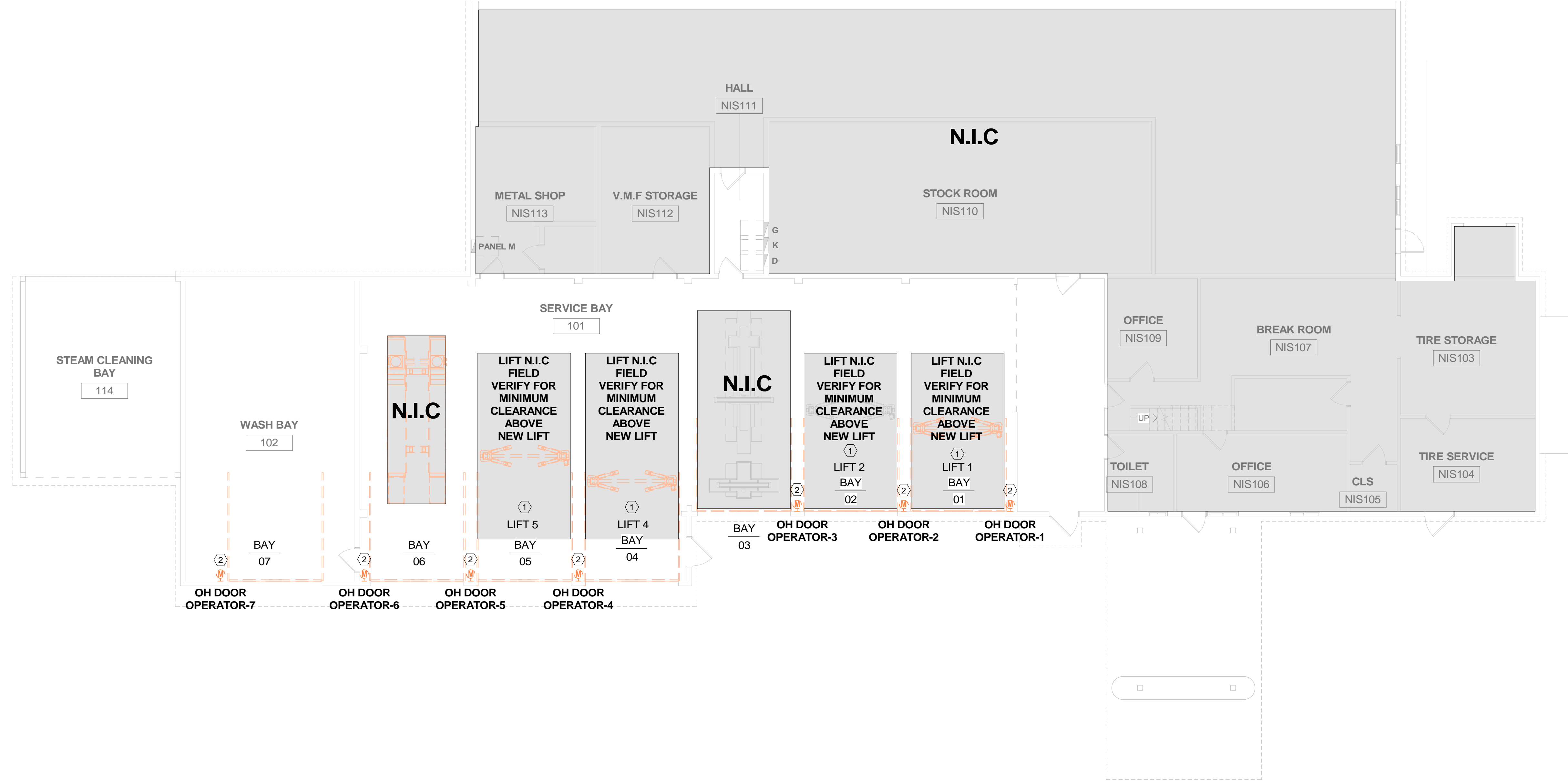
- A. DEMOLITION DRAWINGS ARE BASED ON EXISTING PLANS AND LIMITED FIELD INVESTIGATION.
- B. PROVIDE DEMOLITION WORK SHOWN ON THE DRAWINGS AND RELATED AND INCIDENTAL DEMOLITION WORK REQUIRED TO COMPLETE NEW CONSTRUCTION WORK.
- C. FIELD VERIFY EXISTING CONDITIONS PRIOR TO THE START OF DEMOLITION OPERATIONS. BRING ANY DISCREPANCIES WHICH MAY SIGNIFICANTLY AFFECT DEMOLITION OR NEW CONSTRUCTION WORK TO THE ATTENTION OF THE ENGINEER FOR REVIEW.
- D. PROTECT EXISTING CONSTRUCTION TO REMAIN FROM DAMAGE DURING DEMOLITION AND/OR NEW CONSTRUCTION OPERATIONS.

### LEGEND NOTES

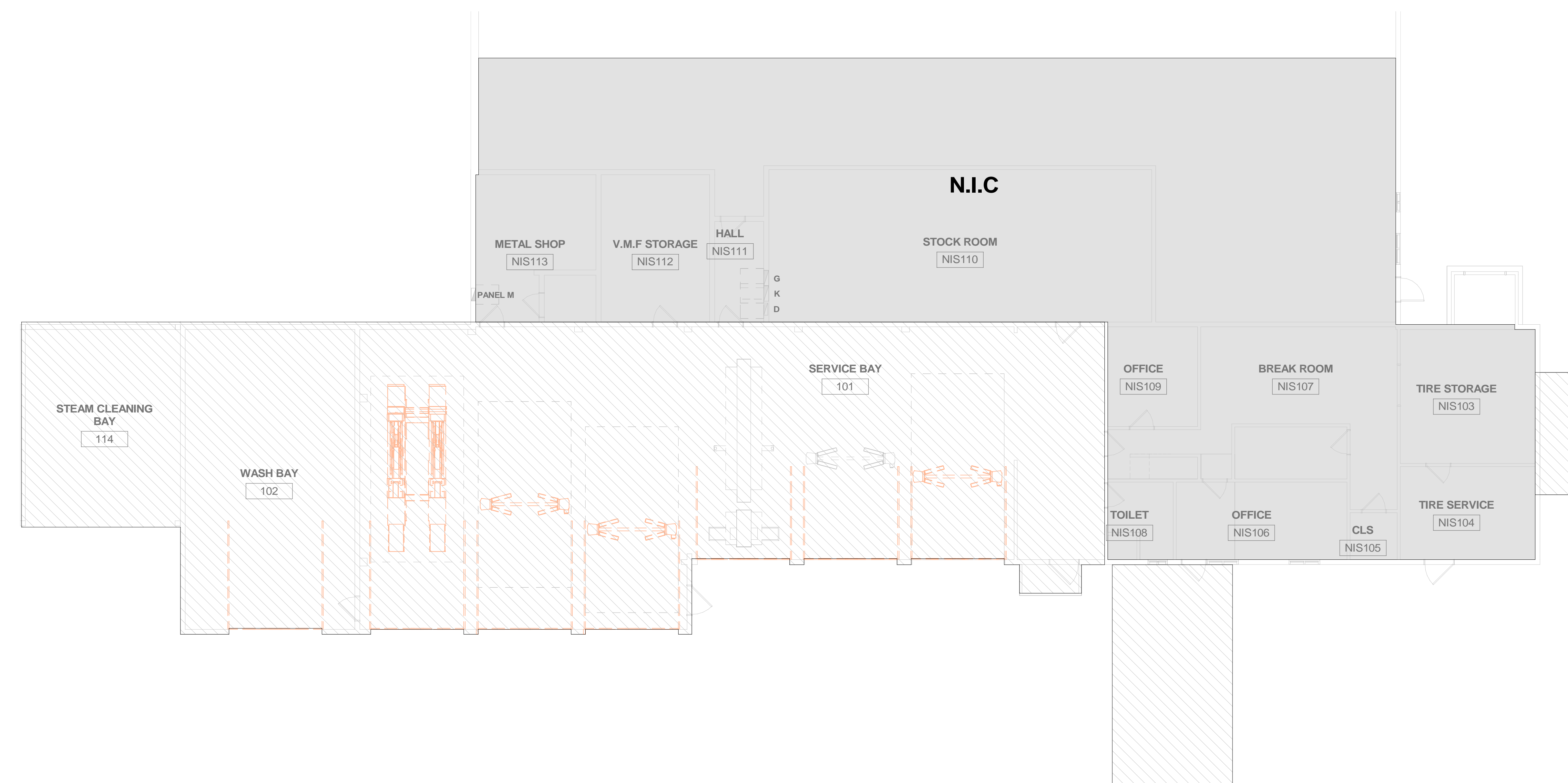
- 1. COORDINATE WITH GENERAL CONTRACTOR TO DISCONNECT AND MAKE SAFE ANY EQUIPMENT ABOVE THIS LIFT. EQUIPMENT AND UTILITY ROUTING SHALL BE ADJUSTED TO INCREASE CLEARANCE ABOVE LIFT AREA TO 15'-3" A.F.F. MINIMUM. FIELD VERIFY EXTENT OF WORK (CONDUITS, ETC.) THAT SHALL BE MODIFIED TO ACCOMMODATE MIN. CLEARANCE HEIGHT DURING PREPROPOSAL MEETING.
- 2. DISCONNECT, DEMO EXISTING OVERHEAD DOOR CONNECTIONS AND ASSOCIATED CONDUITS. CONNECT NEW OVERHEAD DOOR TO EXISTING PANEL AND CIRCUIT BREAKERS SAVED FROM DEMOLITION. EC HAS TO FIELD VERIFY THAT THE EXISTING CIRCUIT BREAKER ARE PROPER WORKING CONDITION, IF NOT REPLACE WITH NEW CIRCUIT BREAKER.

### DEMO NOTES - LIGHTING

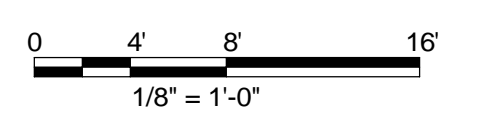
- A. LIGHT FIXTURES AND ASSOCIATED LIGHTING CIRCUITRY & CONTROLS WITHIN THE INDICATED LIGHTING DEMOLITION AREAS TO BE REMOVED. CONTRACTOR SHALL REMOVE CONDUCTORS BACK TO SOURCE. REFER TO NEW WORK LIGHTING PLANS PRIOR TO START OF DEMOLITION. TRACE LIGHTING BACK TO PANEL AND VERIFY CIRCUIT NUMBER. ONLY VERTICAL CONDUIT HIDDEN IN BLOCK OR FINISHED WALLS MAY BE RE-USED TO MINIMIZE PATCHWORK. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE AND PREPARE PANELS FOR NEW CIRCUIT.
- B. DISCONNECT AND REMOVE LIGHT SWITCHES AND ASSOCIATED WIRING AND CONDUIT ON EXISTING WALLS THAT ARE TO REMAIN WITHIN INDICATED LIGHTING DEMOLITION AREAS. REMOVE BRANCH CIRCUITS BACK TO EXISTING PANELS AND MARK AS "SPARE." LIGHTING CONTROLS TO BE REPLACED IN NEW WORK PHASE. PLACE NEW LIGHTING CONTROLS DEVICES IN LOCATION TO MINIMIZE PATCH WORK.
- C. DISCONNECT EXTERIOR BUILDING MOUNTED LIGHTS. COORDINATE WITH GC TO PATCH AFTER DEMOLITION.



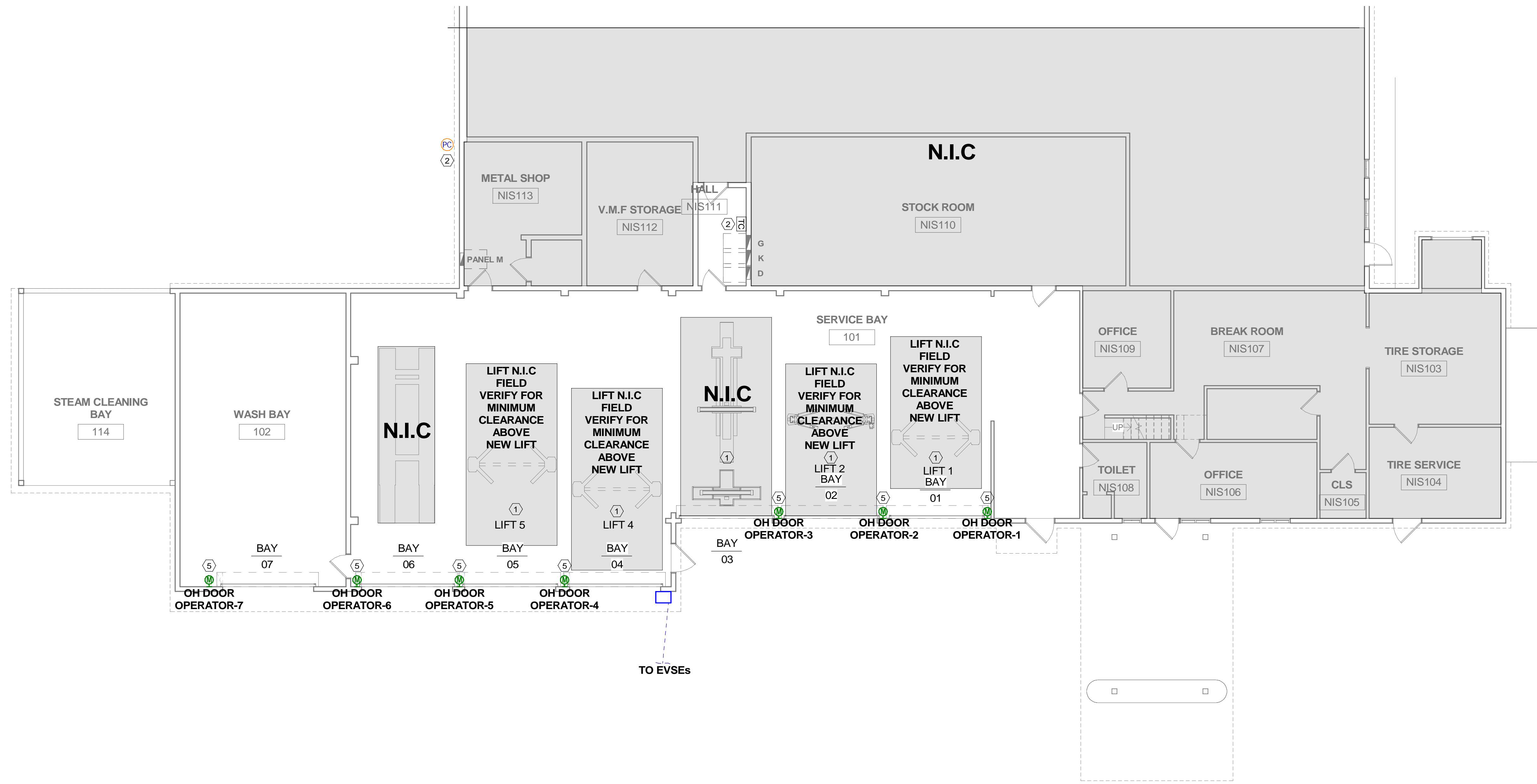
**1** ELECTRICAL DEMOLITION PLAN - POWER  
 ED100 SCALE: 1/8" = 1'-0"



**2** ELECTRICAL DEMOLITION PLAN - LIGHTING  
 ED100 SCALE: 1/8" = 1'-0"







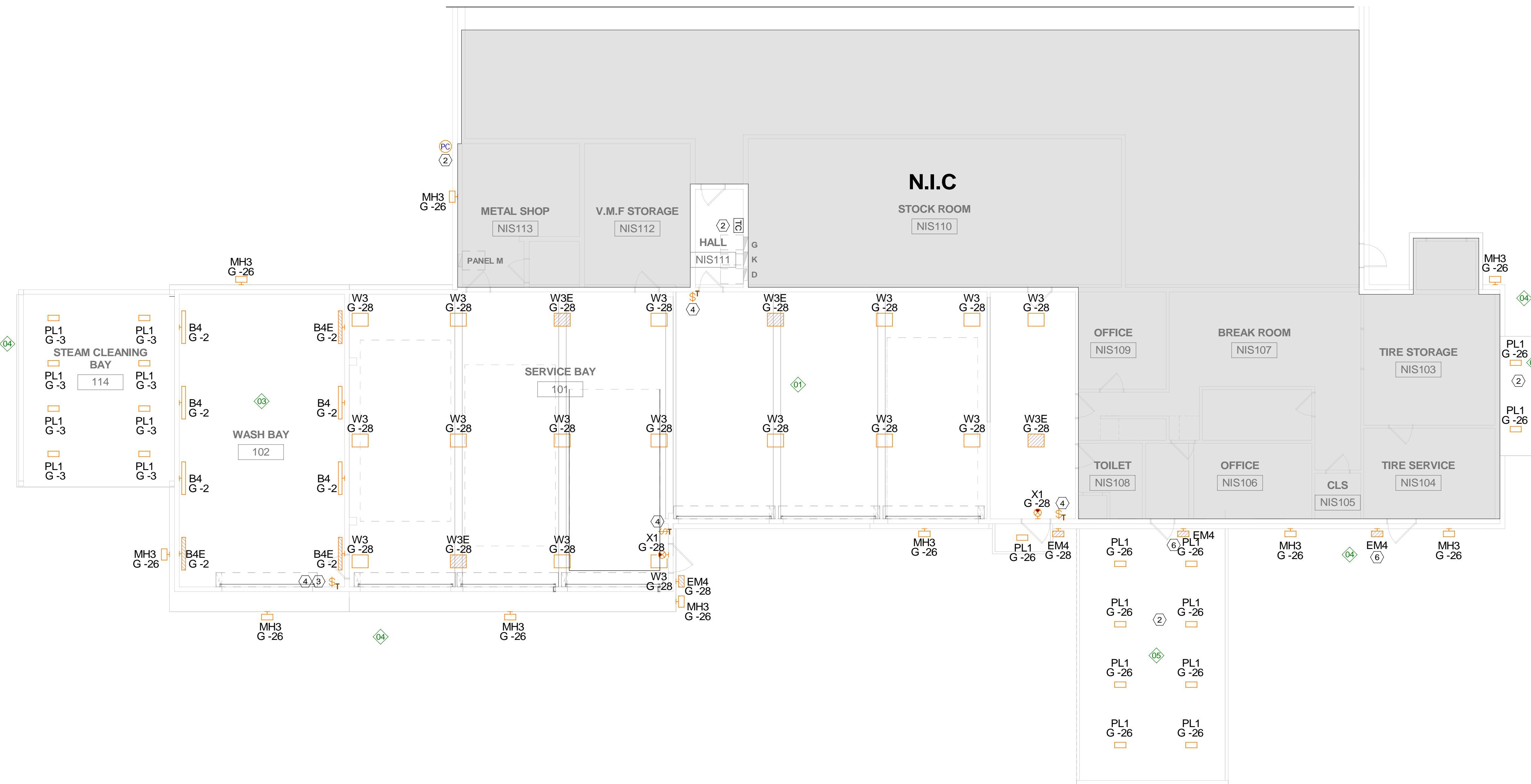
### GENERAL NOTES

- A. REFER TO E001 FOR SYMBOL LEGEND, ABBREVIATIONS, AND NOTES.
- B. REFER TO E400 FOR ONE-LINE DIAGRAMS, AND PANEL SCHEDULES.
- C. REFER TO E401 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING CONTROLS SCHEDULE.
- D. REFER TO E500s SECTION FOR DETAILS.
- E. COORDINATE WITH GENERAL CONTRACTOR FOR FINAL LIGHT LOCATIONS WITH VERIFIED EXISTING BUILDING DIMENSIONS AND FINAL LIFT LOCATIONS TO MAINTAIN CLEARANCES AROUND AND ABOVE LIFT FOR VEHICLES.

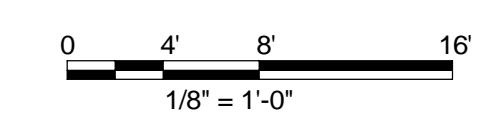
### LEGEND NOTES

- 1. COORDINATE WITH GENERAL CONTRACTOR TO DISCONNECT AND MAKE SAFE ANY EQUIPMENT ABOVE THIS LIFT. EQUIPMENT AND UTILITY ROUTING SHALL BE ADJUSTED TO INCREASE CLEARANCE ABOVE LIFT AREA TO 15'-3" A.F.F. MINIMUM. FIELD VERIFY EXTENT OF WORK (CONDUITS, ETC.) THAT SHALL BE MODIFIED TO ACCOMMODATE MIN. CLEARANCE HEIGHT DURING PREPROPOSAL MEETING.
- 2. CANOPY AND EXTERIOR WALL MOUNTED LIGHTS ARE CONTROLLED BY PHOTOCELL AND TIME SWITCH. REFER SHEET E500s SECTION FOR SITE LIGHTING CONTROL DETAILS.
- 3. PROVIDE NEMA 6P ENCLOSURES FOR LIGHTING CONTROL DEVICES IN WASH BAY.
- 4. TIME SWITCH FOR HIGH OUTPUT PROGRAMMED FOR MAXIMUM OF 4 HRS. REFER TO LIGHTING CONTROL SCHEDULE ON E500s SECTION FOR MORE INFORMATION.
- 5. DISCONNECT, DEMO EXISTING DOOR OPERATOR AND MOTOR UNITS. INSTALL NEW DOOR OPERATOR AND MOTOR UNITS IN SAME LOCATIONS AS EXISTING UNITS AND CONNECT TO EXISTING PANEL AND CIRCUITBREAKERS. REFER TO SHEET E500s SECTION FOR MOTOR DETAILS.
- 6. CIRCUIT NEW BATTERY-BACKED EMERGENCY LIGHT FIXTURE TO EXISTING INTERIOR LIGHTING CIRCUIT. PROVIDE UNSWITCHED HOT CONDUCTOR TO SENSE NORMAL POWER LOSS.

**1 ELECTRICAL POWER PLAN**  
 SCALE: 1/8" = 1'-0"



**2 ELECTRICAL LIGHTING PLAN**  
 SCALE: 1/8" = 1'-0"



DATE & TIME: 2024-03-28 12:53:10 PM

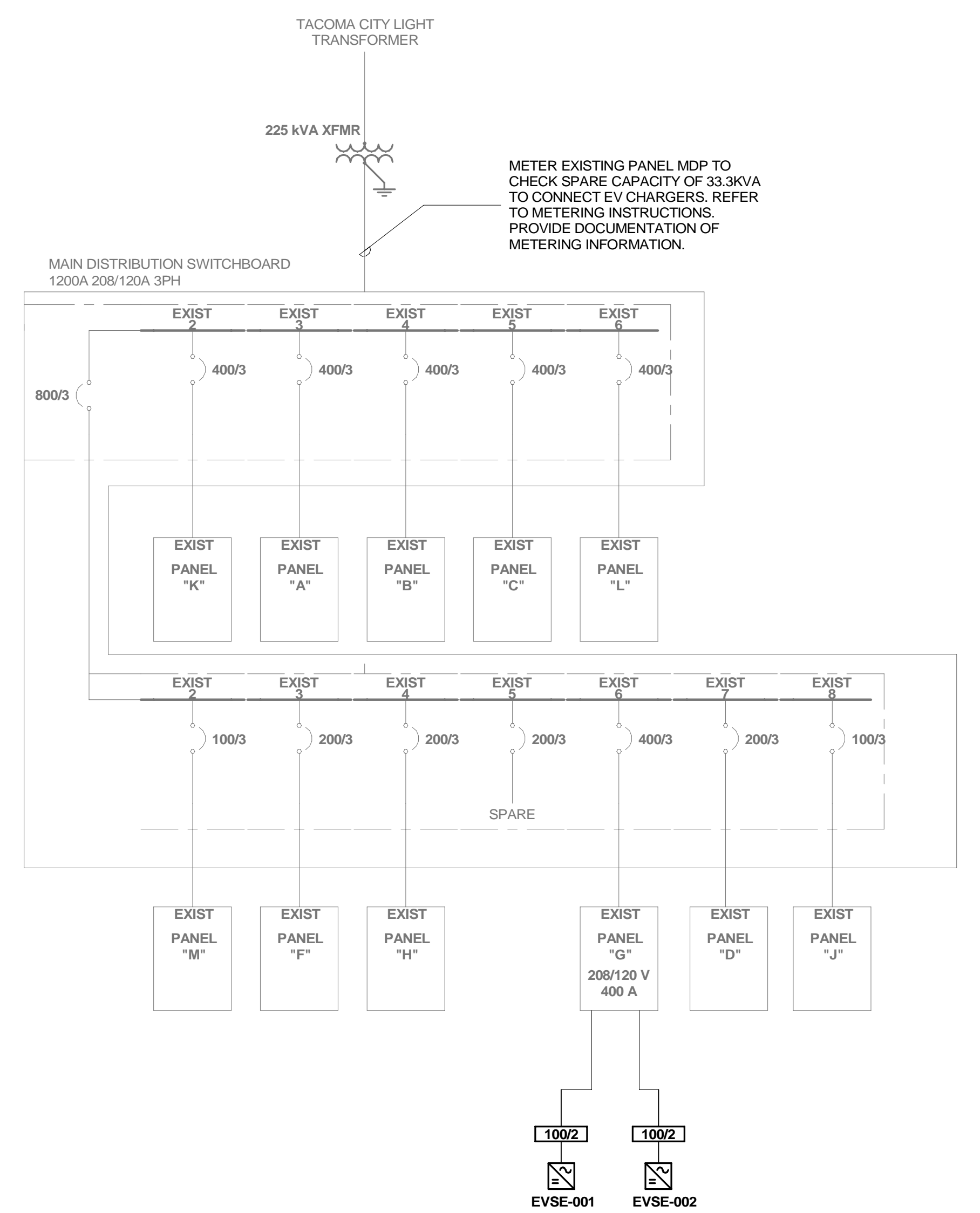
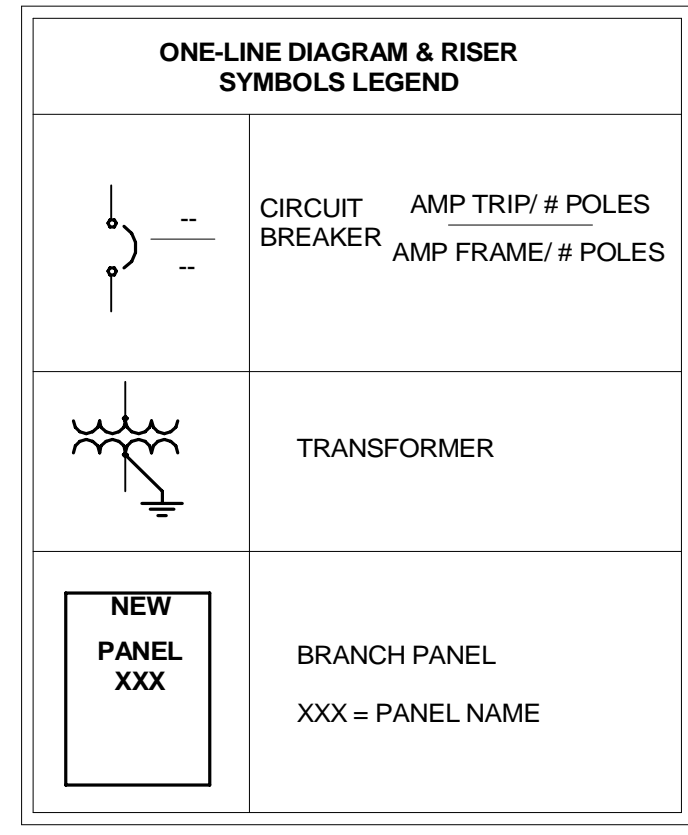
COPPER WIRE & CONDUIT SCHEDULE									
TAG	AMPACITY	PHASE		NEUTRAL		GROUND		CONDUIT	
		NO. WIRES	SIZE (AWG OR KCML)	NO. WIRES	SIZE (AWG/KCML)	NO. WIRES	SIZE (AWG/KCML)	QTY.	SIZE
100	100	3	#3	-	-	1	#8	1	1 1/4"
100/2	100	2	#1	-	-	1	#6	1	1 1/4"
100N	100	3	#3	1	#3	1	#8	1	1 1/4"

**NOTES:**

- SIZES BASED ON THHN/THWN/THWN-2 CONDUCTORS AND PVC/EMT CONDUIT SIZES IN NEC TABLE 9. EXTERIOR CONDUCTORS SHALL BE 90° XHHW.
- AMPACITY BASED ON 90°C RATING.
- FEEDERS SERVING TRANSFORMERS DO NOT REQUIRE A GROUND. FOR TRANSFORMERS GEC, MATCH SIZE OF EGC SHOWN ON FEEDER SCHEDULE.
- COMPACT STRANDED ALUMINUM CONDUCTORS MAY BE USED FOR CONDUCTORS #1/0 AND LARGER IF EQUIPPED WITH COMPRESSION LUGS AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

ELECTRICAL LOAD ANALYSIS (984- TACOMA VMF)	
UTILITY PROVIDER	TACOMA POWER
UTILITY CONTACT	Jordan Whiteley jwhiteley@cityoftacoma.org 253-244-8057
VMF FED BY MAIN BUILDING	YES
EXISTING MAIN BUILDING TRANSFORMER SIZE (IF APPLICABLE)	225kVA
VMF DISTRIBUTION VOLTAGE	208/120 V
EXISTING VMF TRANSFORMER SIZE	N/A
EXISTING VMF DISTRIBUTION SIZE (MCB)	1200 A
VMF BUILDING CAPACITY (80% OF MCB)	960 A
MAX KW AVAILABLE	225 KW
EXISTING PEAK LOAD MONTH	85 KW
NEC EXISTING LOAD FACTOR OF 25% PEAK	21.25 KW
REMAINING CAPACITY	118.75 KW
ADDED CHARGER LOAD	(2) CHARGERS AT 16,640 W EACH =33.3KW (208V 1Ø)
UTILITY UPGRADE NEEDED	NO
FEEDER FROM MAIN BUILDING UPGRADE NEEDED (IF APPLICABLE)	NO
NOTES	PEAK CONSUMPTION INFORMATION OBTAINED FROM BILLS

**NOTES:** SCOPE OF WORK IS RENOVATION OF EXISTING BUILDING. ONLY NEW/ADDED LOADS ARE SHOWN ON PANEL SCHEDULES.



**1 ELECTRICAL ONE-LINE DIAGRAM**  
SCALE: NTS

TRANSFORMER SCHEDULE											
IDENTIFICATION	KVA	PRIMARY VOLTAGE	SECONDARY VOLTAGE	PHASE	ENCLOSURE TYPE	MOUNTING STYLE	LOCATION	K-RATING	WINDINGS	TEMPERATURE RATING	NOTES

LIFTS ELECTRICAL REQUIREMENTS SCHEDULE																					
NAME	DESCRIPTION	LOCATION	HP	VOLTAGE	PHASE	MCA	MOCP	ENCLOSURE TYPE	FURNISHED BY	INSTALLED BY	DISCONNECT		CONTROL DEVICE			FEEDER INFORMATION					REMARKS
											TYPE	SWITCH/ FUSE SIZE	LOCATION	FURNISHED BY	WIRED BY	TYPE	PANEL	CIRCUIT	(L.C.) QTY	LINE	

OVERHEAD DOOR ELECTRICAL REQUIREMENT SCHEDULE																								
NAME	DESCRIPTION	LOCATION	HP	VOLTAGE	PHASE	MCA	MOCP	ENCLOSURE TYPE	FURNISHED BY	INSTALLED BY	DISCONNECT		CONTROL DEVICE			FEEDER INFORMATION					REMARKS			
											TYPE	SWITCH/ FUSE SIZE	LOCATION	FURNISHED BY	WIRED BY	TYPE	PANEL	CIRCUIT	(L.C.) QTY	LINE		(GND) QTY	GROUND	(CNDT) QTY
OH DOOR OPERATOR-1	MODEL RHX	SERVICE BAY	0.5	120 V	1	4 A	15 A	NEMA 1	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	1	2	#6 COPPER	1	#8 COPPER	1	EX
OH DOOR OPERATOR-2	MODEL RHX	SERVICE BAY	0.5	120 V	1	4 A	15 A	NEMA 1	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	50	2	#6 COPPER	1	#8 COPPER	1	EX
OH DOOR OPERATOR-3	MODEL RHX	SERVICE BAY	0.5	120 V	1	4 A	15 A	NEMA 1	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	52	2	#6 COPPER	1	#8 COPPER	1	EX
OH DOOR OPERATOR-4	MODEL RHX	SERVICE BAY	0.5	120 V	1	4 A	15 A	NEMA 1	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	48	2	#6 COPPER	1	#8 COPPER	1	EX
OH DOOR OPERATOR-5	MODEL RHX	SERVICE BAY	0.5	120 V	1	4 A	15 A	NEMA 1	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	44	2	#6 COPPER	1	#8 COPPER	1	EX
OH DOOR OPERATOR-6	MODEL RHX	SERVICE BAY	0.5	120 V	1	4 A	15 A	NEMA 1	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	46	2	#6 COPPER	1	#8 COPPER	1	EX
OH DOOR OPERATOR-7	MODEL RHX	WASH BAY	0.5	120 V	1	4 A	15 A	NEMA 4	E.C	E.C	E.C	15A/1P	OPERATOR CONTROLS	E.M	E.M	C.B	G	5	2	#6 COPPER	1	#8 COPPER	1	EX

**NOTES:**  
1. IF EXISTING CB HAS RATING EQUAL TO OR GREATER THAN 15A, USE EXISTING CB

EVSE SCHEDULE											
EVSE #	EV KIT #	DESCRIPTION	LOCATION	PHASE	VOLTS	MAX CURRENT	ELECTRICAL OUTPUT (W)	CB RATING	POLES	FEEDER INFORMATION	REMARKS
EVSE-001	CP001	208V 1Ø - 80A (100A BREAKER)	EXTERIOR	1	208 V	80 A	16,640	100 A	2	G	30.32
EVSE-002	CP001	208V 1Ø - 80A (100A BREAKER)	EXTERIOR	1	208 V	80 A	16,640	100 A	2	G	34.36

DATE & TIME: 2024-03-28 12:53:10 PM

Copyright 2008-2013, United States Postal Service  
 WSP USA INC. 2718 BROADWAY ST. LOUIS, MO 63102  
 UNITED STATES POSTAL SERVICE  
 TACOMA VMF 3825 S WARNER ST TACOMA, WA 98409  
 90% DESIGN SUBMITTAL  
 Date: Jan 26, 2024  
 Revision 1  
 Project: TACOMA VMF  
 USFS File Number: E1024  
 ELECTRICAL ONE-LINE DIAGRAM  
 Scale: AS NOTED  
 E400



LIGHTING FIXTURE SCHEDULE										
TYPE	COUNT	DESCRIPTION	MOUNTING	COLOR TEMP.	LUMENS	VA	VOLTAGE	MANUFACTURER	CATALOG NUMBER	
B4	5	4' WALL MOUNTED LED LIGHT WITH GASKET, POLYESTER POWDER COATED, FLAT POLY CLEAR DIFFUSER, MEDIUM DISTRIBUTION, RMBK WALL MOUNTED KIT, WET LOCATION, NEMA 4X RATED, WHITE FINISH.	WALL-12' AFF	4,000K	17933	122	120 V	LITHONIA	FEX L48 18000LM FPCL MD MVOLT GZ10 40K 80CRI RMBK NLTAIR RSBG10 DWHXD CR	
B4E	3	4' WALL MOUNTED LED LIGHT WITH GASKET, POLYESTER POWDER COATED, FLAT POLY CLEAR DIFFUSER, MEDIUM DISTRIBUTION, RMBK WALL MOUNTED KIT, WET LOCATION, NEMA 4X RATED, WHITE FINISH. PROVIDE WITH BATTERY PACK	WALL-12' AFF	4,000K	17933	122	120 V	LITHONIA	FEX L48 18000LM FPCL MD MVOLT GZ10 40K 80CRI RMBK NLTAIR RSBG10 DWHXD CR E10WLCP	
EM4	4	WALL MOUNTED EMERGENCY EXIT DISCHARGE LIGHT, SELF DIAGNOSTIC LITHIUM IRON PHOSPHATE BATTERY, FIELD CONFIGURABLE THROW OPTICS.	WALL-8' AFF	-	-	12	120 V	LITHONIA	AFF OEL DDBTXD UVOLT LTP SDRT FCT CW	
MH3	10	WALL MOUNTED LED LIGHT, TYPE 4 DISTRIBUTION, WHITE FINISH, IP 65 RATED, WET LOCATION LISTED.	WALL-15' AFF	4,000K	3053	29	120 V	LITHONIA	MRWLED P2 40K SR4 MVOLT PIR DDBXD	
PL1	20	EXTERIOR SURFACE MOUNTED LED CANOPY LIGHTS, DIE CAST ALUMINUM HOUSING, TYPE 5 MEDIUM DISTRIBUTION, IP66 RATED, WET LOCATION LISTED.	SURFACE - 14' 8" AFF	4,000K	11564	107	120 V	LITHONIA	DSXSC LED 30C 1000 40K T5M MVOLT SRM DWHXD	
W3	16	2'X2' HIGH BAY SUSPENDED LED LIGHT, TEXTURED ACRYLIC LENS, WIDE DISTRIBUTION, SUPER DURABLE WHITE COLOR FINISH, DIE CAST ALUMINUM HOUSING, THERMOSET POWDER COAT FINISH, WET LOCATION LISTED, IP65 RATED.	CABLE - 18' AFF	4,000K	148690	97	120 V	LITHONIA	XIB L24 15000LM ATWD MVOLT GZ10 40K 80CRI NLTAIR2 RMSOD45 DHWXD	
W3E	4	2'X2' HIGH BAY SUSPENDED LED LIGHT, TEXTURED ACRYLIC LENS, WIDE DISTRIBUTION, SUPER DURABLE WHITE COLOR FINISH, DIE CAST ALUMINUM HOUSING, THERMOSET POWDER COAT FINISH, WET LOCATION LISTED, IP65 RATED. PROVIDE WITH SELF-DIAGNOSTIC BATTERY PACK.	CABLE - 18' AFF	4,000K	148690	97	120 V	LITHONIA	XIB L24 15000LM ATWD MVOLT GZ10 40K 80CRI NLTAIR2 RMSOD45 DHWXD E15WMCP	
X1	2	SINGLE FACE WALL MOUNTED SELF POWERED AND SELF-DIAGNOSTICS LED EXIT LIGHT, WHITE HOUSING COLOR, RED COLORED LETTERS, NICKEL CADMIUM BATTERY.	ABOVE DOOR	N/A	N/A	1	120 V	LITHONIA	LOM S W 3 R 120/277 ELN SD	

- NOTES:**
- LIGHTING FIXTURE SCHEDULE IS BASIS OF DESIGN AND SUBSTITUTIONS BASED ON SPECIFICATIONS SECTION 26 51 00 IS ACCEPTABLE, HOWEVER, ANY SUBSTITUTES CHOSEN SHALL MEET CONSTRUCTION DEADLINE. CONTRACTOR SHALL REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - EC TO PROVIDE MOUNTING HARDWARE FOR WALL/CEILING/PENDENT MOUNT.
  - PROVIDE WITH LUMINAIRE MOUNTED OCCUPANCY SENSORS AS PER SCHEDULE.

LIGHTING CONTROL DEVICE SCHEDULE				
DESCRIPTION	MANUFACTURER	MODEL	COUNT	NOTES
PHOTOCELL	INTERMATIC OR TORK	K4141C OR 2002	1	
TIME CLOCK	INTERMATIC OR TORK	ET70000 OR ELC SERIES	1	
TIME SWITCH	nLIGHT ACUITY	nPOD MA 2L	4	

LIGHTING CONTROL SCHEDULE IS BASIS OF DESIGN AND SUBSTITUTIONS BASED ON SPECIFICATIONS SECTION 26 06 23 IS ACCEPTABLE, HOWEVER, ANY SUBSTITUTES CHOSEN SHALL MEET CONSTRUCTION DEADLINE. CONTRACTOR SHALL REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

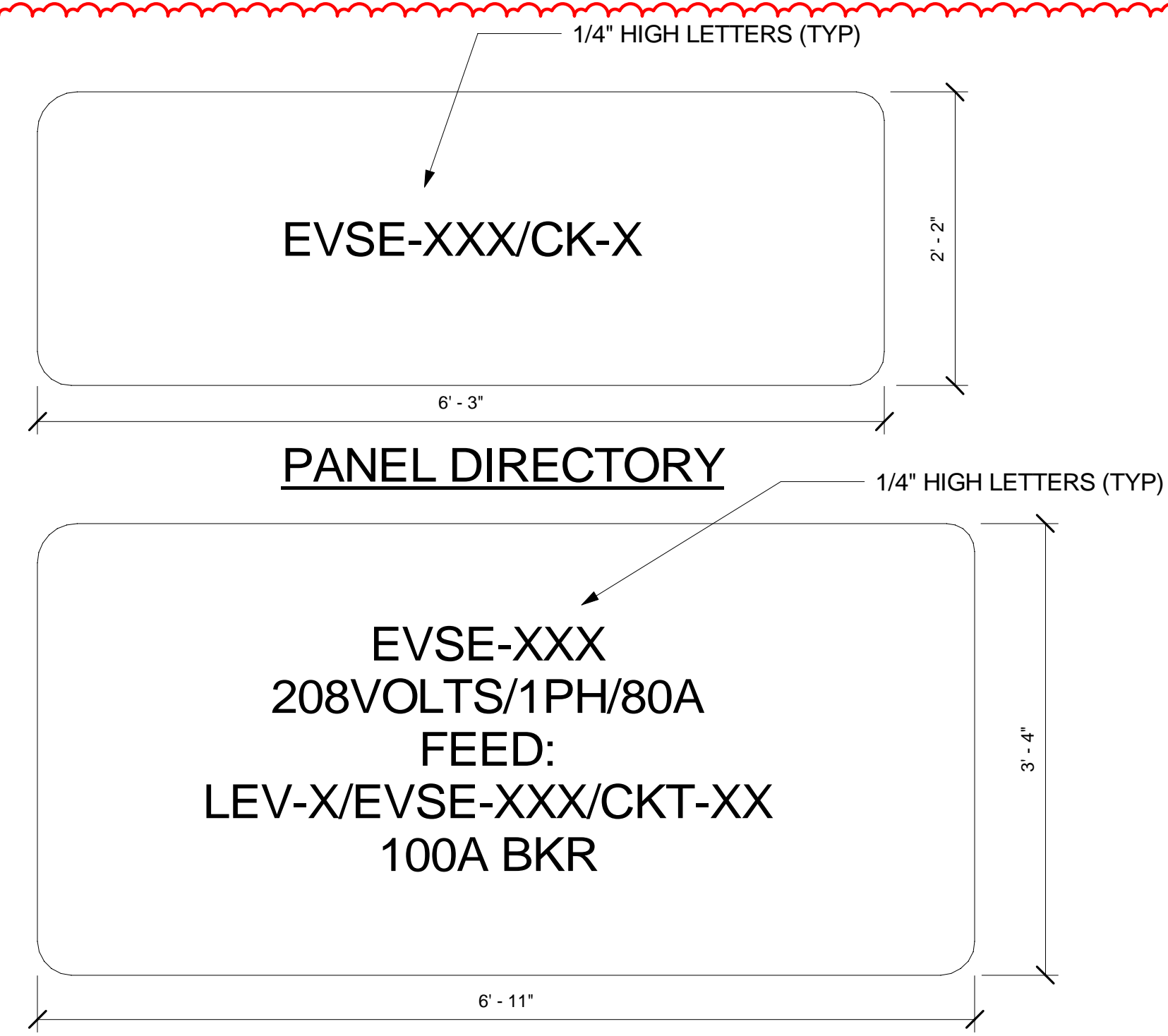
LIGHTING CONTROL REQUIREMENTS AND SEQUENCE OF OPERATIONS												
TAG	SPACE TYPE	NORMAL BUSINESS HOURS		AFTER BUSINESS HOURS		CONTROL SYSTEM TYPE	OCCUPANCY SENSOR		PHOTOCELL CONTROL	MANUAL OVERRIDE		EMERGENCY FIXTURES CONTROLLED
		LIGHTING	RECEPTACLES	LIGHTING	RECEPTACLES		TYPE / LOCATION	SETPPOINT		DEVICE	DURATION	
01	VEHICLE SERVICE BAY	OCCUPANCY SENSOR ACTIVATES TO 50% OFF AFTER 20 MINUTES OF INACTIVITY	N/A	NO CHANGE	N/A	STANDALONE	DUAL-TECH / INTEGRAL	AUTO ON TO 50% / OFF IN 20 MIN	N/A	TIMER SWITCH - HIGH OUTPUT	4 HRS	NO
03	WASH BAY	OCCUPANCY SENSOR ACTIVATES TO 50% OFF AFTER 20 MINUTES OF INACTIVITY	N/A	NO CHANGE	N/A	STANDALONE	DUAL-TECH / INTEGRAL	AUTO ON TO 50% / OFF IN 20 MIN	N/A	TIMER SWITCH - HIGH OUTPUT	4 HRS	NO
04	EXTERIOR LIGHTING	CONTROLLED VIA PHOTOCELL ONLY	N/A	FOR THE TIME BETWEEN 1 HOUR AFTER BUSINESS HOURS AND 1 HOUR PRIOR TO BUSINESS HOURS; CONTROLLED BY PHOTOCELL AND OCCUPANCY SENSOR	N/A	STANDALONE	TIME CLOCK/PHOTOCELL /OCCUPANCY SENSOR	AUTO ON TO 100% / OFF IN 20 MIN	YES	ON/OFF VIA ASTRONOMICAL TIME CLOCK, PHOTOCELL, AND OCCUPANCY CONTROLS	OFF HOURS	N/A
05	EXTERIOR CANOPY	CONTROLLED VIA PHOTOCELL ONLY	N/A	FOR THE TIME BETWEEN 1 HOUR AFTER BUSINESS HOURS AND 1 HOUR PRIOR TO BUSINESS HOURS; CONTROLLED BY PHOTOCELL AND OCCUPANCY SENSOR	N/A	STANDALONE	TIME CLOCK/PHOTOCELL /OCCUPANCY SENSOR	AUTO ON TO 100% / OFF IN 20 MIN	YES	ON/OFF VIA ASTRONOMICAL TIME CLOCK, PHOTOCELL, AND OCCUPANCY CONTROLS	OFF HOURS	N/A

- NOTES:**
- SETPPOINTS AND TIME SCHEDULES MUST BE VERIFIED WITH OWNER PRIOR TO PROGRAMMING.
  - PROVIDE QUANTITY AND COVERAGE PATTERN OF OCCUPANCY/VACANCY SENSORS WHERE REQUIRED BY THIS SCHEDULE TO COVER ENTIRE ROOM/SPACE CONTROLLED. QUANTITY AND LOCATION OF SENSORS INDICATED ON DRAWINGS IS FOR COORDINATION AND PRICING PURPOSES, AND SHALL BE VERIFIED BY SELECTED MANUFACTURER PRIOR TO SUBMISSION OF SHOP DRAWINGS.
  - PROVIDE NUMBER OF RELAYS/POWER PACKS TO CONTROL ALL LIGHTING ZONES AND CIRCUITS SHOWN ON PLANS.
  - PROVIDE UNSWITCHED HOT CONDUCTOR TO FIXTURES WITH INTEGRAL BATTERY PACKS TO SENSE POWER LOSS.
  - NO DAYLIGHTING IS PROVIDED IN THIS PROJECT DUE TO DISTANCE OF CEILING GRIDS/LIGHT FIXTURES FROM WINDOWS.
  - WASH BAYS WHICH HAVE LIFTS INSTALLED ARE CONSIDERED TO HAVE BEEN REPURPOSED INTO VEHICLE SERVICE BAYS. ENVIRONMENT IS CONSIDERED TO BE THE SAME AS VEHICLE SERVICE BAYS.
  - WIRELESS CONTROLS ENCOURAGED FOR WORK BAY HIGH BAY FIXTURES. PROVIDE HEAD END EQUIPMENT, POWER TO EQUIPMENT, AND PROGRAMMING AS NECESSARY TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
  - EACH MANUAL COUNTDOWN TIMER MUST BE DIGITAL TYPE MOUNTED AT 48" AFF TO ALLOW FOR LIGHTING FOR THE HIGH OUTPUT LEVEL ILLUMINATION ZONE TO BE ENERGIZED FOR UP TO (4) HOURS WITH OCCUPANCY DETECTION. SWITCH MUST BE LABELED FOR IDENTIFICATION AS DIRECTED BY USPS PERSONNEL.

EXISTING: G													
CKT NO.	DESCRIPTION	TRIP	POLES	A	B	C	POLES	TRIP	DESCRIPTION	CKT NO.			
1	OH DOOR OPERATOR -1	15	1	466	974			1	20	WASH BAY LIGHTS	2		
3	STEAM CLE BAY LIGHTS	20	1	413	856	0		1	20	SPARE	4		
5	OH DOOR OPERATOR -7	15	1					466	0	1	20	LIGHTS	6
7	LIGHTS	20	1	0	0					1	20	LIGHTS	8
9	LIGHTS	20	1	0	0	0				1	20	LIGHTS	10
11	LIGHTS	20	1			0	0			1	20	LIGHTS	12
13	FUEL CANOPY	1								1	20	LIGHTS	14
15	NOTE 1	20	2		0	0				1	20	LIGHTS	16
17	NOTE 1	20	1			0	0			1	20	NOTE 1	18
19	NOTE 1	20	1	0	0					1	20	NOTE 1	20
21	WASHER CONTROL	20	1	0	0	0				1	20	NOTE 1	22
23	RECEPTACLES	20	1			0	0			1	20	NOTE 1	24
25	TRASH COMPACTOR	20	3	0	1467					1	20	EXTR & CANOPY LIGHTS	26
27	TRASH COMPACTOR	20	3		0	1965				1	20	SERVICE BAY LIGHT	28
29						0	8320			2	100	EVSE-001	30
31							8320						32
33	PUMP 'PB-1'	20	3				8320						34
35										2	100	EVSE-002	36
37													38
39	AC-11	30	3		0	0				3	20	HP-3	40
41													42
43										1	15	OH DOOR OPERATOR -5	44
45	AC-11	110	3	0	466	0	466			1	15	OH DOOR OPERATOR -6	46
47										1	15	OH DOOR OPERATOR -4	48
49										1	15	OH DOOR OPERATOR -2	50
51	AC-6	25	3	0	466	0	466			1	15	OH DOOR OPERATOR -3	52
53										1	15	SPACE	54
<b>TOTAL LOAD (VA)</b>				12,159 VA	12,073 VA	17,572 VA							
<b>TOTAL CURRENT (AMPS)</b>				40.5 A	40.5 A	46.5 A							
LOAD CLASSIFICATION	ADDED LOAD (VA)	ADDED ESTIMATED DEMAND (VA)	PANEL TOTALS										
LIGHT	5,263	5,263	KVA	AMPS									
EV CHARGER	33,280	33,280	EXISTING CONNECTED LOAD:	TBD									
OH DOOR	3,262	3,379	REMOVED CONNECTED LOAD:	TBD									
			TOTAL ADDED LOAD:	41.8	116								
			TOTAL ADDED ESTIMATED DEMAND:	41.9	116.4								

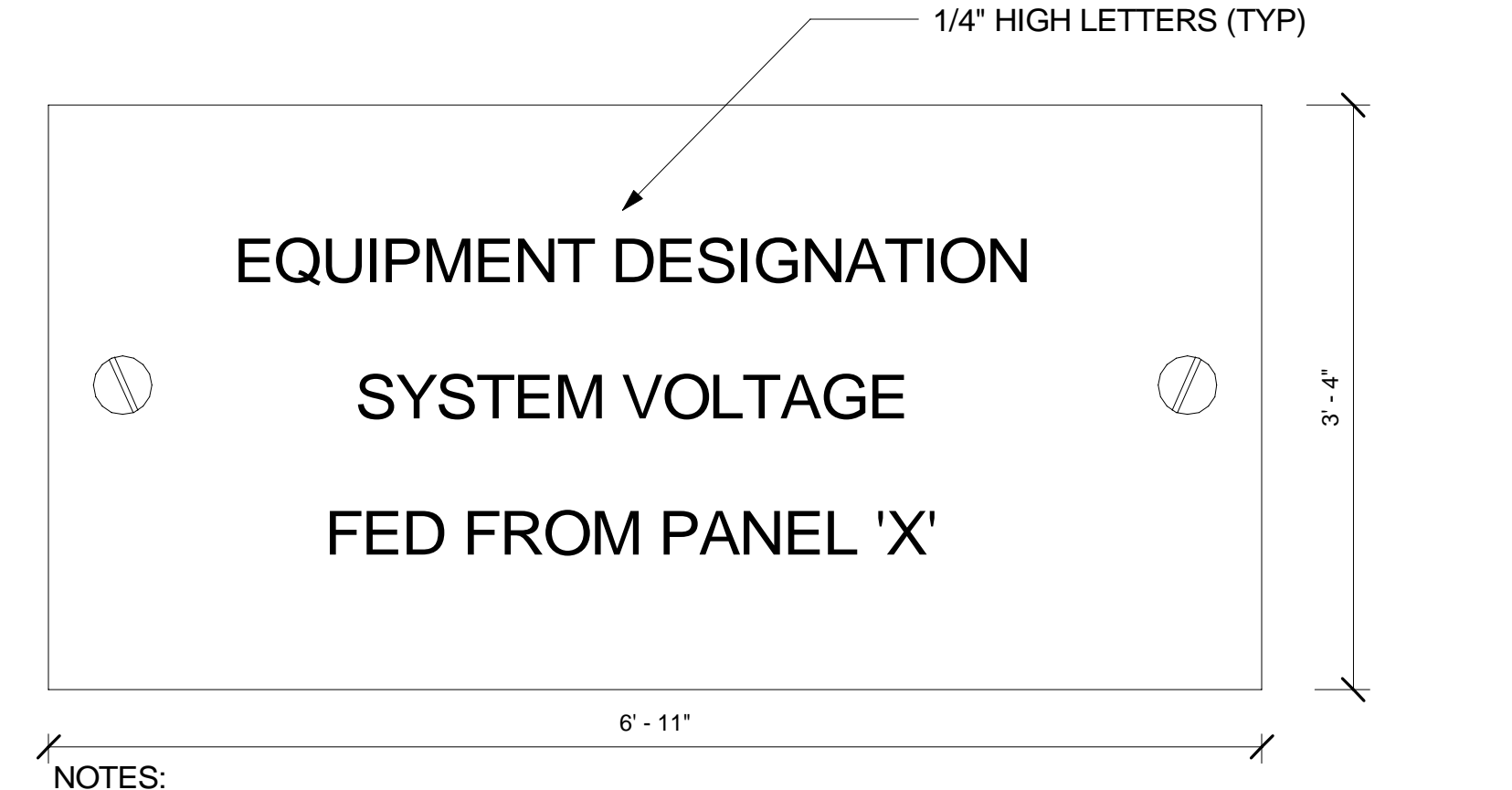
**NOTES:** 1. LOAD AND CB SIZE UNKNOWN, EC TO VERIFY.





- NOTES:
- PROVIDE SELF ADHESIVE LAMOCOID NAMEPLATE ENGRAVED WITH WHITE LETTERS. CLEAN SURFACES BEFORE APPLICATION.
  - REFER TO USPS SPECIFICATIONS 260500 COMMON WORK RESULTS FOR ELECTRICAL SPECIFICATIONS.
  - DO NOT COVER CIRCUIT NUMBER FACTORY STAMPED INTO PANEL COVER.
  - PANEL DIRECTORIES SHALL BE TYPED, LAMINATED, WEATHER RESISTANT AND PLACED ON INSIDE COVER OF EACH PANELBOARD

**7 EVSE LABELING REQUIREMENTS**  
SCALE: NTS

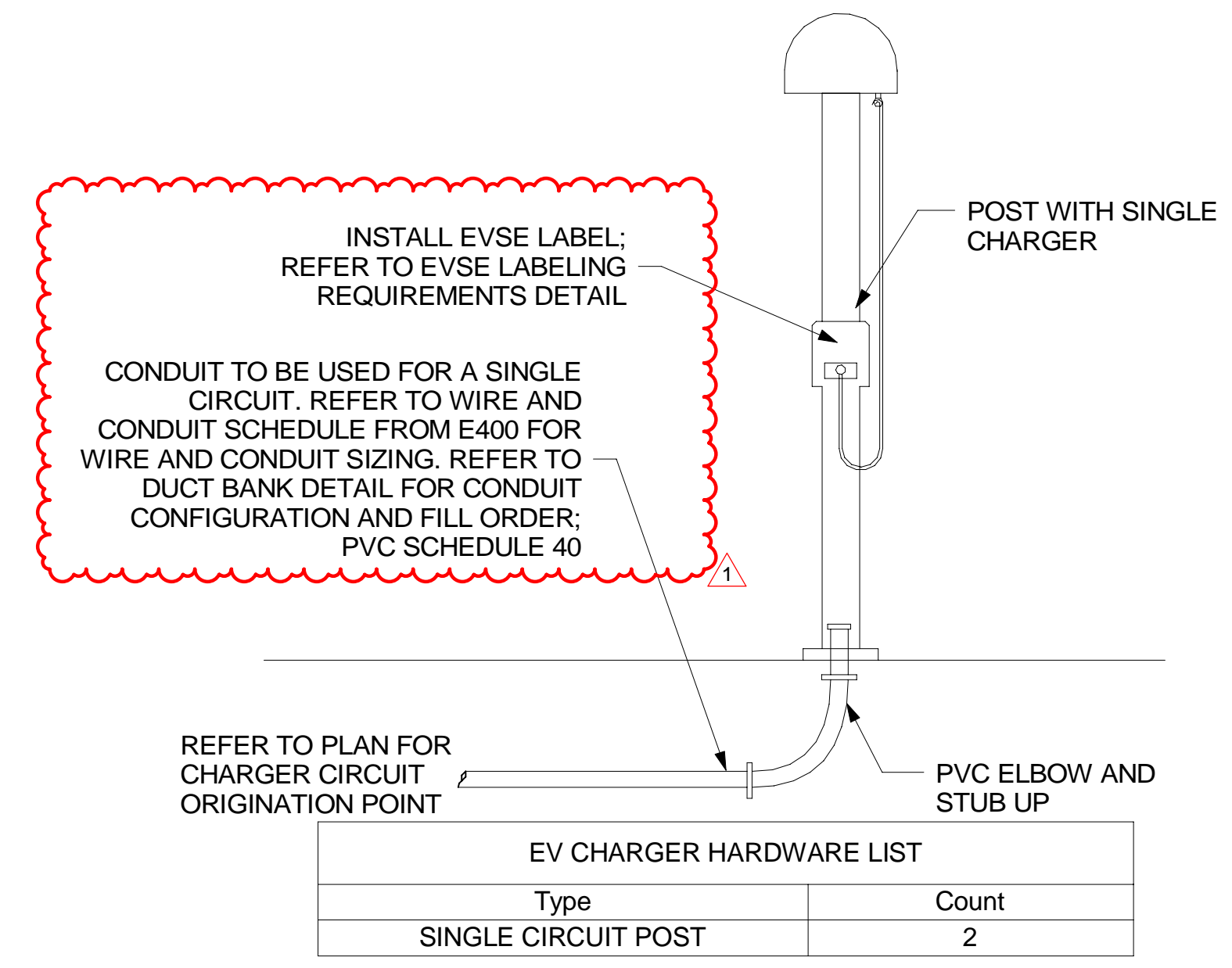


- NOTES:
- PROVIDE LAMOCOID NAMEPLATE ENGRAVED WITH WHITE LETTERS.
  - NAMEPLATE SHALL BE THE FOLLOWING COLORS:  
GREEN - NORMAL POWER ON 480/277 VOLT SYSTEM  
BLACK - NORMAL POWER ON 208/120 VOLT SYSTEM  
RED - EMERGENCY POWER (ALL VOLTAGES)
  - SECURE NAMEPLATE TO EQUIPMENT WITH TWO SHEET METAL SCREWS.
  - PROVIDE A NAMEPLATE FOR EVERY MAJOR ELECTRICAL DEVICE OR ELECTRICAL CONTROLS SUCH AS: SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, LIGHTING CONTROL PANELS, STARTERS, TRANSFORMERS, DISCONNECT SWITCHES, ETC. (AS APPLICABLE).
  - REFER TO USPS SPECIFICATIONS 260500 COMMON WORK RESULTS FOR ELECTRICAL DESCRIPTION.
  - EQUIPMENT DESIGNATION SHOULD INDICATE NAME OF PANELBOARD OR TYPE OF EQUIPMENT BE SERVED (I.E. "PANEL LPA", "PUMP CWP-1").
  - SYSTEM VOLTAGE SHALL INDICATE VOLTAGE AND PHASE SUCH AS: 480/277V, 3Ø, 208/120V, 1Ø, 240/120, 1Ø, ETC.
  - THE THIRD LINE OF TEXT SHALL INDICATE UPSTREAM POWER SOURCE IDENTIFIED BY ITS NAME, SUCH AS "TRANSFORMER T1", PANEL "LPA", ETC.

**8 DISTRIBUTION EQUIPMENT NAMEPLATE DETAIL**  
SCALE: NTS

- GENERAL NAMEPLATES AND SIGNS
- SAFETY SIGNS: COMPLY WITH 29 CFR, CHAPTER XVII, PART 1910.145.
  - ENGRAVED PLASTIC NAMEPLATES AND SIGNS: ENGRAVING STOCK, MELAMINE PLASTIC LAMINATE, MINIMUM 1/16 INCH (1.6 MM) THICK FOR SIGNS UP TO 20 SQ. IN. (129 SQ. CM) AND 1/8 INCH (3.2 MM) THICK FOR LARGER SIGNS.
  - BAKED-ENAMEL SIGNS FOR INTERIOR USE: PREPRINTED ALUMINUM SIGNS, PUNCHED OR DRILLED FOR FASTENERS, WITH COLORS, LEGEND, AND SIZE REQUIRED FOR THE APPLICATION. 1/4-INCH (6.4-MM) GROMMETS IN CORNERS FOR MOUNTING.
  - EXTERIOR, METAL-BACKED, BUTYRATE SIGNS: WEATHER-RESISTANT, NONFADING, PREPRINTED, CELLULOSE-ACETATE BUTYRATE SIGNS WITH 0.0396-INCH (1-MM) GALVANIZED-STEEL BACKING; AND WITH COLORS, LEGEND, AND SIZE REQUIRED FOR THE APPLICATION. 1/4-INCH (6.4-MM) GROMMETS IN CORNERS FOR MOUNTING.
  - FASTENERS FOR NAMEPLATES AND SIGNS: SELF-TAPPING, STAINLESS-STEEL SCREWS OR NO. 10/32, STAINLESS-STEEL MACHINE SCREWS WITH NUTS AND FLAT AND LOCK WASHERS.
  - CAUTION LABELS FOR INDOOR BOXES AND ENCLOSURES FOR POWER AND LIGHTING: INSTALL PRESSURE-SENSITIVE, SELF-ADHESIVE LABELS IDENTIFYING SYSTEM VOLTAGE WITH BLACK LETTERS ON ORANGE BACKGROUND. INSTALL ON EXTERIOR OF DOOR OR COVER.

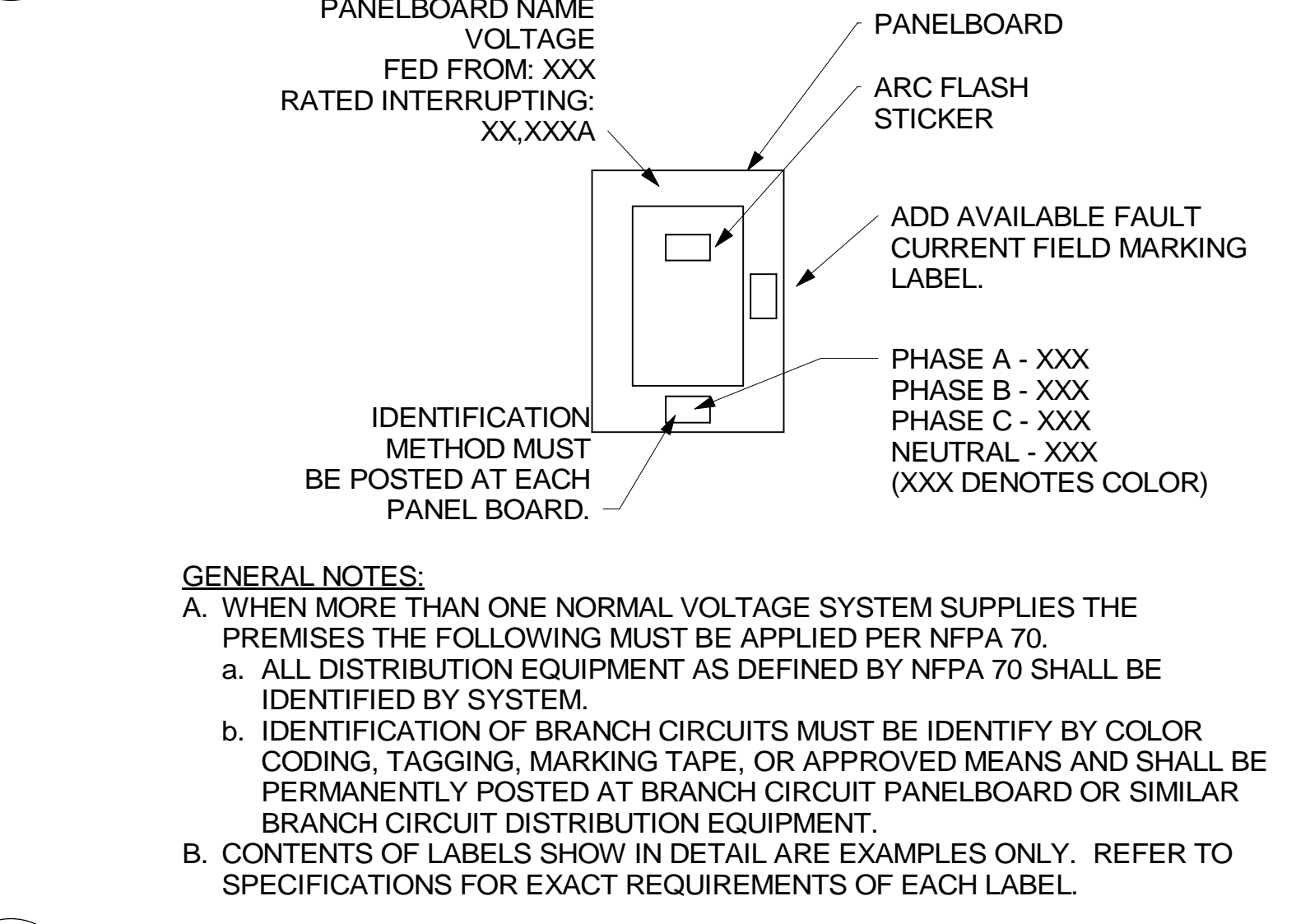
**9 GENERAL SIGNAGE REQUIREMENTS**  
SCALE: NTS



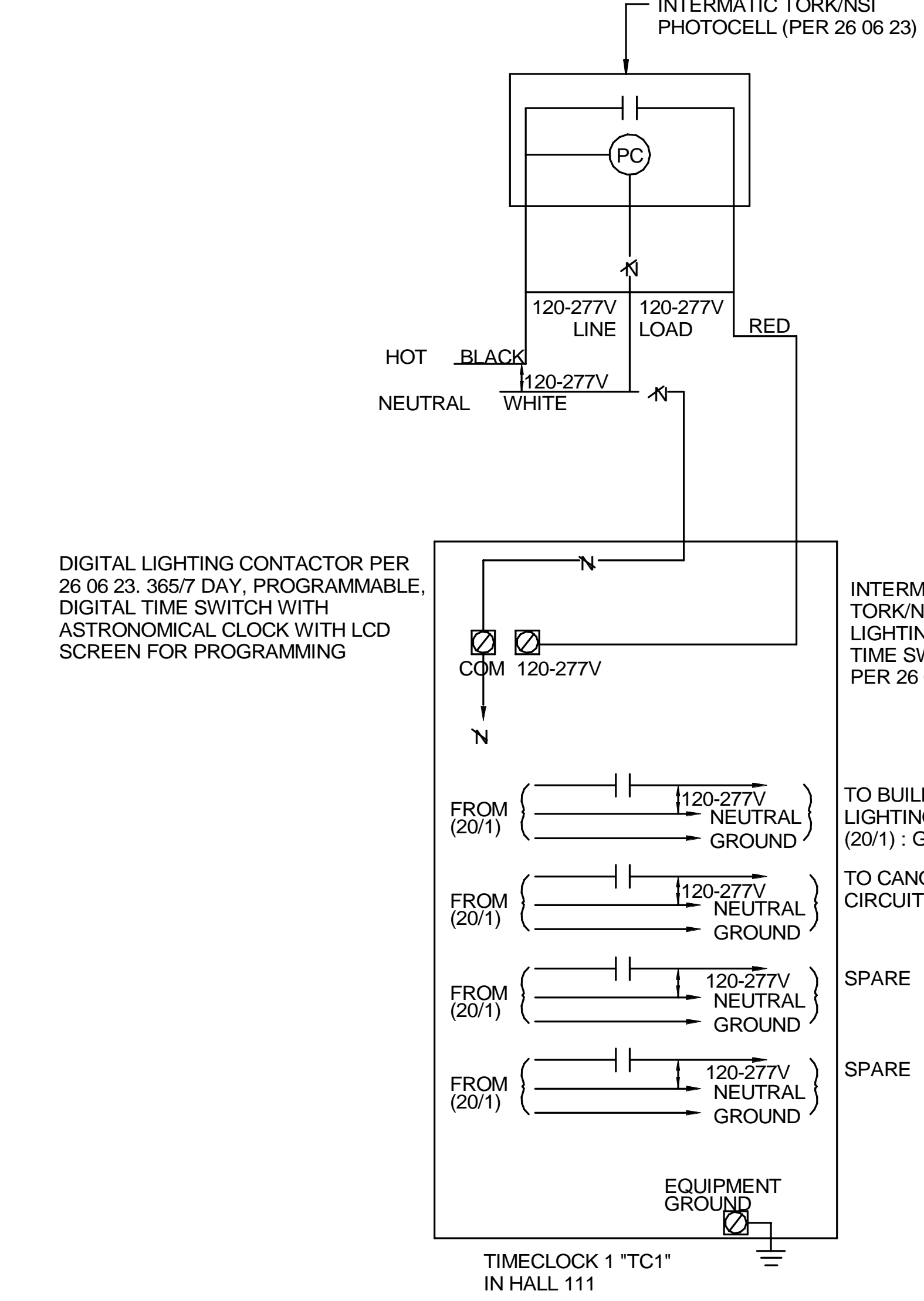
CHARGE POINT CP6011B  
POWER FACTOR AND EFFICIENCY INFORMATION IS NOT AVAILABLE. TO SIMPLIFY DESIGN, CHARGER OUTPUT VALUES (PROVIDED BY MANUFACTURER IN KW) HAVE BEEN CONVERTED TO KVA USING A POWER FACTOR AND EFFICIENCY OF 1. THE CHARGER OUTPUT VALUE IS CONSIDERED TO BE THE MAXIMUM POSSIBLE OUTPUT TO THE EV.

REFER TO MANUFACTURER INSTALLATION INSTRUCTIONS FOR VOLTAGE SHOWN ON EVSE SCHEDULE FOR ELECTRICAL CONNECTIONS. PROVIDE OUTPUT SETTING AT 80A AT EACH CHARGER. USPS TO PROVIDE COMMISSIONING AND ENERGY MANAGEMENT SYSTEM.

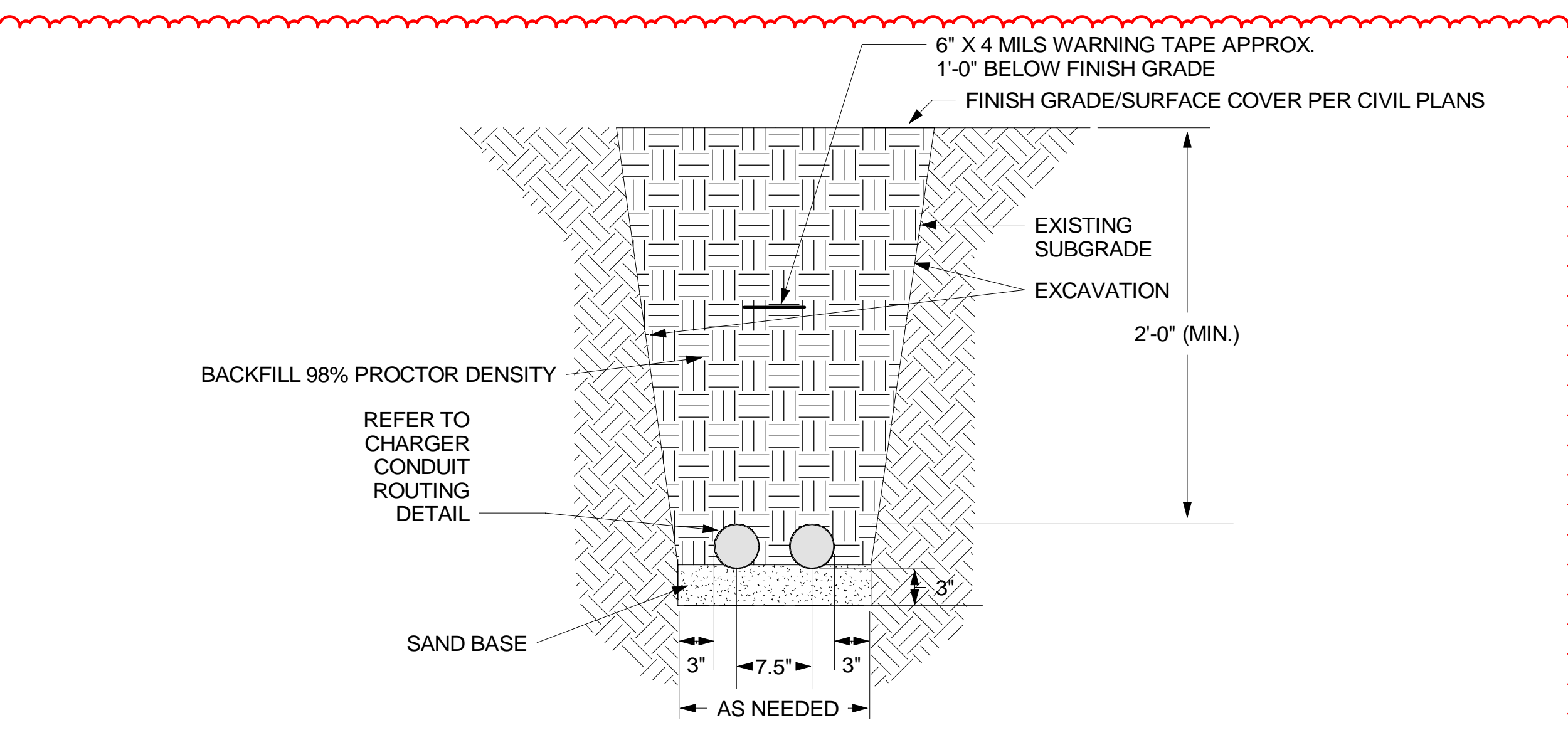
**4 CHARGER CONDUIT ROUTING**  
SCALE: NTS



**5 PANEL IDENTIFICATION DETAIL**  
SCALE: NTS

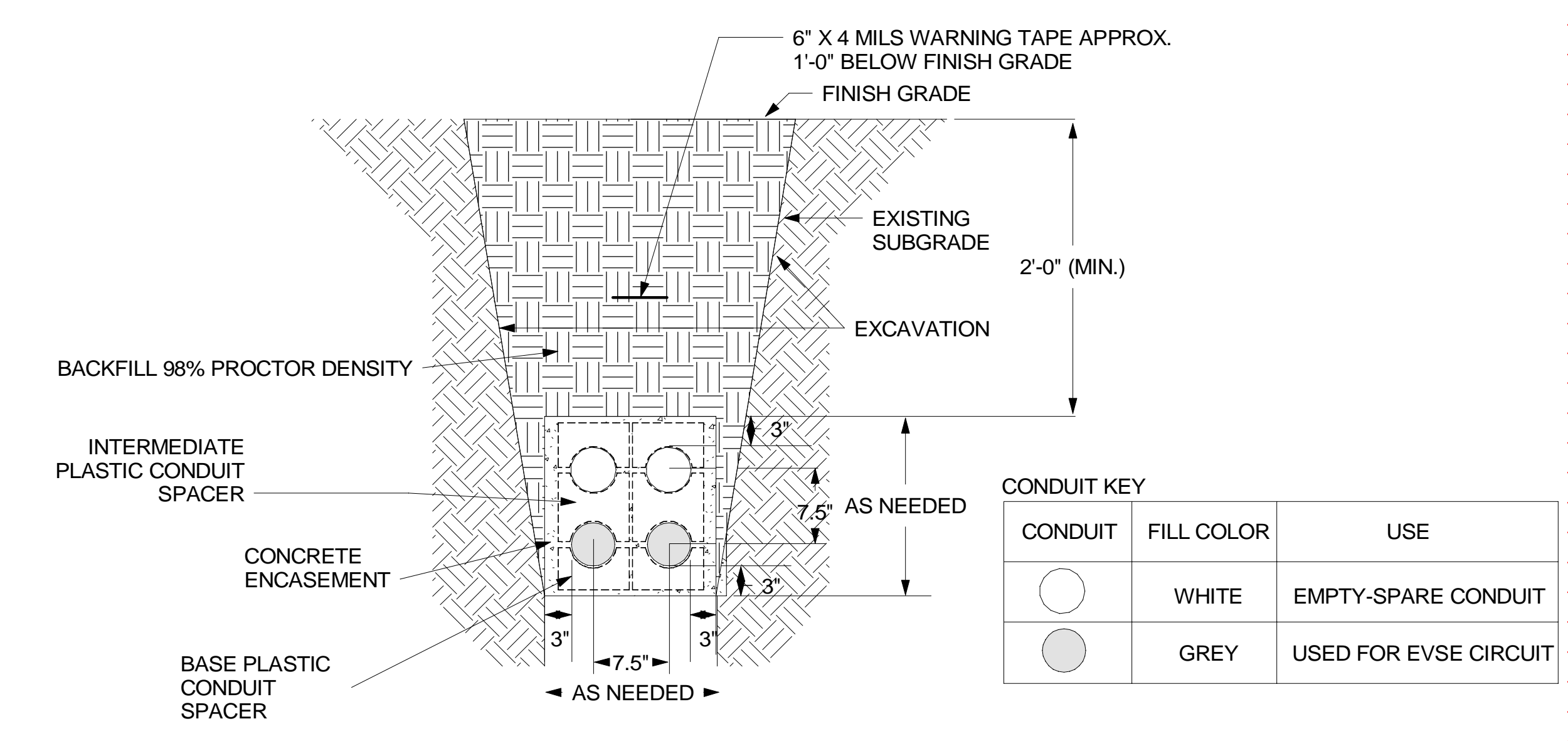


**6 SITE LIGHTING CONTROLS**  
SCALE: NTS



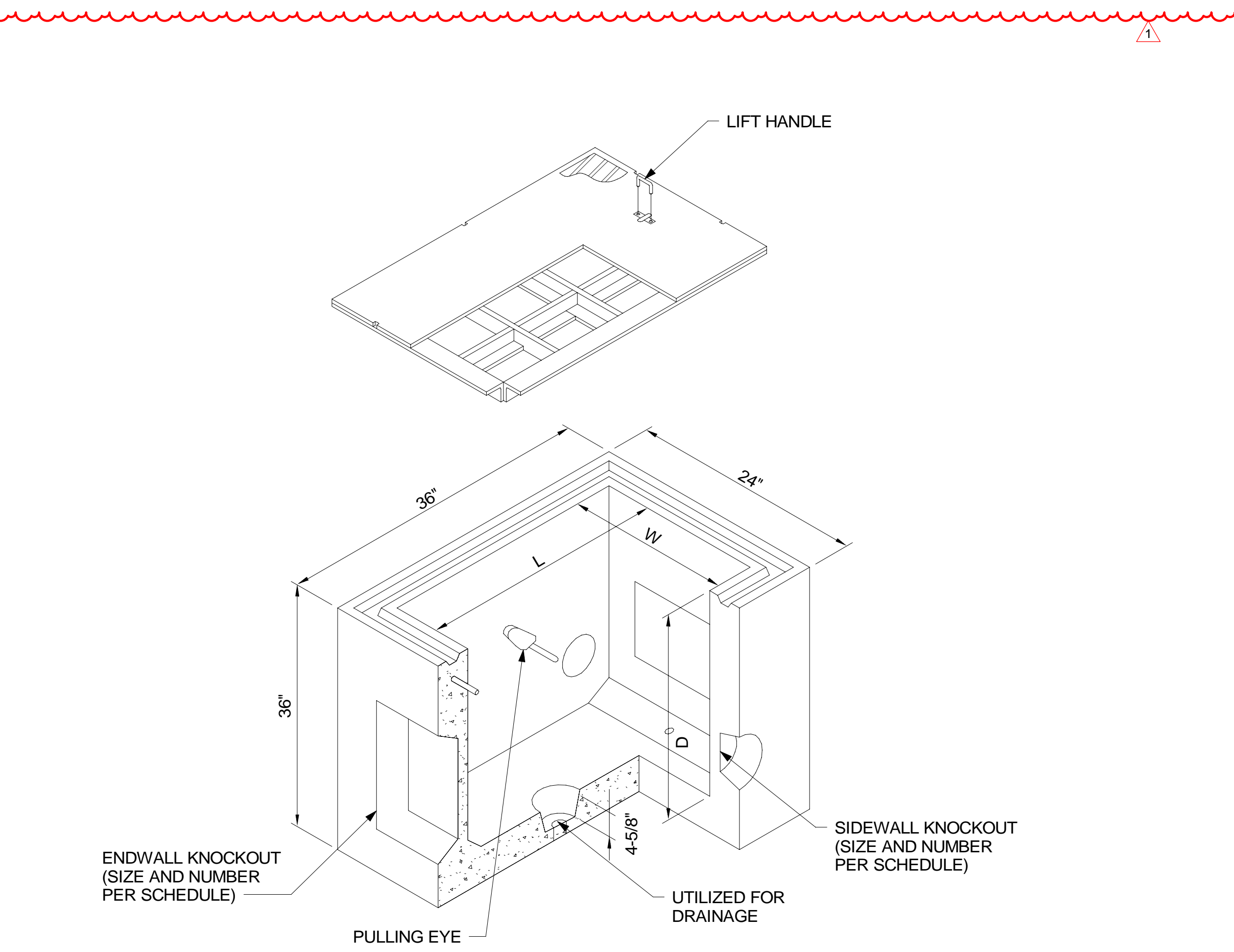
NOTES:  
1. CONDUITS UNDER NON VEHICLE TRAFFIC AREA MAY BE DIRECT BURIED

**1 DIRECT BURY DETAIL**  
SCALE: NTS



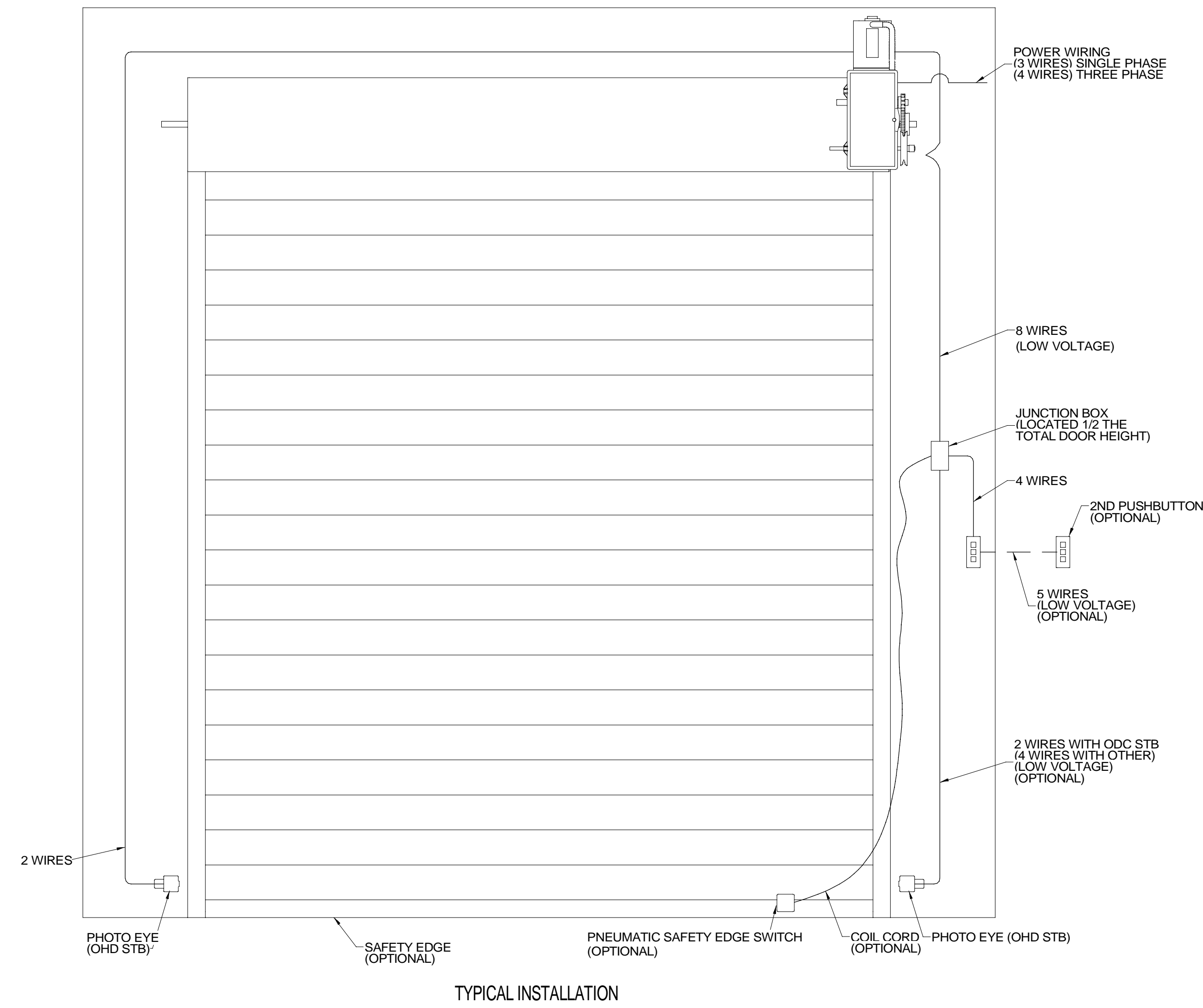
NOTES:  
1. PROVIDE CONDUITS IN SINGLE LAYER. CONDUITS UNDER VEHICLE TRAFFIC AND WEIGHT TO BE ENCASED IN CONCRETE.  
2. PROVIDE SUFFICIENT AGGREGATE SUBLAYER TO ALLOW FOR SUPPORT AND DRAINAGE OF JUNCTION BOX.  
3. TERMINATE SPARE CONDUIT FROM DUCT BANK TO PREVENT DIRT AND WATER INGRESS AND ALLOW FOR USE OF CONDUIT IN FUTURE EVSE EXPANSION.

**2 DUCTBANK DETAIL**  
SCALE: NTS

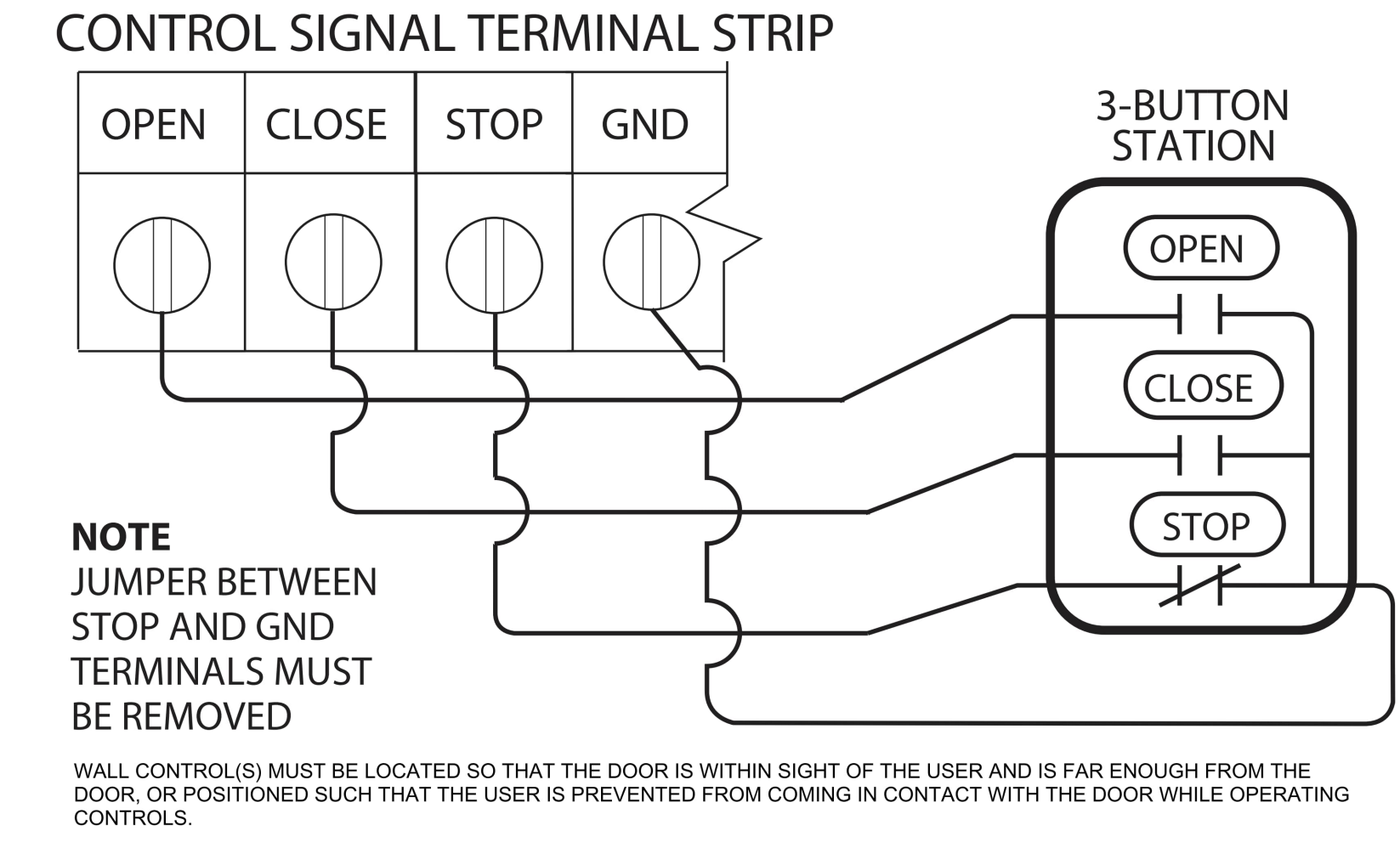


**3 PULLBOX DETAIL**  
SCALE: NTS



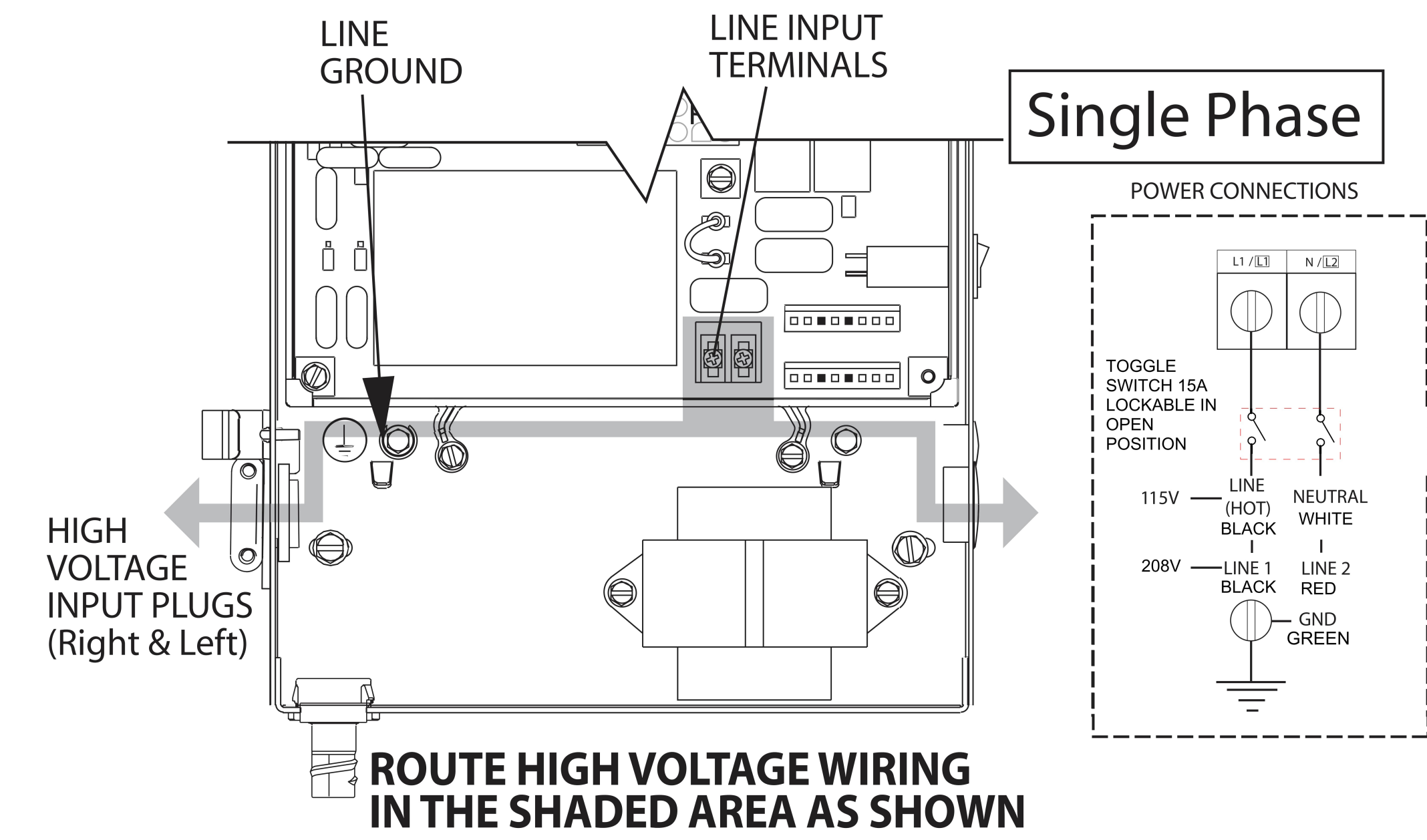


**3 OVERHEAD DOOR ELECTRICAL CONNECTION DETAIL**  
E501 SCALE: NTS



	INPUT	FUNCTION	CONNECTION TYPE
11- POSITION TERMINAL BLOCK INSIDE ELECTRIC BOX	OPEN	Causes door to open if not at Up Limit. Causes a closing door to reverse.	Normally-Open Dry Contact to GND.
	CLOSE	Causes door to close if not at Down Limit.	Normally-Open Dry Contact to GND.
	STOP	Causes moving door to stop. Prevents the operator from running.	Normally-Closed Dry Contact to GND.
	GND	Common ground connection for Open, Close, Stop & 1-Btn Inputs.	

**1 OVERHEAD DOOR OPERATOR PUSH BUTTON DETAIL**  
E501 SCALE: NTS



**2 OVERHEAD DOOR OPERATOR MOTOR DETAIL**  
E501 SCALE: NTS