THE TULALIP TRIBES

MARINA PUMP STATION REPLACEMENT

TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

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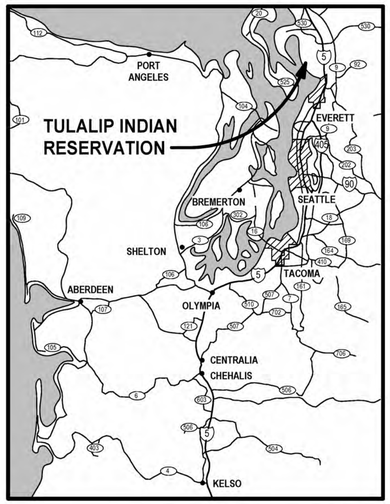
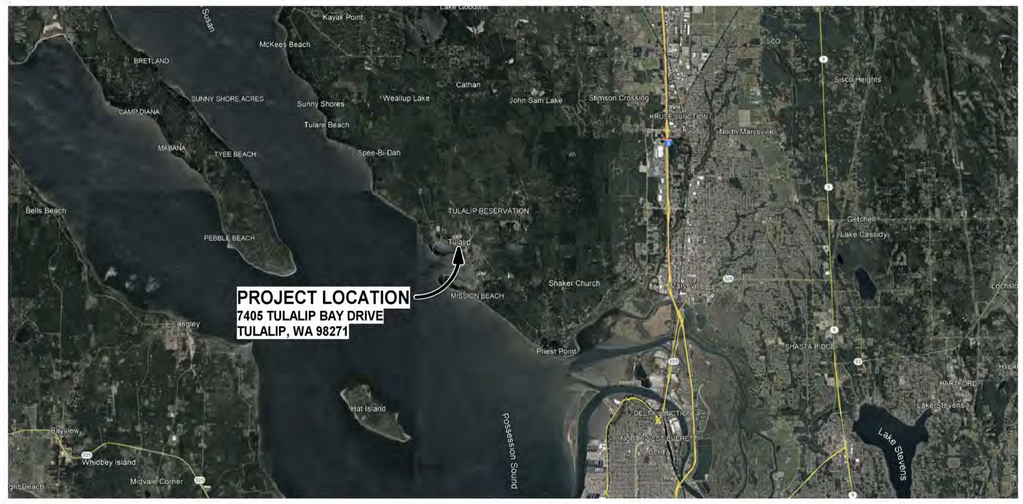


VICINITY MAP
SCALE: NONE



LOCATION MAP
SCALE: NONE

PROJECT NO. 2024-002

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	REVISIONS	DATE	BY

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DRAWN A. PETERSON
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APPROVED J. WRIGHT

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FILE NAME 1598.164-COMP.rvt
JOB NO. 216-1598-164
DATE AUGUST 2024

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08/14/2024

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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

TITLE SHEET, VICINITY AND LOCATION MAPS, AND SHEET INDEX

DRAWING NO.
1 OF 26
G1

LEGEND

OR — EXISTING EQUIPMENT OR MATERIALS TO BE REMOVED

NEW FACILITIES (SOLID)

EXISTING (SCREENED)

HIDDEN LINE, BURIED OR FUTURE IMPROVEMENTS

WATER SURFACE
@ AT
& AND
⌀ ROUND OR DIAMETER
∠ ANGLE
℄ CENTER LINE
℄ PLATE OR PROPERTY LINE
1. GENERAL NOTE
(1) KEY NOTE DESIGNATION

EXISTING:	PROPOSED:	DESCRIPTION:
		CENTER LINE
		RIGHT OF WAY
		PROPERTY LINE
		MAJOR CONTOUR
		MINOR CONTOUR
		EASEMENT
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		BACK OF CURB
		CURB FACE
		BACK OF WALK
		CONCRETE
W	W	WATER
SD	SD	STORM
SS	SS	SANITARY SEWER
FM	FM	SANITARY SEWER FORCE MAIN
		CABLE TV
G		GAS
OHP		OVERHEAD POWER
FO		FIBER OPTIC
		STRUCTURAL EARTH WALL
		CHAIN LINK FENCE
		EDGE OF GRASS
-C-		CUT LINE
-F-		FILL LINE
		MONUMENT
		CONTROL POINT
		STREET LIGHT
		POWER POLE
		GUY ANCHOR
		TELEPHONE RISER
		WATER METER
		HYDRANT
		GATE VALVE
		CATCH BASIN TYPE I
		CATCH BASIN TYPE 2
		SANITARY SEWER MANHOLE

SCREENING

SCREENED ELEMENTS ON AREA MAPPING AND ON PROCESS AND INSTRUMENTATION DRAWINGS REPRESENTS EXISTING FACILITIES OR ELEVATIONS.

SCREENED BACKGROUNDS ON OTHER DRAWINGS CAN REPRESENT EXISTING FACILITIES OR FACILITIES TO BE CONSTRUCTED UNDER THIS CONTRACT WHICH, IF DRAWING IN SOLID LINES, WOULD OBSCURE THE PARTICULAR DETAILS BEING SHOWN. CONSULT THE ENGINEER IF SCREENING OF ANY ELEMENTS IS NOT SELF-EXPLANATORY.

SHEET NAMING CONVENTION

DISCIPLINE DESIGNATOR AND DISCIPLINE ORDER

G GENERAL
P PIPING & INSTRUMENTATION DIAGRAM (P&ID)
D DEMOLITION
C CIVIL
A ARCHITECTURAL
S STRUCTURAL
M MECHANICAL
E ELECTRICAL
I INSTRUMENTATION & CONTROL

SHEET NUMBER COMPONENTS

M1

DISCIPLINE DESIGNATOR — SHEET NUMBER

EQUIPMENT LABELING CONVENTION

EQUIPMENT TYPE — BUILDING OR AREA NUMBER — ID NUMBER

XXX## ###

LOOP NUMBER

COMMONLY USED EQUIPMENT TYPE ABBREVIATIONS:

ACT	ACTUATOR	LCP	LOCAL CONTROL PANEL
B	BLOWER	MIX	MIXER
CKV	CHECK VALVE	P	PUMP
CV	CONTROL VALVE	SG	SLIDE GATE
DISC	DISCONNECT	SV	SOLENOID VALVE
JBOX	JUNCTION BOX	T	TANK
HTR	HEATER	VFD	VARIABLE FREQUENCY DRIVE
IV	ISOLATION VALVE	XFMR	TRANSFORMER

VIEW TITLES AND REFERENCES

DETAILS

INDICATES DETAIL NUMBER

SUBTITLE
DETAIL
SCALE: NONE
1

DETAIL REFERENCES

1 M00-001

INDICATES DETAIL NUMBER

INDICATES DRAWING / SHEET WHERE DETAIL IS SHOWN

SECTIONS

INDICATES SECTION LETTER

SUBTITLE
SECTION
SCALE: NONE
A M01-002

INDICATES DRAWING / SHEET WHERE SECTION IS REFERRED TO

SECTION REFERENCES

A M01-001

INDICATES SECTION LETTER

INDICATES DRAWING / SHEET WHERE SECTION IS SHOWN

PHOTOS

DEMOLITION PHOTO NUMBER

APPROXIMATE VIEW DIRECTION OF PHOTO

1 D01-001

INDICATES DRAWING / SHEET WHERE PHOTO IS SHOWN

ABBREVIATIONS

@	AT
℄	CENTERLINE
AB	ANCHOR BOLT, ABANDONED
AC	ASPHALTIC CONCRETE
ACP	ASPHALTIC CONCRETE PAVEMENT
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
BET	BETWEEN
BF	BLIND FLANGE
BLDG	BUILDING
BLK	BLOCK
BM	BEAM, BENCH MARK
BOT	BOTTOM
CB	CATCH BASIN
CCP	CONCRETE CYLINDER PIPE
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIP	CAST IN PLACE, CAST IRON PIPE
CL	CLASS, CLEAR, CLEARANCE
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
CO	COUNTY, CLEANOUT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONST	CONSTRUCT, CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CPLG	COUPLING
CS	CARBON STEEL
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CTR	CENTER
CU	COPPER
CKV	CHECK VALVE
CV	CONTROL VALVE
CY	CUBIC YARD
D	DEEP, DEPTH, DENSITY, DRAIN, DRAINAGE
DEMO	DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DN	DOWN
DWG	DRAWING
E	EAST, EASTING
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EQ, =	EQUAL, EQUALIZATION
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EW	EACH WAY
EXIST	EXISTING
F	FACE
FL, FLG	FLANGE, FLANGED
FLEX	FLEXIBLE
FLR	FLOOR
FM	FORCE MAIN
FNPT	FEMALE NATIONAL PIPE THREAD
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET, FOOT
FTG	FOOTING
G	GAS
GA	GAGE, GAUGE
GAL	GALLON
GALV	GALVANIZED
GE	GROOVED END
GPM	GALLONS PER MINUTE
GS	GALVANIZED STEEL
GV	GATE VALVE
GW	GROUND WATER
H	HIGH, HOIST
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HLA	HIGH LEVEL ALARM
HORIZ	HORIZONTAL
HP	HORSEPOWER, HIGH POINT
HT	HEIGHT
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN, "	INCH
INCL	INCLUDE, INCLUDING
JT	JOINT
KW	KILOWATT
L	LONG
LB	POUND
LF	LINEAR FEET, LINEAR FOOT
LT	LEFT
LWL	LOW WATER LEVEL
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MNPT	MALE NATIONAL PIPE THREAD
N	NORTH, NORTHING
NAVD	NORTH AMERICAN VERTICAL DATUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NO., #	NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
PE	PLAIN END
PI	PRESSURE INDICATOR
PL	PLATE, PROPERTY LINE
PNL	PANEL
PRV	PRESSURE RELIEF VALVE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REINF	REINFORCEMENT, REINFORCE, REINFORCING
REQ'D	REQUIRED
REV	REVERSE, REVISE, REVISION
ROW	RIGHT OF WAY
RPM	REVOLUTIONS PER MINUTE
RT	RIGHT
RW	RIGHT OF WAY
S	SLOPE, SOUTH
SCFM	STANDARD CUBIC FEET PER MINUTE
SEC	SECOND(S), SECONDARY
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET
STD	STANDARD
STL	STEEL
TEMP	TEMPERATURE, TEMPORARY
TESC	TEMPORARY EROSION SEDIMENTATION CONTROL
THK	THICK, THICKNESS
TOC	TOP OF CONCRETE, TOP OF CURB
TOS	TOP OF SLAB
TYP	TYPICAL
V	VALVE, VENT, VOLT
VENT	VENTILATE
VERT	VERTICAL
VOL	VOLUME
W	WATER, WEST, WIDTH
W/	WITH

GENERAL NOTES

1. THE LOCATIONS OF EXISTING UTILITIES, STRUCTURES, EQUIPMENT, AND OTHER ITEMS SHOWN ON DRAWINGS AREA ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELEVATIONS OF ALL EXISTING ITEMS PRIOR TO CONSTRUCTION.
2. MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF PER LOCAL, STATE, AND FEDERAL REGULATIONS.
3. CONTRACTOR TO COORDINATE PARKING, MATERIAL STORAGE, EQUIPMENT STORAGE, AND STAGING AREA WITH OWNER.
4. RETAIN AND PROTECT ALL EXISTING ITEMS NOTE DESIGNATED TO BE REMOVED OR MODIFIED.
5. PIPING IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. NOT EVERY OFFSET, FITTING, OR STRUCTURAL DIFFICULTY THAT MAY BE ENCOUNTERED HAS BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL MAKE MODIFICATIONS TO PIPING ALIGNMENT WHERE NECESSARY. MODIFICATIONS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER AND SHALL BE DONE AFTER OWNER APPROVAL.
6. NOT ALL OF THE NEW ITEMS ARE SHOWN ON THE DRAWINGS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL ITEMS TO BE FURNISHED AND INSTALLED.
7. INSTRUMENTATION AND PANEL MOUNTING HEIGHTS SHOWN ARE APPROXIMATE. COORDINATE FINAL MOUNTING HEIGHTS WITH OWNER PRIOR TO INSTALLATION.
8. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO WORK. EXPOSING EXISTING UTILITIES ("POT HOLING") SHALL BE INCIDENTAL TO THE WORK.
9. RESTORE ALL PROPERTY DISTURBED BY THE WORK TO PRE-CONSTRUCTION CONDITIONS OR PER THE REQUIREMENTS IN THE CONTRACT DOCUMENTS, WHICHEVER IS MORE STRINGENT.
10. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN ON PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED.
11. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE PROJECT REPRESENTATIVE PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL NOT EXCEED THE SPECIFICATIONS.
12. SYMBOLS LEGEND AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS WHENEVER APPLICABLE. ALL OF THE VARIOUS APPLICATIONS ARE NOT NECESSARILY USED IN THE PROJECT.
13. NOT ALL OF THE REQUIRED FITTINGS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL THE FITTINGS SHOWN ON THE DRAWINGS AND ADDITIONAL FITTINGS AS REQUIRED FOR THE PIPING ARRANGEMENTS SHOWN ON THE DRAWINGS AND PER EQUIPMENT FURNISHED.
14. IN CASE OF A CONFLICT BETWEEN THE DRAWINGS AND TYPICAL DETAILS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
15. ALL PIPING JOINTS SHALL BE PER THE SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
16. FIELD VERIFY LOCATIONS, SIZES, AND CONNECTION MATERIALS OF ALL EXISTING PIPING AND EQUIPMENT BEFORE FABRICATING NEW PIPE OR RETROFITTING FOR NEW EQUIPMENT.

	REVISIONS	DATE	BY

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ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME 1598.164-COMP.rvt
JOB NO. 216-1598-164
DATE AUGUST 2024

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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

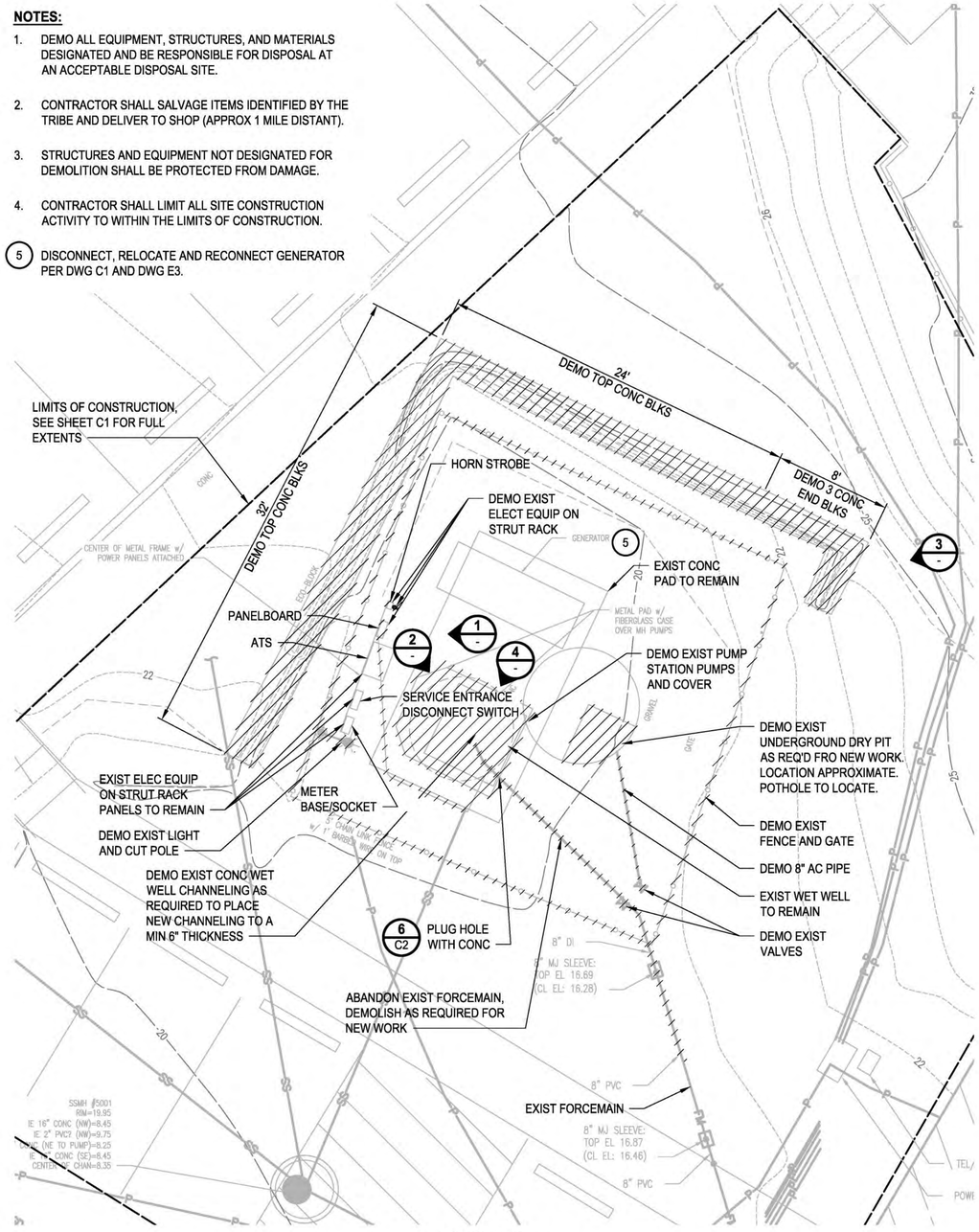
LEGEND, ABBREVIATIONS, AND GENERAL NOTES

DRAWING NO. 2 OF 26
G2

NOTES:

1. DEMO ALL EQUIPMENT, STRUCTURES, AND MATERIALS DESIGNATED AND BE RESPONSIBLE FOR DISPOSAL AT AN ACCEPTABLE DISPOSAL SITE.
2. CONTRACTOR SHALL SALVAGE ITEMS IDENTIFIED BY THE TRIBE AND DELIVER TO SHOP (APPROX 1 MILE DISTANT).
3. STRUCTURES AND EQUIPMENT NOT DESIGNATED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE.
4. CONTRACTOR SHALL LIMIT ALL SITE CONSTRUCTION ACTIVITY TO WITHIN THE LIMITS OF CONSTRUCTION.

(5) DISCONNECT, RELOCATE AND RECONNECT GENERATOR PER DWG C1 AND DWG E3.



DEMOLITION PLAN
1" = 5'
SCALE IN FEET
0 5 10
N

DEMOLITION PHOTO DETAIL 1
SCALE: NONE

DEMOLITION PHOTO DETAIL 2
SCALE: NONE

DEMOLITION PHOTO DETAIL 3
SCALE: NONE

DEMOLITION PHOTO DETAIL 4
SCALE: NONE

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JOB No. 216-1598-164
DATE AUGUST 2024

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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

DEMOLITION PLAN

DRAWING NO. 3 OF 26
D1

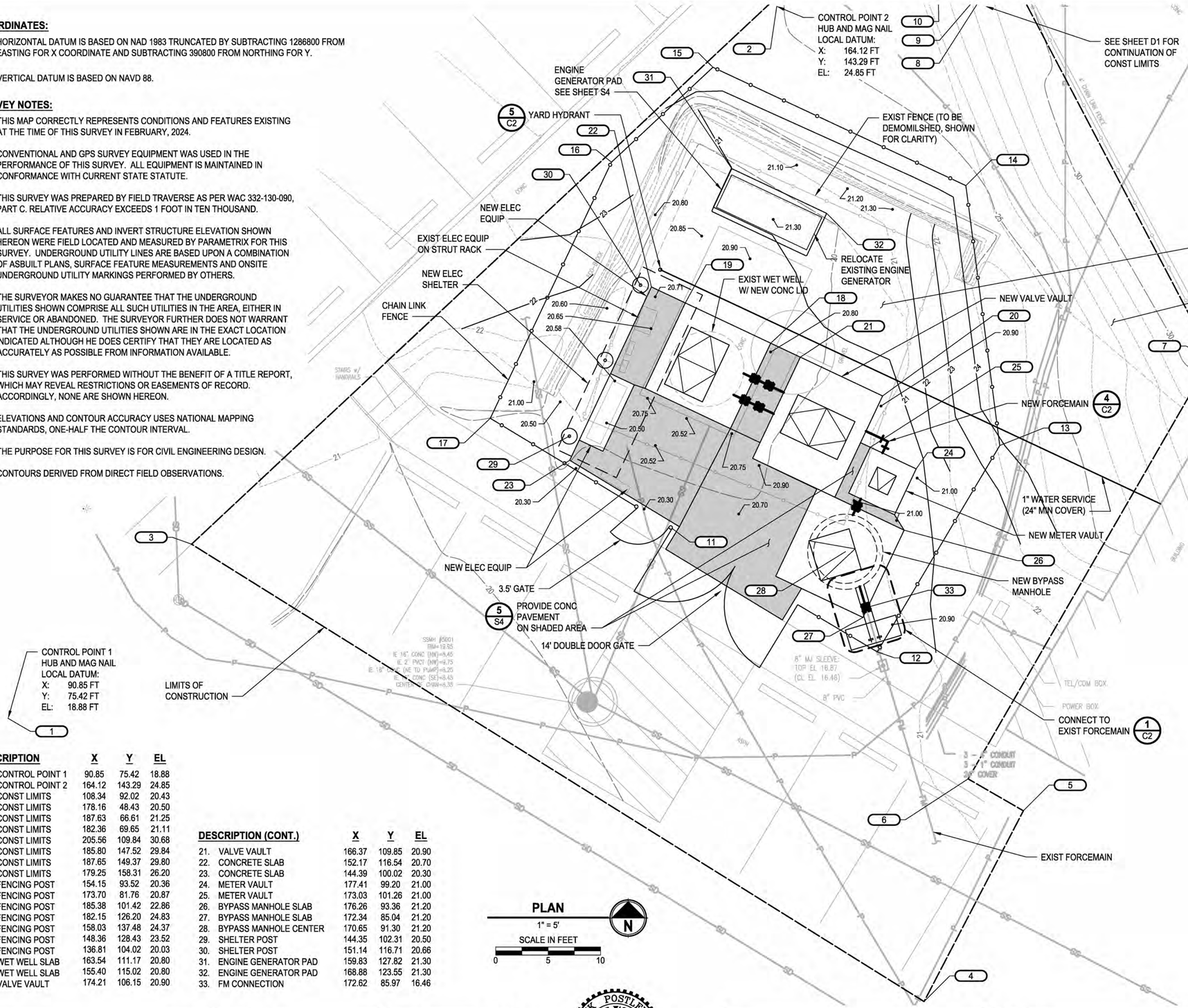
LAYOUT: PS1598164-D1 PATH: U:\PSO\Projects\Clients\1598-TulalipTribes\216-1598-164 Marina PS Improvements\99Svcs\CADD\DWG PLOTTED BY: peterand DATE: Wednesday, August 14, 2024 9:24:04 AM

COORDINATES:

1. HORIZONTAL DATUM IS BASED ON NAD 1983 TRUNCATED BY SUBTRACTING 1286800 FROM EASTING FOR X COORDINATE AND SUBTRACTING 390800 FROM NORTHING FOR Y.
2. VERTICAL DATUM IS BASED ON NAVD 88.

SURVEY NOTES:

1. THIS MAP CORRECTLY REPRESENTS CONDITIONS AND FEATURES EXISTING AT THE TIME OF THIS SURVEY IN FEBRUARY, 2024.
2. CONVENTIONAL AND GPS SURVEY EQUIPMENT WAS USED IN THE PERFORMANCE OF THIS SURVEY. ALL EQUIPMENT IS MAINTAINED IN CONFORMANCE WITH CURRENT STATE STATUTE.
3. THIS SURVEY WAS PREPARED BY FIELD TRAVERSE AS PER WAC 332-130-090, PART C. RELATIVE ACCURACY EXCEEDS 1 FOOT IN TEN THOUSAND.
4. ALL SURFACE FEATURES AND INVERT STRUCTURE ELEVATION SHOWN HEREON WERE FIELD LOCATED AND MEASURED BY PARAMETRIX FOR THIS SURVEY. UNDERGROUND UTILITY LINES ARE BASED UPON A COMBINATION OF ASBUILT PLANS, SURFACE FEATURE MEASUREMENTS AND ONSITE UNDERGROUND UTILITY MARKINGS PERFORMED BY OTHERS.
5. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
6. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT, WHICH MAY REVEAL RESTRICTIONS OR EASEMENTS OF RECORD. ACCORDINGLY, NONE ARE SHOWN HEREON.
7. ELEVATIONS AND CONTOUR ACCURACY USES NATIONAL MAPPING STANDARDS, ONE-HALF THE CONTOUR INTERVAL.
8. THE PURPOSE FOR THIS SURVEY IS FOR CIVIL ENGINEERING DESIGN.
9. CONTOURS DERIVED FROM DIRECT FIELD OBSERVATIONS.



DESCRIPTION		X	Y	EL
1.	CONTROL POINT 1	90.85	75.42	18.88
2.	CONTROL POINT 2	164.12	143.29	24.85
3.	CONST LIMITS	108.34	92.02	20.43
4.	CONST LIMITS	178.16	48.43	20.50
5.	CONST LIMITS	187.63	66.61	21.25
6.	CONST LIMITS	182.36	69.65	21.11
7.	CONST LIMITS	205.56	109.84	30.68
8.	CONST LIMITS	185.80	147.52	29.84
9.	CONST LIMITS	187.65	149.37	29.80
10.	CONST LIMITS	179.25	158.31	26.20
11.	FENCING POST	154.15	93.52	20.36
12.	FENCING POST	173.70	81.76	20.87
13.	FENCING POST	185.38	101.42	22.86
14.	FENCING POST	182.15	126.20	24.83
15.	FENCING POST	158.03	137.48	24.37
16.	FENCING POST	148.36	128.43	23.52
17.	FENCING POST	136.81	104.02	20.03
18.	WET WELL SLAB	163.54	111.17	20.80
19.	WET WELL SLAB	155.40	115.02	20.80
20.	VALVE VAULT	174.21	106.15	20.90

DESCRIPTION (CONT.)		X	Y	EL
21.	VALVE VAULT	166.37	109.85	20.90
22.	CONCRETE SLAB	152.17	116.54	20.70
23.	CONCRETE SLAB	144.39	100.02	20.30
24.	METER VAULT	177.41	99.20	21.00
25.	METER VAULT	173.03	101.26	21.00
26.	BYPASS MANHOLE SLAB	176.26	93.36	21.20
27.	BYPASS MANHOLE SLAB	172.34	85.04	21.20
28.	BYPASS MANHOLE CENTER	170.65	91.30	21.20
29.	SHELTER POST	144.35	102.31	20.50
30.	SHELTER POST	151.14	116.71	20.66
31.	ENGINE GENERATOR PAD	159.83	127.82	21.30
32.	ENGINE GENERATOR PAD	168.88	123.55	21.30
33.	FM CONNECTION	172.62	85.97	16.46

NOTES:

1. DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL AND SEEDED UNLESS DESIGNATED FOR CONC PAVING OR CRUSHED ROCK SURFACING. SEE DETAILS ON SHEET C2.
2. CONTRACTOR SHALL SUBMIT THE EROSION CONTROL PLAN AND RECEIVE A REVIEW STATUS OF "NO EXCEPTIONS TAKEN" OR "MAKE CORRECTIONS NOTED" PRIOR TO STARTING CONSTRUCTION AND INSTALL MEASURES PRIOR TO EXCAVATION.
3. CONTRACTOR SHALL POTHOLE EXISTING UTILITIES PRIOR CONSTRUCTING UNDERGROUND IMPROVEMENTS.
4. ALL PRESSURE PIPE JOINTS SHALL BE RESTRAINED. FLEX COUPLINGS SHALL BE RESTRAINED WITH TIE RODS.
5. CONTRACTOR SHALL VERIFY DIMENSIONS, ELEVATIONS, AND LOCATIONS PRIOR TO CONSTRUCTION.

SUGGESTED CONSTRUCTION SEQUENCE

1. THIS SEQUENCE OF CONSTRUCTION ACTIVITIES DOES NOT DICTATE THE MEANS AND METHODS THAT ARE THE CONTRACTOR'S RESPONSIBILITIES FOR PERFORMING THE WORK. THIS SEQUENCE SUGGESTS AN ORDER OF ACTIVITIES TO CONSIDER WHILE SCHEDULING CRITICAL TASKS. REQUIREMENTS DESCRIBED BY THE USE OF "SHALL" ARE BINDING CONSTRAINTS ON THE CONTRACTOR.
2. POTHOLING SHALL BE PERFORMED AT COORDINATE #21 TO CONFIRM THAT NO EXISTING STRUCTURES INTERFER WITH THE VALVE VAULT.
3. THE CONTRACTOR SHALL COORDINATE FORCEMAIN ADJUSTMENTS WITH THE ENGINEER AS NEEDED TO CONNECT THE PROPOSED FORCEMAIN TO THE EXISTING FORCEMAIN.
4. EXPOSE THE FORCE MAIN AND INSTALL THE THRUST RESTRAINT CONC BLOCKING AND TIES RODS. THE CONC SHALL CURE A MIN OF 7 DAYS IN ADVANCE OF THE CONNECTION.
5. SET UP TEMPORARY PUMPING EQUIPMENT AND PIPING BETWEEN THE BYPASS MANHOLE AND THE CONNECTION TO THE FORCE MAIN .
6. DRAIN THE FORCE MAIN BACK INTO THE GRAVITY SYSTEM AND REMOVE WASTEWATER USING VACUUM TRUCKS, PUMPING, AND OR TANK TRUCKS. THE CONTRACTOR SHALL MAINTAIN THE WASTEWATER LEVEL AT A MAXIMUM EL OF 16' (APPROXIMATELY 4' BELOW AN OVERFLOW OCCURRING). WASTEWATER FROM TANKER OR VACUUM TRUCK(S) SHALL BE DISCHARGED AT A LOCATION DIRECTED BY THE OWNER (APPROXIMATELY ½ MILE FROM THE SITE).
7. INSTALL THE PLUG VALVE, WYE, AND OTHER FITTINGS TO THE EXISTING FORCEMAIN.
8. ISOLATE THE EXISTING WET WELL WITH A PLUG IN THE GRAVITY LINE LEADING TO THE ADJACENT MANHOLE IMMEDIATELY UPSTREAM OF THE WET WELL.
9. PROVIDE BYPASS PUMPING FROM THE MANHOLE. BYPASS PUMPING SHALL BE POWERED FROM THE POWER GRID AND HAVE REDUNDANT STANDBY POWER.
10. BYPASS PUMPING SHALL BE OPERATED FOR AT LEAST 24 HOURS WITHOUT FAULTS PRIOR TO COMMENCING DEMOLITION OF THE EXISTING LIFT STATION.
11. REMOVE WASTEWATER FROM EXISTING WET WET WELL, REMOVE SAND FROM EXISTING WET WELL, AND PROCEED WITH DEMOLITION OF THE EXISTING FACILITIES AS REQUIRED AND THE CONSTRUCTION OF THE NEW FACILITIES.
12. CONNECT THE FORCEMAIN FROM THE NEW LIFT STATION TO THE WYE CONNECTING TO THE BYPASS PUMPING.
13. STARTUP AND COMMISSION THE NEW LIFT STATION INCLUDING REMOVAL OF THE PLUG ISOLATING THE WET WELL FROM THE UPSTREAM MANHOLE. THE BYPASS PUMPING SHALL NOT BE REMOVED UNTIL THE NEW FACILITY IS FULLY OPERATIONAL AND COMMISSIONED.
14. REMOVE THE BYPASS PUMPING AND INSTALL THE SADDLE MANHOLE OVER THE WYE AND PLUG VALVE AT THE FORCE MAIN CONNECTION.

	REVISIONS	DATE	BY

DESIGNED F. POSTLEWAITE
DRAWN A. PETERSON
CHECKED R. NICKEL
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME PS1598164C-1
JOB No. 216-1598-164
DATE AUGUST 2024

FRANK POSTLEWAITE STATE OF WASHINGTON 25701 REGISTERED PROFESSIONAL ENGINEER
08/14/2024

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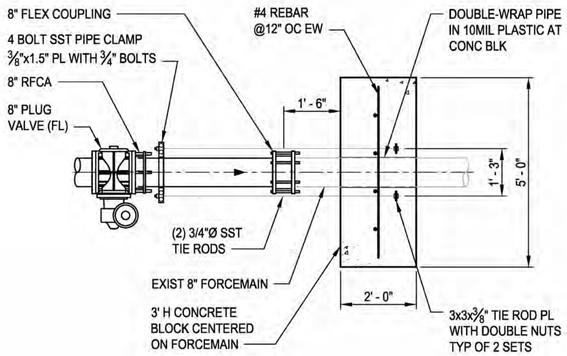
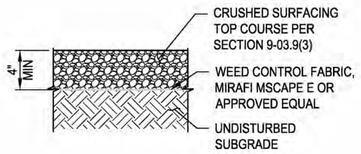
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

LIFT STATION CIVIL SITE PLAN

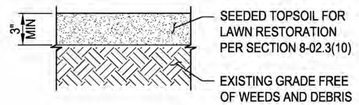
DRAWING NO. 4 OF 26
C1



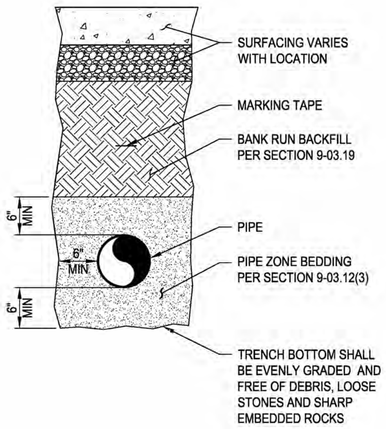
FORCEMAIN CONNECTION PLAN
DETAIL 1
1" = 2' C1



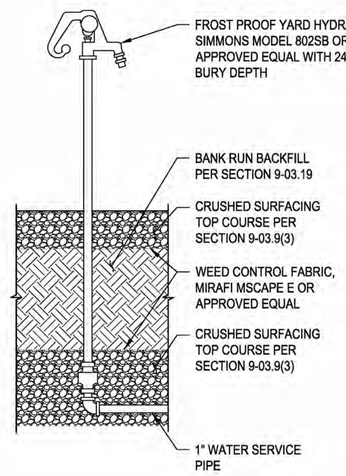
UNPAVED SURFACING
DETAIL 2
NONE C1



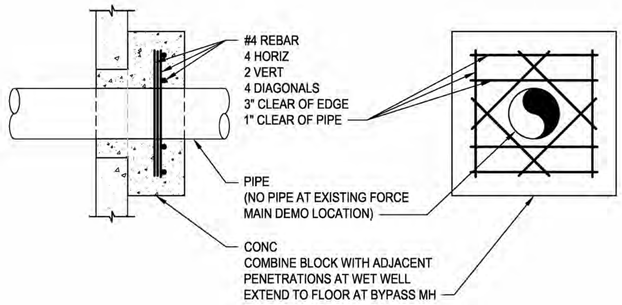
SURFACE RESTORATION
DETAIL 3
NONE C1



FORCEMAIN TRENCH
DETAIL 4
NONE C1



YARD HYDRANT
DETAIL 5
NONE C1



CONCRETE PIPE SEAL
DETAIL 6
NONE M1

	REVISIONS	DATE	BY

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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

CIVIL DETAILS

DRAWING NO. 5 OF 26
C2

G. GENERAL STRUCTURAL

G1 SCOPE

THE NOTES AND DETAILS ON THIS DRAWING ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

G2 APPLICABLE SPECIFICATIONS AND CODES

CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2021 WASHINGTON STATE BUILDING CODE AND CITY OF OLYMPIA LOCAL AMENDMENTS. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.

G3 ALTERNATIVE DESIGNS

THE STRUCTURAL SYSTEMS AND DETAILS ON THESE PLANS ARE THE PRIORITY DESIGN. HOWEVER, ALTERNATIVE SYSTEMS AND DETAILS MAY BE CONSIDERED IF THE CONTRACTOR SUBMITS PLANS WITH SUBSTANTIATING CALCULATIONS AND TEST DATA WHICH BEAR A WASHINGTON STATE LICENSED ENGINEERS SEAL AND SIGNATURE FOR APPROVAL OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHOSE EFFORTS FOR REVIEW OF SUCH ALTERNATIVE DESIGNS SHALL BE PAID FOR BY THE CONTRACTOR.

G4 DIMENSIONS

STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO FIELD CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. DEVIATIONS FROM THAT WHICH IS SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE DRAWINGS.

G5 CONSTRUCTION LOADS

STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND SUPPORTS AS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF TEMPORARY SUPPORTS. THE DESIGN OF THE TEMPORARY SUPPORTS SHALL BE PERFORMED BY AN ENGINEER LICENSED IN THE STATE OF THE PROJECT AND HIRED BY THE CONTRACTOR.

G6 PROVISIONS FOR EQUIPMENT

MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, PIPE SLEEVES, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT REQUIRED BY OTHER CONTRACT DRAWINGS SHALL BE PROVIDED FOR, PRIOR TO CASTING CONCRETE.

F. STRUCTURAL DESIGN

F1 DESIGN CODE

DESIGN IS IN ACCORDANCE WITH THE 2021 WASHINGTON STATE BUILDING CODE AND LOCAL AMENDMENTS. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.

F2 FOUNDATION DESIGN

DESIGN BASED ON PRESUMPTIVE VALUES GIVEN IN IBC TABLE 1806.2 FOR TYPE 5 SOIL.

(1) ALLOWABLE BEARING PRESSURE = 1500PSF
(2) FROST DEPTH = 12 INCHES
(3) ACTIVE SOIL PRESSURE = 35 PCF (EXCLUDES HYDROSTATIC)
(4) AT-REST SOIL PRESSURE = 55 PCF (EXCLUDES HYDROSTATIC)
(5) GROUND WATER ELEVATION = GROUND SURFACE

H. FOUNDATIONS

H1 SUBGRADE AND STRUCTURAL FILL

SUBGRADE AND BACKFILL SHALL BE COMPACTED TO 95% STD PROCTOR DENSITY.

L. DESIGN LOADS

A. LIVE

(1) FOUNDATION SLABS / SLABS-ON-GRADE = 250 PSF
(2) ROOF = 25 PSF / 300 LB CONCENTRATED
(3) TRAFFIC RATED SURFACES = AASHTO HL-93

B. SNOW

(1) GROUND SNOW LOAD Pg = 20 PSF
(2) FLAT ROOF SNOW LOAD Pf = 25 PSF
(3) RISK CATEGORY III
(4) IMPORTANCE FACTOR Is = 1.1

C. WIND

(2) ULTIMATE DESIGN WIND SPEED = 105 MPH
(3) RISK CATEGORY III
(4) IMPORTANCE FACTOR Iw = 1.0
(5) WIND EXPOSURE D

D. SEISMIC

(1) RISK CATEGORY III
(2) IMPORTANCE FACTOR Le = 1.25
(3) SITE CLASS = D
(4) S_S = 1.22 S_1 = 0.436
(5) S_{DS} = 0.976 S_{D1} = N/A
(6) SEISMIC DESIGN CATEGORY = D
(7) ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

C. CAST-IN-PLACE CONCRETE

C1 APPLICABLE CODE

CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2019 EDITION OF THE ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318.

C2 REINFORCING STEEL DETAILS

DETAILING, FABRICATION AND ERECTION OF REINFORCING STEEL, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH DETAILS AND DETAILING OF CONCRETE REINFORCEMENT ACI 315.

C3 DESIGN STRENGTHS

A. CAST-IN-PLACE CONCRETE
(1) WATER RETAINING STRUCTURES - f'c = 5000 PSI @ 28 DAYS
(2) GENERAL USE/BUILDING FOUNDATION - f'c = 4000 PSI @ 28 DAYS
B. MAX WATER TO CEMENTITIOUS MATERIAL RATIO PER SPECIFICATIONS
C. MINIMUM CEMENTITIOUS MATERIAL CONTENT PER SPECIFICATIONS
D. AIR CONTENT PER SPECIFICATIONS
E. REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60
F. GROUT SHALL BE ASTM C 1107 WITH f'c = 7000 PSI @ 28 DAYS

C4 CONCRETE COVER

CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:
A. FOOTINGS AND FOUNDATION MATS CAST ON GROUND - 3"
B. FORMED OR FINISHED SURFACES - 2"

C5 DOWELS

DOWELS SHALL BE AT LEAST THE SAME SIZE AND SPACING AS BARS WITH WHICH THEY ARE LAPPED. THE DOWEL EMBEDMENT SHALL BE AS REQUIRED BY ACI 318 OR AS NOTED.

C6 BAR SPLICES

SPLICES OF REINFORCING STEEL BAR SHALL BE IN ACCORDANCE WITH SCHEDULE SHOWN ON CONCRETE DETAILS AND ACI 318 AND SHALL BE CLASS B UNLESS OTHERWISE NOTED. THE LENGTH OF LAP SPLICE OF BARS OF DIFFERENT DIAMETER SHALL BE BASED ON THE SMALLER DIAMETER.

C7 RESTRICTED BAR ANCHORAGE

IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

C8 STANDARD HOOKS

BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.

C9 CHAMFERS

EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. RE-ENTRANT CORNERS SHALL NOT HAVE FILLETS.

C10 CAST-IN-PLACE CONCRETE ANCHORS

ANCHORS SHALL BE HEADED BOLTS OF ASTM F1554 GRADE 55 (WITH SUPPLEMENT S1) WITH ASTM A563 HEAVY HEXAGONAL NUTS AND ASTM A36 PLATE WASHERS WITH MINIMUM SIZE CONFORMING TO TABLE 14-2 OF THE CURRENT AISC STEEL CONSTRUCTION MANUAL, UNLESS NOTED OTHERWISE. ALTERNATELY, ANCHORS SHALL BE THREADED AND NUTTED ROD CONFORMING TO ASTM F1554 GRADE 55 (WITH SUPPLEMENT S1) WITH THE EMBEDDED NUT THREADED ON AND WELDED TO THE ROD. ALL MATERIALS SHALL BE HOT DIP GALVANIZED.

C11 POST-INSTALLED CONCRETE ANCHORS

ADHESIVE ANCHORS AND THEIR PROPERTIES SUCH AS DIAMETER, SPACING, EDGE DISTANCE, EMBEDMENT AND MATERIAL/FINISH SHALL CONFORM TO THE DETAILS IN THESE DRAWINGS. ADHESIVE SHALL BE HILTI HIT-HY 200 OR APPROVED EQUAL. THREADED ROD SHALL BE F1554 GRADE 36 (WITH SUPPLEMENT S1) HOT DIP GALVANIZED UNLESS NOTED OTHERWISE.

C12 INSTALLATION OF POST-INSTALLED CONCRETE ANCHORS

ALL ADHESIVE ANCHORS SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S DIRECTIONS. ALL HOLES SHALL BE HAMMER DRILLED WITH A CARBIDE BIT.

C13 SPECIAL WEATHER CONCRETING

FOR SPECIAL WEATHER CONCRETING (HOT & COLD CONCRETING) ADHERE TO REPORTS OF ACI COMMITTEE 305, "HOT WEATHER CONCRETING", AND ACI 306, "COLD WEATHER CONCRETING".

C14 CURING

CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 308.1.

C15 CONSTRUCTION JOINTS

LOCATION OF CONSTRUCTION JOINTS SHALL HAVE THE APPROVAL OF THE ENGINEER. CONSTRUCTION JOINTS SHALL BE DETAILED AS SHOWN ON THE DRAWINGS. UNLESS A METAL KEYED FORM IS USED, ALL CONSTRUCTION JOINTS SHALL BE ROUGHENED TO A MINIMUM 1/4" AMPLITUDE. ALL JOINT SURFACES SHALL BE THOROUGHLY CLEANED TO REMOVE GREASE, LOOSE CONCRETE, AND LAITANCE OR OTHER BOND REDUCING MATERIAL. SURFACES SHALL BE SATURATED SURFACE DRY PRIOR TO PLACING FRESH CONCRETE.

C16 CRACK CONTROL JOINTS

CCJ INDICATES A 1/8" WIDE CONTINUOUS SAW CUT CRACK CONTROL JOINT FILLED WITH ELASTOMERIC JOINT SEALANT. JOINTS SHALL BE SAWCUT AS SOON AS POSSIBLE, TYPICALLY WITHIN 4-12 HOURS AFTER THE CONCRETE HAS BEEN FINISHED. VERTICAL CONTROL JOINTS SHALL BE FORMED WITH 3/4" CHAMFER STRIP AND FILLED WITH ELASTOMERIC JOINT SEALANT. THE ELASTOMERIC JOINT SEALANT SHALL CONFORM TO ASTM C920, TYPE S OR M, GRADE NS, CLASS 50.

C17 CONCRETE FINISHES

CONCRETE FINISHES SHALL CONFORM TO PROJECT SPECIFICATIONS.

C18 PIPE PENETRATIONS

MAINTAIN CLEARANCE BETWEEN REBAR AND ALL NON-PVC PIPING OR SLEEVES OF NOT LESS THAN 1" OR NOT LESS THAN 1-1/3 TIMES THE NOMINAL MAXIMUM AGGREGATE SIZE, WHICHEVER IS GREATER. ALL WET/SUBMERGED LOCATION SHALL HAVE WEEP RINGS UNLESS NOTED OTHERWISE.

PC. PRECAST CONCRETE

P1 DESIGN

PRECAST CONCRETE COMPONENTS AND STRUCTURES SHALL BE DESIGNED BY THE PRECAST SUPPLIER. THIS INCLUDES GRAVITY AND LATERAL LOAD RESISTING SYSTEMS, FOUNDATIONS, WALLS, TOP SLABS, OPENINGS AND ANY ACCESSORIES. STRUCTURES SHALL BE DESIGNED ACCORDING TO THE LOADS REQUIRED BY THE APPLICABLE BUILDING CODE AND IN ACCORDANCE WITH ACI AND PCI STANDARDS. DESIGN LOADS SHALL NOT BE LESS THAN THOSE SHOWN ON THE DRAWING. MATERIAL SPECIFICATIONS SHALL BE AS SHOWN ON THE DRAWINGS. DESIGN CALCULATIONS AND SHOP DRAWINGS SHALL BE STAMPED AND SIGNED BY AN ENGINEER IN THE STATE OF PROJECT LOCATION.

P2 FABRICATION

THE PRECAST MANUFACTURER SHALL BE REGULARLY ENGAGED IN THE DESIGN AND FABRICATION OF PRECAST STRUCTURES AND CERTIFIED BY PCI. FABRICATION SHALL BE IN ACCORDANCE WITH PCI AND ACI STANDARDS. PRODUCT DATA AND SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND SHALL BE APPROVED PRIOR TO FABRICATION.

P3 RESPONSIBILITY

PARAMETRIX IS NOT RESPONSIBLE FOR THE DESIGN OF ANY ASPECTS OF THESE COMPONENTS OR STRUCTURES.

E. EXISTING CONCRETE MODIFICATIONS

E1 GENERAL

THE FOLLOWING NOTES ON MODIFICATION OF EXISTING CONCRETE ARE GENERAL AND APPLY TO THE ENTIRE PROJECT, UNLESS OTHERWISE SPECIFIED.

E2 SURFACES

A. EXISTING CONCRETE SURFACES TO BE JOINED WITH NEW CONCRETE SHALL BE THOROUGHLY CLEANED AND ROUGHENED TO MIN 1/4 INCH AMPLITUDE AND SATURATED SURFACE DRY JUST PRIOR TO PLACEMENT OF NEW CONCRETE. PROVIDE EXPANDING WATERSTOP BETWEEN EXISTING AND NEW CONCRETE WHERE WATERTIGHT CONSTRUCTION IS REQUIRED.
B. NEW OPENINGS IN EXISTING CONCRETE SHALL BE NEATLY SAW CUT TO THE REQUIRED FINISHED SIZE PRIOR TO REMOVING THE EXISTING CONCRETE.

E3 OPENINGS

WHERE "PLUG EXISTING OPENING" IS INDICATED, CONTRACTOR SHALL REMOVE ANY ATTACHED METALWORK, CONCRETE CURBS OR PROJECTIONS. ROUGHEN AND KEY EXISTING CONCRETE, SATURATE SURFACE DRY SURFACES, AND POUR NEW CONCRETE FLUSH WITH ADJACENT SURFACES.

S. STEEL

S1 CODES AND SPECIFICATIONS

STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE 14TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION.

S2 MATERIAL

STRUCTURAL BARS, PLATES, ANGLES, AND CHANNELS INDICATED ON THE DRAWINGS SHALL BE STEEL MEETING ASTM A572 GR50 OR ASTM A992. HOLLOW STRUCTURAL SECTIONS SHALL BE STEEL MEETING ASTM A500 GRADE B. PIPE SHALL BE STEEL MEETING ASTM A53 TYPE E OR S GRADE B. BOLTS SHALL BE STEEL MEETING ASTM A325. HEAVY HEXAGONAL NUTS SHALL BE STEEL MEETING ASTM A563. WASHERS SHALL BE STEEL MEETING ASTM F436 UNLESS OTHERWISE NOTED.

S3 WELDING

WELDING SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE - STEEL". ELECTRODE SHALL BE E70XX GROUP, LOW HYDROGEN. WELDING SHALL BE CONDUCTED BY WELDERS CERTIFIED BY THE AWS.

S4 PAINTING

UNLESS OTHERWISE NOTED, ALL STEEL FABRICATIONS SHALL BE PAINTED PER SPECIFICATIONS.

SS. STAINLESS STEEL

SS1 CODES AND SPECIFICATIONS

STAINLESS STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE 14TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION IN CONJUNCTION WITH AISC DESIGN GUIDE 27.

SS2 MATERIAL

STRUCTURAL SHAPES, BARS AND PLATES INDICATED ON THE DRAWINGS SHALL BE STAINLESS STEEL TYPE 316. WHERE SHAPES, BARS OR PLATES WILL BE WELDED, THE MATERIAL SHALL BE TYPE 316L.

PLATE, SHEET AND STRIP SHALL BE ASTM A240. BARS AND SHAPES SHALL BE ASTM A276. HOLLOW STRUCTURAL SECTIONS SHALL BE ASTM A554.

BOLTS AND OTHER FASTENERS SHALL BE STAINLESS STEEL TYPE 316. STAINLESS STEEL BOLTS AND THREADED ROD SHALL CONFORM TO ASTM F593 ALLOY GROUP 2 CONDITION CW. STAINLESS STEEL NUTS SHALL CONFORM TO ASTM F594 ALLOY GROUP 2 CONDITION CW. STAINLESS STEEL WASHERS SHALL BE STAINLESS STEEL TYPE 316 MEETING THE DIMENSIONAL REQUIREMENTS OF ASTM F436.

SS3 WELDING

WELDING SHALL CONFORM TO AWS D1.6 STRUCTURAL WELDING CODE FOR STAINLESS STEEL. WELDING SHALL BE CONDUCTED BY WELDERS CERTIFIED BY THE AWS. WELD FILLER MATERIAL SHALL BE PRE-QUALIFIED FILLER METAL PER AWS D1.6.

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT	MB	MACHINE BOLT
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
CLR	CLEAR	MO	MASONRY OPENING
d	PENNY WT (NAIL)	O.S.	OUTSIDE
DS	DOWNSPOUT	PT	PRESSURE TREATED
EF	EACH FACE	PWD	PLYWOOD
EW	EACH WAY	T&B	TOP AND BOTTOM
FB	FLAT BAR	TJI	TRUSS JOIST I BEAM
FDN	FOUNDATION		OR EQUIVALENT
F/G	FIBERGLASS	T.O.	TOP OF
GLB	GLUE LAMINATED BEAM	TOC	TOP OF CONCRETE
I.S.	INSIDE	TOW	TOP OF WALL
LONGIT	LONGITUDINAL	U/S	UNDERSIDE

ROLLED STEEL SHAPES

C	CHANNEL	PL	PLATE
HP	H PILE SHAPE	S	S SHAPE
HSS	HOLLOW STRUCTURAL SHAPE	SCH	PIPE SCHEDULE
L	ANGLE	ST, WT	TEES CUT FROM S OR W SHAPES
M	MISCELLANEOUS SHAPE		
MC	MISCELLANEOUS COLUMN	W	WIDE FLANGE

	REVISIONS	DATE	BY

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JOB No. 216-1598-164
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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

STRUCTURAL NOTES

DRAWING NO. 6 OF 26

S1

SPECIAL INSPECTIONS REQUIRED

SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE CHAPTER 17. SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN APPROVED INSPECTION AGENCY, AS DEFINED BY THE BUILDING OFFICIAL, AND EMPLOYED BY THE OWNER, UNLESS NOTED OTHERWISE.

THE SPECIAL INSPECTOR SHALL BE CERTIFIED BY THE INTERNATIONAL CODE COUNCIL (I.C.C.) TO PERFORM INSPECTION FOR THE PARTICULAR TYPE OF CONSTRUCTION OF OPERATION REQUIRING SPECIAL INSPECTION PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THIS CODE.

IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO SCHEDULE SPECIAL INSPECTIONS IN ACCORDANCE WITH THE SPECIFICATIONS.

SHOP INSPECTION OF STEEL CONSTRUCTION IS NOT REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

CONTRACTOR RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND - OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OF A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

OWNER OR OWNER'S REPRESENTATIVE SHALL BE SYNONYMOUS WITH "BUILDING OFFICIAL" IN THE FOREGOING IF THE PROJECT IS NOT UNDER THE JURISDICTION OF A BUILDING DEPARTMENT.

SPECIAL INSPECTION SHALL BE PROVIDED FOR THE FOLLOWING TYPES OF WORK PERFORMED IN THE FIELD, OR NOT PERFORMED IN AN APPROVED FABRICATION SHOP AS DEFINED ABOVE, UNLESS NOTED AS "N/A".

REQUIRED SPECIAL INSPECTIONS AND TEST OF SOILS:

SPECIAL INSPECTIONS REQUIRED (■ YES ☐ NO)

	CONT	PERIODIC	N/A
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	☐	■	☐
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	☐	■	☐
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	☐	■	☐
4. PERFORM CLASSIFICATION AND TESTING OF NATIVE SOILS TO VERIFY ANY SOIL PROPERTIES ASSUMED AS PART OF DESIGN FOR THIS PROJECT IN THE ABSENCE OF A SOILS REPORT (SEE SOIL PROPERTIES ON THIS DRAWING). THIS TESTING SHALL BE PERFORMED IN ADVANCE OF ANY CONSTRUCTION. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE ASSUMED VALUES ARE NOT VALID	☐	☐	■
5. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	■	☐	☐
6. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	☐	■	☐

REQUIRED SPECIAL INSPECTIONS OF CONCRETE CONSTRUCTION:

	CONT	PERIODIC	N/A
1. INSPECT REINFORCEMENT, INCLUDING ~~PRESTRESSING TENDONS~~, AND PLACEMENT	☐	■	☐
2. REINFORCING BAR WELDING:			
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAT ASTM A706	☐	■	☐
B. INSPECT SINGLE-PASS FILLET WELD, MAXIMUM 5/16"	☐	■	☐
C. INSPECT ALL OTHER WELDS	■	☐	☐
3. INSPECT ANCHORS CAST IN CONCRETE	☐	■	☐
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:			
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	☐	☐	■
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	☐	■	☐
5. VERIFY USE OF REQUIRED DESIGN MIX	☐	■	☐
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	■	☐	☐
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	■	☐	☐
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	☐	■	☐
9. INSPECT PRESTRESSED CONCRETE FOR:			
A. APPLICATION OF PRESTRESSING FORCES	☐	☐	■
B. GROUTING OF BONDED PRESTRESSING TENDONS	☐	☐	■
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	☐	☐	■
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	☐	☐	■
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED	☐	■	☐

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STEEL CONSTRUCTION (STRUCTURAL STEEL):

P - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER OR BOLTED CONNECTION
O - OBSERVE THESE ITEMS ON A RANDOM BASIS

	P	O	N/A
1. INSPECTION TASKS PRIOR TO WELDING			
A. PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	■	☐	☐
B. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	■	☐	☐
C. MATERIAL IDENTIFICATION (TYPE/GRADE)	☐	■	☐
D. WELDER IDENTIFICATION SYSTEM	☐	■	☐
E. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	☐	■	☐
• JOINT PREPARATION			
• DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)			
• CLEANLINESS (CONDITION OF STEEL SURFACES)			
• TACKING (TACK WELD QUALITY AND LOCATION)			
• BACKING TYPE AND FIT (IF APPLICABLE)			
2. INSPECTION TASKS DURING WELDING			
A. USE OF QUALIFIED WELDERS	☐	■	☐
B. CONTROL AND HANDLING OF WELDING CONSUMABLES	☐	■	☐
• PACKAGING			
• EXPOSURE CONTROL			
C. NO WELDING OVER CRACKED TACK WELDS	☐	■	☐
D. ENVIRONMENTAL CONDITIONS	☐	■	☐
• WIND SPEED WITHIN LIMITS			
• PRECIPITATION AND TEMPERATURE			
E. WPS FOLLOWED	☐	■	☐
• SETTINGS ON WELDING EQUIPMENT			
• TRAVEL SPEED			
• SELECTED WELDING MATERIALS			
• SHIELDING FAS TYPE/FLOW RATE			
• PREHEAT APPLIED			
• INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.)			
• PROPER POSITION (F, V, H, OH)			
F. WELDING TECHNIQUES	☐	■	☐
• INTERPASS AND FINAL CLEANING			
• EACH PASS WITHIN PROFILE LIMITATIONS			
• EACH PASS MEETS QUALITY REQUIREMENTS			
3. INSPECTION TASKS AFTER WELDING			
A. WELDS CLEANED	☐	■	☐
B. SIZE, LENGTH AND LOCATION OF WELDS	■	☐	☐
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA	■	☐	☐
• CRACK PROHIBITION			
• WELD/BASE-METAL FUSION			
• CRATER CROSS SECTION			
• WELD PROFILES			
• WELD SIZE			
• UNDERCUT			
• POROSITY			
D. ARC STRIKES	■	☐	☐
E. K-AREA	☐	☐	■
a. WHEN WELDING OF DOUBLER PLATED, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. OF THE WELD			
F. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	☐	☐	■
G. REPAIR ACTIVITIES	■	☐	☐
H. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	■	☐	☐
4. INSPECTION TASKS PRIOR TO BOLTING			
A. MANUFACTURER'S CERTIFICATION AVAILABLE FROM FASTENERS MATERIALS	■	☐	☐
B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	☐	■	☐
C. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	☐	■	☐
D. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	☐	■	☐
E. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	☐	■	☐
F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	☐	■	☐
G. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	☐	■	☐
5. INSPECTION TASKS DURING BOLTING			
A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	☐	■	☐
B. JOINT BROUGHT TO THE SUNG-TIGHT CONDITION PRIOR TO THE PRETENSIONING PROCEDURE	☐	■	☐
C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	☐	■	☐
D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	☐	■	☐
6. INSPECTION TASKS AFTER BOLTING			
A. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	■	☐	☐
7. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT			
A. PLACEMENT AND INSTALLATION OF STEEL DECK	☐	☐	■
B. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	☐	☐	■
C. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	☐	☐	■

FOR STRUCTURAL STEEL NOT PART OF THE SEISMIC-FORCE-RESISTING SYSTEM AS IDENTIFIED ON THE DRAWINGS, WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 360 CHAPTER N AND NON-DESTRUCTIVE TESTING OF WELDS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 360 CHAPTER N.

FOR STRUCTURAL STEEL PART OF THE SEISMIC-FORCE-RESISTING SYSTEM AS IDENTIFIED ON THE DRAWINGS, WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 341 CHAPTER J AND NON-DESTRUCTIVE TESTING OF WELDS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 341 CHAPTER J.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF ADHESIVE ANCHORS:

	CONT	PERIODIC	N/A
1. VERIFY ANCHOR TYPE	☐	■	☐
2. VERIFY ADHESIVE IDENTIFICATION AND EXPIRATION DATE	☐	■	☐
3. VERIFY ANCHOR DIMENSIONS	☐	■	☐
4. VERIFY CONCRETE TYPE	☐	■	☐
5. VERIFY CONCRETE COMPRESSIVE STRENGTH	☐	■	☐
6. VERIFY HOLE DRILLING METHOD	☐	■	☐
7. VERIFY HOLE DIMENSIONS	☐	■	☐
8. VERIFY HOLE CLEANING PROCEDURES	☐	■	☐
9. VERIFY ANCHOR SPACING	☐	■	☐
10. VERIFY EDGE DISTANCES	☐	■	☐
11. VERIFY CONCRETE THICKNESS	☐	■	☐
12. VERIFY ANCHOR EMBEDMENT	☐	■	☐
13. VERIFY TIGHTENING TORQUE	☐	■	☐
14. VERIFY ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS	☐	■	☐

THE SPECIAL INSPECTOR MUST VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ADHESIVE ANCHOR INSTALLED BY THE CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL MAY BE PERMITTED, WITH THE APPROVAL OF THE ENGINEER AND THE SPECIAL INSPECTOR TO BE PERFORMED IN THE ABSENCE OF THE SPECIAL INSPECTOR. ANY CHANGE IN THE ANCHOR PRODUCT BEING INSTALLED OR THE PERSONNEL PERFORMING THE INSTALLATION REQUIRES AN INITIAL INSPECTION. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF THE PRODUCT. THE SPECIAL INSPECTOR SHALL INFORM THE ENGINEER OF THE FREQUENCY OF THE PERIODIC ANCHOR INSPECTIONS. THE ENGINEER MAY REQUEST ADDITIONAL INSPECTIONS AT ANY TIME.

STRUCTURAL OBSERVATION

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, OR ANOTHER QUALIFIED REGISTERED DESIGN PROFESSIONAL SHALL BE RETAINED BY THE OWNER TO PERFORM STRUCTURAL OBSERVATIONS AS REQUIRED BY INTERNATIONAL BUILDING CODE CHAPTER 17. STRUCTURAL OBSERVATIONS SHALL BE PROVIDED DURING THE STAGES OF CONSTRUCTION LISTED BELOW. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AT LEAST 48 HOURS ADVANCE NOTICE TO THE REGISTERED DESIGN PROFESSIONAL WHEN HIS WORK IS READY FOR STRUCTURAL OBSERVATION FOR EACH OF THESE STAGES.

STRUCTURAL OBSERVATIONS REQUIRED (■ YES ☐ NO)

	CONT	PERIODIC	N/A
1. CONCRETE: REINFORCING STEEL AND EMBEDDED STRUCTURAL ANCHORAGES PRIOR TO PLACEMENT OF CONCRETE FOR THE FOLLOWING:			
A. FOUNDATIONS	☐	■	☐
B. SLAB-ON-GRADE (EXCEPT SITE PAVING AND FLATWORK)	☐	■	☐
C. WALLS	☐	☐	■
D. STRUCTURAL FLOOR SLABS AND BEAMS NOT SUPPORTED ON-GRADE	☐	☐	■
E. ROOF SLABS AND BEAMS	☐	☐	■
2. MASONRY:			
A. REINFORCING STEEL AND EMBEDDED STRUCTURAL ANCHORAGES PRIOR TO GROUTING OF MASONRY WALLS	☐	☐	■
3. STRUCTURAL STEEL:			
A. ERECTED COLUMN, BEAMS AND GIRDERS, PRIOR TO INSTALLATION OF ROOF AND FLOOR JOISTS, TRUSSES AND DECKING	☐	☐	■
4. WOOD FRAMING:			
A. ROOF, FLOOR AND WALL FRAMING AND MEMBER CONNECTIONS, AND STRUTS AND CHORDS, PRIOR TO INSTALLATION OF SHEATHING OR ANY COVING THAT WOULD CONCEAL THE STRUCTURAL FRAME	☐	☐	■
B. PLYWOOD ROOF, FLOOR AND WALL SHEATHING PRIOR TO INSTALLATION OF ROOFING AND ANY OTHER BUILDING MATERIALS THAT WOULD CONCEAL THE NAILING	☐	☐	■

DEFERRED SUBMITTALS/CERTIFICATIONS

SUBMITTALS REQUIRED (■ YES ☐ NO)

1. OFF-SITE FABRICATION:
FABRICATORS SHALL BE CITY, COUNTY AND/OR IBC APPROVED FABRICATORS.
FOR ALL OFFSITE FABRICATION OF THE ITEMS LISTED BELOW:
   - A. TRUSSES OR JOISTS ☐ N/A
   - B. GLU-LAMINATED MEMBERS ☐ N/A
   - C. PRECAST CONCRETE ☐ N/A
   - D. STRUCTURAL STEEL (MILL REPORTS AND IDENTIFICATION OF STEEL, CERTIFICATE OF COMPLIANCE) ■

2. DEFERRED SUBMITTALS:
SUBMITTAL DOCUMENTS FOR THE DEFERRED SUBMITTAL ITEMS LISTED BELOW SHALL BE DESIGNED BY A LICENSED PE OR SE AND SUBMITTED BY THE CONTRACTOR TO THE BUILDING DEPARTMENT/APPROVAL AGENCY AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
   - A. PREFABRICATED TRUSSES OR JOISTS ☐ N/A
   - B. PRECAST COMPONENTS AND STRUCTURES (SPECIFICATION 03 41 10) ☐ N/A
   - C. EQUIPMENT ANCHORAGE (SPECIFICATION 13 05 41) ■

REVISIONS	DATE	BY

DESIGNED S. WAGNER
DRAWN A. PETERSON
CHECKED J. LINKE
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME 1598.164-COMP.rvt
JOB NO. 216-1598-164
DATE AUGUST 2024

STEVEN A. WAGNER — STATE OF WASHINGTON — 18711 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
8/14/2024

Parametrix
1019 39th Avenue SE, Suite 100 • Puyallup, WA 98374
Ph. 253.604.6600

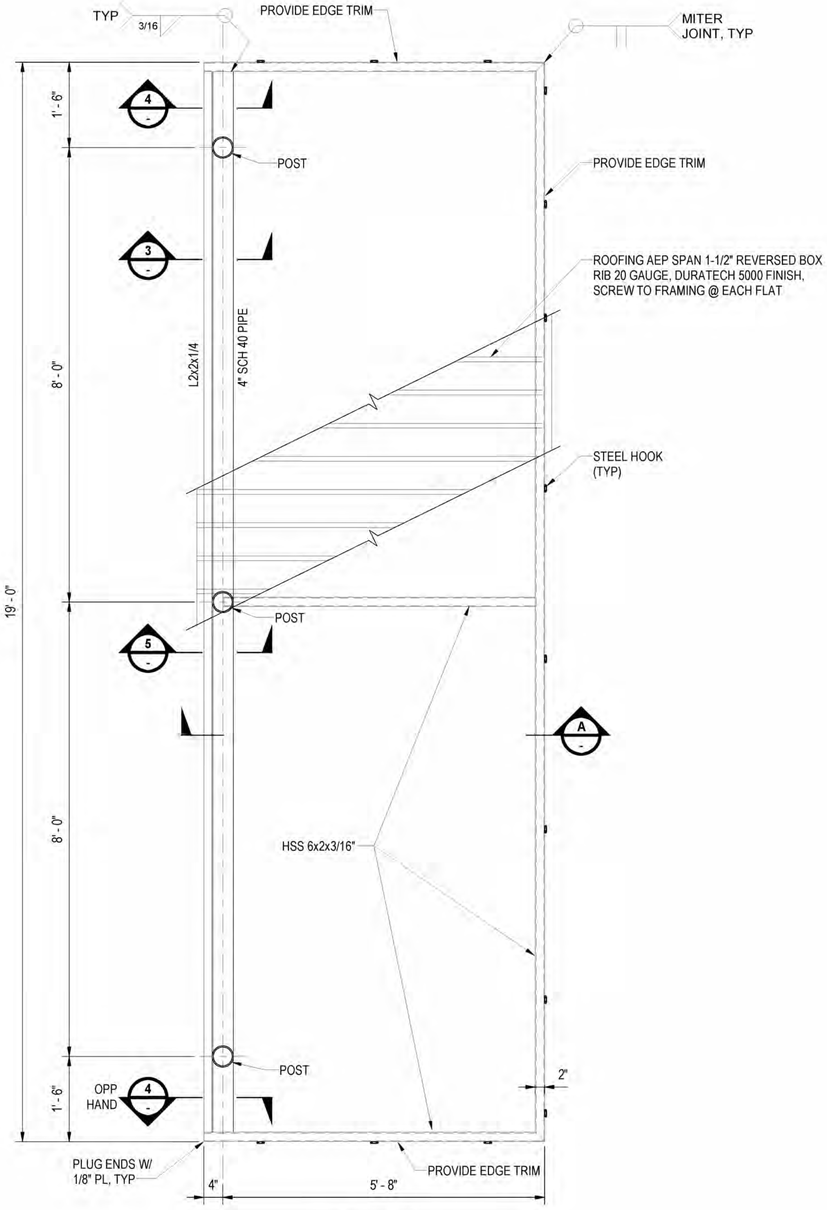
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

STRUCTURAL SPECIAL INSPECTIONS

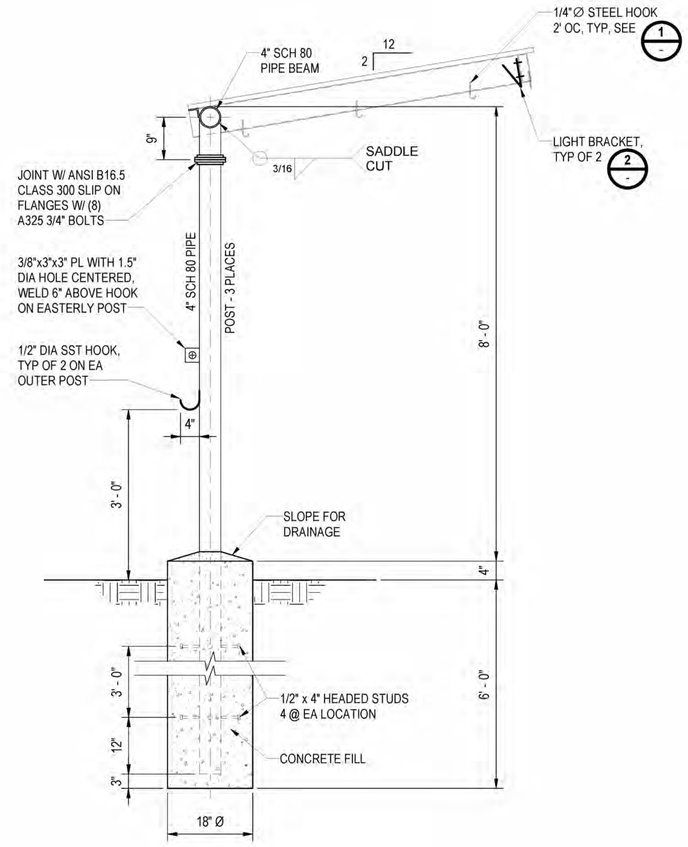
DRAWING NO. 7 OF 26
S2

NOTES:

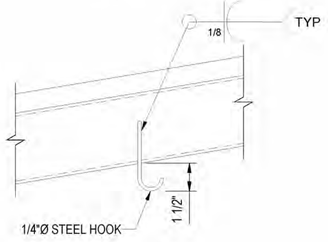
1. STRUCTURAL STEEL FRAMING SHALL BE SHOP FABRICATED AND COATED.
2. COATING SHALL BE PER SPEC 09 90 00.



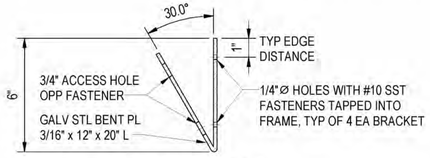
FRAMING PLAN
SCALE: 3/4" = 1'-0"



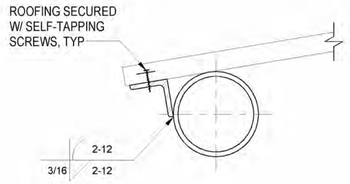
FRAMING SECTION
SCALE: 3/4" = 1'-0"



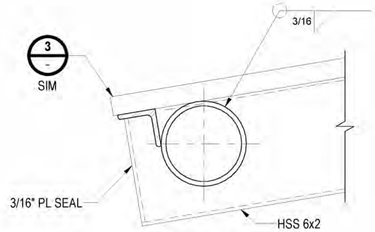
HOOK DETAIL
SCALE: 3" = 1'-0"



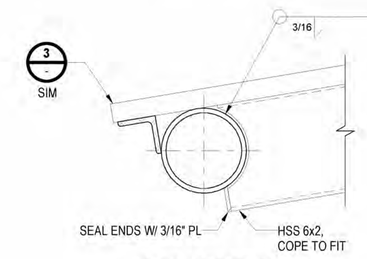
LIGHT BRACKET DETAIL
SCALE: 3" = 1'-0"



@ BACK EDGE DETAIL
SCALE: 3" = 1'-0"



@ ENDS DETAIL
SCALE: 3" = 1'-0"



@ MID SPAN BEAM DETAIL
SCALE: 3" = 1'-0"

REVISIONS	DATE	BY

DESIGNED S. WAGNER
DRAWN A. PETERSON
CHECKED J. LINKE
APPROVED J. WRIGHT

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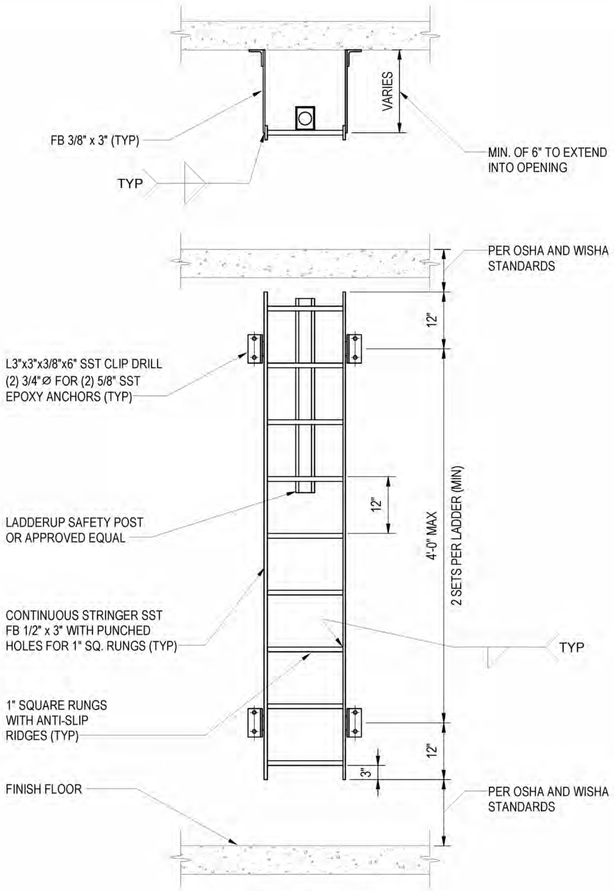
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

ELECTRICAL EQUIPMENT SHELTER

DRAWING NO. 8 OF 26
S3

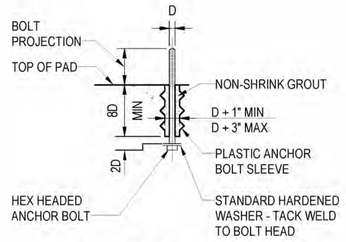


TYPICAL LADDER DETAIL 1 TYP

SCALE: NONE

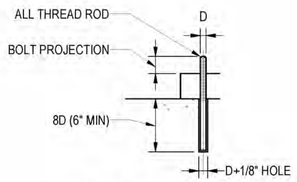
LAP SPLICE TABLE		
BAR SIZE	**CONCRETE f 'c = 4,000 OR 5,000 psi**	**MASONRY f 'm = 1,500 psi**
#3	19"	13"
#4	25"	22"
#5	31"	35"
#6	37"	54"
#7	48"	63"
#8	55"	72"
#9	62"	NA
#10	69"	NA

MINIMUM LAP SPLICES UNLESS OTHERWISE DETAILED ON DRAWINGS



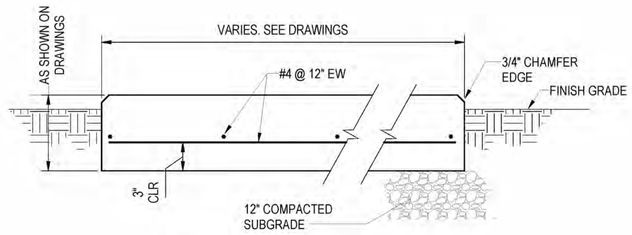
EQUIPMENT ANCHOR BOLT CAST-IN-PLACE DETAIL 2 TYP

SCALE: NONE



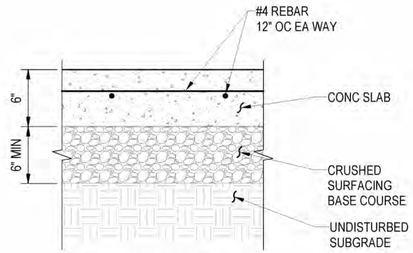
EQUIPMENT ANCHOR BOLT EPOXY DETAIL 3 TYP

SCALE: NONE



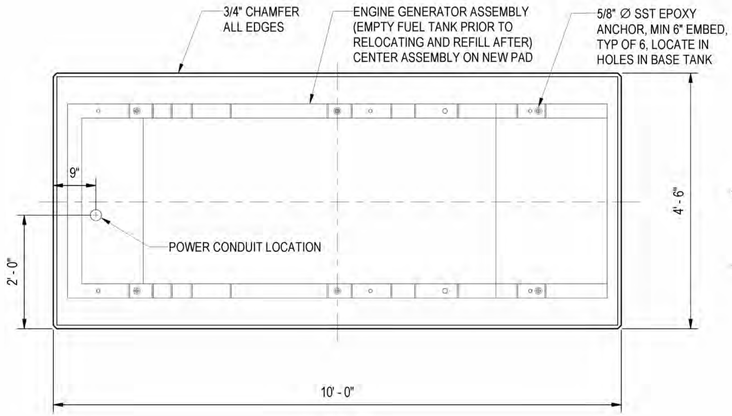
EQUIPMENT PAD ON GRADE DETAIL 4 TYP

SCALE: NONE

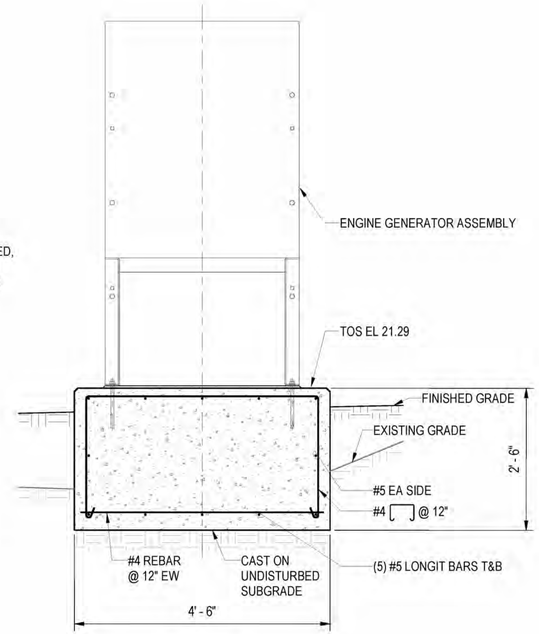


CONCRETE DRIVEWAY DETAIL 5

SCALE: 1 1/2" = 1'-0"



PLAN



SECTION

ELECTRICAL GENERATOR CONCRETE PAD DETAIL 6 M1

SCALE: 3/4" = 1'-0"

	REVISIONS	DATE	BY

DESIGNED S. WAGNER
DRAWN A. PETERSON
CHECKED J. LINKE
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY

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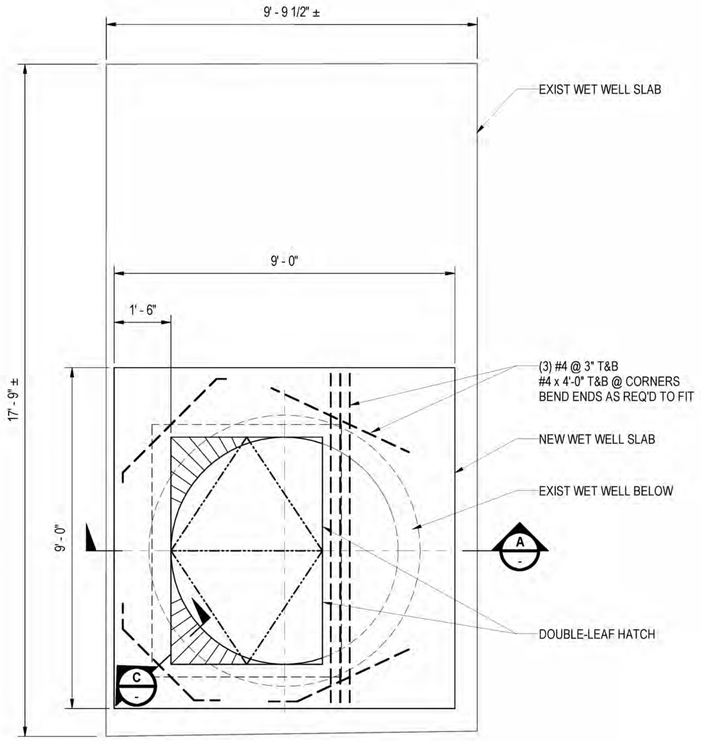
PROJECT NAME

THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

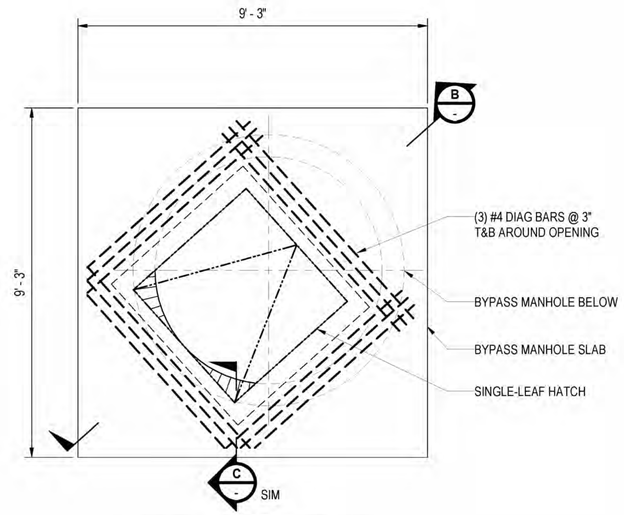
STRUCTURAL DETAILS

DRAWING NO. 9 OF 26

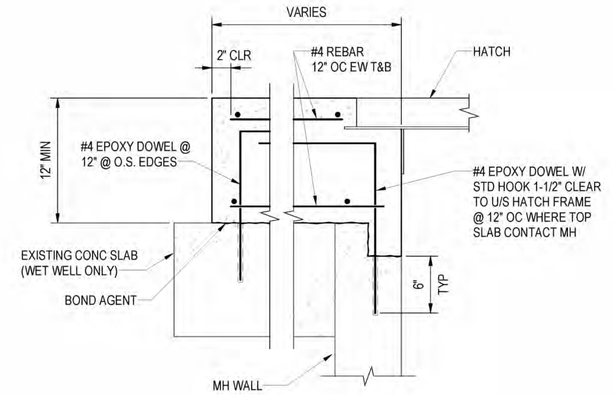
S4



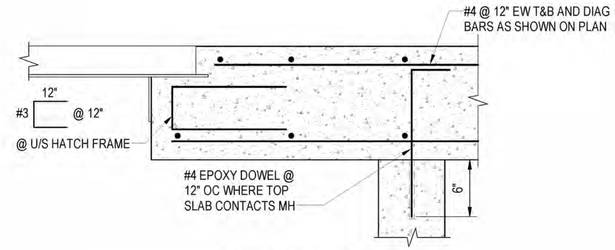
WET WELL SLAB PLAN
DETAIL 1 M1
SCALE: 1/2" = 1'-0"



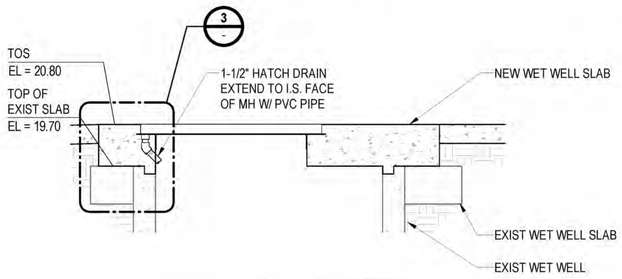
BYPASS MANHOLE SLAB PLAN
DETAIL 2 M1
SCALE: 1/2" = 1'-0"



WET WELL TOP SLAB
DETAIL 3
SCALE: 1 1/2" = 1'-0"



BYPASS MH TOP SLAB
DETAIL 4
SCALE: 1 1/2" = 1'-0"



SECTION A
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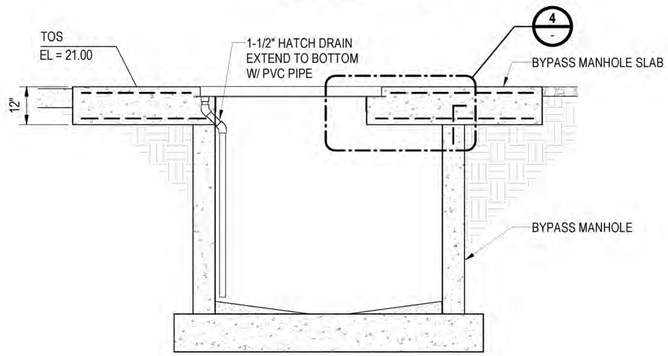
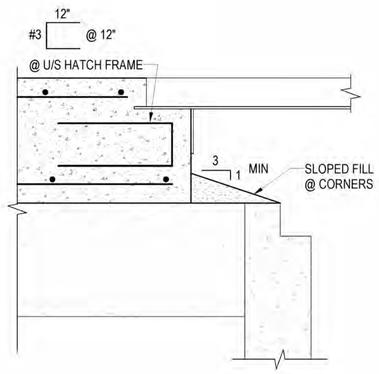


SECTION B
SCALE: 1/2" = 1'-0"



DETAIL C
SCALE: 1 1/2" = 1'-0"

	REVISIONS	DATE	BY

DESIGNED S. WAGNER
DRAWN A. PETERSON
CHECKED J. LINKE
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY
FILE NAME 1598.164-COMP.rvt
JOB No. 216-1598-164
DATE AUGUST 2024

STEVEN A. WAGNER — STATE OF WASHINGTON — 18711 — PROFESSIONAL ENGINEER
8/14/2024

Parametrix
1019 39th Avenue SE, Suite 100 • Puyallup, WA 98374
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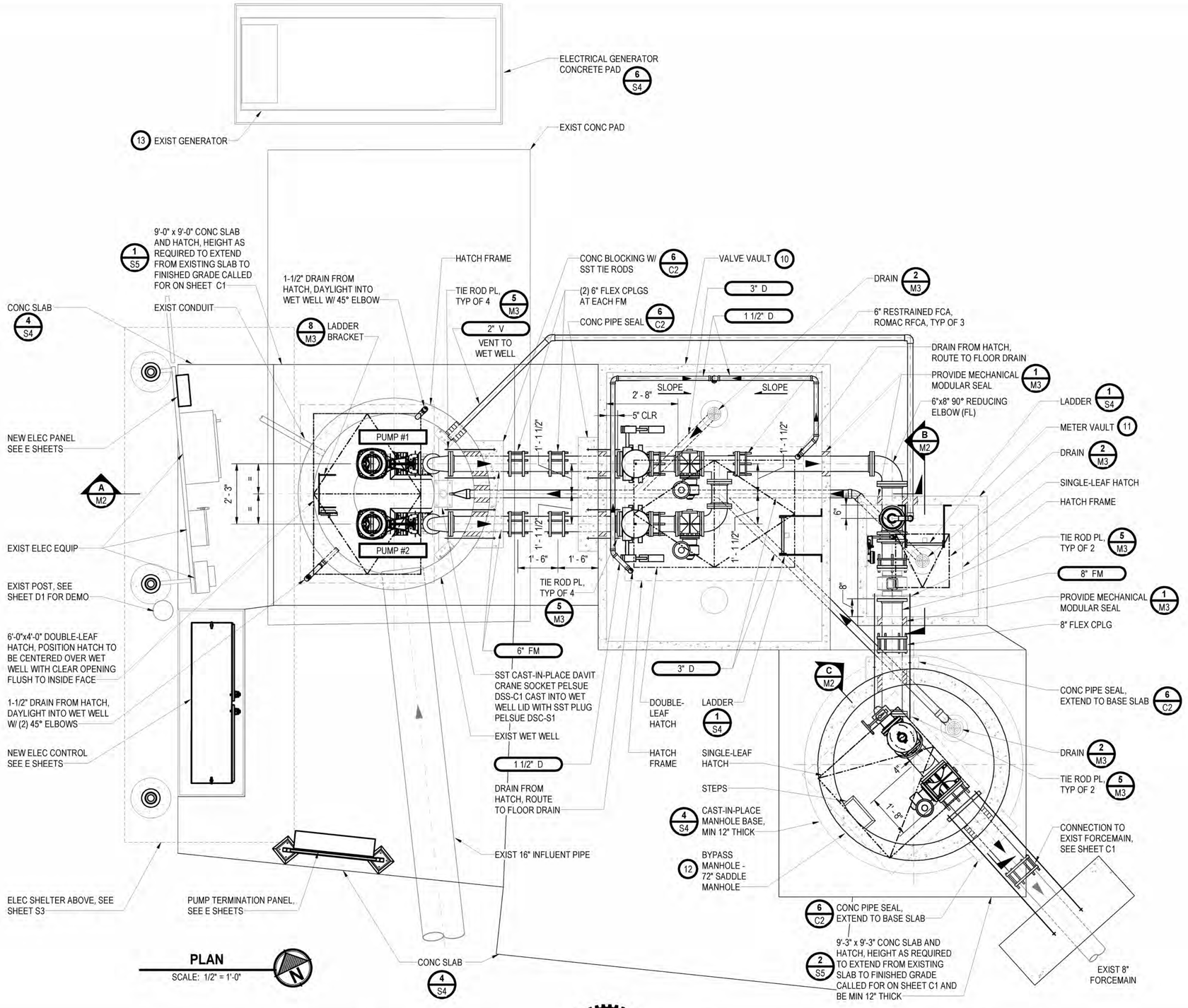
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

STRUCTURAL SLAB DETAILS

DRAWING NO. 10 OF 26
S5



NOTES:

1. CONTRACTOR SHALL VERIFY DIMENSIONS, ELEVATIONS, AND LOCATIONS PRIOR TO CONSTRUCTION.
2. ALL PRESSURE PIPE SHALL BE RESTRAINED. PIPING COUPLED WITH FLEX COUPLINGS SHALL BE RESTRAINED WITH TIE RODS ACROSS THE FLEX COUPLING. PRESSURE TEST PIPING AFTER CONC BLOCKING HAS CURED A MIN OF 7 DAYS AND BACKFILL IS COMPLETED.
3. STRUCTURES SHALL BE LOCATED ON THE SITE PER COORDINATES ON THE DRAWING C1. CONTRACTOR SHALL VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
4. SEAL VAULT PIPE PENETRATIONS WITH MODULAR SEALS OR CONC BLOCKS AS SHOWN ON MECHANICAL PLANS AND DETAILS.
5. FINAL LOCATIONS OF PUMPS AND PUMP RAILS IN WET WELL SHALL BE DETERMINED BY THE PUMP MANUFACTURER.
6. CONTRACTOR SHALL GROUT PUMP BRACKETS, PIPE STANDS, AND OTHER EQUIPMENT AS CALLED FOR WITH A MINIMUM 0.5" THICKNESS OF NON-SHRINK GROUT.
7. ALL METAL HARDWARE IN THE WET WELL SHALL BE 316 SST. ALL METAL HARDWARE IN THE VAULTS SHALL BE 304 SST, 316 SST, OR ALUM. PIPE JOINT FASTENERS SHALL BE SST PER SPEC 22 05 00 AND SHALL HAVE THREADS COATED WITH ANTI-SEIZE COMPOUND (BOSTIK NEVER-SEEZ NSBT-16).
8. WET WELL SHALL BE CLEANED, SEALED, THE SURFACE PREPARED, AND COATED PER PAINTING SPECIFICATIONS.
9. DUCTILE IRON PIPING SHALL BE FACTORY COATED PER PAINTING SPECIFATIONS.

10. VALVE VAULT SHALL BE OLDCASTLE 810-LA WITH CAST IN ALUM HATCH. HATCH SHALL HAVE 6'-0"x4'-0" CLEAR OPENING AND BE CENTERED IN THE VAULT LID. HATCH SHALL BE H-20 RATED AND BY LW PRODUCTS CO. INC. HATCH DRAINS SHALL BE EXTENDED TO THE FLOOR OF THE VAULT AS SHOWN WITH SCH 40 PVC PIPING CAST INTO AND EXTENDING OUT OF THE VAULT TOP SLAB. VAULT SHALL BE UNCOATED.
11. METER VAULT SHALL BE OLDCASTLE 507-LA WITH CAST IN ALUM HATCH. HATCH SHALL HAVE 2'-0"x2'-0" CLEAR OPENING AND BE CENTERED IN THE VAULT LID. HATCH SHALL BE H-20 RATED AND BY LW PRODUCTS CO. INC. HATCH DRAINS SHALL BE EXTENDED TO THE FLOOR OF THE VAULT AS SHOWN WITH SCH 40 PVC PIPING CAST INTO AND EXTENDING OUT OF THE VAULT TOP SLAB. VAULT SHALL BE UNCOATED.
12. THE BYPASS MH SHALL BE A SADDLE TYPE MANHOLE INSTALLED ON A CAST-IN-PLACE SLAB AFTER THE NEW PUMP STATION IS OPERATIONAL. SET MH RING SECTION ON PAD OF NON-SHRINK GROUT TO SEAL WALLS TO BASE SLAB. TOP SLAB SHALL BE CAST-IN-PLACE WITH A CAST IN ALUM HATCH. HATCH SHALL BE COATED ON SURFACES THAT CONTACT THE CONC WITH PAINT OR TAPE. COATINGS SHALL NOT EXTEND BEYOND THE CONC. HATCH SHALL HAVE 4'-0"x4'-0" CLEAR OPENING AND BE CENTERED IN THE VAULT LID. HATCH SHALL BE H-20 RATED AND BY LW PRODUCTS CO. INC. HATCH DRAINS SHALL BE EXTENDED TO THE FLOOR OF THE VAULT AS SHOWN WITH SCH 40 PVC PIPING CAST INTO AND EXTENDING OUT OF THE VAULT TOP SLAB. MH SHALL BE UNCOATED.
13. RELOCATE EXISTING ENGINE GENERATOR TO NEW PAD. SEE STRUCTURAL DETAILS FOR CONC PAD AND ELECTRICAL DRAWINGS FOR WIRING REQUIREMENTS.

	REVISIONS	DATE	BY

DESIGNED F. POSTLEWAITE
DRAWN A. PETERSON
CHECKED R. NICKEL
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
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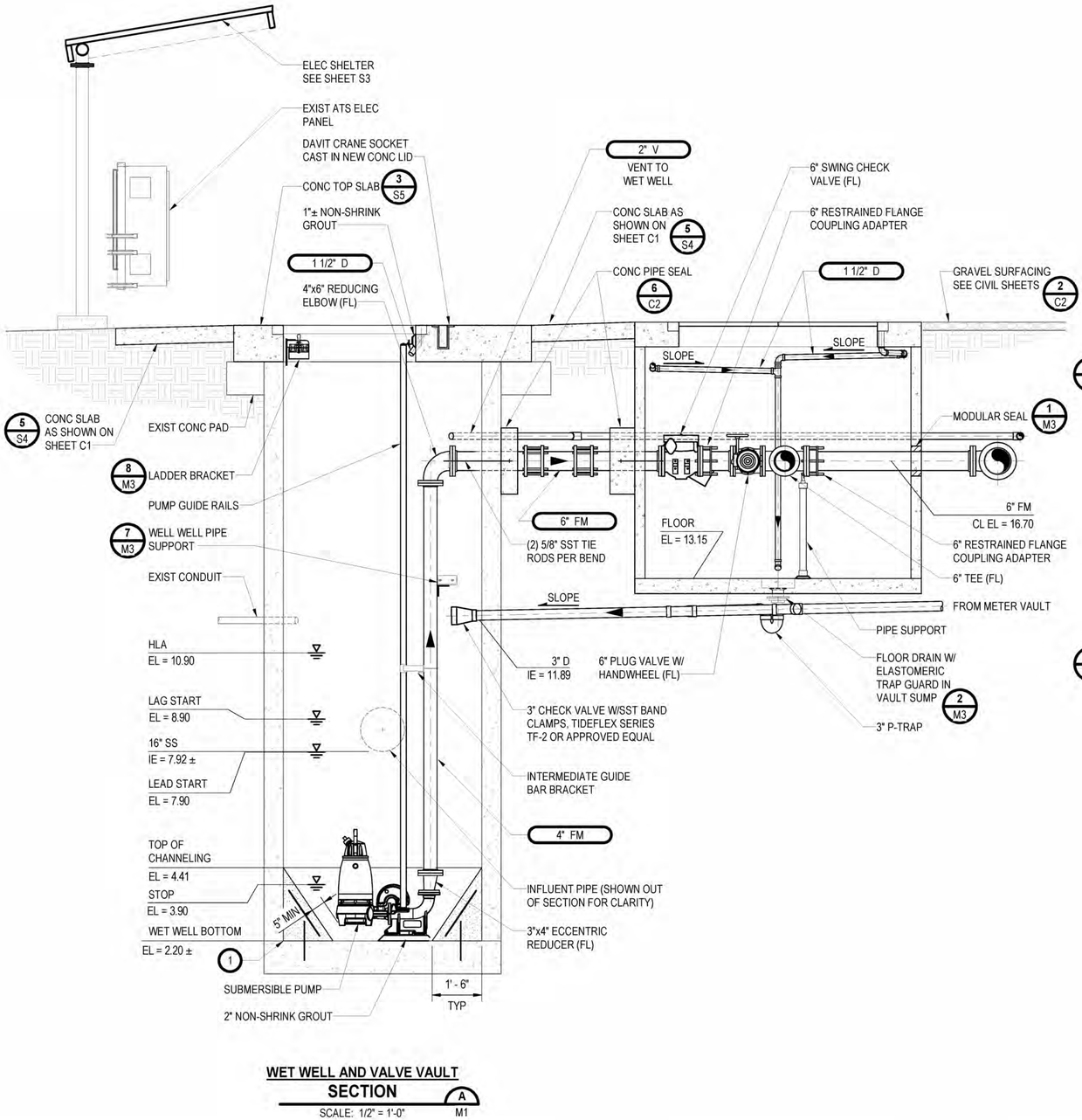
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

MECHANICAL PLAN

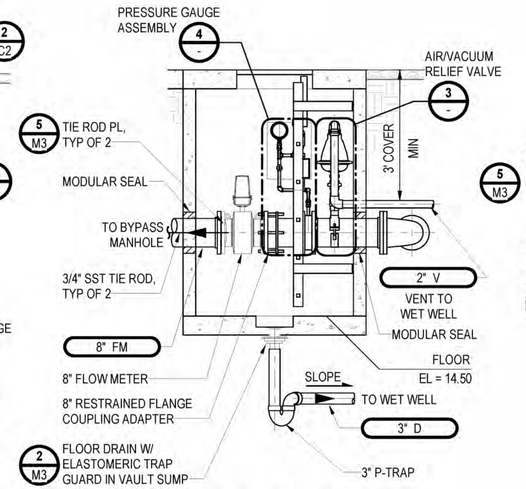
DRAWING NO. 11 OF 26
M1

NOTES:

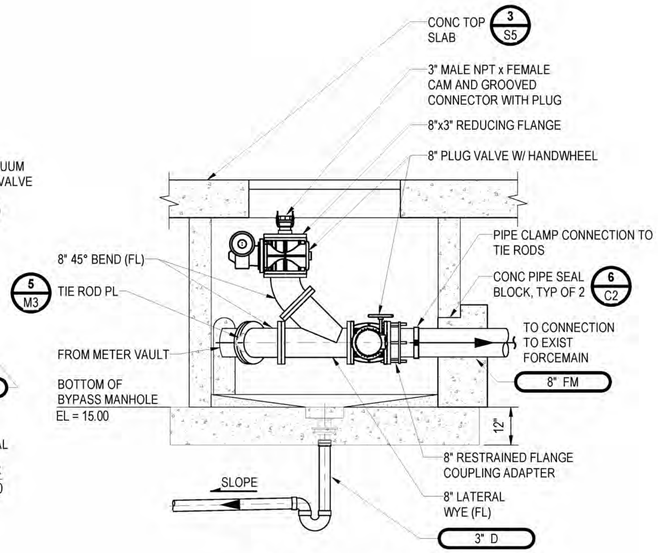
1. CONC CHANNELING:
PROVIDE MIN 6" THICKNESS OVER EXISTING W/ #4 REBAR EACH WAY AND #4 REBAR EPOXY DOWELS W/ 12" SPACING AND 4" EMBEDMENT.



WET WELL AND VALVE VAULT
SECTION A
SCALE: 1/2" = 1'-0" M1



METER VAULT
SECTION B
SCALE: 1/2" = 1'-0" M1



BYPASS MANHOLE
SECTION C
SCALE: 1/2" = 1'-0" M1

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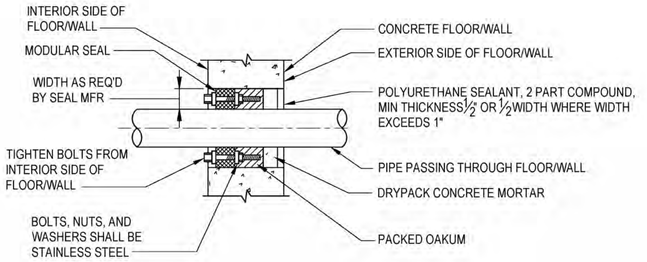
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

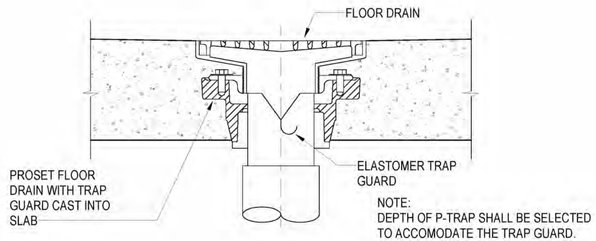
MECHANICAL SECTIONS

DRAWING NO. 12 OF 26
M2



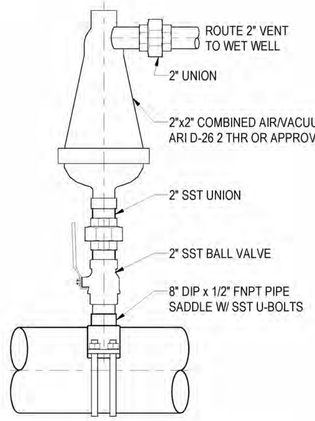
PIPE FLOOR / WALL PENETRATION DETAIL 1 TYP

SCALE: NONE



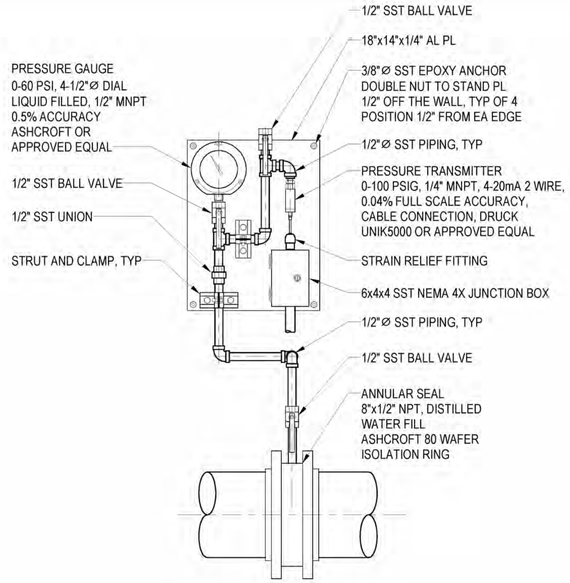
FLOOR DRAIN DETAIL 2 TYP

SCALE: NONE



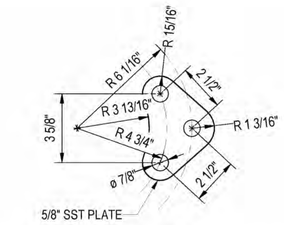
AIR/VACUUM RELIEF VALVE DETAIL 3 TYP

SCALE: NONE



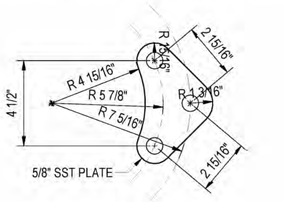
PRESSURE GAUGE ASSEMBLY DETAIL 4 M2

SCALE: 1 1/2" = 1'-0"



6" FLANGE

(ALTERNATIVELY PROVIDE SST TRUMBULL FLANGE LUG #364-4126)

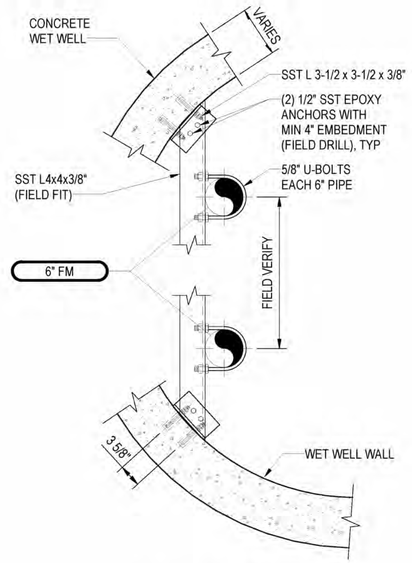


8" FLANGE

(ALTERNATIVELY PROVIDE SST TRUMBULL FLANGE LUG #364-4127)

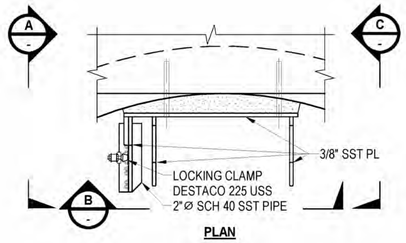
TIE ROD PLATE DETAIL 5 M1

SCALE: 3" = 1'-0"

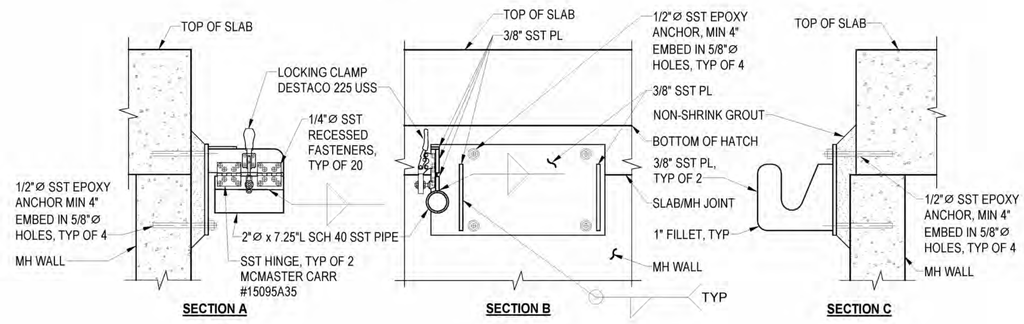


WET WELL PIPE SUPPORT DETAIL 7 M2

SCALE: NONE

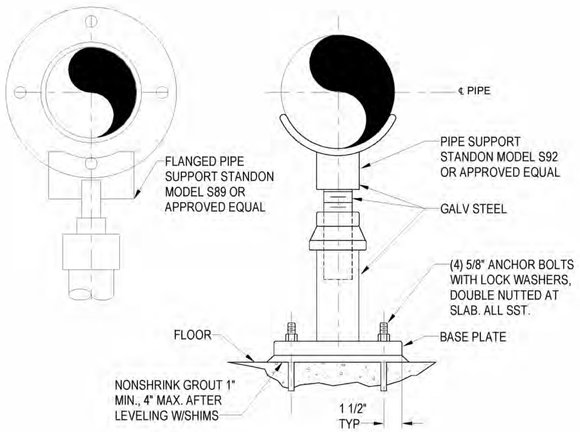


PLAN



LADDER BRACKET DETAIL 8 M1

SCALE: 1 1/2" = 1'-0"



PIPE SUPPORT DETAIL 6 TYP

SCALE: NONE

	REVISIONS	DATE	BY

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CHECKED R. NICKEL
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY

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SNOHOMISH COUNTY, WASHINGTON

MECHANICAL DETAILS

DRAWING NO. 13 OF 26

M3

PLAN SYMBOLS

CONDUIT SYMBOLS

- X-### — CONDUIT ID TAG. P = POWER C = CONTROL S = SIGNAL X = SPARE
- 3/4"C-(3)#12 — CALLOUT INDICATING CONDUIT SIZE, NUMBER OF WIRES, AND WIRE SIZE.
- X-### — CALLOUT INDICATING CONDUIT NUMBER AND WIRE PER SCHEDULE.
- EXPOSED CONDUIT
- CONCEALED CONDUIT
- CAP ON CONDUIT STUB
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT WITH SEAL FITTING
- UNDERGROUND DIRECT BURIAL CONDUITS
- FLEXIBLE CONDUIT
- INDICATES REMOVAL
- GROUND CONDUCTOR
- HEAT TRACE
- CONDUIT RUN, BROKEN AND CONTINUED ON SAME SHEET OR AS NOTED
- HOME RUN TO PANELBOARD OR AS INDICATED
- CABLE TRAY
- (J) — JUNCTION BOX LOCATION

EQUIPMENT AND INSTRUMENT SYMBOLS

- XXX##-### — EQUIPMENT ID TAG
- G / xxKW — GENERATOR xxKW = SIZE
- xx — MOTOR xx = HORSEPOWER
- EQUIPMENT CONNECTION
- INSTRUMENT LOCATION
- T — THERMOSTAT LOCATION
- xxA — DISCONNECT SWITCH, UNFUSED xxA = AMPERAGE RATING
- xxAF / xxAT F — DISCONNECT SWITCH, FUSED xxAF = FRAME RATING xxAT = TRIP RATING
- xxAF / xxAT CB — ENCLOSED CIRCUIT BREAKER xxAF = FRAME RATING xxAT = TRIP RATING
- MH — MANHOLE
- HH — HANDHOLE
- GROUND ROD
- GROUND ROD AND BOX
- WALL-MOUNTED CONTROL PANEL, PANELBOARD, OR TERMINAL CABINET. SHOWN WITH EQUIPMENT ID TAG. (PNL-100)
- FLOOR-STANDING DISTRIBUTION ASSEMBLY, SUCH AS MCC, SWITCHBOARD, OR XFMR. SHOWN WITH EQUIPMENT ID TAG. (PNL-100)

UTILITIES SYMBOLS

- M — ELECTRICITY UTILITY METER AND SOCKET
- PLYWOOD BACKBOARD

RECEPTACLE AND SWITCH SYMBOLS

- CKT / TYPE — DUPLEX WALL RECEPTACLE, 120V. CKT = CIRCUIT NUMBER. TYPE: WP = WEATHERPROOF, G = GROUNDED, IG = ISOLATED GROUND, GF = GROUND FAULT CIRCUIT INTERRUPTOR
- DUPLEX RECEPTACLE, EMERGENCY/STAND-BY
- SINGLE RECEPTACLE, 120V
- SINGLE RECEPTACLE, EMERGENCY/STAND-BY
- DOUBLE DUPLEX RECEPTACLE, 120V
- DOUBLE DUPLEX RECEPTACLE, EMERGENCY/STAND-BY
- SPECIAL PURPOSE WALL RECEPTACLE, RATING AS NOTED.
- $(a,b) — SINGLE POLE SWITCH (SEE NOTE S1). * = SINGLE POLE, 2 = 2 POLE, 3 = 3 WAY, 4 = 4 WAY, M = HP RATED, LOCKABLE, OS = OCCUPANCY SENSOR, P = SWITCH WITH PILOT LIGHT, WP = WEATHERPROOF, T = TIMER AUTO-OFF

NOTES:

S1 LOWER CASE LETTERS IN PARENTHESIS ADJACENT TO A SWITCH OR LIGHT FIXTURE INDICATE A SWITCHED CIRCUIT AND IDENTIFY THE FIXTURE/SWITCH COMBINATIONS. FOR FOUR LAMP FLUORESCENT FIXTURES WIRED IN PAIRS WITHIN EACH FIXTURE, THE "a" SWITCH CONTROLS THE OUTER LAMPS AND THE "b" SWITCH CONTROLS THE INNER LAMPS. WIRE 3 LAMP FIXTURES SIMILARLY.

S2 NUMBERS IN PARENTHESIS ADJACENT TO A LIGHT FIXTURE OR RECEPTACLE INDICATE THE LIGHTING PANEL BRANCH CIRCUIT FEEDING THE DEVICE.

LIGHTING SYMBOLS

- ID / NL / (a) / (LPXX/X) — LUMINAIRE WITH IDENTIFICATION TAG. ID = TYPE, PER LIGHTING SCHEDULE. NL = UNSWITCHED NIGHT LIGHT. a = SWITCH CONTROL. LPXX/X = POWER SOURCE PANEL AND CIRCUIT NUMBER
- SURFACE MOUNTED LUMINAIRE
- WALL MOUNTED LUMINAIRE
- POLE MOUNTED LUMINAIRE
- WALL/CEILING MOUNTED EXIT LIGHT - DIRECTIONAL ARROW WHERE INDICATED, SHADED AREA INDICATES ILLUMINATED FACE.
- PHOTOELECTRIC CELL
- EMERGENCY LIGHT WITH SELF-CONTAINED BATTERY

FIRE ALARM SYMBOLS

- FACP — FIRE ALARM CONTROL PANEL
- SH — COMBINATION SMOKE/HEAT DETECTOR
- F — HORN AND STROBE
- F — MANUAL PULL STATION

ONE-LINE SYMBOLS

- XXX##-### — EQUIPMENT ID TAG
- X-### — CONDUIT ID TAG. P = POWER C = CONTROL S = SIGNAL X = SPARE
- G / xxKW — GENERATOR xxKW = SIZE
- xx — MOTOR xx = HORSEPOWER
- xxAF / xxAT — POWER CIRCUIT BREAKER, 3 POLE, ABOVE 1500V. xxAF = FRAME SIZE xxAT = TRIP RATING
- WITH DRAWOUT / NO DRAWOUT
- xxAF / xxAT — CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED. xxAF = FRAME SIZE xxAT = TRIP RATING
- WITH DRAWOUT / NO DRAWOUT
- xxKVA / xxV-yyV — POWER OR DISTRIBUTION TRANSFORMER, 3 PHASE UNLESS OTHERWISE NOTED. xxKVA = SIZE, xxV = PRIMARY VOLTAGE, yyV = SECONDARY VOLTAGE
- ATS — TRANSFER SWITCH, ATS OR MTS AS INDICATED. 3 POLE UNLESS OTHERWISE NOTED. xxAF = RATING
- * — MOTOR STARTER WITH THERMAL OVERLOAD. 3 PHASE UNLESS OTHERWISE NOTED. * = NEMA SIZE
- VFD ### — VARIABLE FREQUENCY DRIVE. 3 PHASE UNLESS OTHERWISE NOTED. ### = DEVICE ID NUMBER
- SS ### — ELECTRONIC SOFT STARTER WITH BYPASS. 3 PHASE UNLESS OTHERWISE NOTED. ### = DEVICE ID NUMBER
- LINE OR LOAD REACTOR
- K — KIRK KEY INTERLOCK
- ST — SHUNT TRIP
- FUSE
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- SURGE ARRESTOR
- X — SENSOR. X INDICATES DEVICE TYPE: A = AMMETER, AS = CURRENT SWITCH, V = VOLTMETER, VS = VOLT SWITCH, WH = WATTHOUR METER, PM = POWER QUALITY METER
- POWER RECEPTACLE
- CAPACITOR
- VACUUM BREAK SWITCH
- TERMINATOR OR POTHEAD
- GROUND CONNECTION

SCHEMATIC SYMBOLS

- M — MOTOR, 3 PHASE. VOLTAGE AND HORSEPOWER AS INDICATED.
- M — MOTOR, SINGLE PHASE. VOLTAGE AND HORSEPOWER AS INDICATED.
- M OL — MOTOR STARTER WITH THERMAL OVERLOAD, 3 POLE.
- TAG / xxVA / xxV-yyV — CONTROL POWER TRANSFORMER. TAG = DEVICE TAG ID, xxxVA = SIZE, xxV = PRIMARY VOLTAGE, yyV = SECONDARY VOLTAGE
- TAG / xxAF — DISCONNECT OR TOGGLE SWITCH. TAG = DEVICE TAG ID, xxAF = SWITCH RATING IN AMPERES
- TAG / xxA — CIRCUIT BREAKER. TAG = DEVICE TAG ID, xxA = TRIP RATING IN AMPERES
- TAG / xxA — FUSE. TAG = DEVICE TAG ID, xxA = TRIP RATING, IN AMPERES

COVER CONTROL DEVICES

- H O A / XOO / OXO / OOX — SELECTOR SWITCH ASSEMBLY, 3-POSITION. TYPICAL CONFIGURATIONS: H O A - HAND/OFF/AUTO, L O R - LOCAL/OFF/REMOTE
- PUSHBUTTON, NORMALLY OPEN AND NORMALLY CLOSED
- X — INDICATING LIGHT, X INDICATES COLOR: A = AMBER, B = BLUE, C = CLEAR, G = GREEN, R = RED, W = WHITE, Y = YELLOW
- X — INDICATING LIGHT, PUSH-TO-TEST
- ETM — ELAPSED TIME METER/ HOURMETER

CONTROL RELAYS AND CONTACTORS

- XXX / ### — CONTROL DEVICE COIL. XXX INDICATES TYPE: ALT = ALTERNATING RELAY, CR = CONTROL RELAY, LR = LATCHING RELAY, TR/TDR = TIMING RELAY/ TIME-DELAY RELAY, M = MOTOR STARTER CONTACTOR. ### = DEVICE ID NUMBER
- TAG / TAG — CONTACTS, NORMALLY OPEN AND NORMALLY CLOSED. TAG = CONTROL DEVICE COIL ID NUMBER

TIMING RELAY CONTACTS

- TAG — NORMALLY OPEN, CLOSES AFTER TIME DELAY (NOTC). TAG = DEVICE TAG ID
- NORMALLY CLOSED, OPENS AFTER TIME DELAY (NCTO).
- NORMALLY OPEN, INSTANTANEOUS CLOSE, OPENS AFTER TIME DELAY (NOTO).
- NORMALLY CLOSED, INSTANTANEOUS OPEN, CLOSES AFTER TIME DELAY (NCTC).

SENSING DEVICE CONTACTS

CLOSES RISING	CLOSES FALLING	DEVICE TYPE
		FLOW SWITCH
		LEVEL/FLOAT SWITCH
		PRESSURE SWITCH
		TEMPERATURE SWITCH

LIMIT SWITCH CONTACTS

- NORMALLY OPEN, CLOSES ON REACHING LIMIT
- NORMALLY CLOSED, OPENS ON REACHING LIMIT

WIRE, CABLE, AND TERMINAL SYMBOLS

- WIRING INSIDE ENCLOSURE
- FIELD WIRING
- CONDUCTORS CONNECTED
- CONDUCTORS NOT CONNECTED
- SPLICE OR TERMINATION
- FEED-THROUGH TERMINAL
- DEVICE TERMINAL
- SHORTING BLOCK

MISCELLANEOUS DEVICES

- SOLENOID
- H — HORN
- B — BELL
- BUZZER
- RESISTOR OR HEATER ELEMENT
- BUS STAB ON MCC OR SWITCHGEAR, OR CORD AND PLUG CONNECTION.

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
A/D	ANALOG TO DIGITAL
ADJ	ADJUSTABLE
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AMP	AMPERES
ANN	ANNUNCIATOR
AS	AMMETER SWITCH
AT	AMMETER TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BCG	BARE COPPER GROUND
C	CONDUIT
CAB	CABINET
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CC	CONTROL CABLE, CLOSING COIL
CHH	COMMUNICATION HANDHOLE
CKT	CIRCUIT
CMH	COMMUNICATION MANHOLE
CO	CONDUIT ONLY
COMM	COMMUNICATION
COND	CONDUCTOR
CPT	CONTROL POWER TRANSFORMER
CP	CONTROL PANEL
CR	CONTROL RELAY
CS	CONTROL STATION
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
DC	DIRECT CURRENT
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DIV	DIVISION
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
(E)	EXISTING
EE	ELECTRICAL ENCLOSURE
EHH	ELECTRICAL HANDHOLE
ELEM	ELEMENTARY
EMERG	EMERGENCY
ENCL	ENCLOSURE
EFFL	EFFLUENT
EGC	EQUIPMENT GROUND CONDUCTOR
EQPT	EQUIPMENT
ETM	ELAPSED TIME METER
FDR	FEEDER
FE	FLOW ELEMENT
FIT	FLOW INDICATION TRANSMITTER
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FO	FIBER OPTIC
FREQ	FREQUENCY
FSH	FLOAT SWITCH HIGH
FSO	FLOAT SWITCH OVERFLOW
FU	FUSE
FUT,(F)	FUTURE
FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING
FWD	FORWARD
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
H	HYDROGEN PYROXIDE
HH	HANDHOLE
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HPS	HIGH PRESSURE SODIUM
HT	HEAT TAPE
HTR	HEATER
HV	HIGH VOLTAGE
HZ	HERTZ (CYCLES PER SECOND)
IND LT	INDICATING LIGHT
INCAND	INCANDESCENT
INSTR	INSTRUMENT, INSTRUMENTATION
I/O	INPUT/OUTPUT
ISB	INTRINSICALLY SAFE BARRIER
ISR	INTRINSICALLY SAFE RELAY
JB	JUNCTION BOX
KA	KILOAMPERES
KCMIL	THOUSANDS OF CIRCULAR MILS
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KWH	KILOWATT HOURS
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LTG	LIGHTING
LTS	LIGHTS
LP	LIGHTING PANEL
(M)	MODIFIED
mA	MILLIAMPERES
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTION OR MAIN CONTROL PANEL
MCM	THOUSAND CIRCULAR MILS (KCMIL)
MON	MONITOR
MOV	MOTOR OPERATED VALVE
MS	MOTOR STARTER
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
NC	NORMALLY CLOSED
NEG	NEGATIVE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NEUT	NEUTRAL
NO	NORMALLY OPEN, NUMBER
OL	OVERLOAD
OT	OVER TEMPERATURE
OIT	OPERATOR INTERFACE TERMINAL
P	POLE, PUMP
PB	PULLBOX
PBSW	PUSHBUTTON SWITCH
PCP	PUMP CONTROL PANEL
PEC	PHOTOELECTRIC CELL
PF	POWER FACTOR
PGRS	PVC COATED GALVANIZED RIGID STEEL
pH	MEASURE OF ACIDITY OR ALKALINITY
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLR	PHASE LOSS RELAY
PNL	PANEL
PNLBD	PANELBOARD
POS	POSITION, POSITIVE
POT	POTENTIOMETER
PPS	PACKAGED POWER SUPPLY
PRI	PRIMARY
PWR	POWER
(R)	RELOCATED
RCPT	RECEPTACLE
RCT	REPEAT CYCLE TIMER
RT	RESET TIMER
SCCR	SHORT CIRCUIT CURRENT RATING
SCHD80	SCHEDULE 80 PVC
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SIG	SIGNAL
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
SST	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYNC	SYNCHRONIZING
T	TIMER AUTO-OFF
TB	TERMINAL BOX
TC	TIMED CLOSING
TEL	TELEPHONE
TERM	TERMINAL
TO	TIMED OPENING
TSP	TWISTED SHIELDED PAIR
TST	TWISTED SHIELDED TRIAD
UGND	UNDERGROUND
UV	ULTRAVIOLET
VA	VOLT-AMPERES
VAR	VOLT-AMPERES REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
VH	VAR-HOUR
VS	VOLTMETER SWITCH
W	WIRE, WATTS
WH	WATTHOUR METER
WHDM	WATTHOUR DEMAND METER
WP	WEATHERPROOF
WR	WEATHER RESISTANT
WT	WATER TIGHT
XFMR	TRANSFORMER

GENERAL NOTES

1. THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.
2. THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.
3. NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED, OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION, OR ANY OTHER REASON.
4. INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ANSI C37.3, Y1.1, Y32.2, AND Y32.9.
5. REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND FOR CERTAIN CONNECTIONS TO BE MADE TO ELECTRICAL CIRCUITS.
6. EQUIPMENT SHOWN IN HALF TONE OR GREY TONE ARE EXISTING OR BY OTHERS.
7. VERIFY ALL COLOR REQUIREMENTS BEFORE ORDERING MATERIALS.
8. CONDUIT SIZE AND FILL SHALL BE AS INDICATED. WHERE NO SIZE IS SHOWN, THE CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE EDITION OF THE NATIONAL ELECTRIC CODE ADOPTED BY THE AUTHORITY HAVING CODE ENFORCEMENT JURISDICTION. WHERE NO FILL IS INDICATED, PROVIDE (3) #12 WIRES. PROVIDE 3/16" INCH NYLON PULL ROPE IN EACH EMPTY CONDUIT.

	REVISIONS	DATE	BY

DESIGNED R. ROHLER
DRAWN J. VONDERAHE
CHECKED M. CASANOVA
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
FILE NAME 1598.164-COMP.rvt
JOB NO. 216-1598-164
DATE AUGUST 2024

ROBERT W. ROHLER — STATE OF WASHINGTON — 41498 — REGISTERED PROFESSIONAL ENGINEER
8/14/2024

Parametrix
1019 39th Avenue SE, Suite 100 • Puyallup, WA 98374
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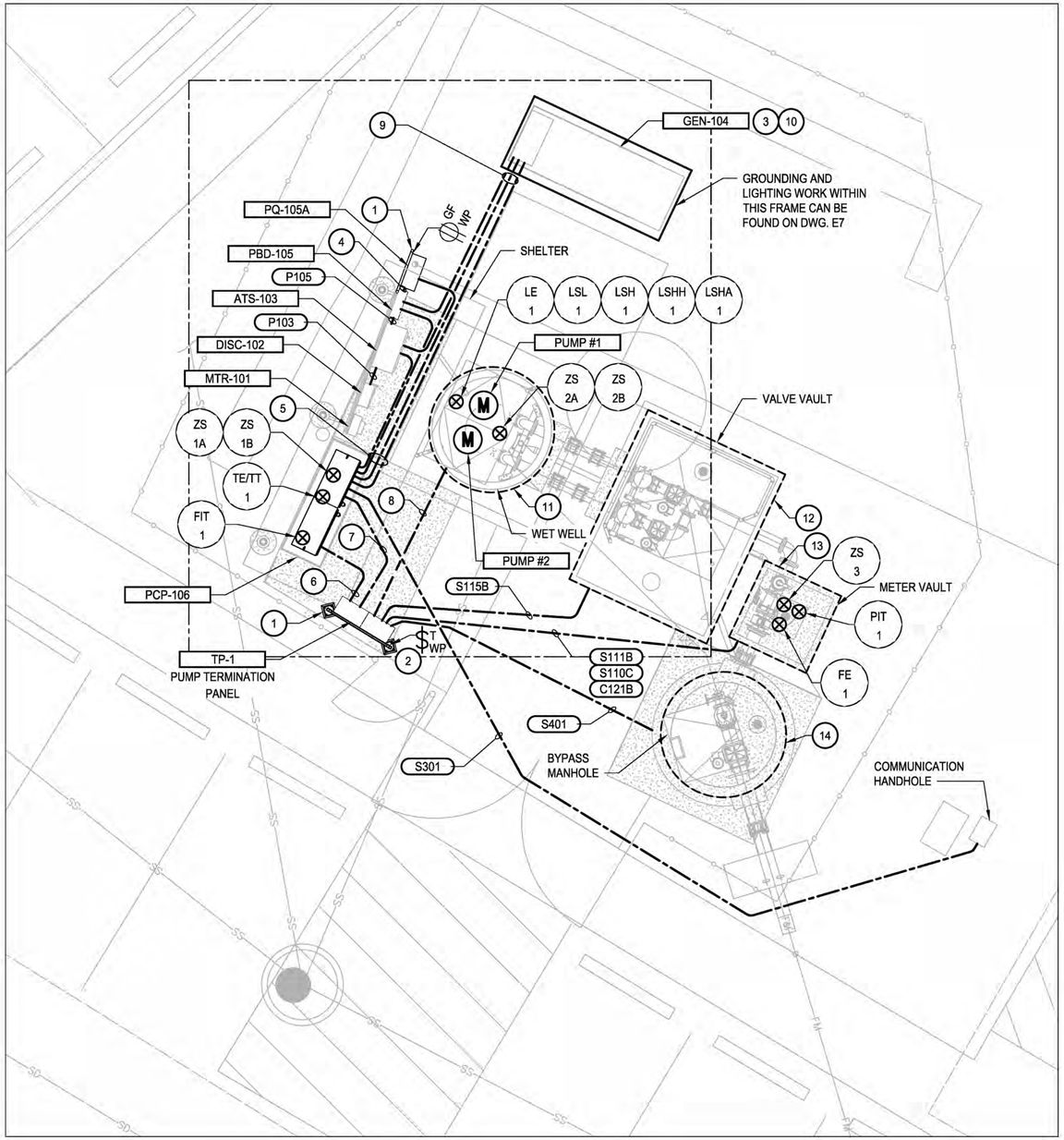
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

ELECTRICAL LEGEND AND ABBREVIATIONS

DRAWING NO. 14 OF 26
E1



POWER AND INSTRUMENTATION

SITE PLAN

SCALE: 1/4" = 1'-0"

N

NOTES:

1. PROVIDE FRAMING CHANNEL EQUIPMENT RACK TO SUPPORT ENCLOSURE PQ-105A, TP-1, AND TIMER SWITCH.
2. ROTARY TIMER SWITCH FOR CANOPY LIGHTING AND FLOODLIGHT. SEE SECTION 26 27 26. CONDUIT AND CABLE FOR LIGHTING NOT SHOWN ON SITE PLAN FOR CLARITY, SEE CONDUIT AND CABLE SCHEDULE.
3. RELOCATE EXISTING GENERATOR (GEN-104) PER DWG C1. PROVIDE CONDUIT AND WIRING TO GENERATOR IN NEW POSITION PER CONDUIT AND CABLE SCHEDULE.
4. CONDUIT AND CABLE NUMBERS: P202, P203, P201, C124, C125, S108.
5. CONDUIT AND CABLE NUMBERS: P106, P108, P110, P111, P201, S108, S107, S106, C125, C124, C123, C122.
6. CONDUIT AND CABLE NUMBERS: P107A, P109A, S109A, C120C, C120A, C116A, C105A, C108A, C109A, C110A, C121A, P302, C117A.
7. CONDUIT AND CABLE NUMBERS: S115A, S111A, S110B.
8. CONDUIT AND CABLE NUMBERS: P107B, P109B, S109B, C120D, C120B, C116B, C121B, C108B, C109B, C110B, C117B.
9. CONDUIT AND CABLE NUMBERS: P104, P112, C123, S107.
10. SEE STRUCTURAL DRAWING S4 FOR NEW GENERATOR CONCRETE EQUIPMENT PAD. PROVIDE AND INSTALL UNDERGROUND CONDUITS PRIOR TO CONCRETE POUR.
11. THE WET WELL SPACE PLUS ENVELOPE 3 FEET AROUND VENT IS NEC HAZARDOUS LOCATION CLASSIFICATION I, DIVISION 1, GROUP D. FIVE FEET BEYOND CLASS I, DIV.1 BOUNDARY PLUS 3 FEET AROUND OPENING (HATCH OR DOOR) IS CLASSIFICATION I, DIVISION 2, GROUP D.
12. THE VALVE VAULT SPACE PLUS ENVELOPE 3 FEET AROUND VENT IS NEC HAZARDOUS LOCATION CLASSIFICATION I, DIVISION 2, GROUP D.
13. THE METER VAULT SPACE PLUS ENVELOPE 3 FEET AROUND VENT IS NEC HAZARDOUS LOCATION CLASSIFICATION I, DIVISION 2, GROUP D.
14. THE BYPASS MANHOLE PLUS ENVELOPE 3 FEET AROUND VENT IS NEC HAZARDOUS LOCATION CLASSIFICATION I, DIVISION 2, GROUP D.

	REVISIONS	DATE	BY

DESIGNED R. ROHLER
DRAWN J. VONDERAHE
CHECKED M. CASANOVA
APPROVED J. WRIGHT

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY

FILE NAME PS1598164E-2
JOB No. 216-1598-164
DATE AUGUST 2024

ROBERT W. ROHLER STATE OF WASHINGTON 41496 REGISTERED PROFESSIONAL ENGINEER

8/14/2024

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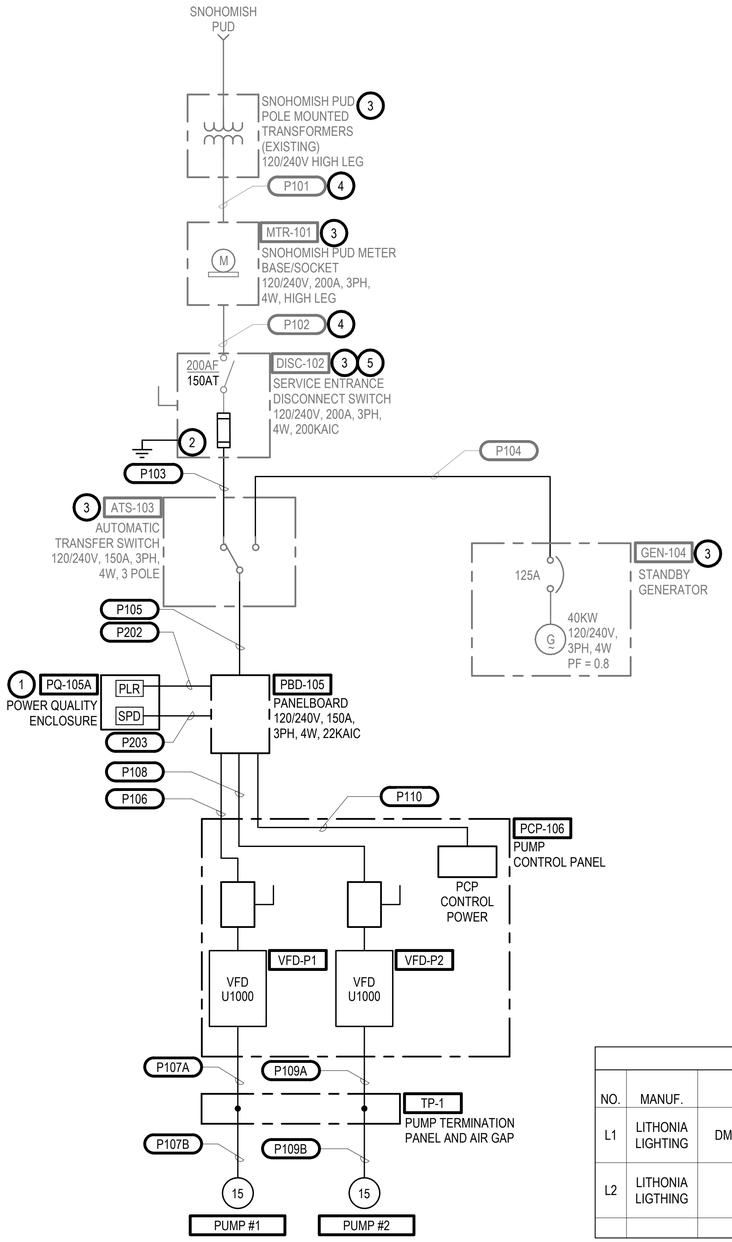
PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

ELECTRICAL SITE PLAN

DRAWING NO. 15 OF 26

E2

LAYOUT: PS1598164-E2 PATH: U:\PSO\Projects\Clients\1598-TulalipTribes\216-1598-164 Marina PS Improvements\99Svcs\CADD\DWG PLOTTED BY: vondejam DATE: Wednesday, August 14, 2024 10:18:52 AM



ONE-LINE DIAGRAM

SCALE: NONE

NOTES:

1. ENCLOSURE CONTAINS BOTH POWER LOSS RELAY AND SURGE PROTECTION DEVICE. SEE SPECIFICATIONS FOR PM AND SPD.
2. EXISTING MAIN BONDING JUMPER LOCATED IN SERVICE ENTRANCE DISCONNECT ENCLOSURE.
3. EXISTING EQUIPMENT.
4. EXISTING CONDUIT AND CABLES.
5. REPLACE FUSES WITH 150A FUSE.
6. SEE CONDUIT AND CABLE SCHEDULE FOR WIRING INFORMATION.

v 6.0

PANELBOARD SCHEDULE

NAME: PBD-105 (NEW)

VOLTAGE RATING: **240Δ/120 VOLTS, 3 PHASE, 4 WIRE**
BUS RATING: **225** AMPS
MAIN CIRCUIT BREAKER: **150** AMPS
FEED: **BOTTOM**
MOUNTING: **SURFACE**
SPECIAL FEATURES: **22KAIC**

LOCATION: **TULALIP MARINA PUMP STATION**
FED FROM: **ATS**
NOTES: **NEMA 3R, PADLOCK HASP**

LOAD TYPE	CIRCUIT DESCRIPTION	VA	CKT	BRKR	L1 L2 L3	BRKR	CKT	VA	CIRCUIT DESCRIPTION	LOAD TYPE
	SURGE PROTECTION DEVICE (CIRCUIT BREAKER)		1	30 / 3	-A-	80 / 3	2	6,755	PCP-106, VFD-P1 (PUMP #1 FLYGT 15HP, 39FLA)	LM
			3		-B-		4	6,755		LM
			5		-C-		6	6,755		LM
	PHASE LOSS RELAY (PANELBOARD PHASE VOLTAGE SENSING)		7	15 / 3	-A-	80 / 3	8	6,755	PCP-106, VFD-P2 (PUMP #2 FLYGT 15HP, 39FLA)	M
			9		-B-		10	6,755		M
			11		-C-		12	6,755		M
L	LTG, SHELTER & FLOOD (ROTARY TIMER SW)	75	13	20 / 1	-A-	20 / 1	14		SPARE	
	HIGH LEG		15	/ 1	-B-	/ 1	16		HIGH LEG	
R	RECEPT, GFI (EXTERIOR)	180	17	20 / 1	-C-	20 / 2	18		SPARE	
	SPARE		19	20 / 1	-A-		20			
	HIGH LEG		21	/ 1	-B-	/ 1	22		HIGH LEG	
R	RECEPT, GENERATOR	1,920	23	20 / 1	-C-	20 / 1	24	1,000	PUMP CONTROL PANEL 120V POWER	X
	LINE LOADS:	**13,585 VA(L1)**				**13,510 VA(L2)**		**16,610 VA(L3)**		
	TOTAL LOAD:	**43.70 KVA**				**105.1**				

PBD-105 (NEW) LOAD CALCULATION:

		CONNECTED VA	METHOD	NEC DEMAND	CALC. VA
TOTAL LIGHTING (L) LOAD:	L	75	ALL @	125%	94
TOTAL RECEPTACLE (R) LOAD:	R	2,100	FIRST 10KVA @	125%	2,625
			REMAINDER OVER 10KVA	50%	0
TOTAL MOTOR (M) LOAD:	M	20,264	ALL @	100%	20,264
	LM	20,264	125% OF LARGEST	125%	25,331
TOTAL HVAC (H) LOAD:	H	0	ALL @	125%	0
TOTAL MISCELLANEOUS (X) LOAD:	X	1,000	ALL @	125%	1,250
TOTAL VA:		43,704 VA			49,564 VA
AVERAGE AMPS @		105 AMPS			119 AMPS
VOLTAGE PHASE TO PHASE=	240				

LIGHTING FIXTURE SCHEDULE

NO.	MANUF.	CATALOG NUMBER	VOLTS	INPUT WATTS	LAMPS	MOUNT	REMARKS
L1	LITHONIA LIGHTING	DMW2 L24 3000LM PCL WD MVOLT 40K 80CRI WLFEND STSL	MVOLT, 120V	27	LED	LIGHT WILL BE MOUNTED UNDER CANOPY WITH SURFACE MOUNTING BRACKETS.	WET LOCATION LED, 3000 LUMENS, 4000K, 24" LENGTH, MOUNTING BRACKETS, OR EQUAL. PROVIDE BIRD DETERANT SPIKES ON TOP OF LIGHT FIXTURE.
L2	LITHONIA LIGTHING	DSXF1 LED P1 40K WEL MVOLT YKC62 CCE DBLXD	MVOLT, 120V	21	LED	MOUNTS TO CANOPY WITH YOKE MOUNT	WET LOCATION LED, 3058 LUMENS, 4000K, BLACK, YOKE CONNECTION, OR EQUAL. AIM FLOOD LIGHT TO ILLUMINATE INTO WET WELL. PROVIDE BIRD DETERANT SPIKES ON TOP OF LIGHT FIXTURE.

	REVISIONS	DATE	BY

DESIGNED R. ROHLER
DRAWN J. VONDERAHE
CHECKED M. CASANOVA
APPROVED J. WRIGHT

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8/14/2024

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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

ELECTRICAL ONE-LINE DIAGRAM AND LOAD CALCS

DRAWING NO. 16 OF 26

E3

CONDUIT AND CABLE SCHEDULE

v2.0

NUMBER	CONDUIT QTY & SIZE	CONDUIT TYPE	WIRE FILL	WIRE TYPE	FROM	TO	VIA	REMARKS
C105A	(1)1"C	RGS	(2)#14, (1)#14G	XHHW-2	PUMP #1 MOISTURE TEMPERATURE RELAY (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		
C105B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	PUMP #1 OVERTEMP ALARM (PUMP #1)		MANUFACTURERS CABLE CONTAINING BOTH POWER AND SENSOR WIRING. SEE CABLE NUMBER P107B.
C108A	(1)1"C	GRS	(2)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C108B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL LEVEL HIGH HIGH (LSHH-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C109A	(1)1"C	GRS	(2)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C109B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL LEVEL HIGH (LSH-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C110A	(1)1"C	GRS	(2)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C110B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL LEVEL LOW (LSL-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C116A	(1)1"C	RGS	(2)#14, (2)#14G	XHHW-2	PUMP #2 MOISTURE TEMPERATURE RELAY (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		
C116B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	PUMP #2 OVERTEMP ALARM (PUMP #2)		MANUFACTURERS CABLE CONTAINING BOTH POWER AND SENSOR WIRING. SEE CABLE NUMBER P109B.
C117A	(1)1"C	RGS	(2)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C117B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL HIGH LEVEL ALARM (LSHA-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C119A	CONTROL PANEL WIRING		(4)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	CONTROL PANEL INTRUSION ALARM (ZS-1A)		COIL AND STOW SPARE WIRING.
C119B	CONTROL PANEL WIRING		(4)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	CONTROL PANEL INTRUSION ALARM (ZS-1B)		COIL AND STOW SPARE WIRING.
C120A	(1)1"C	GRS	(4)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C120B	(1)1"C	PVC	(4)#14, (1)#14G	XHHW-2	PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL INTRUSION ALARM (ZS-2A)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C120C	(1)1"C	GRS	(4)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C120D	(1)1"C	PVC	(4)#14, (1)#14G	XHHW-2	PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL INTRUSION ALARM (ZS-2B)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C121A	(1)1"C	GRS	(4)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C121B	(1)1"C	PVC	(4)#14, (1)#14G	XHHW-2	PUMP TERMINATION PANEL AND AIR GAP (TP-1)	METER VAULT INTRUSION ALARM (ZS-3)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
C122	(1)1"C	RGS	(8)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	ATS IN EMERGENCY & ATS IN NORMAL (ATS-103)		COIL AND STOW SPARE WIRING.

CONDUIT AND CABLE SCHEDULE

v2.0

NUMBER	CONDUIT QTY & SIZE	CONDUIT TYPE	WIRE FILL	WIRE TYPE	FROM	TO	VIA	REMARKS
C123	(1)1"C	RGS	(8)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	GENERATOR RUNNING, GENERATOR LOW FUEL, & GENERATOR TROUBLE/WARNING (GEN-104)		COIL AND STOW SPARE WIRING.
C124	(1)1"C	RGS	(2)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	SURGE PROTECTION DEVICE (SPD) (PQ-105A)		
C125	(1)1"C	RGS	(2)#14, (1)#14G	XHHW-2	PLC I/O (PCP-106)	PHASE LOSS RELAY (PQ-105A)		LOSS OF PHASE (PHASE FAIL ALARM)
C201	(1)1"C	RGS	PULL STRING		PUMP CONTROL PANEL (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SPARE CONDUIT, PROVIDE THREADED PLUGS BOTH ENDS.

	REVISIONS	DATE	BY

DESIGNED R. ROHLER
DRAWN J. VONDERAHE
CHECKED M. CASANOVA
APPROVED J. WRIGHT

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PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

ELECTRICAL CONDUIT AND CABLE SCHEDULE 1

DRAWING NO.
17 OF 26
E4

CONDUIT AND CABLE SCHEDULE

v2.0

NUMBER	CONDUIT QTY & SIZE	CONDUIT TYPE	WIRE FILL	WIRE TYPE	FROM	TO	VIA	REMARKS
S101	(1)1"C	PVC	(1) 4-FIBER COUNT	FO	COMMUNICATION MANHOLE NEXT TO BLDG.	MARINA BUILDING COMMUNICATION/DATA NETWORK?		DO NOT INSTALL UNLESS REQUIRED. SUBMIT RFI TO VERIFY TERMINATION LOCATION.
S106	(1)1"C	PVC	(1 CAT 5E)	CAT 5E	UNMANAGED ETHERNET SWITCH (PCP-106)	ATS-103		
S107	(1)1"C	PVC	(1 CAT 5E)	CAT 5E	UNMANAGED ETHERNET SWITCH (PCP-106)	GEN-104		
S108	(1)1"C	PVC	(1 CAT 5E)	CAT 5E	UNMANAGED ETHERNET SWITCH (PCP-106)	PHASE LOSS RELAY (PQ-105A)		COIL AND STOW SPARE WIRING.
S109A	(1)1"C	RGS	(2)#16TSP	TSP	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
S109B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	WET WELL LEVEL (LE-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD.
S110A	CONTROL PANEL WIRING		(2)#16TSP	TSP	PLC I/O (PCP-106)	FLOW METER TRANSMITTER		COIL AND STOW SPARE WIRING.
S110B	(1)1"C	RGS	(2)#16TSP	TSP	FLOW METER TRANSMITTER (FIT-1)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD. COIL AND STOW SPARE WIRING.
S110C	(1)1"C	RGS	(2)#16TSP	TSP	PUMP TERMINATION PANEL AND AIR GAP (TP-1)	METER VAULT (FE-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD. COIL AND STOW SPARE WIRING.
S111A	(1)1"C	RGS	(2)#16TSP	TSP	PLC I/O (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD. COIL AND STOW SPARE WIRING.
S111B	(1)1"C	PVC	(2)#16TSP	TSP	PUMP TERMINATION PANEL AND AIR GAP (TP-1)	DISCHARGE PRESSURE (PIT-1)		SEE PUMP TERMINATION PANEL AND AIR GAP DETAIL FOR WIRING METHOD. COIL AND STOW SPARE WIRING.
S114	CONTROL PANEL WIRING		(1)#16TSP	TSP	PLC I/O (PCP-106)	PCP INTERNAL TEMPERATURE (TT-1)		
S115A	(1)1"C	RGS	PULL STRING		PCP-106	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		SPARE CONDUIT, PROVIDE THREADED PLUGS BOTH ENDS OF CONDUIT
S115B	(1)2"C	PVC	PULL STRING		PUMP TERMINATION PANEL AND AIR CAP (TP-1)	VALVE VAULT		SPARE CONDUIT, PROVIDE THREADED PLUGS BOTH ENDS OF CONDUIT
S301	(1)1"C	PVC	(1) 4-FIBER COUNT	FO	PUMP CONTROL PANEL (PCP-106)	COMMUNICATION MANHOLE NEXT TO BLDG.		FIBER OPTIC COMMUNCIATION FOR PUMP STATION. PROVIDE WEATHERPROOF IP68 SINGLE MODE CONNECTOR.
S401	(1)1"C	PVC	PULL STRING		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	BYPASS MANHOLE		SPARE CONDUIT, PROVIDE THREADED PLUGS BOTH ENDS OF CONDUIT

CONDUIT AND CABLE SCHEDULE

v2.0

NUMBER	CONDUIT QTY & SIZE	CONDUIT TYPE	WIRE FILL	WIRE TYPE	FROM	TO	VIA	REMARKS
P101	(1)4"C	PVC	(3)#3/0, (1)#3/0N	XHHW-2	UTILITY TRANSFORMER	METER BASE/SOCKET (MTR-101)		EXISTING CONDUIT AND CABLE
P102	(1)3"C	PVC	(3)#3/0, (1)#3/0N, (1)#6G	XHHW-2	METER BASE/SOCKET	SERVICE ENTRANCE DISCONNECT SWITCH (DISC-102)		EXISTING CONDUIT AND CABLE. PROVIDE GROUND TO BOND METER BASE/SOCKET ENCLOSURE.
P103	(1)3"C	PVC	(3)#2/0, (1)2/0N, (1)#6G	XHHW-2	SERVICE ENTRANCE DISCONNECT SWITCH (DISC-102)	AUTOMATIC TRANSFER SWITCH (ATS-103)		
P104	(1)3"C	PVC	(3)#1/0, (1)#1/0N, (1)#6G	XHHW-2	STANDBY GENERATOR (GEN-104)	AUTOMATIC TRANSFER SWITCH (ATS-103)		
P105	(1)3"C	PVC	(3)#2/0, (1)#2/0N, (1)#6G	XHHW-2	AUTOMATIC TRANSFER SWITCH (ATS-103)	PANELBOARD (PBD-105)		
P106	(1)1"C	RGS	(3)#6, (1)#10G	XHHW-2	PANELBOARD (PBD-105)	VFD-P1 (PCP-106)		
P107A	(1)1"C	RGS	(3)#6, (1)#10G	XHHW-2	VFD-P1 (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		
P107B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	PUMP #1		MANUFACTURERS CABLE CONTAINING BOTH POWER AND SENSOR WIRING. SEE CABLE NUMBER C105B.
P108	(1)1"C	PVC	(3)#6, (1)#10G	XHHW-2	PANELBOARD (PBD-105)	VFD-P2 (PCP-106)		
P109A	(1)1"C	RGS	(3)#6, (1)#10G	XHHW-2	VFD-P2 (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		
P109B	(1)2"C	PVC	MANUFACTURERS CABLE		PUMP TERMINATION PANEL AND AIR GAP (TP-1)	PUMP #2		MANUFACTURERS CABLE CONTAINING BOTH POWER AND SENSOR WIRING. SEE CABLE NUMBER C116B.
P110	(1)1"C	RGS	(1)#12, (1)#12N, (1)#12G	XHHW-2	PANELBOARD (PBD-105)	PCP CONTROL POWER (PCP-106)		
P111	(1)1"C	PVC	PULL STRING		PANELBOARD (PBD-105)	PCP CONTROL POWER (PCP-106)		SPARE CONDUIT, PROVIDE THREADED PLUGS BOTH ENDS.
P112	(1)1"C	PVC	(1)#12, (1)#12N, (1)#12G	XHHW-2	PANELBOARD (PBD-105)	GENERATOR (GEN-104)		GENERATOR RECEPTACLE
P201	(1)1"C	RGS	(2)#12	XHHW-2	UPS POWER (PCP-106)	PHASE LOSS RELAY POWER SUPPLY (PQ-105A)		24VDC
P202	(1)1"C	RGS	(3)#12, (1)#12N	XHHW-2	VOLTAGE TAPS (PBD-105)	PHASE LOSS RELAY PBD VOLTAGE SENSING (PQ-105A)		
P203	(1)1"C	RGS	(3)#12, (1)#12N, (1)#12G	XHHW-2	PANELBOARD (PBD-105)	SURGE PROTECTION DEVICE (PQ-105A)		
P204A	(1)1"C	RGS	(1)#12, (1)#12N, (1)#12G	XHHW-2	120VAC POWER SOURCE (PCP-106)	PUMP TERMINATION PANEL AND AIR GAP (TP-1)		
P204B	(1)1"C	PVC	(1)#12, (1)#12N, (1)#12G	XHHW-2	PUMP TERMINATION PANEL AND AIR GAP (TP-1)	FLOW METER POWER METER VAULT		
P301	(1)1"C	RGS	(1)#12, (1)#12N, (1)#12G	XHHW-2	PANELBOARD (PBD-105)	LIGHTING		SHELTER LIGHTING AND FLOOD LIGHTING VIA ROTARY TIMER SWITCH.
P302	(1)1"C	RGS	(2)#12, (2)#12N, (2)#12G	XHHW-2	PANELBOARD (PBD-105)	RECEPTACLE, GFI		

	REVISIONS	DATE	BY

DESIGNED R. ROHLER
DRAWN J. VONDERAHE
CHECKED M. CASANOVA
APPROVED J

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME 1598.164-COMP.rvt
JOB No. 216-1598-164
DATE AUGUST 2024

ROBERT W. ROHLER — STATE OF WASHINGTON — 41496 — REGISTERED PROFESSIONAL ENGINEER
8/14/2024

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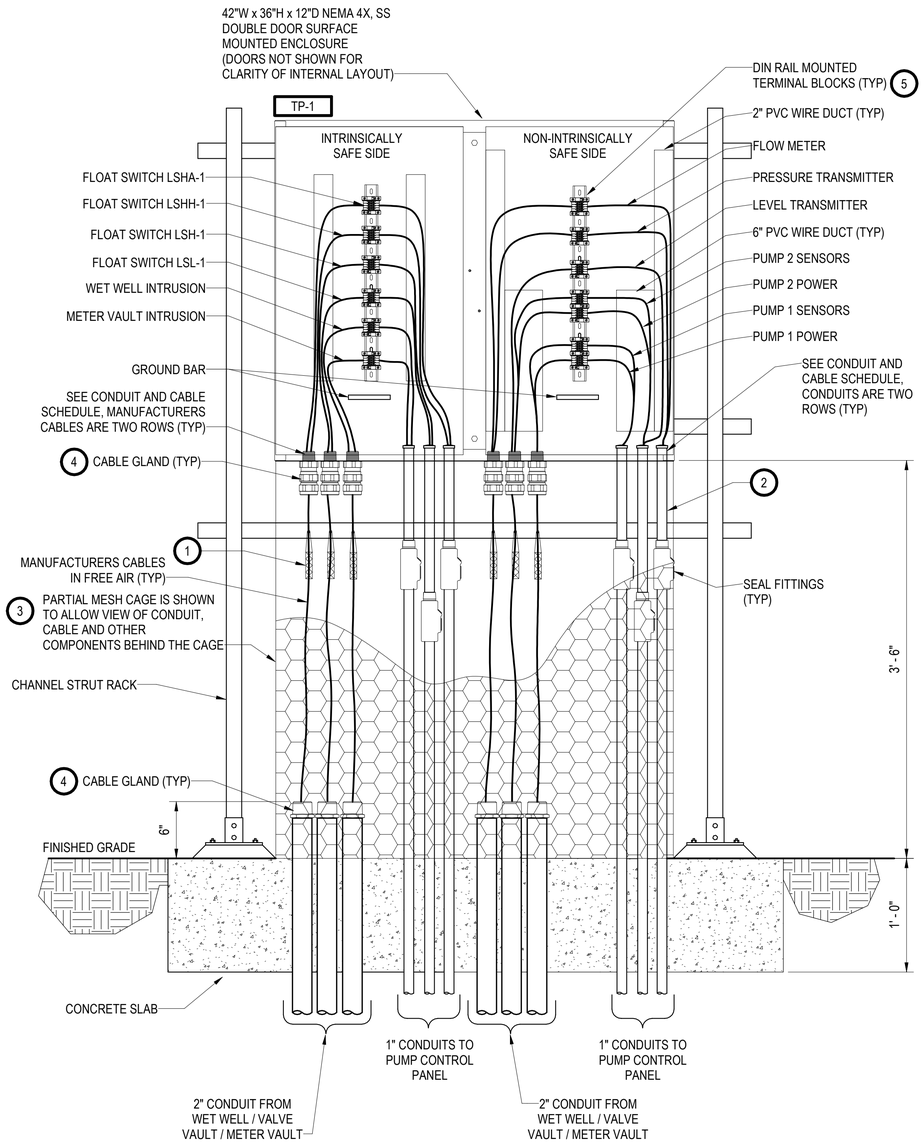
Ph: 253.604.6600

PROJECT NAME
THE TULALIP TRIBES
MARINA PUMP STATION REPLACEMENT
TULALIP INDIAN RESERVATION
SNOHOMISH COUNTY, WASHINGTON

ELECTRICAL CONDUIT AND CABLE SCHEDULE 2

DRAWING NO.
18 OF 26
E5



PUMP TERMINATION PANEL AND AIR GAP TP-1

SECTION A

SCALE: 1 1/2" = 1'-0"

NOTES:

1. SUPPORT WET WELL WIRING WITH SUPPORT GRIPS, UNIVERSAL EYE, SINGLE WEAVE, CLOSED MESH, STAINLESS STEEL, SIZED TO SUPPORT WIRING DIAMETER. SECURE SUPPORT GRIPS WITH STAINLESS STEEL HOOKS. FASTEN HOOKS TO FRAMING CHANNEL ON THE EQUIPMENT RACK.
2. CONDUITS EXITING THE PUMP TERMINATION PANEL AND HEADING TO THE PUMP CONTROL PANEL SHALL HAVE SEAL FITTINGS.
3. PROVIDE A MESH CAGE WITH THE FOLLOWING CHARACTERISTICS TO ENCLOSE EXPOSED FLEXIBLE CABLE.
   -316 STAINLESS STEEL, 10 GAUGE, WITH OPENINGS APPROX. 1/4" DIAMETER.
   -3/4" SQUARE TUBE-STOCK FRAME, ALL WELDED CONSTRUCTION.
   -DOOR SHALL BE PAD-LOCKABLE, HINGED WITH TAMPER-PROOF FULL-OPENING FACE, AND FIXED SIDES.
4. STUB UP CONDUIT A MAXIMUM OF 6" ABOVE FINISHED GRADE. PROVIDE CABLE GLAND FITTINGS WHERE THE CONDUITS STUB UP AND WHERE THE FREE AIR CABLES ENTER THE PUMP TERMINATION PANEL.
5. PROVIDE DIN RAIL MOUNTED TERMINAL BLOCKS SUITABLE FOR USE WITH REQUIRED CABLE SIZES TO ACCOMMODATE PUMP SENSOR WIRES (SEE CABLE SCHEDULE ON SHEET E4).

	REVISIONS	DATE	BY

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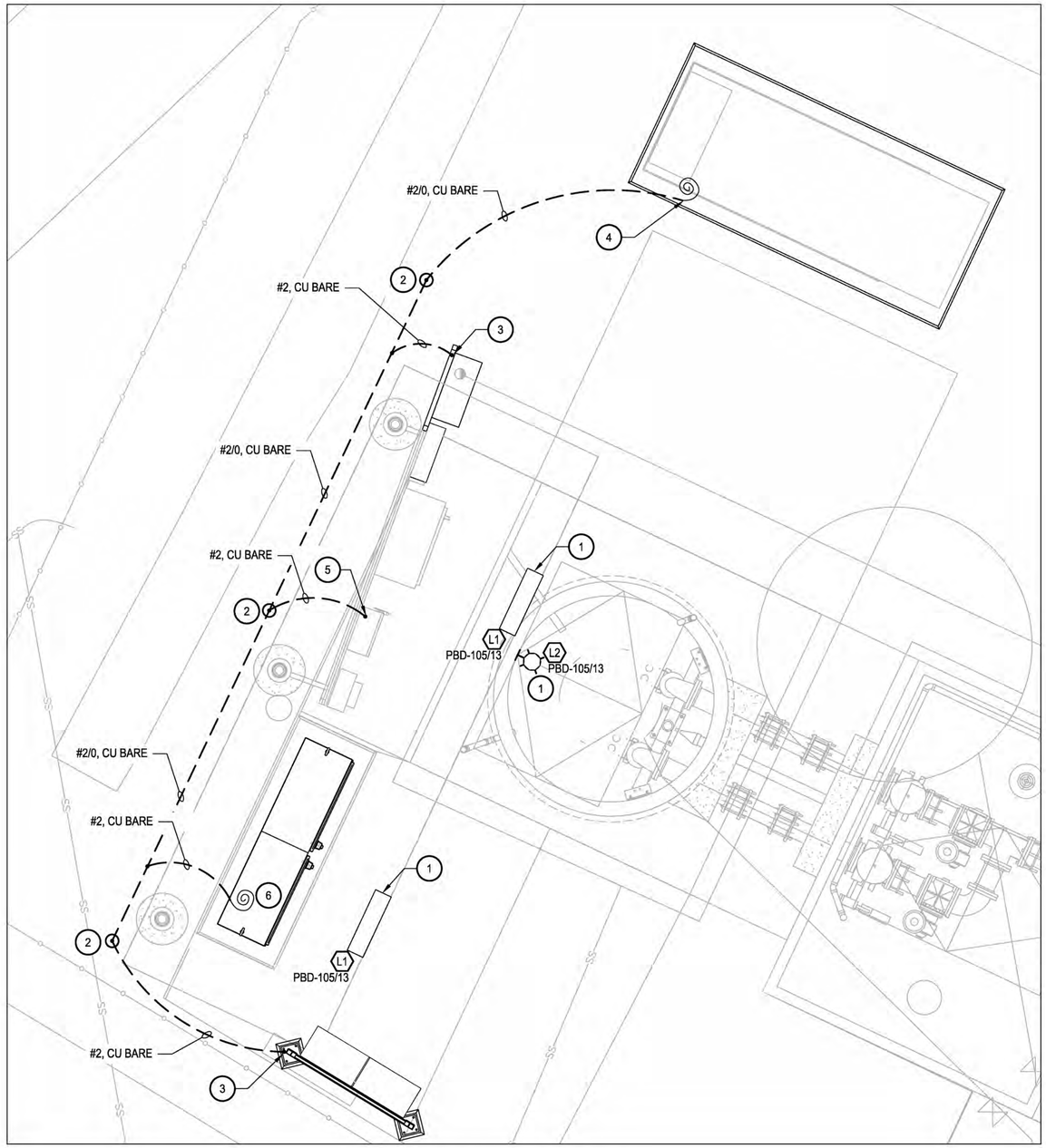
ELECTRICAL DETAILS 1

DRAWING NO. 19 OF 26

E6



GROUNDING AND LIGHTING

SITE PLAN

SCALE: 1/2" = 1'-0"

N

NOTES:

1. THE L1 LIGHT FIXTURES ARE MOUNTED TO THE UNDERSIDE OF THE OVERHEAD CANOPY. SEE MOUNTING STRUCTURE SHOWN ON DWG S3. THE L2 LIGHT FIXTURE IS MOUNTED TO THE CANOPY FRONT STEEL STRUCTURE (HSS 6x2x3/16). AIM FLOOD LIGHT AT THE WET WELL BELOW. SEE DRAWING E3 FOR LIGHTING FIXTURE SCHEDULE.
2. GROUND RODS SHALL BE SEPARATED BY A DISTANCE NO LESS THAN 10 FEET APART.
3. BOND GROUND CONDUCTOR TO EQUIPMENT RACK.
4. BOND GROUND TO GENERATOR FRAME.
5. REPLACE EXISTING GROUND ELECTRODE CONDUCTOR WITH NEW GROUND ELECTRODE CONDUCTOR. BOND TO GROUND BAR IN SERVICE ENTRANCE DISCONNECT.
6. BOND GROUND TO GROUND BAR SHOWN ON DWG I2.

	REVISIONS	DATE	BY

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CHECKED M. CASANOVA
APPROVED J. WRIGHT

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FILE NAME PS1598164E-7
JOB No. 216-1598-164
DATE AUGUST 2024

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PROJECT NAME
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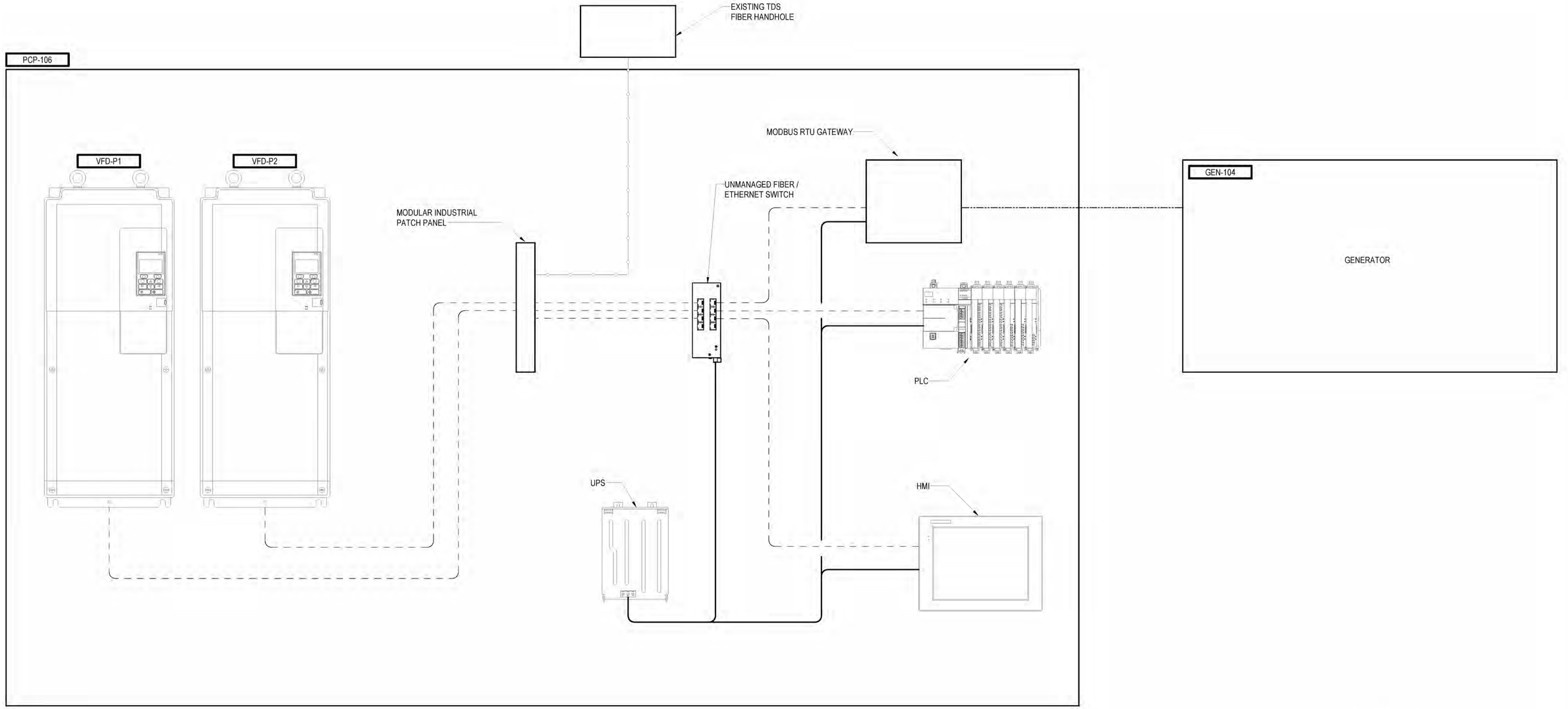
GROUNDING AND LIGHTING PLAN

DRAWING NO. 20 OF 26

E7

LAYOUT: PS1598164-E7 PATH: U:\PSO\Projects\Clients\1598-TulalipTribes\216-1598-164 Marina PS Improvements\99Svcs\CADD\DWG PLOTTED BY: vondejam DATE: Wednesday, August 14, 2024 10:17:26 AM



LEGEND:

- FIBER
- ETHERNET
- 24VDC POWER
- RS485 MODBUS RTU

	REVISIONS	DATE	BY

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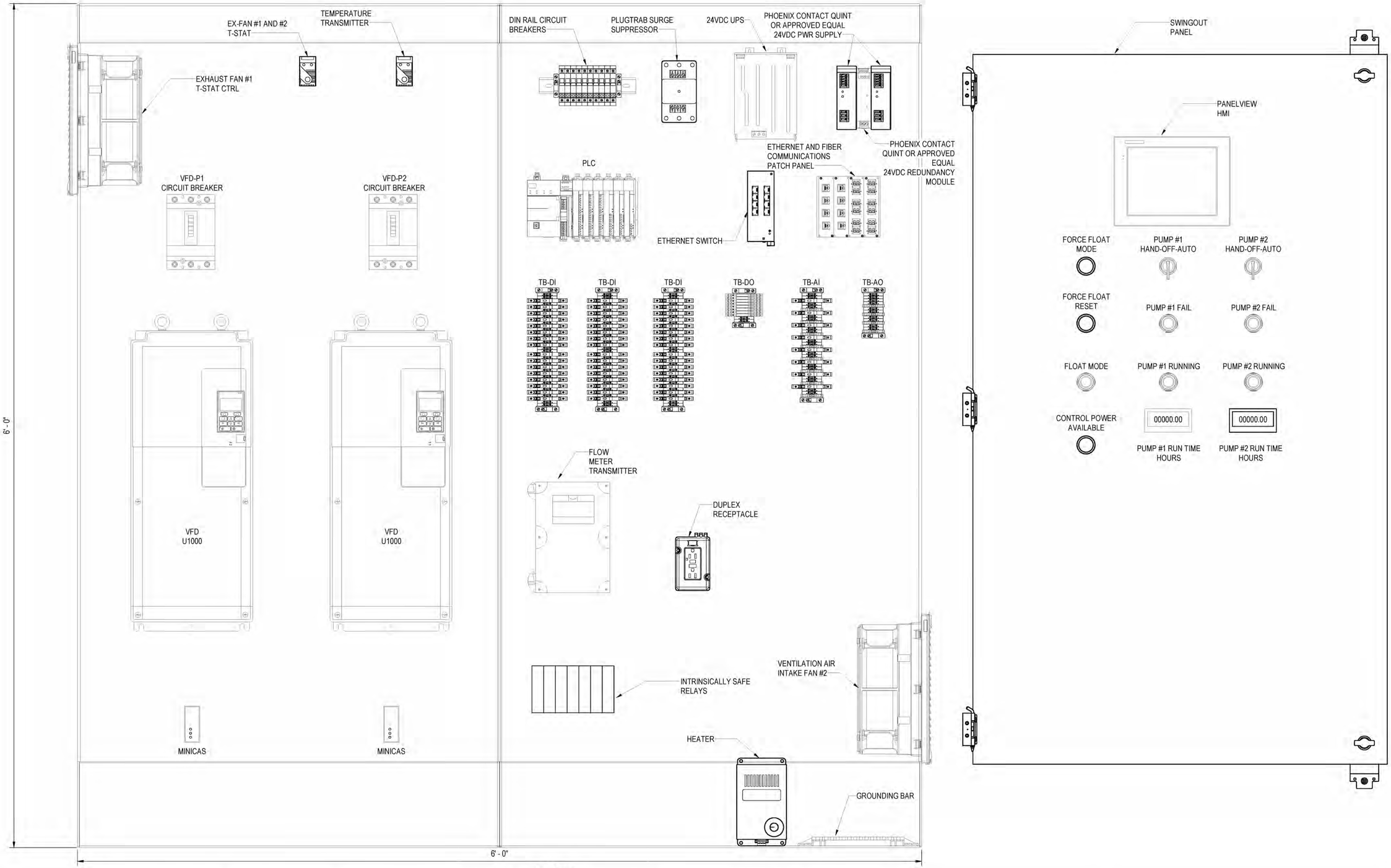
NETWORK BLOCK DIAGRAM

DRAWING NO.
21 OF 26
I1



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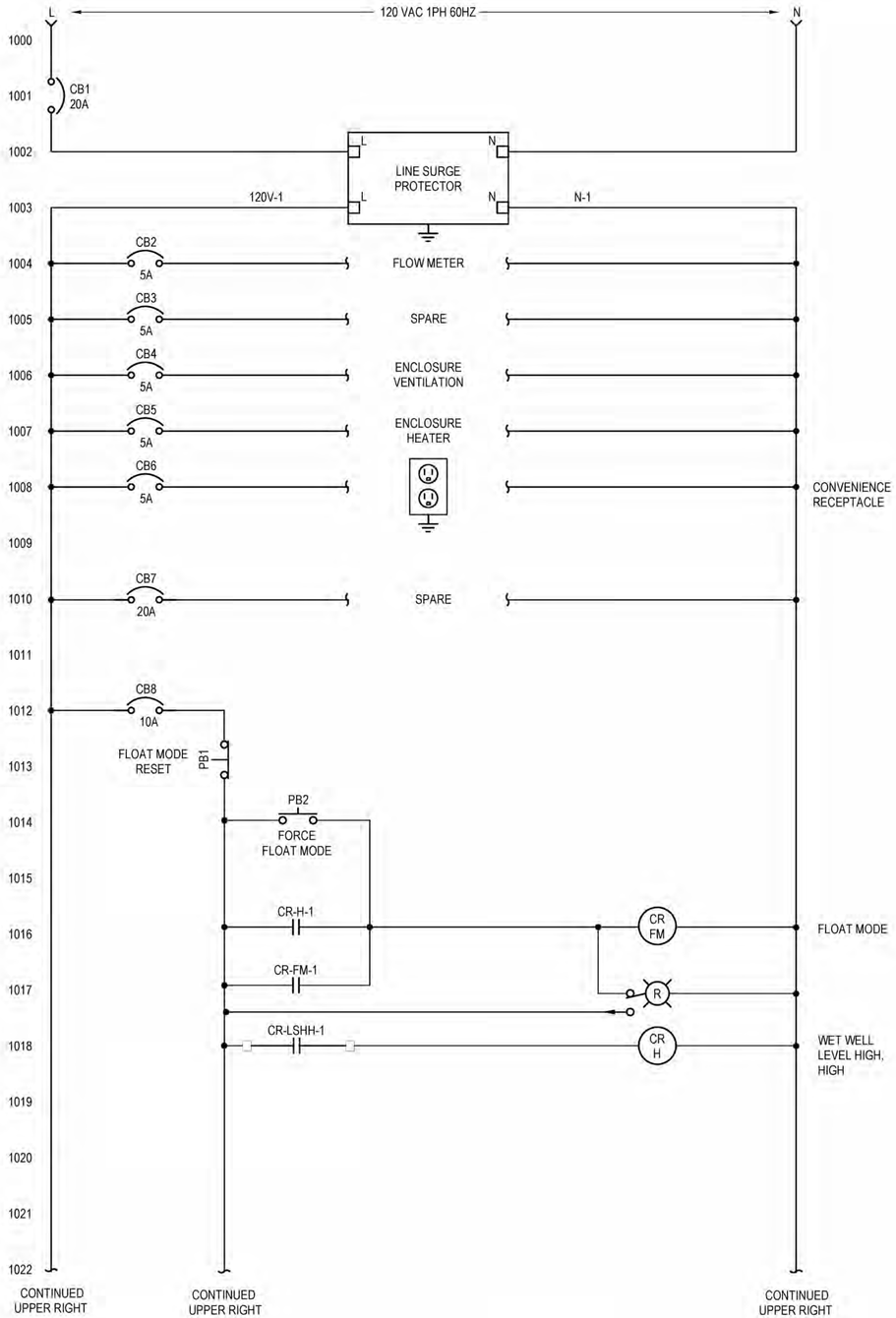
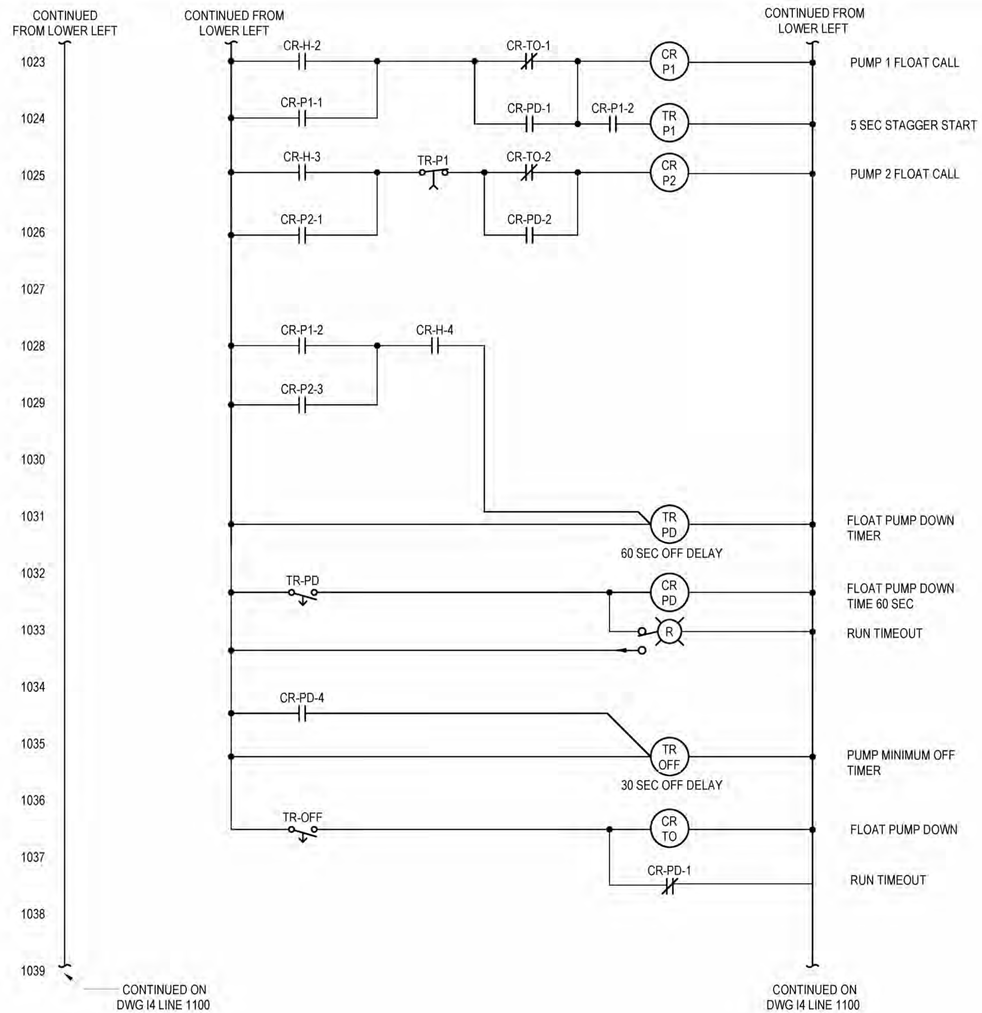
PUMP CONTROL PANEL CONCEPTUAL LAYOUT

DRAWING NO. 22 OF 26

I2





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THE TULALIP TRIBES
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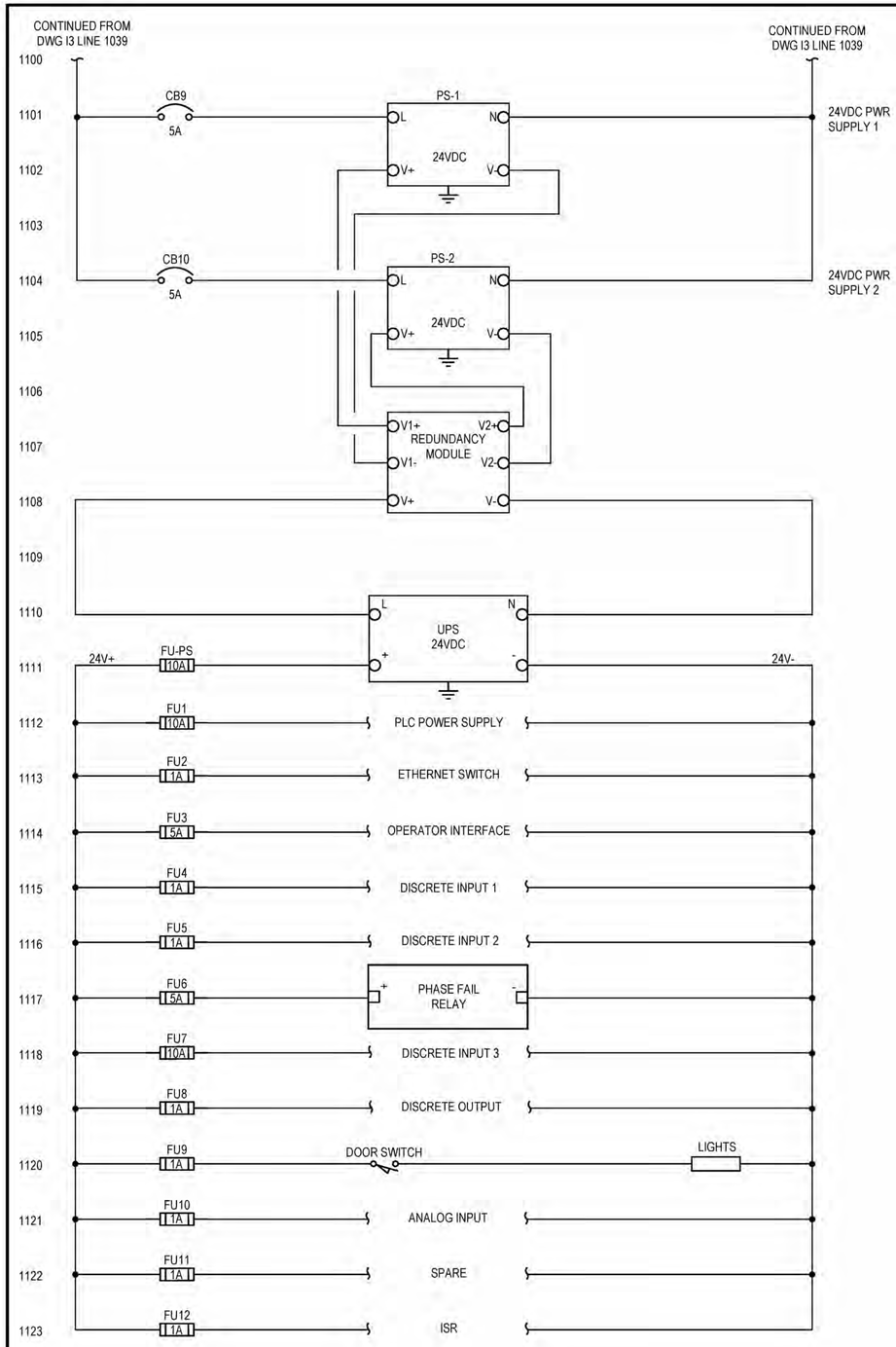
SNOHOMISH COUNTY, WASHINGTON

CONTROL PANEL WIRING DIAGRAM 1

DRAWING NO.
23 OF 26
I3



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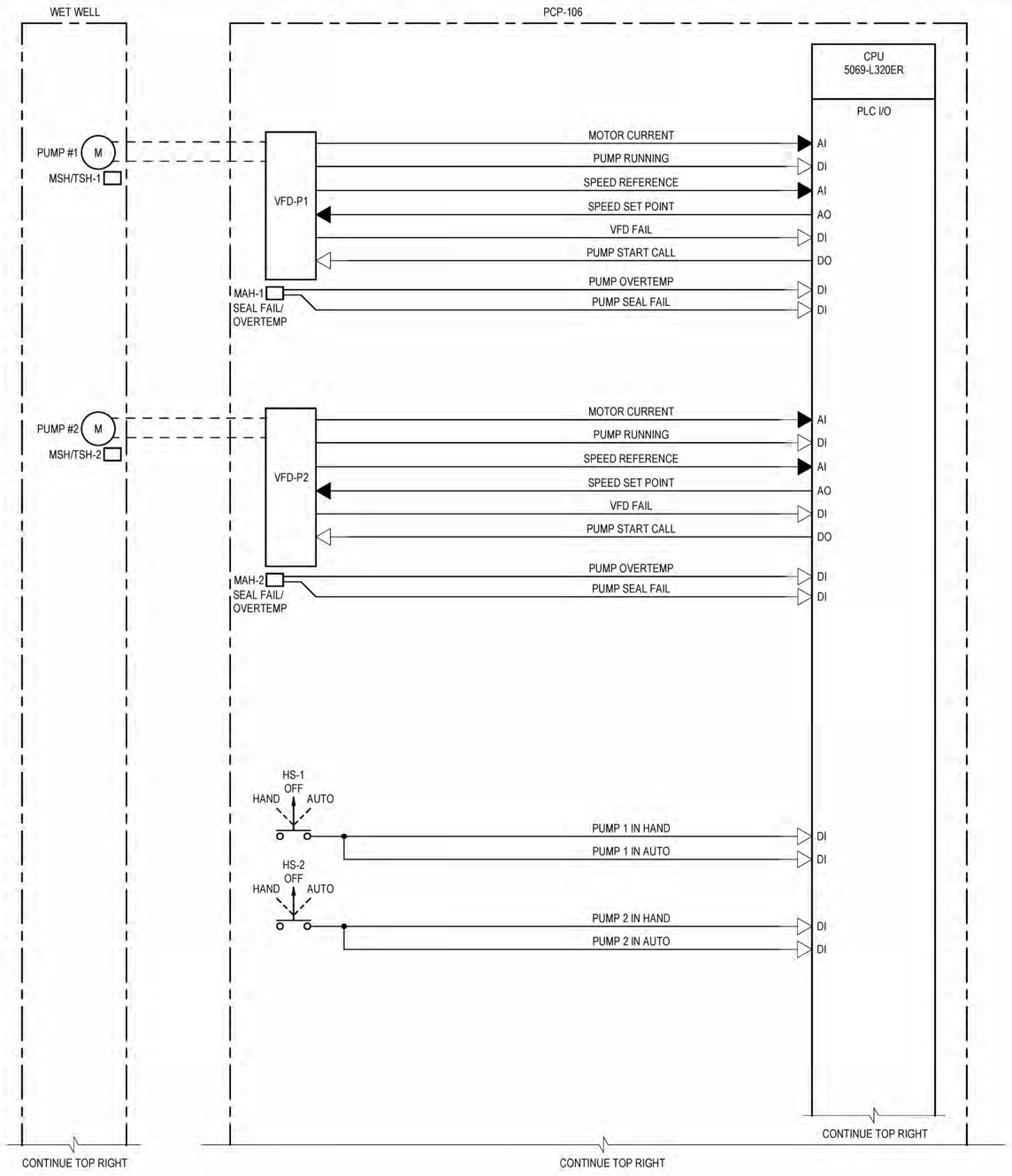
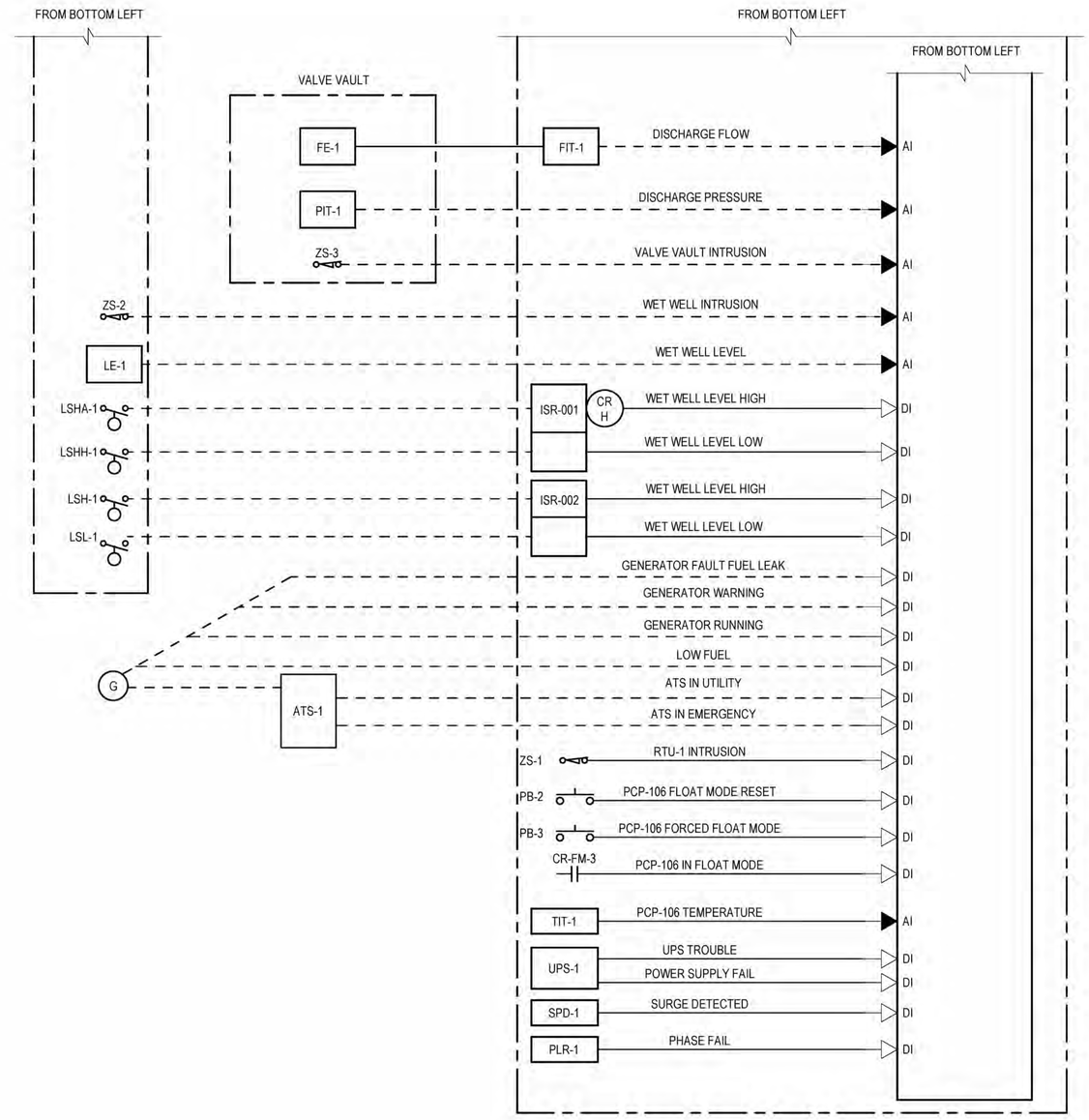
CONTROL PANEL WIRING DIAGRAM 2

DRAWING NO. 24 OF 26
I4





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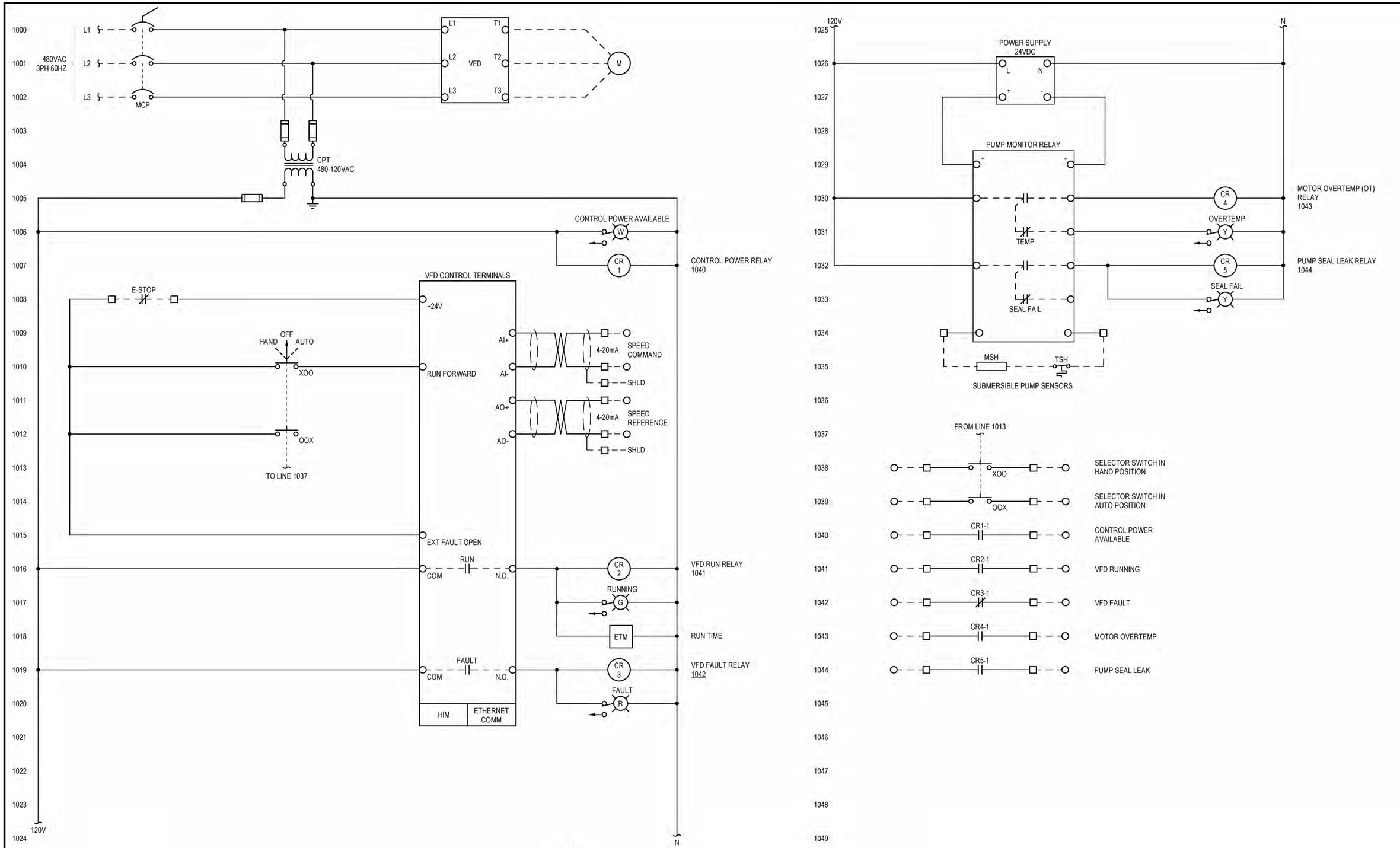
CONTROL SYSTEM BLOCK DIAGRAM

DRAWING NO.
25 OF 26
I5



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SUBMERSIBLE PUMP VFD WIRING ELEMENTARY

DRAWING NO. 26 OF 26

I6