

STANDARD CONSTRUCTION NOTES:

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIME INCLUDING THE FOLLOWING:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2.
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
 - CDOT M&S STANDARDS.
- IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
- IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY PCD AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

STORM SEWER GENERAL NOTES

- ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
- ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
- HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
- JOINTS SHALL BE IN ACCORDANCE WITH ASTM C443 "STANDARD SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET." JOINTS SHOULD BE WATERTIGHT AND HAVE A 100-YEAR SERVICE LIFE. IN NO CASE SHALL THE MAXIMUM JOINT OPENING FOR STRAIGHT ALIGNMENT EXCEED 1 INCH OR ONE AND ONE-HALF INCH ON CURVED ALIGNMENT.
- INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
- MANHOLE WIDTHS AND LENGTHS SHOWN ON PLAN REFER TO THE EXTERIOR WALL DIMENSIONS.
- ALL STORM SEWER SHALL BE A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE. SPECIFIC SEGMENTS OF STORM SEWER SHALL BE REQUIRED TO BE CONSTRUCTED OF A MINIMUM OF 5000 PSI CONCRETE DUE TO EXCESSIVE VELOCITIES. REFER TO ADDITIONAL NOTES WITHIN CONSTRUCTION PLANS.
- SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
- THE MH RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA.
- PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
- CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
- STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
- ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT 1/4 OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
- FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
- STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
- CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
- THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

SOIL RIPRAP NOTES:

- THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME.
- SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS.
- CONTRACTOR SHALL COOPERATE WITH ENGINEER IN OBTAINING AND PROVIDED SAMPLES OF ALL SPECIFIED MATERIALS.
- CONTRACTOR SHALL SUBMIT CERTIFIED LABORATORY TEST CERTIFICATES FOR ALL ITEMS REQUIRED FOR SOIL RIPRAP.
- RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFORM TO TABLE SHOWN TO THE RIGHT.
- THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN ON THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT LARGER THAN THE THICKNESS OF THE RIPRAP.
- NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD (1/3) OF ITS LENGTH.
- THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE-HALF (2.5) OR GREATER.
- MINIMUM DENSITY FOR ACCEPTABLE RIPRAP SHALL BE ONE HUNDRED AND SIXTY FIVE (165) POUNDS PER CUBIC FOOT.
- RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
- BROKEN CONCRETE OR ASPHALT PAVEMENT SHALL NOT BE ACCEPTABLE FOR USE IN THE WORK.
- ROUNDED RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS.

STRUCTURAL CONCRETE NOTES:

- ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
- STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN #4. SPLICING, LAP SPLICING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED:

BAR SIZE	#4	#5	#6	#7	#8
SPLICE LENGTH	1'-9"	2'-2"	2'-7"	3'-4"	4'-3"

 ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.
- CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f_c) OF 4,000 PSI AT 28 DAYS. ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT. ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
- EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
- BACKFILL AGAINST STRUCTURES SHALL NOT COMMENCE UNTIL ALL SUPPORTING DIAPHRAGMS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH. BACKFILL SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED.
- FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING. PLACEMENT OF CONCRETE IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
- PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

ABBREVIATIONS
 EC --- EPOXY COATED O.F. --- OUTSIDE FACE E.F. --- EACH FACE E.W. --- EACH WAY I.F. --- INSIDE FACE N.F. --- NEAR FACE
 T.O.C. --- TOP OF CONCRETE B.O.C. --- BOTTOM OF CONCRETE CONT. --- CONTINUOUS

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE DESIGNATED BY WRITTEN AUTHORIZATION.

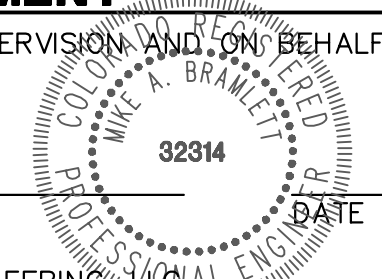
PREPARED FOR
SR LAND, LLC
 20 BOULDER CRESCENT
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 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
 (719) 471-1742

J.R. ENGINEERING
 A Westflin Company

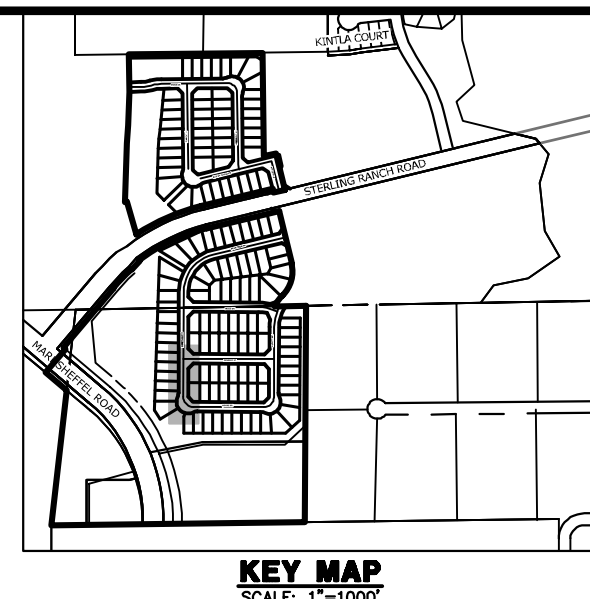
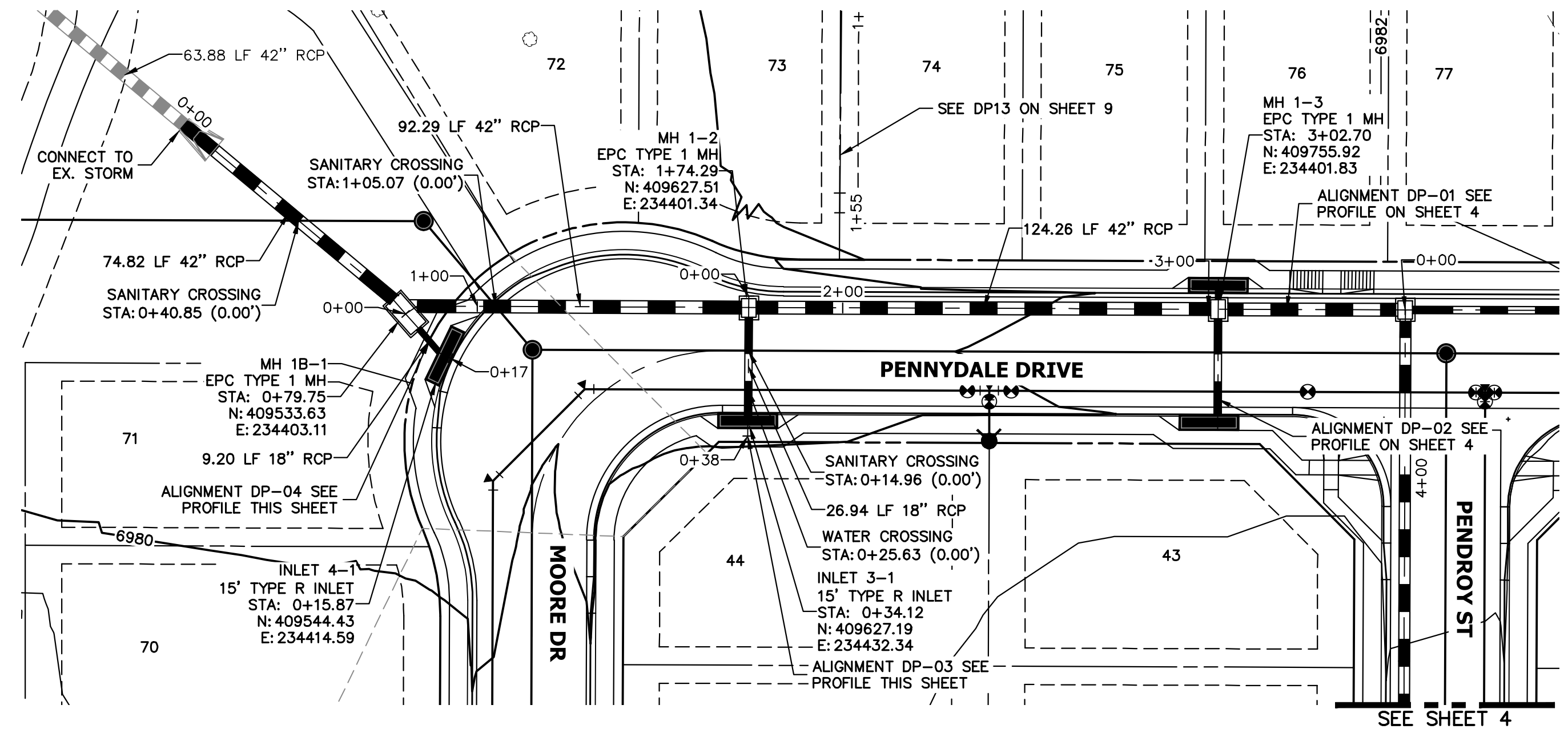
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BY	DATE	No.	REVISION	H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				N/A	N/A	04/25/23	N/A	WKN	

STERLING RANCH FILING 4
 GENERAL NOTES

ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

 MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING, INC. LOCAL ENGINEER

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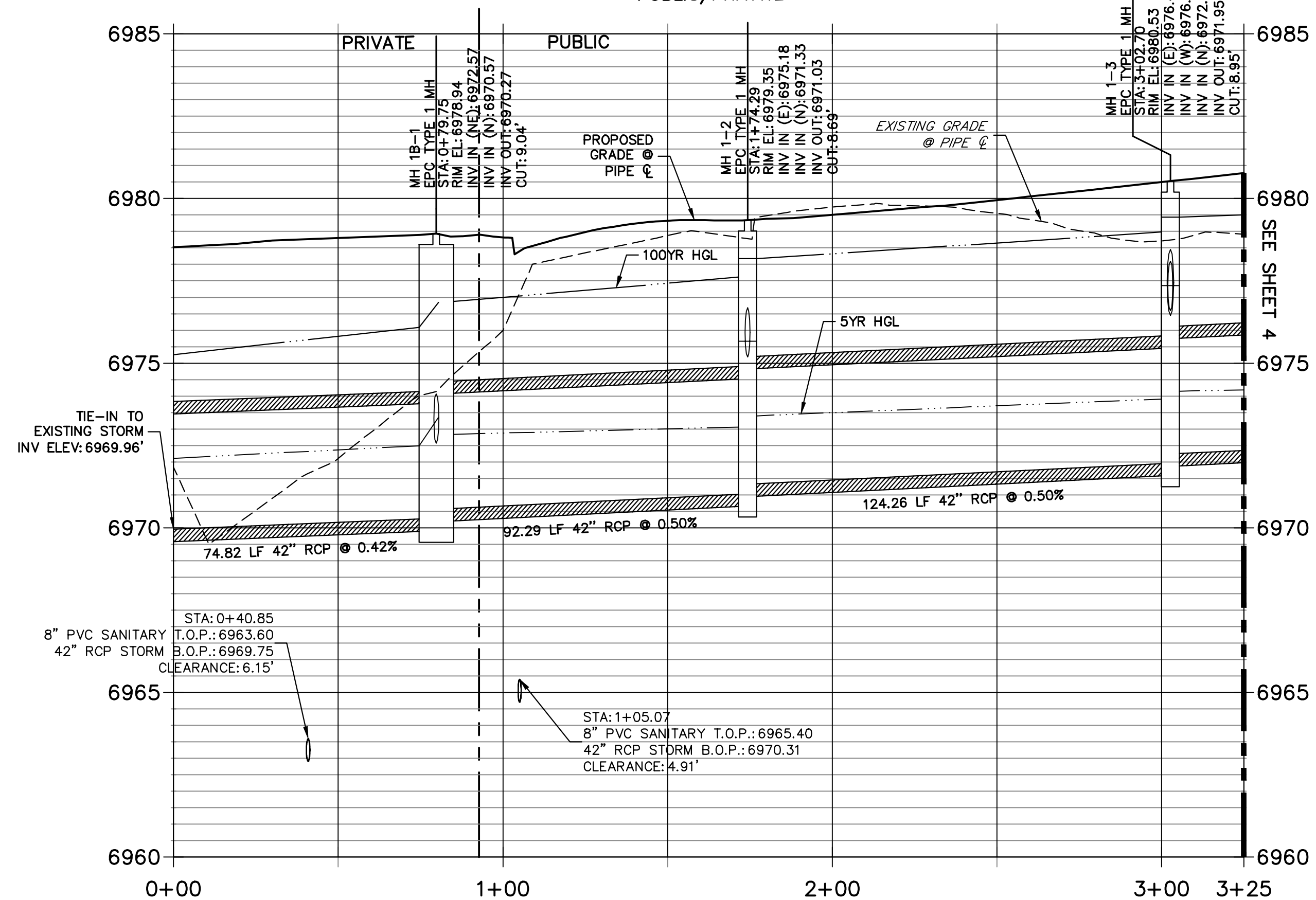


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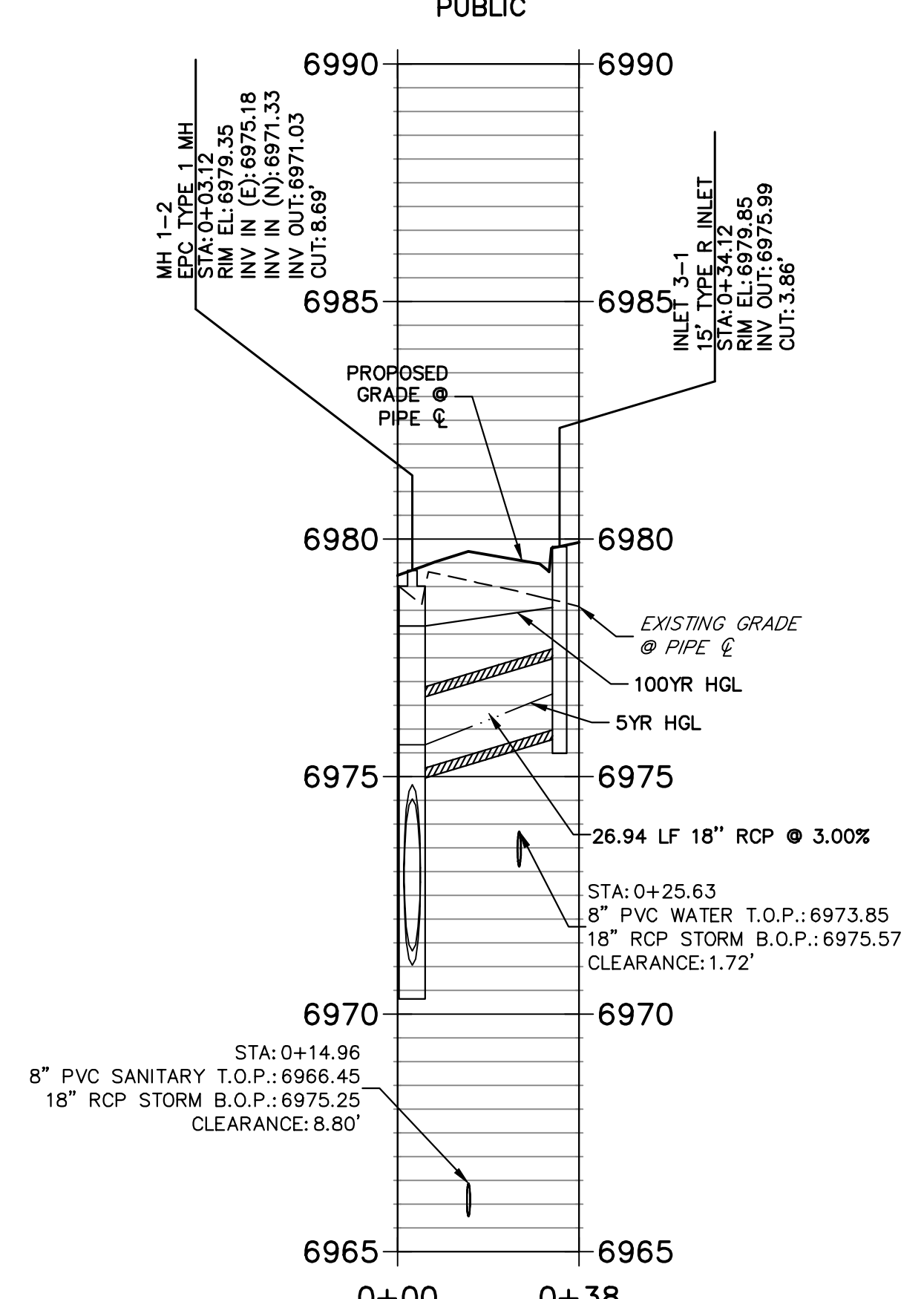
PREPARED FOR
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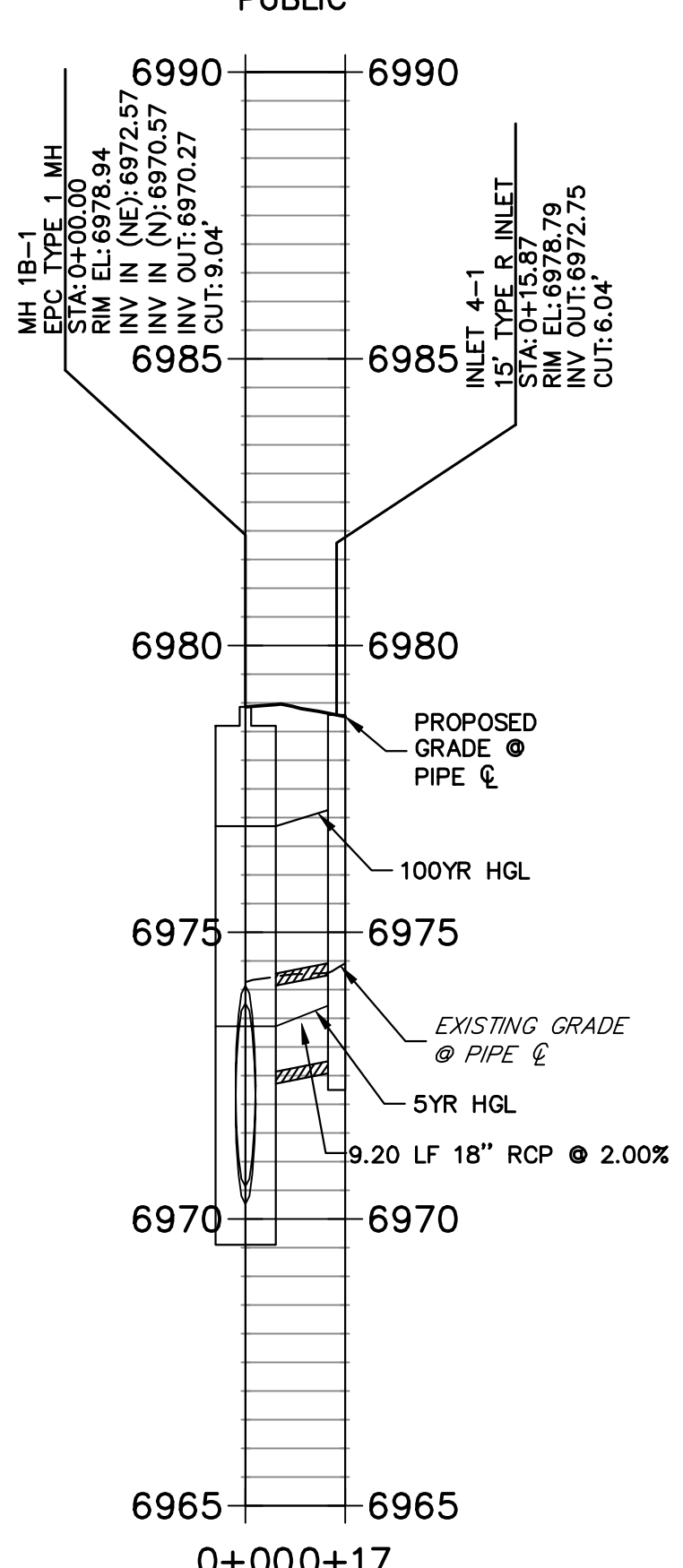
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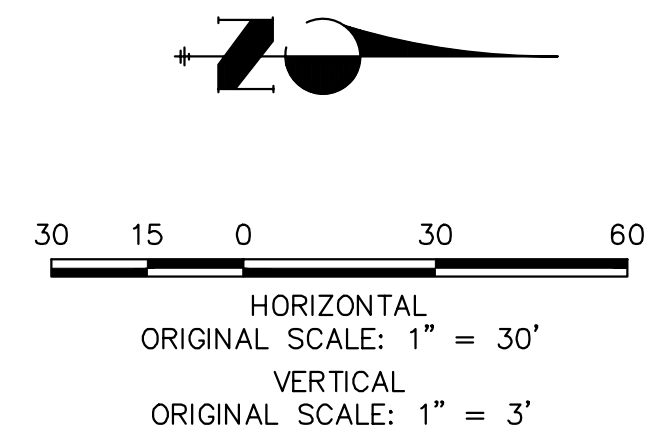


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THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

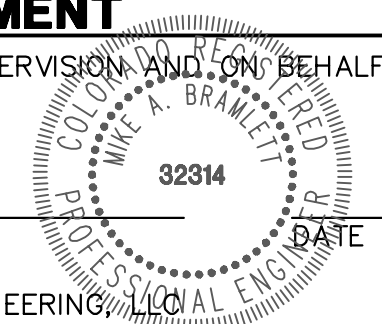
NOTE:
 ADD WATER TIGHT JOINT WHEN 100 YR HGL SHOWS PIPE FULLY INUNDATED



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING



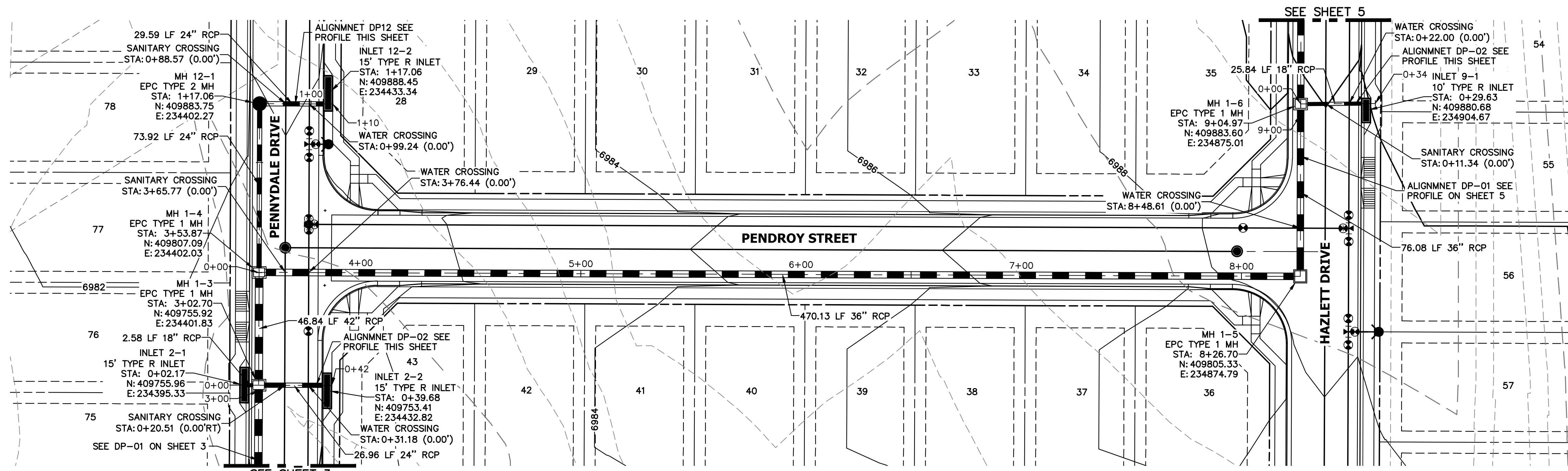
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 STORM SEWER PLAN

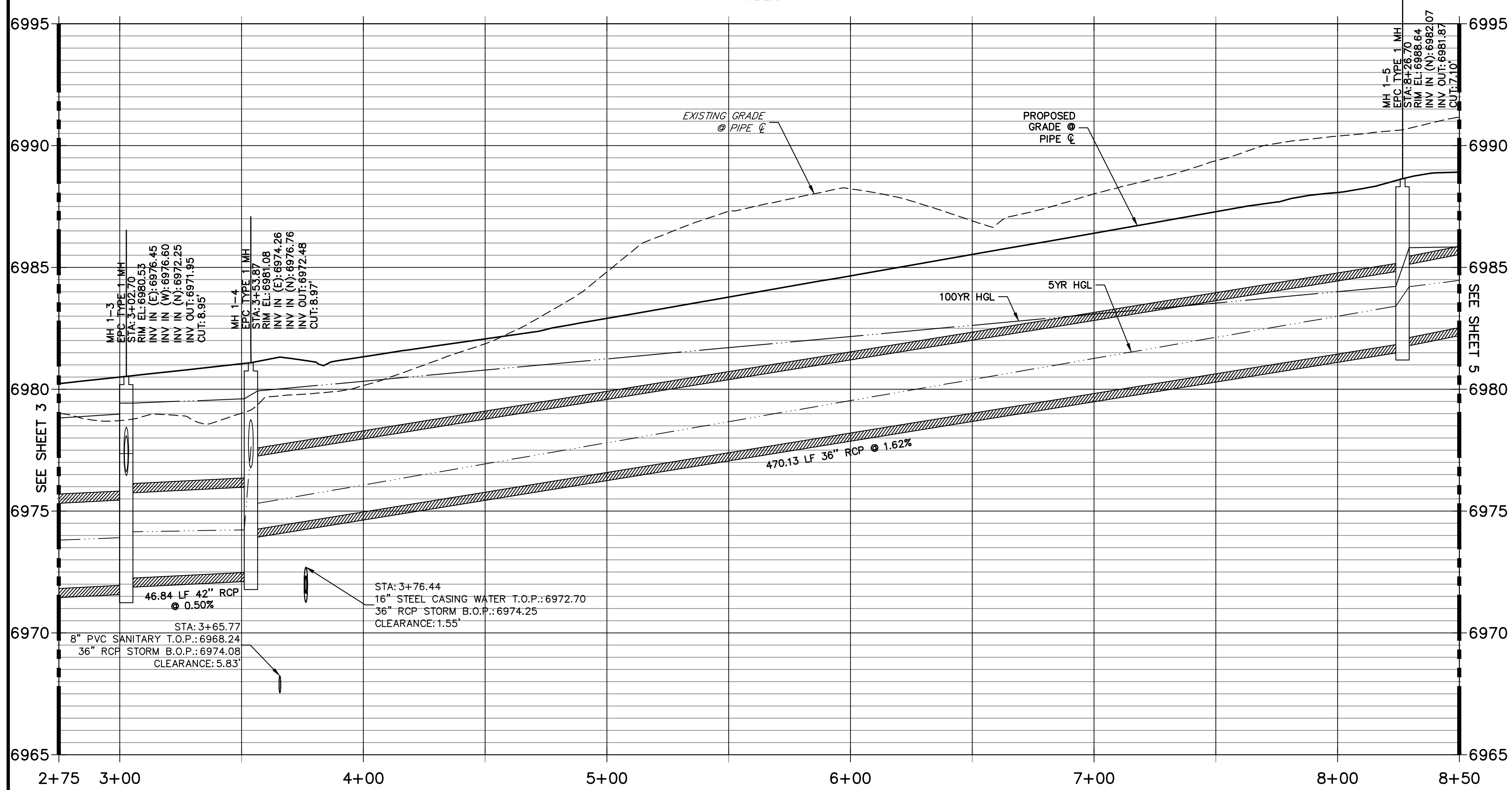
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 DESIGNED BY RAB
 DRAWN BY WKN
 CHECKED BY

SHEET 3 OF 14
 JOB NO. 25188.11

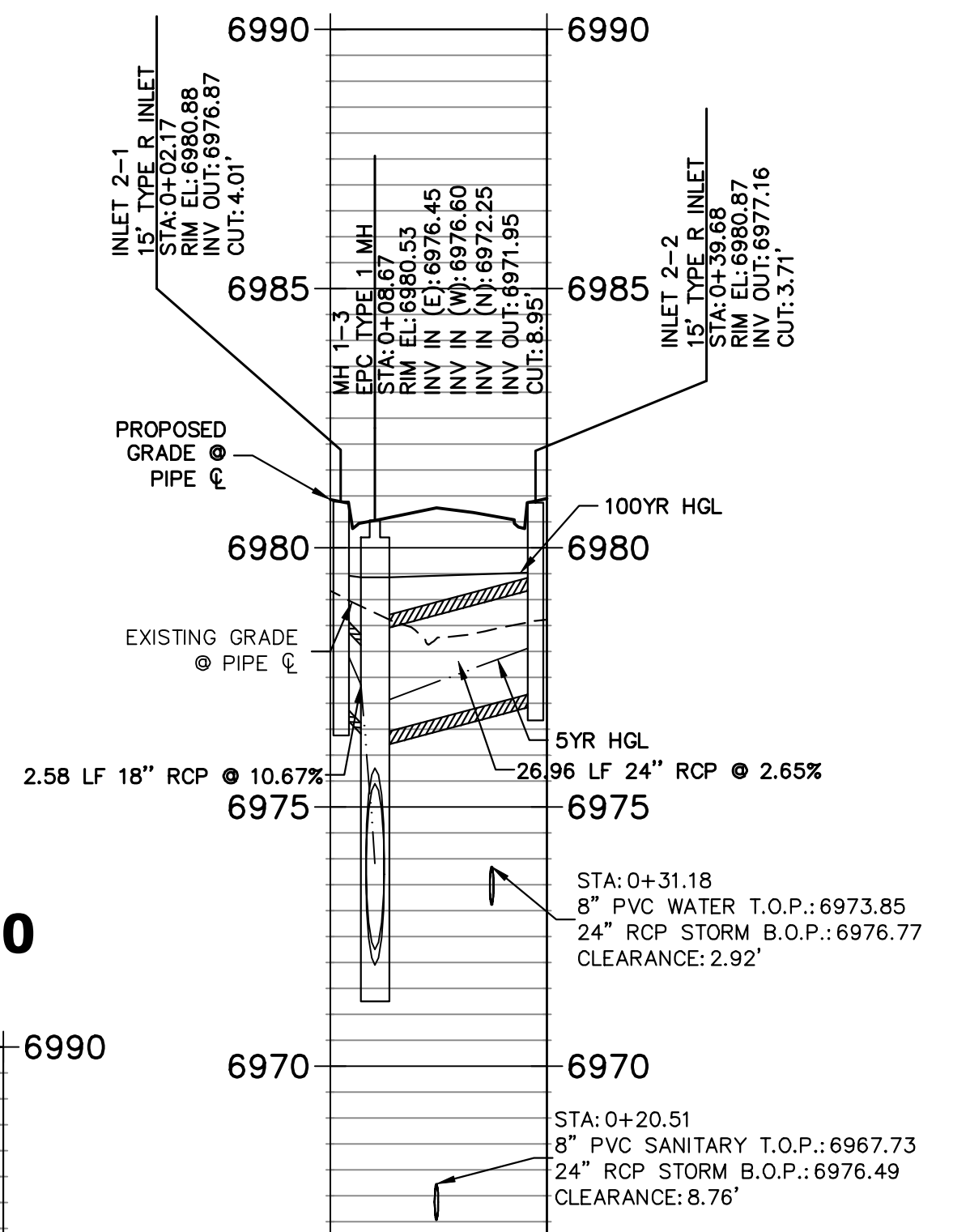
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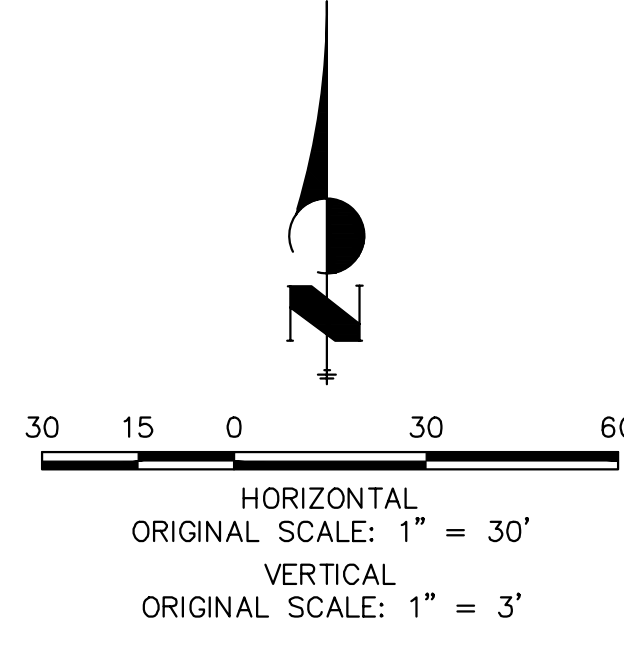
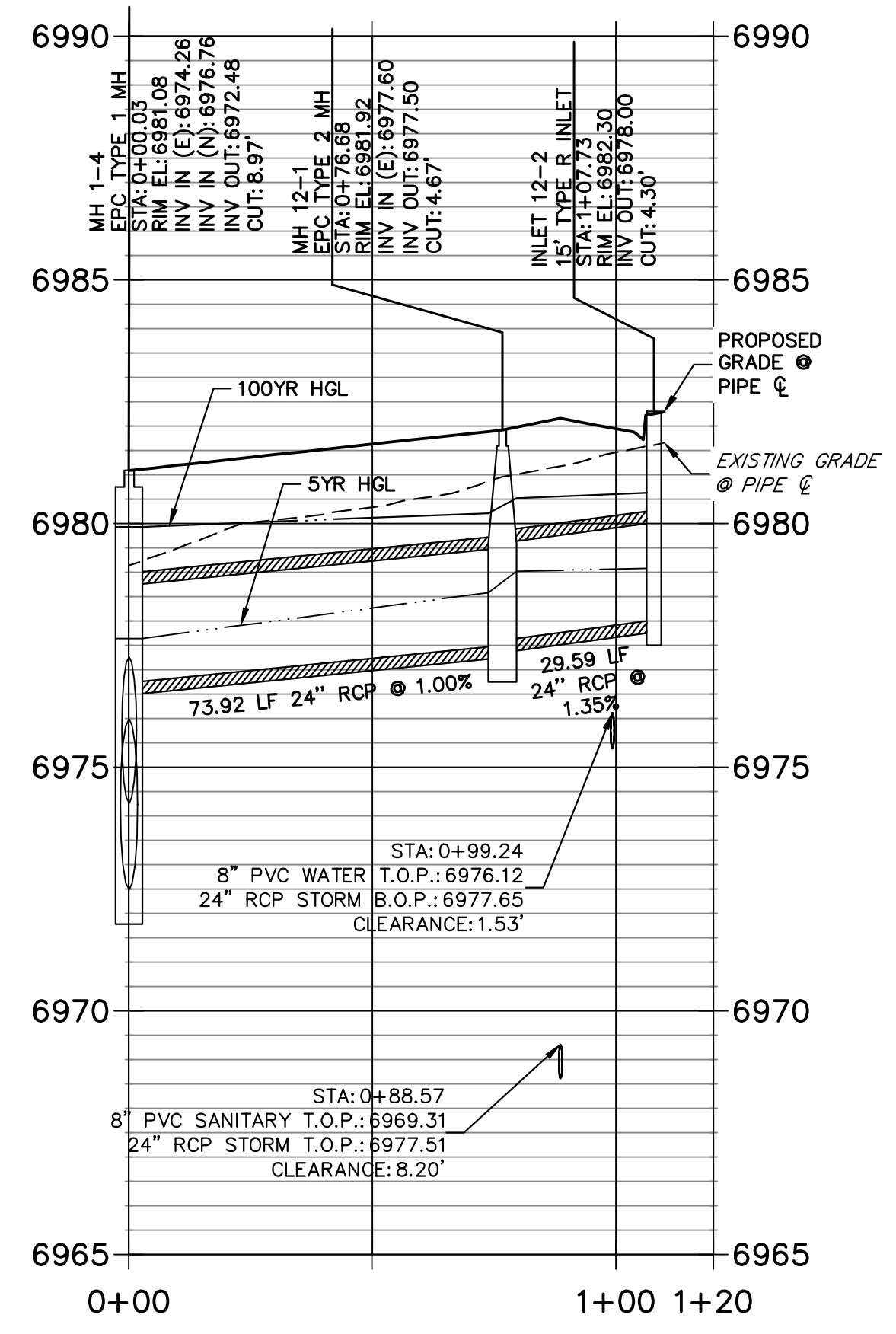
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 FOR AND ON BEHALF OF JR ENGINEERING, LOCAL ENGINEER

PREPARED FOR
SR LAND, LLC
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 JAMES F. MORLEY (719) 471-1742

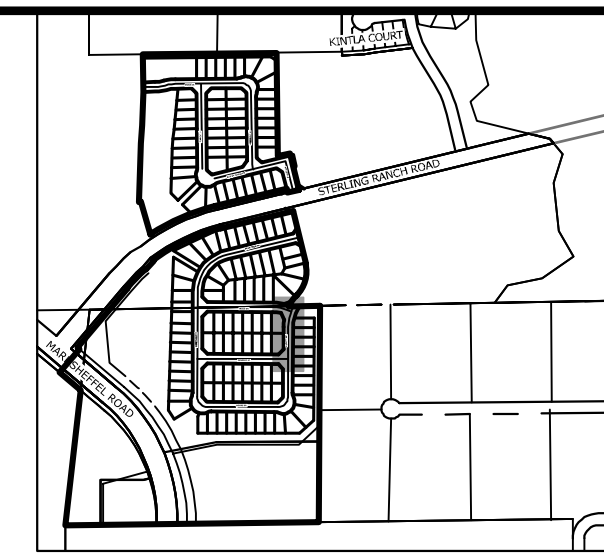
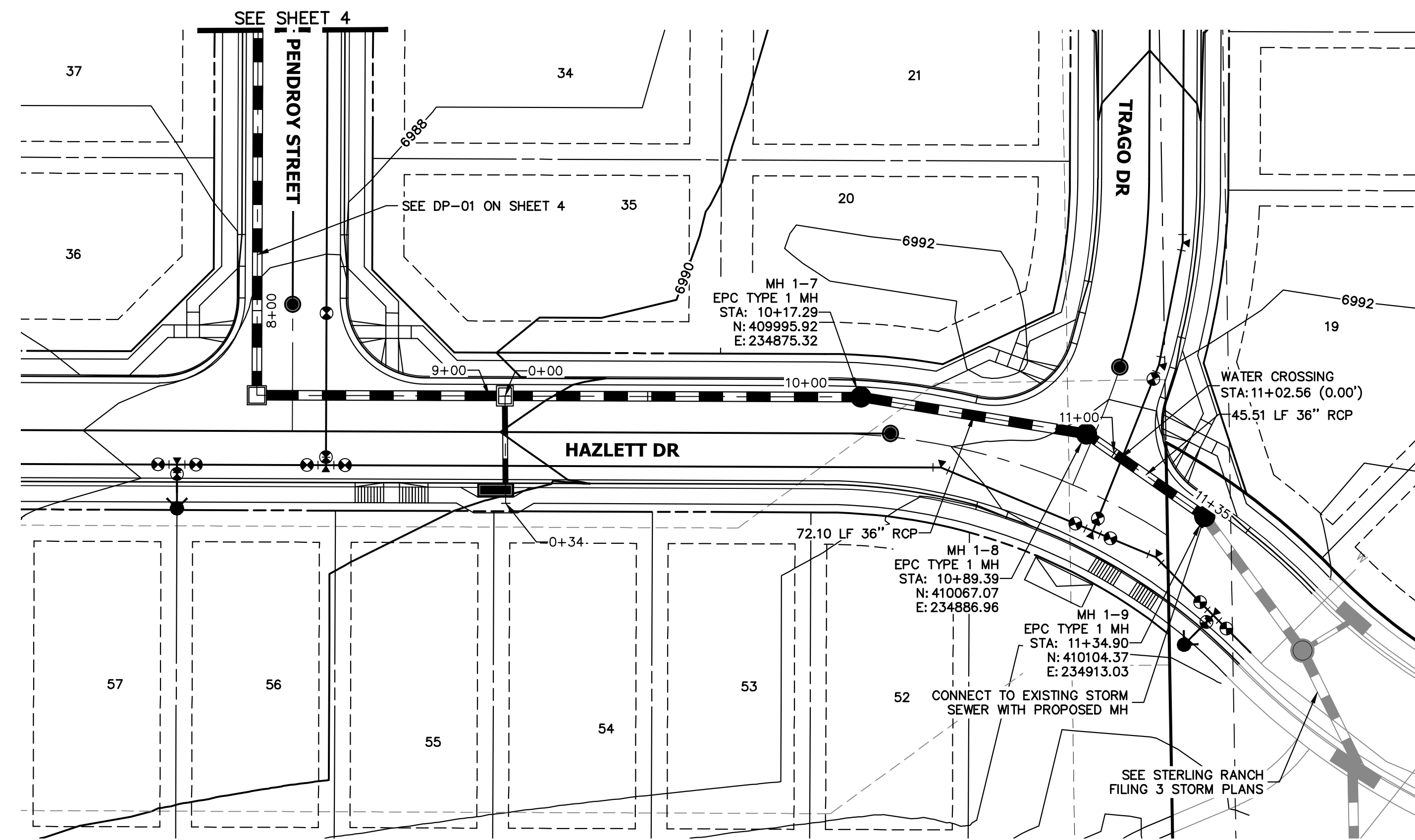
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BY	DATE	No.	REVISION

H-SCALE 1"=30'
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STERLING RANCH FILING 4
STORM SEWER PLAN

SHEET 4 OF 14
 JOB NO. 25188.11

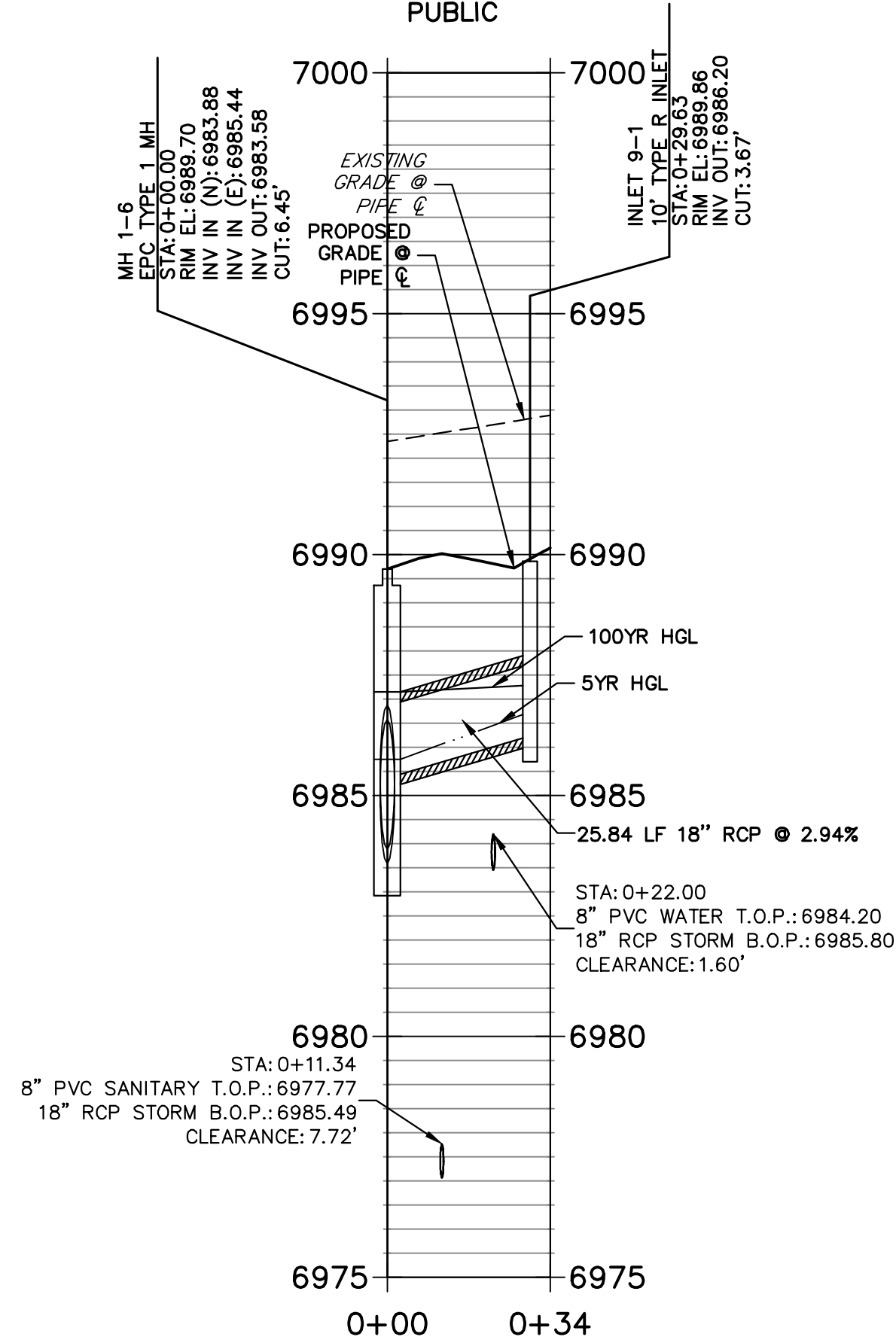


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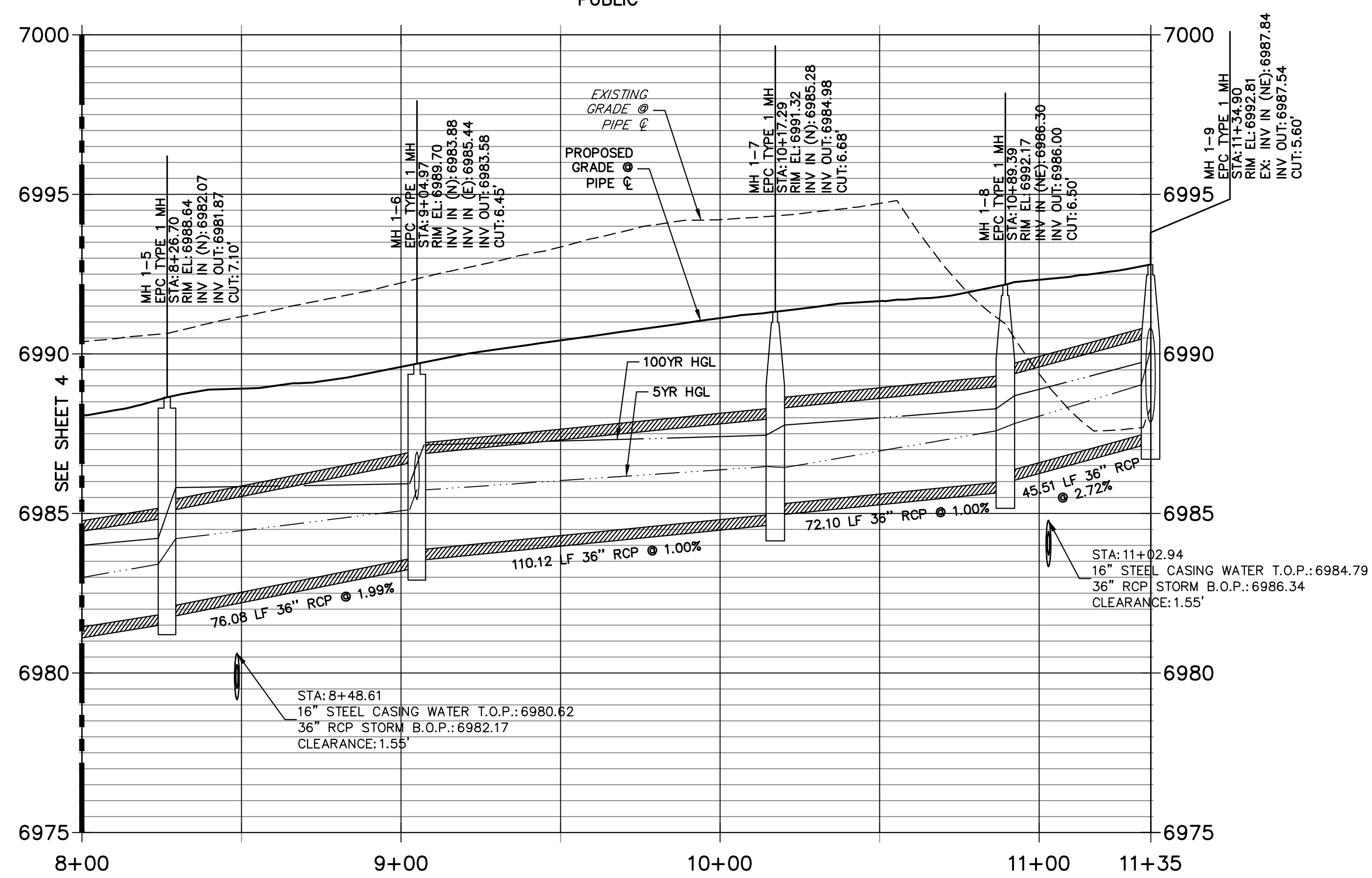
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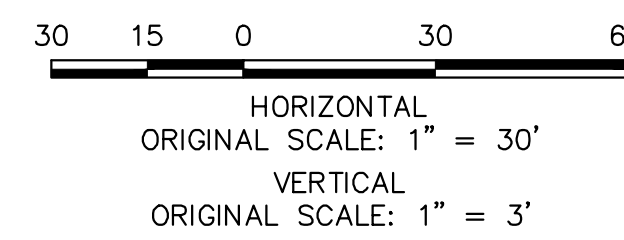


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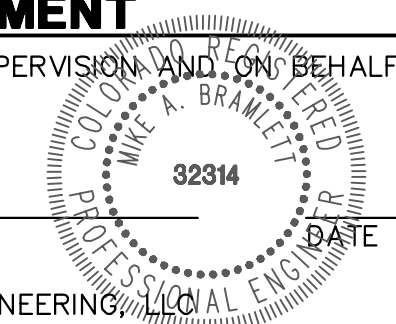
NOTE:
 ADD WATER TIGHT JOINT WHEN 100 YR HGL SHOWS PIPE FULLY INUNDATED



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

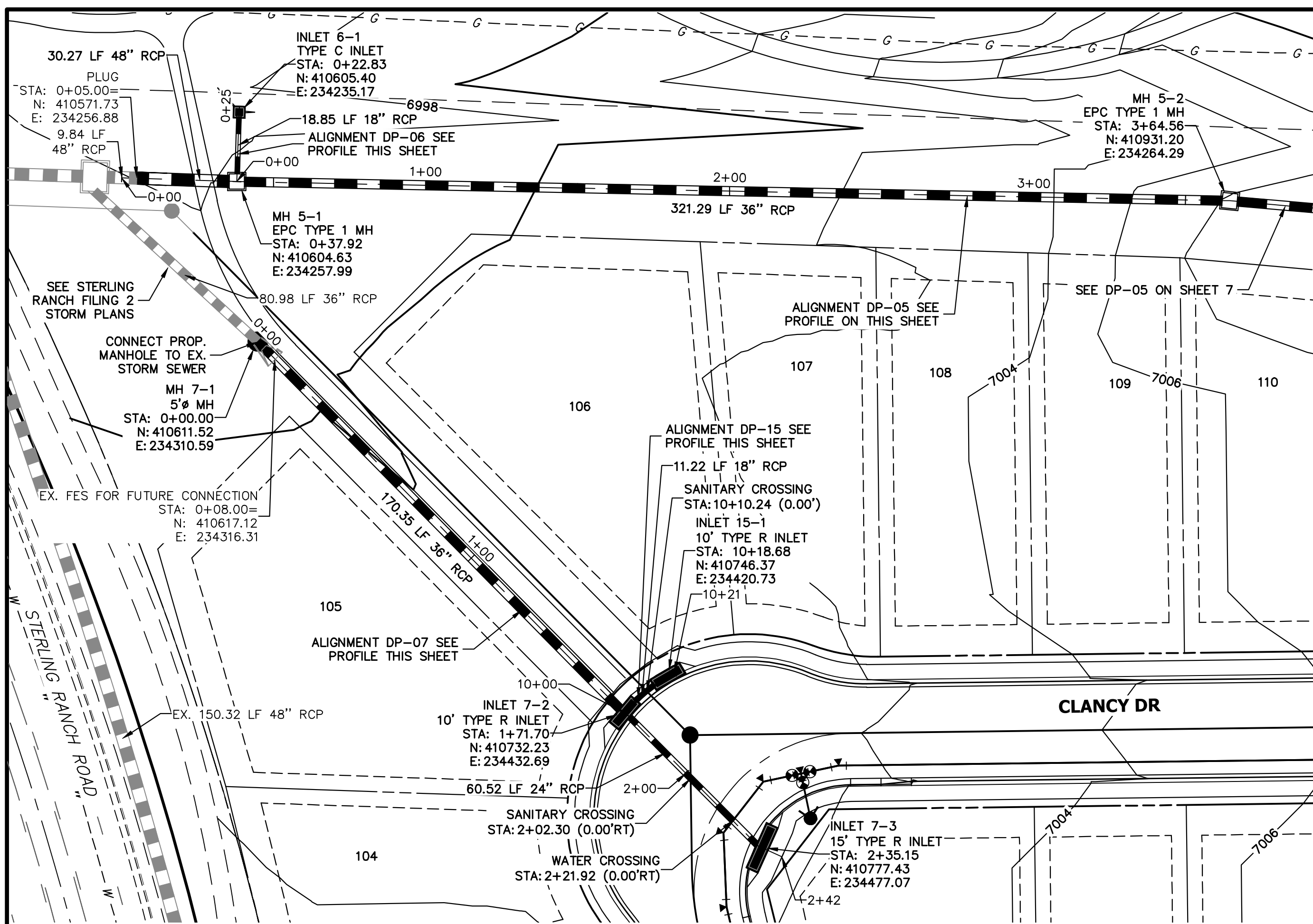
MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING



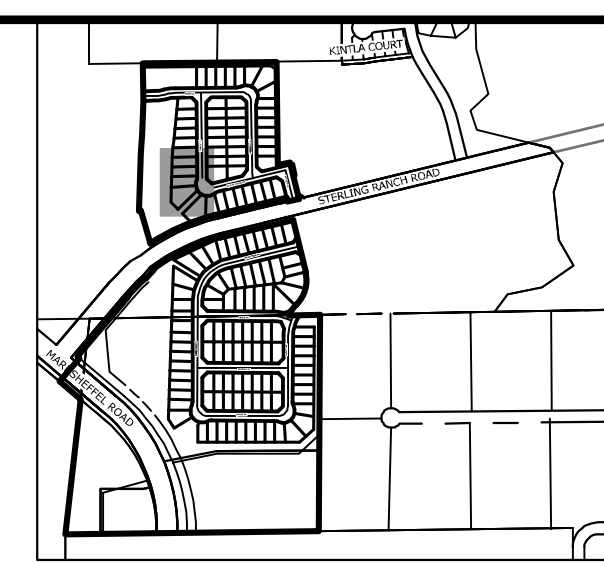
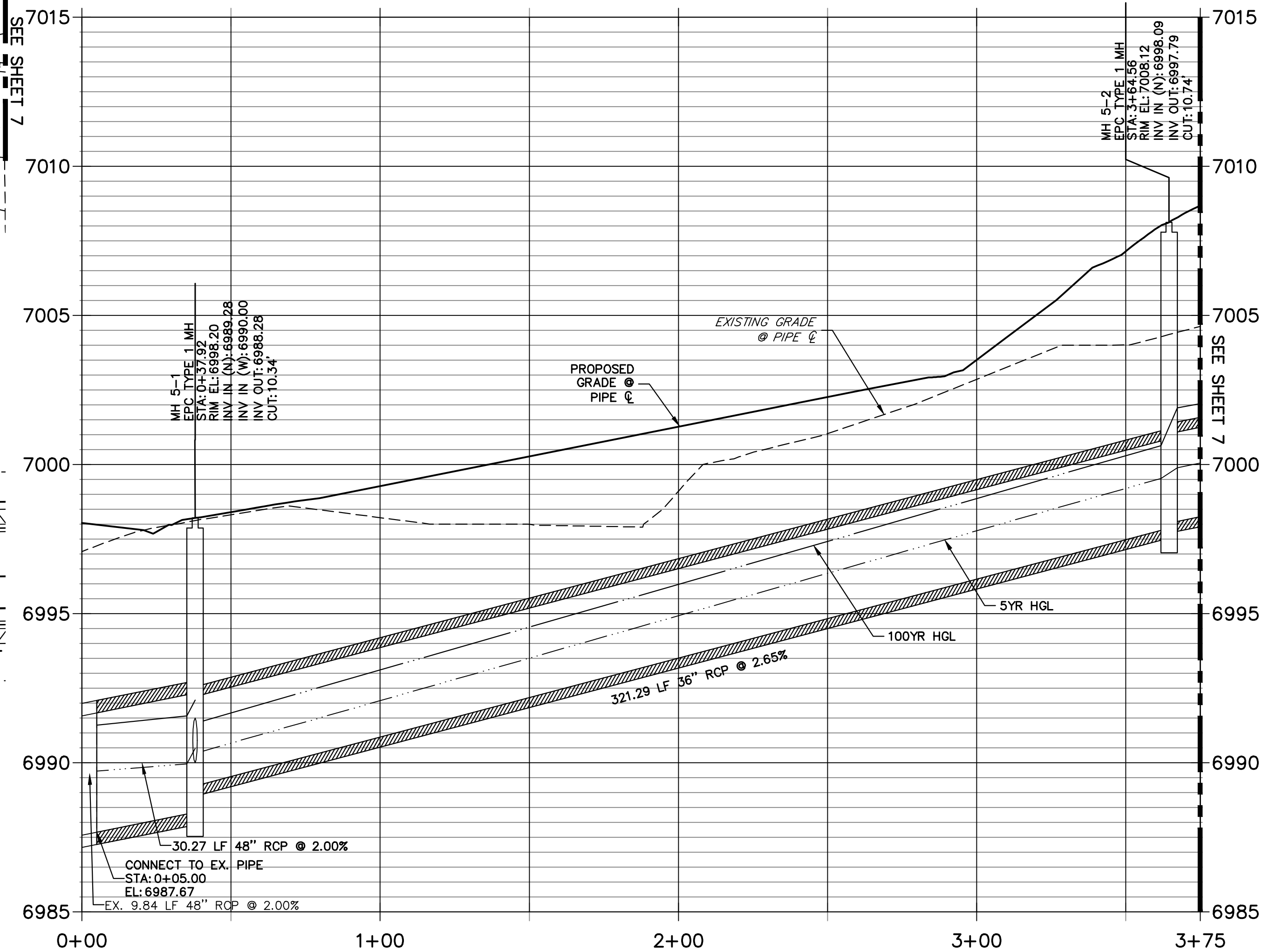
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STERLING RANCH FILING 4
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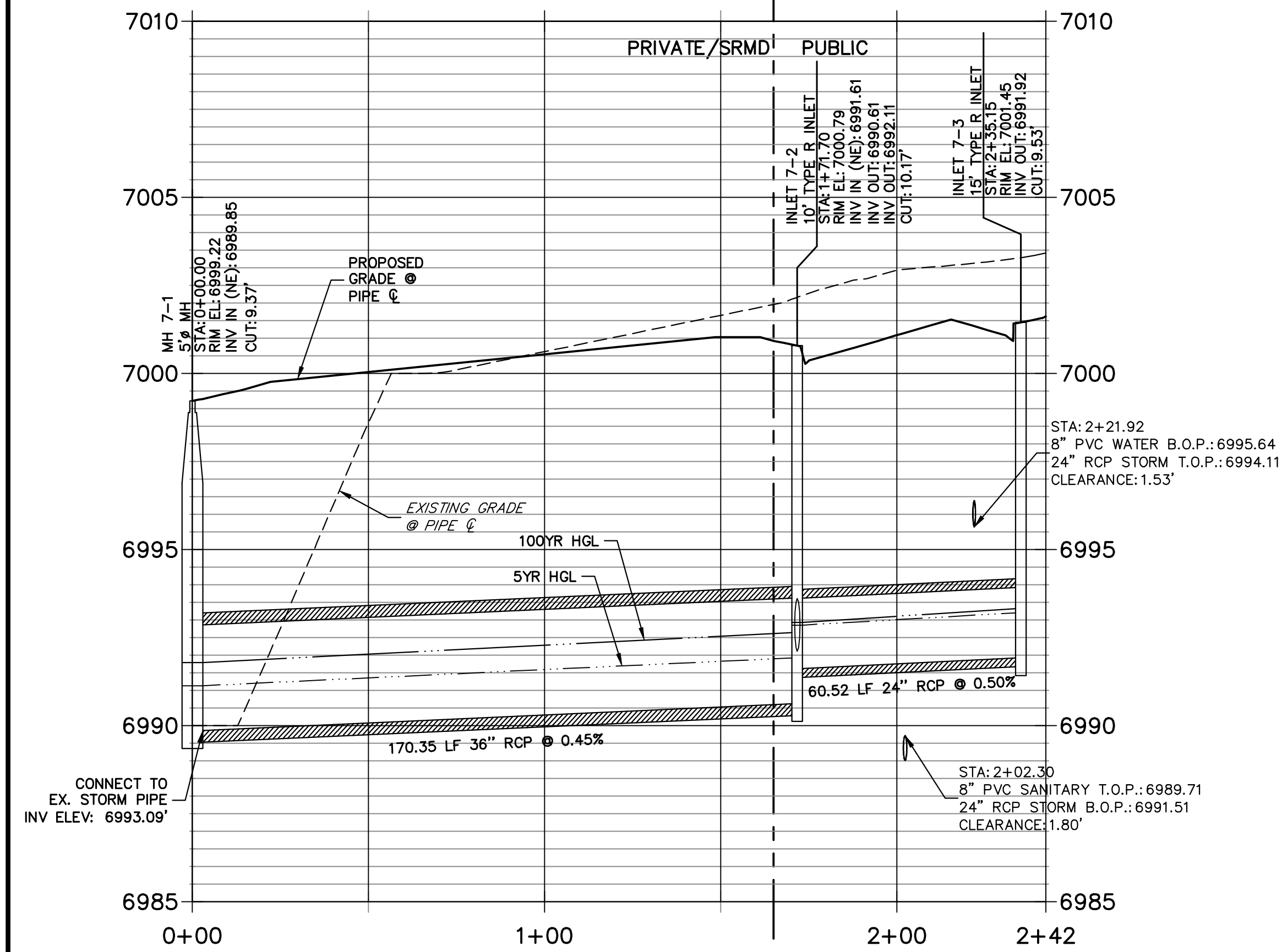
SHEET 5 OF 14
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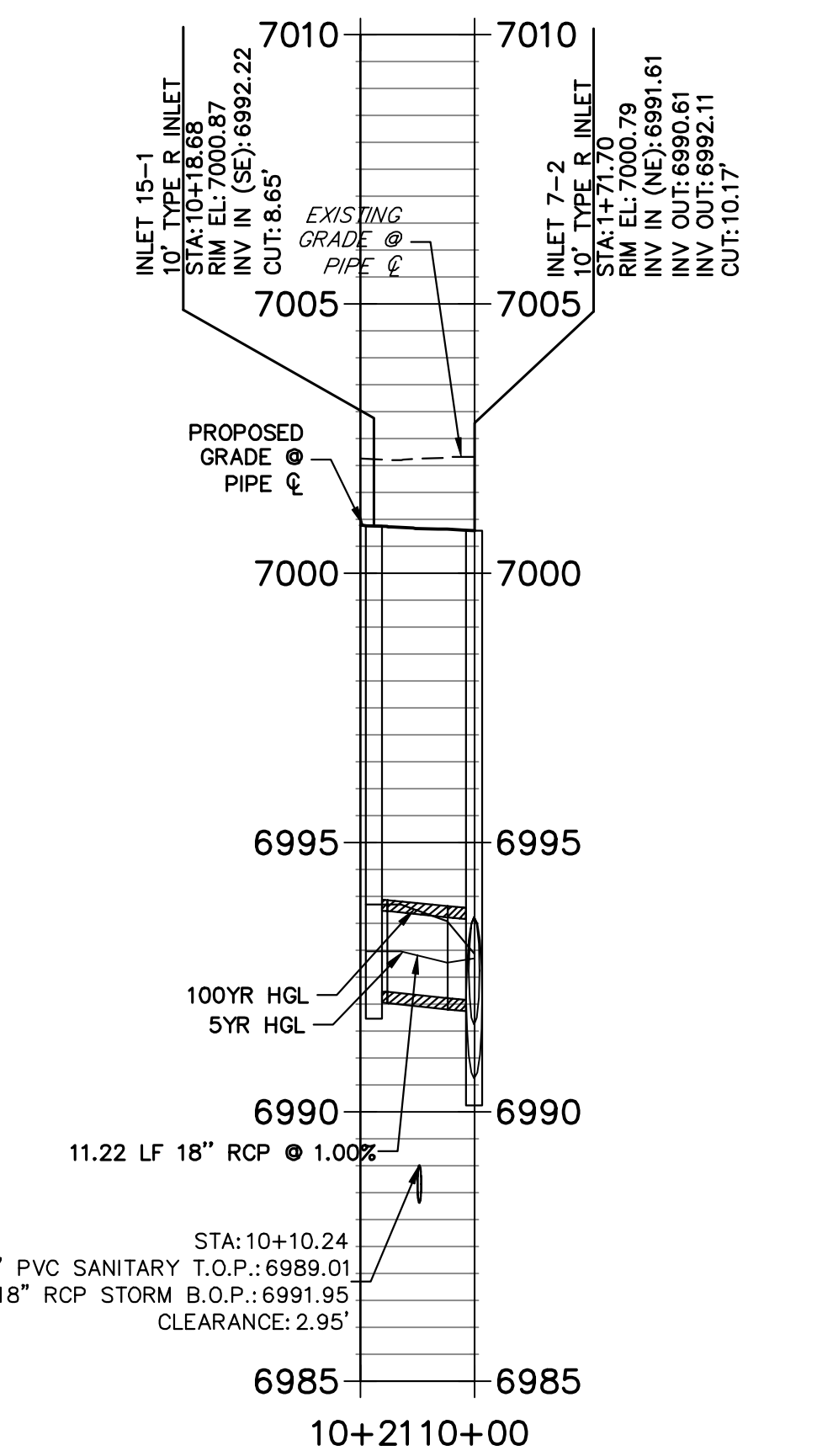
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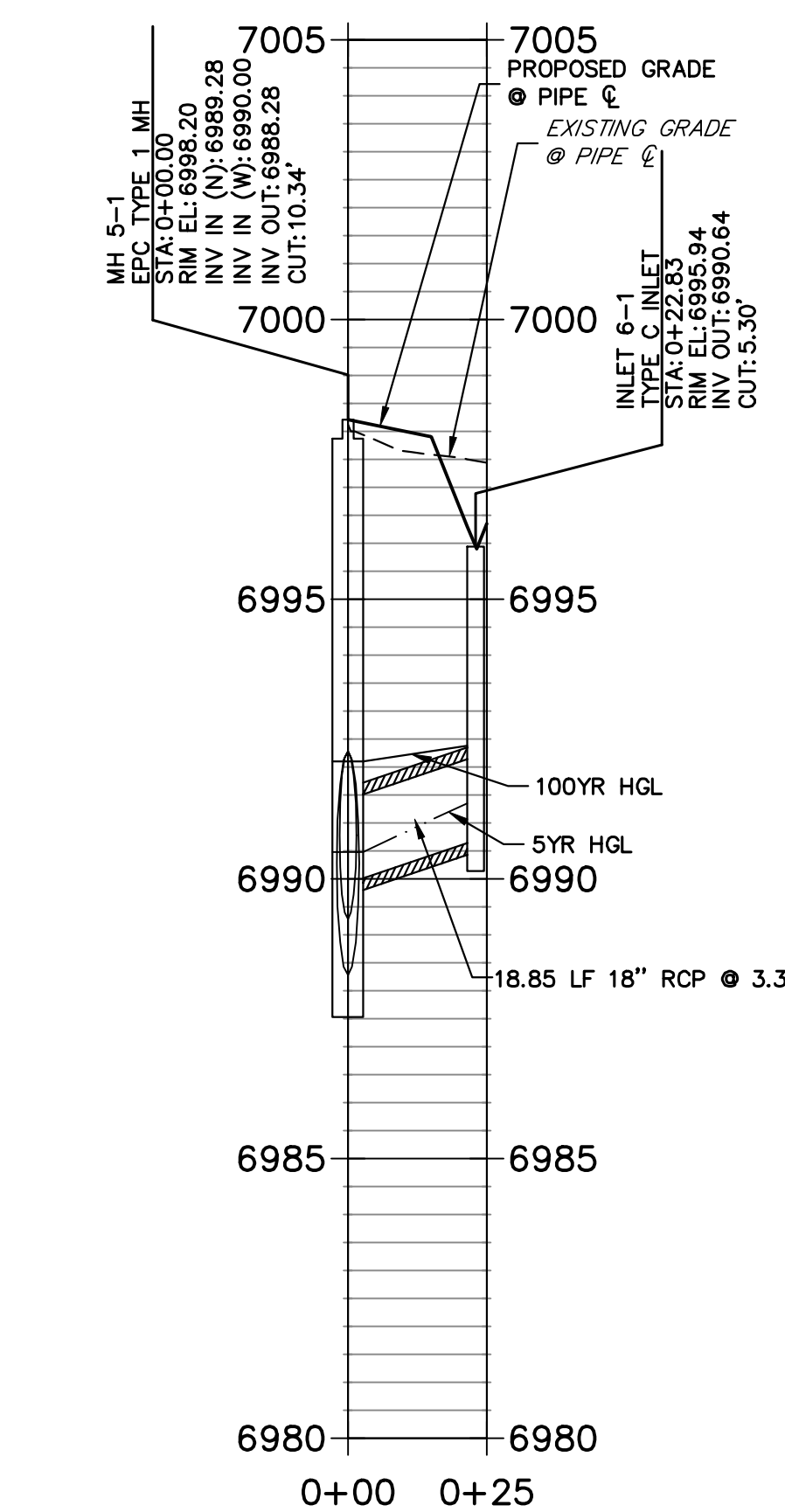
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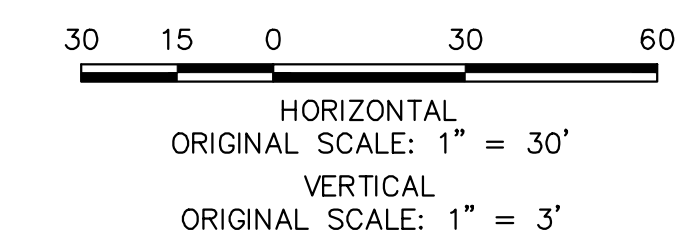
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 PRIVATE/SRMD



NOTE:
 ADD WATER TIGHT JOINT
 WHEN 100 YR HGL SHOWS
 PIPE FULLY INUNDATED

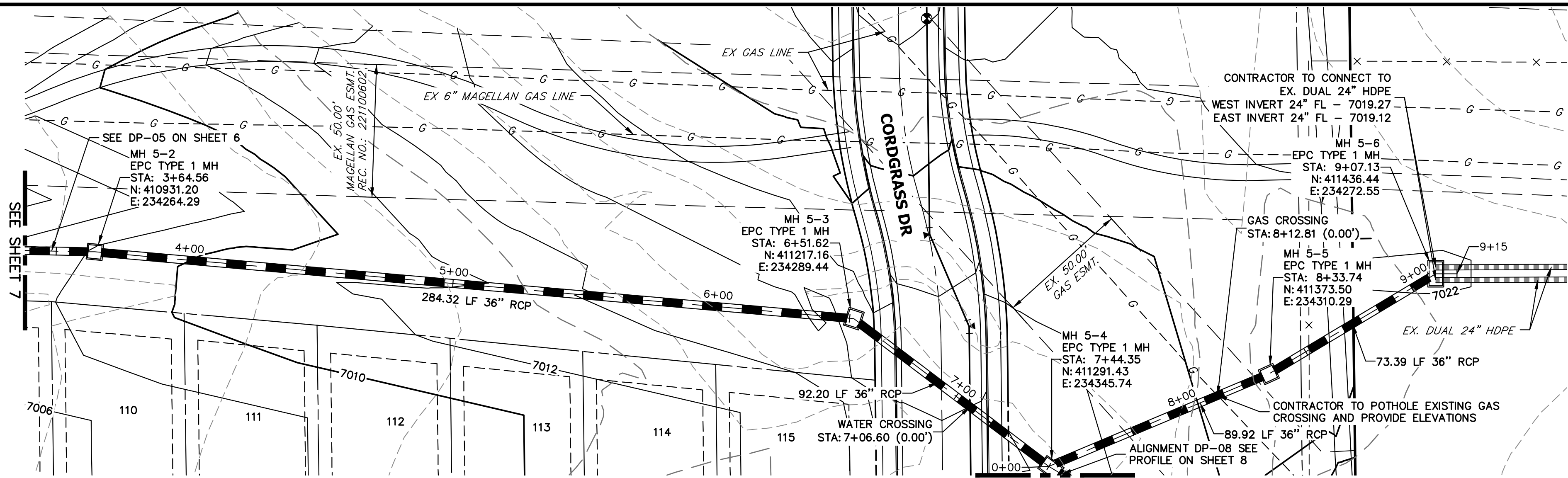


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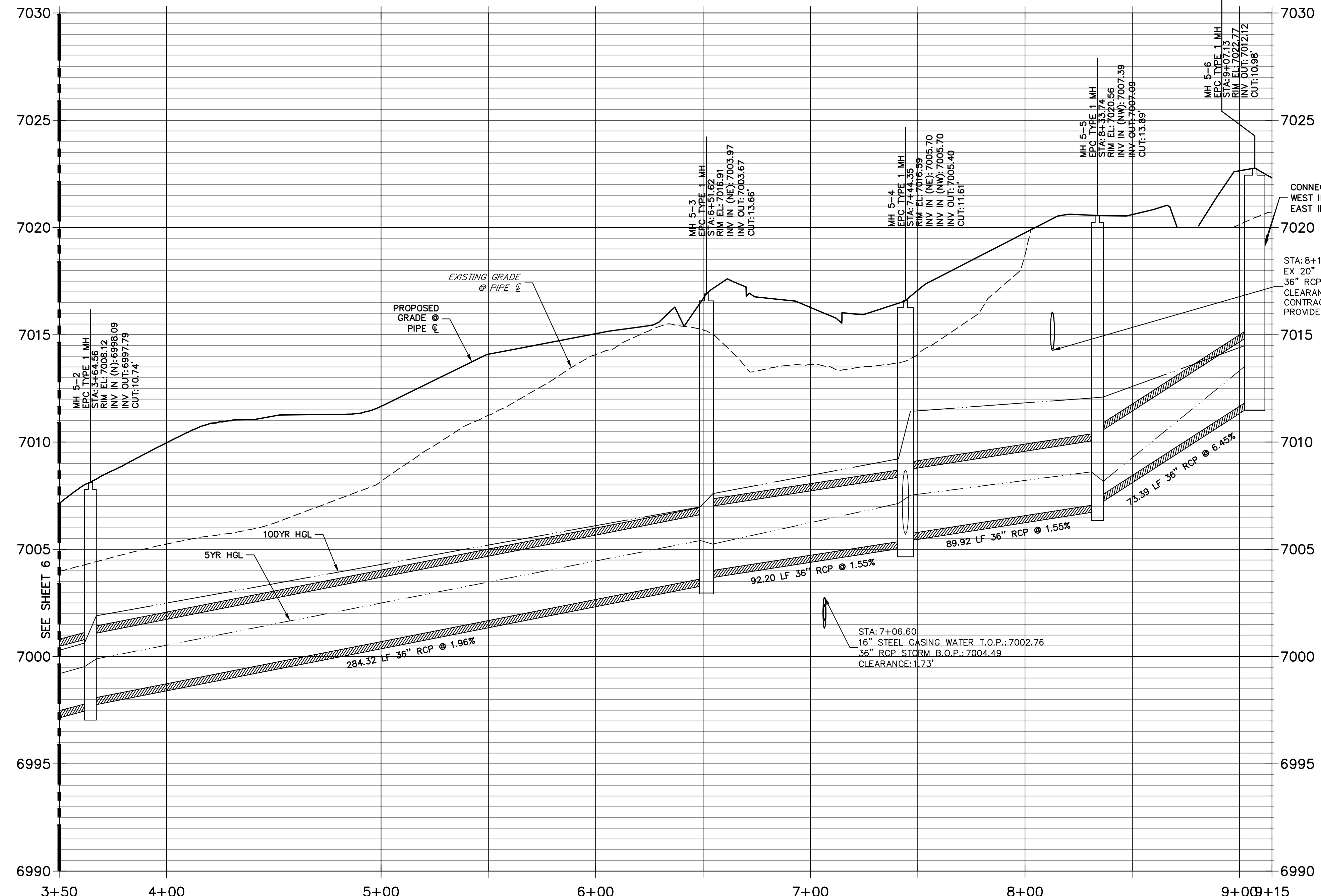


ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING

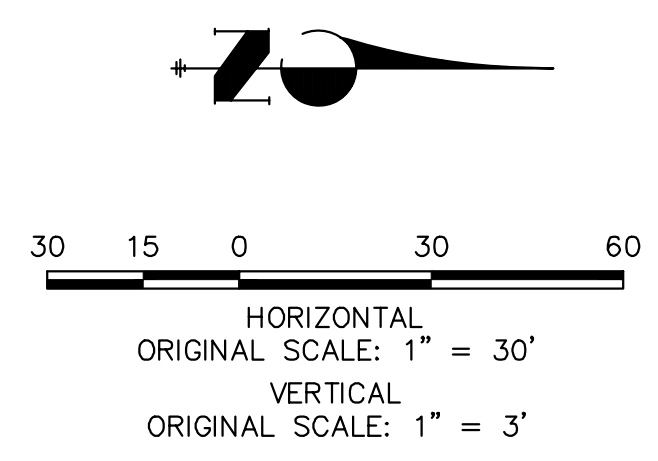
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PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742	J.R. ENGINEERING A Westman Company Centennial 300-740-0888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com
BY: _____ DATE: _____	No. REVISION: _____
H-SCALE 1"=30' V-SCALE 1"=3' DATE 04/25/23 DESIGNED BY RAB DRAWN BY WKN CHECKED BY _____	STERLING RANCH FILING 4 STORM SEWER PLAN SHEET 6 OF 14 JOB NO. 25188.11



DP-05 PROFILE (3)
STA 3+50.00 TO 9+15.12
 PRIVATE/SRMD



WARNING
HIGH-PRESSURE PIPELINE(S)
 EXCAVATION AND/OR CONSTRUCTION PROHIBITED
 WITHOUT COMPLIANCE WITH STATE ONE-CALL, AND
 WITHOUT WRITTEN PERMISSION FROM
 MAGELLAN PIPELINE COMPANY, L.P.



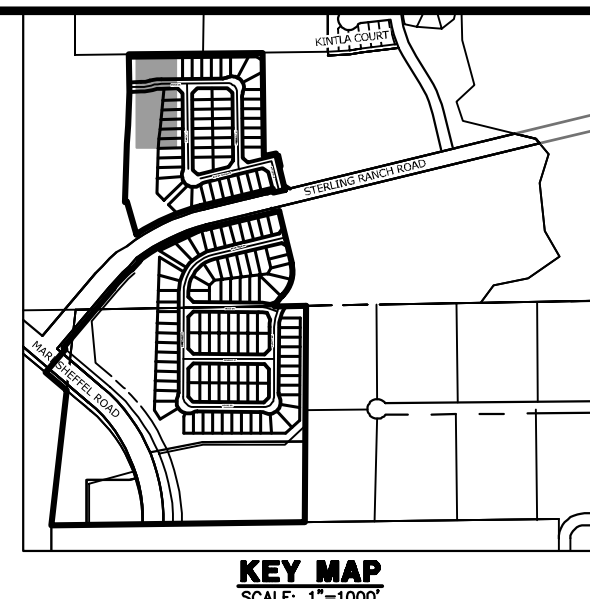
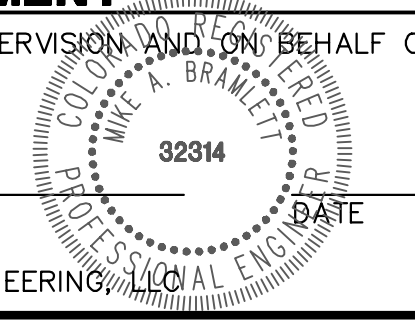
NOTE:
 ADD WATER TIGHT JOINT
 WHEN 100 YR HGL SHOWS
 PIPE FULLY INUNDATED

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING



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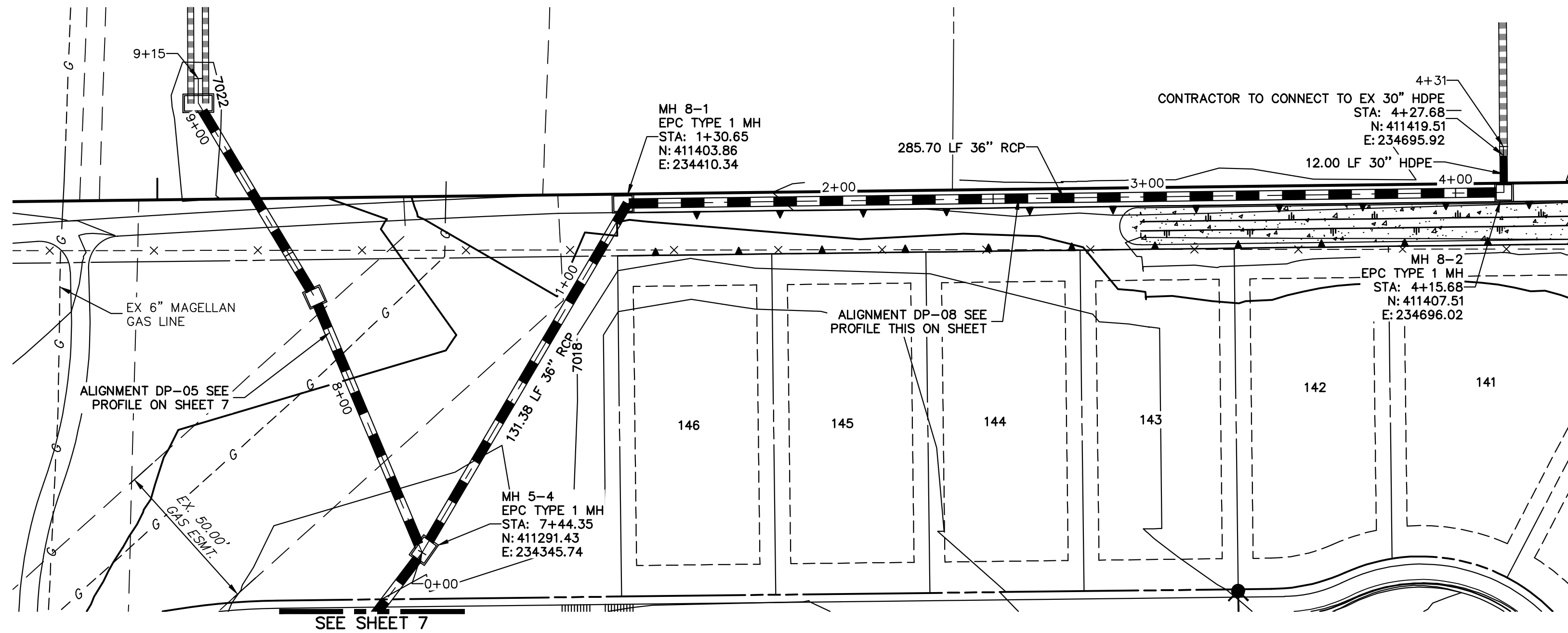
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 20 BOULDER CRESCENT
 SUITE 201
 COLORADO SPRINGS, CO 80903
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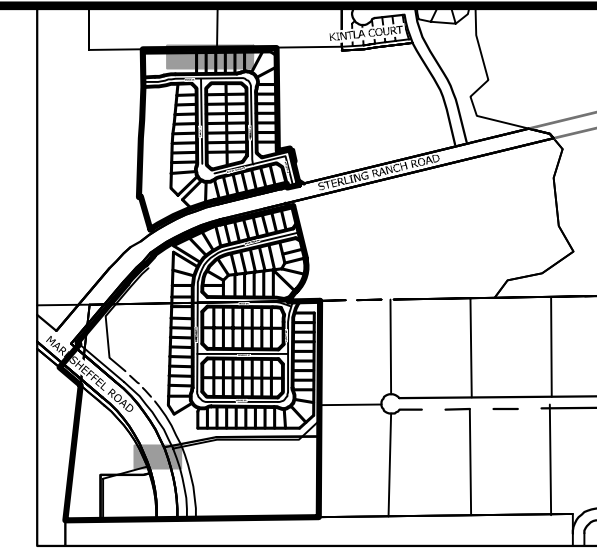
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STERLING RANCH FILING 4
 STORM SEWER PLAN
 SHEET 7 OF 14
 JOB NO. 25188.11



WARNING
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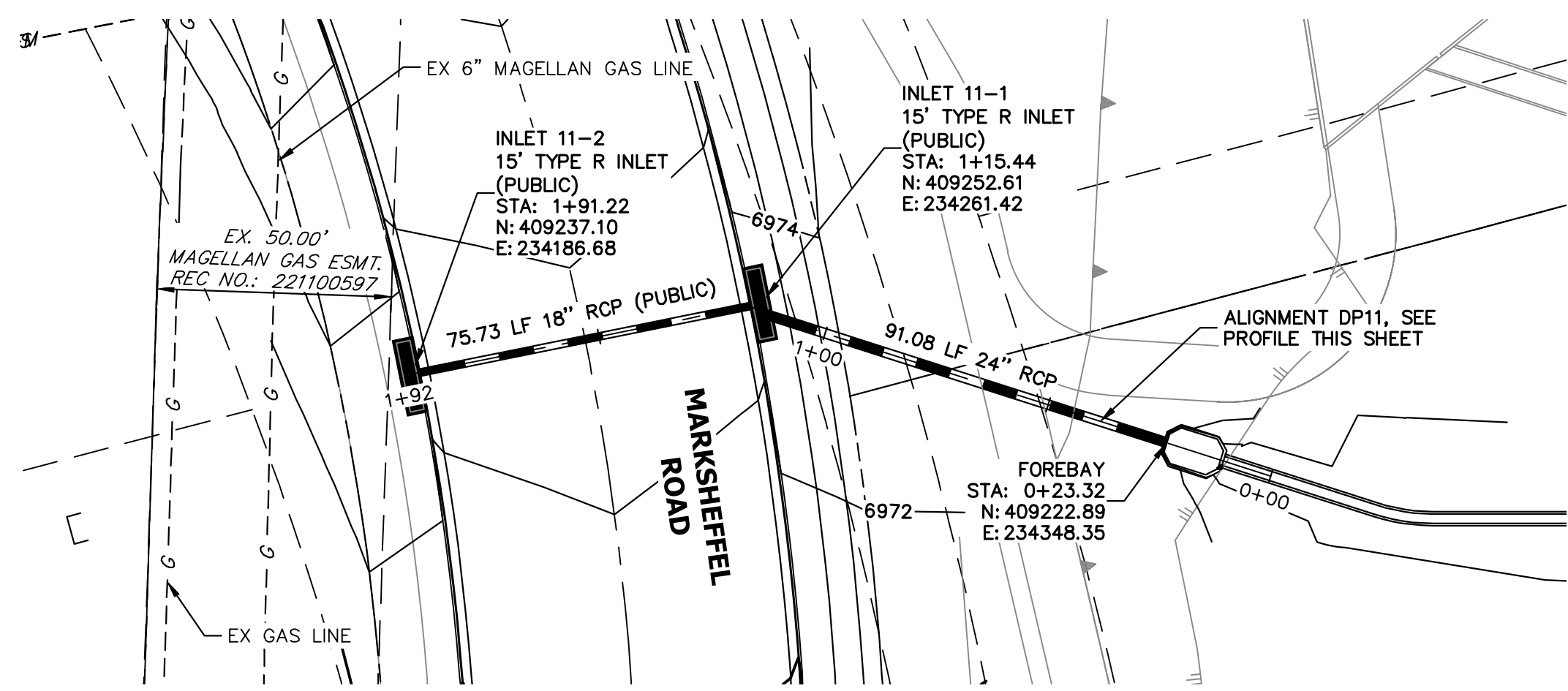
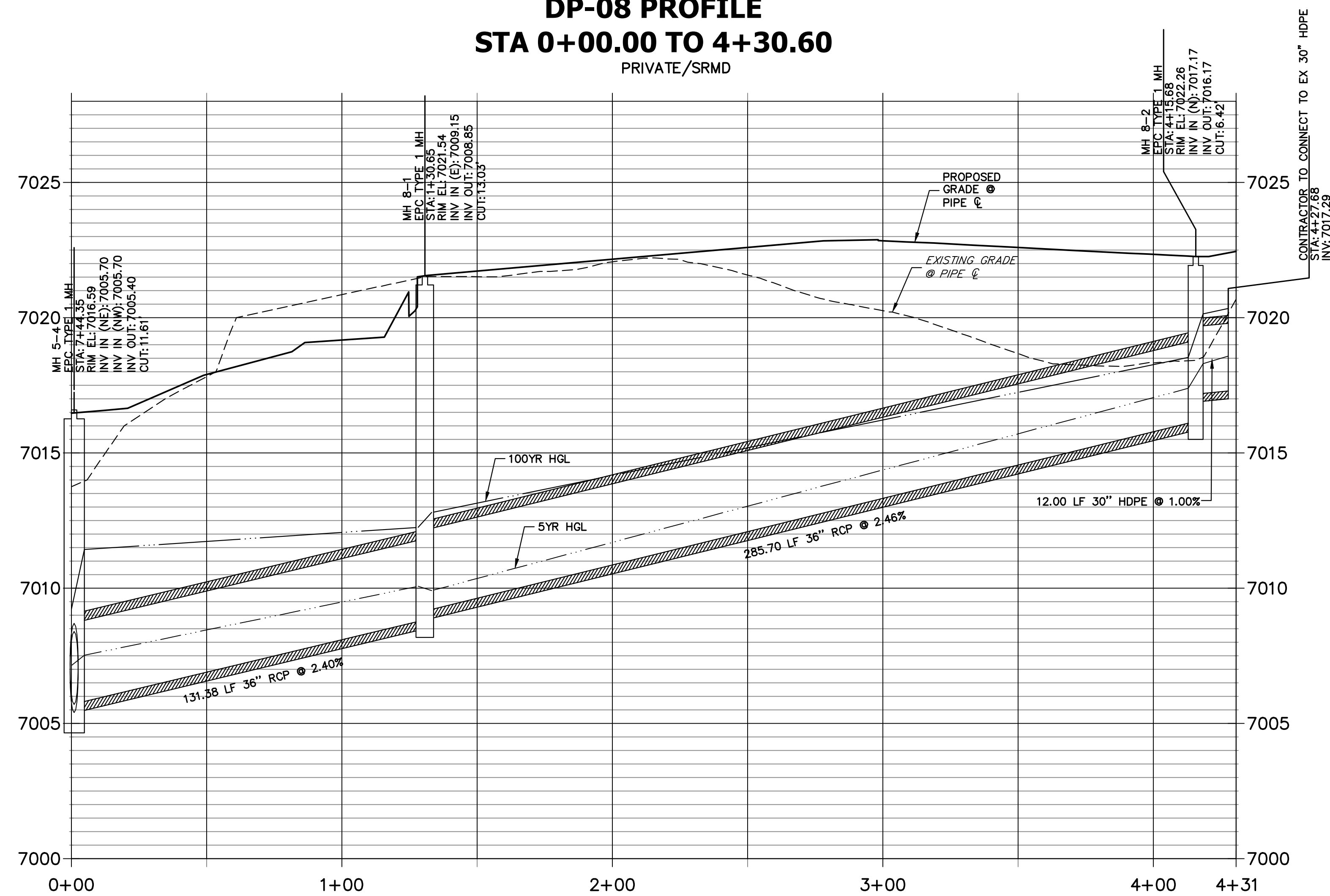


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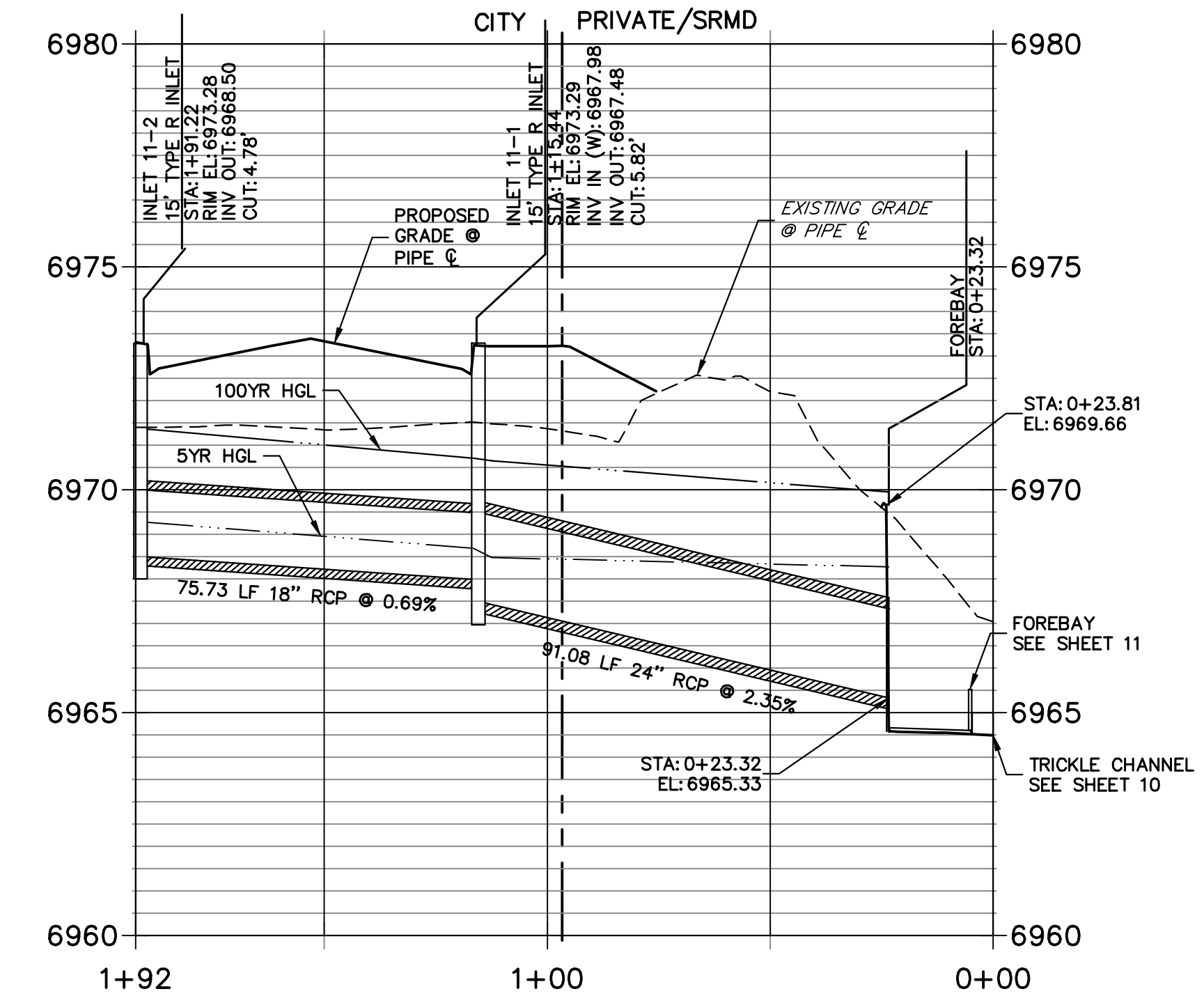
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DP-08 PROFILE
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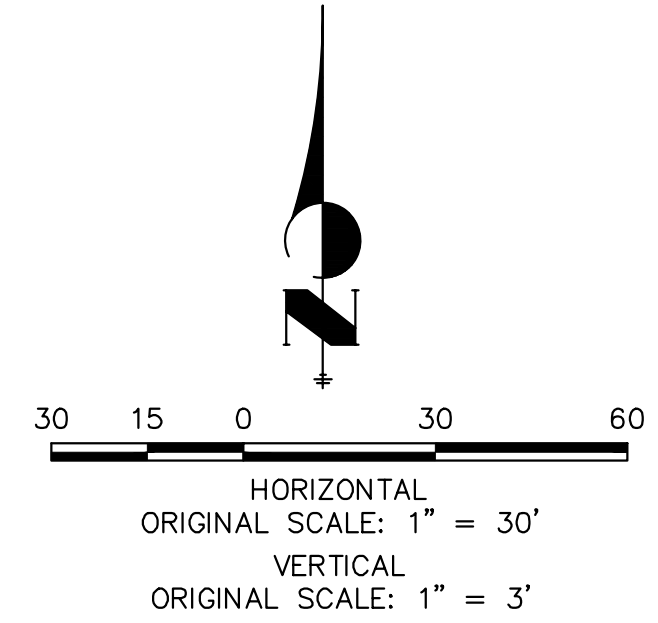


DP11 PROFILE
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THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

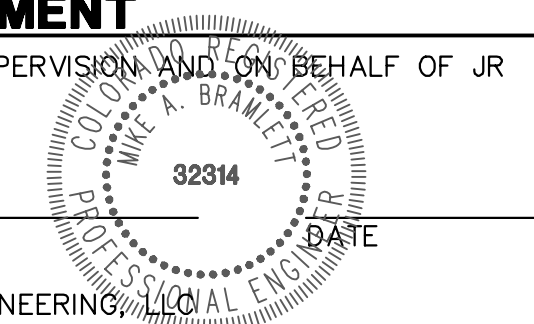
NOTE:
 ADD WATER TIGHT JOINT WHEN 100 YR HGL SHOWS PIPE FULLY INUNDATED



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING



STERLING RANCH FILING 4

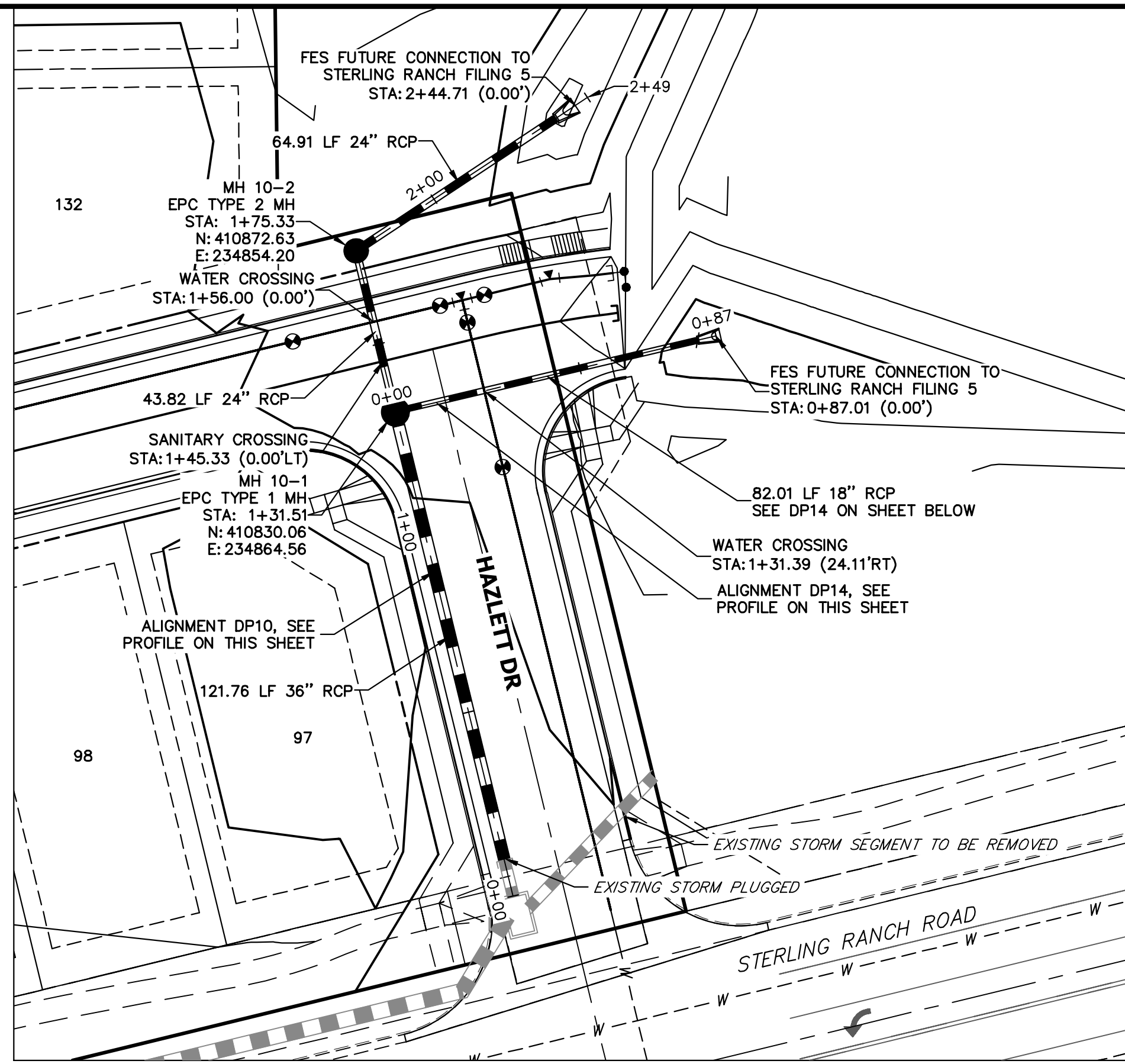
STORM SEWER PLAN

SHEET 8 OF 14
 JOB NO. 25188.11

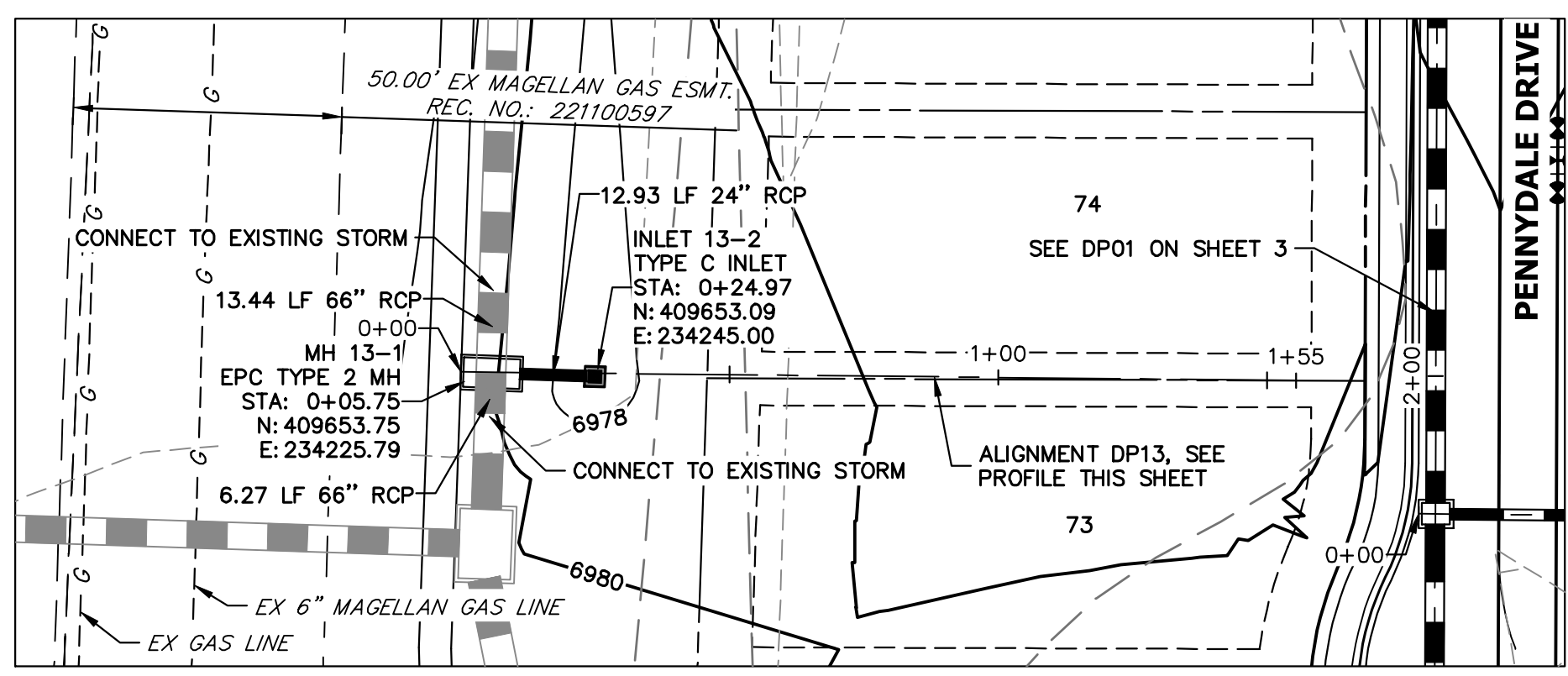
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No.	REVISION	BY	DATE

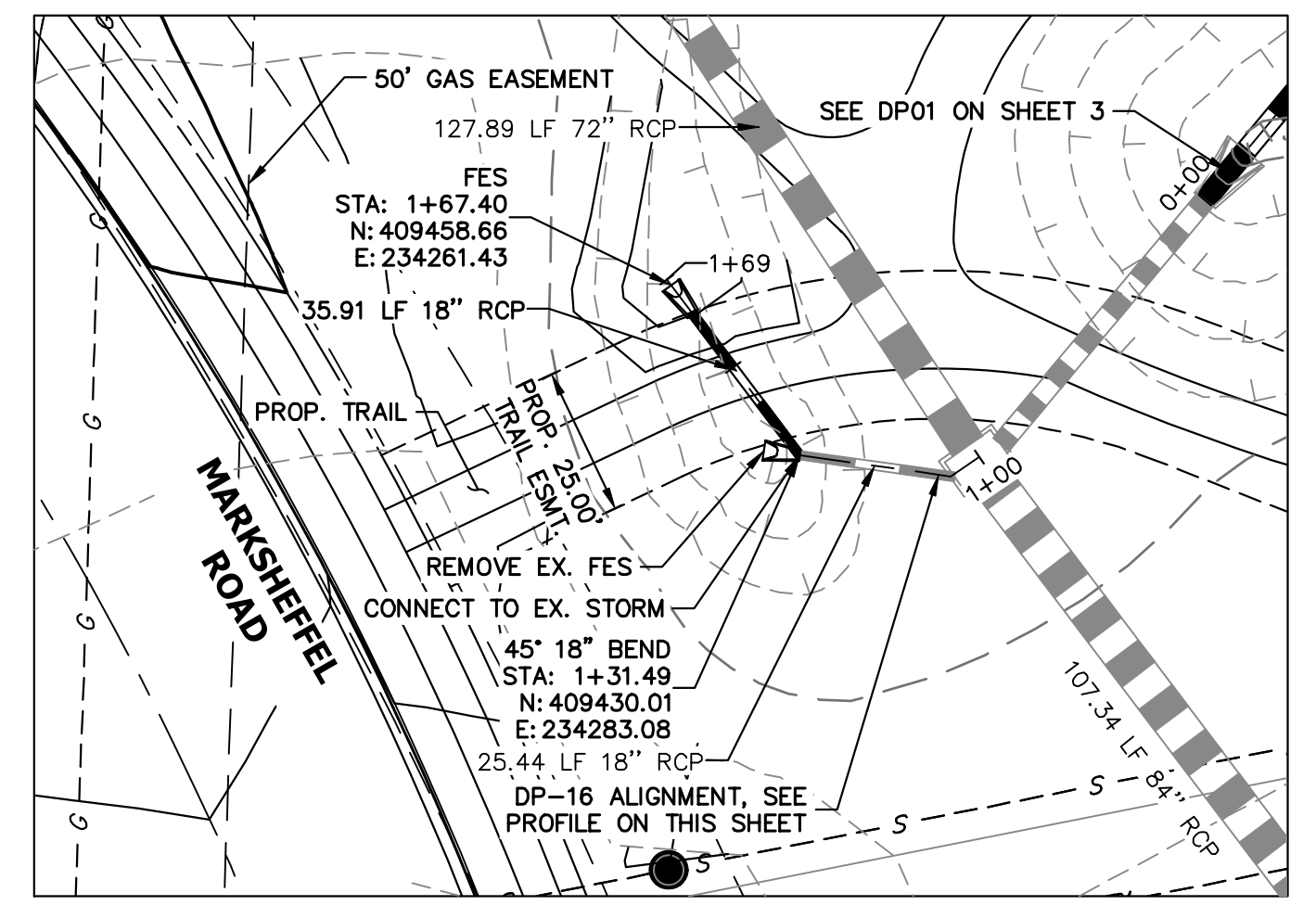
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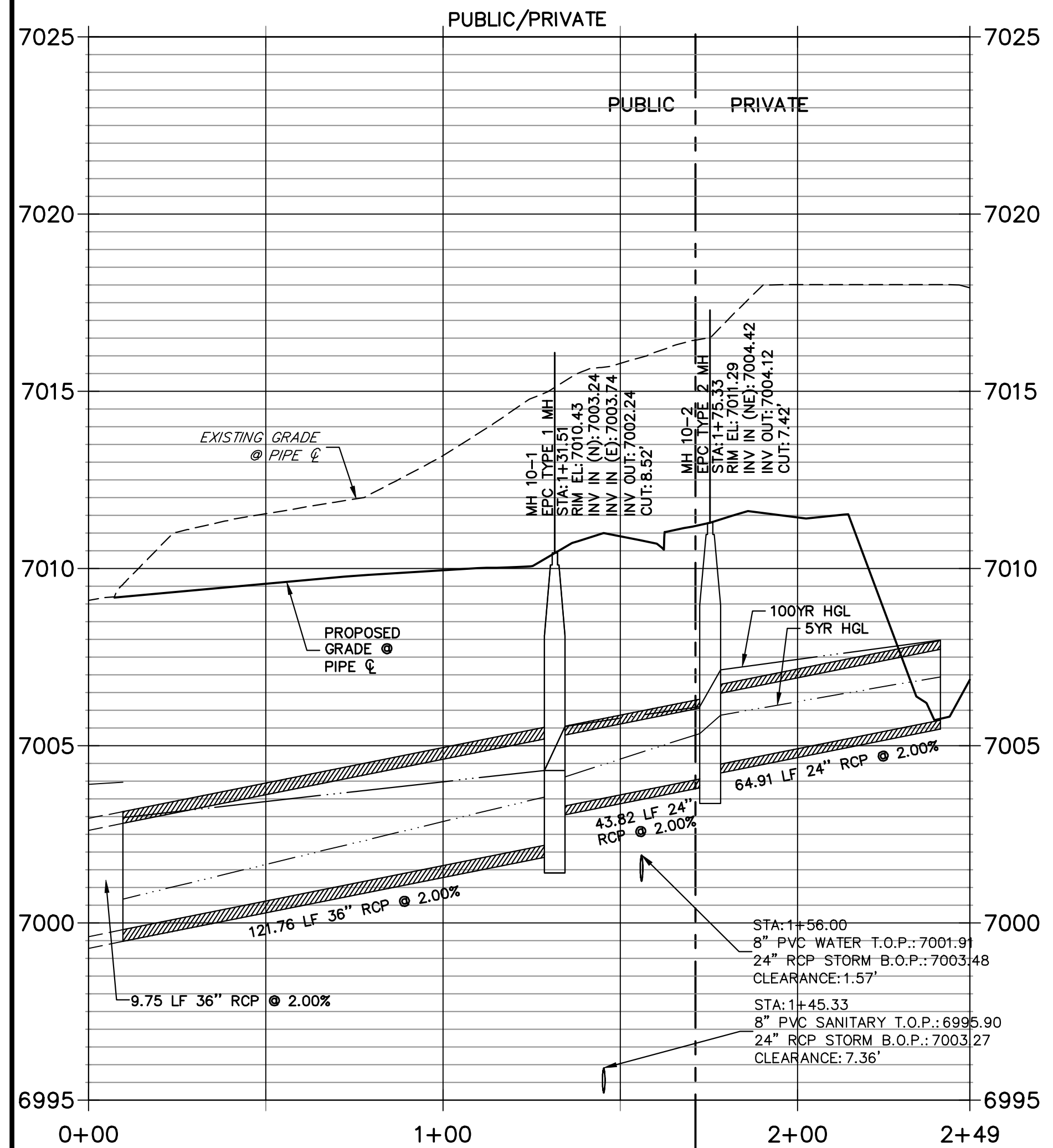
DP10 PROFILE
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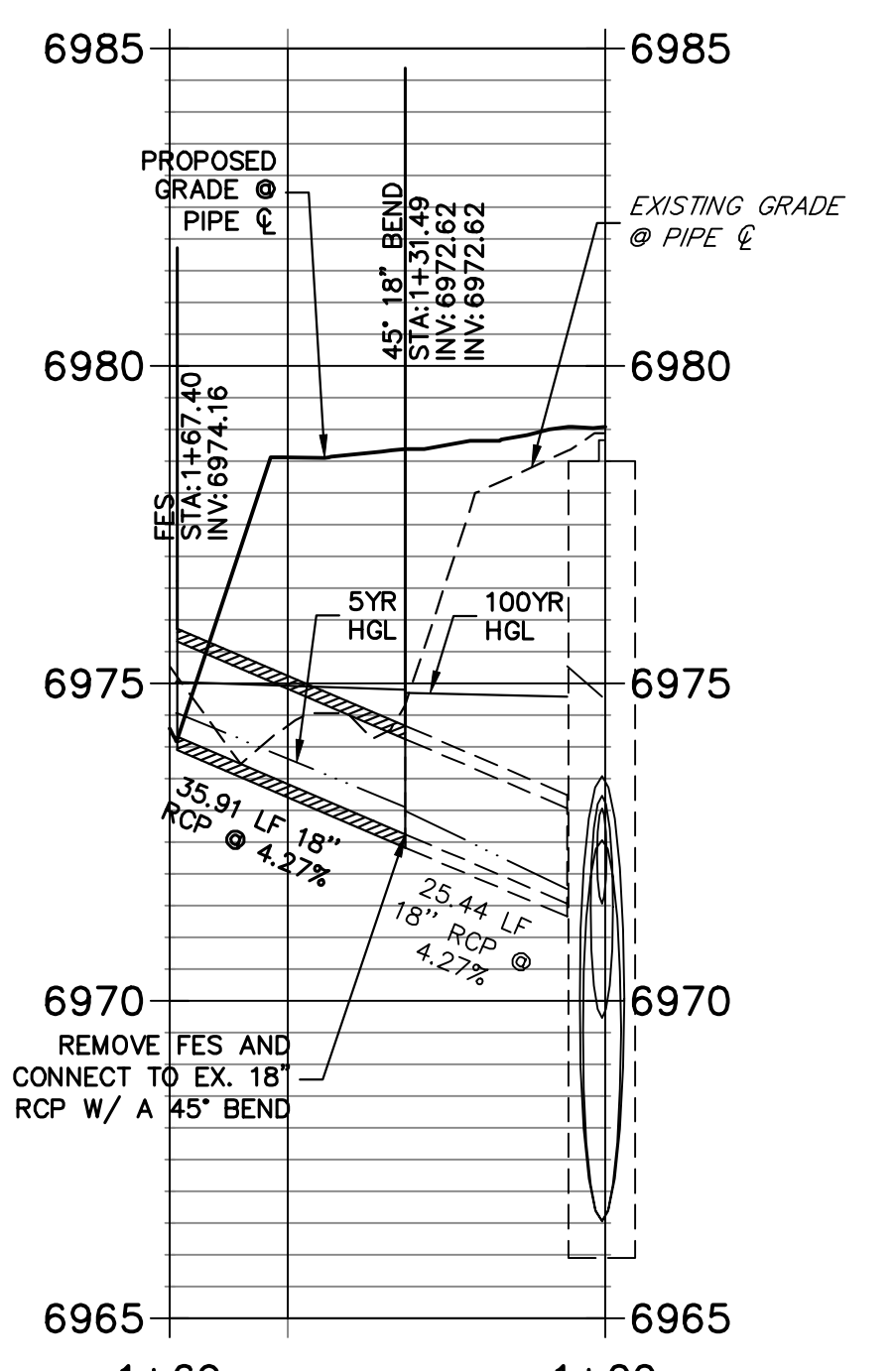
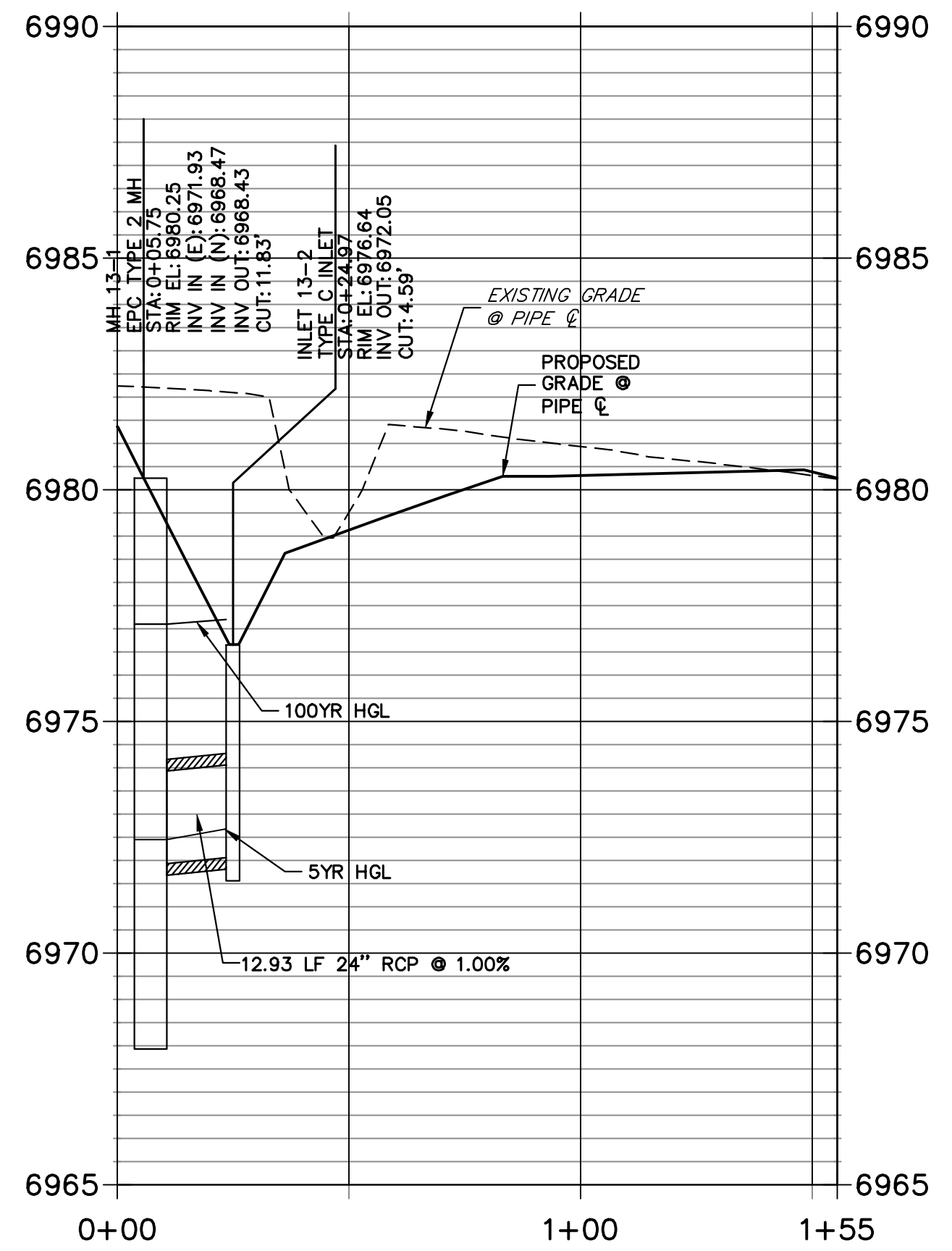
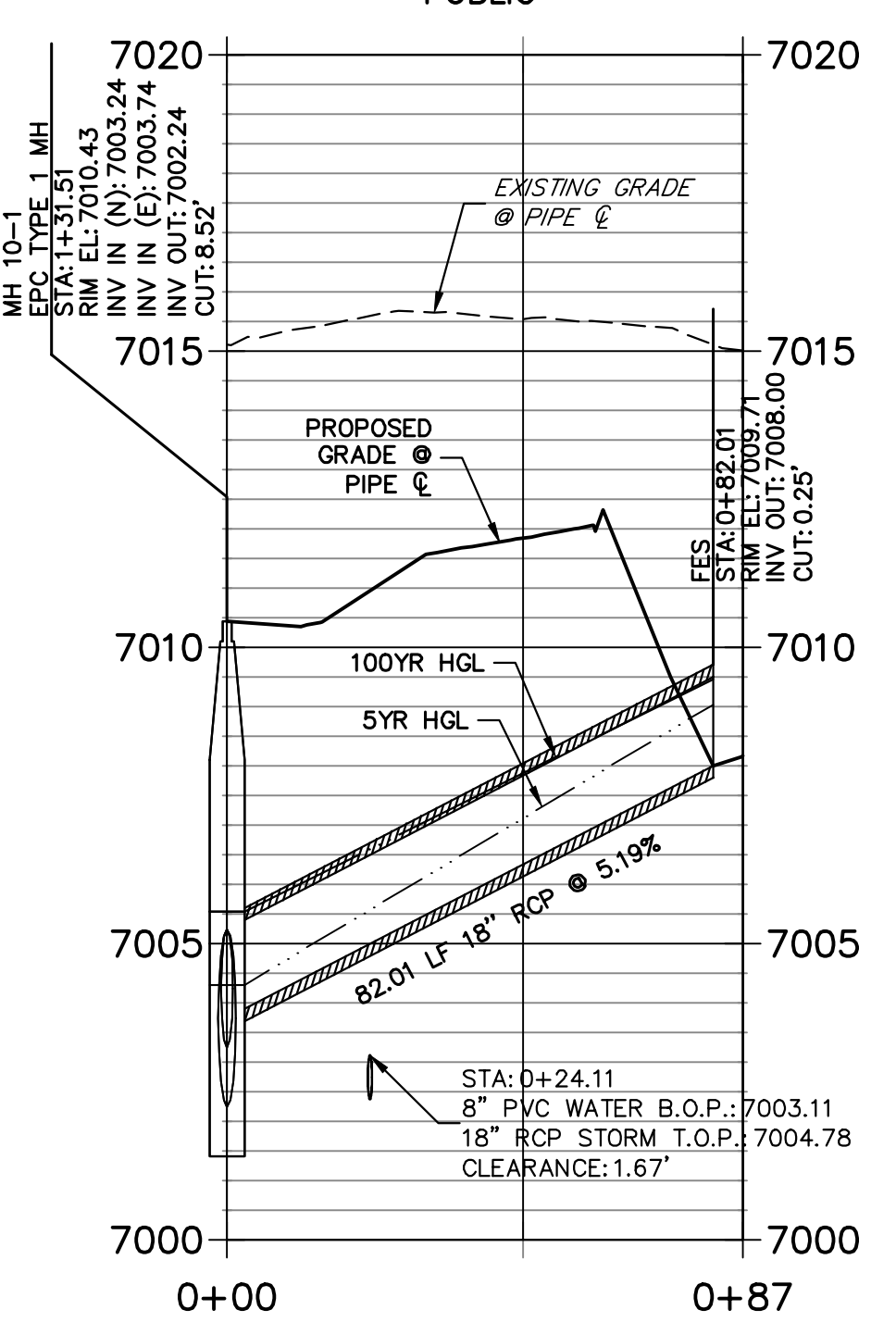
DP13 PROFILE
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DP-16 PROFILE
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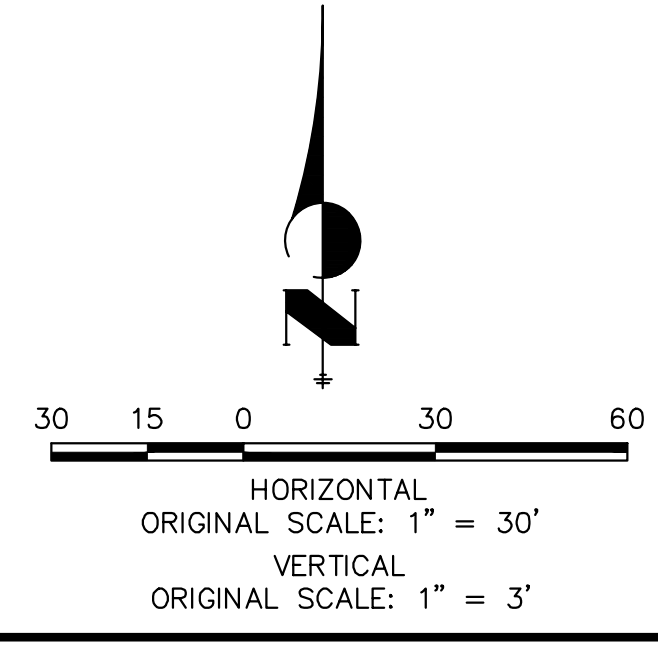


DP14 PROFILE
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NOTE:
ADD WATER TIGHT JOINT WHEN 100 YR HGL SHOWS PIPE FULLY INUNDATED



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING, INC. LOCAL ENGINEER

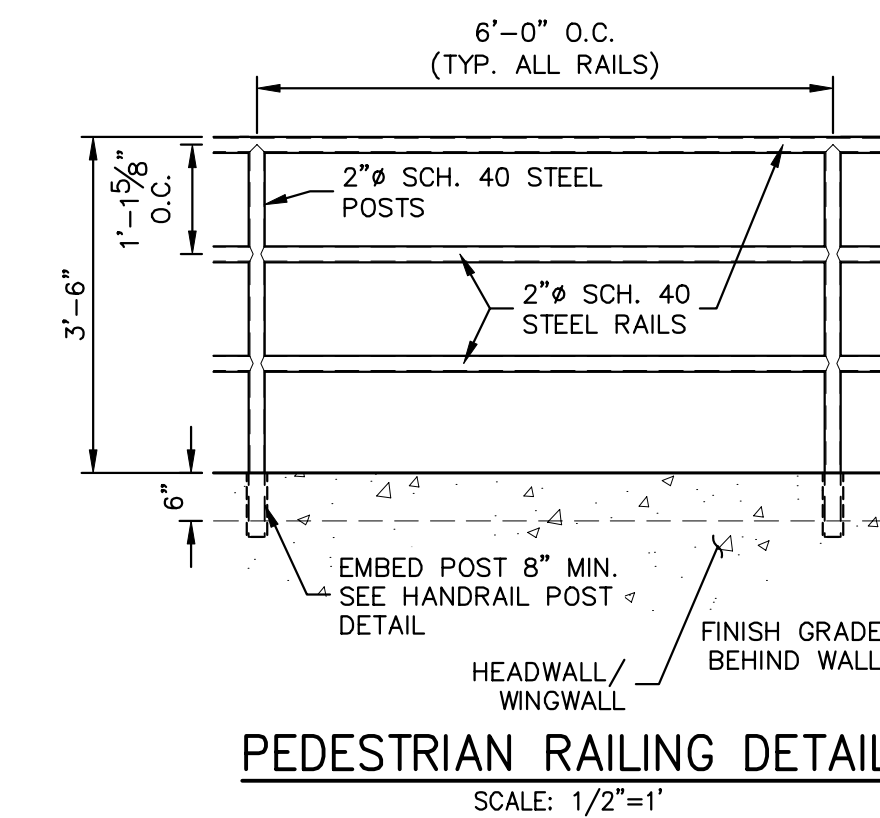
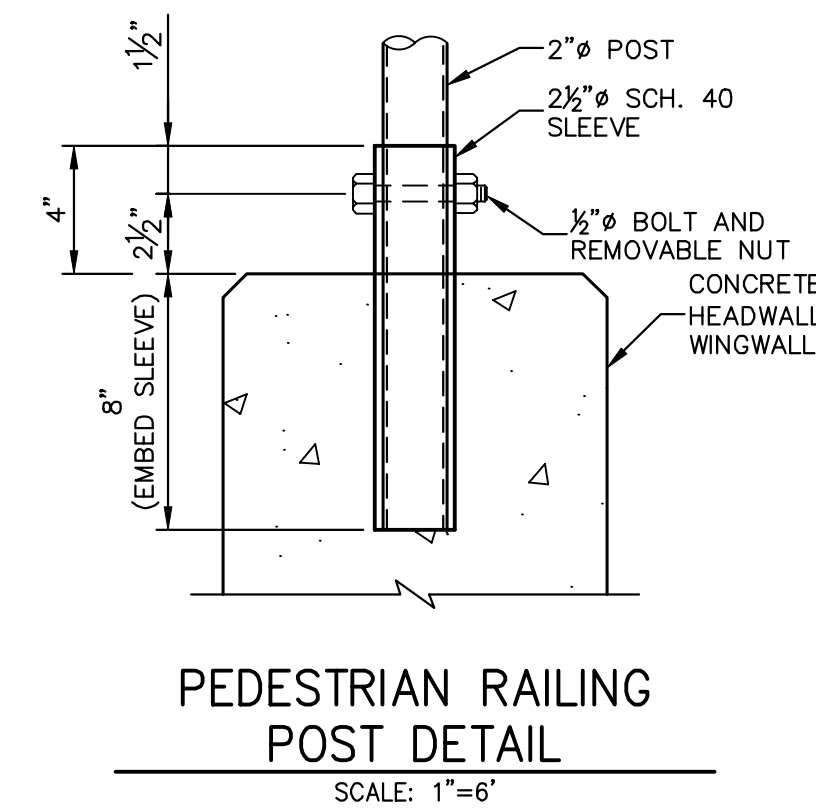
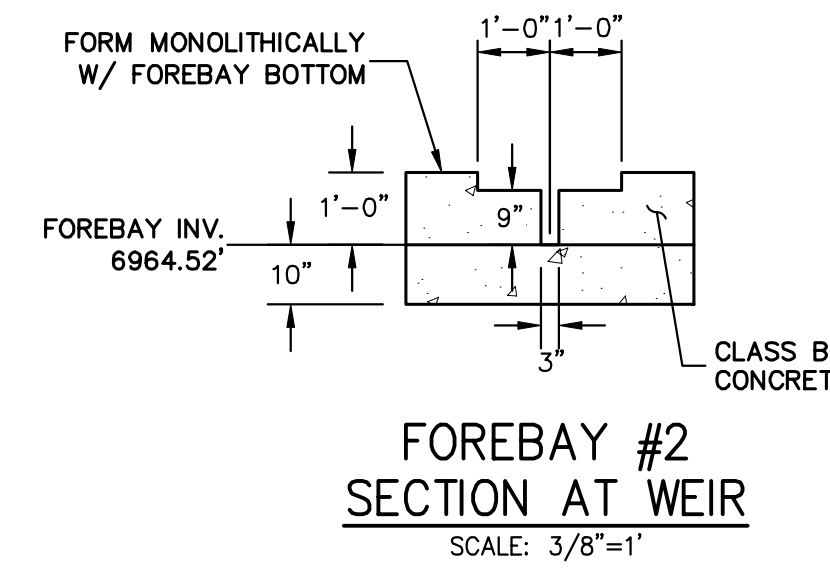
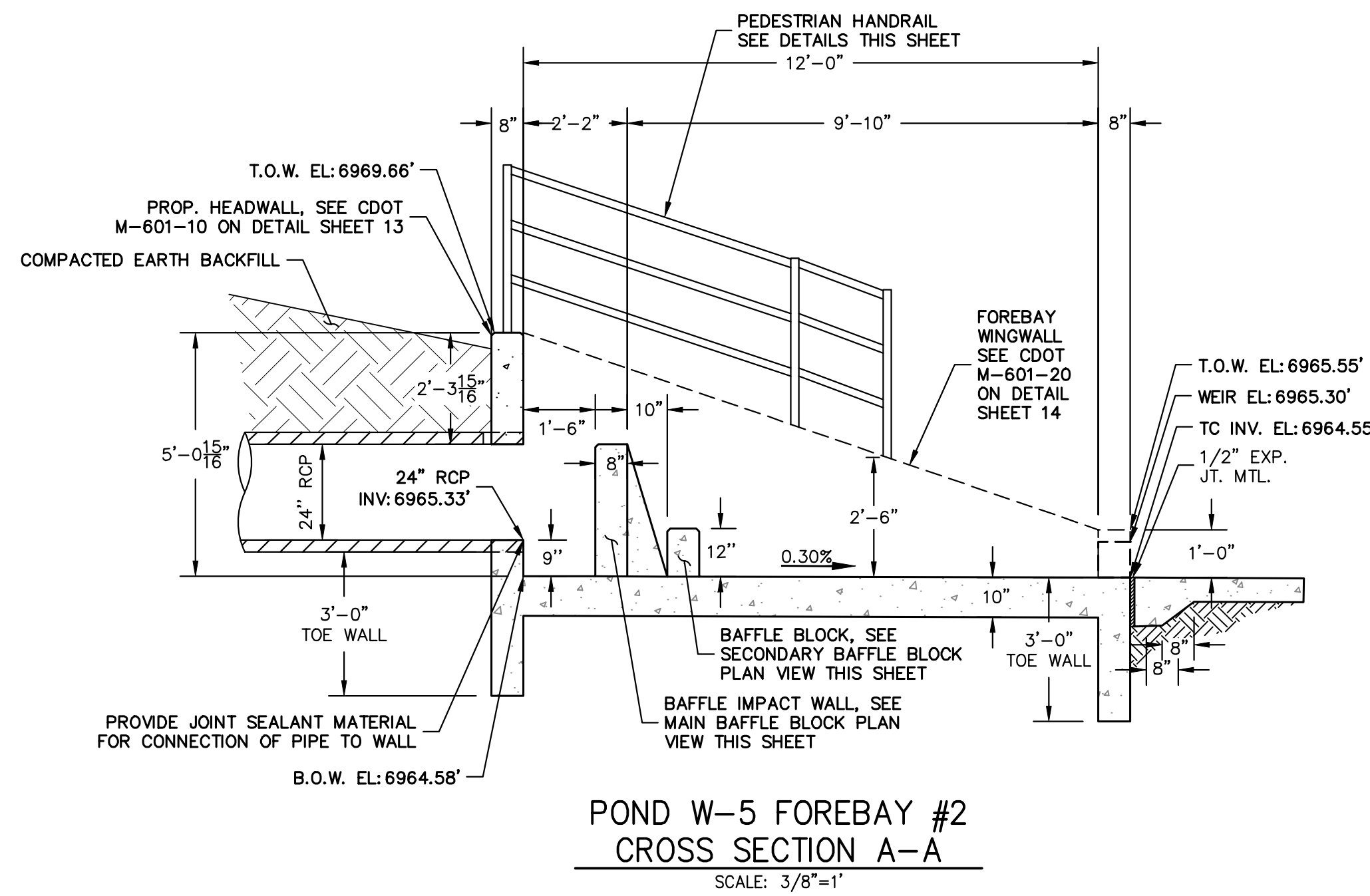
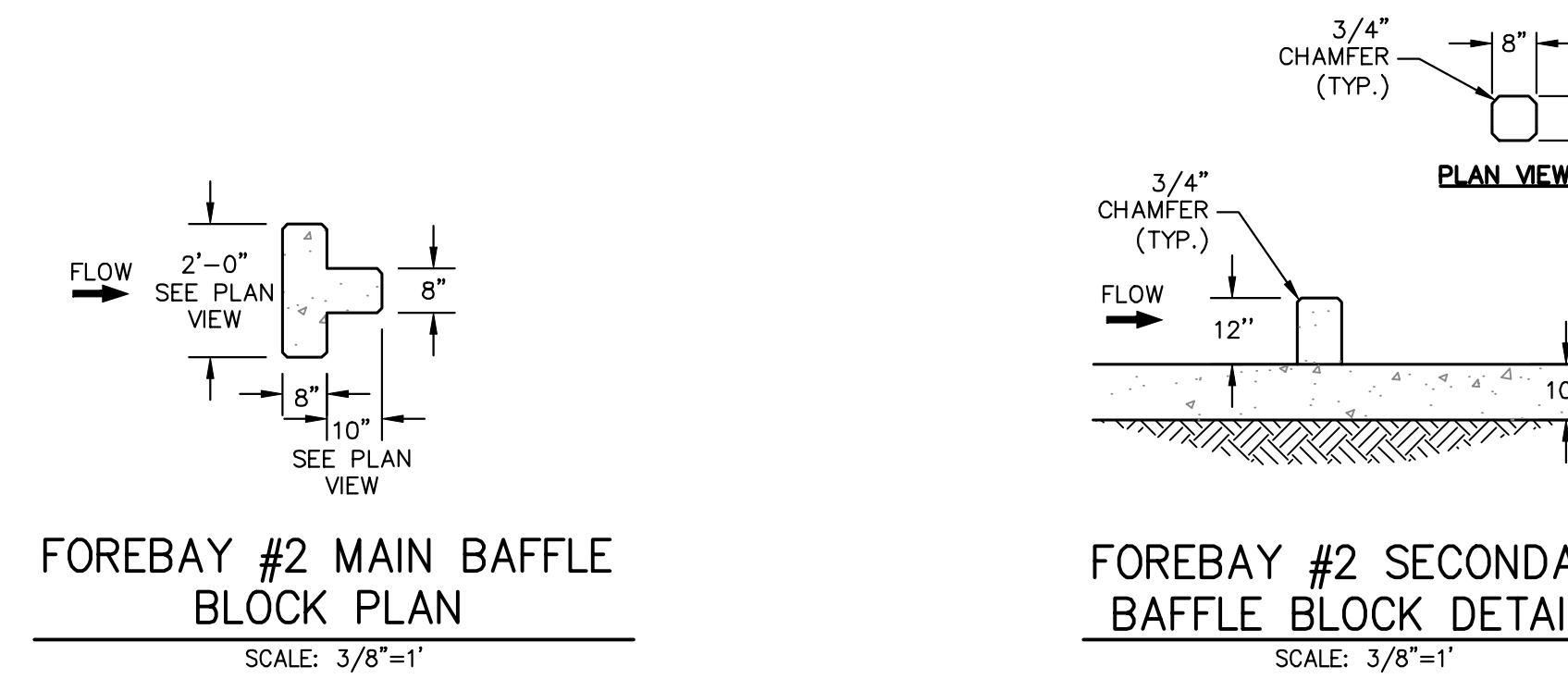
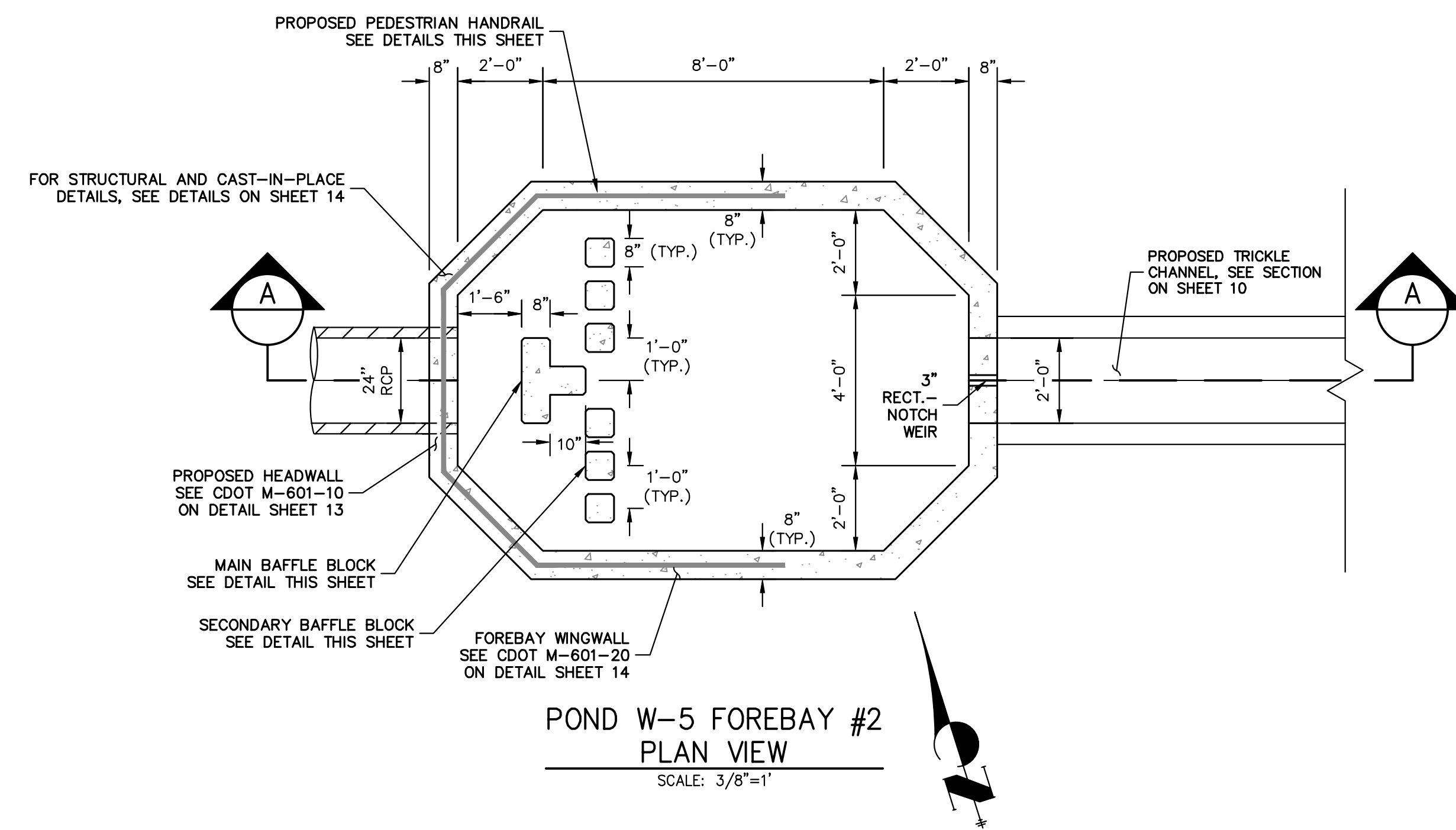
STERLING RANCH FILING 4
 STORM SEWER PLAN
 SHEET 9 OF 14
 JOB NO. 25188.11

BY DATE
 No. REVISION
 H-SCALE 1"=30'
 V-SCALE 1"=3'
 DATE 04/25/23
 DESIGNED BY RAB
 DRAWN BY WKN
 CHECKED BY

PREPARED FOR
 SR LAND, LLC
 20 BOULDER CRESCENT
 SUITE 201
 COLORADO SPRINGS, CO 80903
 JAMES F. MORLEY
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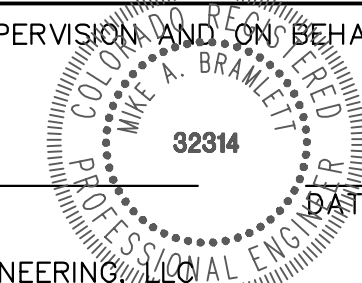
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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING



FILE NO. SF-22-030

STERLING RANCH FILING 4	BY	DATE	
	No.	REVISION	
	H-SCALE	3/8"=1'	
	V-SCALE	3/8"=1'	
	DESIGNED BY	RAB	
	DRAWN BY	MC	
	CHECKED BY		
	DATE	04/25/23	
FOREBAY DETAILS	SHEET	11	OF 14
	JOB NO.	25188.11	

UNLESS SHOWN OTHERWISE, ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.
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GENERAL NOTES:
 SEE SHEET 2.
 FOR LENGTH (L) OF 10 FT. OR MORE, PROVIDE MAINTENANCE ACCESS AT BOTH ENDS WITH AN ADDITIONAL MANHOLE COVER AND COVER. CUT REINFORCEMENT BAR ACCORDINGLY.
 STATION POINT AT MIDPOINT OF INLET ALONG FLOWLINE.
 WHEN A TYPE R INLET IS USED WITH MOUNTABLE CURB AND GUTTER, THE TRANSITION SHALL BE PAID FOR AS CURB AND GUTTER.
 MOUNTABLE CURB FACE
 MOUNTABLE CURB AND GUTTER
 TRANSITION CURB
 FOR A 10'-0" PAN SLOPE 2" PER FT.

SECTION A-A REGULAR INLET
SECTION A-A INLET WITH DROP BOX ~ H>5 FT.
SECTION B-B END VIEW
SECTION C-C & D-D (DOTTED BARS ARE IN SECTION D-D)
CURB FACE ASSEMBLY
 PLACE ENTIRE ASSEMBLY BEFORE POURING CONCRETE.

Computer File Information
 Creation Date: 07/31/19
 Designer Initials: JKB
 Last Modification Date: 07/31/19
 Detailer Initials: LTA
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

Sheet Revisions
 Date: _____ Comments: _____

Colorado Department of Transportation
 2829 West Howard Place
 CDOT HQ, 3rd Floor
 Denver, CO 80204
 Phone: 303-757-9021 FAX: 303-757-9868
 Project Development Branch JKB

CURB INLET TYPE R
 STANDARD PLAN NO. M-604-12
 Standard Sheet No. 1 of 2
 Project Sheet Number: _____

GENERAL NOTES:
 1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
 2. CURB FACE SHALL BE FORMED ON BOTH SIDES AND SHALL BE 8 INCHES THICK.
 3. INLET STEPS SHALL BE IN CONFORMANCE WITH AASHTO M 199.
 4. CURB FACE ASSEMBLY SHALL BE GALVANIZED AFTER WELDING.
 5. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1/4" OF A INCH. CURB AND GUTTER CORNERS SHALL BE FINISHED TO MATCH THE EXISTING CURB AND GUTTER BEYOND THE TRANSITION CUTTER.
 6. REINFORCING BARS SHALL BE FORMED AND SHALL HAVE A 2 INCH MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE GRADE 60 AND EPOXY COATED.
 7. DIMENSIONS AND WEIGHTS OF TYPICAL MANHOLE RING AND COVER ARE NOMINAL.
 8. MATERIAL FOR MANHOLE RINGS AND COVERS SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06.
 9. SINCE PIPE ENTRIES INTO THE INLET ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK. QUANTITIES INCLUDE VOLUMES OCCUPIED BY PIPES.
 10. STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
 11. ALL MANHOLE COVERS SHALL BE CAST WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE AND A FISH SYMBOL. THE SURFACE OF THE MANHOLE COVER SHALL HAVE A NON-SLIP PATTERN.

TABLE ONE ~ BAR LIST FOR CURB INLETS, TYPE "R"

MARK	BAR #	D.C. SPACING	TYPE	INLETS: H ≤ 5 FT.				INLETS: H > 5 FT.			
				L = 5 FT.	L = 10 FT.	L = 15 FT.	L = 10 FT.	L = 15 FT.	L = 10 FT.	L = 15 FT.	
NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
401	4	11"	II	15	7	21	13	18	7	11	7
402	4	11"	II	7	7	13	7	18	7	7	7
403	4	9"	II	7	4'-0"	7	4'-0"	7	4'-0"	7	4'-0"
405	4	6"	VI	11	6'-10"	21	6'-10"	31	6'-10"	11	6'-10"
406	4	6"	VII	7	8'-10"	7	13'-10"	7	18'-10"	7	8'-10"
407	4	9"	II	7	5'-10"	7	10'-10"	7	15'-10"	7	5'-10"
408	4	12"	II	3	6'-10"	3	11'-10"	3	16'-10"	3	16'-10"
409	4	8"	II	6	5'-10"	6	10'-10"	6	15'-10"	6	15'-10"
410	4	11"	VII	7	8'-10"	7	13'-10"	7	18'-10"	7	8'-10"
411	4	11"	II	3	5'-2"	3	5'-2"	3	5'-2"	3	10'-2"
412	4	11"	II	3	2'-9"	3	2'-9"	3	2'-9"	3	2'-9"
413	4	9"	II	7	10'-10"	7	10'-10"	7	15'-10"	7	15'-10"
501	5	5/16"	IV	11	3'-4"	22	3'-4"	33	3'-4"	22	3'-4"
502	5	5/16"	III	11	11'-5"	11	11'-5"	11	11'-5"	11	11'-5"
503	5	5/16"	II	5	3'-6"	16	3'-6"	27	3'-6"	6	3'-6"
504	5	5/16"	IX	7	3'-6"	7	3'-6"	7	3'-6"	7	8'-4"
601	6	2 1/2"	V	2	8'-10"	2	8'-10"	2	8'-10"	4	8'-10"
8BBS				1	5'-10"	1	10'-10"	1	10'-10"	1	15'-10"

TABLE TWO ~ BARS AND QUANTITIES VARIABLE WITH "H"

H"	LENGTH	REGULAR		DROP BOX		L = 5 FT.		L = 10 FT.		L = 15 FT.		
		NO. REQ'D.	CONC. CU. YDS.	NO. REQ'D.	CONC. CU. YDS.	CONC. CU. YDS.	STEEL LBS.	CONC. CU. YDS.	STEEL LBS.	CONC. CU. YDS.	STEEL LBS.	
3'-0"	2'-8"	1-8"	10	7	10	7	3.2	285	5.3	497	7.4	706
3'-6"	3'-2"	2'-2"	10	7	10	7	3.4	305	5.7	528	7.9	747
4'-0"	3'-8"	2'-8"	12	9	12	9	3.7	326	6.0	559	8.4	798
4'-6"	4'-2"	3'-2"	12	9	12	9	3.9	334	6.4	571	8.8	803
5'-0"	4'-8"	3'-8"	14	11	14	11	4.1	354	6.7	602	9.3	844
5'-6"	5'-2"	4'-2"	16	13	16	13	4.4	375	7.0	607	7.4	850
6'-0"	5'-8"	4'-8"	16	13	16	13	4.6	392	6.2	616	7.6	860
6'-6"	6'-2"	5'-2"	18	15	18	15	4.8	402	6.4	637	7.8	880
7'-0"	6'-8"	5'-8"	20	17	20	17	5.0	423	6.6	654	8.0	897
7'-6"	7'-2"	6'-2"	20	17	20	17	5.2	430	6.9	664	8.3	907
8'-0"	7'-8"	6'-8"	22	19	22	19	5.5	451	7.1	684	8.5	927
8'-6"	8'-2"	7'-2"	24	21	24	21	5.7	471	7.3	702	8.7	944
9'-0"	8'-8"	7'-8"	24	21	24	21	6.0	479	7.6	711	9.0	954
9'-6"	9'-2"	8'-2"	26	23	26	23	6.2	499	7.8	732	9.2	974
10'-0"	9'-8"	8'-8"	28	25	28	25	6.4	520	8.0	749	9.4	992
10'-6"	10'-2"	9'-2"	28	25	28	25	6.7	527	8.3	759	9.7	1001
11'-0"	10'-8"	9'-8"	30	27	30	27	6.9	547	8.5	779	9.9	1022

Computer File Information
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 Last Modification Date: 07/31/19
 Detailer Initials: LTA
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

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 Date: _____ Comments: _____

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 Phone: 303-757-9021 FAX: 303-757-9868
 Project Development Branch JKB

CURB INLET TYPE R
 STANDARD PLAN NO. M-604-12
 Standard Sheet No. 2 of 2
 Project Sheet Number: _____

GENERAL NOTES:
 1. INLET TYPE D IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
 2. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
 3. SEE PLANS FOR SIZE AND LOCATION OF PIPE.
 4. STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
 5. STANDARD INLET GRATES SHALL BE USED ON ALL TYPE D INLETS UNLESS CLOSE MESH GRATES ARE SPECIFIED ON THE PLANS.
 6. CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
 7. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FEET-6 INCHES AND SHALL CONFORM WITH AASHTO M 199.
 8. REINFORCING BARS SHALL BE GRADE 60, EPOXY COATED, AND DEFORMED #4, AND SHALL HAVE A 2 INCH MIN. CLEARANCE. CUT OR BEND BARS AROUND PIPE AS REQUIRED.
 9. ALL INLETS SHALL HAVE A 4 INCH DIA. METAL MEDALLION WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND. IT SHALL BE FIRMLY ATTACHED TO THE INLET'S SURFACE WITH A PERMANENT FASTENER.

QUANTITIES FOR ONE INLET

H	CONCRETE (CU. YDS.)	STEEL (LBS.)	NO. STEPS REQ'D.
2'-0"	1.0	76	0
3'-0"	1.1	81	0
3'-6"	1.2	97	0
4'-0"	1.3	102	1
4'-6"	1.5	117	2
5'-0"	1.6	123	2
5'-6"	1.7	138	2
6'-0"	1.9	143	3
6'-6"	2.0	159	3
7'-0"	2.1	164	3
7'-6"	2.2	180	4
8'-0"	2.4	185	4
8'-6"	2.5	200	4
9'-0"	2.6	206	5
9'-6"	2.8	221	5
10'-0"	2.9	236	6
11'-0"	3.3	252	6

Computer File Information
 Creation Date: 07/31/19
 Designer Initials: JKB
 Last Modification Date: 07/31/19
 Detailer Initials: LTA
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

Sheet Revisions
 Date: _____ Comments: _____

Colorado Department of Transportation
 2829 West Howard Place
 CDOT HQ, 3rd Floor
 Denver, CO 80204
 Phone: 303-757-9021 FAX: 303-757-9868
 Project Development Branch JKB

INLET, TYPE D
 STANDARD PLAN NO. M-604-11
 Standard Sheet No. 1 of 1
 Project Sheet Number: _____

GENERAL NOTES:
 1. INLET TYPE C IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
 2. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
 3. REINFORCING BARS SHALL BE GRADE 60, EPOXY COATED, AND DEFORMED #4, AND SHALL HAVE A MIN. 2 INCH CLEARANCE. CUT OR BEND AROUND PIPES AS REQUIRED.
 4. CONCRETE SLOPE AND DITCH PAVING SHALL BE IN ACCORDANCE WITH SECTION 501 REINFORCEMENT FOR CONCRETE SLOPE PAVING SHALL BE 6 X 6 - W14 X W14 OR 6 X 6 - W21 X W21.
 5. STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
 6. THE STANDARD INLET GRATES SHALL BE USED ON ALL TYPE C INLETS UNLESS CLOSE MESH INLET GRATES ARE SPECIFIED ON THE PLANS.
 7. CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
 8. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FEET-6 INCHES AND SHALL CONFORM WITH AASHTO M 199.
 9. SEE STANDARD PLAN M-604-11 FOR REINFORCEMENT AROUND THE PIPE OPENING.
 10. ALL INLETS SHALL HAVE A 4 INCH DIA. METAL MEDALLION WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND. IT SHALL BE FIRMLY ATTACHED TO THE TOP OF THE INLET WITH A PERMANENT FASTENER.

QUANTITIES FOR ONE INLET

MARK	NO. REQ'D.	HEIGHT	LENGTH
401	2	2'-2 1/2"	8'-0"
402	4	2'-7"	8'-8"
402	4	4'-0"	15'-4"

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Sheet Revisions
 Date: _____ Comments: _____

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 Project Development Branch JKB

INLET, TYPE C
 STANDARD PLAN NO. M-604-10
 Standard Sheet No. 1 of 1
 Project Sheet Number: _____

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
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STERLING RANCH FILING 4
 DETAIL SHEETS

SHEET 12 OF 14
 JOB NO. 25188.11

ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING

DATE _____

PIPE ID

48" AND SMALLER	8"-4"
54"	6"-10"
60" AND LARGER	OD + 16"

NOTES

- TYPE I MANHOLE SHALL BE USED WHEN APPROPRIATE AND TYPICALLY FOR PIPE SIZES LARGER THAN 30 INCHES I.D.
- VIEW AND DETAILS SHOWN ARE TYPICAL FOR STRAIGHT THROUGH DESIGN ONLY. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
- EITHER LADDER OR STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.
- FLOOR OF MANHOLE SHALL BE TROWELED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1 MAX., 1/2" PER FT. MIN.). FLOOR SHALL BE SHAPED AND CHANNELLED; SEE SD_3-2 FOR TYPICAL CHANNEL DETAILS.

SCALE: NOT TO SCALE

DATE APPROVED: 7/9/09
 Storm Sewer Manhole Detail Type I Standard Drawing
 André Brackin
 DEPARTMENT OF TRANSPORTATION

NOTES

- TYPE II MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.
- VIEW AND DETAILS ARE TYPICAL DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
- EITHER LADDER OR STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.
- PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.
- BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., 1/2" PER FOOT, MIN.).
- FLOOR OF MANHOLE SHALL BE TROWELED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1, 1/2" PER FT. MIN.). FLOOR SHALL BE SHAPED AND CHANNELLED; SEE DETAILS THIS SHEET.

SCALE: NOT TO SCALE

DATE APPROVED: 11/10/04
 Storm Sewer Manhole Detail Type II Standard Drawing
 André P. Brackin
 DEPARTMENT OF TRANSPORTATION

SCALE: NOT TO SCALE

DATE APPROVED: 9/16/10
 Storm Sewer Manhole Details Standard Drawing
 André P. Brackin
 DEPARTMENT OF TRANSPORTATION

NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SUPPLEMENTAL SPECIFICATIONS APPLICABLE TO THE PROJECT.
- PRECAST RISERS SHALL CONFORM TO ASTM 2428.
- STEPS SHALL BE CAST IRON OR EXTRUDED ALUMINUM, 1000 LB CAPACITY, 12" WIDE WITH NON-SKID GROOVES AND DRIP FRONT ON SAFETY NOSES, IN ACCORDANCE WITH APPROVED OSHA REQUIREMENTS.

SCALE: NOT TO SCALE

DATE APPROVED: 8/11/11
 Storm Sewer Manhole Riser and Cover Detail Standard Drawing
 André P. Brackin
 DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

- CONCRETE SHALL BE CLASS B.
- HEADWALL SHALL BE PERPENDICULAR TO THE PIPE UNLESS OTHERWISE SHOWN ON THE PLANS. TABULATED DIMENSIONS AND QUANTITIES MUST BE ADJUSTED FOR SKEWED INSTALLATIONS.
- FOR WINDOW WALL DETAILS, SEE STANDARD PLAN M-601-20.
- VOLUME OCCUPIED BY PIPE HAS BEEN DEDUCTED FROM STEEL AND CONCRETE QUANTITIES.
- EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1/4" IN.
- ALL REINFORCING BARS SHALL HAVE A 2 IN. MINIMUM CLEARANCE.
- WHEN TWO OR MORE PIPES ARE LAID SIDE BY SIDE, THEY SHALL BE PLACED SO THAT THE ADJACENT PIPES WILL BE 1/2" INSIDE DIAMETER APART, OR 1/2" INSIDE SPAN APART, OR 3 FT. APART (INCLUDING WALL THICKNESS), WHICHEVER IS LESS.
- ADD 0.89 x (X OR X1) (LB.) WHEN APRON IS REQUIRED.

HEADWALL FOR SINGLE PIPE

EQUIV. No.	SPAN IN.	RISE IN.	DIMENSIONS			CONCRETE				STEEL															
			X	A	A1	CU. YD.	DBL.	SGL.	DBL.	SGL.															
54	65	8-9	8 1/2	15-6	7	9-2	17	20	2.12	3.55	209	364	60	72	9-6	7	17-0	10	9-8	11	21	2.35	3.99	236	414

HEADWALL FOR DOUBLE PIPE

EQUIV. No.	SPAN IN.	RISE IN.	DIMENSIONS			CONCRETE				STEEL															
			X	A	A1	CU. YD.	DBL.	SGL.	DBL.	SGL.															
66	79	10-3	11 1/2	18-6	7	10-2	14	22	2.60	4.44	249	453	72	86	11-0	10	20-0	10	10-8	17	23	2.85	4.91	270	476

HEADWALL FOR RIGID ROUND PIPE

EQUIV. No.	SPAN IN.	RISE IN.	DIMENSIONS			CONCRETE				STEEL															
			X	A	A1	CU. YD.	DBL.	SGL.	DBL.	SGL.															
84	103	11-9	8 1/2	21-3	11	11-2	11	24	3.11	5.29	306	527	84	100	12-6	7	22-6	7	11-8	14	25	3.38	5.68	333	572

HEADWALL FOR FLEXIBLE PIPE ARCH

EQUIV. No.	SPAN IN.	RISE IN.	DIMENSIONS			CONCRETE				STEEL															
			X	A	A1	CU. YD.	DBL.	SGL.	DBL.	SGL.															
72	81	59	10-9	8 1/2	20-6	7	9-3	17 1/2	2.72	5.10	250	467	78	87	63	11-3	10 1/2	21-8	7	9-7	10 1/2	2.85	5.34	275	531

HEADWALL FOR FLEXIBLE ROUND PIPE

EQUIV. No.	SPAN IN.	RISE IN.	DIMENSIONS			CONCRETE				STEEL															
			X	A	A1	CU. YD.	DBL.	SGL.	DBL.	SGL.															
84	95	67	11-9	8 1/2	22-10	9	9-11	12 1/2	3.08	5.79	290	547	90	103	71	12-7	7 1/2	24-2	11	10-3	15	3.30	6.21	321	591

HEADWALL FOR STRUCTURAL PLATE ARCH

EQUIV. No.	SPAN IN.	RISE IN.	DIMENSIONS			CONCRETE				STEEL														
			X	A	A1	CU. YD.	DBL.	SGL.	DBL.	SGL.														
66	6-1	4-7	10-1	10 1/4	19-2	11	8-11	15 1/2	2.52	4.70	233	424	74	7-0	5-1	11-0	10	21-0	9-5	9 1/2	2.80	5.25	282	509

SKIEW FACTOR TABLE

SKIEW ANGLE A°	90	85	80	75	70	65	60	55	50	45	40	35	30
FACTOR (cos²A°)	1.000	1.004	1.015	1.035	1.064	1.103	1.155	1.221	1.305	1.414	1.556	1.743	2.000

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
 COLORADO P.E. 32314
 FOR AND ON BEHALF OF JR ENGINEERING

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE FOR PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
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STERLING RANCH FILING 4
 DETAIL SHEETS

DATE: 04/25/23
 DESIGNED BY: N/A
 DRAWN BY: GAG
 CHECKED BY:

SHEET 13 OF 14
 JOB NO. 25188.11

Box Elevation, Typical Section, Typical Culvert Layout, Design Data, Computer File Information, Sheet Revisions, Colorado Department of Transportation, WINGWALLS FOR PIPE OR BOX CULVERTS, STANDARD PLAN NO. M-601-20, Standard Sheet No. 1 of 2

c-BARS AND REINFORCING STEEL QUANTITY (EXCLUDE TOE WALL), * REINFORCING STEEL QUANTITY INCLUDES STEM AND FOOTING QUANTITIES, BUT DOES NOT INCLUDE TOE WALL QUANTITIES, Computer File Information, Sheet Revisions, Colorado Department of Transportation, WINGWALLS FOR PIPE OR BOX CULVERTS, STANDARD PLAN NO. M-601-20, Standard Sheet No. 2 of 2

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE FOR PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION. PREPARED FOR SR LAND, LLC, 20 BOULDER CRESCENT SUITE 201, COLORADO SPRINGS, CO 80903, JAMES F. MORLEY (719) 471-1742. J.R. ENGINEERING A Westman Company, Centennial 303-740-0888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com

GENERAL STRUCTURE NOTES:

ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OR COUNTY STANDARD CONSTRUCTION SPECIFICATIONS. EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH CDOT M-206-1, AND M-206-2 EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213... THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND PROVIDING ALL BRACING AND SHORING AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE EXCAVATION PROCEDURES INCLUDING ANY SHORING REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL METHODS AND MEANS OF CONSTRUCTION AS WELL AS ALL JOB SITE SAFETY & HEALTH PRECAUTIONS. ALL SOILS WORK INCLUDING (BUT NOT LIMITED TO) PIER DRILLING AND CONSTRUCTION, SOILS EXCAVATION, FILL PLACEMENT, AND STRUCTURE BACKFILL SHALL BE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, UNLESS MORE STRINGENT REQUIREMENTS ARE PRINTED ON THE "IRRIGATION NOTES".

BACKFILL SHALL NOT BEGIN UNTIL CONCRETE WALLS REACH COMPRESSION STRENGTH AT LEAST 80 PERCENT OF THE REQUIRED 28 DAY STRENGTH, 0.8fc'.

REINFORCED CONCRETE: CLASS D CONCRETE: fc' = 4,500 psi REINFORCING STEEL: fy = 60,000 psi ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS D UNLESS NOTED OTHERWISE.

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 U.N.O. REINFORCING BARS TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60. ALL REINFORCING, EXCEPT PIER REINFORCING, SHALL BE EPOXY COATED AND SHALL CONFORM TO ASTM A775. ALL REINFORCING SHALL HAVE 2" CONCRETE COVER, U.N.O. ON PLANS, 3" AGAINST GROUND (BOTTOM SLAB) ALL REINFORCING SHALL BE HOOKED AROUND CORNERS AND LAPPED, SEE DETAILS. ALL LAP SPLICE LOCATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

THE FOLLOWING TABLE GIVES THE MINIMUM CLASS B (STAGGERED) LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACE IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER. INCREASED BY 40% FOR HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE BELOW (TOP BARS), AND INCREASED BY 75% IF BOTH CONDITIONS EXIST. THE INCREASES ABOVE FOR #6 THRU #11 BARS MAY BE 25%, 13%, AND 42% RESPECTIVELY.

Table with 2 columns: Bar Size, Splice Length. Values range from #4 1'-3" to #11 7'-3".

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS. THE MINIMUM LAP SPLICE SHALL BE AS DESCRIBED ABOVE.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

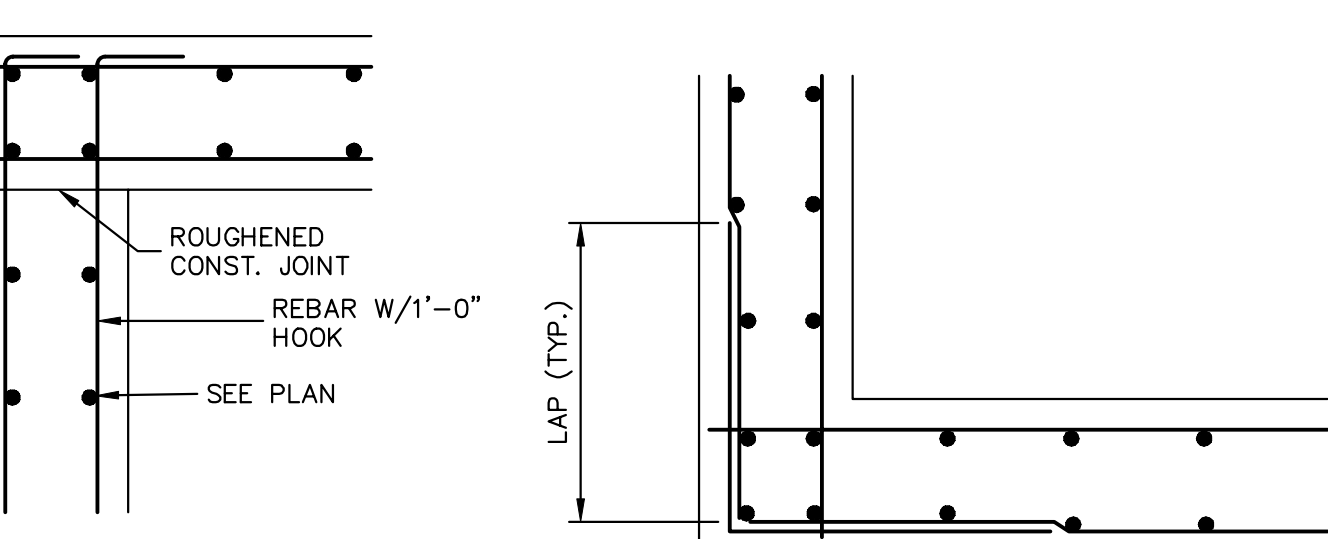
THE CONTRACTOR SHALL SUBMIT REINFORCING STEEL PLACING DRAWINGS (PRIOR TO CONSTRUCTION) TO THE ENGINEER FOR REVIEW FOR CONFORMANCE WITH THE DESIGN DRAWINGS. THE DESIGN DRAWINGS SHALL GOVERN OVER PLACING DRAWINGS IN ALL CASES UNLESS MODIFICATIONS ARE APPROVED IN WRITING BY ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

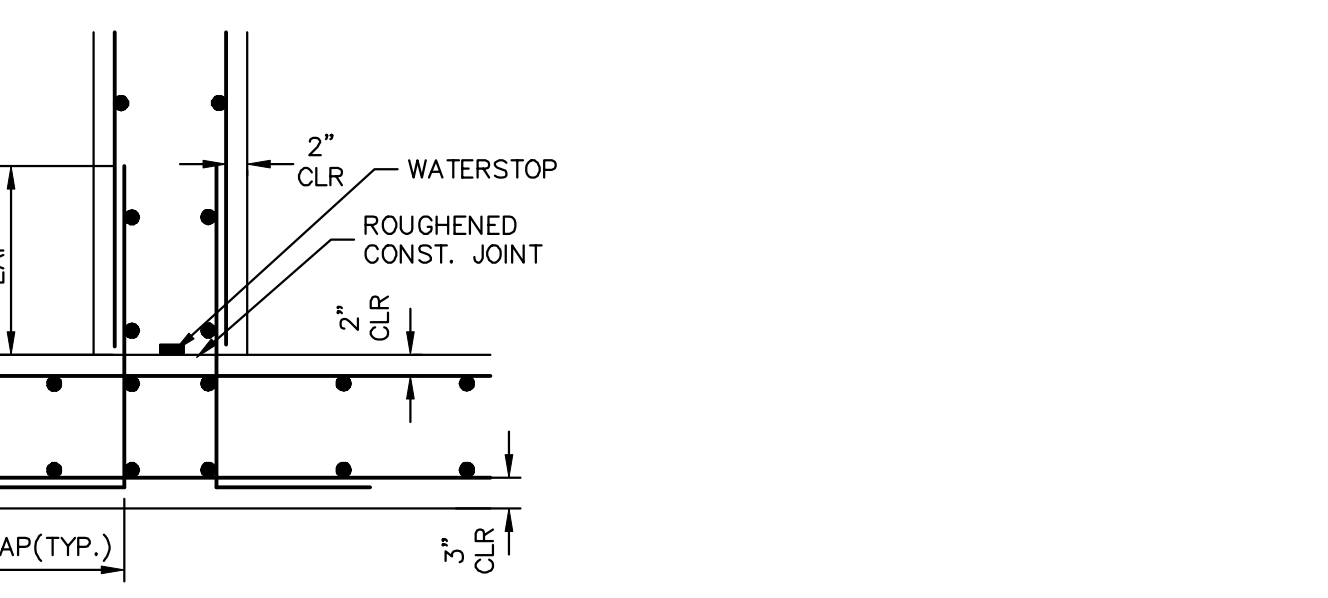
- E.F. = EACH FACE, F.E. = FAR FACE, N.F. = NEAR FACE, I.F. = INSIDE FACE, T.W. = TWO WAY, E.S. = EACH SIDE, O.F. = OUTSIDE FACE, T.&B. = TOP AND BOTTOM, T.F. = TOP FACE, B.F. = BOTTOM FACE, T.F. = TWO FACES, Lp = LAP LENGTH

CAST-IN-PLACE STRUCTURAL NOTES:

- ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS POURED.
- ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
- DO NOT BACKFILL UNTIL CONCRETE HAS REACHED DESIGN STRENGTH, Fc'.
- ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4".
- CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR ALL CAST-IN-PLACE STRUCTURES FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
- HEADWALLS FOR PIPES SHALL BE CONSTRUCTED PER CDOT M-601-10.
- WINGWALLS SHALL BE CONSTRUCTED PER CDOT M-601-20.



TYPICAL TOP CORNER WALL SECTION DETAIL, TYPICAL WALL CORNER PLAN VIEW



TYPICAL BOTTOM CORNER WALL SECTION DETAIL

ENGINEER'S STATEMENT: PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING. MIKE A. BRAMLETT, P.E., COLORADO P.E. 32314. FOR AND ON BEHALF OF JR ENGINEERING, INC. LOCAL ENGINEER. SHEET 14 OF 14, JOB NO. 25188.11