# WASHINGTON STATE PARKS & RECREATION COMMISSION



Jason Both 2/20/2025
REGION MANAGER date

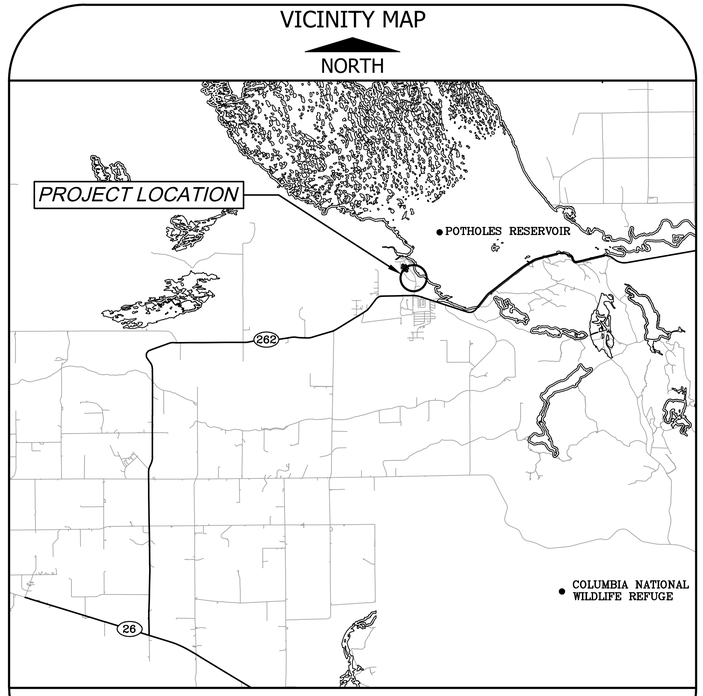
Kyle Murphy 2/20/2025
CAPITAL PROGRAM MANAGER date

Area Manager: Denis Felton

# POTHOLES STATE PARK

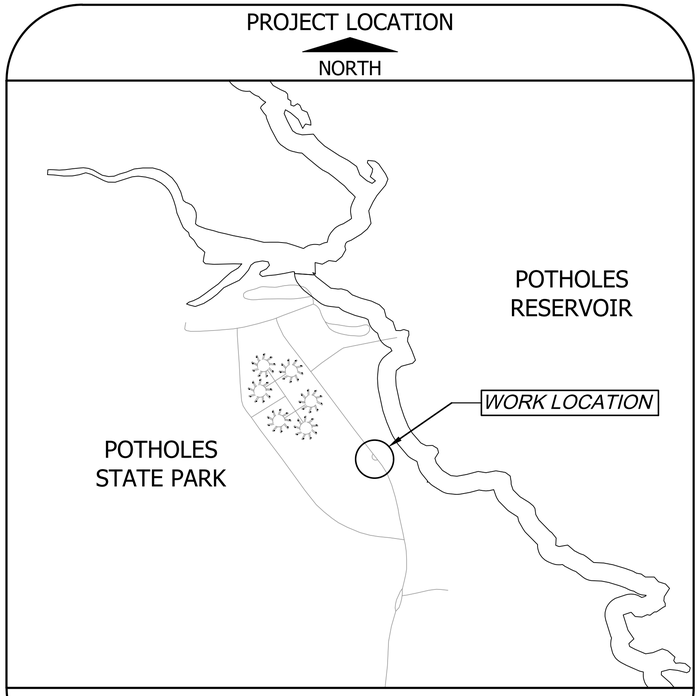
## SEWER LIFT STATION REPLACEMENT

VICINITY MAP




LATITUDE 46°58' & LONGITUDE 119°21'

PROJECT LOCATION




6762 HIGHWAY 262 EAST, OTHELLO, WA 99344
SEC-11 T-17-N R-28-E
GRANT COUNTY TAX PARCEL NUMBER 170007000

INDEX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CAD#: PSP-P-COV PROJECT TITLE = LIFT STATION RETROFIT

## LEGEND

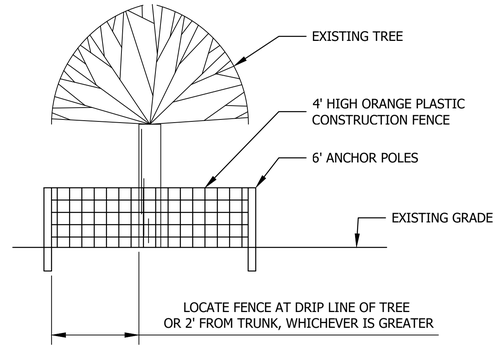
- EXISTING GRAVITY SEWER
- ABANDONED GRAVITY SEWER
- EXISTING SEWER FORCE MAIN
- ABANDONED SEWER FORCE MAIN
- ABANDONED UGP
- EXISTING DOMESTIC WATER
- EXISTING IRRIGATION
- EXISTING UNDERGROUND ELECTRICAL (SECONDARY)
- EXISTING UNDERGROUND ELECTRICAL (PRIMARY)
- EXISTING ELECTRICAL TRANSFORMER
- EXISTING IRRIGATION BOX
- EXISTING IRRIGATION VALVE
- EXISTING DRAIN VALVE
- EXISTING SPRINKLER
- EXISTING TREE
- EXISTING VEGETATION
- MATERIAL AND EQUIPMENT STORAGE AREA
- EXISTING PAVEMENT AND CONCRETE
- CONSTRUCTION DISTURBANCE LIMITS
- EXCAVATION LIMITS
- UNDERGROUND POWER
- TREE PROTECTION FENCE
- YARD HYDRANT DRAIN VALVE
- SILT FENCE
- CHAINLINK FENCE

## CONSTRUCTION NOTES

1. EXISTING SITE PLANS WERE DEVELOPED FROM MULTIPLE PRIOR PROJECT RECORDS. NO SURVEY WAS PERFORMED FOR THIS PROJECT. TOPOLOGICAL AND UTILITY INFORMATION SHOWN MAY NOT ACCURATELY REFLECT EXISTING CONDITIONS. CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF FIELD CONDITIONS VARY FROM THOSE SHOWN.
2. SLOPED-SIDE EXCAVATION IN LIEU OF SHORING FOR WETWELLS WILL NOT BE ALLOWED. SHORING MANHOLE BOXES, MANHOLE SHIELDS OR FUNCTIONAL EQUIVALENT MUST BE USED FOR CONSTRUCTION OF THE WET WELLS.

## ABBREVIATIONS

FL: FLANGED
PE: PLANE END
MJ: MECHANICAL JOINT
RJ: RESTRAINED JOINT
LF: LINEAL FEET
DI: DUCTILE IRON
SS: STAINLESS STEEL
TYP: TYPICAL
GSP: GALVANIZED STEEL PIPE
UGP: UNDERGROUND POWER

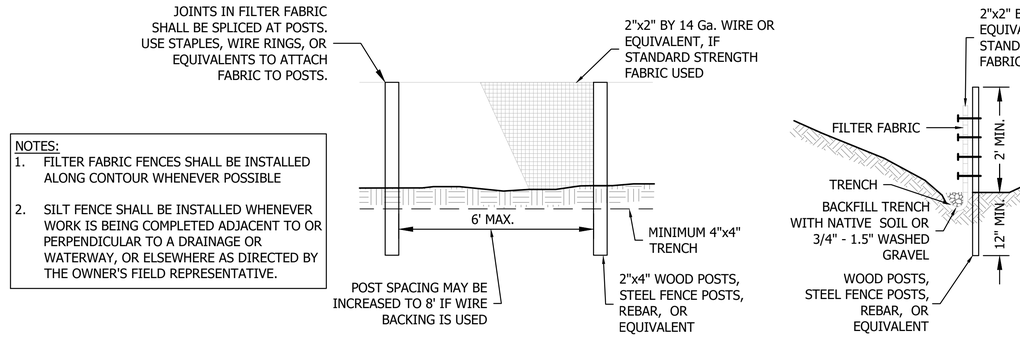



## TREE PROTECTION FENCE

NOT TO SCALE

1 TYP

NOTES:
1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE
2. SILT FENCE SHALL BE INSTALLED WHENEVER WORK IS BEING COMPLETED ADJACENT TO OR PERPENDICULAR TO A DRAINAGE OR WATERWAY, OR ELSEWHERE AS DIRECTED BY THE OWNER'S FIELD REPRESENTATIVE.




## SILT FENCE

NOT TO SCALE

2 TYP

RH2

CAD NO. psp-p-ov

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| CHECKED (HDQTS.) | | |

PAUL NATHAN YOUNG — STATE OF WASHINGTON — 53375 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

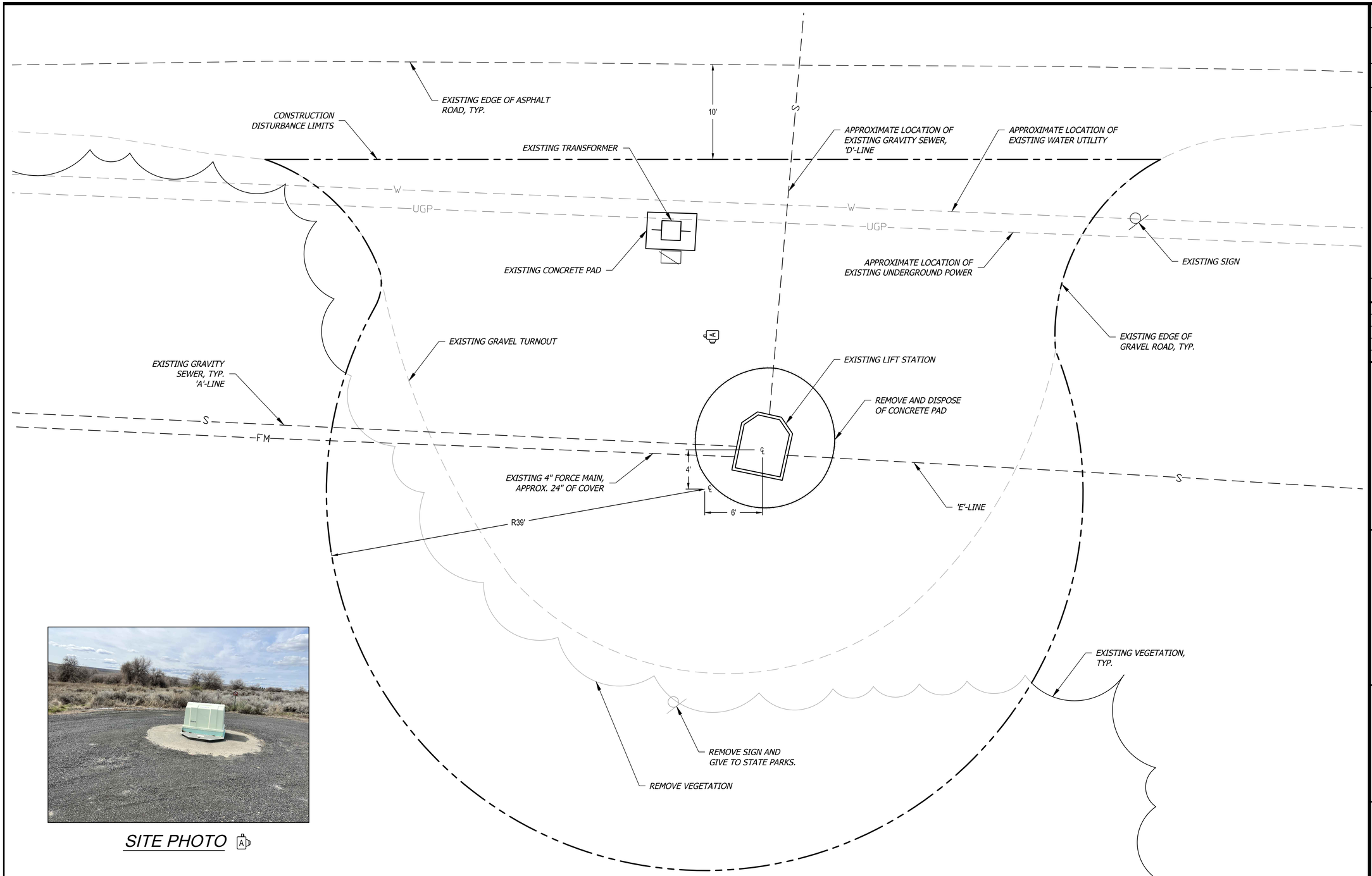
PROJECT ENGINEER

WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

GENERAL INFORMATION






SITE PHOTO A

CONSTRUCTION NOTE

CONSTRUCTION DISTURBANCE LIMITS AND MATERIALS AND EQUIPMENT STORAGE AREAS SHOWN ON THIS PLAN ENCOMPASS THE MINIMUM AREA THE CONTRACTOR IS ASSUMED TO NEED. THE CONTRACTOR MAY BE ALLOWED TO USE ADDITIONAL AREA WITH APPROVAL FROM THE ENGINEER. ALL AREAS THAT ARE DISTURBED BY THE CONTRACTOR'S ACTIVITIES WILL BE RESTORED BY THE CONTRACTOR UNDER THE ORIGINAL BID PRICE. NO ADDITIONAL PAYMENT WILL BE MADE FOR RESTORATION OF DAMAGE CAUSED BY THE CONTRACTOR.

## LIFT STATION - EXISTING SITE PLAN

0 2 4 10
1 3 5 FEET

CAD NO. psp-p-esite

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STATE OF WASHINGTON
53375
REGISTERED
PROFESSIONAL ENGINEER
SIGNED: 01/02/2024
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

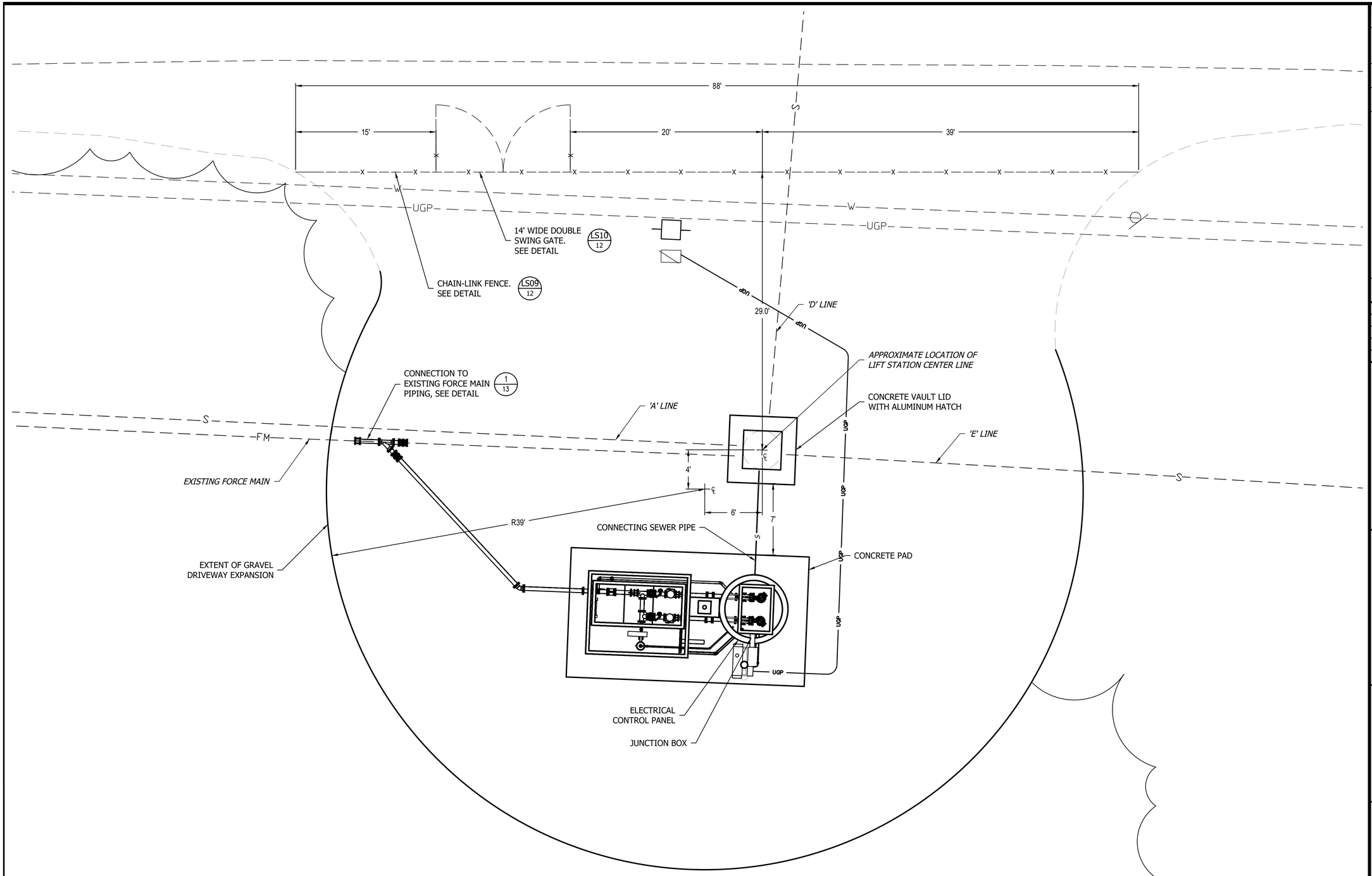
POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

EXISTING SITE PLAN

SHEET 3 OF 20

RH2

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## POTHOLES - LIFT STATION SITE PLAN

0 2 4 10
1 3 5
FEET

CAD NO. psp-p-psite

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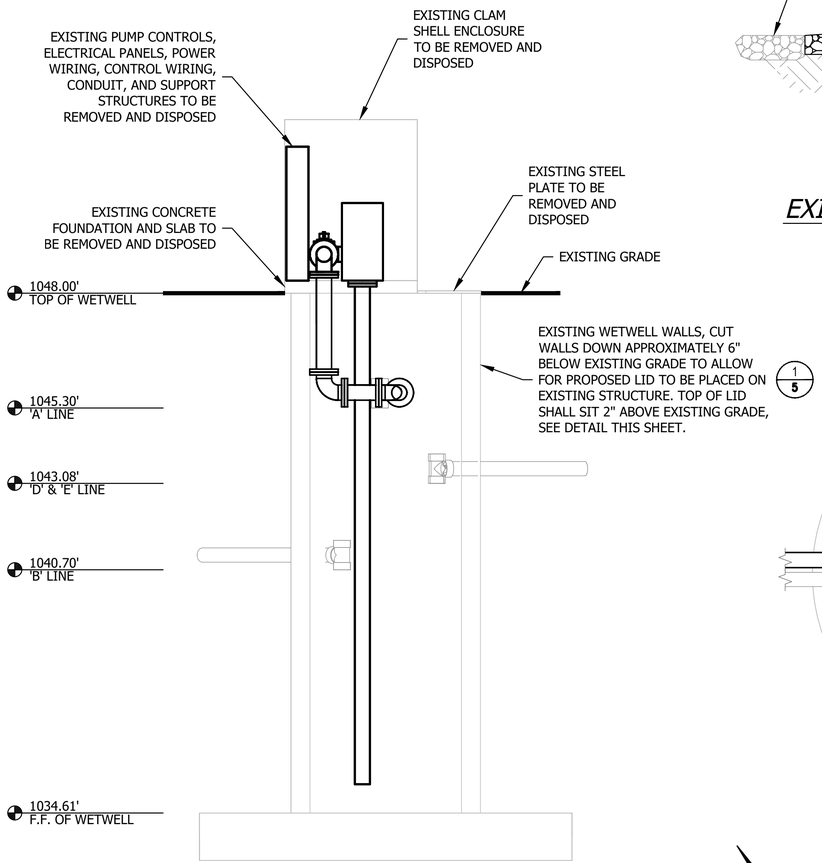
POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

LIFT STATION SITE PLAN

SHEET 4 OF 20

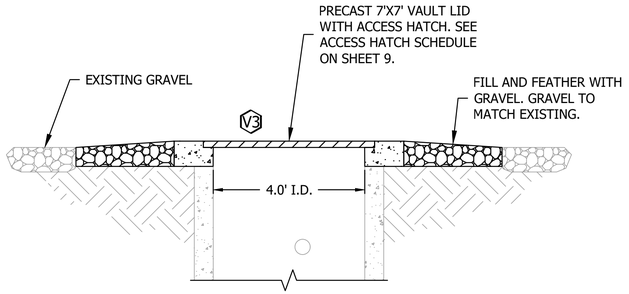
RH2




A 5

## EXISTING WETWELL MECHANICAL ELEVATION

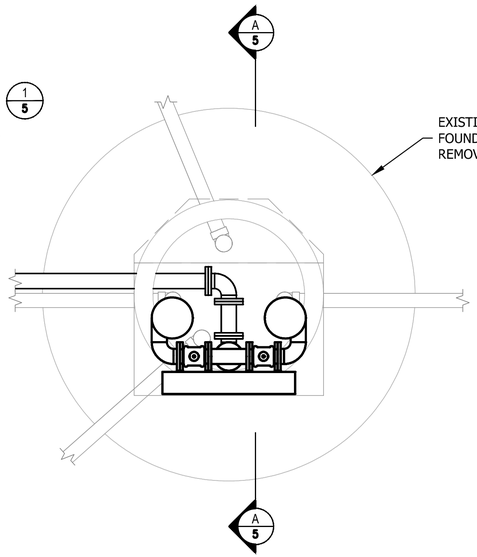
0 2 1 4 FEET




## EXISTING WETWELL LID REPLACEMENT

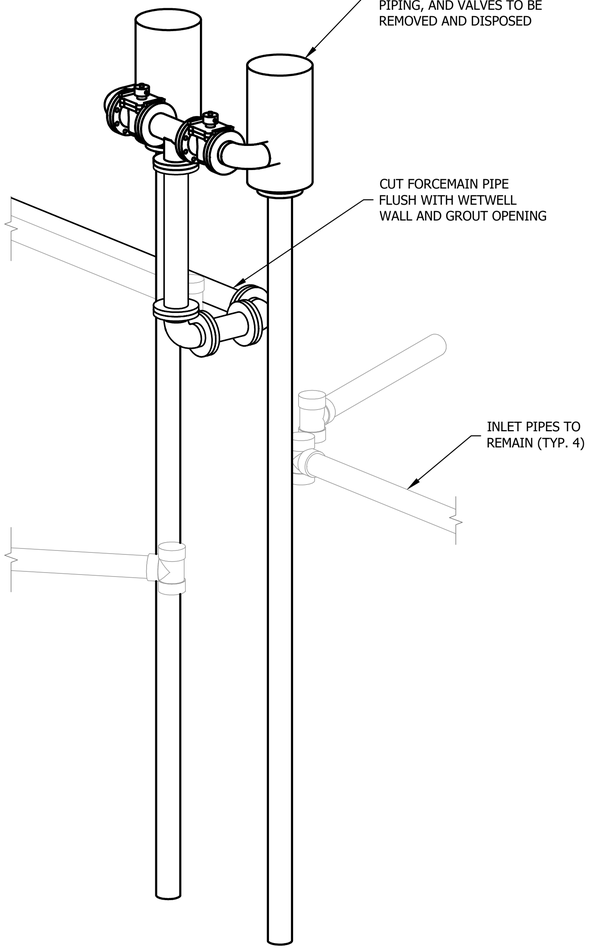
1 5

NOT TO SCALE




## EXISTING LIFT STATION PLAN

0 2 1 4 FEET




## EXISTING LIFT STATION OBLIQUE

NOT TO SCALE

## CONSTRUCTION SEQUENCING

1. EXISTING LIFT STATION IS TO REMAIN IN SERVICE DURING CONSTRUCTION. THIS DEMOLITION PLAN SHOWS WORK THAT WILL OCCUR AFTER THE NEW STATION IS IN SERVICE.
2. IF CONTRACTOR NEEDS TO TEMPORARILY SHUT DOWN EXISTING LIFT STATION, CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND LABOR TO REMOVE SEWAGE FROM WETWELL AND TRANSPORT IT TO THE PARK LAGOONS DURING THE SHUT DOWN.

CAD NO. psp-p-mech

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PAUL NATHAN YOUNG STATE OF WASHINGTON 53375 REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

PROJECT ENGINEER

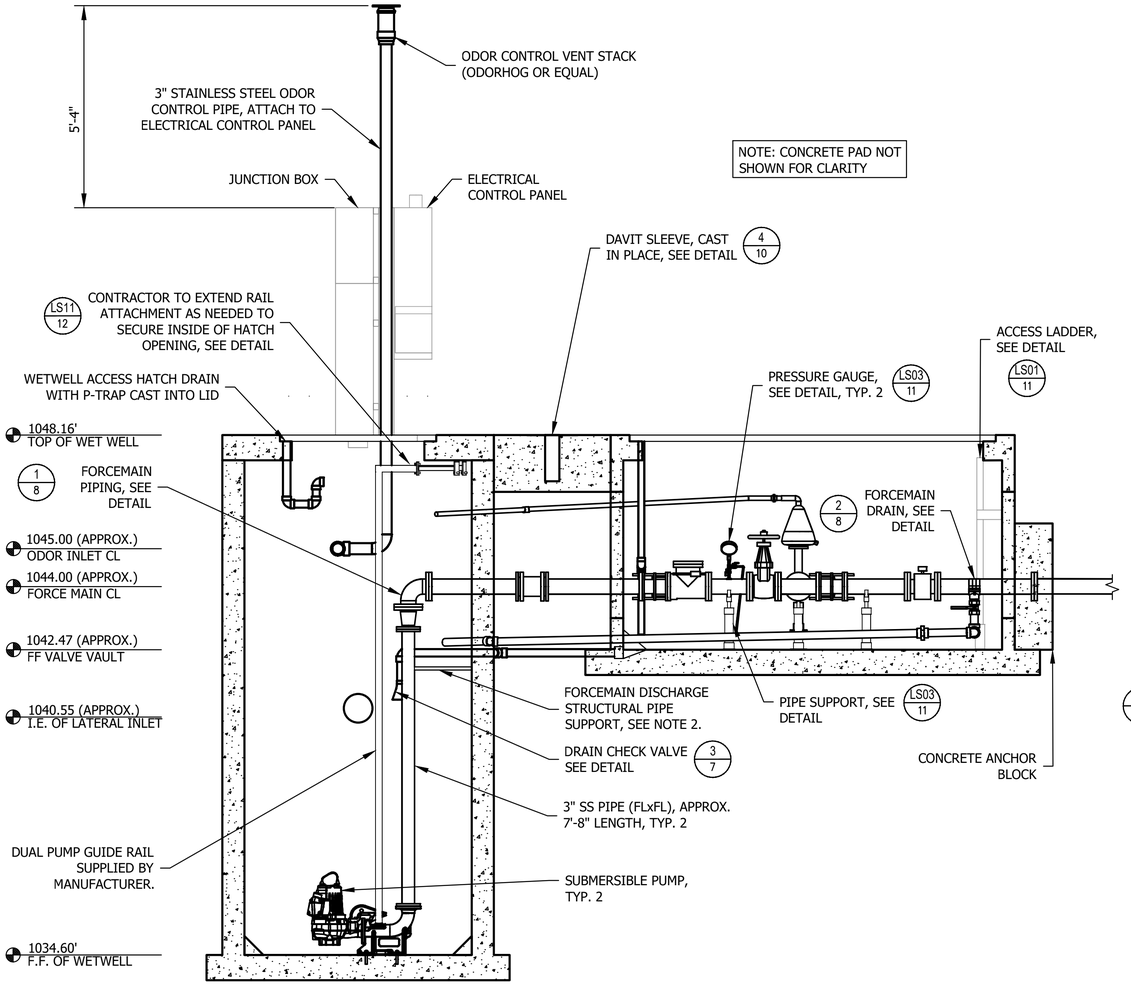
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

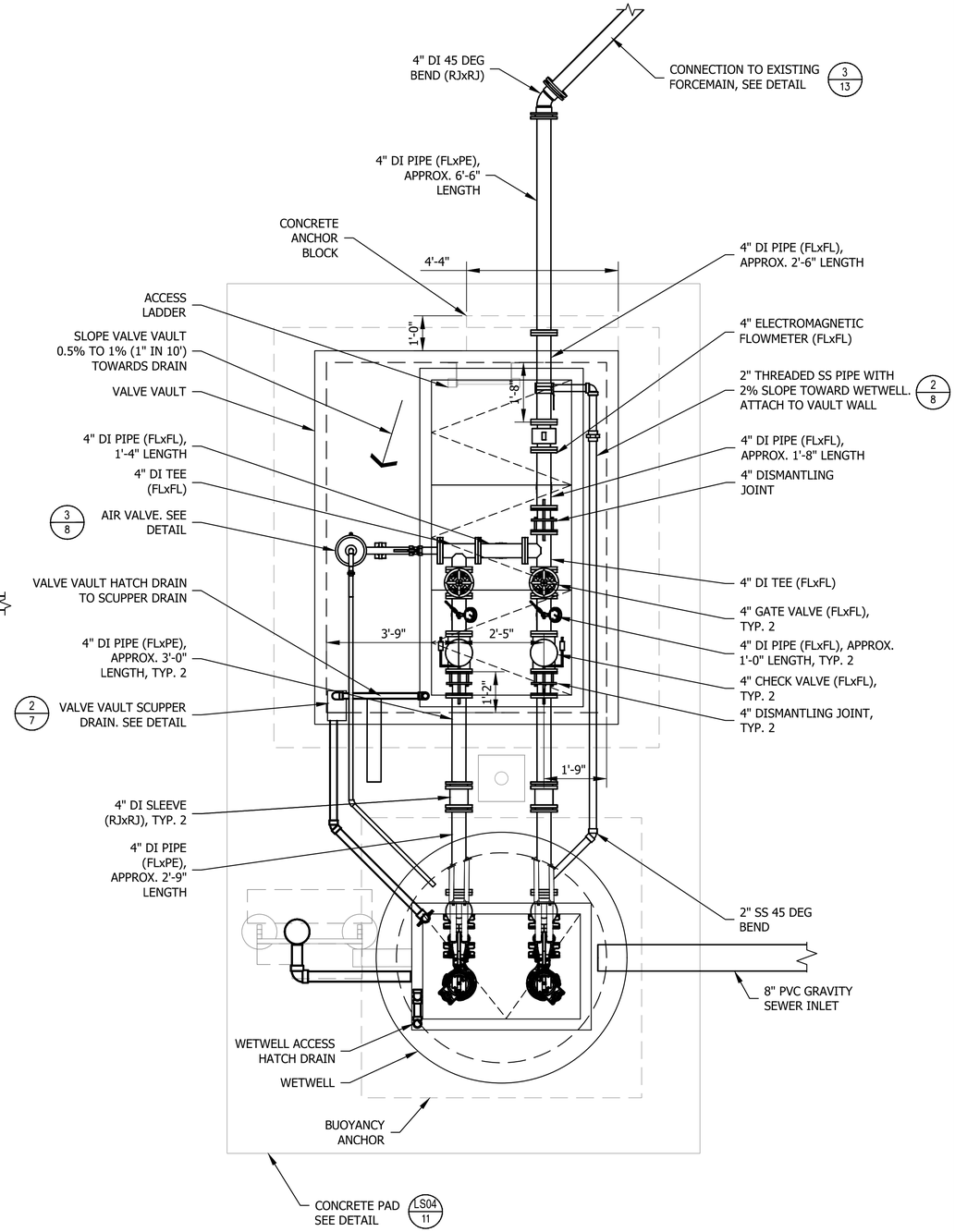
EXISTING MECHANICAL AND DEMOLITION PLAN

SHEET 5 OF 20




## MECHANICAL ELEVATION

0 1 2 4 FEET




## MECHANICAL PLAN

0 1 2 4 FEET

## GENERAL MECHANICAL NOTES

1. ALL PIPING SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO VAULT WALLS OR WETWELL CENTERLINE U.N.O.
2. SUPPORT VERTICAL PORTION OF FORCEMAIN IN WET WELL WITH 2"x2" SS ANGLE BOLTED TO WET WELL WALL AND ATTACH TO PIPE WITH A SS CLAMP.
3. ELEVATIONS, DIAMETERS AND ORIENTATIONS SHOWN FOR EXISTING PIPES HAVE NOT BEEN SURVEYED AND ARE TAKEN FROM PAST RECORDS.

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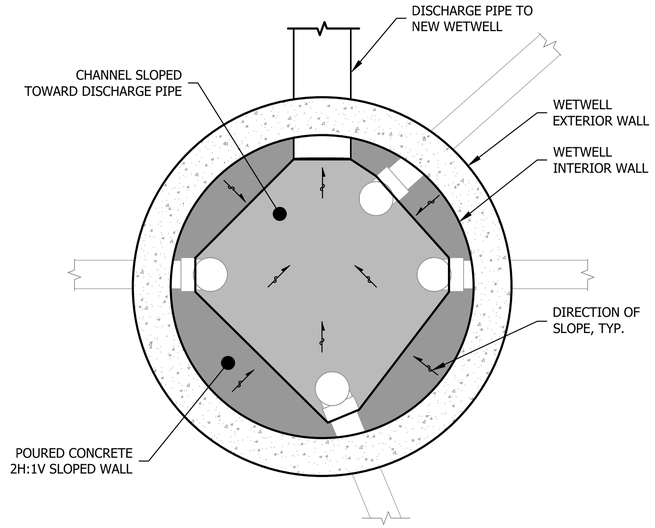
POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

MECHANICAL PLAN 1

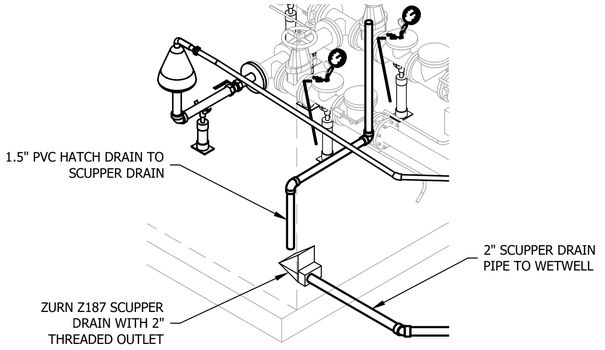
SHEET 6 OF 20




## EXISTING WETWELL BASE DETAIL

1/7

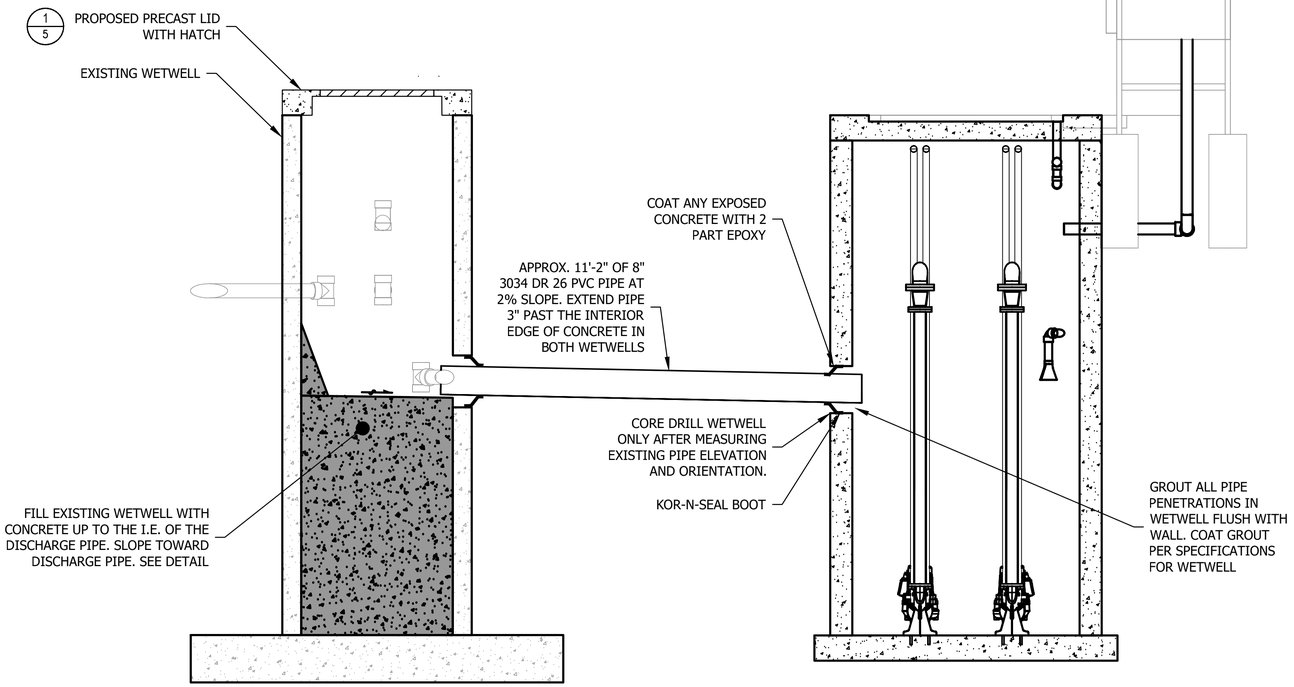
0 1 2 FEET




## VALVE VAULT SCUPPER DRAIN

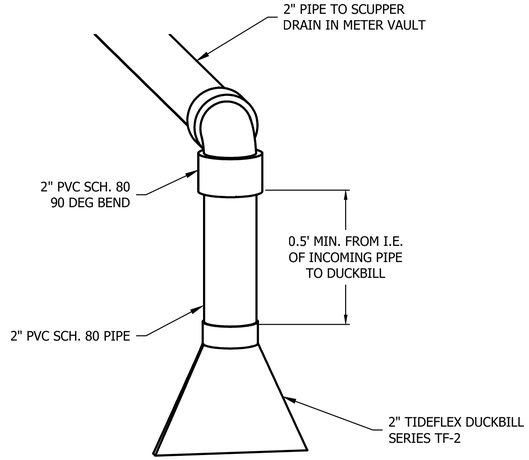
NOT TO SCALE

2/6




## MECHANICAL ELEVATION

0 1 2 4 FEET




## VALVE VAULT DRAIN DISCHARGE IN WETWELL

NOT TO SCALE

3/6

RH2

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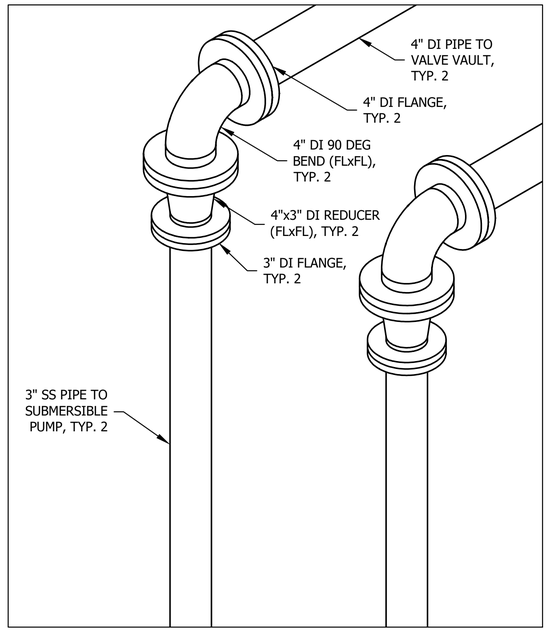
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

MECHANICAL PLAN 2

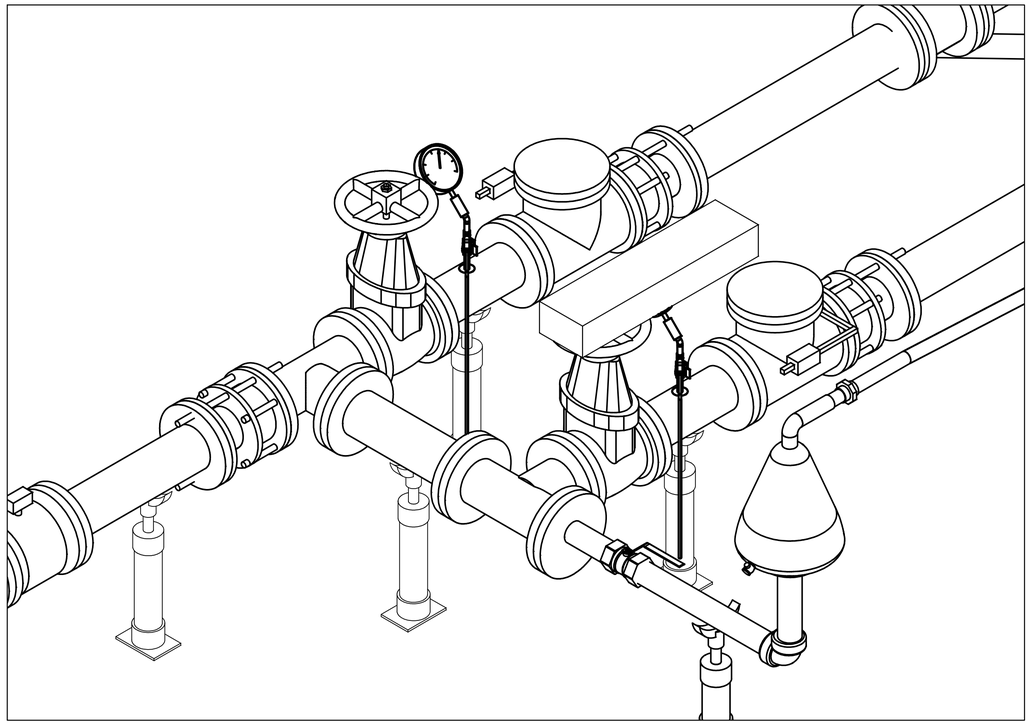
SHEET 7 OF 20




*TYPICAL WET WELL FORCEMAIN VERTICAL PIPING OBLIQUE*

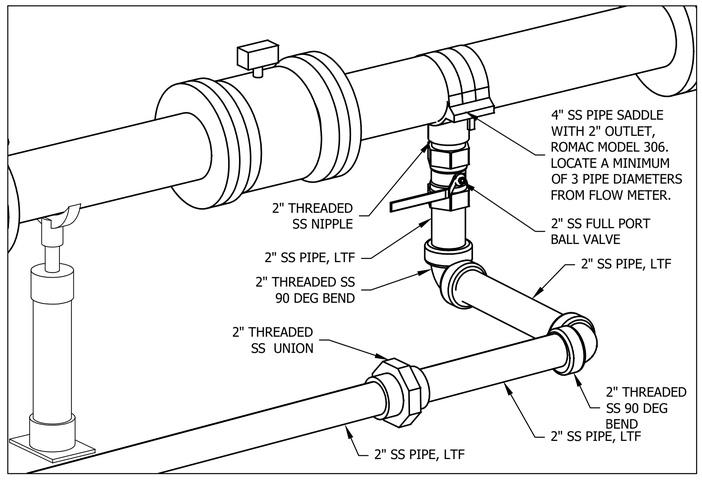
1 TYP

NOT TO SCALE



*VALVE VAULT PIPING OBLIQUE*

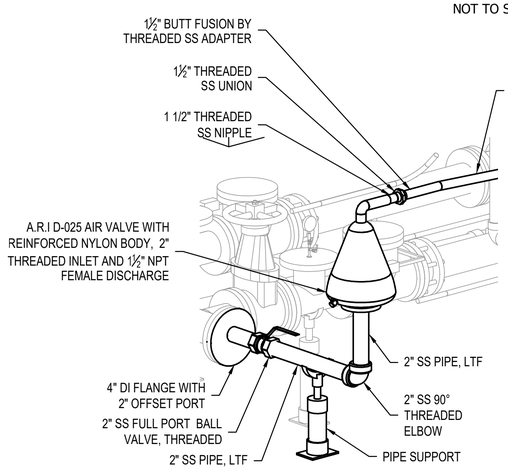
NOT TO SCALE




*TYPICAL VALVE VAULT FORCEMAIN DRAIN OBLIQUE*

2 TYP

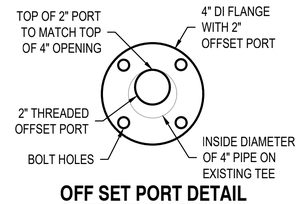
NOT TO SCALE




**AIR VALVE OBLIQUE**

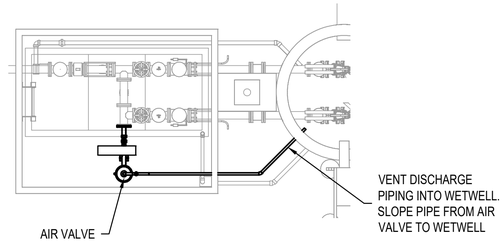
3 TYP

NOT TO SCALE




**OFF SET PORT DETAIL**

NOT TO SCALE




**AIR VALVE PLAN**

NOT TO SCALE

| CAD NO. psp-p-mech | | |
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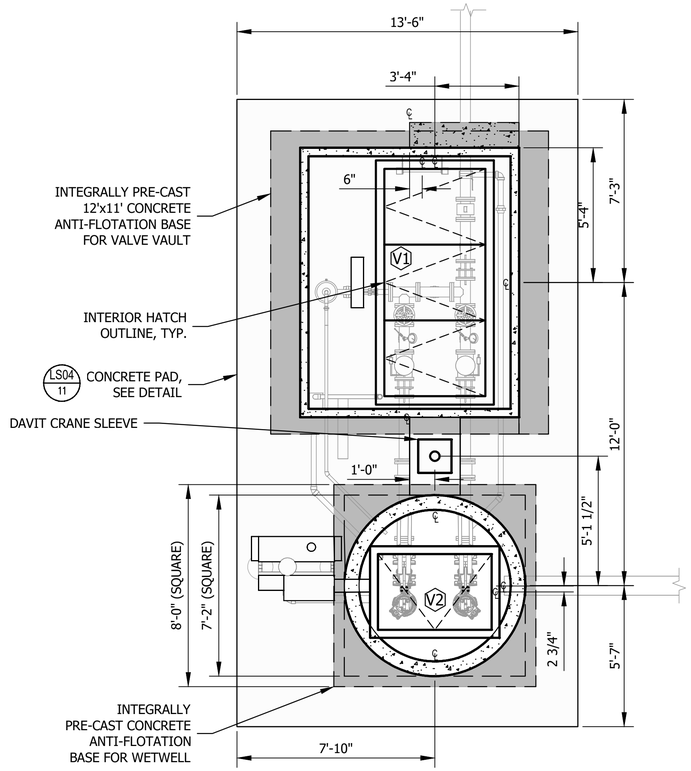
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

MECHANICAL DETAILS

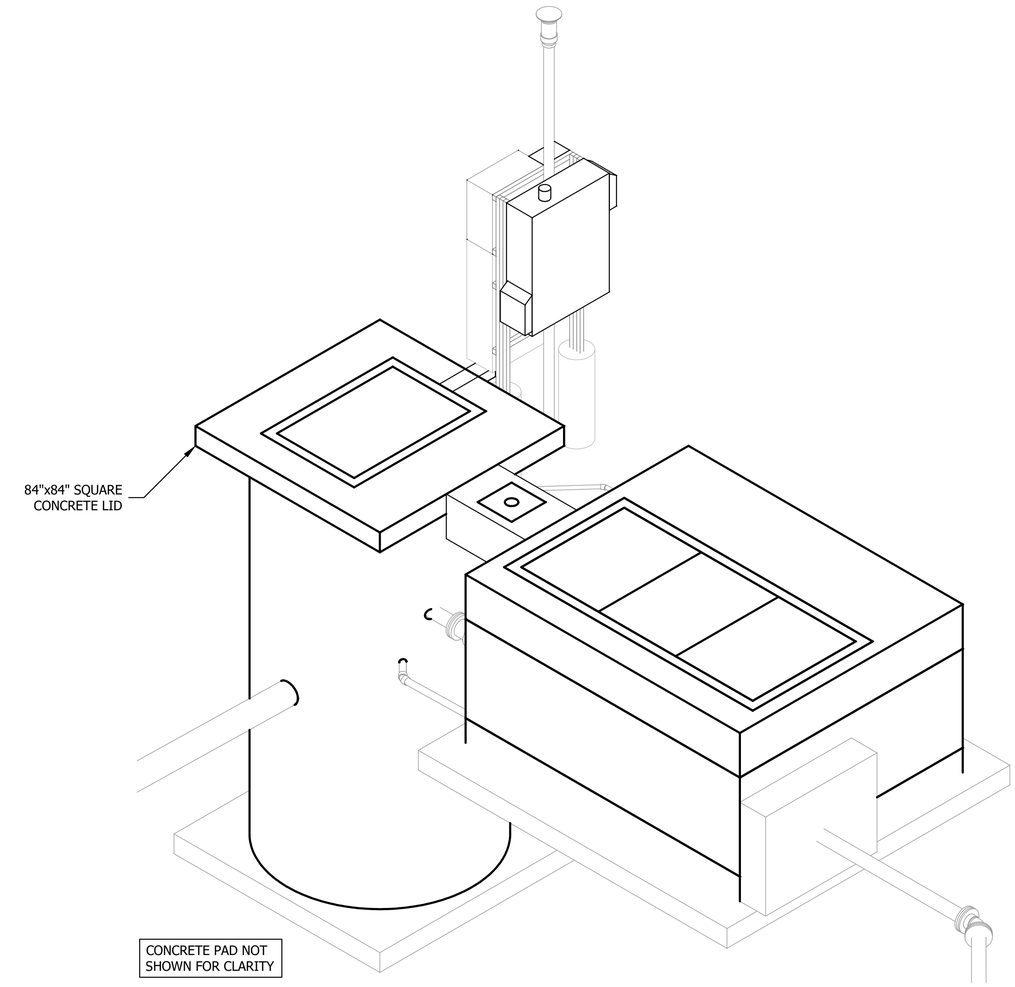
SHEET 8 OF 20




## STRUCTURAL PLAN

1 0 3 2 6 FEET

| PRECAST CONCRETE VAULT SCHEDULE | | |
|---|---|---|
| ID NO. | MODEL | APPROX. INTERIOR DIMENSIONS (L X W X H) |
| V1 | H2 PRE-CAST 810 VAULT OR APPROVED EQUAL | 10'-0" X 8-0", SEE ELEVATION VIEW FOR DEPTH |
| V2 | H2 PRE-CAST 72" DIAMETER MANHOLE - TYPE 3 OR APPROVED EQUAL | 72" DIAMETER, SEE ELEVATION VIEW FOR DEPTH |



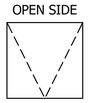

## STRUCTURAL OBLIQUE

NOT TO SCALE

| ACCESS HATCH SCHEDULE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ID NO. | CLEAR OPENING | NO. OF LEAVES | MATERIAL | RATING | MOUNTING | SAFETY GRATING | GASKET | INSULATION |
| V1 | 48" X 108" | 3 | ALUMINUM | 300 LBS/SF | EMBEDDED | NO | STANDARD | YES |
| V2 | 54" X 36" | 1 | ALUMINUM | 300 LBS/SF | EMBEDDED | YES | ODOR TIGHT | NO |
| V3 | 48" X 48" | 2 | ALUMINUM | H-20 | EMBEDDED | NO | ODOR TIGHT | NO |

## HATCH NOTES

1. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. WETWELL HATCH FRAME TO BE MODIFIED FOR PUMP CABLE REMOVAL. DEBUR AND GRIND ALL CUT EDGES SMOOTH.




ACCESS HATCH SYMBOL

CAD NO. psp-p-struc

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PAUL NATHAN YOUNG STATE OF WASHINGTON 53375 REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

PROJECT ENGINEER

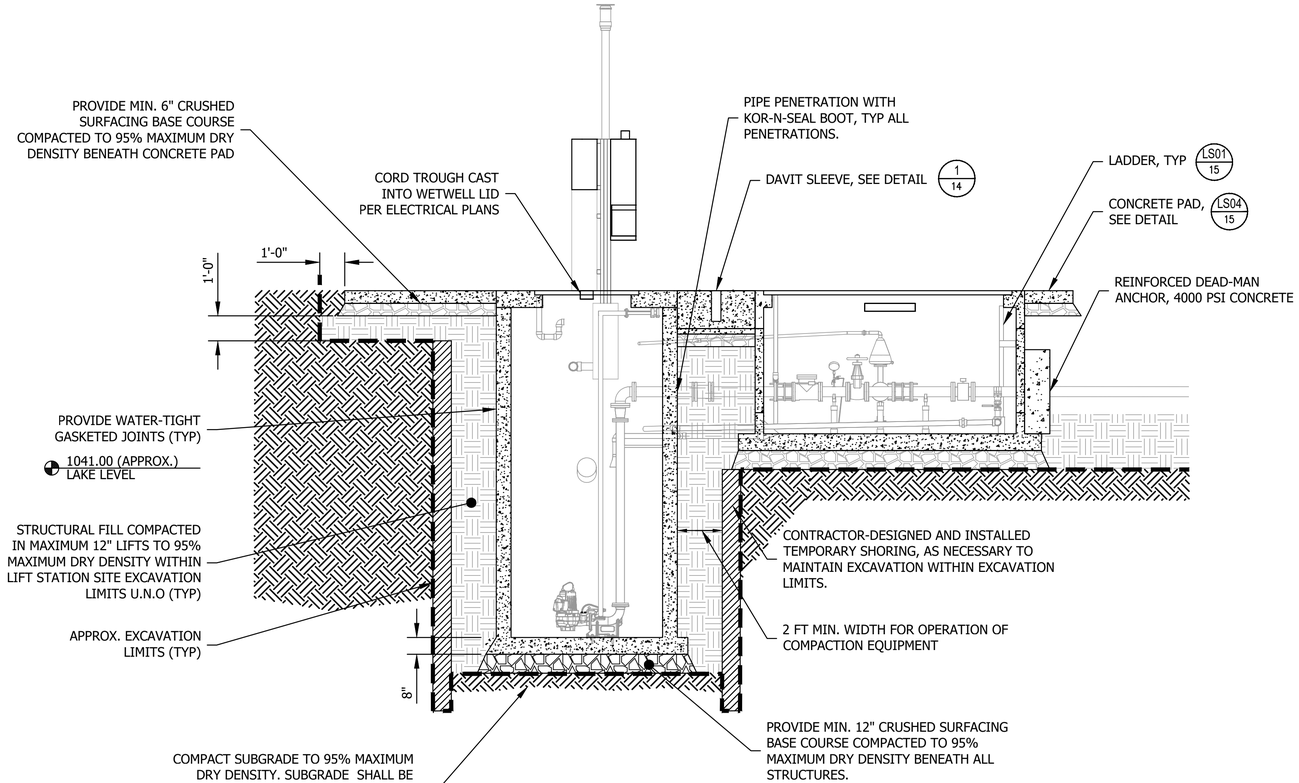
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

STRUCTURAL PLAN

SHEET 9 OF 20



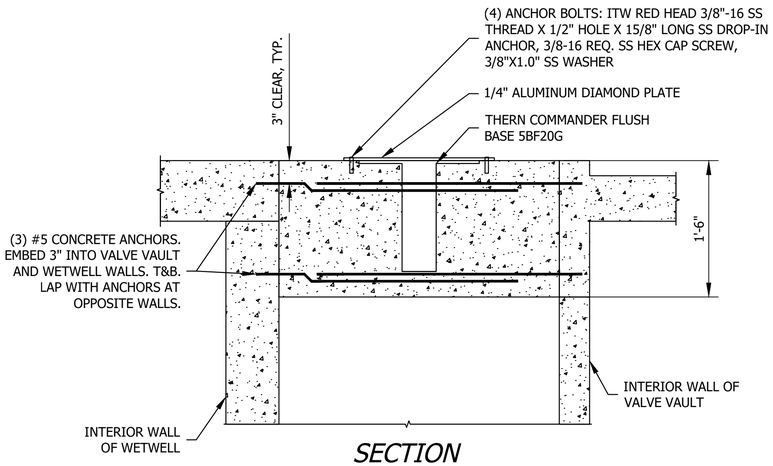

## STRUCTURAL ELEVATION

2 TYP

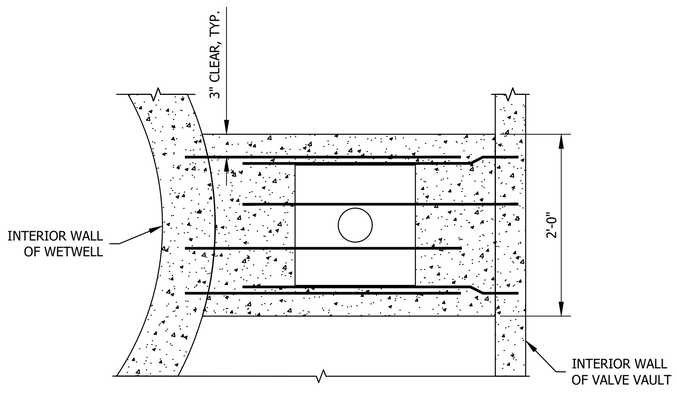
1 0 3 2 6 FEET

## GENERAL NOTES

1. ALL STRUCTURE RIMS SHALL BE SET 2" ABOVE EXISTING GRADE.
2. MAXIMUM DRY DENSITY OF FILL SHALL BE DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D 1557)
3. EXPOSED EXTERIOR ROOFS OF ALL PRECAST STRUCTURES SHALL BE COATED PER THE SPECIFICATIONS.
4. THE INTERIOR OF THE WETWELL SHALL BE COATED PER THE SPECIFICATIONS.
5. CONCRETE ANTI-FLOTATION BASES TO BE PRE-CAST AROUND WETWELL BASES. BOTTOM ELEVATION OF ANTI-FLOTATION BASES TO MATCH BOTTOM ELEVATION OF WETWELL BASES. PRECAST STRUCTURES TO BE PROVIDED WITH RISERS AS NECESSARY TO MATCH STRUCTURE CLEARANCE HEIGHTS SHOWN ON PLANS.
6. GROUNDWATER IS TO BE EXPECTED IN THE EXCAVATION. CONTROL WATER TO KEEP EXCAVATION DRY DURING INSTALLATION. SEE SPECIFICATIONS DIVISION 31.




## SECTION




## PLAN

| BAR SIZE | MINIMUM STRAIGHT DEVELOPMENT LENGTHS | | MINIMUM LAP SPLICE LENGTHS | MINIMUM EMBEDMENT LENGTHS |
|---|---|---|---|---|
| | TENSION BARS | | TENSION BARS | END HOOKS |
| | TOP BARS | OTHER BARS | TOP BARS | ALL BARS |
| #3 | 19" | 15" | 25" | 6" |
| #4 | 25" | 19" | 33" | 7" |
| #5 | 31" | 24" | 41" | 9" |
| #6 | 37" | 29" | 49" | 10" |
| #7 | 54" | 42" | 71" | 12" |
| #8 | 62" | 48" | 81" | 14" |
| #9 | 70" | 54" | 91" | 15" |
| #10 | 79" | 61" | 103" | 17" |

"TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

IF CLEAR CONCRETE COVER IS LESS THAN 2x THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS LESS THAN (4) BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 43%.

## REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH SCHEDULE

## DAVIT SLEEVE DETAILS

4 TYP

NOT TO SCALE

CAD NO. psp-p-struc

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| DESIGNED | PNY | 1/2/2024 |
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| CHECKED (HDQTS.) | | |

PAUL NATHAN YOUNG STATE OF WASHINGTON 53375 REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

PROJECT ENGINEER

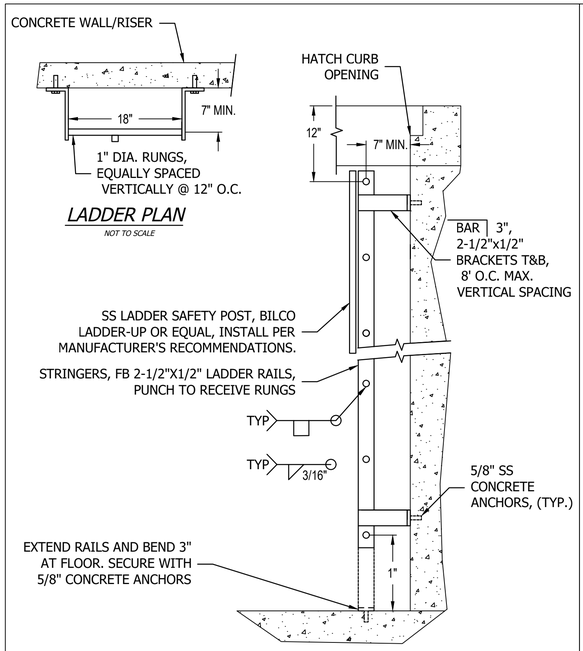
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

STRUCTURAL ELEVATIONS AND PLAN

SHEET 10 OF 20




## LADDER PLAN
NOT TO SCALE

## LADDER PROFILE
NOT TO SCALE

## LADDER DETAIL
NOT TO SCALE

LS01 TYP

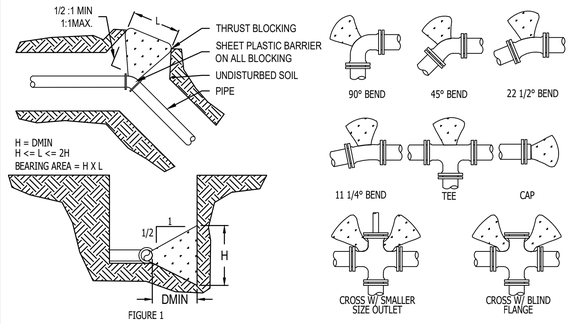



FIGURE 1

CONSTRAINTS
1. SOIL CONDITIONS AND BEARING CHARACTERISTICS ARE TO BE DETERMINED BY THE INSPECTOR.
2. THIS STANDARD DETAIL IS FOR HORIZONTAL THRUST RESTRAINT ONLY.
3. CONCRETE BLOCKING SHALL BE PER APWA SPECIFICATION 7-11.3(3) 1984.
4. CONCRETE THRUST BLOCKING FOR FITTINGS LARGER THAN 16" SHALL BE AS SHOWN ON THE PROJECT PLANS.
5. MAINTAIN 18" MINIMUM GROUND COVER OVER THE TOP OF ALL CONCRETE BLOCKING.
6. WRAP FITTINGS WITH 8 mil THICK POLYETHYLENE

PROCEDURE
1. DETERMINE BEARING FACTOR IN TABLE 1 CORRESPONDING TO APPROPRIATE PIPE SIZE AND TYPE OF FITTING.
2. MULTIPLY THE BEARING FACTOR DETERMINED IN TABLE 1 BY THE MULTIPLICATION FACTOR IN TABLE 2 FOR THE APPROPRIATE SOIL CLASSIFICATION.THE RESULT IS THE REQUIRED AREA OF CONCRETE (IN SQ. FT.) WHICH MUST BEAR AGAINST UNDISTURBED SOIL.
3. USING TABLE 3 LOCATE THE MINIMUM DEPTH OF CONCRETE (Dmin) CORRESPONDING TO THE REQUIRED BEARING AREA.
4. USING Dmin, THE HEIGHT AND LENGTH OF THE THRUST BLOCKING CAN BE DETERMINED FROM THE DIMENSION RELATIONSHIPS ILLUSTRATED IN FIGURE 1 AND DESCRIBED BELOW:
   A. "H" EQUALS "D"
   B. MAX. "L" EQUALS 2 X "H"
   C. MIN. "L" EQUALS "H" SHEETING PRIOR TO POURING CONCRETE.

| SIZE | TEST PRESSURE | TEES DEAD ENDS | 90° BEND | 45° BEND | 22 1/2° BEND | 11 1/4° BEND |
|---|---|---|---|---|---|---|
| 3 | 300 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| 4 | 300 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| 6 | 300 | 2.83 | 4.00 | 2.25 | 2.25 | 2.25 |
| 8 | 300 | 5.00 | 7.11 | 3.85 | 2.25 | 2.25 |
| 10 | 300 | 7.86 | 11.11 | 6.00 | 3.06 | 2.25 |
| 12 | 300 | 11.31 | 16.00 | 8.66 | 4.41 | 2.25 |
| 14 | 250 | 12.83 | 18.14 | 9.82 | 5.00 | 2.51 |
| 16 | 225 | 15.08 | 21.33 | 11.54 | 5.88 | 2.96 |

* 2.25 BASED ON GEOMETRIC FACTORS

TABLE 1: BEARING FACTOR

| SOIL CONDITION | MULTIPLICATION FACTOR |
|---|---|
| *MUCK, PEAT, ETC. | - |
| SOFT CLAY | 3.0 |
| SAND | 1.5 |
| SAND AND GRAVEL | 1.0 |
| SAND AND GRAVEL CEMENTED W/ CLAY | 0.75 |
| HARD SHALE | 0.30 |

* THRUST BLOCKING SHALL BE DESIGNED BY ENGINEER

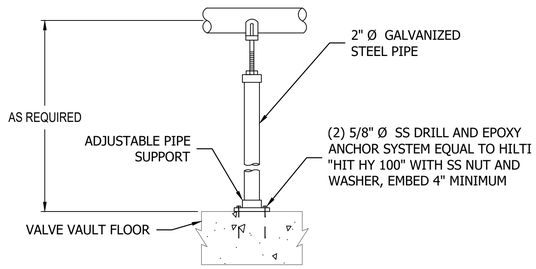
TABLE 2 MULTIPLICATION FACTOR

| REQ'D BEARING AREA (SQ. FT.) | MINIMUM DEPTH DMIN |
|---|---|
| 2.25 MIN.- 5.0 | 1.5' |
| 5.01 - 10.0 | 2.25' |
| 10.01 - 15.0 | 3.0' |
| 15.01 - 30.0 | 4.0' |
| 30.01 - 40.0 | 4.5' |
| 40.01 - 50.0 | 5.0' |
| 50.01 - 70.0 | 6.0' |

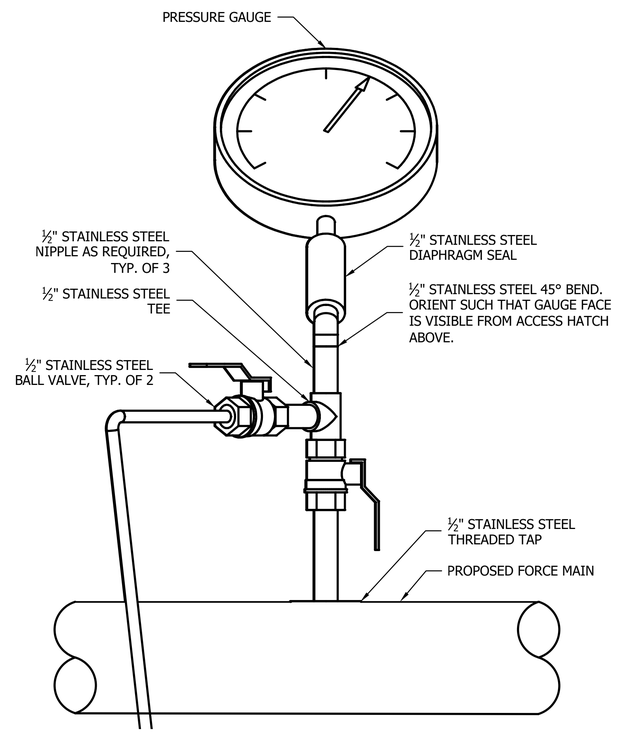
TABLE 3: BLOCK SHAPE

## THRUST BLOCK DETAILS
NOT TO SCALE

LS02 TYP



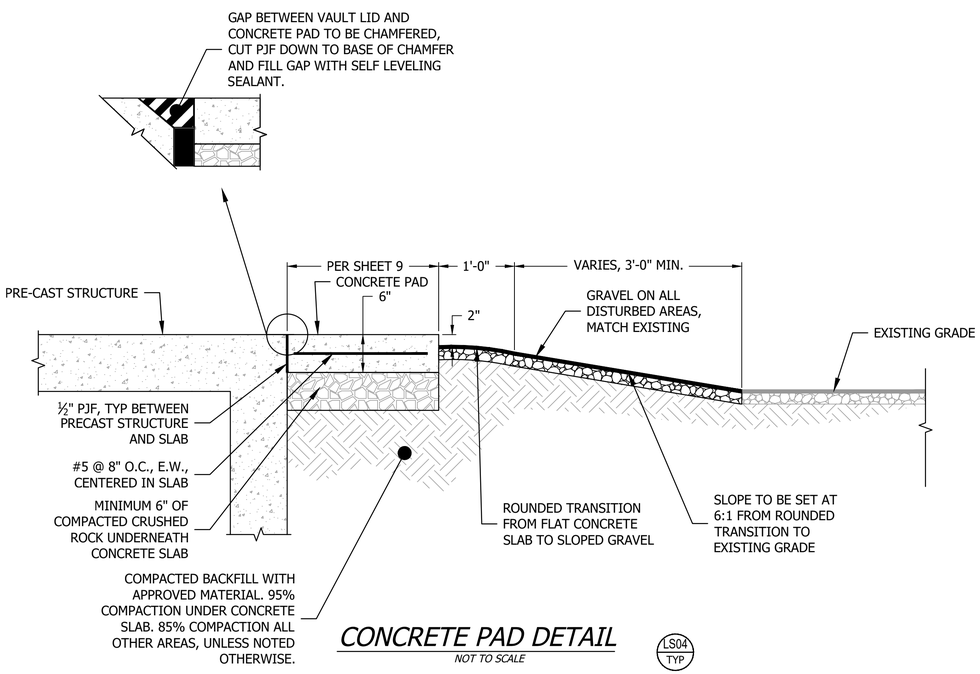

## VERTICAL PIPE SUPPORT DETAIL
NOT TO SCALE




## PRESSURE GAUGE DETAILS
NOT TO SCALE

## VAULT DETAILS
NOT TO SCALE

LS03 TYP




## CONCRETE PAD DETAIL
NOT TO SCALE

LS04 TYP

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PAUL NATHAN YOUNG — STATE OF WASHINGTON — 53375 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

PROJECT ENGINEER

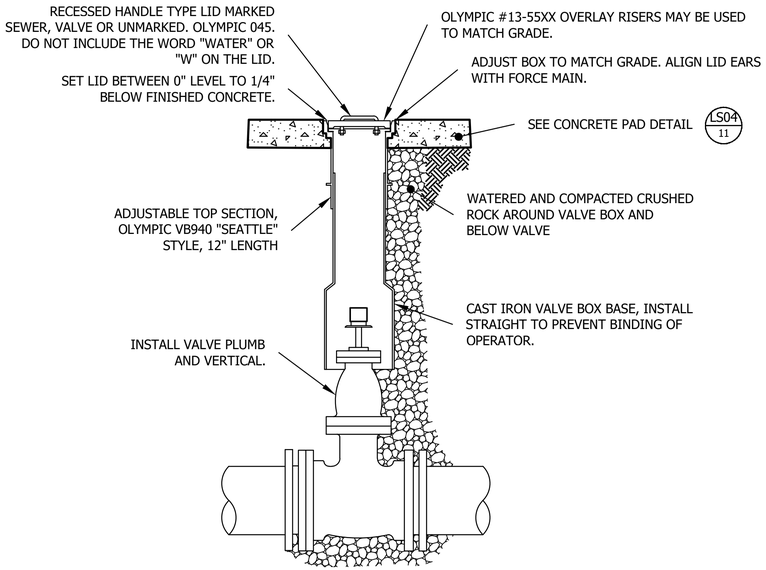
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

LIFT STATION DETAILS 1

SHEET 11 OF 20




*ISOLATION VALVE DETAIL*

1. ISOLATION VALVES 2" AND LARGER ARE TO BE NRS RESILIENT SEAT GATE VALVES MEETING AWWA C509 OR C515.

2. BACKFILL AROUND VALVE BOXES SHALL BE COMPACTED USING A JUMPING JACK.

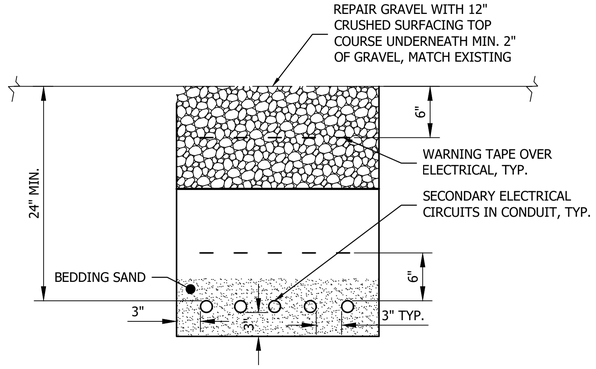
3. OLYMPIC FOUNDRY MODEL NUMBERS SHOWN. OWNER APPROVED EQUALS WILL BE ALLOWED.

4. ALL VALVES SHALL BE SUPPLIED WITH VALVE BOX AND LID. LID SHALL HAVE RECESSED HANDLE. VALVE BOX RISER EARS TO BE INSTALLED WITH THE EARS PARALLEL TO THE DIRECTION OF FLOW.

## *ISOLATION VALVE INSTALLATION DETAIL*

LS07 TYP

*NOT TO SCALE*

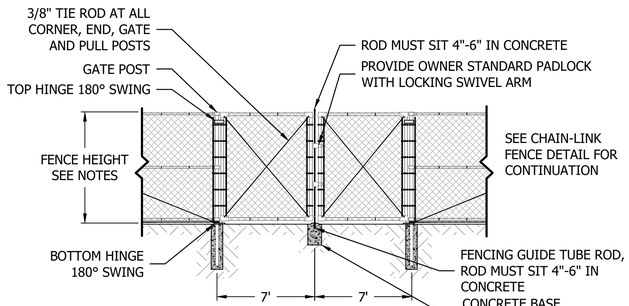



1. WHEN MULTIPLE UTILITIES ARE IN THE SAME TRENCH, THERE SHALL BE 3" SEPARATION BETWEEN LIKE UTILITIES AND 18" BETWEEN DIFFERENT UTILITIES.
2. NO UTILITIES SHALL BE PLACED OVER UNDERGROUND ELECTRICAL.
3. REPAIR GRAVEL

## *ELECTRICAL TRENCH DETAIL*

LS08 TYP

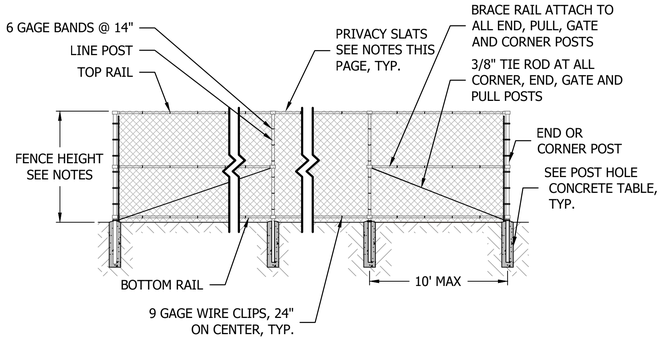
*NOT TO SCALE*




## *DOUBLE SWING GATE*

LS10 TYP

*NOT TO SCALE*




| POST HOLE CONCRETE* | | |
|---|---|---|
| | GATE AND END POST | LINE POSTS |
| MIN. DEPTH | 60" | 60" |
| MIN. DIAMETER | 24" | 24" |
| MIN. POST EMBEDMENT | 54" | 54" |
| *FOOTINGS SIZED TO RESTRAIN PRIVACY SLAT FENCE | | |

| POST AND RAIL SCHEDULE | | |
|---|---|---|
| END, PULL, GATE, CORNER POSTS | LINE POSTS | TOP, MID AND BOTTOM RAIL |
| 4" OD | 2.875" OD | 1.66" OD |

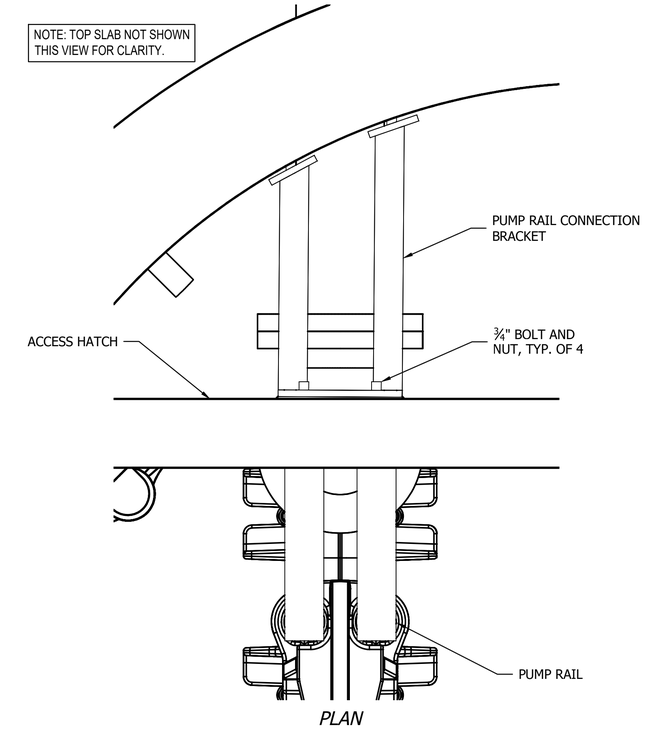
NOTES:
1. NOTE: MINIMUM DEPTHS BASED ON IBC GRAVEL(GW) OR SANDY GRAVEL(GP) SOIL TYPES PER IBC TABLE 1804.2.
2. CONCRETE FOR ALL FOOTINGS SHALL BE 4000 PSI CONCRETE.
3. ALL CHAIN LINK FENCE SHALL BE VINYL COATED.
4. PROVIDE VERTICAL PRIVACY SLATS WITH VERTICAL LOCKING FEATURE, NEUTRAL COLOR.

## *CHAIN-LINK FENCE*

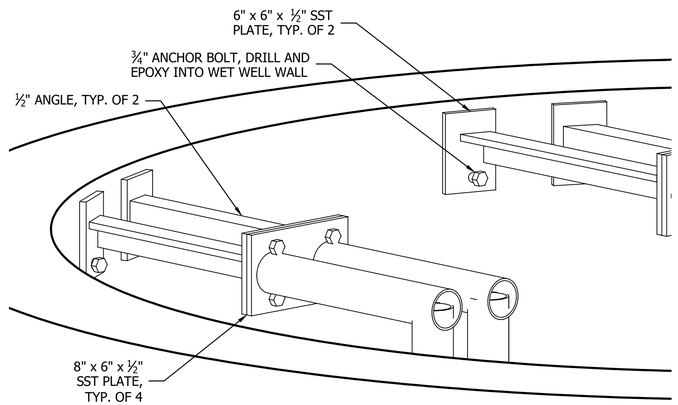
LS09 TYP

*NOT TO SCALE*

NOTE: TOP SLAB NOT SHOWN THIS VIEW FOR CLARITY.




*PLAN*




*OBLIQUE*

## *PUMP RAIL CONNECTION DETAIL*

LS11 TYP

*NOT TO SCALE*

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| CHECKED (HDQTS.) | | |

PAUL NATHAN YOUNG STATE OF WASHINGTON 53375 REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

PROJECT ENGINEER

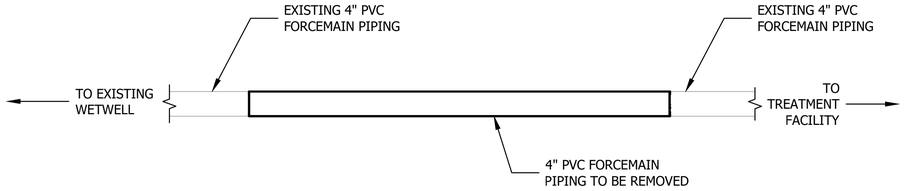
WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

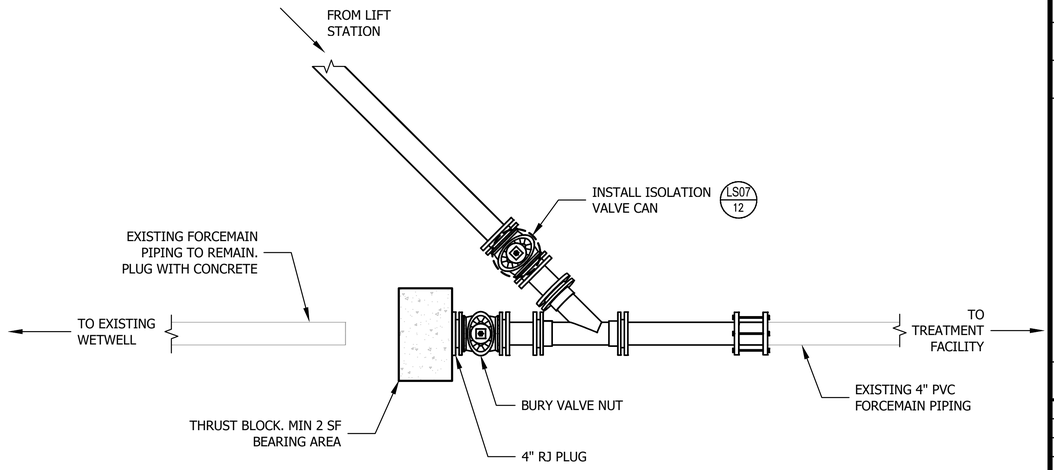
LIFT STATION DETAILS 2

SHEET 12 OF 20




## *EXISTING CONFIGURATION*

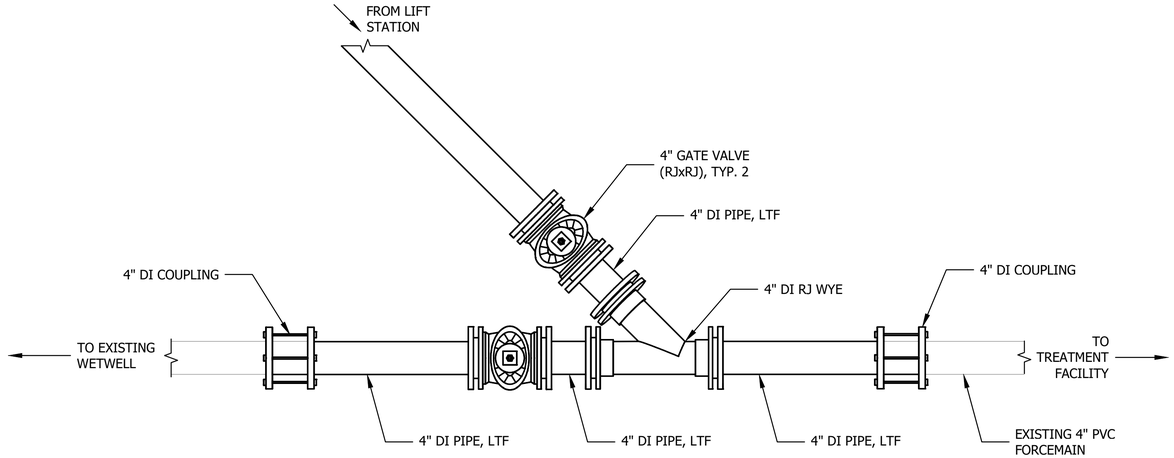
NOT TO SCALE




## *FINAL CONFIGURATION*

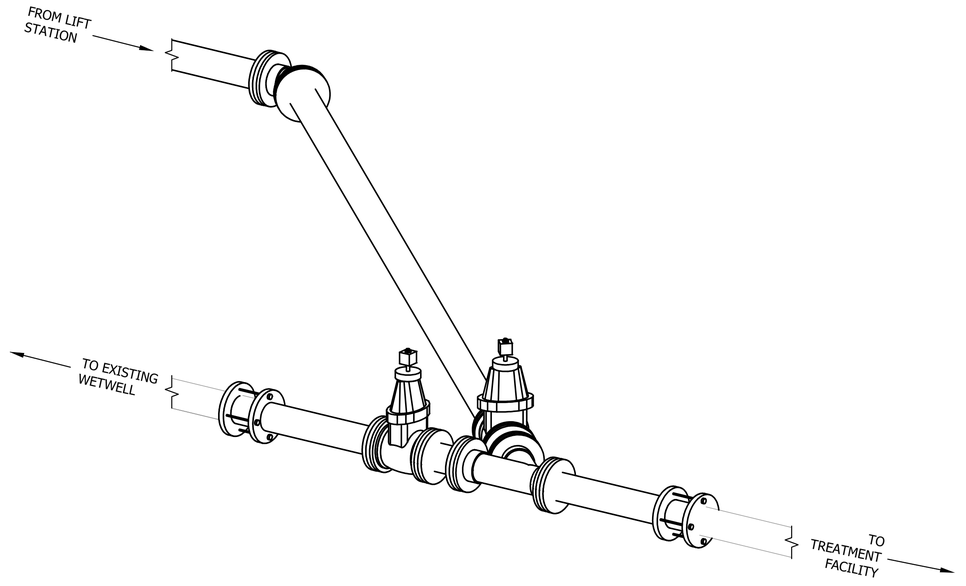
1
6

NOT TO SCALE




## *TESTING CONFIGURATION*

NOT TO SCALE




## *CONNECTION DETAIL OBLIQUE*

NOT TO SCALE

## *GENERAL NOTES*

1. LOCATION OF EXISTING PIPE IS UNKNOWN. CONTRACTOR TO PROVIDE ANY ADDITIONAL FITTINGS OR THRUST BLOCKING NOT SHOWN IN THESE DETAILS THAT IS REQUIRED TO MAKE THE FINAL CONNECTION TO EXISTING PIPE. CONFIRM LAYOUT WITH OWNER PRIOR TO ORDERING FITTINGS.
2. MATERIALS OF EXISTING FORCEMAIN SHOWN ON THIS PLAN ARE FROM PRIOR RECORDS AND NOT GUARANTEED TO BE ACCURATE. POTHOLE AND CONFIRM PRIOR TO ORDERING FITTINGS.
3. CONNECTION TO EXISTING FORCEMAIN SHALL OCCUR SIMULTANEOUSLY WITH THE FILLING OF THE EXISTING WETWELL WITH CONCRETE. CLOSE VALVE AT SEWER LAGOON, APPROX. 4000 LF FROM EXISTING LIFT STATION. THE ENTIRE FORCEMAIN (APPROX. 3000 GALLONS) SHALL BE DRAINED BACK TO THE WETWELL. SEWAGE SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE ANY WORK MAY BE PERFORMED.

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PAUL NATHAN YOUNG
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

POTHOLES STATE PARK

SEWER LIFT STATION REPLACEMENT

FORCEMAIN CONNECTION DETAIL

SHEET 13 OF 20

## ONE-LINE DIAGRAM SYMBOLS

- CIRCUIT BREAKER
  XXX/YY - CB SIZE & NO. OF POLES
  ET - ELECTRONIC TRIP
  TM - THERMAL MAGNETIC BREAKER
  MCP - MOTOR CIRCUIT PROTECTOR
  SE - SERVICE ENTRANCE
  GFI - GROUND FAULT INTERRUPTER
- FUSE
- FUSED DISCONNECT SWITCH
- PLUG-IN CONNECTION
- RTM — RUN TIME METER
- OC — MOTOR OPERATION COUNTER
- SSRVS — SSRVS - SOLID STATE REDUCED VOLTAGE STARTER
- VARIABLE FREQUENCY DRIVE
- MOTOR STARTER
- MOTOR STARTER W/ OPERATOR DEVICES
  A - HAND-OFF-AUTO
  B - OPERATIONAL COUNTER
  C - RUN TIME METER
  D - RUN LIGHT
  E - FAIL LIGHT
  F - EMERGENCY STOP
- K — KIRK KEY INTERLOCK
- POWER TRANSFORMER
- CONTROL POWER TRANSFORMER
- TRANSFORMER
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- CONTACTOR
- CAPACITOR
- ENGINE GENERATOR
- GENERATOR CONNECTION RECEPTACLE
- S/N — SOLID NEUTRAL
- TB — TERMINAL BLOCK
- FUSE — SURGE PROTECTION DEVICE
- SPD — SURGE PROTECTION DEVICE (ALTERNATIVE)

## GROUNDING SYSTEM SYMBOLS

- GROUND
- METAL PIPE GROUND
- CONNECTION POINT, EXOTHERMIC WELD. CADWELD OR APPROVED EQUAL.
- GROUND ROD SIZED PER N.E.C. USE EXOTHERMIC WELD CONNECTION AT THE GROUND ROD.
- PIGTAIL, BARE COPPER, LENGTH AS REQUIRED, 8' MINIMUM.
- CONNECTION POINT, MECHANICAL, COMPRESSION TYPE.

## ELECTRICAL SITE PLAN SYMBOLS

- UTILITY POLE AND GUY WIRE
- HH — MANHOLE OR HANDHOLE
- P — BURIED POWER VAULT OR MANHOLE
- T — TELEPHONE VAULT OR PEDESTAL
- F — FIBER OPTICS VAULT OR PEDESTAL
- LUMINAIRE
- PAD-MOUNT TRANSFORMER

## PANELBOARDS, SWITCHES, AND EQUIPMENT

- SERVICE ENTRANCE, SWITCHGEAR, MOTOR CONTROL CENTER, OR PANELBOARD
- SURFACE MOUNTED PANELBOARD
- FLUSHED MOUNTED PANELBOARD
- NXX — FIELD CONTROL STATION WITH NEMA REQUIREMENTS.
  N1 - NEMA 1
  N3R - NEMA 3R
  N4 - NEMA 4
  N4SS - NEMA 4 STAINLESS STEEL
  N4F - NEMA 4 FIBERGLASS
  N6 - NEMA 6
  N12 - NEMA 12 GASKETED
- EQUIPMENT MOUNTING STAND
- T — HEATER, WATTAGE NOTED
- EQUIPMENT CONNECTION
- M — SINGLE PHASE MOTOR. HORSEPOWER AS NOTED
- HP — THREE PHASE MOTOR. HORSEPOWER AS NOTED
- HP — SINGLE PHASE MOTOR. HORSEPOWER AS NOTED
- ELECTRICAL PLUG
- DISCONNECT SWITCH
- F — FUSED DISCONNECT SWITCH
- COMBINATION MOTOR STARTER AND DISCONNECT SWITCH

## RECEPTACLES AND JUNCTION BOX SYMBOLS

- J — CEILING JUNCTION BOX
- J — WALL JUNCTION BOX
- J — FLOOR JUNCTION BOX
- DUPLEX WALL RECEPTACLE , 120V
  WP = WEATHERPROOF
  G = GROUNDED
  IG = ISOLATED GROUND
  GFI = GROUND FAULT INTERRUPTER
- DOUBLE DUPLEX
- SINGLE RECEPTACLE, 120V
- SINGLE RECEPTACLE, 208V
- DUPLEX FLOOR RECEPTACLE, 120V
- SPECIAL PURPOSE WALL RECEPTACLE, RATING AS NOTED
- CLOCK
- TV — TELEVISION
- TELEPHONE
- TELEPHONE/DATA WITH CABLE
- TELEPHONE/DATA WITHOUT CABLE

## SWITCH OUTLETS

- S — STANDARD SWITCH, 120VAC, 20 AMP
- S3 — 3WAY — 3-WAY SWITCH, 120VAC, 20 AMP
- SHOA — HOA — 3-POSITION SWITCH, 120VAC, 20 AMP, LABEL SWITCH POSITION HAND-OFF-MOTION OR PHOTO

| | |
|---|---|
| SDE — SINGLE-POLE | SP — PILOT-LIGHTED |
| S2 — DOUBLE-POLE | SK — KEY-OPERATED |
| S3 — THREE WAY | SLV — LOW VOLTAGE |
| S4 — FOUR WAY | SM — MASTER |
| SD — DIMMER | — PUSHBUTTON |

## LIGHTING FIXTURES/DEVICES

- FLUORESCENT FIXTURE
- WALL/CEILING MOUNTED FIXTURE
- EMERGENCY LIGHT WITH SELF CONTAINED BATTERY
- SURFACE OR PENDANT MOUNTED FIXTURE
- RECESSED FIXTURE
- MD — MOTION DETECTOR
- PC — PHOTO CONTROL CELL

## FIRE SYSTEM SYMBOLS

- H — HEAT DETECTOR
- S — SMOKE DETECTOR
- D — FIRE ALARM DISPATCH STROBE ALARM
- A — FIRE ALARM AUDIBLE/VISUAL ALARM
- F — FIRE ALARM MANUAL PULL STATION

## ADDITIONAL SYMBOLS

- S — SOUND SYSTEM SPEAKER
- V — SOUND SYSTEM VOLUME CONTROL
- B — DOORBELL

## VALVE SYMBOLS

- PILOT VALVE SOLENOID
- VALVE
- CHECK VALVE
- CONTROL VALVE

## PID FORMAT

SUPERSCRIPT ###
XYZ / ABC — INSTRUMENT BUBBLE

X=MEASURED OR INITIATING VARIABLE
Y=READOUT OR FUNCTION
Z=MODIFIER
ABC=LOOP NUMBER

## ISA STANDARDS FOR P&ID

| | 1st LETTER (MEASURED OR INITIATING VARIABLE) | 2nd LETTER (READOUT OR FUNCTION) | 3rd LETTER (MODIFIER) |
|---|---|---|---|
| A | ANALYSIS | ALARM | |
| B | BURNER (BATTERY) | | (BACK) |
| C | COMMUNICATION | CONTROL | CLOSED |
| D | DENSITY | (DELAY) | |
| E | VOLTAGE | | |
| F | FLOW | | FAIL (FLOW) |
| G | GAS | | GREEN BULB |
| H | HAND | MANUAL | HIGH |
| I | CURRENT (INTRUSION) | INDICATE | |
| J | POWER (EQUIPMENT) | | |
| K | TIME | CONTROL STATION | |
| L | LEVEL | LIGHT | LOW |
| M | MOTION | | MIDDLE |
| N | USERS CHOICE | | |
| O | USERS CHOICE | | OPEN |
| P | PRESSURE | (PUMP) | (PRESSURE) |
| Q | QUANTITY (EVENT) | TOTALIZE | |
| R | RADIATION (REQ'D) | RECORD | RED BULB |
| S | SPEED (SMOKE) | SWITCH | SOLENOID |
| T | TEMPERATURE | TRANSMITTER | (TRANSMITTER) |
| U | MULTI VARIABLE | MULTI FUNCTION | |
| V | VISCOSITY (pH) | VALVE | |
| W | WEIGHT | | |
| X | UNCLASSIFIED | RELAY (TRANSDUCER) | |
| Y | USERS CHOICE | | |
| Z | POSITION | | |

## ABBREVIATIONS

SPDT - SINGLE POLE, DOUBLE THROW
SPST - SINGLE POLE, SINGLE THROW
DPST - DOUBLE POLE, SINGLE THROW
WP - WEATHER-PROOF
GFI - GROUND FAULT INTERRUPT
P - POWER
C - CONTROL
J - INSTRUMENTATION
PC - POWER & CONTROL
CJ - CONTROL & INSTRUMENTATION
CKT. - CIRCUIT
C.O. - CONDUIT ONLY
N.L. - NIGHT LIGHT
AL. - ALUMINUM
CU. - COPPER
SST - STAINLESS STEEL

| | |
|---|---|
| HOA | HAND-OFF-AUTO SWITCH |
| RTM | RUN TIME METER |
| OC | OPERATION COUNTER |
| MRIL | MOTOR RUN INDICATION LIGHT |
| SFIL | SEAL FAIL INDICATION LIGHT |
| SFTR | SEAL FAIL TRIP RESET |
| OTIL | OVER TEMPERATURE INDICATION LIGHT |
| MOIL | MOTOR OVERLOAD INDICATION LIGHT |

| INDICATE TYPE BY LETTER | INSTRUMENT METER |
|---|---|
| V / AH | A - AMMETER VAR - VARMETER<br>AH - AMPERE-HOUR VARH - VARHOUR METER<br>PF - POWER FACTOR W - WATTMETER<br>V - VOLTMETER WH - WATTHOUR METER<br>VA - VOLT AMMETER |

## RACEWAY LEGEND

### SITE PLANE LEGEND

- P — PROPOSED POWER
- TEL — PROPOSED TELEPHONE
- TELM — PROPOSED INSTRUMENTATION
- FO — PROPOSED FIBER OPTICS
- G — PROPOSED GROUNDING
- HOME RUN TO PANELBOARD OR AS INDICATED
- CONDUIT RUN, BROKEN AND CONTINUED SAME SHEET OR AS NOTED
- FLEXIBLE CONDUIT
- CONDUIT RUN. HATCH MARKS INDICATE NUMBER OF CONDUCTORS
- CALLOUT INDICATING CONDUIT SIZE, NUMBER AND SIZE OF WIRE. (½" GRC, 2-#12)
- CALLOUT INDICATING CONDUIT PER SCHEDULE (XXX)
- CONDUIT BENT UP OR TOWARD
- CONDUIT BENT DOWN OR AWAY
- CAPPED CONDUIT

## ONE-LINE DIAGRAM INFORMATION

- EXISTING EQUIPMENT AND CONDUIT
- PROPOSED EQUIPMENT AND CONDUIT
- CONDUIT, WIRING OR EQUIPMENT TO BE REMOVED

## LADDER LOGIC SYMBOL LEGEND

| | |
|---|---|
| INDICATOR LIGHT — INDICATOR LIGHT<br>A - AMBER G - GREEN<br>B - BLUE R - RED<br>C - CLEAR W - WHITE | RELAY (XXX / 123) — RELAY<br>TR - TIMED RELAY<br>CR - CONTROL RELAY |
| LIMITSWITCH — LIMIT SWITCH, NORMALLY OPEN | LABEL — FLOAT SWITCH, NORMALLY OPEN |
| LIMITSWITCH — LIMIT SWITCH, NORMALLY CLOSED | LABEL — FLOAT SWITCH, NORMALLY CLOSED |
| LABEL — TIME DELAY CONTACT, NORMALLY OPEN, TIME TO CLOSE | PUSHBUTTON — PUSHBUTTON, NORMALLY CLOSED |
| LABEL — TIME DELAY CONTACT, NORMALLY CLOSED, TIME TO OPEN | PUSHBUTTON — PUSHBUTTON, NORMALLY OPEN |
| LABEL — TIME DELAY CONTACT, NORMALLY OPEN, TIME TO OPEN | THERMOSTAT — THERMO SWITCH, NORMALLY OPEN |
| LABEL — TIME DELAY CONTACT, NORMALLY CLOSED, TIME TO CLOSE | THERMOSTAT — THERMO SWITCH, NORMALLY CLOSED |
| NAME / NAME — RELAY CONTACT, INSTANTANEOUS CHANGE | FLOWSWITCH — FLOWSWITCH, NORMALLY OPEN |
| PRESSURE — PRESSURE SWITCH, NORMALLY OPEN | FLOWSWITCH — FLOWSWITCH, NORMALLY CLOSED |
| PRESSURE — PRESSURE SWITCH, NORMALLY CLOSED | 2 POLE SWITCH |
| LADDER LOGIC LINETYPES<br>COMPONENT INSTALLED INSIDE ENCLOSURE<br>COMPONENT INSTALLED ON FRONT OF ENCLOSURE<br>FIELD CONNECTED COMPONENT | 3 POLE SWITCH |

## P&ID BUBBLE IDENTIFICATION CHART

| EXISTING | FUNCTION |
|---|---|
| | INSTRUMENT IDENTIFICATION BUBBLE |
| | FIELD MOUNTED DEVICE OR INSTRUMENT |
| | FRONT PANEL MOUNTED INSTRUMENT OR DEVICE (LOCAL PANEL) |
| | BACK PANEL MOUNTED INSTRUMENT OR DEVICE (LOCAL PANEL) |
| | FRONT PANEL MOUNTED INSTRUMENT OR DEVICE (LAB ROOM PANEL) |
| | OPERATOR INTERFACE DISPLAY (LOCAL PANEL) |
| | OPERATOR INTERFACE DISPLAY (LAB ROOM PANEL) |

## GENERAL NOTES

1. THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS PAGE WILL APPEAR IN THIS SET OF PLANS.

2. THESE DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. 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.

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. NO PAYMENT WILL BE MADE FOR CHANGES WHICH HAVE NOT BEEN REVIEWED BY THE ENGINEER.

RH2

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CLINTON C. ANDERSON — STATE OF WASHINGTON — 54356 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: 01/02/2024

PROJECT ENGINEER

WASHINGTON STATE PARKS

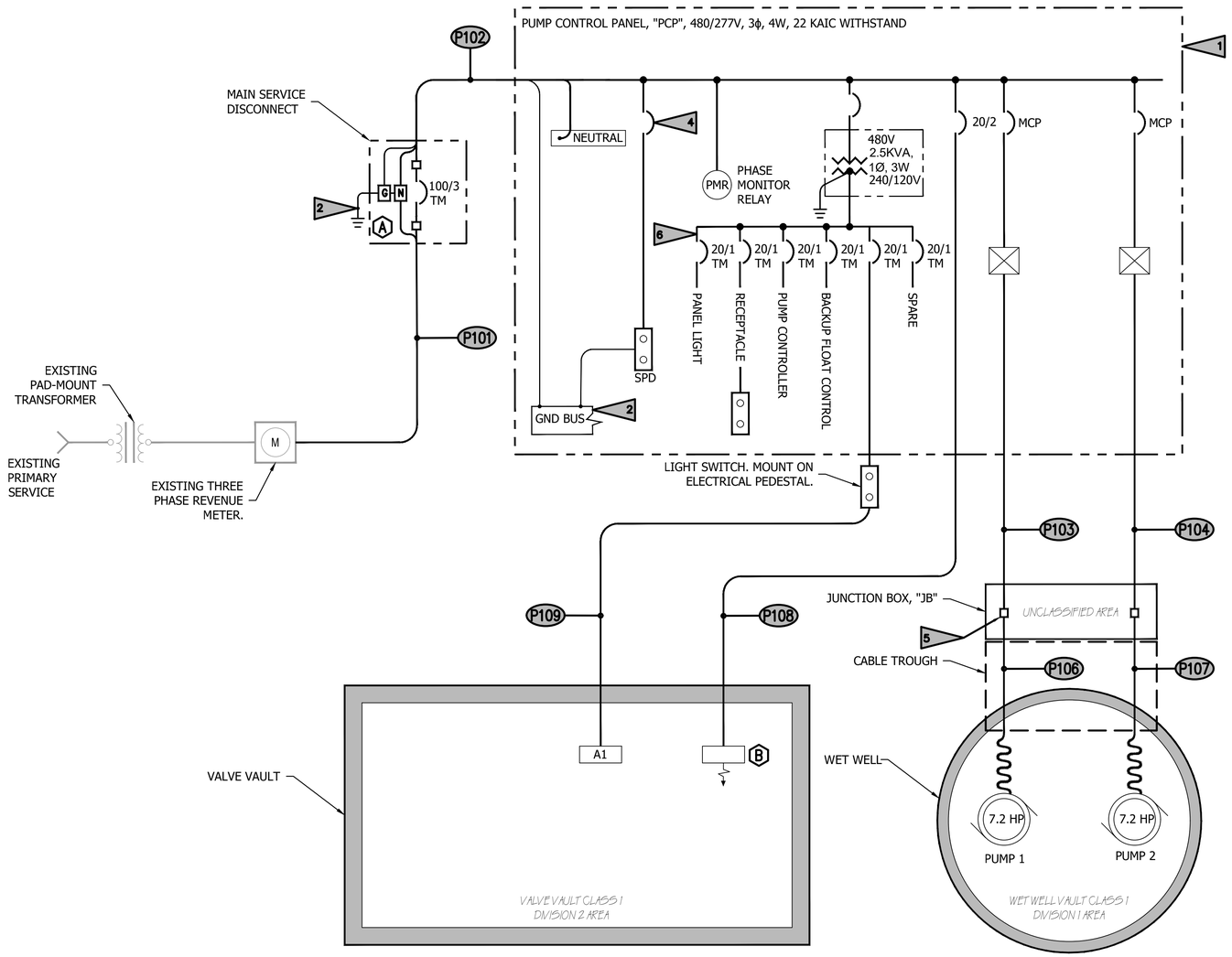
RECREATION COMMISSION

POTHOLES

LIFT STATION REPLACEMENT

ELECTRICAL LEGEND

SHEET 14 OF 20

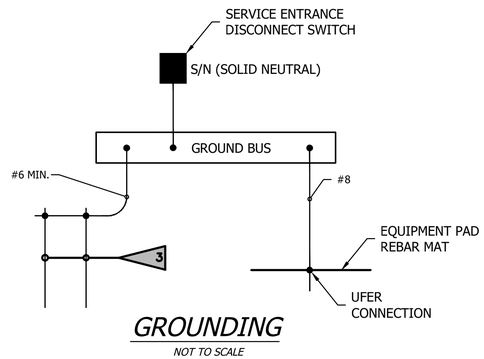



## ONE-LINE DIAGRAM

NOT TO SCALE

| ELECTRICAL NOTES | |
|---|---|
| 1 | 1. PUMP CONTROL PANEL TO BE SUPPLIED BY PUMP SUPPLIER. SEE SHEET NO. 17 FOR TYPICAL PUMP CONTROL LOGIC DIAGRAMS. ONE-LINE AND CONTROL DIAGRAMS SHOW PANEL OPTIONS THAT SHALL BE PROVIDED WITH PANEL. |
| 2 | 2. SEE GROUNDING DETAIL, THIS SHEET. |
| 3 | 3. GROUND ROD PER N.E.C. (TYPICAL). SEE SHEET NO. 19 FOR DETAIL. |
| 4 | 4. FUSING OR CIRCUIT BREAKER PER SPD MANUFACTURER'S RECOMMENDATION. USE SHORTEST CONDUCTORS POSSIBLE TO SPD. |
| 5 | 5. TERMINAL BLOCKS (TYPICAL). SEE SHEET NO. 19 FOR DETAIL. |
| 6 | 6. PROVIDE LED MOTION SENSOR PANEL LIGHT. MOUNT TO INSIDE CEILING. |
| | 7. SEE ELECTRICAL SITE PLAN FOR OTHER CONTROL DEVICES TO BE INSTALLED IN WET WELL. |
| XX | 8. SEE SHEET NO. 20 FOR CONDUIT AND CONDUCTOR SCHEDULE. |
| X | 9. SEE SHEET NO. 20 FOR ELECTRICAL EQUIPMENT SCHEDULE. |
| A# | 10. SEE SHEET NO. 20 FOR LIGHTING FIXTURE SCHEDULE. |

| PUMP STATION LOAD CALCULATIONS | | |
|---|---|---|
| PUMP 1 (7.2 HP) | 11.0A X 1.25 = | 13.75 AMPS |
| PUMP 2 (7.2 HP) | 11.0A X 1.00 = | 11.0 AMPS |
| HEATER (1800 W) | 6.5A X 1.00 = | 6.50 AMPS |
| MISCELLANEOUS (2.25 KVA) | 5.2A X 1.00 = | 5.2 AMPS |
| TOTAL | | 36.45 AMPS |




## GROUNDING

NOT TO SCALE

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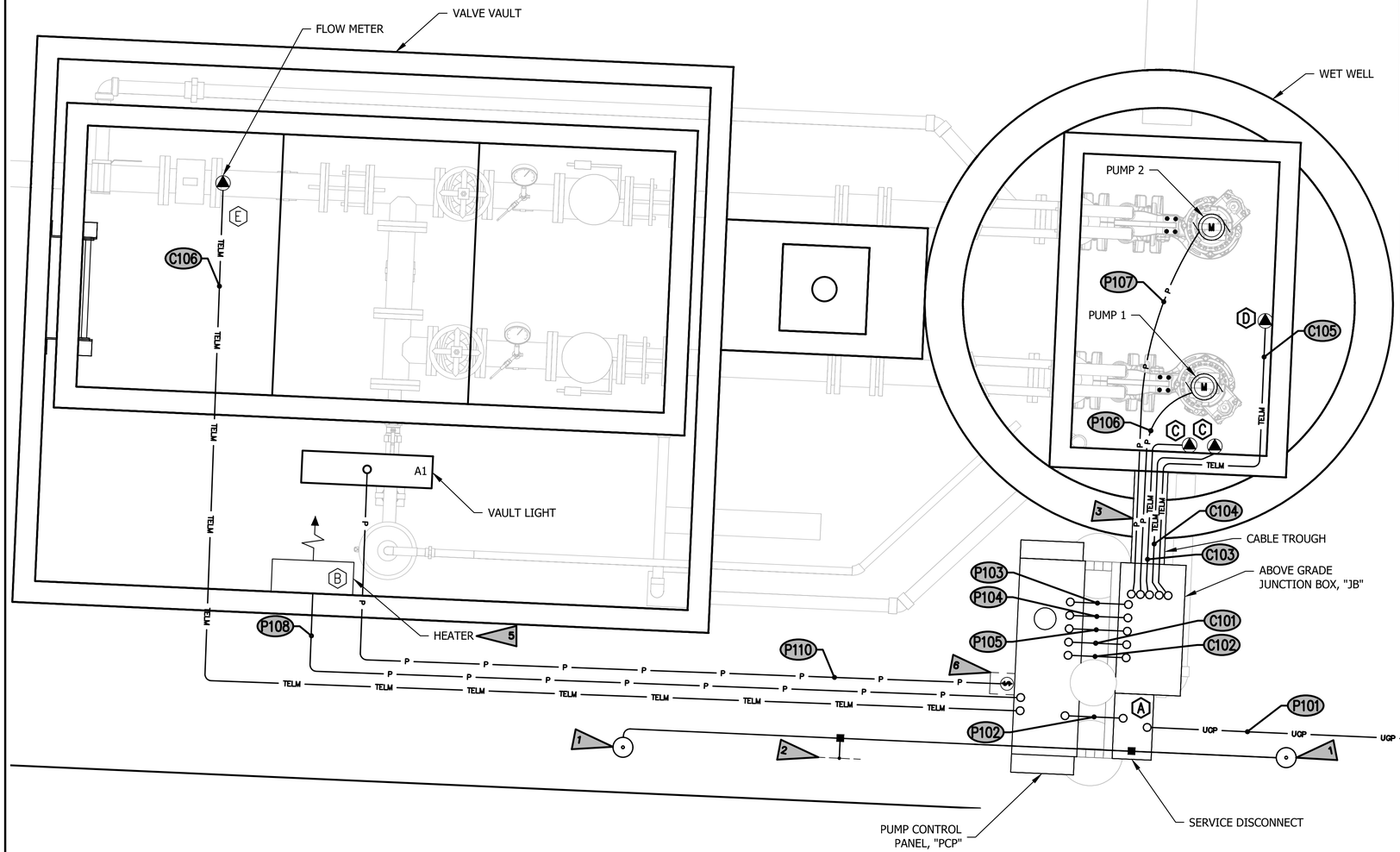
POTHOLES

LIFT STATION REPLACEMENT

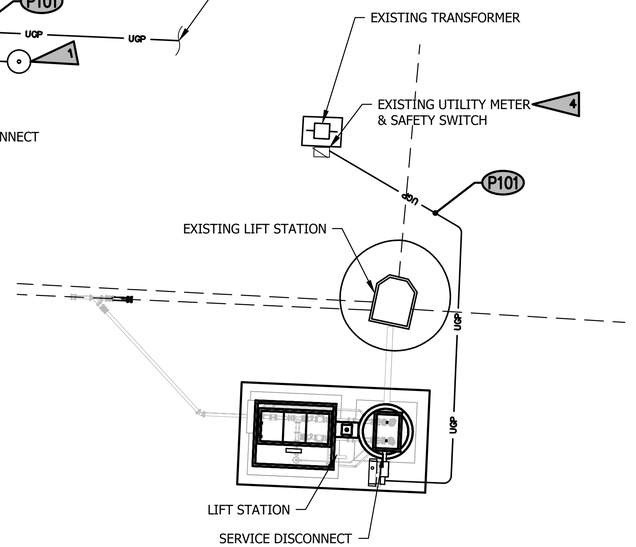
ONE-LINE DIAGRAM

SHEET 15 OF 20




*ELECTRICAL PLAN*

0 0.5 1 2 FEET




*SITE PLAN*

0 5 10 20 FEET

## ELECTRICAL NOTES

1. GROUND ROD PER N.E.C. (TYPICAL), TYP OF 2. USE EXOTHERMIC WELD CONNECTION AT THE GROUND ROD. SEE SHEET NO. 19 FOR ADDITIONAL DETAIL. LOCATE GROUND RODS INSIDE CONCRETE SLAB AND 12" MINIMUM FROM EDGE OF CONCRETE SLAB.
2. CONNECTION TO REINFORCEMENT GRID. SEE SHEET NO. 19 FOR ADDITIONAL DETAIL.
3. CONTRACTOR SHALL PROVIDE MINIMUM 4" OF SEPARATION BETWEEN POWER AND CONTROL CABLES.
4. EXISTING SERVICE DISCONNECT TO BE REMOVED. ROUTE NEW CONDUIT FROM EXISTING UTILITY METER TO NEW SERVICE DISCONNECT LOCATED ON ELECTRICAL PEDESTAL.
5. MOUNT HEATER ON WALL AND AS CLOSE TO CEILING AS ALLOWED PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
6. LIGHT SWITCH SHALL BE MOUNTED ON ELECTRICAL PEDESTAL.
7. SEE SHEET NO. 20 FOR CONDUIT AND CONDUCTOR SCHEDULES.
8. SEE SHEET NO. 20 FOR ELECTRICAL EQUIPMENT SCHEDULE.
9. SEE SHEET NO. 20 FOR LIGHTING FIXTURE SCHEDULE.

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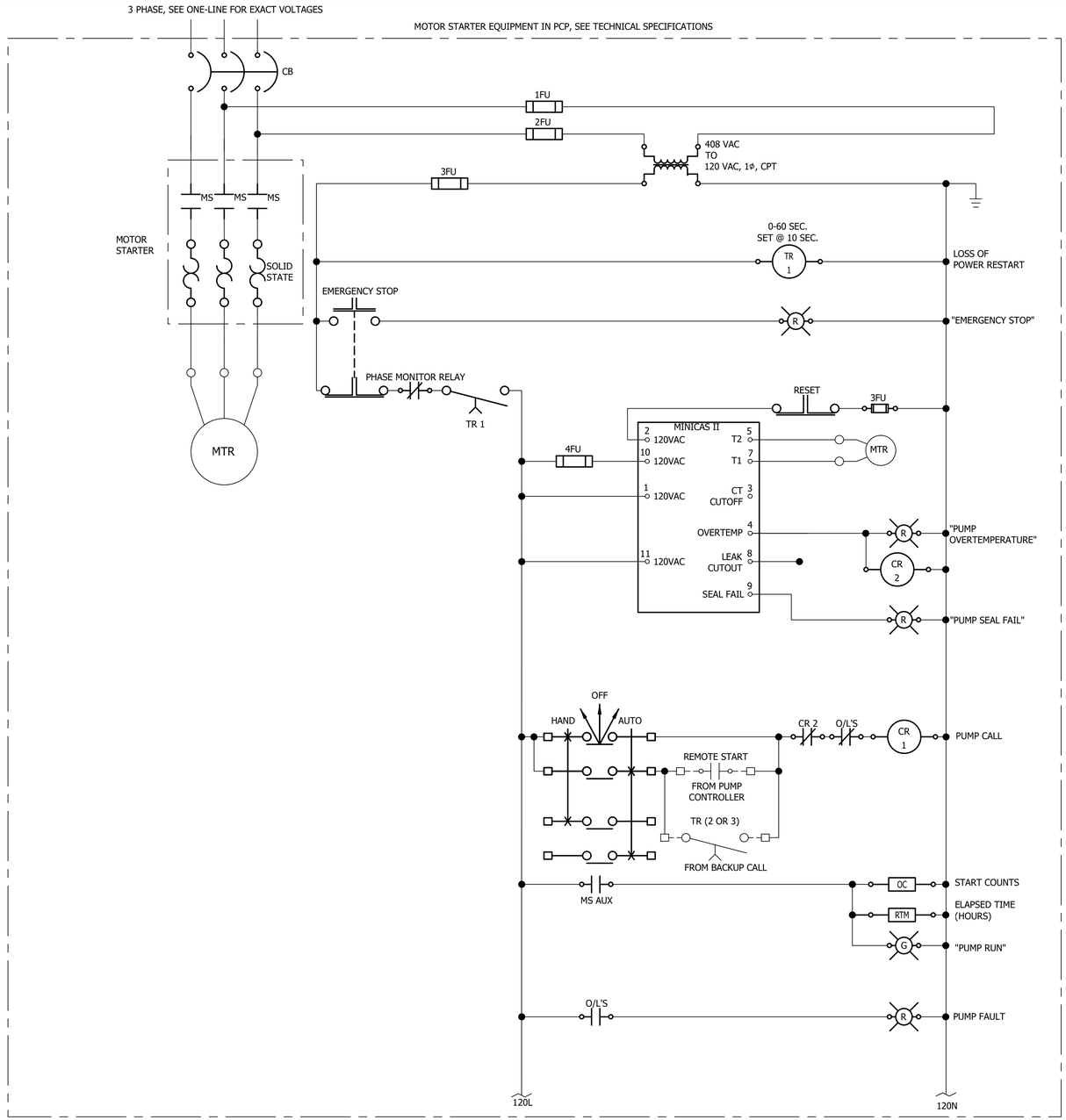
POTHOLES

LIFT STATION REPLACEMENT

ELECTRICAL SITE PLAN

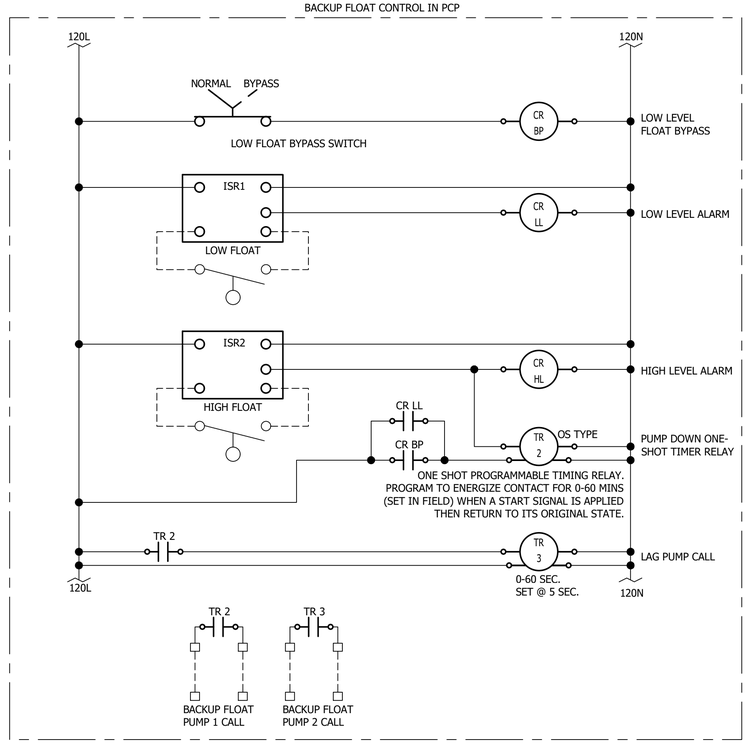
SHEET 16 OF 20

RH2




## DIAGRAM 1: PUMP 1, PUMP 2

*NO SCALE*




## DIAGRAM 2: BACKUP FLOAT CONTROL LOGIC

*NO SCALE*

| ELECTRICAL NOTES | |
|---|---|
| | 1. CONTROL LOGIC DIAGRAMS 1 AND 2 TYPICAL STANDARD BACKUP FLOAT AND PUMP STARTER DIAGRAMS. FINAL LOGIC SHALL BE PER PANEL MANUFACTURER STANDARDS INCLUDING ALL OPTIONS SHOWN (LIGHTS, SWITCHES, RESETS, LOCKOUTS, ETC.).<br><br>2. CONTROL PANEL SHALL HAVE A COMMON ALARM CIRCUIT THAT ACTIVATES STROBE LIGHT ON PANEL EXTERIOR. ALL PUMP FAIL, CONTROLLER FAIL, AND BACKUP FLOAT CALLS SHALL ACTIVATE STROBE. |

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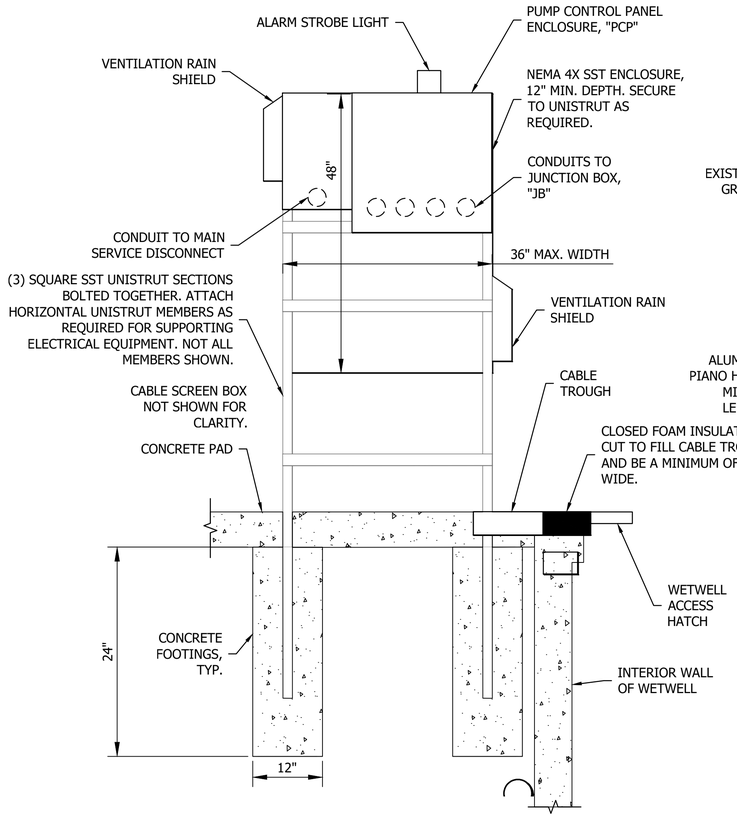
POTHOLES

LIFT STATION REPLACEMENT

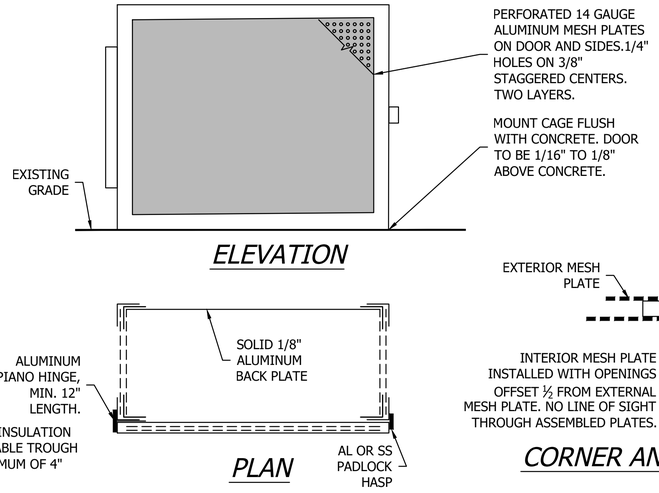
CONTROL LOGIC DIAGRAM

SHEET 17 OF 20



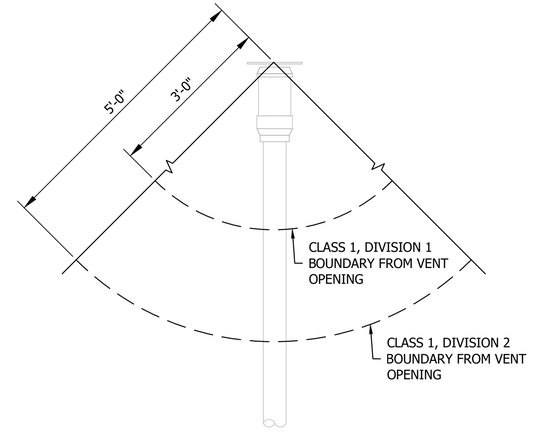

## ELECTRICAL PEDESTAL, BACK ELEVATION

*NOT TO SCALE*



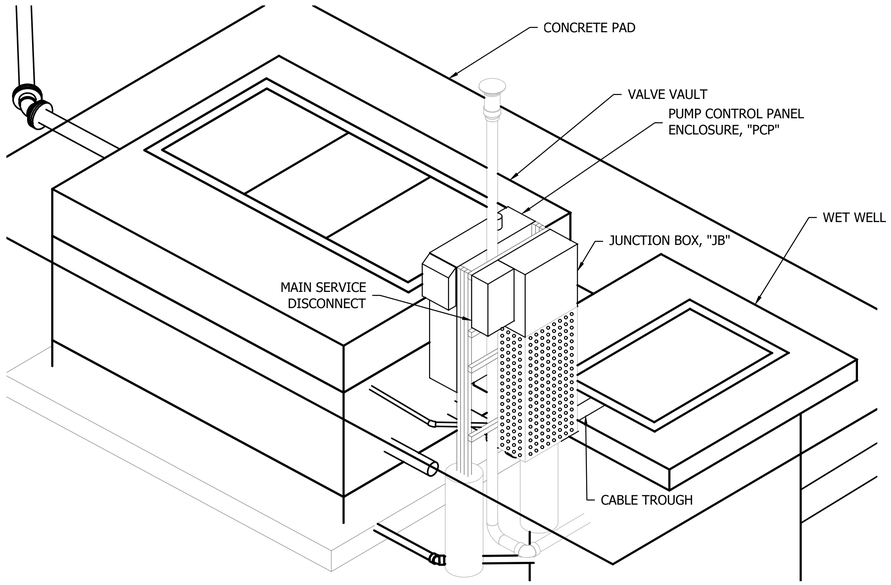

## CABLE SCREEN BOX DETAILS

*NOT TO SCALE*



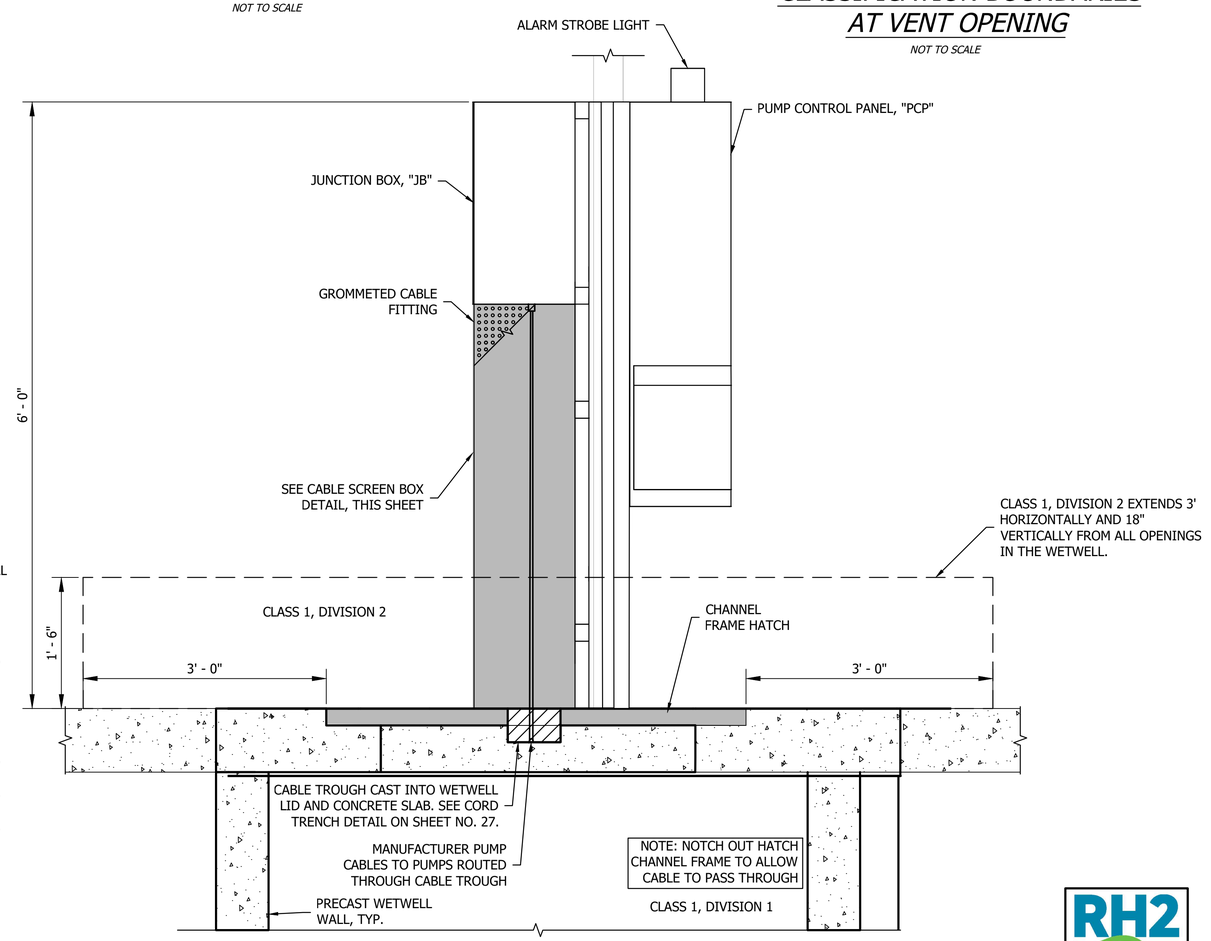

## CLASSIFICATION BOUNDARIES AT VENT OPENING

*NOT TO SCALE*




## OBLIQUE

*NOT TO SCALE*




## ELECTRICAL PEDESTAL, SIDE ELEVATION

*NOT TO SCALE*

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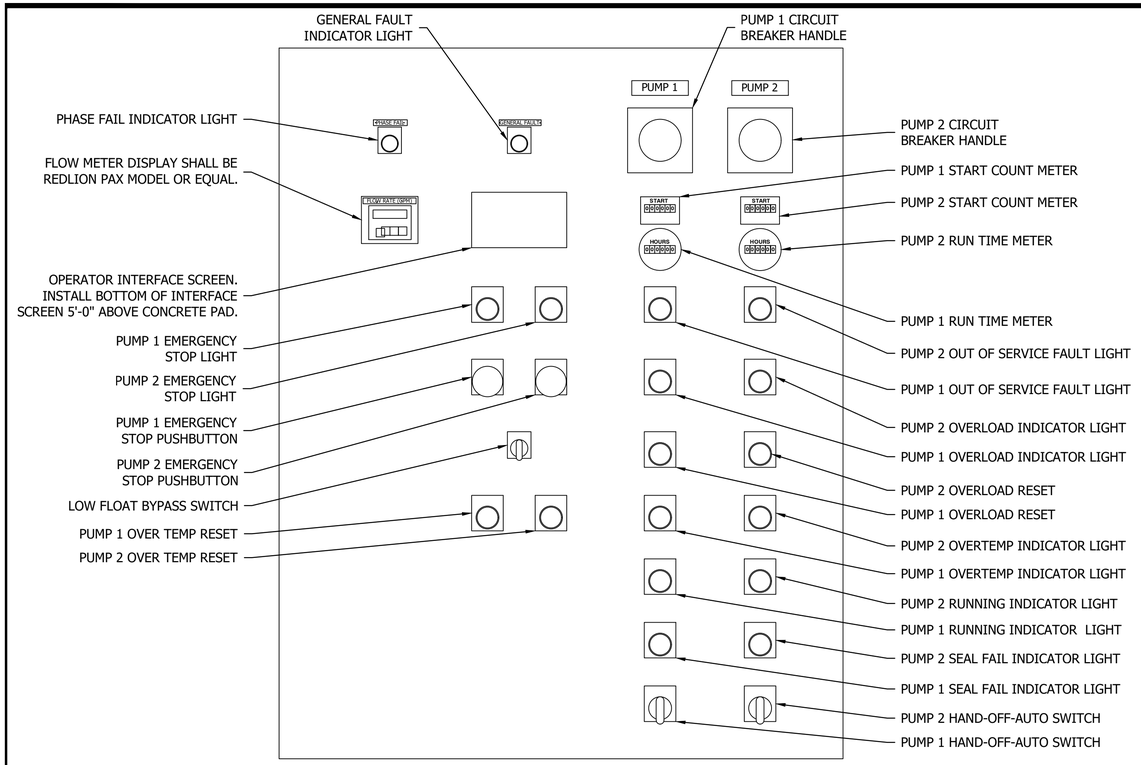
LIFT STATION REPLACEMENT

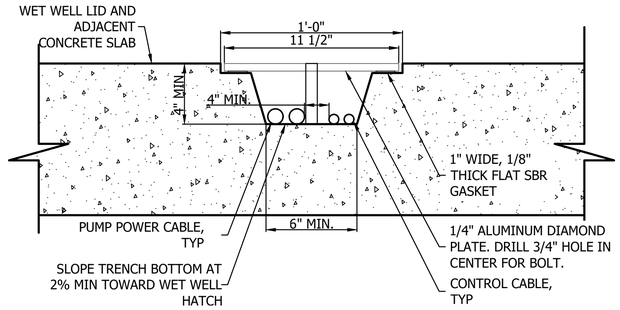
ENCLOSURE DETAILS

SHEET 18 OF 20



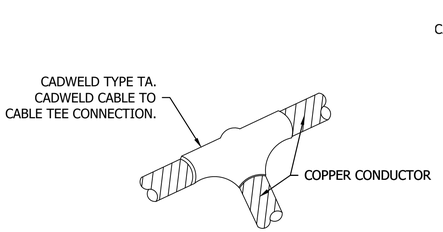

## TELEMETRY PANEL INTERIOR SWING DOOR LAYOUT

*NOT TO SCALE*



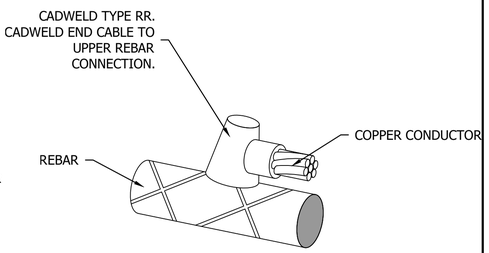

## WETWELL CABLE TROUGH DETAIL

*NOT TO SCALE*



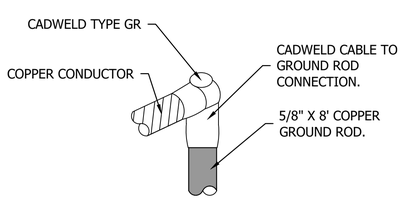

## GROUND TEE DETAIL

*NOT TO SCALE*



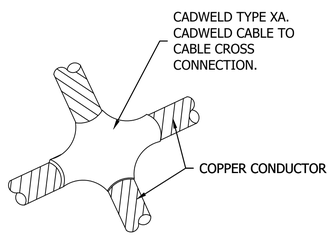

## GROUND REBAR DETAIL

*NOT TO SCALE*



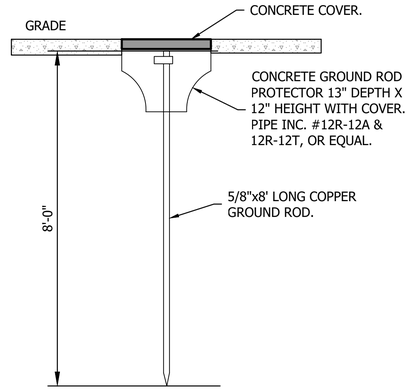

## GROUND TEE DETAIL

*NOT TO SCALE*



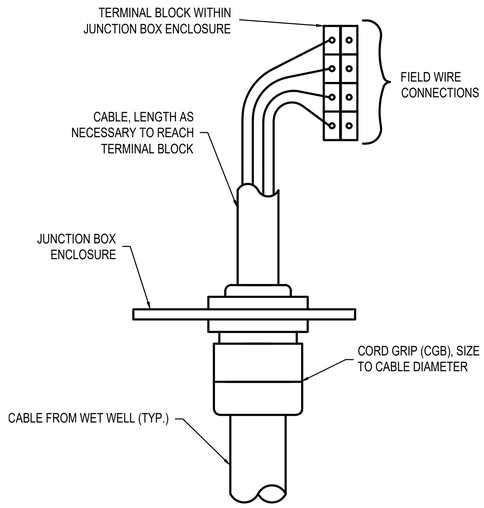

## GROUND CROSS DETAIL

*NOT TO SCALE*




## GROUND ROD DETAIL

*NOT TO SCALE*




## CABLE TRANSITION DETAIL (TYPICAL)

*NOT TO SCALE*

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CLAYTON C. ANDERSEN — STATE OF WASHINGTON — 54525 — REGISTERED PROFESSIONAL ENGINEER

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RECREATION COMMISSION

POTHOLES

LIFT STATION REPLACEMENT

ELECTRICAL DETAILS

SHEET 19 OF 20

## POWER CONDUIT AND CONDUCTOR SCHEDULE

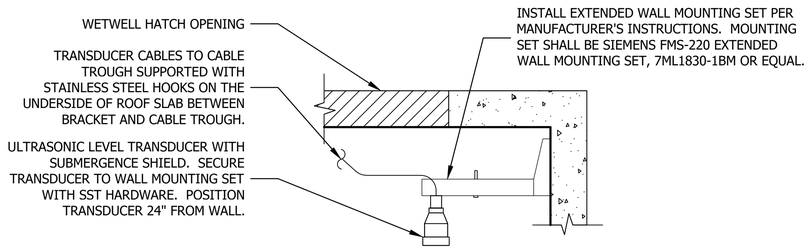
| CIRCUIT | SOURCE | DESTINATION | TRADE SIZE | (QUANTITY) CONDUCTORS | NOTES |
|---|---|---|---|---|---|
| P101 | EXISTING UTILITY METER | MAIN SERVICE DISCONNECT | 1 1/4" | (3) – #3, (1) – #3 NEUTRAL | |
| P102 | MAIN SERVICE DISCONNECT | PUMP CONTROL PANEL, "PCP" | 1 1/4" | (3) – #3, (1) – #3 NEUTRAL, (1) – #8 GND | |
| P103 | PUMP CONTROL PANEL, "PCP" | JUNCTION BOX, "JB" | 3/4" | (3) – #12, (1) –#12 GND | PUMP POWER |
| P104 | PUMP CONTROL PANEL, "PCP" | JUNCTION BOX, "JB" | 3/4" | (3) – #12, (1) –#12 GND | PUMP POWER |
| P105 | PUMP CONTROL PANEL, "PCP" | JUNCTION BOX, "JB" | 3/4" | (6) – #14, (1) –#14 GND | PUMP SEAL FAILURE/OVERTEMP ALARM |
| P106 | JUNCTION BOX, "JB" | PUMP 1 | – | MANUFACTURER CABLE | IN CABLE TRENCH |
| P107 | JUNCTION BOX, "JB" | PUMP 2 | – | MANUFACTURER CABLE | IN CABLE TRENCH |
| P108 | PUMP CONTROL PANEL, "PCP" | VALVE VAULT HEATER | 3/4" | (2) – #12, (1) –#12 GND | |
| P109 | PUMP CONTROL PANEL, "PCP" | VALVE VAULT LIGHT SWITCH | 3/4" | (2) – #12, (1) –#12 GND | |
| P110 | VALVE VAULT LIGHT SWITCH | VALVE VAULT LIGHT | 3/4" | (2) – #12, (1) –#12 GND | |

## CONTROL CONDUIT AND CONDUCTOR SCHEDULE

| CIRCUIT | SOURCE | DESTINATION | TRADE SIZE | (QUANTITY) CONDUCTORS | NOTES |
|---|---|---|---|---|---|
| C101 | PUMP CONTROL PANEL, "PCP" | JUNCTION BOX, "JB" | 3/4" | (4) – #14, (1) – #14 GND | |
| C102 | PUMP CONTROL PANEL, "PCP" | JUNCTION BOX, "JB" | 3/4" | (1) SHIELDED TWISTED PAIR | |
| C103 | JUNCTION BOX, "JB" | WET WELL HIGH LEVEL FLOAT | – | MANUFACTURER CABLE | IN CABLE TROUGH |
| C104 | JUNCTION BOX, "JB" | WET WELL LOW LEVEL FLOAT | – | MANUFACTURER CABLE | IN CABLE TROUGH |
| C105 | JUNCTION BOX, "JB" | WET WELL LEVEL TRANSDUCER | – | MANUFACTURER CABLE | IN CABLE TROUGH |
| C106 | PUMP CONTROL PANEL, "PCP" | VALVE VAULT FLOW METER | 1" | (4) – #14, (1) – #14 GND, (1) SHIELDED TWISTED PAIR | |

## LIGHTING FIXTURE SCHEDULE

| TYPE | DESCRIPTION | MANUFACTURER | MODEL NO. | LAMP QTY.* | LAMP CATALOG NO. |
|---|---|---|---|---|---|
| A1 | LED LIGHT FIXTURE – 120VAC, 2' LONG, 47 WATT, 5000K COLOR TEMPERATURE, DIFFUSED OPAL UV-STABILIZED POLYCARBONATE VANDAL RESISTANT LENS, PLATINUM COLOR. CLASS 1, DIVISION 2 EXPLOSION PROOF HAZARDOUS LOCATION RATED. | FME LIGHTING OR EQUAL | TSWXP24 4LVCDP | 1 | 47 WATT |



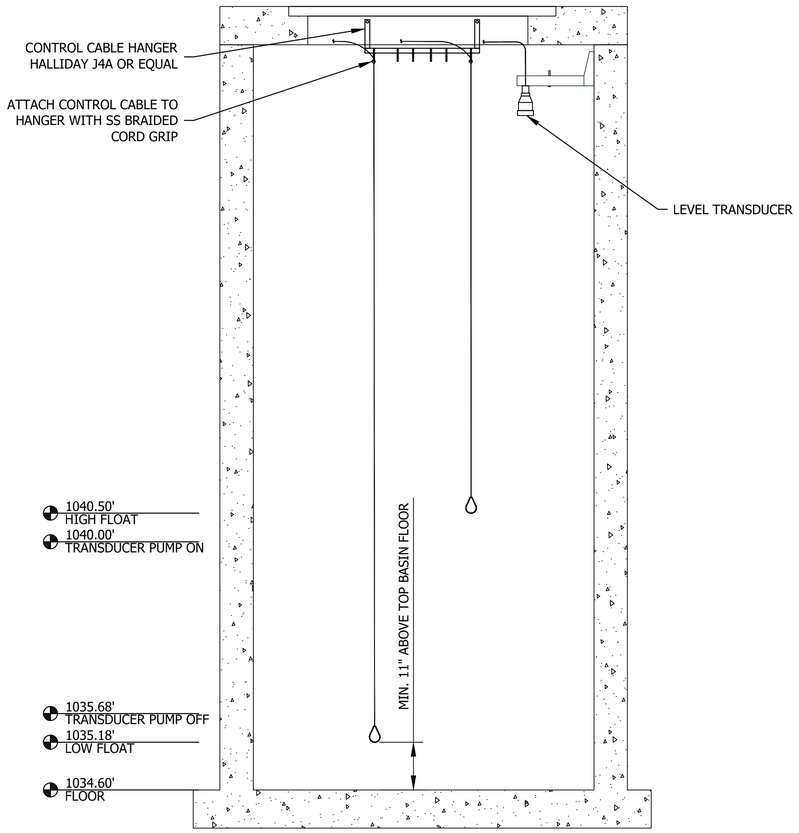

*WETWELL LEVEL TRANSDUCER DETAIL*

*NOT TO SCALE*

TYPICAL NOTE FOR ALL WETWELLS
HIGH FLOAT AND PUMP ON LEVELS MAY BE ADJUSTED ONCE ACCURATE INVERT ELEVATIONS OF INCOMING PIPES HAVE BEEN ESTABLISHED. CONTRACTOR TO LEAVE 4' OF EXTRA CABLE FOR ADJUSTMENT.

## ELECTRICAL EQUIPMENT AND INSTRUMENTATION SCHEDULE

| ITEM | DESCRIPTION | MANUFACTURER | MODEL NO. |
|---|---|---|---|
| A | SERVICE DISCONNECT, 600V, 25 KAIC, SERVICE ENTRANCE RATED, NEMA 3R, PAD-LOCKABLE | SQUARE D | VH363RB OR EQUAL |
| B | EXPLOSION-PROOF HEATER, 1 PHASE, 1800 WATT, 277V. WALL MOUNT HARDWARE, BUILT-IN THERMOSTAT | QMARK | ICG18071 OR EQUAL |
| C | WET WELL LEVEL FLOAT SWITCH | SEE SPECIFICATIONS | SEE SPECIFICATIONS |
| D | ULTRASONIC TRANSDUCER LEVEL TRANSMITTER | SEE SPECIFICATIONS | SEE SPECIFICATIONS |
| E | FLOW METER | SEE SPECIFICATIONS | SEE SPECIFICATIONS |




*FLOAT DETAIL*

*NOT TO SCALE*

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WASHINGTON STATE PARKS

RECREATION COMMISSION

POTHOLES

LIFT STATION REPLACEMENT

ELECTRICAL SCHEDULES

SHEET 20 OF 20