WASHINGTON STATE PARKS & RECREATION COMMISSION

MARK O. BROWN, CHAIR

SOPHIA DANENBERG — LAURIE CONNELLY

MICHAEL LATIMER — KEN BOUNDS

ALI RAAD — HOLLY WILLIAMS

DIANA DUPUIS, DIRECTOR

APPROVED FOR CONSTRUCTION

REGION MANAGER *date*

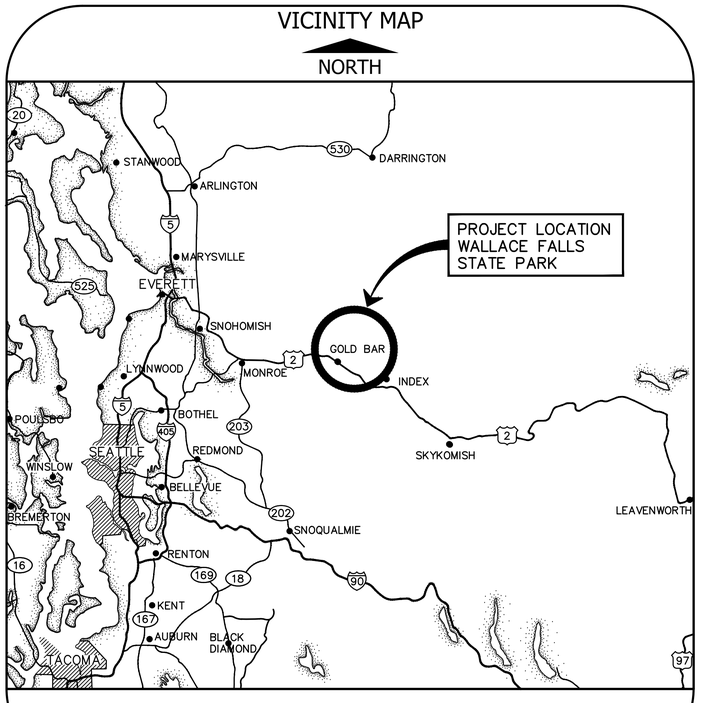
CAPITAL PROGRAM MANAGER *date*

Area Manager: SHAWN TOBIN

WALLACE FALLS STATE PARK

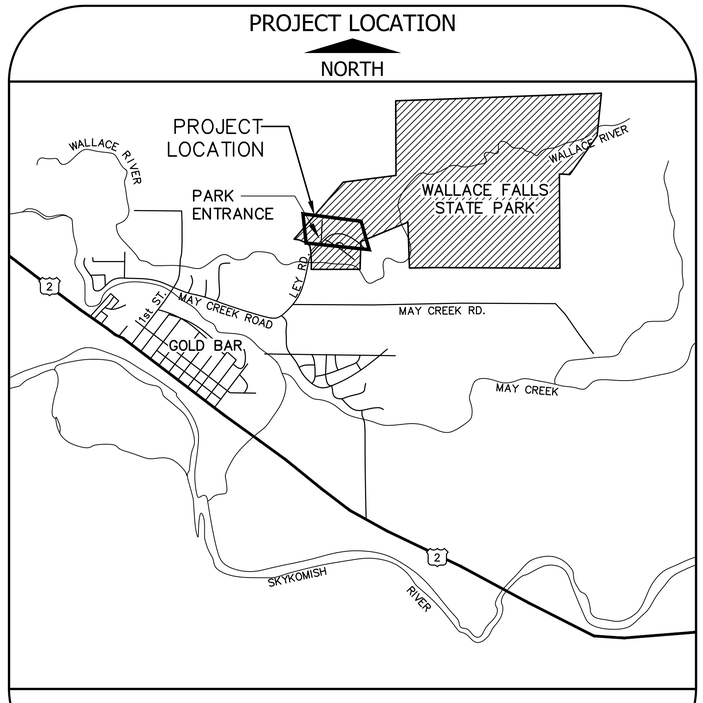
WATER SYSTEM REPLACEMENT

VICINITY MAP



LATITUDE: 47°52'2.90"N & LONGITUDE: 121°40'44.95"W

PROJECT LOCATION



14503 WALLACE LAKE RD SULTAN WA 98294
SEC-32, 33 T-28-N R-09-E
SNOHOMISH COUNTY TAX PARCEL NUMBER 28093200400100

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CAD#: W090-D4003-C11-D4002-C11-2023 WATER SYSTEM REPLACEMENT

PROJECT TEAM

OWNER: STATE OF WASHINGTON
PARKS AND RECREATION COMMISSION
1111 ISRAEL ROAD SOUTHWEST
POST OFFICE BOX 42650
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www.parks.wa.gov

OWNER'S REPRESENTATVE:

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STRUCTURAL ENGINEER: CG ENGINEERING

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CAD NO. W090-D4003-C11-D4002-C11-2023-2-G101

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	HKP	08/31/23
DRAWN	DKH	08/31/23
CHECKED (FIELD)		
CHECKED (HDQTS.)		

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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

PROJECT TEAM

G101

SCALE
NONE

PARKS FILE#

LEGEND

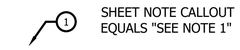
	EXISTING	PROPOSED
EDGE OF ASPHALT		
TRAIL		
GRAVEL		
CONCRETE		
FENCING		
UNDERGROUND WATER LINE	W W W	4"W
ALTERNATIVE UNDERGROUND WATER LINE		4"W
UNDERGROUND SANITARY SEWER LINE	SS SS SS	
UNDERGROUND SEPTIC LINE		
UNDERGROUND POWER LINE	UP UP UP	
UNDERGROUND COMMUNICATIONS TV LINE	T T T	
OVERHEAD POWER LINE	OHPP	
BUILDING/STRUCTURE LINE		
BUILDING EVE LINE		
EDGE OF STREAM		
SWALE		
PROPERTY LINE		
CONTOUR MINOR		
CONTOUR MAJOR	310	
TOE OF SLOPE	TOE TOE	
TOP OF SLOPE	TOP TOP	
EDGE OF TREES/SHRUBS		
BPA SETBACK		
CRITICAL AREA BUFFER		
WELL HEAD SANITARY CONTROL AREA		
WELL		W
FIRE HYDRANT	WV	
WATER VALVE	WM	
WATER METER		
HOSE BIB		
CATCH BASIN		
ROOF DRAIN	RD	
SANITARY CLEANOUT	CO	
HI VISIBILITY SEDIMENT FENCING		X X X
GRASS PAVE		

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

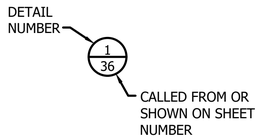
	EXISTING	PROPOSED
JUNCTION BOX		
POWER TRANSFORMER	PBX	
POWER JUNCTION BOX		
TELEPHONE JUNCTION BOX		
FLAG POLE	FLAG	
BOLLARDS		
MAIL BOX	MAILBOX	
PAY BOX	PAY BOX	
STORM CULVERT		
ENVIRONMENTAL PROBE		
DHA SURVEY CONTROL (HUB AND TACK)		
DHA SURVEY CONTROL (REBAR AND CAP)		
WETLAND FLAG		
SIGN		
BBQ	BBQ	
FIRE PIT	FIRERING	
SUBSURFACE TEST PIT	TP-3	
HANDICAPPED PARKING		
CONIFEROUS TREE		
DECIDUOUS TREE		
DRAINAGE ARROW		

CALLOUTS

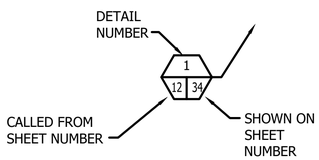
SHEET NOTE CALLOUT



2 PART DETAIL CALLOUT

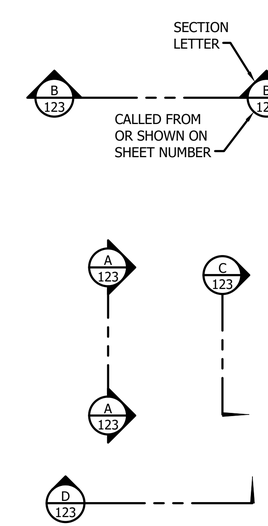


3 PART DETAIL CALLOUT

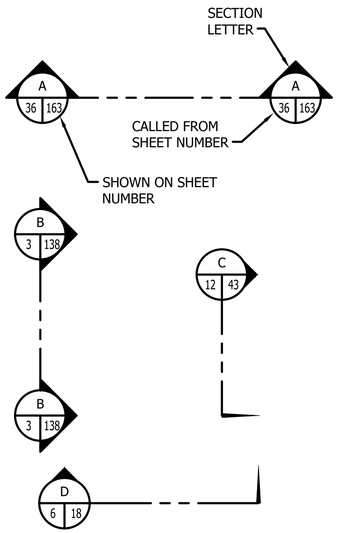


SHEET SYMBOLS

2 PART SECTION CALLOUTS



3 PART SECTION CALLOUTS



SHEET 3 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-3-G102

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	HKP	08/31/23
DRAWN	DKH	08/31/23
CHECKED (FIELD)		
CHECKED (HDQTS.)		

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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

GENERAL LEGEND

G102

SCALE
NONE

PARKS FILE#

@	AT
A	ALDER TREE
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AB	ANCHOR BOLT
ABAN(D)	ABANDON(ED)
ABS	ACRYLONITRILE BUTADIENE STYRENE
ABV	ABOVE / ALCOHOL BY VOLUME
AC	ASPHALTIC CONCRETE
ACP	ASPHALTIC CONCRETE PAVING
ADJ	ADJUSTABLE
ADJC	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHR	ANCHOR
AL	ALUMINUM
ALT	ALTERNATE
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
(AP)	APPROXIMATE
APPROX	APPROXIMATE
APPVD	APPROVED
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASR	AQUIFER STORAGE & RECOVERY
ASSN	ASSOCIATION
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
B&S	BELL & SPIGOT
BC	BOLT CIRCLE
BD	BOARD
BETW	BETWEEN
BF	BOTH FACE
BFD	BACKFLOW PREVENTION DEVICE
BFILL	BACKFILL
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BKGD	BACKGROUND
BLDG	BUILDING
BLK	BLOCK
BLVD	BOULEVARD
BM	BENCHMARK / BEAM
BMP	BEST MANAGEMENT PRACTICES
BO	BLOW-OFF
BOC	BACK OF CURB
BOW	BOTTOM OF WALL
BPA	BONNEVILLE POWER ADMINISTRATION
BS	BOTH SIDES
BSMT	BASEMENT
BTF	BOTTOM FACE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BW	BOTH WAYS
C	CELSIUS / CONIFER TREE
C TO C	CENTER TO CENTER
CA	CRITICAL AREA
CARV	COMBINATION AIR RELEASE VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CCP	CONCRETE CYLINDER PIPE
CCW	COUNTER CLOCKWISE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHAN	CHANNEL
CHEM	CHEMICAL
CHFR	CHAMFER
CHKV	CHECK VALVE
CI	CAST IRON
CIP	CAST IRON PIPE
CIPC	CAST IN PLACE CONCRETE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CL OR C/L	CENTER LINE
CL2	CHLORINE
CLG	CEILING
CLJ	CONTROL JOINT
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS / CONTINUATION
CONTR	CONTRACT(OR)
COORD	COORDINATE
COP	COPPER
CORP	CORPORATION
CORR	CORRUGATED
CP	CONTROL POINT
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CRUSHED ROCK
CS	COMBINED SEWER
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CSP	CONCRETE SEWER PIPE
CT	COURT
CTR	CENTER
CU	CUBIC
CULV	CULVERT
CV	CONTROL VALVE
CW	CLOCKWISE / COLD WATER / COTTON WOOD TREE
CY	CUBIC YARDS
CYL	CYLINDER LOCK
D	DRAIN
DC	DIRECT CURRENT
DF	DRAINFIELD
DEA	DAVID EVAN'S AND ASSOCIATES
DEC	DECIDUOUS TREE
DEFL	DEFLECTION
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DIST	DISTANCE
DN	DOWN
DNR	DEPARTMENT OF NATURAL RESOURCES
DR	DRIVE
DS	DOWNSPOUT
DWG	DRAWING
DWL	DOWEL
DWV	DRAIN WASTE AND VENT
DWY	DRIVEWAY
(E)	EXISTING
E / ELEC	ELECTRICAL
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE
EL	ELEVATION
ELB	ELBOW
ENCL	ENCLOSURE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
ESMT	EASEMENT
EW	EACH WAY
EXC	EXCAVATE
EXIST	EXISTING
EXP	EXPANSION
EXP BT	EXPANSION BOLT
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F	FAHRENHEIT / FIR TREE
F TO F	FACE TO FACE
FAB	FABRICATE
FB	FLAT BAR
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDN	FOUNDATION
FEXT	FIRE EXTINGUISHER
FF	FINISHED FLOOR / FAR FACE
FGL	FIBERGLASS
FH	FIRE HYDRANT
FIN	FINISH(ED)
FIPT	FEMALE IRON PIPE THREAD
FITG	FITTING
FL	FLOOR LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLL	FLOW LINE
FLR	FLOOR
FM	FLOW METER
FO	FIBER OPTIC
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET / FOOT
FTG	FOOTING
FUT	FUTURE
FXTR	FIXTURE
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GROOVED COUPLING
GFA	GROOVED FLANGE ADAPTER
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GJ	GRIP JOINT
GL	GLASS
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE
GR LN	GRADE LINE
GRTG	GRATING
GV	GATE VALVE
GRVL	GRAVEL
GYP	GYPSUM
H	HEMLOCK TREE
HB	HOSE BIBB
HC	HOLLOW CORE
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDWE	HARDWARE
HGR	HANGER
HGT	HEIGHT
HH	HANDHOLD
HM	HOLLOW METAL
HMAC	HOT MIX ASPHALT CONCRETE
HNDRL	HANDRAIL
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HIGH PRESSURE / HORSEPOWER
HPG	HIGH PRESSURE GAS
HPT	HIGH POINT
HR	HOUR
HSB	HIGH STRENGTH BOLT
HT	HUB / TACK
HV	HOSE VALVE
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HWL	HIGH WATER LINE
HWY	HIGHWAY
HYD	HYDRANT
HYDR	HYDRAULIC
I&C	INSTRUMENTATION & CONTROL
IAW	IN ACCORDANCE WITH
ICV	IRRIGATION CONTROL VALVE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IMPVT	IMPROVEMENT
IN	INCH
INCC	INCLUDE(D)(ING)
INFL	INFLUENT
INJ	INJECTION
INSTL	INSTALLATION / INSTALL
INSUL	INSULATION
INTER	INTERCEPTOR
INTR	INTERIOR
INV	INVERT
IP	IRON PIPE
IPT	IRON PIPE THREAD
IR	IRON ROD
IRRIG	IRRIGATION
JT	JOINT
JUNC	JUNCTION
KPL	KICK PLATE
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWY	KEYWAY
L	LENGTH
LA	LANDSCAPED AREA
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LF	LINEAR FOOT
LIN	LINEAL
LN	LANE
LOC	LOCATION
LONG	LONGITUDINAL
LP	LOW PRESSURE
LPT	LOW POINT
LRG	LARGE
LS	LONG SLEEVE / LUMP SUM
LT	LEFT
LVL	LEVEL
LWL	LOW WATER LINE
M	MAPLE TREE
MAN	MANUAL
MAT	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MASTER CONTROL PANEL
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MIPT	MALE IRON PIPE THREAD
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT / MONOLITHIC
MOT	MOTOR
MP	MILEPOST
MSL	MEAN SEAL LEVEL
MTD	MOUNTED
NA	NOT APPLICABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NC	NORMALLY CLOSED
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO / NO.	NORMALLY OPEN / NUMBER
NOM	NOMINAL
NORM	NORMAL
NRS	NON-RISING STEM
NTS	NOT TO SCALE
O TO O	OUT TO OUT
OAR	OREGON ADMINISTRATIVE RULES
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW / OUTSIDE FACE
OHPP	OVERHEAD POWER
OHWM	ORDINARY HIGH WATER MARK
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OVHD	OVERHEAD
PA	PLANTED AREA
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PCVC	POINT OF CURVATURE ON VERTICAL CURVE
(P)	PROPOSED/NEW
PE	PLAIN END
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PG	PRESSURE GAUGE
PH	PIPE HANGER
PI	POINT OF INTERSECTION
PIVC	POINT OF INTERSECTION ON VERTICAL CURVE
PL OR P/L	PROPERTY LINE / PLATE / PLASTIC
PLBG	PLUMBING
PNL	PANEL
POC	POINT OF CURVATURE
POLY	POLYETHYLENE
PP	POWER POLE / PURPLE PIPE
PRC	POINT OF REVERSE CURVATURE
PRCST	PRECAST
PRD	PER RECORD DRAWING
PREP	PREPARATION
PRESS	PRESSURE
PRKG	PARKING
PROP	PROPERTY
PRV	PRESSURE REDUCING VALVE
PS	PUMP STATION
PSIG	POUNDS PER SQUARE INCH GAUGE
PSL	PIPE SLEEVE
PSPT	PIPE SUPPORT
PT	PRESSURE TANK
PTVC	POINT OF TANGENCY ON VERTICAL CURVE
PTW	PUMP TO WASTE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PW	POTABLE WATER
PWR	POWER
QTY	QUANTITY
RAD	RADIUS
RC	REINFORCED CONCRETE
RCC	REBAR / CONTROL CAP
RCP	REINFORCED CONCRETE PIPE
RD	ROAD / ROOF DRAIN
RDCR	REDUCER
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REQ'D	REQUIRED
RESTR	RESTRAINED
RFCA	RESTRAINED FLANGE COUPLING ADAPTER
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
R/W	RIGHT-OF-WAY
RPBPD	REDUCED PRESSURE BACKFLOW PREVENTION DEVICE
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RST	REINFORCED STEEL
RT	RIGHT
SALV	SALVAGE
SAN	SANITARY
SC	SOLID CORE
SCDM	SNOHOMISH COUNTY DRAINAGE MANUAL
SCHED	SCHEDULE
SD	STORM DRAIN
SDL	SADDLE
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SHLDR	SHOULDER
SHT	SHEET
SIM	SIMILAR
SLP	SLOPE
SLV	SLEEVE
SOLN	SOLUTION
SP	SOIL PIPE / SEWER PIPE
SPCL	SPECIAL
SPEC(S)	SPECIFICATION(S)
SPG	SPACING
SPL	SPOOL
SPRT	SUPPORT
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STR	STRAIGHT
STRUCT	STRUCTURE / STRUCTURAL
SUBMG	SUBMERGED
SUCT	SUCTION
SV	SOLENOID VALVE
S/W	SIDEWALK
SWD	SIDEWATER DEPTH
SWGR	SWITCH GEAR
SYMM	SYMMETRICAL
SYS	SYSTEM
T OR TEL	TELEPHONE
T&B	TOP & BOTTOM
TAN	TANGENCY
TB	THRUST BLOCK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CONCRETE / TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TDH	TOTAL DYNAMIC HEAD
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TEMP	TEMPERATURE / TEMPORARY
T&G	TONGUE & GROOVE
THK	THICK / THICKNESS
THRD	THREAD (ED)
THRU	THROUGH
TP	TEST PIT / TOP OF PAVEMENT / TURNING POINT
TRANS	TRANSITION
TSP	TRI-SODIUM PHOSPHATE
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UN	UNION
UON	UNLESS OTHERWISE NOTED
UP	UNDERGROUND POWER
USGS	UNITED STATES GEOLOGIC SURVEY
V	VENT / VOLT
VAC	VACUUM
VB	VACUUM BREAKER
VBOX	VALVE BOX
VC	VERTICAL CURVE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VCP	VITRIFIED CLAY PIPE
VTR	VENT THROUGH ROOF
W	WATER
W/	WITH
W/IN	WITHIN
W/O	WITHOUT
W/W	WALL TO WALL
WA	WASHINGTON
WD	WOOD
WF	WIDE FLANGE
WH	WATER HEATER
WI	WROUGHT IRON
WM	WATER METER
WP	WORKING POINT / WATERPROOFING
WS	WATER SERVICE
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WT	WEIGHT
WTP	WATER TREATMENT PLANT
WTRT	WATERTIGHT
WWF	WELDED WIRE FABRIC
WWTF	WASTEWATER TREATMENT FACILITY
WWTP	WASTEWATER TREATMENT PLANT
X SECT	CROSS SECTION
XFMR	TRANSFORMER
YD	YARD DRAIN / YARD
YH	YARD HYDRANT
YR	YEAR
ZN	ZINC

CAD NO. W090-D4003-C11-D4002-C11-2023-4-G103

REVISIONS	DATE	APP.	INT.

NO.	ACTION	BY	DATE
	DESIGNED	HKP	08/31/23
	DRAWN	DKH	08/31/23
	CHECKED (FIELD)		
	CHECKED (HDQTS.)		

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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

ABBREVIATIONS

G103

SCALE
NONE

PARKS FILE#

SHEET NOTES:

1. REFERENCE THE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION ON TEST PIT LOCATIONS AND RESULTS. TP-1 NOT SHOWN.
2. REFERENCE THE CRITICAL AREA'S REPORT FOR ADDITIONAL INFORMATION ON PROBE LOCATIONS AND RESULTS.

SITE CONTROL POINTS

	ID	NORTHING	EASTING	EL (NAVD88)	TYPE
1	DHA 3256-31	317703.84	1432591.14	322.81	HT
2	DHA 3256-30	317669.39	1432631.12	332.32	HT
3	DHA 3256-25	317634.83	1432669.51	331.84	HT
4	DHA 3256-18	317678.41	1432763.75	331.82	RCC
5	DHA 3256-11	317536.68	1432702.12	329.24	RCC
6	DHA 3256-10	317447.43	1432904.57	331.98	RCC
7	DHA 3256-7	317578.07	1432959.98	336.73	RCC
8	DHA 3256-9	317304.28	1433151.40	333.53	RCC
9	DHA 3256-6	317423.07	1433149.58	339.05	RCC

150' STREAM BUFFER (CA BUFFER)

BPA TRANSMISSION LINE

STATE PARK BOUNDARY
WA STATE DNR BOUNDARY

WA STATE DNR BOUNDARY
HUSTON CENTER BOUNDARY

HUSTON STATE BOUNDARY
STATE PARK BOUNDARY

WETLAND FLAGGING, TYP, SEE NOTE 2

DP UPL

(E) DF NOT SURVEYED

TP-4

PARCEL ID: 28093200400100

PARCEL ID: 28093200400400

PARCEL ID: 28093200400000

ENVIRONMENTAL PROBE LOC, TYP, SEE NOTE 2

EXIST PARK TRAIL

TP-2

TP-3

GEOTECHNICAL TEST PIT (TP) LOC, TYP SEE NOTE 1

STATE PARK BOUNDARY
HUSTON CENTER BOUNDARY

30' 0 60'

PLAN

SHEET 5 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-5-C100

REVISIONS	NO.	INT.	APP.	DATE

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DESIGNED	HKP	08/31/23
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

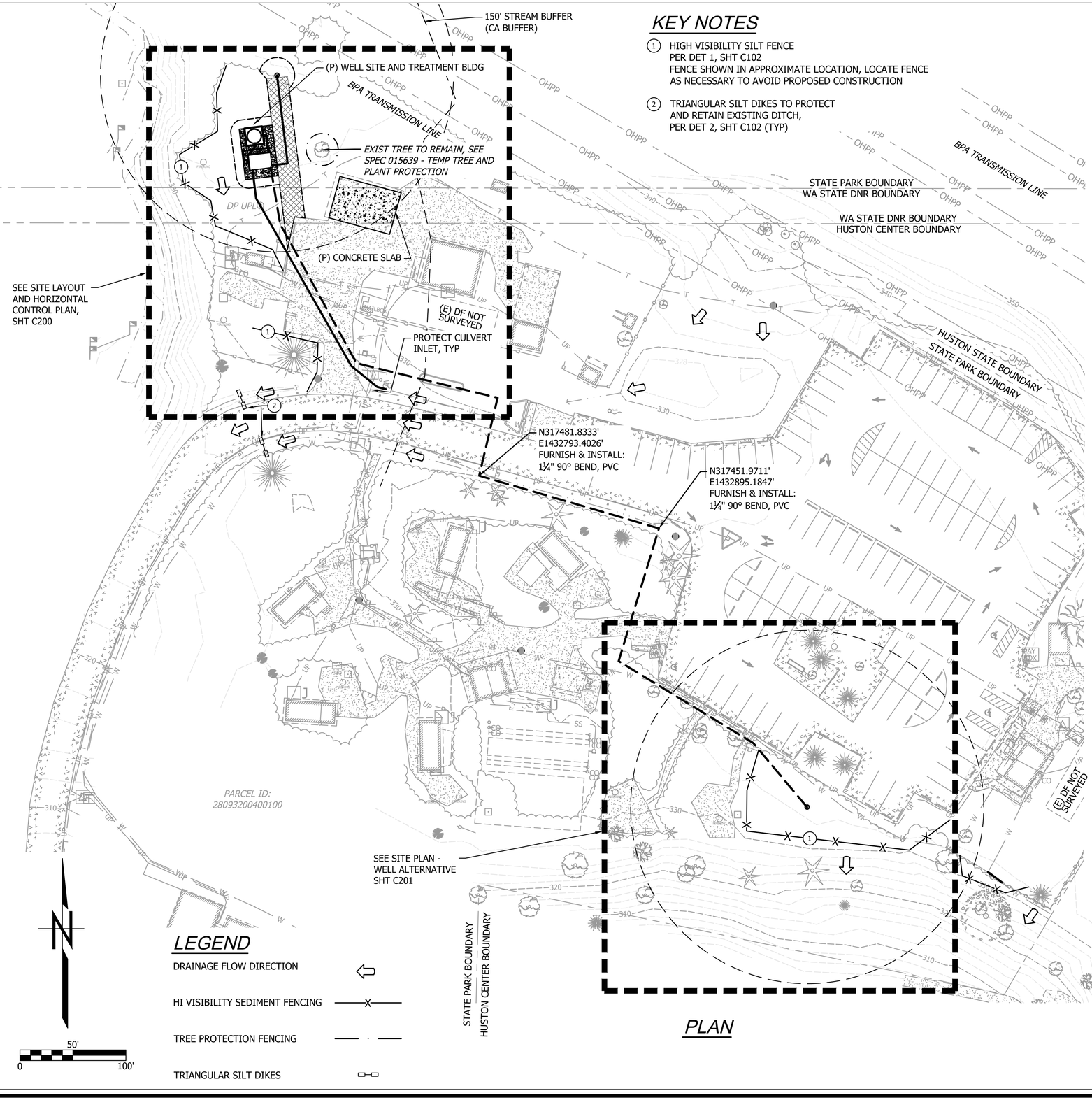
WATER SYSTEM REPLACEMENT

EXISTING SITE CONDITIONS AND CONTROL POINTS

C100

SCALE
AS SHOWN

PARKS FILE#



KEY NOTES

1. HIGH VISIBILITY SILT FENCE PER DET 1, SHT C102
   FENCE SHOWN IN APPROXIMATE LOCATION, LOCATE FENCE AS NECESSARY TO AVOID PROPOSED CONSTRUCTION
2. TRIANGULAR SILT DIKES TO PROTECT AND RETAIN EXISTING DITCH, PER DET 2, SHT C102 (TYP)

EROSION CONTROL NOTES

1. CONTRACTOR SHALL CONFIRM DRAINAGE PATHWAYS PRIOR TO BEGINNING CONSTRUCTION.
2. TO REDUCE THE RISK TO ADJACENT CRITICAL AREAS AND MINIMIZE THE POTENTIAL FOR ADVERSE EFFECT TO THE ENVIRONMENT THE CONTRACTOR SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING BMPS.
3. PRESERVE NATURAL VEGETATION ALONG PERIMETER OF THE SITE PER SCDM BMP C101. CONTRACTOR SHALL PROTECT EXISTING VEGETATION ALONG EXISTING SLOPES, PROPERTY LINES, NEAR WATERCOURSES, AND WOODED AREAS. IDENTIFY CONSTRUCTION LIMITS BEFORE BEGINNING WORK AND MARK ACCORDINGLY TO PREVENT VEGETATION REMOVAL OR EARTH DISTURBANCE BEYOND THE PROJECT AREA.
4. PROVIDE BOTH TEMPORARY (DISTURBED AREAS THAT WILL BE UNWORKED FOR MORE THAN 30 DAYS) AND PERMANENT SEEDING PER SPECIFICATION 32 92 00, TURF AND GRASSES.
5. INSTALL HIGH VISIBILITY SILT FENCE AT THE OUTSIDE EDGES OF PROJECT PRIOR TO ANY GRADING.
6. INSTALL SILT DIKES TO CONTAIN SEDIMENT.
7. INSTALL TEMPORARY SEDIMENT CONTROL DEVICES, SUCH AS SEDIMENT MATS, FILTER BAGS, EROSION BLANKETS, SEDIMENT TRAPS, STAKED SEDIMENT BARRIERS, WATER BLADDER DAMS, AND/OR "DIRT BAGS" AS NECESSARY.
8. REVEGETATE DISTURBED AREAS UPON PROJECT COMPLETION PER THE MITIGATION SUMMARY PLAN, SHEET L100.
9. LOCATE STAGING AREAS IN AREAS THAT WILL PREVENT THE POTENTIAL CONTAMINATION OF ANY WETLAND OR WATERBODY.
10. SERVICE AND REFUEL VEHICLES A MIN. OF 150 FT FROM THE STREAM AND WETLANDS TO REDUCE POTENTIAL SPILLS OF PETROLEUM AND HYDRAULIC FLUIDS IN SENSITIVE AREAS. ADDITIONALLY, DRIP PANS WILL BE FITTED WITH ABSORBENT PADS AND PLACED UNDER ALL EQUIPMENT BEING FUELED.
11. INSPECT ALL VEHICLES DAILY OPERATING WITHIN 100 FT OF ANY STREAM OR WATERBODY FOR FLUID LEAKS BEFORE LEAVING THE VEHICLE STAGING AREA. ANY LEAKS DETECTED WILL BE REPAIRED BEFORE THE VEHICLE RESUMES OPERATION. WHEN NOT IN USE, ALL VEHICLES WILL BE STORED IN THE VEHICLE STAGING AREA AS PRACTICABLE.
12. INSPECT OTHER VEHICLES THAT MAY BE STORED IN PLACE, SUCH AS CRANES, DAILY FOR FLUID LEAKS.
13. IMPLEMENT SPILL CONTROL AND EMERGENCY RESPONSE PLANS FOR FUELING, CONCRETE ACTIVITY, AND STAGING AREAS. THE SPILL CONTROL/PREVENTION PLAN WILL INCLUDE THE FOLLOWING ITEMS: NOTIFICATION PROCEDURES; SPECIFIC CLEANUP AND DISPOSAL INSTRUCTIONS FOR DIFFERENT PRODUCTS; QUICK RESPONSE CONTAINMENT AND CLEANUP MEASURES THAT WILL BE AVAILABLE ON SITE; AND EMPLOYEE TRAINING FOR SPILL CONTAINMENT. THESE PLANS WILL SATISFY ALL PERTINENT REQUIREMENTS SET FORTH BY FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
14. NO WET OR CURING CONCRETE, INCLUDING WASHOUT OF EQUIPMENT, SHALL ENTER PROJECT WATERS. A CONTAINMENT TARP WILL BE USED TO ISOLATE ANY RUNOFF FROM ACTIVITIES INVOLVING WET OR CURING CONCRETE ACTIVITIES.
15. NO MATERIAL SHALL BE PLACED OR DISCHARGED INTO PROJECT AREA WETLANDS OR STREAMS.
16. SURFACE WATER SHALL NOT BE DIRECTED TOWARDS THE TOP OF SLOPES OR ONTO SLOPES.
17. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF SNOHOMISH COUNTY.

LEGEND

- DRAINAGE FLOW DIRECTION
- HI VISIBILITY SEDIMENT FENCING
- TREE PROTECTION FENCING
- TRIANGULAR SILT DIKES

50' 0 100'

PLAN

SHEET 6 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-6-C101

REVISIONS	INT.	APP.	DATE

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

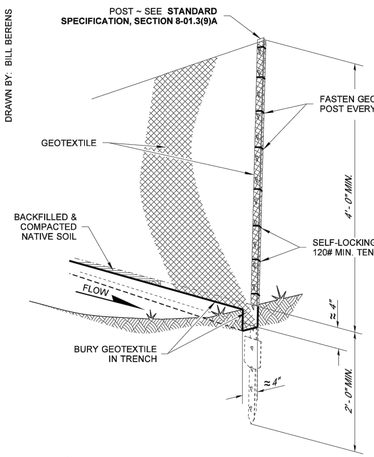
TESC AND SITE PLAN

C101

SCALE
AS SHOWN

PARKS FILE#

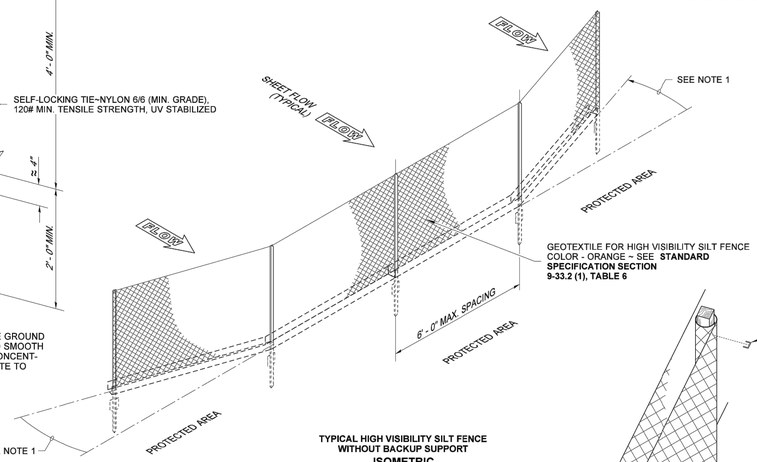
DRAWN BY: BILL BERENS



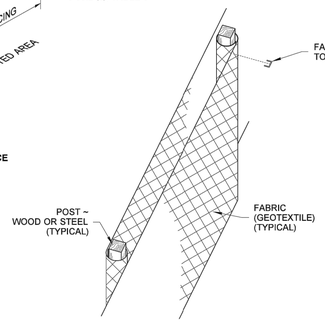
NOTE

DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENT-RATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL
(STEEL POSTS SHOWN)



TYPICAL HIGH VISIBILITY SILT FENCE WITHOUT BACKUP SUPPORT
ISOMETRIC
(STEEL POSTS SHOWN)



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP. JOINING SECTIONS SHALL NOT BE PLACED IN LOW SPOTS OR IN SUMP LOCATIONS.

SPLICE DETAIL
(WOOD POSTS SHOWN)

NOTES

1. Angle Terminal end uphill 24" (in) to 48" (in) to prevent flow around fence (Typical).
2. Perform maintenance in accordance with **Standard Specification, Sections 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.

STATE OF WASHINGTON · JULI DEE HARTWIG · NO. 1422 EXP. 06/21/2021 · LANDSCAPE ARCHITECT

Hartwig, Juli
Jun 4 2019 10:48 AM

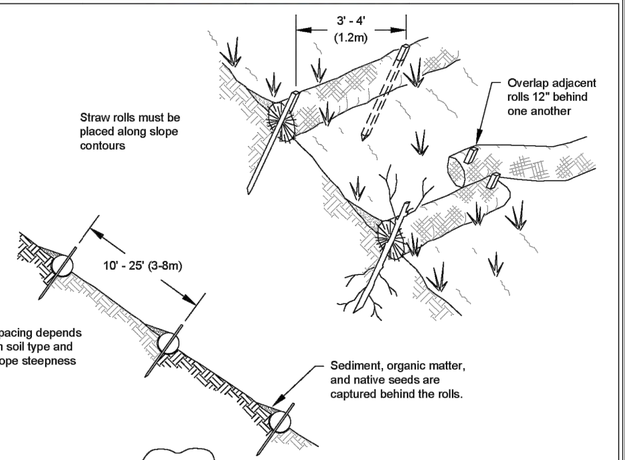
HIGH VISIBILITY SILT FENCE

STANDARD PLAN I-30.17-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve
Jun 12 2019 7:42 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

1 / C101 *HIGH VISIBILITY SILT FENCE DETAIL*



NOTE:
1. Straw roll installation requires the placement and secure staking of the roll in a trench, 3" - 5" (75-125mm) deep, dug on contour. Runoff must not be allowed to run under or around roll.

NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Wattles

Revised December 2016

2 / C101 *SILT DIKE (WATTLE) DETAIL*

CAD NO. W090-D4003-C11-D4002-C11-2023-7-C102

NO.	REVISIONS	INT.	APP.	DATE

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

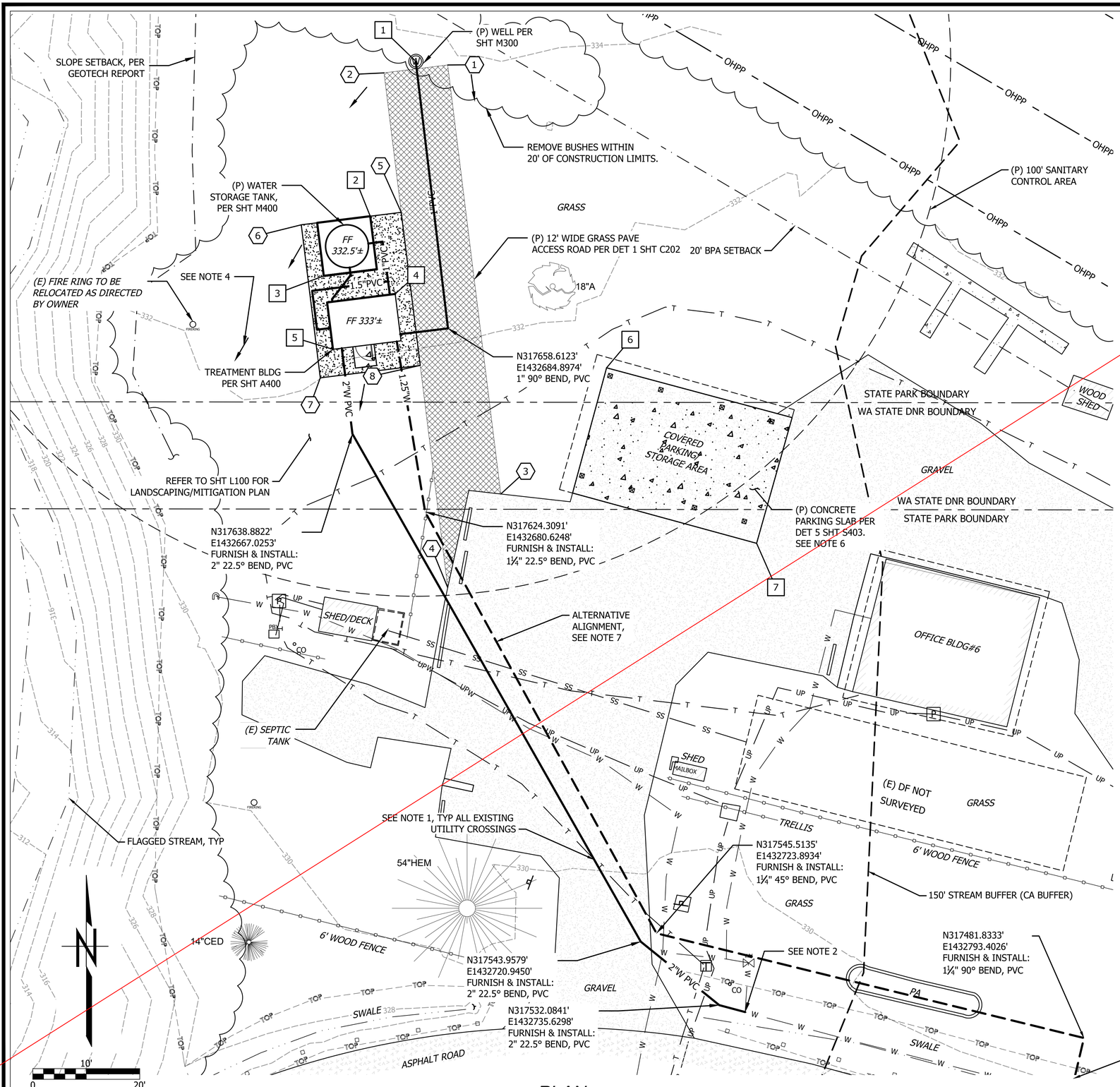
WATER SYSTEM REPLACEMENT

TESC DETAILS

C102

SCALE
AS SHOWN

PARKS FILE#



PLAN

SHEET NOTES:

1. RETAIN AND PROTECT EXISTING UTILITIES.
2. TIE-IN TO EXISTING WATERLINE WILL REQUIRE WATER SYSTEM SHUTDOWN SEQUENCINGS TO BE COORDINATED WITH PARKS. PROVIDE TWO-WEEK NOTICE TO PARKS IN ADVANCE OF SHUTDOWN.
3. REFER TO TESC PLAN, SHEET C101 FOR EROSION AND CONTROL REQUIREMENTS.
4. FINAL GRADING OF SITE SHALL MAINTAIN DRAINAGE TO THE SOUTH, AS SHOWN. ADDITIONALLY, SLOPE FINISHED GRADE AWAY FROM STRUCTURES AND REMOVE ANY LOW AREAS.
5. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS, SIZES, AND DEPTHS OF EXISTING UTILITIES.
6. EXISTING COVERED PARKING STRUCTURE TO BE RETAINED AND PROTECTED.
7. INSTALLATION OF THE ALTERNATIVE WATERLINE IS A CONTINGENCY BID ITEM/TASK AND WILL ONLY OCCUR IF DIRECTED BY THE OWNER.
8. REFERENCE SITE ELECTRICAL FOR POWER AND OTHER ELECTRICAL MODIFICATIONS.

FACILITY LAYOUT POINTS

PT NO.	Description	Northing	Easting
1	WELL CENTER POINT	317708.53	1432678.90
2	NE CORNER OF STORAGE TANK PAD	317679.59	1432670.35
3	SW CORNER OF STORAGE TANK PAD	317668.43	1432661.67
4	NE CORNER OF TREATMENT BLDG PAD	317665.06	1432675.02
5	SW CORNER OF TREATMENT BLDG PAD	317654.71	1432663.38
6	NW CORNER OF PARKING STRUCTURE CONC SLAB	317651.25	1432714.55
7	SW CORNER OF PARKING STRUCTURE CONC SLAB	317618.44	1432742.61

GRAVEL AND GRASSPAVE LAYOUT POINTS

PT NO.	Description	Northing	Easting
1	GRASSPAVE CORNER	317707.87	1432684.83
2	GRASSPAVE CORNER	317706.40	1432672.93
3	GRASSPAVE CORNER	317627.65	1432694.77
4	GRASSPAVE CORNER	317610.15	1432684.85
5	GRAVEL CORNER	317680.31	1432676.14
6	GRAVEL CORNER	317677.99	1432657.45
7	GRAVEL CORNER	317649.37	1432661.02
8	GRAVEL CORNER	317651.70	1432679.70

CAD NO. W090-D4003-C11-D4002-C11-2023-8-C200

NO.	REVISIONS	INT.	APP.	DATE

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DESIGNED	HKP	08/31/23
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

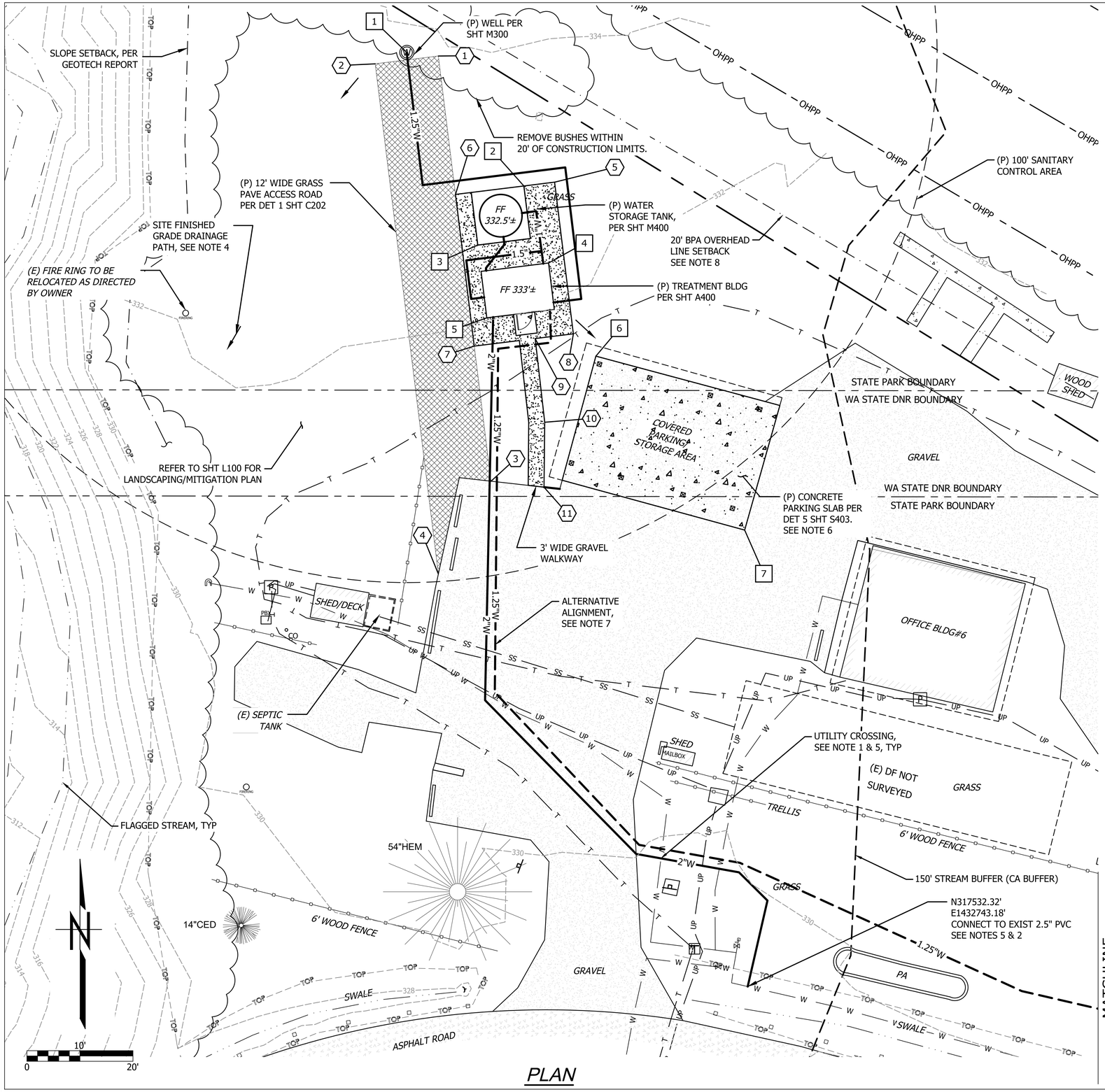
WATER SYSTEM REPLACEMENT

SITE LAYOUT AND HORIZONTAL CONTROL PLAN

C200

SCALE
AS SHOWN

PARKS FILE#



PLAN

SHEET NOTES:

1. RETAIN AND PROTECT EXISTING UTILITIES.
2. TIE-IN TO EXISTING WATERLINE WILL REQUIRE WATER SYSTEM SHUTDOWN SEQUENCINGS TO BE COORDINATED WITH PARKS. PROVIDE TWO-WEEK NOTICE TO PARKS IN ADVANCE OF SHUTDOWN.
3. REFER TO TESC PLAN, SHEET C101 FOR EROSION AND CONTROL REQUIREMENTS.
4. FINAL GRADING OF SITE SHALL MAINTAIN DRAINAGE TO THE SOUTH AND MATCH EXISTING GRADE, AS SHOWN. ADDITIONALLY, SLOPE FINISHED GRADE AWAY FROM STRUCTURES AND REMOVE ANY LOW AREAS.
5. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS, SIZES, AND DEPTHS OF EXISTING UTILITIES.
6. EXISTING COVERED PARKING STRUCTURE TO BE RETAINED AND PROTECTED.
7. INSTALLATION OF THE ALTERNATIVE WATERLINE IS A CONTINGENCY BID ITEM/TASK AND WILL ONLY OCCUR IF DIRECTED BY THE OWNER.
8. CONSTRUCTION EQUIPMENT SHALL BE OUTSIDE OF BPA OVERHEAD LINE 20' SETBACK.

FACILITY LAYOUT POINTS

PT NO.	Description	Northing	Easting
1	WELL CENTER POINT	317708.53	1432678.90
2	NE CORNER OF STORAGE TANK PAD	317683.35	1432700.97
3	SW CORNER OF STORAGE TANK PAD	317672.20	1432692.28
4	NE CORNER OF TREATMENT BLDG PAD	317668.81	1432705.63
5	SW CORNER OF TREATMENT BLDG PAD	317658.47	1432693.98
6	NW CORNER OF PARKING STRUCTURE CONC SLAB	317651.25	1432714.55
7	SW CORNER OF PARKING STRUCTURE CONC SLAB	317618.44	1432742.61

GRAVEL AND GRASSPAVE LAYOUT POINTS

PT NO.	Description	Northing	Easting
1	GRASSPAVE CORNER	317707.87	1432684.83
2	GRASSPAVE CORNER	317706.40	1432672.93
3	GRASSPAVE CORNER	317627.65	1432694.77
4	GRASSPAVE CORNER	317610.15	1432684.85
5	GRAVEL CORNER	317681.75	1432688.07
6	GRAVEL CORNER	317684.07	1432706.76
7	GRAVEL CORNER	317655.46	1432710.30
8	GRAVEL CORNER	317653.14	1432691.61
9	GRAVEL WALKWAY CORNER	317654.56	1432703.10
10	GRAVEL WALKWAY CORNER	317638.78	1432704.90
11	GRAVEL WALKWAY CORNER	317626.53	1432704.77

THIS SHEET SUPERSEDES THE PREVIOUS SHEET 8 OF 41

SHEET 9 OF 43

CAD NO. W090-D4003-C11-D4002-C11-2023-9-C201

NO.	REVISIONS	INT.	APP.	DATE

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DESIGNED	HKP	08/31/23
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

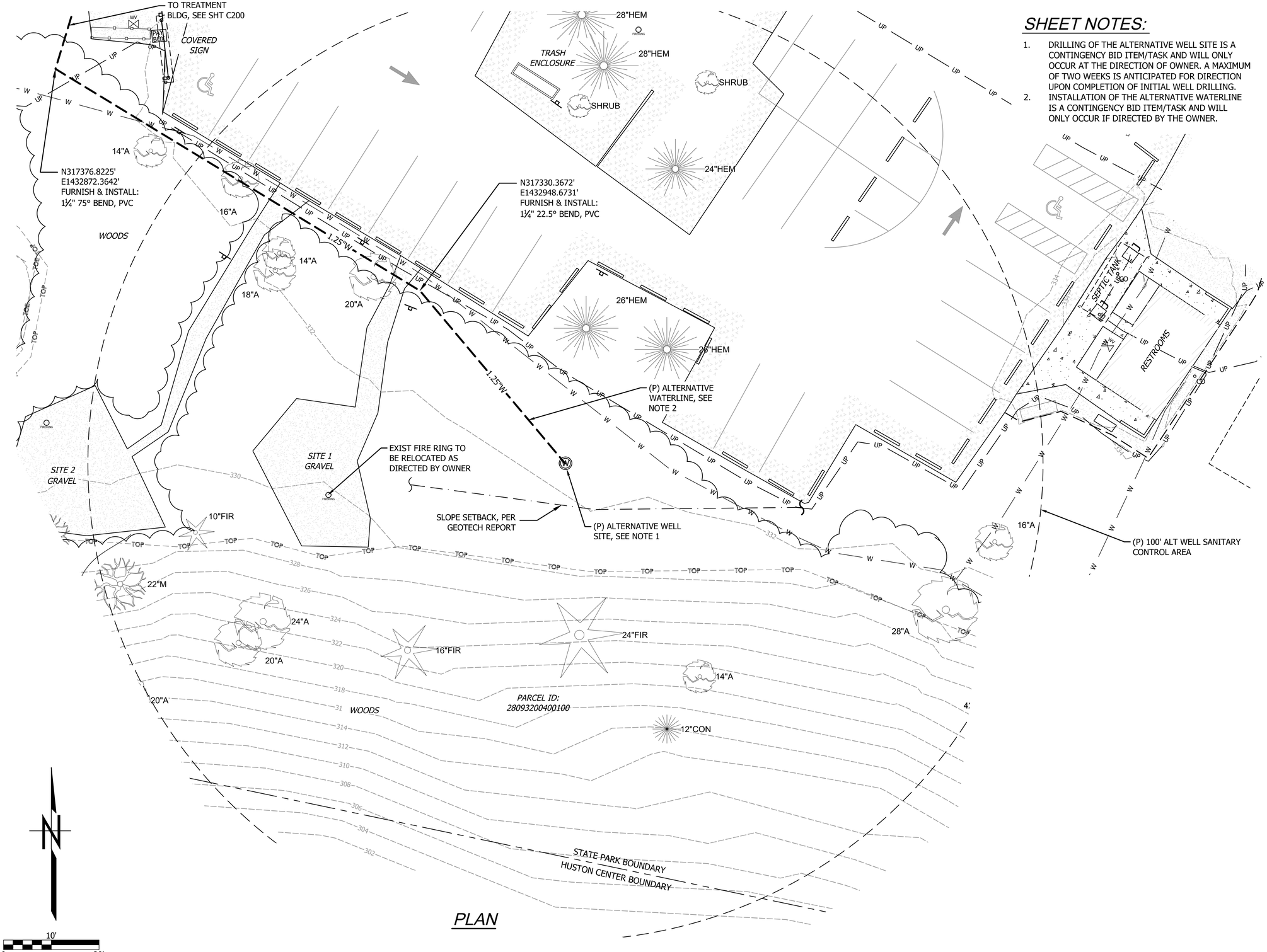
WATER SYSTEM REPLACEMENT

SITE PLAN - AREA A

C201

SCALE
AS SHOWN

PARKS FILE#



PLAN

SHEET NOTES:

1. DRILLING OF THE ALTERNATIVE WELL SITE IS A CONTINGENCY BID ITEM/TASK AND WILL ONLY OCCUR AT THE DIRECTION OF OWNER. A MAXIMUM OF TWO WEEKS IS ANTICIPATED FOR DIRECTION UPON COMPLETION OF INITIAL WELL DRILLING.
2. INSTALLATION OF THE ALTERNATIVE WATERLINE IS A CONTINGENCY BID ITEM/TASK AND WILL ONLY OCCUR IF DIRECTED BY THE OWNER.

SHEET 9 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-9-C201

NO.	REVISIONS	INT.	APP.	DATE

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

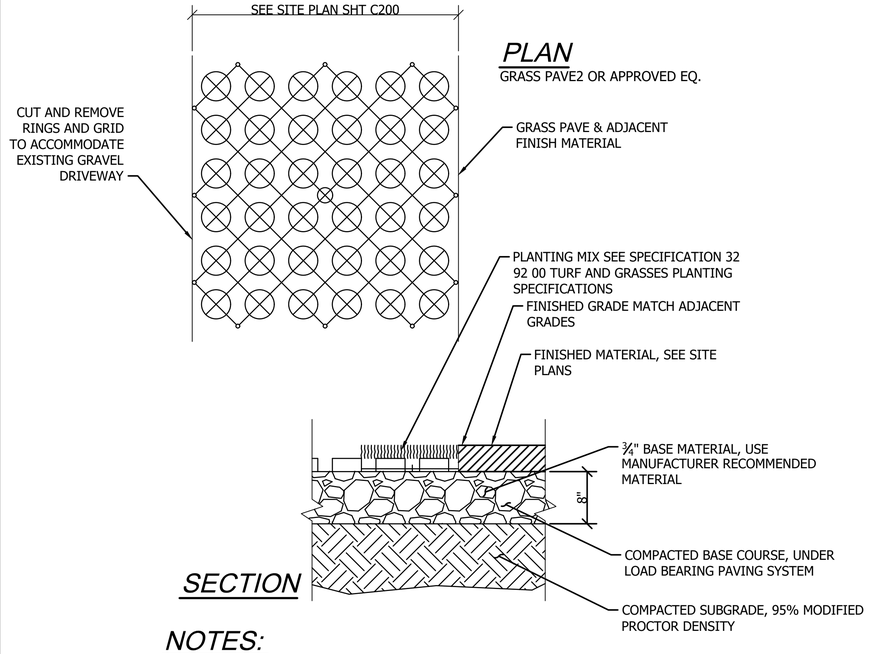
WATER SYSTEM REPLACEMENT

SITE PLAN - WELL ALTERNATIVE

C201

SCALE
AS SHOWN

PARKS FILE#



NOTES:

1. PLACE GRASS PAVING SYSTEM AS SHOWN ON PLANS, COORDINATE LOCATION WITH EXISTING TREES AND OTHER MISC. SITE FEATURES AS NECESSARY.
2. MINIMIZE EXCAVATION AND PLACEMENT OF COMPACTED BASE MATERIAL WHEN WORKING WITHIN EXISTING TREE ROOT ZONE. MIN. 6' RADIUS FROM EDGE OF TRUNK. IN THIS LOCATION PLACE GRAVE PAVE OVER LIGHTLY EXCAVATED NATIVE SOIL.

1 / - GRASS PAVE

SHEET 10 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-10-C202

NO.	REVISIONS	INT.	APP.	DATE

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

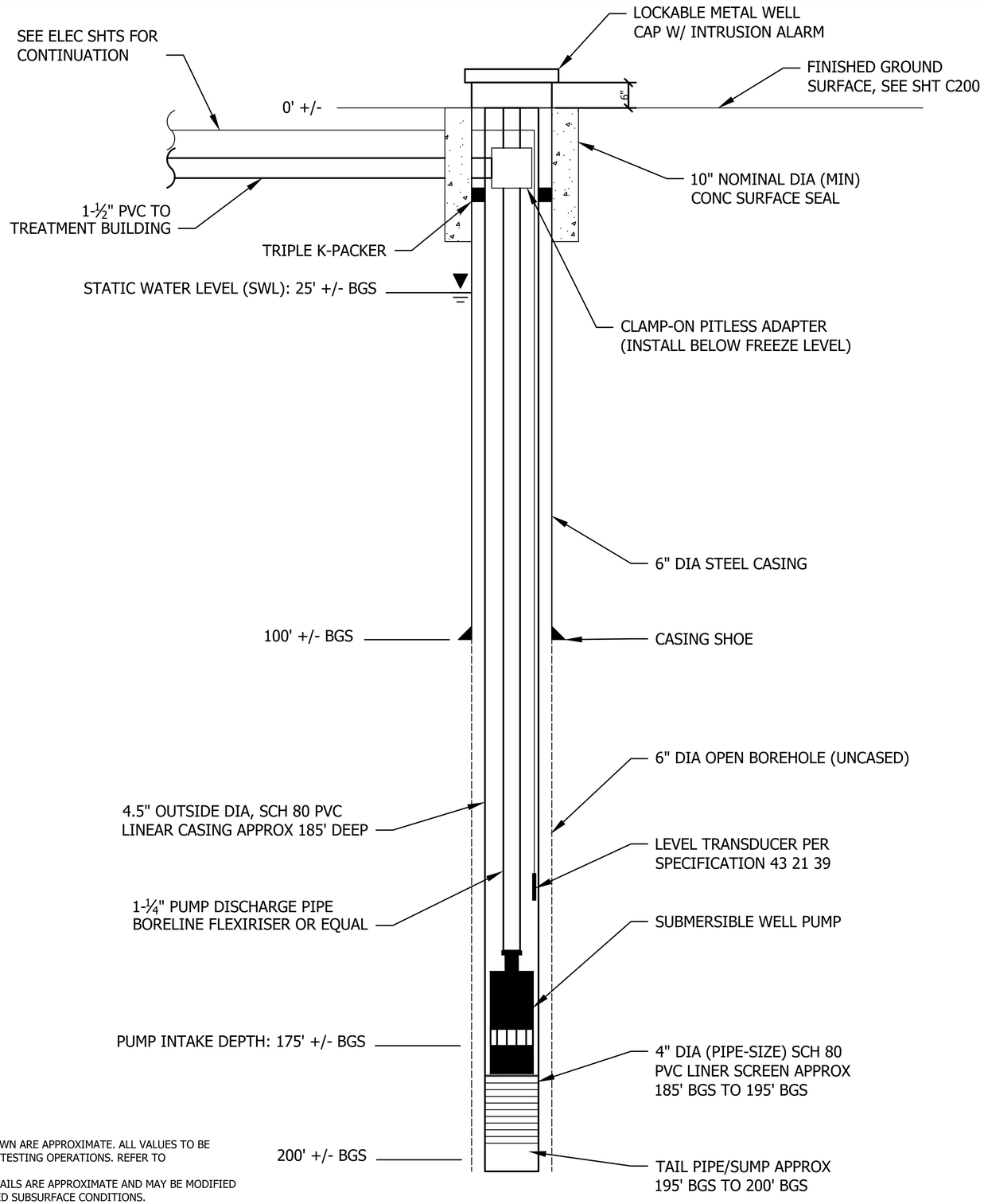
WATER SYSTEM REPLACEMENT

CIVIL DETAILS

C202

SCALE
AS SHOWN

PARKS FILE#



NOTES:

1. THE LOCATIONS OF THE FEATURES SHOWN ARE APPROXIMATE. ALL VALUES TO BE CONFIRMED AS PART OF DRILLING AND TESTING OPERATIONS. REFER TO SPECIFICATION 33 21 00.
2. WELL CONSTRUCTION DEPTHS AND DETAILS ARE APPROXIMATE AND MAY BE MODIFIED BY THE OWNER BASED ON ENCOUNTERED SUBSURFACE CONDITIONS.

CAD NO. W090-D4003-C11-D4002-C11-2023-11-M300

NO.	REVISIONS	INT.	APP.	DATE

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

WELL PROFILE

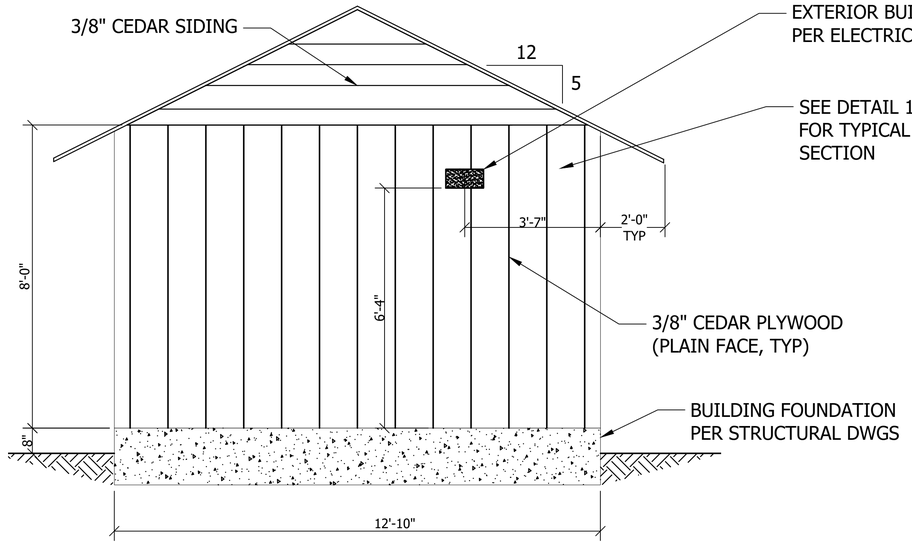
M300

SCALE
AS SHOWN

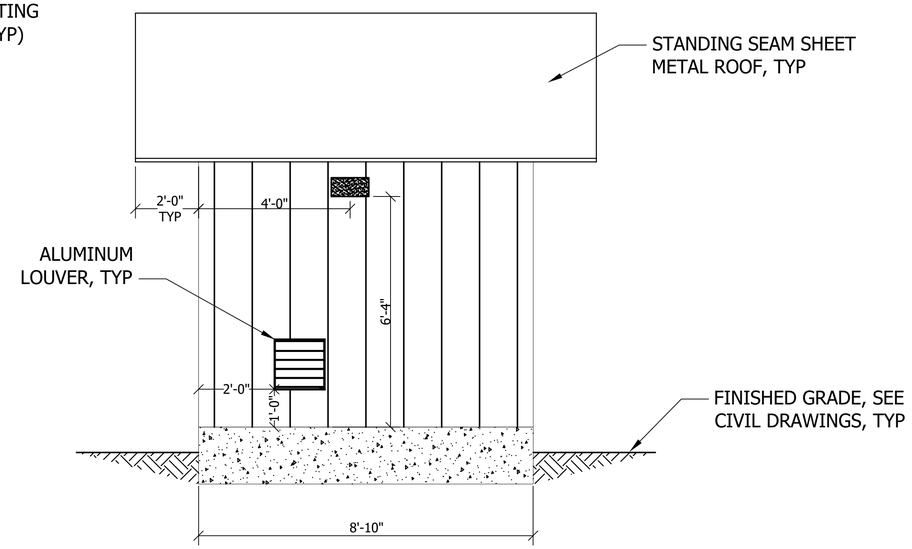
PARKS FILE#

NOTES

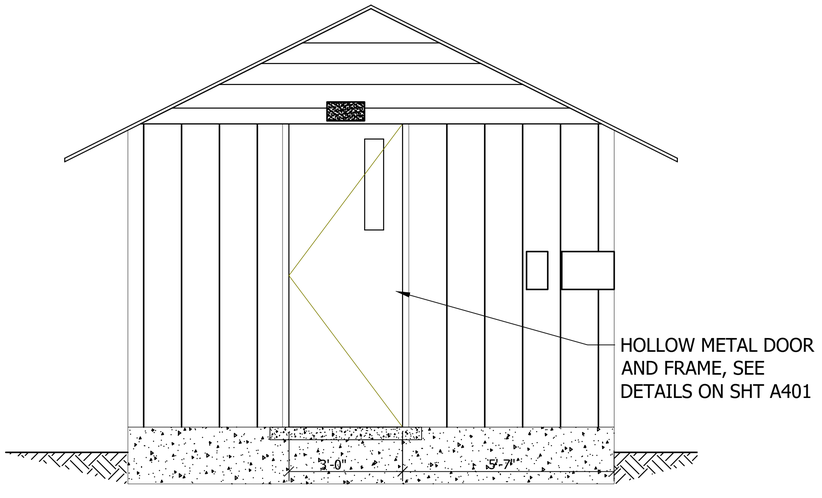
1. REFER TO SHEET M401 FOR MECHANICAL



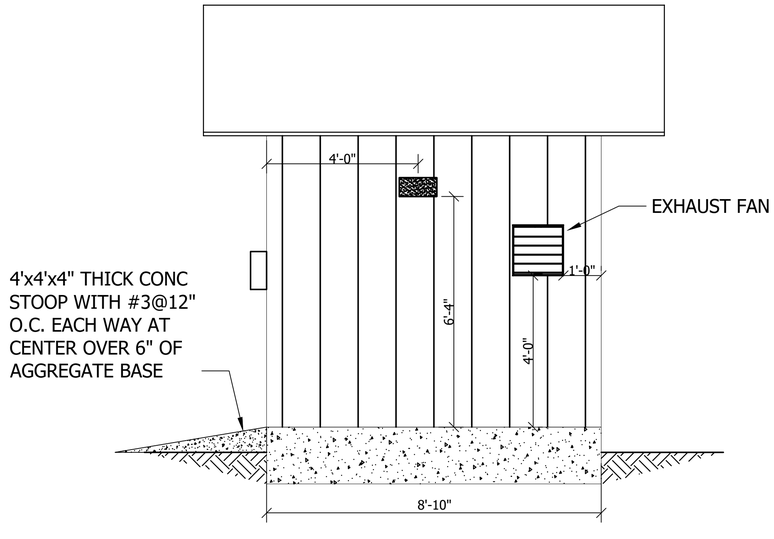
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

1' 0 2'

SHEET 12 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	HKP	08/31/23
DRAWN	RC	08/31/23
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PROJECT ENGINEER

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

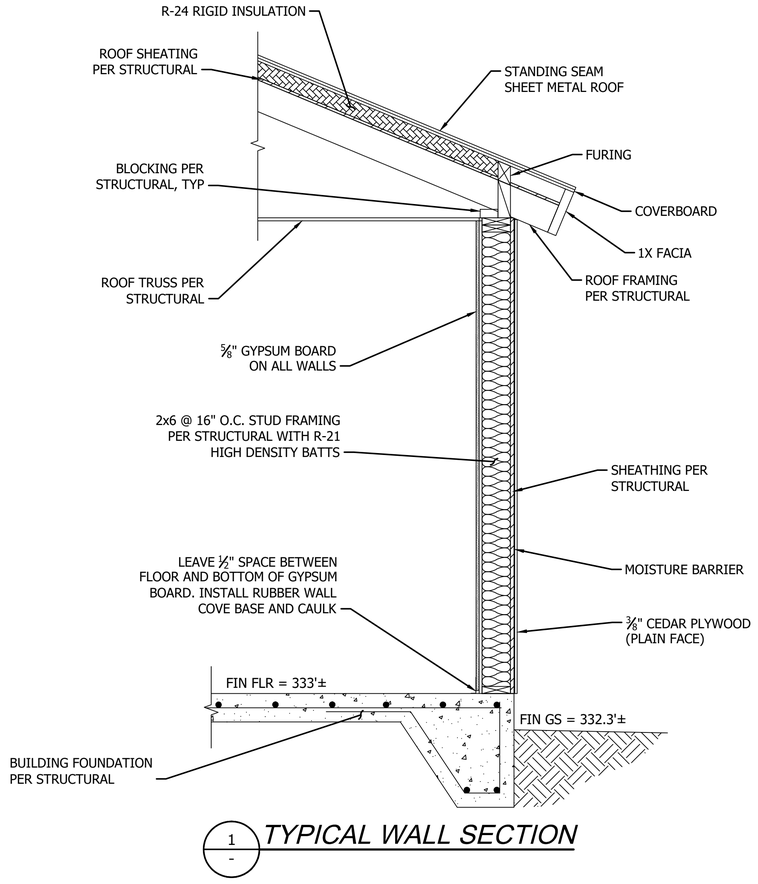
WATER SYSTEM REPLACEMENT

TREATMENT BUILDING EXTERIOR ELEVATIONS

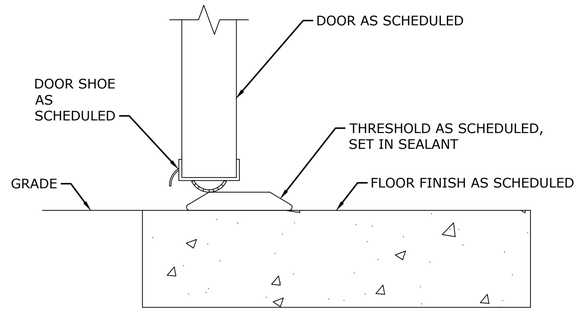
A400

SCALE
AS SHOWN

PARKS FILE#



1 - *TYPICAL WALL SECTION*



2 - *DOOR SILL*

NOTES:

1. PAINTING PER SPECIFICATION XX

SHEET 13 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	HKP	03/31/23
DRAWN	RC	03/31/23
CHECKED (FIELD)		
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PROJECT ENGINEER

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

TREATMENT BUILDING ARCHITECURAL DETAILS

A401

SCALE
AS SHOWN

PARKS FILE#

STRUCTURAL NOTES

(THESE NOTES ARE TYPICAL UNLESS NOTED OR DETAILED OTHERWISE ON DRAWINGS)

CODE

ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION. SPECIFICATIONS AND STANDARDS WHERE REFERENCED ON THE DRAWINGS ARE TO BE THE LATEST EDITION.

DESIGN LOADS

DEAD LOADS:

ROOF	15 PSF

LIVE LOADS:

ROOF (SNOW LOAD)	30 PSF (RISK CAT IV)

EARTHQUAKE LOADS:

EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7-16 SECTION 12.8.

SITE CLASS	D
SHORT PERIOD SPECTRAL RESPONSE ACCEL (S_S)	0.965
ONE SECOND SPECTRAL RESPONSE ACCEL (S_1)	0.339
SHORT PERIOD DESIGN SPECTRAL RESPONSE ACCEL (S_{DS})	0.772
ONE SECOND DESIGN SPECTRAL RESPONSE ACCEL (S_{D1})	0.443
RISK CATEGORY	IV
SEISMIC IMPORTANCE FACTOR (I_E)	1.5
SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC FORCE-RESISTING-SYSTEM	LIGHT-FRAMED SHEAR WALLS
RESPONSE MODIFICATION FACTOR, (R)	6.5
REDUNDANCY FACTOR (p)	1.3
SEISMIC RESPONSE COEFFICIENT (C_S)	0.178

W = TOTAL SEISMIC DEAD LOAD AS DEFINED PER ASCE 7-16 SECTION 12.7.2.

BASE SHEAR (V), $V = C_S W = \frac{S_{DS}}{R/I} W$

WIND LOADS:

BASIC WIND SPEED (3 SECOND GUST)	109 MPH
EXPOSURE	B
K_{ZT}	1.0

STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTIONS ARE REQUIRED AS INDICATED IN THE FOLLOWING TABLE. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK IN ACCORDANCE WITH SECTION 1704.4 OF THE IBC.

FREQUENCY AND DISTRIBUTION OF REPORTS - INSPECTION REPORTS SHALL BE PROVIDED FOR EACH DAY ON SITE BY SPECIAL INSPECTOR. REPORTS SHALL BE DISTRIBUTED TO THE CONTRACTOR, ENGINEER AND BUILDING OFFICIAL.

SPECIAL INSPECTION

OPERATION	CONT	PERIODIC	REMARKS
SOILS			
FOUNDATION BEARING CAPACITY VERIFICATION		X	
CONCRETE			
REINFORCING PLACEMENT		X	
ANCHOR BOLTS		X	
HOLDOWN PLACEMENT		X	
CONCRETE TEST SPECIMENS	X		
CONCRETE PLACEMENT	X		

NOTE:
ALL ITEMS MARKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY. THE STRUCTURAL ENGINEER, AND BUILDING OFFICIAL SHALL BE FURNISHED WITH COPIES OF ALL RESULTS. ANY INSPECTION FAILING TO MEET THE PROJECT SPECIFICATIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGN TEAM.

SHOP DRAWINGS

SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION:

1. REINFORCING STEEL
2. CONCRETE MIX DESIGN
3. PREMANUFACTURED WOOD TRUSSES

SHOP DRAWINGS SHALL BE REVIEWED, REVISED AS REQUIRED FOR FIELD CONDITIONS, AND DATE STAMPED BY THE CONTRACTOR PRIOR TO REVIEW BY THE ENGINEER. CONTRACTOR SHALL PROVIDE (3) SETS OF SHOP DRAWINGS FOR ENGINEER'S REVIEW. ALLOW TWO WEEKS FOR SHOP DRAWING APPROVAL BY ENGINEER.

ENGINEER'S SHOP DRAWING REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENTS. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFORMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY, AND FOR PERFORMING THE WORK IN A SAFE MANNER.

ENGINEER'S SHOP DRAWING REVIEW OF STRUCTURAL COMPONENTS DESIGNED BY OTHERS IS FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL CONNECTIONS TO THE BASIC STRUCTURE. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF THE LOADS IMPOSED ON THE BASIC STRUCTURE AND SHALL BE STAMPED & SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT.

FABRICATION SHALL BEGIN ONLY AFTER SHOP DRAWINGS BEARING THE STAMP AND SIGNATURE OF THE ENGINEER OF RECORD, AND CONTRACTOR HAVE BEEN RECEIVED.

DEFERRED APPROVAL ITEMS

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD WHO SHALL REVIEW THEM AND INDICATE THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. DEFERRED SUBMITTALS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT.

1. PREMANUFACTURED WOOD TRUSSES

FOUNDATIONS: SPREAD FOOTINGS

SOILS REPORT: REPORT NOT AVAILABLE AT TIME OF DESIGN

ALLOWABLE SOIL PRESSURE: 1500 PSF (ASSUMED)

FOOTINGS SHALL BEAR ON FIRM UNDISTURBED EARTH OR 12" OF COMPACTED STRUCTURAL FILL AND AT LEAST 18" BELOW ADJACENT EXTERIOR GRADE. ANY FOOTING ELEVATIONS SHOWN IN THE DRAWINGS REPRESENT MINIMUM DEPTHS AND ARE FOR BIDDING ONLY. ACTUAL FOOTING ELEVATIONS ARE SUBJECT TO SITE CONDITIONS AND MUST THEREFORE BE ESTABLISHED BY THE CONTRACTOR. FOOTINGS SHALL BE CENTERED BELOW COLUMNS OR WALLS ABOVE, UNLESS NOTED OTHERWISE.

CONCRETE

ALL CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED, AND PLACED IN ACCORDANCE WITH CHAPTER 26 OF ACI 318 AND THE AMERICAN CONCRETE INSTITUTE'S SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).

ALL CONCRETE SHALL BE STONE-AGGREGATE CONCRETE HAVING A UNIT WEIGHT OF APPROXIMATELY 150 POUNDS PER CUBIC FOOT.

CONCRETE STRENGTHS AT 28 DAYS (f'c) AND MIX CRITERIA SHALL BE AS FOLLOWS:

TYPE OF CONSTRUCTION	f'c	MAXIMUM WATER/CEMENT RATIO	MIN CEMENT CONTENT PER CUBIC YARD	MAXIMUM SHRINKAGE STRAIN
SLABS ON GRADE	4000 PSI	0.50	5 1/2 SACK	N/A
FOOTINGS	4000 PSI	0.50	5 1/2 SACK	N/A

THE MINIMUM AMOUNT OF CEMENT LISTED ABOVE MAY BE CHANGED IF A CONCRETE PERFORMANCE MIX IS SUBMITTED TO THE ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER, AND ADMIXTURES AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD, AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH CHAPTER 26 OF ACI 318.

ALL CONCRETE EXPOSED TO WEATHER OR TO FREEZING TEMPERATURES SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318 TABLE 19.3.3.1 FOR MODERATE EXPOSURE CLASS F1.

REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, AND SHALL BE GRADE 60 (Fy = 60,000 PSI), UNLESS NOTED OTHERWISE. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615 MAY BE WELDED IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D1.4 ARE SUBMITTED.

REINFORCING STEEL SHALL BE DETAILED INCLUDING HOOKS AND BENDS IN ACCORDANCE WITH ACI SP-66 AND ACI 318, LATEST EDITIONS. UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS AND DEVELOPMENT LENGTHS SHALL BE PER SCHEDULE.

REINFORCING SHALL BE PLACED AND ADEQUATELY SUPPORTED PRIOR TO PLACING CONCRETE. WET-SETTING EMBEDDED ITEMS IS NOT ALLOWED WITHOUT PRIOR ENGINEER APPROVAL. BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL NOT BE FIELD BENT UNLESS SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. REFER TO CHAPTER 25 OF ACI 318 FOR OTHER REINFORCING STEEL REQUIREMENTS.

MINIMUM LAPS AND EMBEDMENT

UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS AND DEVELOPMENT LENGTHS SHALL BE AS TABULATED BELOW:

f'c = 4000 PSI						
BAR SIZE	DEVELOPMENT LENGTH			LAP SPLICE		
	TENSION		COMPRESSION	TENSION		COMPRESSION
	TOP BARS	OTHER BARS	ALL BARS	TOP BARS	OTHER BARS	ALL BARS
#3	19	15	8	24	19	12
#4	25	19	10	33	25	15
#5	31	24	12	41	31	19
#6	37	29	15	49	37	23
#7	54	42	17	71	54	27
#8	62	48	19	81	62	30

NOTES:
1. ALL LENGTHS ARE IN INCHES.
2. ALL LAP SPLICES ARE CLASS B.
3. "TOP BARS" ARE HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

CONCRETE COVER ON REINFORCING

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"

CONCRETE EXPOSED TO EARTH AND WEATHER:
- #6 BARS AND LARGER: 2"
- #5 BARS AND SMALLER: 1 1/2"

CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLABS, WALLS AND JOISTS: 3/4"
- COLUMN TIES OR SPIRALS AND BEAM STIRRUPS: 1 1/2"

CONCRETE GENERAL NOTES

PROVIDE CORNER BARS TO MATCH THE HORIZONTAL REINFORCING WITH TENSION LAP SPLICE AT EACH SIDE PER TABLE, OR BEND ONE SIDE OVER TO PROVIDE TENSION LAP.

ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND PROPERLY PREPARED IMMEDIATELY PRIOR TO POURING OF CONCRETE. DOWEL STEEL SHALL BE THE SAME SIZE AND SPACING AS MAIN REINFORCING DETAILED BEYOND JOINT.

BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL NOT BE FIELD BENT UNLESS SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

LUMBER

ALL GRADES SPECIFIED ARE MINIMUM GRADES REQUIRED. ALL LUMBER SHALL BE IN ACCORDANCE WITH WWPA GRADING RULES, KILN-DRIED TO MC 19 AND OF THE FOLLOWING MINIMUM STANDARDS:

SIZE CLASSIFICATION	SPECIES	GRADE	Fb (PSI)	Fc (PSI)
SLEEPERS	DOUG-FIR	STUD	700	-
LIGHT FRAMING (STUDS)	HEM-FIR	STUD	675	800
2x JOISTS AND PLANKS	HEM-FIR	#2	850	-
PLATES AND BLOCKING	HEM-FIR	#2	850	-
6x AND LARGER BEAMS AND STRINGERS	DOUG-FIR	#2	875	-
4x AND SMALLER BEAMS AND STRINGERS	HEM-FIR	#2	850	-
ALL POSTS AND TIMBERS	DOUG-FIR	#1	1200	1000

REFER TO PLAN NOTES, SCHEDULES, AND DETAILS FOR MORE SPECIFIC LUMBER SIZE AND GRADE REQUIREMENTS.

UNLESS NOTED OTHERWISE IN THE PLANS, ALL WOOD AND WOOD-BASED MEMBERS EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE, MASONRY, OR WITHIN 8" OF SOIL SHALL BE PRESERVATIVE-TREATED BY VACUUM-PRESSURE IMPREGNATION IN ACCORDANCE WITH AWPA STANDARD U1.

CAD NO. W090-D4003-C11-D4002-C11-2023-X-S400

NO.	REVISIONS	INT.	APP.	DATE

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DESIGNED	ERH	07/13/23
DRAWN	JEG	07/13/23
CHECKED (FIELD)		
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JOSEPH G. GALUSZKA — STATE OF WASHINGTON — 20053 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
07/13/23

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

PARKING EXPANSION AND WATER SYSTEM REPLACEMENT

STRUCTURAL NOTES

S400

SCALE
AS SHOWN

PARKS FILE#

STRUCTURAL NOTES

(THESE NOTES ARE TYPICAL UNLESS NOTED OR DETAILED OTHERWISE ON DRAWINGS)

NAILS, BOLTS, AND METAL CONNECTORS FOR WOOD

ALL NAILS SHALL CONFORM TO THE STANDARDS SET FORTH BY THE NATIONAL DESIGN STANDARDS (NDS) FOR WOOD CONSTRUCTION, LATEST EDITION. NAILING NOT SPECIFIED SHALL BE PER IBC TABLE 2304.10.1 NAILING SCHEDULE. ALL NAILS CALLED OUT ON PLANS SHALL BE COMMON NAILS UNLESS NOTED OTHERWISE AND SHALL MEET OR EXCEED THE FOLLOWING MINIMUM GUIDELINES:

NAIL	SHANK Ø	MIN LENGTH
8d COMMON	0.131"Ø	2 1/2" SHANK
10d COMMON	0.148"Ø	3" SHANK
12d COMMON	0.148"Ø	3 1/4" SHANK
16d COMMON	0.162"Ø	3 1/2" SHANK

10d BOX NAILS MAY BE SUBSTITUTED FOR 8d COMMON NAILS WITH NO CHANGE IN NAIL SPACING. FRAMING MEMBERS MAY BE NAILED WITH 16d SINKERS (0.148"Ø x 3 1/4"), BUT ONLY 16d COMMON NAILS SHALL BE USED WHERE 16d NAILS ARE INDICATED IN THIS DRAWING SET. ENGINEER MAY APPROVE OTHER NAILS IF NAIL LABELS ARE SUBMITTED TO ENGINEER PRIOR TO START OF CONSTRUCTION.

ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. LEAD HOLES FOR LAG BOLTS SHALL BE BORED FOR THE SHANK AND THREADED PORTIONS PER NDS 12.1.4.2.

CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, CATALOG TO BE THE LATEST EDITION, OR ENGINEER APPROVED EQUAL. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND WITH THE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY THE MANUFACTURER. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS, SCREWS, OR BOLTS IN EACH MEMBER.

INSTALL SOLID BLOCKING AT ALL BEARING POINTS. ALL SHIMS SHALL BE SEASONED, DRIED, AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

GALVANIZATION

UNLESS NOTED OTHERWISE, STEEL CONNECTORS IN CONTACT WITH TREATED WOOD SHALL BE GALVANIZED ACCORDING TO THE FOLLOWING TABLE:

GALVANIZATION	UNTREATED WOOD	CCA-C	SBX	ACQ-C ACQ-D	CBA-A CA-B	OTHER BORATE	ACZA	OTHER PT WOOD
G90	X	X	X					
G185	X	X	X	X	X	X		
HDG	X	X	X	X	X	X		
STT300	X	X	X	X	X	X	X	X

G90 = 0.90 OZ. OF ZINC PER SQUARE FOOT OF AREA
G185 = 1.85 OZ. OF ZINC PER SQUARE FOOT OF AREA
HDG = HOT DIP GALVANIZED
SST300 = TYPE 316L STAINLESS STEEL

RATED SHEATHING

RATED SHEATHING SHALL BE GRADE C-D INT-APA WITH EXTERIOR GLUE OR OSB SHEATHING WITH EXTERIOR GLUE IN CONFORMANCE WITH IBC STANDARD 2303.1.5.

PRE-MANUFACTURED WOOD TRUSSES

WOOD TRUSSES SHALL BE SIZED AND DETAILED TO FIT DIMENSIONS AND LOADS INDICATED ON THE PLANS. ALL DESIGN SHALL BE IN ACCORDANCE WITH THE ALLOWABLE VALUES AND SECTION PROPERTIES ASSIGNED BY THE BUILDING CODE. SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW PRIOR TO FABRICATION. CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT. TRUSS DESIGN AND SHOP DRAWINGS SHALL BE IN CONFORMANCE WITH IBC 2303.4

PROVIDE TEMPORARY BRACING UNTIL SHEATHING AND PERMANENT BRACING IS INSTALLED. MANUFACTURER SHALL PROVIDE ALL SPECIALTY ITEMS REQUIRED FOR A COMPLETE INSTALLATION OF JOISTS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

FOR TOP CHORD DESIGN LIVE LOADS, REFER TO THE DESIGN LOAD SECTION. IN ADDITION TO ROOF LOADING LISTED IN THE DESIGN LOAD SECTION, ROOF TRUSSES SHALL BE DESIGNED FOR A BOTTOM CHORD LIVE LOAD OF 10 PSF. TOP AND BOTTOM CHORD LIVE LOAD DO NOT NEED TO BE DESIGNED FOR SIMULTANEOUSLY.

IN ADDITION TO THEIR SELF WEIGHT, ROOF TRUSSES SHALL BE DESIGNED FOR A TOP CHORD DEAD LOAD OF 5 PSF AND A BOTTOM CHORD DEAD LOAD OF 10 PSF ACTING SIMULTANEOUSLY. SEE MECHANICAL DRAWINGS FOR LOADS AND OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS. DEFLECTIONS SHALL NOT EXCEED L/360 FOR LIVE LOADS, OR L/240 FOR TOTAL LOADS.

TYPICAL FRAMING NOTES

1. BEARING WALL FRAMING

2x STUDS @ 16" OC FOR ALL SHEAR AND/OR BEARING WALLS UNO.

2. WALL BASE PLATE ON CONCRETE

WALL PLATES BEARING ON CONCRETE SHALL BE PRESSURE-TREATED. FOR ALL EXTERIOR WALLS, BOLT PLATES OR SILLS TO CONCRETE STEM WALLS OR THICKENED SLAB FOOTINGS WITH 5/8 INCH DIAMETER ANCHOR BOLTS WITH 7 INCH MINIMUM EMBEDMENT. PLACE AT 5'-0" OC MAXIMUM AND USE MINIMUM OF TWO ANCHOR BOLTS PER SILL AND PLACE ONE WITHIN 12 INCHES OF END OF PLATES, TYPICAL UNLESS NOTED OR DETAILED OTHERWISE. AT ALL SILL PLATE ANCHOR BOLTS, CONTRACTOR SHALL INSTALL 1/4" x 3" x 3" FLAT PLATE WASHERS.

3. ROOF AND FLOOR FRAMING

PROVIDE 1 1/2" FULL DEPTH BLOCKING FOR TRUSSES AND RAFTERS AT ALL SUPPORTS.

4. DIAPHRAGM NAILING

ALL SHEAR WALLS, FLOOR AND ROOF DIAPHRAGM NAILINGS SHALL BE AS CALLED OUT ON THE PLANS. EXTERIOR WALLS SHALL BE SHEATHED AND NAILED TO SUPPORTING FRAMING WITH 8d NAILS AT 6" OC AT ALL PANEL EDGES AND 12" OC AT ALL INTERMEDIATE SUPPORTS.

THE USE OF NAIL GUNS WILL BE APPROVED IF NAILING INTO THE DIAPHRAGMS CAN BE INSTALLED FLUSH WITH FACE OF SHEATHING. NAIL PENETRATIONS GREATER THAN 1/16" ARE NOT ACCEPTABLE.

5. ALLOWABLE STUD AND PLATE PENETRATIONS

CUTTING AND/OR NOTCHING OF WOOD STUDS OR PLATES SHALL NOT EXCEED 25% OF THE STUD/PLATE WIDTH IN EXTERIOR AND BEARING WALLS AND SHALL NOT EXCEED 40% OF THE STUD/PLATE WIDTH IN ANY NON-BEARING PARTITIONS. BORED HOLE DIAMETER IS LIMITED TO 40% OF STUD/PLATE WIDTH IN ANY STUD AND MAY BE 60% IN NONBEARING PARTITIONS OR IF STUD IS DOUBLED. MAINTAIN 5/8" MINIMUM EDGE DISTANCE FROM HOLE EDGE.

6. GYPSUM WALLBOARD NAILING

ALL GYPSUM WALLBOARD SHALL BE NAILED TO ALL STUDS AND TOP AND BOTTOM PLATES WITH 6d COOLER NAILS OR NO. 13 GAUGE x 1 5/8" @ 7" OC (5d COOLER NAILS FOR 1/2 INCH GYPSUM SHEATHING). TYPICAL UNLESS NOTED OTHERWISE. INSTALLATION OF GWB SHALL BE SUCH THAT JOINTS ARE STAGGERED ON EACH SIDE OF A SINGLE WALL.

GENERAL

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS FOR COMPATIBILITY BEFORE PROCEEDING. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.

CONTRACTOR TO SEE CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF PIPE, VENT, DUCT AND OTHER OPENINGS AND DETAILS NOT SHOWN ON THESE DRAWINGS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTION STABILITY AND TEMPORARY SHORING AS NECESSARY UNTIL PERMANENT SUPPORT AND STIFFENING ARE INSTALLED.

CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF A SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER.

LEGEND

DEFINITION	SYMBOL	DEFINITION	SYMBOL
DIRECTION OF FRAMING		NATIVE SOIL	
EXTENT OF FRAMING		GRANULAR FILL	
COLUMNS		STRUCTURAL STEEL	
COLUMN BEARING ON BEAM	(A)	RATED SHEATHING	
BEAM CONTINUOUS OVER SUPPORT	(B)	SHEAR WALL (SEE SCHEDULE)	SWX
CONCRETE WALL		COLUMN MARK (SEE SCHEDULE)	C#
BEARING STUD WALL		FOOTING MARK (SEE SCHEDULE)	FX
NON-BEARING STUD WALL		HOLDOWN MARK (SEE SCHEDULE)	HX
BEARING STUD SHEAR WALL		HANGER MARK (SEE SCHEDULE)	X
NON-BEARING STUD SHEAR WALL		FLAG NOTE (SEE PLAN NOTES)	X
CMU WALL		STEEL MOMENT FRAME CONN.	

ABBREVIATIONS			
(A)	ABOVE	HORIZ	HORIZONTAL
AB	ANCHOR BOLT	KP	KING POST
ALT	ALTERNATE	KSI	KIPS PER SQUARE INCH
ARCH	ARCHITECT	MECH	MECHANICAL
(B)	BELOW	MF	MOMENT FRAME
BLKG	BLOCKING	NS	NEAR SIDE
BM	BEAM	OC	ON CENTER
BOT	BOTTOM	OPP	OPPOSITE
BTWN	BETWEEN	PL	PLATE
CJP	COMPLETE JOINT PENETRATION	PLCS	PLACES
CLR	CLEAR	PSI	POUNDS PER SQUARE INCH
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
COL	COLUMN	P/T	POST TENSIONED
CONC	CONCRETE	PT	PRESSURE TREATED
CONN	CONNECTION	REINF	REINFORCING
CONT	CONTINUOUS	REQ'D	REQUIRED
DBL	DOUBLE	SCHED	SCHEDULE
DET	DETAIL	SIM	SIMILAR
DIM	DIMENSION	SOG	SLAB ON GRADE
EA	EACH	STD	STANDARD
ELEV	ELEVATION	SW	SHEAR WALL
EXIST	EXISTING	TOC	TOP OF CONCRETE
EXP	EXPANSION	TOS	TOP OF STEEL
FLR	FLOOR	TOW	TOP OF WALL
FDN	FOUNDATION	TYP	TYPICAL
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
FS	FAR SIDE	VFY	VERIFY
FH	FULL HEIGHT	VIF	VERIFY IN FIELD
GLB	GLUE-LAMINATED BEAM	VERT	VERTICAL

CAD NO. W090-D4003-C11-D4002-C11-2023-X-S401

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	ERH	07/13/23
DRAWN	JEG	07/13/23
CHECKED (FIELD)		
CHECKED (HDQTS.)		

JOSEPH G. GALUSZKA
STATE OF WASHINGTON
20053
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER
07/13/23

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

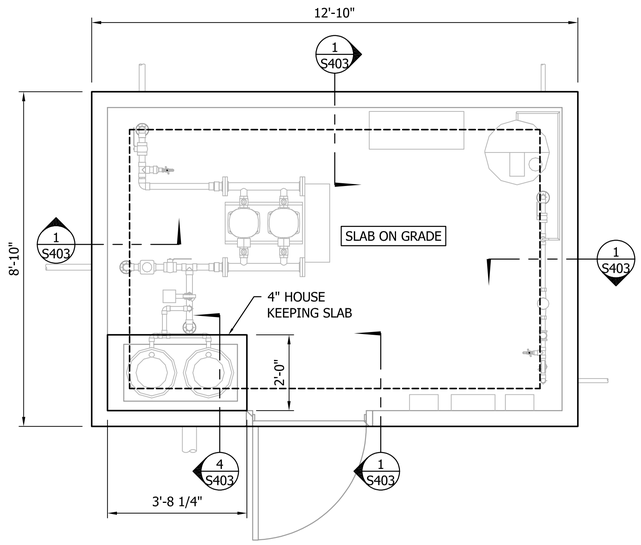
PARKING EXPANSION AND WATER SYSTEM REPLACEMENT

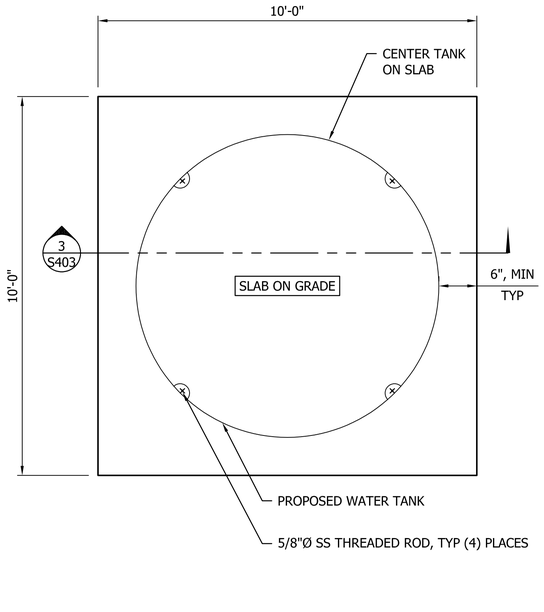
STRUCTURAL NOTES

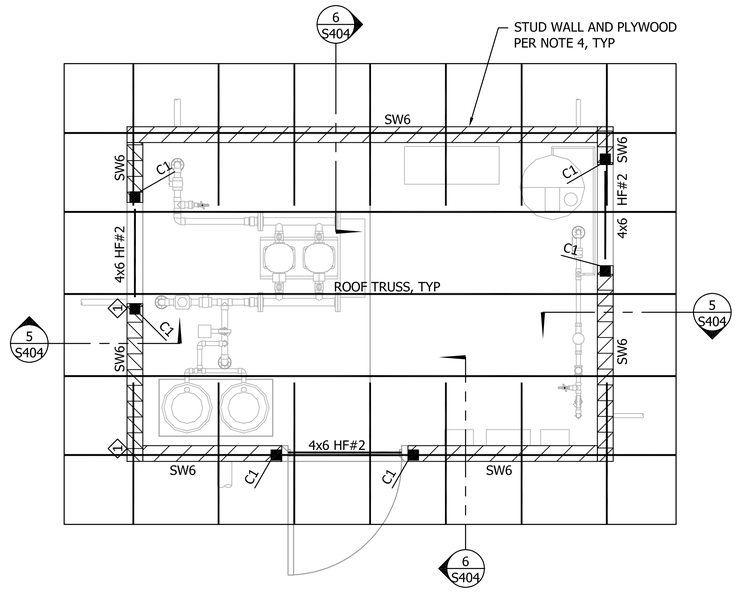
S401

SCALE
AS SHOWN

PARKS FILE#







C1 = (1) FULL HEIGHT AND
(1) CRIPPLE 2x6 HF STUD

1 BUILDING FOUNDATION PLAN

1 - 2' 0 4'

2 TANK FOUNDATION PLAN

2 - 2' 0 4'

3 BUILDING ROOF FRAMING PLAN

3 - 2' 0 4'

FOUNDATION PLAN NOTES:

1. EXTERIOR FOOTINGS SHALL BEAR A MIN OF 1'-6" BELOW ADJACENT GRADE.
2. FOOTINGS AND SLAB ON GRADE SHALL BEAR ON FIRM NATIVE SOIL OR COMPACTED STRUCTURAL FILL.
3. WHERE SLAB ON GRADE IS INDICATED, SLAB SHALL BE 5" THICK W/ #4 REINF @ 15" OC EA WAY, CENTERED. SLAB SHALL BE POURED OVER A 10 MIL VAPOR BARRIER OVER 6" OF 5/8" CRUSHED ROCK (OVER NATIVE SOIL OR COMPACTED STRUCTURAL FILL.)
4. REFER TO SHEET S403 FOR FOUNDATION DETAILS.
5. PLACE ALL REINFORCEMENT PER THE STRUCTURAL NOTES AND FOUNDATION DETAILS. REFER TO SHEET S400 FOR ADDITIONAL CONCRETE DETAILING REQUIREMENTS.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, WALL LOCATIONS, AND CONCRETE ROUGH OPENINGS WITH THE DESIGN TEAM DRAWINGS AND NOTIFY ALL PARTIES OF ANY DISCREPANCIES.
7. REFER TO DETAIL 2/S403 FOR PENETRATIONS THROUGH FOUNDATION SLAB.

TYPICAL ROOF FRAMING PLAN NOTES:

1. WALLS SHOWN ON ROOF FRAMING PLAN ARE WALLS BELOW ROOF FRAMING. HOLDOWNS SHALL BE PLACED AT THE BASE OF THE WALLS SHOWN.
2. ROOF SHEATHING SHALL BE 1/2" PI 40/20 WITH 8d COMMON NAILS SPACED AT 6" OC AT ALL DIAPHRAGM BOUNDARIES, PANEL EDGES, SHEAR WALLS, AND BLOCKING INDICATED ON PLANS. NAILING AT INTERMEDIATE FRAMING SHALL BE 8d COMMON NAILS @ 12" OC. REFER TO DETAIL 1/S404 FOR ROOF PLYWOOD LAYOUT.
3. REFER TO SHEET S404 FOR TYPICAL ROOF FRAMING DETAILS.
4. ALL STUD WALLS SHALL BE 2x6 HF STUD GRADE AND SPACED AT 16" OC. ALL WALLS (INDICATED AS SW6 ON PLAN) SHALL BE SHEATHED W/ 1/2" APA RATED PLYWOOD. PROVIDE 8d NAILS AT 6" OC AT ALL PANEL EDGES AND 12" OC AT INTERMEDIATE FRAMING. ALL EDGES OF PLYWOOD SHALL BE BLOCKED.
5. REFER TO DETAIL 2/S404 FOR TYPICAL BUILT-UP STUD/POST DETAIL.
6. REFER TO DETAIL 3/S404 FOR TYPICAL HEADER OVER DOORWAY AND LOUVERS.
7. UNLESS NOTED OTHERWISE, HEADERS AT ALL EXTERIOR WALLS SHALL BE 4x6 HF#2 WHERE MAXIMUM SPAN = 5'-6".
8. ◈ INDICATES HOLDOWN. HOLDOWNS SHALL BE SIMPSON STRONG-TIE HDU2 WITH (6) SDS 1/4" x 2 1/2" SCREWS AND 5/8"Ø. EMBED ANCHOR BOLT INTO THICKENED SLAB FOOTING PER DETAIL 6/S403.

CAD NO. W090-D4003-C11-D4002-C11-2023-X-S402

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DRAWN	JEG	07/13/23
CHECKED (FIELD)		
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JOSEPH G. GALUSZKA — STATE OF WASHINGTON — 20053 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER — 07/13/23

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

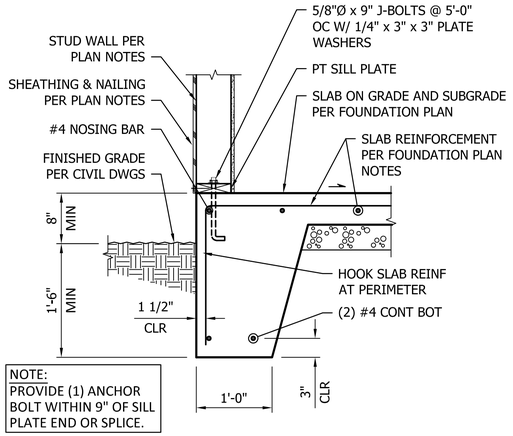
PARKING EXPANSION AND WATER SYSTEM REPLACEMENT

STRUCTURAL PLANS

S402

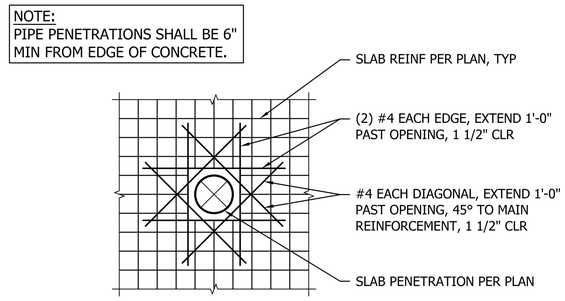
SCALE
AS SHOWN

PARKS FILE#



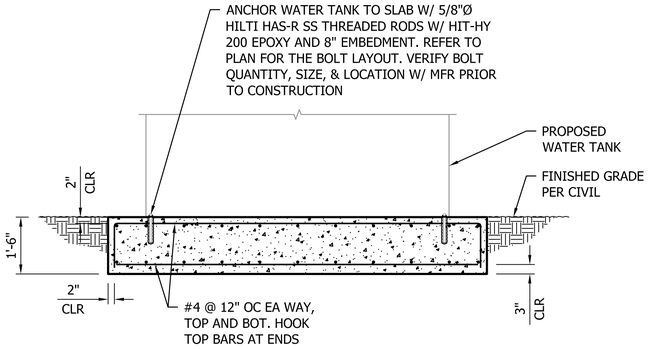
1 S402 THICKENED EDGE FOOTING

1' 0 2'



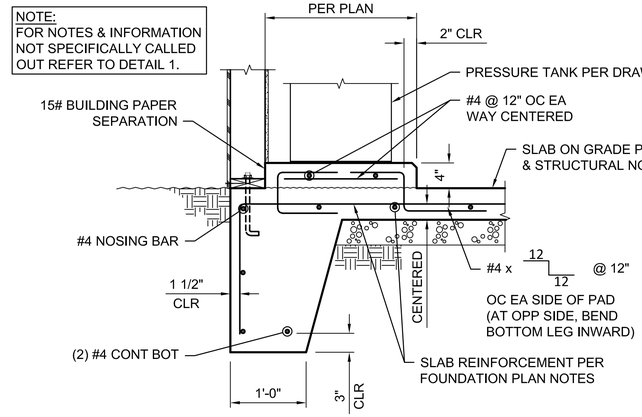
2 S402 CONCRETE SLAB PENETRATION REINFORCING

1' 0 2'



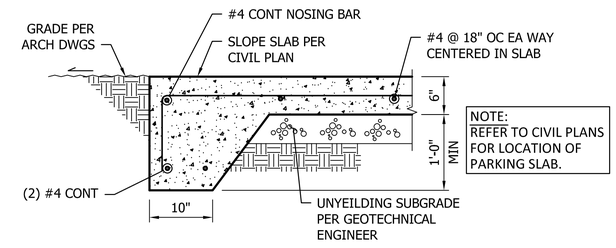
3 S402 WATER TANK SUPPORT SLAB

2' 0 4'



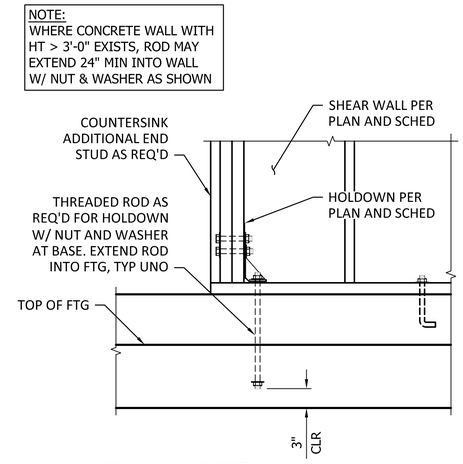
4 S402 PRESSURE TANK HOUSEKEEPING PAD

1' 0 2'



5 S402 COVERED PARKING SLAB

1' 0 2'



6 S402 HOLDOWN DETAIL

1' 0 2'

SHEET 17 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-X-S403

NO.	REVISIONS	INT.	APP.	DATE

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DRAWN	JEG	07/13/23
CHECKED (FIELD)		
CHECKED (HDQTS.)		

JOSEPH G. GALUSZKA — STATE OF WASHINGTON — 20053 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
07/13/23

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

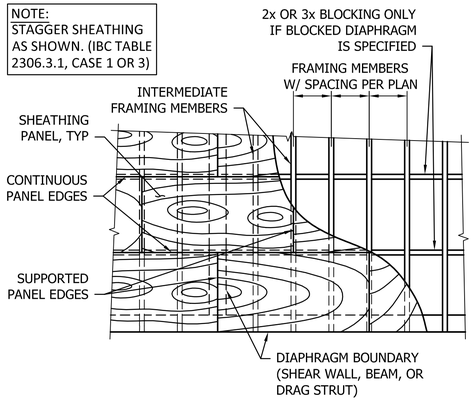
PARKING EXPANSION AND WATER SYSTEM REPLACEMENT

FOUNDATION DETAILS

S403

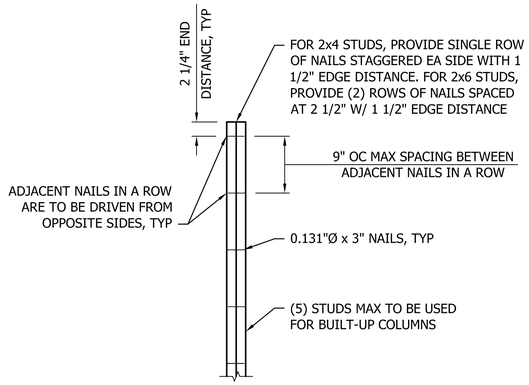
SCALE
AS SHOWN

PARKS FILE#



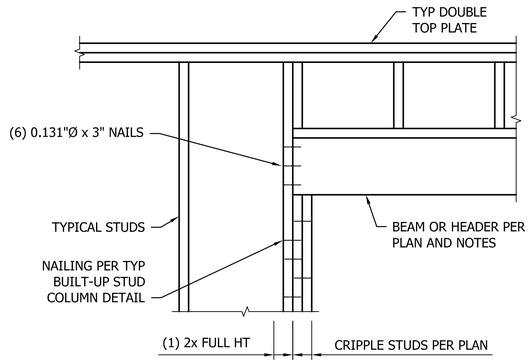
1 S402 TYPICAL ROOF SHEATHING DETAIL

1' 0 2'



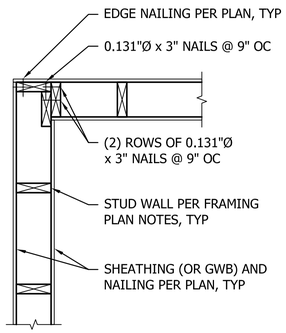
2 S402 TYPICAL BUILT-UP STUD COLUMN DETAIL

1' 0 2'



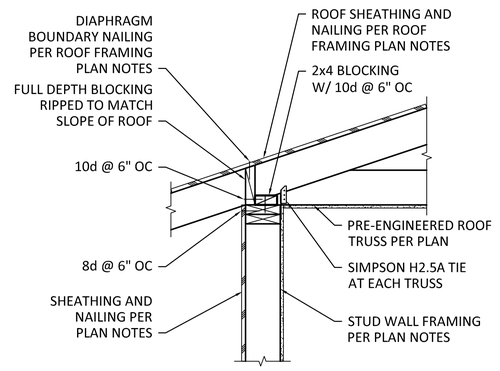
3 S402 TYPICAL HEADER DETAIL

1' 0 2'



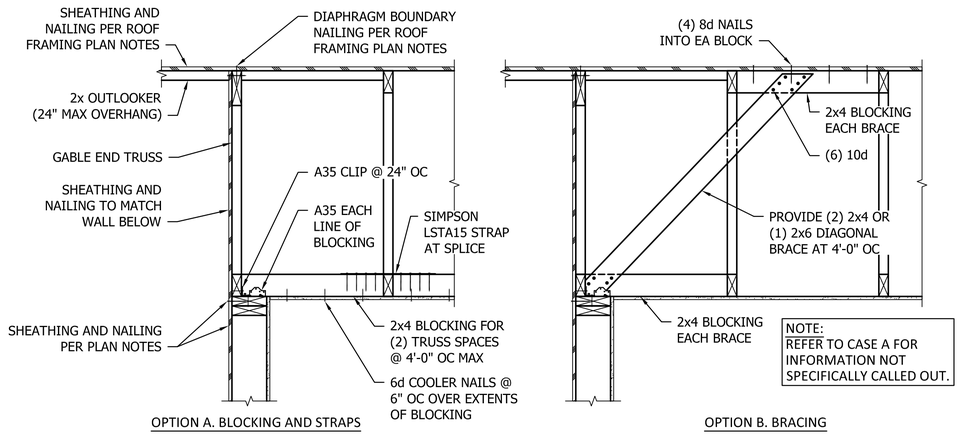
4 S402 TYPICAL WALL CORNER DETAIL

1' 0 2'



5 S402 TYPICAL TRUSS SUPPORT DETAIL

1' 0 2'



6 S402 TYPICAL GABLE END SECTION

1' 0 2'

SHEET 18 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-X-S404

NO.	REVISIONS	INT.	APP.	DATE

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DESIGNED	HKP	07/13/23
DRAWN	DKH	07/13/23
CHECKED (FIELD)		
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JOSEPH G. GALUSZKA — STATE OF WASHINGTON — 20051 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
07/13/23

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

PARKING EXPANSION AND WATER SYSTEM REPLACEMENT

WOOD FRAMING DETAILS

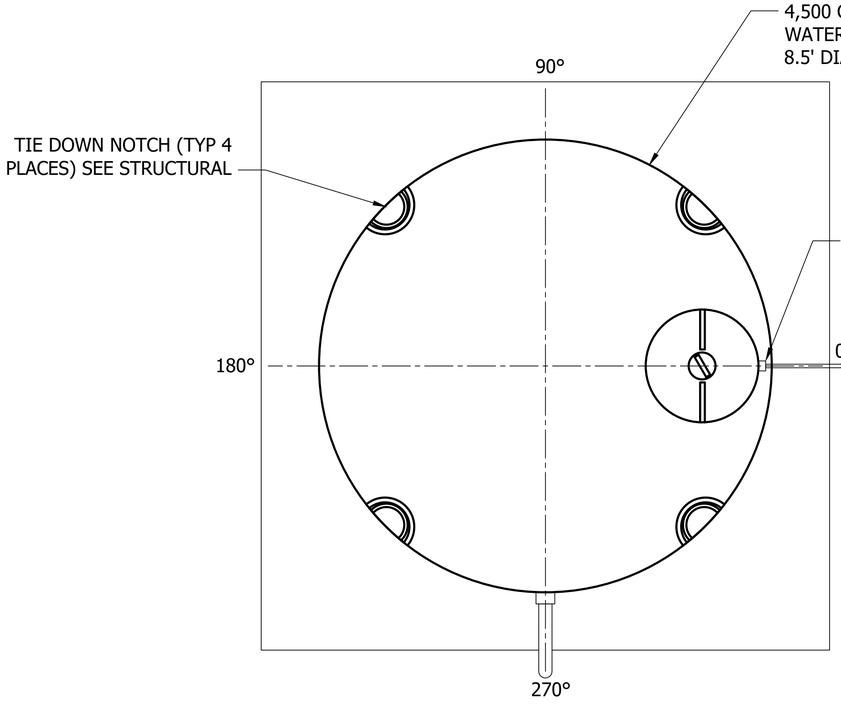
S404

SCALE
AS SHOWN

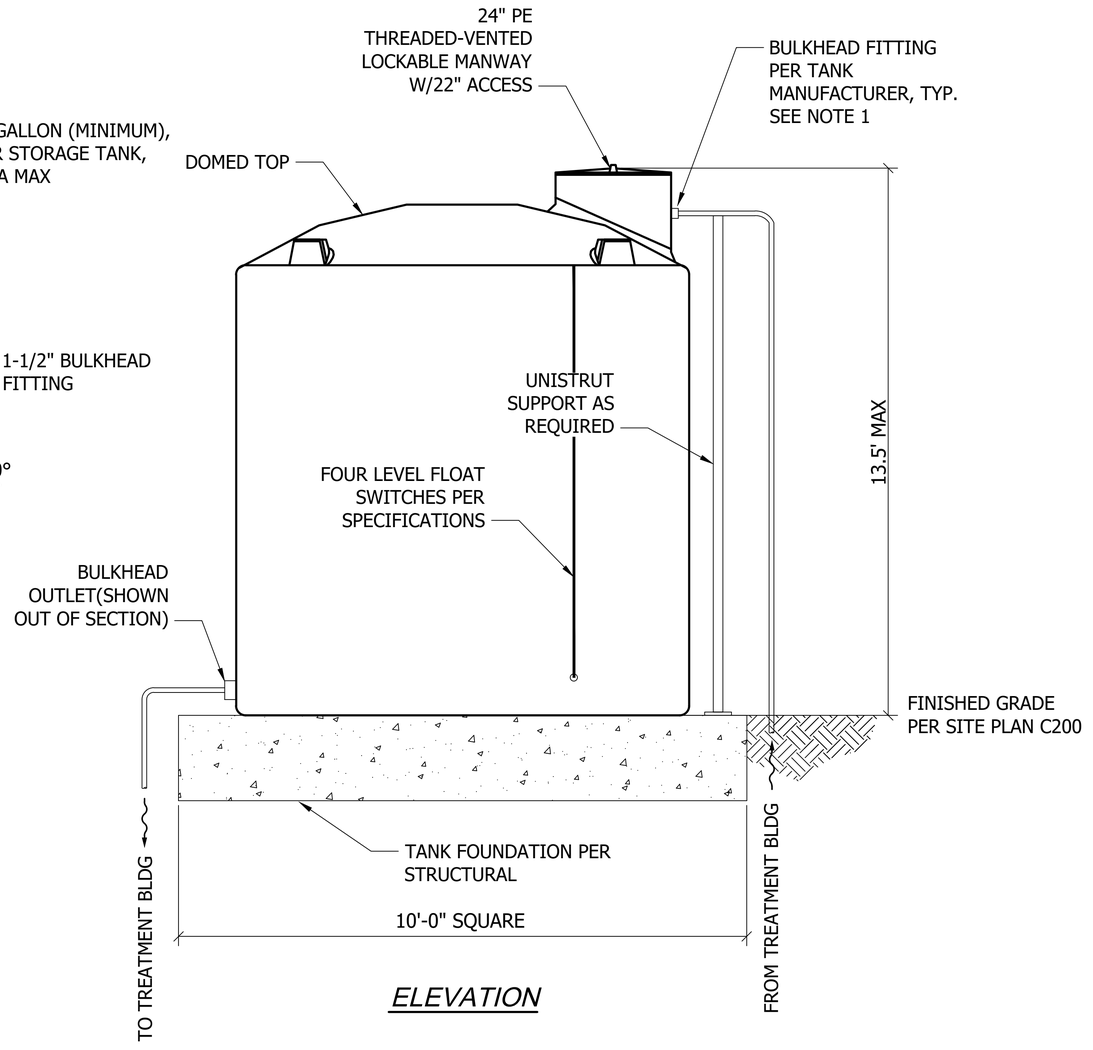
PARKS FILE#

SHEET NOTES:

1. REDUCER MAY BE REQUIRED FROKM BULKHEAD TO MATCH PIPE DIAMETERS SHOWN.



PLAN



ELEVATION

1' 0 2'

SHEET 19 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

STORAGE TANK PLAN, SECTION, AND DETAILS

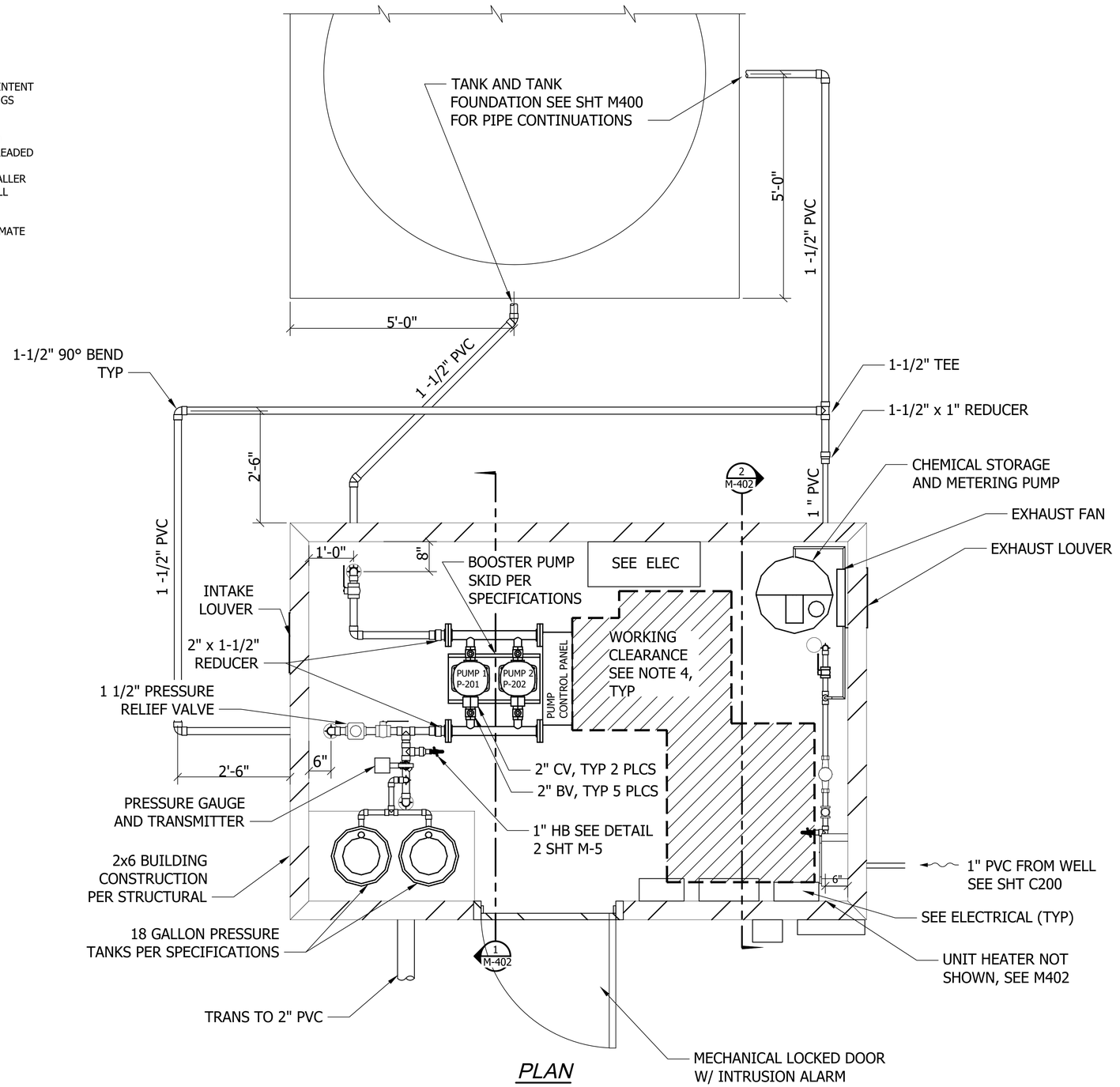
M400

SCALE
AS SHOWN

PARKS FILE#

SHEET NOTES:

1. ALL PIPING SHALL BE SCH 80 PVC UNLESS OTHERWISE NOTED.
2. DRAWING SCHEMATIC, LAYOUT MAY VARY IF INTENT IS MET. MISCELLANEOUS ELBOWS AND FITTINGS MAY BE ADDED TO AID INSTALLATION.
3. ALL WATERLINE ELBOWS, TEE, BUSHING, AND COUPLINGS SHALL BE SOLVENT WELD OR THREADED SCHEDULE 80 PVC. ALL TRANSITIONS IN WATERLINE SIZE FOR WATERLINE 2" AND SMALLER SHALL BE ACCOMPLISHED BY BUSHING OR BELL ADAPTERS.
4. WORKING CLEARANCES SHOWN ARE APPROXIMATE AND FOR REFERENCE ONLY



PLAN

SHEET 20 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	HKP	08/31/23
DRAWN	RC	08/31/23
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CHECKED (HDQTS.)		

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

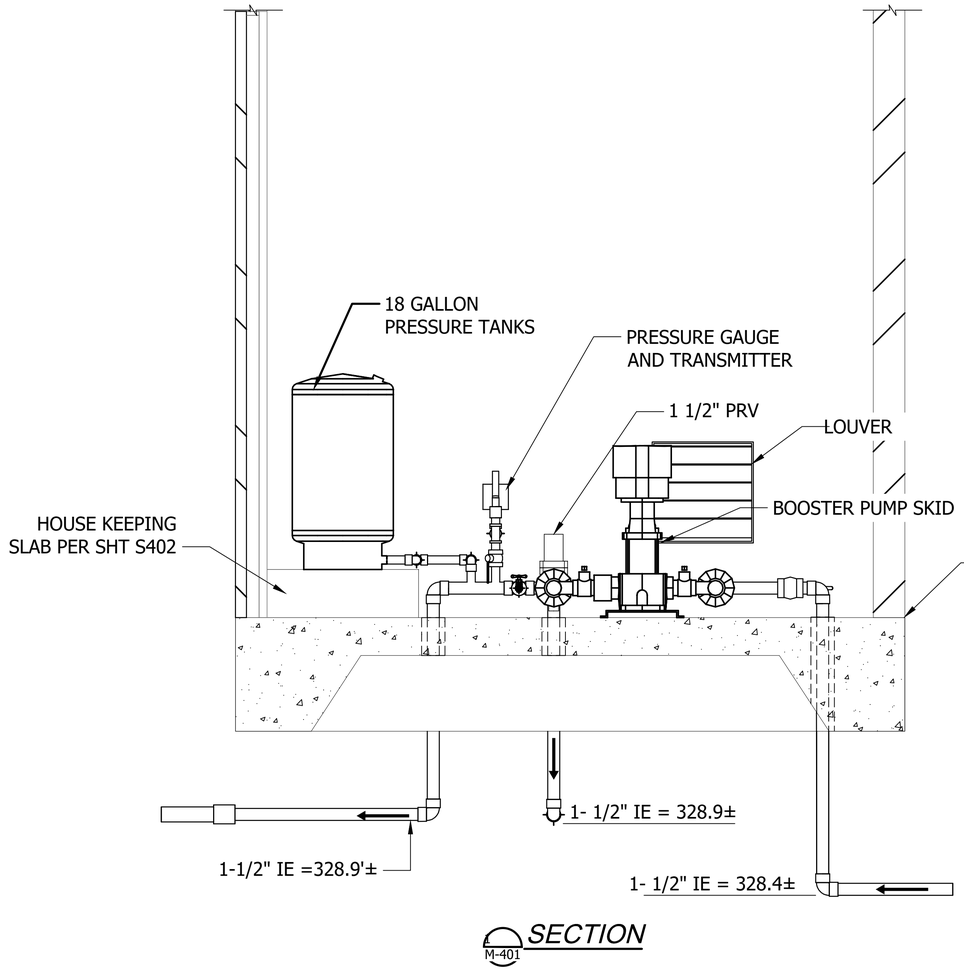
WATER SYSTEM REPLACEMENT

TREATMENT BUILDING MECHANICAL FLOOR PLAN

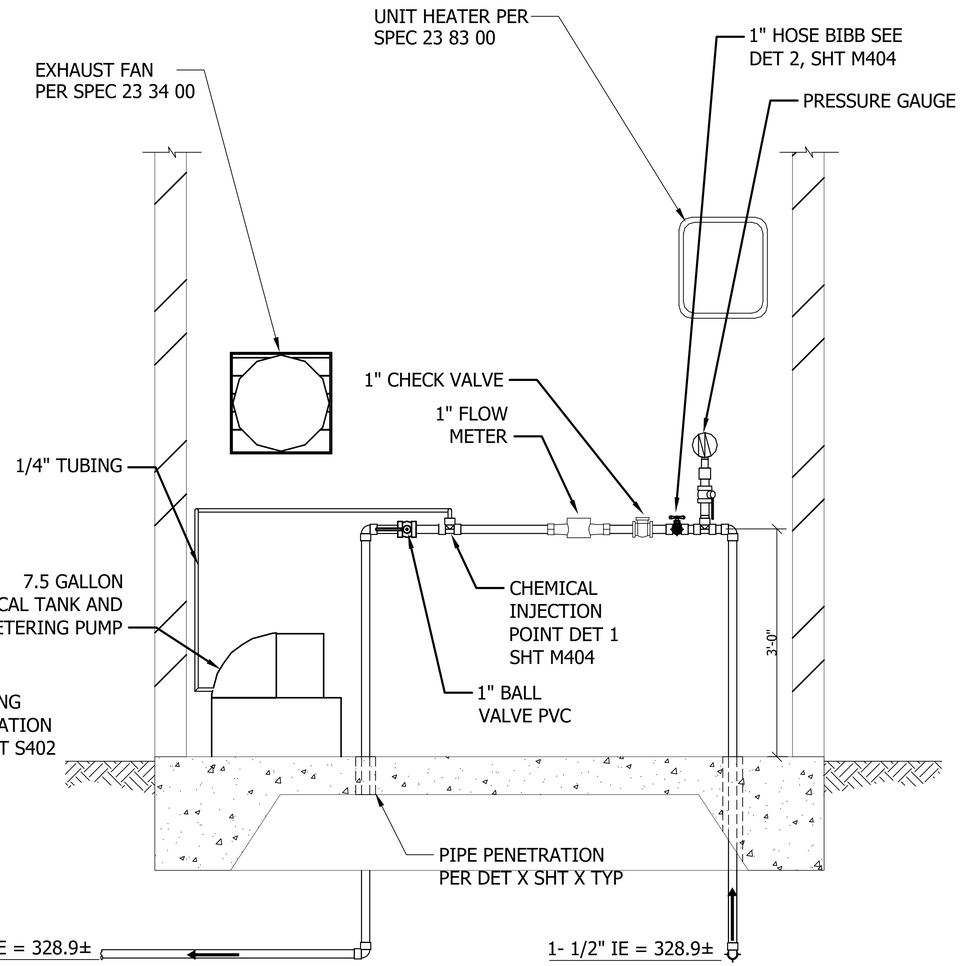
M401

SCALE
AS SHOWN

PARKS FILE#



SECTION
1
M-401



SECTION
2
M-401

1'
0
2'

SHEET 21 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

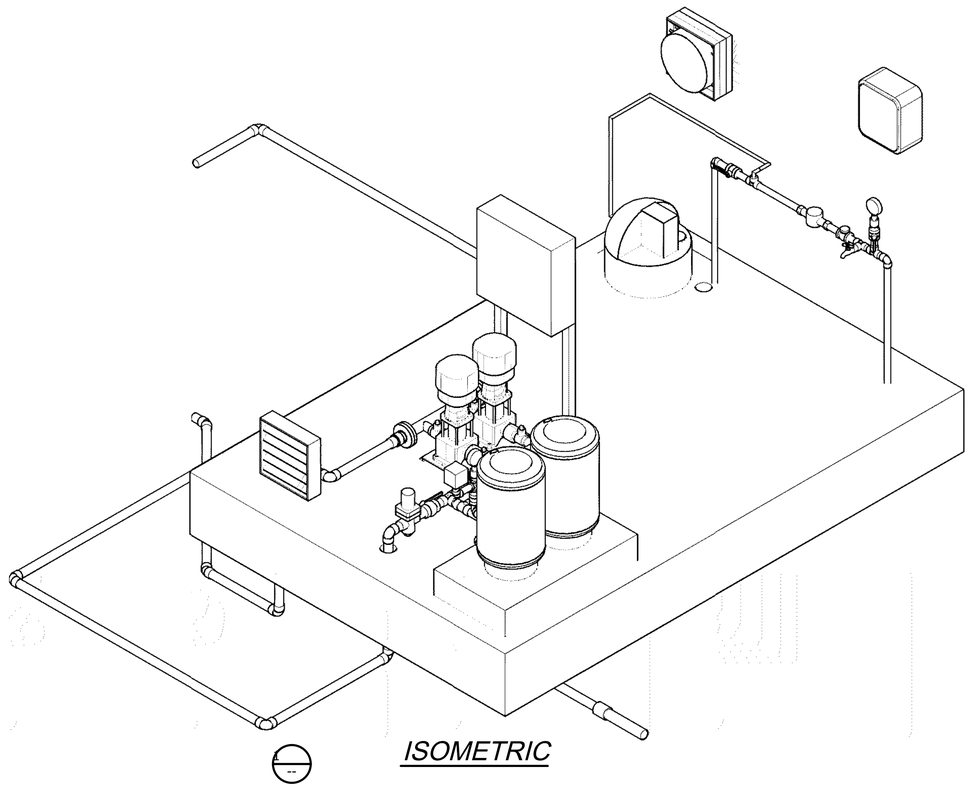
WATER SYSTEM REPLACEMENT

TREATMENT BUILDING MECHANICAL SECTIONS

M402

SCALE
AS SHOWN

PARKS FILE#



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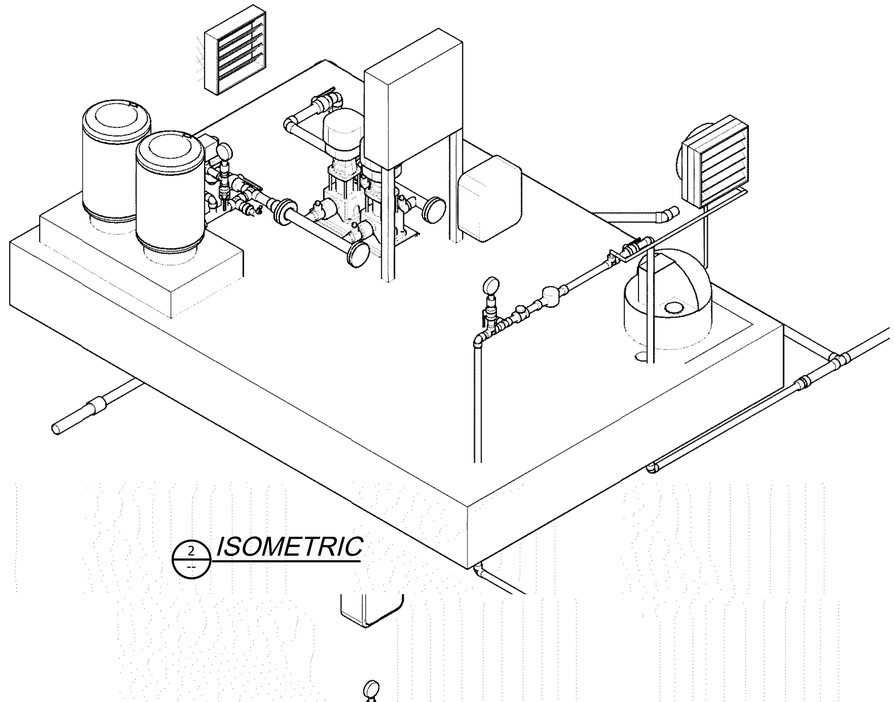

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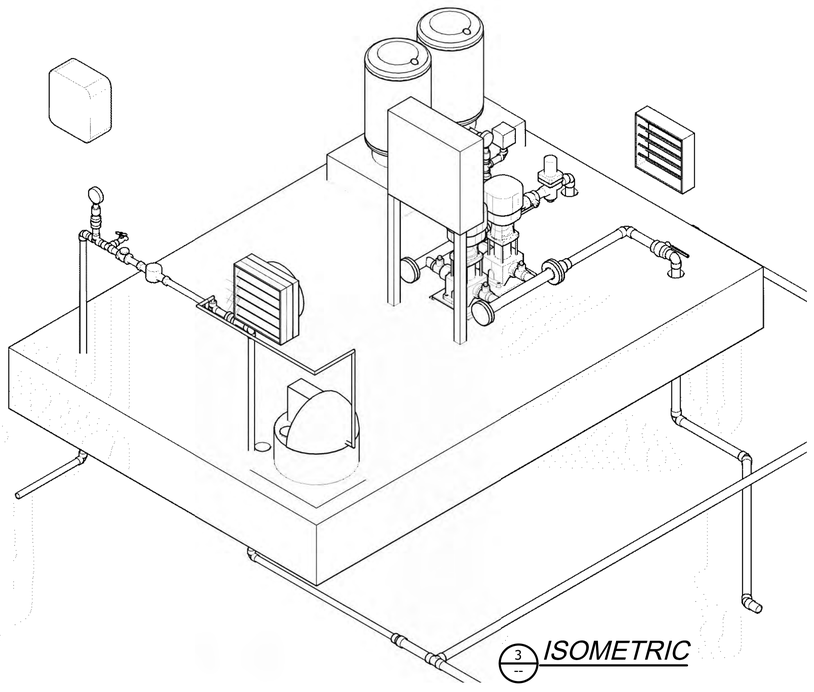

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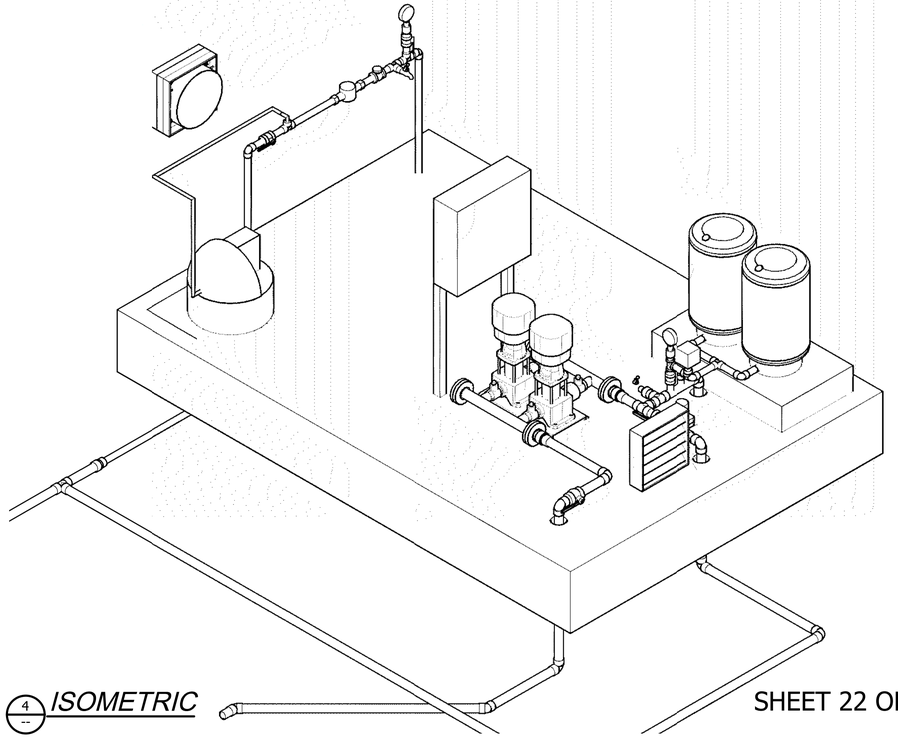

4 -- ISOMETRIC

SHEET 22 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
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DRAWN	RC	08/31/23
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PROJECT ENGINEER

WASHINGTON STATE PARKS AND RECREATION COMMISSION

☐WALLACE FALLS STATE PARK

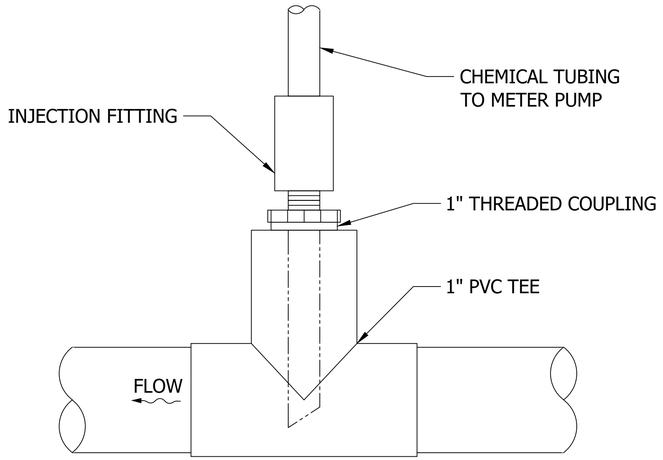
WATER SYSTEM REPLACEMENT

TREATMENT BUILDING MECHANICAL PERSPECTIVE

M403

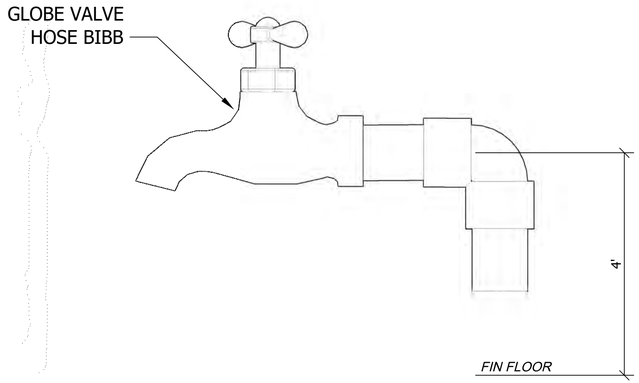
SCALE
AS SHOWN

PARKS FILE#



NOTE: DETAIL SHOWN FOR CLARITY.
CONTRACTOR TO CONFIRM REQUIRED
INJECTION FITTING CONNECTION WITH
MANUFACTURER.

CHEMICAL INJECTOR DETAIL



SAMPLE TAP DETAIL

SHEET 23 OF 42

CAD NO. W090-D4003-C11-D4002-C11-2023-##-###

NO.	REVISIONS	INT.	APP.	DATE

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DRAWN	RC	03/31/23
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

TREATMENT BUILDING MECHANICAL DETAILS

M404

SCALE
AS SHOWN

PARKS FILE#

ABBREVIATIONS

a	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS CLOSED AMMETER,
A	AMPERES
AC	ALTERNATING CURRENT
A/D	ANALOG TO DIGITAL
AF	AMPERE FRAME
AIC	AMPERES INTERRUPTING CAPACITY
ALT	ALTERNATOR
A/M	AUTO/MANUAL CONTROLLER
ANN	ANNUNCIATOR
AS	AMMETER SWITCH
ASD	ADJUSTABLE SPEED DRIVE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAGE
b	CIRCUIT BREAKER
	AUX. CONTACT, CLOSED WHEN BREAKER IS OPEN
BCG	BARE COPPER GROUND
C	CONDUIT, CONTACTOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CC	CONTROL CABLE, CLOSING COIL
CHH	COMMUNICATION HANDHOLE
CL	CHLORINE
CKT	CIRCUIT
CMH	COMMUNICATION MANHOLE
CO	CONDUIT ONLY
COMM	COMMUNICATION
CON	CONTACTOR
COND	CONDUCTOR
CONT	CONTINUED, CONTINUATION
CPT	CONTROL POWER TRANSFORMER
CP	CONTROL PANEL
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CWP	COLD WATER PIPE
DC	DIRECT CURRENT
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
EXST	EXISTING
EF	EXHAUST FAN
EHH	ELECTRICAL HANDHOLE
ELEM	ELEMENTARY
EMERG	EMERGENCY
EFFL	EFFLUENT
EQ	EQUAL
EQUIP	EQUIPMENT
ETM	ELAPSED TIME METER
FACP	FIRE ALARM CONTROL PANEL
FIN FL	FINISHED FLOOR
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FO	FIBER OPTIC
FREQ	FREQUENCY
FU	FUSE
FUT	FUTURE
FVNR	FULL VOLTAGE, NON REVERSING
FVR	FULL VOLTAGE, REVERSING
FWD	FORWARD
GA	GAUGE
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
H_2O_2	HYDROGEN PEROXIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HORZ	HORIZONTAL
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HZ	HERTZ (CYCLES PER SECOND)
IND LT	INDICATING LIGHT
INCAND	INCANDESCENT
I/O	INPUT/OUTPUT
JB	JUNCTION BOX
KA	KILOAMPERES
KCMIL	THOUSANDS OF CIRCULAR MILS
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KVARH	KILOVOLT AMPERES REACTIVE HOURS
KW	KILOWATTS
KWH	KILOWATT HOURS
LCP	LIGHTING CONTROL PANEL
LP	LIGHTING PANEL
LPS	LOW PRESSURE SODIUM
LTG	LIGHTING
LT(S)	LIGHT(S)
(M)	MODIFIED
Ma	MILLIAMPERES
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MOV	MOTOR OPERATED VALVE
MS	MOTOR STARTER
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
NEUT	NEUTRAL
NO	NORMALLY OPEN
NTS	NUMBER NOT TO SCALE
OVHD	OVERHEAD
OL	THERMAL OVERLOAD RELAY
OT	OVER TEMPERATURE
PB	PULLBOX, PUSHBUTTON
PD	POSITIVE DISPLACEMENT
PE	PHOTOELECTRIC
PEC	PHOTOELECTRIC CELL
PF	POWER FACTOR
pH	MEASURE OF ACIDITY OR ALKALINITY
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER MONITOR
PNL	PANEL
PNLBD	PANELBOARD
PRI	PRIMARY
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PWR	POWER
(RL)	RELOCATE
(RLD)	RELOCATED
RCPT	RECEPTACLE
RCT	REPEAT CYCLE TIMER
RPM	REVOLUTIONS PER MINUTE
RT	RESET TIMER
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SDBC	SOFT-DRAWN BARE COPPER
SEC	SECONDS, SECONDARY
SECT	SECTION
SF	SUPPLY FAN
SHH	SIGNAL HANDHOLE
SIG	SIGNAL
SN	SOLID NEUTRAL
SPEC	SPECIFICATIONS
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
SS	STAINLESS STEEL, SOLID STATE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYNC	SYNCHRONIZING
TB	TERMINAL BOX, TERMINAL BOARD
TC	TELEPHONE CABINET
TEMP	TEMPERATURE
TP	TWISTED PAIR UNSHIELDED
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UH	UNIT HEATER
UV	ULTRA VIOLET
V	VOLTS
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE
VAR	VOLT AMPERES REACTIVE
VERT	VERTICAL
VH	VAR-HOUR
VS	VOLTMETER SWITCH
W	WIRE, WATTS
WHM	WATTHOUR METER
WHDM	WATTHOUR DEMAND METER
WP	WEATHERPROOF
WTRT	WATERTIGHT
WTP	WATER TREATMENT PLANT

GENERAL NOTES:

1. ALL MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE. ALL MATERIALS SHALL BE NEW AND LISTED BY THE UNDERWRITERS' LABORATORY INC. (UL). ALL ELECTRICAL WORK SHALL BE INSTALLED IN A SAFE AND FUNCTIONAL MANNER.
2. REFER TO THE ELECTRICAL CIRCUIT SCHEDULE FOR CIRCUIT IDENTIFICATIONS, ROUTING, CONDUCTOR SIZES, ETC.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES AS REQUIRED TO MITIGATE INTERFERENCES.
4. CONDUIT MATERIAL SHOWN ON ELECTRICAL PLANS ARE SPECIFIC FOR THE LOCATION WHERE THE CONDUIT STARTS. CONTRACTOR IS RESPONSIBLE FOR TRANSITIONING TO APPROVED CONDUIT MATERIAL BASED ON LOCATION AND IN ACCORDANCE TO ELECTRICAL SPECIFICATIONS.

LIGHTING PLAN SYMBOLS

- SURFACE MOUNTED LED LUMINAIRE *
- RECESSED MOUNTED LED LUMINAIRE *
- WALL MOUNTED LED LUMINAIRE
- BATTERY BACKED WALL MOUNTED LED LUMINAIRE
- $ $3 — WALL SWITCH STANDARD TOGGLE, DESIGNATOR
  3 = 3-WAY
  D = DIMMER
  T = TIMER
- GFI — DUPLEX, QUADPLEX RECEPTACLE, W/DESIGNATOR
  GFI = GROUND FAULT INTERRUPTING
  WP = WEATHERPROOF
  +48 = HEIGHT AFF.
- EXIT SIGN - WALL MOUNTED
- EXIT SIGN - 2 SIDED CEILING MOUNTED
- PC — PHOTOCELL
- M — MOTION SENSOR
- FLOOD LIGHT

GENERAL SYMBOLS

- 1 — DRAWING NOTE
- P1 — ELECTRICAL CIRCUIT IDENTIFICATION
- P1 P2 / C1 C2 — MULTIPLE ELECTRICAL CIRCUITS, SEPARATE CONDUITS
- 1"C — P1 P2 / P3 P4 — MULTIPLE ELECTRICAL CIRCUITS, COMMON CONDUIT (SIZE SHOWN)

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS USED.

CONTROL DIAGRAM SYMBOLS

- PANEL WIRING
- FIELD WIRING
- TWISTED SHIELDED PAIR
- SHIELD WIRING
- CONNECTING LINES
- NON-CONNECTING LINES
- 5A — FUSE, SIZE SHOWN
- THERMAL MAGNETIC CIRCUIT BREAKER
- 30AC 150AT — MAGNETIC ONLY CIRCUIT BREAKER (MOTOR CIRCUITS ONLY) CONTINUOUS CURRENT RATING AND TRIP SETTINGS SHOWN
- XXA XXX — FUSED TERMINAL BLOCK FUSE SIZE SHOWN
- CONTROL PANEL TERMINAL BLOCK
- COMPONENT TERMINAL BLOCK
- RECEPTACLE
- VARIABLE FREQUENCY DRIVE
- 2 — MOTOR STARTER, SIZE SHOWN
- SPD — SURGE PROTECTIVE DEVICE
- CURRENT TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- DOUBLE THROW SWITCH
- GROUND CONNECTION PER NEC ARTICLE 250
- CR — 120V CONTROL RELAY, DPDT MINIMUM
- CR — 24VDC CONTROL RELAY, DPDT MINIMUM
- RELAY CONTACT - NO, NC
- PUSHBUTTON OR SWITCH CONTACT BLOCK - NO, NC
- OFF / HAND / AUTO — THREE POSITION SWITCH
- ON / OFF — TWO POSITION SWITCH
- R R — PUSH-TO-TEST LED PILOT LIGHT
- FLOAT SWITCH - NO, NC
- TEMPERATURE SWITCH - NO, NC
- LIMIT SWITCH - NO, NC
- TIME DELAY CONTACTS, NORMALLY OPEN TIMED CLOSED NORMALLY CLOSED TIMED OPEN

ELECTRICAL PLAN SYMBOLS

- M — METERBASE W/UTILITY METER
- DISCONNECT RECEPTACLE AND PLUG
- HP — MOTOR CONNECTION, HORSEPOWER INDICATED
- J — JUNCTION BOX
- J 20A 30A — DISCONNECT SWITCH, AMPERAGE RATING SHOWN
- F J 60/40 — FUSED DISCONNECT SWITCH, SWITCH AND FUSE RATING SHOWN
  60/40 = 60A SWITCH WITH 40A FUSE
- WIFI ACCESS POINT
- T — TRANSFORMER
- T — THERMOSTAT
- V — VAULT
- SPD — SURGE PROTECTIVE DEVICE
- PMR — PHASE MONITOR RELAY
- SINGLE POINT GROUND
- EOL - END OF LINE RESISTOR
- CONDUIT UP
- CONDUIT DOWN
- CONDUIT UP FROM UNDERGROUND RACEWAY
- CONDUIT STUB
- FLEXIBLE CONDUIT OR MFR CONDUIT
- SURFACE RACEWAY
- UNDERGROUND RACEWAY
- XXX — HOME RUN, ELECTRICAL PANEL DESTINATION SHOWN
- CONDUIT SEAL
- CURRENT TRANSFORMER
- LINE OR LOAD REACTOR, IMPEDENCE SHOWN
- STANDBY GENERATOR

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PROJECT#: 22.37.01

SHEET 24 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E400

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
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DRAWN	AAB	3/27/23
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WALLACE FALLS STATE PARK

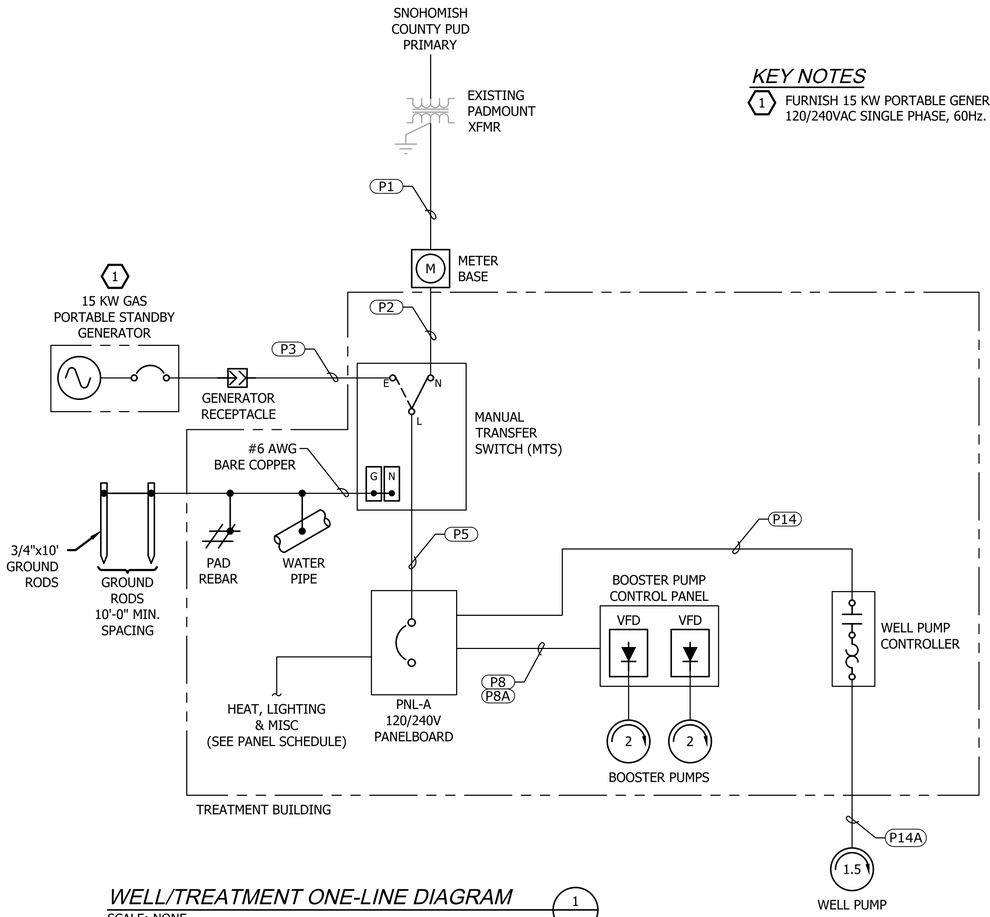
WATER SYSTEM REPLACEMENT

ELECTRICAL NOTES, SYMBOLS AND LEGEND

E400

SCALE
AS SHOWN

PARKS FILE#



WELL/TREATMENT ONE-LINE DIAGRAM

1 / -

SCALE: NONE

KEY NOTES

1. FURNISH 15 KW PORTABLE GENERATOR, 120/240VAC SINGLE PHASE, 60Hz.

PANEL: PNL-A			VOLTAGE: 240/120, 1PH, 3WIRE				MOUNTING: SURFACE			
LOCATION: TREATMENT/BOOSTER BLDG			BUS: 100A COPPER				AIC: 10,000			
FEEDER: MAIN BREAKER			MAIN: 100A							
CKT NO	CIRCUIT DESCRIPTION	BREAKER POLES	BREAKER AMPS	VA	PHASE	LOAD VA	BREAKER POLES	BREAKER AMPS	CIRCUIT DESCRIPTION	CKT NO
1	INTERIOR LIGHTING	1	20	50	A	40	1	20	EXTERIOR LIGHTING	2
3	CONTROL PANEL	1	20	500	B	2900	2	30	BOOSTER PUMP SKID, PUMP PWR	4
5	CONVENIENCE RECEPTACLE	1	20	180	A	2900	-	-		6
7	CHEMICAL PUMP RECEPTACLE	1	15	205	B	200	1	20	BOOSTER PUMP SKID, CONTROL PWR	8
9	WELL PUMP	1	20	1200	A	200	1	20	EXHAUST FAN	10
11	SPARE	1	20		B	2500	2	20	UNIT HEATER	12
13	SPARE	1	20		A	2500	-	-	-	14
15	SPARE	1	15		B					16
17					A					18
19					B					20
21					A					22
23					B					24

LOAD PER PHASE

PHASE A	7.1	KVA
PHASE B	6.3	KVA
TOTAL LOAD	13.4	KVA
TOTAL AMPS	56	AMPS

PNL-A PANEL SCHEDULE

2 / -

SCALE: NONE

CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS.
MULTIPLE CIRCUITS RUN IN COMMON CONDUITS ARE SHOWN ON PLANS AND SUPERSEDE THE BASIC CONDUIT SIZE SHOWN.

RACEWAY SIZES ARE IN INCHES WITH QUANTITIES IN EXCESS OF (1) SHOWN IN ADJACENT PARENTHESIS.
P = POWER CONDUCTORS; G = GROUND CONDUCTORS; N = FOR NEUTRAL CONDUCTORS; C = CONTROL CONDUCTORS;
SP = SPARE CONDUCTORS; TSP = TWISTED SHIELDED PAIR.

CIRCUIT NUMBER	FROM	TO	CONDUCTORS	RACEWAY	NOTES
P1	PUD TRANSFORMER (EXISTING)	METER BASE	(2) 3 AWG, P (1) 3 AWG, N (1) 6 AWG, G	2"	COORDINATE WITH PUD
P2	METER BASE	MANUAL TRANSFER SWITCH (MTS)	(2) 3 AWG, P (1) 3 AWG, N (1) 6 AWG, G	1.25"	
P3	MANUAL TRANSFER SWITCH (MTS)	GENERATOR RECEPTACLE	(2) 3 AWG, P (1) 3 AWG, N (1) 6 AWG, G	1"	
P4	MANUAL TRANSFER SWITCH (MTS)	PNL-A	(2) 3 AWG, P (1) 3 AWG, N (1) 6 AWG, G	1"	
P5	PNL-A	INTERIOR BUILDING LIGHTING	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P6	PNL-A	EXTERIOR BUILDING LIGHTING	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P7	PNL-A	CONTROL PANEL	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P8	PNL-A	BOOSTER PUMP SKID	(2) 10 AWG, P (1) 10 AWG, G	3/4"	PUMP POWER
P8A	PNL-A	BOOSTER PUMP SKID	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	SKID CONTROL POWER
P9	PNL-A	BUILDING CONVENIENCE RECEPTACLE	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P10	PNL-A	CHEMICAL PUMP RECEPTACLE	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P11	PNL-A	FLOW TRANSMITTER	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P12	PNL-A	BUILDING EXHAUST FAN	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P13	PNL-A	BUILDING UNIT HEATER	(2) 10 AWG, P (1) 10 AWG, G	3/4"	
P14	PNL-A	WELL PUMP CONTROL BOX	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	3/4"	
P14A	WELL PUMP CONTROL BOX	WELL PUMP	(1) 12 AWG, P (1) 12 AWG, N (1) 12 AWG, G	1"	INCREASE WIRE SIZE FOR ALTERNATE WELL LOCATION.
C1	CONTROL PANEL	WELL LEVEL TRANSDUCER JUNCTION BOX	(1) 18 AWG, TSP		
C2	CONTROL PANEL	WELL INTRUSION SWITCH	(2) 14 AWG, C (1) 14 AWG, G		
C3	CONTROL PANEL	WELL FLOW TRANSMITTER	(1) 18 AWG, TSP (2) 14 AWG, C (1) 14 AWG, G	3/4"	
C4	CONTROL PANEL	SYSTEM PRESSURE TRANSMITTER	(1) 18 AWG, TSP	3/4"	
C5	CONTROL PANEL	TANK LSLL LEVEL FLOAT	(2) 14 AWG, C (1) 14 AWG, G	3/4"	
C6	CONTROL PANEL	TANK LSL LEVEL FLOAT	(2) 14 AWG, C (1) 14 AWG, G	3/4"	
C7	CONTROL PANEL	TANK LSH LEVEL FLOAT	(2) 14 AWG, C (1) 14 AWG, G	3/4"	
C8	CONTROL PANEL	TANK LSHH LEVEL FLOAT	(2) 14 AWG, C (1) 14 AWG, G	3/4"	
C9	CONTROL PANEL	BUILDING INTRUSION SWITCH	(2) 14 AWG, C (1) 14 AWG, G	3/4"	
C10	CONTROL PANEL	BOOSTER SKID PANEL	(6) 14 AWG, C (1) 18 AWG, TSP (4) 14 AWG, SP	1"	
C11	CONTROL PANEL	WELL PUMP CONTROL BOX	(4) 14 AWG, C (1) 14 AWG, G	3/4"	RUN COMMAND; RUN CONFIRM
C12	CONTROL PANEL	AUTODIALER (IN OFFICE BLDG)	(9) 14 AWG, C (5) 14 AWG, SP (1) 14 AWG, G	2"	
C13	CONTROL PANEL	CHEMICAL METERING PUMP	(2) 14 AWG, C (1) 18 AWG, TSP (1) 14 AWG, G	1"	
C14	CONTROL PANEL	BUILDING FLOOD SWITCH	(2) 14 AWG, C (1) 14 AWG, G	3/4"	
C15	CONTROL PANEL	SMOKE DETECTOR	(4) 14 AWG, C (1) 14 AWG, G	3/4"	24VDC AND CONTROL
N1	CONTROL PANEL	OFFICE BUILDING	CAT 6	1"	

CIRCUIT SCHEDULE

3 / -

SCALE: NONE

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CAD NO. W090-D4003-C11-D4002-C11-2023-X-E401

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

ELECTRICAL ONE-LINE DIAGRAM & SCHEDULES

E401

SCALE
AS SHOWN

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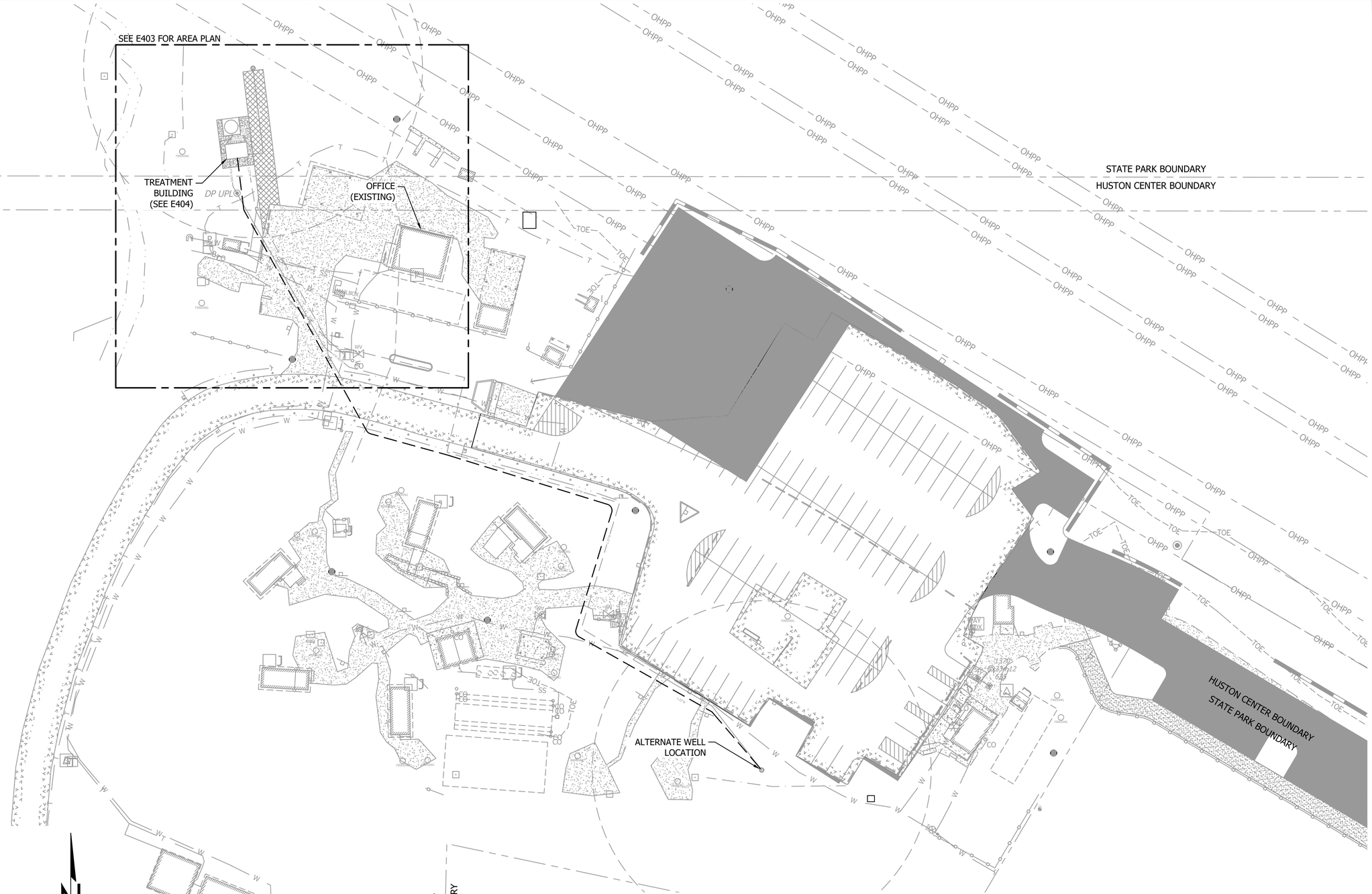

ELECTRICAL SITE PLAN

SHEET 26 OF 41

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E402

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MEW	3/27/23
DRAWN	AAB	3/27/23
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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

ELECTRICAL SITE PLAN

E402

SCALE
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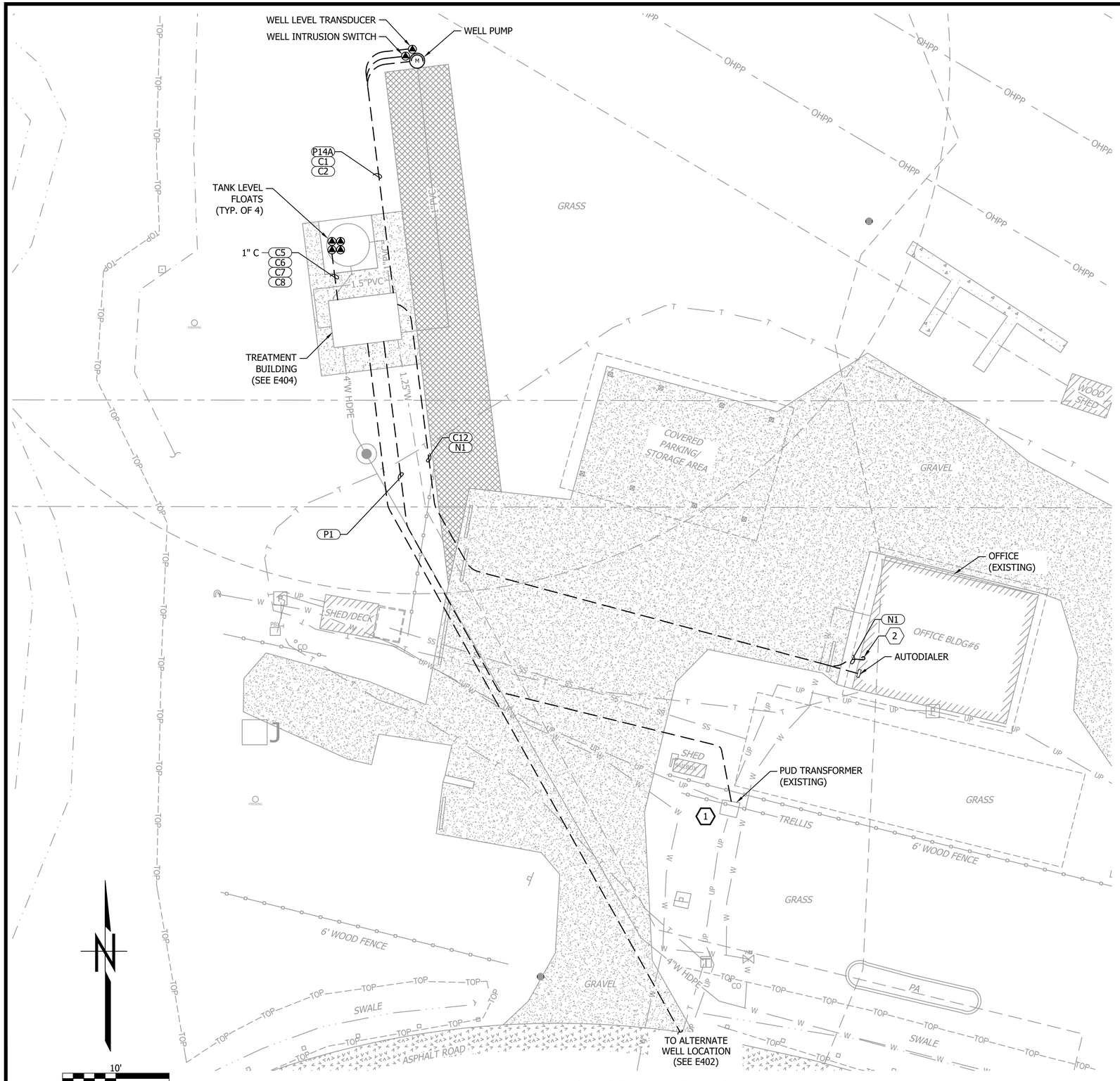

ELECTRICAL AREA PLAN

KEY NOTES

1. CONTRACTOR SHALL RUN CONDUIT AND WIRE UP TO EXISTING PUD TRANSFORMER. COORDINATE CONNECTION WITH PUD.
2. CAT6 CABLE SHALL HAVE MINIMUM OF 15 EXTRA FEET TO ALLOW FOR FUTURE CONNECTION IN OFFICE BUILDING. COIL UP ADDITIONAL CABLE IN OFFICE BUILDING.

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E403

NO.	REVISIONS	INT.	APP.	DATE

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

ELECTRICAL AREA PLAN

E403

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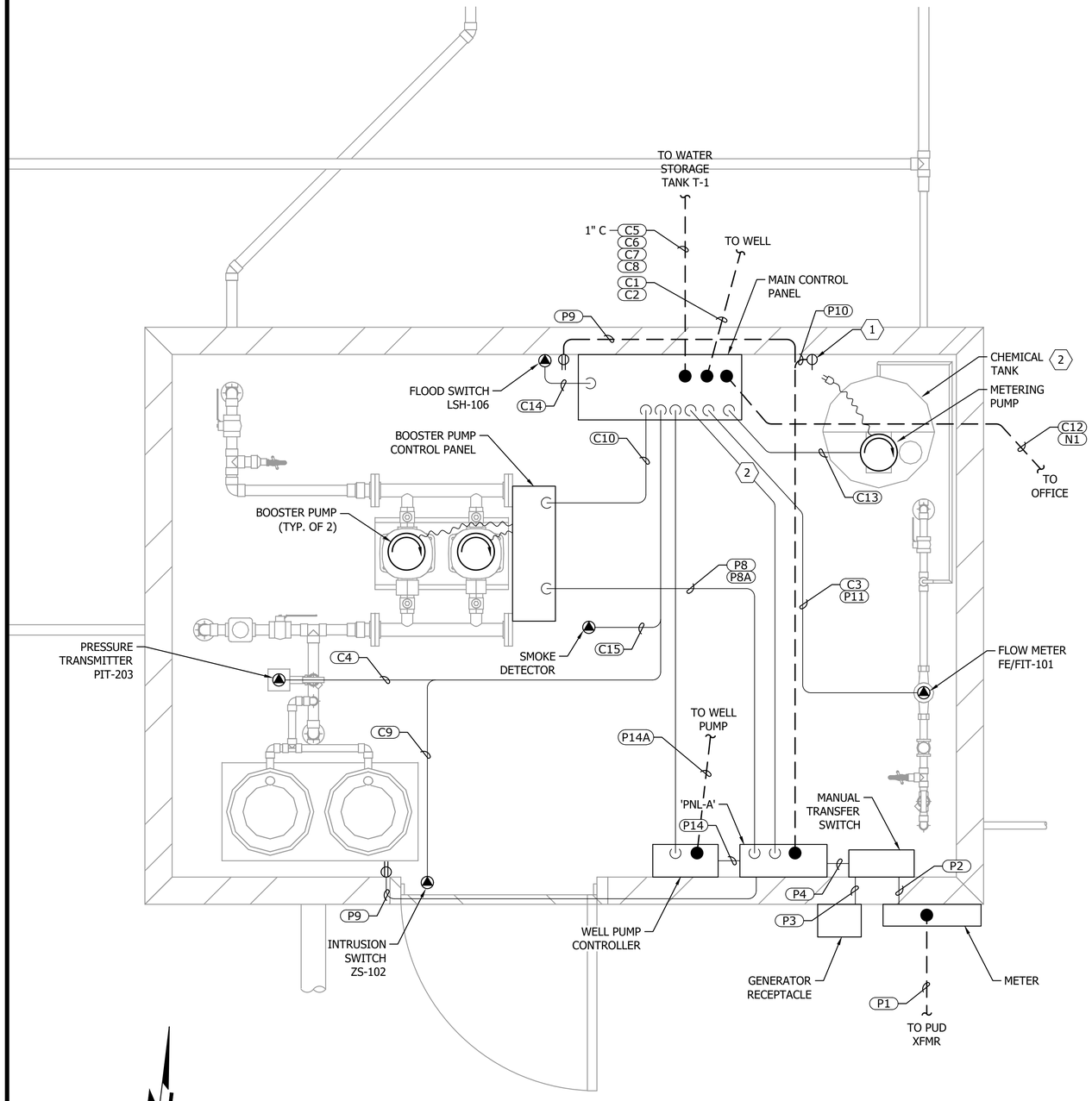

KEY NOTES

1. DEDICATED SIMPLEX RECEPTACLES FOR CHEMICAL EQUIPMENT.
2. ALL CONDUITS WITHIN 5 FT OF METERING PUMP AND CHEMICAL TANK SHALL BE PGRS.

ELECTRICAL BUILDING PLAN

1' 0 2'

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E404

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

TREATMENT BUILDING ELECTRICAL PLAN

E404

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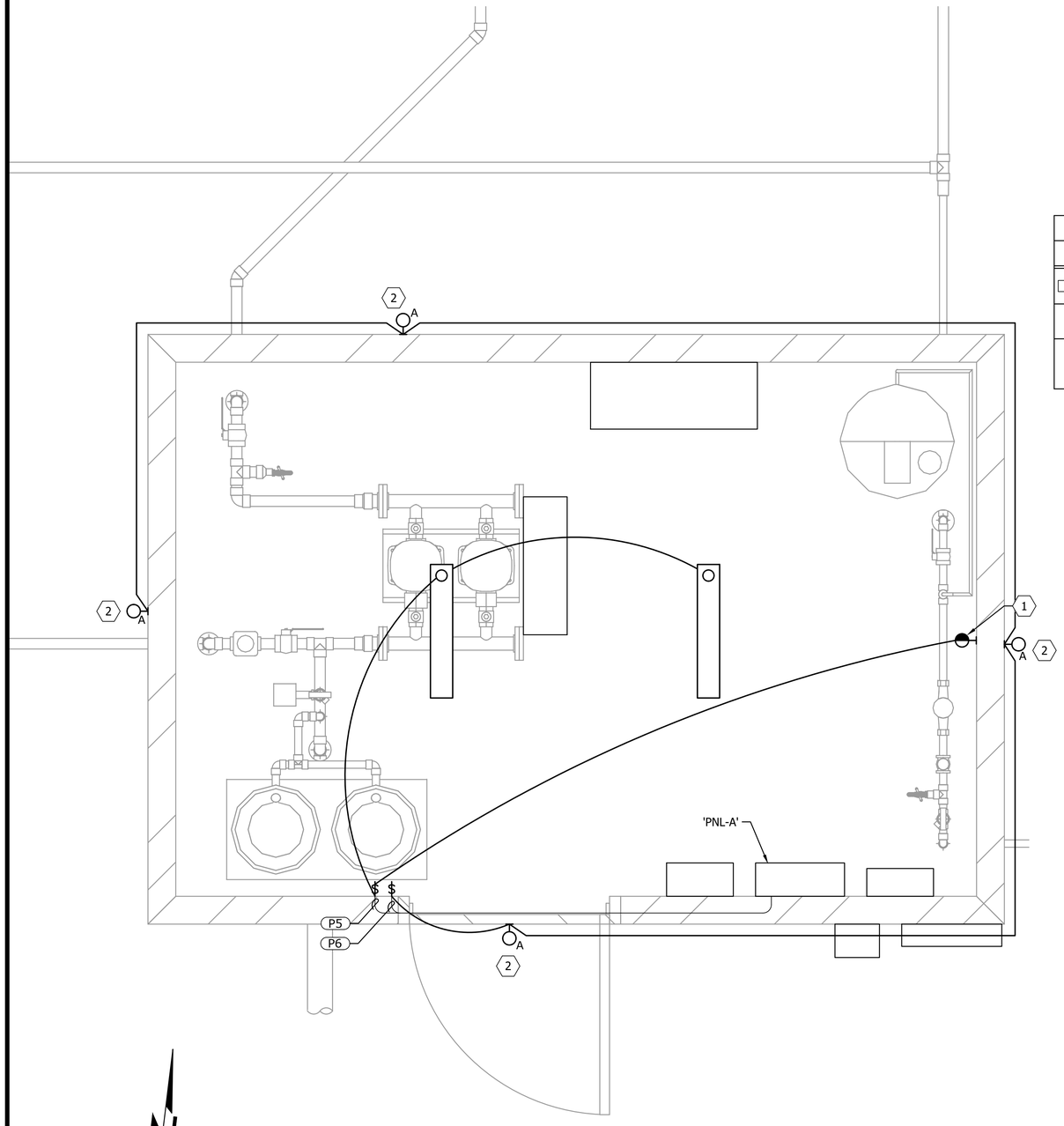
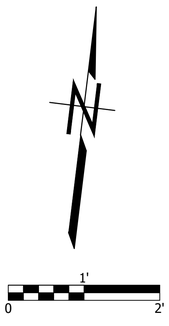


KEY NOTES

1. ROUTE UN-SWITCHED POWER CIRCUIT TO BATTERY BACKED LUMINAIRE.
2. EXTERIOR LIGHTS SHALL INCLUDE MOTION SENSOR AND PHTOCELL CONTROLS.

LUMINAIRE SCHEDULE

DEVICE/LOCATION/USE	DESCRIPTION	VOLTS	WATTS	SUGGESTED MANUFACTURER & CATALOG NUMBER
BUILDING INTERIOR LIGHT	4064 LUMEN LED LUMINAIRE FEM SERIES 48"	120V	23.8	LITHONIA FEM L48 4000LM IMAFL MD MVOLT GZ10 40K 80CRI OR EQUAL
WALL MOUNT LUMINAIRE LED TYPE INTERIOR/EXTERIOR	640 LUMEN LED LUMINAIRE FOR EMERGENCY LIGHTING	120V	3.15	LITHONIA ELM4L LED OR EQUAL
A WALL MOUNT LUMINAIRE LED TYPE INTERIOR/EXTERIOR	WDGE2 LED WITH P1 - PERFORMANCE PACKAGE, 4000K, 80CRI, VISUAL COMFORT WIDE OPTIC, PHOTOCELL, MOTION SENSOR	120V	10	LITHONIA WDGE2 LED P1 40K 80CRI VW OR EQUAL W/PHOTOCELL AND MOTION CONTROL OPTIONS



LIGHTING PLAN

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

TREATMENT BUILDING LIGHTING PLAN

E405

SCALE
AS SHOWN

PARKS FILE#

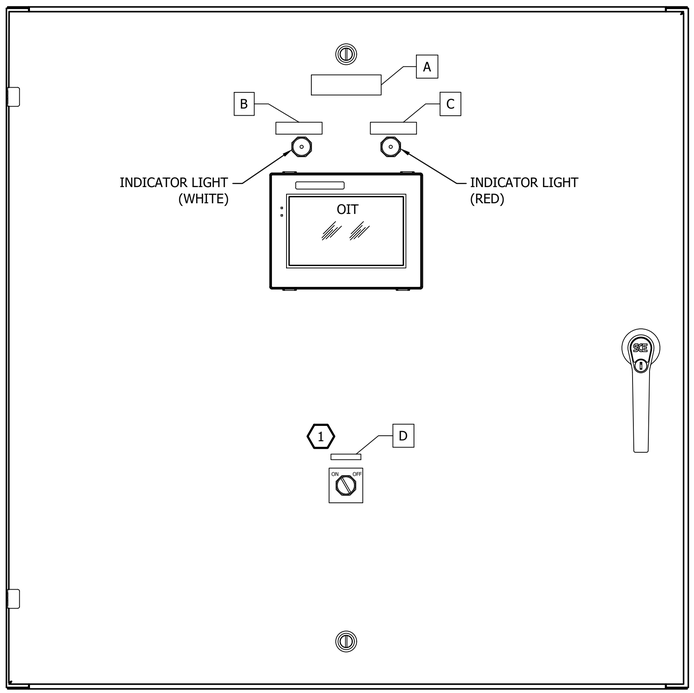
KEY NOTES

1. ON/OFF SWITCH FOR ACTIVATING BUILDING INTRUSION ALARM. DO NOT LABEL SWITCH OTHER THAN "ON/OFF".

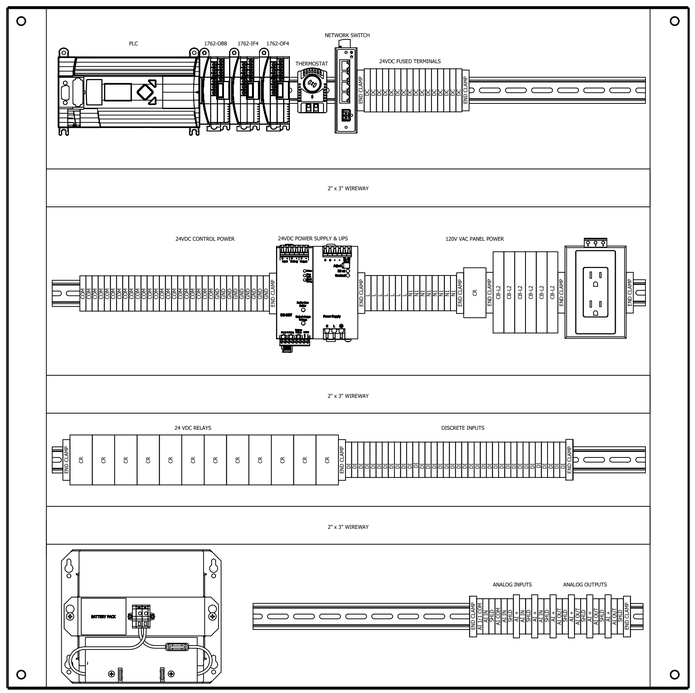
GENERAL NOTES:

1. PANEL LAYOUT IS CONCEPTUAL AND FINALIZED LAYOUT SHALL BE PROVIDED BY MANUFACTURER PER UL-508 REQUIREMENTS.
2. ENCLOSURE SHALL BE STAINLESS STEEL, NEMA 4, MINIMUM 36" X 36" X 10".

ITEM	NAMEPLATE SCHEDULE
A	MAIN CONTROL PANEL
B	AC POWER OK
C	GENERAL ALARM
D	ON/OFF



PANEL LAYOUT — 1
SCALE: 3" = 1'-0"



SUB-PANEL LAYOUT — 2
SCALE: 3" = 1'-0"

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E406

NO.	REVISIONS	APP.	INT.	DATE

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DESIGNED	MEW	3/27/23
DRAWN	AAB	3/27/23
CHECKED (FIELD)		
CHECKED (HDQTS.)		

EL EZRA W. SIS
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JULY 2023
57964
REGISTERED PROFESSIONAL ENGINEER

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

WELL CONTROL PANEL LAYOUT

E406

SCALE
AS SHOWN

PARKS FILE#

Industrial Systems INC
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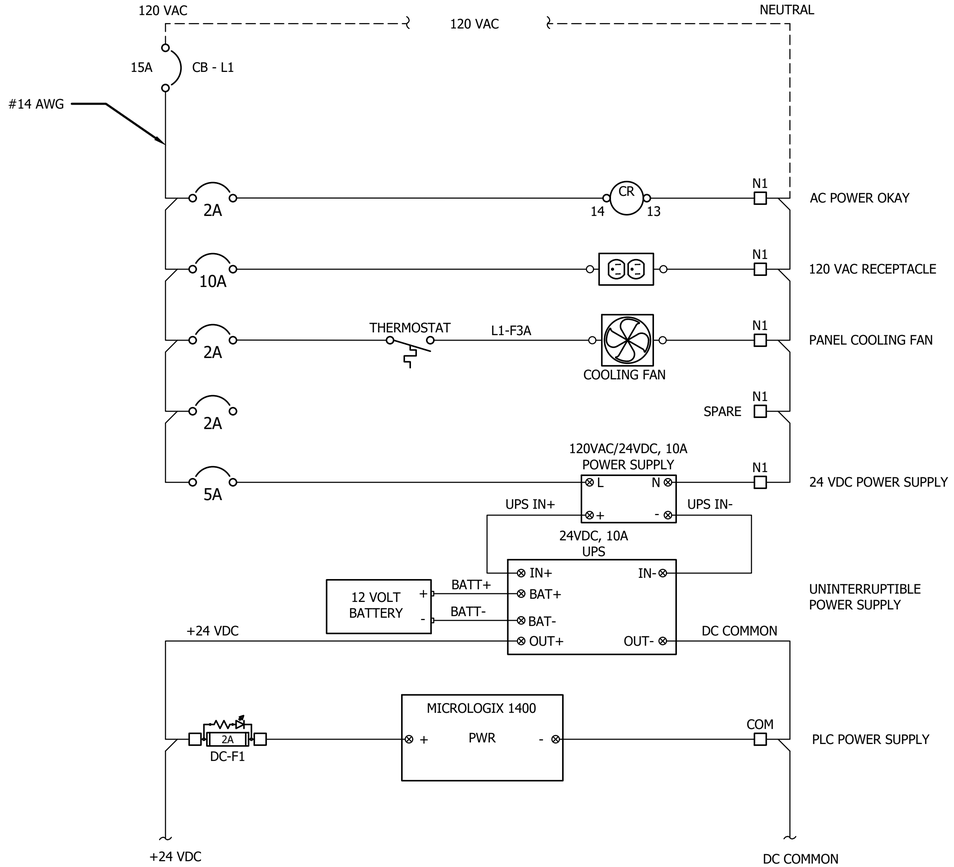
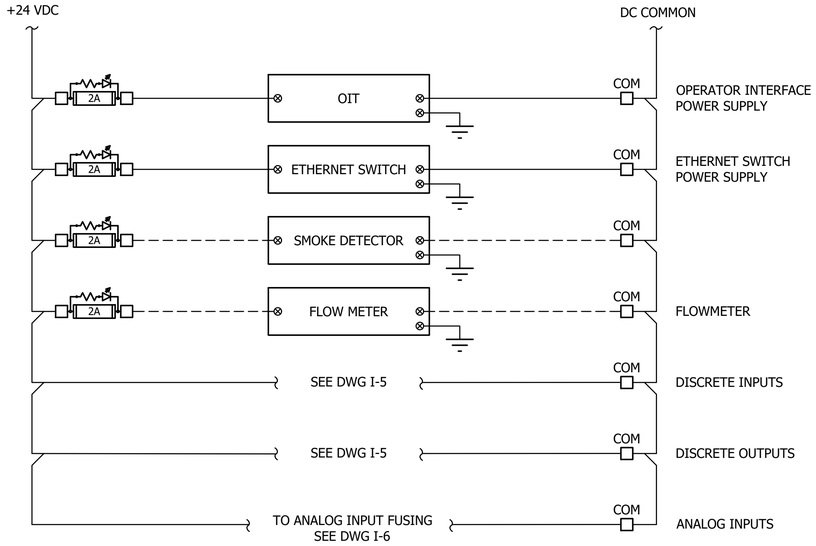
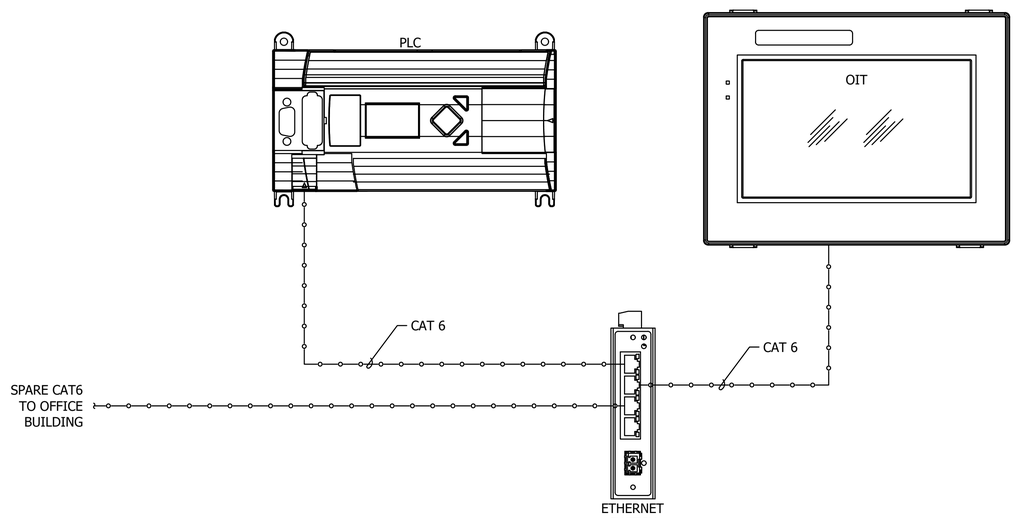
Suite #2090
Vancouver, Washington 98682
Phone: (360) 718-7267
Fax: (360) 952-8958
e-mail: is@industrialsystems-inc.com
OR CCB #196597 WA #INDUSSI880K9
AK #1018436
PROJECT#: 22.37.01



POWER DISTRIBUTION DIAGRAM — 1 / -
SCALE: NONE





NETWORK DIAGRAM — 2 / -
SCALE: NONE

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E407

REVISIONS	NO.	DATE	APP.	INT.

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

WELL CONTROL POWER DISTRIBUTION AND NETWORK DIAGRAM E407

SCALE
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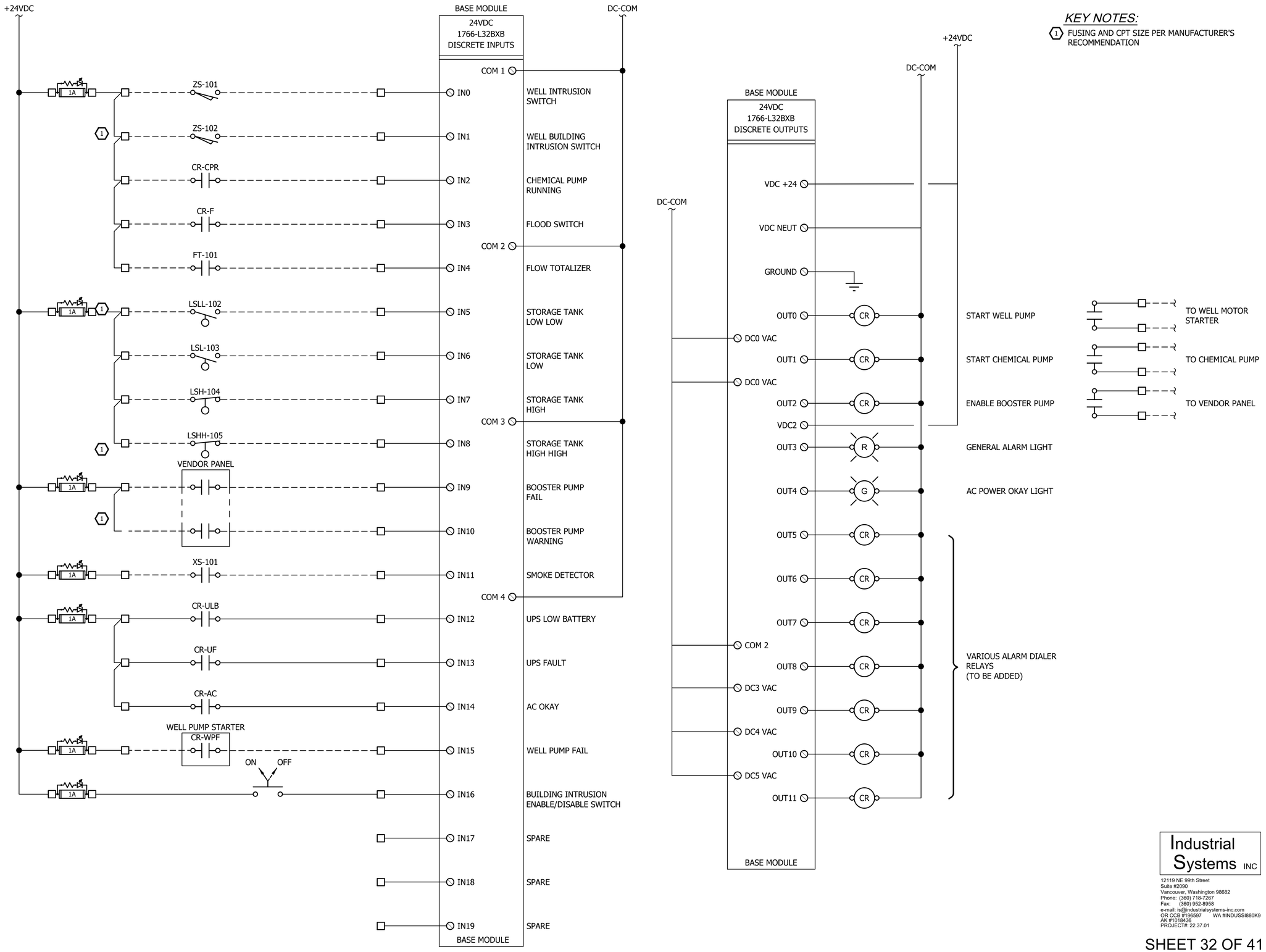

KEY NOTES:

1. FUSING AND CPT SIZE PER MANUFACTURER'S RECOMMENDATION

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E408

NO.	REVISIONS	INT.	APP.	DATE

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

WELL CONTROL PANEL INPUT AND OUTPUT WIRING

E408

SCALE
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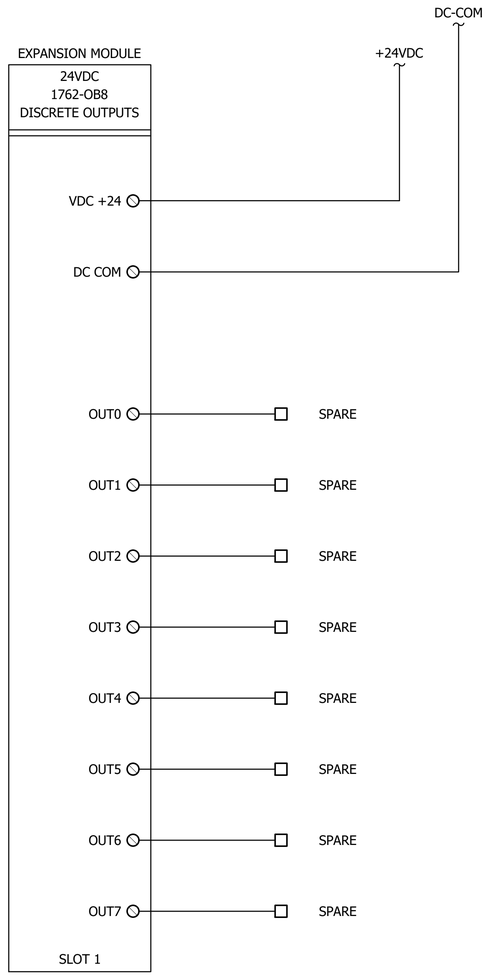

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E409

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WELL CONTROL PANEL INPUT AND OUTPUT WIRING

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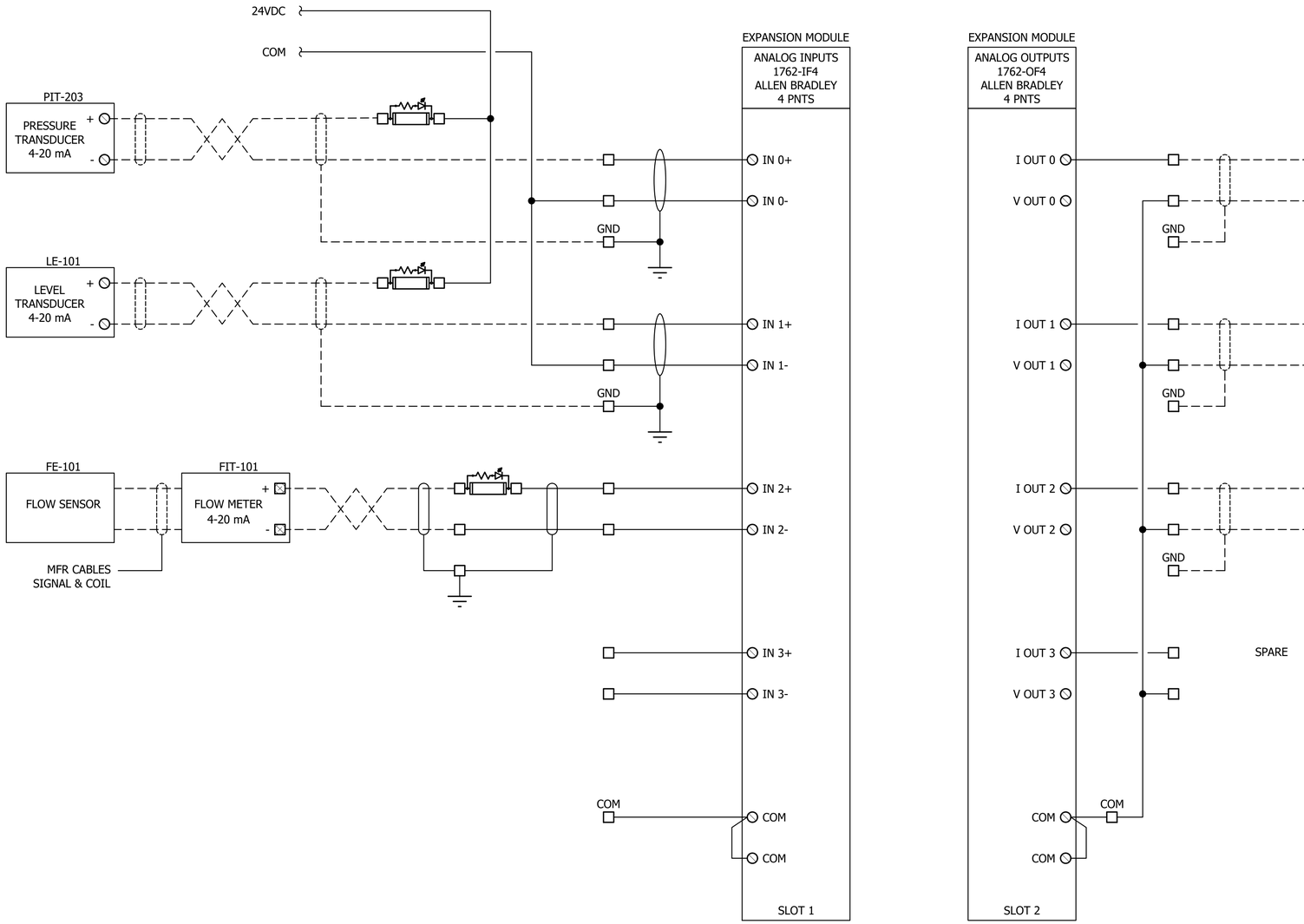

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

WELL CONTROL PANEL INPUT AND OUTPUT WIRING

E410

SCALE
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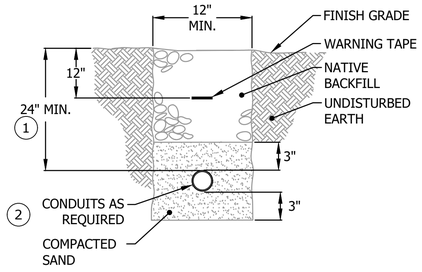
PARKS FILE#

DETAIL NOTES

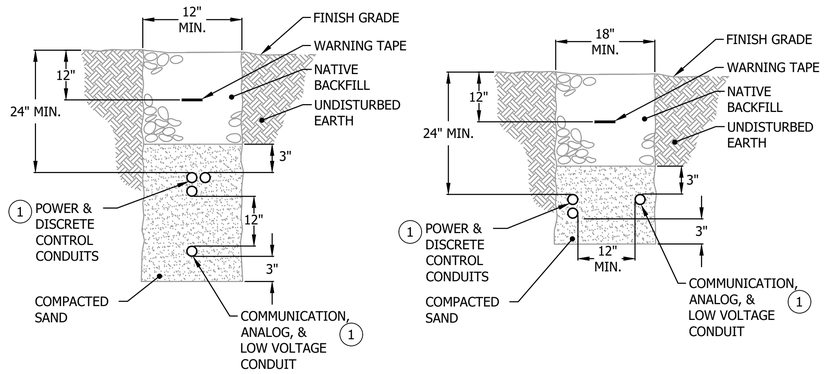
1. VERIFY TRENCH DEPTH AND COVERING FOR INCOMING SERVICE CONDUIT WITH LOCAL UTLITY.
2. COORDINATE WITH CIVIL DISCIPLINE FOR INTERSECTING PIPES.



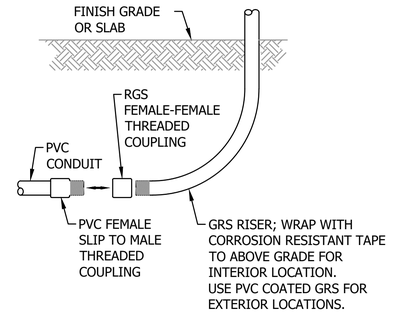
TYP. CONDUIT TRENCH 1
SCALE: NONE

DETAIL NOTES

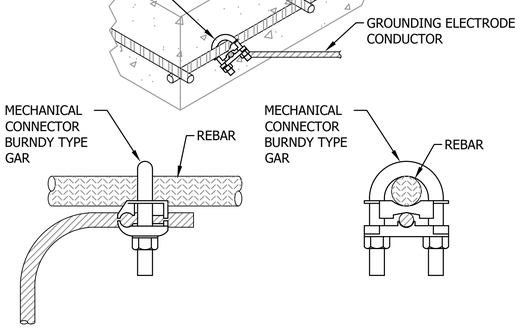
1. COORDINATE WITH CIVIL DISCIPLINE FOR INTERSECTING PIPES.



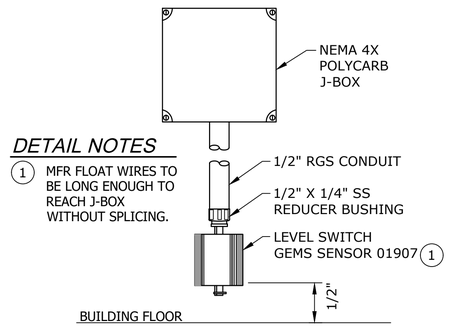
MIXED CONDUIT TRENCES 2
SCALE: NONE



CONDUIT TRANSITION 3
SCALE: NONE



REBAR GROUNDING 4
SCALE: NONE



DETAIL NOTES

1. MFR FLOAT WIRES TO BE LONG ENOUGH TO REACH J-BOX WITHOUT SPLICING.

FLOOD SWITCH DETAIL 5
SCALE: NONE

CAD NO. W090-D4003-C11-D4002-C11-2023-X-E411

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

ELECTRICAL DETAILS

E411

SCALE
AS SHOWN

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PROJECT#: 22.37.01

GENERAL INSTRUMENT SYMBOLS

LOCATION/ACCESSIBILITY	DISCRETE INSTRUMENTS	SHARED DISPLAY AND CONTROL (DCS)	PLC	DISCRETE HARDWARE INTERLOCK
FIELD MOUNTED 1. FIELD OR LOCALLY MOUNTED. 2. ACCESSIBLE TO AN OPERATOR AT DEVICE.	○	▢	◇	◇
PRIMARY LOCATION NORMALLY ACCESSIBLE TO AN OPERATOR 1. CENTRAL OR MAIN CONTROL ROOM. 2. FRONT OF MAIN PANEL OR CONSOLE MOUNTED. 3. VISIBLE ON VIDEO DISPLAY. 4. ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.	○	▢	◇	
PRIMARY LOCATION NORMALLY INACCESSIBLE TO AN OPERATOR 1. CENTRAL OR MAIN CONTROL ROOM. 2. REAR OF PANEL OR CABINET MOUNTED. 3. NOT VISIBLE ON VIDEO DISPLAY. 4. NOT NORMALLY ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.	○	▢	◇	
AUXILIARY LOCATION NORMALLY ACCESSIBLE TO AN OPERATOR 1. SECONDARY OR LOCAL CONTROL ROOM. 2. FIELD OR LOCAL CONTROL PANEL. 3. FRONT OF SECONDARY OR LOCAL PANEL MOUNTED. 4. VISIBLE ON VIDEO DISPLAY. 5. ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.	○	▢	◇	
AUXILIARY LOCATION NORMALLY INACCESSIBLE TO AN OPERATOR 1. SECONDARY OR LOCAL CONTROL ROOM. 2. FIELD OR LOCAL CONTROL PANEL. 3. REAR OF SECONDARY OR LOCAL PANEL OR CABINET MOUNTED. 4. NOT VISIBLE ON VIDEO DISPLAY. 5. NOT NORMALLY ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.	○	▢	◇	

INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, FLAME, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE (TYPICALLY CONDUCTIVITY - ELECTRICAL)			CONTROL, COMMAND	CLOSED
D	USER'S CHOICE (TYPICALLY DENSITY OR SPECIFIC GRAVITY)	DIFFERENTIAL			DIVERT
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE OR GAUGING (DIMENSIONAL)		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE (TYPICALLY MOISTURE OR HUMIDITY)	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY OR HEAT DUTY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	THROUGH
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE, TORQUE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

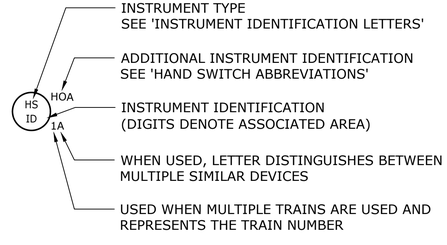
ABBREVIATIONS

AG	ABOVE GROUND
ATM	ATMOSPHERE
BYP	BYPASS
CC	CHEMICAL CLEANOUT
CL	CENTERLINE
CO	CLEANOUT
CONN	CONNECTION
CVLS	CHECK VALVE LIMIT SWITCH
CTR	CENTER
DCS	DISTRIBUTED CONTROL SYSTEM
DES	DESIGN
DIA	DIAMETER
DP	DESIGN PRESSURE
D/P	DIFFERENTIAL PRESSURE
DRN	DRAIN
DT	DESIGN TEMPERATURE
DWG	DRAWING
(E)	EXISTING
EL	ELEVATION
ESD	EMERGENCY SHUTDOWN
FOF	FACE OF FLANGE
(F)	FURNISHED
FC	FAIL CLOSED
FI	FAIL INDETERMINATE
FL	FAIL LOCKED (LAST POSITION)
FLG	FLANGE
FO	FAIL OPEN
FP	FULL PORT
FV	FULL VACUUM
GO	GEAR OPERATED
GR	GRADE
HC	HOSE CONNECTION
HDR	HEADER
HH	HAND HOLE
HOA	HAND/OFF/AUTOMATIC
HP	HIGH PRESSURE
HPT	HIGH POINT
IAS	INSTRUMENT AIR SUPPLY
LC	LOCKED CLOSED
LCP	LOCAL CONTROL PANEL
LO	LOCKED OPEN
LP	LOW PRESSURE
LPT	LOW POINT
MTL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
MIN	MINIMUM
MOV	MOTOR OPERATED VALVE
MW	MANWAY
NC	NORMALLY CLOSED
NNF	NORMALLY NO FLOW
NO	NORMALLY OPEN
NOZ	NOZZLE
O/C	OPEN/CLOSE
O/O	ON/OFF
OIT	OPERATOR INTERFACE TERMINAL
OP	OUTPUT
OVHD	OVERHEAD
PLC	PROGRAMMABLE LOGIC CONTROLLER
PRESS	PRESSURE
PV	PROCESS VARIABLE
(R)	RELOCATED
REQD	REQUIRED
RIO	REMOTE I/O PANEL
RTD	RESISTANCE TEMPERATURE DETECTOR
SC	SAMPLE CONNECTION
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCH	SCHEDULE
SD	SHUTDOWN
SG	SPECIFIC GRAVITY
SIS	SAFETY INSTRUMENTED SYSTEM
SO	STEAM OUT
SP	SET POINT
SS	STAINLESS STEEL S/S or START/STOP
STD	STANDARD
T/C	THERMOCOUPLE
TDH	TOTAL DIFFERENTIAL HEAD
TEMP	TEMPERATURE
THRD	THREADED
TSO	TIGHT SHUT-OFF
TYP	TYPICAL
UG	UNDERGROUND
VNT	VENT
VAC	VACUUM
VB	VORTEX BREAKER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT

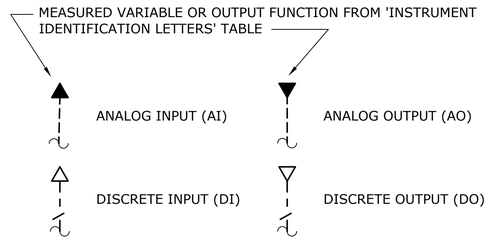
INSTRUMENT LINE SYMBOLS

- INSTRUMENT SUPPLY OR CONNECTION TO PROCESS
- PNEUMATIC SIGNAL
- ELECTRIC SIGNAL (ANALOG)
- ELECTRIC SIGNAL (DISCRETE)
- HYDRAULIC SIGNAL
- CAPILLARY TUBE
- ELECTROMAGNETIC, SONIC, OPTICAL, OR NUCLEAR SIGNAL
- SOFTWARE OR DATA LINK
- MECHANICAL LINK

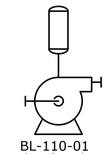
TYPICAL INSTRUMENT TAG NUMBERS & DESIGNATION



INPUT / OUTPUT SIGNALS



TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION



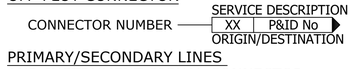
AER = AERATOR
BIN = BIN
BL = BLOWER
CEL = CELL
CLA = CLARIFIER
CLS = CLASSIFIER
CND = CONDENSATE TRAP
CON = CONVEYOR
CMP = COMPRESSOR
DIF = DIFFUSER
DIG = DIGESTER
DIS = DISINFECTION UNIT
FED = FEEDER
FLT = FILTER
HEX = HEAT EXCHANGER
MIX = MIXER
PMP = PUMP
PRS = PRESS
SCN = SCREEN
SDG = SLIDE GATE
SL = SLUICE GATE
SMP = SUMP
THK = THICKENER
TNK = TANK
WEL = WET WELL

FLOW STREAM IDENTIFIERS

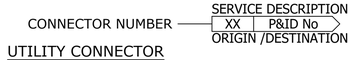
ABE = AERATION BASIN EFFLUENT
BD = BASIN DRAIN
CS = COMBINED SLUDGE
CAS = CAUSTIC SODA
DR = DRAIN
DS = DIGESTER SOLIDS
FBW = FILTER BACKWASH
FE = FINAL EFFLUENT
GR = GRIT
ICE = INTERMEDIATE CLARIFIER EFFLUENT
LPA = LOW PRESSURE AIR
ML = MIXED LIQUOR
NPW = NON POTABLE WATER
PE = PRIMARY EFFLUENT
PI = PRIMARY INFLUENT
PLE = PLANT EFFLUENT
PS = PRIMARY SLUDGE
RAS = RETURN ACTIVATED SLUDGE
RS = RAW SEWAGE
SSL = SECONDARY SLUDGE
SCM = SCUM
SSCM = SECONDARY SCUM
SCRN = SCREENINGS
SE = SECONDARY EFFLUENT
TE = TERTIARY EFFLUENT
TWAS = THICKENED WASTE ACTIVATED SLUDGE
UW = UTILITY WATER
WAS = WASTE ACTIVATED SLUDGE

OFF-PAGE CONNECTORS AND TIE-IN SYMBOL

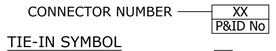
A. OFF-PLOT CONNECTOR



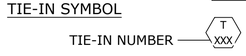
B. PRIMARY/SECONDARY LINES AND INSTRUMENT SIGNAL CONNECTOR



C. UTILITY CONNECTOR



D. TIE-IN SYMBOL



PIPING LINE SYMBOLS

- PRIMARY (AG & UG)
- SECONDARY / UTILITY (AG & UG)
- FUTURE OR EXISTING ON NEW P&IDs
- JACKETED OR DOUBLE CONTAINMENT

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WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

P&ID LEGEND-1

I400

SCALE
AS SHOWN

PARKS FILE#

PRIMARY ELEMENT SYMBOLS

- XX — GENERAL SYMBOL IN-LINE ELEMENT XX = FS, FG, FE, FT
- FIT (XXXX) — IN-LINE FLOW ELEMENT WITH INTEGRAL INDICATING TRANSMITTER XXXX = MASS, CORIOLIS, THERMAL, INT. ORIFICE ...
- FIT / FE (XXXX) — IN-LINE FLOW ELEMENT WITH SEPARATE INDICATING TRANSMITTER XXXX = MASS, CORIOLIS, THERMAL...
- ORIFICE
- M — MAGNETIC
- TURBINE OR PROPELLER
- ULTRASONIC
- VORTEX
- PITOT TUBE
- AVERAGING PITOT TUBE
- FLOW NOZZLE
- VENTURI
- WEDGE METER
- LE — RADAR (NON-CONTACT)
- LE — ULTRASONIC LEVEL SENSOR
- LE — RADAR (GUIDED)
- LS* — FLOAT SWITCH FLOAT SWITCH * = L/LL/H/HH
- FS* — FLOW SWITCH * = H/L
- FG — FLOW GLASS
- FLOW CONDITIONING DEVICES (e.g., STRAIGHTENING VANES)
- FO — RESTRICTION ORIFICE
- AE X — ANALYZER ELEMENT X INDICATES TYPE
  - pH = HYDROGEN POTENTIAL
  - DO = DISSOLVED OXYGEN
  - H2S = HYDROGEN SULFIDE
  - LEL = LOWER EXPLOSIVE LIMIT
  - O2 = OXYGEN
  - ORP = OXYGEN REDUCTION POTENTIAL
  - TUR = TURBIDITY
- ROTAMETER
- FI — ROTAMETER WITH INTEGRAL VALVE (SHOWN WITH OPTIONAL INTEGRAL VALVE)
- FLUME
- WEIR
- POSITIVE DISPLACEMENT
- ORIFICE IN QUICK CHANGE FITTING
- TARGET
- HORIZONTAL CENTRIFUGAL PUMP
- VERTICAL INLINE PUMP
- SUBMERSIBLE PUMP
- PROPELLER PUMP
- PROGRESSIVE CAVITY PUMP
- POSITIVE DISPLACEMENT PUMP
- LIQUID RING VACUUM PUMP
- VERTICAL CAN PUMP

SELF-ACTUATED DEVICES

- RUPTURE DISC - PRESSURE RELIEF SAFETY HEAD FOR PRESSURE RELIEF (EXPLOSION PANEL)
- RUPTURE DISC - VACUUM RELIEF SAFETY HEAD FOR VACUUM RELIEF (EXPLOSION PANEL)
- PRESSURE RELIEF - SAFETY VALVE
- VACUUM RELIEF VALVE
- PRESSURE AND VACUUM RELIEF VALVE CONSERVATION VENT
- P — PILOT OPERATED RELIEF VALVE WITH REMOTE SENSOR (USE APPROPRIATE RELIEF VALVE SYMBOL)
- PRESSURE REDUCING REGULATOR (SELF-CONTAINED)
- BACK PRESSURE REGULATOR (SELF-CONTAINED)
- BACK PRESSURE REGULATOR W/ EXTERNAL TAP
- PRESSURE REDUCING REGULATOR W/ EXTERNAL TAP
- DIFFERENTIAL PRESSURE REDUCING REGULATOR
- TEMPERATURE REGULATOR FILLED SYSTEM TYPE

PROCESS EQUIPMENT

- DOME ROOF TANK
- CLOSED TOP TANK
- HYDROPNEUMATIC TANK
- OPEN TOP TANK / WET WELL/ CHANNEL

VALVE SYMBOLS

(N.C. WHEN SHADED)

- GATE VALVE
- CHECK VALVE
- STOP CHECK VALVE
- GLOBE VALVE
- BUTTERFLY VALVE
- NEEDLE VALVE
- BALL VALVE
- BALANCING VALVE
- AIR RELEASE VALVE
- PLUG VALVE
- DIAPHRAGM VALVE
- 3-WAY VALVE
- 4-WAY VALVE
- PINCH VALVE
- ANGLE VALVE
- KNIFE VALVE
- SLUICE OR SLIDE GATE

PIPING FITTINGS

- FLANGE
- WELDED CONNECTION
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- SPACER
- BLANK
- OPEN FIGURE 8 BLIND
- CLOSED FIGURE 8 BLIND
- PLUG
- BLIND FLANGE
- HOSE CONNECTION
- CAP

PIPING SPECIALTY ITEMS

- Y-TYPE STRAINER
- CONE STRAINER
- T-TYPE STRAINER
- DUPLEX STRAINER
- BASKET STRAINER
- TEMPORARY STRAINER
- FILTER
- D — DETONATION ARRESTOR
- F — FLAME ARRESTOR
- T — STEAM TRAP
- EXHAUST HEAD
- S — IN-LINE SILENCER
- S — VENT SILENCER
- MECHANICAL COUPLING
- EJECTOR
- RS — REMOVABLE SPOOL
- DS — DESUPERHEATER
- FLEXIBLE HOSE
- EXPANSION JOINT
- DAMPER
- BREATHER
- VENT COVER
- IN-LINE MIXER
- DIVERTER VALVE
- ROTARY VALVE
- EXCESS FLOW VALVE
- PULSATION DAMPENER
- INJECTION SPOOL

CONTROL VALVE ACTUATOR SYMBOLS

- MANUAL OPERATOR
- DIAPHRAGM
- PRESSURE BALANCED DIAPHRAGM
- HANDWHEEL WITH ACTUATOR
- CYLINDER - PISTON
- M — MOTOR OPERATED - CONSTANT SPEED
- E/P — ELECTRO-PNEUMATIC
- S — SINGLE SOLENOID
- S / R — SINGLE SOLENOID - MANUAL RESET
- S / R — SINGLE SOLENOID - REMOTE RESET

MISCELLANEOUS INSTRUMENT SYMBOLS

- CHEMICAL SEAL- DIAPHRAGM
- LEVEL SENSOR
- ANNULAR SEAL
- X — PILOT LIGHT OR GAUGE GLASS ILLUMINATOR X INDICATES COLOR R = RED B = BLUE G = GREEN A = AMBER W = WHITE
- DUAL FUNCTION OR INSTRUMENTS SHARING COMMON HOUSING
- I — UNDEFINED INTERLOCK LOGIC

CAD NO. W090-D4003-C11-D4002-C11-2023-X-I401

NO.	REVISIONS	INT.	APP.	DATE

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DRAWN	AAB	3/27/23
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CHECKED (HDQTS.)		

EL EZRA W... PRELIMINARY ONLY . DO NOT USE FOR CONSTRUCTION . JULY 2023 57964 REGISTERED PROFESSIONAL ENGINEER

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

P&ID LEGEND-2

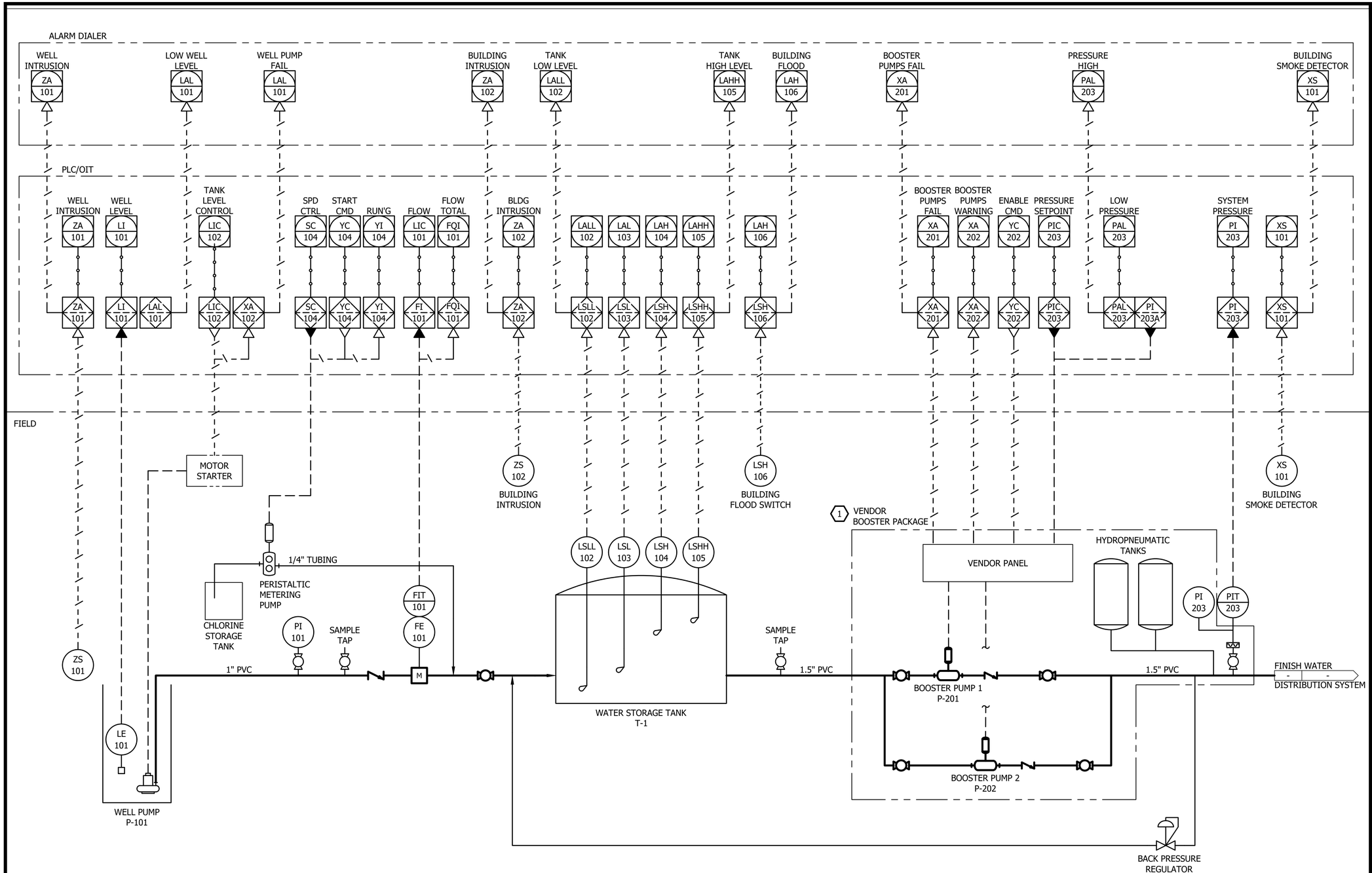
I401

SCALE

AS SHOWN

PARKS FILE#

Industrial Systems INC
12119 NE 99th Street
Suite #2090
Vancouver, Washington 98682
Phone: (360) 718-7267
Fax: (360) 952-8958
e-mail: is@industrialsystems-inc.com
OR CCB #196597 WA #INDUSSI880K9
AK #1018436
PROJECT#: 22.37.01



KEY NOTES

1 NOT ALL PIPING IS INCLUDED WITH VENDOR BOOSTER PACKAGE.

Industrial Systems INC
12119 NE 99th Street
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Vancouver, Washington 98682
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e-mail: is@industrialsystems-inc.com
OR CCB #196597 WA #INDUSSI880K9
AK #1018436
PROJECT#: 22.37.01

CAD NO. W090-D4003-C11-D4002-C11-2023-X-I402

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ACTION	BY	DATE
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DRAWN	AAB	3/27/23
CHECKED (FIELD)		
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EL EZRA W. MSC
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57964
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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

P&ID

I402

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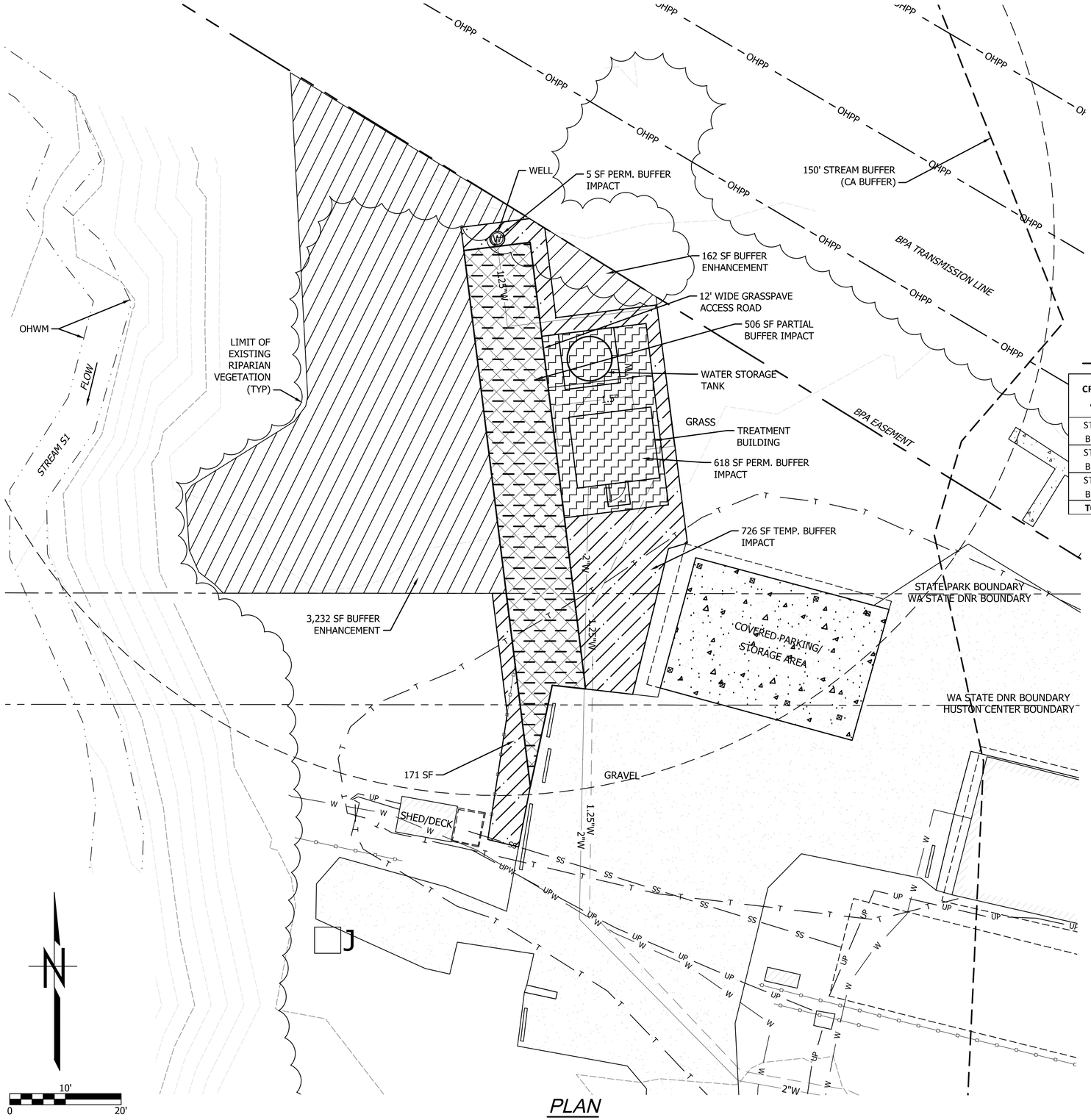
PARKS FILE#



PLAN

MITIGATION SUMMARY NOTES:

1) THE INTENT OF THE MITIGATION PLAN IS TO MITIGATE 1,129 SF OF PERMANENT BUFFER IMPACTS TO A TYPE F STREAM AT A 3:1 MIN. MITIGATION RATIO PER SCC30.62A.320(3), BY PROVIDING 3,394 SF OF BUFFER ENHANCEMENT .

2) 623 SF OF PERMANENT BUFFER IMPACT FROM WELL HEAD, TREATMENT BUILDING, SAND TORAGE TANK AREA AND 506 SF FROM ACCESS DRIVE WILL BE MITIGATED WITH BUFFER ENHANCEMENT. THIS INCLUDES REPLACING LOW FUNCTIONING LAWN BUFFER AREAS WITH NATIVE TREES AND SHRUBS THAT WILL IMPROVE VEGETATION STRUCTURE AND DIVERSITY.

3) 897 SF OF TEMPORARY BUFFER IMPACTS FROM CONSTRUCTION ACCESS AND 506 SF OF PARTIAL BUFFER IMPACTS FROM GRASSPAVE ACCESS ROAD WILL BE RESTORED IN-KIND WITH NATIVE GRASS SEED.

STREAM BUFFER IMPACT AND MITIGATION SUMMARY

CRITICAL AREA	IMPACT TYPE	PERM. IMPACT (SF)	TEMP. IMPACT (SF)	MITIGATION TYPE	RATIO	AREA SF REQ'D	AREA SF PROVIDED
STREAM BUFFER	TEMPORARY	NA	897	RESTORATION (IN-KIND)	1 to 1	897	897
STREAM BUFFER	PARTIAL	506	506	BUFFER ENHANCEMENT	3 to 1	1,518	3,394
STREAM BUFFER	PERMANENT	623	0	BUFFER ENHANCEMENT	3 to 1	1,869	
TOTALS		**1,129**	**1,403**			**4,284**	**4,291**

LEGEND

- PERMANENT BUFFER IMPACTS
- PARTIAL BUFFER IMPACTS
- TEMPORARY BUFFER IMPACTS - RESTORE IN-KIND
- BUFFER ENHANCEMENT FOR PERMANENT BUFFER IMPACTS

GENERAL NOTES

1. SEE SHEET L200 FOR BUFFER ENHANCEMENT PLANTING PLAN AND SHEET L300 FOR PLANTING DETAILS.

SHEET 1 OF 3

CAD NO. W090-D4003-C11-D4002-C11-2023-X-C100

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Dawn Evans and Associates
08/23 EXP. 03/17/2025

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WALLACE FALLS STATE PARK

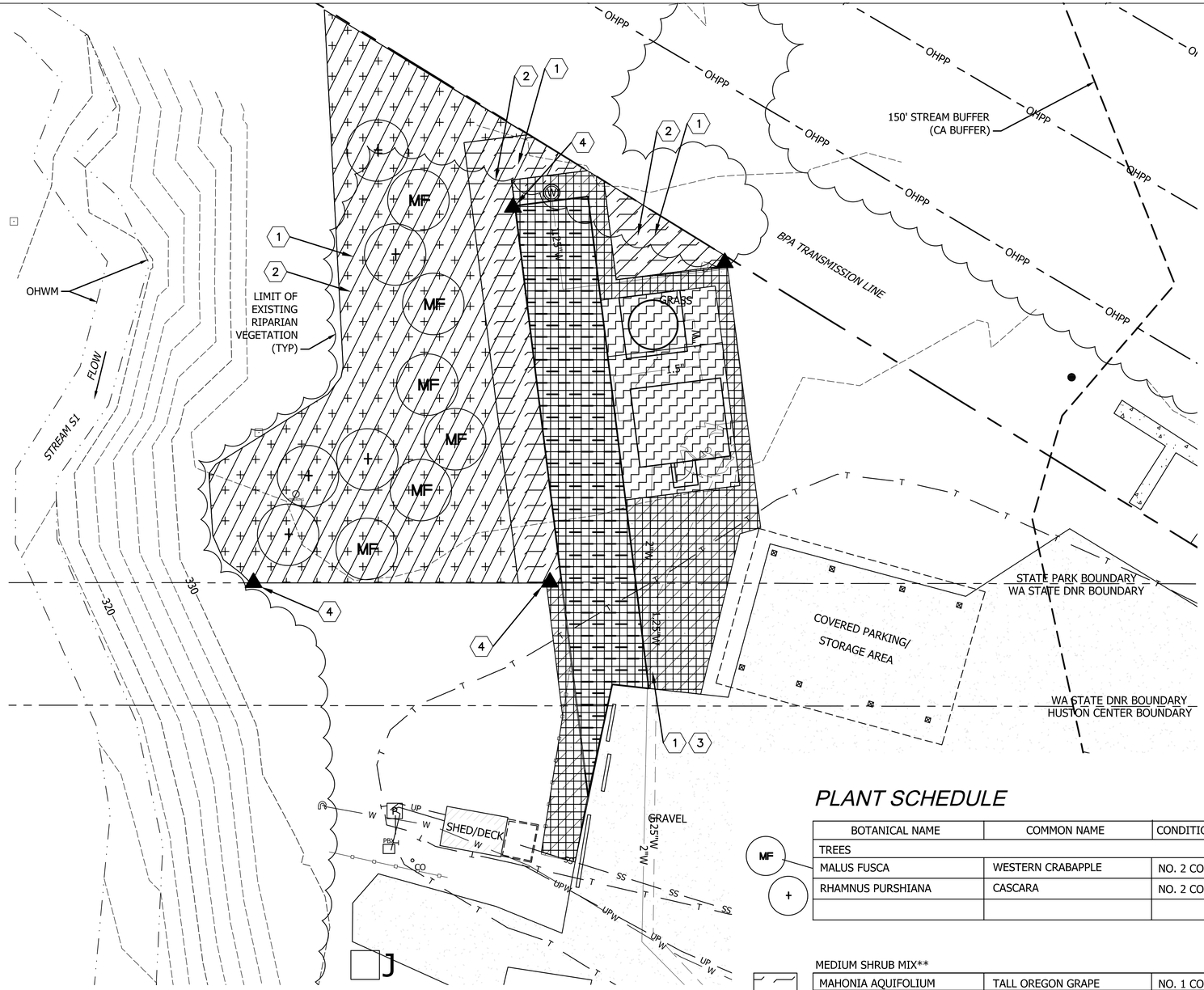
WATER SYSTEM REPLACEMENT

MITIGATION SUMMARY PLAN

L100

SCALE
AS SHOWN

PARKS FILE#



PLAN

CONSTRUCTION NOTES

1. AMEND PLANTING AREAS WITH 4" SOIL AMENDMENT INCORPORATED INTO EXISTING SUBGRADE TO A 12" DEPTH
2. INSTALL 4" DEEP BARK MULCH
3. APPLY NATIVE HYDROSEED MIX
4. INSTALL CRITICAL AREA PROTECTION AREA SIGN(S) PER SNOHOMISH COUNTY SCC 30.62A.160

GENERAL NOTES

1. SEE SHEET L300 FOR MITIGATION DETAILS.
2. SEE SHEET C101 FOR TESC PLAN AND SHEET C200 FOR WATER SYSTEM REPLACEMENT SITE LAYOUT.
3. INSTALL SHRUBS IN SINGLE-SPECIES GROUPINGS OF 3-5.
4. SEE PLANT SETBACK CHART (SHEET L300) FOR TREE AND SHRUB SETBACKS.
5. ENGINEER SHALL APPROVE THE PLANT LAYOUT PRIOR TO INSTALLATION.

LEGEND

NATIVE HYDROSEED MIX. SEE SPECIFICATIONS

CRITICAL AREA PROTECTION AREA (C.A.P.A.) SIGN

PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	CONDITION	QTY	SIZE (HT)	SPACING	REMARKS
TREES						
MALUS FUSCA	WESTERN CRABAPPLE	NO. 2 CONT.	6	18" MIN. HT.	10' O.C. MIN.	WELL BRANCHED
RHAMNUS PURSHIANA	CASCARA	NO. 2 CONT.	5	18" MIN. HT.	10' O.C. MIN.	WELL BRANCHED, SINGLE LEADER
MEDIUM SHRUB MIX**						
MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	NO. 1 CONT.	7	12" MIN. HT.	4' O.C.	FULL CONTAINER
ROSA GYMNOCARPA	BALD HIP ROSE	NO. 1 CONT.	9	12" MIN. HT.	4' O.C.	FULL CONTAINER
RUBUS PARVIFLORUS	THIMBLEBERRY	NO. 1 CONT.	7	12" MIN. HT.	4' O.C.	WELL BRANCHED
SYMPHORICARPOS ALBUS	SNOWBERRY	NO. 1 CONT.	15	12" MIN. HT.	4' O.C.	WELL BRANCHED
VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	NO. 1 CONT.	10	12" MIN. HT.	4' O.C.	WELL BRANCHED
TALL SHRUB MIX***						
ACER CIRCINATUM	VINE MAPLE	NO. 2 CONT.	15	18" MIN. HT.	4' O.C.	WELL BRANCHED
CORYLUS CORNUTA	BEAKED HAZELNUT	NO. 1 CONT.	10	12" MIN. HT.	4' O.C.	WELL BRANCHED
HOLODISCUS DISCOLOR	OCEANSPRAY	NO. 1 CONT.	35	12" MIN. HT.	4' O.C.	FULL CONTAINER
MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	NO. 1 CONT.	25	12" MIN. HT.	4' O.C.	FULL CONTAINER
OEMLARIA CERASIFORMIS	OSO BERRY	NO. 1 CONT.	25	12" MIN. HT.	4' O.C.	FULL CONTAINER
RIBES SANGUINEUM	RED FLOWERING CURRANT	NO. 1 CONT.	30	12" MIN. HT.	4' O.C.	WELL BRANCHED
ROSA NUTKANA	NOOTKA ROSE	NO. 1 CONT.	30	12" MIN. HT.	4' O.C.	WELL BRANCHED

** MEDIUM SHRUBS GROW NO TALLER THAN 6 FEET AT MATURITY.
*** TALL SHRUBS GROW TALLER THAN 6 FEET AT MATURITY.

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David Evans and Associates
www.deainc.com
EXP. 03/11/25
LANDSCAPE ARCHITECT

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

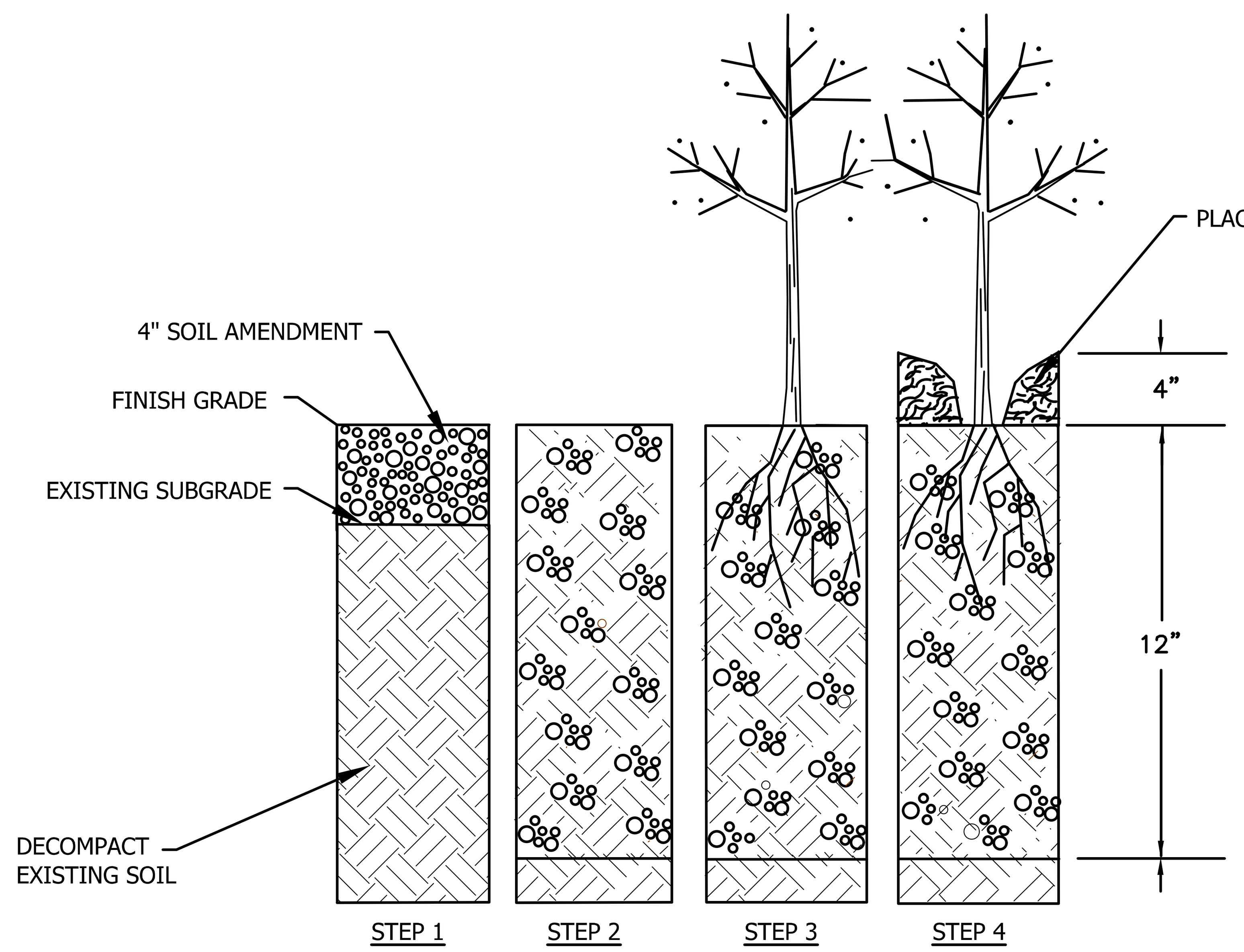
WATER SYSTEM REPLACEMENT

BUFFER ENHANCEMENT PLAN

L200

SCALE
AS SHOWN

PARKS FILE#



PLANTING AREA PREPARATION

STEP 1
PLACE SOIL AMENDMENT ON SUBGRADE

STEP 2
INCORPORATE SOIL AMENDMENT (COMPOST) TO 12" DEPTH. NO INCORPORATION SHALL OCCUR AROUND ROOTS OF EXISTING TREES TO REMAIN.

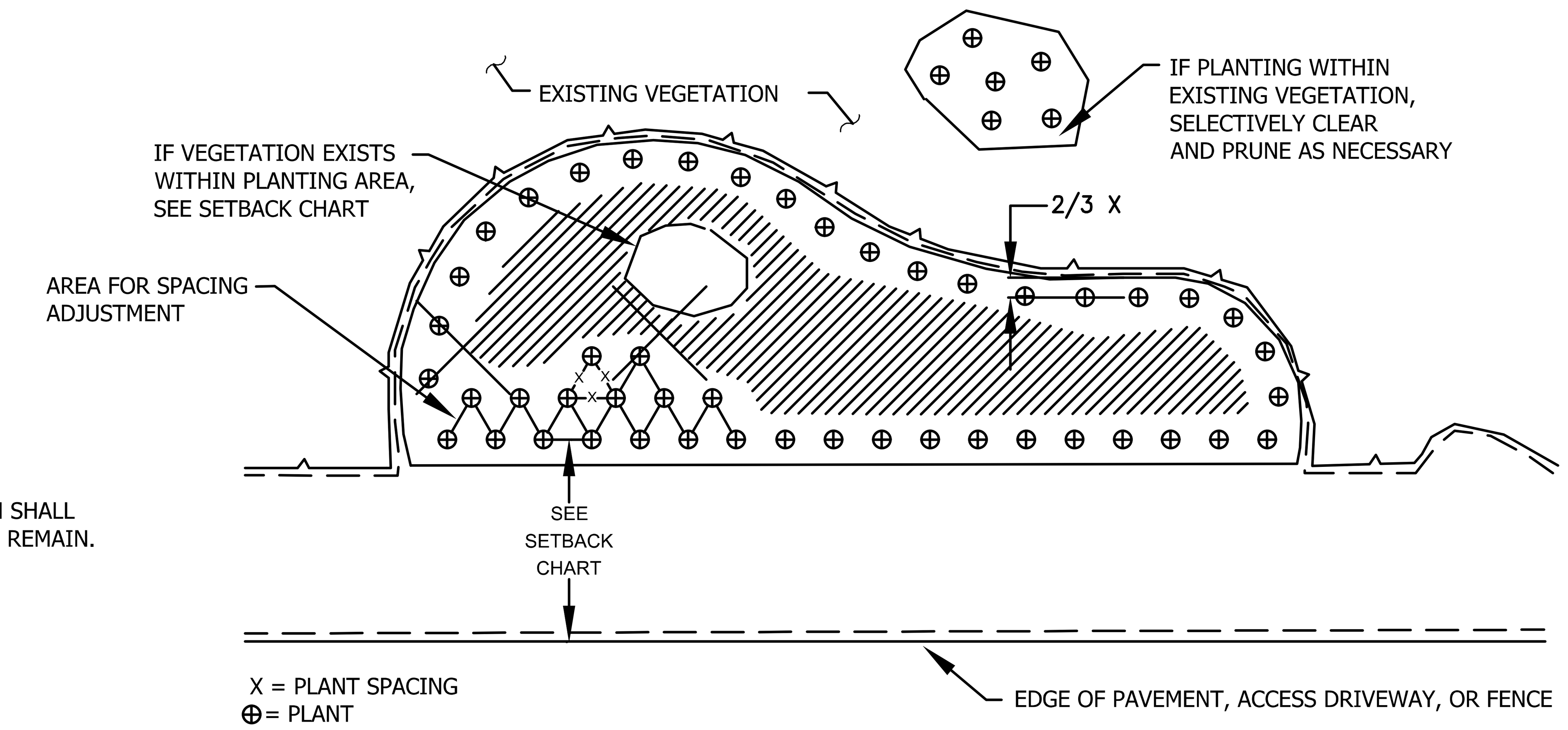
STEP 3
INSTALL PLANT (SEE PLANTING DETAIL)

STEP 4
INSTALL BARK MULCH

SENSITIVE AREA SOIL PREPARATION

1 / -

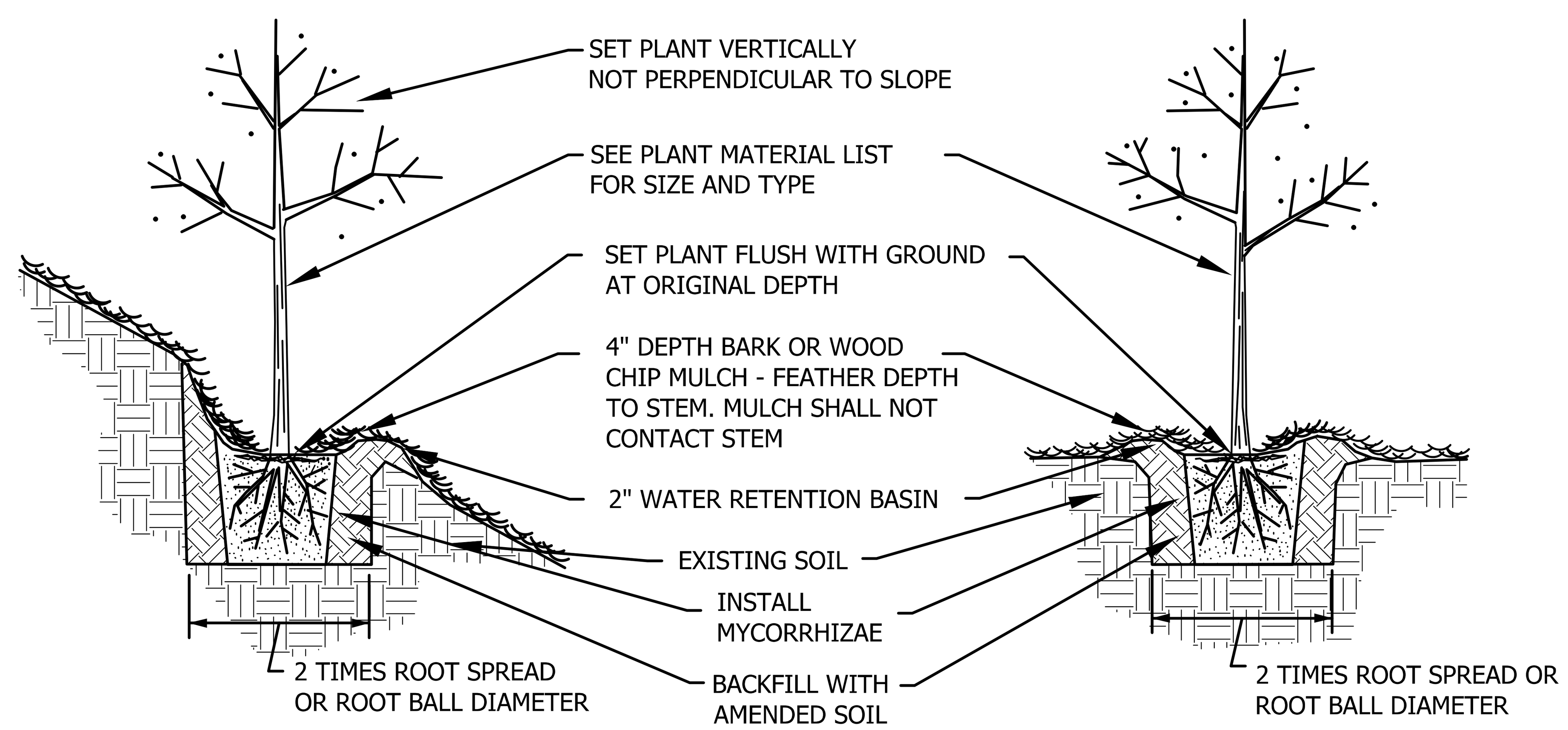
NOT TO SCALE



PLANTING AREA LAYOUT AND SETBACK

2 / -

NOT TO SCALE



TREE AND SHRUB PLANTING ON SLOPE

3 / -

NOT TO SCALE

TREE AND SHRUB PLANTING

4 / -

NOT TO SCALE

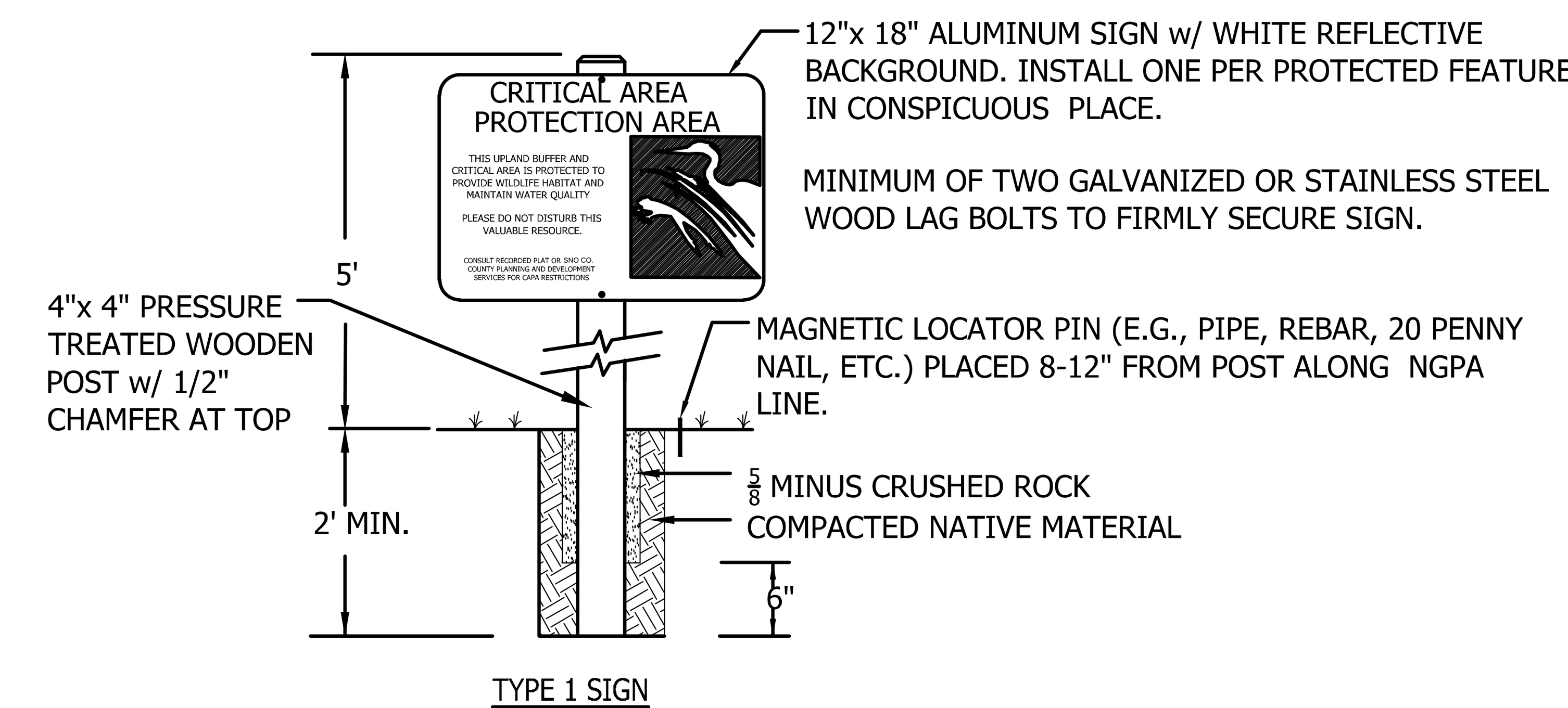
SETBACKS APPLY UNLESS OTHERWISE ADJUSTED BY ENGINEER DURING PLANT STAKING OR LAYOUT. DISTANCES BELOW ARE TO THE STEM OR TRUNK OF THE PLANT BEING INSTALLED.

	MEDIUM SHRUB **	TALL SHRUB ***	TREE
EDGE OF ROADWAY	2.5'	10'	15'
FENCE	2.5'	5'	10'
EXISTING TREE TRUNK	5'	10'	15'
EXISTING VEGETATION MASS	2.7'	2.7'	10'
OVERHEAD POWER	-	-	20'
ACCESS DRIVEWAY	3'	8'	15'

** MEDIUM SHRUBS GROW NO TALLER THAN 6 FEET AT MATURITY.
*** TALL SHRUBS GROW TALLER THAN 6 FEET AT MATURITY.

PLANT MATERIAL SETBACK CHART

5 / -



NOTES:

1. SIGNS SHALL BE PLACED AS SHOWN ON PLAN. MINIMUM PLACEMENT SHALL INCLUDE SIGNS AT A MAXIMUM OF 100 FEET ALONG BOUNDARY OR THE C.A.P.A.
2. SIGN PLACEMENT SHALL BE SUBJECT TO THE APPROVAL OF SNOHOMISH COUNTY.

CRITICAL AREA PROTECTION AREA SIGN

6 / -

CAD NO. W090-D4003-C11-D4002-C11-2023-X-C100

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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

WALLACE FALLS STATE PARK

WATER SYSTEM REPLACEMENT

MITIGATION DETAILS

L300

SCALE
AS SHOWN

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