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### SUPERCHARGER STATION

2724 SHOWPLACE DRIVE (TESLA SUPERCHARGER) NAPERVILLE, IL 60564 TRT4007413 JB-6051973-00



0701044100710000, CLARK PROJ #: 230250

UTILITY COMPANY LATITUDE (NAV88) N 41° 42' 53.53" NAPERVILLE DPU-E 41.714870° (630) 548-1212 LONGITUDE (NAV88) W 88° 12' 22.99"

JULIE, Inc.

811 or 1-800-892-0123

-88.206386°

**EOR CONTACTS:** PROJECT MANAGER CONTACT: GIOVANNI HERNANDEZ GIOVANNI.HERNANDEZ@NAPERVILLE.IL.US

ISAAC MAHAM, PE - OH# 82452 IMAHAM@GPDGROUP.COM

NAPERVILLE XING / FAE NAPERVILLE PERMITTING JURISDICTION CITY OF NAPERVILLE

CONTACT: TBD

2018 INTERNATIONAL BUILDING CODE 2017 NATIONAL ELECTRICAL CODE IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL. AS USED HEREIN, IBC SHALL REFER TO INTERNATIONAL BUILDING CODE AND NEC SHALL REFER TO NATIONAL ELECTRIC CODE IL DEPT OF TRANSPORTATION SPECIFICATIONS THE STANDARD SPECIFICATIONS OF THE STATE OF IL, DEPARTMENT OF

SNOW LOADS:

REFERENCED DOCUMENTS

UTILITY DESIGN DOCUMENTS

SUPERCHARGER INSTALLATION MANUAL

SUPERCHARGER POST INSTALLATION MANUAL

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN THIS IMPROVEMENT. PROJECT DESCRIPTION

INSTALL (5) SUPERCHARGER CABINETS

EFFECTIVE DATE - 02/15/2019.

INSTALL (1) SWITCHGEAR ASSEMBLY WITH INTEGRATED TESLA SITE CONTROLLER AND INSTALL (1) UTILITY TRANSFORMER, (1) METER, (1) CT CABINET, AND OTHER ASSOCIATED

INSTALLATION OF (1) SECONDARY BROADCAST UNIT

FLOOD HAZARD NOTE
THE SITE IS LOCATED IN FLOOD ZONE "X" (AREA DETERMINED TO BE OUTSIDE THE 0.2
ANNUAL CHANCE FLOODPLAIN) PER FLOOD INSURANCE MAP NUMBER 17197C0030G,

PLAN REPRODUCTION WARNING CONTRACTORS SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND FIELD CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY OWNER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

TERMINED TO BE OUTSIDE THE 0.2%

GROUND SNOW LOAD (Pg) 25 PSF COVER SHEET ENGINEERING DESIGN SURVEY (BY OTHERS) C-003 CIVIL CONSTRUCTION NOTES LATERAL LOAD DESIGN DATA: C-004 CITY OF NAPERVILLE STANDARD CONSTRUCTION PLAN NOTES WIND DESIGN DATA (ASCE 7-16): C-005 CITY OF NAPERVILLE STANDARD CONSTRUCTION PLAN NOTES BASIC WIND SPEED (V<sub>ULT</sub>) EXISTING CONDITIONS AND DEMOLITION PLAN C-101 RISK CATEGORY EXPOSURE CATEGORY C-110 OVERALL CIVIL SITE PLAN CIVIL SITE PLAN C-111 SEISMIC DESIGN DATA (ASCE 7-16): DIMENSION SITE PLAN C-112 1.0 SEISMIC IMPORTANCE FACTOR (I) C-201 CIVIL DETAILS RISK CATEGORY C-202 CIVIL DETAILS SITE CLASS (ASSUMED) MAPPED SPECTRAL RESPONSE C-203 CITY OF NAPERVILLE DETAILS SHORT PERIODS (S<sub>S</sub>) 0.138 LANDSCAPE PLAN L-101 1 SEC. PERIODS (S<sub>1</sub>) 0.067 SPECTRAL RESPONSE COEFF. L-201 LANDSCAPE NOTES AND DETAILS 0.147 SHORT PERIODS (S<sub>DS</sub>) ELECTRICAL SHEET TITLE 1 SEC. PERIODS (SD1) 0.107 E-001 **ELECTRICAL GENERAL NOTES** SEISMIC DESIGN CATEGORY E-100 OVERALL ELECTRICAL SITE PLAN FROST DEPTH E-101 ELECTRICAL SITE PLAN 42 IN PHOTOMETRIC PLAN E-102

E-201

E-301

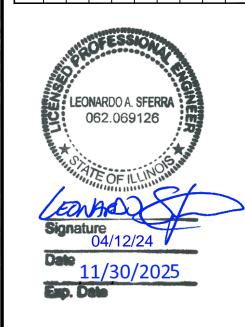
E-302

E-303

CIVIL



· · · · · · · · · · · · · · · · · · ·	DESCRIPTION	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR 90% REVIEW	ISSUED FOR SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	ADDED LANDSCAPE PLAN	
	DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
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SHEET TITLE

SINGLE LINE DIAGRAM & PANEL SCHEDULE

EXISTING PHOTOMETRIC PLAN (BY OTHERS)

ELECTRICAL DETAILS

UTILITY CUT SHEETS

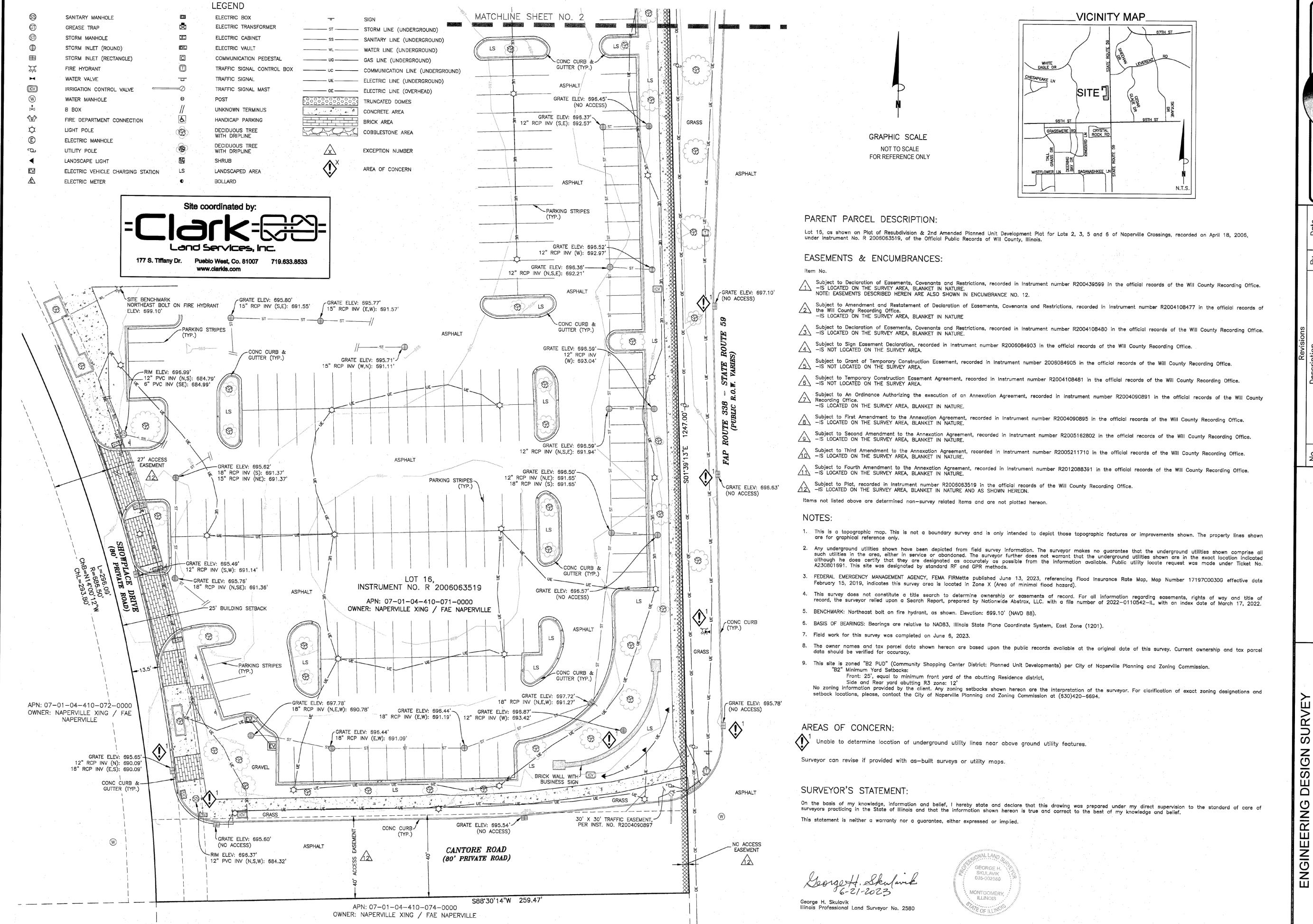
UTILITY CUT SHEETS

SHEE<sup>-</sup> SUPI 2724 S NAP

ROJECT MANAGER	DESIGNER
IM	NSE

2023141.99

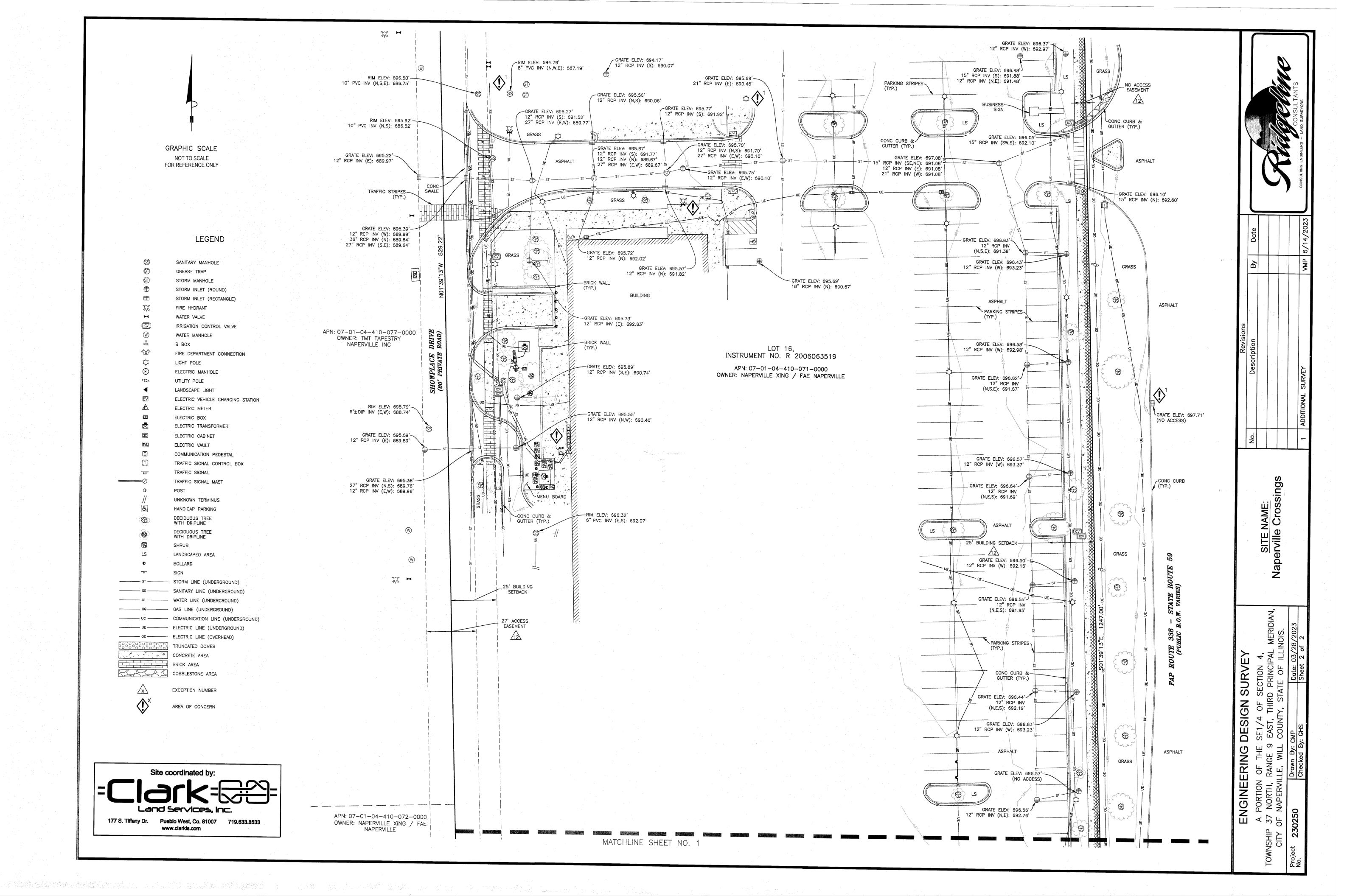




到德国第四部的首都是一篇"黄金"。在"以中说,中不可以在这种时间"第四年,一篇时间的第一次,"文明,"一点,也是"大爱"的一点的。一点的是这一一点的是一点的。

SURVEY SECTION 4,

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#### PROPERTY OWNER: NAPERVILLE XING / FAE NAPERVILLE

- SENERAL CONSTRUCTION NOTES
- THE TOPOGRAPHIC SURVEY BY OTHERS SHALL BE REFERENCED WITH THESE PLANS. THE G.C. IS RESPONSIBLE FOR LOCATING PROPOSED IMPROVEMENTS PER THESE
- THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THE PLAN ARE BASED ON FIELD SURVEYS. DUE TO THE LIMITATIONS IN TECHNOLOGY AND GROUND CONDITIONS, NOT ALL UNDERGROUND UTILITIES ARE ABLE TO BE LOCATED. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION, NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.
- ALL PROPERTY LINES, RIGHT OF WAYS, CENTERLINES, DIMENSIONS, GRADES, AND UTILITY LOCATIONS SHOWN ON THESE PLANS WERE BASED ON A TOPOGRAPHIC SURVEY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION/PROJECT MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND NOTIFY THE DESIGN PROFESSIONAL IN CHARGE FOR THE OWNER OF ANY DISCREPANCIES. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS SHALL BE CORRECTED AT THE CONTRACTOR'S SOLE EXPENSE.
- CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE OWNER FOR APPROVAL BEFORE MAKING ANY CHANGES. DEVIATION FROM PLANS BEFORE WRITTEN APPROVAL FROM OWNER PLACES LIABILITY ON THE CONTRACTOR.
- UNLESS OTHERWISE NOTED, ALL SURFACES SHALL BE PATCHED AND PAINTED AROUND THE PROPOSED IMPROVEMENTS TO MATCH EXISTING FINISHES.
- APPROVALS FROM BUILDING INSPECTORS SHALL NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE DRAWINGS.
- THE GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE ARRANGEMENTS FOR THE PROPOSED SCOPE OF WORK. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD DOCUMENTS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND FEDERAL, STATE AND LOCAL JURISDICTION CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE. IT IS CRITICAL TO FIELD VERIFY DIMENSIONS SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE OWNER PRIOR TO PROCEEDING.
- THE GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
- CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE.
- THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE PROPERTY OWNER.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD 5. OF CONSTRUCTION. GRAFFITI ON TEMPORARY FENCING SHALL BE PAINTED OVER WITHIN ONE DAY OF DISCOVERY. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.

- 24. ONLY ITEMS SPECIFICALLY CALLED OUT TO BE REMOVED OR DEMOLISHED SHALL BE AFFECTED. ANY ITEMS INCLUDING, BUT NOT LIMITED TO, CURBS, PAVEMENT, UTILITY ITEMS, LANDSCAPING, ETC. SHALL REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE ANY AFFECTED ITEMS AT OWNERS
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED 2. TO PREVENT EROSION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE EPA AND FEDERAL, STATE, LOCAL JURISDICTIONS FOR EROSION AND SEDIMENT CONTROL. THE 3 WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ALL TIMES.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- 29. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 98 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT, SIDEWALKS, STRUCTURES AND OPEN SPACES. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
- ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE OWNER AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- 32. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE OWNER UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- 33. AT THE END OF EACH WORK DAY AND FINAL TURNOVER TO OWNER, THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS IN A LAWFUL MANNER AND LEAVE PREMISES IN A CLEAN CONDITION. CONTRACTOR SHALL REMOVE ANY METAL SHAVING FROM WORK SITE WHERE OXIDIZED OR CONDUCTIVE SHAVINGS MAY CAUSE RUST, ELECTRICAL SHORT CIRCUITS, OR OTHER DAMAGE.
- CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR AND OWNER IMMEDIATELY.
- 35. CONTRACTOR IS RESPONSIBLE FOR CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.
- FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY AN INDEPENDENT TESTING LAB. THIS WORK TO BE COORDINATED BY THE CONTRACTOR.
- EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE STAKEHOLDER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
- 38. GRANULAR BACKFILL: SHALL MEET THE FOLLOWING GRADATION PER THE TABLE BELOW:

SIEVE SIZE	TOTAL PERCENT PASSING
1-1/2" (37.50 MM)	100
1" (25.00 MM)	75 TO 100
3/4" (19.00 MM)	80 TO 100
3/8" (9.50 MM)	35 TO 75
No. 4 (4.75 MM)	30 TO 60
No. 30 (0.60 MM)	7 TO 30
No. 200 (0.75 MM)	3 TO 15

- 39. GRANULAR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SW-SM).
- UNSUITABLE MATERIAL: HIGH AND MODERATELY PLASTICS SILTS AND CLAYS (LL>45). MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.
- 41. REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
- 42. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE ENGINEER.

#### PAVEMENT MARKING NOTES

LEGEND

EX. FENCING

EX. PROPERTY LINE

EX. UG ELECTRICAL LINE

EX. OH ELECTRICAL LINE

EX. UG FIBER LINE

EX. UG GAS LINE

- ALL PAVEMENT MARKINGS TO MATCH EXISTING CONDITIONS, UNLESS STATED OTHERWISE. ALL PAVEMENT MARKINGS WITHIN ADA AREAS SHALL BE PAINTED BLUE EXCEPT FOR COLORS DEFINED ON THE ADA PAVEMENT SYMBOL OR WHERE LOCAL AHJ CODE DICTATES NO FROST DESIGN NOTES OTHERWISE.
- MARKING (STRIPING) PAINT FOR PARKING SPACES, TRAFFIC ARROWS, ADA PARKING AND SYMBOLS, ETC., PER LOCAL REQUIREMENTS AND AS FOLLOWS:
- PAVEMENT MARKINGS PAINT SHALL BE WATER BASE FAST DRYING 100% ACRYLIC TYPE: WATER BASE TO MEET FEDERAL SPECIFICATION TTP-01952B. FOR COLD WEATHER APPLICATION PAINT PRODUCT SHALL BE IN ACCORDANCE WITH ASTM-D2369, D1394, D3723, D1475, D562 AND D711.
- PROVIDE A NON-SLIP AGGREGATE ADDITIVE TO MARKING PAINT USED AT ADA ACCESS
- APPLY 2 COATS WITHIN THE SAME DAY, UTILIZING STRAIGHT EDGES, YELLOW ON CONCRETE/WHITE ON ASPHALT EXCEPT WHEN MATCHING ADJACENT OR EXISTING COLOR MUST BE COMPLETED PRIOR TO FINAL INSPECTION APPROVAL. WHEN THE PAVING IS AN EXPANSION OR SEGMENT OF A LARGER LOT.

#### **GENERAL FOUNDATION NOTES**

- THE CONTRACTOR SHALL RETAIN AN OWNER APPROVED AND QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE TO MAKE GEOTECHNICAL RECOMMENDATIONS BASED ON FIELD CONDITIONS, AND ENSURE THAT ALL SHORING AND DEWATERING MEANS AND METHODS WILL NOT COMPROMISE THE STABILITY OF EXISTING OR PROPOSED FOOTINGS/FOUNDATIONS. THE OWNER SHALL RECEIVE COMPACTION REPORTS PREPARED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER. VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY SAID GEOTECHNICAL ENGINEER. NOTIFY PROJECT CONSTRUCTION MANAGER IF ANY UNSUITABLE SOILS ARE FOUND.
- AT A MINIMUM ALL FILLED AND SUBGRADE AREAS SHALL BE COMPACTED TO 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY PER A.S.T.M TEST D-698. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 2% BELOW OPTIMUM.
- DETERMINATION OF FINAL BEARING ELEVATIONS, TOPSOIL AND EXCAVATION STRIPPING DEPTH, INSPECTION OF ALL SUBSOIL EXPOSED DURING STRIPPING, SITE GRADING EXCAVATION OPERATIONS, APPROVAL OF FILL MATERIALS, DENSITY TESTING OF FILLS TO ENSURE PLACEMENT PER SPECIFICATION REQUIREMENTS, INSPECTION OF FOUNDATION BEARING SURFACES, AND VERIFICATION OF ALLOWABLE BEARING PRESSURES ARE THE TESTING LABORATORY'S RESPONSIBILITY.
- ALL FOUNDATIONS ARE TO REST ON FIRM UNDISTURBED SOIL OR COMPACTED FILL FREE FROM ORGANIC MATTER. IF POOR SOIL CONDITIONS ARE ENCOUNTERED AT FOUNDATION DEPTHS SHOWN, NOTIFY OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR SHALL COMPACT SUBGRADE. SEE FROST/NO FROST DESIGN NOTES THIS
- FOUNDATIONS HAVE BEEN DESIGNED BASED ON AN ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 1500 PSF UNLESS NOTED OTHERWISE.
- NEW FOOTINGS PLACED ADJACENT TO EXISTING FOOTINGS SHALL BEAR AT THE SAME ELEVATION, UNLESS NOTED OTHERWISE.
- STEP FOOTINGS AT A RATIO OF ONE (1) VERTICAL TO TWO (2) HORIZONTAL WITH A MAXIMUM VERTICAL STEP OF 2'-0" UNLESS NOTED OTHERWISE.
- INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES, WHICH WILL RESULT IN DETERIORATION OF BEARING FORMATIONS, SHALL BE PREVENTED. FOOTINGS SHALL BE PLACED IMMEDIATELY FOLLOWING FOOTING EXCAVATIONS AND BEARING SURFACE INSPECTION.
- UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- 11. GROUNDWATER ASSUMED TO BE BELOW EXCAVATION DEPTH. IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION ON SITE, CONTRACTOR SHALL PROVIDE FOR ANY SITE DRAINAGE AND DE-WATERING REQUIRED.
- 12. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES PRIOR TO EXCAVATION. IF NECESSARY, UTILITIES SHALL BE RELOCATED PRIOR TO FOUNDATION INSTALLATION.

#### (BOTTOM OF FOUNDATIONS ABOVE FROST LEVEL)

- CONCRETE FOUNDATIONS SHOULD BEAR DIRECTLY ON A PROPERLY COMPACTED FREE-DRAINING GRANULAR FILL CONSISTING OF NO. 57 STONE OR AN APPROVED EQUIVALENT.
- GRANULAR FILL SHOULD EXTEND VERTICALLY TO THE MINIMUM RECOMMENDED REGIONAL FROST DEPTH AND LATERALLY 2/3RD FROM THE FOUNDATION PERIMETER (EXCLUDING SIDE OF PERIMETER ADJACENT TO CURB). GRANULAR FILL SHOULD BE PLACED IN 8 INCH LOOSE LIFTS AND COMPACTED WITH A VIBRATORY COMPACTOR. THE COMPACTION EQUIPMENT SHOULD BE OPERATED OVER THE FULL WIDTH OF THE FOUNDATION UNDERCUT AREA UNTIL VISIBLE DEFORMATION OF THE BACKFILL CEASES. LOCAL FROST DEPTH IS LISTED ON SHEET C-001. CONTRACTOR SHALL VERIFY LOCAL FROST DEPTH WITH AHJ PRIOR TO CONSTRUCTION.
- GEOTEXTILE (FILTER FABRIC) SHOULD BE PLACED BETWEEN THE GRANULAR BACKFILL AND COHESIVE SOILS TO PRECLUDE THE INFILTRATION OF FINES. SPEC AS FOLLOWS:
  - SEPARATION GEOTEXTILE: WOVEN GEOTEXTILE FABRIC, MANUFACTURED FOR SEPARATION APPLICATIONS, MADE FROM POLYOLEFINS OR POLYESTERS; WITH ELONGATION LESS THAN 50 PERCENT; COMPLYING WITH AASHTO M 288 AND THE
  - FOLLOWING, MEASURED PER TEST METHODS REFERENCED: SURVIVABILITY: CLASS 2; AASHTO M 288. GRAB TENSILE STRENGTH: 247 LBF (1100 N); ASTM D 4632.
- SEWN SEAM STRENGTH: 222 LBF (990 N); ASTM D 4632. TEAR STRENGTH: 90 LBF (400 N); ASTM D 4533. PUNCTURE STRENGTH: 90 LBF (400 N); ASTM D 4833. APPARENT OPENING SIZE: NO. 60 (0.250-MM) SIEVE, MAXIMUM; ASTM D 4751.
- PERMITTIVITY: 0.02 PER SECOND, MINIMUM; ASTM D 4491. UV STABILITY: 50 PERCENT AFTER 500 HOURS' EXPOSURE; ASTM D 4355.

#### BOTTOM OF FOUNDATIONS BELOW FROST LEVEL).

- CONCRETE FOUNDATIONS SHOULD BE SUPPORTED ON A 6 INCH COMPACTED LAYER OF APPROVED FREE-DRAINING GRANULAR MATERIAL.
- APPROVED MATERIAL SHOULD BE COMPACTED OVER THE FULL WIDTH OF THE INFILL AREA UNTIL VISIBLE DEFORMATION OF THE BACKFILL CEASES.

#### SPECIAL INSPECTIONS

THE CLIENT SHALL BE RESPONSIBLE FOR SCHEDULING AND OVERSEEING OF ALL SPECIAL INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. SPECIAL INSPECTIONS

#### CONCRETE

- 1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301-16, "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE" AND ACI 302, 305 AND 306 UNLESS NOTED
- 2. ALL DETAILING, FABRICATION AND PLACING OF CONCRETE SHALL CONFORM TO ACI 318-14, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND THE LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAIL REINFORCED CONCRETE STRUCTURES" UNLESS NOTED OTHERWISE.
- 3. SAFETY AND PERFORMANCE OF THE STRUCTURE ARE THE RESPONSIBILITY OF THE CONTRACTOR INSOFAR AS THEY ARE AFFECTED BY THE LOCATION AND DETAILS OF CONSTRUCTION JOINTS. SHOP DRAWINGS OF THE PROPOSED CONSTRUCTION JOINT LOCATIONS AND DETAILS ARE TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.
- MAXIMUM SIZE OF AGGREGATE SHALL NOT EXCEED SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR 1/3 CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. MAXIMUM SIZE MAY BE INCREASED TO 2/3 CLEAR DISTANCE PROVIDED WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING WILL PREVENT HONEYCOMBS OR VOIDS.
- ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS: ALL CONCRETE - 4500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 6% (± 1%) AIR ENTRAINMENT.
- 6. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A1064 AND BE FURNISHED IN FLAT SHEETS AND INSTALLED ON CHAIRS OR PRECAST CONCRETE BLOCKS.
- 8. NO TACK WELDING OF REINFORCING IN THE FIELD IS PERMITTED.
- PROVIDE CORNER BARS AT ALL LOCATIONS WHERE REINFORCEMENT CHANGES
- 10. PROVIDE STRAIGHT AND DIAGONAL BARS AT EDGES OF ALL OPENINGS. REINFORCING EMBEDMENT AND LAP SPLICES (INCHES) FOR 4500 PSI CONCRETE.

<u>OTHER</u>			TOP*			
	ANCHORAGE	SPLICE	ANCHORAGE	SPLICE		
#3	15	19	19	24		
#4	19	25	25	33		
#5	24	31	31	41		
#6	29	37	37	49		

- \*HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE BELOW BAR
- 11. NON-SHRINK GROUT SHALL MEET A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 6000 PSI.
- 12. ADD 100% TIES FOR REBAR OVERLAY. NO COLD JOINTS SHALL BE PERMITTED DURING CONSTRUCTION.

#### STRUCTURAL STEEL

- MATERIAL PROPERTIES PLATE: ASTM A36 UNO PIPE: ASTM A53, TYPE E OR S, GRADE
- TUBE: ASTM A1085 GRADE A (Fy = 50 KSI) WIDE FLANGE: ASTM A992 (Fy = 50 KSI)
- 2. DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE 2016 AISC (360-16) SPECIFICATIONS.
- ALL WELDING SHALL BE DONE USING E-70XX ELECTRODES IN ACCORDANCE WITH AWS D1.1
- 4. FIELD VERIFY ALL CONDITIONS AT AND CONNECTIONS TO THE EXISTING CONSTRUCTION BEFORE FABRICATION.
- ALL EXPOSED STRUCTURAL STEEL, ANCHOR RODS AND BOLTS SHALL BE HOT DIP GALVANIZED PER ASTM A123.
- UNLESS NOTED OTHERWISE ON THE DRAWING, ALL ANCHOR RODS SHALL CONFORM TO ASTM F1554 Gr 55 WITH HEAVY HEXAGONAL NUT.
- SUBMIT FABRICATION AND ERECTION DRAWINGS SHOWING ALL DETAILS, CONNECTIONS, MATERIAL DESIGNATIONS, AND TOP STEEL ELEVATIONS FOR APPROVAL. THE SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL CONFORMANCE TO THE CONTRACT DRAWINGS. SUCH APPROVAL SHALL NOT RELIEVE THE FABRICATOR/CONTRACTOR OF THE RESPONSIBILITY FOR EITHER THE ACCURACY OF THE DETAILED DIMENSIONS IN THE SHOP AND ERECTION DRAWINGS OR THE GENERAL FIT-UP OF PARTS THAT ARE TO BE ASSEMBLED IN THE FIELD.

#### TRAFFIC CONTROL NOTES

- DURING THE CONSTRUCTION PERIOD; SIDEWALKS, SHOULDERS, TRAVEL LANE(S), OR STREETS MAY HAVE TO BE TEMPORARILY CLOSED OR RESTRICTED FOR THE UNLOADING / LOADING OF EQUIPMENT OR AS A RESULT OF CONSTRUCTION ACTIVITIES THEMSELVES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE DIRECTLY WITH THE LOCAL GOVERNING AUTHORITIES ON ANY SUCH CLOSURES AND MUST OBTAIN WRITTEN PERMISSION FROM THE APPROPRIATE AUTHORITIES PRIOR TO IMPLEMENTING SUCH CLOSURES OR RESTRICTIONS. ANY CLOSURE OR RESTRICTION MUST COMPLY WITH THE STATE MANUAL OF UNIFORM CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS (LATEST EDITION AND REVISION), AND WITH ANY AND ALL ADDITIONAL APPLICABLE CITY VILLAGE, OR COUNTY REQUIREMENTS. THE CONTRACTOR SHALL PREPARE AND SUBMIT A FORMAL TRAFFIC CONTROL / MOT PLAN TO THE LOCAL GOVERNING AUTHORITIES IF REQUESTED. ALL REQUIRED CONSTRUCTION TRAFFIC MAINTENANCE DEVICES SHALL BE PROVIDED, ERECTED AND MAINTAINED, AND ULTIMATELY REMOVED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN SAFE AND SATISFACTORY ACCESS TO ALL ABUTTING PROPERTIES AND INTERSECTING STREET AT ALL TIMES DURING THE CONSTRUCTION OF THE IMPROVEMENTS ANTICIPATED. DRIVEWAYS MUST BE MAINTAINED AND ALL TRENCHES SHALL BE BACKFILLED AT THE END OF EACH WORK DAY. PER THE STATE MUTCD AND OTHER APPLICABLE APPROPRIATE GOVERNING REQUIREMENTS, THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES SATISFACTORY BARRIERS, CONES, SIGNAGE, BARRELS, MESSAGE BOARDS, LIGHTING, FLAGMEN, LAW ENFORCEMENT OFFICERS, ETC. TO AVOID DAMAGE AND / OR INJURY TO VEHICLES AND PERSONS TRAVERSING THE CONSTRUCTION AREA.



520 South Main Street, Suite 2531 Akron, OH 4431 330.572.2100 Fax 330.572.2101

DESCRIPTION	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR 90% REVIEW	ISSUED FOR SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	ADDED LANDSCAPE PLAN	
DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
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PROJECT MANAGER DESIGNER

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EX. STORM MANHOLE ----- SAN -----**EX. FIRE HYDRANT** -o---- ex. Telephone line

EX. GAS METER

WVL EX. SIGN

EX. TELEPHONE MANHOLE

**EX. ELECTRIC TRANSFORMER** 

EX. UG SANITARY SEWER LINE P/L EX. UG STORM SEWER LINE

> EX. GAS VALVE EX. FIRE DEPARTMENT CONNECTION

EX. TREE

EX. SHRUB

EX. WATER MANHOLE (W) EX. A/C UNIT | AC | EX. BOLLARD

EX. UG WATER LINE EX. WATER VALVE EX. CATCH BASIN EX. IRRIGATION VALVE (ICV) EX. LIGHT POLE

EX. SANITARY MANHOLE (SS)

EX. WATER METER

EX. WATER VAULT

EX. ELECTRIC HANDHOLE/VAULT

EX. CLEANOUT

The City of Naperville Transportation, Engineering and Development (TED) Business Group has established Standard Notes, which should be included in the final engineering plans for private development projects. The Standard Notes are broken out by type of work. The Consultant designing the final engineering plans should review the lists below to determine which Standard Notes should be

Please note that the City of Naperville Department of Public Utilities - Water/Wastewater (DPU-W) has their own Standard Notes they require for water and sanitary sewer work in private development final engineering plans. Please contact DPU-W for the Water/Wastewater Standard Notes.

WORK FOR ANY REASON.

The General Notes in this section should be included in all final engineering plans regardless of the type of project.

1	THE OWNER OR THEIR REPRESENTATIVE IS RESPONSIBLE TO OBTAIN ANY AND ALL PERMITS REQUIRED BY APPLICABLE GOVERNMENTAL AGENCIES.
2	ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF NAPERVILLE DESIGN MANUAL AND STANDARD SPECIFICATIONS (CURRENT EDITION) AND WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (CURRENT EDITION).
3	ALL CONTRACTORS DOING WORK IN THE PUBLIC RIGHT-OF-WAY MUST BE LICENSED (WHEN APPLICABLE) TO MAKE PUBLIC IMPROVEMENTS WITHIN THE NAPERVILLE CORPORATE LIMITS.
4	THE CONTRACTOR/DEVELOPER ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR ANY ACTION RESULTING FROM THEIR WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
5	THE CONTRACTOR/DEVELOPER SHALL INDEMNIFY AND HOLD HARMLESS THE CITY OF NAPERVILLE.
6	PRIOR TO COMMENCEMENT OF ANY OFF-SITE CONSTRUCTION, THE CONTRACTOR SHALL SECURE WRITTEN AUTHORIZATION THAT ALL OFF-SITE EASEMENTS HAVE BEEN SECURED AND THAT PERMISSION HAS BEEN GRANTED TO ENTER ONTO PRIVATE PROPERTY.
7	THE CONTRACTOR AND THEIR ON-SITE REPRESENTATIVES WILL BE REQUIRED TO ATTEND A PRE- CONSTRUCTION MEETING WITH THE CITY OF NAPERVILLE PRIOR TO ANY WORK BEING STARTED. A PRE- CONSTRUCTION MEETING WILL NOT BE SCHEDULED UNTIL THE PROJECT HAS BEEN APPROVED BY THE CITY OF NAPERVILLE DEVELOPMENT REVIEW TEAM AND THE REQUIRED SURETY HAS BEEN POSTED.
	A MINIMUM OF 48 HOURS NOTICE SHALL BE GIVEN TO THE CITY OF NAPERVILLE TED BUSINESS GROUP

(630-420-6100 OPTION 1) PRIOR TO STARTING WORK OR RESTARTING WORK AFTER SOME ABSENCE OF

9	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY IDENTIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION. BEFORE STARTING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT JULIE FOR THE LOCATION OF ANY AND ALL UTILITIES. THE TOLL-FREE NUMBER IS 800-892-0123. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY PRIVATE FACILITIES OR NON-JULIE MEMBER FACILITIES.
10	THE CONTRACTOR CAN SCHEDULE ALL NECESSARY SITE INSPECTIONS WITH THE CITY OF NAPERVILLE BY CALLING (630) 420-6100 OPTION 1 BETWEEN THE HOURS OF 8:00AM AND 4:00PM (CLOSED 1:00PM TO 2:00PM DAILY) ON WEEKDAYS WHEN THE CITY IS OPEN FOR BUSINESS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE SITE PERMIT NUMBER FOR THE PROJECT IN ORDER TO SCHEDULE THE INSPECTION(S).
11	RECORD DRAWINGS ARE REQUIRED TO BE SUBMITTED AND APPROVED BY THE CITY OF NAPERVILLE PRIOR TO FINAL OCCUPANCY BEING GRANTED.
	FINAL ACCEPTANCE OF PUBLIC IMPROVEMENTS SHALL BE GRANTED ONLY AFTER A FINAL INSPECTION HAS

#### General Notes (Project Specific)

The Consultant should review the following General Notes to determine if they are applicable to the work to be completed with the project. Those Notes that are applicable should be included in the engineering plans.

ACCORDANCE WITH THE NAPERVILLE MUNICIPAL CODE.

BEEN COMPLETED AND HAS REVEALED THAT ALL IMPROVEMENTS HAVE BEEN SATISFACTORILY

COMPLETED IN ACCORDANCE WITH THE NAPERVILLE STANDARD SPECIFICATIONS. UTILITIES ARE NOT

CONSIDERED ACCEPTED UNTIL THEY ARE FORMALLY ACCEPTED BY THE CITY COUNCIL AS REQUIRED IN

1	TRAFFIC SIGNALS AND THEIR ASSOCIATED EQUIPMENT UNDER THE JURISDICTION OF DUPAGE COUNTY ARE NOT INCLUDED IN THE JULIE SYSTEM. THE CONTRACTOR SHALL CONTACT DUPAGE COUNTY DOT AND IDOT DIRECTLY REGARDING THE LOCATION OF TRAFFIC SIGNALS (CABLING AND ASSOCIATED SYSTEMS) UNDER	
	DUPAGE COUNTY OR IDOT JURISDICTION.	
	DUPAGE COUNTY OR IDOT JURISDICTION.	

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#### Storm Sewer Notes (General)

The Storm Sewer Notes in this section should be included in all final engineering plans regardless of the type of

1	NO CONNECTION TO AN EXISTING PUBLIC STORM SEWER MAY BE MADE WITHOUT PERMISSION OF TICITY ENGINEER.
	THE CONTRACTOR SHALL REPAIR ANY EXISTING FIELD DRAINAGE TILE DAMAGED DURING CONSTRUCTION AND PROPERLY REPOUTE AND/OR CONNECT SAID TILE TO THE NEAREST STORM SEWER OUTLET. A
2	LOCATIONS OF ENCOUNTERED FIELD DRAINAGE TILE SHALL BE PROPERLY INDICATED ON THE

#### Storm Sewer Notes (Storm Sewer Work in Plans)

CONTRACTOR'S RECORD DRAWINGS.

The Storm Sewer Notes in this section are intended to be included when a project includes storm sewer work as part of the project. The Consultant should review the following Notes to determine if they are applicable to the work being completed.

The first note provided below includes information regarding all the allowable storm sewer pipe materials. Only those materials that are identified on the plans are required to be included. However, if the contractor requests a change to the pipe material and the associated pipe material information is not included in the engineering plans, the applicable Storm Sewer Note will need to be added to final engineering plans the as part of the Field Change request.

THE FOLLOWING MATERIALS ARE PERMITTED FOR STORM SEWER AND PIPE CLILVERTS. WHERE A

1	PARTICULAR MATERIAL IS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS, NO OTHER KIND OF MATERIAL WILL BE PERMITTED:
<b>1</b> a	REINFORCED CONCRETE PIPE (RCP) - REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM DESIGNATION C 76, CLASSES I, II, III, IV OR V. BITUMINOUS JOINTS SHALL CONFORM TO ASTM DESIGNATIONS C 14 OR C 76 AS MAY BE APPLICABLE. BITUMINOUS MATERIAL SHALL CONSIST OF A HOMOGENEOUS BLEND OF BITUMEN, INERT FILLER, AND SUITABLE SOLVENT APPROVED BY THE CITY ENGINEER. RUBBER GASKET JOINTS SHALL CONFORM TO ASTM C 433. REINFORCED CONCRETE PIPE SHALL ALSO BE PERMITTED AS ROUND, ELLIPTICAL, OR BOX SHAPED OR AS REINFORCED CONCRETE ARCH CULVERT.
1b	NON-REINFORCED CONCRETE PIPE - NON-REINFORCED CONCRETE PIPE SHALL BE ALLOWED FOR PIPES WITH A 10 INCH OR SMALLER DIAMETER. NON-REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM DESIGNATION C 14, CLASS 3. BITUMINOUS JOINTS SHALL CONFORM TO ASTM DESIGNATIONS C 14 OR C 76 AS MAY BE APPLICABLE. BITUMINOUS MATERIAL SHALL CONSIST OF A HOMOGENEOUS BLEND OF BITUMEN, INERT FILLER, AND SUITABLE SOLVENT APPROVED BY THE CITY ENGINEER. RUBBER GASKET JOINTS SHALL CONFORM TO ASTM C 433.

	DUCTILE IRON PIPE (DIP) - DUCTILE IRON PIPE SHALL CONFORM TO ANSI A 21.51 (AWWA C-151),
	CLASS THICKNESS DESIGNED PER ANSI A 21.50 (AWWA C-150), TAR (SEAL) COATED AND CEMENT
	LINED PER ANSI A 21.4 (AWWA C-104), WITH MECHANICAL OR RUBBER RING (SLIP SEAL OR PUSH ON)
	JOINTS. ALL DUCTILE IRON PIPE SHALL BE WRAPPED WITH POLYETHYLENE.
_	

1d	POLYVINYL CHLORIDE PIPE (PVC) - POLYVINYL CHLORIDE (PVC) PIPE SHALL CONFORM TO ASTM D 3034, TYPE PSM. THE MINIMUM STANDARD DIMENSION RATIO (SDR) SHALL BE 26. THE PIPE SHALL BE MADE OF PVC PLASTIC HAVING A MINIMUM CELL CLASSIFICATION OF 12454-C AND SHALL HAVE
	A MINIMUM PIPE STIFFNESS OF FORTY-SIX (46) LBS. PER INCH (317 KPA). JOINTS FOR PVC PIPE SHALL BE FLEXIBLE ELASTOMETRIC SEALS PER ASTM D 3212.

HIGH DENSITY POLYETHELYNE PIPE (HDPE) - HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 252 AND M 294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM TO THE REQUIREMENTS OF CELL CLASS 324420C AS DEFINED AND DESCRIBED IN ASTM D 3350. RUBBER GASKET JOINTS SHALL BE USED.

FULLY GALVANIZED CORRUGATED STEEL PIPE - FULLY GALVANIZED CORRUGATED STEEL PIPE MAY BE

USED FOR RESIDENTIAL DRIVEWAY CROSSINGS ONLY WHEN A DITCH SECTION IS PRESENT. THE

MINIMUM CULVERT SIZE IS 12" DIAMETER. BEDDING, OTHER THAN CONCRETE EMBEDMENT, SHALL CONSIST OF GRAVEL, CRUSHED GRAVEL, OR CRUSHED STONE 1/4 INCH TO 1 INCH IN SIZE. AS A MINIMUM, THE MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF IDOT STANDARD SPECIFICATIONS. THE GRADATION SHALL CONFORM TO GRADATION

BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF IDOT STANDARD SPECIFICATIONS. THE GRADATION SHALL CONFORM TO GRADATION CA-6 OF THE STANDARD SPECIFICATIONS. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

CA-7 OR CA-11 OF THE STANDARD SPECIFICATIONS.

JOINTS CONNECTING DISSIMILAR PIPE MATERIALS SHALL BE MADE WITH SEWER CLAMP NON-SHEAR TYPE COUPLINGS; CASCADE CSS, ROMAC LSS, FERNCO, INC. SHEAR RING, OR APPROVED EQUAL. WHEN AVAILABLE, A STANDARD JOINT WITH A TRANSITION GASKET MAY BE USED. THE NAME OF THE MANUFACTURER, CLASS, AND DATE OF ISSUE SHALL BE CLEARLY IDENTIFIED ON ALL SECTIONS OF PIPE. THE CONTRACTOR SHALL ALSO SUBMIT BILLS OF LADING, OR OTHER QUALITY ASSURANCE DOCUMENTATION WHEN REQUESTED BY THE CITY ENGINEER. ALL NUTS AND BOLTS FOR COUPLINGS SHALL BE STAINLESS STEEL.

MANHOLES FOR STORM SEWERS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES AND SHALL BE CONSTRUCTED OF PRECAST CONCRETE UNITS IN ACCORDANCE WITH ASTM C478-05 (OR LATEST EDITION) AND SHALL CONFORM TO THE CITY OF NAPERVILLE STANDARD DETAIL. ALL MANHOLES SHALL BE WATER-TIGHT. ALL VISIBLE LEAKS SHALL BE SEALED IN A MANNER ACCEPTABLE TO THE CITY ENGINEER.

MANHOLES SHALL BE FURNISHED WITH A SELF-SEALING FRAME AND SOLID COVER (EAST JORDAN IRON WORKS 1022 WITH TYPE A SOLID COVER, OR APPROVED EQUAL) WITH THE WORD "STORM" IMPRINTED ON THE COVER IN RAISED LETTERS. ALL FRAMES AND LIDS SHALL MEET OR EXCEED AASHTO H-20 LOADING SPECIFICATIONS. FRAMES SHALL BE SHOP PAINTED WITH ASPHALTIC BASE PAINT. BOTH THE MANHOLE FRAME AND COVER SHALL HAVE MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES. INVERTED MANHOLE FRAMES ARE NOT ALLOWED. PICK HOLES SHALL NOT CREATE OPENINGS IN THE MANHOLE COVER.

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MANHOLE STEPS ON MAXIMUM 16 INCH CENTER SHALL BE FURNISHED WITH EACH MANHOLE, SECURELY ANCHORED IN PLACE, TRUE TO VERTICAL ALIGNMENT, IN ACCORDANCE WITH THE NAPERVILLE STANDARD DETAILS. STEPS SHALL BE COPOLYMER POLYPROPYLENE REINFORCED WITH 1/2 INCH A615/A615M-05A (OR LATEST EDITION) GRADE 60 STEEL REINFORCEMENT, MEETING OR EXCEEDING ASTM C 478-05 (OR LATEST EDITION) AND OSHA STANDARDS.

> CATCH BASINS AND INLETS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 24 INCHES AND SHALL BE CONSTRUCTED OF PRECAST CONCRETE UNITS IN ACCORDANCE WITH ASTM C478-05 (OR LATEST EDITION) AND SHALL CONFORM TO THE CITY OF NAPERVILLE STANDARD DETAIL. ALL CATCH BASINS AND INLETS SHALL BE WATER-TIGHT AT ALL POINTS BELOW GRADE. ALL VISIBLE LEAKS SHALL BE SEALED IN A MANNER ACCEPTABLE TO THE CITY ENGINEER. CATCH BASINS AND INLETS SHALL BE FURNISHED WITH A FRAME AND GRATE BASED UPON THE LOCATION OF THE INSTALLATION AS LISTED BELOW. ALL FRAMES AND GRATES SHALL MEET OR EXCEED AASHTO H-20 LOADING SPECIFICATIONS. FRAMES SHALL BE SHOP PAINTED WITH ASPHALTIC BASE PAINT.

- A) PAVEMENT: EAST JORDAN IRON WORKS 1022 FRAME WITH TYPE M1 RADIAL FLAT GRATE. NEENAH R-2502, OR APPROVED EQUAL FOR OPEN GRATES. EAST JORDAN IRON WORKS 1022 FRAME WITH TYPE A SOLID COVER, NEENAH R-1772, OR APPROVED EQUAL FOR CLOSE LIDS.
- B) BARRIER CURB AND GUTTER: EAST JORDAN IRON WORKS 7220 FRAME WITH TYPE M1 GRATE AND T1 CURB BOX, NEENAH R-3278-A, OR APPROVED EQUAL.
- C) DEPRESSED CURB: EAST JORDAN IRON WORKS 5120 FRAME AND GRATE, NEENAH R-3225-L, OR
- D) MOUNTABLE CURB: EAST JORDAN IRON WORKS 7525 FRAME AND GRATE, NEENAH R-3501-P, OR APPROVED EQUAL E) NON-PAVED AREAS: EAST JORDAN IRON WORKS 6527 BEEHIVE GRATE, NEENAH R-4340-B, OR

APPROVED EQUAL. ALTERNATELY, IN AREAS WHERE THERE IS THE LIKELIHOOD OF PEDESTRIAN

TRAFFIC, EAST JORDAN IRON WORKS 1022 FRAME WITH TYPE M1 RADIAL FLAT GRATE, OR APPROVED EQUAL MAY BE USED. THE STEEL CASING PIPE SHALL BE BITUMINOUS COATED, A MINIMUM OF 30 MILS THICKNESS INSIDE AND OUT, AND SHALL BE OF LEAK PROOF CONSTRUCTION, CAPABLE OF WITHSTANDING THE ANTICIPATED

LOADINGS. SEE TABLE 200-1 IN THE NAPERVILLE STANDARD SPECIFICATIONS FOR THE MINIMUM WALL

THICKNESSES OF VARIOUS STEEL CASING DIAMETERS. THE STEEL CASING PIPE SHALL HAVE MINIMUM YIELD STRENGTH OF 35,000 PSI AND SHALL MEET THE REQUIREMENTS OF A139/A139M-04 (OR LATEST EDITION), GRADE B. RING DEFLECTION SHALL NOT EXCEED 2% OF THE NOMINAL DIAMETER. THE STEEL CASING PIPE SHALL BE DELIVERED TO THE JOBSITE

ALL PIPE SHALL BE LAID TRUE TO LINE AND GRADE. DIRT AND OTHER FOREIGN MATERIAL SHALL BE PREVENTED FROM ENTERING THE PIPE OR PIPE JOINT DURING HANDLING OR LAYING OPERATIONS. ALL STORM SEWER PIPE TO PIPE CONNECTIONS SHALL BE SEALED WITH BUTYL MASTIC TO ENSURE WATER TIGHTNESS. LIFT HOLES TO BE SEALED USING BUTYL MASTIC AND CONCRETE PLUGS. AT NO TIME SHALL CONNECTIONS BETWEEN THE STORM SEWER AND SANITARY SEWER BE ALLOWED.

WITH BEVELED ENDS TO FACILITATE FIELD WELDING.

FOR STRUCTURES LOCATED IN PAVED AREAS, A MINIMUM OF FOUR, 2-INCH DIAMETER HOLES SHALL BE DRILLED OR PRECAST INTO THE STRUCTURE WITHIN 1 FOOT OF THE LOWEST PIPE INVERT. THE HOLES SHALL BE DISTRIBUTED EQUIDISTANT AROUND THE PERIMETER OF THE STRUCTURE. A 1-FOOT BY 1-FOOT SECTION OF UNDERDRAIN FILTER CLOTH MATERIAL SHALL BE SUFFICIENTLY FIXED TO THE OUTSIDE OF THE MANHOLE WITH MASTIC MATERIAL TO PREVENT SLIPPAGE DURING BACKFILLING.

ALL STORM SEWER STRUCTURE FRAMES WITHOUT INSIDE FLANGES SHALL BE SHAPED WITH NON-SHRINKING HYDRAULIC CEMENT TO FORM A FILLET TO THE STRUCTURE OR ADJUSTING RING. WHEN ADJUSTMENTS ARE NECESSARY, NO MORE THAN 12 INCHES OF VERTICAL ADJUSTMENT MAY BE

MADE USING THE MINIMUM PRACTICAL NUMBER OF INDIVIDUAL RINGS. ALL RINGS SHALL BE HIGH DENSITY POLYETHYLENE PLASTIC (HDPE), RECYCLED RUBBER, HIGH DENSITY EXPANDING POLYSTYRENE, EXPANDED POLYPROPYLENE (EPP), OR OTHER MATERIAL AS APPROVED BY THE CITY ENGINEER. PRECAST CONCRETE RINGS, BRICKS, ROCKS, SHIMS, OR CONCRETE BLOCKS WILL NOT BE ALLOWED. TAPERED ADJUSTING RINGS SHALL BE REQUIRED WHEN THE FRAME WILL NEED TO MATCH

THE SLOPE OF THE ROADWAY. A RESILIENT, FLEXIBLE, NON-HARDENING, PREFORMED BITUMINOUS MASTIC MATERIAL, CONSEAL 102 B OR APPROVED EQUAL, SHALL BE USED BETWEEN THE CONE OR TOP BARREL SECTION OF THE STRUCTURE AND THE ADJUSTING RINGS. A THICK BEAD OF NON-HARDENING ELASTOMERIC JOINT SEALANT CONFORMING TO ASTM C-920, TYPE S, GRADE NS, SHALL BE APPLIED BETWEEN ALL INDIVIDUAL RINGS, AND BETWEEN THE ADJUSTING RINGS AND THE FRAME. THE SEALANT OR MASTIC MATERIAL SHALL BE APPLIED IN SUCH A MANNER THAT NO SURFACE WATER OR GROUND WATER INFLOW CAN ENTER THE

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#### Erosion Control and Drainage Notes (General)

The Erosion Control and Drainage Notes in this section should be included in all final engineering plans regardless of the type of work in the project.

1	THE CONTRACTOR SHALL MAINTAIN PROPER DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.
2	DURING EXTENDED DRY PERIODS, THE CONSTRUCTION AREA(S) MAY NEED TO BE WATERED DOWN TO PREVENT THE BLOWING OF SOIL FROM THE SITE.
3	DURING CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED TO MINIMIZE THE TRACKING OF DIRT ONTO THE PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO KEEP PUBLIC STREET PAVEMENT CLEAN OF DIRT AND DEBRIS. ANY DIRT THAT IS TRACKED ONTO THE PUBLIC STREETS

SHALL BE REMOVED THE SAME DAY. IF THE AMOUNT TRACKED ON THE PUBLIC STREET IS EXCESSIVE,

#### Erosion Control and Drainage Notes (Project Specific)

CLEANING MAY BE REQUIRED MORE FREQUENTLY.

The Erosion Control and Drainage Notes in this section are intended to be included when a project includes erosion control work as part of the project. The Consultant should review the following Notes to determine if they are applicable to the work being completed.

1	ALL EROSION CONTROL MEASURES SHALL BE PROPERLY INSTALLED, AS PERMITTED, PRIOR TO ANY LAND DISTURBANCE ACTIVITIES. ALL EROSION CONTROL SHALL BE MAINTAINED UNTIL TURF IS ESTABLISHED.
2	ACCEPTABLE PERIMETER EROSION CONTROL INCLUDES SILT FENCE, SILT WORM AND ANY OTHER APPLICATION APPROVED BY THE CITY ENGINEER.
3	ALL OPEN GRATE STRUCTURES SHALL HAVE EROSION CONTROL PROTECTION IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLANS. STRAW BALES SHALL NOT BE USED.
4	STOCKPILES NOT BEING DISTURBED FOR MORE THAN 14 DAYS SHALL BE SEEDED.
5	ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY, AFTER ANY 0.5 INCH OR GREATER RAINFALL, OR MORE FREQUENTLY AS NECESSARY TO MAINTAIN THEIR FUNCTION.

#### **Erosion Control and Drainage Notes (NPDES Permit)**

The Erosion Control and Drainage Note in this section should be included if the project requires an NPDES permit.

IT IS THE RESPONSIBILITY OF THE OWNER OR HIS DESIGNEE TO INSPECT ALL TEMPORARY EROSION CONTROL MEASURES PER THE REQUIREMENTS OF THE NPDES PERMIT AND CORRECT ANY DEFICIENCIES

The Geometric and Paving Notes in this section should be included in all final engineering plans regardless of the

	THE DEVELOPER AND CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO ADEQUATELY PROTECT THE
	PAVEMENT AND PROPERTY, CURB AND GUTTER AND OTHER RIGHT-OF-WAY IMPROVEMENTS, WHETHER
1	NEWLY CONSTRUCTED OR EXISTING, FROM ANY AND ALL DAMAGE. SUFFICIENT MEANS SHALL BE
	EMPLOYED BY THE CONTRACTOR TO PROTECT AGAINST SUCH DAMAGE TO THE SATISFACTION OF THE
	CITY ENGINEER

ANY NEW OR EXISTING IMPROVEMENTS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED IN A MANNER THAT IS SATISFACTORY TO THE CITY ENGINEER.

THE CONTRACTOR AND/OR DEVELOPER SHALL SECURE ALL NECESSARY RIGHTS AND PERMISSIONS TO PERFORM ANY WORK ON PRIVATE PROPERTY NOT WITHIN THE OWNERSHIP RIGHTS OF THE DEVELOPER. THE DEVELOPER SHALL BEAR THE SOLE RESPONSIBILITY FOR DAMAGES THAT MAY OCCUR AS A RESULT OF

THE CONTRACTOR/DEVELOPER WILL BE RESPONSIBLE FOR BRINGING PAVEMENTS (STREET, CURB AND GUTTER, SIDEWALK, DRIVEWAY) ON THE PROPERTY UP TO CITY STANDARDS INCLUDING ANY REPAIRS TO SUBSTANDARD PAVEMENTS THAT EXISTED PRIOR TO OR OCCURRED DURING CONSTRUCTION.

WHEREVER NEW WORK WILL MEET EXISTING CONDITIONS OTHER THAN LAWN AREAS, REGARDLESS OF WHETHER THE NEW OR EXISTING WORK IS ASPHALT OR CONCRETE, THE EXISTING ADJACENT SIDEWALK, DRIVEWAYS, PAVEMENT OR CURB SHALL BE NEATLY SAW CUT. THE SAW CUT SHALL BE IN A NEAT STRAIGHT LINE SUFFICIENTLY DEEP SO THAT IT RENDERS A SMOOTH VERTICAL FACE TO MATCH TO. IF THE CONTRACTOR IS NOT CAREFUL OR DOES NOT SAW DEEP ENOUGH AND THE CUT LINE BREAKS OUT OR CHIPS TO AN IMPERFECT EDGE, THEN THE EXISTING SIDE MUST BE RE-CUT SQUARE AND DONE OVER UNTIL IT IS CORRECT.

ALL PAVEMENT PATCHES WITHIN THE PUBLIC RIGHT-OF-WAY MUST CONFORM TO CITY STANDARDS.

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This detail has not been reviewed by the stamping party. Therefore, the stamping party makes no representation(s) with respect to its contents, and shall not be liable for such. This detail is for reference only. Any reliance on this detail shall be at the relying party(ies)'s own risk and hereby waives any and all claim(s) related to the existence of the stamp or otherwise.

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Geometric and Paving Notes (General) type of work in the project.

WORK PERFORMED UNDER CONTRACTS THEY INITIATE.

REFERENCE NAPERVILLE STANDARD DETAILS 590.12 AND 590.13.

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**GPD GROUP, INC.** 

LEONARDO A. SFERRA 062.069126

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| TANDARE | NOTES

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DESIGNER

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S 27

PROJECT MANAGER

LIC. # - 184-007100

520 South Main Street, Suite 2531

330.572.2100 Fax 330.572.2101

#### Traffic Control and Protection Notes (General)

The Traffic Control and Protection Notes in this section should be included in all final engineering plans regardless of the type of work in the project.

1	ALL DEVELOPERS AND CONTRACTORS SHALL PROVIDE SUITABLE TRAFFIC CONTROL FOR THEIR CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. TRAFFIC CONTROL MUST BE PROVIDED FOR ANY ACTIVITY THAT IMPACTS TRAFFIC FLOW. THIS INCLUDES, BUT IS NOT LIMITED TO, ROAD CLOSURES REQUIRING DETOURS, DAILY LANE CLOSURES, LONG TERM LANE CLOSURES, NARROW LANES, AND CONSTRUCTION VEHICLES ENTERING AND EXITING THE PUBLIC ROADWAY. ALL TRAFFIC CONTROL SET-UPS MAY BE INSPECTED BY THE CITY OF NAPERVILLE TO ENSURE THAT THEY ARE PROVIDING POSITIVE GUIDANCE TO MOTORISTS AND ARE NOT IN THEMSELVES PRESENTING A HAZARDOUS SITUATION. A REPRESENTATIVE OF THE DEVELOPER OR CONTRACTOR MUST PROVIDE PHONE NUMBERS AT WHICH THEY CAN BE REACHED 24 HOURS A DAY AND ON WEEKENDS SO THAT THEY CAN MAINTAIN TRAFFIC CONTROL DEVICES.
2	PEDESTRIANS MUST BE PROVIDED WITH A SAFE ALTERNATE ROUTE IF PEDESTRIAN FACILITIES ARE TO BE CLOSED AS A RESULT OF CONSTRUCTION ACTIVITIES. GUIDANCE MUST BE PROVIDED TO PEDESTRIANS SO THAT THEY MAY AVOID THE WORK ZONE. SAID PEDESTRIAN DETOUR PLAN (WITH SIGNAGE) IS TO BE

REVIEWED AND ACCEPTED BY THE CITY IN WRITING, PRIOR TO THE COMMENCEMENT OF THE WORK. THE CONTRACTOR SHALL EMPLOY THE APPROPRIATE METHODS OF TRAFFIC CONTROL IN ACCORDANCE

WITH THE PLANS, SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, SUCH

- THAT THE SAFETY OF VEHICLES, AND PEDESTRIANS IS PRESERVED AT ALL TIMES. THE ERECTION AND MAINTENANCE OF THE TRAFFIC CONTROL DEVICES SHALL BE TO THE SATISFACTION OF THE AGENCY OF JURISDICTION AND THE CITY ENGINEER. ANY TEMPORARY OPEN HOLES SHOULD BE BARRICADED AND PROTECTED IN ACCORDANCE WITH
- APPLICABLE STANDARDS.

#### Traffic Control and Protection Notes (Arterial Roads)

The Traffic Control and Protection Notes in this section should be included in all final engineering plans if the project involves work either in or adjacent to arterial roadways.

1	LANE CLOSURES ON ARTERIAL ROADWAYS WITHIN THE CITY OF NAPERVILLE ARE NOT PERMITTED BETWEEN THE HOURS OF 6AM-9AM AND 3PM-7PM MONDAY THROUGH FRIDAY, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. LANE CLOSURES ON ARTERIAL STREETS ARE NOT PERMITTED BETWEEN 7AM AND 7PM ON WEEKENDS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. ARTERIAL ROADWAYS ARE DEFINED AS BOTH MAJOR AND MINOR ARTERIAL ROADWAYS AS DESIGNATED ON THE CITY'S MASTER THOROUGHFARE PLAN, LATEST EDITION.
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ANY WORK THAT IMPACTS A TRAFFIC LANE ON AN ARTERIAL ROADWAY REQUIRES AN ARROW BOARD AS PART OF THE TRAFFIC CONTROL.

Page 9 of 10

AT THE END OF EACH DAY OF WORK, THE ROADWAY MUST BE COMPLETELY REOPENED TO TRAFFIC. ANY OPEN HOLES MUST BE PLATED OR COLD PATCHED; THE CITY WILL NOT ALLOW THE HOLES TO BE FILLED WITH GRAVEL.

#### Traffic Control and Protection Notes (Downtown)

The Traffic Control and Protection Notes in this section should be included in all final engineering plans if the project is located in downtown Naperville.

1	PEDESTRIAN TRAFFIC SHALL BE MAINTAINED IN THE DOWNTOWN. IF A PEDESTRIAN DETOUR CANNOT BE ACCOMMODATED, THE CITY MAY REQUIRE THE CONTRACTOR TO PROVIDE A PROTECTED COVERED WALKWAY.
2	ANY WORK IMPACTING THE PUBLIC RIGHT-OF-WAY SHALL NOT BE ALLOWED IN THE DOWNTOWN ON A FRIDAY, SATURDAY, SUNDAY, AND/OR HOLIDAY, UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER.
3	ALL WORK IN THE DOWNTOWN SHALL BE COORDINATED WITH THE DOWNTOWN NAPERVILLE ALLIANCE (DNA) TO AVOID CONFLICT WITH SPECIAL EVENTS.
4	UNLESS REQUIRED TO SUPPORT THE CURRENT WORK EFFORT, WORKERS' PERSONAL VEHICLES MAY NOT BE PARKED ON-STREET. CONTRACTORS MAY REQUEST HANGTAGS FROM THE CITY TO ALLOW WORKERS TO PARK IN DESIGNATED AREAS WITHIN THE CITY PARKING DECKS.

Page 10 of 10



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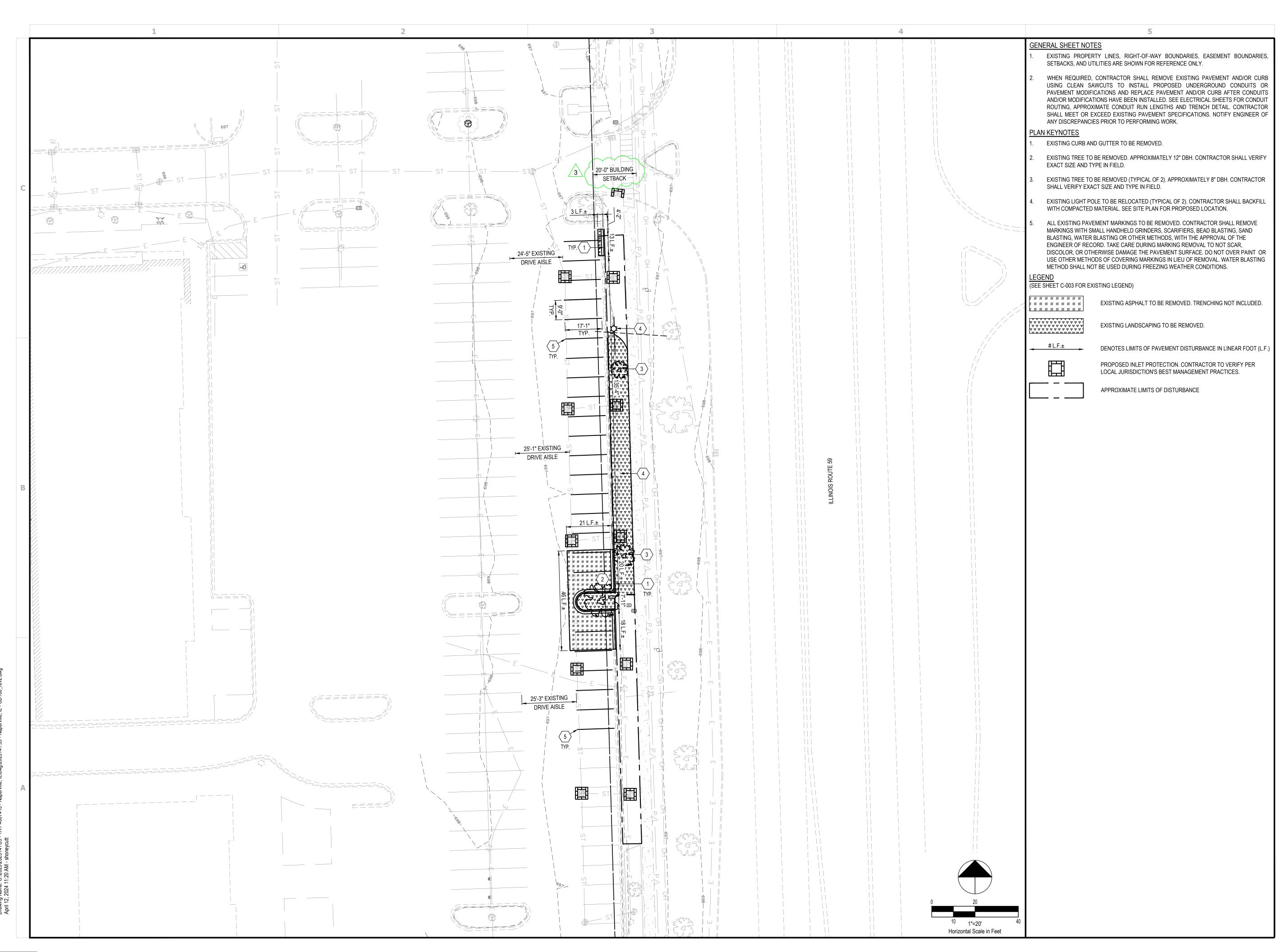
A SUPERCHARGER STATION 2724 SHOWPLACE DRIVE NAPERVILLE, IL 60564

CITY OF NAPERVILLE STANDARD CONSTRUCTION PLAN NOTES

TESLA PROJECT MANAGER DESIGNER

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TESLA SUPERCHARGER STATION
2724 SHOWPLACE DRIVE
NAPERVILLE, IL 60564

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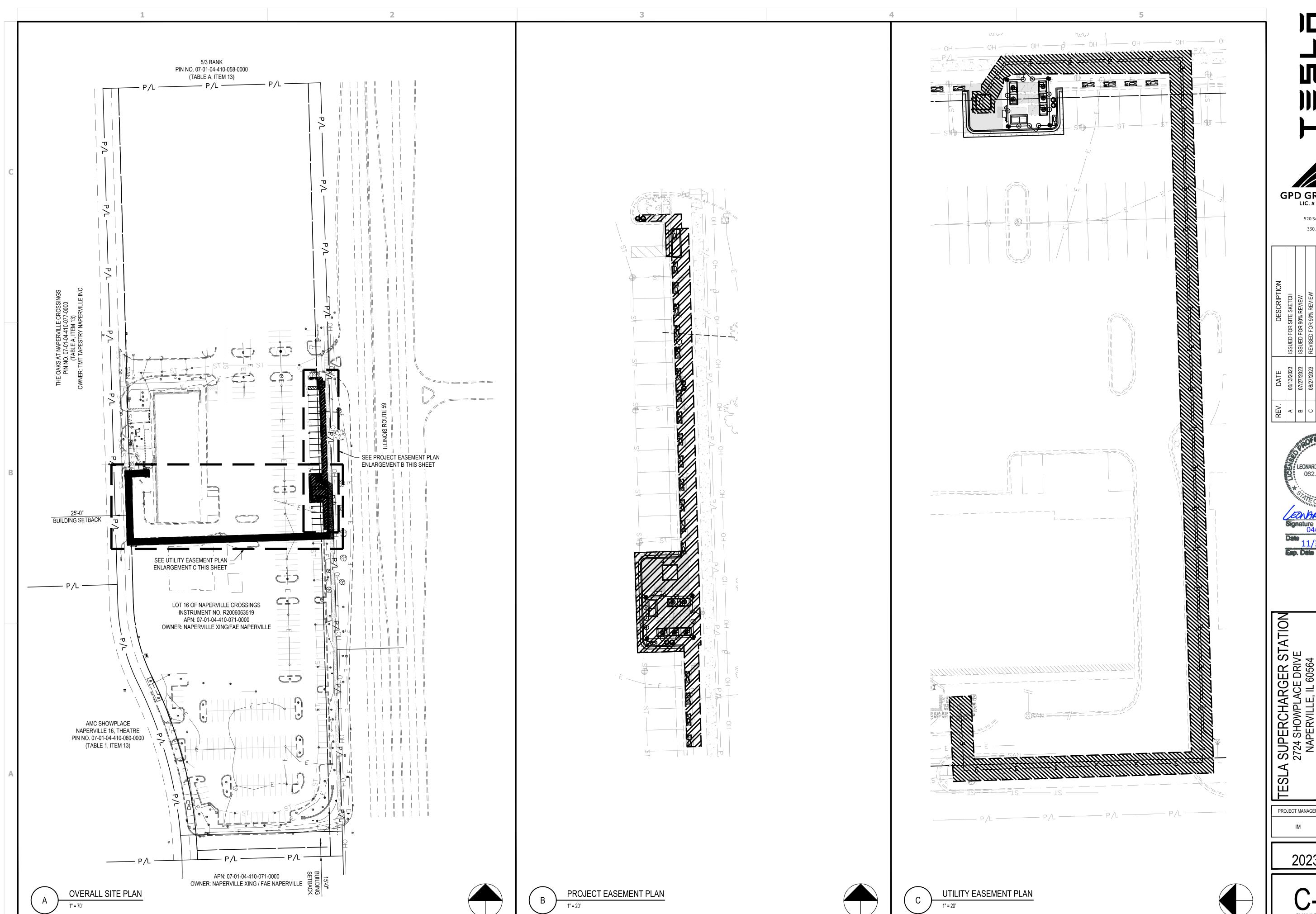
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BUILDING#: 24-340







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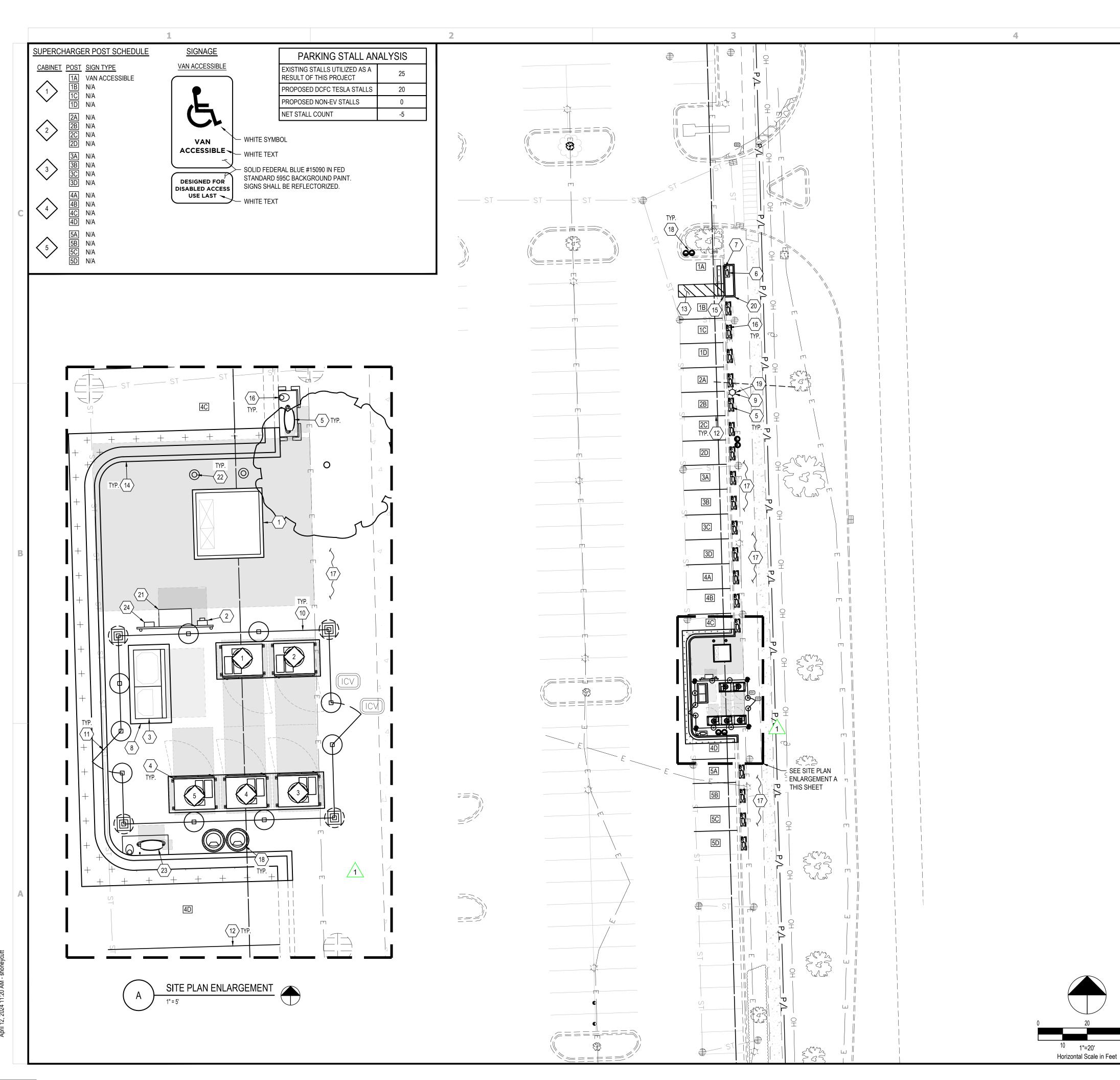


OVERALL CIVIL SITE PLAN

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GENERAL SHEET NOTES

- 1. EXISTING PROPERTY LINES, RIGHT-OF-WAY BOUNDARIES, EASEMENT BOUNDARIES, SETBACKS, AND UTILITIES ARE SHOWN FOR REFERENCE ONLY.
- 2. CONTRACTOR SHALL REMOVE EXISTING PAVEMENT AND/OR CURB USING CLEAN SAWCUTS TO INSTALL PROPOSED UNDERGROUND CONDUITS AND REPLACE PAVEMENT AND/OR CURB AFTER CONDUITS HAVE BEEN INSTALLED. SEE ELECTRICAL SHEETS FOR CONDUIT ROUTING, APPROXIMATE CONDUIT RUN LENGTHS AND TRENCH DETAIL. CONTRACTOR SHALL MEET OR EXCEED EXISTING PAVEMENT SPECIFICATIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.
- APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT AND WHERE PROPOSED ASPHALT MEETS EXISTING, INCLUDING SAW CUT JOINTS.
- 4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SLOPES AND GRADES PRIOR TO CONSTRUCTION. FINAL GRADES SHALL BE DETERMINED IN FIELD BY THE CONTRACTOR AND APPROVED BY THE CONSTRUCTION MANAGER.
- THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TOWARDS THE NEAREST EXISTING DRAINAGE STRUCTURE AND ENSURE NO PONDING OCCURS ON SITE.
- 6. CONTRACTOR SHALL ENSURE SLOPES OF PARKING STALL 1A AND ADJACENT TRANSVERSE STRIPED AREA(S) ARE COMPLIANT WITH NATIONAL ADA STANDARDS. NO SLOPE SHALL EXCEED 2% IN ANY DIRECTION WITHIN PARKING STALL 1A AND ADJACENT TRANSVERSE STRIPED AREA(S). CONTRACTOR SHALL REMOVE AND REGRADE AREA(S) AS REQUIRED TO ACHIEVE NECESSARY SLOPES. CONTRACTOR SHALL INSTALL FINAL PAVEMENT MARKINGS IN ACCORDANCE WITH THE CURRENT AHJ'S REGULATIONS.

#### PLAN KEYNOTES

- PROPOSED PAD MOUNTED ELECTRICAL UTILITY TRANSFORMER (BY UTILITY).
  CONTRACTOR SHALL PROVIDE CONCRETE PAD PER UTILITY SPECIFICATIONS.
  COORDINATE FINAL LOCATION WITH UTILITY. SEE ELECTRICAL PLANS FOR PROPOSED ROLLING.
- PROPOSED UTILITY METER MOUNTED ON H-FRAME PER ELECTRIC COMPANY SPECIFICATIONS AND DETAILS ON ELECTRICAL SHEETS.
- PROPOSED SWITCHGEAR ASSEMBLY WITH INTEGRATED TESLA SITE CONTROLLER AND PRIMARY BROADCAST UNIT PER ELECTRICAL DRAWINGS. SEE SHEET C-201, DETAIL B-4.
- PROPOSED TESLA SUPERCHARGER CABINET (TYPICAL OF 5). SEE CIVIL DETAILS.
- PROPOSED TESLA SUPERCHARGER POST WITH INDIVIDUAL PRECAST CONCRETE FOUNDATION (TYPICAL OF 18). SEE SHEET C-201, DETAIL C-2.
- 6. PROPOSED TESLA SUPERCHARGER POST WITH CAST-IN-PLACE CONCRETE FOUNDATION (TYPICAL OF 1). INSTALL POST FLUSH WITH PAVEMENT. SEE SHEET C-202, DETAIL A-1.
- PROPOSED NON-ILLUMINATED PARKING SIGN (TYPICAL OF 1). SEE SHEET C-201, DETAIL B-2. SEE SUPERCHARGER POST SCHEDULE, THIS SHEET. MOUNT SIGN POST IN BOLLARD AS NOTED.
- PROPOSED CONCRETE EQUIPMENT PAD. SEE SHEET C-201, DETAIL C-4.
- PROPOSED RELOCATED LIGHT POLE (TOTAL OF 1), SEE SHEET C-202, DETAIL B-1. SEE ELECTRICAL DRAWINGS FOR POLE AND FIXTURE SPECIFICATIONS AND WIRING.
- 10. PROPOSED TREX 'SECLUSION' FENCING WITH BRICK/STEEL PILLARS. SEE SHEET C-202, DETAIL C-4.
- PROPOSED TREX "SECLUSION" SINGLE GATE WITH KEYPAD AND PANIC HARDWARE (TYPICAL OF 2). SEE SHEET C-202, DETAIL B-3 & C-2.
- 12. PROPOSED PAINTED 4" WIDE SOLID STRIPE TO MATCH EXISTING STRIPING IN COLOR. SEE
- 13. PROPOSED PAINTED 4" WIDE TRANSVERSE STRIPING TO MATCH EXISTING STRIPING IN COLOR. STRIPING SHALL BE 3'-0" O.C. SEE PAVEMENT MARKING NOTES ON SHEET C-003
- 4. PROPOSED CONCRETE CURB AND REVERSE PITCH GUTTER. SEE SHEET C-201, DETAIL A-3
- 15. PROPOSED FLUSH CONCRETE CURB AND REVERSE PITCH GUTTER WITH INTEGRATED CONCRETE WALK. SEE SHEET C-201, DETAIL A-4.
- 16. PROPOSED REBOUNDING DETERRENT BOLLARD (TYPICAL OF 20). SEE SHEET C-201, DETAIL A-2.
- 7. PROPOSED LANDSCAPE SEE SHEET L-101.

AND SHEET C-201, DETAIL A-5.

PAVEMENT MARKING NOTES ON SHEET C-003.

- 18. PROPOSED TRASH CAN AND RECYCLING BIN (TYPICAL OF 3 EACH) MOUNTED ON CONCRETE PAD. SEE SHEET C-201, DETAIL C-1.
- 19. PROPOSED SECONDARY BROADCAST UNIT (TYPICAL OF 1). MOUNT PER MANUFACTURER'S SPECIFICATIONS AT MINIMUM 10'-0" ABOVE GRADE. WHERE APPLICABLE, CONTRACTOR SHALL MOUNT TO EXISTING LIGHT POLE.
- 20. PROPOSED 6" CONCRETE CURB. SEE SHEET C-201, DETAIL C-5.
- 21. PROPOSED CT CABINET ON H-FRAME PER UTILITY SPECIFICATIONS.
- 22. PROPOSED DETERRENT BOLLARD PER UTILITY SPECIFICATIONS (TYPICAL OF 2).
- 23. PROPOSED TESLA SUPERCHARGER POST WITH CAST-IN-PLACE CONCRETE FOUNDATION (TYPICAL OF 1). SEE SHEET C-201, DETAIL B-2.
- 24. PROPOSED REMOTE POWER SWITCH MOUNTED ON H-FRAME. SEE ELECTRICAL DETAILS.

LEGEND
(SEE SHEET C-003 FOR EXISTING LEGEND)

PROPOSED EQUIPMENT CLEAR SPACE

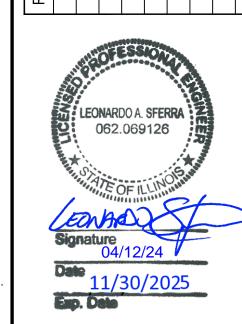
PROPOSED ASPHALT PAVEMENT TO MATCH EXISTING IN TYPE AND DEPTH. INCLUDE ENGINEERED COMPACTED BACKFILL BELOW PAVEMENT SECTION. TRENCHING NOT INCLUDED. FOR FULL DEPTH REPLACEMENT, CONTRACTOR SHALL REPLACE ANY FABRIC ENCOUNTERED DURING EXCAVATION INCLUDING BUT NOT LIMITED TO; GEOTEXTILE, WATER-PROOFING, PAVING FABRICS, ETC. THE REPLACEMENT MATERIAL(S) SHALL BE EQUAL TO OR BETTER THAN EXISTING AND SHALL BE CONFIRMED BY THE MANUFACTURER'S REPRESENTATIVE TO BE COMPATIBLE WITH THE EXISTING INSTALLATION. IN LIEU OF FULL DEPTH REPLACEMENT, CONTRACTOR CAN MILL AND OVERLAY (1.5" MIN.) PROPOSED ASPHALT PROVIDED THAT THE FINAL ASPHALT SECTION IS EQUAL TO OR GREATER THAN THE EXISTING SECTION AND DRAINAGE AND ADA COMPLIANCE IS NOT NEGATIVELY AFFECTED.

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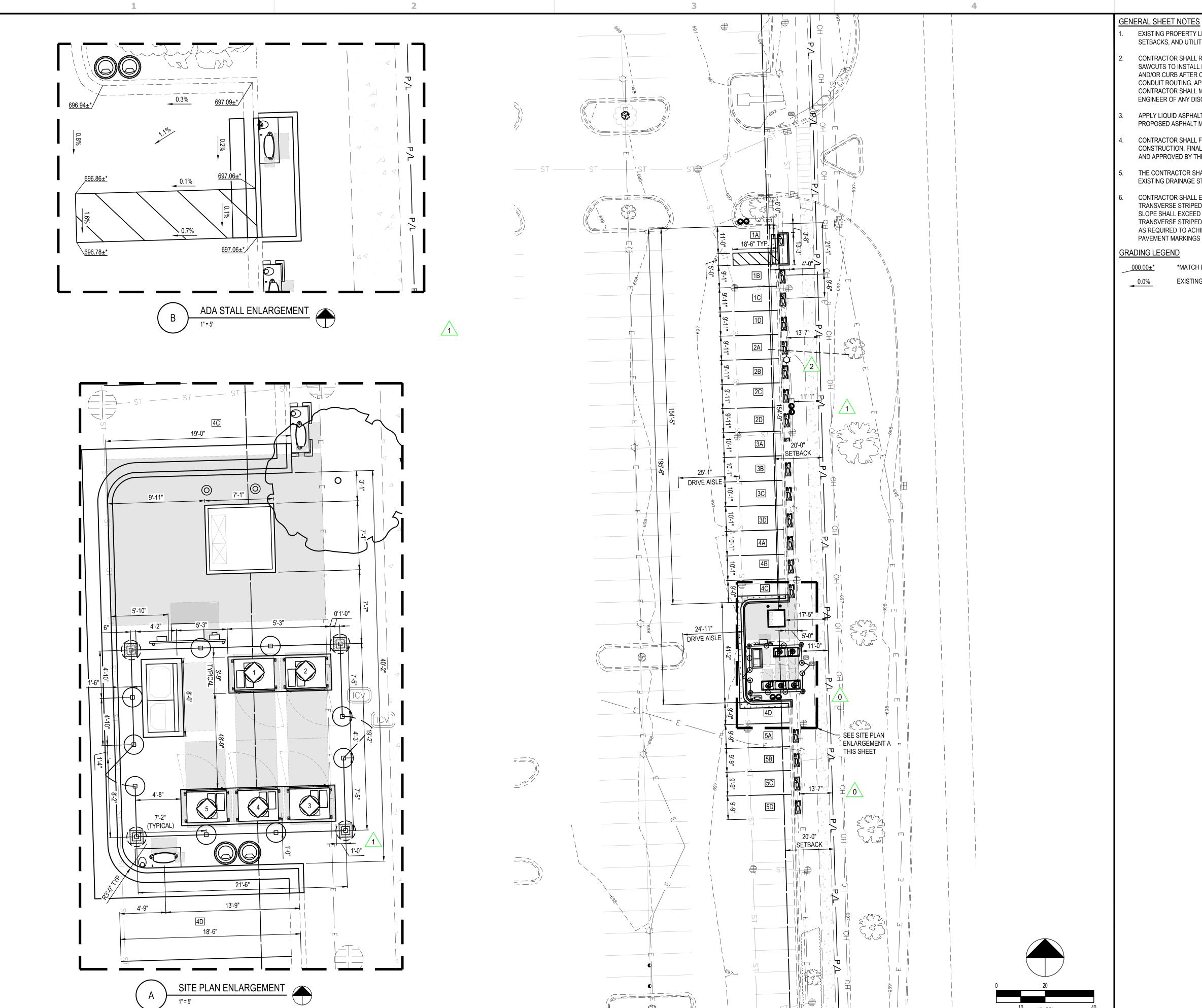
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\*MATCH EXISTING ELEVATION

Horizontal Scale in Feet

EXISTING DRAINAGE SLOPE & ARROW



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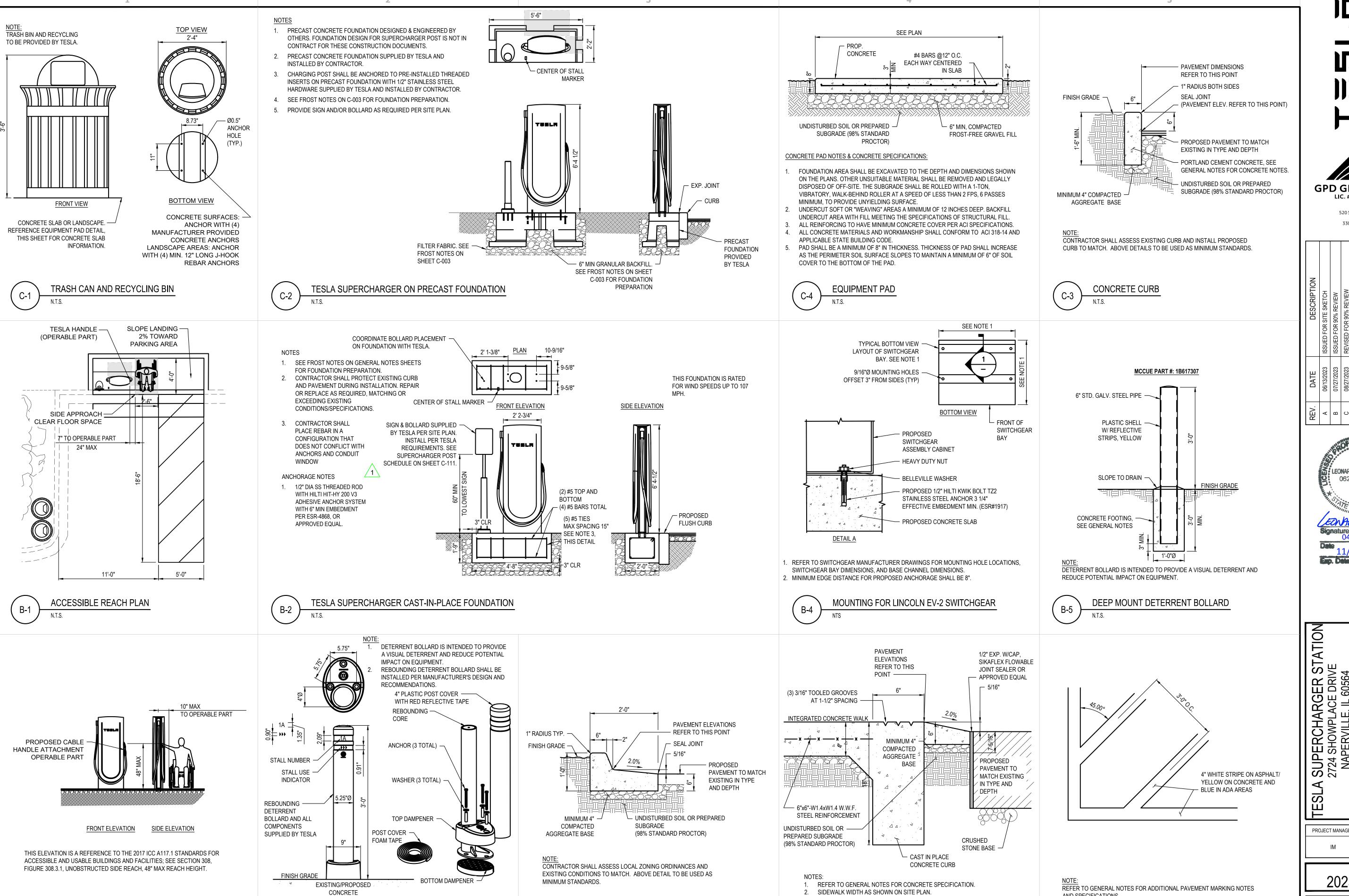


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**DIMENSION SITE PLAN** 

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CONCRETE CURB AND REVERSE PITCH GUTTER

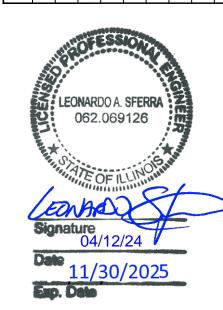
ACCESSIBLE REACH PLAN

REBOUNDING DETERRENT BOLLARD



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REFER TO GENERAL NOTES FOR ADDITIONAL PAVEMENT MARKING NOTES AND SPECIFICATIONS.

FLUSH CURB AND REVERSE PITCH GUTTER

WITH INTEGRATED CONCRETE WALK

TRANSVERSE STRIPING

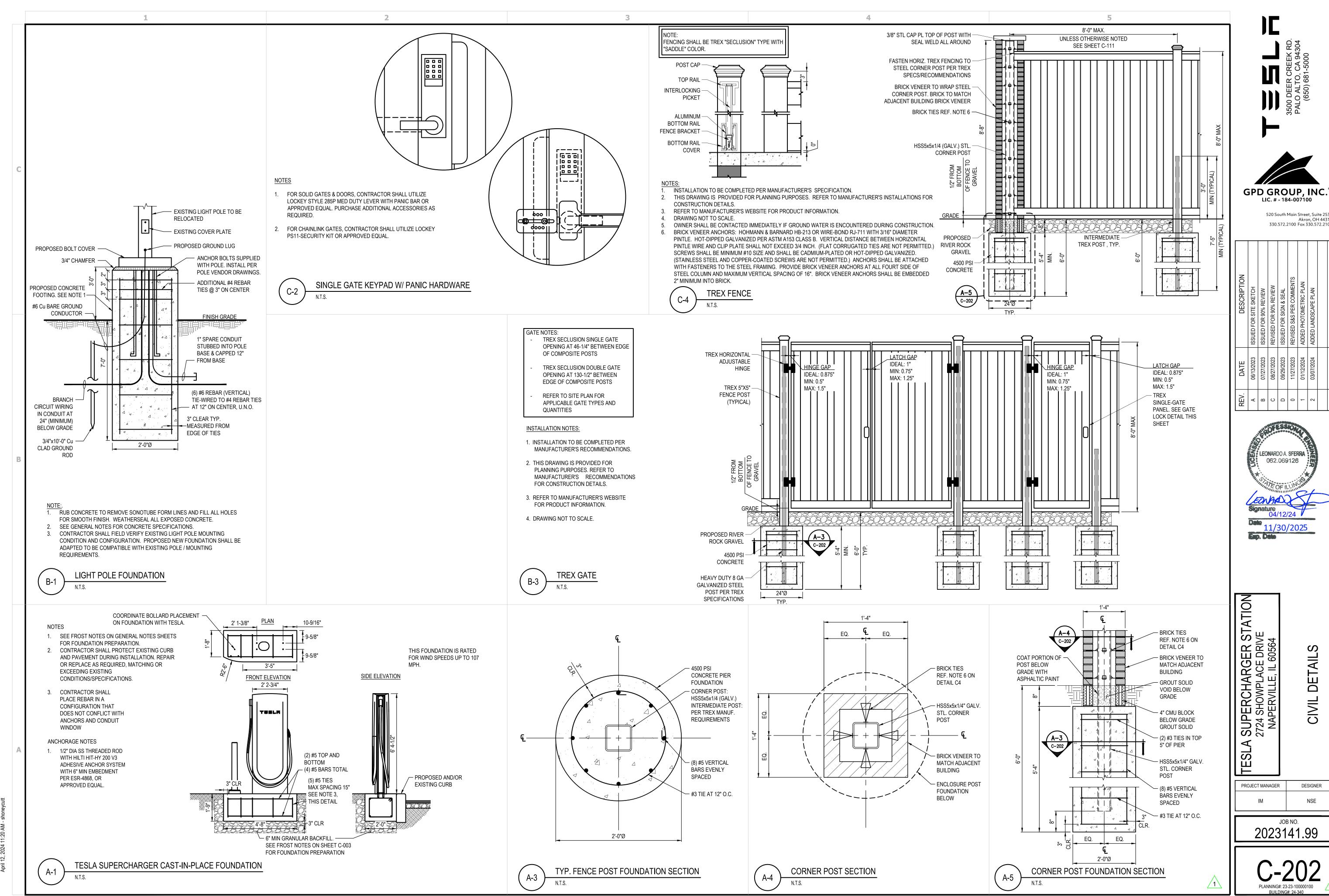
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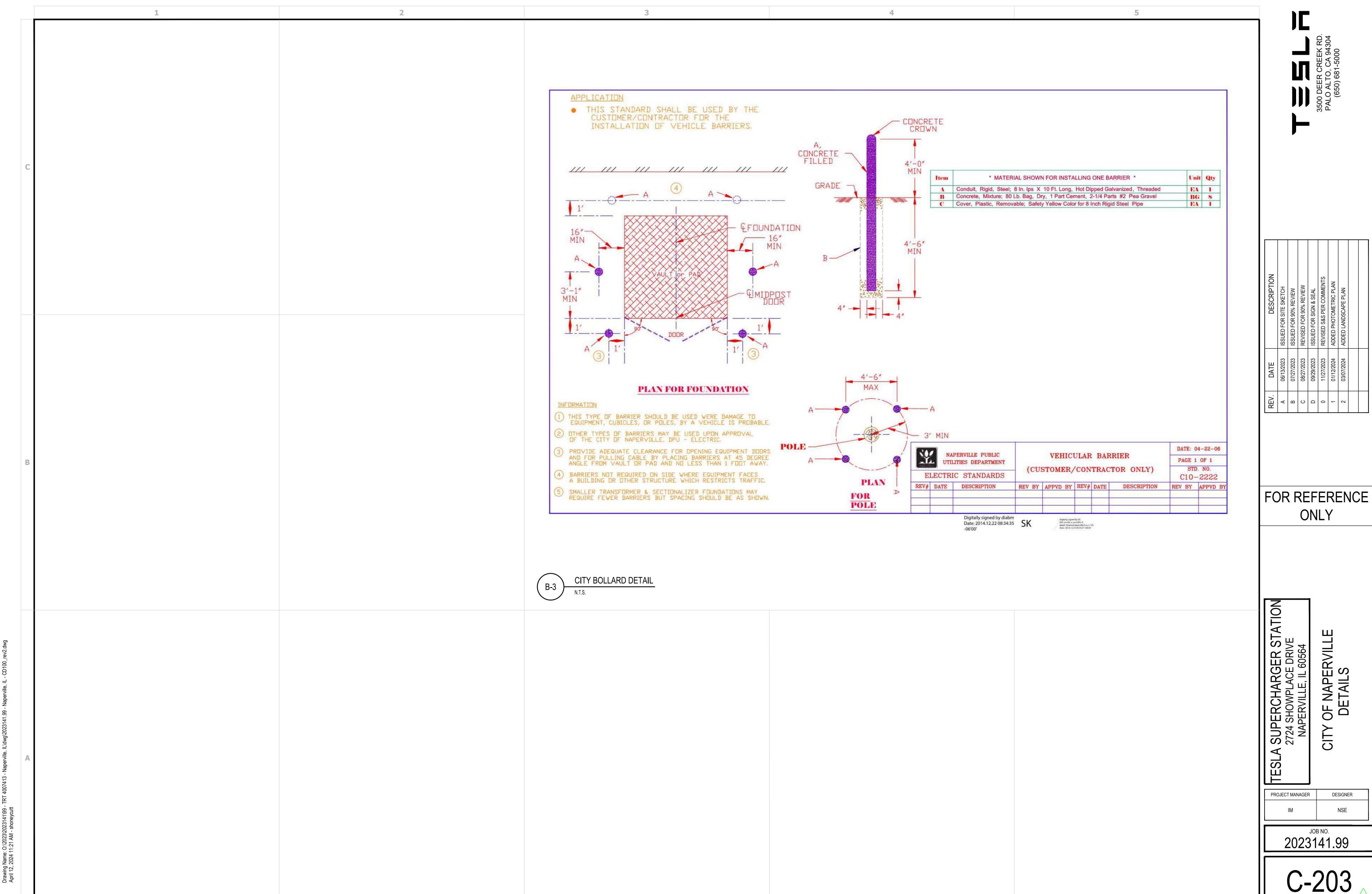
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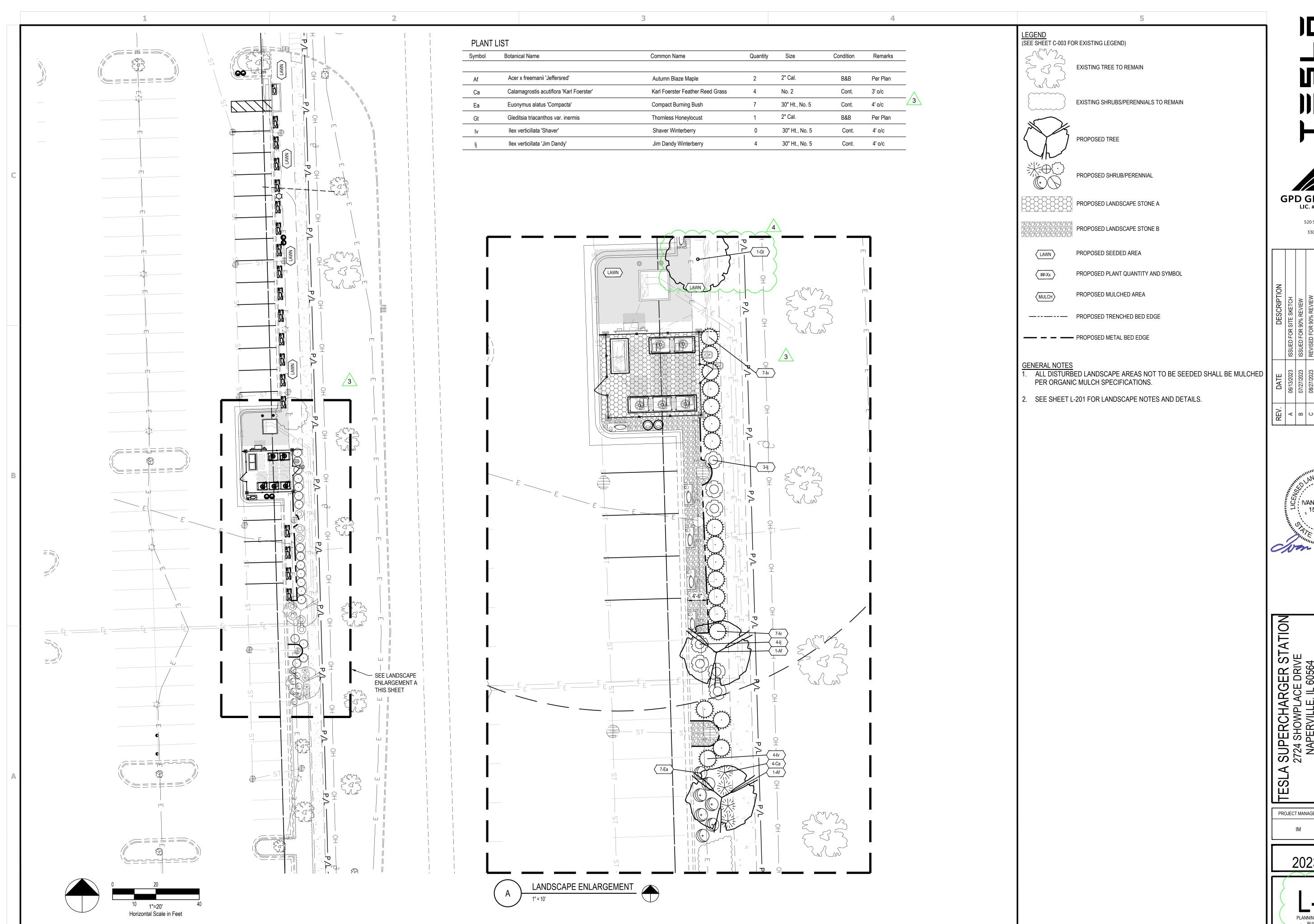
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LANDSCAPE PLAN

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Akron, OH 44311

IMPORTANT NOTE: "CONTRACTOR" REFERENCED IN THESE SPECIFICATIONS SHALL INDICATE WORK

BY ELECTRICAL CONTRACTOR OR ANY OF HIS CONTRACTORS UNLESS NOTED OTHERWISE.

DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT ONLY. COORDINATE INSTALLATION WITH OTHER TRADES TO VERIFY THE ACTUAL SPACE CONDITIONS THAT ARE TO BE MAINTAINED. NO ADDITIONAL PAYMENT WILL BE APPROVED FOR FAILURE TO COMPLY.

ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

CONTRACTOR SHALL NOT SCALE ELECTRICAL DRAWINGS. REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT AND CONFIRM WITH CONSTRUCTION MANAGER ANY SIZES AND LOCATIONS WHEN NEEDED.

CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE ALL ITEMS DEFINED IN THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: THE CONTRACT, SPECIFICATIONS, AND CONSTRUCTION DRAWINGS. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO INSTALL ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRING ETC. AS SHOWN OR IMPLIED ON THE DRAWINGS AND TO PROVIDE A COMPLETE OPERATIVE SYSTEM TO THE SATISFACTION OF OWNER.

CONTRACTOR SHALL PROVIDE ON-SITE SUPERVISION AT ALL TIMES WHILE THE WORK IS BEING PERFORMED AND SHALL DIRECT ALL WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

INSTALLATION OF ALL ELECTRICAL EQUIPMENT, DEVICES, CONDUITS, ETC. MUST BE COORDINATED WITH ALL OTHER TRADES. COORDINATE SHUTDOWN TIMES AND WORKING HOURS WITH BUILDING OWNER, INCLUDING OFF HOURS, WEEKEND, AND HOLIDAY WORK AS REQUIRED.

ANY DISCREPANCIES FOUND WITHIN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE OWNER IN WRITING PRIOR TO THE AWARD OF THE CONTRACT AND AN ADDENDUM WILL BE ISSUED TO

GUARANTEE - CONTRACTOR SHALL FURNISH OWNER WITH A WRITTEN GUARANTEE TO PROMPTLY REMEDY ALL DEFECTS OF WORK OR MATERIALS WITHOUT CHARGE FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE AND INSPECTION.

MATERIALS - ALL MATERIALS AND EQUIPMENT SHALL BE NEW, IN ORIGINAL CONTAINERS/WRAPPINGS, SHALL BE SPECIFICATION GRADE, AND LABELED OR LISTED BY U.L. OR AN ACCREDITED TESTING ORGANIZATION AS REQUIRED BY LOCAL INSPECTORS.

CONTRACTOR SHALL PROVIDE ADEQUATE AND REQUIRED LIABILITY INSURANCE FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK

ALL EQUIPMENT SHALL BE DESIGNED TO OPERATE ON VOLTAGE AND PHASE SPECIFIED. CONTRACTOR FURNISHING EQUIPMENT OTHER THAN INDICATED SHALL BE RESPONSIBLE FOR ANY CHANGES IN CONDUCTORS, RACEWAYS, SWITCHES, MAIN FEEDERS, AND APPURTENANCES AND PAY ALL ASSOCIATED COSTS. REQUIREMENTS FOR ANY INCREASE IN CAPACITIES SHALL BE REVIEWED BY ENGINEER

CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC. ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.

ANY METAL SHAVINGS FROM SITE WORK SHALL BE CLEANED FROM ALL SURFACES WHERE OXIDIZED OR CONDUCTIVE METAL SHAVINGS MAY CAUSE RUST, ELECTRICAL SHORT CIRCUITS, OR OTHER

ICENSES, CERTIFICATIONS OF INSPECTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF ALL GOVERNING AGENCIES THAT REQUIRE SITE INSPECTION OF THE WORK AND/OR SIMPLY NOTIFICATION. THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF

CONTRACTOR AND ALL OF HIS CONTRACTORS THAT PERFORM ANY WORK ON THIS PROJECT SHALL BE CURRENTLY LICENSED BY ALL AGENCIES WHICH GOVERN OVER THE LAND(S) ON WHICH CONSTRUCTION IS TO TAKE PLACE. CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS AS REQUIRED, ALL COSTS SHALL BE BORNE BY CONTRACTOR.

THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS INCIDENTAL TO WORK UNDER THIS CONTRACT. WHEN THE WORK IS COMPLETED, THE REQUIRED CERTIFICATES OF APPROVAL SHALL BE FURNISHED TO THE BUILDING OWNER. CONTRACTOR MUST BE LICENSED IN THE STATE, COUNTY AND CITY OF THE PROJECT SITE.

CODES AND ORDINANCES

ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH LATEST EDITION OF NEC AND ALL APPLICABLE CODES AND ORDINANCES, INCLUDING SUCH AS PERTAIN TO THE SAFETY AND HEALTH RELATIONS. CODES AND ORDINANCES SHALL TAKE PRECEDENCE OVER THE DRAWINGS AND SPECIFICATIONS ONLY IN CASE OF CONFLICT AND SHALL INCLUDE BUT NOT BE LIMITED TO:

A. UL - UNDERWRITERS LABORATORIES NEC - NATIONAL ELECTRICAL CODE

NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT

SBC - STANDARD BUILDING CODE

F. NFPA - NATIONAL FIRE CODES

POST CONSTRUCTION AND PROJECT CLOSEOUT DOCUMENTATION

AS-BUILT REQUIREMENTS: DO NOT USE RECORD DOCUMENTS FOR CONSTRUCTION PURPOSES. TO PROTECT RECORD DOCUMENTS FROM DETERIORATION AND LOSS, STORE IN A SECURE, FIRE-RESISTANT LOCATION. PROVIDE ACCESS TO RECORD DOCUMENTS FOR THE OWNER'S REFERENCE DURING NORMAL WORKING HOURS. MAINTAIN A CLEAN, UNDAMAGED SET OF BLUE OR BLACK LINE PRINTS OF CONTRACT DRAWINGS AND SHOP DRAWINGS. MARK THE SET TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN. MARK DRAWINGS THAT ARE MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE MARK RECORD SETS WITH RED ERASABLE PENCIL. USE OTHER COLORS TO DISTINGUISH BETWEEN VARIATIONS IN SEPARATE CATEGORIES OF THE WORK. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER BUT WAS NOT SHOWN ON THE CONTRACT DRAWINGS, DETAILS OR SHOP DRAWINGS. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE. NOTE RELATED RECORD DRAWING INFORMATION AND PRODUCT DATA. UPON COMPLETION OF THE WORK, SUBMIT ONE (1) COMPLETE SET OF RECORD DOCUMENTS TO THE CONSTRUCTION MANAGER FOR THE OWNER'S RECORDS. CONTRACTOR SHALL SUBMIT AS-BUILT SET OF PLANS TO THE ENGINEER WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION.

EXISTING CONDITIONS AND DEMOLITION

SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. BEFORE PROCEEDING WITH THE DEMOLITION WORK, THE CONTRACTOR SHALL OBTAIN FROM THE BUILDING OWNER A LIST OF ANY REMOVED ITEMS TO BE SALVAGED. ALL OTHER REMOVED MATERIALS AND 2. EQUIPMENT SHALL BE PROPERLY DISCARDED OFF THE PREMISES.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PROPERTY RESULTING FROM THE CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE AT THE COMPLETION OF WORK.

3. EXISTING UTILITIES AND CONDITIONS ARE SHOWN FROM FIELD DATA AND EXISTING 3. FIRESTOPPING MATERIALS SHALL BE INTUMESCENT SAFETY BARRIERS DESIGNED TO 4. DOCUMENTS AND ARE NOT NECESSARILY COMPLETE OR ACCURATE. ALL FIELD CONDITIONS SHALL BE VERIFIED BY CONTRACTOR BEFORE START OF CONSTRUCTION.

CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE, EXPOSE, AND DETERMINE IF CONFLICTS EXIST WITH THE PROPOSED IMPROVEMENTS. CONTRACTOR SHALL NOTIFY THE OWNER IN ORDER TO RESOLVE ANY CONFLICTS. EXISTING ELECTRICAL CONDUIT, WIRING, ETC. DAMAGED DURING RENOVATION SHALL BE REPLACED IN LIKE KIND AND CHARACTER, 4. AND AT THE EXISTING UTILITY LINES, DRAIN OR FIELD TILE DAMAGED SHALL BE REPAIRED OR REPLACED, AS NEEDED, IN LIKE KIND AND CHARACTER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING CONDUITS, CONTROL WIRING, ETC., WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR REPAIR OR REPLACEMENT OF 1. PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.

5. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONFLICTS OR DISCREPANCIES IN 2. REFER TO SHEET E-301 FOR ARC FLASH LABEL DETAILS. CONTRACTOR SHALL LABEL ALL THE CONTRACT DOCUMENTS OR FIELD CONDITIONS PRIOR TO EXECUTING THE WORK IN QUESTION. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF DETAILS ARE CONSIDERED UNSOUND, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO THE DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS, AND SHALL BE INCLUDED AS PART OF THE WORK.

6. SITE VISIT - CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK. NO EXTRAS WILL BE PERMITTED FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS. QUANTITIES OF MATERIALS SHALL BE PER CONTRACTOR'S MEASUREMENTS.

BASIC ELECTRICAL MATERIALS AND METHODS

WHERE STRUCTURAL OPENINGS ARE NOT AVAILABLE, THE CONTRACTOR SHALL CORE DRILL OR CUT CHASES IN WALLS AND FLOORS AS REQUIRED. ALL NEW OPENINGS SHALL BE COORDINATED WITH THE ENGINEER. ALL PENETRATIONS OF THE BUILDING WALLS, 6. GROUND-FAULT PROTECTION OF EQUIPMENT SHALL BE PROVIDED FOR SERVICE CEILING AND FLOORS, THE CONTRACTOR SHALL SEAL WITH QUALITY CAULK, FIRE RATED AND WATERTIGHT, SUBMITTED FOR APPROVAL BY THE OWNER.

TRASH REMOVAL: CONTRACTOR SHALL REMOVE ALL TRASH CREATED BY HIMSELF OR HIS CONTRACTORS DUE TO DEMOLITION OR CONSTRUCTION. THE CONTRACTOR SHALL ALSO REMOVE TRASH CREATED BY OTHER CONTRACTORS INCLUDING CABLE REELS, CARDBOARD BOXES AND PACKING. PROMPTLY CLEAN-UP ALL SOILING, DEBRIS AND OTHER UNSIGHTLY OR HAZARDOUS CONDITIONS, CAUSED BY WORK OR DELIVERIES UNDER THIS 7. CONTRACT, FROM THE BUILDING GROUNDS, ENTRIES, CORRIDORS, STAIRWAYS, ELEVATORS OR OTHER PUBLIC AREAS. ALL SHALL BE REMOVED FROM THE SITE IN A TIMELY FASHION TO A LEGAL DISPOSAL FACILITY.

SIGNAGE: CONTRACTOR SHALL MAINTAIN SECURITY AROUND PERIMETER OF CONSTRUCTION SITE DURING ALL HOURS BY INSTALLING A TEMPORARY RIBBON FOR INTERIOR WORK TO IDENTIFY CONSTRUCTION AREAS AS REQUIRED. SIGNAGE SHALL BE 9. POSTED WITH NOTIFICATIONS OF "NO TRESPASSING" AND "CONSTRUCTION AREA".

CHECK ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS OFF SITE, NOR DO ANY CONSTRUCTION UNTIL THE 10. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS). ACCURACY OF DRAWING DIMENSIONS HAVE BEEN VERIFIED AGAINST ACTUAL FIELD **DIMENSIONS** 

5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CUTTING, SUBSEQUENT ELECTRICAL IDENTIFICATION PATCHING, AND REQUIRED FLASHING FOR ALL ITEMS NECESSARY FOR ELECTRICAL PART OF THE CONTRACT. PATCH, PAINT, AND REPAIR ANY AREA DAMAGED TO THE SATISFACTION OF THE BUILDING OWNER.

6. THE EXACT LOCATIONS OF ALL ELECTRICAL DEVICES, EQUIPMENT AND CONDUIT, AS 2. SHOWN ON THE DRAWING, IS APPROXIMATE. WHEN NOT SHOWN IN DETAIL, THE EXACT LOCATION OR ROUTING SHALL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO THE APPROVAL OF OWNER.

7. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORT FOR THE MOUNTING AND SUPPORT OF ALL ITEMS REQUIRING THE SAME AS REQUIRED BY N.E.C.

8. TRENCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND

WHEN DIRECTIONAL BORING IS REQUIRED. CONTRACTOR SHALL INSTALL A LOOSE TONING WIRE WITHIN INSTALLED CONDUIT TO ALLOW FOR IDENTIFICATION OF UNDERGROUND

10. ALL BOLTS SHALL BE STAINLESS STEEL.

CONDUIT EXPANSION JOINTS IN ORDER TO ALLOW FOR EARTH MOVEMENT FROM SETTLEMENT, FROST, ETC. IN ORDER TO PREVENT DAMAGE TO THE CONDUCTORS OR TO THE EQUIPMENT CONNECTED TO THE RACEWAYS PER THE NEC.

**ELECTRICAL EQUIPMENT** 

1. ALL EQUIPMENT SHALL BE DESIGNED TO OPERATE ON VOLTAGE AND PHASE SPECIFIED. CONTRACTOR FURNISHING EQUIPMENT OTHER THAN INDICATED SHALL BE RESPONSIBLE FOR ANY CHANGES IN CONDUCTORS, RACEWAYS, SWITCHES, MAIN FEEDERS, AND APPURTENANCES AND PAY ALL ASSOCIATED COSTS. REQUIREMENTS FOR ANY INCREASE IN CAPACITIES SHALL BE REVIEWED BY ENGINEER.

ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.

FIRESTOPPING AND SEALING ELECTRICAL PENETRATIONS

1. ALL ELECTRICAL DEMOLITION WORK, INCLUDING MATERIAL REMOVAL FROM THE SITE, 1. CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOPPING FOR SEALING AROUND 1. ALUMINUM CONDUCTOR GRADE SHALL BE MINIMUM AA-8000 OR THE NEWEST ALUMINUM ELECTRICAL PENETRATIONS THROUGH FIRE OR SMOKE BARRIERS, AND FLOORS.

> PROPOSED UL SYSTEMS MATERIALS, ANCHORAGE, METHODS OF INSTALLATION, AND ACTUAL ADJACENT CONSTRUCTION. SUBMITTAL PACKAGE SHALL ALSO INCLUDE A COPY APPROVED MODIFICATIONS (IF APPLICABLE) AND THE MANUFACTURER'S SPECIFICATIONS. RECOMMENDATIONS, INSTALLATION INSTRUCTIONS, AND MAINTENANCE INSTRUCTIONS.

BLOCK THE SPREAD OF FIRE AND SMOKE THROUGH PENETRATIONS CREATED BY ELECTRICAL INSTALLATIONS IN FIRE RATED WALLS AND FLOORS. MATERIALS SHALL BE FLAME, TOXIC FUME, AND WATER RESISTANT AND SHALL HAVE A MINIMUM 3 HOUR FIRE 5. RATING. FIRE RATING SHALL BE DEFINED BY TESTS CONDUCTED BY ASTM, UL OR OTHER TESTING AND INSPECTION AGENCIES ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

PROVIDE MATERIALS BY THE FOLLOWING MANUFACTURERS TO SUIT THE APPLICATION: SPECIFIED TECHNOLOGIES, INC (STI), SOMERVILLE, NJ; TREMCO, INC., BEACHWOOD, OH; OR 3M INC., MINNEAPOLIS, MN

FAULT CURRENT, COORDINATION STUDY, AND ARC FLASH

REFER TO SHEET E-201 FOR FAULT CURRENT CALCULATIONS. CONTRACTOR SHALL MARK ON ALL EQUIPMENT AS REQUIRED PER NEC

EQUIPMENT AS REQUIRED PER NEC

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

ALL RACEWAYS AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE N.E.C. AND ANY LOCAL CODES.

2. ALL CONDUITS SHALL CONTAIN A CODE SIZE GROUNDING CONDUCTOR.

EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED WITH GREEN-COLORED INSULATION.

4. GROUNDING ELECTRODE CONDUCTORS SHALL BE STRANDED CABLE

MATERIALS AND CONNECTION COMPONENTS FOR GROUNDING AND BONDING SHALL BE MANUFACTURED BY ERICO, THOMAS & BETTS, OR BURNDY.

DISCONNECTS RATED 1000A OR MORE. THE GROUND-FAULT PROTECTION SYSTEM SHALL BE PERFORMANCE TESTED WHEN FIRST INSTALLED ON SITE AND PRIOR TO EQUIPMENT ENERGIZATION PER NEC 230.95. THE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH INSTRUCTIONS THAT SHALL BE PROVIDED WITH THE EQUIPMENT. A WRITTEN RECORD OF THIS TEST SHALL BE MADE AND SHALL BE AVAILABLE TO THE AUTHORITY HAVING

ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.

8. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.

NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, ON ALL GROUND TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.

ALL GROUNDING HARDWARE SUPPLIED AND INSTALLED BY CONTRACTOR.

PROVIDE NAMEPLATES FOR ALL MAJOR ELECTRICAL EQUIPMENT AND ON EQUIPMENT AS DIRECTED BY OWNER.

PROVIDE ALL FEEDERS AND BRANCH CIRCUIT WIRING WITH COLOR CODED VINYL TAPE WRAPPED A MINIMUM OF 1.5 TIMES AROUND CIRCUMFERENCE OF JACKET/SHIELDING TO DESIGNATE PHASE.

COLOR CODING OF CONDUCTORS SHALL BE PER NEC REQUIREMENTS.

CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC"

**CONDUCTORS AND CABLES** 

WIRING - ALL CONDUCTORS SHALL BE EQUAL TO OR BETTER THAN MINIMUM #12 AWG FOR POWER, #14 AWG FOR CONTROL WITH 98% CONDUCTIVITY STRANDED COPPER, 600V. COLOR CODED, UNLESS NOTED ALUMINUM (AL). REFER TO "ALUMINUM CONDUCTOR REQUIREMENTS" THIS SHEET. PROVIDE 75°C RATED CONDUCTORS FOR AMPACITIES ABOVE 100A AND 60°C RATED CONDUCTORS FOR AMPACITIES OF 100 AMPS OR LESS. PROVIDE SOLID OR STRANDED FOR #10 AWG AND SMALLER, STRANDED FOR #8 AWG AND LARGER. UNLESS NOTED OTHERWISE ON DRAWINGS.

11. FOR UNDERGROUND RACEWAYS, PROVIDE ADDITIONAL SLACK IN CONDUCTORS AND 2. WIRE SIZE OF BRANCH CIRCUITS SHALL BE ADJUSTED TO COMPENSATE FOR VOLTAGE DROP BASED UPON ACTUAL CONDUIT ROUTING. CONTRACTOR SHALL MAINTAIN VOLTAGE DROP AS RECOMMENDED BY N.E.C. (NOT TO EXCEED 3%).

> 3. PROVIDE A SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT, FEEDER, ETC. NEUTRALS ARE NOT PERMITTED TO BE SHARED.

CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.

5. ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.

6. CABLES - MC CABLE IS NOT PERMITTED.

7. PROVIDE WIRE AND CABLE MANUFACTURED BY ONE OF THE FOLLOWING: AMERICAN INSULATED WIRE CORPORATION; NEXANS; CERROWIRE; SOUTHWIRE; OR ENCORE WIRE.

8. PROVIDE CONNECTORS MANUFACTURED BY ONE OF THE FOLLOWING: AMP INCORPORATED; GENERAL SIGNAL, O-Z/GEDNEY UNIT; SQUARE D COMPANY, ANDERSON; FUSES ILSCO; OR BURNDY

ALUMINUM CONDUCTOR REQUIREMENTS

CONDUCTOR SPECIFICATION BEING USED BY THE INDUSTRY.

PROVIDE SHOP DRAWINGS OF EACH CONDITION REQUIRING PENETRATION SEALS AND THE 2. THE CONTRACTOR SHALL ABIDE BY ALL ARTICLES RELATED TO ALUMINUM CONDUCTORS IN THE LATEST ISSUE OF THE NEC.

OF THE UL ILLUSTRATION OF EACH PROPOSED SYSTEM INDICATING MANUFACTURER 3. ALUMINUM CONDUCTORS SHALL ONLY BE TERMINATED USING ALUMINUM RATED CONNECTIONS. CONTRACTOR SHALL VERIFY TERMINATIONS ON EACH DEVICE OR EQUIPMENT BEFORE START OF WORK FOR RATED ALUMINUM CONNECTORS.

> ALL ALUMINUM (AI) CONDUCTORS TO RECEIVE ANTI-OXIDATIVE COATING DURING INSTALLATION. ALL OTHER CONDUCTORS ARE COPPER UNLESS NOTED OTHERWISE.

> THE CONTRACTOR SHALL ABIDE BY ALL ALUMINUM WIRING INSTALLATION STANDARDS AS REQUIRED BY THE NEIS ( NATIONAL ELECTRICAL INSTALLATION STANDARDS) PUBLISHED BY THE NECA ( NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION). THE CONTRACTOR SHALL ABIDE BY ALL STANDARDS IN THE NECA / AA - 2006, WHICH DEFINES MINIMUM STANDARDS OF QUALITY AND WORKMANSHIP. A SUMMARY OF SOME OF THE REQUIREMENTS FOLLOW:

A. TERMINATE WITH COMPRESSION CONNECTORS, NO RING CUTS OF THE INSULATION, CRIMP ONLY WITH A CRIMP TOOL AND THE CORRECT DIE AS REQUIRED BY THE MANUFACTURER.

B. ALL CONDUCTORS TO RECEIVE ANTI-OXIDATIVE COATING DURING INSTALLATION. C. TERMINATING WITH A SET SCREW CONNECTOR, THE SCREW SHALL BE TIGHTENED

USING ONLY A TORQUE WRENCH. D. NECA / AA RECOMMENDS BELLVILLE WASHERS WHEN CONNECTING ALUMINUM

CONNECTORS TO COPPER BUS BARS. ABIDE BY ALL NECA / AA RECOMMENDATIONS E. DO NOT USE PIN CONNECTORS (WIRE ADAPTERS) UNLESS ABSOLUTELY NECESSARY. USE ALL/ANY OTHER OPTIONS, AND IF REQUIRED, PROVE TO ENGINEER BEFORE INSTALLING, IF USED, FOLLOW UL GUIDE FOR WIRE CONNECTORS (ZMOW), AND PROVIDE THE SPECIAL TOOLS REQUIRED BY THE MANUFACTURER. DIE-LESS CRIMPERS

RACEWAY AND BOXES

WILL NOT BE ACCEPTED.

1. RACEWAYS: UNLESS NOTED OTHERWISE, ALL EXPOSED CONDUIT SHALL BE R.G.S. AND COVERED 6" BELOW FINISHED GRADE TO BE PVC, HDPE, OR LFNC. SEE NOTES A & B BELOW. PROVIDE WEATHERPROOF FLEX CONNECTIONS WHERE REQUIRED. CONTRACTOR SHALL PROVIDE JUNCTION AND/OR PULL BOXES WHERE SHOWN ON THE DRAWINGS, OR AS REQUIRED, WHETHER SHOWN ON THE DRAWINGS OR NOT, AND SIZED PER N.E.C. PROVIDE NON-METALLIC ENCLOSURE WITH OPEN BOTTOM AND GASKETED COVER MANUFACTURED BY QUAZITE OR EQUIVALENT WITH DRIVE-OVER COVER ABLE TO WITHSTAND OCCASIONAL NON-DELIBERATE LIGHT VEHICULAR TRAFFIC. LABEL COVER TO SUIT INSTALLATION (I.E. "POWER" "COMMUNICATIONS", "LIGHTING", ETC.) AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

ABOVE GRADE: R.M.C.

 BELOW GRADE: DURALINE SMOOTH-COR FLEX, SCH 40 PVC, SCH 40 HDPE, OR NON-METALLIC FLEXIBLE CONDUIT LISTED FOR DIRECT BURIAL. ALL UNDERGROUND CONDUIT SHALL BE 90°C WET RATED AND INSTALLED 24" MIN. BELOW GRADE. VERIFY APPROVED USE OF HDPE WITH AHJ PRIOR TO ROUGH-IN AND INSTALL PER NEC & MFR RECOMMENDATIONS.

B. PARKING GARAGES:

RMC: 8'-0" OR LESS ABOVE GRADE OR PARKING GARAGE FLOOR LEVEL

 EMT: 8'-0" MINIMUM ABOVE PARKING GARAGE FLOOR LEVEL AND WHERE NOT SUBJECT TO DAMAGE. CONTRACTOR SHALL VERIFY WITH ELECTRICAL INSPECTOR IF EMT IS APPROVED AT THIS PROJECT PRIOR TO ROUGH-IN.

ALL WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT SHALL BE A MINIMUM OF 3/4".

3. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. CONTRACTOR SHALL PROVIDE MANUFACTURED LONG RADIUS BENDS FOR ALL CONDUITS RGS CONDUITS WHEN SPECIFIED. SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD GALV'.

OUTLET BOXES SHALL BE CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.

5. PROVIDE METAL CONDUIT AND TUBING MANUFACTURED BY ONE OF THE FOLLOWING: ALFLEX CORPORATION; ANAMET INCORPORATED, ANACONDA METAL HOSE; ANIXTER BROTHERS INCORPORATED; CAROL CABLE COMPANY INCORPORATED; ELECTRI-FLEX COMPANY; GRINNELL COMPANY, ALLIED TUBE AND CONDUIT DIVISION; MONOGRAM COMPANY, AFC; REPUBLIC CONDUIT; OR WHEATLAND TUBE COMPANY.

6. PROVIDE NONMETALLIC CONDUIT AND TUBING MANUFACTURED BY ONE OF THE FOLLOWING: ANAMET INCORPORATED, ANACONDA METAL HOSE; CANTEX INDUSTRIES, HARSCO CORPORATION: CONDUX INTERNATIONAL. ELECTRICAL PRODUCTS: HUBBELL INCORPORATED, RACO, INCORPORATED; THOMAS & BETTS CORPORATION, CARLON ELECTRICAL PRODUCTS; OR O-Z/GEDNEY, UNIT OF GENERAL SIGNAL.

PROVIDE CONDUIT BODIES AND FITTINGS MANUFACTURED BY ONE OF THE FOLLOWING: CROUSE-HINDS, DIVISION OF COOPER INDUSTRIES; EMERSON ELECTRIC COMPANY, APPLETON ELECTRIC COMPANY; HUBBELL INCORPORATED, KILLARK ELECTRIC MANUFACTURING COMPANY; THOMAS & BETTS CORPORATION, CARLON ELECTRICAL PRODUCTS; OR O-Z/GEDNEY, UNIT OF GENERAL SIGNAL.

PROVIDE METAL WIREWAYS MANUFACTURED BY ONE OF THE FOLLOWING: HOFFMAN ENGINEERING COMPANY; KEYSTONE/REES, INCORPORATED; OR SQUARE D COMPANY.

PROVIDE BOXES, ENCLOSURES, AND CABINETS MANUFACTURED BY ONE OF THE FOLLOWING: CROUSE-HINDS, DIVISION OF COOPER INDUSTRIES; HOFFMAN ENGINEERING COMPANY, FEDERAL-HOFFMAN INCORPORATED; HUBBELL INCORPORATED, RACO INCORPORATED; THOMAS & BETTS, CARLON ELECTRICAL PRODUCTS; O-Z/GEDNEY, UNIT OF GENERAL SIGNAL; ROBROY INDUSTRIES INCORPORATED, ELECTRICAL DIVISION; OR SCOTT FETZER COMPANY, ADALET-PLM.

SAFETY SWITCHES

1. ALL DISCONNECT SWITCHES SHALL BE HEAVY-DUTY CONSTRUCTION WITH LOCKABLE HANDLES SIZED AS NOTED ON THE DRAWINGS AND/OR RISER DIAGRAM. PROVIDE NEMA ENCLOSURE AS REQUIRED BY EXPOSURE TYPE. ALL FUSIBLE SWITCHES SHALL BE PROVIDED WITH DUAL ELEMENT FUSES SIZED PER THE EQUIPMENT MANUFACTURER'S

1. FUSES SHALL BE DUAL ELEMENT, TIME DELAY CURRENT LIMITING. CONTRACTOR SHALL COORDINATE FUSE SIZES WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS AND PER THE N.E.C. PROVIDE FUSES MANUFACTURED FROM ONE OF THE FOLLOWING: COOPER BUSSMAN, INCORPORATED; EAGLE ELECTRIC MANUFACTURING COMPANY INCORPORATED, COOPER INDUSTRIES INCORPORATED; FERRAZ SHAWMUT INCORPORATED.



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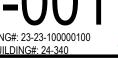
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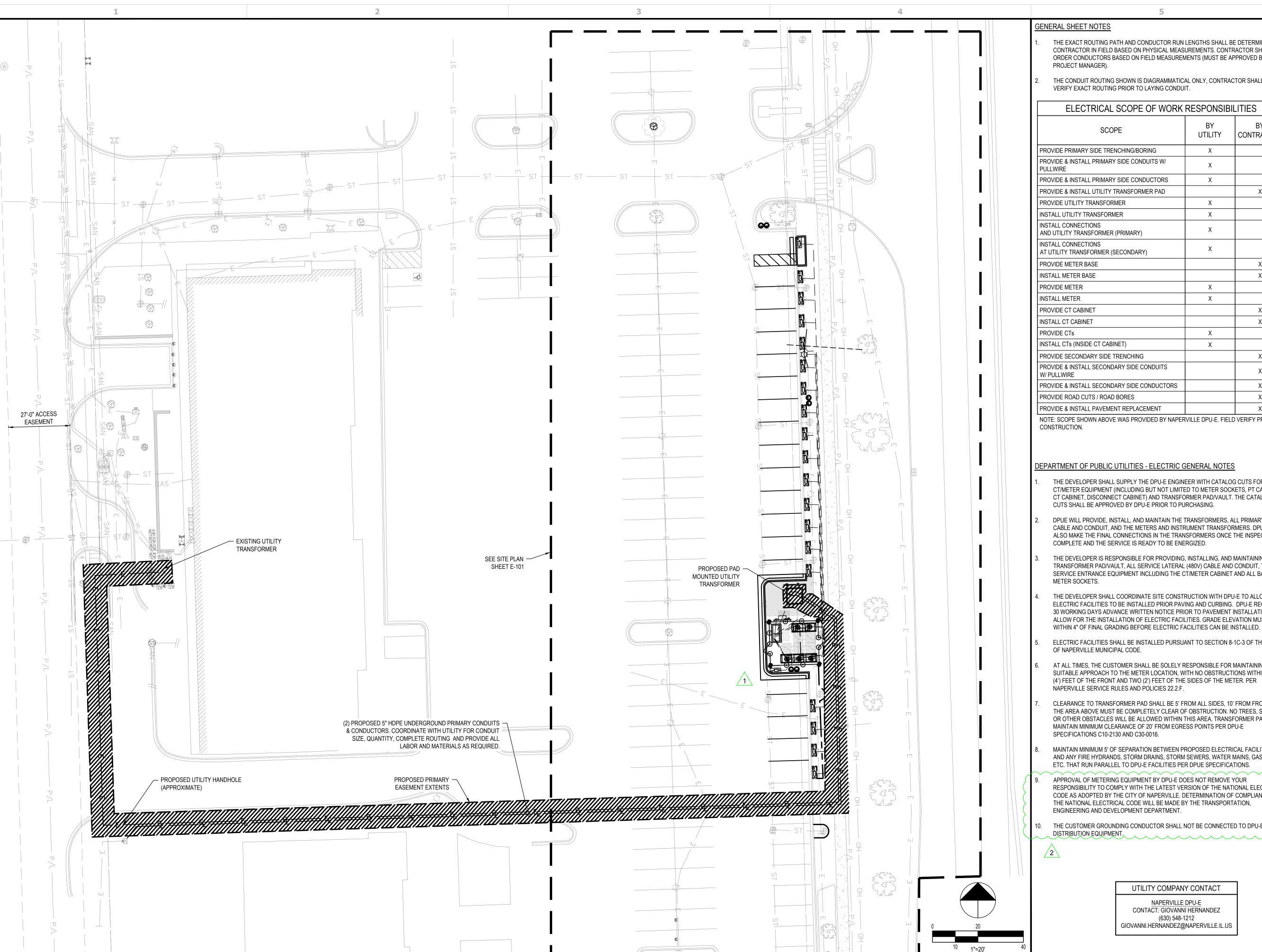
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ELECTRICAL ENERAL NOTES

ш PROJECT MANAGER DESIGNER

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- THE EXACT ROUTING PATH AND CONDUCTOR RUN LENGTHS SHALL BE DETERMINED BY CONTRACTOR IN FIELD BASED ON PHYSICAL MEASUREMENTS. CONTRACTOR SHALL ORDER CONDUCTORS BASED ON FIELD MEASUREMENTS (MUST BE APPROVED BY RIVIAN
- THE CONDUIT ROUTING SHOWN IS DIAGRAMMATICAL ONLY, CONTRACTOR SHALL FIELD VERIFY EXACT ROUTING PRIOR TO LAYING CONDUIT.

SCOPE	BY UTILITY	BY CONTRACTO
PROVIDE PRIMARY SIDE TRENCHING/BORING	Х	
PROVIDE & INSTALL PRIMARY SIDE CONDUITS W/ PULLWIRE	Х	
PROVIDE & INSTALL PRIMARY SIDE CONDUCTORS	Х	
PROVIDE & INSTALL UTILITY TRANSFORMER PAD		Х
PROVIDE UTILITY TRANSFORMER	Х	
INSTALL UTILITY TRANSFORMER	Х	
INSTALL CONNECTIONS AND UTILITY TRANSFORMER (PRIMARY)	Х	
INSTALL CONNECTIONS AT UTILITY TRANSFORMER (SECONDARY)	Х	
PROVIDE METER BASE		Х
INSTALL METER BASE		Х
PROVIDE METER	Х	
INSTALL METER	Х	
PROVIDE CT CABINET		Х
INSTALL CT CABINET		Х
PROVIDE CTs	Х	
INSTALL CTs (INSIDE CT CABINET)	Х	
PROVIDE SECONDARY SIDE TRENCHING		Х
PROVIDE & INSTALL SECONDARY SIDE CONDUITS W/ PULLWIRE		Х
PROVIDE & INSTALL SECONDARY SIDE CONDUCTORS		Х
PROVIDE ROAD CUTS / ROAD BORES		Х
PROVIDE & INSTALL PAVEMENT REPLACEMENT		Х

NOTE: SCOPE SHOWN ABOVE WAS PROVIDED BY NAPERVILLE DPU-E. FIELD VERIFY PRIOR TO

#### DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC GENERAL NOTES

- THE DEVELOPER SHALL SUPPLY THE DPU-E ENGINEER WITH CATALOG CUTS FOR ALL CT/METER EQUIPMENT (INCLUDING BUT NOT LIMITED TO METER SOCKETS, PT CABINET, CT CABINET, DISCONNECT CABINET) AND TRANSFORMER PAD/VAULT. THE CATALOG CUTS SHALL BE APPROVED BY DPU-E PRIOR TO PURCHASING.
- DPUE WILL PROVIDE, INSTALL, AND MAINTAIN THE TRANSFORMERS, ALL PRIMARY (15KV) CABLE AND CONDUIT, AND THE METERS AND INSTRUMENT TRANSFORMERS. DPUE WILL ALSO MAKE THE FINAL CONNECTIONS IN THE TRANSFORMERS ONCE THE INSPECTION IS COMPLETE AND THE SERVICE IS READY TO BE ENERGIZED.
- THE DEVELOPER IS RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING THE TRANSFORMER PAD/VAULT, ALL SERVICE LATERAL (480V) CABLE AND CONDUIT, THE SERVICE ENTRANCE EQUIPMENT INCLUDING THE CT/METER CABINET AND ALL BANKED
- THE DEVELOPER SHALL COORDINATE SITE CONSTRUCTION WITH DPU-E TO ALLOW ELECTRIC FACILITIES TO BE INSTALLED PRIOR PAVING AND CURBING. DPU-E REQUIRES 30 WORKING DAYS ADVANCE WRITTEN NOTICE PRIOR TO PAVEMENT INSTALLATION TO ALLOW FOR THE INSTALLATION OF ELECTRIC FACILITIES. GRADE ELEVATION MUST BE
- ELECTRIC FACILITIES SHALL BE INSTALLED PURSUANT TO SECTION 8-1C-3 OF THE CITY
- AT ALL TIMES, THE CUSTOMER SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING A SUITABLE APPROACH TO THE METER LOCATION, WITH NO OBSTRUCTIONS WITHIN FOUR (4') FEET OF THE FRONT AND TWO (2') FEET OF THE SIDES OF THE METER. PER NAPERVILLE SERVICE RULES AND POLICIES 22.2.F.
- CLEARANCE TO TRANSFORMER PAD SHALL BE 5' FROM ALL SIDES, 10' FROM FRONT, AND THE AREA ABOVE MUST BE COMPLETELY CLEAR OF OBSTRUCTION. NO TREES, SHRUBS, OR OTHER OBSTACLES WILL BE ALLOWED WITHIN THIS AREA. TRANSFORMER PAD SHALL MAINTAIN MINIMUM CLEARANCE OF 20' FROM EGRESS POINTS PER DPU-E SPECIFICATIONS C10-2130 AND C30-0016.
- MAINTAIN MINIMUM 5' OF SEPARATION BETWEEN PROPOSED ELECTRICAL FACILITIES AND ANY FIRE HYDRANDS, STORM DRAINS, STORM SEWERS, WATER MAINS, GAS MAINS, ETC. THAT RUN PARALLEL TO DPU-E FACILITIES PER DPUE SPECIFICATIONS.
- APPROVAL OF METERING EQUIPMENT BY DPU-E DOES NOT REMOVE YOUR RESPONSIBILITY TO COMPLY WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AS ADOPTED BY THE CITY OF NAPERVILLE. DETERMINATION OF COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE WILL BE MADE BY THE TRANSPORTATION, ENGINEERING AND DEVELOPMENT DEPARTMENT.
- THE CUSTOMER GROUNDING CONDUCTOR SHALL NOT BE CONNECTED TO DPU-E

UTILITY COMPANY CONTACT NAPERVILLE DPU-E

Horizontal Scale in Feet

CONTACT: GIOVANNI HERNANDEZ (630) 548-1212 GIOVANNI.HERNANDEZ@NAPERVILLE.IL.US



520 South Main Street, Suite 2531 330.572.2100 Fax 330.572.2101

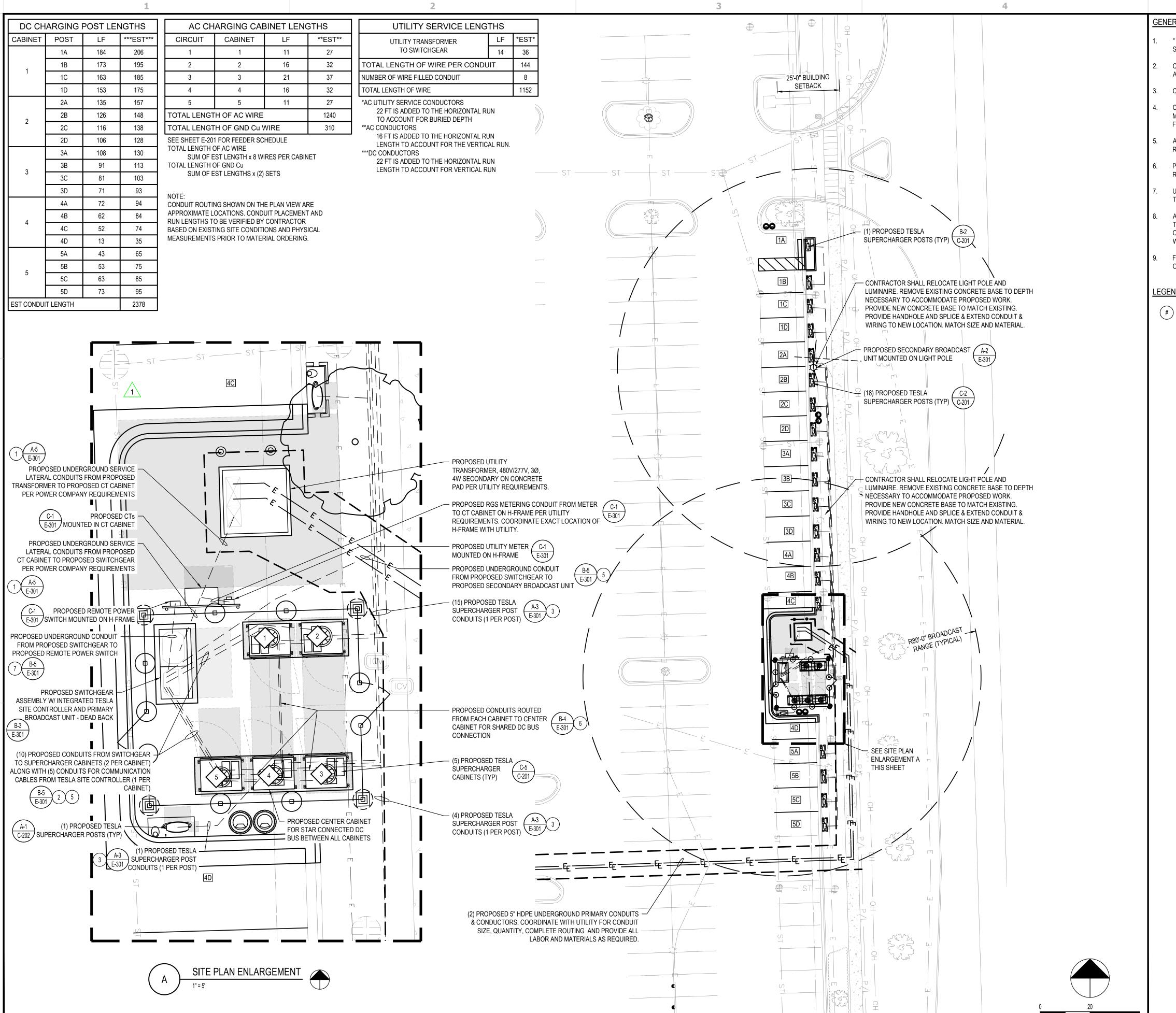
DESCRIPTION	SITE SKETCH	90% REVIEW	REVISED FOR 90% REVIEW	SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	SCAPE PLAN	
_	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR	ISSUED FOR SIGN & SEAL	REVISED S&S F	Аррер РНОТС	ADDED LANDSCAPE PLAN	
DATE	06/13/2023	07/27/2023	08/27/2023 F	09/29/2023	11/27/2023 F	01/12/2024	03/07/2024	
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LS N 4 ELECTRICAL E PLAN HARG PLACE OVERALL E SITE 日日か出 SUPI 2724 S NAP

> PROJECT MANAGER DESIGNER

> > 2023141.99



**GENERAL SHEET NOTES** 

"(#)" DENOTES FEEDER REFERENCE. REFER TO SHEET E-201 FOR FEEDER/CIRCUIT

- CONTRACTOR SHALL REFER TO CIVIL SHEETS FOR EXISTING LANDSCAPING TO REMAIN AND PROPOSED LANDSCAPING.
- CONTRACTOR SHALL HAND DIG AROUND ALL EXISTING UTILITIES.
- CONDUIT ELBOWS SHALL BE SIZED PER NEC. CONTRACTOR SHALL VERIFY MANUFACTURER ALLOWABLE FILL AND MINIMUM CONDUCTOR BENDING RADIUS. SEE FEEDER SCHEDULE FOR CONDUIT & CONDUCTOR SPECIFICATIONS.
- ALL CONDUITS ACCESSIBLE TO THE PUBLIC OR WHICH CAN BE DAMAGED SHALL BE RIGID GALVANIZED STEEL.
- PROPERTY LINE AND RIGHT-OF-WAY BOUNDARIES ARE SHOWN FOR REFERENCE ONLY. REFER TO SURVEY BY OTHERS FOR EXACT LOCATION.
- UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER TO ENSURE ACCURACY OF INSTALLATION.
- ALL PROPOSED CONDUITS MUST MEET MINIMUM DEPTH REQUIREMENTS AS OUTLINED IN TRENCH DETAILS, AS WELL AS MAINTAIN A MINIMUM OF 18" CLEAR OF ALL EXISTING OBSTRUCTIONS INCLUDING (BUT NOT LIMITED TO) STORM PIPES, SANITARY PIPES, WATER LINES AND OTHER UNDERGROUND UTILITIES.
- FOR TRAFFIC CONTROL PROCEDURES (IF APPLICABLE), SEE TRAFFIC CONTROL NOTES ON SHEET C-003.

#### **LEGEND**

1"=20'

Horizontal Scale in Feet

FEEDER SCHEDULE REFERENCE SEE SHEET E-201 FOR FEEDER/CIRCUIT SCHEDULE



520 South Main Street, Suite 2531 Akron, OH 44311 330.572.2100 Fax 330.572.2101

DESCRIPTION	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR 90% REVIEW	ISSUED FOR SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	ADDED LANDSCAPE PLAN	
DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
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A SUPERCHARGER STA 2724 SHOWPLACE DRIVE NAPERVILLE II 60564

PLAN

SITE ELECTRICAL

PROJECT MANAGER	DESIGNER
IM	NSE

2023141.99

STATISTICS										
DESCRIPTION	AVERAGE	MAX.	MIN.	MAX/MIN	AVG/MIN					
IMPACTED LIGHTING AREA	2.9 FC	5.8 FC	0.6 FC	9.7:1	4.8:1 2					
OVERALL SITE	3.0 FC	8.0 FC	0.1 FC	80.0:1	30.0:1					

NOTE: SEE 'EXISTING CONDITIONS CALCULATION SUMMARY' ON PHOTOMETRIC PLAN DATED 02/27/19 FOR FULL EXISTING CONDITIONS.

GENERAL SHEET NOTES

1. PROPOSED PHOTOMETRIC PLAN IS BASED ON EXISTING CONDITIONS SHOWN IN PHOTOMETRIC PLAN DATED 02/27/19 BY OTHERS, SEE SHEET E-305.

GREEN INDICATES LIGHTING AREAS IMPACTED BY PROPOSED IMPROVEMENTS. BLUE INDICATES EXISTING CONDITIONS.

#### PLAN KEYNOTES

PROPOSED RELOCATED LIGHT POLE (TOTAL OF 1).

3500 DEER CREEK RD PALO ALTO, CA 94304 (650) 681-5000



520 South Main Street, Suite 2531 Akron, OH 44311 330.572.2100 Fax 330.572.2101

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	DESCRIPTION	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR 90% REVIEW	ISSUED FOR SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	ADDED LANDSCAPE PLAN	
	DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
	REV.	Α	В	0	O	0	1	2	



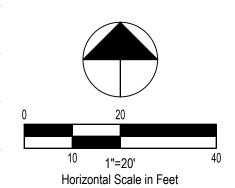
A SUPERCHARGER STATION
2724 SHOWPLACE DRIVE
NAPERVILLE, IL 60564
PHOTOMETRIC PLAN

PROJECT MANAGER DESIGNER

IM NSE

JOB NO. 2023141.99





GENERAL SHEET NOTES

- NEUTRAL MUST BE INCLUDED FOR PROPER OPERATION OF TESLA SUPERCHARGERS.
- PROPOSED UTILITY CTs SHALL BE LOCATED IN UTILITY APPROVED CT COMPARTMENTS MOUNTED IN CT CABINET. PROPOSED METER SHALL BE MOUNTED ON H-FRAME.
- ALL CONDUIT FURNISHED AND INSTALLED BY CONTRACTOR.
- ALL WIRING FURNISHED BY TESLA AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. SEE SHEET E-101 FOR UTILITY/CONTRACTOR SCOPE OF WORK.
- THE TESLA PROVIDED SUPERCHARGER CABINETS AND SUPERCHARGER POSTS USED ON THIS PROJECT COMPLY WITH THE FOLLOWING STANDARDS:
- TUV CERTIFIED TO UL 2202
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED. LISTED. OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
- REFER TO THIS SHEET FOR FAULT CURRENT CALCULATIONS. CONTRACTOR SHALL MARK ON ALL EQUIPMENT AS REQUIRED PER N.E.C.
- REFER TO SHEET E-301 FOR ARC FLASH LABEL DETAILS. CONTRACTOR SHALL LABEL ALL EQUIPMENT AS REQUIRED PER N.E.C.

	FEEDER / CIRCUIT SCHEDULE
NO	CONFIGURATION
1	(8) SETS OF 4" CONDUIT EACH WITH (3) 600 MCM AI (1) 600 MCM AI NEUT
2	(2) SETS OF 4" CONDUIT EACH WITH (3) 500 MCM AI (1) 500 MCM AI NEUT (1) #1 AWG Cu GND
3	(1) SET IN 4" CONDUIT (HDPE 90°C CONDUIT IS ACCEPTABLE) WITH (4) 600 MCM AI (TWO +, TWO -) (1) #2/0 AWG Cu GND (1) 1.25" CONDUIT (DURALINE IS ACCEPTABLE**) WITH (1) 1000V, CLASS 1, COMM CABLE (2) #8 AWG Cu (LVDC) - 6' MIN COIL AT EACH END  **SEE DETAIL ON SHEET E-301 FOR DURALINE TO PVC TRANSITION AND ADDITIONAL NOTES
4	FACTORY INSTALLED WIRING
5	OUTDOOR RATED/SHIELDED CAT6 CABLE IN 1" CONDUIT.
6	(2) SETS OF 3" CONDUIT EACH WITH (2) 600 MCM AI (ONE +, ONE -) (1) #3/0 AWG AI DC MID (1) #1/0 AWG Cu GND (1) #3/0 AWG AI DC MID DISC. 36" LONG IN EA. CABINET, NOT ROUTED IN CONDUIT
7	(1) SET IN 1" CONDUIT WITH (1) #12 AWG Cu (THWN-2) (1) #12 AWG Cu NEUT (THWN-2) (1) #12 AWG Cu GND (THWN-2)

- NOTES: 1. ALL AC CONDUCTORS SHALL BE XHHW-2, 600V RATED, U.N.O.
- ALL DC CONDUCTORS SHALL BE XHHW-2, 1000V RATED, U.N.O..
- SEE "RACEWAY AND BOXES" NOTES ON SHEET E-001 FOR CONDUIT USE TYPES FOR ABOVE AND BELOW GRADE APPLICATIONS

#### GPD GROUP, INC. LIC. # - 184-007100

520 South Main Street, Suite 2531 Akron, OH 44311 330.572.2100 Fax 330.572.2101

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DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
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PROJECT MANAGER	DESIGNER
IM	NSE

2023141.99

PLANNING#: 23-23-100000100

4. DURALINE PRODUCT WILL BE USED FOR "DC-POST" CONDUIT RUN ONLY.

PANEL BOARD NOTES

CIRCUITS SHALL BE REARRANGED AS REQUIRED TO MAINTAIN THE MOST BALANCED LOADS ON EACH PHASE WITHIN EACH PANEL. PROVIDE TYPED PANEL DIRECTORY MOUNTED PER MANUFACTURERS RECOMMENDATIONS WITH SERVICE EQUIPMENT. OCPD FOR POWER CABINETS ARE CALCULATED AS FOLLOWS: 465A AC INPUT TO CABINET x 1.25 = 581.25A ⇒ 600A BRANCH REQUIRED

CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY TO DETERMINE MAXIMUM SHORT CIRCUIT AMPS (SCA), AND PROVIDE CALCULATIONS IN ORDER TO PROVIDE PROPERLY RATED EQUIPMENT. PROVIDE LABELS ON ELECTRICAL EQUIPMENT PER NEC 110.16 AND LOCAL JURISDICTION REQUIREMENTS.

PER NEC 230.42(A)(1) EXCEPTION 2: THE SUM OF THE TOTAL CONNECTED LOADS (NON-CONTINUOUS LOAD PLUS THE CONTINUOUS LOAD) TERMINATE IN AN OVERCURRENT DEVICE WHERE BOTH THE OVERCURRENT DEVICE AND ITS ASSEMBLY ARE LISTED FOR OPERATION AT 100% OF THEIR RATING, SIZED PER CONNECTED LOAD.

			BREA	KER SETTING	 iS			
USE	SIZE	LONG TIME PICKUP	LONG TIME DELAY	SHORT TIME PICKUP	SHORT TIME DELAY	INST	GROUND FAULT PICKUP	GROUND FAULT DELAY
MCB - ABB E2.2 BKR	2500A	1.0 (2,500A)	24 (I <sup>2</sup> T ON)	2.00	0.2 (I <sup>2</sup> T OFF)	15	0.4	0.4 (I <sup>2</sup> T OFF)
MCB - SQUARE D NW BKR	2500A	1.0 (2,500A)	4	1.50	0.2 (I <sup>2</sup> T OFF)	15	J	0.4 (I <sup>2</sup> T OFF)
MCB - SQUARE D MTZ BKR	3000A	0.8 (2,400A)	4	1.50	0.2 (I <sup>2</sup> T OFF)	15	0.4	0.4 (I <sup>2</sup> T OFF)
BRANCH CIRCUIT - ABB	600A	MAX (600A)	Х	Х	Х	MIN (3,000A)	Х	Х
BRANCH CIRCUIT - SQUARE D	600A	Х	Х	Х	Х	2	Х	Х

	TESLA SUPERCHARGER CABINET AND POST ELECTRICAL SPECS										
CHARGE POST MODEL	AC INPUT VOLTAGE TO CABINET	kVA INPUT TO CABINET	AC INPUT CURRENT TO CABINET	DC OUTPUT VOLTAGE TO CHARGE POST	DC OUTPUT CURRENT TO CHARGE POST	DC SHARED BUS CURRENT	SHORT CIRCUIT CURRENT RATING				
V4	380V - 480V	387kVA	465A	0V - 500V	615A	640A	85 kAIC				

METER, TOP FED CT CABINET AND REMOTE POWER SWITCH ON H-FRAME

Restricted Approach 12 in

## DANGER

#### **NO SAFE PPE EXISTS**

**ENERGIZED WORK PROHIBITED** 

FLASH PROTECTION SHOCK PROTECTION Shock risk when Incident Energy at 18 in 480 VAC cover is removed Min. Arc Rating: 144.5 cal/cm^2 Arc Flash Boundary: 361 in

Limited Approach 42 in DO NOT WORK ON LIVE!

Glove Class:

Bus: INCOMING SECTION-MAIN Prot: MaxTripTime @2.0s

INCOMING UTILITY SECTION

#### **Arc Flash and Shock Risk**

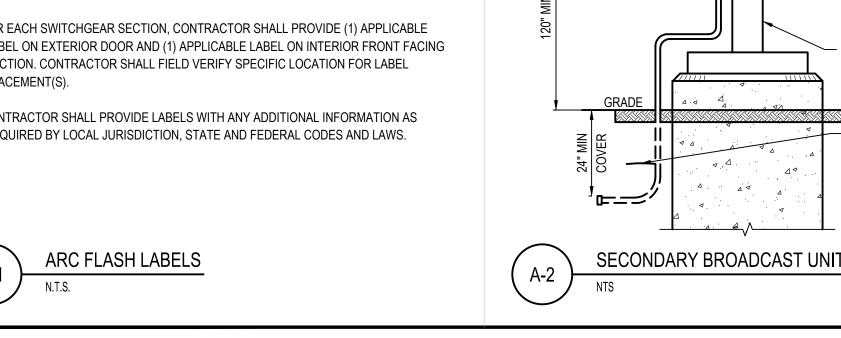
**Appropriate PPE Required** SHOCK PROTECTION **FLASH PROTECTION** Shock risk when Incident Energy at 18 in 480 VAC cover is removed Min. Arc Rating: 4.22 cal/cm^2 Arc Flash Boundary: 40 in Glove Class: Limited Approach 42 in

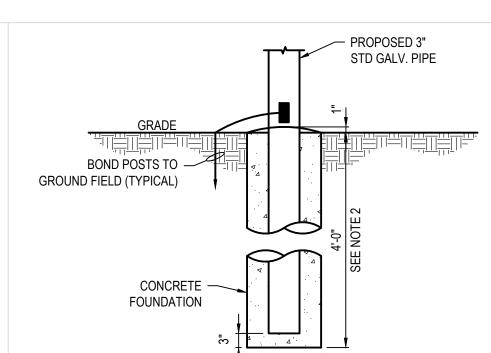
Restricted Approach 12 in

**Bus: CHARGING CABINETS Prot: 600A BREAKER** 

**CHARGING CABINETS** 

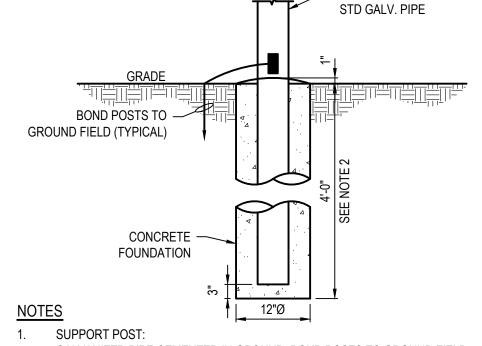
- 1. FOR ANY QUESTIONS OR CLARIFICATIONS REGARDING LABELS, CONTACT TESLA.
- 2. ARC FLASH INCIDENT ENERGY ANALYSIS COMPLETED PER NFPA 70E 2018.
- 3. ARC FLASH CALCULATIONS PER IEEE 1584, 2018.
- 4. LABELS SHALL BE PRINTED WITH PERMANENT INK ON WEATHERPROOF LABELS WITH SELF STICKING ADHESIVE.
- 5. INSTALL LABELS PER NEC SECTION 110.16.
- 6. FOR EACH SWITCHGEAR SECTION, CONTRACTOR SHALL PROVIDE (1) APPLICABLE LABEL ON EXTERIOR DOOR AND (1) APPLICABLE LABEL ON INTERIOR FRONT FACING SECTION. CONTRACTOR SHALL FIELD VERIFY SPECIFIC LOCATION FOR LABEL PLACEMENT(S).
- 7. CONTRACTOR SHALL PROVIDE LABELS WITH ANY ADDITIONAL INFORMATION AS REQUIRED BY LOCAL JURISDICTION, STATE AND FEDERAL CODES AND LAWS.





SUPPORT POST: GALVANIZED PIPE CEMENTED IN GROUND. BOND POSTS TO GROUND FIELD.

MOUNTING HARDWARE- 12 GAUGE 1-5/8" X 1-5/8" CONTINUOUS SLOT HOT DIPPED GALVANIZED CHANNEL (e.g., UNISTRUT) COMPLETE WITH 1-1/4" X 5/16" DIA. 13 THD SPRING NUT (2 PER CHANNEL), 5/16" HEX NUT, AND LOCK WASHER SECURELY



REFER TO FEEDER/CIRCUIT SCHEDULE FOR CONDUIT SPECIFICATION TO RGS COUPLER FOR TRANSITION.

DURALINE FLEX CONDUIT HAS BEEN CERTIFIED

REPORTS SHOWING HOW THIS PRODUCT MEETS

UL STANDARDS ARE AVAILABLE UPON REQUEST

DURALINE FLEX CONDUITS REQUIRE THE USE OF

SUPERCHARGER -

TESLA SUPERCHARGER

2724 SHOWPLACE

DRIVE 1-877-798-3752

TESLA EV SYSTEM

DISCONNECT

MAXIMUM AVAILABLE FAULT CURRENT

44,522 A

2724 SHOWPLACE DRIVE

NAPERVILLE, IL 60564

FOR ADDITIONAL INFORMATION. TRENCHES WITH UP TO 16 DC

SEPARATION BETWEEN CONDUIT GROUPS OF NOT MORE THAN

16 CONDUITS. GROUPINGS OF 4 OR FEWER DC POST CONDUITS

CONDUIT CONFIGURATION HAS NOT BEEN REVIEWED BY THE

STAMPING PARTY. THEREFORE, THE STAMPING PARTY SHALL

DETAIL SHALL BE AT THE RELYING PARTY(IES)'S OWN RISK AND

SPACING. ENGINEERED BACKFILL WITH A RHO VALUE LESS

THAN 100 MUST BE USED FOR BACKFILL. TRENCHES WITH

MAY BE INSTALLED WITHOUT ENGINEERED BACKFILL. THIS

NOT BE HELD LIABLE FOR ITS USE. ANY RELIANCE ON THIS

HEREBY WAIVES ANY AND ALL CLAIM(S) RELATED TO THE

OFF. ALL TRENCHING SHALL BE ACCORDING TO THE LATEST

CONDUCTORS AND CONDUIT EXPANSION JOINTS IN ORDER TO

ETC. IN ORDER TO PREVENT DAMAGE TO THE CONDUCTORS OR

NEC. SHOULD FIELD CONDITIONS VARY OR CONFLICTS OCCUR,

DC POST CONDUIT TRENCH\*<sup>,</sup>

ALLOW FOR EARTH MOVEMENT FROM SETTLEMENT, FROST,

TO THE EQUIPMENT CONNECTED TO THE TRENCH PER THE

CONTRACTOR SHALL COORDINATE WITH TESLA CONTACT

DETAILED IN TYPICAL TRENCH DETAIL, THIS SHEET.

REPAIRED OR REPLACED BY THE CONTRACTOR TO

PRE-CONSTRUCTION CONDITIONS OR BETTER.

EXISTENCE OF THE STAMP OR OTHERWISE.

OSHA STANDARDS.

LISTED ON SHEET C-001.

MORE THAN 16 DC POST CONDUITS MUST INCLUDE A 24"

POST CONDUITS MAY BE INSTALLED WITH NO CONDUIT

PLACARDS TO BE MADE OF RED PHENOLIC PLASTIC W/ 1" WHITE

LETTERING, ATTACH PLACARDS WITH RIVETS OR SELF TAPPING

CONTRACTOR SHALL VERIFY FAULT CURRENT CONTRIBUTION WITH

UTILITY AND UPDATE PLACARD DETAIL PRIOR TO GENERATING AND

INSTALLING PLACARD, NOTIFY ENGINEER IMMEDIATELY OF ANY

ADDITIONAL PLACARDS REQUIRED FOR ARC FLASH LABELS

PLACE ON FRONT

PLACE ON SWITCHBOARD MAIN

SWITCHBOARD

DISCONNECT

90° PVC TRANSITIONS AT EACH END AND/OR

HARD BENDS, CONTRACTOR TO SUPPLY PVC

AS A CRITICAL COMPONENT OF THE

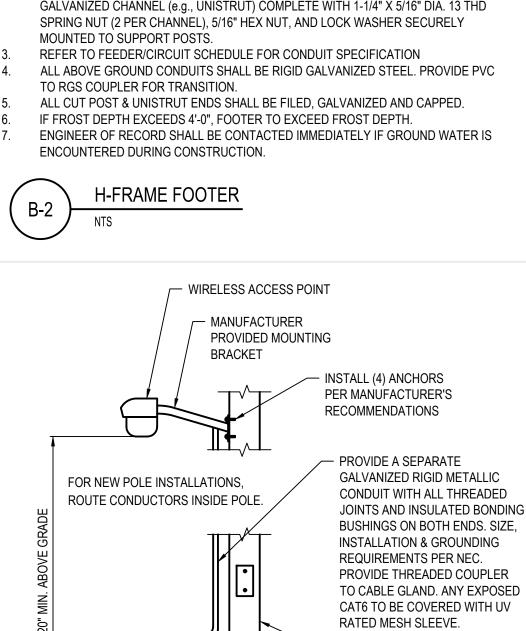
SUPERCHARGER POST BY TUV. TESTING

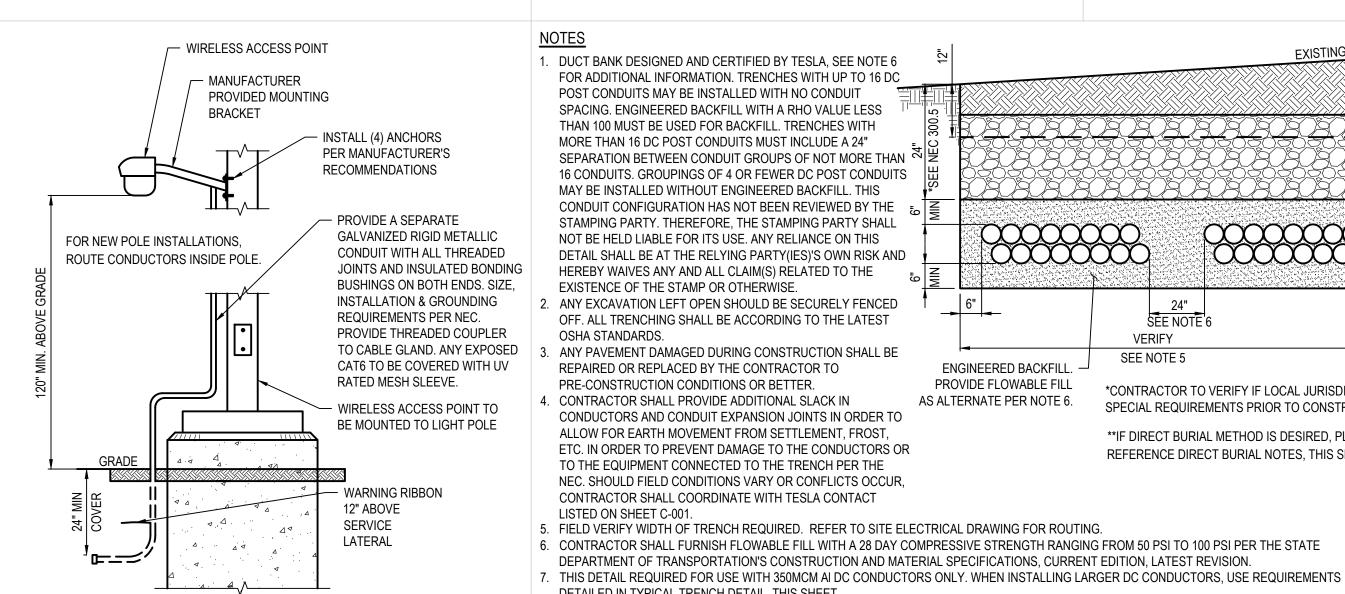
PRODUCT WILL BE USED FOR "DC-POST"

TRANSITIONS TO TESLA EQUIPMENT.

CONDUIT RUN ONLY.

IF FROST DEPTH EXCEEDS 4'-0", FOOTER TO EXCEED FROST DEPTH.





UNDISTURBED SOIL (TYP) DETECTABLE WARNING TAPE RED WITH BLACK LETTERING INDICATING "ELECTRICAL" AND ROUTED ALONG CONDUIT PATH CLEAN GRANULAR BACKFILL 6" LIFT MAXIMUM, PLATE TAMP (1/2"), 98% COMPACTION MINIMUM. PROVIDE FLOWABLE FILL AS ALTERNATE PER NOTE 5. **VERIFY CONDUIT TYPE.** VERIFY MIN SIZE, AND QUANTITY WITH FEEDER SCHEDULE HAND-TAMPERED CLEAN GRANULAR

BACKFILL W/6" SAND BEDDING. PROVIDE \*IF DIRECT BURIAL METHOD IS DESIRED, PLEASE FLOWABLE FILL AS ALTERNATE REFERENCE DIRECT BURIAL NOTES, THIS SHEET.

2. ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE

CONTRACTOR TO PRE-CONSTRUCTION CONDITIONS OR BETTER. 3. CONTRACTOR SHALL INSTALL CONDUITS BELOW LOCAL FROST LINE. SHOULD FIELD

4. VERIFY WIDTH OF TRENCH REQUIRED. REFER TO SITE ELECTRICAL DRAWING FOR APPROXIMATE ROUTING.

5. THE CONTRACTOR SHALL FURNISH FLOWABLE FILL WITH A 28 DAY COMPRESSIVE STRENGTH RANGING FROM 50 PSI TO 100 PSI PER THE STATE DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION, LATEST REVISION.

EXISTING GRADE

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\*CONTRACTOR TO VERIFY IF LOCAL JURISDICTION HAS

SPECIAL REQUIREMENTS PRIOR TO CONSTRUCTION.

\*\*IF DIRECT BURIAL METHOD IS DESIRED, PLEASE

REFERENCE DIRECT BURIAL NOTES, THIS SHEET.

6. DC BUS CONDUITS ARE NOT TO BE STACKED UNDER ANY CIRCUMSTANCES.



SEE NOTE 6

VERIFY

SEE NOTE 5

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ENGINEERED BACKFILL.

PROVIDE FLOWABLE FILL

AS ALTERNATE PER NOTE 6.

DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION, LATEST REVISION.

- 90° PVC TRANSITION INTO

- DURALINE SMOOTHWALL FLEX  $\,--$ 

CONDUIT FOR COMMUNICATIONS

CABLES (SEE FEEDER SCHEDULE/

ON SHEET E-201 FOR CONDUIT

SIZE AND QUANTITY).

CABINET. SEE NOTE 2.

1. ANY EXCAVATION LEFT OPEN SHOULD BE SECURELY FENCED OFF. ALL TRENCHING SHALL BE ACCORDING TO THE LATEST OSHA STANDARDS CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH TESLA CONTACT LISTED ON

UNDISTURBED SOIL (TYP)

**DETECTABLE WARNING TAPE** 

RED WITH BLACK LETTERING

INDICATING "ELECTRICAL"

CLEAN GRANULAR BACKFILL

PROVIDE FLOWABLE FILL AS

6" LIFT MAXIMUM, PLATE

COMPACTION MINIMUM.

ALTERNATE PER NOTE 6.

SIZE, AND QUANTITY WITH

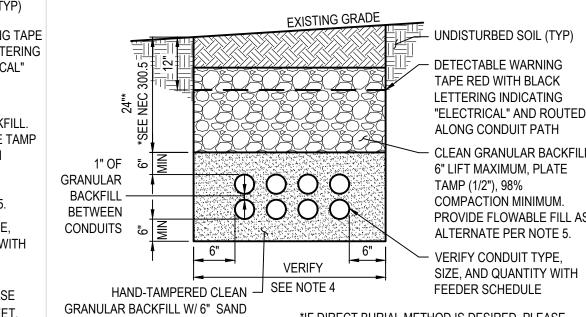
VERIFY CONDUIT TYPE,

FEEDER SCHEDULE

AND ROUTED ALONG

CONDUIT PATH

TAMP (1/2"), 98%



TO UTILITY

**TRANSFORMER** 

PROPOSED MAIN

PROPOSED NEUTRAL

FEEDER/CIRCUIT SCHEDULE

SUPERCHARGER CABINET

SUPERCHARGING CABINETS

90° PVC TRANSITION INTO SEE FEEDER/CIRCUIT SCHEDULE

SUPERCHARGER

POST (V4)

CHARGE POST. SEE NOTE 2.

CONDUCTOR. SEE

TO ADDITIONAL

PROPOSED ·

TO ADDITIONAL

PROPOSED DC-BUS EGC.

PROPOSED POST EGC.

SEE FEEDER/CIRCUIT

SUPERCHARGER POSTS

SUPERCHARGING CABINETS F---

**SERVICE** 

**EQUIPMENT** 

MAIN BONDING JUMPER

(FACTORY INSTALLED PER

- PROPOSED #3/0 AWG Cu

GROUNDING ELECTRODE

CONDUCTOR TO (2) 5/8" x

@ 6'-0" OC MIN.

TO ADDITIONAL

SUPERCHARGER POSTS

CABINET EGC. SEE

8'-0" GROUND RODS SPACED

PROPOSED SUPERCHARGER

FEEDER/CIRCUIT SCHEDULE

BEDDING. PROVIDE FLOWABLE FILL

\*IF DIRECT BURIAL METHOD IS DESIRED, PLEASE REFERENCE DIRECT BURIAL NOTES, THIS SHEET.

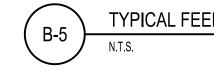
AS ALTERNATE PER NOTE 5. ANY EXCAVATION LEFT OPEN SHOULD BE SECURELY FENCED OFF

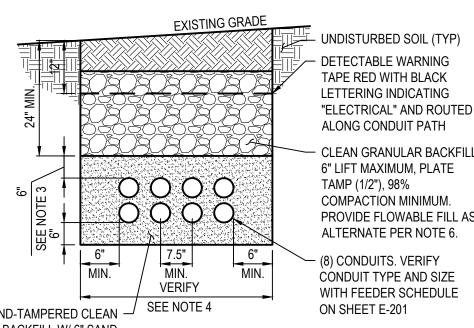
ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO PRECONSTRUCTION CONDITIONS OR BETTER. 3. CONTRACTOR SHALL INSTALL CONDUITS BELOW LOCAL FROST LINE. SHOULD FIELD CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH CONTACT ENGINEER LISTED ON

4. VERIFY WIDTH OF TRENCH REQUIRED. REFER TO SITE ELECTRICAL DRAWING ON SHEET E-10

FOR ROUTING. THE CONTRACTOR SHALL FURNISH FLOWABLE FILL WITH A 28 DAY COMPRESSIVE STRENGTH

RANGING FROM 50 PSI TO 100 PSI PER THE STATE DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION, LATEST REVISION.



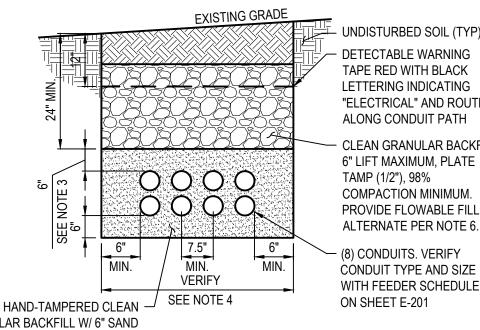


1. ANY EXCAVATION LEFT OPEN SHOULD BE SECURELY FENCED OFF

THE CONTRACTOR TO PRECONSTRUCTION CONDITIONS OR BETTER. 3. CONTRACTOR SHALL INSTALL CONDUITS BELOW LOCAL FROST LINE. SHOULD FIELD CONDITIONS VARY, CONTRACTOR SHALL COORDINATE WITH CONTACT ENGINEER LISTED ON

SHEET C-001. 4. VERIFY WIDTH OF TRENCH REQUIRED. REFER TO SITE ELECTRICAL DRAWING ON SHEET E-101 FOR ROUTING.

5. VERIFY ALL REQUIREMENTS WITH POWER COMPANY



GRANULAR BACKFILL W/ 6" SAND BEDDING. PROVIDE FLOWABLE FILL AS ALTERNATE PER NOTE 6.

2. ANY PAVEMENT DAMAGE DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY

6. THE CONTRACTOR SHALL FURNISH FLOWABLE FILL WITH A 28 DAY COMPRESSIVE STRENGTH RANGING FROM 50 PSI TO 100 PSI PER THE STATE DEPARTMENT OF TRANSPORTATION'S

CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION, LATEST REVISION. SECONDARY FEEDER TRENCH

**GPD GROUP, INC.** 

LIC. # - 184-007100

520 South Main Street, Suite 2531

330.572.2100 Fax 330.572.2101

Akron, OH 44311

STEVEN P. SCHAUB 062-0650**5**0 04/12/24

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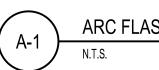
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CTRIC/ ELE

PROJECT MANAGER DESIGNER

2023141.99



STANDARD REVISION HISTORY

04 01/05/2019 Updated PT Mounting Plate and Enclosure and dimensions

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	DESCRIPTION	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR 90% REVIEW	ISSUED FOR SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	ADDED LANDSCAPE PLAN	
	DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
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DESCRIPTION	ISSUED FOR SITE SKETCH	ISSUED FOR 90% REVIEW	REVISED FOR 90% REVIEW	ISSUED FOR SIGN & SEAL	REVISED S&S PER COMMENTS	ADDED PHOTOMETRIC PLAN	ADDED LANDSCAPE PLAN	
DATE	06/13/2023	07/27/2023	08/27/2023	09/29/2023	11/27/2023	01/12/2024	03/07/2024	
REV.	A	В	0	٥	0	1	2	

# FOR REFERENCE ONLY

ERCHARGER STATION SHOWPLACE DRIVE PERVILLE, IL 60564

SUPEF 2724 SH NAPEF

SHEE CUT

PROJECT MANAGER DESIGNER

2023141.99

#### STANDARD REVISION HISTORY

Revision	Date	Description	Revised by	Checked by	Approved by
1	9-21-15	Added neutral jumper note	M. Diab	M. Diab	S, Khan
2	8-03-18	Replaced with correct picture and dimensions	R. Arshed SEE(AMI)	S. Khan SEE	T. Ferrebee Manager Planning
3	6-18-19	Neutral connections	C, Renteria/R, Arshed EE(AMI) SEE(AMI) CA RA	S. Khan SEE	T. Ferrebee Manager Planning Ferrebee

# INSTRUMENT TRANSFORMER CABINET FRONT INTERIOR VIEW

CT cabinet Dimensions (Minimum)											
Service Amps Rating	Voltage	A (HEIGHT	B (WIDTH)	C (DEPTH)	D	E	F				
400	208/120	106.68(42)	60.96(24)	27.94(11)	12.70(5)	30.48(12)	7.62(3)				
400	480/277	106.68(42)	60.96(24)	27.94(11)	12.70(5)	30.48(12)	12.7(5)				
600	208/120	106.68(42)	66.04(26)	27.94(11)	15.24(6)	30.48(12)	8.89(3.5)				
600	480/277	106.68(42)	66.04(26)	27.94(11)	15.24(6)	30.48(12)	8.89(3.5)				
800	208/120	106.68(42)	66.04(26)	27.94(11)	15.24(6)	30.48(12)	8.89(3.5)				
800	480/277	106.68(42)	66.04(26)	27.94(11)	15.24(6)	30.48(12)	8.89(3.5)				

All accessible compartments with service entrance cables must be lockable. Enclosure must be locked by DPU-E, not by the customer. Cabinets must be labelled with Line side (top) and Load side (bottom).

One inch continuous conduit (no condulets) run from cabinet to the meter socket within 100ft. Neutral connection required (indicate location on catalog cut sheet). No splicing of service entrance conductor allowed in cabinet

Servi	ce Size		CT Specificat	ions	1		Busbar Specifications						
Amps	Phases	CT Type	CT Catalog #	CT ratio	CT Qty	Busbar Catalog Number	Manufact	Material	Length	Thick	Width	Total Busbar	
400	1	СВТ-Н	7882A78G04	200:5	2	BB Included	ABB	Cu	BB Included				
400	3	СВТ-Н	7882A78G04	200:5	3	BB Included	ABB	Cu	BB Included				
600	1	свт-н	7882A78G10	400:5	2	BB Included	ABB	Cu		BB In	luded		
600	3	свт-н	7882A78G10	400:5	3	BB Included	ABB	Cu	BB Included				



CMF CT Busbar Ampacity: 1200A

DATE: 10-24-04 INSTRUMENT TRANSFORMER CABINET up to 800A Page 2 of 2 C50-6330

Height to center of meter must be between 40"-60"

2. Meter socket must be labeled with address with 1" permanent labels (No markers)

3. 1"continues conduit to meter socket from CT/PT cabinet (No condulets)

T		1
NAPERVILLE PUBLIC	METER SOCKET FOR INSTRUMENT	DATE: 6-24-04
UTILITIES DEPARTMENT	TRANSFORMER INSTALLATIONS	Page 1 of 2
ELECTRIC STANDARDS	3PHASE, 4WIRES, 13 TERMINALS	C50-6310

NAPERVILLE PUBLIC	METER SOCKET FOR INSTRUMENT
UTILITIES DEPARTMENT	TRANSFORMER INSTALLATIONS
ELECTRIC STANDARDS	3PHASE, 4WIRES, 13 TERMINALS

#### STANDARD REVISION HISTORY

DATE: 6-24-04

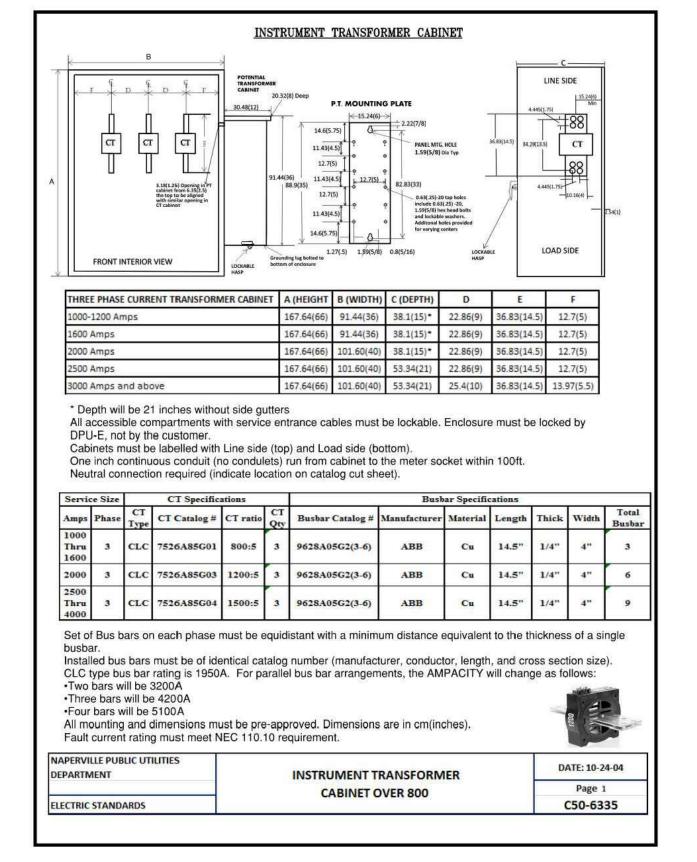
Page 2 of 2 C50-6310

NAPERVILLE PUBLIC

UTILITIES DEPARTMENT

ELECTRIC STANDARDS

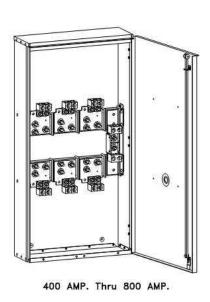
Revision Date		Description	<b>Description</b> Written		
01	9/8/2014	Updated Dimensions	M. Diab	M. Diab	S. khan
02	1/23/2018	Updated CTs, PTs and Bus Bars data	R. Arshed SEE .64	S. Khan SEE 5664	T. Ferrebee J.C.L., Manager Planning
03	10/15/2018	Corrected/Formated Dimensions	S. khan SEE 566aa	L. Slate SEE //s	T. Ferrebee Manager Planning
04	01/05/2019	Updated PT Mounting Plate and Enclosure and dimensions	S. Khan SEE Sthan	L. State SEE	T. Ferrebee Manager Planning

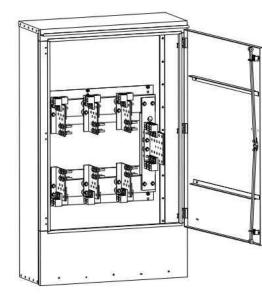


CT-07A

#### ERICKSON ELECTRICAL EQUIPMENT CO. WALL MOUNTED METERING TRANSFORMER CABINETS

APPROVED 400 - 2000 AMP 600 VOLT MAXIMUM FOR INDOOR OR OUTDOOR USE (TYPE 3R CONSTRUCTION)





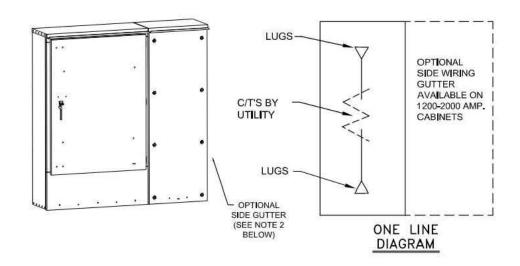
1200 AMP. Thru 2000 AMP.

www.ericksonelectric.com

ERICKSON ELECTRICAL EQUIPMENT CO. 475 BONNIE LANE . ELK GROVE VILLAGE, IL 60007 TELEPHONE: (847) 640-7701 / 1-800-952-7225 FAX: (847) 640-0565

#### GENERIC CATALOG NUMBERS

AMPACITY	1Ø 3W	3Ø 3W	3Ø 4W	NO.OF LUGS PER PHASE	UNPROTECTED	ENC	LOSURE	SIZE	SHIPPING
AMI ACII I	ועם שנו	30 3W	Jp 411	#4-600 MCM	FAULT CURRENT RATING	WIDTH	HEIGHT	DEPTH	WEIGHTS
400	1182-1	1182-1	1182-2	1	42,000 Amp	20"	45½"	71/4"	65#
600-800	283-1	283-1	207 2	2	CE 000 4	24"	48"	8"	3W-85#
600-800	283-1	283-1	283-2	2	65,000 Amp	24	48	- 6	4W-90#
1200	CT121	CT123	CT124	3	85,000 Amp	36"	64"	15"	3W-240#
1200	CHZI	C1123	CITZ4	3	65,000 Amp	36	04	15	4W-260#
1600	CT161	CT163	CT164	4	85 000 Amn	36"	64"	15"	3W-260#
1600	CITOI	C1163	C1164	4	85,000 Amp	36	04	13	4W-280#
2000	CT201	CT203	CT204	5	85,000 Amp	40"	64"	15"	3W-280#
2000	C1201	C1203	C1204	5	65,000 Amp	40	04	13	4W-300#



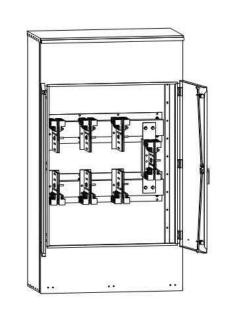
- 1. ENCLOSURES ARE ALUMINUM TYPE 3R FOR INDOOR OR OUTDOOR USE.
- 2. CABINETS RATED 1200 AND ABOVE MAY BE ORDERED WITH AN OPTIONAL SIDE WIRING GUTTER ON THE LEFT OR RIGHT. THE SIDE GUTTER ALLOWS CONDUCTORS TO ENTER AND EXIT THE BOTTOM. ADD SUFFIX -SG TO CATALOG NUMBER AND SPECIFY LOCATION AT TIME OF ORDER.
- 3. THESE CABINETS CAN BE PROVIDED WITH CURRENT TRANSFORMER LINKS & SUPPORTS WHEN WINDOW TYPE CURRENT TRANSFORMERS ARE PROVIDED BY THE UTILITY.
- 4. AVAILABLE WITH OPTIONAL ENCLOSURE FOR MOUNTING UTILITY-PROVIDED POTENTIAL TRANSFORMERS WHEN REQUIRED BY THE UTILITY FOR SERVICE VOLTAGES ABOVE 240V.

ERICKSON ELECTRICAL EQUIPMENT CO. 475 BONNIE LANE . ELK GROVE VILLAGE, IL 60007 TELEPHONE: (847) 640-7701 / 1-800-952-7225 FAX: (847) 640-0565

JANUARY 1, 2007 BULLETIN CT-07E

#### ERICKSON ELECTRICAL EQUIPMENT CO. WALL MOUNTED METERING TRANSFORMER CABINETS

APPROVED 2500 - 4000 AMP 600 VOLT MAXIMUM FOR INDOOR OR OUTDOOR USE (TYPE 3R CONSTRUCTION)





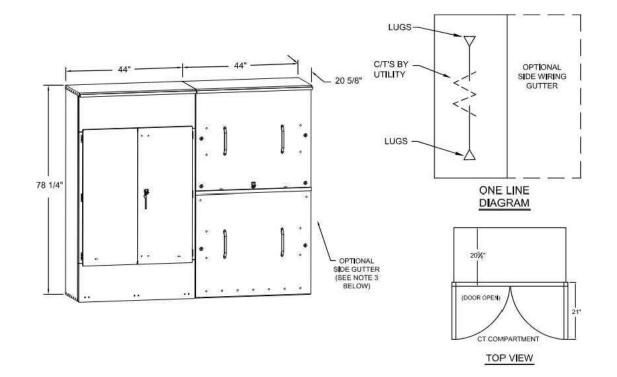


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ERICKSON ELECTRICAL EQUIPMENT CO. 475 BONNIE LANE • ELK GROVE VILLAGE, IL 60007 TELEPHONE: (847) 640-7701 / 1-800-952-7225 FAX: (847) 640-0565

#### METERING TRANSFORMER CABINET 600 V MAX CATALOG NUMBERS

#### UNPROTECTED FAULT CURRENT RATING LUGS PER PHASE 300-800 KCM **AMPACITY** 3Ø 4W CT254 2500 85,000 Amp CT304 3000 85,000 Amp 4000 CT404 85,000 Amp 10



- 1. ENCLOSURES ARE ALUMINUM TYPE 3R FOR INDOOR OR OUTDOOR USE.
- 2. METERING TRANSFORMER CABINETS ARE EQUIPPED WITH REMOVABLE BUS SECTIONS WITH MOUNTING SUPPORTS TO ACCOMODATE WINDOW TYPE CURRENT TRANSFORMERS.
- 3. METERING TRANSFORMER CABINETS MAY BE ORDERED WITH AN OPTIONAL SIDE WIRING GUTTER ON THE LEFT OR RIGHT. THE SIDE GUTTER ALLOWS CONDUCTORS TO ENTER AND EXIT THE BOTTOM. ADD SUFFIX -SG TO CATALOG NUMBER AND SPECIFY LOCATION AT TIME OF ORDER.

ERICKSON ELECTRICAL EQUIPMENT CO. 475 BONNIE LANE • ELK GROVE VILLAGE, IL 60007 TELEPHONE; (847) 640-7701 / 1-800-952-7225 FAX: (847) 640-0565

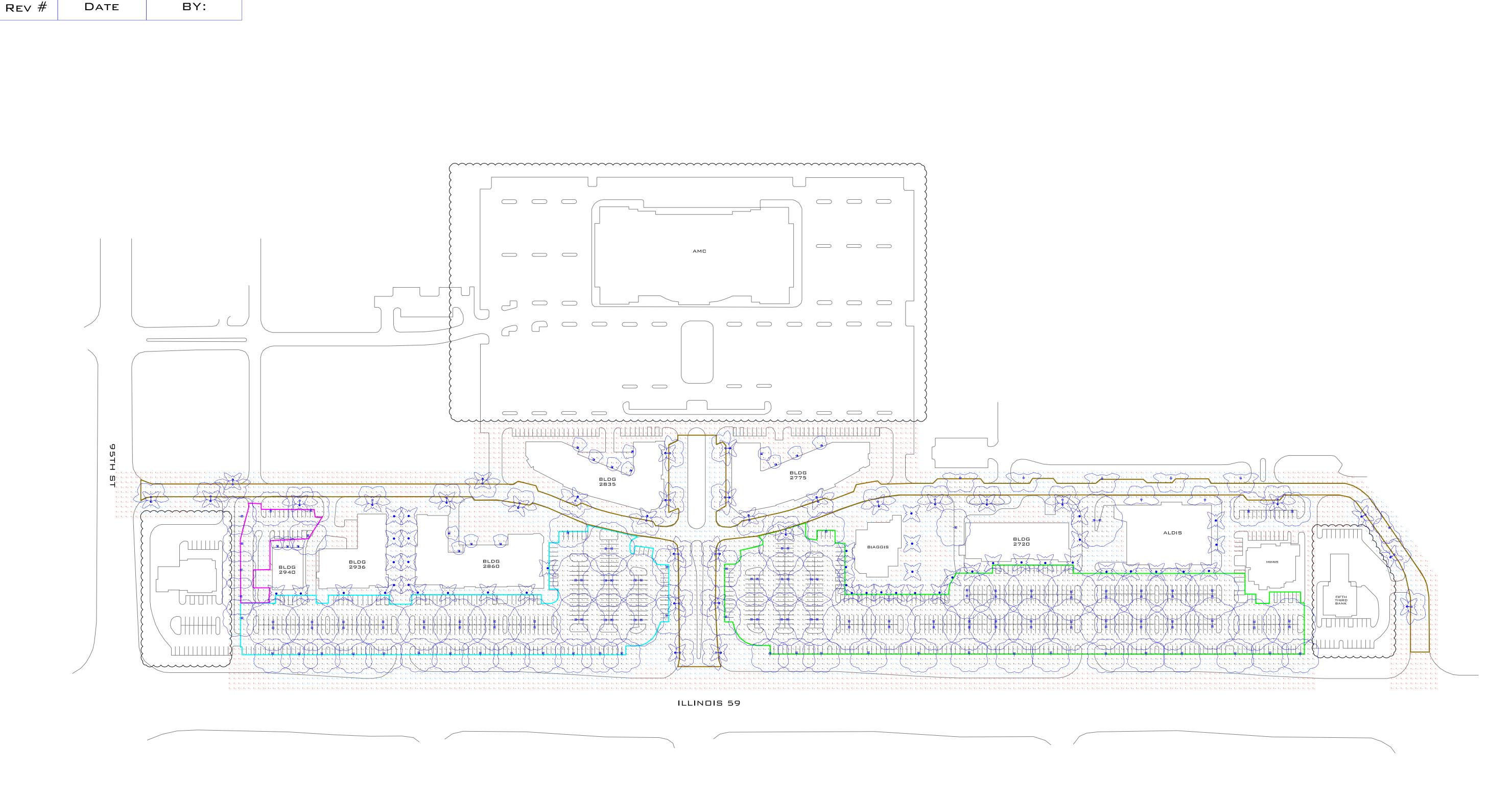
FOR REFERENCE ONLY

A SUPERCHARGER STATION 2724 SHOWPLACE DRIVE NAPERVILLE, IL 60564

UTILITY CUT SHEETS

_	
PROJECT MANAGER	DESIGNER
IM	NSE

JOB NO. 2023141.99



BASED ON THE INFORMATION PROVIDED, ALL DIMENSIONS AND LUMINAIRE LOCATIONS SHOWN REPRESENT RECOMMENDED POSITIONS. THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING OR FUTURE FIELD CONDITIONS.

REVISIONS

THIS LIGHTING PATTERN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS UTILIZING CURRENT INDUSTRY STANDARD LAMP RATINGS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS AND OTHER VARIABLE FIELD CONDITIONS.

#### EXISTING CONDITIONS

Calculation Summary							
Label	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
BIAGGIS - ALDI PARKING SUMMARY	4.6	8.4	0.6	7.6	14.0	10	10
BLDG 2860-2940 PARKING	4.2	7.3	0.9	4.6	8.1	10	10
BLDG 2940 REAR OF BLDG	2.7	4.5	0.8	3.4	5.6	10	10
ROADWAY	2.2	6.2	0.2	11.0	31.0	10	10

Symbol	Qty	Label	Lumens	LLF	Description	Lum. Watts
	44	X1	40000	0.500	GARDCO-EH19-VS-400-MH 25' MOUNTING HEIGHT	455
	44	X2	40000	0.500	GARDCO-EH19-VS-400-MH 25' MOUNTING HEIGHT	455
-	39	х3	36000	0.500	LUMECRN20400-MH-THB3-GL 25' MOUNTING HEIGHT	455
	31	Х4	12500	0.500	LUMECL80-PCCS-150-MH-SE5 12' MOUNTING HEIGHT	188
	44	X5	12500	0.500	LUMECL80-PCCS-150-MH-SE5 12' MOUNTING HEIGHT	188
	16	Х6	12800	0.500	LITH-TWR1-175-MH ASST MOUNTING HEIGHT	208

Luminaire Schedule

# MIS COMPANY COMPANY

# PERVILLE GROSSING NAPERVILLE, IL