THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PHYSICAL ROAD NUMBER (PR#) & MILEPOST (MP) DATA ARE FROM MICHIGAN GEOGRAPHIC FRAMEWORK VERSION # .

MICHIGAN DEPARTMENT OF TRANSPORTATION

INDUCTIVE VEHICLE CHARGING PILOT
ROUTE: 14TH STREET & MARANTETTE STREET
CITY OF DETROIT
WAYNE COUNTY

TRAFFIC DATA					SPEED DATA		
ROAD	YEAR	ADT	DHV	COMM	DESIGN	POSTED	LIMITS

SECTION	CONTROL SEC	JOB NO.	FED AID PROJ

COUNTY KEY

90% REVIEW SET

MICHIGAN
DEPARTMENT OF TRANSPORTATION
BRAD WIEFERICH, P.E. - ACTING DIRECTOR

MILES:
CONTRACT FOR:

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon | MDOT Michigan Department of Transportation | NO SCALE

	DATE: MARCH 2023	CS: 1	TITLE SHEET
	DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT
FILE: 20900_TITLE_001.dgn	TSC: 213305		14TH STREET

DRAWING	SHEET
14TH ST TITLE 001	SECT 1 / 1

PUBLIC UTILITIES

The existing utilities listed below and shown on these plans represent the best information available as obtained on our surveys. This information does not relieve the contractor of the responsibility to be satisfied as to it's accuracy and the location of existing utilities.

Name Of Owner	Type Of Utility
Public Lighting Authority of Detroit Attention: Mukesh Patel 65 Cadillac Square, Suite 3100 Detroit, MI 48226 Phone: 313.324.8290 Email: mpatel@pladetroit.org	Street Lighting
City of Detroit Detroit Water & Sewerage Department 6425 Huber Detroit, MI 48211 Syed Ali: 313.267.8309 Email: syed.ali@detroitmi.gov Emergency: 313.267.1333	Water Mains & Sewers
City of Detroit **Traffic Engineering Division – DPW** Attention: Prasad Nannapaneni 2633 Michigan Avenue Detroit, MI 48207 Phone: 313.628.5603 Fax: 313.224.1304 Email: prasadn@detroitmi.gov Meena Antani: 313.628.5640 Email: antanim@detroitmi.gov	Pavement Markings, Signs &Traffic Signals
Sign Shop 2425 Fenkell Detroit, MI 48238 Phone: 313.628.2950 Fax: 313.628.4966	Sign Removals and Installations
City of Detroit **Detroit Fire Department** Detroit Public Safety Headquarters Fire Marshal's Division & Fire Prevention 1301 Third St. Detroit, MI 48226 Plan Review: 313.224.3233 Chief Robinson: 313.596.2788 Fax: 313.224.4128	Fire Call Boxes & Fire Hydrants
City of Detroit **Detroit Police Department** Department of Public Safety Headquarters 1301 Third Street Detroit, MI 48226 Phone: 313.596.2520	Police
DTE / Detroit Edison Attention: Robin O'Connell 1 Energy Plaza IGS Group, 518SB Detroit, MI 48226 Phone: 313.235.5632 Fax: 313.235.9366	Electric power
Phone: 313.237.9567	Exposed or damaged Facilities

Name Of Owner	Type Of Utility
DTE / Michigan Consolidated Gas Company Attention: Tim Stoian 500 Griswold Sr Detroit, MI 48226 Phone: 734.660.8716 Email: timothy.stoian@dteenrgy.com Kevin Price: 313.600.1884 Barbara Saunders: 313.577.7435 Fax: 313.577.7498	Gas Mains
Phone: 1.800.477.4747	Exposed or Damaged Facilities
AT&T Metro East Attention: Joe Sikoski 100 S Main St, Suite 314 Mt. Clemens, MI 48043-2374 Phone: 586.466.6310	Telephone
AT&T Metro West Attention: John Crispin 31100 Plymouth Rd, Room 301 Livonia, MI 48150-2104 Phone: 734.523.6880	For Adjusting Frames and Covers
Detroit Thermal LLC Attention: Ed LaRosa 3575 E Palmer St Detroit, MI 48201 Phone: 313.921.1922 Fax: 313.921.1972 Emergencies: 313.963.3707	Steam Lines
Comcast Cablevision Attention: Glen Younglove 25626 Telegraph Rd Southfield, MI 48034 Phone: 248.809.2712 Fax: 248.809.2721 Email: Glen_Younglove@cable.comcast.com	TV Cables

NOTES APPLYING TO STANDARD PLANS

Where the following items are called for on plans, they are to be constructed according to the standard plan given below opposite each item unless otherwise indicated.

Title	Plan No.
ROAD	
BRIDGE	
PAVEMENT MARKINGS	
WORK ZONE DEVICES	
TRAFFIC SIGNALS	
SIGNING	

*** Denotes Special Detail**

SHEET INDEX

FUNDING CATEGORIES

JN ###### Project Description
Category 0001 = Road Work Fed
Category 0002 = "Structure #" "Structure ID" Fed

JN ###### Project Description
Category 0001 = Road Work Fed / State
Category 0002 = "Structure #" "Structure ID" Fed / State

JN ###### Project Description
Category 0001 = Road Work Fed / State / Local Municipality
Category 0002 = "Structure #" "Structure ID" Fed / State / Local Municipality

Example:
JN 202864 Bridge Rehabilitation
Category 0001 = Road Work Fed / State
Category 0002 = 6441 B03-51021 Fed / State

Note: Modify example funding categories to meet requirements of project.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)													
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE		DATE: MARCH 2023	CS:	PROJECT INFORMATION SHEET	DRAWING	SHEET
			FOR PLANNING PURPOSES ONLY									DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PROJ 001	SECT 1 2
											FILE: 20900_Project Information_001.doc	TSC: 213305		14TH STREET		

SURVEY

GENERAL

- ALIGNMENT POINT MONUMENT
- MONUMENT BOX

CONTROL

- CP CONTROL POINT
- BM BENCHMARK
- REFERENCE - GPS
- REFERENCE - NGS
- REFERENCE - USGS

BOUNDARY

- CITY LIMIT - MAP
- CITY LIMIT
- PARCEL-L PARCEL - LEGAL
- PARCEL-NL PARCEL - NON-LEGAL
- PLAT-L PLAT - LEGAL
- PLAT-NL PLAT - NON-LEGAL
- ROW - FREE ACCESS
- ROW - LIMITED ACCESS
- SEC SECTION LINE
- SEC 1/4 SECTION LINE - QUARTER
- SEC 1/8 SECTION LINE - EIGHTH
- SEC 1/16 SECTION LINE - SIXTEENTH
- TOWNSHIP LINE (MAP)
- CONCRETE MONUMENT
- CONTIGUOUS PROPERTY SYMBOL
- PCP PARCEL CORNER - CAPPED IRON
- PARCEL CORNER - IRON PIN
- PARCEL CORNER - IRON PIPE
- PARCEL CORNER - NO ID
- 123456 PARCEL NUMBER BOX
- PLAT CORNER
- PROPERTY OWNERSHIP ARROW
- PROPERTY OWNERSHIP ARROW - DOUBLE
- ROW ROW MONUMENT
- SECTION CORNER - CENTER
- SECTION CORNER - MEANDER
- SECTION CORNER - QUARTER
- SECTION CORNER - QUARTER-HALF
- SECTION CORNER - SECTION
- SECTION CORNER - SECTION-HALF
- SECTION CORNER - SIXTEENTH
- SECTION CORNER - WITNESS

MONUMENT PRESERVATION

- PRESERVE PRESERVE MONUMENT
- PROTECT PROTECT MONUMENT

GENERAL LABELING

GENERAL

- LEFT TURN ARROW
- RIGHT TURN ARROW
- TRAFFIC FLOW ARROW

REMOVAL

- A ABANDON
- B BULKHEAD
- C CLEARING
- R REMOVE
- SALV SALVAGE
- S SAVE

CONSTRUCTION

- ADJ ADJUST
- ADJ-B ADJUST - STRUC COVER WITH TYPE
- ADJ-B/O ADJUST - BY OTHERS

REMOVAL AND CONSTRUCTION

- REL-1 RELOCATE - WITH CASE NUMBER
- REL-B/O RELOCATE - BY OTHERS

CONSTRUCTION LIMITS

- SSL SSL SLOPE STAKE LINE

BORINGS

- BH# BORING

STRUCTURES

- BEAM UNDERCLEARANCE
- REFERENCE POINT
- S01 OF 12345 STRUCTURE NO. + CONTROL SEC. LABEL

VEGETATION

- BRUSH LINE
- HEDGE LINE
- TREE LINE - CANOPY OR TRUNK
- TREE LINE - TRUNK
- TRUNK LINE
- SHRUB
- TREE - CONIFER
- TREE - DECIDUOUS
- TREE - STUMP

ENVIRONMENTAL

- 26 EROSION CONTROL - SILT FENCE
- WETLAND - LEGAL
- WETLAND - NON-LEGAL
- CONTAMINATION - MONITORING WELL
- 12 EROSION CONTROL NUMBER
- EROSION CONTROL - RIPRAP
- W.T. 12' WATER TABLE - PLAN NOTE
- WETLAND - SPOT EL
- POTENTIALLY CONTAMINATED SITE

ROADSIDE / SITE

- ANTENNA
- BIG ROCK
- FLAG POLE
- PICNIC STOVE
- PICNIC TABLE
- SATELLITE DISH

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

RAILROAD

- TRACK
- CROSSING - GATE
- RR CROSSING - SIGNAL BOX
- CROSSING - SIGNAL FLASHING
- CROSSING - SYMBOL

SIGNS

- POST - DOUBLE
- POST - SINGLE
- STRUCTURE - CANTILEVER (EXISTING)
- STRUCTURE - CANTILEVER
- STRUCTURE - TRUSS (EXISTING)
- STRUCTURE - TRUSS
- SUSPENDED (EXISTING)

ELECTRICAL

- CONTROLLER CABINET - PAD MOUNTED
- HH HANDHOLE
- MH MANHOLE
- POLE UTILITY - EXISTING
- POLE UTILITY
- 7 TRANSFORMER - PAD MOUNTED
- 7 TRANSFORMER - POLE MOUNTED
- E CABLE
- E CABLE - TO BE REMOVED
- E-OH CABLE OVERHEAD
- E-OH CABLE OVERHEAD - TO BE REMOVED
- E CABLE IN CONDUIT
- E CABLE IN CONDUIT - TO BE REMOVED
- CABLE IN CONDUIT - DIRECTIONAL BORE

TYPICAL SECTION

- CONCRETE - PROPOSED
- HMA - PROPOSED

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon

MDOT Michigan Department of Transportation

NO SCALE

	DATE: MARCH 2023	CS:	LEGEND
	DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT
FILE: 20900_LEGEND_001.DGN	TSC: 213305		14TH STREET

DRAWING	SHEET
14TH ST. LEGEND 001	SECT 1 3

UTILITIES

COMBINED SEWER

- COMBINED SEWER
- COMBINED SEWER - OUT OF SERVICE
- COMBINED SEWER - TO BE TAKEN OUT OF SERVICE
- COMBINED SEWER - TO BE REMOVED

COMMUNICATION

- FIBER OPTIC
- FIBER OPTIC - OUT OF SERVICE
- FIBER OPTIC - OVERHEAD
- FIBER OPTIC MARKER
- CABLE
- CABLE - OUT OF SERVICE
- CABLE - OVERHEAD
- CABLE MARKER
- CABLE PEDESTAL
- TELEPHONE
- TELEPHONE - OUT OF SERVICE
- TELEPHONE - OVERHEAD
- TELEPHONE BOX
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL

FUEL / PETROLEUM

- GASOLINE FILLER PIPE
- GASOLINE PUMP
- GASOLINE UNDERGROUND TANK
- PETROLEUM PIPELINE
- PETROLEUM PIPELINE - OUT OF SERVICE
- PETROLEUM PIPELINE MARKER
- PETROLEUM WELL
- PROPANE TANK

NATURAL GAS

- GAS LINE
- GAS LINE - OUT OF SERVICE
- MARKER
- VALVE
- WELL

SANITARY SEWER

- MANHOLE WITH COVER (DIA VARIES)
- SEWER
- SEWER - OUT OF SERVICE
- SEWER - TO BE TAKEN OUT OF SERVICE
- SEWER - TO BE REMOVED

WATER

- FIRE HYDRANT
- GATE VALVE AND BOX
- GATE VALVE IN WELL
- IRRIGATION CONTROL VALVE
- IRRIGATION SPRINKLER HEAD
- SERVICE METER
- SERVICE SHUTOFF
- WATER WELL
- IRRIGATION
- WATER MAIN
- WATER MAIN - OUT OF SERVICE
- WATER MAIN - TO BE TAKEN OUT OF SERVICE
- WATER MAIN - TO BE REMOVED

STEAM

- STEAM
- STEAM - OUT OF SERVICE

GENERIC EXISTING UTILITIES

- CATCH BASIN COVER
- MANHOLE COVER
- MARKER
- PEDESTAL
- SEWER CLEANOUT ACCESS
- STRUCTURE BOTTOM (DIA VARIES)
- UTILITY BOX
- UTILITY

DRAINAGE

- CATCH BASIN W/ COVER (DIA VARIES)
- DRAINAGE STRUCTURE NUMBER (12)
- DRAIN CASTING
- DROP INLET
- END SECTION (SIZE VARIES)
- FLOW DIRECTION ARROW
- HEADWALL (SIZE VARIES)
- MANHOLE W/ COVER (DIA VARIES)
- MANHOLE BASE W/ COVER (SIZE VARIES)
- MANHOLE TEE W/ COVER (SIZE VARIES)
- OUTLET HEADWALL (SIZE VARIES)
- CULVERT - EXISTING
- CULVERT (SIZE VARIES)
- DITCH CENTERLINE
- STORM SEWER - EXISTING
- STORM SEWER
- STORM SEWER - TO BE REMOVED
- UNDERDRAIN
- WATER EDGE

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon | MDOT Michigan Department of Transportation | NO SCALE

	DATE: MARCH 2023	CS:	LEGEND
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FILE: 20900_LEGEND_001.DGN	TSC: 213305		14TH STREET

DRAWING	SHEET
14TH ST LEGEND 002	SECT 1 / 4

GENERAL NOTES

UTILITIES

MISS DIG/UNDERGROUND UTILITY NOTIFICATION
Contact MISS DIG System, Inc. for the protection of underground utilities and in conformance with MCL 460.721 et seq, by phone at 811 or 800-482-7171 or via the web at either elocate.missdig.org for single address or rte.missdig.org, a minimum of 3 working days prior to excavating, excluding weekends and holidays.

SURVEY

PRESERVATION OF BOUNDARY MONUMENTS
Preserve all corners within the project limits, whether shown or not. Adjust monument boxes as required.

PROJECT SPECIFIC NOTES

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

DESCRIPTION
The work consists of mixing and placing Controlled Low Strength Material (CLSM) without slag at the locations shown on the Contract Drawings or where ordered by the Engineer.

MATERIALS

A. General

CLSM shall be a mixture of portland cement, aggregate, fly ash, water, and admixtures that forms a workable, flowable slurry mix that is non-segregating, self-consolidating, and nonshrink with a compressive strength of at least 750 PSI to 1000 PSI at 28 days in accordance with ASTM D4832. Prepare CLSM in accordance with ASTM C94. The use of slag and recycled materials shall not be permitted.

1. Processed Aggregate: ASTM C33/33M, 100 percent passing 3/8inch sieve; 75 percent to 100 percent passing No. 4 sieve; 12 percent to 50 percent passing No. 30 sieve; 5 percent to 20 percent passing No. 100 sieve; and under 10 percent nonplastic fines.
2. Soluble sulfate shall be under 0.3 percent.
3. Up to 300 Pounds per Cubic Yard Fly Ash (Pozzolan): ASTM C618, Class C.
4. Water: Clean, potable, containing less than 500 ppm of chlorides.
5. Submit for approval prior to use, a complete mix design. The minimum submittal contents shall include but is not limited to the following.
   A. Mix summary showing volume and weight per cubic yard for each proposed constituent.
   B. Design 28-day compressive strength, slump, air content, water-cement ratio and density.
   C. Certified test results from an Independent Testing Agency for: Cement, supplementary cementitious materials, and aggregates that document the proposed materials meet the required ASTM standards.
   D. Combined aggregate gradation by sieve.
   E. Manufacturer's datasheets for each proposed admixture.
   F. Letter from the admixture manufacturer that the proposed admixtures are compatible.
   G. Additional documentation and testing materials required by the Engineer.

Batching equipment shall be accurate and demonstrate components remain within plus or minus 2 percent of design mix. Volumetric batching may be used if it provides same weight accuracy. Design and operate mixers so discharged CLSM have same consistency through each batch and so temperature stays between 50 degrees F and 90 degrees F. Do not add water after batching. Batch to placement time shall not exceed 120 minutes.

B. Tests and Control Methods

Contractor shall provide the mix design for review and certification from an approved testing laboratory that the CLSM will have a 28-day compressive strength between 750 PSI and 1000 PSI shall be furnished by the Contractor and provided to the Engineer prior to delivery of any materials.

The CLSM shall have a minimum diameter spread of 8 in. as determined by the following procedure to be performed by the Engineer:

- Fill a hollow plastic or metal cylinder 8 in. in length and 3 in. inside diameter with the CLSM and strike off the surface. Raise the flow cylinder in a continuous motion without rotation.
- Immediately measure the spread of the CLSM along two diameters which are perpendicular to each other.

The Contractor shall cast four (4) specimens (cylinders) for each batch in accordance and deliver them to an approved Material Testing Laboratory within seven days of the pour date for evaluation.

For each 50 Cubic Yard or portion thereof, the following Field Testing shall be performed to confirm the material conformance with the approved design mix:

ASTM D 6023	Unit Weight, Yield Cement Content & Air Content
ASTM D 5971	Sampling Freshly Mixed CLSM
ASTM D 4832	Preparation and Testing of CLSM
ASTM D 6103	Flow Consistency of CLSM

Prior to proceeding with subsequent construction operations, either one of the following Field Tests shall be performed on the surface of the in-place CLSM to estimate its surface bearing value and its suitability for load application.

ASTM D 6024	Ball Drop on CLSM
ASTM D 3441	Cone and Friction Cone Penetration Tests

A minimum of three (3) tests shall be performed for each 200 Square Feet or portion thereof, and evaluated against the following criteria:

ASTM D 6024 — Inspect the indentations for visible water or sheen brought to the surface by the dropping action of the ball.

If the diameter of the indentation is equal or less than 3 inches, than the CLSM is suitable for load application, provided that:

a. The surface looks similar to that before the test with the exception of the indentation, and;
b. There is no visible surface water or sheen visible in the indentation.

ASTM D 3441 — The average value of the three (3) tests shall be not less than Four (4) Tons/Square Foot. The minimum value per individual test shall not be less than Three (3) Tons/Square Foot.

CONSTRUCTION DETAILS

A. General

The Contractor shall provide all equipment for this work subject to approval of the Engineer. Mix the materials at a stationary mixing plant which is either a continuous or a batch type plant, designed to accurately proportion either by volume or by weight, so that when the materials are incorporated in the mix, a thorough and uniform mix will result.

The mix may be transported in open haul units provided the material is placed within 30 minutes of the end of mixing. Use a rotating drum unit capable of 2 - 6 rpm to transport material that cannot be placed within 30 minutes after the end of mixing. In cases where placement cannot take place within 30 minutes from the end of mixing, the material shall be transported in a rotating drum capable of 2 – 6 rpm.

Provide a mixer capable of mixing CLSM that has the specified compressive strength and flow consistency. Mix all components so as to produce a uniform product. For work involving CLSM quantities of less than two (2) cubic yards, the Engineer may permit the Contractor to use a small construction mixer.

Narrower trench widths can be employed when using CLSM due to the self-compacting properties of the material. Construction personnel and equipment are not required to be in the trench for compaction operations.

For installations that require construction personnel to temporarily occupy the trench, the Contractor shall follow all OSHA requirements.

B. Fill and backfill at structures, culverts, pipes, conduits and direct burial cables.

The Contractor shall place the CLSM using a method approved by the Engineer, in accordance with the appropriate MDOT guidance on the

use of CLSM as backfill material.

When placing CLSM for pipe backfill, discharge the material onto the

top of the pipe at the center.

Do not place CLSM in contact with aluminum pipe, including connections, fixtures, etc., unless the aluminum has been coated with an approved primer.

MEASUREMENT

The quantity to be measured for payment shall be the number of cubic yards of satisfactorily placed CLSM computed between the payment lines shown on the Contract Documents or from payment lines

established in writing by the Engineer.

Cross sectioning, for the purpose of determining quantities for payment, shall be employed only where payment lines are not shown on the Contract Drawings, and cannot be reasonably established by the Engineer.

PRICE TO COVER

The unit price bid per cubic yard of CLSM shall include the costs of furnishing all labor, materials, equipment, insurance, and incidentals necessary to complete the work, except where specific costs are designated or included in another pay item of work. The unit price also includes any temporary supports for the exposed utilities which will be encapsulated in the CLSM.

Payment will be made under:

Item No.	Item	Pay Unit
IC-2	CONTROLLED LOW STRENGTH MATERIAL	C.Y.

SEQUENCE OF CONSTRUCTION

STEP 1 – SITE PREPARATION
- A. Contractor shall remove existing pavement as directed in the plans.
- B. Contractor shall install all conduits per plans and as directed by the Engineer.
- C. Contractor shall ensure all conduits have a temporary cap on both ends.
- D. Contractor shall install Management Unit (MU) and APFC base slabs per specifications.
- E. Contractor shall install aggregate base for pavement section.
- F. Contractor shall pave a 2.5in leveling course layer of asphalt as per the specifications. The leveling course shall extend the width of the full depth pavement removal section.

STEP 2 – CABINET INSTALLATION (APFC AND MU)
Electreon will be on site to assist and guide contractor.
- A. Contractor shall install cabinets on the base slabs.
  - I. MU is lifted from the bottom of the cabinet
  - II. APFC is lifted from the top of the cabinet
- B. Contractor shall install wiring through the conduits.
- C. Contractor shall install the wires in the cabinets.
- D. Contractor shall connect the APFC Cabinet to the grid and confirm connection is energized.

STEP 3 – TRENCH EXCAVATION
- C. Contractor shall perform a pavement sawcut through the 2.5" leveling course to create a clean edge for the charging segment.
- D. Contractor shall remove aggregate and leveling course to create the trench.

Note: Steps 4 through 6 shall be completed within one working day. Weather conditions shall be dry for the entire period.

STEP 4 - INSTALLATION OF WIRING IN TRENCH
- A. Contractor shall remove caps on 3" conduits.
- B. Contractor shall pull wiring and cables through the 3" conduits per the direction of Electreon.
- C. Electreon shall connect the cables to the charging system.
- D. Electreon shall complete testing of the system within 2 hours.

STEP 5 - FILLING OF THE TRENCH
- A. After testing is complete, the contractor shall immediately backfill the trench with controlled low-strength material (CLSM) as per specifications and allow to cure for a minimum of 2 hours.

STEP 6 – HMA CONSTRUCTION
- A. Immediately after CLSM curing period is complete, contractor shall install MDOT 2C HMA. Contractor shall use a tandem steel roller with static drums for the first two compaction passes over the charger coil segments. After the first two passes, the contractor may use a tandem steel roller with vibratory drums to meet MDOT compaction specifications.
- B. Contractor shall install and compact MDOT 4C HMA per Construction and Material Specifications.

STEP 7 – POST INSTALLATION TEST
- A. Electreon shall perform post-installation testing once the MDOT 4C HMA installation is completed and traffic is permitted to drive on the HMA.

STEP 8 – TRAFFIC CONTROL
- A. Contractor shall install pavement markings and signs.

STEP 9 – FINAL TESTING
- A. Electreon shall perform system testing after traffic control is installed.

MISCELLANEOUS QUANTITIES

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the plan and profile sheets

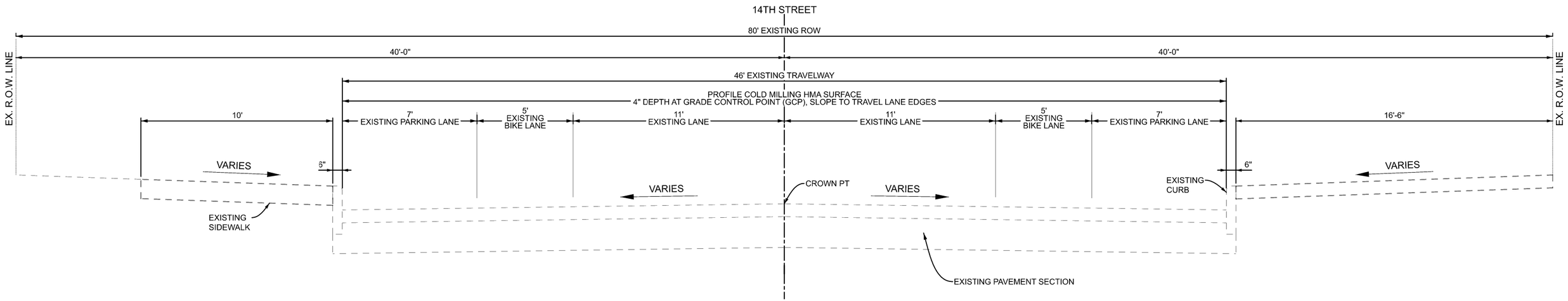
PROJECT WIDE

MAINTAINING TRAFFIC

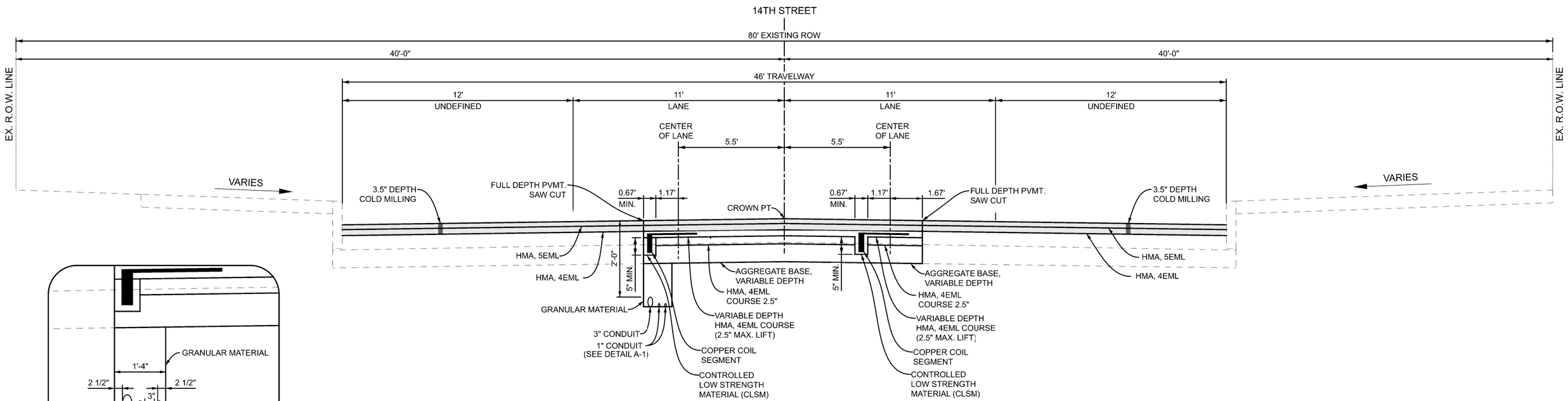
SUBGRADE CORRECTIONS

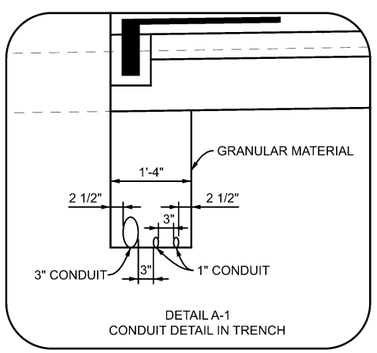
TURF ESTABLISHMENT

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)														
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE		DATE: MARCH 2023	CS:	MISCELLANEOUS QUANTITIES SHEET	DRAWING	SHEET
												DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. MSCQNT 001	SECT 1 6
											FILE: 20900_MscQnt_001.doc	TSC: 213305		14TH STREET		



EXISTING 14TH STREET TYPICAL SECTION





DETAIL A-1
CONDUIT DETAIL IN TRENCH

PROPOSED 14TH STREET TYPICAL SECTION

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon

MDOT Michigan Department of Transportation

NO SCALE

FILE: 20900_14TH_TYP_001.DGN

DATE: MARCH 2023

DESIGN UNIT:

TSC: 213305

CS:

JN:

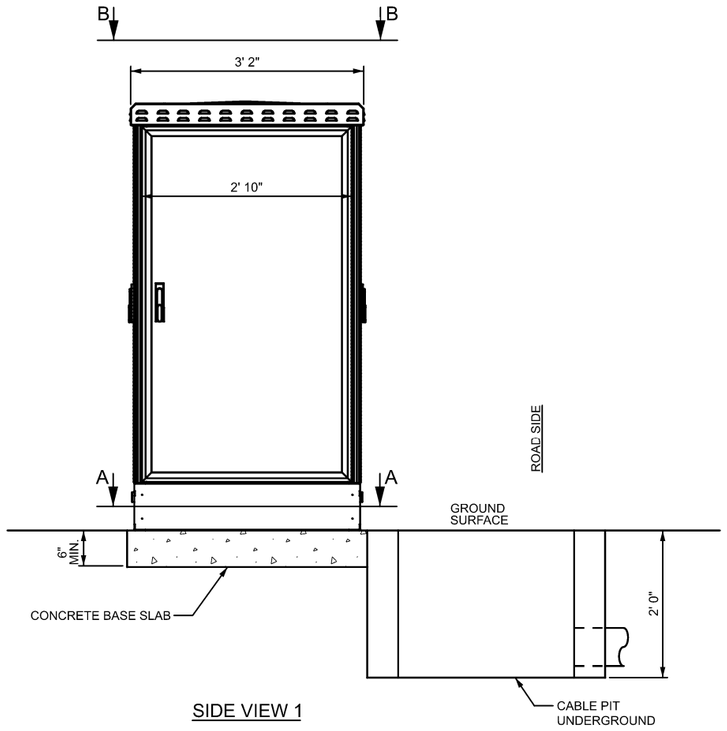
TYPICAL SECTIONS

INDUCTIVE VEHICLE CHARGING PILOT

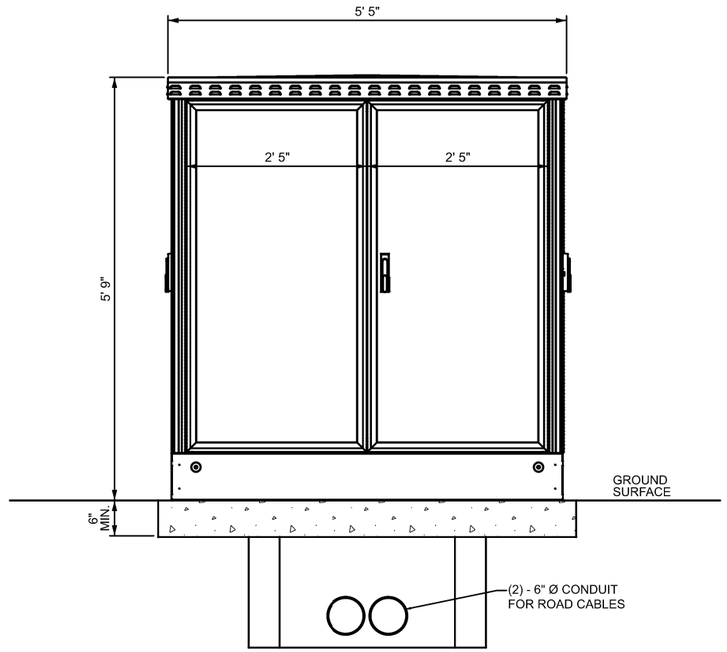
14TH STREET

DRAWING	SHEET
14TH ST. TYP 001	SECT 1 7

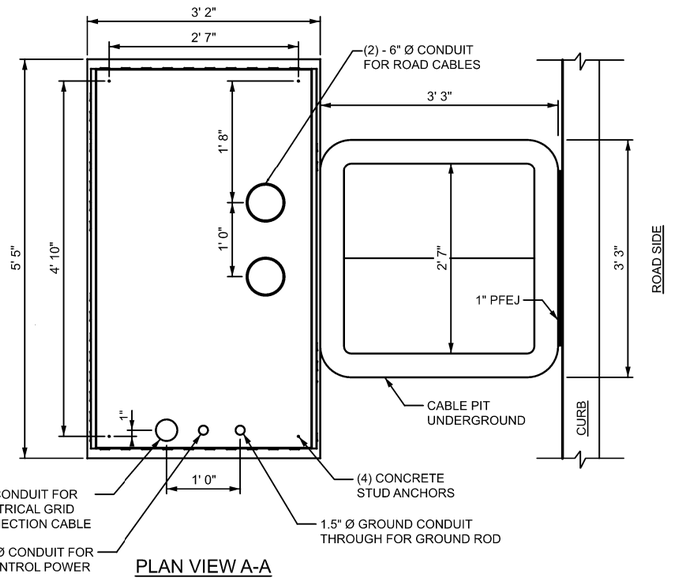
NOTES:
1. MAINTAIN 36" CLEARANCE FOR ACCESS TO MANAGEMENT UNIT DOORS.



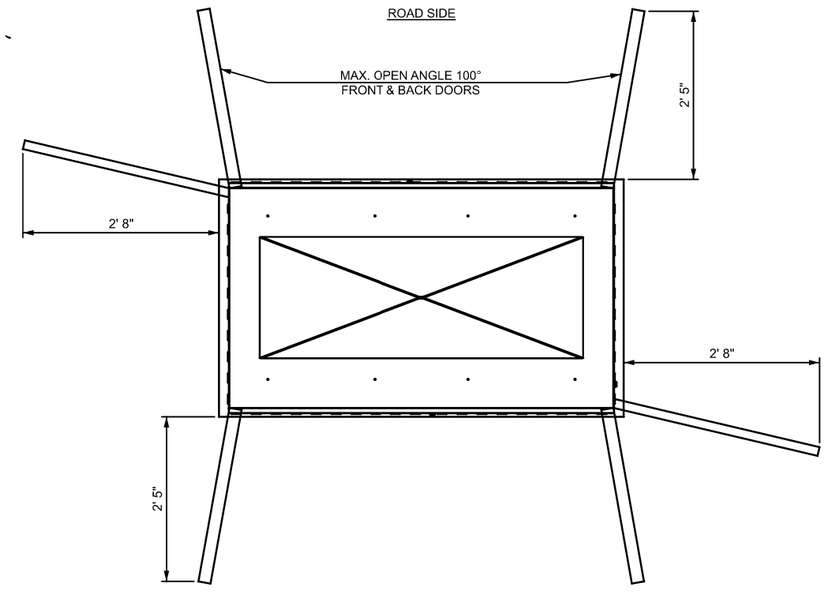
SIDE VIEW 1



SIDE VIEW 2



PLAN VIEW A-A



PLAN VIEW B-B
(WITH OPEN DOORS)

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs
electreon
MDOT
Michigan Department of Transportation
0 HORZ. (FT) 2
FILE: 20900_MSCDET_001.DGN
DATE: FEBRUARY 2023
DESIGN UNIT:
TSC: 213305
CS:
JN:
MANAGEMENT UNIT SCHEMATICS
INDUCTIVE VEHICLE CHARGING PILOT
14TH STREET

DRAWING	SHEET
14TH ST. G-3 001	SECT 1 8

NOTES

COORDINATE SYSTEM:	STATE PLANE GRID
ZONE:	MICHIGAN SOUTH 2113
ELLIPSOID:	GRS 80
HORIZONTAL DATUM:	NAD 83 (2007)
VERTICAL DATUM:	NAVD 88
GEOID:	GEOID 09
UNITS:	INTERNATIONAL FEET

GROUND DISTANCE CONVERSION

THE COMBINED SCALE FACTOR (CSF) FOR EACH CONTROL POINT IS INCLUDED IN THE CONTROL POINT LIST.

AVERAGE COMBINED SCALE FACTOR (ACSF) = (CSF1 + CSF2)/2
GROUND DISTANCE = GRID DISTANCE / ACSF

PRIMARY CONTROL

INTERMEDIATE CONTROL

INTERMEDIATE CONTROL - PHOTO TARGETS

BENCHMARKS

GOVERNMENT CORNERS

ALIGNMENT(S) POINTS

14^{TH} St:
POB 10+00.00 13472469.07, 305028.54

POE 21+24.27 13472920.35, 303998.83

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)								Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE		DATE: MARCH 2023	CS:	SURVEY INFORMATION SHEET	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION					DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. SURVEY 001	SECT 1 9
											FILE: 20900_Survey_001.doc	TSC: 213305		14TH STREET		

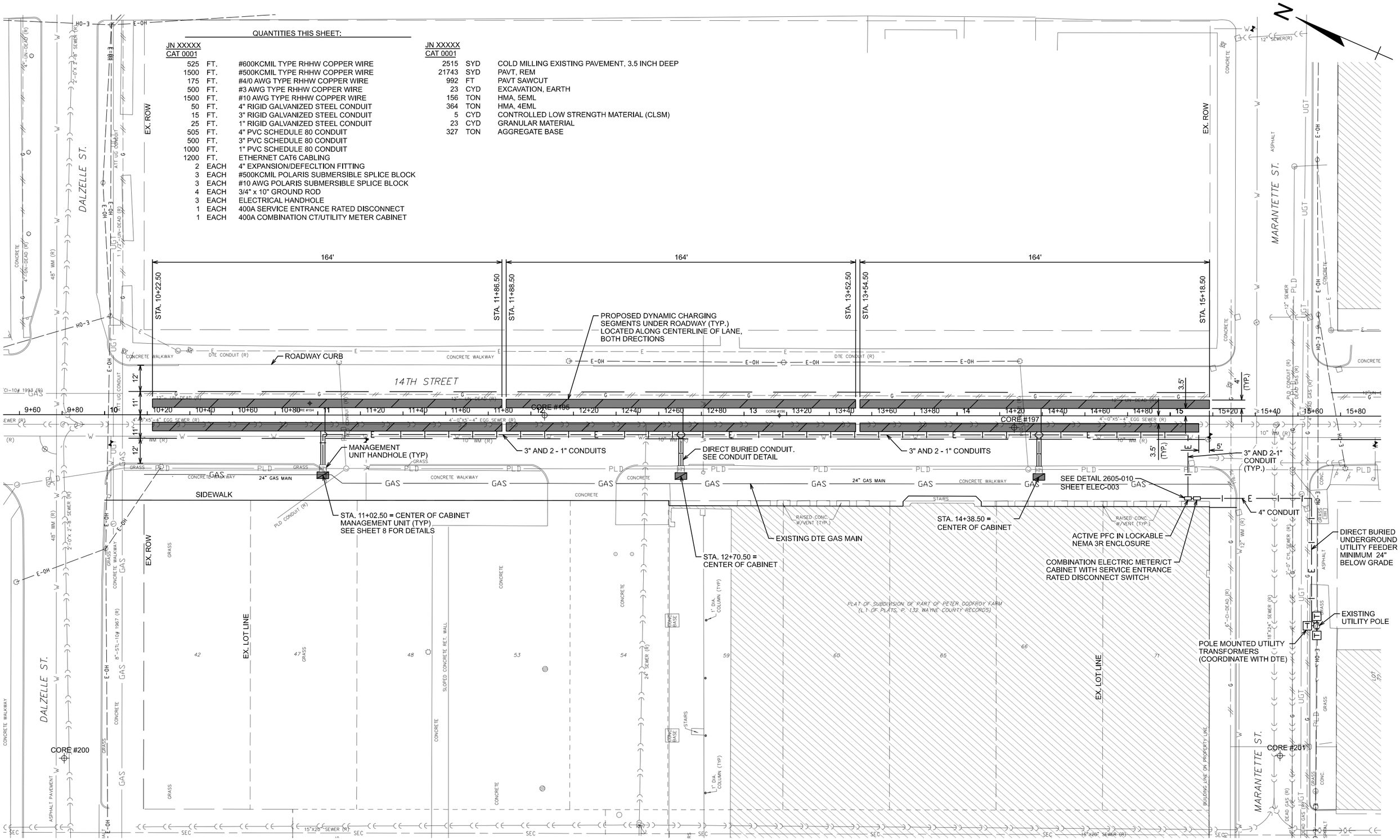
QUANTITIES THIS SHEET:

JN XXXXX
CAT 0001

525	FT.	#600KCMIL TYPE RHHW COPPER WIRE
1500	FT.	#500KCMIL TYPE RHHW COPPER WIRE
175	FT.	#4/0 AWG TYPE RHHW COPPER WIRE
500	FT.	#3 AWG TYPE RHHW COPPER WIRE
1500	FT.	#10 AWG TYPE RHHW COPPER WIRE
50	FT.	4" RIGID GALVANIZED STEEL CONDUIT
15	FT.	3" RIGID GALVANIZED STEEL CONDUIT
25	FT.	1" RIGID GALVANIZED STEEL CONDUIT
505	FT.	4" PVC SCHEDULE 80 CONDUIT
500	FT.	3" PVC SCHEDULE 80 CONDUIT
1000	FT.	1" PVC SCHEDULE 80 CONDUIT
1200	FT.	ETHERNET CAT6 CABLING
2	EACH	4" EXPANSION/DEFECLTION FITTING
3	EACH	#500KCMIL POLARIS SUBMERSIBLE SPLICE BLOCK
3	EACH	#10 AWG POLARIS SUBMERSIBLE SPLICE BLOCK
4	EACH	3/4" x 10" GROUND ROD
3	EACH	ELECTRICAL HANDHOLE
1	EACH	400A SERVICE ENTRANCE RATED DISCONNECT
1	EACH	400A COMBINATION CT/UTILITY METER CABINET

JN XXXXX
CAT 0001

2515	SYD	COLD MILLING EXISTING PAVEMENT, 3.5 INCH DEEP
21743	SYD	PAVT, REM
992	FT	PAVT SAWCUT
23	CYD	EXCAVATION, EARTH
156	TON	HMA, 5EML
364	TON	HMA, 4EML
5	CYD	CONTROLLED LOW STRENGTH MATERIAL (CLSM)
23	CYD	GRANULAR MATERIAL
327	TON	AGGREGATE BASE



FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon

MDOT Michigan Department of Transportation

0 HORZ. (FT) 40

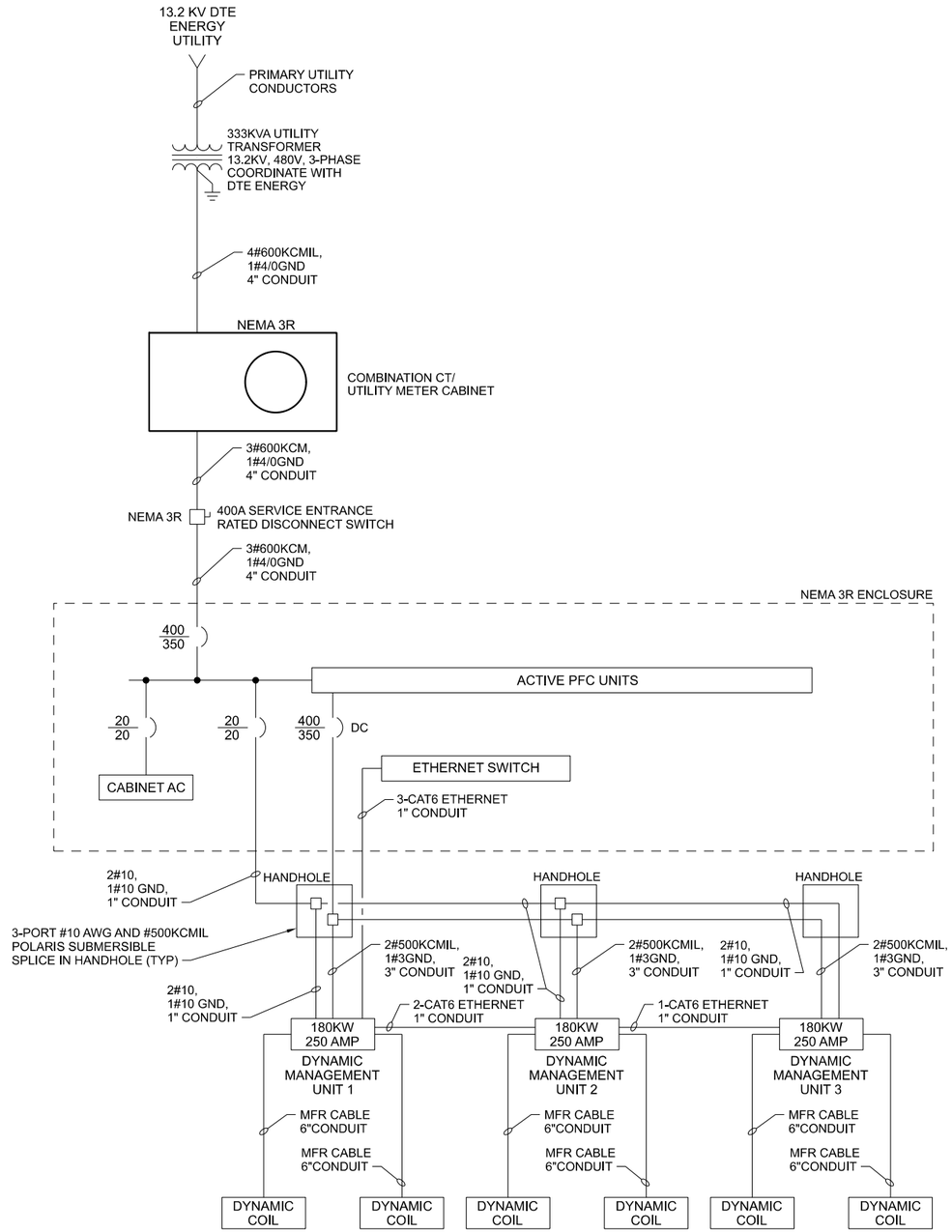
FILE: 20900_PLANS_001.DGN

DATE: FEBRUARY 2023
DESIGN UNIT:
TSC: 213305

CS:
JN:

SITE PLAN
INDUCTIVE VEHICLE CHARGING PILOT
14TH STREET

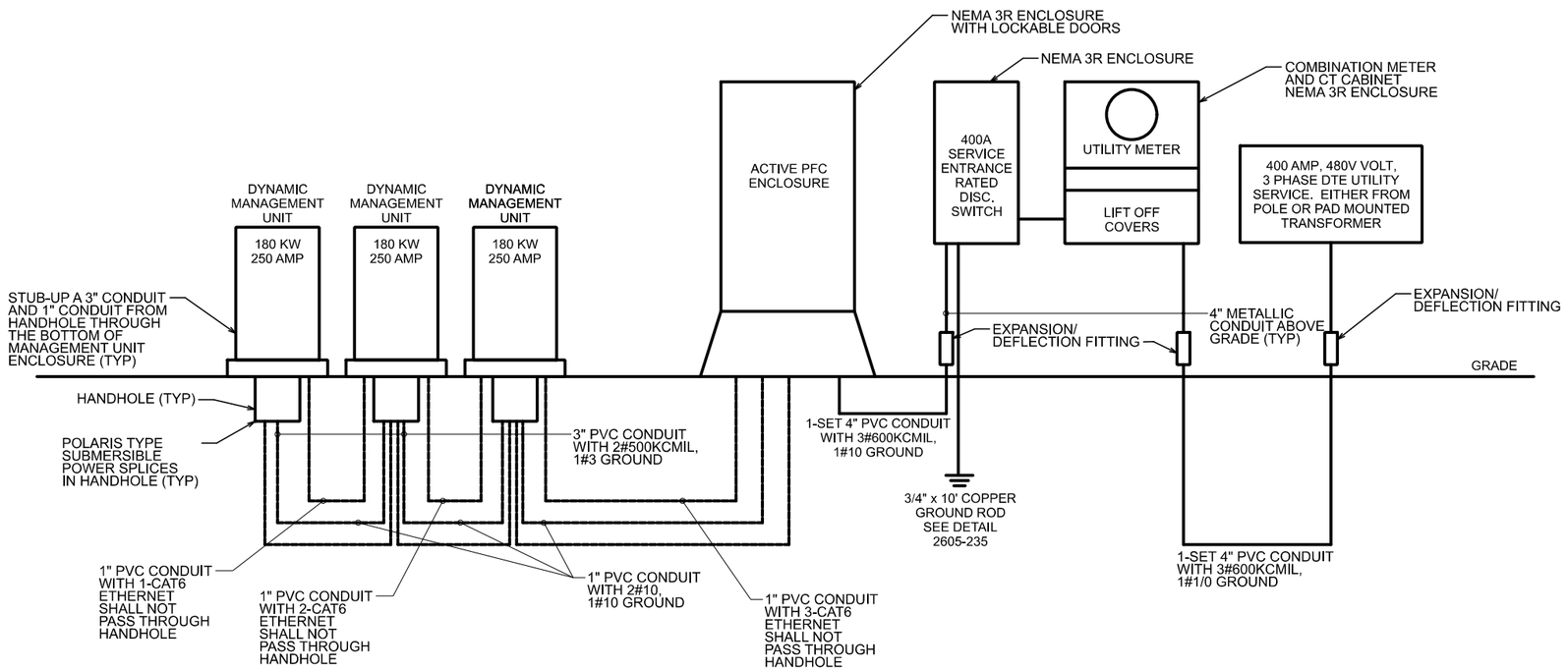
DRAWING	SHEET
14 ST. SITE PLAN 001	SECT 1 10



DYNAMIC UNIT ONE - LINE DIAGRAM

NTS

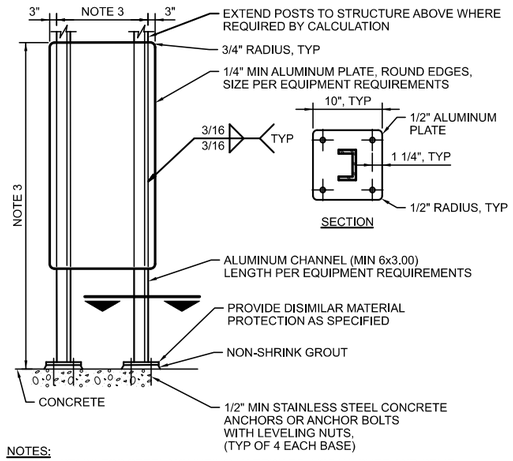
FINAL ROW PLAN REVISIONS SUBMITTAL DATE:								Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE						
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION					DATE: FEBRUARY 2023	CS:	DYNAMIC UNIT ONE - LINE DIAGRAM	DRAWING	SHEET
												DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PLAN 001	SECT 1
											FILE: 20900_ELEC_DET_001.DGN	TSC: 213305		14TH STREET		11



DYNAMIC UNIT ELECTRICAL RISER DIAGRAM

NTS

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:								Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE		DATE: FEBRUARY 2023	CS:	ELECTRICAL RISER DIAGRAM	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION					DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PLAN 002	SECT 1
											FILE: 20900_ELEC-DET_002.DGN	TSC: 213305		14TH STREET		12



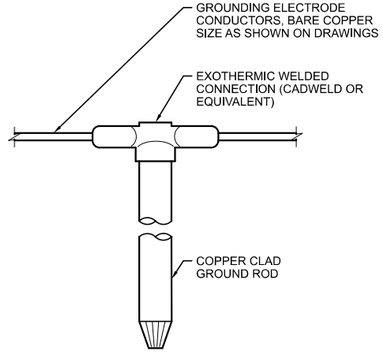
NOTES:

1. USE STAINLESS STEEL MOUNTING HARDWARE. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
2. MINIMUM COMPONENT AND CONNECTION SIZES SHOWN. FURNISH LARGER SIZES AS REQUIRED BY CALCULATIONS.
3. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

DEVICE MOUNTING SIDE MOUNTED PEDESTAL - ALUMINUM

NTS

2605-008b



NOTES:

1. TOP OF GROUND ROD SHALL BE SAND BEDDED 6" MIN BELOW GRADE.
2. CONNECTIONS TO EXISTING GROUNDING ELECTRODE CONDUCTORS SHALL BE CADWELD OR EQUIVALENT.

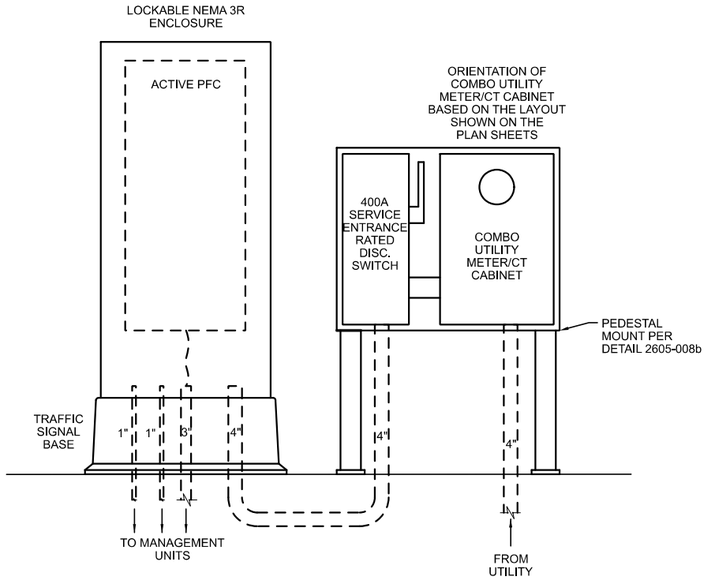
GROUND ROD CONNECTION

NTS

2605-235

ELECTRICAL NOTES:

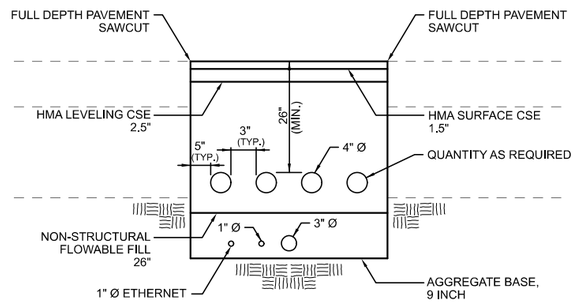
1. PROVIDE THE WORK IN ACCORDANCE WITH NFPA 70. WHERE REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ), MATERIAL AND EQUIPMENT SHALL BE LABELED OR LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY OR OTHER ORGANIZATION ACCEPTABLE TO THE AHJ, IN ORDER TO PROVIDE UBASIS FOR APPROVAL UNDER THE NEC.
2. ELECTRICAL DRAWINGS SHOW GENERAL LOCATIONS OF EQUIPMENT, DEVICES, AND RACEWAY, UNLESS SPECIFICALLY DIMENSIONED. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LOCATION OF EQUIPMENT AND YEVICES AND FOR PROPER ROUTING AND SUPPORT OF RACEWAYS, SUBJECT TO APPROVAL OF ENGINEER.
3. SUBMITTALS: PROVIDE PRODUCT DATA FOR WIRE, CONDUIT, AND ALL ACCESSORIES ASSOCIATED WITH THE ELECTRICAL INSTALLATION.
4. CONDUCTORS: SHALL CONFORM TO APPLICABLE REQUIREMENTS OF NEMA WC70. CABLE SHALL BE STRANDED COPPERUND TYPE RHHW. CABLES SHALL BE RATED FOR 600V AC RMS. CABLES SHALL BE BY SOUTHWIRE, OR APPROVED EQUAL.
5. PULLING COMPOUND FOR CABLES SHALL BE NON-TOXIC, NON-CORROSIVE, WATER BASED LUBRICANT AND SHALL BE APPROVED FOR THE INTENDED USE BY THE CABLE MANUFACTURER.
6. CONDUITS: RIGID GALVANIZED STEEL CONDUIT SHALL MEET THE REQUIREMENTS OF NEMA C80.1 AND UL 6. PVC SCHEDULE 80 CONDUIT SHALL MEET THE REQUIREMENTS OF NEMA TC2 AND UL 651. PROVIDE ALL FITTINGS AND ACCESSORIES, AS NECESSARY, TO COMPLETE THE CONDUIT SYSTEM AS SHOWN ON THE DRAWINGS.
7. WHEN TRANSITIONING FROM PVC SCHEDULE 80 TO RIGID GALVANIZED CONDUIT, USE PVC-COATED RIGID GALVANIZED STEEL.
8. PROVIDE A SHORT CIRCUIT STUDY AND ARC FLASH STUDY OF THE ELECTRICAL SYSTEM. STUDIES SHALL BE PREPARED BY PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. PROVIDE ARC FLASH LABELING, AS REQUIRED.



DEVICE MOUNTING SIDE MOUNTING ON TRAFFIC SIGNAL BASE

NTS

2605-010



UNDERGROUND CONDUIT IN PAVED AREAS (TRANSVERSE TRENCH)

NTS

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:								Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE						
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION					DATE: FEBRUARY 2023	CS:	ELECTRICAL DETAILS	DRAWING	SHEET
												DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PLAN 003	SECT 1
											FILE: 20900_ELEC-DET_003.DGN	TSC: 213305		14TH STREET		13