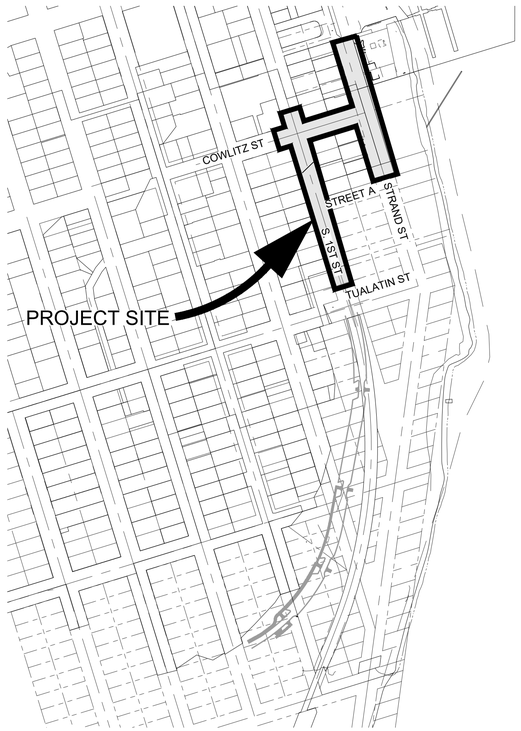
S. 1ST AND STRAND STREET

ELECTRICAL SERVICE CONNECTIONS
CITY OF ST. HELENS



PROJECT MAP
N.T.S.

VICINITY MAP
N.T.S.

OWNER

NAME:	CITY OF ST. HELENS
CONTACT:	MOUHAMAD ZAHER
ADDRESS:	265 STRAND STREET
	ST HELENS, OR 97051
PHONE:	(503) 366-8223

CIVIL ENGINEER

NAME:	OTAK INCORPORATED
CIVIL ENGINEER:	KEITH BUISMAN, P.E.
ADDRESS:	808 SW THIRD AVENUE, SUITE 800
	PORTLAND, OR 97204
PHONE:	(503) 287-6825

SURVEYOR

NAME:	OTAK INCORPORATED
CONTACT:	SUE TSOI, PLS
ADDRESS:	808 SW THIRD AVENUE, SUITE 800
	PORTLAND, OR 97204
PHONE:	(503) 287-6825

ELECTRICAL ENGINEER

NAME:	R&W ENGINEERING, INC.
CONTACT:	SAMANTHA HOLMAN
ADDRESS:	9615 SW ALLEN BLVD, SUITE 107
	BEAVERTON, OR 97005
PHONE:	(503) 292-6000

IMPORTANT NOTE TO BIDDERS

BIDS SHALL ONLY BE CONSIDERED VALID IF THE BIDDER IS LISTED ON THE CITY'S OFFICIAL PLAN HOLDER LIST. BIDDERS WHO ACQUIRE PLANS AND SPECIFICATIONS FROM A WEBSITE OR A PLAN CENTER MUST CONTACT THE CITY AT (503) 397-6272 AND REQUEST TO BE PLACED ON THE CITY'S OFFICIAL PLAN HOLDER LIST FOR A NONREFUNDABLE FEE OF TEN DOLLARS ($10.00)

LOCATES
(48 HOUR NOTICE PRIOR TO EXCAVATION)

811 Know what's below. Call before you dig.

OREGON LAW REQUIRES YOU TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES FROM THE CENTER BY CALLING (503) 246-1987

ONE CALL SYSTEM 1-800-332-2344

PUBLIC WORKS SUPERVISOR, DAVE ELDER (503) 397-3532, MUST BE NOTIFIED 48 HOURS IN ADVANCE TO COORDINATE ANY TAPS OR WATER VALVE OPERATION. THE CONTRACTOR IS NOT ALLOWED TO OPERATE ANY WATER VALVES CONTROLLING FLOW TO NEW PIPING FROM THE CITY'S POTABLE WATER SYSTEM

CITY PROJECT NUMBERS:

P-525

The City of St. Helens

Otak

Otak, Inc.
808 SW Third Avenue, Ste. 800
Portland, OR 97204
503. 287. 6825
www.otak.com

S. 1ST AND STRAND STREET
ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON
GENERAL
COVER SHEET

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

OTAK CAD — KJB
DRAWN BY — CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E0.0

If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.

Plotted: Jun 15, 2023 - 7:10am Mike Haynes L:\Projects\19800\19823\CADD\ACAD\Dwg\Utility Connection\C-19823C00.dwg Layout Name: 1

ELECTRICAL LEGEND AND ABBREVIATIONS

S/N	SOLID NEUTRAL CONNECTION
G N	GROUNDING AND NEUTRAL LUGS
GFI WP	DUPLEX RECEPTACLE–NORMAL, GROUND FAULT INTERRUPTING
	CONNECTION TO SPECIAL EQUIPMENT OR OUTLET AS SHOWN
225	TRANSFER SWITCH, CURRENT RATING SHOWN
	GENERATOR SET
5	MOTOR OUTLET, HORSEPOWER INDICATED.
30 30	DISCONNECT SWITCH, RATING SHOWN
	ELECTRICAL EQUIPMENT
	ELECTRICAL EQUIPMENT TO BE DEMO'D
VFD	VARIABLE FREQUENCY DRIVE
	LINE OR LOAD REACTOR
	CONDUIT SEAL–OFF
J	JUNCTION BOX
$WP	LIGHT SWITCH W/ WEATHERPROOF COVER
P4	HOME RUN, ELECTRICAL PANEL DESTINATION SHOWN.
	CONDUIT CONCEALED UNDERFLOOR OR UNDERGROUND.*
	CONDUIT CONCEALED IN WALL OR ABOVE CEILING IN FINISHED AREAS, EXPOSED IN PROCESS AND EQUIPMENT AREAS.*

*NOTES:

1. RUNS MARKED WITH CROSS–HATCHES INDICATE NUMBER OF NO. 12 WIRE. LARGER GAUGES ARE SHOWN OR NOTED ELSEWHERE. LONG CROSS HATCH INDICATES NEUTRAL, REVERSE SLANT INDICATES GREEN GROUND WIRE.
2. FOR UNMARKED CONDUIT RUNS, CONTRACTOR SHALL INSTALL REQUIRED NUMBER OF WIRES FOR POWER AND/OR CONTROL OF ELEMENTS IN CIRCUIT(S) SHOWN. SIZE OF WIRE SHALL BE NO. 12, UNLESS OTHERWISE NOTED OR REQUIRED BY CODE.
3. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.

	CURRENT TRANSFORMER
	TRANSFORMER
	GROUND CONNECTION PER NEC ARTICLE 250
	THERMAL MAGNETIC CIRCUIT BREAKER
15AC 400AT	MAGNETIC ONLY CIRCUIT BREAKER (MOTOR CIRCUITS ONLY) CONTINUOUS CURRENT RATING AND TRIP SETTINGS SHOWN
	NEMA RATED CONTACTOR WITH MOTOR THERMAL OVERLOAD RELAY (MOTOR STARTER)
400AT	FUSE
1	DRAWING NOTE
1	ELECTRICAL CIRCUIT IDENTIFICATION
2 1 4 3	MULTIPLE ELECTRICAL CIRCUITS, SEPARATE CONDUITS
1"C 2 1 4 3	MULTIPLE ELECTRICAL CIRCUITS, COMMON CONDUIT (SIZE SHOWN)

A	AMPERES, AMPS
AC	ALTERNATING CURRENT, AMPS CONTINUOUS
AF	AMP FRAME
AFCI	ARC–FAULT CIRCUIT INTERRUPTER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM, ALARM
AM	AMMETER
ANT	ANTENNA
ARCH	ARCHITECT
AS	AMP SWITCH
ASD	ADJUSTABLE SPEED DRIVE
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUD	AUDIOMETER BOX CONNECTION
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
BTCW	BARE TINNED COPPER WIRE
C	CONDUIT, CONTROL, CONTINUOUS
CAM	CAMERA
CAT	CATALOG
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CC	CONTROL CABLE
CCTV	CLOSED–CIRCUIT TELEVISION
CHH	COMMUNICATIONS HANDHOLE
CKT	CIRCUIT
CMH	COMMUNICATIONS MANHOLE
CNTRL, CTRL	CONTROL
CO	CONDUIT ONLY
COL	COLUMN
CONT	CONTINUOUS, CONTROL
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CU	COPPER
CV	CONTROL VAULT, CHECK VALVE
CVLS	CHECK VALVE LIMIT SWITCH
D, DISC	DISCONNECT
DC	DIRECT CURRENT
DEMO	DEMOLISH
DET	DETECTOR
DIST	DISTRIBUTION
DN	DOWN
DT	DUST–TIGHT
DWG	DRAWING
E	EMERGENCY, EMERGENCY CIRCUIT
(E), EXIST	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL, ELEV	ELEVATION, ELEVATOR
ELEC	ELECTRIC(AL)
EMER	EMERGENCY, EMERGENCY CIRCUIT
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENT	ELECTRICAL NON–METALLIC TUBING
EOL	END OF LINE
EP	EXPLOSION PROOF
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
ES, E–STOP	EMERGENCY STOP
ETM	ELAPSED TIME METER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
F	FLUSH, FUSE
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS
FC	FIRE PROTECTION CONTRACTOR
FCU	FAN COIL UNIT
FDN	FOUNDATION
FDR	FEEDER
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FMC	FLEXIBLE METALLIC CONDUIT
FNC	FLEXIBLE NON–METALLIC CONDUIT
FRE	FIBERGLASS REINFORCED EPOXY CONDUIT
FU	FUSE
FURN	FURNITURE
FVNR	FULL VOLTAGE NON–REVERSING
FVR	FULL VOLTAGE REVERSING
G, GND	GROUND
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFPE	GROUND FAULT PROTECTION EQUIPMENT
GFR	GROUND FAULT RELAY
GRC	GALVANIZED RIGID CONDUIT
GRS	GALVANIZED RIGID STEEL CONDUIT
H	HORN
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HMI	HUMAN–MACHINE INTERFACE
HOA	HAND–OFF–AUTOMATIC
HP	HORSEPOWER, HEAT PUMP
HPS	HIGH PRESSURE SODIUM
H–STAT	HUMIDISTAT
HT, HGT	HEIGHT
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HW	HOT WATER
HZ	HERTZ (CYCLE PER SECOND)
IAM	INDIVIDUAL ADDRESSABLE MODULE
IC	INTERRUPTING CAPACITY, INTERCOMMUNICATION
ID	IDENTIFICATION, INSIDE DIAMETER
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
INC	INTERMEDIATE NON–METALLIC CONDUIT, INCANDESCENT
IPS	INTERRUPTIBLE POWER SUPPLY
IR	PASSIVE INFRARED
IR, ISR	INTRINSICALLY SAFE RELAY
J, JB	JUNCTION BOX
K	KEY INTERLOCK (KIRK–KEY)
K/O	KNOCK–OUT
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
LA	LIGHTNING ARRESTER
LC	LIGHTING CONTACTOR
LDR	LOAD RELAY
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LFNC	LIQUIDTIGHT FLEXIBLE NON–METALLIC CONDUIT
LOR	LOCAL–OFF–REMOTE
LOS	LOCKOUT STOP
LP	LIGHTING PANELBOARD
LR	LIGHTING RELAY
LTG	LIGHTING
LV	LOW VOLTAGE
M	MAGNETIC CONTACTOR COIL
MAINT	MAINTAINED
MAU	MAKE–UP AIR UNIT
MAX	MAXIMUM
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MFR, MANUF	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DISCONNECT SWITCH
MS	MOTOR STARTER
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
(N)	NEW
N/A	NOT APPLICABLE
NA	NON–AUTOMATIC
NC	NORMALLY CLOSED, NON–CONTINOUS
NEC	NATIONAL ELECTRICAL CODE
NECA	NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
NEUT	NEUTRAL
NF	NON–FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NON–METALLIC
NMC	NON–METALLIC SHEATHED CABLE
NO	NORMALLY OPEN
NRTL	NATIONALLY RECOGNIZED TESTING LAB
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OHD	OVERHEAD DOOR OPERATOR
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD RELAY
OO	ON–OFF
P	POWER, POLE, PHASE, PANEL
PA	PUBLIC ADDRESS
PB	PULL BOX, PUSHBUTTON
PC	PHOTOCELL, PLUMBING SYSTEM CONTRACTOR
PE	PRIMARY ELECTRIC (SERVICE)
PFR	PHASE FAIL RELAY
PH or Ø	PHASE
PHH	POWER HANDHOLE
PIV	POST INDICATING VALVE
PMH	POWER MANHOLE
PMR	PHASE MONITOR RELAY
PNL	PANEL(BOARD)
PP	POWER PANEL
PR	PAIR
PRI	PRIMARY
PSI	PRESSURE
PT	POTENTIAL TRANSFORMER
PTT	PUSH–TO–TALK
PV	POWER VAULT, PHOTO–VOLTAIC (SOLAR CELL)
PVC	POLYVINYL CHLORIDE CONDUIT
PWR	POWER
R	RELAY
RE	REMOVE EXISTING
REC	RECESSED
RECP, RECEPT	RECEPTACLE
REF	ROOF EXHAUST FAN
RGS	RIGID GALVANIZED STEEL CONDUIT
RL	RELOCATE EXISTING
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RNC	RIGID NON–METALLIC CONDUIT
RSC	RIGID STEEL CONDUIT
RT	RAINTIGHT
RTU	ROOFTOP UNIT
RVNR	REDUCED VOLTAGE NON–REVERSING
RVR	REDUCED VOLTAGE REVERSING
S	SOLENOID, SURFACE MOUNTED
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCH	SCHEDULE
SD	SMOKE DAMPER
SE	SECONDARY ELECTRIC
SEC	SECONDARY
SIG	SIGNAL
SN, S/N	SOLID NEUTRAL
SP	SPARE
SPD	SPEED
SPKR	SPEAKER
SPL	SPLICE
SS	STAINLESS STEEL, SOLID–STATE
SSSS	SOLID–STATE SOFT STARTER
STL	CARBON STEEL
STP	SHIELDED TWISTED PAIR
SUSP	SUSPENDED
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
T, T–STAT	THERMOSTAT
TB	TERMINAL BOARD
TC	TELEPHONE CABINET, TIME CLOSING
TC	TIME CLOCK, TIME CLOSING
TCI	TELECOMMUNICATIONS CABLING INSTALLER
TCP	TEMPERATURE CONTROL PANEL
TD	THERMAL DETECTOR
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TEL/DATA	TELEPHONE/DATA
TEMP	TEMPORARY
TERM	TERMINAL(S)
TJB	TERMINAL JUNCTION BOX
TO	TIME OPENING
TO	TIME OPENING
TR	TIMER–REPEAT CYCLE
TRANS	TRANSFORMER
TSP	TWISTED SHIELDED PAIR
TSP	TWISTED SHIELD PAIR
TST	TWISTED SHIELDED TRIAD
TST	TWISTED SHIELDED TRIAD
TV	TELEVISION
TYP	TYPICAL
U	UP
UC	UNDER COUNTER, UNDERGROUND CONDUIT
UD	UP–DOWN
UG	UNDERGROUND
UH	UNIT HEATER
UOI	UNLESS OTHERWISE INDICATED
UON	UNLESS OTHERWISE NOTED
UOS	UNLESS OTHERWISE SHOWN
UPS	UNINTERRUPTIBLE POWER SOURCE
US, U/S	ULTRASONIC
UTL	UTILITY
UTP	UNSHIELDED TWISTED PAIR
UVR	UNDER VOLTAGE RELAY
V	VOLTAGE, VOLTS, VAULT
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLT METER
VP	VAPORPROOF
VSD	VARIABLE SPEED DRIVE
VT	VAPORTIGHT, VOLTAGE TRANSFORMER
W	WATT
W/	WITH
WG	WIRE GUARD
WH	WATT–HOUR, WATER HEATER
WHD	WATT–HOUR DEMAND METER
WLH	WALL HEATER
WP	WEATHERPROOF
WT	WATER, WATERTIGHT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
Y	WYE
Z	ZONE
ZAM	ZONE ADAPTER MODULE

NOTES:

1. NOT ALL ABBREVIATIONS USED. ABBREVIATIONS LISTED APPLY TO ELECTRICAL AND INSTRUMENTATION DRAWINGS AND DETAILS. SOME ABBREVIATIONS MAY BE DERIVED FROM MULTIPLE, INDIVIDUAL ONES. LIST MAY BE INCOMPLETE; SEE NOTE 2.

2. MEANING OF ABBREVIATIONS WILL DEPEND ON THE CONTEXT OF USAGE. IF MEANING IS UNCLEAR, SEEK CLARIFICATION FROM ENGINEER BEFORE BIDDING. FAILURE TO UNDERSTAND ABBREVIATIONS AND THEIR POTENTIAL FINANCIAL IMPACT ON THE CONTRACTOR SHALL NOT BE GROUNDS FOR ADDITIONAL COMPENSATION AFTER BID OPENING.

3. COMMON, NON–ELECTRICAL ABBREVIATIONS, SUCH AS COMPASS DIRECTIONS (N, S, E, W, ETC.) AND CHEMICAL COMPOUNDS (O2, CL2, ETC.), ARE NOT INCLUDED.

4. ADDITIONAL ABBREVIATIONS FOR INSTRUMENTATION AND CONTROL ELEMENTS (FLOAT SWITCHES, ETC.) ARE DERIVED FROM ANSI/ISA–S5.1, AND ARE NOT NECESSARILY LISTED HERE.

DRAWING LIST

SHEET NO.	DESCRIPTION
E0.1	ELECTRICAL LEGEND & ABBREVIATIONS
E0.2	ELECTRICAL CONSTRUCTION NOTES
E1.0	ELECTRICAL SERVICE U/G – OVERALL SITE PLAN
E1.1	ELECTRICAL SERVICE U/G – PARTIAL SITE PLAN 1
E1.2	ELECTRICAL SERVICE U/G – PARTIAL SITE PLAN 2
E1.3	ELECTRICAL SERVICE U/G – PARTIAL SITE PLAN 3
E1.4	ELECTRICAL SERVICE U/G – PARTIAL SITE PLAN 4
E1.5	ELECTRICAL SERVICE U/G – PARTIAL SITE PLAN 5
E2.0	ELECTRICAL SERVICE U/G – ELEVATIONS/DETAILS
E2.1	ELECTRICAL SERVICE U/G – ELEVATIONS/DETAILS
E2.2	ELECTRICAL SERVICE U/G – ELEVATIONS/DETAILS
E2.3	ELECTRICAL SERVICE U/G – ELEVATIONS/DETAILS

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
Suite 107
Beaverton, Oregon 97005
Phone: (503) 726-3328
Office: (503) 292-6000
E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

The City of St. Helens
ESTABLISHED 1850

REGISTERED PROFESSIONAL ENGINEER
18533
DIGITALLY SIGNED
OREGON
JULY 10, 1998
JEFFREY L. HOWARD
EXPIRES 6/30/25
2023.06.30 11:42:56-07'00'

Otak
Otak, Inc.
808 SW Third Avenue, Ste. 800
Portland, OR 97204
503. 287. 6825
www.otak.com

S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON

ELECTRICAL LEGEND & ABBREVIATIONS

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W DRAWN BY | JLH CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E0.1

If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.

Plotted: Jun 30, 2023 - 8:19am mminnick W:\WE\292_Otak\0027 St Helens UG\0001 Elec\DWG\EO-1.dwg Layout Name: Layout1

GENERAL PROJECT REQUIREMENTS:

1. THE CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY, AND ANY AND ALL OTHER ITEMS NECESSARY TO COMPLETE THE WORK.

2. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE CURRENT AND APPLICABLE REGULATIONS, SPECIFICATIONS, CODES, AND REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRICAL SAFETY CODE (NESC), THE OREGON ELECTRICAL SPECIALTY CODE (OESC), THE OREGON STRUCTURAL SPECIALTY CODE (OSSC), THE CITY OF ST. HELENS, AND THE MOST CURRENT VERSION OF THE OREGON STANDARD SPECIFICATION FOR CONSTRUCTION, AS APPLICABLE.

3. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE PLANS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND AS NECESSARY TO PROVIDE A COMPLETED PROJECT.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS, ALL REQUIRED PERMITS AND LICENSES, AND PAY ALL REQUIRED FEES PRIOR TO COMMENCING WORK ON THIS PROJECT.

5. THE CONTRACTOR SHALL KEEP A COPY OF ALL REQUIRED PERMITS AND AN APPROVED SET OF PLANS WITH ALL APPROVED REVISIONS ON THE PROJECT SITE AT ALL TIMES.

6. THE EXISTING AND APPROXIMATE LOCATION OF KNOWN UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE DRAWINGS WERE DETERMINED BY A SEARCH OF AVAILABLE PUBLIC RECORDS AND AS-BUILTS. THE LOCATIONS AND DEPTHS OF THESE UTILITIES ARE FROM THESE RECORDS AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. NO RESPONSIBILITY IS ASSUMED BY EITHER THE CITY OR THE ENGINEER FOR ACCURACY OR COMPLETENESS OF THESE LOCATIONS.

7. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THIS SITE AND IN ADJACENT STREETS. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THIS DRAWING, SHALL BE REPAIRED / REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE UTILITY OWNER. EXISTING SURFACE FEATURES AND FENCING DAMAGED BY CONTRACTOR SHALL BE REPLACED IN KIND TO THE SATISFACTION OF THE CITY.

8. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES LOCATED PRIOR TO STARTING ANY WORK.

9. ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 52-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER.

10. THE CONTRACTOR SHALL NOTIFY ALL COMPANIES AND AGENCIES WITH UNDERGROUND FACILITIES IN THE PROJECT AREA 24 HOURS BEFORE COMMENCING CONSTRUCTION IN THEIR VICINITY.

11. ALL WORK SHALL BE COORDINATED WITH COLUMBIA RIVER PUD (CRPUD), THE GENERAL CONTRACTOR, AND OTHER TRADES INVOLVED IN THE CONSTRUCTION PROJECT. COORDINATE WORK UNDER THIS CONTRACT WITH OTHER WORK ON THE PROJECT, INCLUDING WORK UNDER A SEPARATE CONTRACT.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF UTILITY TRENCHES, CONDUIT, VAULTS, AND UTILITY TRENCH BACKFILL IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND PLANS OF CRPUD. CONTRACTOR SHALL COORDINATE WITH OTHER UTILITIES, AS MAY BE REQUIRED.

13. PROPERTY AND RIGHT-OF-WAY LINES SHOWN ARE FOR REFERENCE ONLY. THESE PLANS ARE NOT MEANT TO SERVE BOUNDARY SURVEY PURPOSES.

14. ANY CONSTRUCTION OBSERVATION BY CITY OF ST. HELENS, OR THE ENGINEER, SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND REGULATORY AGENCY REQUIREMENTS.

15. APPROVED EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH REGULATORY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT, AND PERSONNEL NECESSARY TO MAINTAIN SUCH EROSION PROTECTION MEASURES. ANY DAMAGE CAUSED BY EROSION SHALL BE CORRECTED BY THE CONTRACTOR AT ONCE.

16. THE CONTRACTOR SHALL MAINTAIN AND COORDINATE ACCESS TO ALL AFFECTED PROPERTIES. THE CONTRACTOR SHALL MAINTAIN AND COORDINATE ACCESS FOR GARBAGE SERVICES AND OTHER UTILITIES.

17. ALL OPEN CUTTING OF EXISTING STREETS SHALL BE PATCHED WITH A.C., COLD (TEMPORARY) OR HOT MIX, AT THE CLOSE OF EACH WORK DAY. TRENCHES SHALL NOT BE LEFT OPEN OVERNIGHT.

18. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND COORDINATE THE REMOVAL AND/OR ABANDONMENT OF EXISTING UTILITIES IF THEY ARE TO REMAIN.

GENERAL PROJECT REQUIRMENTS (CONT.):

19. ALL SURVEY MONUMENTS ON THE SUBJECT SITE, OR THAT MAY BE SUBJECT TO DISTURBANCE WITHIN THE CONSTRUCTION AREA, OR THE CONSTRUCTION OF ANY OFF-SITE IMPROVEMENTS SHALL BE ADEQUATELY REFERENCED AND PROTECTED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. IF THE SURVEY MONUMENTS ARE DISTURBED, MOVED, RELOCATED, OR DESTROYED AS A RESULT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL, AT ITS COST, RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF OREGON TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY OREGON STATE LAW. A COPY OF ANY RECORDED SURVEY SHALL BE SUBMITTED TO CITY STAFF.

20. NO UNDERGROUND WORK SHALL BE BURIED UNTIL INSPECTED AND APPROVED BY THE CITY CONSTRUCTION INSPECTOR.

21. DRAWINGS ARE DIAGRAMMATIC ONLY. THE CONTRACTOR MAY NEED TO MAKE FIELD ADJUSTMENTS TO ACCOMMODATE ACTUAL FIELD CONDITIONS.

22. CONTRACTOR SHALL FURNISH ALL NECESSARY SCAFFOLDING, STAGING, RIGGING, AND HOISTING REQUIRED FOR THE COMPLETION OF THE WORK.

23. ELECTRICAL CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING A BID SO AS TO BE THOROUGHLY FAMILIAR WITH THE JOB CONDITIONS AND/OR PECULIARITIES. NO EXTRA PAYMENT WILL BE ALLOWED FOR ANYTHING WHICH COULD HAVE BEEN ANTICIPATED FROM A VISIT TO THE SITE.

24. FOR CONDUITS OTHER THAN SERVICE CONDUITS, A GREEN INSULATED COPPER GROUND WIRE, SIZED PER NEC, SHALL BE INSTALLED IN ALL NON-METALLIC CONDUIT, ELECTRIC METALLIC TUBING USED FOR FEEDERS, FLEXIBLE CONDUIT, AND AS OTHERWISE NOTED ON THE DRAWINGS.

25. MAKE ALL NECESSARY TESTS TO INSURE THAT THE ENTIRE INSTALLATION IS FREE FROM IMPROPER GROUNDS AND FROM SHORTED AND/OR OPEN CIRCUITS. VOLTAGE, CURRENT, AND ROTATION TESTS SHALL BE MADE BEFORE ANY MOTORS ARE PLACED IN OPERATION.

26. VERIFY COMPLETE ELECTRICAL SERVICE INSTALLATION WITH POWER COMPANY BEFORE COMMENCING ANY WORK. THE CONTRACTOR SHALL CONTACT THE POWER COMPANY AND VERIFY THE AVAILABLE FAULT CURRENT AND MODIFY A.I.C. RATINGS AS REQUIRED. MAKE APPLICATION WITH ELECTRICAL UTILITY COMPANY FOR ELECTRIC SERVICE IN A MANNER TO PERMIT UTILITY COMPANY TO PROVIDE SERVICE PRIOR TO COMPLETION OF WORK UNDER THIS CONTRACT. COMPLETE AND FILE ALL FORMS REQUIRED BY THE ELECTRIC UTILITY COMPANY IN CONNECTION WITH APPLICATION FOR ELECTRIC SERVICE. PAY FOR ALL REQUIRED LICENSES, PERMITS, FEES, ETC. NECESSARY TO OBTAIN ELECTRIC SERVICE.

27. PROVIDE ALL TRENCHING AND BACKFILLING REQUIRED FOR INSTALLATION OF ELECTRICAL SERVICE. VERIFY SIZE AND ROUTING OF ALL TRENCHES WITH UTILITY COMPANY PRIOR TO START OF CONSTRUCTION. PROVIDE CONDUITS UNDER PAVED AREAS FOR USE OF UTILITY COMPANY WHERE REQUIRED. VERIFY SIZE AND LOCATION OF CONDUITS WITH UTILITY COMPANY PRIOR TO START OF CONSTRUCTION.

28. ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF THE UTILITIES.

29. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ELECTRICAL PERMIT, MAKING ALL FINAL UTILITY CONNECTIONS, AND COORDINATING AND OBTAINING ELECTRICAL INSPECTION.

30. DAMAGE TO EXISTING FACILITIES AS A RESULT OF CONTRACTOR ACTIVITIES WILL BE REPAIRED OR REPLACED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR AT HIS OWN COST.

31. ALL WORK SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER TRADES IN THE CONSTRUCTION PROJECT.

GENERAL TRENCHING REQUIREMENTS:

1. EXCAVATE SUBSOIL AS REQUIRED FOR CONSTRUCTION OF UTILITY TRENCHES TO DEPTH(S) SHOWN IN THE DRAWINGS.

2. DO NOT ADVANCE OPEN TRENCH BEYOND THE DISTANCE WHICH WILL BE BACKFILLED AND COMPACTED THE SAME DAY.

3. A MAXIMUM LENGTH OF OPEN TRENCH SHALL NOT EXCEED 100 FEET AT ANY ONE TIME.

4. TEMPORARY RESURFACING SHALL BE COMPLETED WITHIN 300 FEET OF THE ASSOCIATED OPEN TRENCH LIMIT FOR EACH LAYING OPERATION.

5. COVER OR BACKFILL EXCAVATIONS AT THE END OF EACH DAY.

6. UTILITY CROSSINGS: AVOID HORIZONTAL AND VERTICAL CONFLICTS WITH EXISTING UTILITIES.

7. CLEARANCE BETWEEN THE NEW CONDUIT AND EXISTING UTILITIES SHALL BE 12 INCHES, MINIMUM, UNLESS OTHERWISE ALLOWED BY CRPUD.

GENERAL TRENCHING REQUIREMENTS (CONT.):

8. WHERE EXISTING UTILITY LINES ARE DAMAGED OR BROKEN DURING TRENCHING ACTIVITIES, THE UTILITY SHALL BE REPAIRED OR REPLACED. ALL EXPENSES INVOLVED IN THE REPAIR OR REPLACEMENT OF BROKEN UTILITY LINES THAT HAVE OCCURRED DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE BORNE BY THE CONTRACTOR, AND THE AMOUNT THEREOF SHALL BE ABSORBED IN ITS BID.

9. EXCAVATE TRENCHES TO WIDTH AND DEPTH AS INDICATED ON DRAWINGS. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TRENCHING ACTIVITIES BEYOND DIMENSIONS SHOWN IN THE DRAWINGS.

10. IF OVER DIGGING OCCURS, THE TRENCH BOTTOM SHALL BE FILLED TO GRADE WITH COMPACTED BEDDING MATERIAL AT NO ADDITIONAL EXPENSE TO THE CITY.

11. DO NOT INTERFERE WITH 45 DEGREE BEARING SPLAY OF FOUNDATIONS.

GENERAL BACKFILLING REQUIREMENTS:

1. SYSTEMATICALLY BACKFILL TO ALLOW MAXIMUM TIME FOR NATURAL SETTLEMENT. DO NOT BACKFILL OVER POROUS, WET, FROZEN, OR SPONGY SUBGRADE SURFACES.

2. MAINTAIN OPTIMUM MOISTURE CONTENT OF FILL MATERIALS TO ATTAIN REQUIRED COMPACTION DENSITY.

3. EMPLOY PLACEMENT METHOD THAT DOES NOT DISTURB OR DAMAGE NEARBY OR ADJACENT FOUNDATION PERIMETER DRAINAGE OR UTILITIES IN TRENCH.

4. BACKFILL IMMEDIATELY: ALL TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED IMMEDIATELY AFTER CONDUIT IS IN APPROVED CONDITION TO RECEIVE IT AND SHALL BE CARRIED TO COMPLETION AS RAPIDLY AS POSSIBLE, UNLESS OTHERWISE DIRECTED BY CRPUD.

5. UNDER NO CIRCUMSTANCES SHALL WATER BE PERMITTED TO RISE IN OPEN TRENCHES AFTER CONDUIT HAS BEEN PLACED.

6. DO NOT ALLOW BACKFILL MATERIAL TO FREE FALL INTO THE TRENCH OR ALLOW HEAVY, SHARP PIECES OF MATERIAL TO BE PLACED AS BACKFILL UNTIL AFTER AT LEAST 2 FEET OF BACKFILL HAS BEEN PROVIDED OVER THE TOP OF CONDUIT.

7. USE HAND COMPACTORS FOR COMPACTION UNTIL AT LEAST 2 FEET OF BACKFILL IS PLACED OVER TOP OF CONDUIT. THOROUGHLY TAMP EACH LIFT, INCLUDING AREA UNDER HAUNCHES, WITH HANDHELD TAMPING BARS SUPPLEMENTED BY "WALKING IN" AND SLICING MATERIAL UNDER HAUNCHES WITH A SHOVEL TO ENSURE THAT VOIDS ARE COMPLETELY FILLED BEFORE PLACING EACH SUCCEEDING LIFT.

8. RESTORATION: CLEAN UP AND REMOVE ALL EXCESS MATERIALS, CONSTRUCTION MATERIALS, DEBRIS FROM CONSTRUCTION, ETC. REPLACE OR REPAIR ANY FENCES, MAILBOXES, SIGNS, LANDSCAPING, OR OTHER FACILITIES REMOVED OR DAMAGED DURING CONSTRUCTION. REPLACE ALL LAWNS, TOPSOIL, SHRUBBERY, FLOWERS, ETC., DAMAGED OR REMOVED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT LAWNS, SHRUBS, ETC. REMAIN ALIVE AND LEAVE PREMISES IN CONDITION EQUAL TO ORIGINAL CONDITION BEFORE CONSTRUCTION.

GENERAL ELECTRIC REQUIREMENTS:

1. COORDINATE ALL ELECTRICAL SERVICE REQUIREMENTS AND INSTALLATIONS WITH COLUMBIA RIVER PUD (CRPUD).

2. CONFORM TO CURRENT CODES INCLUDING NEC, NESC, OESC, BUILDING CODE, AND LOCAL REQUIREMENTS, AS REQUIRED.

3. PROVIDE COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEMS AS SPECIFIED, AS SHOWN ON DRAWINGS, AS REQUIRED, AND AS INTENDED.

4. PROVIDE NEW MATERIALS AND/OR EQUIPMENT THROUGH AUTHORIZED DISTRIBUTORS. PROVIDE EQUIPMENT OF SAME SYSTEM AND TYPE BY SAME MANUFACTURER. EQUIPMENT SHALL BE LISTED FOR ITS USE AND SHALL MEET OREGON LISTING REQUIREMENTS.

5. WARRANT WORK, MATERIALS, AND EQUIPMENT FOR NOT LESS THAN ONE-YEAR. THIS REQUIREMENT SHALL NOT LIMIT, RESTRICT, OR OTHERWISE LESSEN ANY WARRANTY PROVIDED BY EQUIPMENT MANUFACTURER'S STANDARD WARRANTY IF GREATER THAN 1-YEAR.

6. PROVIDE SUBMITTALS FOR ELECTRICAL EQUIPMENT. PROVIDE STANDARD CUT-SHEETS CLEARLY INDICATING MODELS TO BE INSTALLED.

7. WHERE REQUIRED, GROUND SYSTEMS PER NEC, AS INDICATED, AND AS SHOWN.

GENERAL ELECTRICAL REQUIREMENTS (CONT.):

8. CONTRACTORS WILL BE REQUIRED TO ATTEND A PRECONSTRUCTION MEETING WITH THE CITY, PROJECT MANAGER AND ELECTRICAL SUPERVISOR OR DESIGNEES TO DISCUSS THE HAZARDS AND SAFE WORK PROCEDURES FOR ALL ELECTRICAL WORK TO BE PERFORMED ON THE PROJECT.

9. ELECTRICAL WORK SHALL BE PERFORMED UNDER ELECTRICALLY SAFE WORK CONDITIONS WITH LOCK-OUT TAG-OUT PER NFPA 70E. KEEP POWER DISRUPTIONS TO A MINIMUM AND NOTIFY OWNER A MINIMUM OF 24-HOURS IN ADVANCE OF POWER DISRUPTIONS.

10. CALL U-DIG 811 AT LEAST 2-BUSINESS DAYS BEFORE DIGGING OR TRENCHING PER OAR 952-001-0010 THROUGH -0090. SCAN & MARK SUGGESTED ROUTING FOR UTILITIES & IRRIGATION PRIOR TO TRENCHING ACTIVITIES; DO NOT DISTURB UTILITIES OR PIPING, AVOID CONFLICTS. WHERE FEASIBLE, MARK THE ANTICIPATED ROUTE(S) WITH WHITE PAINT; THIS HELPS LOCATING PERSONNEL FIND THE RIGHT AREA AND LOCATE NEARBY FACILITIES AS ACCURATELY AS POSSIBLE.

GENERAL CONDUCTOR/CABLE REQUIREMENTS:

1. EXCEPT AS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL SERVICE CONDUCTORS/CABLE WILL BE PROVIDED AND INSTALLED BY CRPUD. WHERE SHOWN, CONTRACTOR SHALL PROVIDE AND INSTALL SERVICE CONDUCTORS/CABLES IN COMPLIANCE WITH CRPUD REQUIREMENTS.

2. ALL CONTRACTOR PROVIDED CONDUCTORS/CABLES SHALL BE STRANDED COPPER, INCLUDING ALL GROUNDING/BONDING CONDUCTORS. WHERE ALLOWED BY CRPUD, CONTRACTOR MAY PROVIDE AND INSTALL ALUMINUM CONDUCTORS/CABLES.

3. ALL CONDUCTOR/CABLE SIZES SHOWN ARE BASED ON COPPER. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PROPERLY SIZED ALUMINUM CONDUCTORS/CABLES FOR OPTIONAL ALUMINUM SERVICE CONDUCTORS/CABLES INSTALLED BY CONTRACTOR.

4. DO NOT INSTALL EQUIPMENT GROUNDING CONDUCTORS (ECG'S) IN SERVICE CONDUITS/RACEWAYS, UNLESS SPECIFICALLY DIRECTED BY CRPUD.

5. ALL UTILIZED, NON-SERVICE CONDUITS AND CONDUCTORS SHALL INCLUDE A SEPARATE EGC.

6. ALL "SPARE" CONDUITS SHALL INCLUDE PULL TAPE. ALL UNDERGROUND SPARE CONDUITS SHALL ALSO INCLUDE A TRACER CONDUCTOR.

GENERAL CONDUIT/RACEWAY REQUIREMENTS:

1. ALL UNDERGROUND RACEWAY SHALL BE SCHEDULE 40 PVC, TYPE B (EPEC-B) SDR 13.5 HDPE, OR FIBERGLASS. ALL UNDERGROUND SERVICE CONDUIT SHALL CONFORM TO THE REQUIREMENTS OF CRPUD.

2. ALL ABOVE GROUND CONDUIT SHALL BE RIGID GALVANIZED STEEL, UNLESS SPECIFICALLY DIRECTED OTHERWISE.

3. SERVICE CONDUIT SHALL NOT BE SMALLER THAN 3-IN, UNLESS SPECIFICALLY ALLOWED BY CRPUD. PROVIDE 4-IN SERVICE CONDUIT WHERE INDICATED OR SHOWN.

4. ALL SERVICE CONDUIT ELBOWS SHALL BE LONG SWEEP, FACTORY MADE, UNLESS SPECIFICALLY ALLOWED BY CRPUD.

5. UNDERGROUND CONDUIT SHALL NOT BE SMALLER THAN 1-IN.

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
Suite 107
Beaverton, Oregon 97005
Phone: (503) 726-3328
Office: (503) 292-6000
E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

The City of St. Helens
ESTABLISHED 1850

REGISTERED PROFESSIONAL ENGINEER
18533
DIGITALLY SIGNED
OREGON
JULY 10, 1998
JEFFREY L. HOWARD
EXPIRES 6/30/25
2023.06.30 11:43:06-07'00'

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www.otak.com

S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL CONSTRUCTION NOTES

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W
DRAWN BY

JLH
CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

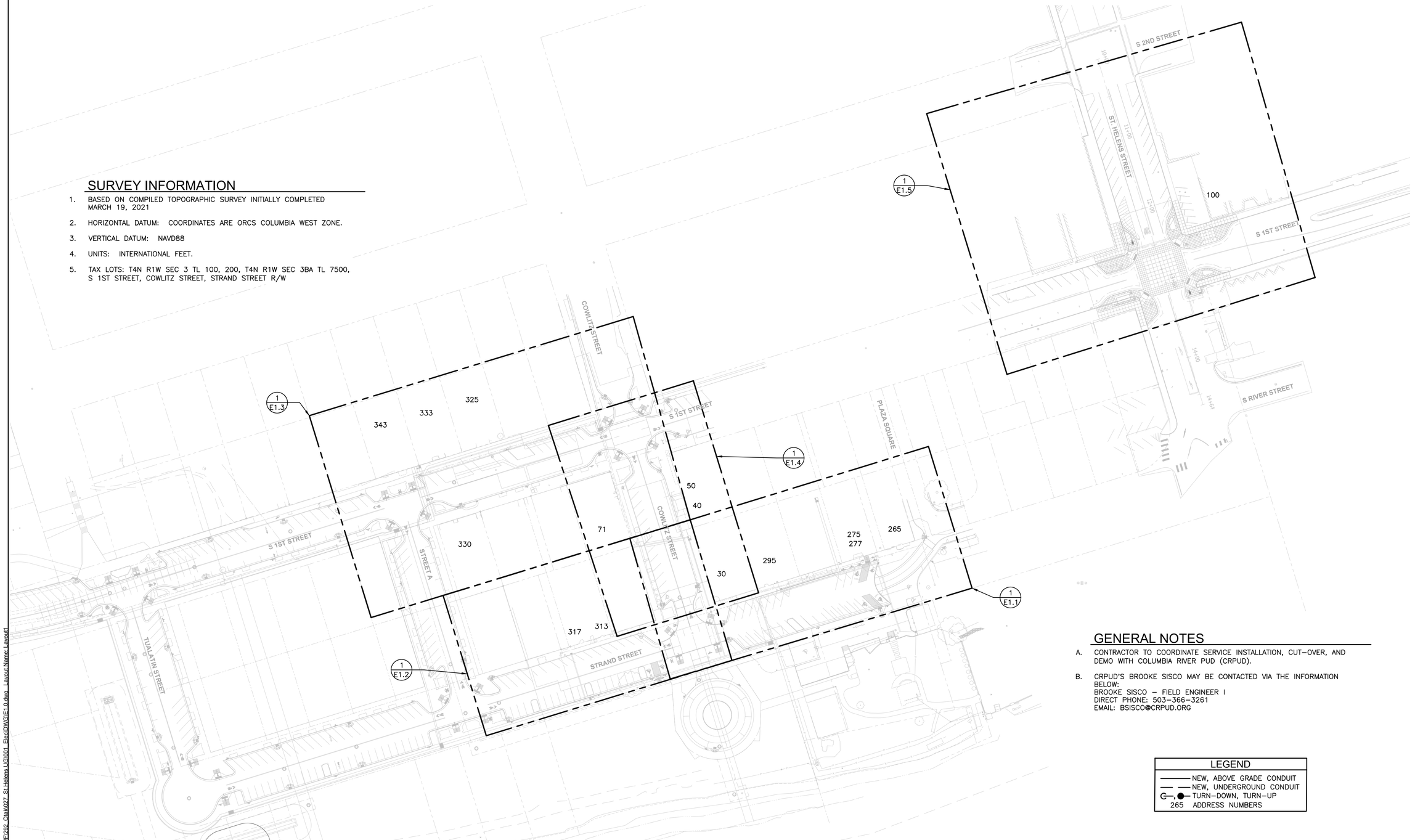
E0.2

If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.

Plotted: Jun 30, 2023 - 8:28am jminnick W:\WE\292_Otak\027_St Helens UG\001_Elec\DWG\E0.2.dwg Layout Name: Layout1

SURVEY INFORMATION

1. BASED ON COMPILED TOPOGRAPHIC SURVEY INITIALLY COMPLETED MARCH 19, 2021
2. HORIZONTAL DATUM: COORDINATES ARE ORCS COLUMBIA WEST ZONE.
3. VERTICAL DATUM: NAVD88
4. UNITS: INTERNATIONAL FEET.
5. TAX LOTS: T4N R1W SEC 3 TL 100, 200, T4N R1W SEC 3BA TL 7500, S 1ST STREET, COWLITZ STREET, STRAND STREET R/W



1 E1.0 OVERALL SITE PLAN - ELECTRICAL
SCALE: 1" = 60'-0"

GENERAL NOTES

A. CONTRACTOR TO COORDINATE SERVICE INSTALLATION, CUT-OVER, AND DEMO WITH COLUMBIA RIVER PUD (CRPUD).

B. CRPUD'S BROOKE SISCO MAY BE CONTACTED VIA THE INFORMATION BELOW:
BROOKE SISCO - FIELD ENGINEER I
DIRECT PHONE: 503-366-3261
EMAIL: BSISCO@CRPUD.ORG

LEGEND

———	NEW, ABOVE GRADE CONDUIT
— —	NEW, UNDERGROUND CONDUIT
G—●—	TURN-DOWN, TURN-UP
265	ADDRESS NUMBERS

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
Suite 107
Beaverton, Oregon 97005
Phone: (503) 726-3328
Office: (503) 292-6000
E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

The City of St. Helens

REGISTERED PROFESSIONAL ENGINEER
18533
DIGITALLY SIGNED
OREGON
JULY 10, 1998
JEFFREY L. HOWARD
EXPIRES 6/30/25
2023.06.30 11:43:13-07'00'

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808 SW Third Avenue, Ste. 800
Portland, OR 97204
503. 287. 6825
www.otak.com

S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - OVERALL SITE PLAN

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — DRAWN BY
JLH — CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E1.0

Plotted: Jun 30, 2023 - 8:21am jmannick W:\WE292_Otak\027_St Helens UG\001_Elec\DWG\E1.0.dwg Layout Name: Layout1

NOTES THIS SHEET

1. THREE SERVICES. TWO WITH (1) 3–IN CONDUIT EACH, AND ONE WITH (2) 4–IN CONDUITS.
2. INSTALL (2) 4–IN CONDUITS FROM EXIST. CT CAN BACK TO SERVING CRPUD XFMR.
3. INSTALL (1) 3–IN CONDUIT FROM EXIST. METER BASE (OR METER/PANEL) BACK TO SERVING CRPUD XFMR.
4. NEW 3–IN SERVICE MAST AND CONDUIT. INSTALL CONDUIT BACK TO SERVING CRPUD XFMR.
5. CRPUD TRENCHES, VAULTS, AND XFMR'S SHOWN ARE PROVIDED AND INSTALLED BY OTHERS UNDER SEPARATE CONTRACT. THIS CONTRACTOR TO COORDINATE WITH OTHER CONTRACT WORK TO ENSURE ALL SERVICE CONDUITS PROVIDED AND INSTALLED UNDER THIS CONTRACT ARE INSTALLED ALL THE WAY BACK TO SERVING CRPUD XFMR VIA THE CRPUD TRANCHES AND/OR CRPUD VAULTS INSTALLED UNDER THE OTHER CONTRACT, AS REQUIRED TO PROVIDE ELECTRIC SERVICES. THIS CONTRACTOR PROVIDES ALL REQUIRED SERVICE CONDUITS UNDER THIS CONTRACT.

GENERAL NOTES

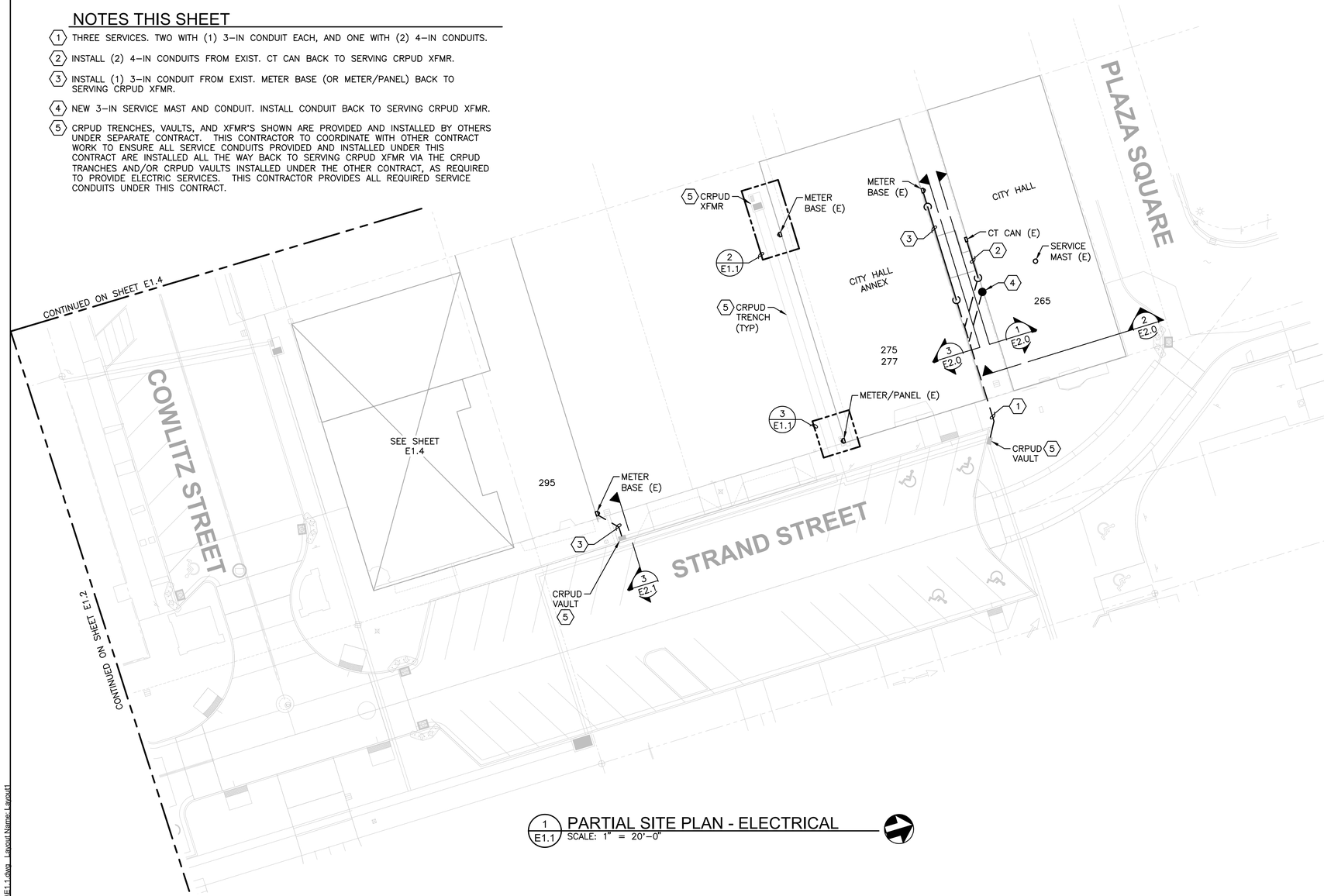
A. CONTRACTOR TO COORDINATE SERVICE INSTALLATION, CUT–OVER, AND DEMO WITH COLUMBIA RIVER PUD (CRPUD).

B. ALL NEW SERVICE CONDUITS TO BE 3–IN, UNLESS OTHERWISE INDICATED.

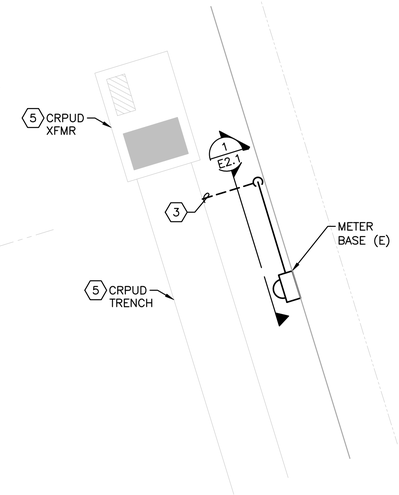
C. CONTRACTOR TO PROVIDE TRENCHING FROM CRPUD VAULTS OR TRENCHES TO BUILDING WALLS WHERE SERVICE CONDUIT TRANSITIONS TO ABOVE GRADE. PROVIDE BACKFILL AND COVER AFTER INSTALLATION OF CONDUIT(S).

D. SERVICE CONDUITS PROVIDED UNDER THIS CONTRACT ARE NOT SHOWN IN THE CRPUD TRENCHES, FOR CLARITY. CONTRACTOR TO COORDINATE WITH WORK UNDER OTHER CONTRACT TO ENSURE REQUIRED SERVICE CONDUITS ARE INSTALLED, AS REQUIRED.

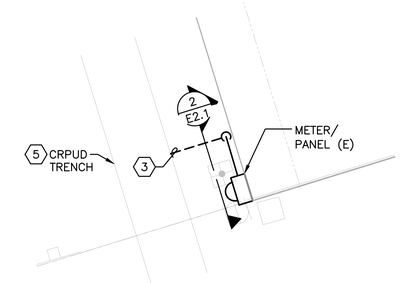
E. SEE DETAIL 4, SHEET E2.3 FOR PRIVATE TRENCH SECTION AND TRENCHING REQUIREMENTS.



1 E1.1 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1" = 20'–0"



2 E1.1 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1/4" = 1'–0"



3 E1.1 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1/4" = 1'–0"

LEGEND

———	NEW, ABOVE GRADE CONDUIT
— —	NEW, UNDERGROUND CONDUIT
⊂—, ●—	TURN–DOWN, TURN–UP
265	ADDRESS NUMBERS

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
Suite 107
Beaverton, Oregon 97005
Phone: (503) 726-3328
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E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

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OREGON
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JEFFREY L HOWARD
EXPIRES 6/30/25
2023.06.30 11:43:22-07'00'

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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - PARTIAL SITE PLAN 1

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — JLH
DRAWN BY — CHECKED BY

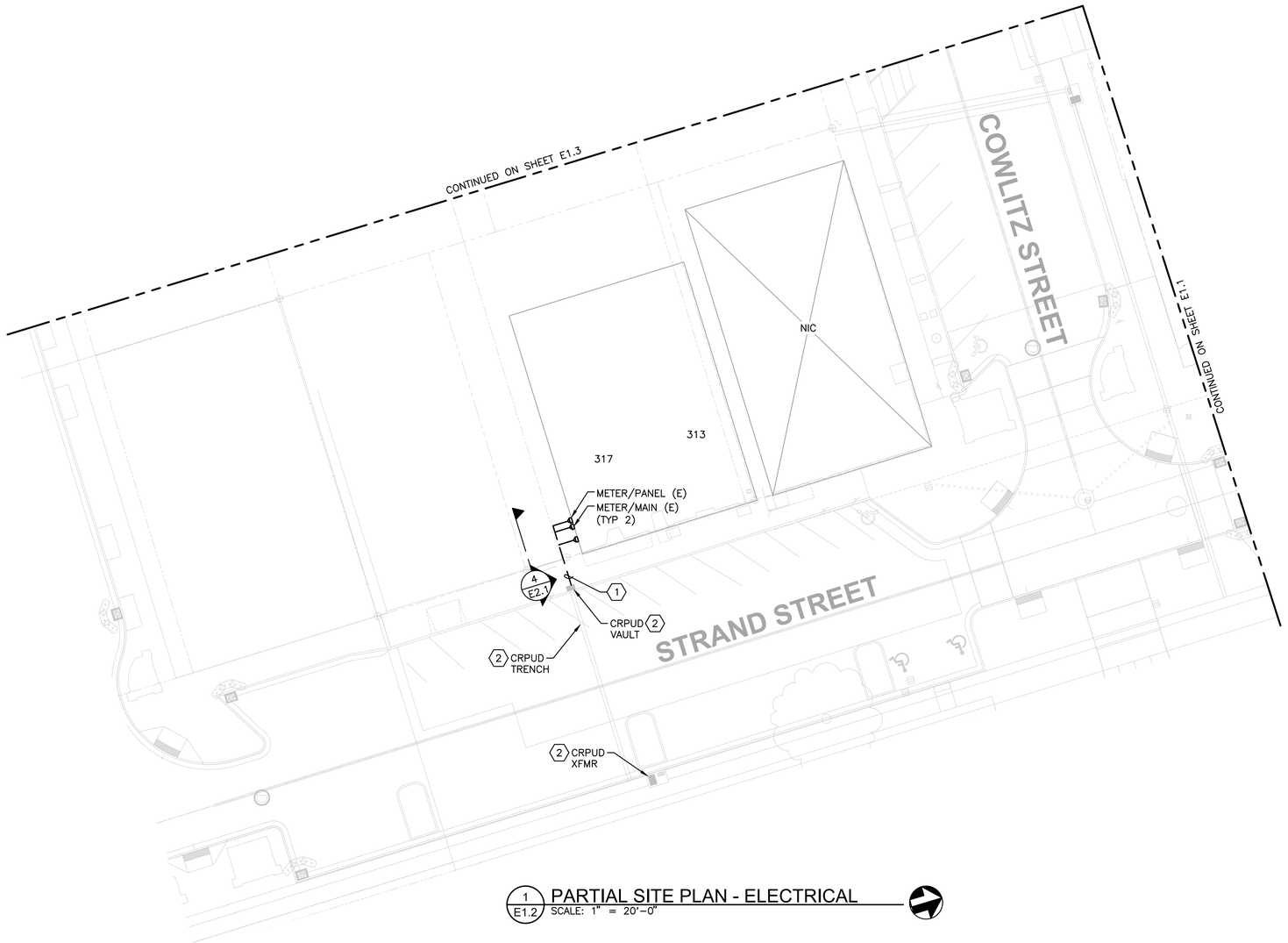
BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E1.1

Plotted: Jun 30, 2023 - 8:21am imminick W:\WE292_Otak\027_St Helens UG\001_Elec\DWG\E1.1.dwg Layout Name: Layout1



1 / E1.2 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1" = 20'-0"

GENERAL NOTES

A. CONTRACTOR TO COORDINATE SERVICE INSTALLATION, CUT-OVER, AND DEMO WITH COLUMBIA RIVER PUD (CRPUD).

B. ALL NEW SERVICE CONDUITS TO BE 3-IN, UNLESS OTHERWISE INDICATED.

C. CONTRACTOR TO PROVIDE TRENCHING FROM CRPUD VAULTS OR TRENCHES TO BUILDING WALLS WHERE SERVICE CONDUIT TRANSITIONS TO ABOVE GRADE. PROVIDE BACKFILL AND COVER AFTER INSTALLATION OF CONDUIT(S).

D. SERVICE CONDUITS PROVIDED UNDER THIS CONTRACT ARE NOT SHOWN IN THE CRPUD TRENCHES, FOR CLARITY. CONTRACTOR TO COORDINATE WITH WORK UNDER OTHER CONTRACT TO ENSURE REQUIRED SERVICE CONDUITS ARE INSTALLED, AS REQUIRED.

E. SEE DETAIL 4, SHEET E2.3 FOR PRIVATE TRENCH SECTION AND TRENCHING REQUIREMENTS.

NOTES THIS SHEET

(1) THREE SERVICES, EACH WITH (1) 3-IN CONDUIT (THREE, 3-IN CONDUITS LEAVING VAULT IN TOTAL). INSTALL CONDUITS FROM RESPECTIVE METER/MAIN (OR METER/PANEL) BACK TO SERVING CRPUD XFMR.

(2) CRPUD TRENCHES, VAULTS, AND XFMR'S SHOWN ARE PROVIDED AND INSTALLED BY OTHERS UNDER SEPARATE CONTRACT. THIS CONTRACTOR TO COORDINATE WITH OTHER CONTRACT WORK TO ENSURE ALL SERVICE CONDUITS PROVIDED AND INSTALLED UNDER THIS CONTRACT ARE INSTALLED ALL THE WAY BACK TO SERVING CRPUD XFMR VIA THE CRPUD TRANCHES AND/OR CRPUD VAULTS INSTALLED UNDER THE OTHER CONTRACT, AS REQUIRED TO PROVIDE ELECTRIC SERVICES. THIS CONTRACTOR PROVIDES ALL REQUIRED SERVICE CONDUITS UNDER THIS CONTRACT.

LEGEND	
———	NEW, ABOVE GRADE CONDUIT
— —	NEW, UNDERGROUND CONDUIT
G—●	TURN-DOWN, TURN-UP
265	ADDRESS NUMBERS

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E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

The City of St. Helens

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ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - PARTIAL SITE PLAN 2

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — DRAWN BY
JLH — CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E1.2

Plotted: Jun 30, 2023 - 8:22am imminick W:\WE292_Otak\027_St Helens UG\001_Elec\DWG\E1.2.dwg Layout Name: Layout1

1 E1.3 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1" = 20'-0"

GENERAL NOTES

A. CONTRACTOR TO COORDINATE SERVICE INSTALLATION, CUT-OVER, AND DEMO WITH COLUMBIA RIVER PUD (CRPUD).

B. ALL NEW SERVICE CONDUITS TO BE 3-IN, UNLESS OTHERWISE INDICATED.

C. CONTRACTOR TO PROVIDE TRENCHING FROM CRPUD VAULTS OR TRENCHES TO BUILDING WALLS WHERE SERVICE CONDUIT TRANSITIONS TO ABOVE GRADE. PROVIDE BACKFILL AND COVER AFTER INSTALLATION OF CONDUIT(S).

D. SERVICE CONDUITS PROVIDED UNDER THIS CONTRACT ARE NOT SHOWN IN THE CRPUD TRENCHES, FOR CLARITY. CONTRACTOR TO COORDINATE WITH WORK UNDER OTHER CONTRACT TO ENSURE REQUIRED SERVICE CONDUITS ARE INSTALLED, AS REQUIRED.

E. SEE DETAIL 4, SHEET E2.3 FOR PRIVATE TRENCH SECTION AND TRENCHING REQUIREMENTS.

NOTES THIS SHEET

1. INSTALL (1) 3-IN CONDUIT FROM EXIST. METER BASE BACK TO SERVING CRPUD XFMR.
2. INSTALL (1) 3-IN CONDUIT FROM NEW METER BASE BACK TO SERVING CRPUD XFMR.
3. CRPUD TRENCHES, VAULTS, AND XFMR'S SHOWN ARE PROVIDED AND INSTALLED BY OTHERS UNDER SEPARATE CONTRACT. THIS CONTRACTOR TO COORDINATE WITH OTHER CONTRACT WORK TO ENSURE ALL SERVICE CONDUITS PROVIDED AND INSTALLED UNDER THIS CONTRACT ARE INSTALLED ALL THE WAY BACK TO SERVING CRPUD XFMR VIA THE CRPUD TRANCHES AND/OR CRPUD VAULTS INSTALLED UNDER THE OTHER CONTRACT, AS REQUIRED TO PROVIDE ELECTRIC SERVICES. THIS CONTRACTOR PROVIDES ALL REQUIRED SERVICE CONDUITS UNDER THIS CONTRACT.
4. NEW FEEDER CONDUIT FROM NEW METER/MAIN TO EXISTING PANEL. COORDINATE INSTALLATION WITH OWNER. SEE SHEET E2.2 FOR ADDITIONAL INFORMATION.
5. HAND DIG AROUND TREE TO AVOID DAMAGING TREE ROOT SYSTEM.
6. TWO SERVICES, EACH WITH (1) 3-IN CONDUIT (TWO, 3-INCH CONDUITS FROM XFMR IN TOTAL, FOR THIS RUN). INSTALL CONDUITS FROM RESPECTIVE NEW METER AND METER/MAIN BACK TO SERVING CRPUD XFMR.

LEGEND	
———	NEW, ABOVE GRADE CONDUIT
— —	NEW, UNDERGROUND CONDUIT
G—●—	TURN-DOWN, TURN-UP
265	ADDRESS NUMBERS

The City of St. Helens

REGISTERED PROFESSIONAL ENGINEER
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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - PARTIAL SITE PLAN 3

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — JLH
DRAWN BY — CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E1.3

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E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

Plotted: Jun 30, 2023 - 8:22am imminick W:\WF292_Otak\027_St Helens,\IG\001_Elec\DWG\E1.3.dwg Layout Name: Layout1

1 E1.4 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1" = 20'-0"

GENERAL NOTES

A. CONTRACTOR TO COORDINATE SERVICE INSTALLATION, CUT-OVER, AND DEMO WITH COLUMBIA RIVER PUD (CRPUD).

B. ALL NEW SERVICE CONDUITS TO BE 3-IN, UNLESS OTHERWISE INDICATED.

C. CONTRACTOR TO PROVIDE TRENCHING FROM CRPUD VAULTS OR TRENCHES TO BUILDING WALLS WHERE SERVICE CONDUIT TRANSITIONS TO ABOVE GRADE. PROVIDE BACKFILL AND COVER AFTER INSTALLATION OF CONDUIT(S).

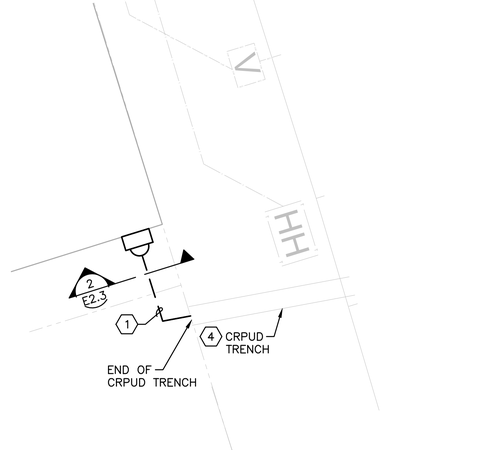
D. SERVICE CONDUITS PROVIDED UNDER THIS CONTRACT ARE NOT SHOWN IN THE CRPUD TRENCHES, FOR CLARITY. CONTRACTOR TO COORDINATE WITH WORK UNDER OTHER CONTRACT TO ENSURE REQUIRED SERVICE CONDUITS ARE INSTALLED, AS REQUIRED.

E. SEE DETAIL 4, SHEET E2.3 FOR PRIVATE TRENCH SECTION AND TRENCHING REQUIREMENTS.

NOTES THIS SHEET

1. INSTALL (1) 3-IN CONDUIT FROM EXIST. METER BASE BACK TO SERVING CRPUD XFMR.
2. INSTALL (1) 4-IN CONDUIT FROM EXISTING METER/MAIN BACK TO SERVING CRPUD XFMR.
3. INSTALL (2) 3-IN CONDUITS FROM EXISTING METER BASES BACK TO SERVING CRPUD XFMR.
4. CRPUD TRENCHES, VAULTS, AND XFMR'S SHOWN ARE PROVIDED AND INSTALLED BY OTHERS UNDER SEPARATE CONTRACT. THIS CONTRACTOR TO COORDINATE WITH OTHER CONTRACT WORK TO ENSURE ALL SERVICE CONDUITS PROVIDED AND INSTALLED UNDER THIS CONTRACT ARE INSTALLED ALL THE WAY BACK TO SERVING CRPUD XFMR VIA THE CRPUD TRANCHES AND/OR CRPUD VAULTS INSTALLED UNDER THE OTHER CONTRACT, AS REQUIRED TO PROVIDE ELECTRIC SERVICES. THIS CONTRACTOR PROVIDES ALL REQUIRED SERVICE CONDUITS UNDER THIS CONTRACT.

LEGEND	
———	NEW, ABOVE GRADE CONDUIT
— — —	NEW, UNDERGROUND CONDUIT
	TURN-DOWN, TURN-UP
265	ADDRESS NUMBERS



2 E1.4 ENLARGED PLAN - ELECTRICAL
SCALE: 1/4" = 1'-0"

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
Suite 107
Beaverton, Oregon 97005
Phone: (503) 726-3328
Office: (503) 292-6000
E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

The City of St. Helens
ESTABLISHED 1850

REGISTERED PROFESSIONAL ENGINEER
18533
DIGITALLY SIGNED
OREGON
JULY 10, 1998
JEFFREY L. HOWARD
EXPIRES 6/30/25
2023.06.30 11:43:45-07'00'

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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - PARTIAL SITE PLAN 4

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — DRAWN BY
JLH — CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E1.4

Plotted: Jun 30, 2023 - 8:23am imminick W:\WF\292_Otak\027_St Helens UG\001_Elec\DWG\E1.4.dwg Layout Name: Layout1

GENERAL NOTES

A. CONTRACTOR TO COORDINATE SERVICE INSTALLATION, CUT–OVER, AND DEMO WITH COLUMBIA RIVER PUD (CRPUD).

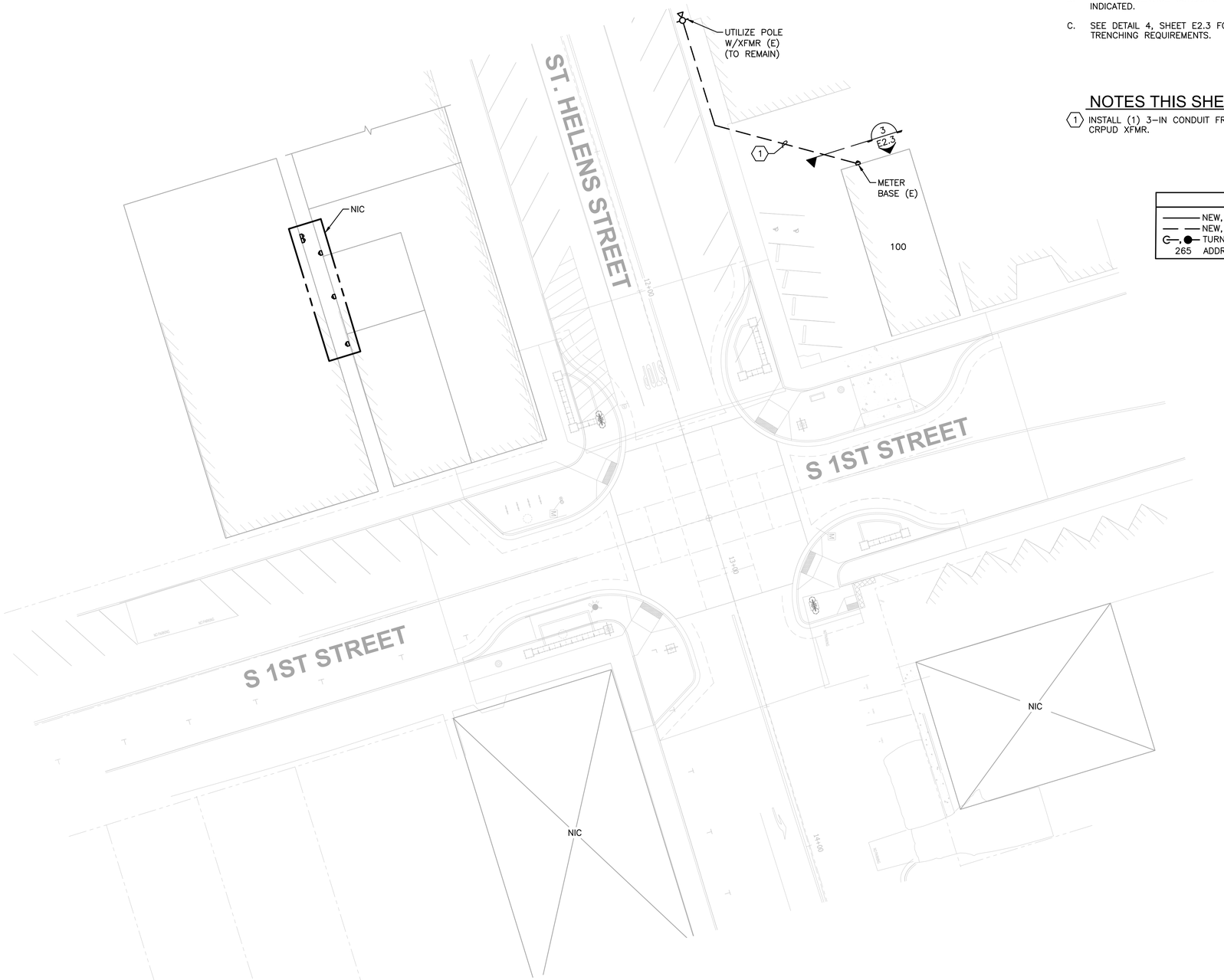
B. ALL NEW SERVICE CONDUITS TO BE 3–IN, UNLESS OTHERWISE INDICATED.

C. SEE DETAIL 4, SHEET E2.3 FOR PRIVATE TRENCH SECTION AND TRENCHING REQUIREMENTS.

NOTES THIS SHEET

(1) INSTALL (1) 3–IN CONDUIT FROM EXIST. METER BASE BACK TO SERVING CRPUD XFMR.

LEGEND	
———	NEW, ABOVE GRADE CONDUIT
— —	NEW, UNDERGROUND CONDUIT
G—, ●—	TURN–DOWN, TURN–UP
265	ADDRESS NUMBERS



1 / E1.5 PARTIAL SITE PLAN - ELECTRICAL
SCALE: 1" = 20'–0"

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
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Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

The City of St. Helens

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2023.06.30 11:43:54-07'00'

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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - PARTIAL SITE PLAN 5

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — JLH
DRAWN BY — CHECKED BY

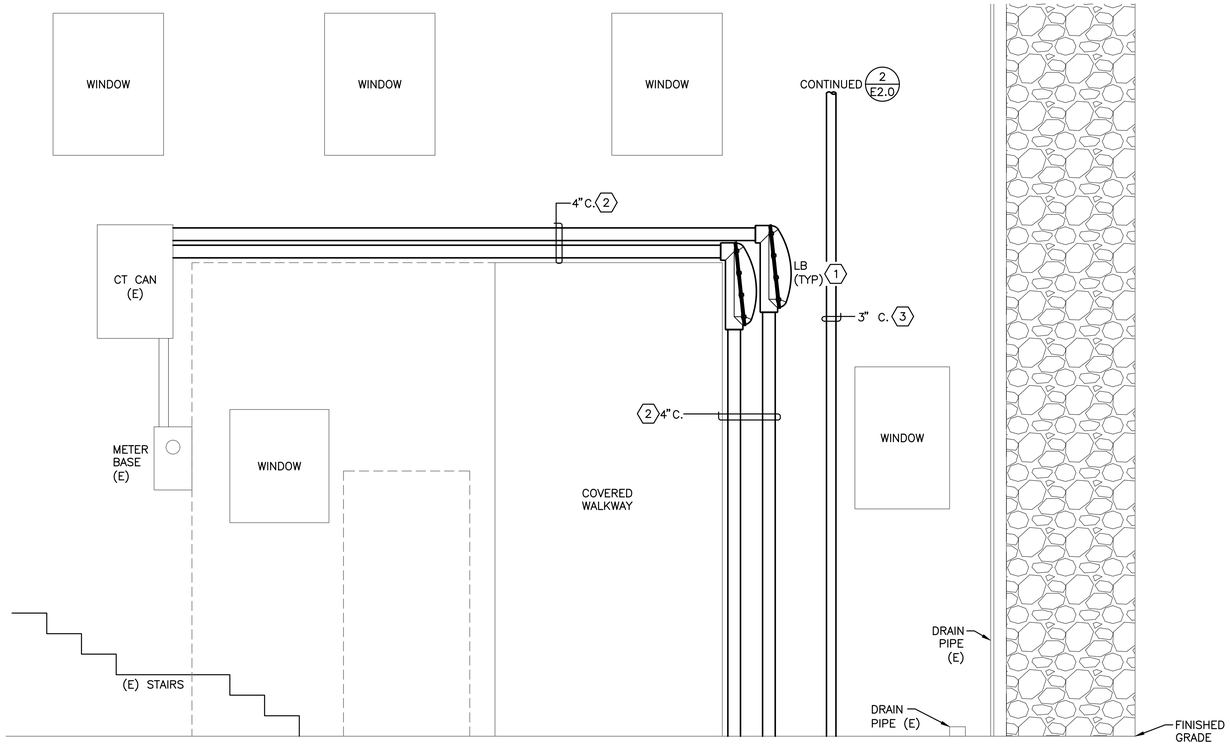
BID SET
STATUS

JUNE 28, 2023
DATE

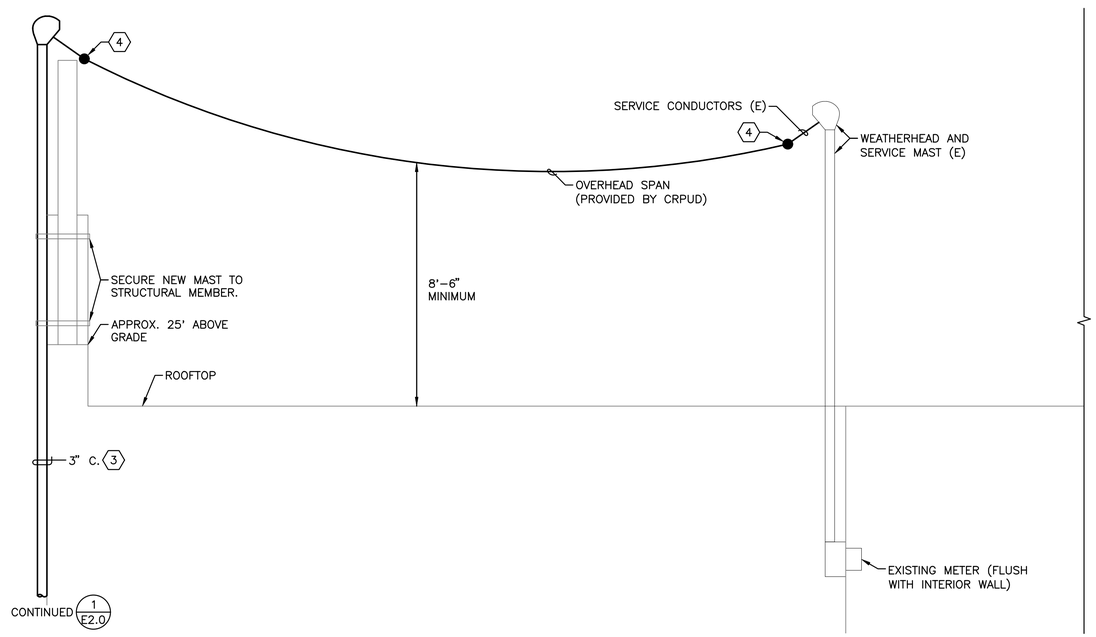
19823 / P-525
PROJECT NUMBER

E1.5

Plotted: Jun 30, 2023 - 8:24am jminnick W:\WE\292_Otak\027_St Helens_UG\001_Elec\DWG\E1.5.dwg Layout Name: Layout1



1 E2.0 CITY HALL - SOUTH WALL
NOT TO SCALE



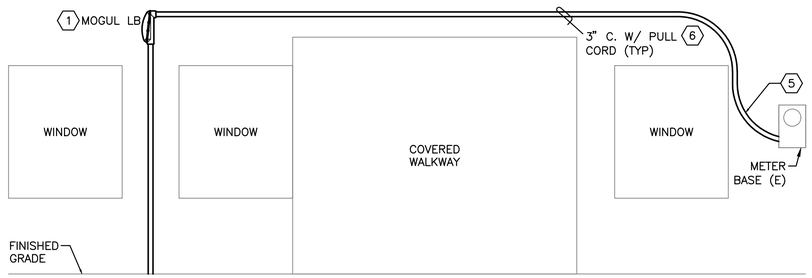
2 E2.0 CITY HALL - ROOF
NOT TO SCALE

GENERAL NOTES

A. EXCEPT AS NOTED, ALL SERVICE CONDUCTORS TO BE PROVIDED AND INSTALLED BY CRPUD; CONTRACTOR SHALL PROVIDED SERVICE CONDUCTORS THEY INSTALL. CONTRACTOR TO COORDINATE ALL SERVICE INSTALLATION, CUTOVERS, AND DEMO OF EXISTING OVERHEAD SERVICES WITH CRPUD.

NOTES THIS SHEET

1. PROVIDE AND INSTALL LB FITTING(S) WITH PROVISIONS FOR UTILITY SEAL.
2. PROVIDE AND INSTALL (3) 250 KCMIL CONDUCTORS (TWO POWER, ONE NEUTRAL) IN EACH 4-IN CONDUIT. VERIFY ALL REQUIREMENTS WITH CRPUD.
3. PROVIDE AND INSTALL (3) 4/0 AWG CONDUCTORS (TWO POWER, ONE NEUTRAL). LEAVE A MINIMUM OF 12-INCH "PIGTAIL" FROM WEATHERHEAD FOR CONNECTING OVERHEAD SPAN. COORDINATE WITH CRPUD TO PROVIDE AND CONNECT OVERHEAD SPAN BETWEEN WEATHERHEADS.
4. COORDINATE WITH CRPUD ON TERMINATING ENDS OF OVERHEAD SPAN CONDUCTORS.
5. CONTRACTOR MAY USE MOGUL LB (WITH UTILITY SEAL PROVISION) IN LIEU OF LAST ELBOW.
6. CRPUD TO INSTALL SERVICE CONDUCTORS.



1 E2.0 COURTHOUSE - NORTH WALL IN ALLEY
NOT TO SCALE

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ESTABLISHED 1850

REGISTERED PROFESSIONAL ENGINEER
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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - ELEVATIONS/DETAILS

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W — JLH
DRAWN BY — CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E2.0

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9615 S.W. Allen Boulevard
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Phone: (503) 726-3328
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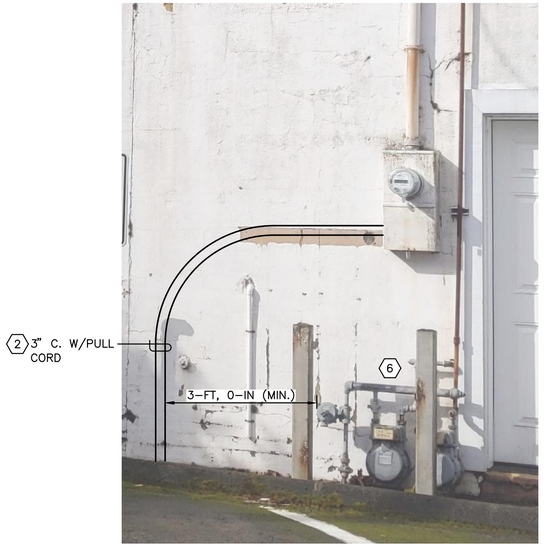
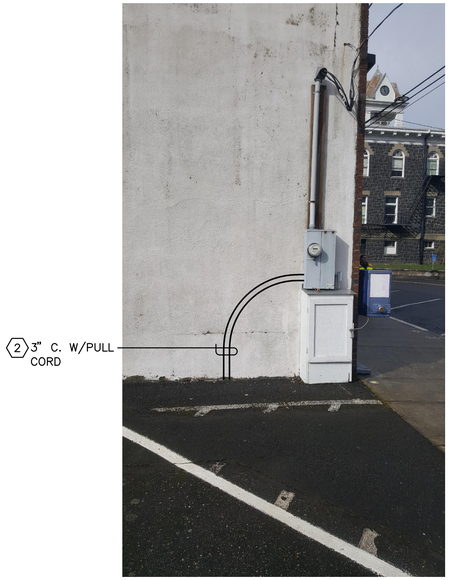
E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

Plotted: Jun 30, 2023 - 8:24am imannick W:\WE292_Otak\027_St Helens UG\001_Elec\DWG\E2.0.dwg Layout Name: Layout1



1 E2.1 COURTHOUSE - SOUTH WALL - SHOP
NOT TO SCALE



2 E2.1 COURTHOUSE - SOUTH WALL - COURTHOUSE
NOT TO SCALE

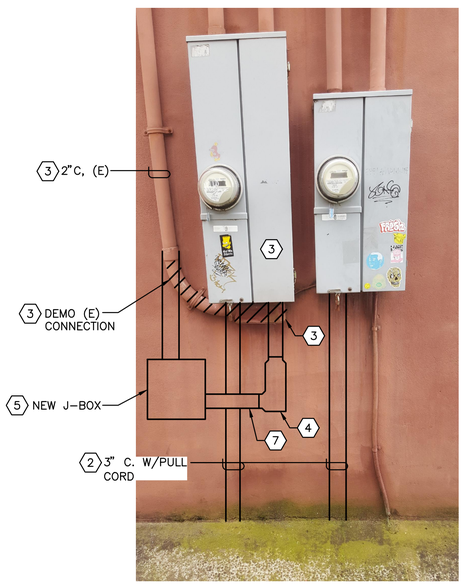
3 E2.1 295 STRAND ST. - NORTH WALL
NOT TO SCALE

GENERAL NOTES

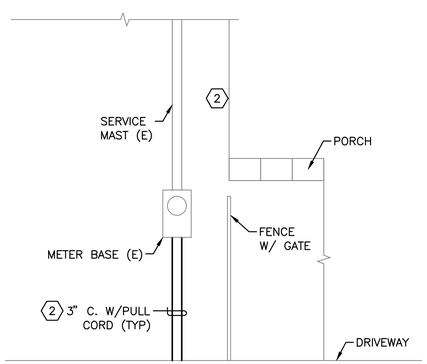
A. EXCEPT AS NOTED, ALL SERVICE CONDUCTORS TO BE PROVIDED AND INSTALLED BY CRPUD; CONTRACTOR SHALL PROVIDED SERVICE CONDUCTORS THEY INSTALL. CONTRACTOR TO COORDINATE ALL SERVICE INSTALLATION, CUTOVERS, AND DEMO OF EXISTING OVERHEAD SERVICES WITH CRPUD.

NOTES THIS SHEET

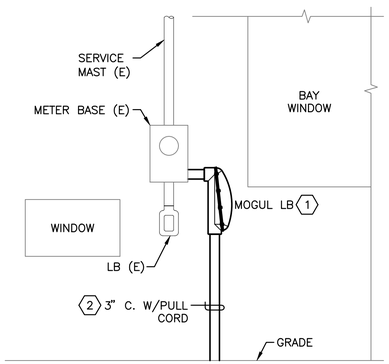
1. PROVIDE AND INSTALL LB FITTING(S) WITH PROVISIONS FOR UTILITY SEAL.
2. CRPUD TO INSTALL SERVICE CONDUCTORS.
3. CONTRACTOR TO FIELD VERIFY NUMBER AND SIZE OF CONDUCTORS RUNNING INSIDE OF FEEDER CONDUIT WITH LB RUNNING UP SIDE OF BUILDING. DISCONNECT THESE EXISTING FEEDER(S) FROM LOAD-SIDE OF CB'S; PROTECT ALL CONDUCTORS FOR EXTENDING/SPLICING INSIDE OF NEW J-BOX. EXTEND CONDUIT RUN (BOTH ENDS) INTO NEW J-BOX. PAINT ALL NEW CONDUIT EXTENSION SECTIONS TO MATCH EXISTING.
4. NEW 2-IN LB (TO BE FIELD VERIFIED). CONTRACT HAS OPTION OF SALVAGING EXISTING LB AND USING IT FOR CONDUIT EXTENSION TO NEW J-BOX.
5. NEMA 3R J-BOX, SIZED PER NEC REQUIREMENTS. MINIMUM SIZE TO BE 12-IN X 12-IN X 4-IN; VERIFY AND PROVIDE LARGER BOX, AS MAY BE REQUIRED. SPLICE ALL EXISTING, EXTENDED CIRCUITS INSIDE OF NEW J-BOX. VERIFY PROPER OPERATION OF EXTENDED CIRCUITS.
6. CONTRACTOR TO COORDINATE ELECTRICAL INSTALLATION WITH NATURAL GAS UTILITY TO HAVE GAS SUPPLY TURNED-OFF DURING INSTALLATION AND TURNED BACK ON AFTER INSTALLATION IS COMPLETE.
7. EXTENDED CONDUIT TO BE INSTALLED IN FRONT OF NEW SERVICE CONDUIT.



4 E2.1 313/317 STRAND ST. - SOUTH WALL
NOT TO SCALE



5 E2.1 330 S 1ST ST - WEST FACING FRONT
NOT TO SCALE



6 E2.1 325 S 1ST ST - NORTH SIDE
NOT TO SCALE

R&W ENGINEERING, INC.
9615 S.W. Allen Boulevard
Suite 107
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E-mail: rweng@rweng.com
Project No.: 292.027.001 Contact: SAMANTHA HOLMAN

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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - ELEVATIONS/DETAILS

TITLE

#	DATE	DESCRIPTION

REVISIONS

NAVD88
DATUM

R&W DRAWN BY
JLH CHECKED BY

BID SET
STATUS

JUNE 28, 2023
DATE

19823 / P-525
PROJECT NUMBER

E2.1

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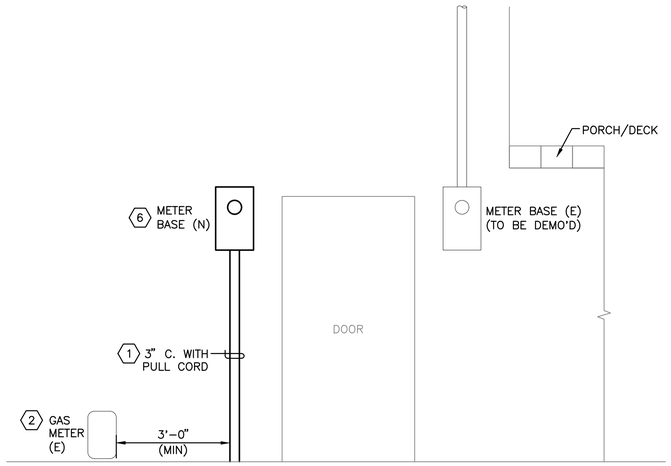
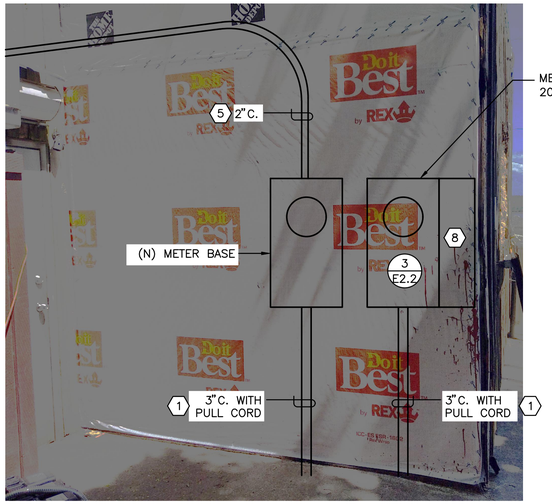
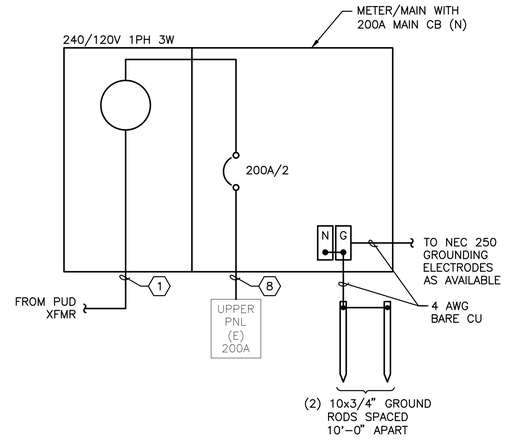


1 / E2.2 333 S 1ST ST - NORTH SIDE
NOT TO SCALE



2 / E2.2 343 S 1ST ST - SOUTHWEST WALL
NOT TO SCALE



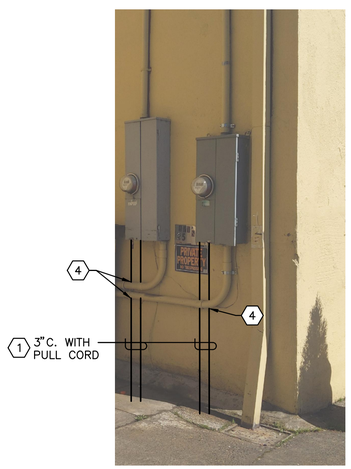
3 / E2.2 UPPER PANEL ONE-LINE DIAGRAM
NOT TO SCALE

GENERAL NOTES

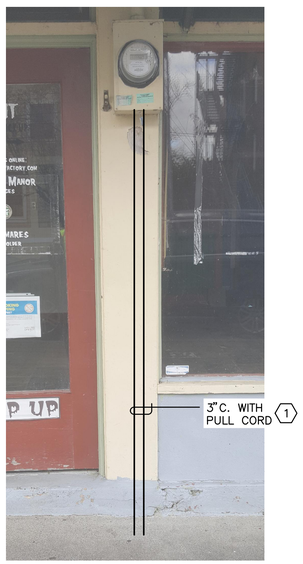
A. EXCEPT AS NOTED, ALL SERVICE CONDUCTORS TO BE PROVIDED AND INSTALLED BY CRPUD; CONTRACTOR SHALL PROVIDED SERVICE CONDUCTORS THEY INSTALL. CONTRACTOR TO COORDINATE ALL SERVICE INSTALLATION, CUTOVERS, AND DEMO OF EXISTING OVERHEAD SERVICES WITH CRPUD.

NOTES THIS SHEET

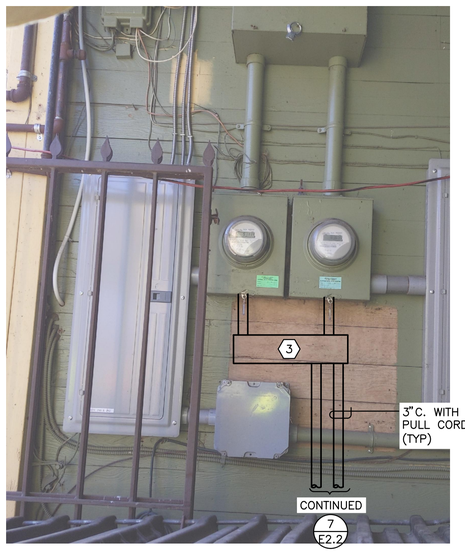
1. CRPUD TO INSTALL SERVICE CONDUCTORS.
2. CONTRACTOR TO COORDINATE ELECTRICAL INSTALLATION WITH NATURAL GAS UTILITY TO HAVE GAS SUPPLY TURNED-OFF DURING INSTALLATION AND TURNED BACK ON AFTER INSTALLATION IS COMPLETE.
3. INSTALL NEMA 1 WIREWAY, 4-IN X 4-IN X 24-IN, WITH UTILITY SEAL PROVISIONS. CRPUD TO INSTALL SERVICE CONDUCTORS.
4. CAREFULLY DEFLECT EXISTING FEEDER CONDUIT(S) SO THAT NEW SERVICE CONDUIT IS INSTALLED BEHIND. CONTRACTOR TO REPAIR ANY DAMAGE CAUSE BY DEFLECTING EXISTING FEEDER CONDUITS.
5. INSTALL 2-IN CONDUIT WITH (3) 3/0 AWG SERVICE ENTRANCE CONDUCTORS (TWO POWER, ONE NEUTRAL). BOND METALLIC RACEWAYS, BOXES, AND ENCLOSURES USING GROUNDED CONDUCTOR, PER NEC 250.80
6. COORDINATE WITH OWNER FOR THE LOCATION OF THE MAIN PANEL AND INSTALL 2-IN CONDUIT (NOT SHOWN) WITH (3) 3/0 AWG SERVICE ENTRANCE CONDUCTORS (TWO POWER, ONE NEUTRAL) FROM NEW METER BASE TO PANEL. BOND METALLIC RACEWAYS, BOXES, AND ENCLOSURES USING GROUNDED CONDUCTOR, PER NEC 250.80.
7. INSTALL (2) 10-FT X 3/4-IN GROUND RODS, SPACED A MIN. OF 10-FT APART (NOT SHOWN, FOR CLARITY); CONNECT TO GROUND BUS IN MAIN SECTION OF METER/MAIN. GROUND/BOND PER NEC 250.
8. INSTALL 2-IN FEEDER CONDUIT WITH (3) 3/0 AWG (TWO POWER, ONE NEUTRAL) AND (1) 6 AWG, GROUND. COORDINATE INSTALLATION WITH OWNER. ROUTE CONDUIT TO EXISTING 200A PANEL. REMOVE NEUTRAL-GROUND BOND INSIDE OF EXISTING PANEL.



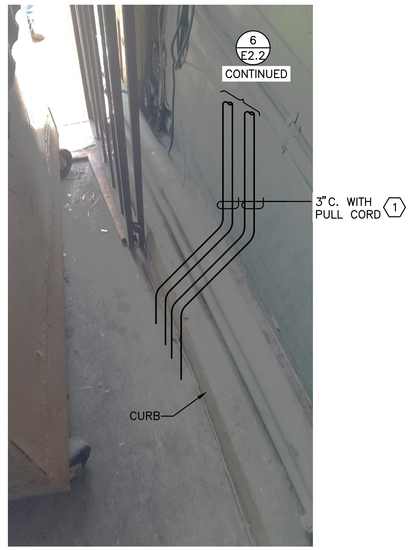
4 / E2.2 30 COWLITZ ST - WEST ALLEY
NOT TO SCALE



5 / E2.2 40 COWLITZ ST
NOT TO SCALE



6 / E2.2 50 COWLITZ ST - SOUTH ALLEY
NOT TO SCALE



7 / E2.2 50 COWLITZ ST - SOUTH ALLEY
NOT TO SCALE

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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS

ST. HELENS, OREGON

ELECTRICAL SERVICE U/G - ELEVATIONS/DETAILS

TITLE

#	DATE	DESCRIPTION

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DATUM

R&W — JLH
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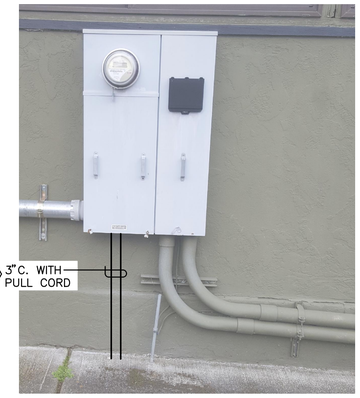
STATUS

JUNE 28, 2023
DATE

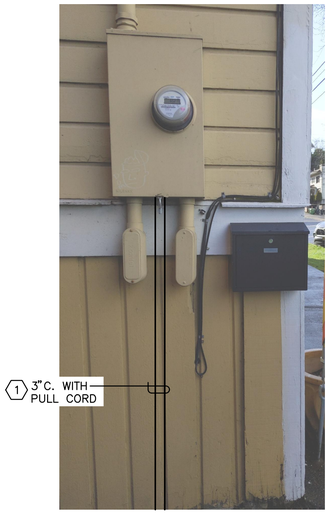
19823 / P-525
PROJECT NUMBER

E2.2

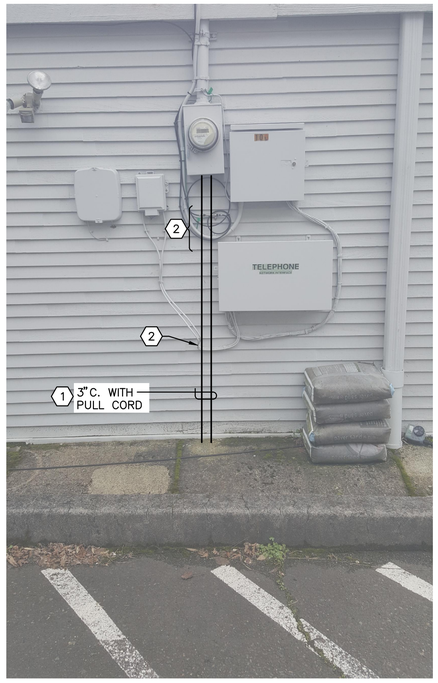
Plotted: Jun 30, 2023 - 8:26am imminick W:\WE\292_Otak\027_St Helens UG\001_Elec\DWG\E2.2.dwg Layout Name: Layout1



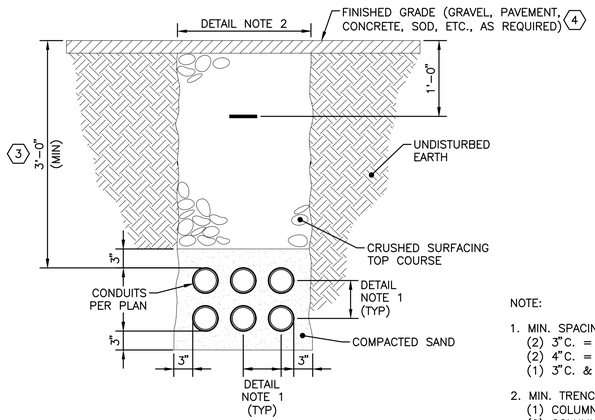
1 / E2.3 50 COWLITZ ST - SOUTH WALL
NOT TO SCALE



2 / E2.3 71 COWLITZ ST - WEST ALLEY
NOT TO SCALE



3 / E2.3 100 ST. HELENS ST - WEST SIDE
NOT TO SCALE

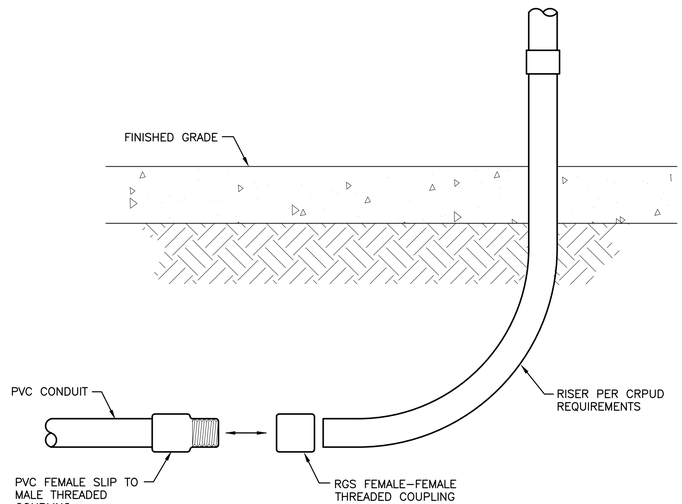


NOTE:

1. MIN. SPACING
   (2) 3"C. = 4.75"
   (2) 4"C. = 6.0"
   (1) 3"C. & (1) 4"C. = 5.5"

2. MIN. TRENCH WIDTH:
   (1) COLUMN = 12"
   (2) COLUMNS = 17"
   (3) COLUMNS = 21"

4 / E2.3 TYPICAL CONDUIT TRENCH
NOT TO SCALE



5 / E2.3 CONDUIT TRANSITION DETAIL
NOT TO SCALE

GENERAL NOTES

A. EXCEPT AS NOTED, ALL SERVICE CONDUCTORS TO BE PROVIDED AND INSTALLED BY CRPUD; CONTRACTOR SHALL PROVIDED SERVICE CONDUCTORS THEY INSTALL. CONTRACTOR TO COORDINATE ALL SERVICE INSTALLATION, CUTOVERS, AND DEMO OF EXISTING OVERHEAD SERVICES WITH CRPUD.

NOTES THIS SHEET

1. CRPUD TO INSTALL SERVICE CONDUCTORS.
2. CAREFULLY DEFLECT EXISTING CABLES SO THAT NEW SERVICE CONDUIT IS INSTALLED BEHIND THEM. REPAIR ANY DAMAGED CAUSED BY INSTALLATION OF NEW SERVICE CONDUIT.
3. FOR ROCKY SOIL, MINIMUM COVER MAY BE REDUCED. COORDINATE WITH CRPUD.
4. CONTRACTOR TO FULLY RESTORE FINISHED GRADE TO MATCH AS CLOSE AS PRACTICABLE GRADE PRIOR TO DISTURBANCE.

The City of St. Helens

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ST. HELENS, OREGON

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19823 / P-525
PROJECT NUMBER

E2.3

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Plotted: Jun 30, 2023 - 8:26am imminick W:\WE\292_Otak\027_St Helens UG\001_Elec\DWG\E2.3.dwg Layout Name: Layout1