

# CITY OF PENDLETON, OREGON

## WASTEWATER TREATMENT PLANT IMPROVEMENTS, DIGESTER REHABILITATION - PHASE I

### 2022

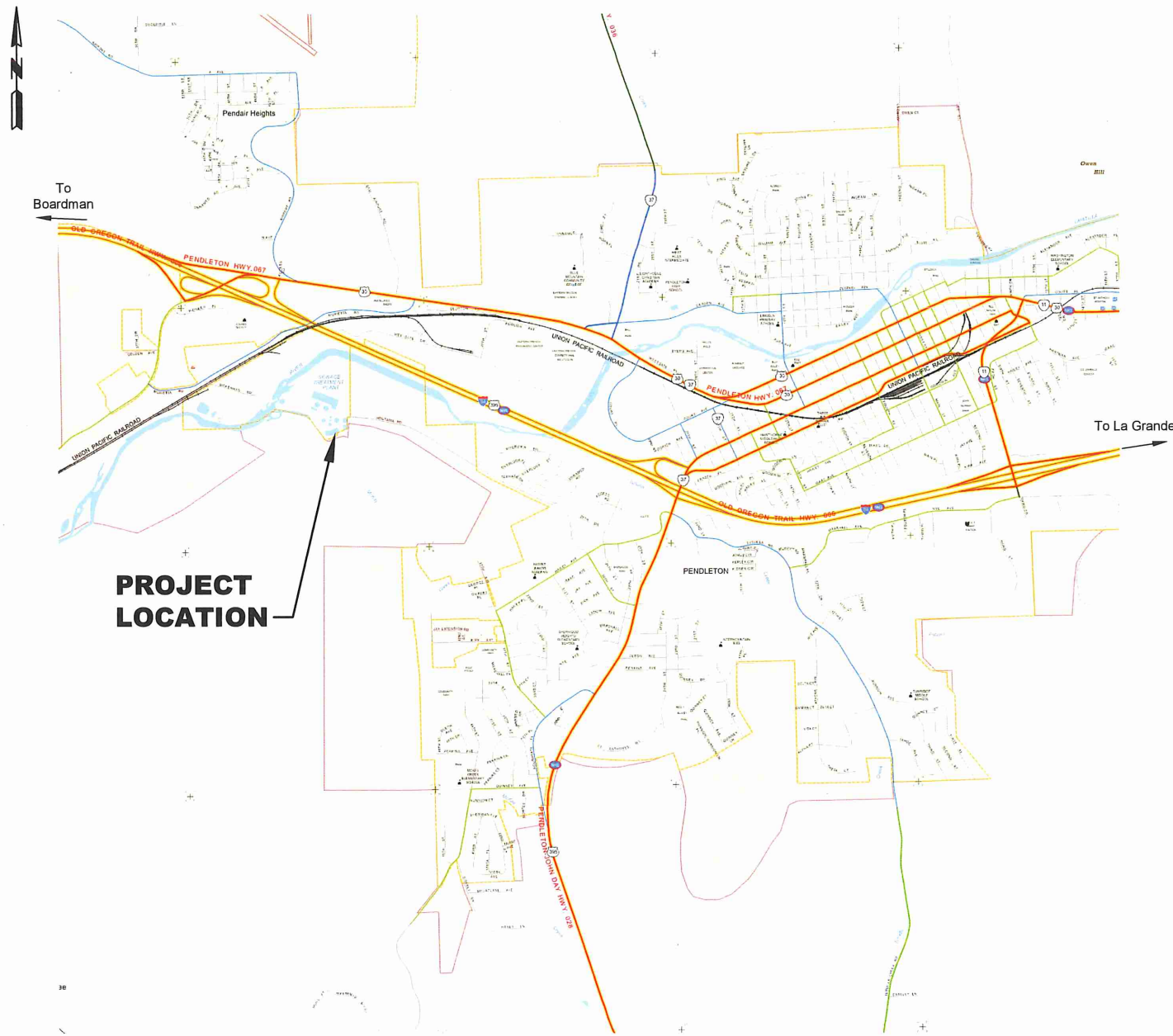


#### CITY COUNCIL

JOHN H. TURNER, Mayor  
 KEVIN MARTIN  
 CAROLE L. INNES  
 SALLY BRANDSEN  
 MCKENNON MCDONALD  
 LINDA K. NEUMAN  
 DALE PRIMMER  
 JAKE CAMBIER  
 STEVE CAMPBELL

#### CITY OFFICIALS

BOB PATTERSON, Public Works Director  
 MARK MILNE, WWTRRF Superintendent  
 KYLE WILLMAN, WWTRRF Technician



**PROJECT  
LOCATION**

**VICINITY MAP**  
N.T.S.

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*2/4/22*

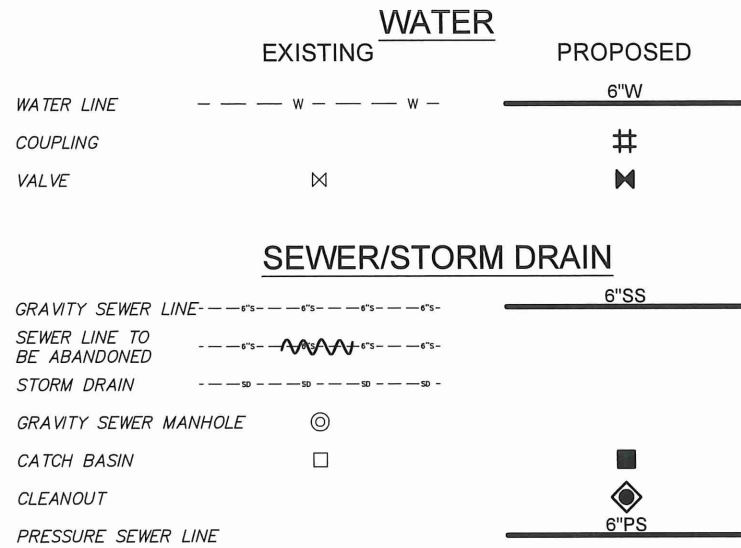
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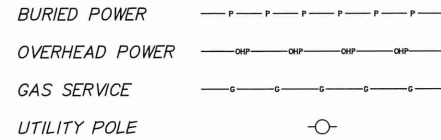
1901 N. Fir Street - La Grande, OR 97850 Ph: (541)963-8309 Fax: (541)963-5456  
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**PLAN LEGEND**



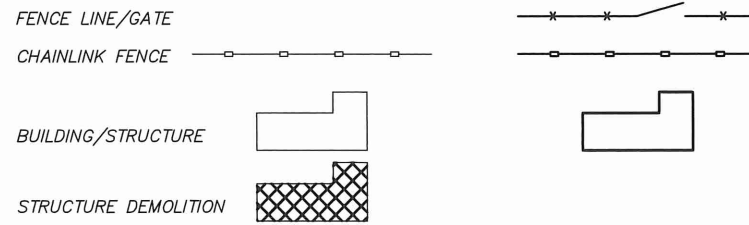
**MISCELLANEOUS UTILITIES**



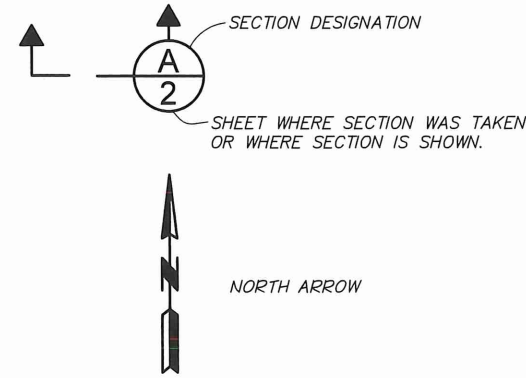
**SITE SURVEY**



**GENERAL**



**DRAFTING**



**GENERAL NOTES**

1. THE EXISTING UTILITIES AS SHOWN ARE BASED UPON INFORMATION PROVIDED BY THE CITY OF PENDLETON. WHERE KNOWN, ALL EXISTING PIPE MATERIALS ARE CALLED OUT ON THE DRAWINGS. SOME DISCREPANCIES AND OMISSION IN LOCATION, TYPE AND SIZE WILL LIKELY OCCUR. UTILITIES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. NO RESPONSIBILITY IS ASSUMED BY THE ENGINEER TO THEIR ACCURACY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION FOR VERIFICATION OF UTILITIES IN THE WORK AREA.
2. CONTRACTOR TO PROVIDE ACCESS TO THE EXISTING FACILITIES AT ALL TIMES FOR CITY PERSONNEL.
3. CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY AT ALL TIMES.
4. SEE TECHNICAL SPECIFICATIONS - "GENERAL REQUIREMENTS" FOR TIMING AND SEQUENCING OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADES TO AVOID CONFLICTS BETWEEN PIPING, ELECTRICAL, ETC. WHERE CONFLICTS EXIST BETWEEN PIPING AND ELECTRICAL CONDUITS, THE ELECTRICAL CONDUIT SHALL BE ADJUSTED AS REQUIRED TO AVOID THE CONFLICT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED EROSION CONTROL PROCEDURES. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL SITE RUNOFF AND MINIMIZE SEDIMENT TRANSPORT TO ADJACENT PROPERTIES, INCLUDING, BUT NOT LIMITED TO SILT FENCING, MULCHING, EROSION CONTROL MATTING, ETC. ANY VIOLATIONS DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE BORNE SOLELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REINSTALLING ANY FENCES AS REQUIRED TO COMPLETE THE REQUIRED IMPROVEMENTS.
8. ALL PIPING SHALL BE BURIED WITH A MINIMUM 30" COVER.

**ESTIMATED QUANTITIES**

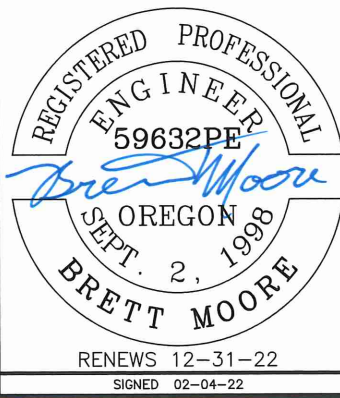
THE QUANTITIES SHOWN ARE NEAT LINE ESTIMATES FOR THE DRYING BEDS AND SITE IMPROVEMENTS BETWEEN BEDS 1-4 AND BEDS 5-6. THESE QUANTITIES ARE BASED UPON FIELD SURVEYED TOPOGRAPHICAL INFORMATION PREPARED BY THE ENGINEER AND THE IMPROVEMENTS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE TOTAL QUANTITIES NEEDED TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS AND IN THE SPECIFICATIONS. THE ENGINEER'S ESTIMATED QUANTITIES ARE PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL NOT USE THESE ESTIMATES FOR BIDDING PURPOSES. THE ENGINEER/OWNER SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THESE ESTIMATED QUANTITIES.

ESTIMATED TOTAL CUT:      950 C.Y.  
ESTIMATED TOTAL FILL:      750 C.Y.

IT IS INTENDED THAT THESE EARTHWORK MATERIALS WILL BE TAKEN FROM, OR LEFT ON THE TREATMENT PLANT SITE. NO IMPORT/EXPORT OF GENERAL FILL IS EXPECTED. COORDINATE LOCATION WITH CITY STAFF.

Drying Bed #	Sludge Volume at Various Sludge Depths (Gal)						
	6"	8"	10"	12"	14"	16"	18"
1	21,400	28,500	35,700	42,800	49,900	57,100	64,200
2	17,500	23,400	29,200	35,100	40,900	46,800	52,600
3	21,800	29,000	36,300	43,500	50,800	58,000	65,300
4	17,500	23,300	29,100	34,900	40,800	46,600	52,400
5	18,900	25,200	31,500	37,900	44,200	50,500	56,800
6	18,700	25,000	31,200	37,400	43,700	49,900	56,200
7	46,000	61,300	76,700	92,000	107,300	122,700	138,000
8	27,700	36,900	46,100	55,400	64,600	73,800	83,000
9	28,100	37,400	46,800	56,100	65,500	74,800	84,200

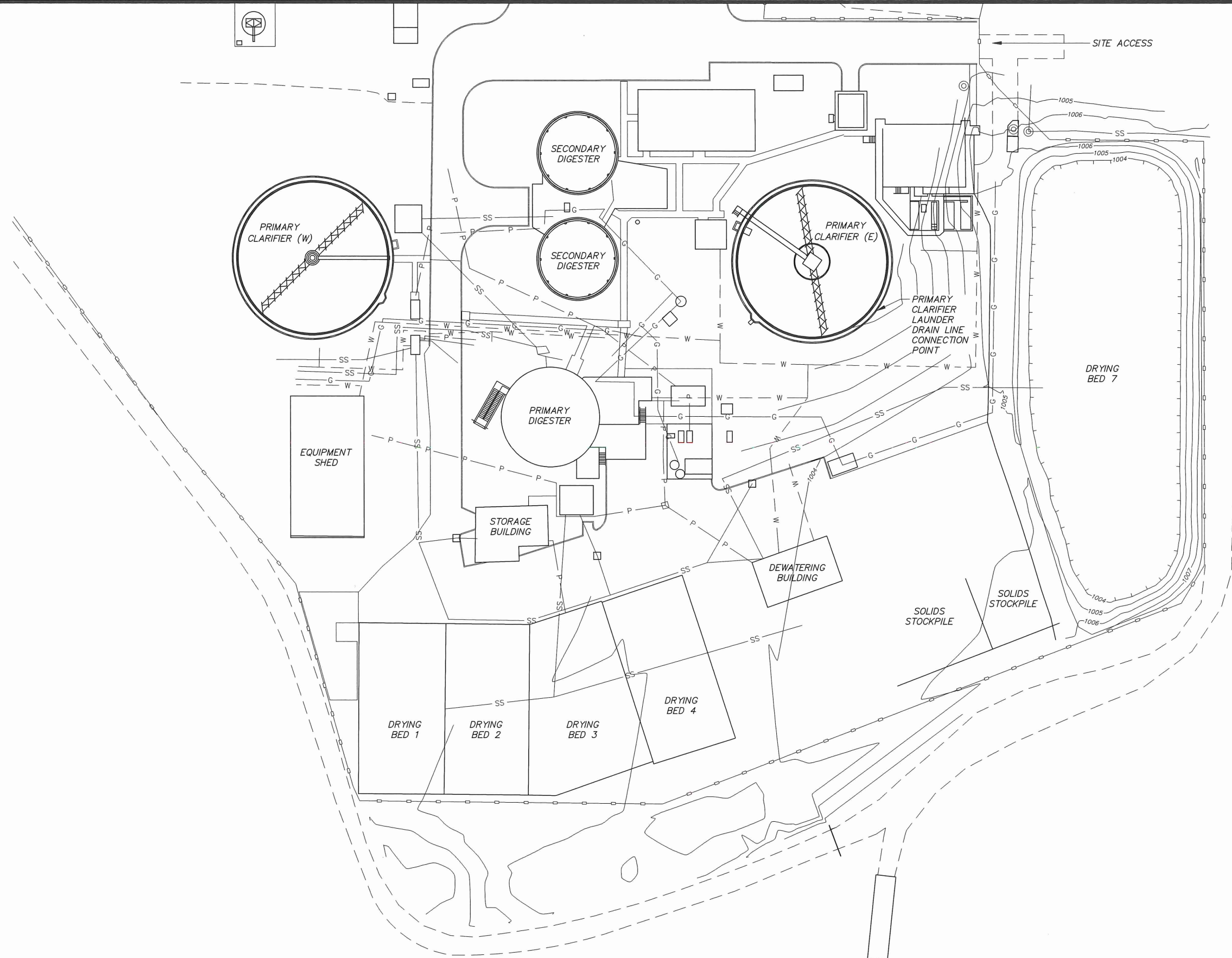
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DESIGNED BY T. MOORE		JOB NUMBER 77-51		DATE 2022			<b>CITY OF PENDLETON</b> WASTEWATER TREATMENT PLANT IMPROVEMENTS, DIGESTER REHABILITATION - PHASE I	SHEET	
DRAWN BY G. SAURBIER / P. RICHARDSON		ACAD FILE: 77-51-G-001.dwg		COPYRIGHT 2022 BY ANDERSON PERRY & ASSOC., INC.				<b>G-001</b>  LEGEND AND GENERAL NOTES	SHEET
REVIEWED BY B. MOORE									

**NOTES**

1. THE EXISTING SURVEY INFORMATION IS PROVIDED BY THE CITY OF PENDLETON. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR TO CONSTRUCTION.



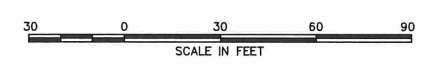
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SIGNED 02-07-22

REVISION	BY	DATE

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**WASTEWATER TREATMENT PLANT IMPROVEMENTS,**  
**DIGESTER REHABILITATION - PHASE I**

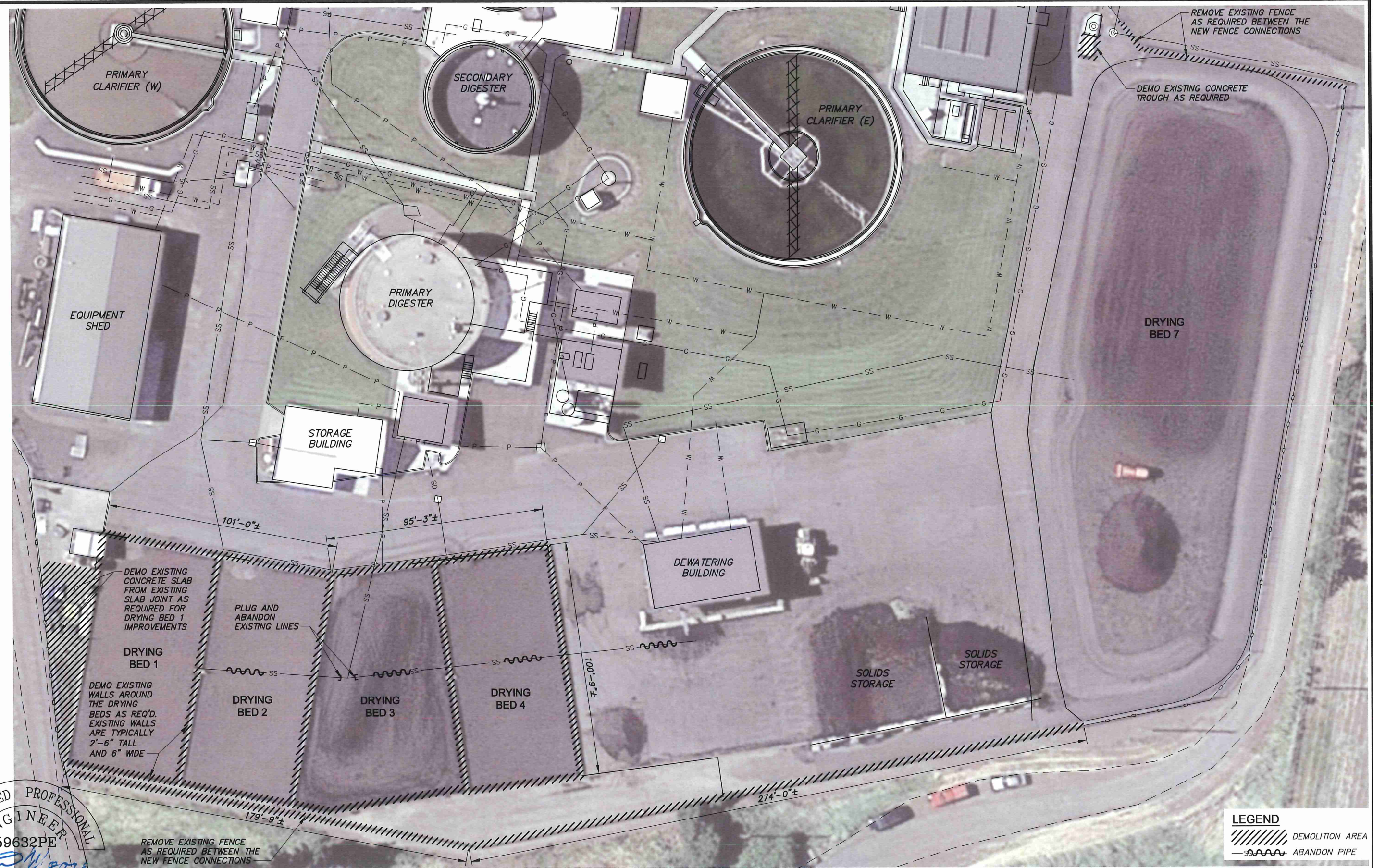
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EXISTING WASTEWATER TREATMENT PLANT

SHEET  
**G-101**



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REGISTERED PROFESSIONAL ENGINEER  
 59632PE  
 BRETT MOORE  
 OREGON  
 SEPT. 2, 1998  
 RENEWS 12-31-22  
 SIGNED 02-07-22

DESIGNED BY	T. MOORE	JOB NUMBER	77-51	DATE	2022
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 DIGESTER REHABILITATION - PHASE I  
 DEMOLITION PLAN

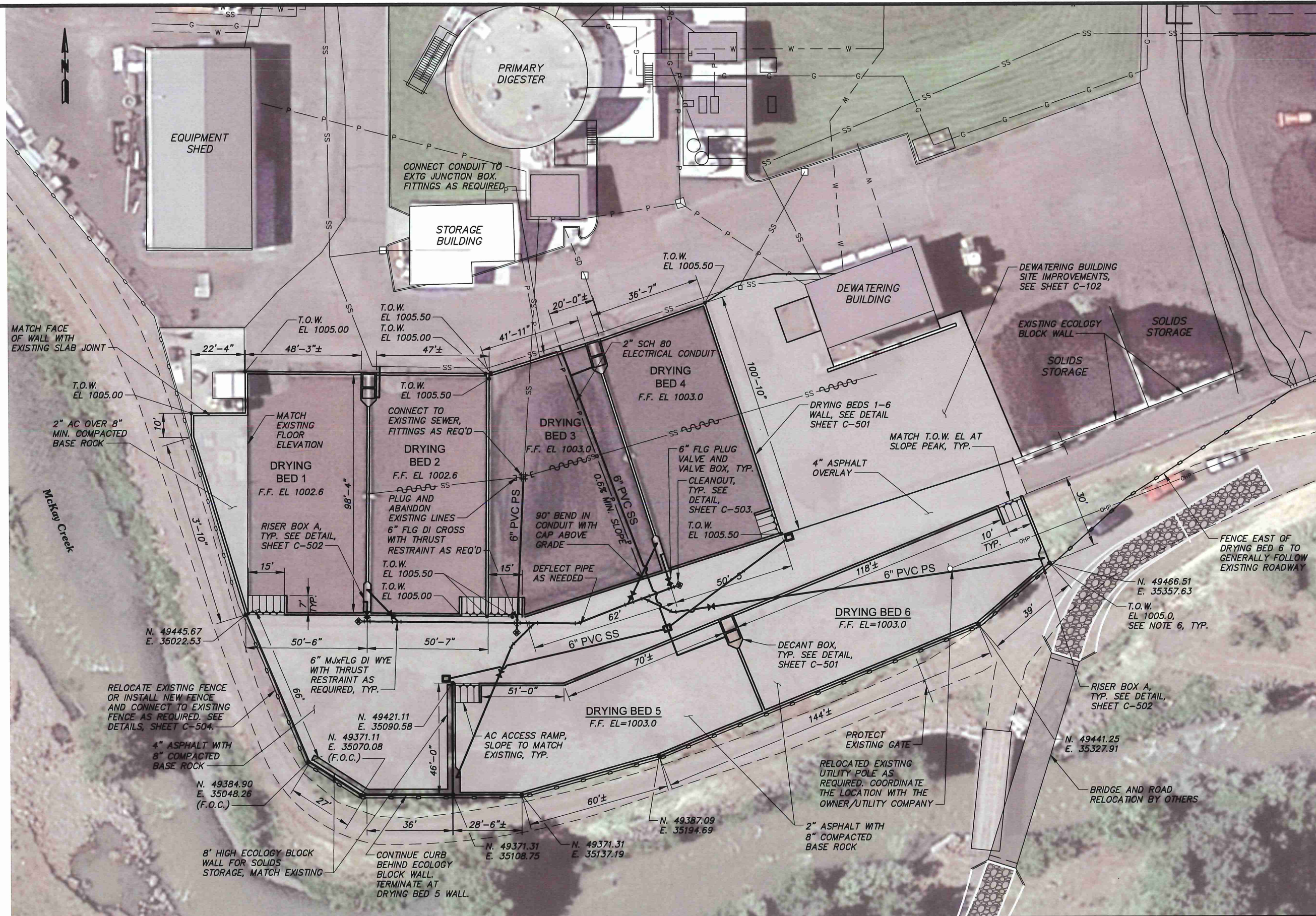
**LEGEND**  
 DEMOLITION AREA  
 ABANDON PIPE

SHEET  
**D-101**



**NOTES**

1. LOCATIONS WITH SHOWN NORTHING AND EASTING WILL BE STAKED BY OWNER.
2. CONTRACTOR TO GRADE SITE TO DRAIN TO AREA DRAIN.
3. RESTRAIN ALL PRESSURIZED PIPING.
4. GRUB AND CLEAR AREA SOUTH OF DRYING BEDS 1-4 PRIOR TO GRADING FOR DRYING BEDS 5-6 AND OTHER AC WORK. REMOVE EXISTING TREES AS NEEDED.
5. COORDINATE TOPSOIL AND/OR EXCESS CUT STOCKPILE LOCATION WITH OWNER.
6. T.O.W. ELEVATION FOR DRYING BEDS 5-6 SHALL BE 1005.0, SEE DETAIL SHEET C-501.
7. ALL 6" GRAVITY SEWER PIPING SHALL BE CONSTRUCTED WITH A MINIMUM 0.6% SLOPE.
8. SOUTH OF DRYING BEDS 1-4 MAY HAVE EXISTING SOILS UNSUITABLE FOR FOUNDATION MATERIAL. SUCH AREAS SHALL BE OVEREXCAVATED AS REQUIRED TO LAY 6" MIN. ADDITIONAL BASE ROCK OVER GEOTEXTILE FABRIC. FABRIC SHALL BE MIRAFI 500X GEOTEXTILE.



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**REGISTERED PROFESSIONAL ENGINEER**  
 59632PE  
*Brett Moore*  
 OREGON  
 SEPT. 2, 1998  
 BRETT MOORE

RENEWS 12-31-22  
 SIGNED 02-04-22

REVISION	BY	DATE

SCALE IN FEET  
 0 20 40 60

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 DRAWN BY G. SAURBIER / P. RICHARDSON  
 REVIEWED BY B. MOORE

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 DIGESTER REHABILITATION - PHASE I

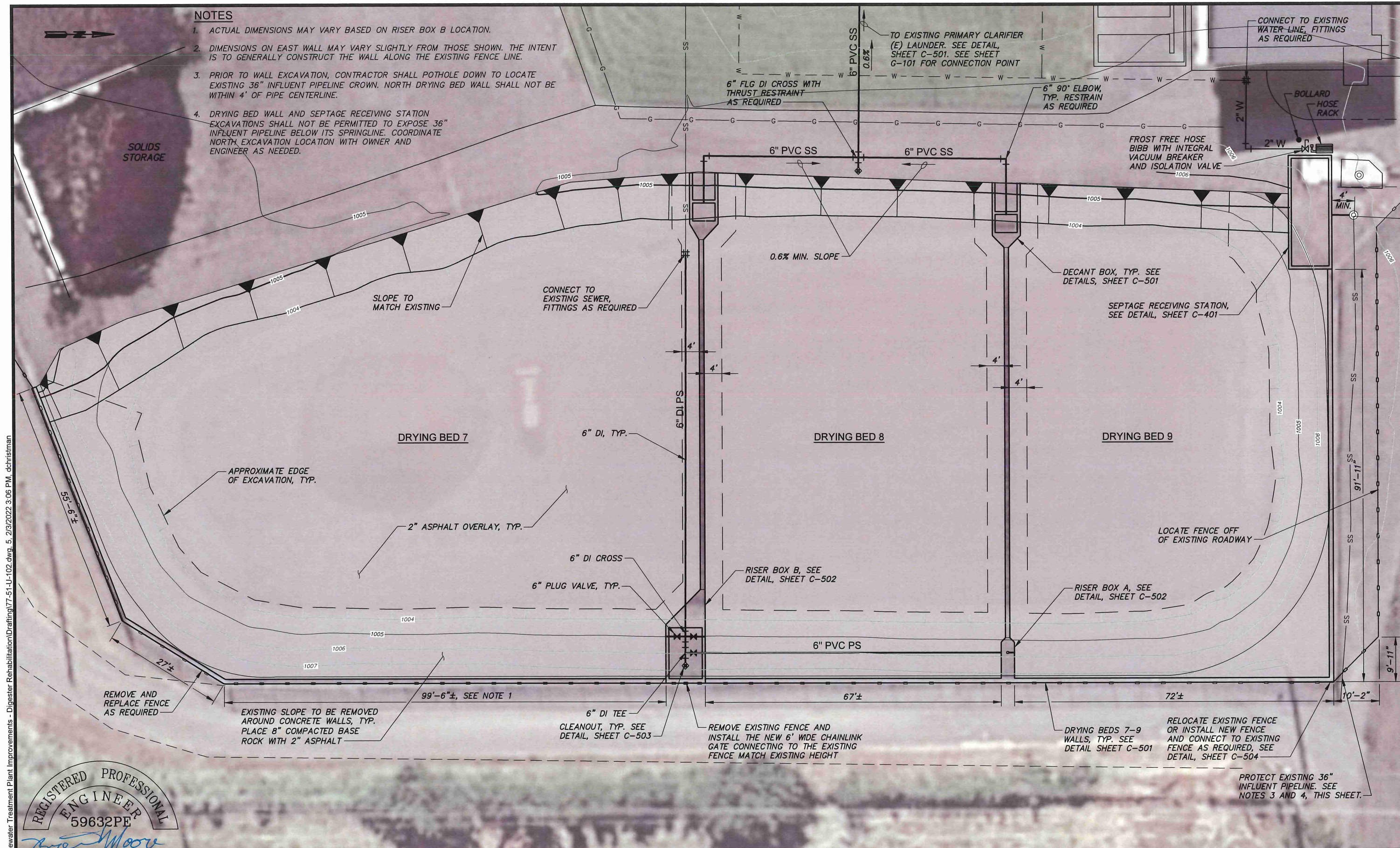
DRYING BED IMPROVEMENTS  
 DRYING BEDS 1 - 6 SITE PLAN

SHEET  
**U-101**

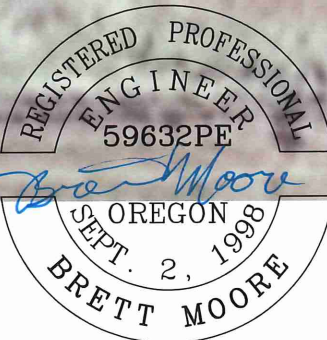


**NOTES**

1. ACTUAL DIMENSIONS MAY VARY BASED ON RISER BOX B LOCATION.
2. DIMENSIONS ON EAST WALL MAY VARY SLIGHTLY FROM THOSE SHOWN. THE INTENT IS TO GENERALLY CONSTRUCT THE WALL ALONG THE EXISTING FENCE LINE.
3. PRIOR TO WALL EXCAVATION, CONTRACTOR SHALL POTHOLE DOWN TO LOCATE EXISTING 36" INFLUENT PIPELINE CROWN. NORTH DRYING BED WALL SHALL NOT BE WITHIN 4' OF PIPE CENTERLINE.
4. DRYING BED WALL AND SEPTAGE RECEIVING STATION EXCAVATIONS SHALL NOT BE PERMITTED TO EXPOSE 36" INFLUENT PIPELINE BELOW ITS SPRINGLINE. COORDINATE NORTH EXCAVATION LOCATION WITH OWNER AND ENGINEER AS NEEDED.



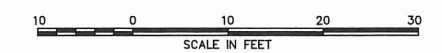
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WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
DIGESTER REHABILITATION - PHASE I

DRYING BED IMPROVEMENTS  
DRYING BEDS 7 - 9 SITE PLAN

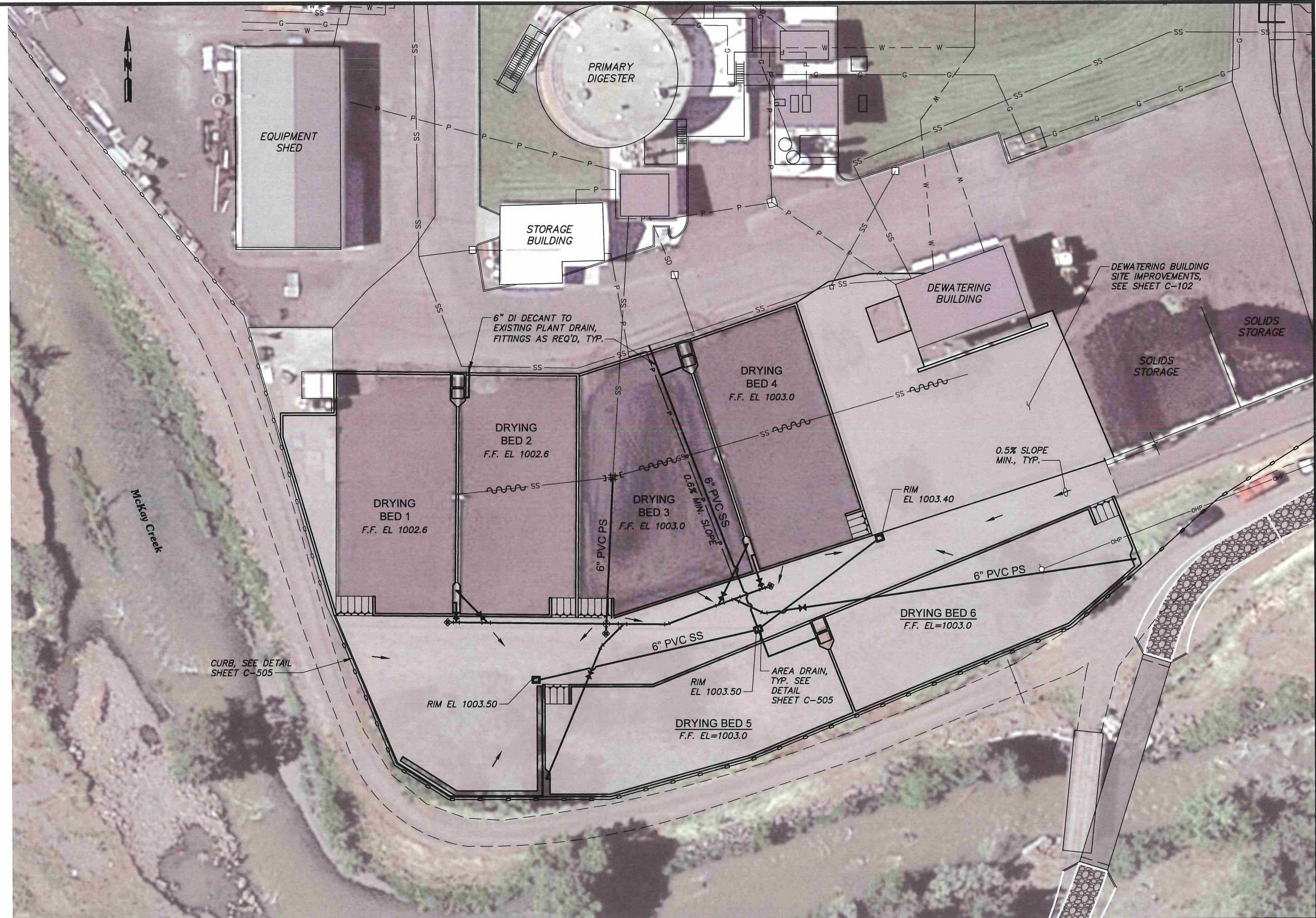
SHEET  
**U-102**

PROTECT EXISTING 36" INFLUENT PIPELINE. SEE NOTES 3 AND 4, THIS SHEET.



**NOTES**

1. CITY SHALL VERIFY BASE ROCK GRADING PRIOR TO CONTRACTOR PLACING ASPHALT.
2. PRESSURE SEWER NOT SHOWN FOR CLARITY.
3. CONTRACTOR TO GRADE SITE TO DRAIN TO AREA DRAIN.



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REGISTERED PROFESSIONAL ENGINEER  
 59632PE  
*Brett Moore*  
 OREGON  
 SEPT. 2, 1998  
 BRETT MOORE  
 RENEWS 12-31-22  
 SIGNED 02-04-22

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DESIGNED BY	T. MOORE	
DRAWN BY	G. SAURBIER / P. RICHARDSON	
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 WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
 DIGESTER REHABILITATION - PHASE I

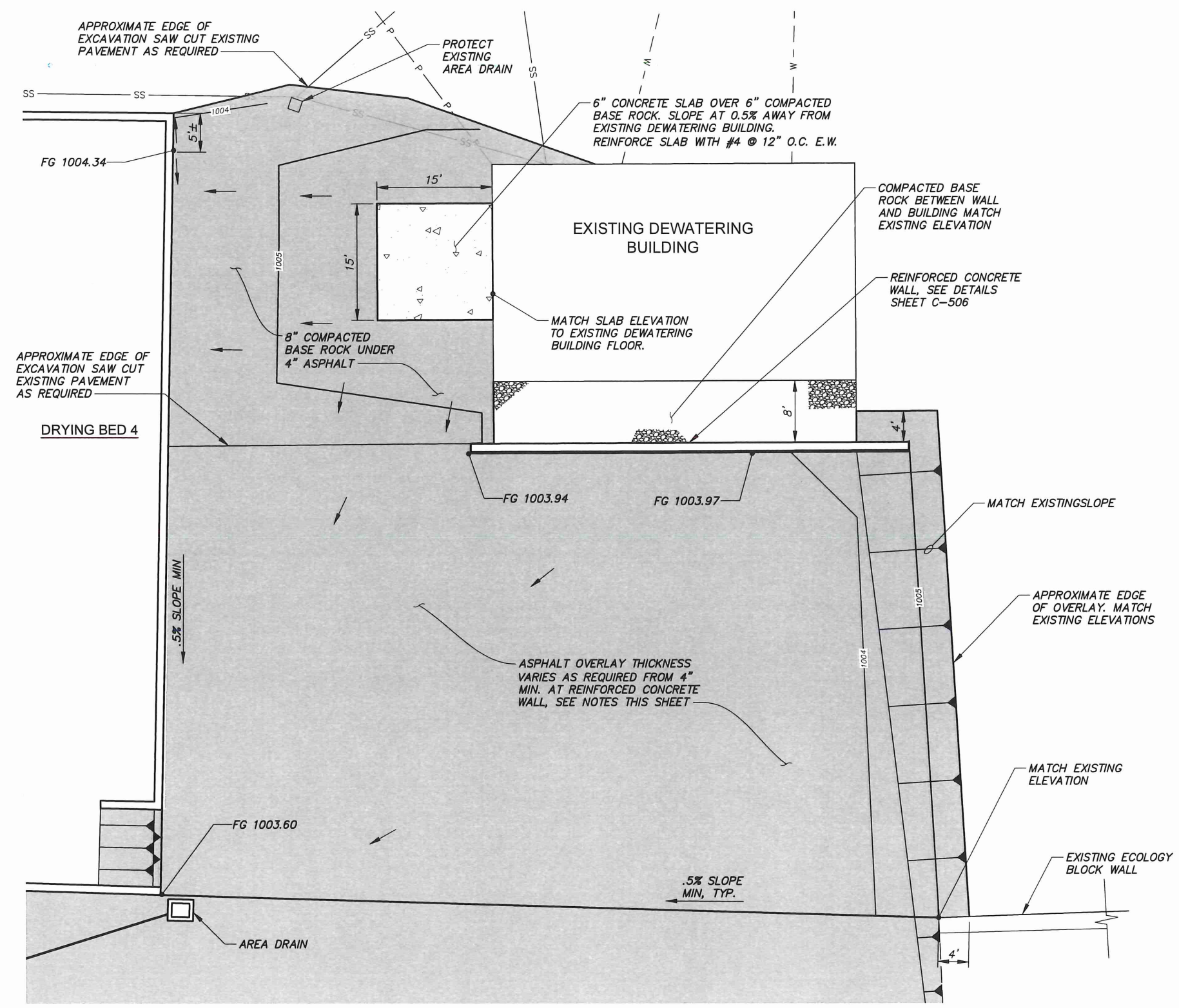
DRYING BED IMPROVEMENTS  
 DRYING BEDS 1 - 6 OVERALL SITE DRAINAGE

SHEET  
**C-101**

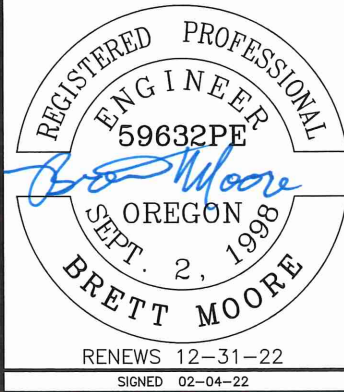


**NOTES**

1. FINISHED GRADE CONTOURS SHOWN ARE APPROXIMATE IN NATURE. THE INTENT IS TO GRADE THE LOCATION SHOWN SO THAT IT DRAINS TO THE AREA DRAIN TO THE SOUTHWEST.
2. 11' MIN. CLEARANCE SHALL BE PROVIDED AT REINFORCED CONCRETE WALL BETWEEN FINISH GRADE AND EXISTING SOLIDS CONVEYOR, SEE SHEET C-506.



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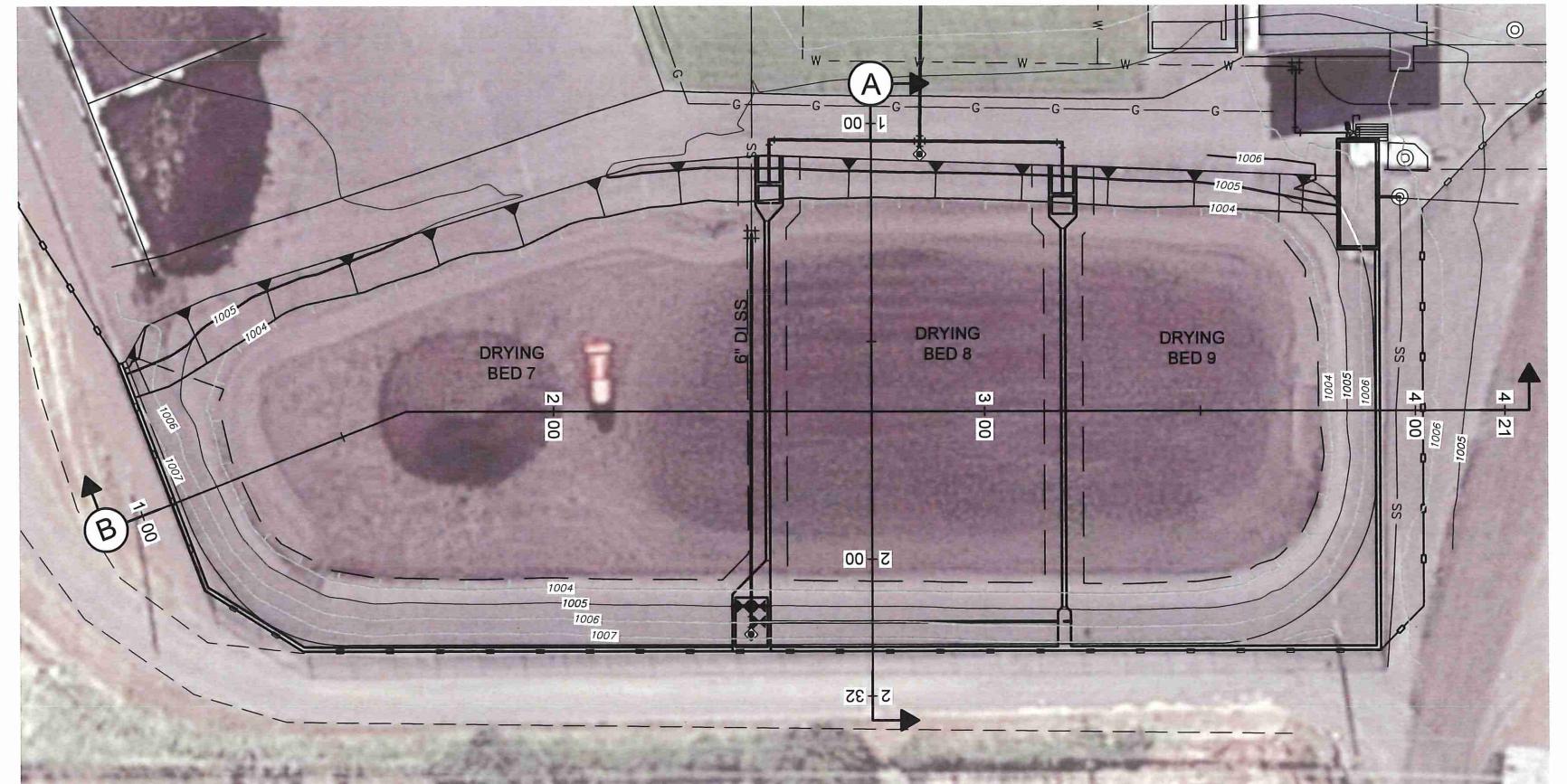
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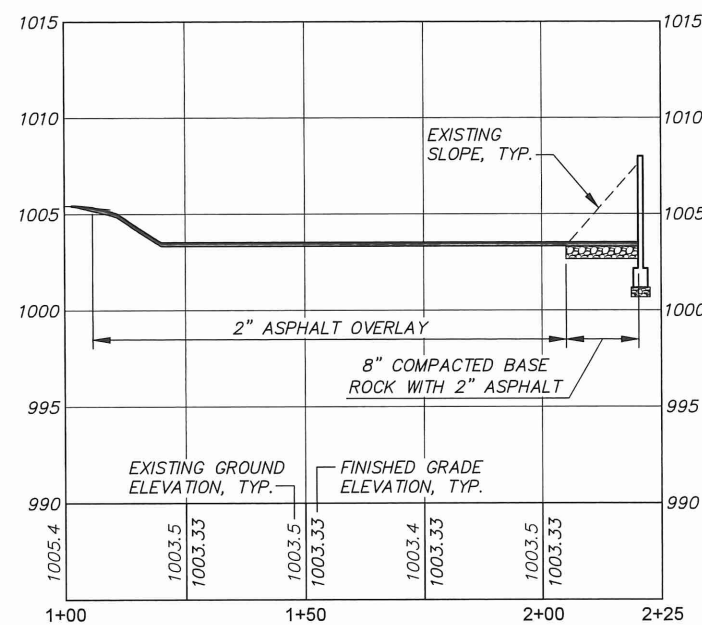
<b>CITY OF PENDLETON</b> WASTEWATER TREATMENT PLANT IMPROVEMENTS, DIGESTER REHABILITATION - PHASE I
DRYING BED IMPROVEMENTS DEWATERING BUILDING GRADING IMPROVEMENTS

SHEET  
**C-102**

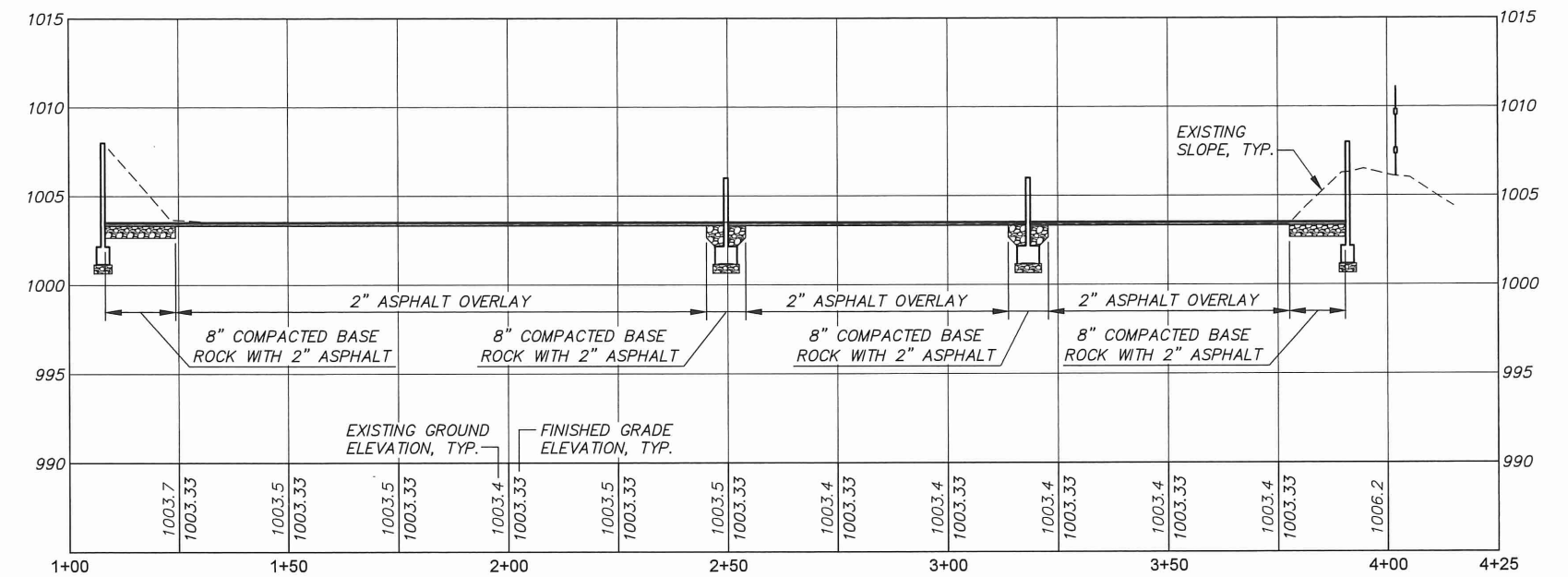




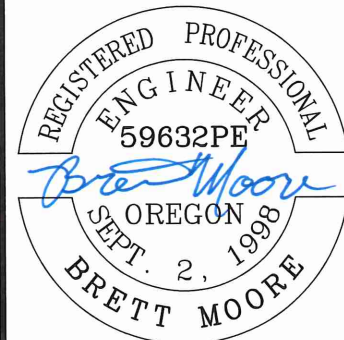
PLAN



SECTION A



SECTION B



RENEWS 12-31-22  
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DESIGNED BY	T. MOORE	
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REVIEWED BY	B. MOORE	

<p>HORZ. SCALE IN FEET</p>	<p>VERT. SCALE IN FEET</p>		
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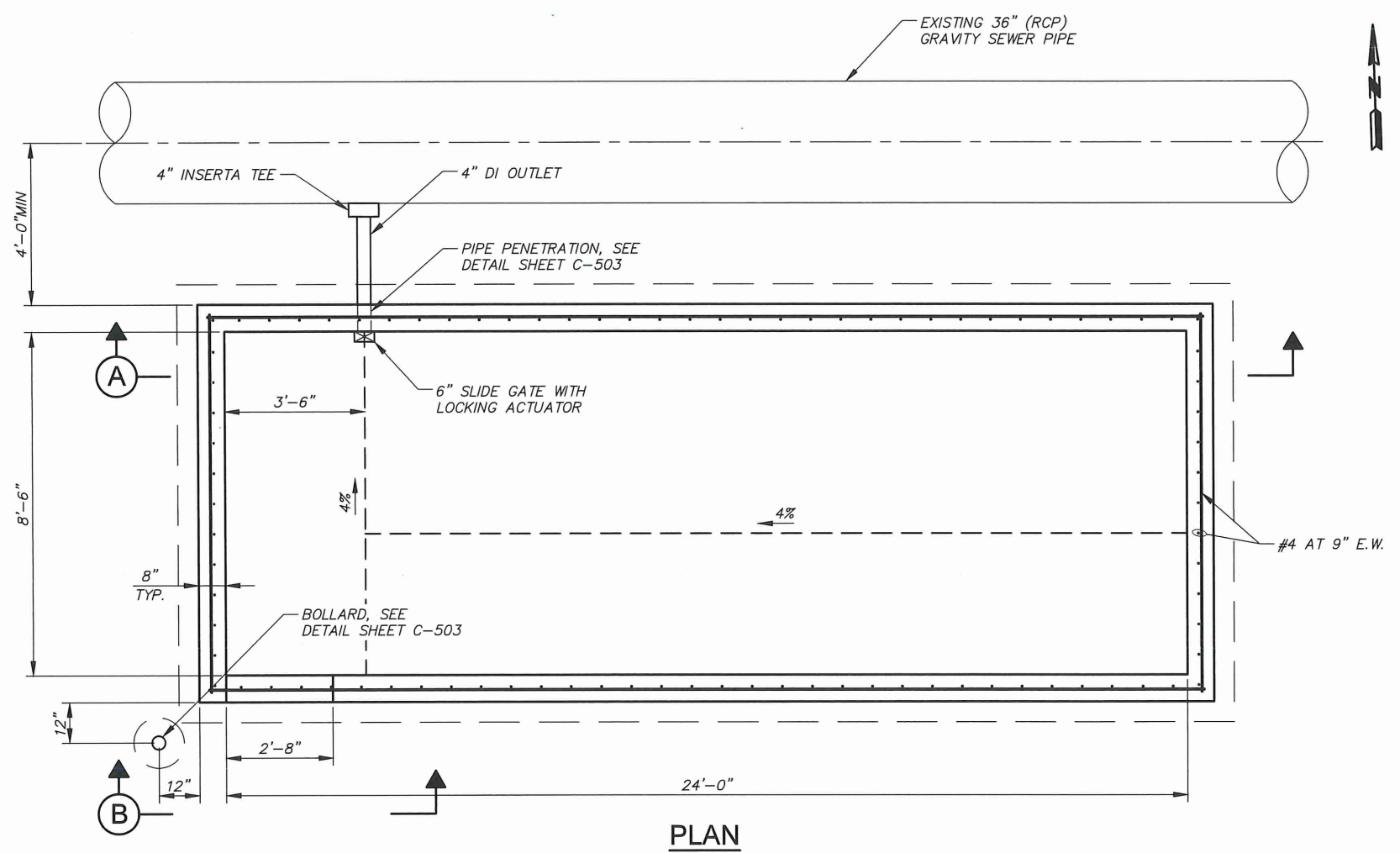
**CITY OF PENDLETON**  
**WASTEWATER TREATMENT PLANT IMPROVEMENTS,**  
**DIGESTER REHABILITATION - PHASE I**

**DRYING BED IMPROVEMENTS**  
**DRYING BEDS 7 - 9 GRADING PLAN**

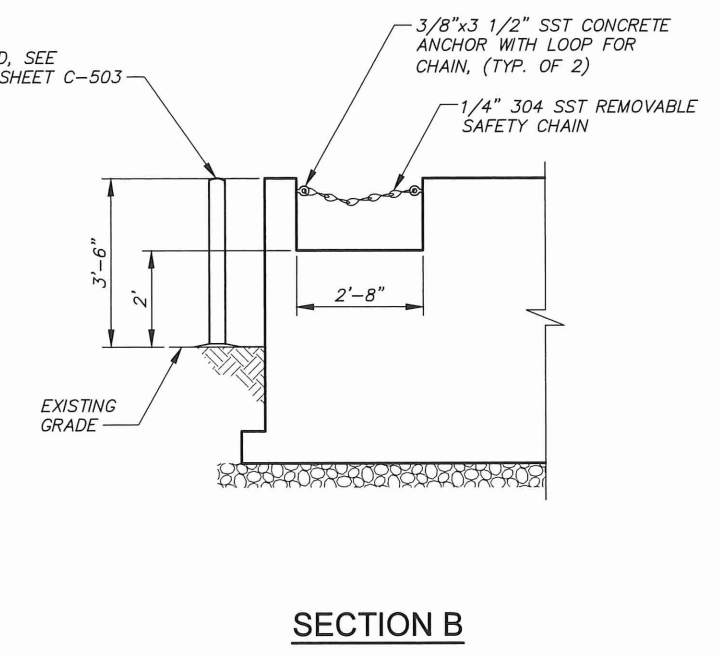
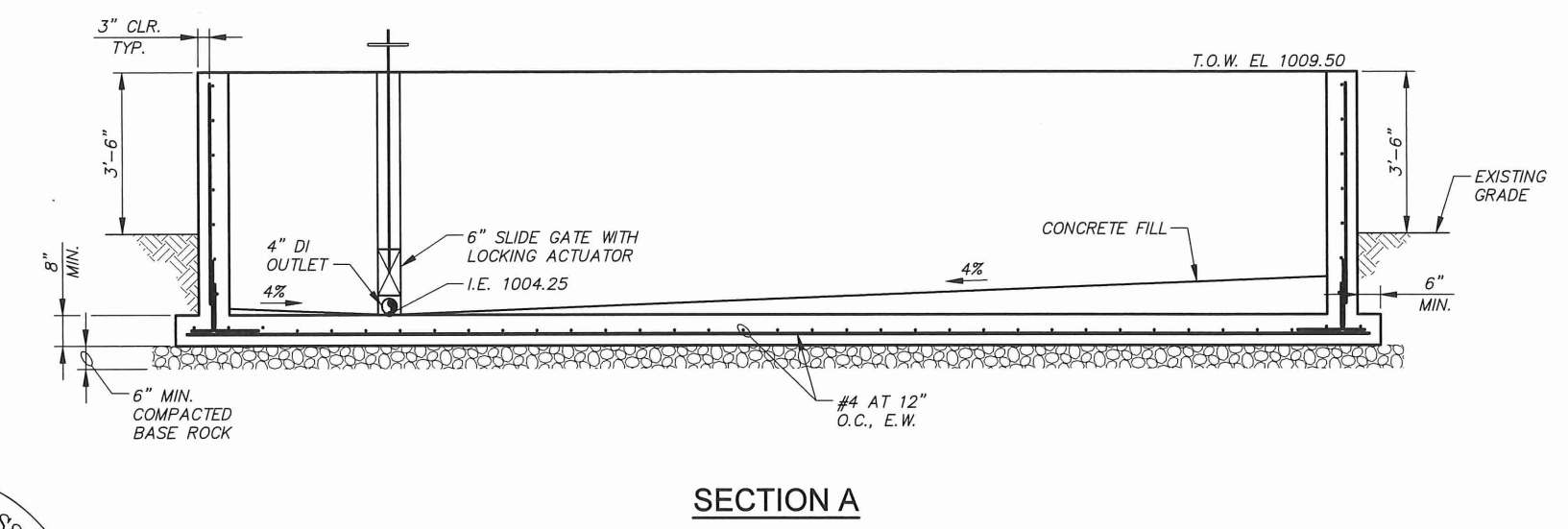
SHEET  
**C-103**

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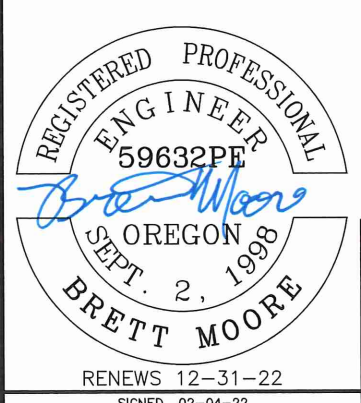




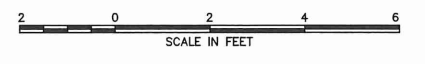
NOTES:  
 1. PROVIDE WATERSTOP IN ALL CONSTRUCTION JOINTS.  
 2. RESTORE ASPHALT SURFACE AS REQUIRED.



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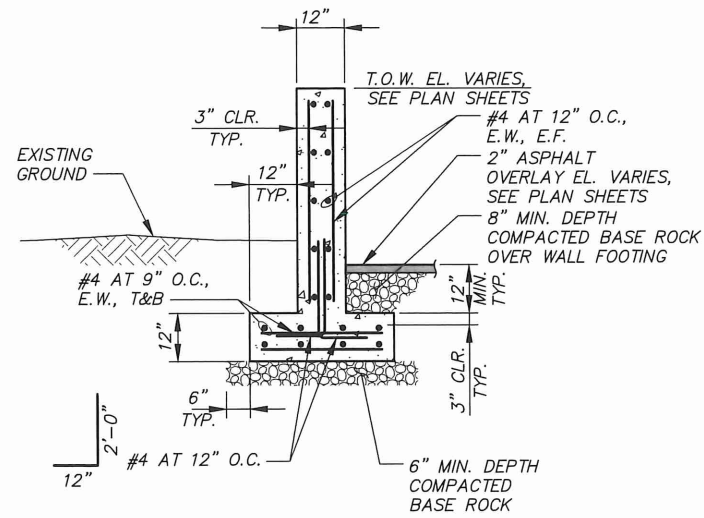


**CITY OF PENDLETON**  
 WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
 DIGESTER REHABILITATION - PHASE I

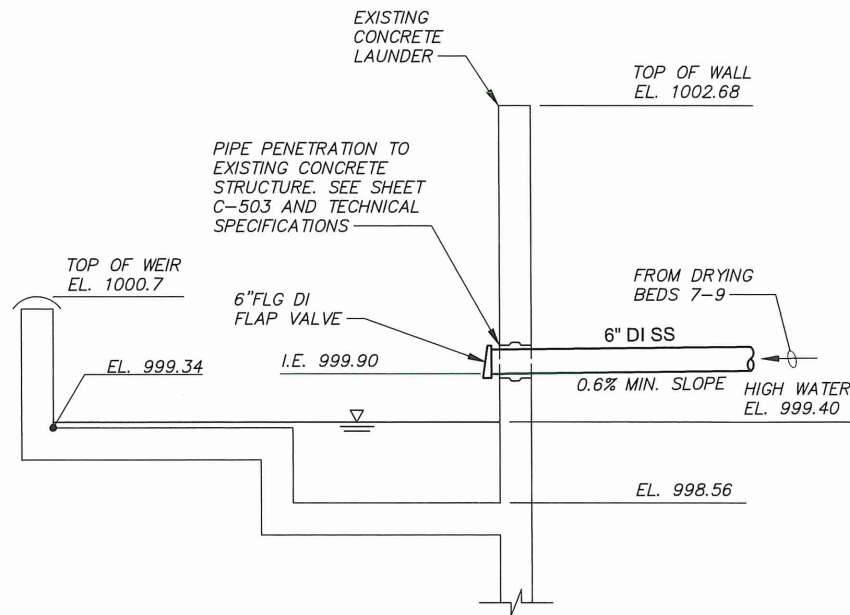
DRYING BED IMPROVEMENTS  
 SEPTAGE RECEIVING STATION PLAN AND SECTION

SHEET  
**C-401**



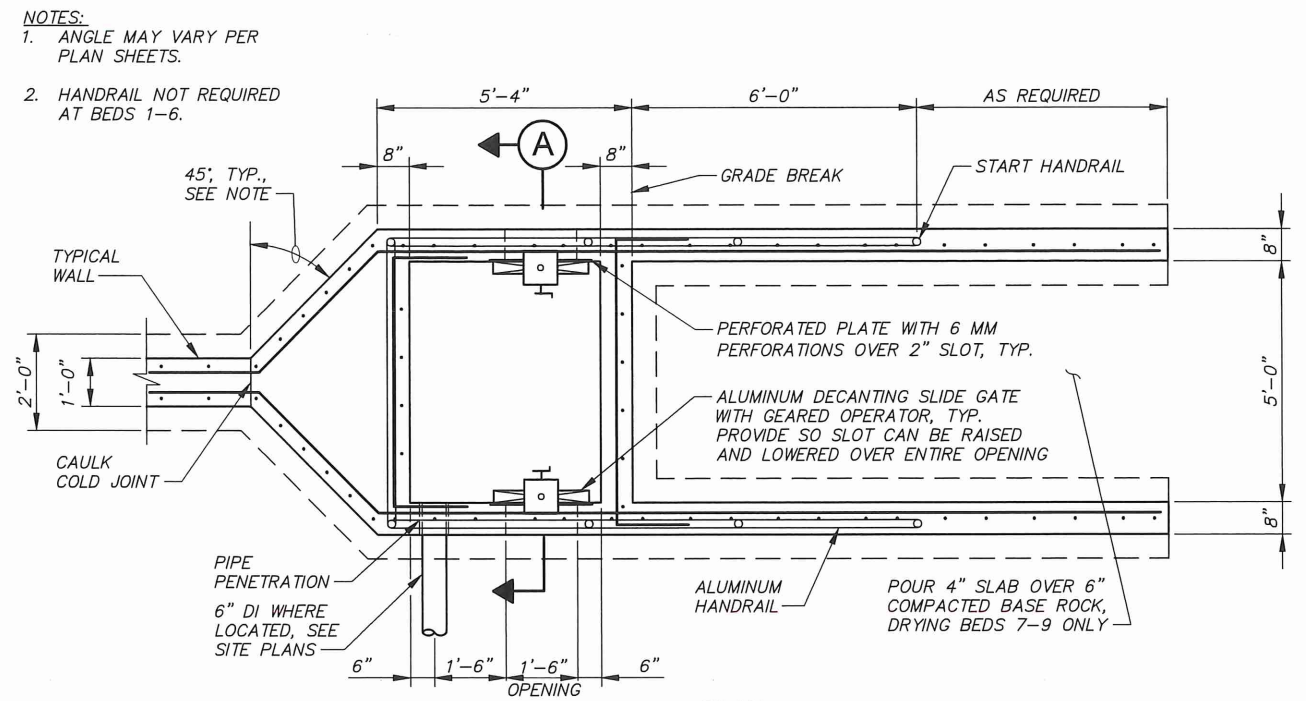


**DRYING BEDS 1-6 WALL DETAIL**

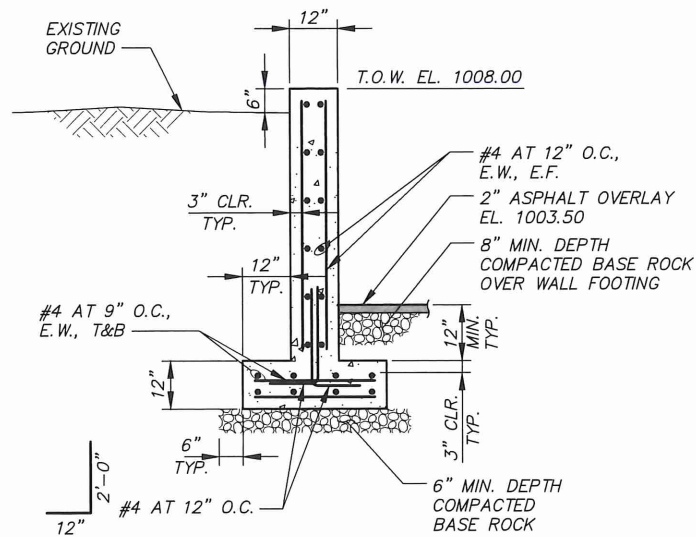


- NOTES:**
1. CONTRACTOR TO FIELD VERIFY ELEVATIONS INSIDE OF THE EXISTING LAUNDER PRIOR TO CONSTRUCTION. CORE THE EXISTING CONCRETE AS REQUIRED TO ACCOMMODATE THE NEW PIPE.
  2. THE INVERT ELEVATION OF THE NEW PIPE INSIDE OF THE EXISTING LAUNDER SHALL BE A MINIMUM OF 6" ABOVE THE HIGH WATER ELEVATION.

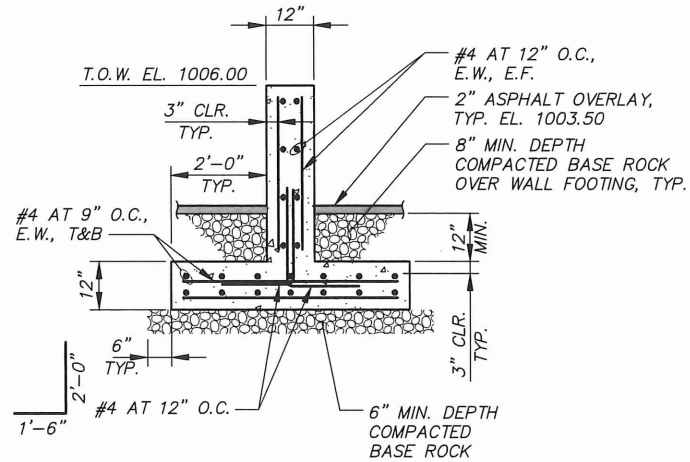
**PRIMARY CLARIFIER (E) LAUNDER TIE-IN**



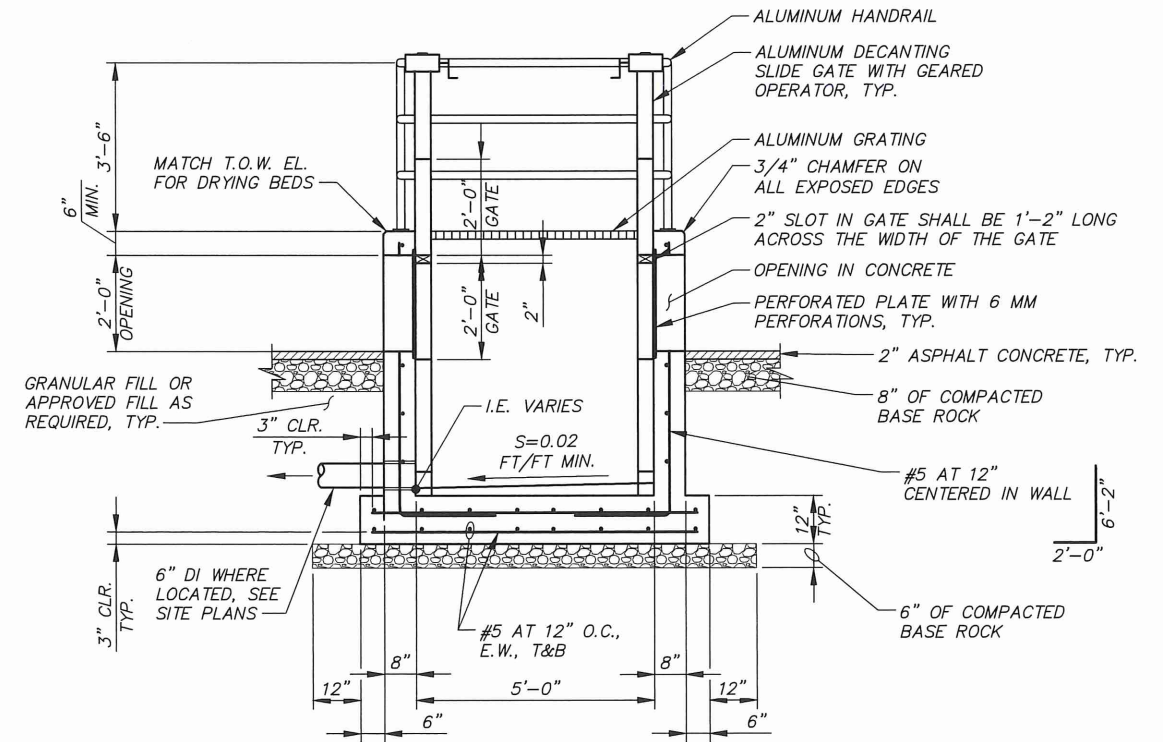
**PLAN**



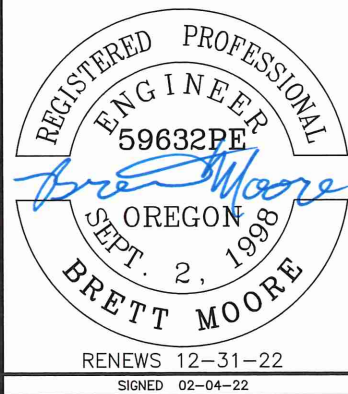
**DRYING BEDS 7-9 EXTERIOR WALL DETAIL**



**DRYING BEDS 7-9 INTERIOR WALL DETAIL**



**SECTION A  
DECANT BOX DETAIL**



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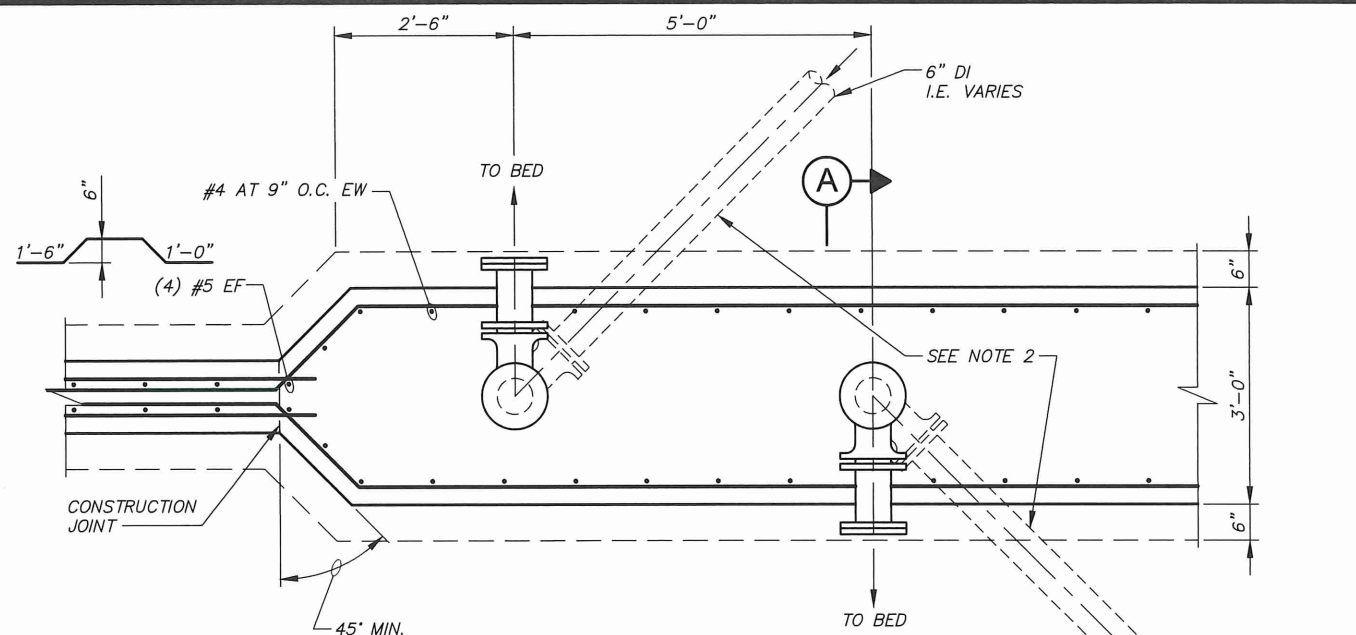
**CITY OF PENDLETON**  
WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
DIGESTER REHABILITATION - PHASE I

**DRYING BED IMPROVEMENTS  
DRYING BED DETAILS I**

SHEET  
**C-501**

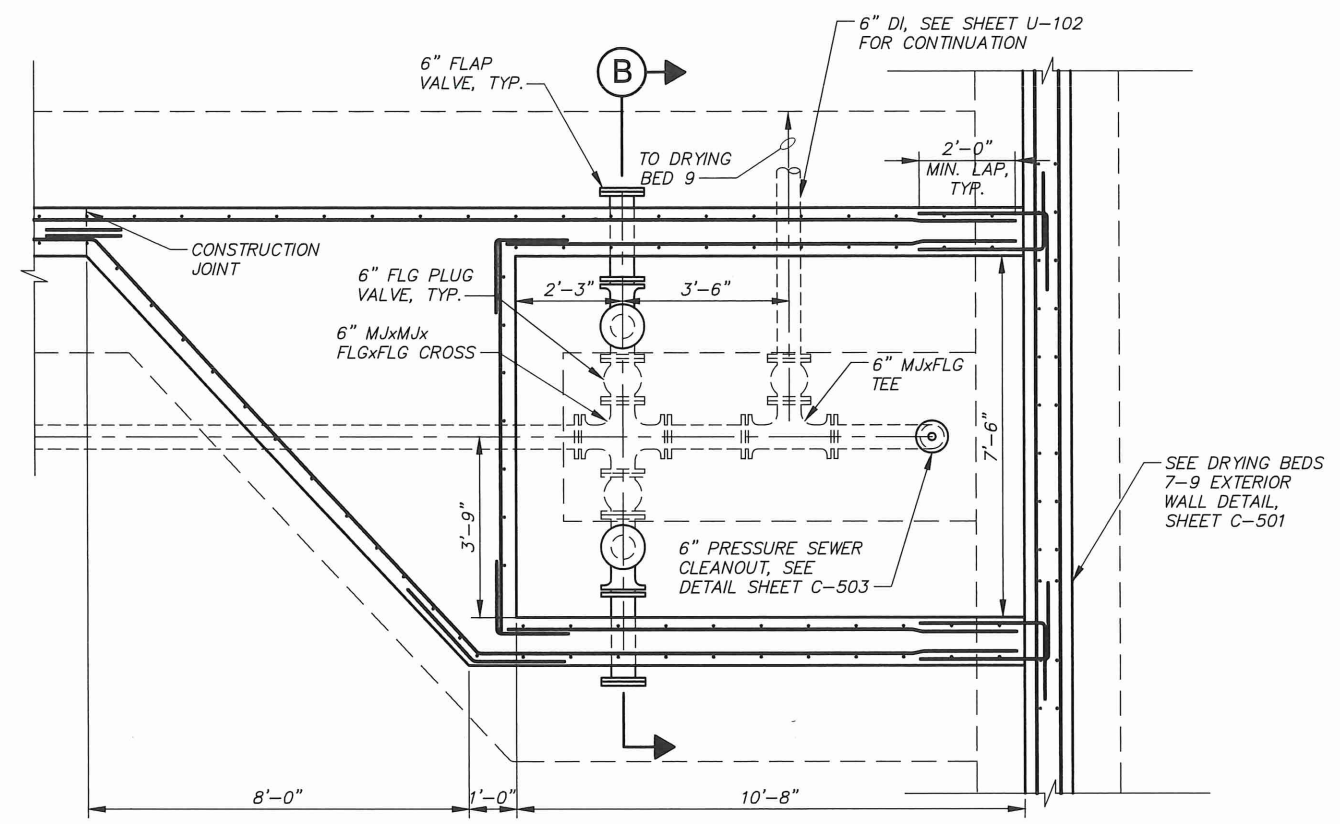
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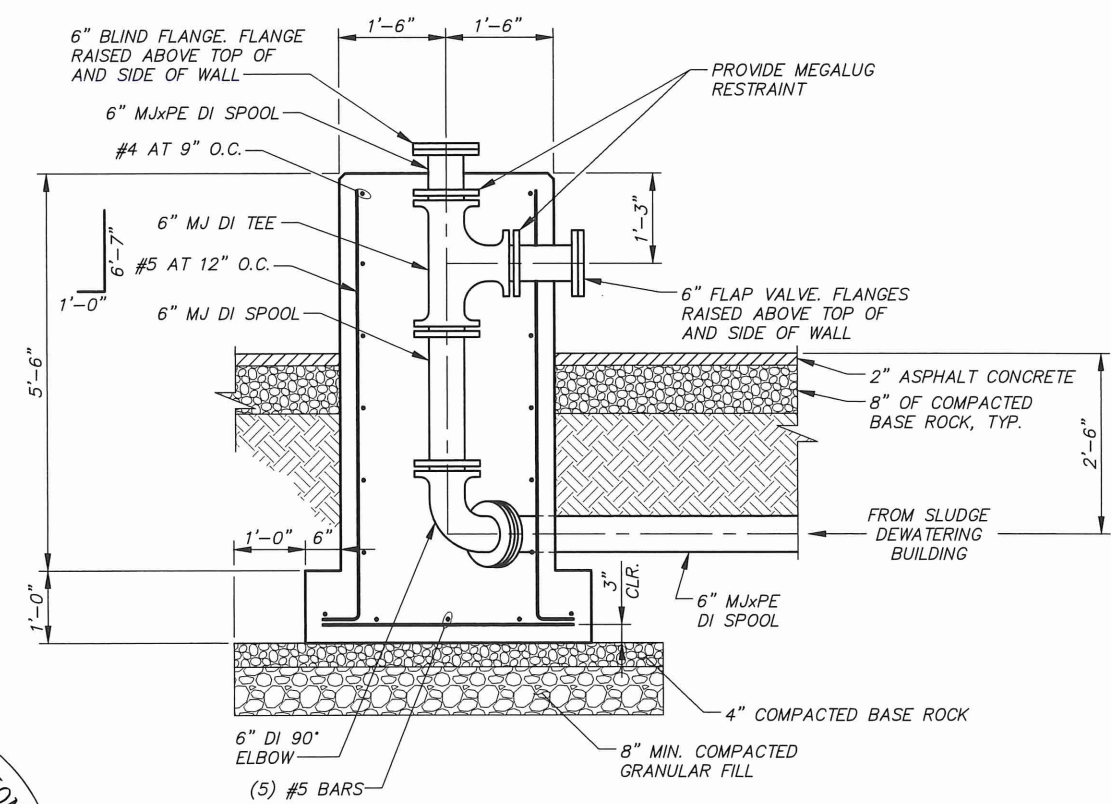


**NOTES**  
 1. ANGLE MAY VARY PER PLAN SHEETS.  
 2. APPROACH ANGLE AND NUMBER OF RISERS VARY PER PLAN SHEET.

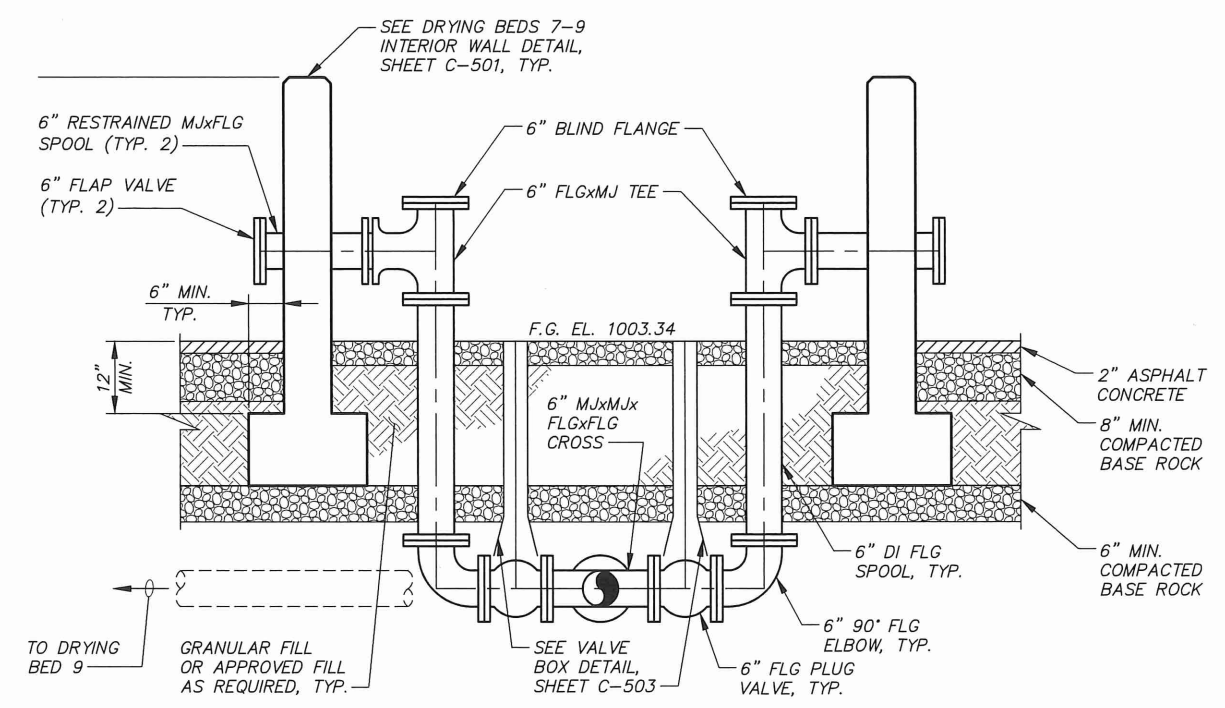
**PLAN**  
**TYPICAL RISER BOX A DETAIL**



**PLAN**  
**RISER BOX B DETAIL**

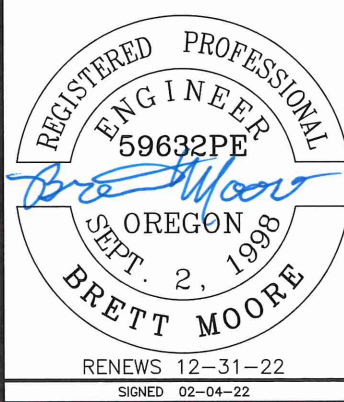


**SECTION A**  
**TYPICAL RISER BOX A DETAIL**



**SECTION B**  
**RISER BOX B DETAIL**

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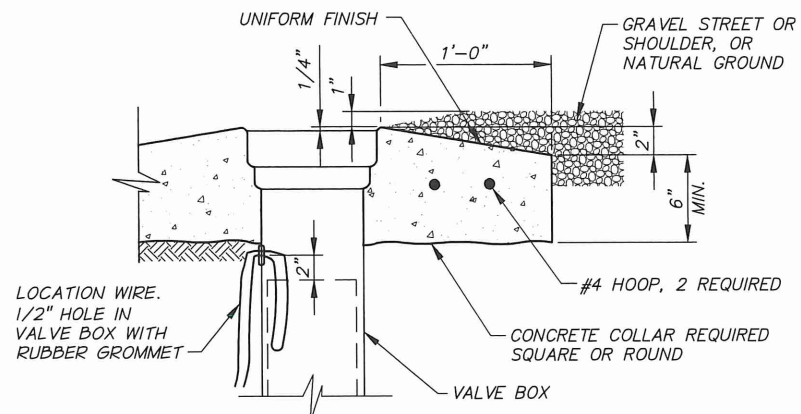


**CITY OF PENDLETON**  
**WASTEWATER TREATMENT PLANT IMPROVEMENTS,**  
**DIGESTER REHABILITATION - PHASE I**

**DRYING BED IMPROVEMENTS**  
**RISER BOX DETAILS**

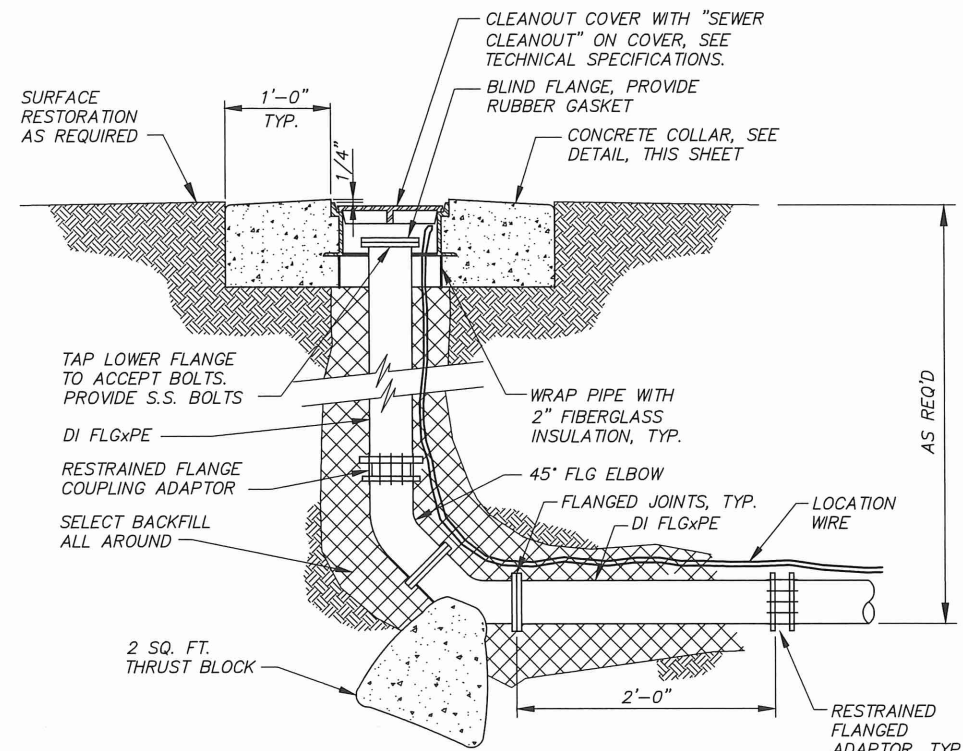
SHEET  
**C-502**





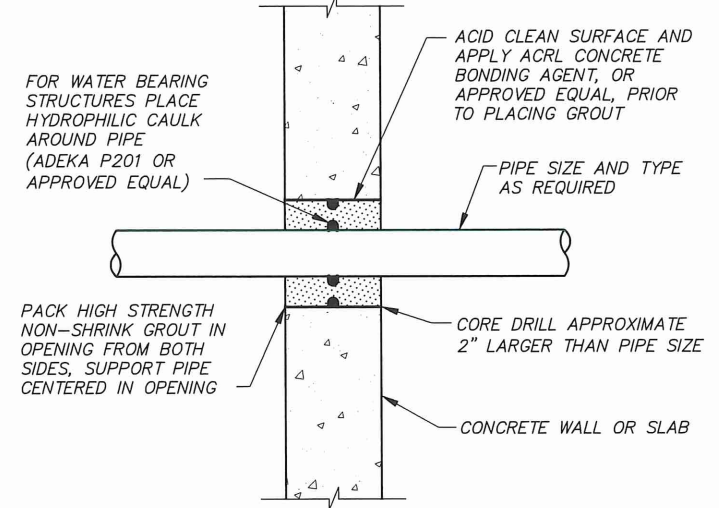
- REQUIREMENTS FOR CONCRETE COLLARS**
1. CONCRETE : 3/4", 7 SACK, 4000 PSI AT 28 DAYS, 2" TO 4" SLUMP, 4-7% AIR.
  2. COLLAR TO BE FORMED AND UNIFORMLY SHAPED.
  3. SMOOTH BROOMED FINISH REQUIRED.
  4. APPLY CONCRETE CURING COMPOUND.
  5. PROTECT FROM TRAFFIC FOR 4 DAYS MIN.

**CONCRETE COLLAR DETAIL**  
IN GRAVEL STREETS OR NATURAL GROUND  
N.T.S.



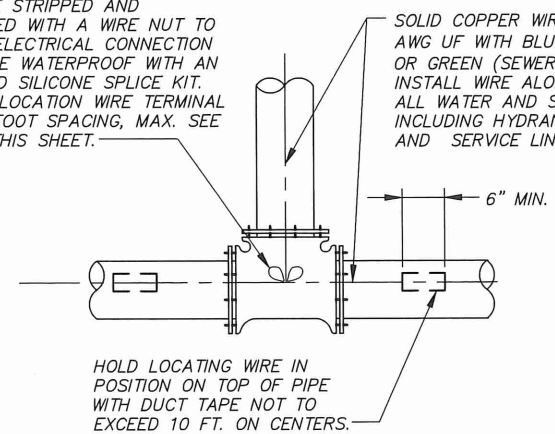
- NOTES:**
1. ALL FLANGES CAST IN CONCRETE SHALL BE TAPPED TO ALLOW THE INSTALLATION OF BLIND FLANGES WITH CAP SCREWS.
  2. CLEANOUT PIPE SHALL BE SAME SIZE AS PRESSURE SEWER PIPE.
  3. PROVIDE LOCATION WIRE AS REQUIRED. RUN CONTINUOUSLY THROUGH CLEANOUT COVER.
  4. PROVIDE ALL PIPE AND FITTINGS SAME SIZE AS PRESSURE SEWER.

**PRESSURE SEWER CLEANOUT**  
N.T.S.

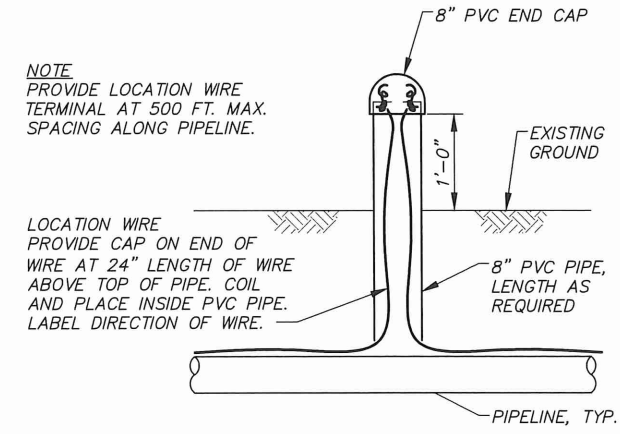


**PIPE PENETRATION**  
N.T.S.

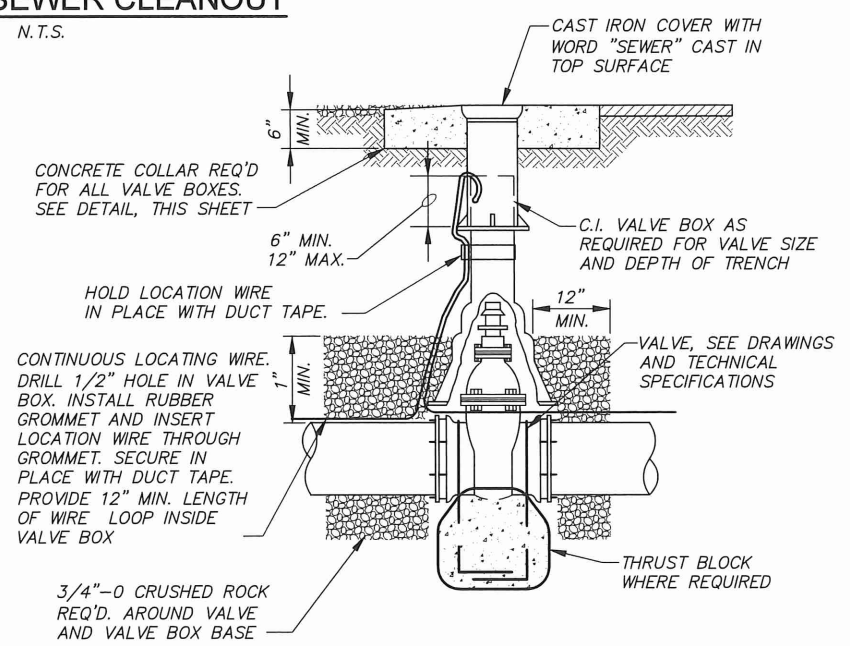
AT ALL SPLICES THE CONNECTING ENDS OF THE WIRES SHALL BE OVERLAPPED AND TIED. THE ENDS SHALL BE STRIPPED AND CONNECTED WITH A WIRE NUT TO ENSURE ELECTRICAL CONNECTION AND MADE WATERPROOF WITH AN APPROVED SILICONE SPICE KIT. PROVIDE LOCATION WIRE TERMINAL AT 500 FOOT SPACING, MAX. SEE DETAIL, THIS SHEET.



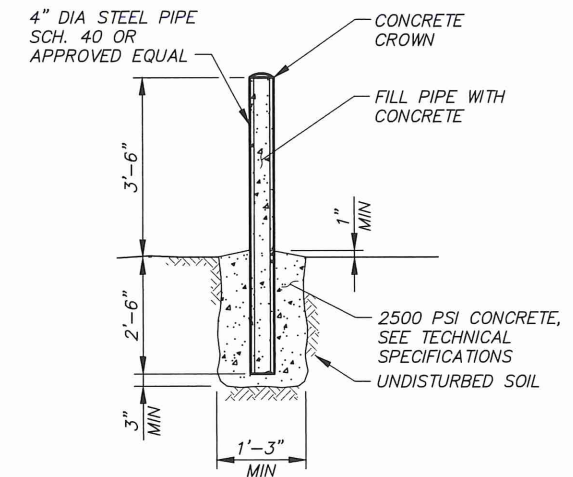
**CONTINUOUS LOCATING WIRE DETAIL**  
N.T.S.



**LOCATION WIRE TERMINAL DETAIL**  
N.T.S.



**VALVE BOX DETAIL**  
N.T.S.



- NOTES:**
1. 4" DIA STEEL PIPE SHALL BE PLUMB.
  2. PAINTING SHALL BE DONE ONLY AFTER SURFACE IS FREE OF RUST, OIL, AND GREASE THE METAL SHALL BE PRIMED AND TWO FINISH COATS, YELLOW IN COLOR APPLIED.
  3. BOLLARD DISTANCE FROM WALL SHALL BE NO CLOSER THAN 12", AND BOLLARD SHALL PROTECT FROM POTENTIAL TRAFFIC DAMAGE.

**BOLLARD DETAIL**  
N.T.S.



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WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
DIGESTER REHABILITATION - PHASE I  
  
DRYING BED IMPROVEMENTS  
GENERAL DETAILS I

SHEET  
**C-503**

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### GATE MATERIAL REQUIREMENTS

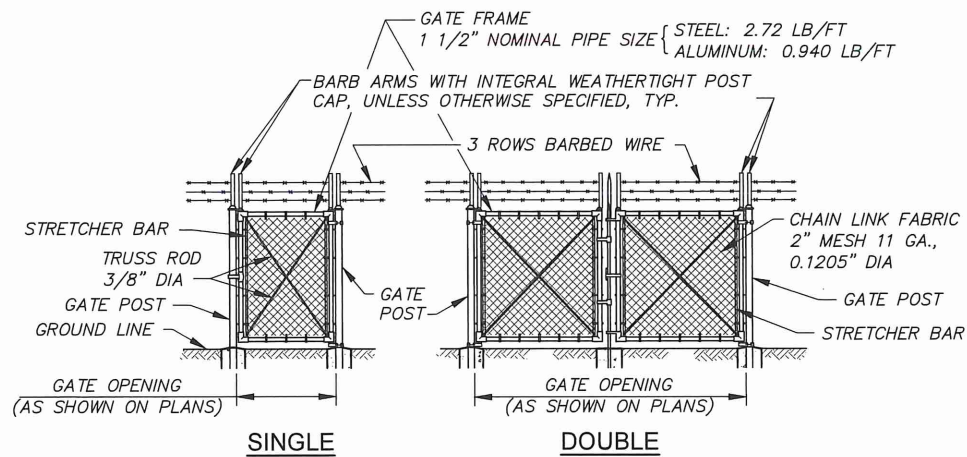
MATERIAL	GATE OPENING IN FEET	GATE POSTS TUBULAR OD DIA (INCHES)
	SINGLE GATE	2-7/8
STEEL	UP THRU 6	2-7/8
ALUMINUM	UP THRU 6	2-7/8

NOTE:  
ALL PIPE SHALL BE SCHEDULE 40 MINIMUM.

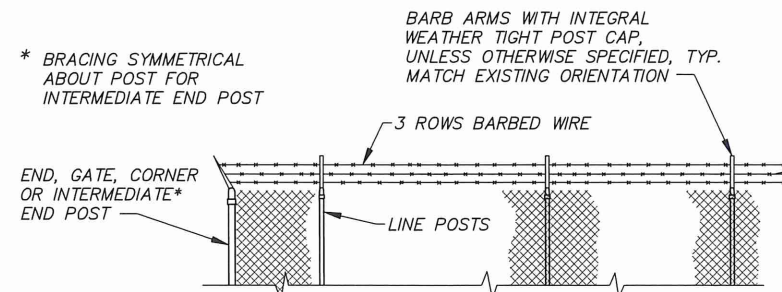
### FENCE MATERIAL REQUIREMENTS

MATERIAL	FENCE HEIGHT FEET	MEMBER				
		BRACE AND RAILS		LINE POSTS		END, CORNER AND INTERMEDIATE END POST
		TUBULAR OD DIA (INCHES)	TUBULAR OD DIA (INCHES)	H-SECTION SIZE (INCHES)	WT/FT LBS	TUBULAR OD DIA (INCHES)
STEEL	6	1-5/8	2-3/8	2-1/4x2	4.10	2-7/8
ALUMINUM	6	1-5/8	2-3/8			2-7/8

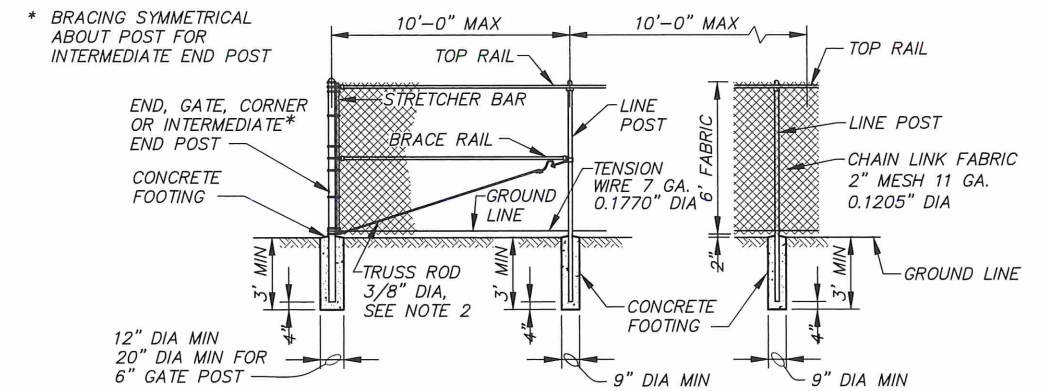
NOTE:  
ALL PIPE SHALL BE SCHEDULE 40 MINIMUM.



**SWING GATE DETAIL WITH BARBED WIRE**  
N.T.S.



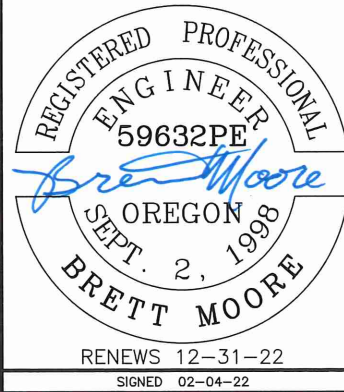
**BARBED WIRE DETAIL**  
N.T.S.



**6 FOOT CHAIN LINK FENCE**  
N.T.S.

NOTES:  
1. FOR CROSS SECTIONAL DIMENSIONS OF MEMBERS, SEE MATERIAL REQUIREMENTS THIS SHEET.  
2. FOR RUNS OF FENCE OF 20 FEET OR LESS, OMIT TRUSS ROD AT END AND CORNER POSTS.

R:\PENDLETON\77-51 Wastewater Treatment Plant Improvements - Digester Rehabilitation\Drafting\77-51-C-504.dwg, 11/23/2022 3:07 PM, dchristman



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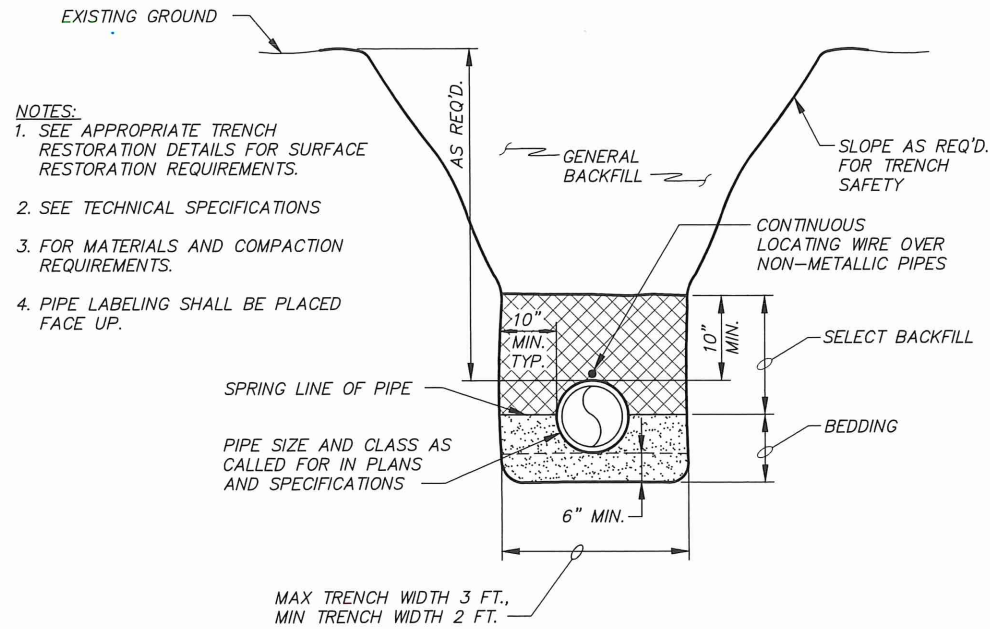


**CITY OF PENDLETON**  
WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
DIGESTER REHABILITATION - PHASE I

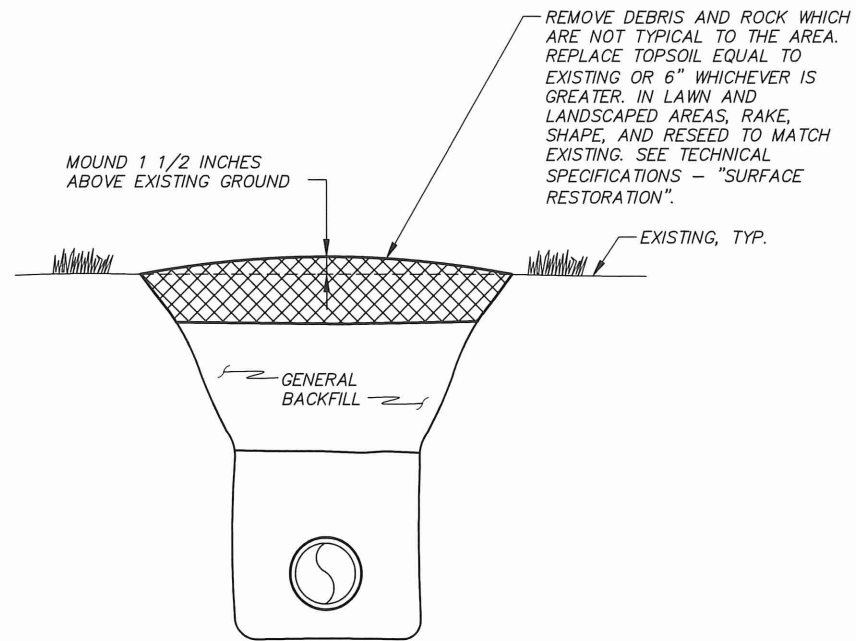
DRYING BED IMPROVEMENTS  
GENERAL DETAILS II

SHEET  
**C-504**

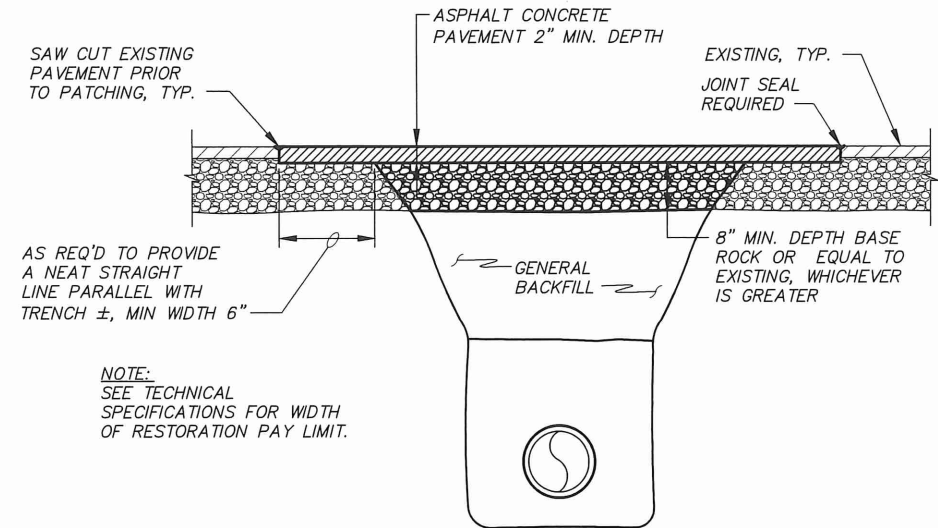




**TYPICAL TRENCH BACKFILL**  
(WITH LOCATING WIRE)  
N.T.S.



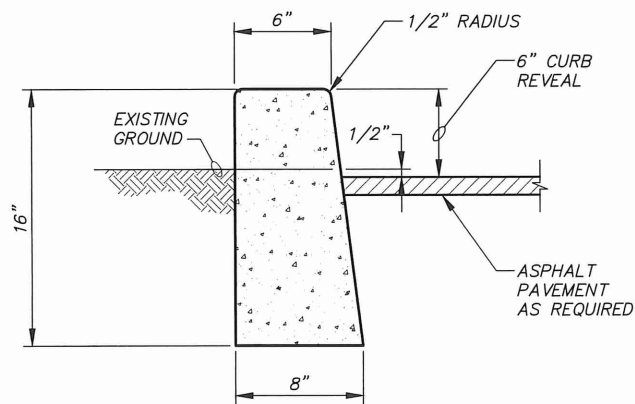
**TRENCH RESTORATION**  
LAWNS, LANDSCAPED AND NATURAL AREAS  
N.T.S.



**TRENCH RESTORATION**  
PAVED STREETS AND ROADWAYS  
N.T.S.  
("ASPHALT SURFACE RESTORATION" PAY ITEM)

- NOTES:**
- SEE APPROPRIATE TRENCH RESTORATION DETAILS FOR SURFACE RESTORATION REQUIREMENTS.
  - SEE TECHNICAL SPECIFICATIONS
  - FOR MATERIALS AND COMPACTION REQUIREMENTS.
  - PIPE LABELING SHALL BE PLACED FACE UP.

**NOTE:**  
SEE TECHNICAL SPECIFICATIONS FOR WIDTH OF RESTORATION PAY LIMIT.

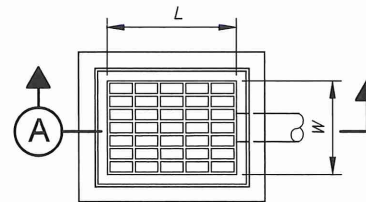


- NOTES:**
- PROVIDE FULL SECTION EXPANSION JOINT AT 50' MIN SPACING FOR CONTINUOUS SECTIONS AND AT BEGINNING AND END OF CURVED SECTIONS.
  - PROVIDE 1/2 INCH DEPTH CONTRACTION JOINTS AT 10' SPACING.

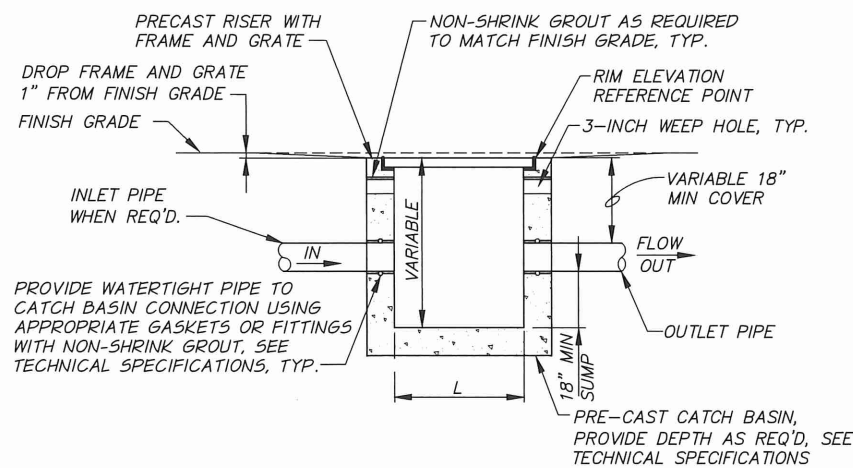
**CURB DETAIL**  
N.T.S.

**NOTE:**  
THIS TOP VIEW IS CONCEPTUAL ONLY. OUTLET PIPE LOCATION MAY VARY. CONTRACTOR SHALL VERIFY CATCH BASIN SIZES WILL ACCOMMODATE ANY OUTLET PIPES AT SKEWED ANGLES.

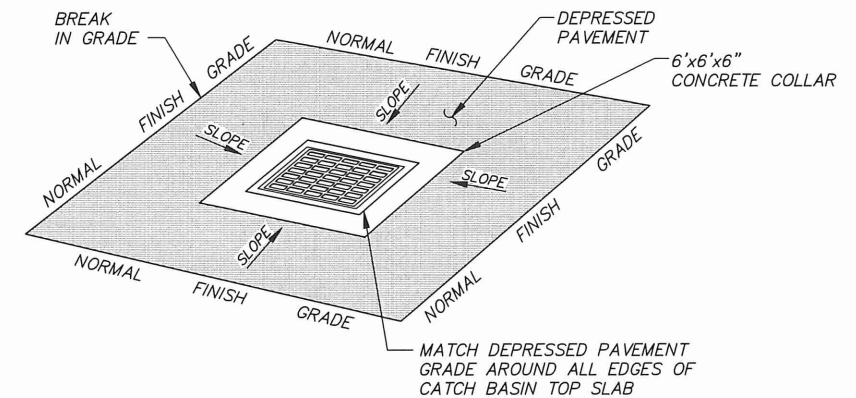
INLET TYPE	L	W
G-1	2'-4" MIN	1'-9" MIN



**TOP VIEW**



**SECTION A**



**AREA DRAIN DETAIL**  
N.T.S.



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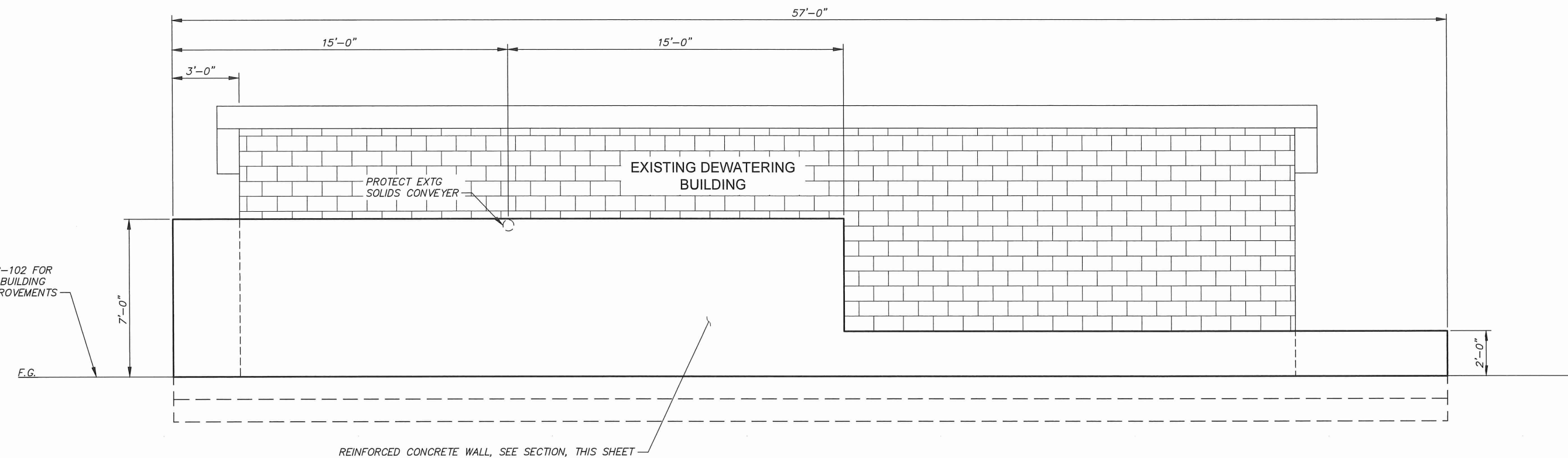
**CITY OF PENDLETON**  
WASTEWATER TREATMENT PLANT IMPROVEMENTS,  
DIGESTER REHABILITATION - PHASE I  
  
DRYING BED IMPROVEMENTS  
GENERAL DETAILS III

SHEET  
**C-505**

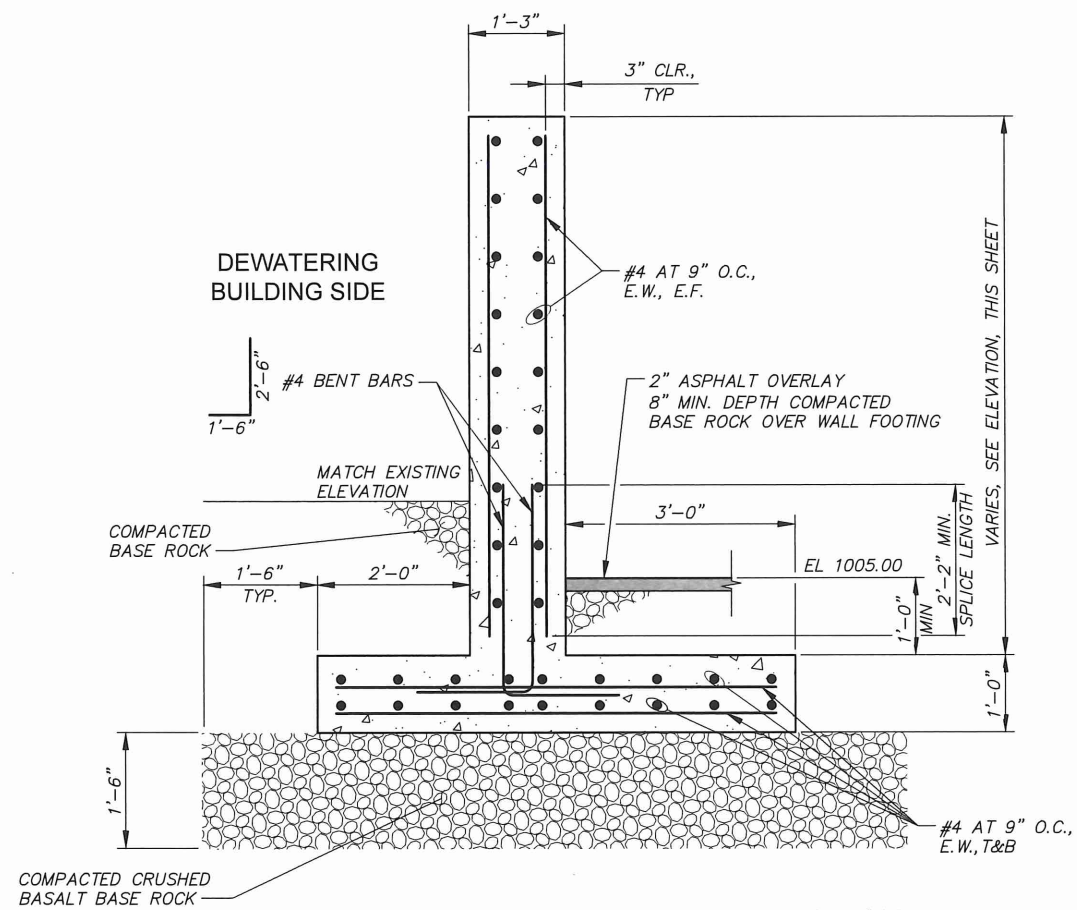
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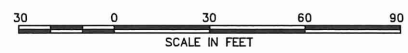
**REINFORCED CONCRETE WALL ELEVATION**



**REINFORCED CONCRETE WALL SECTION**



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**WASTEWATER TREATMENT PLANT IMPROVEMENTS,**  
**DIGESTER REHABILITATION - PHASE I**  
**DEWATERING BUILDING REINFORCED CONCRETE WALL DETAILS**

SHEET  
**C-506**