

1351 GOOD INTENT RD

EV CHARGING STATION INSTALLATION

1351 GOOD INTENT RD

DEPTFORD, NJ 08096

SCOPE OF WORK

- A. INSTALL (8) 32A LEVEL 2 ELECTRIC VEHICLE CHARGING STATIONS & ALL ITS ASSOCIATED ELECTRICAL EQUIPMENTS IN THE PARKING LOT ADJACENT TO GOOD INTENT RD.
- B. INSTALL (4) 32A LEVEL 2 ELECTRIC VEHICLE CHARGING STATIONS & ALL ITS ASSOCIATED ELECTRICAL EQUIPMENTS IN THE PARKING LOT ADJACENT TO THE CLUB HOUSE.

APPLICABLE CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES:

- NEW JERSEY BUILDING CODE 2021
- NEW JERSEY ENERGY CODE 2021
- NEC 2020

SHEET INDEX

SHEET NO.	TITLE
EV01	COVER SHEET
EV02	NOTES, LEGEND & SYMBOLS
EV03	OVERALL ELECTRICAL SITE LAYOUT
EV04	LOCATION 1 - ENLARGED PLAN
EV05	LOCATION 2 - ENLARGED PLAN
EV06	SINGLE LINE DIAGRAM, CALCULATION & DATA SHEET
EV07	INSTALLATION DETAILS SHEET 1 OF 2
EV08	INSTALLATION DETAILS SHEET 2 OF 2

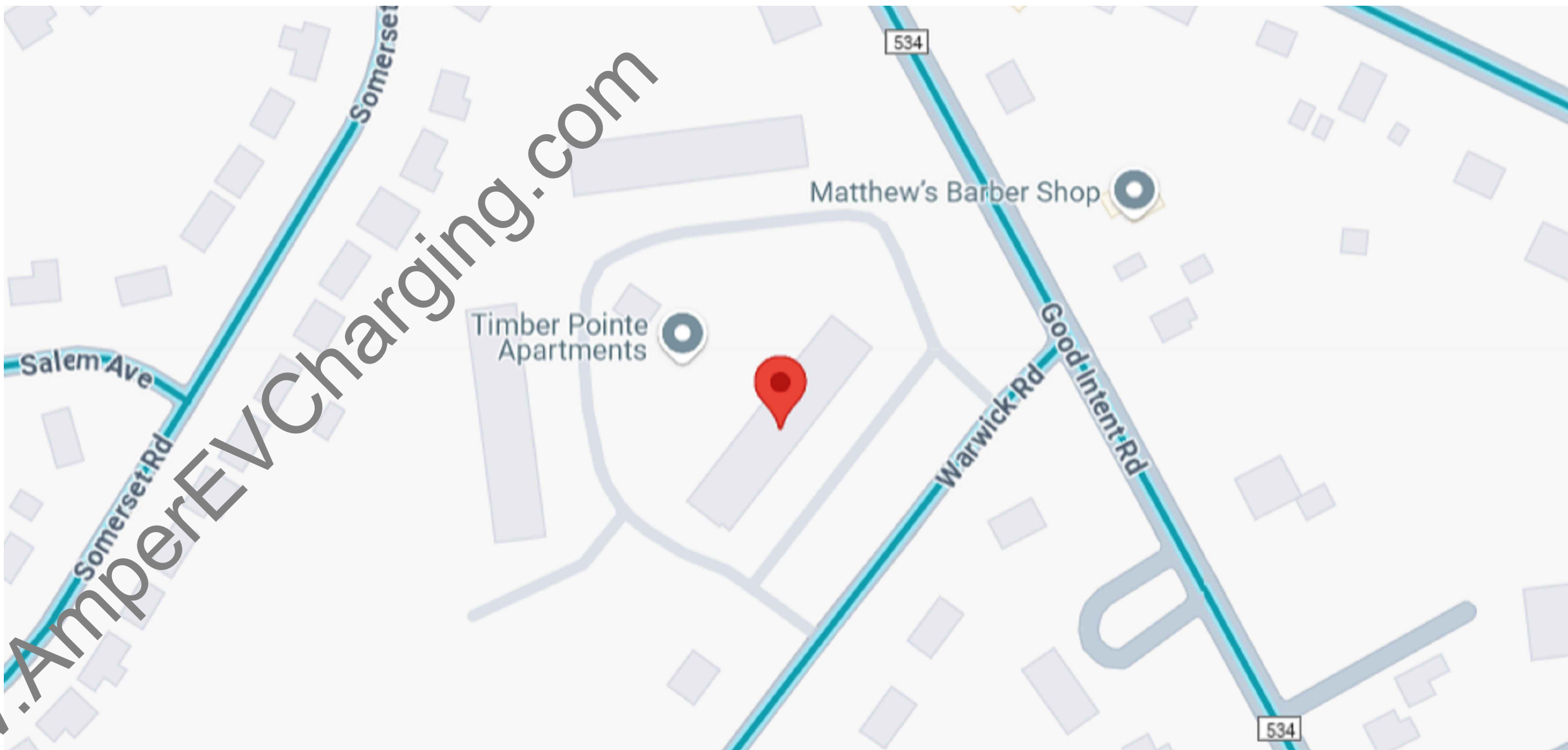
UNDERGROUND SERVICE ALERT



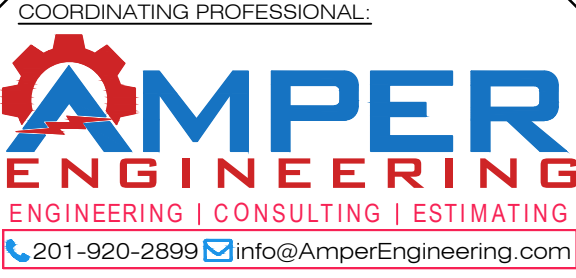
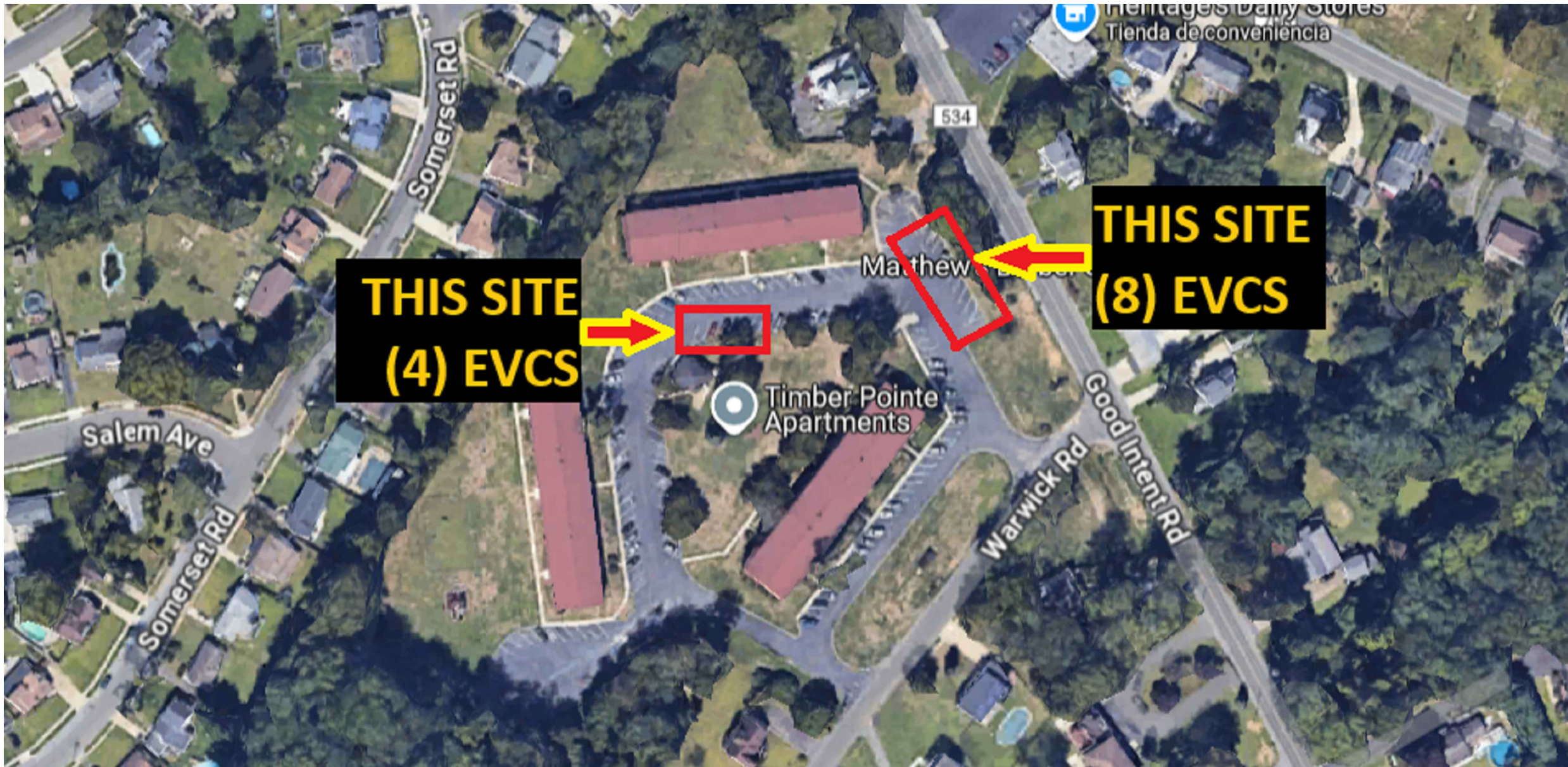
CALL AT LEAST TWO WORKING DAYS BEFORE YOU DIG

EXISTING UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS FROM RECORD INFORMATION AND ARE INFORMATION ONLY. OTHER UNDERGROUND FACILITIES NOT SHOWN ON THE PLANS MAY EXIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY A ONE-CALL SERVICE CENTER, TOLL FREE AT 811, NO LESS TWO DAYS PRIOR TO ANY EXCAVATION.

VICINITY MAP



SATELLITE VIEW



ENGINEER OF RECORD SEAL & STAMP:



PROFESSIONAL ENGINEER:
DURAK EVRIM ERCAN, P.E.
LICENSE # 24GE54902

AMPER PROJECT NUMBER: 2002-NJ

THE ENGINEER OF RECORD SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DEVIATIONS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

THE INFORMATION IN THIS DRAWING IS PROPRIETARY. ANY REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P.E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

REV	DATE	DESCRIPTION
0	12/05/2024	ISSUED FOR PLAN REVIEW

CLIENT:



ADDRESS:
24 COKESBURY ROAD,
LEBANON, NJ 08833
PHONE:
908-735-6126

PROJECT:

1351 GOOD INTENT RD
EVCS
INSTALLATION
ADDRESS:
1351 GOOD INTENT RD,
DEPTFORD, NJ
08096

SHEET SIZE:
24X36

DESIGNED BY:
AC

DRAWN BY:
IB

CHECKED BY:
DEE

SHEET TITLE:
COVER SHEET

SHEET NO:

EV01

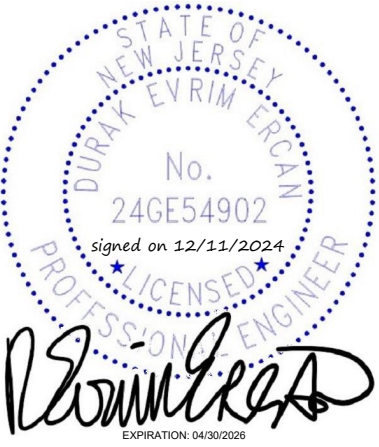
NOTES:

- THIS DRAWING WAS PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, AND SETBACKS SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION.
- FOR INSTALLATION DETAILS, REFER SHEET EV07 & EV08.



COORDINATING PROFESSIONAL:
AMPER
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 | info@AmperEngineering.com

ENGINEER OF RECORD SEAL & STAMP:



PROFESSIONAL ENGINEER:
DURAK EVRIM ERCAN, P.E.
LICENSE # 24GE54902

AMPER PROJECT NUMBER: 2002-NJ

THE ENGINEER OF RECORD SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DEVIATIONS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
THE INFORMATION IN THIS DRAWING IS PROPRIETARY. ANY REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P.E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

REV	DATE	DESCRIPTION
0	12/05/2024	ISSUED FOR PLAN REVIEW

CLIENT:



ADDRESS:
24 COKESBURY ROAD,
LEBANON, NJ 08833
PHONE:
908-735-6126

PROJECT:

1351 GOOD
INTENT RD
EVCS
INSTALLATION
ADDRESS:
1351 GOOD INTENT RD,
DEPTFORD, NJ
08096

SHEET SIZE:
24X36

DESIGNED BY:
AC

DRAWN BY:
IB

CHECKED BY:
DEE

SHEET TITLE:

LOCATION 2 ENLARGED
PLAN

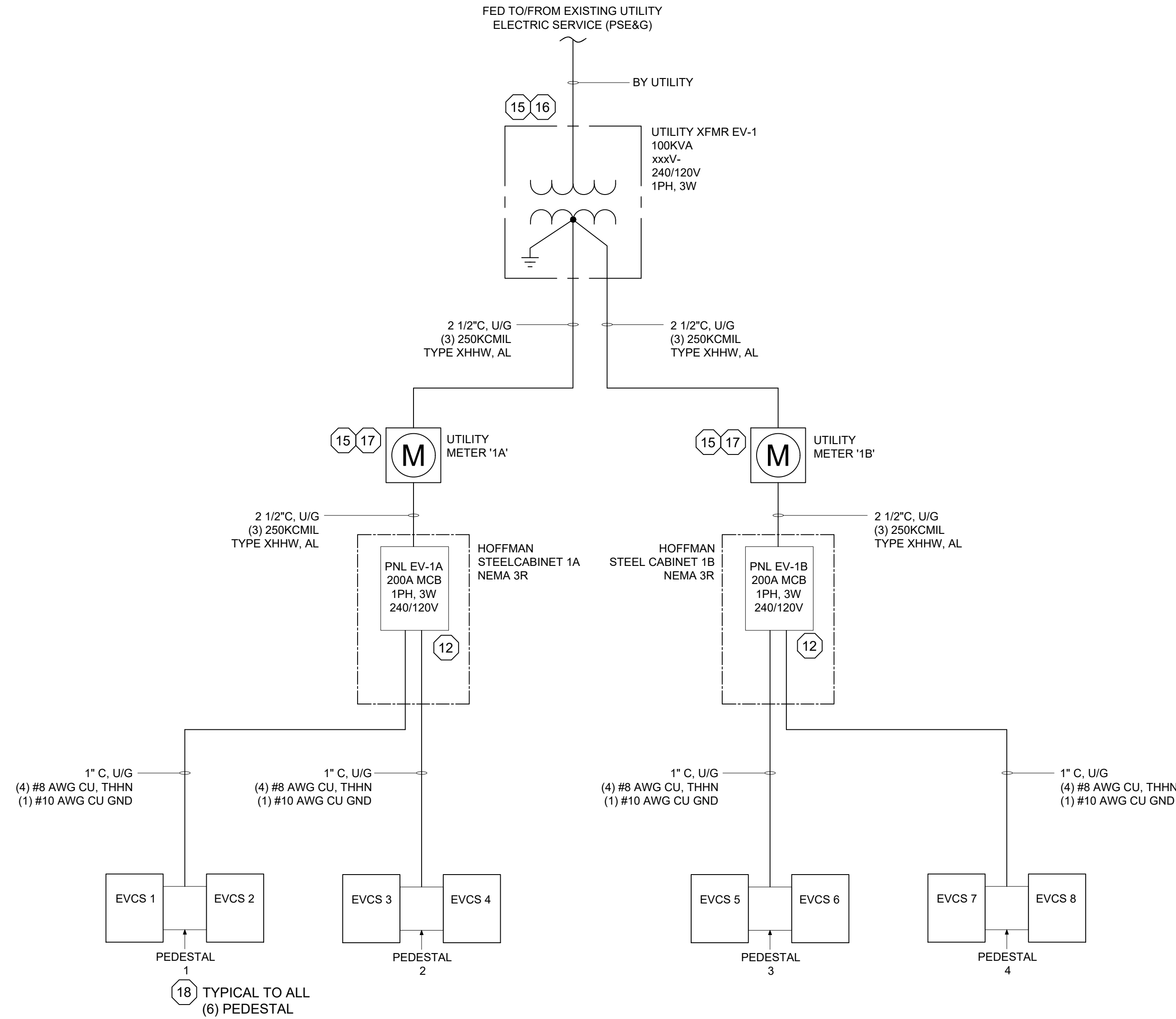
SHEET NO:

EV05

CLUB
HOUSE

www.AmperEVcharging.com

LOCATION 2 - ENLARGED PLAN VIEW OF ELECTRICAL & EVCS EQUIPMENTS
SCALE: NTS

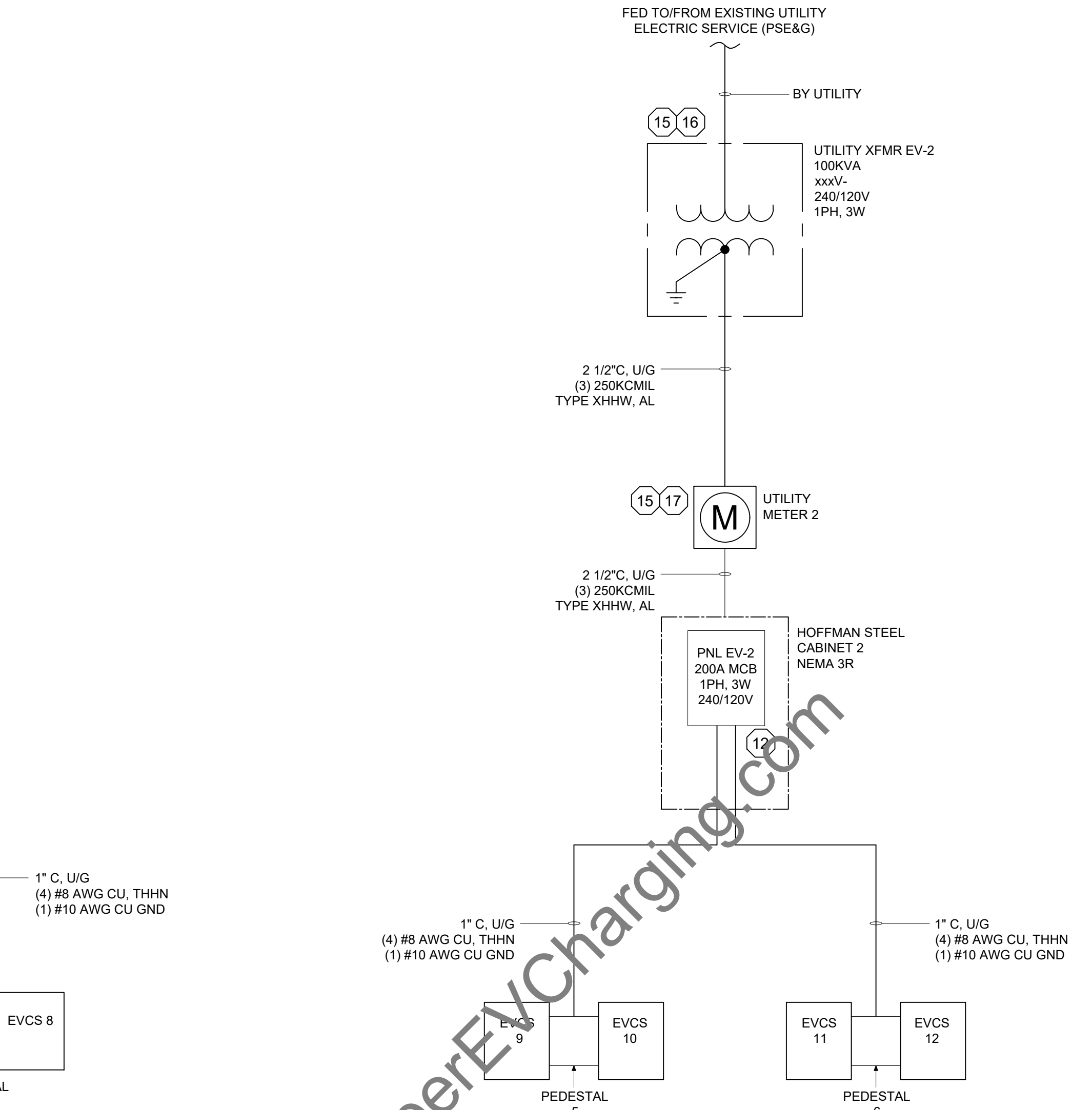


SINGLE LINE DIAGRAM FOR
TWO UNDERGROUND, 1PH, 3W, 200A
120/240V SERVICE

PANEL EV-1A																								
VOLTAGE: 120/240 1 PHASE, 3 WIRE												LOCATION: PARKING LOT (ADJ. TO GOOD INTENT RD) BUS (A): 200 MAIN (A): 200												
No.	CIRCUIT DESCRIPTION	LOAD (KVA)						BREAKER	PHASE		BREAKER	LOAD (KVA)						CIRCUIT DESCRIPTION	No.					
		CONT	RCPT	MTR	A/C	KITCH	MISC		A	B		POLE	TRIP	MISC	KITCH	A/C	MTR			RCPT	CONT			
1	EVCS-1	3.85						40	2	7.70		2	40					3.85		EVCS-2	2.			
3	X	3.85					X	X	X	7.70	X	X	X					3.85		X	4			
5	EVCS-3	3.85						40	2	7.70		40						3.85		EVCS-4	6			
7	X	3.85					X	X	X	7.70	X	40						3.85		X	8			
LOADS W/ NEC 220 DEMAND FACTORS (KVA)															CONNECTED KVA		30.8							
v14 - 01/17/2024		CONT	RCPT	MTR	A/C	KITCH	MISC	TOTAL		15.40	15.40			0.00	0.00	0.00	0.00	0.00	30.80					
DEMAND LOAD PHASE-A (KVA)															19.25		19.25							
DEMAND LOAD PHASE-B (KVA)															19.25		19.25							
TOTAL DEMAND LOAD (KVA)															38.50		38.50							
LARGEST DEMAND LOAD OF ANY PHASE (KVA)															19.25									
LARGEST DEMAND LOAD OF ANY PHASE (AMP)															160									
TOTAL DEMAND LOAD OF ALL PHASES (KVA)															38.50									
TOTAL DEMAND LOAD OF ALL PHASES (AMP)															160									
MINIMUM FEEDER AMPACITY SELECTION (AMP)															160									
<div>1. IF PANEL, EXISTING AND ACTUAL, KNOWN AND ARE NOT KNOWN, ASSUMPTIONS ARE MADE AS NOT KNOWN AND NON-CONTINGUOUS LOADS ASSUMED TO BE 80% OF THE OCP RATINGS 2. DESIGN IS BASED ON NEC TABLE 310.15(B)(16) COPPER THHN CONDUCTORS. EXISTING CONDUCTORS AND WIRING MAY NEED TO BE INSPECTED & VERIFIED BY ELECTRICAL CONTRACTOR. 3. SERVICES ARE CONSIDERED CONTINUOUS LOADS AND ACTUAL NAME PLATE VALUES ARE USED. 4. ALL CONDUCTORS ON THE PANEL SCHEDULE ARE COPPER UNLESS OTHERWISE NOTED.</div>																								

PANEL EV-2															LOCATION: PARKING LOT ADJACENT TO CLUB HOUSE											
VOLTAGE: 120/240															BUS (A): 200											
1 PHASE, 3 WIRE															MAIN (A): 200											
No.	CIRCUIT DESCRIPTION	LOAD (KVA)						BREAKER	LOAD (KVA)																	
		CONT	RCPT	MTR	A/C	KITCH	MISC		POLE	TRIP	MISC	KITCH	A/C	MTR	RCPT	CONT										
1	EVCS-9	3.85						40	2	7.70					3.85	EVCS-10	2									
3	X	3.85						X	X	7.70	X				3.85	X	4									
5	EVCS-11	3.85						X	X	7.70	X				3.85	EVCS-12	6									
7	X	3.85						X	X	7.70	X				3.85	X	8									
LOADS W/ NEC 220 DEMAND FACTORS (KVA)																										
v14 - 01/17/2024		CONT	RCPT	MTR	A/C	KITCH	MISC	TOTAL		15.40	15.40			0.00	0.00	0.00	0.00	30.80	CONNECTED KVA	30.8						
DEMAND LOAD PHASE-A (KVA)															19.25				CONTINUOUS LOAD: 125% LOAD				PANEL NOTES			
DEMAND LOAD PHASE-B (KVA)															19.25				RECEPTACLES: 100% 125% 100W+50% REMAINING				1) IF PANEL EXISTING AND ACTUAL CONTINUOUS LOAD NOT KNOWN, ASSUMPTIONS ARE MADE AS			
TOTAL DEMAND LOAD (KVA)															38.50				MOTORS: 125% LARGEST MTR+100% REMAINING				2) DESIGN IS BASED ON NEC TABLE 310.15(B)(16) COPPER THIN CONDUCTORS. EXISTING			
LARGEST DEMAND LOAD OF ANY PHASE (KVA)															19.25				A/C OR HEAT: 100% LOAD				CONDUCTORS AND WIRING MAY NEED TO BE INSPECTED & VERIFIED BY ELECTRICAL CONTRACTOR.			
LARGEST DEMAND LOAD OF ANY PHASE (AMP)															38.50				KITCH: 15% LOAD				3) EVCS ARE CONSIDERED CONTINUOUS LOADS AND ACTUAL NAME PLATE VALUES ARE USED.			
TOTAL DEMAND LOAD OF ALL PHASES (KVA)															160				MISC: 100% LOAD				4) ALL CONDUCTORS ON THE PANEL SCHEDULE ARE COPPER UNLESS OTHERWISE NOTED.			
MINIMUM FEEDER AMPACITY SELECTION (AMP)															160											

PANEL SCHEDULES & VOLTAGE DROP CALCULATION



SINGLE LINE DIAGRAM FOR
ONE UNDERGROUND, 1PH, 3W, 200A
120/240V SERVICE

PANEL EV-1B															LOCATION: PARKING LOT (ADJ. TO GOOD INTENT RD)								
VOLTAGE: 120/240															BUS (A): 200								
1 PHASE, 3 WIRE															MAIN (A): 200								
No.	CIRCUIT DESCRIPTION	LOAD (KVA)						BREAKER	LOAD (KVA)						CIRCUIT DESCRIPTION	No.							
		CONT	RCPT	MTR	A/C	KITCH	MISC		A	B	POLE	TRIP	MISC	KITCH			A/C	MTR	RCPT	CONT			
EVCS-5		3.85						40	2	7.70							3.85	EVCS-6	2.				
X		3.85						X	X								3.85	X	4				
EVCS-7		3.85						40	2	7.70							3.85	EVCS-8	X				
X		3.85						X	X								3.85	X	8				
LOADS W/ NEC 220 DEMAND FACTORS (KVA)																							
v14 - 01/17/2024		CONT	RCPT	MTR	A/C	KITCH	MISC	TOTAL		15.40	15.40			0.00	0.00	0.00	0.00	30.80	30.8				
DEMAND LOAD PHASE-A (KVA)		19.25	0.00	0.00	0.00	0.00	0.00	19.25		CONTINUOUS LOAD 120% LOAD										PANEL NOTES			
DEMAND LOAD PHASE-B (KVA)		19.25	0.00	0.00	0.00	0.00	0.00	19.25		RECEITAFES: 100% LST 100%+50% REMAINING										1) IF PANEL EXISTING AND ACTUAL CONNECTED LOAD NOT KNOWN, ASSUMPTIONS ARE MADE AS CONTINUOUS LOAD			
TOTAL DEMAND LOAD (KVA)		38.50	0.00	0.00	0.00	0.00	0.00	38.50		MOTORS: 125% LARGEST MTR+100% REMAINING										2) DESIGN IS BASED ON NEC TABLE 310.15(B)(16) COPPER THIN CONDUCTORS. EXISTING CONDUCTORS AND WIRING MAY NOT BE INSPECTED & VERIFIED BY ELECTRICAL CONTRACTOR.			
LARGEST DEMAND LOAD OF ANY PHASE (KVA)		19.25											A/C OR HEAT: 100% LOAD				3) EVCS ARE CONSIDERED CONTINUOUS LOADS AND ACTUAL NAME PLATE VALUES ARE USED.						
TOTAL DEMAND LOAD OF ALL PHASES (AMP)		160											MISC: 80% LOAD				4) ALL CONDUCTORS ON THE PANEL SCHEDULE ARE COPPER UNLESS OTHERWISE NOTED.						
TOTAL DEMAND LOAD OF ALL PHASES (AMP)		160																					
MINIMUM FEEDER AMPACITY SELECTION (AMP)		160																					

VOLTAGE DROP CALCULATION (CONSIDERING FURTHEST CHARGER ONLY)

CABLE ROUTE		LOAD VOLTAGE	WIRE SIZE	DISTANCE (FT)	LOAD (AMP)	VOLTAGE DROP (%)	PARALLELS (SETS)
FROM	TO						
PNL EV-1A	PEDESTAL 1	240V	#8 AWG, CU	60	32	1.21	1
PNL EV-2	PEDESTAL 6	240V	#8 AWG, CU	40	32	0.81	1

KEY NOTES:

- ALL ELECTRICAL WORK AND RELATED ACTIVITIES PERFORMED ON-SITE SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (NEC) STANDARDS BEING ENFORCED BY ALL APPLICABLE JURISDICTIONAL REQUIREMENTS AT THE TIME OF CONSTRUCTION.
- CONDUIT PATHS ARE REPRESENTATIVE ONLY. EXACT CONDUIT PLACEMENT TO BE DETERMINED ON SITE BASED ON FIELD CONDITIONS.
- A NATIONALLY RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH NEC ARTICLE 110.3
- ALL EXTERIOR EQUIPMENT SHALL BE RAIN TIGHT AND APPROVED FOR USE IN WET CONDITIONS.
- ALL CONDUCTORS TO BE THHN COPPER, UNLESS OTHERWISE NOTED.
- ALL CONDUCTORS AND CABLES SHALL BE PROVIDED WITH STRAIN RELIEF UPON ENTRY INTO ENCLOSURES
- EACH UNGROUNDED CONDUCTOR SHALL BE IDENTIFIED BY PHASE AND SYSTEM PER NEC 210.5
- ALL METALLIC COMPONENTS SHALL BE GROUNDED VIA ELECTRIC GROUNDING CONDUCTORS.
- WIRING FOR ELECTRICAL VEHICLE CHARGING STATIONS TO BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND SPECIFICATIONS.
- CONTRACTOR TO ENSURE THAT ALL FEEDERS, CONDUITS, CONDUCTORS, OCPD, TRANSFORMERS, ELECTRICAL PANELS AND OTHER ELECTRICAL EQUIPMENT IS SIZED TO COMPLY WITH CURRENT NEC AND LOCAL AHJ CODES.
- CONTRACTOR IS RESPONSIBLE TO VERIFY DESIGN, ENGINEERING ASSUMPTIONS AND EXISTING FIELD CONDITIONS. REPORT ANY INSUFFICIENCIES TO ENGINEER OF RECORD PRIOR TO ANY WORK BEING PERFORMED.
- THE NEW PANEL AND CBs SHALL HAVE THE SAME KAIC OR HIGHER THAN FAULT CONTRIBUTION FROM THE UTILITY.
- GROUNDING INSTALLATION AS PER NEC ART. 250.
- THE EV CHARGING SUPPLY SHALL BE INSTALLED AS PER NEC ART. 625.
- UTILITY EQUIPMENT INSTALLATIONS AND PREP WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY ENGINEER AT TIME OF PRECONSTRUCTION MEETING TO ENSURE ACCURACY OF INSTALLATIONS.
- UTILITY IS RESPONSIBLE TO INSTALL THE FIBERGLASS PAD, THE TRANSFORMER, THE PRIMARY CABLE AND MAKE ALL PRIMARY TERMINATIONS.
- CONTRACTOR IS RESPONSIBLE TO INSTALL ALL SERVICE ENTRANCE AND METERING EQUIPMENT, SERVICE CABLE AND PAD SITES ACCORDING TO UTILITY SPECS.
- REFER SHEET EV07, DETAIL 1, FOR INSTALLATION DETAILS.

EVOCHARGE

40A EVSE Level 2 Charging Stations (IEVSE, IEVSE Home) Product Description and Specifications

- ELECTRIC VEHICLE CHARGING STATIONS**
 - Modern Compact Design: EVSE form factor smaller than a standard sheet of letter-size paper
 - Robust Construction, Certified for Outdoor Use: tamper-resistant features; NEMA 4 certified for outdoor and indoor use
 - Smart charging: connect via WiFi to manage charging stations. EvoCharge app available for iOS/Android
 - Cable Management: Standard Connector and Cable Holder included, optional cable management solutions available



Part Number	EVOCHARGE IEVSE 40: EVC4012000 EVOCHARGE IEVSE Home 40: EVC4012001
Connector / EVSE Level	SAE J1772; AC Level 2
Max Output Rating	40A; 9.6 kW Maximum Output - For use with dedicated 50A (or greater) Supply Circuit
Alternate Adjustable Output Settings	32A 7.7kW Maximum Output - For use with a 40A Circuit Rating; 24A 5.76 kW Maximum Output - For use with 30A Circuit Rating; 16A 3.84 kW Maximum Output - For use with 20A Circuit Rating
Electrical Circuit / Input Power Requirements	208/240VAC 50/60 Hz, Single Phase, Circuit Requirement: Dedicated; Branch Breaker: Double pole; Circuit Conductors: Line 1, Line 2, Earth Ground, 120VAC maximum from ground.
Input Power Connection	IEVSE & IEVSE Home: Plug-in, NEMA 6-50 Plug (Removable for Hardwire Connection)
Operational Ratings	NEMA 4, Indoor/Outdoor Rated; Temp: -22°F to 122°F (-30°C to 50°C); Humidity: 95% RH
Mounting	Wall or Pedestal Installation
Dimensions	EVSE: 11.0 x 7.5 x 3.2 inches (28.0 x 19.0 x 8.1 cm)
Weight	EVSE 25 lb.: 16 lbs.
Display & Indicators	LED Charge Status Indicators (Power/Ready, Charging, Fault)
Cable Management Type	Connector/Cable Holder (Standard); Retractor Cable Management (Optional)
Standards & Compliance	Charging Station: UL/LUL Listed; SAE J1772, UL 2594

9700 West 7th Street, Eden Prairie, MN 55344
Phone: 952-941-9700 • Toll-Free: 800-318-6108
evochargesales@phillipsandtemtro.com
©2022 EVOCHARGE

PHILLIPS & TEMTRO
Industries®
www.evocharge.com

PRODUCT DATA SHEET

ENGINEER OF RECORD SEAL & STAMP:



AMPER PROJECT NUMBER: 2002-NJ

THE ENGINEER OF RECORD SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, DEVIATIONS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
THE INFORMATION IN THIS DRAWING IS PROPRIETARY. ANY REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD.

THIS DESIGN IS NOT TO BE USED FOR CONSTRUCTION UNLESS P. E. STAMPED, SIGNED, DATED AND ONE OF THE REVISION STATES "ISSUED FOR CONSTRUCTION", "IFC" OR "IFC UPDATED".

0	12/05/2024	ISSUED FOR PLAN REVIEW
REV	DATE	DESCRIPTION

CLIENT:



ADDRESS:
24 COKEBURY ROAD,
LEBANON, NJ 08833
PHONE:
908-735-6126

PROJECT:

1351 GOOD
INTENT RD
EVCS
INSTALLATION
ADDRESS:
1351 GOOD INTENT RD,
DEPTFORD, NJ
08096

SHEET SIZE:

24X36
DESIGNED BY:
AC

DRAWN BY:

IB
CHECKED BY:
DEE

SHEET TITLE:

SINGLE LINE DIAGRAM,
CALCULATION & DATA
SHEET

SHEET NO:

EV06