



6100 SOUTH PARK AVENUE  
HAMBURG NY, 14175

HAMBURG TOWN HALL  
PARKING LOT  
PROJECT #2025-06

CONSTRUCTION DOCUMENTS



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Wendel WD Architecture, Engineering, Surveying and  
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## SYMBOLS & ABBREVIATIONS SCHEDULE

### RECEPTACLES

LP2.12 DUPLEX RECEPTACLE OUTLET, 18" A.F.F., TAMPER RESISTANT, 20AMP COMMERCIAL GRADE GROUNDING TYPE WITH MATCHING COVERPLATE. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO.

LP2.12 GFCI RECEPTACLE OUTLET, 18" A.F.F., TAMPER RESISTANT, 20AMP COMMERCIAL GRADE GROUNDING TYPE WITH MATCHING COVERPLATE. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO.

LP2.12 DUPLEX RECEPTACLE OUTLET, 18" A.F.F., TAMPER RESISTANT, 20AMP COMMERCIAL GRADE GROUNDING TYPE WITH MATCHING COVERPLATE. TAG INDICATES PANELBOARD & DEDICATED BRANCH CIRCUIT THAT IT IS CONNECTED TO. RECEPTACLE SHALL BE SUPPLIED BY A GFCI CIRCUIT BREAKER. PROVIDE LABEL ON COVER "PROTECTED BY GFCI".

LP2.12 INDICATES (2) TAMPER RESISTANT, 20 AMP, COMMERCIAL GRADE RECEPTACLES IN 2-GANG BOX UNDER A COMMON MATCHING COVERPLATE. RECEPTACLES SHALL BE GROUNDING TYPE. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO.

LP2.12 (2) GFCI RECEPTACLE OUTLETS, 18" A.F.F., TAMPER RESISTANT, 20AMP COMMERCIAL GRADE GROUNDING TYPE IN 2-GANG BACKBOX WITH MATCHING COMMON COVERPLATE. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO.

LP2.10,12 RANGE OR DRYER OUTLET VERIFY RECEPTACLE NEMA CONFIGURATION, RATING & INSTALLATION HEIGHT WITH SELECTED EQUIPMENT SUPPLIER. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO. COVER PLATES SHALL BE STAINLESS STEEL.

LP2.12 SPECIAL PURPOSE RECEPTACLE AS CALLED FOR ON DRAWINGS OR AS REQUIRED BY EQUIPMENT MANUFACTURER. VERIFY NEMA CONFIGURATION. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO.

LP2.12 FLOOR MOUNTED RECEPTACLE AS CALLED FOR ON DRAWINGS OR AS REQUIRED BY EQUIPMENT MANUFACTURER. UNLESS OTHERWISE NOTED, PROVIDE RECESSED IN CONCRETE WITH A METAL COVER. TAG INDICATES PANELBOARD & BRANCH CIRCUIT THAT IT IS CONNECTED TO.

### POWER

WALL MOUNTED JUNCTION BOX, SIZE AS INDICATED OR PROVIDE MINIMUM SIZE REQUIRED BY LATEST EDITION OF NATIONAL ELECTRICAL CODE (NFPA 70-NEC).

CEILING MOUNTED JUNCTION BOX, SIZE AS INDICATED OR PROVIDE MINIMUM SIZE REQUIRED BY LATEST EDITION OF NATIONAL ELECTRICAL CODE (NFPA 70-NEC).

PROVIDE COMPLETE ELECTRICAL CONNECTION TO EQUIPMENT INDICATED (INCLUDING DISCONNECT, CONDUCTORS, RACEWAY, & OTHER REQUIRED HARDWARE. XXX INDICATES EQUIPMENT TAG. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.

PROVIDE COMPLETE ELECTRICAL CONNECTION TO MOTOR INDICATED (INCLUDING DISCONNECT, STARTER, CONDUCTORS, RACEWAY, & OTHER REQUIRED HARDWARE. XXX INDICATES EQUIPMENT TAG. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.

EMERGENCY POWER OFF BUTTON (EPO). PROVIDE WHERE INDICATED ON DRAWINGS. PROVIDE ALL REQUIRED INTERFACES AS CALLED FOR ON DRAWINGS OR REQUIRED BY EQUIPMENT MANUFACTURER.

ELECTRICAL PANELBOARD, SURFACE MOUNTED. UNLESS OTHERWISE NOTED, INSTALL AT 72" A.F.F. TO THE TOP OF THE BOX.

ELECTRICAL PANELBOARD, FLUSH MOUNTED. UNLESS OTHERWISE NOTED, INSTALL AT 72" A.F.F. TO THE TOP OF THE BOX.

TYPICAL DISCONNECT (SAFETY SWITCH). REFER TO DRAWINGS FOR SIZE & ADDITIONAL FUSING REQUIREMENTS.

TYPICAL DRY-TYPE TRANSFORMER (SIZE MIGHT VARY). UNLESS OTHERWISE NOTED, PROVIDE FLOOR MOUNTED WITH CONCRETE EQUIPMENT PAD.

ELECTRICAL PIECE OF EQUIPMENT. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

### LIGHTING

(REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION, LUMINAIRE SYMBOLS ARE SHOWN TO INDICATE GENERAL SHAPE & SIZE, ACTUAL SYMBOLS MAY VARY)

T42.a.13 LUMINAIRE (RECESSED). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION. UPPERCASE LETTER INDICATES TYPE IN LUMINAIRE SCHEDULE, LOWERCASE LETTER INDICATES TYPE OF SWITCHED LEG, NUMBER INDICATES CIRCUIT IN PANELBOARD.

S42.b.12 LUMINAIRE (SURFACE OR PENDANT MOUNTED). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION. UPPERCASE LETTER INDICATES TYPE IN LUMINAIRE SCHEDULE, LOWERCASE LETTER INDICATES TYPE OF SWITCHED LEG, NUMBER INDICATES CIRCUIT IN PANELBOARD.

A4 RECESSED DOWNLIGHT. REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION. UPPERCASE LETTER INDICATES TYPE IN LUMINAIRE SCHEDULE, LOWERCASE LETTER INDICATES TYPE OF SWITCHED LEG, NUMBER INDICATES CIRCUIT IN PANELBOARD.

AW4 RECESSED WALL WASHER. REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION. UPPERCASE LETTER INDICATES TYPE IN LUMINAIRE SCHEDULE, LOWERCASE LETTER INDICATES TYPE OF SWITCHED LEG, NUMBER INDICATES CIRCUIT IN PANELBOARD.

EM EMERGENCY LUMINAIRE. PROVIDE LUMINAIRE TYPE AS INDICATED. REFER TO PLANS & SPECIFICATIONS FOR ADDITIONAL INFORMATION.

TYPICAL SITE LUMINAIRE (EXACT SYMBOL MAY VARY). SHALL INCLUDE LUMINAIRE HEAD, POLE, & CONCRETE BASE. REFER TO LUMINAIRE SCHEDULE & SITE LIGHTING PLAN FOR ADDITIONAL INFORMATION.

TYPICAL LUMINAIRE NOTATION

LUMINAIRE TYPE SWITCH LEG T42.a.13 BRANCH CIRCUIT EMNL EMERGENCY AND/OR NIGHTLIGHT

## ABBREVIATIONS:

WP INDICATES WEATHERPROOF DEVICE OR EQUIPMENT  
WG INDICATES DEVICE SHALL HAVE WIRE GUARD PROTECTION  
AFF ABOVE FINISHED FLOOR  
AFG ABOVE FINISHED GRADE  
(ETR) EXISTING EQUIPMENT SHALL REMAIN IN PLACE  
OC OVER COUNTER (INSTALL 12" ABOVE FINISHED FLOOR)  
UC UNDER COUNTER (INSTALL 18" ABOVE FINISHED FLOOR)  
VNAC VISUAL NOTIFICATION APPLIANCE CIRCUIT  
ANAC AUDIO NOTIFICATION APPLIANCE CIRCUIT  
SLC SIGNALING LINE CIRCUIT  
ATS AUTOMATIC TRANSFER SWITCH  
HP HORSEPOWER  
KW KILOWATT  
KVA KILOVOLT-AMPERES  
VFD VARIABLE FREQUENCY DRIVE  
EM EMERGENCY  
NL NIGHTLIGHT (TYPICAL FOR LIGHTING, 'ON' ALL THE TIME)  
LG LIGHTING  
CPWR CONTINUOUS LOAD (POWER)  
PWR POWER  
EH ELECTRIC HEAT  
KIT KITCHEN EQUIPMENT  
LMTR LARGEST MOTOR  
EOP SHOP EQUIPMENT  
NEC NATIONAL ELECTRICAL CODE  
MLO MAIN LUGS ONLY  
MCB MAIN CIRCUIT BREAKER  
AWG AMERICAN WIRE GAGE

## BRANCH CIRCUIT WIRING NOTES:

A. UNLESS OTHERWISE NOTED, MINIMUM HOMERUN (HOMERUN SHALL BE CONSIDERED TOTAL LENGTH FROM SOURCE TO LAST DEVICE ON THE CIRCUIT) CONDUCTORS FOR 20A/1P BRANCH CIRCUITS INCLUDING LIGHTING SHALL AS FOLLOWS:

- 1-100FT - #12 AWG
- 101-150FT - #10 AWG
- 151-250FT - #8 AWG
- 251-350FT - #6 AWG
- 401 & LONGER - #4 AWG.

REDUCE CONDUCTORS SIZE TO A MAXIMUM CONDUCTOR SIZE THAT THE LOAD TERMINALS CAN ACCOMMODATE. REDUCED SIZE NOT LONGER THAN ONE FOOT. INCREASE RACEWAY SIZE AS NEEDED PER NEC, FOR THE LARGER SIZES OF CONDUCTORS.

## REMOVAL (TYPICAL FOR ALL DEVICES):

XXXcd TYPICAL POWER & SYSTEMS DEVICE SCHEDULED FOR REMOVAL. DISCONNECT & REMOVE ALL ASSOCIATED ELECTRICAL WORK AS INDICATED ON CONTRACT DOCUMENTS. REINSTALL AS REQUIRED

TYPICAL LUMINAIRE SCHEDULED FOR REMOVAL. REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.

REMOVAL NOTES:  
NOT ALL DEVICES SCHEDULED FOR REMOVAL ARE SHOWN ON THIS SCHEDULE. ALL DEVICES TO BE REMOVED ARE MARKED WITH THE SAME LINETYPE & LINE WEIGHT AS SYMBOLS ABOVE. REFER TO DEMOLITION PLANS FOR ADDITIONAL INFORMATION.

## EXISTING TO REMAIN (TYPICAL FOR ALL DEVICES):

XXXcd TYPICAL POWER & SYSTEMS DEVICE EXISTING TO REMAIN IN PLACE.

EXISTING LUMINAIRE SCHEDULED TO REMAIN IN PLACE. REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.

EXISTING TO REMAIN NOTES:  
NOT ALL EXISTING DEVICES SCHEDULED TO REMAIN ARE SHOWN ON THIS SCHEDULE. ALL DEVICES SCHEDULED TO REMAIN ARE MARKED WITH THE SAME LINETYPE & LINE WEIGHT AS SYMBOLS ABOVE. REFER TO FLOOR PLAN DRAWINGS FOR ADDITIONAL INFORMATION.

## GENERAL NOTES: (FOR ALL ELECTRICAL DRAWINGS)

A. ALL MATERIAL & INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE NATIONAL ELECTRIC CODE, LATEST EDITION OF LOCAL CODES, & ORDINANCES.

B. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED COSTS FOR SEALING ALL PENETRATIONS THROUGH FIRE & SMOKE WALLS USING UL APPROVED SEALANT & METHODS.

C. THE WORK SHALL CONSIST OF FURNISHING ALL LABOR MATERIALS, EQUIPMENT, & INSTALLING COMPLETELY IN PLACE & OPERATING AS DESIGNED LIGHTING AND POWER SYSTEMS IN ACCORDANCE WITH THE PLANS & SPECIFICATIONS OR AS DIRECTED BY OWNER'S REPRESENTATIVE.

D. THE CONTRACTOR SHALL EXERCISE CARE IN REMOVAL OPERATIONS SO AS NOT TO UNDULY DISTURB UNDERLYING MATERIALS WHICH ARE TO REMAIN IN PLACE. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE OR WHICH ARE TO REMAIN THE PROPERTY OF OWNER'S REPRESENTATIVE, WILL NOT BE DAMAGED. IF DAMAGED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR WITHOUT COST TO OWNER & TO THE SATISFACTION OF OWNER.

E. THE CONTRACTOR SHALL BE REQUIRED TO PROTECT WORKERS & GENERAL PUBLIC AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA & NYS REGULATIONS.

F. LOCATION OF UTILITIES, PUBLIC & OR PRIVATE, INDICATED AS EXISTING & TO BE CONSTRUCTED AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED IN SERVICE, MAY EXIST & IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT OPERATIONS & TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION. PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE OF DISCREPANCIES FOUND BETWEEN INFORMATION SHOWN ON PLANS & ACTUAL FIELD CONDITIONS.

G. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AND INTERRUPTION IN SAID SERVICE, THE CONTRACTOR SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE WORK OPERATION UNTIL SERVICE IS RESTORED.

H. THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING TO BECOME FAMILIAR WITH THE PRESENT CONDITION & TO JUDGE FOR THEMSELVES UNDER THIS THE EXTENT & NATURE OF THE WORK TO BE DONE. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO INCLUDE IN HIS BID ALL ITEMS & MATERIALS WHICH ARE REQUIRED TO BE PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

I. WHERE NOT SPECIFICALLY COVERED ON THE PLANS, SPECIFICATIONS, OR SPECIAL PROVISIONS, EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE CURRENT APPLICABLE CODES, MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND AS APPROVED BY OWNER'S REPRESENTATIVE.

J. ANY MATERIAL TO BE DELIVERED TO THE JOB SITE MUST BE RECEIVED BY THE CONTRACTOR, OWNER OR THEIR REPRESENTATIVES WILL NOT RECEIVE ANY MATERIAL UNDER ANY CIRCUMSTANCE.

K. ALL ELECTRICAL EQUIPMENT SHALL CONFORM TO THE NEMA STANDARDS & BE UL APPROVED. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE "NATIONAL ELECTRICAL CODE" HEREIN REFERRED TO AS THE "CODE", ASTM STANDARDS.

L. ALL CABLE OR WIRE SHALL CONFORM TO AND MEET ALL THE CURRENT REQUIREMENTS OF THE UNDERWRITERS LABORATORIES, INC. THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION, AMERICAN STANDARDS ASSOCIATION, IPC&A AND THE NATIONAL ELECTRICAL CODE WHEREVER SUCH STANDARDS APPLY.

M. THE CONTRACTOR SHALL CAREFULLY MARK THE PROPOSED LOCATION OF THE NEW POLES. OBTAIN OWNER APPROVAL FOR ALL LOCATIONS PRIOR TO CONSTRUCTION. AT WHICH POINT CONTRACTOR SHALL THEN DETERMINE IF ANY UNDERGROUND OBSTRUCTION WILL PREVENT THE INSTALLATION OF A SAID EQUIPMENT. TRENCH BOTTOMS SHALL BE SMOOTH, DRY AND FIRM BEFORE RACEWAYS ARE INSTALLED. TRENCHES SHALL BE BACKFILLED AND TAMPED IN 6" SPACING BETWEEN RACEWAY WALLS. BURIED CONDUIT SHALL BE BURIED WITH APPROVED WARNING TAPE. FOR NON-METALLIC INSTALLATIONS, METALLIC DETECTION TAPE SHALL BE USED. CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT ALL PROPOSED UTILITY CROSSINGS TO CONFIRM PROPER CLEARANCES.

N. THE DRAWINGS ARE DIAGRAMMATIC & INDICATE GENERALLY THE LOCATIONS OF THE MATERIAL AND EQUIPMENT. THESE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.

O. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND OPERATION SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE. WITH THE BID IT IS MUTUALLY AGREED THAT ALL MATERIALS NECESSARY FOR COMPLETE SYSTEM AND OPERATION ARE INCLUDED IN THE BID.

P. RACEWAYS SHALL SLOPE TO PULLBOXES WITH A PITCH OF NOT LESS THAN 1" PER 100'. THE CONDUIT SHALL BE LAID ON A UNIFORM GRADE TO ALLOW ANY CONDENSATION TO DRAIN TO PULLBOXES.

Q. WIRE INSTALLATION SHALL NOT START UNTIL THE RACEWAYS AND BOXES HAVE BEEN CLEARED OF ALL FOREIGN MATTER AND ALL OTHER OPERATIONS OF WORK WHICH ARE LIKELY TO DAMAGE THE CONDUCTORS HAVE BEEN COMPLETED. ALL WIRE SHALL BE CONTINUOUS FOR PRIMARY AND SECONDARY CABLE. NO SPLICES WILL BE PERMITTED IN CONDUIT RUNS.

R. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS FOR TRENCHING, BACKFILL AND SITE RESTORATION AS REQUIRED. CONTRACTOR SHALL TAKE CARE TO MINIMIZE DAMAGE TO EXISTING TREE ROOT SYSTEMS DURING TRENCHING OPERATIONS. REFER TO SPECIFICATION FOR TREE PROTECTION REQUIREMENTS.

S. ALL TRENCHING, BACKFILL, PATCHING & RESTORATION OF EXISTING GRASS AREAS, ROADS & PATHWAYS DISTURBED DURING CONSTRUCTION SHALL BE DONE PER SPECIFICATIONS & DETAILS SHOWN ON DRAWING E501.

T. ITEMS NOT NOTED TO BE REMOVED & OR DEMOLISHED ARE TO REMAIN & TO BE PROTECTED AS NECESSARY. IN PARTICULAR, CONTRACTOR SHALL TAKE EXTRA MEASURES NOT TO INJURE EXISTING TREES.

U. SAW-CUT PAVEMENT & CURBING AT LIMITS OF REMOVAL.

V. ALL DAMAGED & OR DISTURBED AREAS REMAINING, AFTER CONSTRUCTION IS COMPLETED SHALL RECEIVE MIN. 4" TOPSOIL, BE FINE GRADED, FERTILIZED, SEEDED & MULCHED. TOPSOIL TO BE FLUSH WITH PAVEMENT & OR TOP OF CURB & SHALL BE "FEATHERED" INTO ADJACENT LAWN AREAS TO CREATE A SMOOTH TRANSITION BETWEEN NEWLY SEDED AREAS AND EXISTING LAWNS.

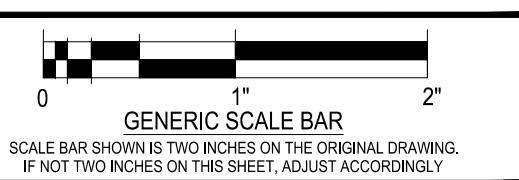
W. ALL CONDUITS BELOW GRADE OUTSIDE SHALL BE SCH. 80 PVC, GLUED AT ALL JOINTS. ALL CONDUIT INSIDE OF BUILDINGS SHALL BE ELECTRICAL METALLIC TUBING (EMT).

X. THESE DRAWINGS WERE PRODUCED FROM EXISTING PLANS & FIELD SURVEY. SCALES SHOWN ON SITE DRAWINGS & BUILDING PLANS ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL SITE DISTANCES & BUILDINGS AFFECTED BY THE PROJECT.

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		DWG. TITLE

## ELECTRICAL SYMBOLS, ABBREVIATIONS, & NOTES



DATE 10/22/2025  
SCALE AS NOTED  
DWN. JDM CHK. JFW  
PROJ. No. 300825PKLOT  
DWG. No.

E001

## GENERAL SYMBOLS NOTE:

THIS SYMBOLS & ABBREVIATIONS SCHEDULE IS FOR THE ELECTRICAL CONTRACTOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS FROM THIS SCHEDULE DOES NOT IMPLY INCLUSION AND / OR EXCLUSION OF ANY PARTICULAR ITEM FROM THE PROJECT.



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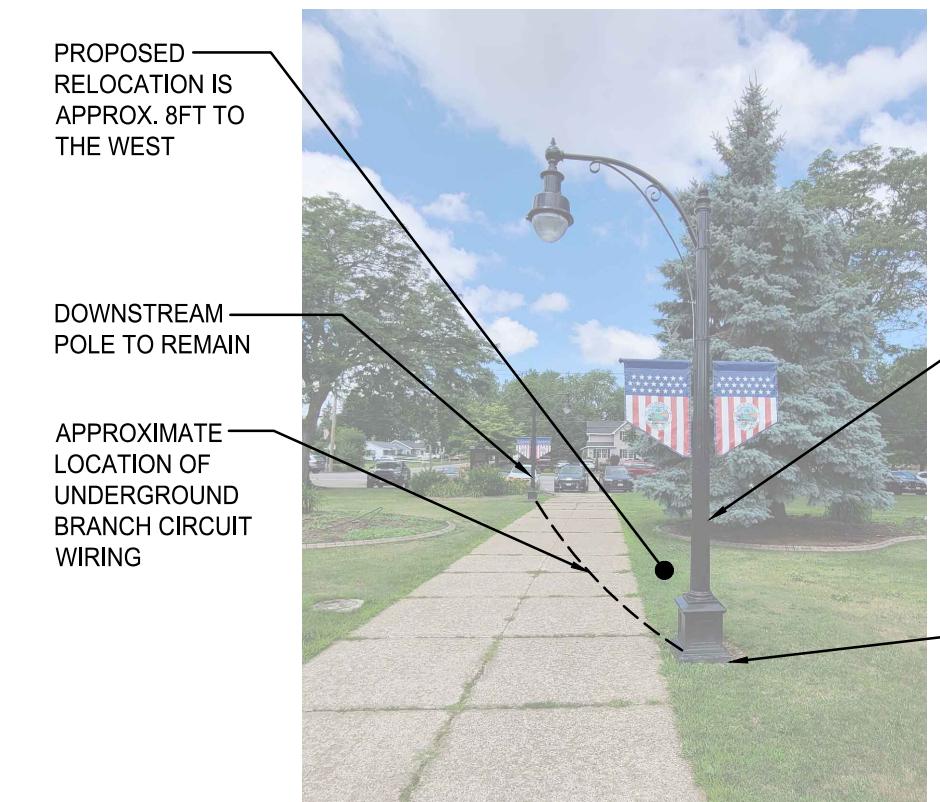
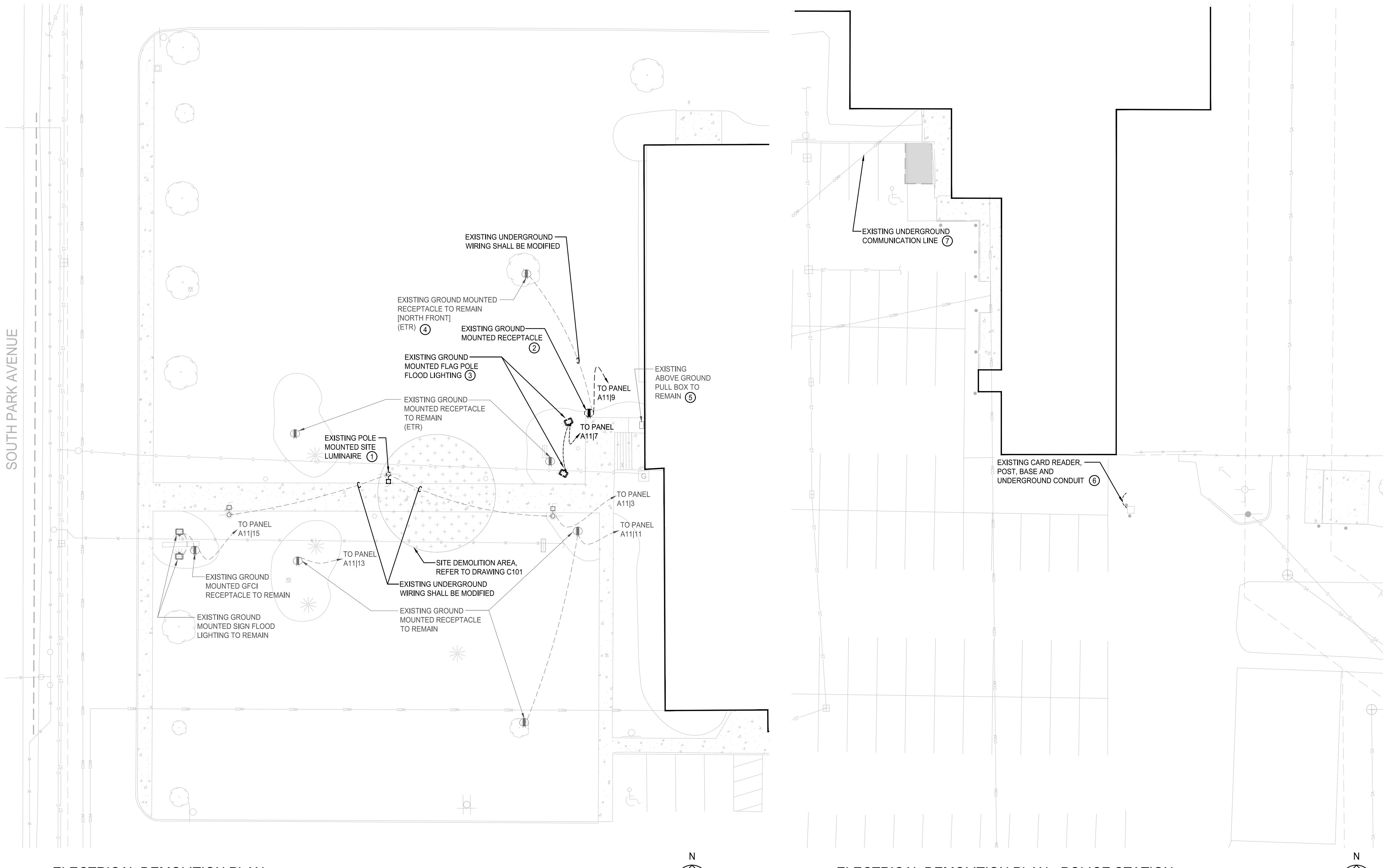
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#### GENERAL DEMOLITION NOTES:

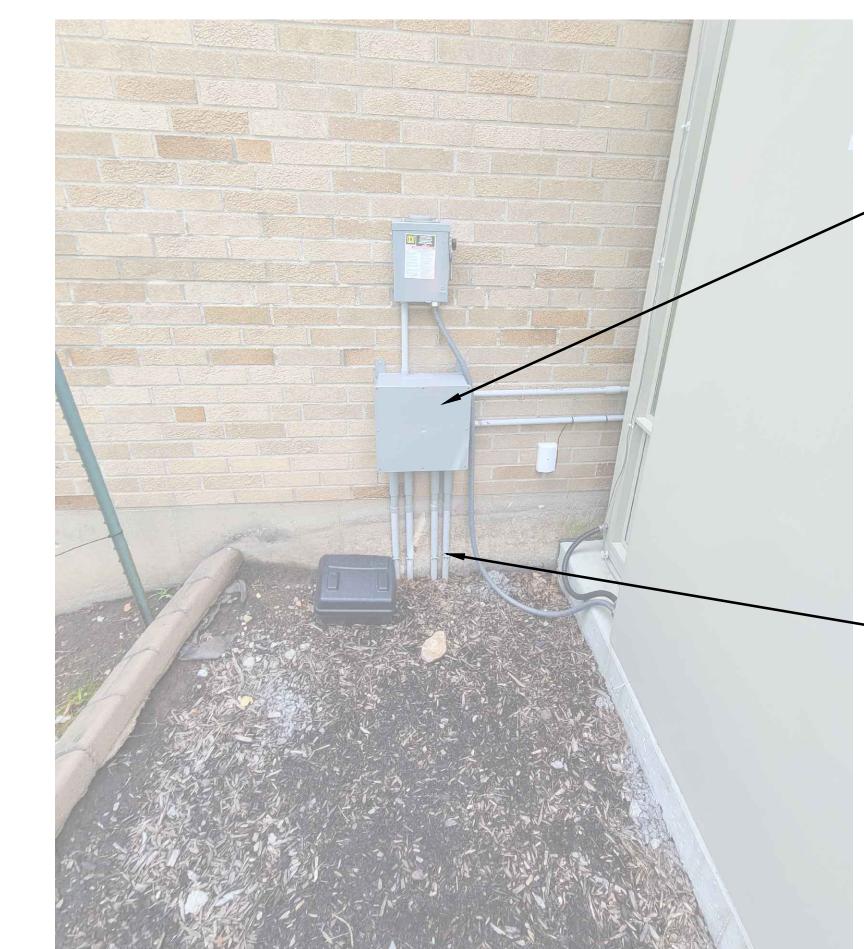
- A. MAINTAIN INTEGRITY OF EXISTING CIRCUIT WIRING PRESENTLY INSTALLED & SERVING EQUIPMENT OUTSIDE THE WORK AREA. VERIFY ROUTE OF EACH FEEDER & BRANCH CIRCUIT SCHEDULED FOR REMOVAL.
- B. PROVIDE PROTECTION FOR ALL EXISTING CONSTRUCTION SYSTEMS/EQUIPMENT SCHEDULED TO REMAIN DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OR RECONDITIONING OF EQUIPMENT/ITEMS DAMAGED DURING REMOVALS.
- C. UNLESS OTHERWISE NOTED, DISCONNECT & REMOVE ALL ELECTRICAL WORK ASSOCIATED WITH DEVICE/FIXTURES SCHEDULED FOR REMOVAL. ASSOCIATED ELECTRICAL WORK SHALL INCLUDE CONDUIT, BOXES, CONNECTORS, ETC. BACK TO SOURCE PANEL.
- D. CONTRACTOR SHALL PROPERLY DISPOSE OF ALL ELECTRICAL DEVICES & MISC. ITEMS NOT IDENTIFIED FOR RELOCATION AS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ANY COST ASSOCIATED WITH DISPOSAL.
- H. DEMOLITION SHOWN SHALL BE SELECTIVE. UNLESS OTHERWISE INDICATED ON THE PLAN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES FOUND IN THE FIELD PRIOR TO DEMOLITION OF ANY ITEMS NOT SHOWN. CONTRACTOR SHALL, AT HIS EXPENSE, REPLACE OR REPAIR ANY DEMOLISHED ITEM(S) THAT WERE NOT CALLED FOR ON THE PLANS OR BROUGHT TO ENGINEERS ATTENTION.

#### DEMOLITION NOTES:

1. DISCONNECT & CAREFULLY REMOVE EXISTING LIGHT POLE AND LUMINAIRE TO ACCOMMODATE ITS RELOCATION. REMOVE EXISTING CONCRETE BASE IN ITS ENTIRETY. WIRING SHALL REMAIN FOR MODIFICATION. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION.
2. DISCONNECT & CAREFULLY REMOVE EXISTING GROUND MOUNTED RECEPTACLE TO ACCOMMODATE ITS RELOCATION. REMOVE EXISTING UNDERGROUND WIRING IN ITS ENTIRETY BACK TO SOURCE. WIRING TO RECEPTACLE [NORTH FRONT] SHALL REMAIN FOR MODIFICATION. REFER TO NEW WORK PLAN FOR ADDITIONAL INFORMATION.
3. DISCONNECT & REMOVE EXISTING GROUND MOUNTED FLAG POLE FLOOD LIGHTING. REMOVE EXISTING UNDERGROUND WIRING IN ITS ENTIRETY BACK TO SOURCE.
4. EXISTING GROUND MOUNTED RECEPTACLE [NORTH FRONT] TO REMAIN IN PLACE. CONTRACTOR SHALL MODIFY WIRING TO THIS DEVICE AS REQUIRED TO MAINTAIN POWER CONTINUITY AFTER DEVICES AHEAD OF THIS DEVICE ARE RELOCATED. NO WORK IS REQUIRED NEAR THE CANOPY LINE OF THE TREE, AND ADDITIONAL TREE PROTECTION IS REQUIRED. REFER TO CIVIL PLANS.
5. PRESENTLY PULL BOX IS USED FOR ALL UNDERGROUND BRANCH CIRCUITS INDICATED ON THIS DRAWING. THIS PULL BOX TO REMAIN & IN MOST INSTANCES IS THE SOURCE FOR CIRCUITS THAT ARE CALLED OUT TO BE REMOVED IN THEIR ENTIRETY.
6. MODIFY UNDERGROUND CONDUIT AND WIRING FOR EXISTING CARD READER, POST, AND BASE TO BE RELOCATED. REFER TO CIVIL DRAWINGS.
7. MODIFY EXISTING UNDERGROUND COMMUNICATIONS LINE TO ACCOMMODATE PROPOSED BOLLARDS. REFER TO CIVIL DRAWINGS.



**3 EXISTING POLE MOUNTED LIGHT**  
NO SCALE



**4 EXISTING PULL BOX DETAIL**  
NO SCALE



**5 EXISTING GROUND MOUNTED RECEPTACLE**  
NO SCALE



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#### ELECTRICAL DEMOLITION PLANS

0	1"	2"
SCALE BAR SHOWN IS TWO INCHES ON THE ORIGINAL DRAWING. IF NOT TWO INCHES ON THIS SHEET, ADJUST ACCORDINGLY.		
DATE	10/22/2025	
SCALE	AS NOTED	
DW.	JDM	CHK. JFW
PROJ. No.	300825PKLOT	
DWG. No.		

ED101



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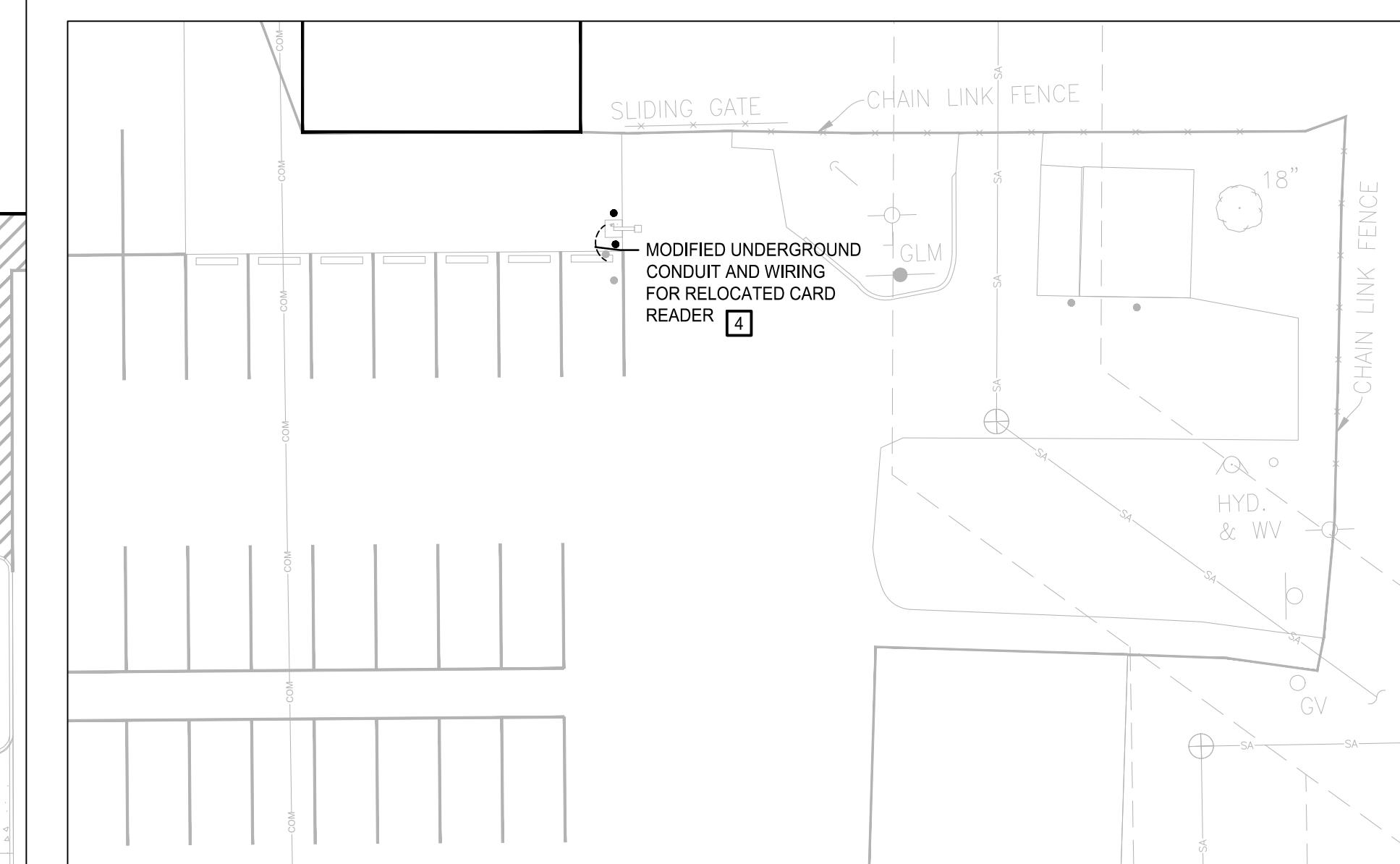
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#### GENERAL NOTES:

- A. REFER TO DETAILS ON DRAWING E501 FOR ADDITIONAL INFORMATION ON INSTALLATION OF LUMINAIRES INDICATED ON THIS DRAWING.
- B. UNLESS OTHERWISE NOTED, PROVIDE ALL RACEWAY UNDERGROUND WITH MINIMUM 24" COVER. ALL RACEWAYS SHALL BE SCH. 80 PVC & GLUED AT ALL JOINTS.
- C. CONTRACTOR TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITY RUNS PRIOR TO CONSTRUCTION & INSTALLATION OF ELECTRICAL SYSTEMS.
- D. UNLESS OTHERWISE INDICATED, LOCATE BASE AT 30" FROM CENTER OF THE POLE TO THE CURB OR EDGE OF SIDEWALK, TYPICAL FOR ALL NEW LIGHTING INDICATED ON THIS SHEET.
- E. UNLESS OTHERWISE INDICATED, ALL WORK ON THIS SHEET SHALL BE INCLUDED IN THE BASE BID.
- F. ALL FINAL AIMING OF GROUND MOUNTED FLOOD LIGHTING SHALL BE PERFORMED BY THE CONTRACTOR & APPROVED BY THE OWNERS REPRESENTATIVE.

#### CONSTRUCTION NOTES:

1. REINSTALL EXISTING LIGHT POLE SAVED FROM DEMOLITION PHASE OVER NEW CONCRETE BASE. CONTRACTOR TO VERIFY REQUIRED BOLT PATTERN IN THE FIELD. MODIFY EXISTING CONDUITS FOR NEW WIRING.
2. EXTEND NEW EXTERIOR LIGHTING BRANCH CIRCUIT WIRING FROM EXISTING TIME SWITCH MAINTAINED FROM DEMOLITION TO NEW HANDHOLE AND NEW EXTERIOR LIGHTING. EXISTING TIME SETTINGS TO BE MAINTAINED.
3. REINSTALL EXISTING GROUND MOUNTED RECEPTACLE AT NEW LOCATION. MODIFY EXISTING CONDUITS FOR NEW WIRING.
4. MODIFY EXISTING UNDERGROUND CONDUIT AND WIRING TO ACCOMMODATE RELOCATED CARD READER, POST, AND BASE. REFER TO CIVIL DRAWINGS.



② ELECTRICAL PLAN - POLICE STATION

SCALE: 1" = 20'



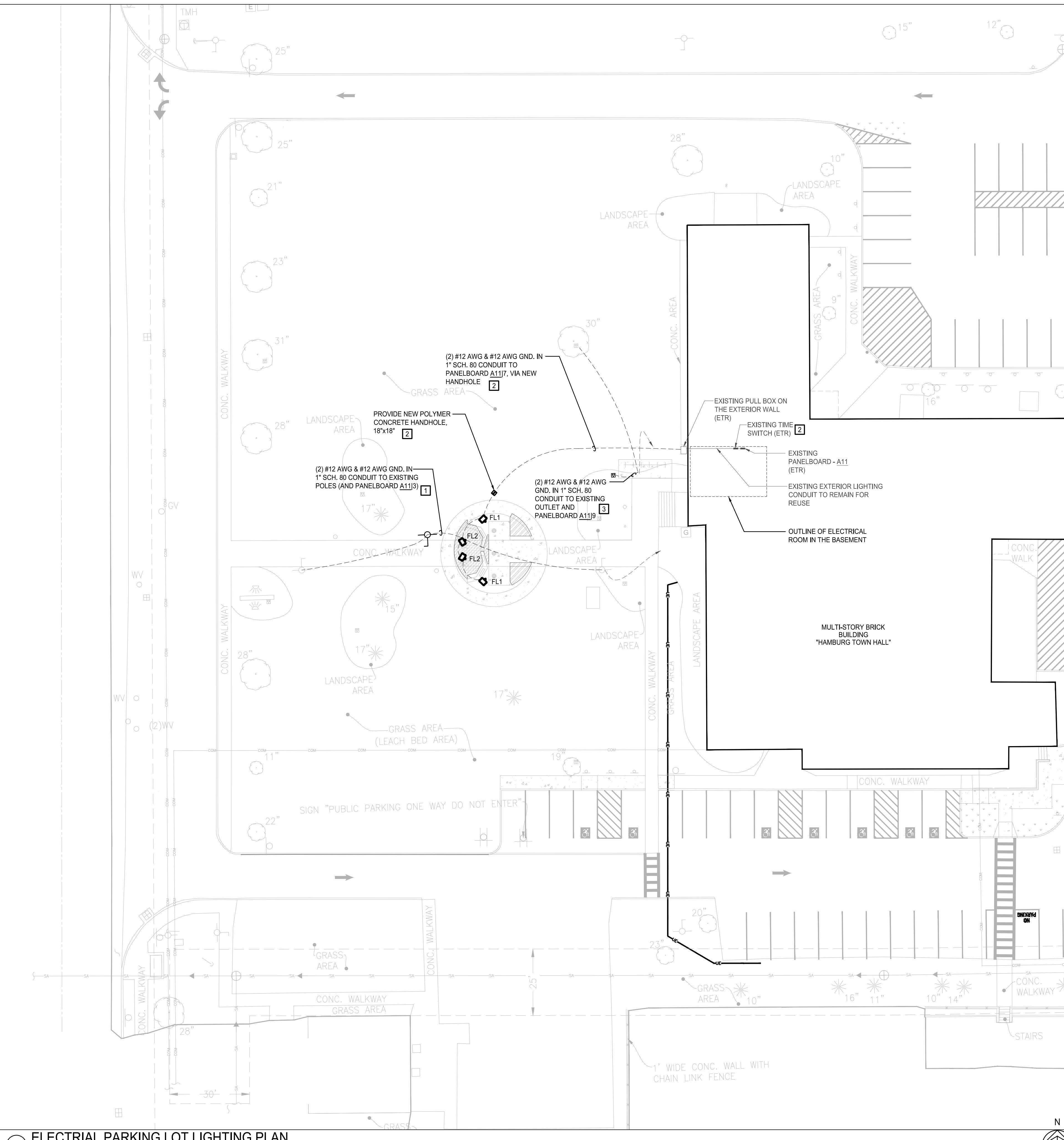
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DWG. TITLE		

#### ELECTRICAL NEW WORK PLAN

DATE	SCALE	AS NOTED
10/22/2025		
DW. JDM	CH. JFW	
PROJ. No. 300825PKLOT		
DWG. No.		

0 1" 2"  
GENERIC SCALE BAR  
SCALE BAR SHOWN IS TWO INCHES ON THE ORIGINAL DRAWING.  
IF NOT TWO INCHES ON THIS SHEET, ADJUST ACCORDINGLY



① ELECTRICAL PARKING LOT LIGHTING PLAN

SCALE: 1" = 20'

E101



**6100 SOUTH PARK AVENUE  
HAMBURG NY, 14175**

# HAMBURG TOWN HALL PARKING LOT PROJECT #2025-06

## LUMINAIRE SCHEDULE

Type	Description	Mounting	Shielding	Driver	Light Source	Input Watts	Basis of Design
FL1	OUTDOOR, GROUND MOUNTED FLOOD LIGHT WITH FOLLOWING MINIMUM SPECIFICATIONS: ONE-PIECE, DIE-CAST ALUMINUM HOUSING WITH MATCHING DOOR ASSEMBLY. SEALED WITH EXTRUDED SILICONE GASKET. SLIPFITTER TYPE INSTALLATION. <b>MEDIUM SYMMETRIC RECTANGULAR</b> TYPE OPTICS. PROVIDE ALL REQUIRED ACCESSORIES INCLUDING CONCRETE BASE & TENON. UL LISTED FOR WET LOCATIONS.	GROUND TENNON	TAMPERED GLASS	<u>Type:</u> (1) LED DRIVER, 350mA <u>Voltage:</u> 120-277VAC <u>Dimming:</u> NA <u>Emergency:</u> NA	<u>Type:</u> (1) LED ARRAY <u>Lumens:</u> 4,210 DELIVERED <u>CCT:</u> 4000K <u>CRI:</u> 80 MIN	46	INVUE - VFS SERIES OR EQUAL
FL2	OUTDOOR, GROUND MOUNTED FLOOD LIGHT WITH FOLLOWING MINIMUM SPECIFICATIONS: ONE-PIECE, DIE-CAST ALUMINUM HOUSING WITH MATCHING DOOR ASSEMBLY. SEALED WITH EXTRUDED SILICONE GASKET. SLIPFITTER TYPE INSTALLATION. <b>MEDIUM SYMMETRIC ROUND</b> TYPE OPTICS. PROVIDE ALL REQUIRED ACCESSORIES INCLUDING CONCRETE BASE & TENON. UL LISTED FOR WET LOCATIONS.	GROUND TENNON	TAMPERED GLASS	<u>Type:</u> (1) LED DRIVER, 350mA <u>Voltage:</u> 120-277VAC <u>Dimming:</u> NA <u>Emergency:</u> NA	<u>Type:</u> (1) LED ARRAY <u>Lumens:</u> 4,065 DELIVERED <u>CCT:</u> 4000K <u>CRI:</u> 80 MIN	46	INVUE - VFS SERIES OR EQUAL

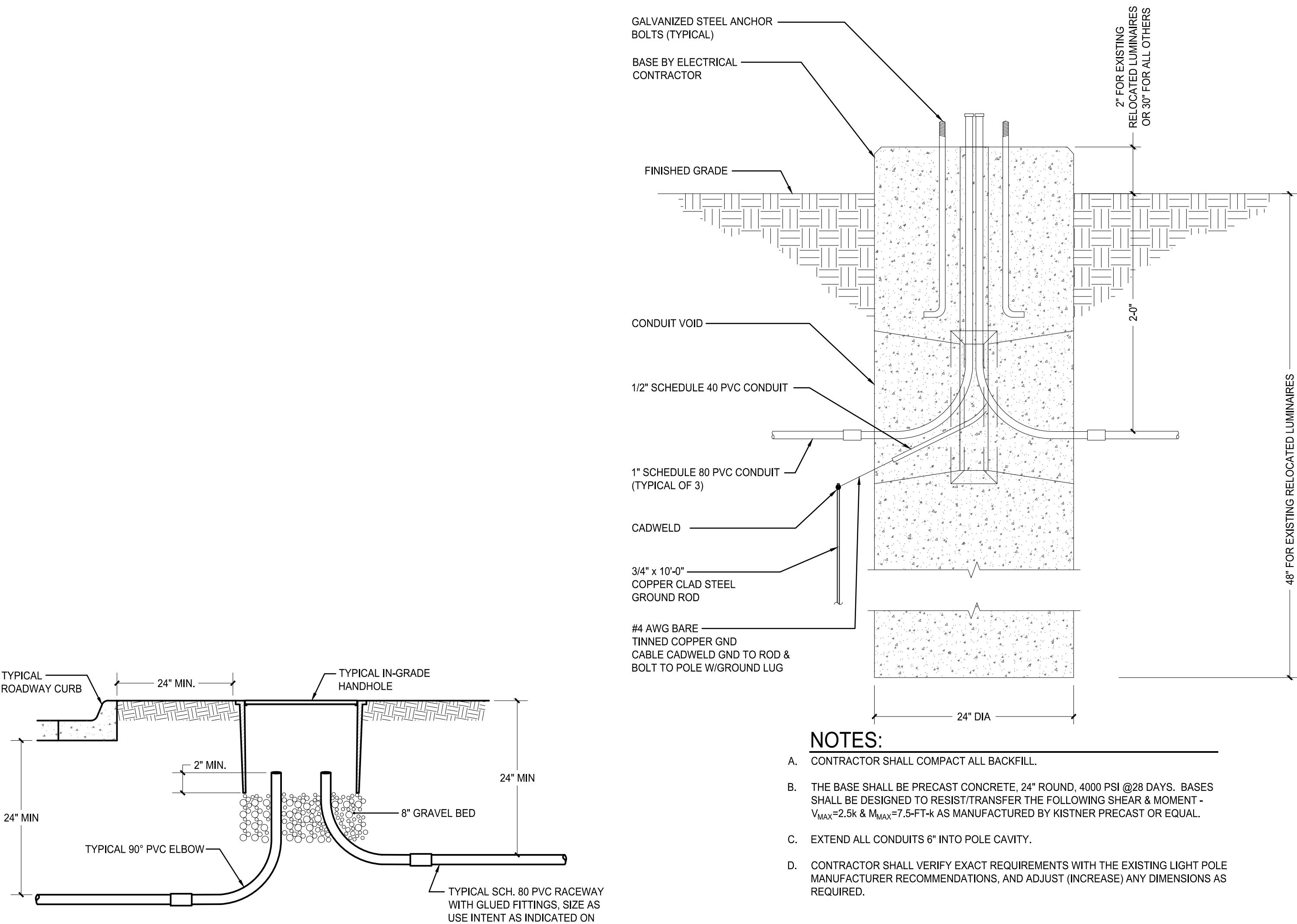
## GENERAL LUMINAIRE SCHEDULE NOTES:

- A. UNLESS OTHERWISE NOTED, BASIS OF DESIGN MANUFACTURER'S NAMES AND CATALOG NUMBERS ARE USED FOR QUALITY AND PERFORMANCE ONLY. WHERE INDICATED "OR EQUAL" LUMINAIRE AND THEIR ASSOCIATED DEVICES MANUFACTURED BY OTHERS SHALL BE EQUALY ACCEPTABLE PROVIDED THEY MEET OR EXCEED IN PERFORMANCE AND QUALITY OF THE BASIS OF DESIGN LUMINAIRE.
- B. CONTRACTOR SHALL VERIFY VOLTAGE SUPPLY TO EACH LUMINAIRE PRIOR TO ORDERING THE APPROVED FIXTURE.
- C. ALL LUMINAIRES SHALL BE FURNISHED COMPLETE WITH SPECIFIED LAMPS IF APPLICABLE.
- D. LUMINAIRES SHALL BE INDEPENDENTLY SUPPORTED IN ACCORDANCE WITH ALL APPLICABLE CODES & SPECIFICATIONS
- E. CONTRACTOR SHALL VERIFY CEILING TYPE FOR EACH LUMINAIRE LOCATION & ORDER ACCORDINGLY.
- F. ALL LED LUMINAIRES SHALL BE DESIGNED & MANUFACTURED IN ACCORDANCE WITH IESNA LM-79 & LM-80 STANDARDS.
- G. CONTRACTOR SHALL VERIFY ALL MOUTING REQUIREMENTS OF EACH EXIT SIGN PRIOR TO ORDERING, AS WELL AS DIRECTIONAL REQUIREMENTS.
- H. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING LUMINAIRE AND INSTALLATION REQUIREMENTS. PROVIDE ALL LISTED OPTIONS AND ACCESSORIES.
- I. UNLESS OTHERWISE NOTED, REMOTE POWER SUPPLIES SHALL BE LOCATED IN NEARBY, DRY, VENTILATED LOCATION, MINIMIZE DISTANCE AND PROVIDE CONDUCTOR SIZE AS REQUIRED BY THE MANUFACTURER.
- J. UNLESS OTHERWISE NOTED, ALL EMERGENCY BATTERY/DRIVERS SHALL BE WIRED FOR A SWITCHED CIRCUIT. REFER TO MANUFACTURER INSTRUCTIONS FOR WIRING INFORMATION

## **CONSTRUCTION DOCUMENTS**

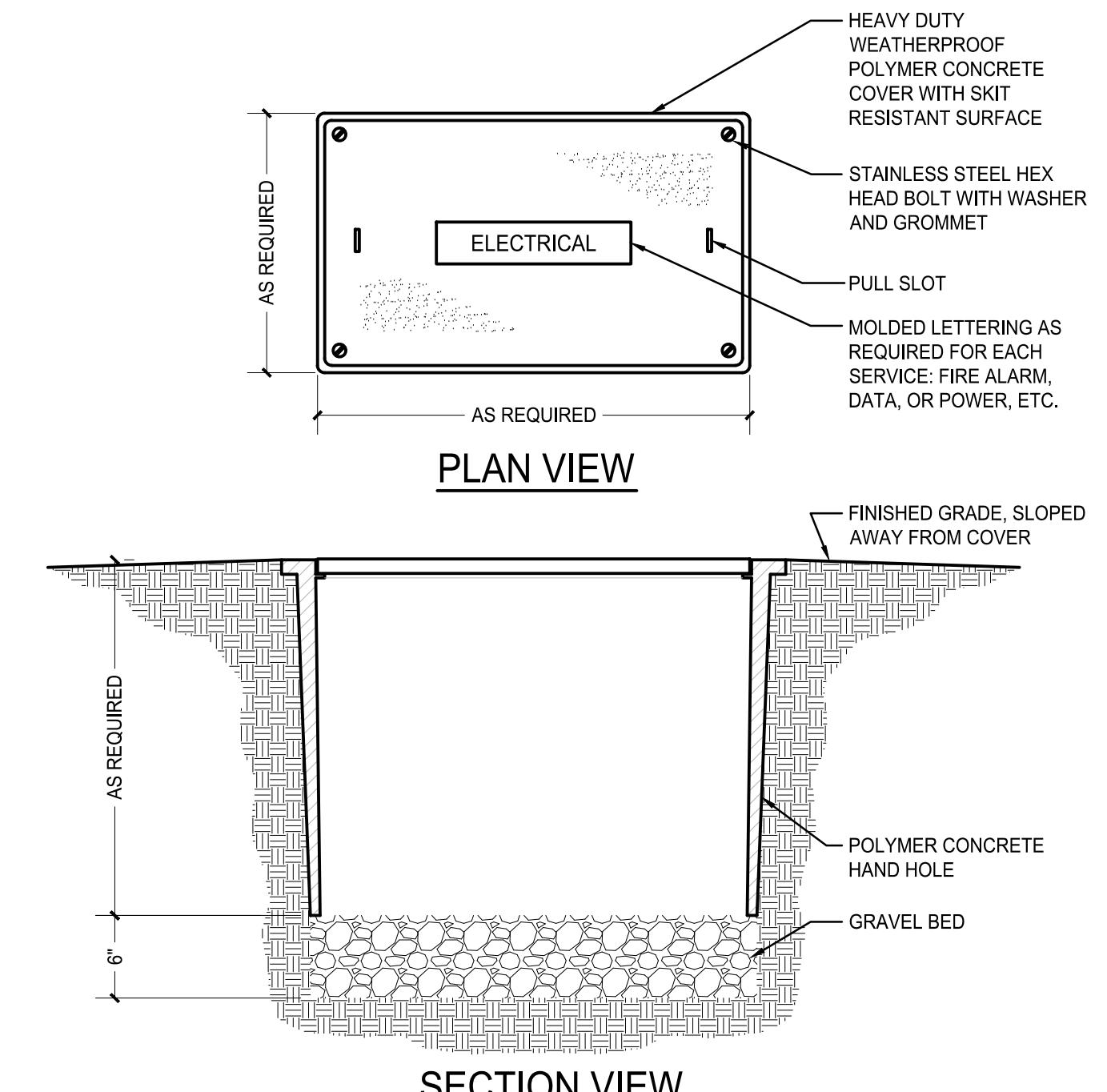


Centerpointe Corporate Park  
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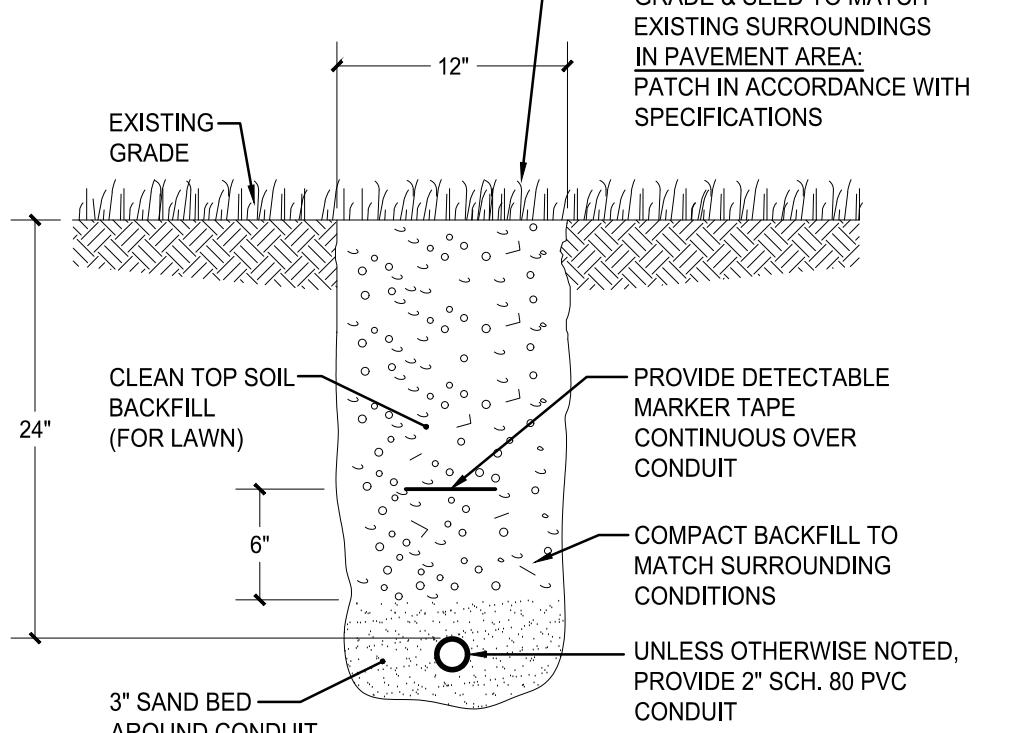


1 HANDHOLE INSTALLATION DETAIL

**2 SITE LIGHTING POLE BASE DETAIL**



3) OPEN BOTTOM HANDHOLE DETAIL  
SCALE: NONE



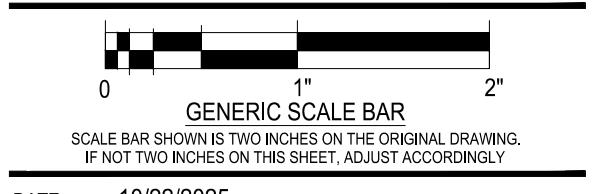
**DETAIL NOTES:**

- REPAIR ALL SETTLEMENT TO MATCH SURROUNDING AREAS.
- PROVIDE MINIMUM 6" OF TOPSOIL.
- INCREASE TRENCH WIDTH FOR ADDITIONAL CONDUITS AS REQUIRED WITH MINIMUM 3" SPACING.



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## **ELECTRICAL DETAILS & SCHEDULES**



DATE	10/22/2025		
SCALE	AS NOTED		
DWN.	JDM	CHK.	JFW
PROJ. No.	300825PKLOT		
DWG. No.			





6100 SOUTH PARK AVENUE  
HAMBURG NY, 14175

HAMBURG TOWN HALL  
PARKING LOT  
PROJECT #2025-06

CONSTRUCTION DOCUMENTS

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ELECTRICAL SPECIFICATION, CONTINUED

PART 3 - EXECUTION

3.1 PREPARATION

- A. COORDINATE LAYOUT AND INSTALLATION OF DUCTS, MANHOLES, HANHOLES, AND BOXES WITH FINAL ARRANGEMENT OF OTHER UTILITIES, SITE GRADING, AND SURFACE FEATURES AS DETERMINED IN THE FIELD. NOTIFY ARCHITECT IF THERE IS A CONFLICT BETWEEN AREAS OF EXCAVATION AND EXISTING STRUCTURES OR ARCHAEOLOGICAL SITES TO REMAIN.
- B. COORDINATE ELEVATIONS OF DUCTS AND DUCT-BANK ENTRANCES INTO MANHOLES, HANHOLES, AND BOXES WITH FINAL LOCATIONS AND PROFILES OF DUCTS AND DUCT BANKS, AS DETERMINED BY COORDINATION WITH OTHER UTILITIES, UNDERGROUND OBSTRUCTIONS, AND SURFACE FEATURES. REVISE LOCATIONS AND ELEVATIONS AS REQUIRED TO SUIT FIELD CONDITIONS AND TO ENSURE THAT DUCT RUNS DRAIN TO MANHOLES AND HANHOLES, AND AS APPROVED BY ARCHITECT.

3.2 UNDERGROUND DUCT APPLICATION

- A. DUCTS FOR ELECTRICAL FEEDERS 600 V AND LESS: RNC, NEMA TYPE EPC-80, YPE EPC-40-PVC, IN CONCRETE-ENCASED DUCT BANK UNLESS OTHERWISE INDICATED.

3.3 DUCT INSTALLATION

- A. INSTALL DUCTS ACCORDING TO NEMA TCB 2.
- B. SLOPE: PITCH DUCTS A MINIMUM SLOPE OF 1:300 DOWN TOWARD MANHOLES AND HANHOLES AND AWAY FROM BUILDINGS AND EQUIPMENT. SLOPE DUCTS FROM A HIGH POINT IN RUNS BETWEEN TWO MANHOLES, TO DRAIN IN BOTH DIRECTIONS.
- C. CURVES AND BENDS: USE 5-DEGREE ANGLE COUPLINGS FOR SMALL CHANGES IN DIRECTION. USE MANUFACTURED LONG SWEEP BENDS WITH A MINIMUM RADIUS OF 48 INCHES UNLESS OTHERWISE INDICATED.
- D. JOINTS: USE SOLVENT-CEMENTED JOINTS IN DUCTS AND FITTINGS AND MAKE WATERTIGHT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. STAGGER COUPLINGS SO THOSE OF ADJACENT DUCTS DO NOT LIE IN SAME PLANE.

- E. BUILDING WALL PENETRATIONS: MAKE A TRANSITION FROM UNDERGROUND DUCT TO RIGID STEEL CONDUIT AT LEAST 10 FEET OUTSIDE THE BUILDING WALL, WITHOUT REDUCING DUCT LINE SLOPE AWAY FROM THE BUILDING, AND WITHOUT FORMING A TRAP IN THE LINE. USE FITTINGS MANUFACTURED FOR DUCT-TO-CONDUIT TRANSITION. SEALING: PROVIDE TEMPORARY CLOSURE AT TERMINATIONS OF DUCTS THAT HAVE CABLES PULLED. SEAL SPARE DUCTS AT TERMINATIONS. USE SEALING COMPOUND AND PLUGS TO WITHSTAND AT LEAST 15-PSIG HYDROSTATIC PRESSURE.

F. DIRECT-BURIED DUCT BANKS:

- 1. EXCAVATE TRENCH BOTTOM TO PROVIDE FIRM AND UNIFORM SUPPORT FOR DUCT BANK. COMPLY WITH REQUIREMENTS IN SECTION 312000 "EARTH MOVING" FOR PREPARATION OF TRENCH BOTTOMS FOR PIPES LESS THAN 6 INCHES IN NOMINAL DIAMETER.
- 2. SUPPORT DUCTS ON DUCT SEPARATORS COORDINATED WITH DUCT SIZE, DUCT SPACING, AND OUTDOOR TEMPERATURE.
- 3. SPACE SEPARATORS CLOSE ENOUGH TO PREVENT SAGGING AND DEFORMING OF DUCTS, WITH NOT LESS THAN FOUR SPACERS PER 20 FEET OF DUCT. SECURE SEPARATORS TO EARTH AND TO DUCTS TO PREVENT DISPLACEMENT DURING BACKFILL AND YET PERMIT LINEAR DUCT MOVEMENT DUE TO EXPANSION AND CONTRACTION AS TEMPERATURE CHANGES. STAGGER SPACERS APPROXIMATELY 6 INCHES BETWEEN TIERS.
- 4. DEPTH: INSTALL TOP OF DUCT BANK AT LEAST 36 INCHES BELOW FINISHED GRADE UNLESS OTHERWISE INDICATED.
- 5. SET ELEVATION OF BOTTOM OF DUCT BANK BELOW FROST LINE.
- 6. INSTALL DUCTS WITH A MINIMUM OF 3 INCHES BETWEEN DUCTS FOR LIKE SERVICES AND 6 INCHES BETWEEN POWER AND SIGNAL DUCTS.
- 7. ELBOWS: INSTALL MANUFACTURED DUCT ELBOWS FOR STUB-UPS AT POLES AND EQUIPMENT, AT BUILDING ENTRANCES THROUGH FLOOR, AND AT CHANGES OF DIRECTION IN DUCT RUN UNLESS OTHERWISE INDICATED. ENCASE ELBOWS FOR STUB-UPS THROUGHOUT LENGTH OF ELBOW.
- 8. INSTALL MANUFACTURED RIGID STEEL CONDUIT ELBOWS FOR STUB-UPS AT POLES AND EQUIPMENT, AT BUILDING ENTRANCES THROUGH FLOOR, AND AT CHANGES OF DIRECTION IN DUCT RUN.
- G. WARNING TAPE: BURY WARNING TAPE APPROXIMATELY 12 INCHES ABOVE ALL CONCRETE-ENCASED DUCTS AND DUCT BANKS. ALIGN TAPE PARALLEL TO AND WITHIN 3 INCHES OF CENTERLINE OF DUCT BANK. PROVIDE AN ADDITIONAL WARNING TAPE FOR EACH 12-INCH INCREMENT OF DUCT-BANK WIDTH OVER A NOMINAL 18 INCHES. SPACE ADDITIONAL TAPES 12 INCHES APART, HORIZONTALLY.

3.4 INSTALLATION OF MANHOLES AND BOXES OTHER THAN PRECAST CONCRETE

- A. INSTALL MANHOLES AND BOXES LEVEL AND PLUMB AND WITH ORIENTATION AND DEPTH COORDINATED WITH CONNECTING DUCTS, TO MINIMIZE BENDS AND DELECTIONS REQUIRED FOR PROPER ENTRANCES. USE BOX EXTENSION IF REQUIRED TO MATCH DEPTHS OF DUCTS, AND SEAL JOINT BETWEEN BOX AND EXTENSION AS RECOMMENDED BY MANUFACTURER.
- B. UNLESS OTHERWISE INDICATED, SUPPORT UNITS ON A LEVEL BED OF CRUSHED STONE OR GRAVEL, GRADED FROM 1/2-INCH SIEVE TO NO. 4 SIEVE AND COMPAKTED TO SAME DENSITY AS ADJACENT UNDISTURBED EARTH.

3.5 GROUNDING

- A. GROUND UNDERGROUND DUCTS AND UTILITY STRUCTURES ACCORDING TO SECTION 260526 "GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS."

3.6 FIELD QUALITY CONTROL

- A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS AND PREPARE TEST REPORTS:
  - 1. DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS ON COMPLETION OF INSTALLATION OF UNDERGROUND DUCTS AND UTILITY STRUCTURES.
  - 2. CORRECT DEFICIENCIES AND RETEST AS SPECIFIED ABOVE TO DEMONSTRATE COMPLIANCE.

3.7 CLEANING

- A. PULL LEATHER-WASHER-TYPE DUCT CLEANER, WITH GRADUATED WASHER SIZES, THROUGH FULL LENGTH OF DUCTS. FOLLOW WITH RUBBER DUCT SWAB FOR FINAL CLEANING AND TO ASSIST IN SPREADING LUBRICANT THROUGHOUT DUCTS.
- B. CLEAN INTERNAL SURFACES OF MANHOLES, INCLUDING SUMP. REMOVE FOREIGN MATERIAL.

EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.
- B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS THAT AFFECT WORK UNDER THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION.
- C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.

1.2 SUMMARY

- A. SECTION INCLUDES:
  - 1. EXTERIOR LUMINAIRES WITH LAMPS AND BALLASTS.
  - 2. LUMINAIRE-MOUNTED PHOTOELECTRIC RELAYS.
  - 3. POLES AND ACCESSORIES.

1.3 DEFINITIONS

- A. CCT: CORRELATED COLOR TEMPERATURE.
- B. CRI: COLOR-RENDERING INDEX.
- C. HID: HIGH-INTENSITY DISCHARGE.
- D. LED: LIGHT EMITTING DIODE.
- E. LER: LUMINAIRE EFFICACY RATING.
- F. LUMINAIRE: COMPLETE LIGHTING FIXTURE, INCLUDING BALLAST HOUSING IF PROVIDED.
- G. POLE: LUMINAIRE SUPPORT STRUCTURE, INCLUDING TOWER USED FOR LARGE AREA ILLUMINATION.
- H. STANDARD: SAME DEFINITION AS "POLE" ABOVE.

1.4 SUBMITTALS

- A. PRODUCT DATA: FOR EACH LUMINAIRE, POLE, AND SUPPORT COMPONENT, ARRANGED IN ORDER OF LIGHTING UNIT DESIGNATION. INCLUDE DATA ON FEATURES, ACCESSORIES, FINISHES, AND THE FOLLOWING:
  - 1. PHYSICAL DESCRIPTION OF LUMINAIRE, INCLUDING MATERIALS, DIMENSIONS, EFFECTIVE PROJECTED AREA, AND VERIFICATION OF INDICATED PARAMETERS.
  - 2. DETAILS OF ATTACHING LUMINAIRES AND ACCESSORIES.
  - 3. DETAILS OF INSTALLATION AND CONSTRUCTION.
  - 4. LUMINAIRE MATERIALS.
  - 5. PHOTOMETRIC DATA BASED ON LABORATORY TESTS OF EACH LUMINAIRE TYPE, COMPLETE WITH INDICATED LAMPS, BALLASTS, AND ACCESSORIES.
  - 6. RETAIN ONE OF FIRST TWO SUBPARAGRAPHS BELOW. RETAIN "TESTING AGENCY CERTIFIED DATA" SUBPARAGRAPH IF PHOTOMETRIC DATA FOR ONE OR MORE LUMINAIRES ARE BASED ON INDEPENDENT LABORATORY TESTS; COORDINATE WITH THE EXTERIOR LIGHTING DEVICE SCHEDULE ON DRAWINGS TO INDICATE WHICH UNITS ARE REQUIRED TO MEET THIS REQUIREMENT. RETAIN "MANUFACTURER CERTIFIED DATA" SUBPARAGRAPH IF PHOTOMETRIC DATA BASED ON TESTING BY ACCREDITED MANUFACTURERS' LABORATORIES ARE CONSIDERED ADEQUATE FOR ALL EXTERIOR LUMINAIRES IN THIS PROJECT. SEE EVALUATIONS.
  - 7. PHOTOELECTRIC RELAYS.

- 8. BALLASTS, INCLUDING ENERGY-EFFICIENCY DATA.
- 9. LAMPS, INCLUDING LIFE, OUTPUT, CCT, CRI, LUMENS, AND ENERGY-EFFICIENCY DATA.
- 10. MATERIALS, DIMENSIONS, AND FINISHES OF POLES.
- 11. MEANS OF ATTACHING LUMINAIRES TO SUPPORTS, AND INDICATION THAT ATTACHMENT IS SUITABLE FOR COMPONENTS INVOLVED.
- 12. ANCHOR BOLTS FOR POLES.
- 13. MANUFACTURED POLE FOUNDATIONS.
- B. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
  - 1. DETAIL EQUIPMENT ASSEMBLIES AND INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION.
  - 2. ANCHOR-BOLT TEMPLATES KEYED TO SPECIFIC POLES AND CERTIFIED BY MANUFACTURER.
  - 3. DESIGN CALCULATIONS, CERTIFIED BY A QUALIFIED PROFESSIONAL ENGINEER, INDICATING STRENGTH OF SCREW FOUNDATIONS AND SOIL CONDITIONS ON WHICH THEY ARE BASED.
  - 4. WIRING DIAGRAMS: FOR POWER, SIGNAL, AND CONTROL WIRING.
  - C. SAMPLES: FOR PRODUCTS DESIGNATED FOR SAMPLE SUBMISSION IN THE EXTERIOR LIGHTING DEVICE SCHEDULE. EACH SAMPLE SHALL INCLUDE LAMPS AND BALLASTS.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. FURNISH EXTRA MATERIALS THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
  - 1. GLASS AND PLASTIC LENSES, COVERS, AND OTHER OPTICAL PARTS: ONE FOR EVERY 100 OF EACH TYPE AND RATING INSTALLED. FURNISH AT LEAST ONE OF EACH TYPE.
  - 2. DRIVERS: ONE FOR EVERY 100 OF EACH TYPE AND RATING INSTALLED. FURNISH AT LEAST ONE OF EACH TYPE.

1.6 QUALITY ASSURANCE

- A. LUMINAIRE PHOTOMETRIC DATA TESTING LABORATORY QUALIFICATIONS: PROVIDED BY MANUFACTURERS' LABORATORIES THAT ARE ACCREDITED UNDER THE NATIONAL VOLUNTEER LABORATORY ACCREDITATION PROGRAM FOR ENERGY EFFICIENT LIGHTING PRODUCTS.
- B. LUMINAIRE PHOTOMETRIC DATA TESTING LABORATORY QUALIFICATIONS: PROVIDED BY AN INDEPENDENT AGENCY, WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT THE TESTING INDICATED, THAT IS AN NRTL AS DEFINED BY OSHA IN 29 CFR 1910.
- C. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
- D. COMPLY WITH IEEE C2, "NATIONAL ELECTRICAL SAFETY CODE."
- E. COMPLY WITH NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. PACKAGE ALUMINUM POLES FOR SHIPPING ACCORDING TO ASTM B 660.
- B. STORE POLES ON DECAY-RESISTANT SKIDS AT LEAST 12 INCHES ABOVE GRADE AND VEGETATION. SUPPORT POLES TO PREVENT DISTORTION AND ARRANGE TO PROVIDE FREE AIR CIRCULATION.
- C. RETAIN FACTORY-APPLIED POLE WRAPPINGS ON METAL POLES UNTIL RIGHT BEFORE POLE INSTALLATION. FOR POLES WITH NONMETALLIC FINISHES, HANDLE WITH WEB FABRIC STRAPS.

1.8 WARRANTY

- A. WARRANTY: MANUFACTURER AND INSTALLER AGREE TO REPAIR OR REPLACE COMPONENTS OF LUMINAIRES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
  - 1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
    - a. STRUCTURAL FAILURES, INCLUDING LUMINAIRE SUPPORT COMPONENTS.
    - b. FAULTY OPERATION OF LUMINAIRES AND ACCESSORIES.
    - c. DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.
  - 2. WARRANTY PERIOD: FIVE YEAR(S) FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS. AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, PRODUCT(S) INDICATED ON DRAWINGS.

2.2 GENERAL REQUIREMENTS FOR LUMINAIRES

- A. LUMINAIRES SHALL COMPLY WITH UL 1598 AND BE LISTED AND LABELED FOR INSTALLATION IN WET LOCATIONS BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
  - 1. LER TESTS HID FIXTURES: WHERE LER IS SPECIFIED, TEST ACCORDING TO NEMA LE 5B.
- B. LATERAL LIGHT DISTRIBUTION PATTERNS: COMPLY WITHIESNA RP-8 FOR PARAMETERS OF LATERAL LIGHT DISTRIBUTION PATTERNS INDICATED FOR LUMINAIRES.
- C. METAL PARTS: FREE OF BURRS AND SHARP CORNERS AND EDGES.
- D. SHEET METAL COMPONENTS: CORROSION-RESISTANT ALUMINUM UNLESS OTHERWISE INDICATED. FORM AND SUPPORT TO PREVENT WARPING AND SAGGING.
- E. HOUSINGS: RIGIDLY FORMED, WEATHER- AND LIGHT-TIGHT ENCLOSURES THAT WILL NOT WARP, SAG, OR DEFORM IN USE. PROVIDE FILTER/BREATHER FOR ENCLOSED LUMINAIRES.
- F. DOORS, FRAMES, AND OTHER INTERNAL ACCESS: SMOOTH OPERATING, FREE OF LIGHT LEAKAGE UNDER OPERATING CONDITIONS, AND DESIGNED TO PERMIT RE-LAMPING WITHOUT USE OF TOOLS. DESIGNED TO PREVENT DOORS, FRAMES, LENSES, DIFFUSERS, AND OTHER COMPONENTS FROM FALLING ACCIDENTALLY DURING RE-LAMPING AND WHEN SECURED IN OPERATING POSITION. DOORS SHALL BE REMOVABLE FOR CLEANING OR REPLACING LENSES. DESIGNED TO DISCONNECT BALLAST WHEN DOOR OPENS.
- G. EXPOSED HARDWARE MATERIAL: STAINLESS STEEL.
- H. PLASTIC PARTS: HIGH RESISTANCE TO YELLOWING AND OTHER CHANGES DUE TO AGING, EXPOSURE TO HEAT, AND UV RADIATION.
- I. LIGHT SHIELDS: METAL BAFFLES, FACTORY INSTALLED AND FIELD ADJUSTABLE, ARRANGED TO BLOCK LIGHT DISTRIBUTION TO INDICATED PORTION OF NORMALLY ILLUMINATED AREA OR FIELD.
- J. REFLECTING SURFACES SHALL HAVE MINIMUM REFLECTANCE AS FOLLOWS UNLESS OTHERWISE INDICATED:
  - 1. WHITE SURFACES: 85 PERCENT.
  - 2. SPECULAR SURFACES: 93 PERCENT.
  - 3. DIFFUSING SPECULAR SURFACES: 75 PERCENT.
- K. LENSES AND REFRACTORS: GASKETS: USE HEAT- AND AGING-RESISTANT RESILIENT GASKETS TO SEAL AND CUSHION LENSES AND REFRACTORS IN LUMINAIRE DOORS.
- L. LUMINAIRE FINISH: MANUFACTURER'S STANDARD PAINT APPLIED TO FACTORY-ASSEMBLED AND -TESTED LUMINAIRE BEFORE SHIPPING. WHERE INDICATED, MATCH FINISH PROCESS AND COLOR OF POLE OR SUPPORT MATERIALS.
- M. FACTORY-APPLIED FINISH FOR STEEL LUMINAIRES: COMPLY WITH NAAMM'S "METAL FINISHES MANUAL FOR ARCHITECTURAL AND METAL PRODUCTS" FOR RECOMMENDATIONS FOR APPLYING AND DESIGNATING FINISHES.
  - 1. SURFACE PREPARATION: CLEAN SURFACES TO COMPLY WITH SSPC-SP 1, "SOLENT CLEANING," TO REMOVE DIRT, OIL, GREASE, AND OTHER CONTAMINANTS THAT COULD IMPAIR PAINT BOND. GRIND WELDS AND POLISH SURFACES TO A SMOOTH, EVEN FINISH. REMOVE MILL SCALE AND RUST, IF PRESENT, FROM UNCOATED STEEL, COMPLYING WITH SSPC-SP 5/NACE NO. 1, "WHITE METAL BLAST CLEANING," OR WITH SSPC-SP 8, "PICKLING."
  - 2. INTERIOR SURFACES OF POLE: ONE COAT OF BITUMINOUS PAINT, OR OTHERWISE TREAT FOR EQUAL CORROSION PROTECTION.
  - 3. EXTERIOR SURFACES: MANUFACTURER'S STANDARD FINISH CONSISTING OF ONE OR MORE COATS OF PRIMER AND TWO FINISH COATS OF HIGH-GLOSS, HIGH-BUILD POLYURETHANE ENAMEL.

2.3 LUMINAIRE INSTALLATION

A. INSTALL LAMPS IN EACH LUMINAIRE.

B. FASTEN LUMINAIRE TO INDICATED STRUCTURAL SUPPORTS.

- 1. USE FASTENING METHODS AND MATERIALS SELECTED TO RESIST SEISMIC FORCES DEFINED FOR THE APPLICATION AND APPROVED BY MANUFACTURER.

2. POLE INSTALLATION

- A. ALIGNMENT: ALIGN POLE FOUNDATIONS AND POLES FOR OPTIMUM DIRECTIONAL ALIGNMENT OF LUMINAIRES AND THEIR MOUNTING PROVISIONS ON THE POLE.
- B. CONCRETE POLE FOUNDATIONS: SET ANCHOR BOLTS ACCORDING TO ANCHOR-BOLT TEMPLATES FURNISHED BY POLE MANUFACTURER. CONCRETE MATERIALS, INSTALLATION, AND FINISHING REQUIREMENTS ARE SPECIFIED IN SECTION 03000 "CAST-IN-PLACE CONCRETE."

C. FOUNDATION-MOUNTED POLES: MOUNT POLE WITH LEVELING NUTS, AND TIGHTEN TOP NUTS TO TORQUE LEVEL RECOMMENDED BY POLE MANUFACTURER.

- 1. USE ANCHOR BOLTS AND NUTS SELECTED TO RESIST SEISMIC FORCES DEFINED FOR THE APPLICATION AND APPROVED BY MANUFACTURER.
- 2. GROUT VOID BETWEEN POLE BASE AND FOUNDATION. USE NON-SHRINK OR EXPANDING CONCRETE GROUT FIRMLY PACKED TO FILL SPACE.

3. INSTALL BASE COVERS UNLESS OTHERWISE INDICATED.

- 4. USE A SHORT PIECE OF 1/2-INCH DIAMETER PIPE TO MAKE A DRAIN HOLE THROUGH GROUT. ARRANGE TO DRAIN CONDENSATION FROM INTERIOR OF POLE.

3.3 GROUNDING

- A. GROUND METAL POLES AND SUPPORT STRUCTURES ACCORDING TO SECTION 260526 "GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS."
  - 1. INSTALL GROUNDING ELECTRODE FOR EACH POLE UNLESS OTHERWISE INDICATED.
  - 2. INSTALL GROUNDING CONDUCTOR PIGTAIL IN THE BASE FOR CONNECTING LUMINAIRE TO GROUNDING SYSTEM.

3.4 FIELD QUALITY CONTROL

- A. INSPECT EACH INSTALLED FIXTURE FOR