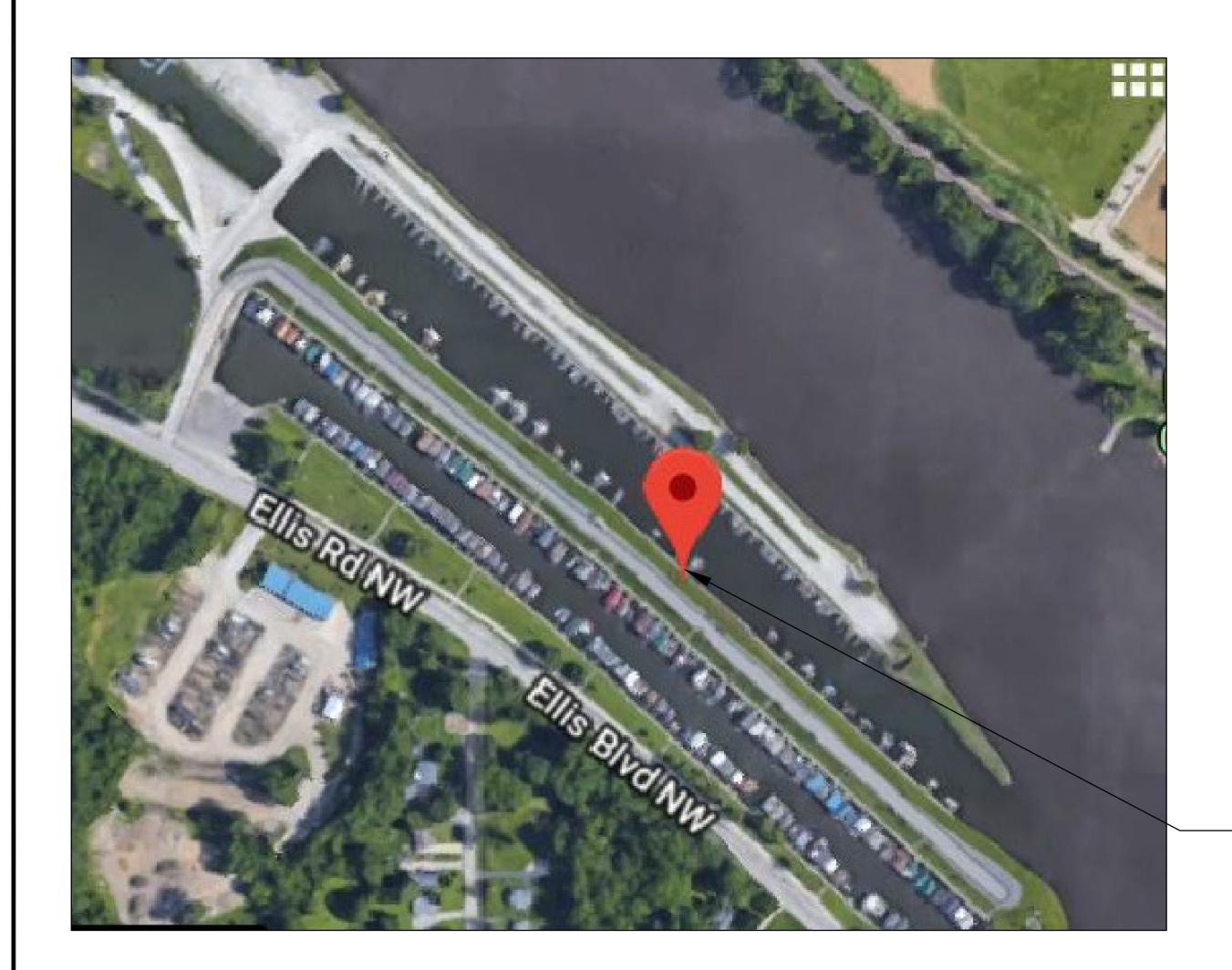
CITY OF CEDAR RAPIDS ELLIS HARBOR ELECTRICAL DISTRIBUTION PROJECT.

CEDAR RAPIDS, IOWA CONTRACT # 332013-02

PROJECT LOCATION MAP



DRAWING INDEX			
SHEET	REV	TITLE	
1		GENERAL	
G00	0	COVER SHEET AND DRAWING INDEX	
		ELECTRICAL	
E00	0	ELECTRICAL SYMBOLS	
E01	0	ELECTRICAL - DEMOLITION	
E02	0	ELECTRICAL - NEW WORK	
E03	0	ELECTRICAL - DETAILS	
E04	0	ELECTRICAL - DETAILS	
E05	0	ELECTRICAL - DETAILS	

Utility & Emergency Numbers
Parks & Recreation Department 319—2 319-286-5750 Police Department 319-286-5491 Fire Department 319-286-5200 Emergency 319-786-1912 319-298-5155 319-286-5910 Alliant Energy Mid American Energy Water Department 319-399-7600 Qwest Communications

> Mayor: Bradley Hart City Council

Ann Poe Tyler Olson Susie Weinacht Martin Hoeger Scott Overland Dale Todd Scott Olson Ashley Vanorny

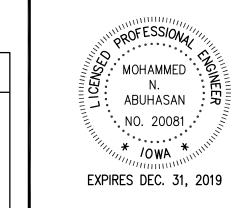


PROJECT LOCATION



Cedar Rapids Parks & Recreation Department This Document is Recommended for Filing with the City Clerk

Director, Parks & Recreation



Date

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION.
I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

NAME: MOHAMMED N. ABU-HASAN

DATE: 08/07/2018 LICENSE RENEWAL DATE: DEC. 31, 2019

PAGES OR DIVISIONS COVERED BY THIS CERTIFICATION:
ALL G& E SHEETS



CITY OF CEDAR RAPIDS Facilities Maintenance Services City of Cedar Rapids 500 15th Ave SW, Cedar Rapids, Iowa 52404

ENGINEER OF RECORD:



2871 Heinz Rd. Suite B, Iowa City, IA 52240 www.InnovativeEngineersInc.com

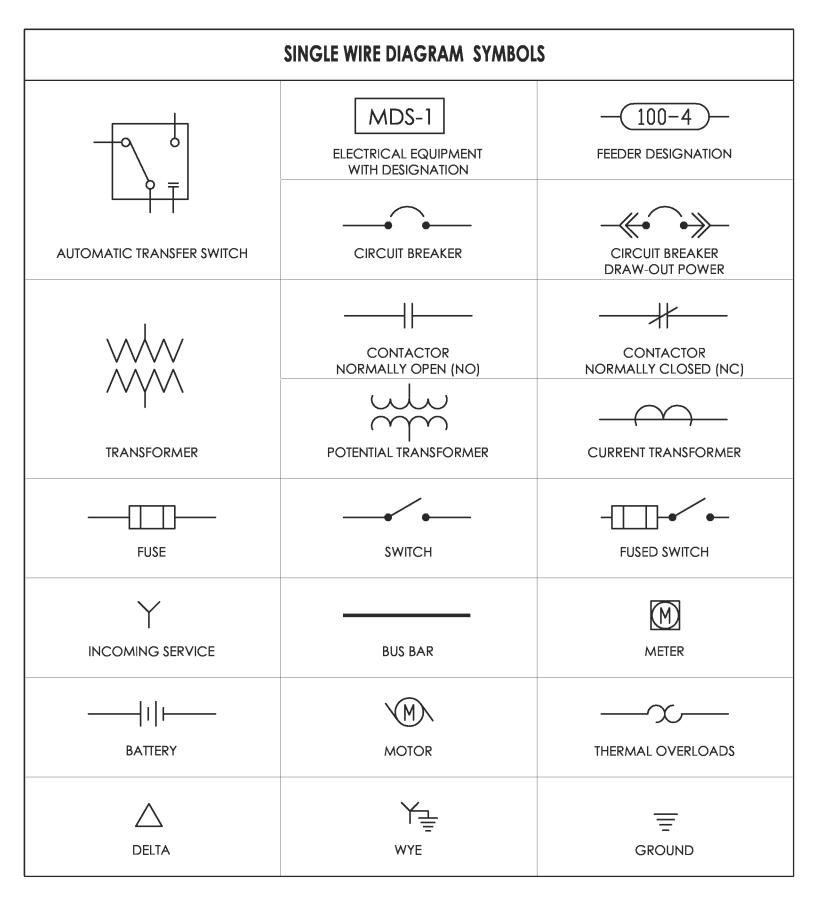
ESIGNED BY: MNA DRAWN BY: GVT HECKED BY: MNA OCUMENT DATE: 08-07-2018 ROJECT NO.: 18-101213 CLIENT NO.:

APIDS, IOWA # 332013-02

REVISIONS 08-07-2018 OUT FOR BID DRAWINGS

> **COVER SHEET AND DRAWING INDEX**

G00



POWER SYSTEM SYMBOLS					
MECHANICAL EQUIPMENT CONNECTION WITH DESIGNATION	MDS-1 ELECTRICAL EQUIPMENT WITH DESIGNATION	——————————————————————————————————————			
DISTRIBUTION PANEL	BRANCH PANEL	VFI) VARIABLE FREQUENCY DRIVE			
WITH DESIGNATION	WITH DESIGNATION	T			
MOTOR WITH DESIGNATION	GENERATOR SYSTEM WITH DESIGNATION	TRANSFORMER WITH DESIGNATION			
DISCONNECT SWITCH	MOTOR STARTER	COMBINATION MOTOR STARTER/ DISCONNECT SWITCH			
JUNCTION BOX	JFH FUME HOOD CONNECTION	HOT TT			

RECEPTACLE SYMBOLS					
SIMPLEX RECEPTACLE	DUPLEX RECEPTACLE	QUADRUPLEX RECEPTACLE			
WEATHER PROOF	DUPLEX RECEPTACLE ABOVE COUNTER	DUPLEX RECEPTACLE CEILING MOUNTED			
GROUND FAULT CIRCUIT INTERRUPTER	ISOLATED GROUND PROVIDE (2) SEPARATE GROUND	TRANSIENT VOLTAGE SURGE SUPPRESSOR			
FLOOR BOX	WIRES ELECTRIC WATER COOLER	RECEPTACLES IN SURFACE RACEWAY			
$\vdash \bigcirc$					

WIRING & RACEWAY SYMBOLS			
PHASE CONDUCTOR NEUTRAL CONDUCTOR OFFICIAL DESIGNATIONS	O l CONDUIT ELBOW UP		
EXPOSED CONDUIT OR CONDUCTOR	CONDUIT ELBOW DOWN		
CONCEALED CONDUIT OR CONDUCTOR	EIGHTNING PROTECTION AIR TERMINAL		
CONCEALED CONDUIT OR CONDUCTOR	LIGHTNING PROTECTION DOWN CONDUCTOR TO GROUND		
CONDUIT HOMERUN	LIGHTNING PROTECTION HORIZONTAL CONDUCTOR		

LIGHT FIXTURE SYMBOLS			
	F1 — FIXTURE TYPE 23—— CIRCUIT a —— CONTROL T FIXTURE DEVICE SNATIONS		
LIGHT FIXTURE SURFACE OR PENDANT MOUNTED	NIGHT LIGHT/EMERGENCY FIXTURE		
ORO	SURFACE OR PENDANT MOUNTED		
LIGHT FIXTURE RECESS MOUNTED	NIGHT LIGHT/EMERGENCY FIXTURE		
	RECESS MOUNTED		
LIGHT FIXTURE RECESS OR SURFACE MOUNTED	NIGHT LIGHT/EMERGENCY FIXTURE		
$\overline{}$	RECESS OR SURFACE MOUNTED		
LIGHT FIXTURE SURFACE OR CHAIN MOUNTED	NIGHT LIGHT/EMERGENCY FIXTURE SURFACE OR CHAIN MOUNTED		
LIGHTING FIXTURE LED	NIGHT LIGHT/EMERGENCY FIXTURE		
\mathcal{P}	LED		
TRACK LIGHTING HEADS AS SHOWN	SITE LIGHTING FLOOD LIGHT		
EXIT SIGN FACES AND ARROWS AS SHOWN	EMERGENCY LIGHTING W/ BATTERY PACK		
$\circ \longrightarrow \!$	\vdash		
SITE LIGHTING POLE MOUNTED	SITE LIGHTING WALL OR BUILDING MOUNTED		

FIRE ALARM SY	FIRE ALARM SYSTEM SYMBOLS		
FIRE ALARM CONTROL PANEL			
EP MANUAL PULL STATION			
FPW MANUAL PULL STATION SEVERE WEATHER			
AUTOMATIC SENSOR SMOKE DETECTOR			
ADDRESSABLE CONTROL/ MONITOR RELAY			
E _C	FM MAGNETIC DOOR HOLD-OPEN PROVIDE CONTROL RELAY AND 120V OR		
AUDIBLE ALARM SPEAKER	24V F SP FIRE ALARM CEILING SPEAKER		
FO _V VISUAL ALARM			
FOH AUDIBLE/VISUAL ALARM HORN	FOS AUDIBLE/VISUAL ALARM SPEAKER		
FWF WATER FLOW SWITCH	WATER VALVE POSITION SWITCH		

LIGHTING CONTROLS SYMBOLS			
H			
SINGLE POLE (LOWER CASE LETTER INDICATES SWITCH			
1EG)	160 4		
THREE WAY	FOUR WAY		
SbM			
DIGITAL DIMMING WALL SWITCH	DIGITAL DUAL TECHNOLOGY CORNER MOUNT OCCUPANCY		
LMRC 211	SENSOR LMRL		
1-RELAY ROOM CONTROLLER WITH 0-10V DIMMING (ABOVE CEILING)	ISOLATED RELAY INTERFACE (ABOVE CEILING)		
-	H O) K		

AUDIO/VISUAL SYSTEM SYMBOLS

PROJECTOR OUTLET CEILING MOUNTED FLUSH

(BACK BOX AND CONDUIT ONLY)

DIGITAL DUAL TECHNOLOGY

CEILING MOUNT OCCUPANCY

OCCUPANCY SENSOR

PROJECTOR OUTLET WALL MOUNTED

(BACK BOX AND CONDUIT

KEYED SWITCH

S 01—SENSOR TYPE a—INDICATES SWITCH LEG SENSOR DESIGNATION

ELECTRICAL ABBREVIATIONS NEC NATIONAL ELECTRICAL CODE A, AMPAMPERE AIC AMPERE INTERRUPTING CAPACITY NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOC. ATS AUTOMATIC TRANSFER SWITCH AV AUDIO - VISUAL NFSS NON- FUSED SAFETY SWITCH AP ACCESS PANEL C CONDUIT CB CIRCUIT BREAKER NL NIGHT LIGHT OL OVERLOADS P POLE PF POWER FACTOR C/T CURRENT TRANSFORMER DC DIRECT CURRENT PH PHASE DISC DISCONNECT PNL PANEL PP POWER POLE DIST DISTRIBUTION PR PAIR PRI PRIMARY ECB ENCLOSED CIRCUIT BREAKER P/T POTENTIAL TRANSFORMER EM EMERGENCY EMT ELECTRICAL METALLIC TUBING RGS RIGID STEEL CONDUIT EWC ELECTRIC WATER COOLER EXP EXPLOSION PROOF S/N SOLID NEUTRAL SPKR SPEAKER SP SPARE FA FIRE ALARM SW SWITCH MTR MOTOR SWBD SWITCHBOARD MV MEDIUM VOLTAGE SWGR SWITCHGEAR NC NORMALLY CLOSED NO NORMALLY OPEN GENERAL ABBREVIATIONS FLR FLOOR AC ABOVE COUNTER ABOVE FINISHED FLOOR INT INTERIOR ALUMINUM NC NORMALLY CLOSED NO NORMALLY OPEN BC BELOW COUNTER NTS NOT TO SCALE втм вопом CMU CONCRETE MASONRY UNIT OC ON CENTER CARBON STEEL PVC POLYVINYL CHLORIDE CTR COUNTER SF SQUARE FOOT CU COPPER DN DOWN SS STAINLESS STEEL COPPER TP TIE POINT UP UP EXT EXTERIOR



OWNER:

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ENGINEER OF RECORD:



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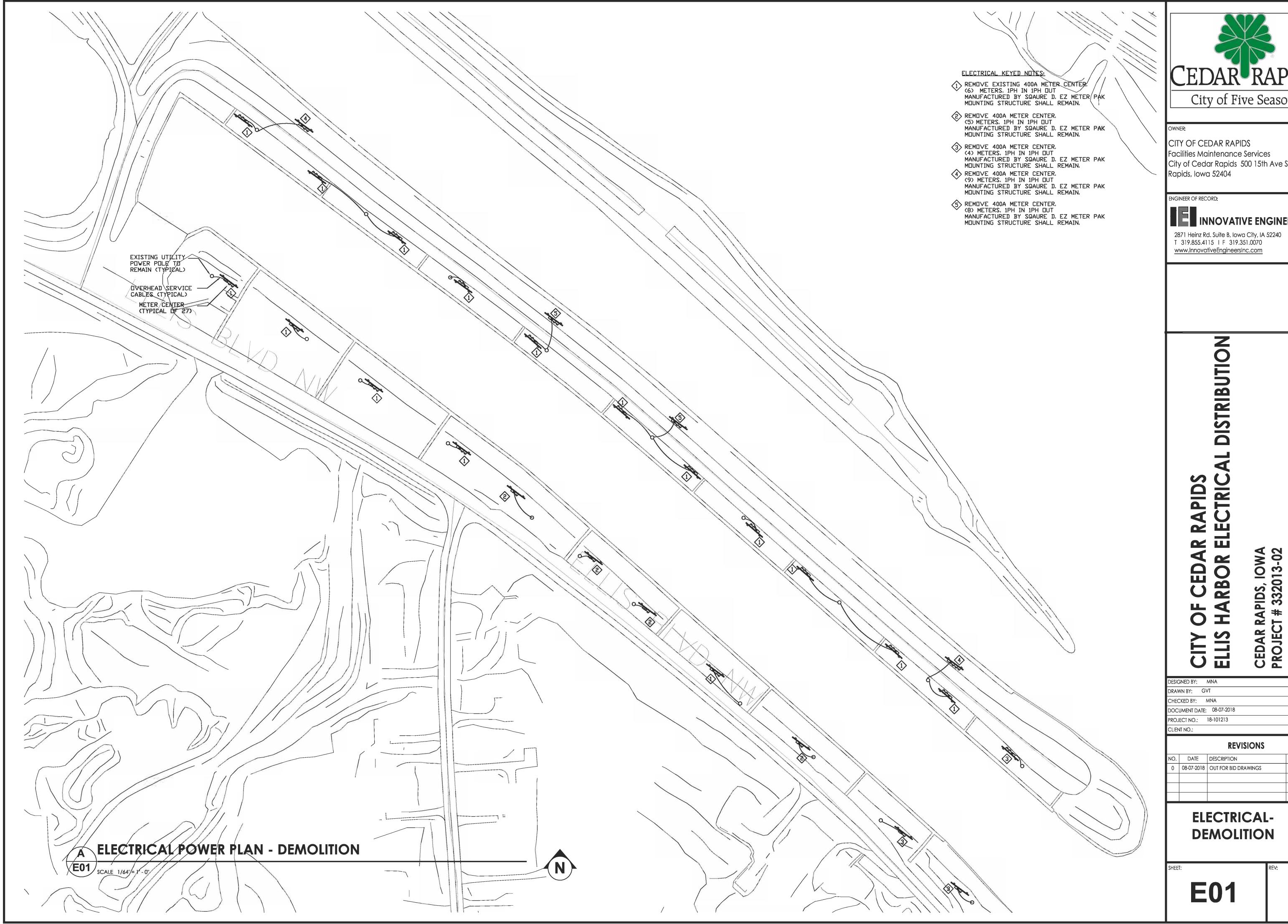
CEDAR RAPROJECT DESIGNED BY: MNA DRAWN BY: GVT CHECKED BY: MNA DOCUMENT DATE: 08-07-2018 PROJECT NO.: 18-101213 CLIENT NO.: **REVISIONS** NO. DATE DESCRIPTION BY DWN 08-07-2018 OUT FOR BID DRAWINGS

RAPIDS, IOWA F # 332013-02

ELECTRICAL-

SYMBOLS

E00

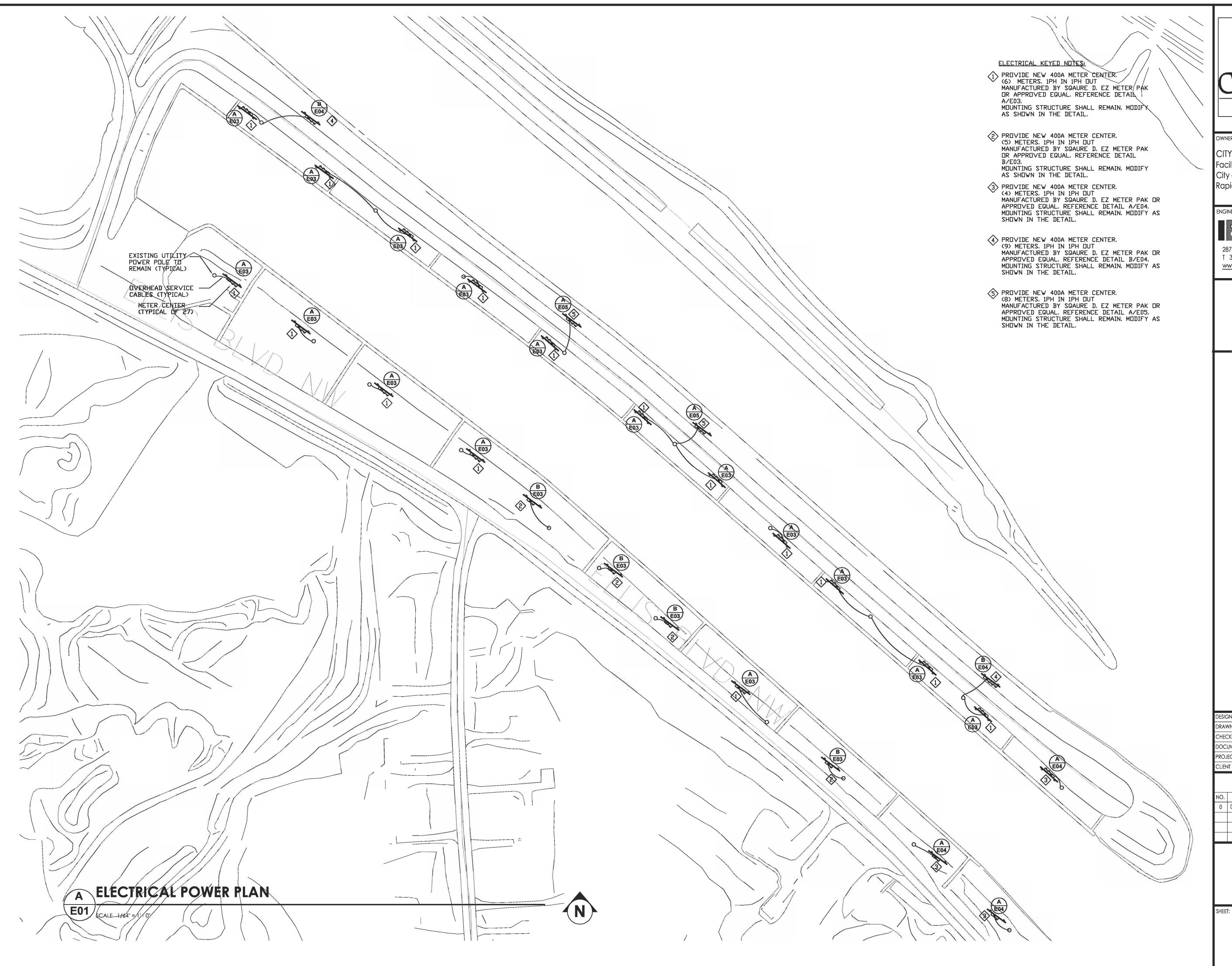




City of Cedar Rapids 500 15th Ave SW, Cedar



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Facilities Maintenance Services
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CITY OF CEDAR RAPIDS ELLIS HARBOR ELECTRICAL DISTRIBUTION

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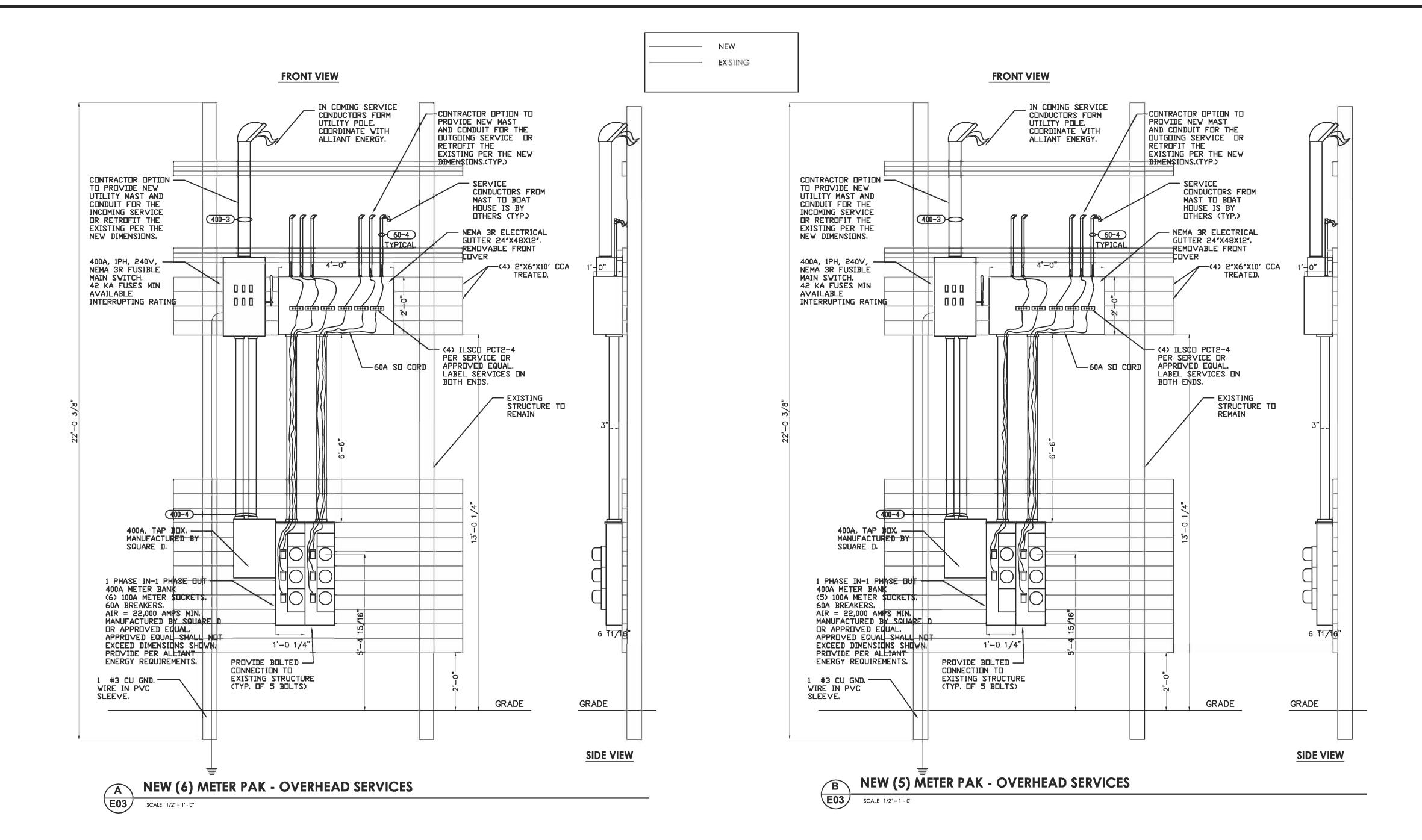
CEDAR RAPIDS, IOWA PROJECT # 332013-02

OUT DISTRIBUTION WITH

ELECTRICAL-NEW WORK

E02

0





EXISTING (6) METER PAK - OVERHEAD SERVICES

EXISTING (5) METER PAK - OVERHEAD SERVICES



CITY OF CEDAR RAPIDS Facilities Maintenance Services City of Cedar Rapids 500 15th Ave SW, Cedar Rapids, Iowa 52404

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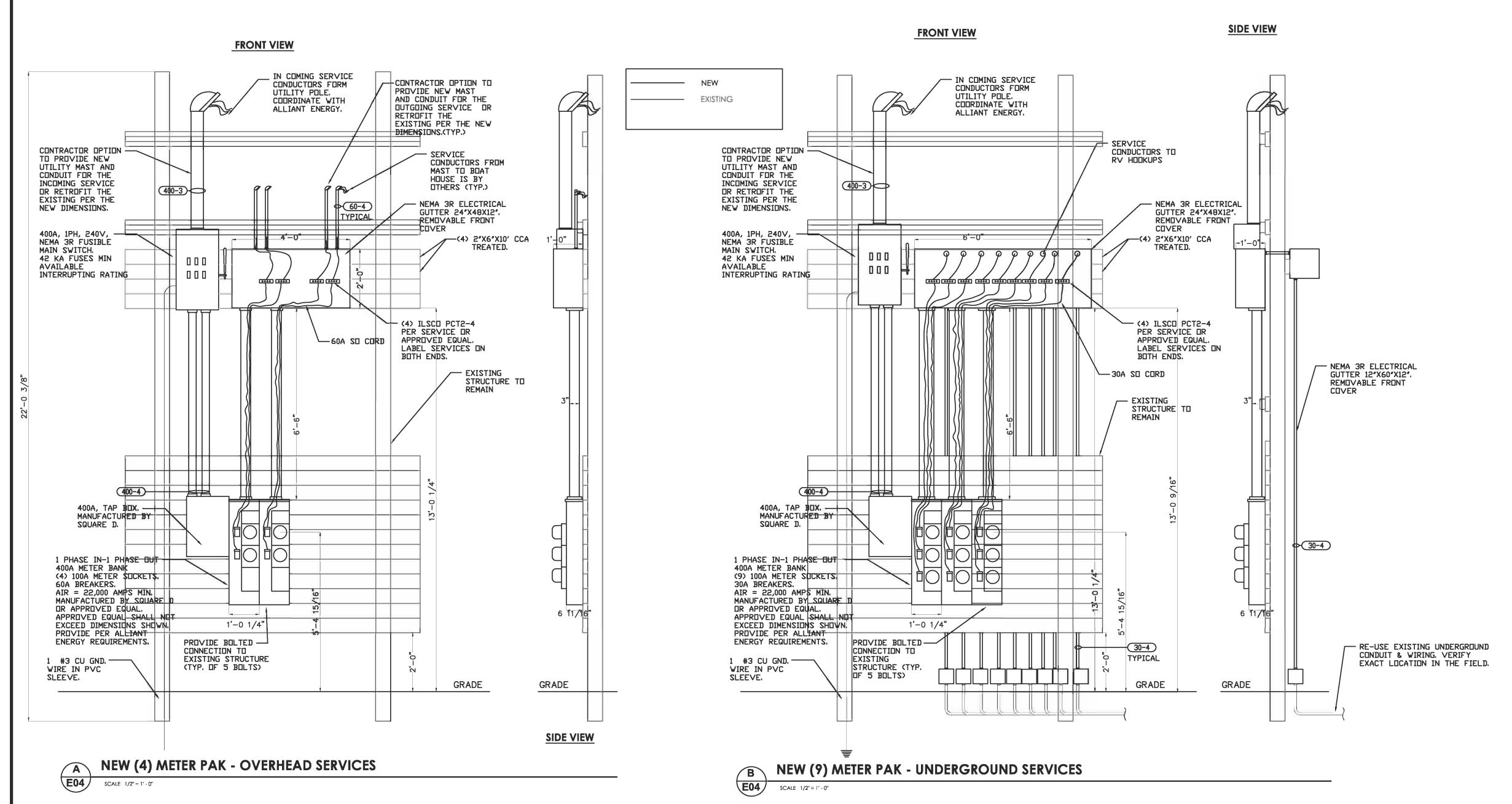
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ELECTRICAL-DETAILS

E03

SCALE : NTS



EXISTING (4) METER PAK - OVERHEAD SERVICES





EXISTING (9) METER PAK - UNDERGROUND SERVICES

SCALE : NTS



OW

CITY OF CEDAR RAPIDS
Facilities Maintenance Services
City of Cedar Rapids 500 15th Ave SW, Cedar
Rapids, Iowa 52404

ENGINEER OF RECORD:

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SITY OF CEDAR RAPIDS LLIS HARBOR ELECTRICAL DISTRIBUTION

DESIGNED BY: MNA

DRAWN BY: GVT

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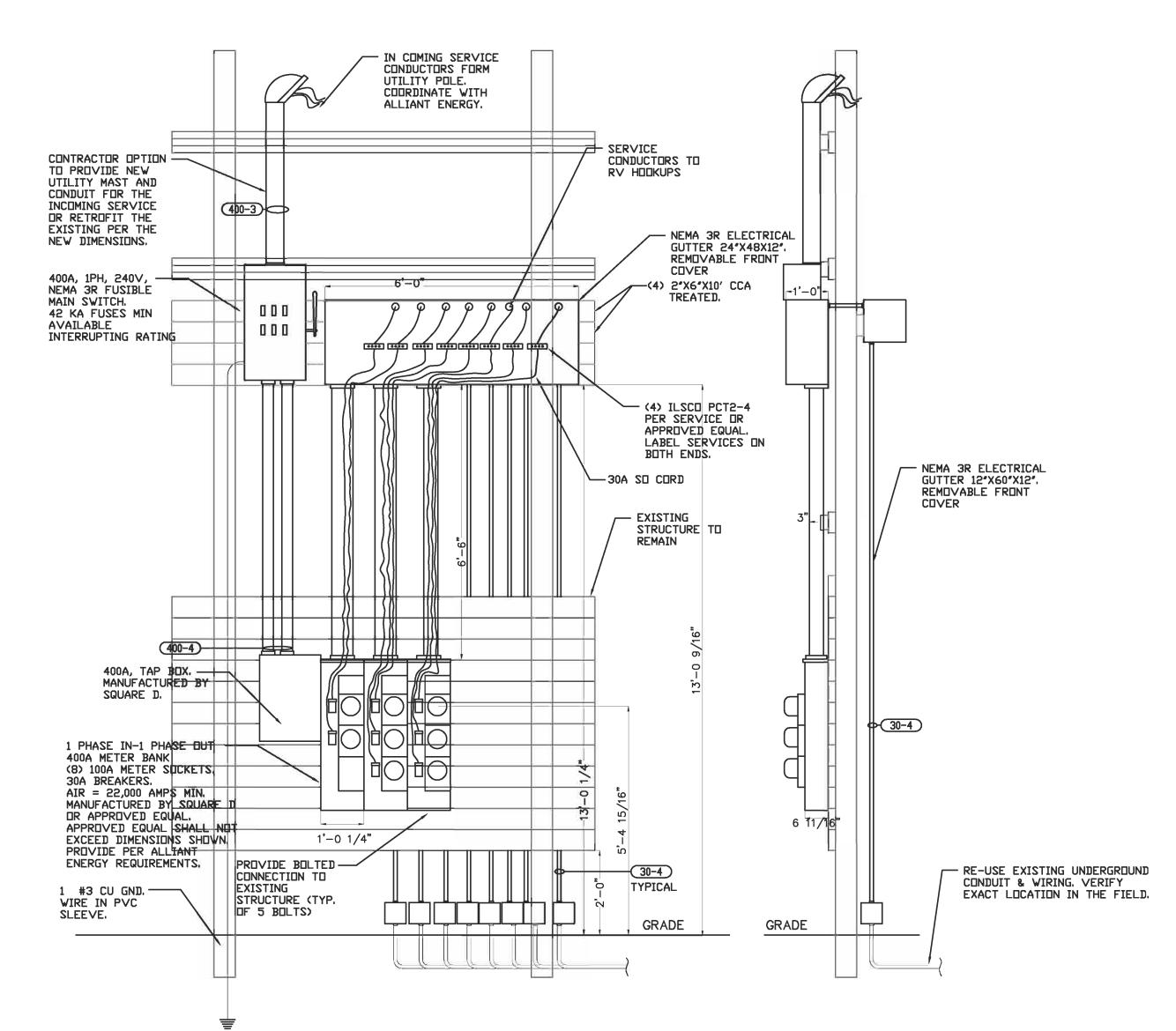
ELECTRICAL-DETAILS

SHEET:

E04

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FRONT VIEW SIDE VIEW



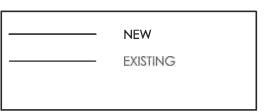
NEW (9) METER PAK - UNDERGROUND SERVICES

SCALE 1/2" = 1'-0"



EXISTING (8) METER PAK - UNDERGROUND SERVICES

SCALE : NTS



FEEDER SCHEDULE					
MARK PHASE NEUTRAL GROUND CONDUCTORS CONDUCTORS					
400-3	2 #600 MCM	1# 600 MCM		(1) 3"	
400-4	2 #3/0	1# 3/0	#2	(2) 2"	
60-4	2 #6	1# 6	#10	(1)1"	
30-4	2 #8	1# 8	#10	(1)1"	

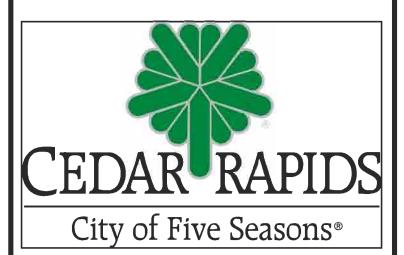
COURDINATE SERVICE
REQUIREMENTS WITH ALLIANT
ENERGY REPRESENTATIVE:

KURI KAISER
1001 SHAVERY RUAD NE
CEDAR RAPIDS, IA 52402

(T) 319-786-1908

GENERAL ELECTRICAL NOTES

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (N.E.C.) AND GOVERNING MUNICIPAL, STATE AND LOCAL CODES. ALL MATERIAL SHALL BE NEW AND SHALL BEAR THE U.L. LABEL WHERE APPLICABLE.
- 2. CONTRACTOR SHALL MAKE ALL NECESSARY, CUTTING AND DO ALL THE REPATCHING AS NECESSARY FOR THE PROPER EXECUTION OF THIS WORK.
- 3. AFTER COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS.
- 4. WHERE ELECTRICAL CONDUCTORS ARE INSTALLED IN CONDUIT, THE CONDUIT SHALL COMPLY WITH THE N.E.C. REQUIREMENTS.
- 5. ALL CONDUCTOR SHALL BE COPPER. NO CONDUCTOR SHALL BE SMALLER THAN #12 AWG AND SHALL BE RATED FOR 600VOLTS THWN INSULATION. INSTALL A GROUNDING CONDUCTOR WITH ALL CIRCUITS, UNLESS NOTED OTHERWISE, SIZED PER N.E.C.250-122.
- 6. VERIFY BREAKER AND CORRESPONDING WIRE SIZES FOR ALL ELECTRICAL EQUIPMENT. DONOT ORDER MATERIAL BEFORE VERIFYING BREAKER & WIRE SIZE, REPORT ANY DISCREPANCY IMMEDIATLY TO THE ENGINEER OF RECORD.
- 7. VERIFY AVAILABLE INTERRUPTING CURRENT(AIC) WITH POWER COMPANY.
 EQUIPMENT AIC RATING MUST BE LARGER THAN THE POWER COMPANY AIC OR
 MUST BE PROTECTED ON THE LINE SIDE WITH A CURRENT LIMITING DEVICE.
- 8. ALL EXTERIOR ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO COMPLY WITH LOCAL CODE FOR WIND RESISTANCE.
- 9. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- 10. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY THE OWNER.
- 11. LOAD DATA IS BASED ON INFORMATION GIVEN ENGINEER AT TIME OF DESIGN.
 VERIFY ALL EQUIPMENT AND PANEL SIZES BEFORE ORDERING AND BEFORE
 INSTALLATION
- 12. PROVIDE SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR.



OWNER:

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WA 3-02

ELECTRICAL-DETAILS

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E05

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