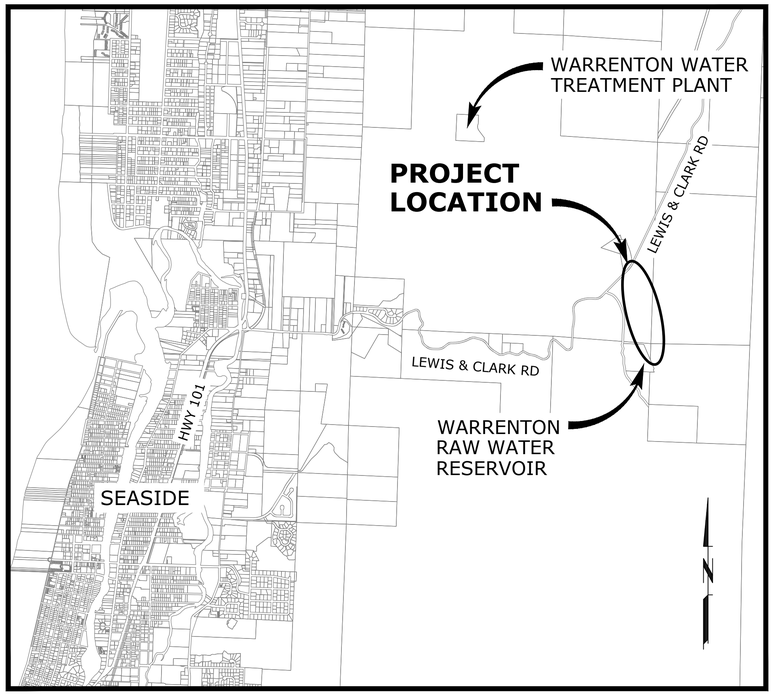
RAW WATERLINE REPLACEMENT PROJECT

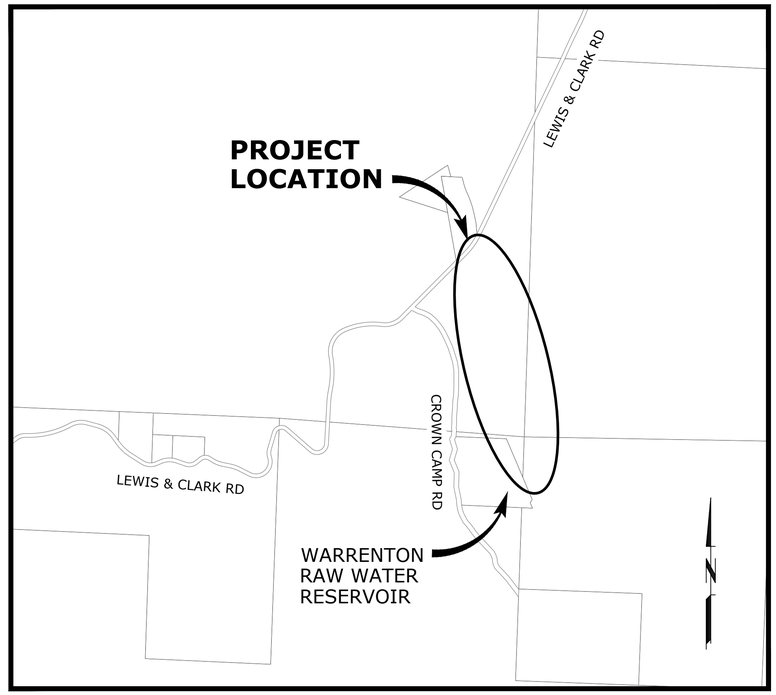
APRIL 2022

INDEX OF DRAWINGS



VICINITY MAP

SCALE: 1"=2,000'



LOCATION MAP

SCALE: 1"=500'

murraysmith

400 E MILL PLAIN BLVD., SUITE #400
VANCOUVER, WA 98660
P 360.448.4230

REGISTERED PROFESSIONAL ENGINEER 96202 — DIGITALLY SIGNED — OREGON — MAY 12, 2015 — ANDREW THOMAS MILES — RENEWS 12–31–22

ATTENTION: OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY CALLING THE UTILITY NOTIFICATION CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-246-6699.)

GENERAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO THE OREGON SPECIFICATIONS AND STANDARD DRAWINGS FOR CONSTRUCTION AND AS REVISED BY THE CITY OF WARRENTON. ANY CONDITION NOT DESCRIBED IN THE PERMIT SHALL BE PER SUBMITTED PLANS AND TO ALL APPLICABLE REQUIREMENTS OF APWA, AWWA, DEQ, EPA, DSL, AND ODOT CONSTRUCTION STANDARDS.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND ARRANGE FOR THE RELOCATION OF ANY IN CONFLICT WITH THE PROPOSED CONSTRUCTION. THE LOCATIONS, DEPTH, AND DESCRIPTION OF EXISTING UTILITIES SHOWN WERE COMPILED FROM AVAILABLE RECORDS AND-OR FIELD SURVEYS. THE CITY OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OF THE COMPLETENESS OF SUCH RECORDS. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA.

3. OREGON LAW REQUIRES THAT THE RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER BE FOLLOWED. THOSE RULES ARE SET FORTH IN OAR 952-001-0090. THE CONTRACTOR IS RESPONSIBLE TO CALL 1-800-332-2344 FOR LOCATES PRIOR TO EXCAVATION. ANY DAMAGE TO CITY OR PRIVATE SERVICES SHALL BE REPAIRED BY THE CONTRACTOR WITH OWN REPAIR MATERIALS.

4. THE CONTRACTOR SHALL MAKE PROVISIONS TO KEEP ALL EXISTING UTILITIES (INCLUDING NON-LOCATABLE) IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE NOTIFICATION OF DAMAGE TO UTILITIES AND THE REPAIR OR REPLACEMENT OF DAMAGED UTILITIES USING MATERIALS AND METHODS APPROVED BY THE UTILITY OWNER. NO SERVICE INTERRUPTIONS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN AGREEMENT WITH THE UTILITY OWNER/PROVIDER.

5. THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS AND OTHERWISE VERIFY ALL DIMENSIONS AND EXISTING CONSTRUCTION CONDITIONS INDICATED AND OR SHOWN ON THE PLANS. SHOULD ANY ERROR OR INCONSISTENCY EXIST, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED UNTIL REPORTED TO THE DESIGN ENGINEER FOR CLARIFICATION OR CORRECTION.

6. ALL PROJECT ELEMENTS SHALL BE CONSTRUCTED PER APPROVED PROJECT DRAWINGS; SPECIFICATIONS; FEDERAL, STATE AND LOCAL PERMITS.

7. THE CONTRACTOR SHALL KEEP AN APPROVED SET OF PLANS ON THE PROJECT SITE AT ALL TIMES.

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

9. CONTRACTOR SHALL ERECT AND MAINTAIN TEMPORARY TRAFFIC CONTROL PER THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), PART 6, AND DEVIATIONS TO THE MUTCD AS ADOPTED AND MODIFIED BY ODOT.

10. SHOULD WORK BE IN AN EXISTING PUBLIC RIGHT OF WAY THAT IS OPEN TO TRAFFIC, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN WITH ROW PERMIT TO APPROPRIATE CITY, COUNTY, AND STATE PERSONNEL FOR APPROVAL.

11. APPROVALS SHALL BE OBTAINED PRIOR TO START OF WORK.

12. ANY INSPECTION BY THE CITY, COUNTY, STATE, FEDERAL AGENCY OR DESIGN ENGINEER SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, CITY STANDARDS AND PROJECT CONTRACT DOCUMENTS.

WATER SYSTEM NOTES

1. AT THE END OF EACH WORK DAY ALL OPEN TRENCHES SHALL BE BACKFILLED.

2. OPERATION OF WATER VALVES SHALL BE BY CITY OF WARRENTON STAFF ONLY.

3. NO UNDERGROUND WORK SHALL BE "BURIED" UNTIL INSPECTED AND APPROVED BY THE ENGINEER.

4. FINAL LOCATIONS OF ALL VALVE BOXES, FIRE HYDRANTS, AND AIR RELEASE VALVES SHALL BE FIELD VERIFIED BY OWNER PRIOR TO CONSTRUCTION.

5. THE USE OF CONCRETE THRUST BLOCKS IS ALLOWED ONLY WHERE SHOWN ON PLANS. REQUIRED THRUST RESTRAINT IN ALL OTHER LOCATIONS WILL BE ACCOMPLISHED WITH APPROVED JOINT RESTRAINT SYSTEM.

6. PROVIDE TWO SHEETS OF 8 MIL POLYETHYLENE ENCASEMENT FOR ALL NEW DUCTILE IRON PIPING IN ACCORDANCE WITH SPECIFICATIONS.

7. ALL PIPING SHALL HAVE A MINIMUM OF 30 INCHES OF COVER FROM TOP OF PIPE TO STREET GRADE OR OTHER FINISH GRADE, UNLESS OTHERWISE SHOWN OR APPROVED BY ENGINEER.

8. ALL HDPE WATER PIPING SHALL BE 24-IN DIAMETER, DR-17 THICKNESS, IRON PIPE SIZE (IPS) AND SHALL MEET MINIMUM REQUIREMENTS OF AWWA C906. SEE SPECIFICATIONS.

9. HDPE TO HDPE JOINT CONNECTIONS SHALL TYPICALLY BE COMPLETED BY THERMAL BUTT FUSION. WHERE THERMAL BUTT FUSION IS NOT FEASIBLE DUE TO SPACE CONSTRAINTS (OR WHERE SPECIFIED OTHERWISE) OTHER METHODS FOR CONNECTING PIPE ENDS MAY BE EMPLOYED AS APPROVED BY ENGINEER. SEE SPECIFICATIONS FOR REQUIREMENTS.

10. ALL DUCTILE IRON WATER PIPING SHALL BE RESTRAINED JOINT CLASS 52, UNLESS OTHERWISE NOTED ON THE PLANS. SEE SPECIFICATIONS FOR ACCEPTABLE PIPE JOINT RESTRAINT SYSTEMS.

NO.	DATE	BY	REVISION

NOTICE

0 ½ 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM
DESIGNED
EJJ
DRAWN
ATM
CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED
OREGON
MAY 12, 2020
ANDREW THOMAS MILES
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

GENERAL NOTES

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
G-2
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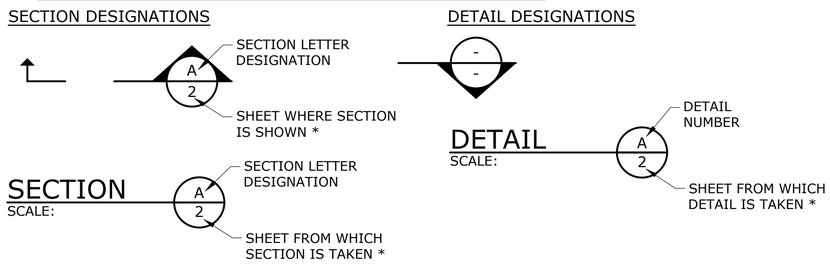
PIPE & FITTING SYMBOLS

PLANT	SCHEMATIC	
		WELDED JOINT
		FLANGED JOINT
		GROOVED END JOINT
		MECHANICAL JOINT
		PUSH-ON JOINT (RUBBER GASKET)
		FLANGED COUPLING ADAPTER
		DOUBLE BALL FLEXIBLE EXTENSION COUPLING
		FLEXIBLE COUPLING W/ THRUST RING
		90° BEND UP
		90° BEND DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		BLIND FLANGE
		CAP
		LONG SLEEVE
		FLEXIBLE COUPLING
		FITTING (45°)

SECTION AND DETAIL DESIGNATIONS



* NOTE: IF PLAN AND SECTION FOR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON THE SAME DRAWING, DRAWING NUMBER IS REPLACED WITH A DASH.

TOPOGRAPHIC LEGEND

	EXISTING	PROPOSED
WATERLINE	10"W	12"DI W
ELECTRICITY	E	E
GAS	4"G	4"G
TELEPHONE/TELEMETRY	T	T
CABLE TELEVISION	CATV	CATV
SANITARY SEWER LINE	8"SS	8"SS
SANITARY SEWER FORCE MAIN	6"FM	6"FM
STORM DRAIN	8"SD	8"SD
CULVERT		18"D
ABANDON PIPE		
DRAINAGE DITCH		
BARBWIRE FENCE		
CHAIN LINK FENCE		
TEMPORARY SILT FENCE		
GUARDRAIL		
ROCK WALL		
TREE/BUSH LINE		
CENTERLINE		
EASEMENT/PROPERTY LINE		
RIGHT-OF-WAY		
EDGE OF PAVEMENT/AC		
EDGE OF GRAVEL		
CURB		
SIDEWALK	S/W	
STRUCTURE OR FACILITY		
CONTOUR MINOR		
CONTOUR MAJOR	200	200
MANHOLE		
CLEAN-OUT		
CATCH BASIN/FIELD INLET		
THRUST BLOCK		
VALVE		
AIR INJECTION ASSEMBLY		
BLOW-OFF ASSEMBLY		
AIR RELEASE ASSEMBLY		
FIRE HYDRANT ASSEMBLY		
WATER METER		
PULL BOX/JUNCTION BOX		
UTILITY POLE		
GUY WIRE		
LIGHT POST		
MAILBOX		
SIGN		
BENCHMARK		
TREE DECIDUOUS		
TREE CONIFEROUS		
TREE TO BE REMOVED		
SURFACE ELEVATION	+ 176.63	+ 176.63

VALVE SYMBOLS

PLANT	SCHEMATIC	
		BUTTERFLY VALVE
		GATE VALVE
		GLOBE VALVE
		BALL VALVE
		BALANCING VALVE
		PLUG VALVE (TOP)
		PLUG VALVE (SIDE)
		3-WAY PLUG VALVE
		CHECK VALVE
		SWING CHECK VALVE
		DOUBLE CHECK ASSEMBLY
		BALL SWING CHECK
		SILENT CHECK VALVE
		PRESSURE REDUCING VALVE
		ALTITUDE CONTROL VALVE
		SOLENOID VALVE
		RELIEF VALVE
		NEEDLE VALVE
		HOSE VALVE
		REDUCED PRESSURE BACKFLOW PREVENTER W/ GATE VALVES
		HOSE BIBB

MISCELLANEOUS PIPING SYMBOLS

	STRAINER
	SIGHT GLASS
	PRESSURE GAUGE W/ COCK
S	PRESSURE SWITCH W/ COCK
M	METER
SP	SLIP-ON JOINT PIPE
R	RESTRAINED JOINT PIPE

NO.	DATE	BY	REVISION

NOTICE

0 ½ 1

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ATM DESIGNED
EJJ DRAWN
ATM CHECKED

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murraysmith

THE CITY OF WARRENTON — OREGON

RAW WATERLINE REPLACEMENT

SYMBOLS AND LEGEND

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET G-3

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@	AT
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
APPROX	APPROXIMATE
APPVD	APPROVED
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
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
BS	BOTH SIDES
BSMT	BASEMENT
BTF	BOTTOM FACE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BW	BOTH WAYS
C	CELSIUS
C TO C	CENTER TO CENTER
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CARV	COMBINATION AIR RELEASE VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CCP	CONCRETE CYLINDER PIPE
CCW	COUNTER CLOCKWISE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
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
CSP	CONCRETE SEWER PIPE
CT	COURT
CTR	CENTER
CU	CUBIC
CULV	CULVERT
CV	CONTROL VALVE
CW	CLOCKWISE / COLD WATER
CY	CUBIC YARDS
CYL	CYLINDER LOCK
D	DRAIN
DC	DIRECT CURRENT
DEFL	DEFLECTION
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DIST	DISTANCE
DN	DOWN
DR	DRIVE
DS	DOWNSPOUT
DWG	DRAWING
DWL	DOWEL
DWV	DRAIN WASTE AND VENT
DWY	DRIVEWAY
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
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	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	FORCE MAIN
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
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
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
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
ITD	IDAHO TRANSPORTATION DEPARTMENT
JT	JOINT
JUNC	JUNCTION
KPL	KICK PLATE
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWY	KEYWAY
L	LENGTH
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
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
ODOT	OREGON DEPARTMENT OF TRANSPORTATION
OF	OVERFLOW / OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OVHD	OVERHEAD
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PCVC	POINT OF CURVATURE ON VERTICAL CURVE
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
PRC	POINT OF REVERSE CURVATURE
PRCST	PRECAST
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	POINT OF TANGENCY
PTVC	POINT OF TANGENCY ON VERTICAL CURVE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QTY	QUANTITY
RAD	RADIUS
RC	REINFORCED CONCRETE
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
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
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
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
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

NO.	DATE	BY	REVISION

NOTICE

0 ½ 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM
DESIGNED

ATM
DRAWN

ATM
CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED
OREGON
MAY 12, 2020
ANDREW THOMAS MILES
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON
OREGON

RAW WATERLINE REPLACEMENT

ABBREVIATIONS

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
G-4
4 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-G.dwg G-4 4/28/2022 10:42 AM ANDY.MILES 23.0s (LMS Tech)

PLAN
SCALE: 1"=150'

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM DESIGNED
EJJ DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 OREGON ANDREW THOMAS MILES
DIGITALLY SIGNED MAY 10, 2020
RENEWS 12-31-22

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THE CITY OF WARRENTON OREGON

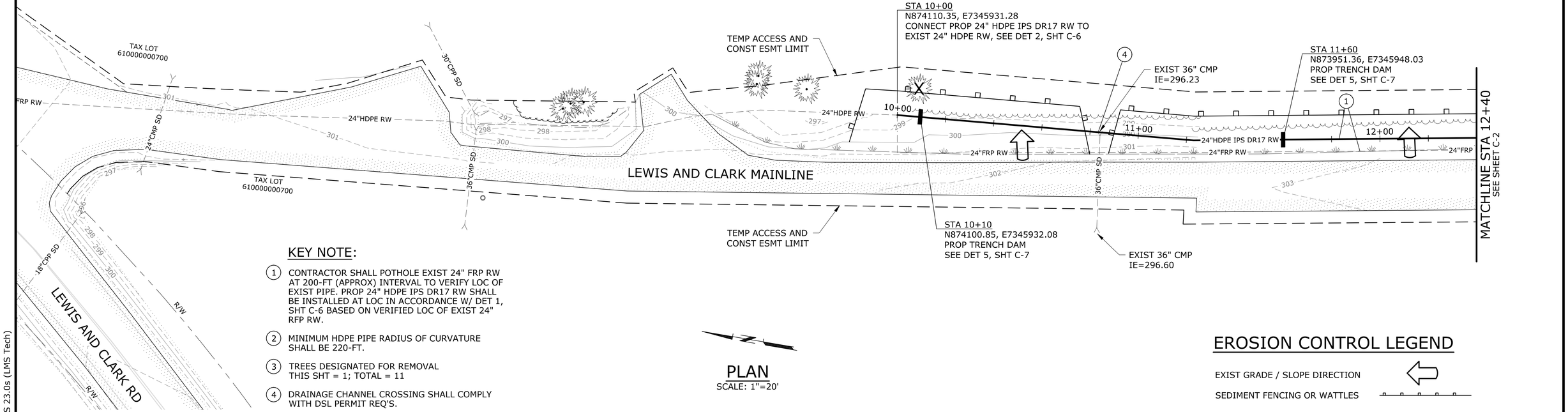
RAW WATERLINE REPLACEMENT

KEY MAP AND PROJECT OVERVIEW

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET G-5
5 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-G.dwg G-5 4/28/2022 10:42 AM ANDY.MILES 23.0s (LMS Tech)



KEY NOTE:

1. CONTRACTOR SHALL POTHOLE EXIST 24" FRP RW AT 200-FT (APPROX) INTERVAL TO VERIFY LOC OF EXIST PIPE. PROP 24" HDPE IPS DR17 RW SHALL BE INSTALLED AT LOC IN ACCORDANCE W/ DET 1, SHT C-6 BASED ON VERIFIED LOC OF EXIST 24" RFP RW.
2. MINIMUM HDPE PIPE RADIUS OF CURVATURE SHALL BE 220-FT.
3. TREES DESIGNATED FOR REMOVAL
   THIS SHT = 1; TOTAL = 11
4. DRAINAGE CHANNEL CROSSING SHALL COMPLY WITH DSL PERMIT REQ'S.

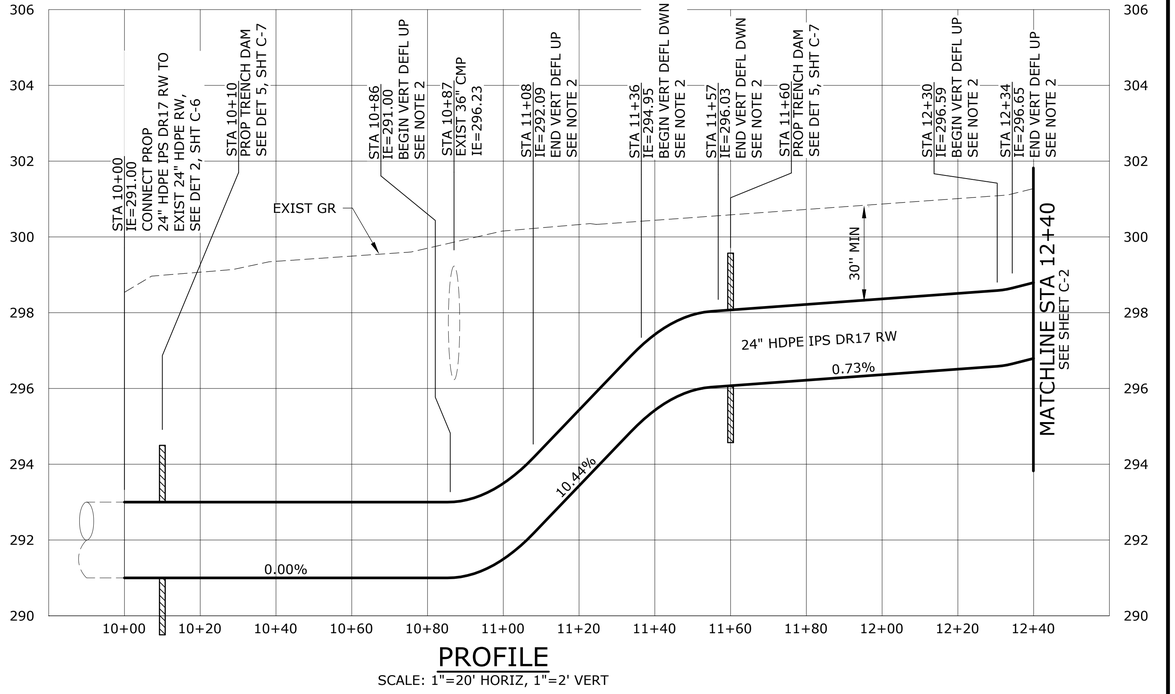
PLAN

SCALE: 1"=20'

EROSION CONTROL LEGEND

EXIST GRADE / SLOPE DIRECTION

SEDIMENT FENCING OR WATTLES



PROFILE

SCALE: 1"=20' HORIZ, 1"=2' VERT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM DESIGNED
EJJ DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 OREGON
DIGITALLY SIGNED
ANDREW THOMAS MILES MAY 12, 2020
RENEWS 12-31-22

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THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

WATERLINE
PLAN AND PROFILE
STA 10+00 TO STA 12+40

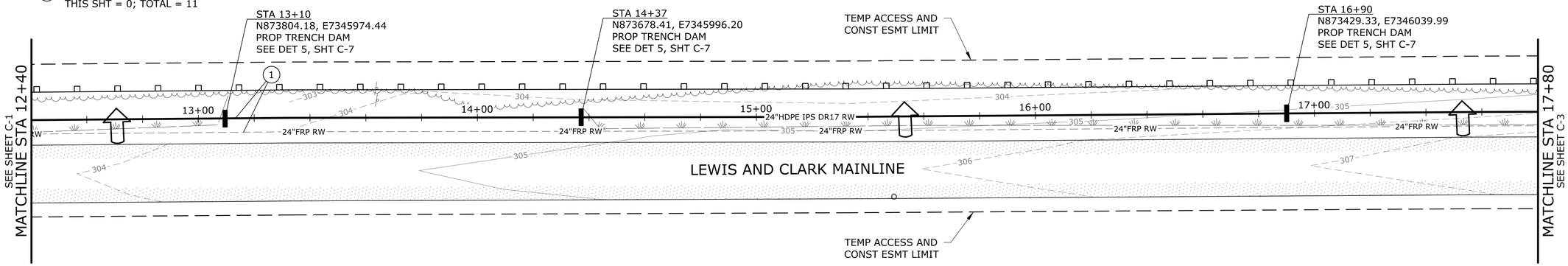
PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
C-1
6 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C.dwg C-1 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)

KEY NOTE:

1. CONTRACTOR SHALL POTHOLE EXIST 24" FRP RW AT 200-FT (APPROX) INTERVAL TO VERIFY LOC OF EXIST PIPE. PROP 24" HDPE IPS DR17 RW SHALL BE INSTALLED AT LOC IN ACCORDANCE W/ DET 1, SHT C-6 BASED ON VERIFIED LOC OF EXIST 24" RFP RW.
2. MINIMUM HDPE PIPE RADIUS OF CURVATURE SHALL BE 220-FT.
3. TREES DESIGNATED FOR REMOVAL THIS SHT = 0; TOTAL = 11



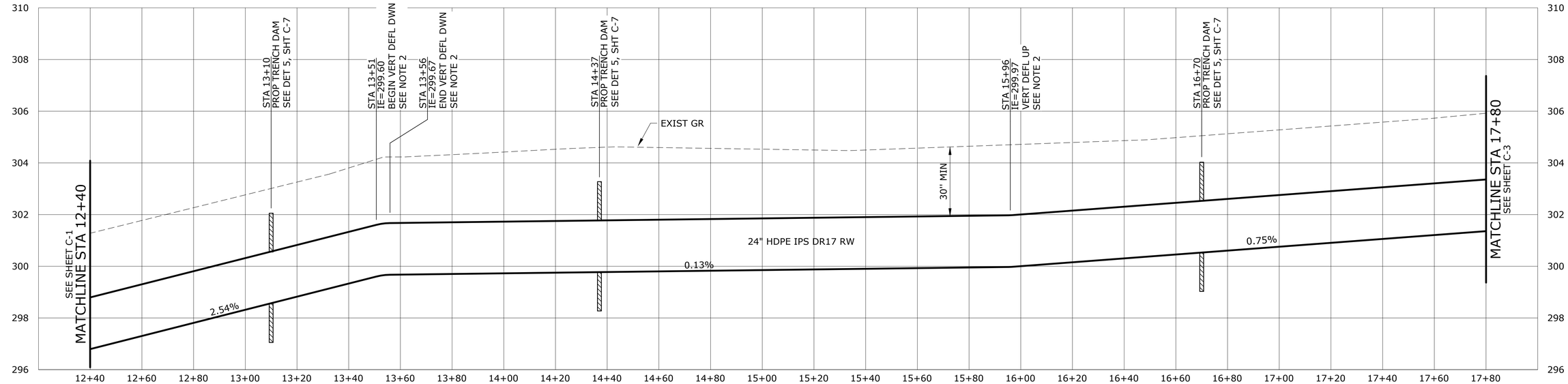
EROSION CONTROL LEGEND

EXIST GRADE / SLOPE DIRECTION

SEDIMENT FENCING OR WATTLES

PLAN

SCALE: 1"=20'



PROFILE

SCALE: 1"=20' HORIZ, 1"=2' VERT

NO.	DATE	BY	REVISION

NOTICE

0 ½ 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM DESIGNED

EJJ DRAWN

ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 OREGON

DIGITALLY SIGNED

ANDREW THOMAS MILES MAY 12, 2020

RENEWS 12-31-22

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THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

WATERLINE PLAN AND PROFILE STA 12+40 TO STA 17+80

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

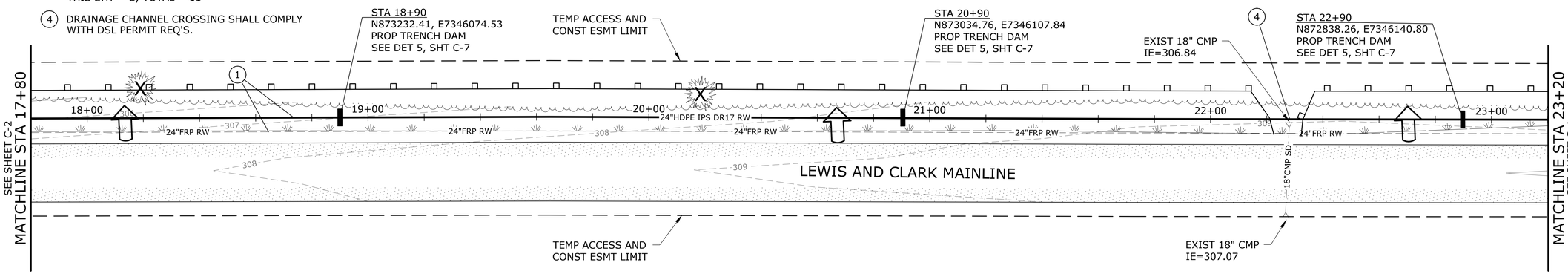
SHEET C-2

7 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C.dwg C-2 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)

KEY NOTE:

1. CONTRACTOR SHALL POTHOLE EXIST 24" FRP RW AT 200-FT (APPROX) INTERVAL TO VERIFY LOC OF EXIST PIPE. PROP 24" HDPE IPS DR17 RW SHALL BE INSTALLED AT LOC IN ACCORDANCE W/ DET 1, SHT C-6 BASED ON VERIFIED LOC OF EXIST 24" RFP RW.
2. MINIMUM HDPE PIPE RADIUS OF CURVATURE SHALL BE 220-FT.
3. TREES DESIGNATED FOR REMOVAL THIS SHT = 2; TOTAL = 11
4. DRAINAGE CHANNEL CROSSING SHALL COMPLY WITH DSL PERMIT REQ'S.

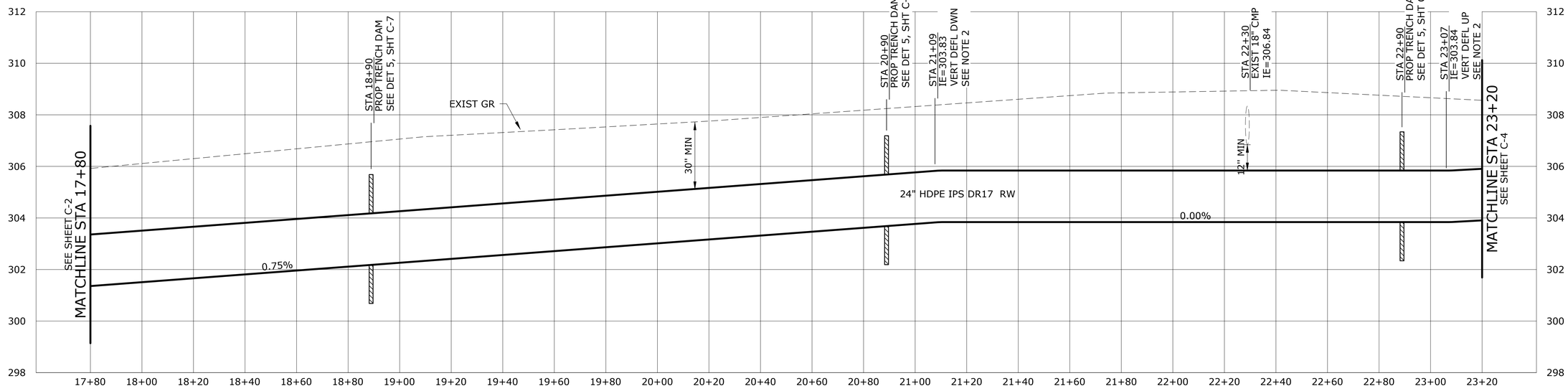


PLAN
SCALE: 1"=20'

EROSION CONTROL LEGEND

EXIST GRADE / SLOPE DIRECTION

SEDIMENT FENCING OR WATTLES



PROFILE
SCALE: 1"=20' HORIZ, 1"=2' VERT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM DESIGNED
EJJ DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 DIGITALLY SIGNED ANDREW THOMAS MILES MAY 12, 2020 RENEWS 12-31-22

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THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

WATERLINE PLAN AND PROFILE STA 17+80 TO STA 23+20

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET C-3

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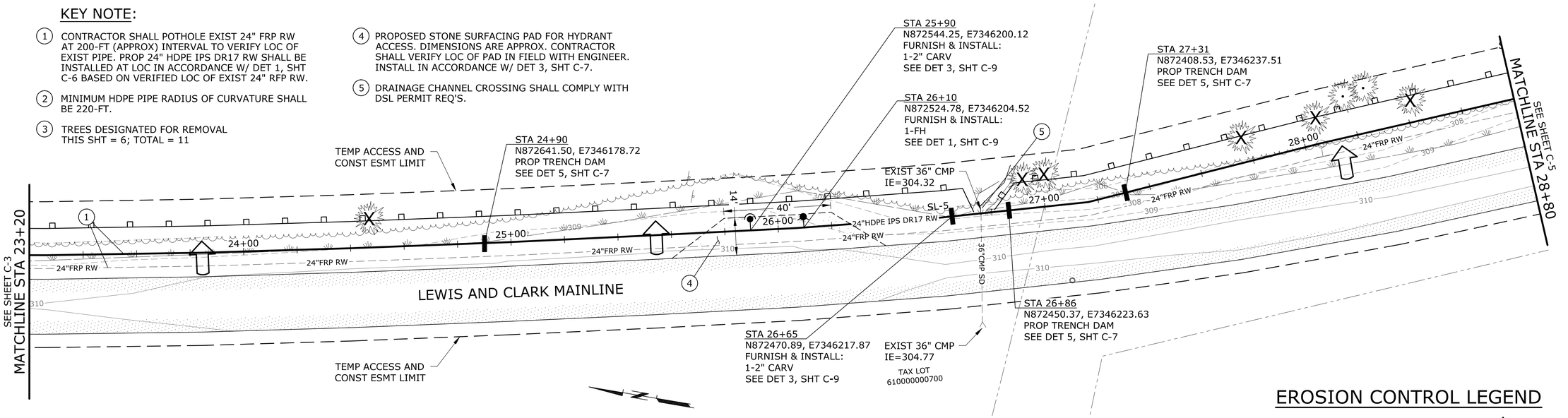
G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C.dwg C-3 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)

KEY NOTE:

1. CONTRACTOR SHALL POTHOLE EXIST 24" FRP RW AT 200-FT (APPROX) INTERVAL TO VERIFY LOC OF EXIST PIPE. PROP 24" HDPE IPS DR17 RW SHALL BE INSTALLED AT LOC IN ACCORDANCE W/ DET 1, SHT C-6 BASED ON VERIFIED LOC OF EXIST 24" RFP RW.
2. MINIMUM HDPE PIPE RADIUS OF CURVATURE SHALL BE 220-FT.
3. TREES DESIGNATED FOR REMOVAL
   THIS SHT = 6; TOTAL = 11
4. PROPOSED STONE SURFACING PAD FOR HYDRANT ACCESS. DIMENSIONS ARE APPROX. CONTRACTOR SHALL VERIFY LOC OF PAD IN FIELD WITH ENGINEER. INSTALL IN ACCORDANCE W/ DET 3, SHT C-7.
5. DRAINAGE CHANNEL CROSSING SHALL COMPLY WITH DSL PERMIT REQ'S.

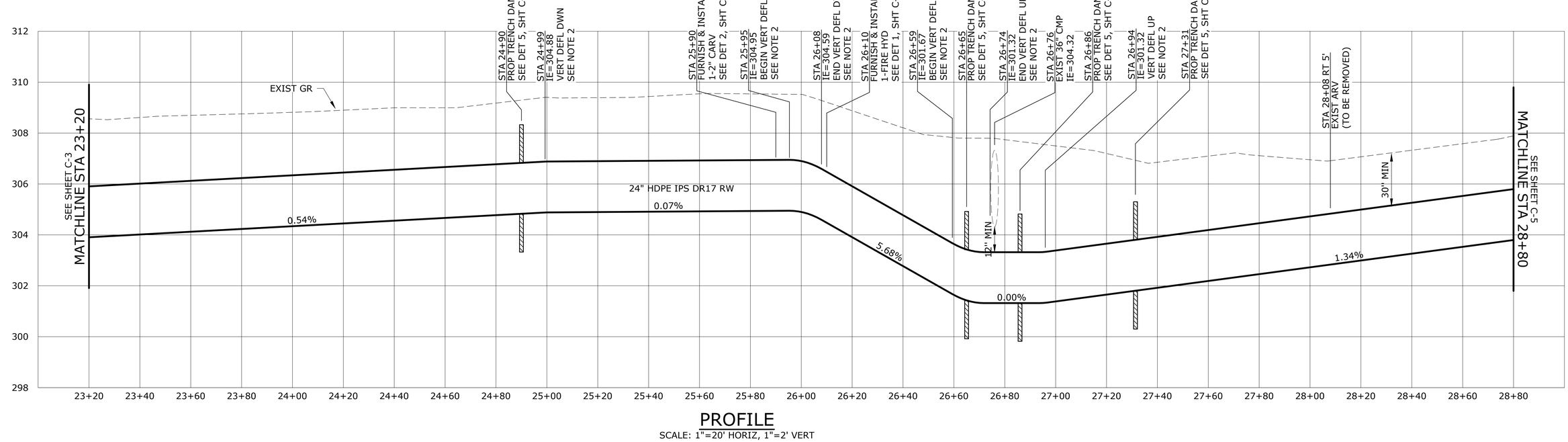


PLAN
SCALE: 1"=20'

EROSION CONTROL LEGEND

EXIST GRADE / SLOPE DIRECTION

SEDIMENT FENCING OR WATTLES



PROFILE
SCALE: 1"=20' HORIZ, 1"=2' VERT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
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ATM DESIGNED
EJJ DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED OREGON MAY 12, 2020 ANDREW THOMAS MILES
RENEWS 12-31-22

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THE CITY OF WARRENTON OREGON

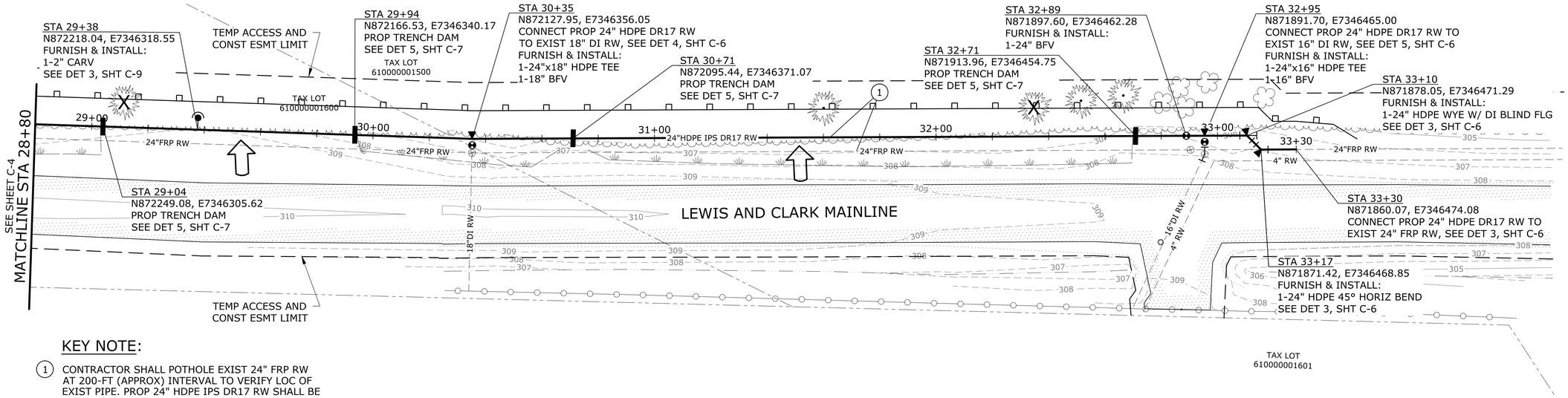
RAW WATERLINE REPLACEMENT

WATERLINE
PLAN AND PROFILE
STA 23+20 TO STA 28+80

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
C-4
9 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C.dwg C-4 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)



KEY NOTE:

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2. MINIMUM HDPE PIPE RADIUS OF CURVATURE SHALL BE 220-FT.
3. TREES DESIGNATED FOR REMOVAL
   THIS SHT = 2; TOTAL = 11

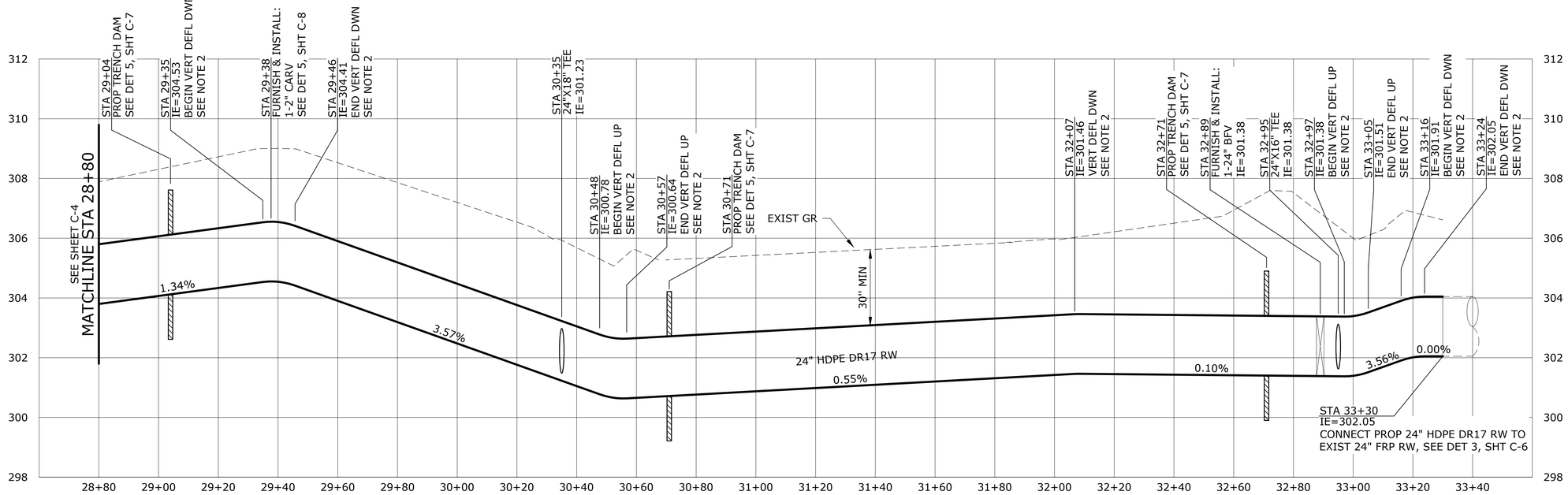
PLAN

SCALE: 1"=20'

EROSION CONTROL LEGEND

EXIST GRADE / SLOPE DIRECTION

SEDIMENT FENCING OR WATTLES



PROFILE

SCALE: 1"=20' HORIZ, 1"=2' VERT

NO.	DATE	BY	REVISION

NOTICE

0 ½ 1

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ATM DESIGNED

EJJ DRAWN

ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 OREGON
DIGITALLY SIGNED
ANDREW THOMAS MILES
MAY. 12, 2022
RENEWS 12-31-22

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THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

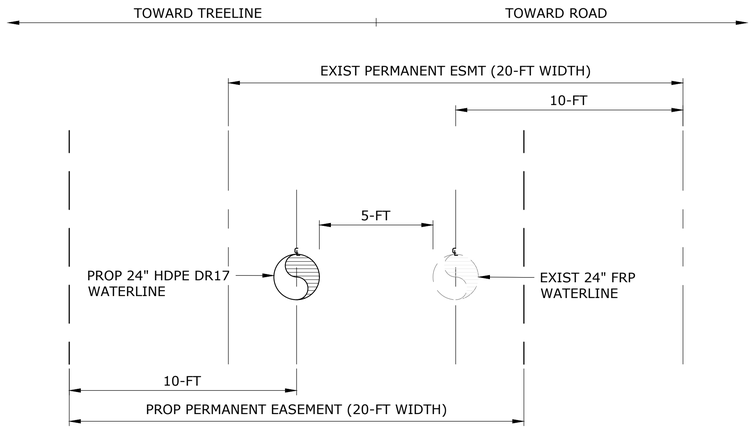
WATERLINE PLAN AND PROFILE STA 28+80 TO STA 33+30

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

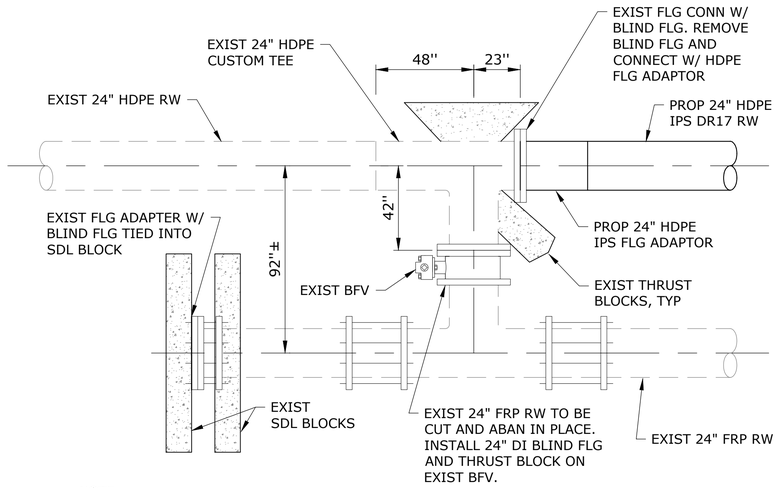
SHEET C-5

10 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C.dwg C-5 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)



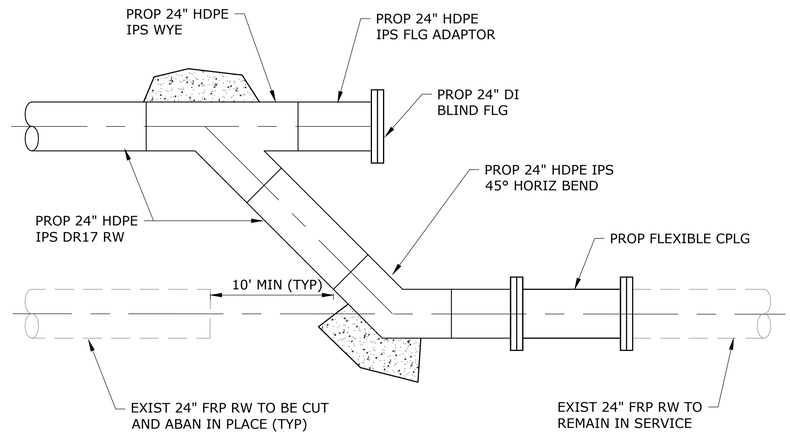
WATERLINE PLACEMENT (1/-)
SCALE: NTS



NOTE:

1. DURING POTHOLING OF EXIST 24" FRP RW, CONTRACTOR SHALL VERIFY LOC OF EXIST PIPE AND FITGS REQD FOR CONNECTION WORK. REPORT ANY DISCREPANCIES TO ENGINEER AND SUBMIT ADJUSTMENTS TO CONNECTION WORK FOR APPROVAL.

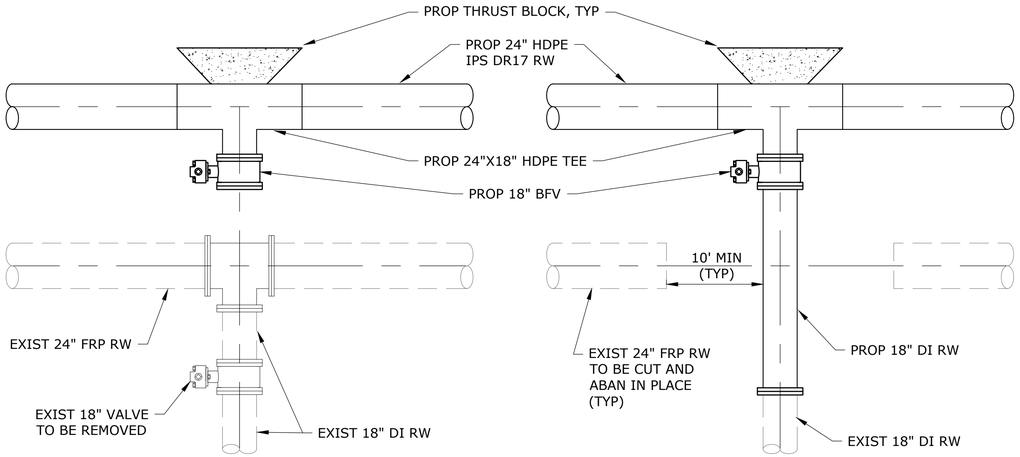
CONNECT TO EX 24" HDPE RW (2/-)
SCALE: NTS



NOTE:

1. DURING POTHOLING OF EXIST 24" FRP RW, CONTRACTOR SHALL VERIFY LOC OF EXIST PIPE AND FITGS REQD FOR CONNECTION WORK. REPORT ANY DISCREPANCIES TO ENGINEER AND SUBMIT ADJUSTMENTS TO CONNECTION WORK FOR APPROVAL.

CONNECT TO EX 24" FRP RW (3/-)
SCALE: NTS

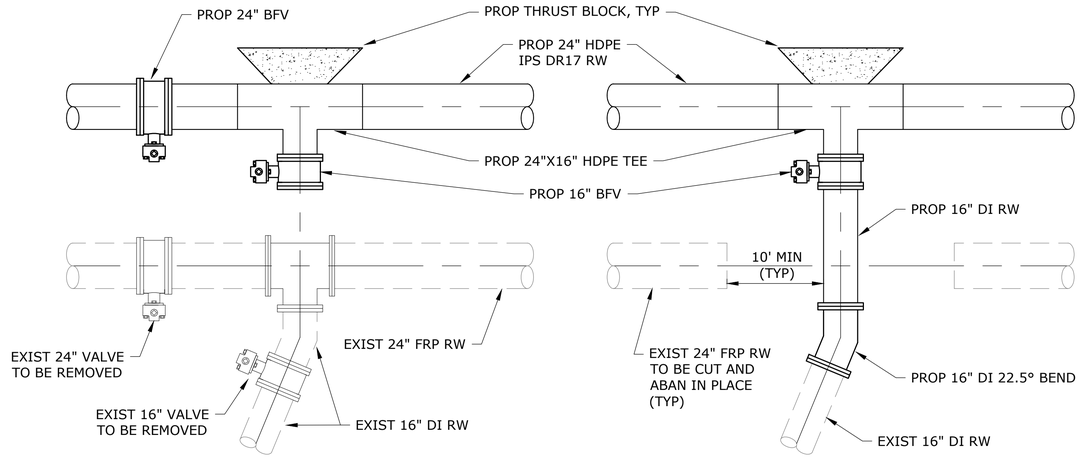


NOTES:

1. DURING POTHOLING OF EXIST 24" FRP RW, CONTRACTOR SHALL VERIFY LOC OF EXIST PIPE AND FITGS REQD FOR CONNECTION WORK. REPORT ANY DISCREPANCIES TO ENGINEER AND SUBMIT ADJUSTMENTS TO CONNECTION WORK FOR APPROVAL.

2. SEE DET 5, SHT C-8 FOR HDPE TO DI TRANSITIONS.

CONNECT TO EX 18" DI RW (4/-)
SCALE: NTS



NOTES:

1. DURING POTHOLING OF EXIST 24" FRP RW, CONTRACTOR SHALL VERIFY LOC OF EXIST PIPE AND FITGS REQD FOR CONNECTION WORK. REPORT ANY DISCREPANCIES TO ENGINEER AND SUBMIT ADJUSTMENTS TO CONNECTION WORK FOR APPROVAL.

2. SEE DET 5, SHT C-8 FOR HDPE TO DI TRANSITIONS.

CONNECT TO EX 16" DI RW (5/-)
SCALE: NTS

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM DESIGNED
EJJ DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 DIGITALLY SIGNED OREGON MAY 12, 2020 ANDREW THOMAS MILES
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

STANDARD AND MISCELLANEOUS DETAILS-1

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET C-6

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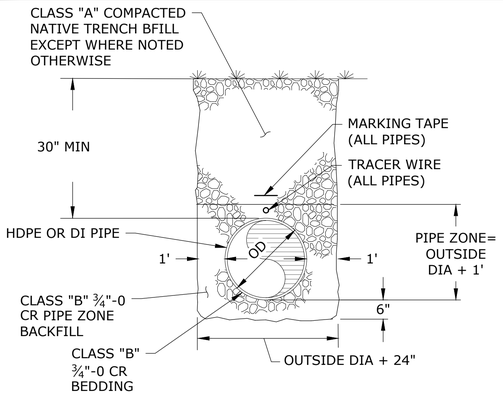
G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C-DET.dwg C-6 4/28/2022 11:35 AM ANDY.MILES 23.0s (LMS Tech)



NOTES:

1. FURNISH AND INSTALL CLASS "B" ¾"-0" CRUSHED ROCK BEDDING AND PIPE ZONE BACKFILL COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-99. FURNISH AND INSTALL CLASS "A" NATIVE TRENCH BACKFILL COMPACTED TO 95% MAXIMUM DENSITY PER AASHTO T-99.

2. FINISH TRENCH SURFACE TO MATCH ORIGINAL CONTOURS. REPLACE EXISTING LANDSCAPE WITH GRASS SEED PER SPECIFICATIONS.

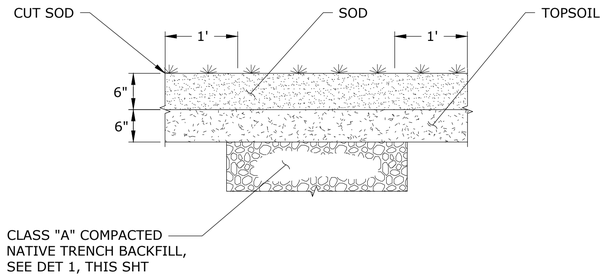
3. SURFACE RESTORATION IN WETLANDS SHALL BE PER DETAIL 2, THIS SHEET.

SINGLE PIPE TRENCH DETAIL OUTSIDE OF ROADWAYS AND DRIVEWAYS

SCALE: NTS

1

-



NOTES:

1. NON-PAVED SURFACES SHALL BE RESURFACED TO MATCH EXISTING. FINISH TRENCH SURFACE TO MATCH ORIGINAL CONTOURS. REPLACE EXIST LANDSCAPING.

2. CUT SOD WITH SOD HARVESTING EQUIPMENT AND STOCKPILE BESIDE TRENCH.

3. EXCAVATE TOPSOIL AND STOCKPILE BESIDE TRENCH, SEPARATE FROM SOD.

4. PROTECT EXIST WETLANDS AND GRASS AREAS WITH GEOTEXTILE BENEATH STOCKPILES.

5. FURNISH AND INSTALL CLASS "A" NATIVE TRENCH BACKFILL TO 1' BELOW FINISH GRADE COMPACTED TO 95% MAXIMUM DENSITY PER AASHTO T-99.

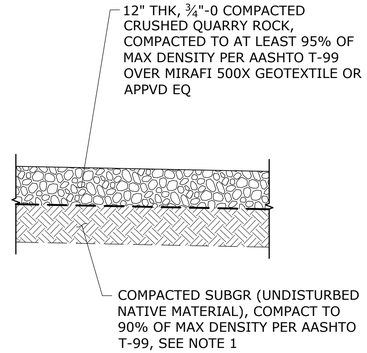
6. REPLACE TOPSOIL AND STOCKPILED SOD TO MATCH ORIGINAL LANDSCAPE AND CONTOURS.

TYPICAL WETLANDS AND GRASS AREAS SURFACE RESTORATION

SCALE: NTS

2

-



NOTES:

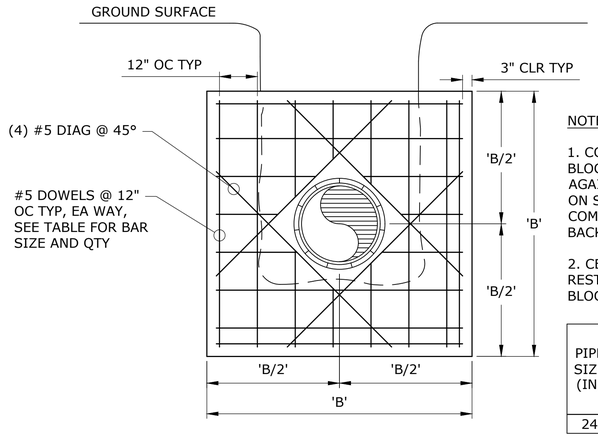
1. ALL PREPARED SUBGRADE SHALL BE FIRM, UNDISTURBED SUBGRADE OBSERVED AND APPROVED BY THE ENGINEER.

GRAVEL SURFACING SECTION

SCALE: NTS

3

-



NOTES:

1. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH ON SIDES & BOTTOM OR 95% COMPACTED GRANULAR BACKFILL.

2. CENTER HDPE FLEX RESTRAINTS WITHIN THRUST BLOCK.

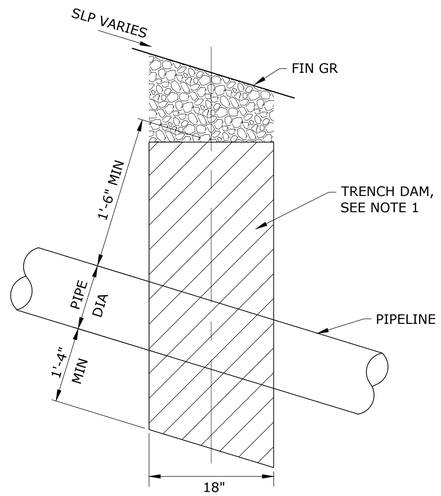
PIPE SIZE (IN)	COLLAR THRUST BLOCKS DIM B (FT)	NO. OF #5 DOWELS, NO. OF HORIZ= NO. OF VERT
24	x	x

COLLAR THRUST BLOCK

SCALE: NTS

4

-

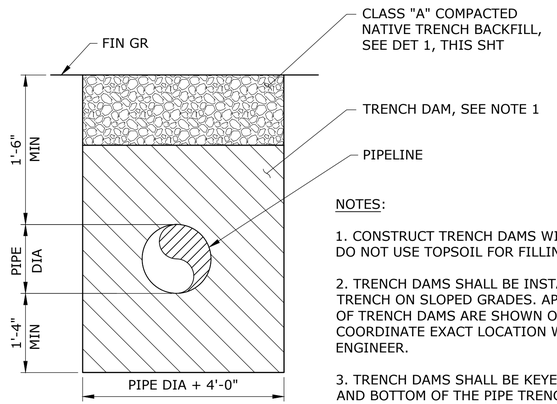


TYPICAL TRENCH DAM

SCALE: NTS

5

-



NOTES:

1. CONSTRUCT TRENCH DAMS WITH BENTONITE, DO NOT USE TOPSOIL FOR FILLING BENTONITE.

2. TRENCH DAMS SHALL BE INSTALLED IN PIPELINE TRENCH ON SLOPED GRADES. APPROX LOCATION OF TRENCH DAMS ARE SHOWN ON PLAN SHEETS. COORDINATE EXACT LOCATION W/ FIELD ENGINEER.

3. TRENCH DAMS SHALL BE KEYED INTO THE SIDES AND BOTTOM OF THE PIPE TRENCH A MINIMUM OF 1-FOOT ON ALL SIDES.

NO.	DATE	BY	REVISION

NOTICE

0 ½ 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BRF DESIGNED

CAD DRAWN

ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 DIGITALLY SIGNED OREGON MAY 12, 2020 ANDREW THOMAS MILES RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

STANDARD AND MISCELLANEOUS DETAILS-2

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET C-7

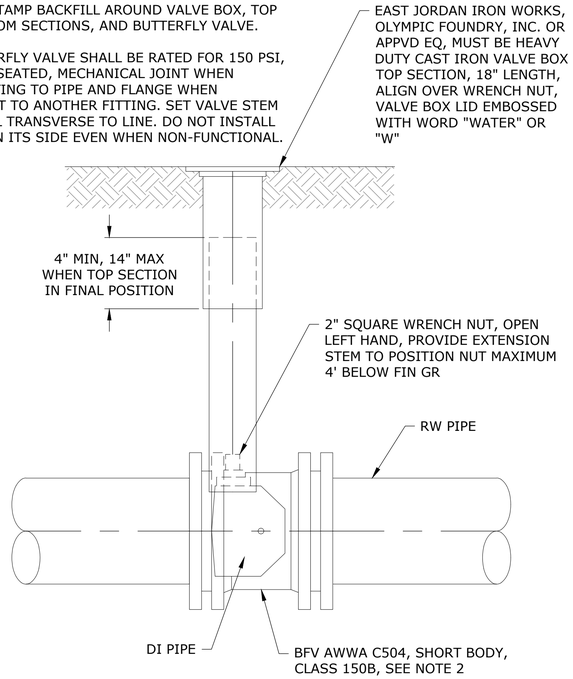
12 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-C-DET.dwg C-7 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)

NOTES:

1. HAND TAMP BACKFILL AROUND VALVE BOX, TOP AN BOTTOM SECTIONS, AND BUTTERFLY VALVE.

2. BUTTERFLY VALVE SHALL BE RATED FOR 150 PSI, RUBBER-SEATED, MECHANICAL JOINT WHEN CONNECTING TO PIPE AND FLANGE WHEN ADJACENT TO ANOTHER FITTING. SET VALVE STEM VERTICAL TRANSVERSE TO LINE. DO NOT INSTALL VALVE ON ITS SIDE EVEN WHEN NON-FUNCTIONAL.



TYPICAL BURIED BUTTERFLY VALVE (1)
SCALE: NTS

NOTES:

1. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.

2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES. INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING BLOCKING.

3. THE REQUIRED THRUST BEARING AREAS FOR SPECIAL CONNECTIONS ARE SHOWN ENCIRCLED ON THE PLANS; e.g. 15 INDICATES 15 SQUARE FEET BEARING AREA REQUIRED

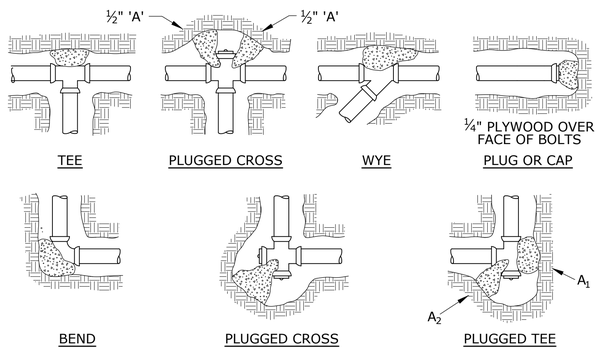
4. IF NOT SHOWN ON PLANS, REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED IN TABLE, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE SPECIFICATIONS.

5. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS DETAIL.

6. CONCRETE SHALL BE 3000 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH.

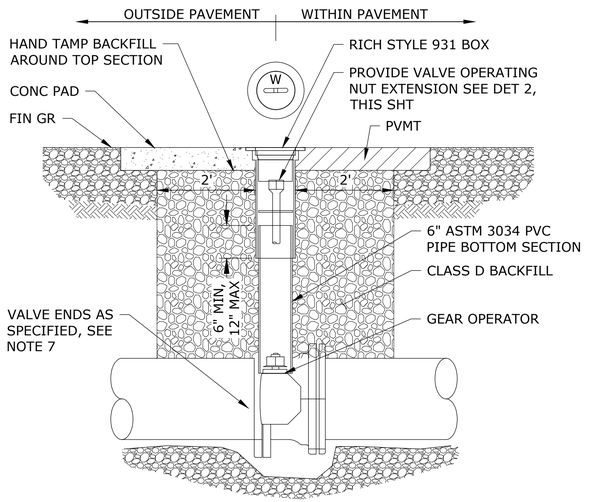
7. BEARING AREAS WHERE EXISTING PIPE WILL BE ABANDONED IN PLACE, AS SHOWN ON PLAN, SHALL INCLUDE ½" STEEL PLATE AT THE BASE OF THE THRUST BLOCK. THE MINIMUM BEARING AREA OF THE STEEL PLATE SHALL BE BASED ON DATA FROM THE TABLE.

*ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA=(TEST PRESSURE/150) X (2000/SOIL BEARING STRESS) X (TABLE VALUE).

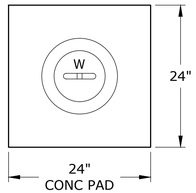


BEARING AREA, 'A', OF THRUST BLOCKS IN SQUARE FEET*							
FITTING SIZE	TEE, WYE, PLUG OR CAP	90°BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22° BEND	11¼°° BEND
	A	A	A_1	A_2	A	A	A
4	1.4	1.9	2.7	1.9	1.0	-	-
6	2.8	4.0	5.6	4.0	2.1	1.1	-
8	4.8	6.8	9.6	6.8	3.7	1.9	0.9
10	7.3	10.3	14.5	10.3	5.6	2.8	1.4
12	10.3	14.5	20.4	14.5	7.9	4.0	2.0
14	13.8	19.5	27.5	19.5	10.6	5.4	2.7
16	17.8	25.2	35.5	25.2	13.6	7.0	3.5
18	22.4	31.7	44.7	31.7	17.1	8.7	4.4
20	27.5	38.9	54.8	38.9	21.0	10.7	5.4
24	39.2	55.5	78.3	55.5	30.0	15.3	7.7

STANDARD THRUST BLOCK DETAILS (4)
SCALE: NTS



VALVE BOX DETAIL (2)
SCALE: NTS



NOTES:

1. VALVE BOX NOT TO REST ON OPERATING ASSEMBLY.

2. OPERATING NUT EXTENSION REQUIRED WHEN VALVE NUT IS DEEPER THAN 3-FEET FROM FINISHED GRADE. SEE DETAIL 6, THIS SHEET.

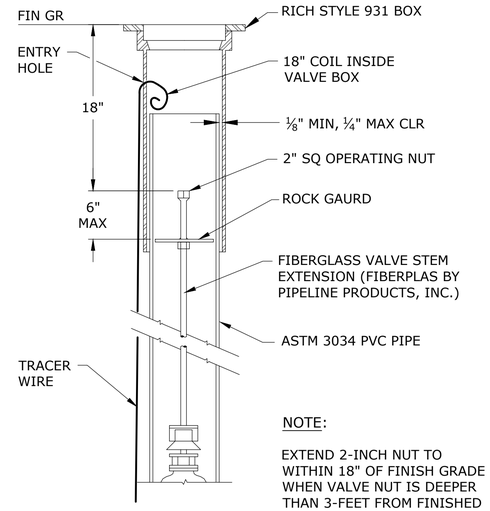
3. CENTER VALVE BOX ON AXIS OF OPERATING NUT.

4. PROVIDE 24-INCH SQUARE BY 6-INCH THICK CONCRETE PAD AROUND VALVE BOX OUTSIDE OF PAVED AREAS AS SHOWN IN CONCRETE PAD DETAIL.

5. ORIENT GEAR OPERATOR TO CENTERLINE SIDE IN ROADWAYS.

6. USE CLASS B TRENCH BACKFILL A MINIMUM OF 2-FEET EACH SIDE OF VALVE

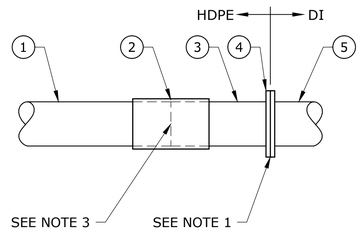
7. COAT VALVE ENDS WITH WAX TAPE PER SPECS. WRAP VALVE AND PIPING WITH POLYETHYLENE TUBING.



NOTE:

EXTEND 2-INCH NUT TO WITHIN 18" OF FINISH GRADE WHEN VALVE NUT IS DEEPER THAN 3-FEET FROM FINISHED GRADE.

OPERATING NUT EXTENSION DETAIL (3)
SCALE: NTS



MATERIAL LIST

1. DR17 HDPE, IPS
2. BUTT FUSION JOINT OR ELECTROFUSION CPLG, SEE NOTES 2 & 3
3. SDR 17 MOLDED HDPE FLG ADAPTER
4. EPOXY COATED DI BACK-UP RING & HOT DIPPED GALV FLG BOLTS, SEE SPECS
5. DI PIPE, FITTING, OR VALVE, FLANGED, AS SHOWN ON PLANS

NOTES:

1. SEE SPECIFICATIONS FOR HDPE TO DI FLANGE JOINT CONNECTION PROCEDURE REQUIREMENTS.

2. SEE SPECIFICATIONS FOR BUTT FUSION AND ELECTROFUSION CONNECTION REQUIREMENTS.

3. CONNECT HDPE MOLDED FLANGE ADAPTOR TO CUT/PLAIN END OF DR17 HDPE VIA THERMAL BUTT FUSION WHERE CONNECTED ABOVE GRADE/OUTSIDE OF TRENCH AND WHERE FEASIBLE FOR IN-TRENCH CONNECTION. WHERE SPACE CONSTRAINTS PRECLUDE THERMAL BUTT FUSION JOINING OF PIPE IN TRENCH, COUPLED CONNECTION AS SHOWN WILL BE ACCEPTABLE WHERE APPROVED BY ENGINEER/OWNER. SEE WATER SYSTEM NOTE 9, SHT G-2, REGARDING PREFERENCE FOR THERMAL BUTT FUSED JOINTS. CONTRACTOR TO INCLUDE PROPOSED CONNECTION METHOD FOR EACH IN-TRENCH CONNECTION AS PART OF MATERIAL SUBMITTAL.

HDPE TO DI TRANSITION (5)
SCALE: NTS

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BRF DESIGNED
CAD DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED OREGON MAY 12, 2020 ANDREW THOMAS MILES
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

STANDARD AND MISCELLANEOUS DETAILS-3

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET C-8

13 of 17

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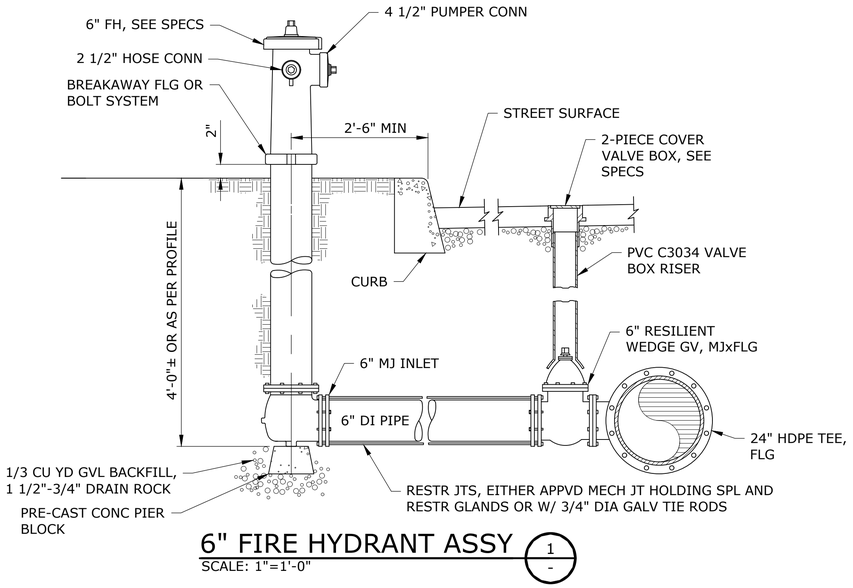
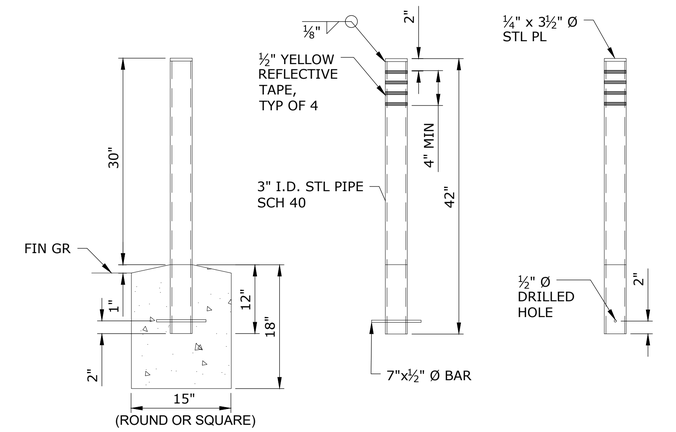
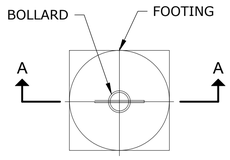


6" FIRE HYDRANT ASSY (1/-)

SCALE: 1"=1'-0"



SECTION A-A | FRONT VIEW | SIDE VIEW



PLAN

BOLLARD NOTES:

1. CONCRETE FOOTINGS SHALL HAVE 15" MIN DIAMETER AND 3000 PSI MINIMUM 28 DAY COMPRESSIVE STRENGTH.

2. THREE (3) BOLLARDS SHALL BE PLACED AT EACH PROPOSED FIRE HYDRANT AND AIR RELEASE VALVE LOCATION. SPECIFIC BOLLARD ARRANGEMENTS SHALL BE AS DIRECTED IN THE FIELD BY ENGINEER.

NON-REMOVABLE BOLLARD (2/-)

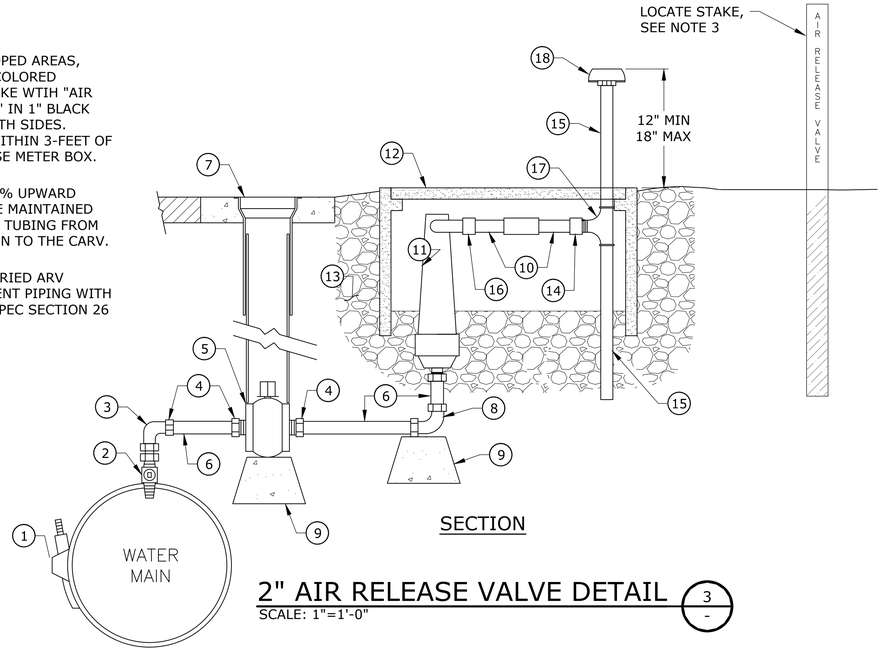
SCALE: 1"=1'-0"

NOTES:

1. IN UNDEVELOPED AREAS, INSTALL BLUE-COLORED CARSONITE STAKE WTIH "AIR RELEASE VALVE" IN 1" BLACK LETTERS ON BOTH SIDES. LOCATE POST WITHIN 3-FEET OF THE AIR RELEASE METER BOX.

2. A MINIMUM 1% UPWARD SLOPE SHALL BE MAINTAINED ON THE COPPER TUBING FROM THE WATER MAIN TO THE CARV.

3. WRAP ALL BURIED ARV BRANCH AND VENT PIPING WITH PVC TAPE PER SPEC SECTION 26 42 01.



SECTION

2" AIR RELEASE VALVE DETAIL (3/-)

SCALE: 1"=1'-0"

MATERIAL LIST:

1. TAPPING SADDLE, ROMAC 305-H, CUSTOM 25.8"x2" FIPT OUTLET, OR APPVD EQ
2. 2" CORP STOP MIPTxCTS
3. 2" CTSxCTS 90° COUPLING
4. 2" CTSxMIPT COUPLING
5. 2" GATE VALVE W/ 2" OPERATING NUT FIPTxFIPT
6. 2" TYPE K RIGID COPPER PIPE, SEE NOTE 2 AND 3
7. VALVE BOX, SEE DET 1, THIS SHT
8. 2" BRASS CTSxCTS 90° ELBOW
9. 8"x8"x8" CONC PIER BLOCK
10. 2" CTSxFIPT COUPLER
11. 2" CARV, ARI MODEL D26-P16-T2 (LOW PRESSURE), OR APPVD EQ
12. WATER METER BOX, 13"x24"x12" W/ SOLID COVER. ARMORCAST OR APPVD EQ, FIELD NOTCH COVER FOR VENT PIPE
13. DRAIN ROCK
14. 1-1/2" GALV SCH 40 MIPTxSLIP (GLUE)
15. 1-1/2" GALV SCH 40 PIPE
16. 1-1/2" GALV COMPRESSION COUPLER
17. 1-1/2" GALV TEE
18. 1-1/2" SCREENED TANK VENT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BRF DESIGNED
CAD DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED
OREGON
MAY 12, 2020
ANDREW THOMAS MILES
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

STANDARD AND MISCELLANEOUS DETAILS-4

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET C-9

14 of 17

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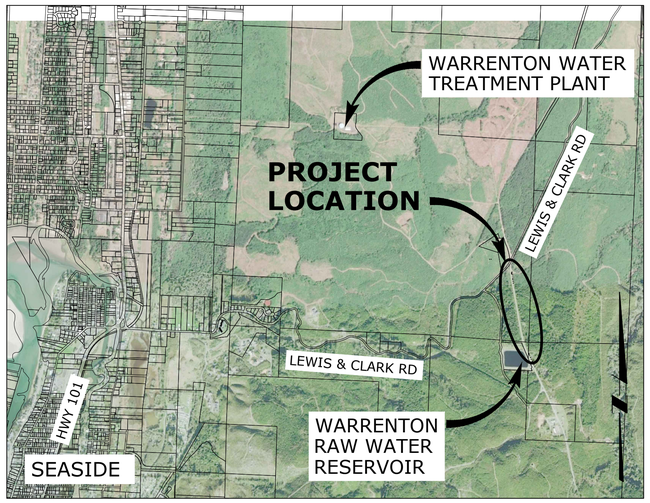
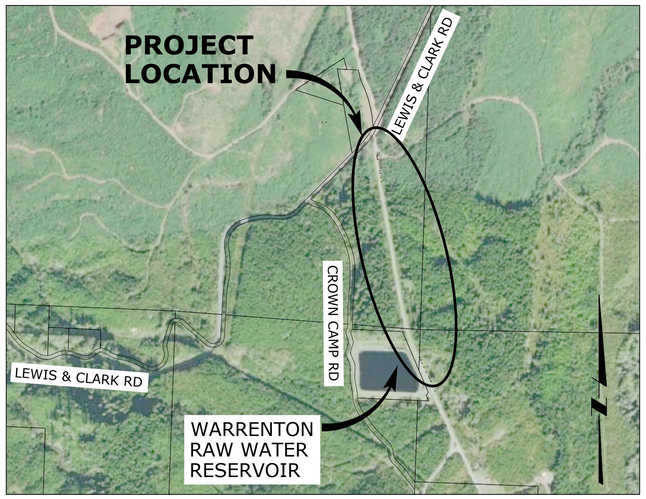
EROSION AND SEDIMENT CONTROL PLAN



VICINITY MAP
SCALE: 1"=2000'



SITE MAP
SCALE: 1"=500'

APPLICABLITY OF DEQ 1200-C PERMIT LANGUAGE:

THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH IN THE DRAINAGE, EROSION AND SEDIMENT CONTROL PERMIT ISSUED BY CLATSOP COUNTY. GIVEN THE LAND DISTURBANCE IS LESS THAN 1 ACRE, A DEQ 1200-C PERMIT IS NOT REQUIRED FOR THIS PROJECT.

THE EROSION AND SEDIMENT CONTROL PLAN DRAWINGS NOTES ON THIS SHEET REFERENCE DEQ 1200-C PERMIT LANGUAGE. THESE NOTES ARE PROVIDED AS GUIDANCE AND BEST MANAGEMENT PRACTICES FOR COMPLYING WITH CLATSOP COUNTY PERMIT. NOT ALL DEQ 1200-C LANGUAGE IS APPLICABLE FOR THIS PROJECT.

SHEET INDEX

EROSION AND SEDIMENT CONTROL PLANS

RAIN GAUGE:

ASTORIA REGIONAL AIRPORT (KAST), NOAA RAIN GAUGE
LAT: 46.15694°N, LON: 123.8825°W, ELEV: 10FT
HYPERLINK: HTTPS://W1.WEATHER.GOV/DATA/OBHISTORY/KAST.HTML

POLLUTANT-GENERATING ACTIVITIES:

1. PIPELINE TRENCHING

PROJECT LOCATIONS:

WARRENTON RESERVOIR
86647 LEWIS & CLARK RD, SEASIDE, OR 97138

PROPERTY DESCRIPTIONS:

TAX PARCELS 610000001601, 610000000700, 610000001500A01
CLATSOP COUNTY, OREGON

NARRATIVE DESCRIPTIONS:

EXISTING SITE CONDITIONS

GRASSY, CLEARED AREA ALONG PRIVATE PAVED ROADWAY. EXISTING 24-IN FIBERGLASS (FRP) WATERLINE IS BURIED PARALLEL TO EXISTING ROADWAY. SOIL CONDITIONS ARE CLASSIFIED AS WETLANDS.

DEVELOPED CONDITIONS AND DESCRIPTION

DEVELOPED CONDITIONS WILL BE THE SAME AS EXISTING SITE CONDITIONS. NEW 24-IN HDPE WATERLINE WILL BE INSTALLED PARALLEL TO EXISTING WATERLINE. EXISTING WATERLINE TO BE ABANDONED IN PLACE.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

* PIPELINE UTILITY INSTALLATION (SUMMER 2022/ EARLY FALL 2022)
* FINAL STABILIZATION (SUMMER/ EARLY FALL 2022)

TOTAL DISTURBED AREA:
PIPELINE UTILITY: 0.86 ACRES (37,280 SQ.FT.)

EXISTING REPLACED IMPERVIOUS SURFACE AREA:
N/A

PROPOSED IMPERVIOUS SURFACE AREA:
N/A

SOIL CLASSIFICATION:
GRINDBROOK SILT LOAM, 0 TO 7 PERCENT SLOPES (MAP UNIT 20B)
HEBO SILTY CLAY LOAM, 0 TO 3 PERCENT SLOPES (MAP UNIT 23A)
KNAPPA SILT LOAM, 7 TO 15 PERCENT SLOPES (MAP UNIT 35C)

RECEIVING WATER BODIES:
NOTHING DIRECT. EVENTUALLY AN UNNAMED TRIBUTARY TO THE LEWIS & CLARK RIVER, 0.30 MILES EAST OF THE PROJECT SITE.

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

* HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
* ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
* INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS.
* RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION. (SCHEDULE B.2.A)

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. ONCE KNOWN, INCLUDE A LIST OF ALL CONTRACTORS THAT WILL ENGAGE IN CONSTRUCTION ACTIVITIES ON SITE, AND THE AREAS OF THE SITE WHERE THE CONTRACTOR(S) WILL ENGAGE IN CONSTRUCTION ACTIVITIES. REVISE THE LIST AS APPROPRIATE UNTIL PERMIT COVERAGE IS TERMINATED (SECTION 4.4.C.I.). IN ADDITION, INCLUDE A LIST OF ALL PERSONNEL (BY NAME AND POSITION) THAT ARE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF STORMWATER CONTROL MEASURES (E.G. ESCP DEVELOPER, BMP INSTALLER (SEE SECTION 4.10), AS WELL AS THEIR INDIVIDUAL RESPONSIBILITIES. (SECTION 4.4.C.II)
2. VISUAL MONITORING INSPECTION REPORTS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SECTION 6.5)
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SECTION 6.5.Q)
4. RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. (SECTION 4.7)
5. THE PERMIT REGISTRANT MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SECTIONS 4 AND 4.11)
6. THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SECTION 4.8)
7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SECTION 4.9)
8. SEQUENCE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SECTION 2.2.2)
9. CREATE SMOOTH SURFACES BETWEEN SOIL SURFACE AND EROSION AND SEDIMENT CONTROLS TO PREVENT STORMWATER FROM BYPASSING CONTROLS AND PONDING. (SECTION 2.2.3)
10. IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SECTION 2.2.1)
11. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SECTION 2.2.5)
12. MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SECTION 2.2.4)
13. INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SECTIONS 2.1.3)
14. CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAM BANKS. (SECTIONS 2.1.1. AND 2.2.16)
15. CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SECTIONS 2.2.6 AND 2.2.13)
16. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SECTION 2.2.14)
17. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS.(SECTIONS 2.2.20 AND 2.2.21)
18. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SECTION 2.3.7)
19. KEEP WASTE CONTAINER LIDS CLOSED WHEN NOT IN USE AND CLOSE LIDS AT THE END OF THE BUSINESS DAY FOR THOSE CONTAINERS THAT ARE ACTIVELY USED THROUGHOUT THE DAY. FOR WASTE CONTAINERS THAT DO NOT HAVE LIDS, PROVIDE EITHER (1) COVER (E.G., A TARP, PLASTIC SHEETING, TEMPORARY ROOF) TO PREVENT EXPOSURE OF WASTES TO PRECIPITATION, OR (2) A SIMILARLY EFFECTIVE MEANS DESIGNED TO PREVENT THE DISCHARGE OF POLLUTANTS (E.G., SECONDARY CONTAINMENT). (SECTION 2.3.7)
20. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND- DISTURBING ACTIVITIES. (SECTION 2.2.7)
21. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SECTION 2.2.7.F)
22. CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SECTIONS 1.5 AND 2.3.9)
23. ENSURE THAT STEEP SLOPE AREAS WHERE CONSTRUCTION ACTIVITIES ARE NOT OCCURRING ARE NOT DISTURBED. (SECTION 2.2.10)
24. PREVENT SOIL COMPACTION IN AREAS WHERE POST-CONSTRUCTION INFILTRATION FACILITIES ARE TO BE INSTALLED. (SECTION 2.2.12)
25. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SECTIONS 2.2.15 AND 2.3)
26. PROVIDE PLANS FOR SEDIMENTATION BASINS THAT HAVE BEEN DESIGNED PER SECTION 2.2.17 AND STAMPED BY AN OREGON PROFESSIONAL ENGINEER. (SEE SECTION 2.2.17.A)
27. IF ENGINEERED SOILS ARE USED ON SITE, A SEDIMENTATION BASIN/IMPOUNDMENT MUST BE INSTALLED. (SEE SECTIONS 2.2.17 AND 2.2.18)
28. PROVIDE A DEWATERING PLAN FOR ACCUMULATED WATER FROM PRECIPITATION AND UNCONTAMINATED GROUNDWATER SEEPAGE DUE TO SHALLOW EXCAVATION ACTIVITIES. (SEE SECTION 2.4)
29. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SECTION 2.3)
30. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SECTION 2.2.9)
31. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SECTION 2.3.5)
32. IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN ENVIRONMENTAL MANAGEMENT PLAN APPROVAL FROM DEQ BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SECTION 1.2.9)
33. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SECTION 2.2)
34. AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SECTION 2.2.8)
35. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SECTION 2.1.5.B)
36. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SECTION 2.1.5.C)
37. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SECTION 2.1.5.D)
38. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIMEFRAME. (SECTION 2.2.19.A)
39. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SECTION 2.2.19)
40. DOCUMENT ANY PORTION(S) OF THE SITE WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED OR WILL BE TEMPORARILY INACTIVE FOR 14 OR MORE CALENDAR DAYS. (SECTION 6.5.F.)
41. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SECTION 2.2.20)
42. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED MOVED AND DISPOSED OF PROPERLY, UNLESS NEEDED FOR LONG TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE. (SECTION 2.2.21)

ASSOCIATED PERMITS

US ARMY CORPS OF ENGINERS, NATIONWIDE PERMIT 58 (UTILITY LINE ACTIVITIES FOR WATER AND OTHER SUBSTANCES) <<PENDING>>
OREGON DEPT OF STATE LANDS, REMOVAL/FILL PERMIT <<PENDING>>

LAND USE CASE FILE

N/A

BMP MATRIX FOR CONSTRUCTION PHASES:

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

BMP	UTILITY INSTALLATION	FINAL STABILIZATION	WET WEATHER OCT 1-MAY 31 (IF REQ'D)
EROSION PREVENTION			
GROUND COVER	X	X	X
PLASTIC SHEETING	X		X
DUST CONTROL	X		X
TEMPORARY STABILIZATION	X		X
PERMANENT STABILIZATION	X	X	X
SEDIMENT CONTROL			
SEDIMENT FENCE (PERIMETER)	X	X	X
SEDIMENT FENCE (INTERIOR)	X		X
STRAW WATTLES	X	X	X
DEWATERING (GENERAL)	X		X
RUN-OFF CONTROL			
CONSTRUCTION ENTRANCE	X	X	X
POLLUTION PREVENTION			
HAZ WASTE MGMT	X	X	X
SPILL KIT ON-SITE	X	X	X
CONCRETE WASH OUT AREA	X		X

RATIONALE STATEMENT:

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ's GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMPS WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

ATM
INITIAL

PERMITTEE'S SITE INSPECTOR: TBD

COMPANY/AGENCY: TBD
PHONE: TBD
FAX: TBD
E-MAIL: TBD
DESCRIPTION OF EXPERIENCE: TBD

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

OWNER:

CITY OF WARRENTON,
DEPT OF PUBLIC WORKS
45 SW 2ND ST
WARRENTON, OR 97146
CONTACT: COLLIN STELZIG, P.E.
PHONE: (503) 861-0912
EMAIL: RSTELZIG@CI.WARRENTON.OR.US

DESIGN ENGINEER:

MURRAYSMITH
400 E MILL PLAIN BLVD, SUITE 400
VANCOUVER, WA 98660
CONTACT: ANDY MILES, P.E.
PHONE: (360) 448-4230
EMAIL: ANDY.MILES@MURRAYSMITH.US

CONTRACTOR:

TBD

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	ON INITIAL DATE THAT LAND DISTRURBANCE ACTIVITIES COMMENCE. WITHIN 24 HOURS OF ANY STORM EVENT, INCLUDING RUNOFF FROM SNOW MELT, THAT RESULTS IN DISCHARGE FROM SITE. AT LEAST ONCE EVERY 14 DAYS, REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURING.
2. INACTRIVE PERIODS GREATER THAN FOURTEEN (14) DAYS	THE INSPECTOR MAY REDUCE THE FREQUENCY OF INSPECTIONS IN ANY AREA OF THE SITE WHERE THE STABILIZATION STEPS IN SECTION 2.2.20 HAVE BEEN COMPLETED TO TWICE PER MONTH FOR THE FIRST MONTH, NO LESS THAN 14 CALENDAR DAYS APART, THEN ONCE PER MONTH.
3. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER	IF SAFE, ACCESSIBLE AND PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT DISCHARGE POINT OR DOWNSTREAM LOCATION OF THE RECEIVING WATERBODY.
4. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE SUSPENDED AND RUNOFF IS UNLIKELY DUE TO FROZEN CONDITIONS. 5. PERIODS DURING WHEN CONSTRUCTION	VISUAL MONITORING INSPECTIONS MAY BE TEMPORARILY SUSPENDED. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.
ACTIVITIES ARE CONDUCTED AND RUNOFF IS UNLIKELY DURING FROZEN CONDITIONS.	VISUAL MONITORING INSPECTIONS MAY BE REDUCED TO ONCE A MONTH. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM
DESIGNED
EJJ
DRAWN
ATM
CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED
OREGON
JANUARY 12, 2022
ANDREW THOMAS MILES
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

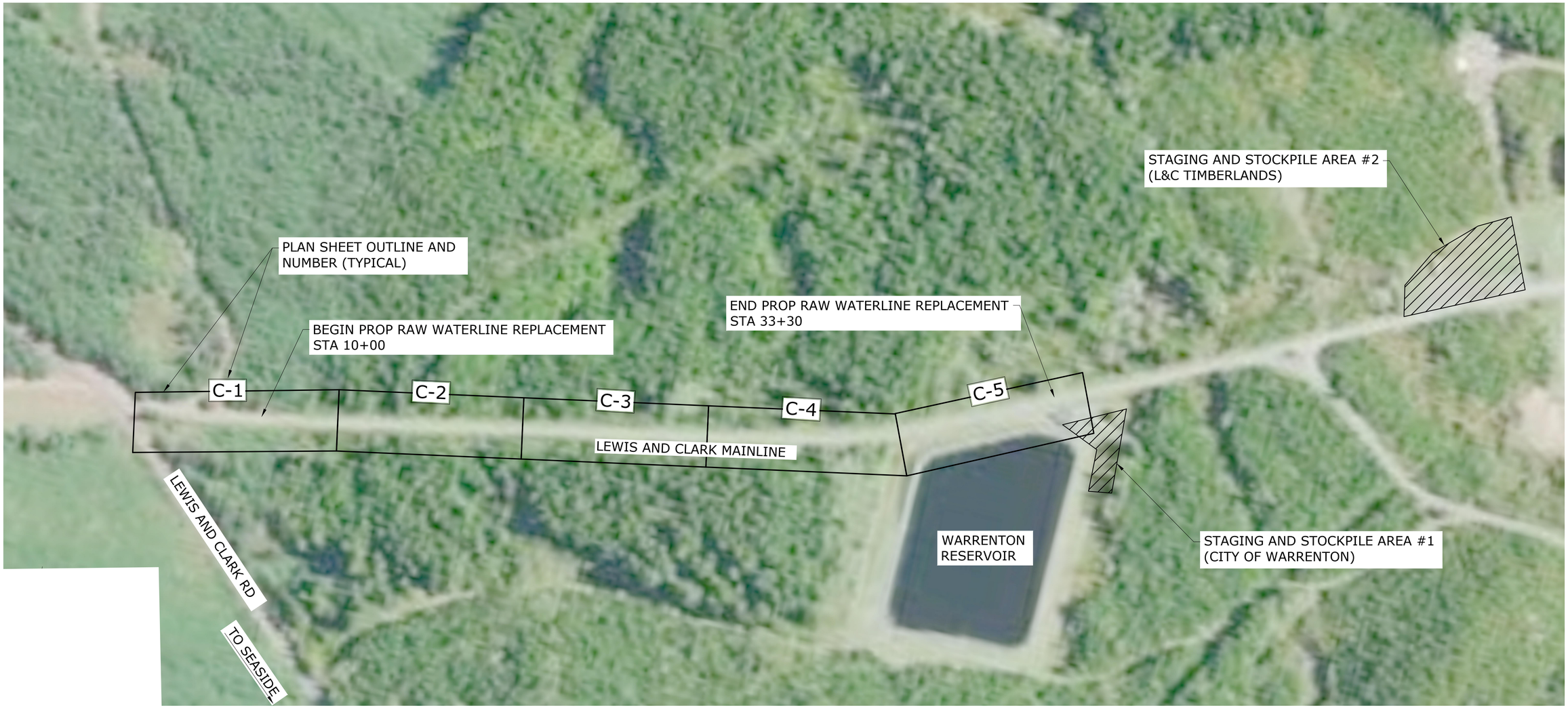
RAW WATERLINE REPLACEMENT

COVER SHEET AND EROSION CONTROL NOTES

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
ESC-1
15 of 17

G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-ESC.dwg ESC-1 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)



PLAN
SCALE: 1"=150'

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM DESIGNED
EJJ DRAWN
ATM CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202
DIGITALLY SIGNED
OREGON
ANDREW THOMAS MILES
MAY 12, 2020
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

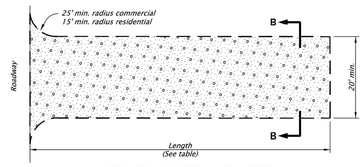
RAW WATERLINE REPLACEMENT

EROSION CONTROL PLAN
STAGING AND STORAGE AREAS

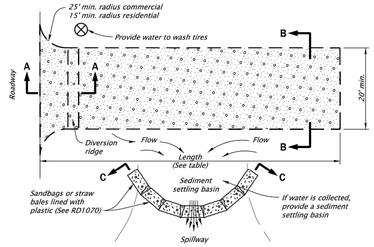
PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
ESC-2
16 of 17

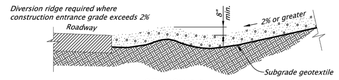
G:\PDX_Projects\21\3108 - Warrenton - Raw Waterline Seg 2\CAD\Sheets\21-3108-OR-ESC.dwg ESC-2 4/28/2022 10:41 AM ANDY.MILES 23.0s (LMS Tech)



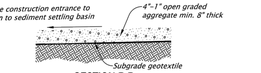
CONSTRUCTION ENTRANCE - TYPE 1
NOT TO SCALE



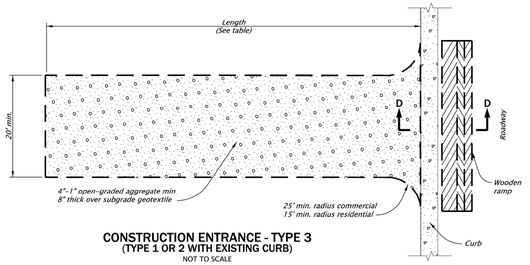
CONSTRUCTION ENTRANCE - TYPE 2
NOT TO SCALE



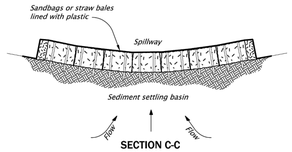
SECTION A-A
NOT TO SCALE



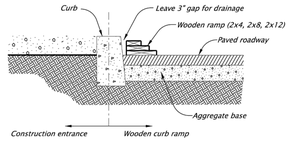
SECTION B-B
NOT TO SCALE



CONSTRUCTION ENTRANCE - TYPE 3
(TYPE 1 OR 2 WITH EXISTING CURB)
NOT TO SCALE



SECTION C-C
NOT TO SCALE



WOODEN CURB RAMP SECTION D-D
NOT TO SCALE

NOTES:
1. *The Type 1 entrance is a simple entrance without a diversion ridge or settling basin.*
2. *The wooden ramp may be used on either Type 1 or Type 2 entrances in situations where there is curb and the curb is not removed for the construction entrance.*

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	*Area Of Exposed Soil (Acre)*
20	*0.25*
50	*0.25 < A < 1.0*
100	*A > 1.0*

CALC. BOOK NO. N/A

SDR DATE January, 2021

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OREGON STANDARD DRAWINGS

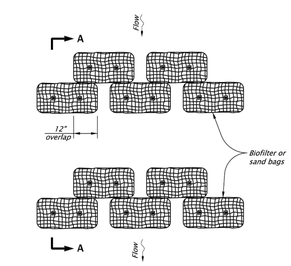
CONSTRUCTION ENTRANCES

2021

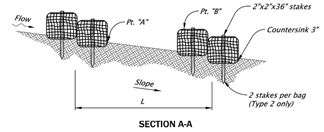
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1000

Effective Date: December 1, 2021 - May 31, 2022 RD1000



PLAN



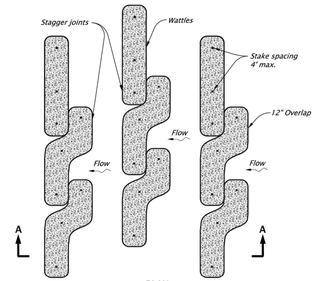
SECTION A-A

BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4
NOT TO SCALE

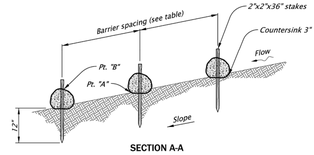
NOTES:
1. *For Type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12". Omit stakes if bags are placed on paved surface.*
2. *For Type 2 and Type 4 barriers, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".*

Type 2 – Biofilter bags
Type 3 – Wattles
Type 4 – Sand bags

BARRIER SPACING INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	*% SLOPE*	*MAXIMUM SPACING ON SLOPE*
10% Flatter	*1:10 or Flatter*	*300'*
10 > % ≥ 15	*10 > X ≥ 7.5*	*150'*
15 > % ≥ 20	*7.5 > X ≥ 5*	*100'*
20 > % ≥ 30	*5 > X ≥ 3*	*50'*
Steeper than 30%	*Steeper than 1:3*	*25'*



PLAN



SECTION A-A

FIBER ROLL BARRIER - TYPE 3
NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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OREGON STANDARD DRAWINGS

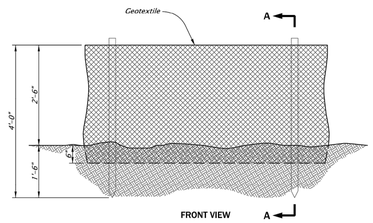
SEDIMENT BARRIER TYPE 2, 3 AND 4

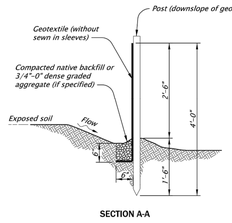
2021

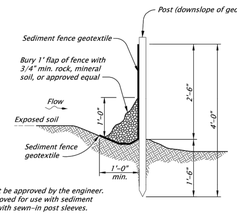
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1030

Effective Date: December 1, 2021 - May 31, 2022 RD1030



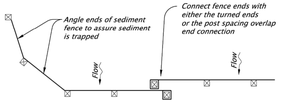




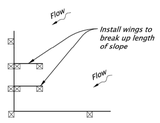
NOTES:
1. *Use must be approved by the engineer.*
2. *Not approved for use with sediment fencing with sewn-in post sleeves.*

SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1
NOT TO SCALE

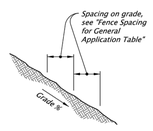
ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2
NOT TO SCALE



PLAN VIEW



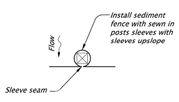
TERMINATION AT CORNER OR PROPERTY LINE



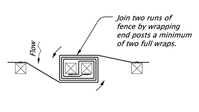
GENERAL NOTES:
1. *Use 2"x2" wood fence posts.*
2. *Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.*
3. *Compact filter fabric trench backfill and soil on uphill side of fence.*
4. *Locate fence no closer than three feet to the toe of a slope.*
5. *Wing spacing shall comply with "Fence Spacing for General Application Table".*

FENCE SPACING FOR GENERAL APPLICATION TABLE	
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	*MAXIMUM SPACING ON GRADE*
Grade < 10%	*300'*
10% ≤ Grade < 15%	*150'*
15% ≤ Grade < 20%	*100'*
20% ≤ Grade < 30%	*50'*
30% ≤ Grade	*25'*

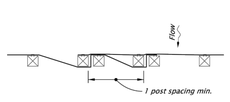
POST SPACING TABLE	
6'	*Sediment Fence with Geotextile elongation less than 50%*
4'	*Sediment Fence with Geotextile elongation 50% or more*



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS
NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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OREGON STANDARD DRAWINGS

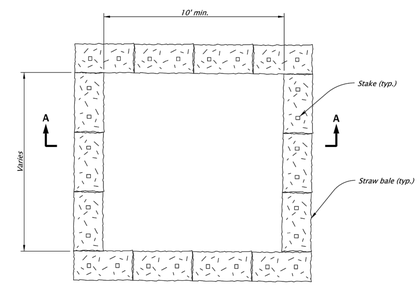
SEDIMENT FENCE

2021

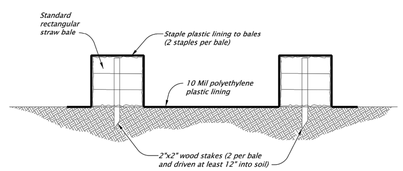
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1040

Effective Date: December 1, 2021 - May 31, 2022 RD1040

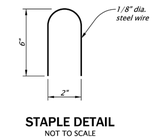


PLAN



SECTION A-A

CONCRETE TRUCK WASH OUT FACILITY
NOT TO SCALE



STAPLE DETAIL
NOT TO SCALE

CALC. BOOK NO. N/A

SDR DATE January, 2021

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OREGON STANDARD DRAWINGS

CONCRETE TRUCK WASH OUT

2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1070

Effective Date: December 1, 2021 - May 31, 2022 RD1070

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATM
DESIGNED
EJJ
DRAWN
ATM
CHECKED

REGISTERED PROFESSIONAL ENGINEER 96202 OREGON
DIGITALLY SIGNED
ANDREW THOMAS MILES MAY 12, 2020
RENEWS 12-31-22

murraysmith

THE CITY OF WARRENTON OREGON

RAW WATERLINE REPLACEMENT

EROSION CONTROL DETAILS

PROJECT NO.: 21-3108.0400 | SCALE: AS SHOWN | DATE: APRIL 2022

SHEET
ESC-3
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