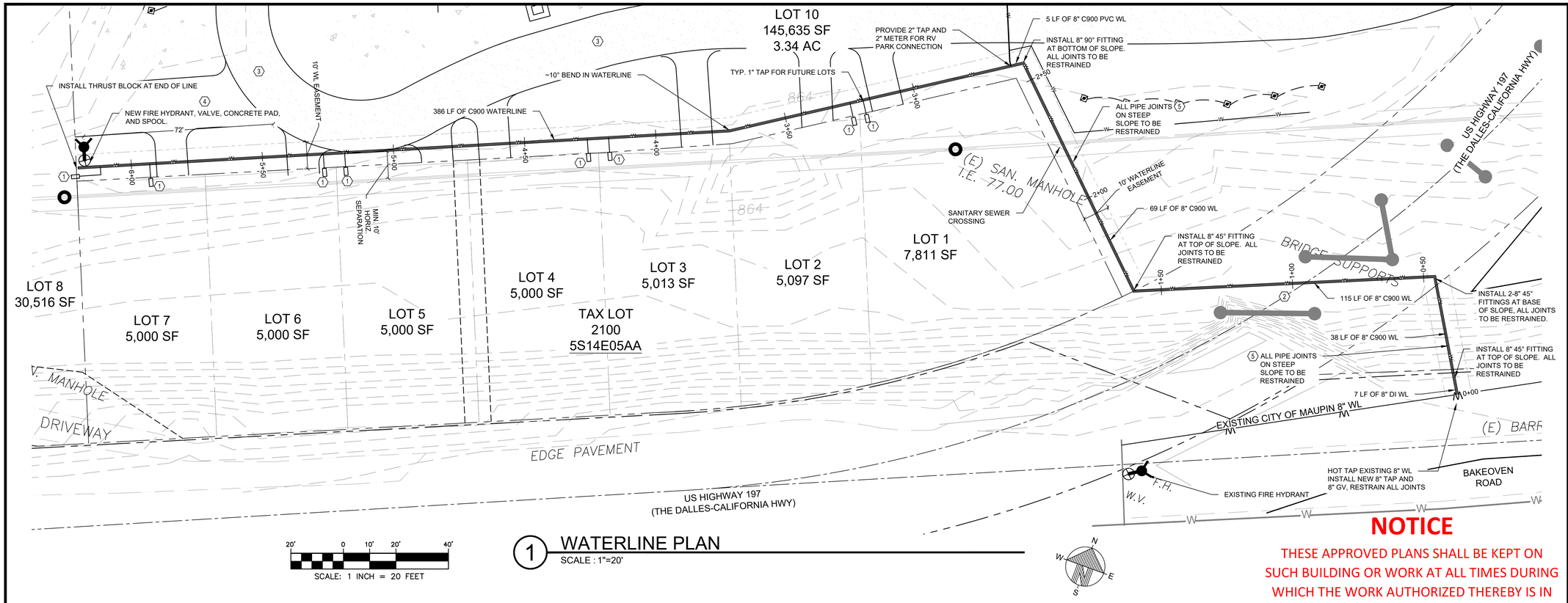
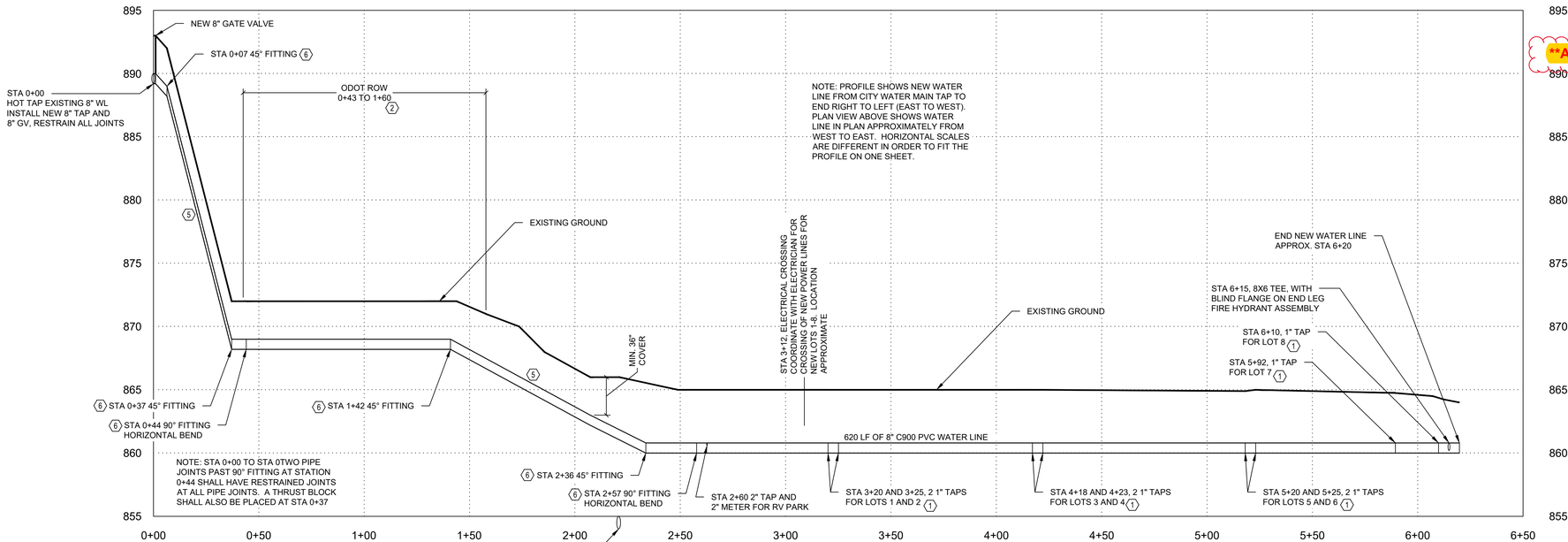


1 WATERLINE PLAN

SCALE : 1"=20'



STA 2+23, EXISTING 12" SANITARY SEWER VERIFY DEPTH AND VERIFY A MINIMUM OF 2" OF VERTICAL CLEARANCE BETWEEN THE BOTTOM OF THE NEW WATER LINE AND THE TOP OF THE SEWER.

2 WATERLINE PROFILE

SCALE : HORIZ: 1"=20'
VERT: 1"=5'

NOTICE

THESE APPROVED PLANS SHALL BE KEPT ON SUCH BUILDING OR WORK AT ALL TIMES DURING WHICH THE WORK AUTHORIZED THEREBY IS IN PROGRESS UNTIL FINAL INSPECTION.

APPROVED

APPROVED BY HANK MCDONALD 5/28/24.

SHEET NOTES

A. SEE SHEET C400 FOR PRIVATE UTILITIES WITHIN THE RV PARK.
B. SEE SHEET E201 FOR ADDITIONAL ELECTRICAL UTILITY INFORMATION.
C. NEW WATERLINE SHALL BE A MINIMUM OF 10' HORIZONTALLY FROM THE EXISTING SANITARY SEWER WHEN THE TWO ARE RUNNING PARALLEL.
D. NEW WATERLINE SHALL BE C900 PVC PIPE.

KEYED NOTES (X)

1. FUTURE 3/4" METER FOR LOTS 1-8
2. APPLICANT SHALL COORDINATE EASEMENT ACROSS ODOT RIGHT-OF-WAY.
3. RV PARK AND FIRE ACCESS. MINIMUM 20' WIDE ROADWAY WIDTH, AND A MINIMUM OF 35' INSIDE RADIUS ON ALL CURVES. PROVIDE AN ACCESS EASEMENT.
4. 20' WIDE DRIVEWAY WIDTH FOR FIRE TRUCK ACCESS TO FIRE HYDRANT.
5. ALL WATERLINE PIPE JOINTS ON SLOPES SHALL HAVE RESTRAINED JOINTS.
6. ALL FITTINGS AND TWO JOINTS ON EITHER SIDE OF FITTINGS SHALL HAVE RESTRAINED JOINTS.

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REGISTERED PROFESSIONAL ENGINEER 19277 OREGON JULY 15, 1997 NEIL D. PIETROK
EXPIRES 12/31/24

REV	DESCRIPTION	BY	DATE
0	ISSUE FOR PERMIT	NDP	11/21/2023

DRAWN BY: DRAWN SCALE: AS SHOWN
ENGINEER: ENG ISSUED DATE: 11/21/2023

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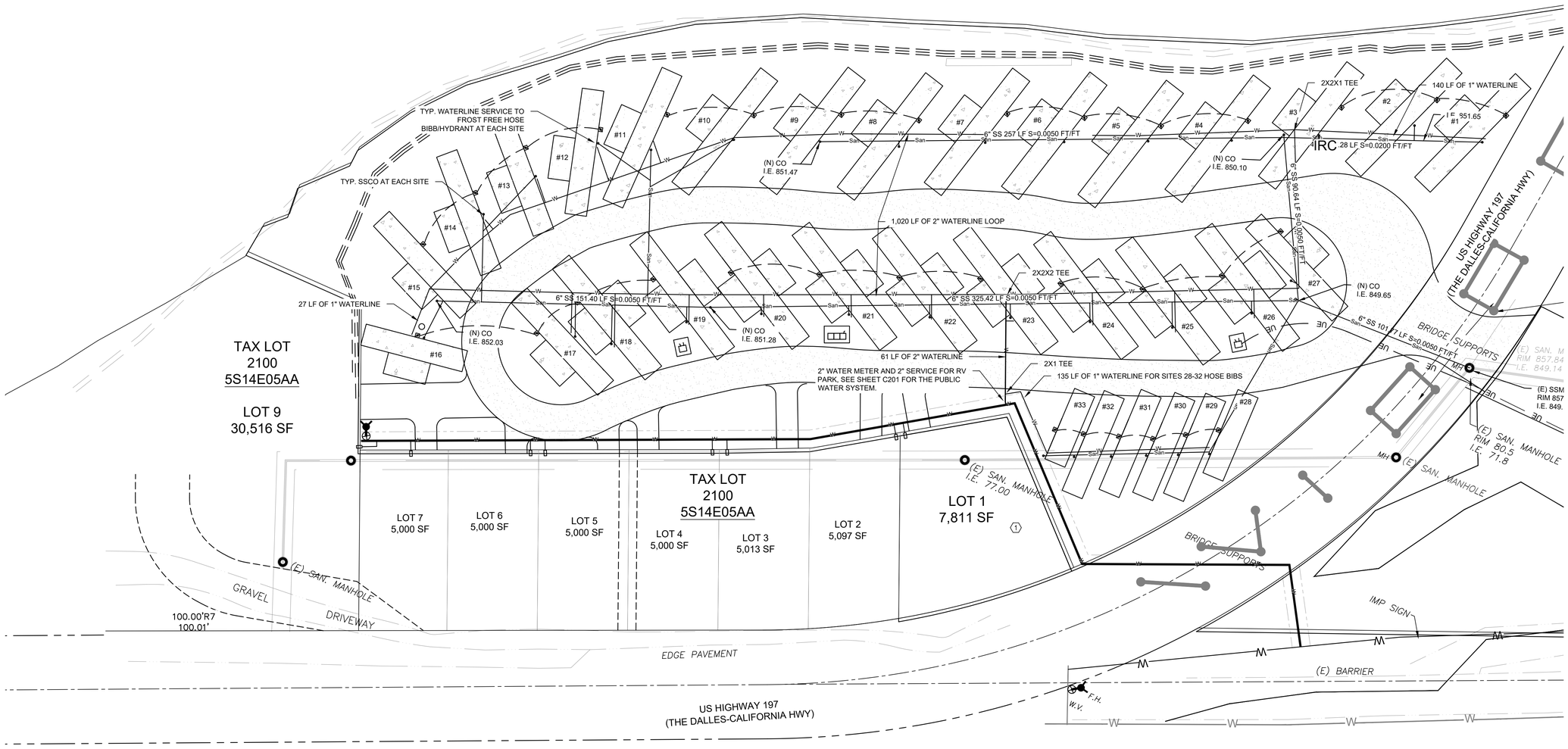
DRAWING TITLE:
IMPERIAL RIVER COMPANY
PROPERTY LINE ADJUSTMENT
MAUPIN, OREGON

WATERLINE PLAN

PROJECT NO: 23144

DRAWING NUMBER: C201



30' 0 15' 30' 60'

SCALE: 1 INCH = 30 FEET

1 WATER UTILITY PLAN

SCALE : 1" = 30'

N W E S

SHEET NOTES

UTILITY NOTES:

1. CONTRACTOR TO SECURE AND PAY FOR ALL WATER/SEWER PERMITS

WATER:

2. EACH SITE TO RECEIVE A 1" WATER SERVICE AND FROST FREE HOSE BIBB
3. COORDINATE WITH ELECTRICAL FOR FINAL LOCATION OF HOSE BIBB

SEWER

4. EACH SITE SHALL HAVE A 6X6X4 OR 4X4X4 TEE, 4" SERVICE LINE, AND CLEANOUT WITH A SCREWED ON LID
5. EACH CLEANOUT SHALL BE SET IN A 12" X12" X 4" CONCRETE PAD

KEYED NOTES ⓧ

1. EXISTING UNIMPROVED ACCESS ROAD SHOWN FOR INFORMATION ONLY

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0	ISSUE FOR PERMIT	NDP	11/21/2023

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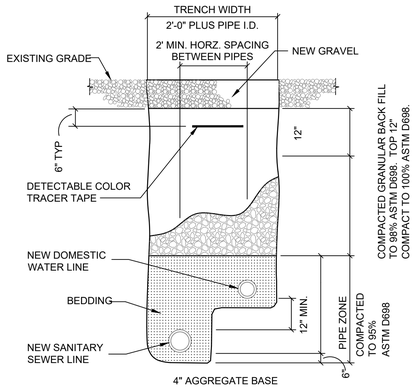
DRAWING TITLE:
IMPERIAL RIVER COMPANY
PROPERTY LINE ADJUSTMENT
MAUPIN, OREGON

UTILITY PLAN

PROJECT NO: 23144

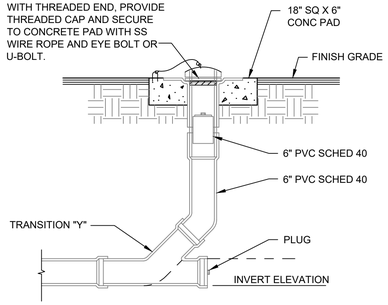
DRAWING NUMBER: C400



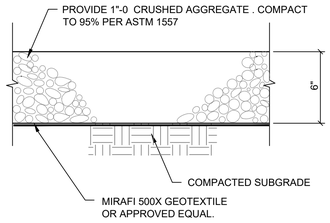
NOTE: WHEN ELECTRICAL IS IN THE SAME TRENCH AS WATER OR SEWER FOLLOW ELECTRICAL CODE REQUIREMENTS FOR OFFSET DISTANCES AND ID.

1 TYPICAL TRENCH SECTION
SCALE : NTS

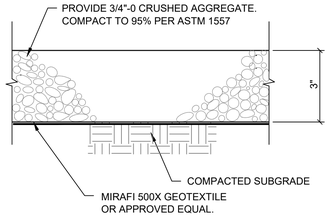
C.I. CLEANOUT COVER & FRAME VALLEY IRON NO. 202 OR EQUAL APPROX WEIGHT 90 LBS. WHEN CLEANOUT IS AT RV SITE, ELIMINATE FRAME AND COVER, EXTEND PVC PIPE THRU PAD WITH THREADED END, PROVIDE THREADED CAP AND SECURE TO CONCRETE PAD WITH SS WIRE ROPE AND EYE BOLT OR U-BOLT.



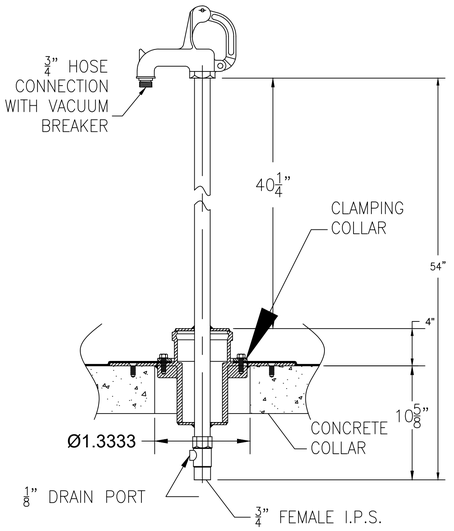
2 CLEANOUT DETAIL
SCALE : NTS



3 TYPICAL ROAD SECTION
SCALE : NTS



4 TYPICAL RIVER TRAIL SECTION
SCALE : NTS



5 RV HYDRANT DETAIL
SCALE : NTS

NOTES:
1. SEE DETAIL 4 FOR RV PAD SECTION.
2. SEE GRADING PLAN FOR GRADING. GRADES ACROSS RV PADS SHOULD NOT EXCEED 1% IN ANY DIRECTION.
3. ELECTRICAL, WATER,AND SEWER SHALL BE PLACED ON THE RV DRIVERS SIDE OF THE SITE, EXCEPT THE SITES IN THE CENTER OF THE RV PARK. SITES IN THE CENTER OF THE RV PARK SHALL HAVE WATER, SEWER, ELECTRICAL ON THE UPRIVER SIDE OF THE RV PAD, OUTSIDE OF THE PICNIC AREA.
4. RV SITES IN THE CENTER OF THE RV PARK SHALL HAVE A PICNIC AREA ON BOTH SIDES OF THE PARKING PAD AS SHOWN ON THE PLAN DRAWINGS.

6 TYPICAL RV PAD LAYOUT
SCALE : NTS

7 TYPICAL RV SITE SIGN/UTILITY
SCALE : NTS

SHEET NOTES

KEYED NOTES ⓧ

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REGISTERED PROFESSIONAL ENGINEER 19277 OREGON JULY 15, 1997 NEIL D. PIETROK
EXPIRES 12/31/24

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DRAWING TITLE:
IMPERIAL RIVER COMPANY
PROPERTY LINE ADJUSTMENT
MAUPIN, OREGON

DETAILS

PROJECT NO: 23144

DRAWING NUMBER: C500

20-JUL-2020

RD250.dgn

THRUST BLOCKING

TABLE A

CONCRETE THRUST BLOCKING (HORIZONTAL)

PIPE DIA.	Table Pressure PSI	Thrust (T) at fittings in Pounds A: Tee & Dead Ends	B: 90 deg Bend	C: 45 deg Bend	D: 22.5 deg Bend	E: 11.25 deg Bend
4"	250	3035	4320	2315	1215	610
6"	250	6860	9735	5215	2720	1375
8"	250	12185	17310	9265	4835	2430
10"	250	19045	27045	14480	7560	3800
12"	250	27405	38940	20840	10880	5465
14"	250	37320	53010	28370	14815	7445
16"	250	48740	69245	37050	19360	9735

TABLE B

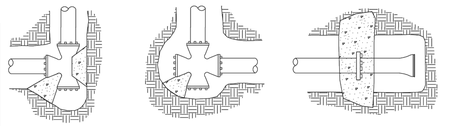
Soil Type	Soil Bearing Capacity (B) in PSF
Muck, peat, etc.	0
Soft Clay	1000
Sand	2000
Sand and gravel	3000
Sand and gravel cemented with clay	4000
Hard shale	10,000

TABLE C

CONCRETE BLOCKING FOR CONVEX VERTICAL BENDS

DIMENSION TABLE

PIPE DIA. in.	Table Pressure PSI	Bend Angle (deg)	Concrete Volume (cy)	Cube Size (ft)	Stirrup Dia. (in)	Stirrup Embmt. (in)	Stirrup Bar #
4"	250	11.25	0.21	1.8	⅛	17	5
		22.5	0.43	2.3			
		45	0.77	2.8			
6"	250	11.25	0.48	2.4	⅛	17	5
		22.5	0.95	3.0			
		45	1.79	3.6			
8"	250	11.25	0.86	2.9	⅛	17	5
		22.5	1.65	3.5			
		45	3.22	4.4			
10"	250	11.25	1.39	3.3	⅛	17	5
		22.5	2.62	4.1			
		45	4.97	4.1			
12"	250	11.25	1.94	3.7	⅛	17	5
		22.5	3.91	4.7			
		45	6.89	5.7	⅜	24	7
14"	250	11.25	2.62	4.1	⅜	17	5
		22.5	5.26	5.2	¼	20	6
		45	9.70	6.4	1	27	8
16"	250	11.25	3.44	4.5	⅜	17	5
		22.5	6.89	5.7	⅜	24	7
		45	12.63	7.0	1⅛	30	9



THRUST BLOCK BEARING AREA EQUATION

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, USE THE FOLLOWING PROCEDURE TO DETERMINE REQUIRED BEARING AREA.

1. Determine thrust (T) for type of fitting or joint and size of pipe from Table A.
2. Determine Design (Test) Pressure from Standard Specifications or Special Provisions.
3. Determine Table Pressure from Table A.
4. Determine Soil Bearing Capacity (B) of soil from Table B.
5. Determine required bearing area (A) in sq. ft. as follows:

$$\text{Thrust Block Bearing Area} = A = \left(\frac{T}{B}\right)\left(\frac{\text{Design (Test) Pressure}}{\text{Table Pressure}}\right)$$

Example: Design (Test) Pressure = 150 PSI
Pipe = 14"
Fitting = Tee
Soil = Sand

From Table A, T = 37320
From Table B, B = 2000

$$A = \left(\frac{37320}{2000}\right)\left(\frac{150}{250}\right) = 11.2 \text{ sq.ft.}$$

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Contractor to provide blocking adequate to withstand full test pressure.
2. Pour concrete blocking against undisturbed earth.
3. All concrete shall be commercial grade concrete.
4. Wrap pipe and/or fittings with 2 layers of polyethylene film where in contact with concrete
5. Keep concrete clear of all joints and accessories.
6. Stirrups shall be deformed galvanized cold rolled steel AASHTO M31 (ASTM A615), Grade 60. Coat with coal tar epoxy after installation.
7. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

THRUST BLOCKING

2024

DATE	REVISION DESCRIPTION

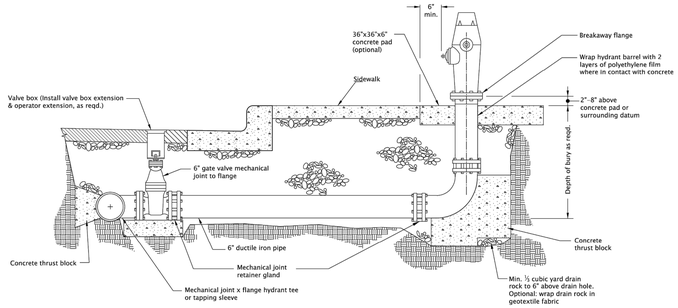
CALC. BOOK NO. _ _ _ _ N/A _ _ _ _ SDR DATE 25-JUL-2017 **RD250**

Effective Date: December 1, 2023 - May 31, 2024

20-JUL-2020

RD254.dgn

HYDRANT ASSEMBLY



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. When pipe is shorter than 18', no joints allowed. Use mechanical joint retainer glands. Two ⅞" galvanized tie rods may be used in lieu of thrust blocks for installations less than 18' long. Coat tie rods with two coats of coal tar epoxy.
2. When pipe is longer that 18' retainer glands not required.
3. There shall be a minimum of 18" horizontal clearance around hydrant.
4. When placed adjacent to curb, hydrant port shall be 24" from face of curb.
5. Concrete thrust blocks shall be constructed as per thrust blocking Std. Dwg. RD250. Do not block drain holes.
6. Extensions required for hydrant systems shall be installed to the manufacturer's specifications.
7. Hydrants shall be placed to provide a minimum of 5' clearance from driveways, poles, and other obstructions.
8. Hydrant pumper port shall face direction of access.
9. Set hydrant plumb in all directions.
10. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

HYDRANT INSTALLATION

2024

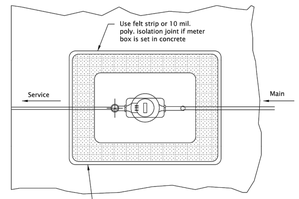
DATE	REVISION DESCRIPTION

CALC. BOOK NO. _ _ _ _ N/A _ _ _ _ SDR DATE 25-JUL-2017 **RD254**

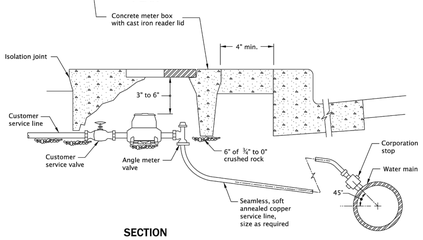
Effective Date: December 1, 2023 - May 31, 2024

20-JUL-2020

RD274.dgn



PLAN



SECTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Meter to be centered and set plumb inside meter box.
2. Manufactured meter setter may be used for ¾" to 2" services.
3. Set meter box 4" minimum behind curb or sidewalk.
4. Meter boxes set in driveways shall have traffic lids.
5. See project plans for meter box size.
6. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

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OREGON STANDARD DRAWINGS

¾" TO 2" WATER SERVICE CONNECTION

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. _ _ _ _ N/A _ _ _ _ SDR DATE 25-JUL-2017 **RD274**

Effective Date: December 1, 2023 - May 31, 2024

Imperial River Co.

SHEET NOTES

KEYED NOTES ⓧ

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EXPIRES 12/31/24

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DRAWN BY: DRAWN
ENGINEER: ENG
SCALE: AS SHOWN
ISSUED DATE: 11/21/2023

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DRAWING TITLE:
IMPERIAL RIVER COMPANY
PROPERTY LINE ADJUSTMENT
MAUPIN, OREGON

DETAILS

PROJECT NO: 23144

DRAWING NUMBER: C501