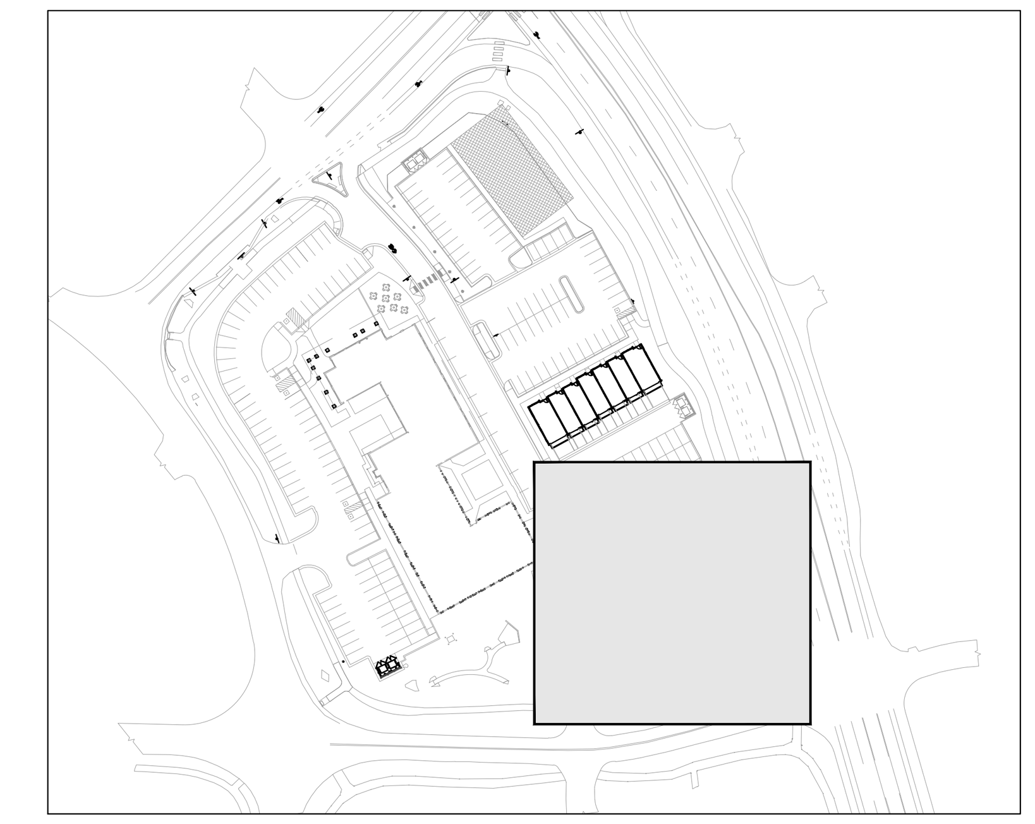
SEE SHEET C.202

NORTH

10 0 10 20 30

(IN FEET)
1 IN. = 10 FT.



KEY MAP
NOT TO SCALE

UTILITY PLAN LEGEND:

- EXISTING SANITARY SEWER W/ MH & C.O.
- EXISTING WATER
- PROPOSED SANITARY SEWER W/ MH & C.O.
- PROPOSED WATER PIPE
- PROPOSED GV, FH & CS
- PROPOSED STORM SEWER W/ FLARED END SECTION
- PROPOSED STORM INLET (CURB & AREA)
- PROPOSED STORM MANHOLE & CLEANOUT
- APPROX. PAVEMENT SAW CUT

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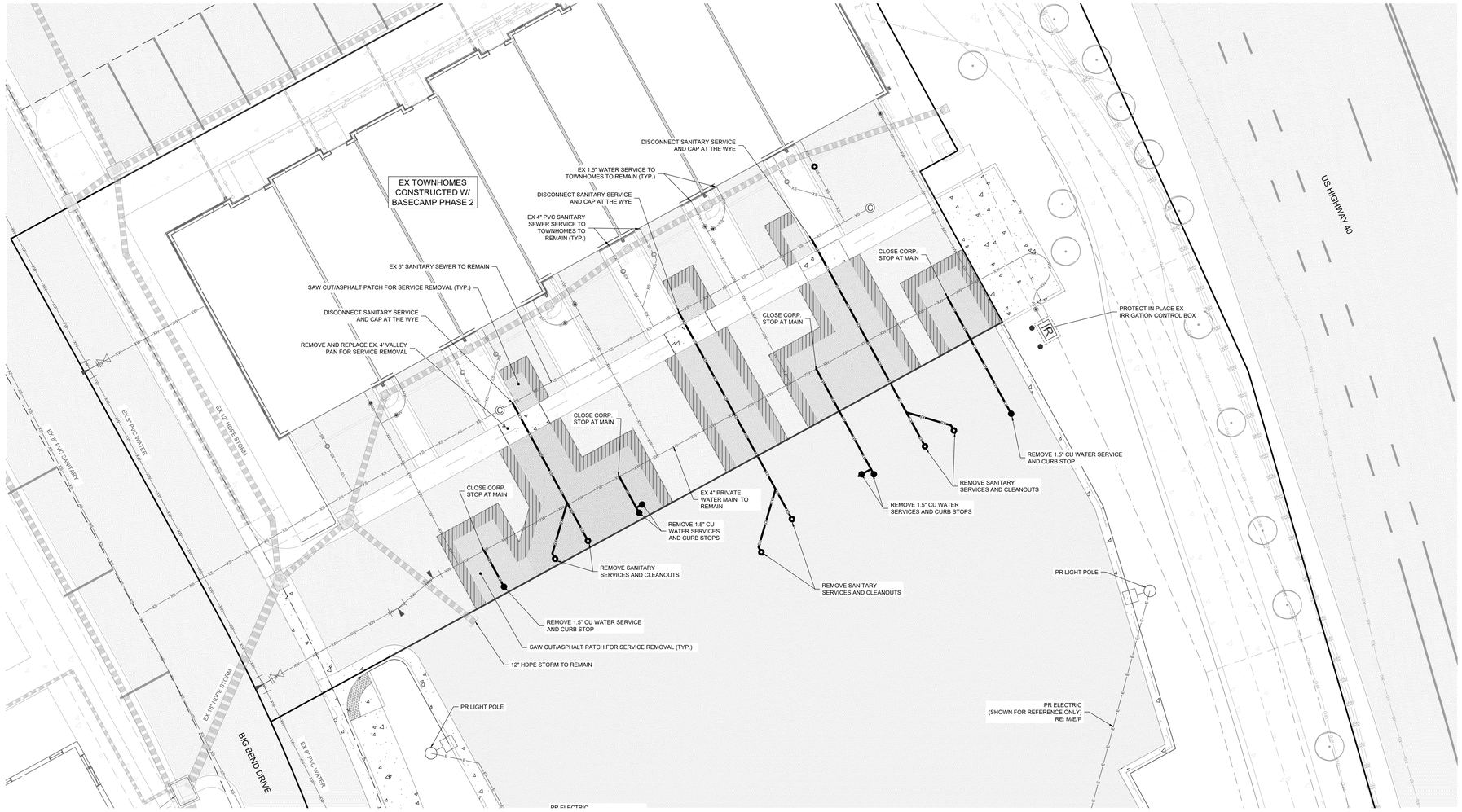
COLORADO LICENSED PROFESSIONAL ENGINEER
MICAH PATRICK GIBBONS
64423
3/13/26

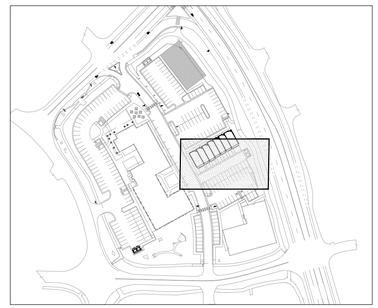
NO.	DATE:	BY:	DESCRIPTION:

PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential
Utility Plan
Lot 3

SHEET
C.201





SEE SHEET C.203

SEE SHEET C.201

UTILITY PLAN LEGEND:

EXISTING SANITARY SEWER W/ MH & C.O.	— XS — XS —(XS)— XS —©—
EXISTING WATER	— XW — XW — XW — XW —
PROPOSED SANITARY SEWER W/ MH & C.O.	— S —(SS)— S —©— S —
PROPOSED WATER PIPE	— W — W — W — W —
PROPOSED GV, FH & CS	⋈ ● ◉
PROPOSED STORM SEWER W/ FLARED END SECTION	▷▬▬▬
PROPOSED STORM INLET (CURB & AREA)	▤ ■
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APPROX. PAVEMENT SAW CUT	— //// — //// — //// — //// —

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COLORADO LICENSED PROFESSIONAL ENGINEER
MICAH PATRICK GIBBONS
64423
3/13/26

NO.	DATE:	BY:	DESCRIPTION:

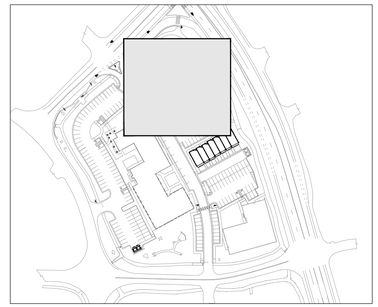
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential

Utility Plan
Water and Sewer Removals

SHEET
C.202

DRAWING FILENAME: P:\2387-008\DWGs\Production Drawings\Construction Documents\2387-008-CD-C.200 - Water and Sewer Plan.dwg LAYOUT NAME: C.202 DATE: Mar 13, 2026 - 4:50pm CAD OPERATOR: micah
LIST OF XREFS: [2387-008-xUtil] [2387-008-xBndy] [2387-008-xExist] [2387-008-xExist-Util] [2387-008-xSite] [xBORDER] [2387-008-xHatch] [2387-004-PR Surface] [2387-008-xExist-Hatch-Demo] [xUTIL_Leg] [XKEYMAP] [Gibbons Stamp Signed]



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PROPOSED SANITARY SEWER W/ MH & C.O.	— S — (SS) — S — Ⓒ — S —
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MICAH PATRICK GIBBONS
64423
3/13/26

NO.	DATE:	BY:	DESCRIPTION:

PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential

Utility Plan
Lot 2

SHEET
C.203

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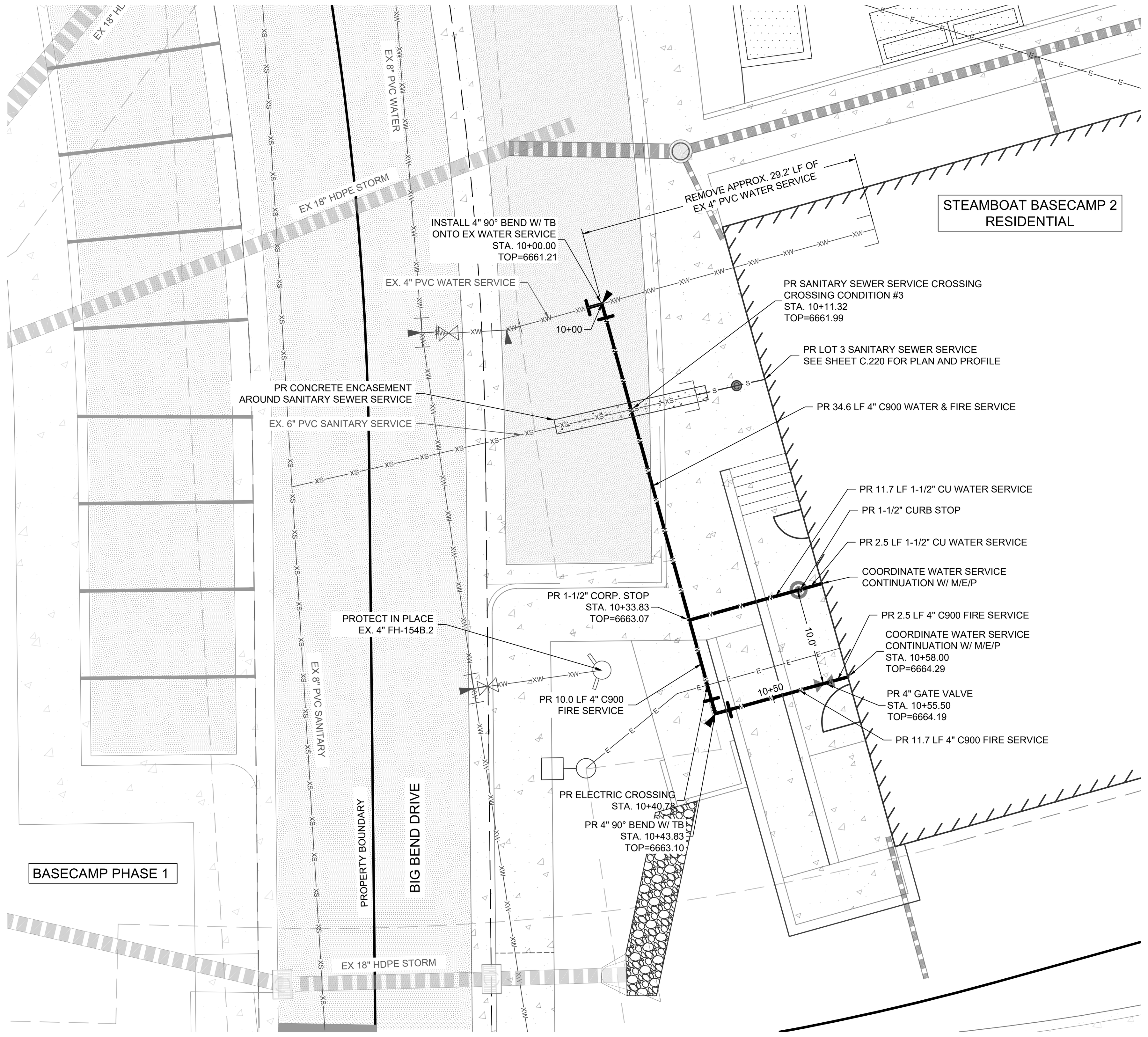
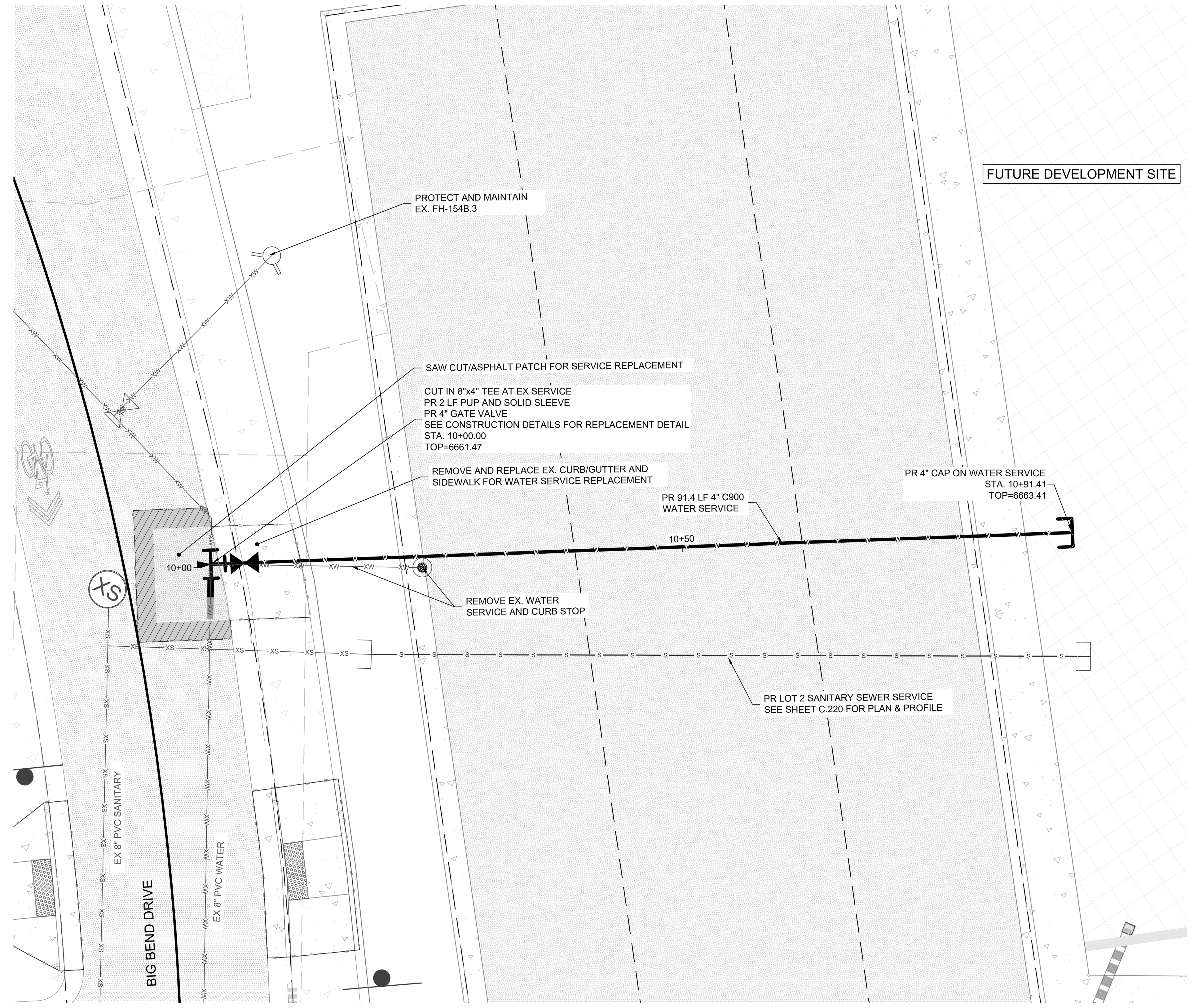
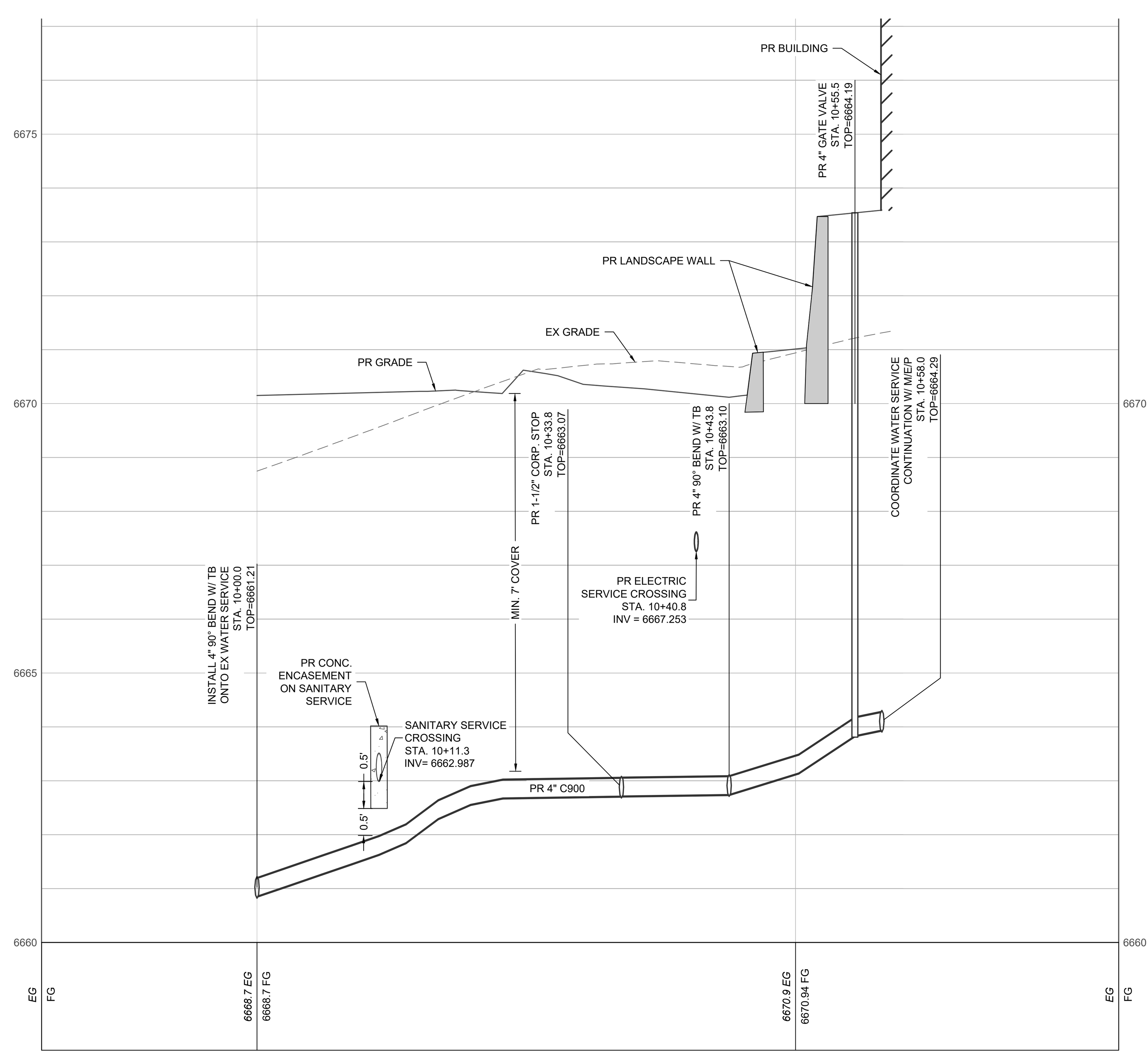




LOT 3 WATER SERVICE SERVICE PLAN & PROFILE

PROFILE SCALE: 1" = 10' (H) 1" = 2' (V)



LOT 2 WATER SERVICE SERVICE PLAN & PROFILE

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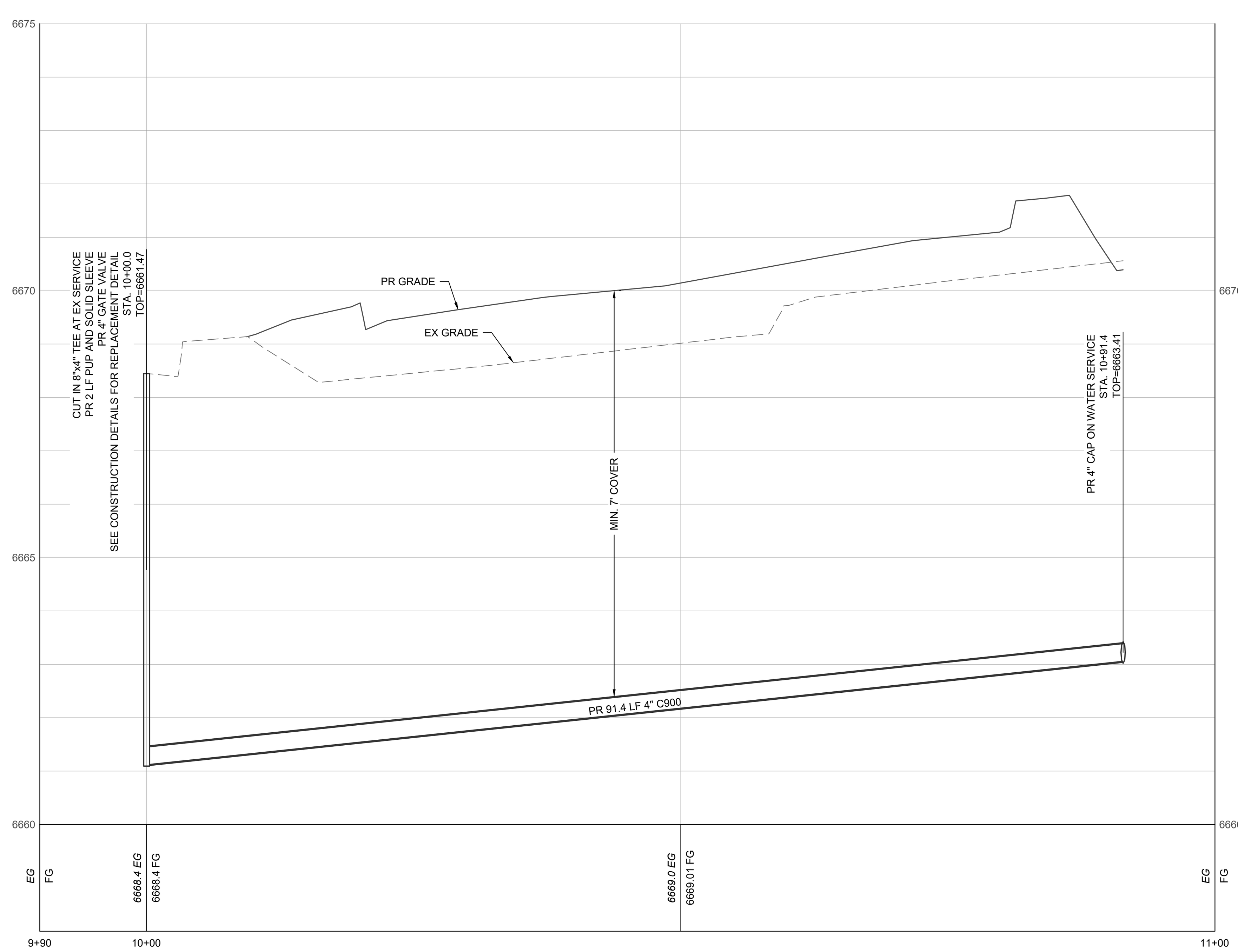
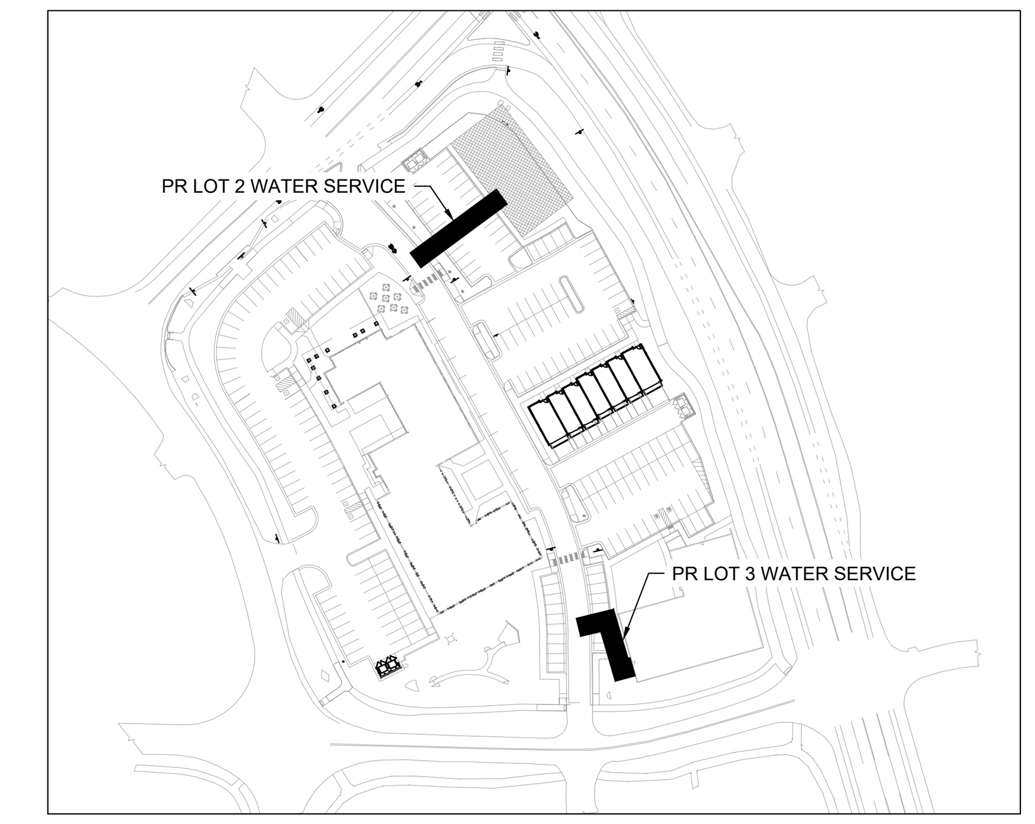


NORTH

10 0 10 20 30

(IN FEET)
1 IN. = 10 FT.



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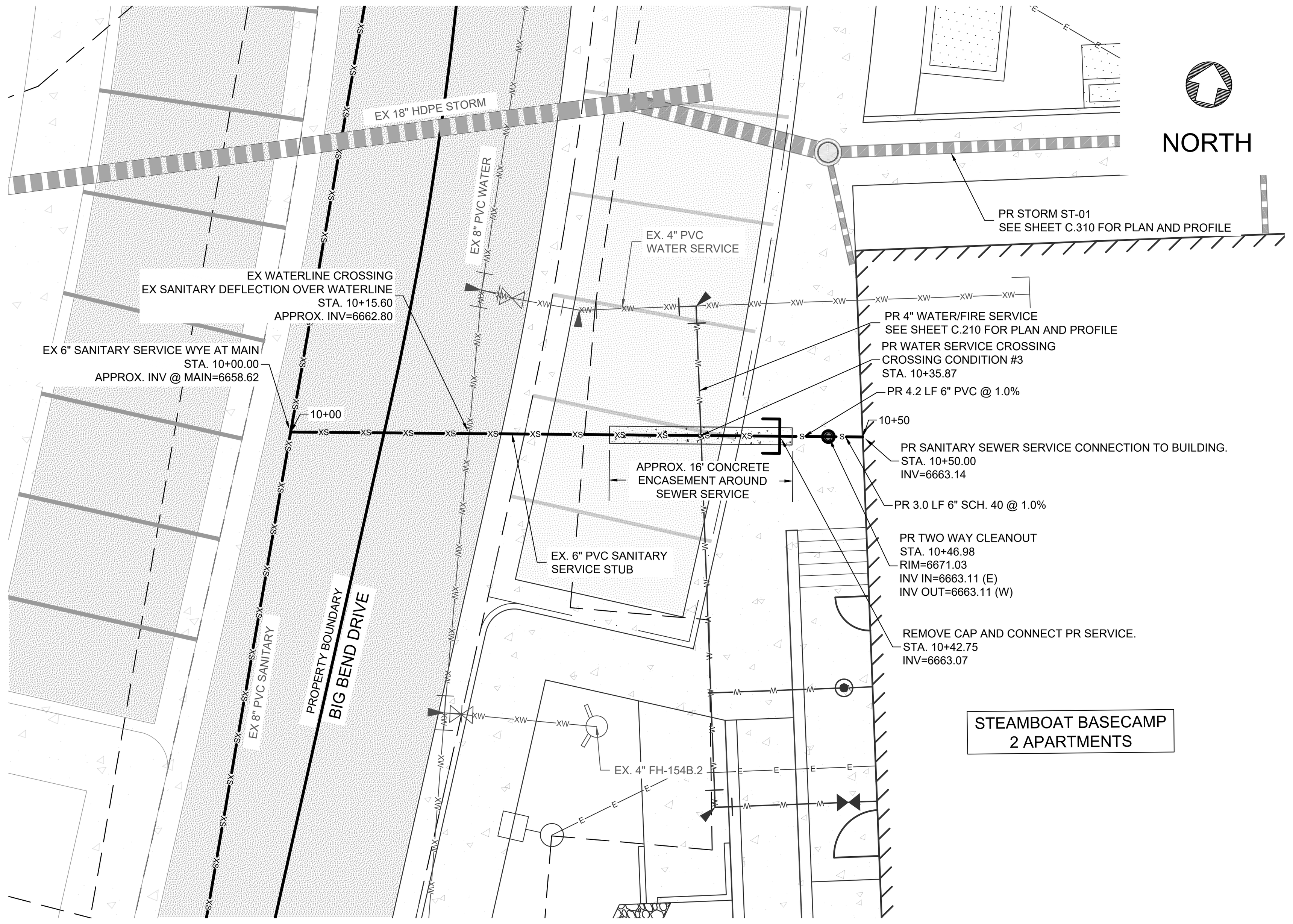
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

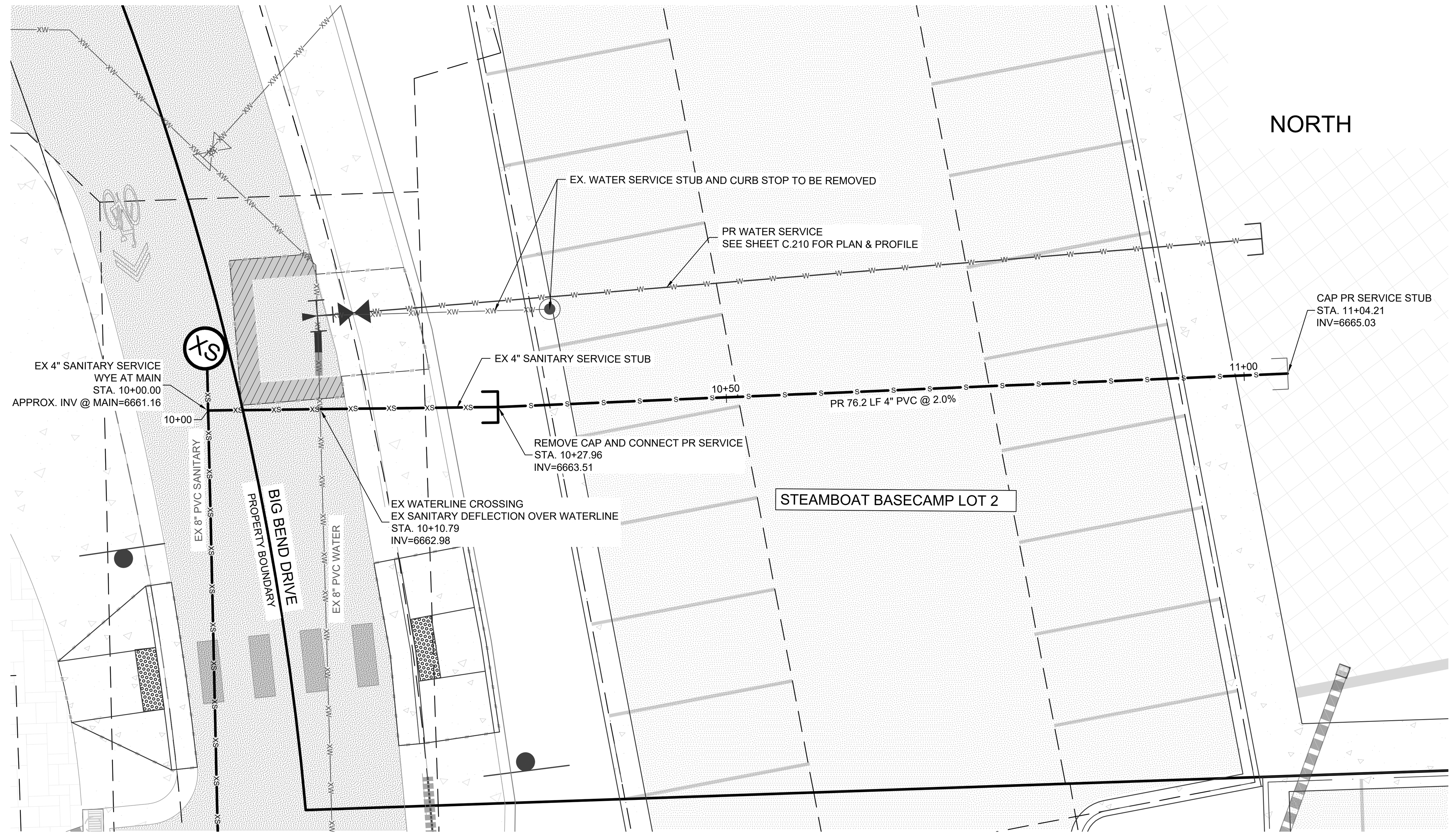
Steamboat Basecamp 2 Residential

Water Plan & Profile Lot 3

SHEET

C.210





LOT 3 SANITARY SEWER SERVICE PLAN & PROFILE

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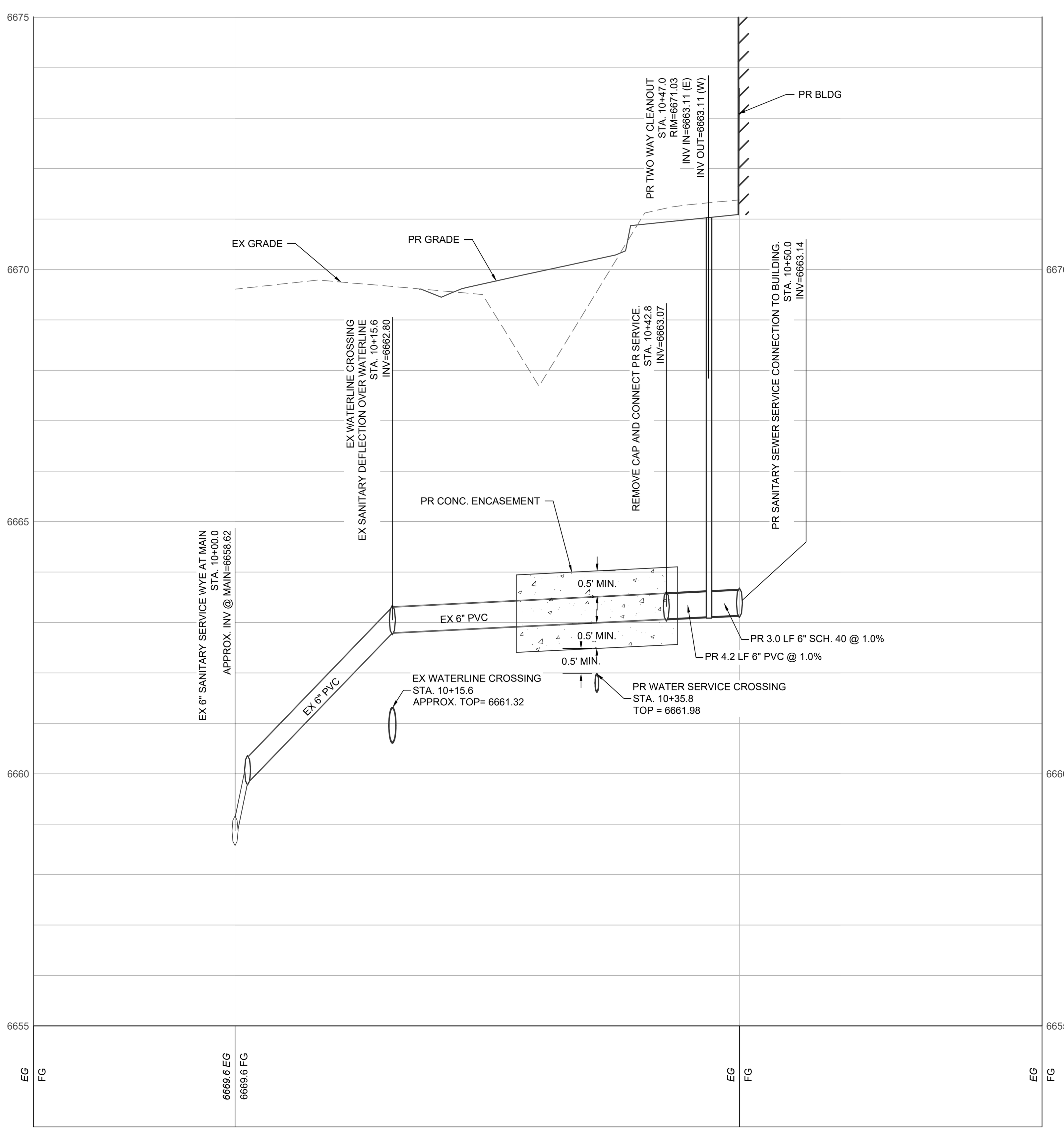

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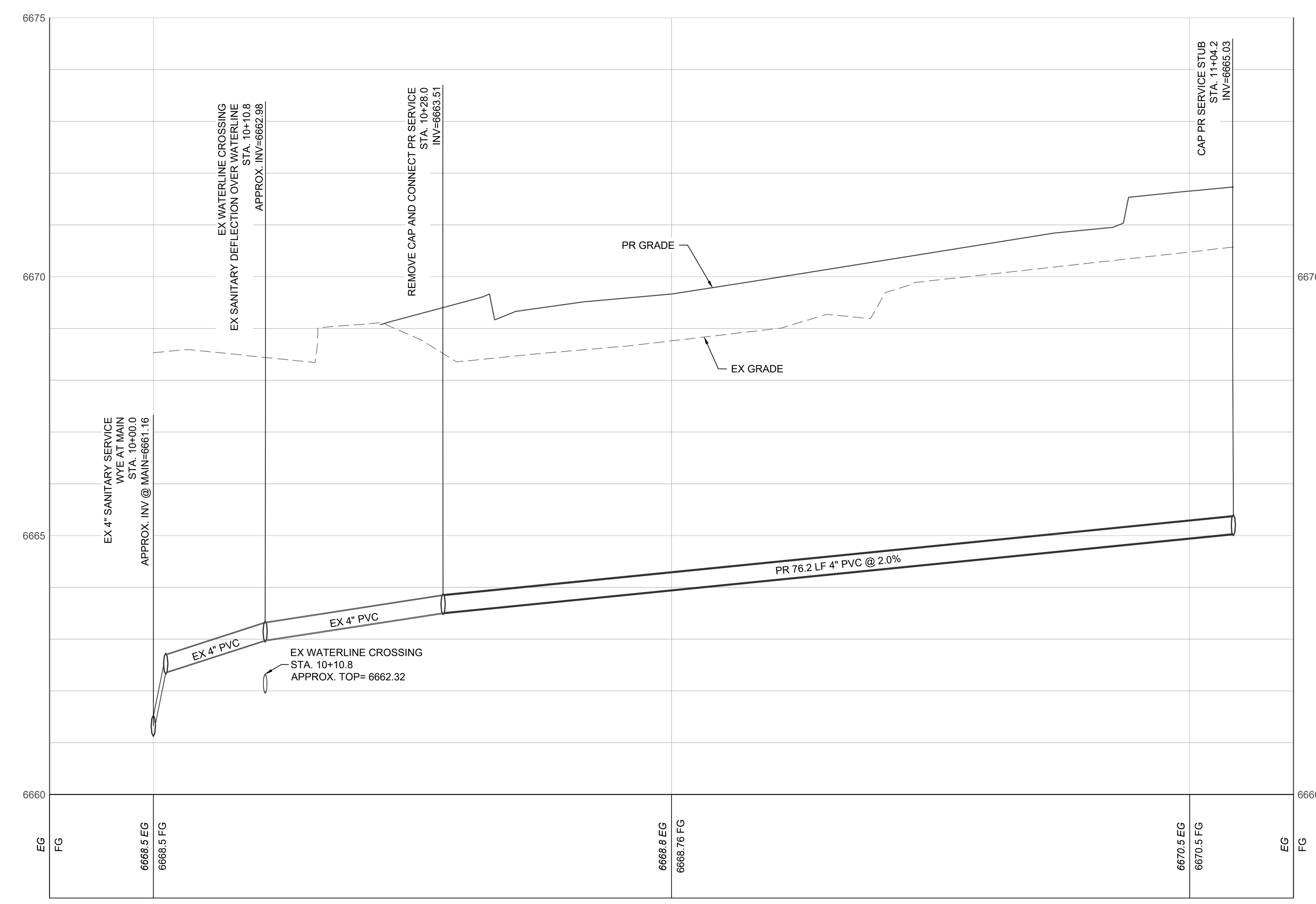

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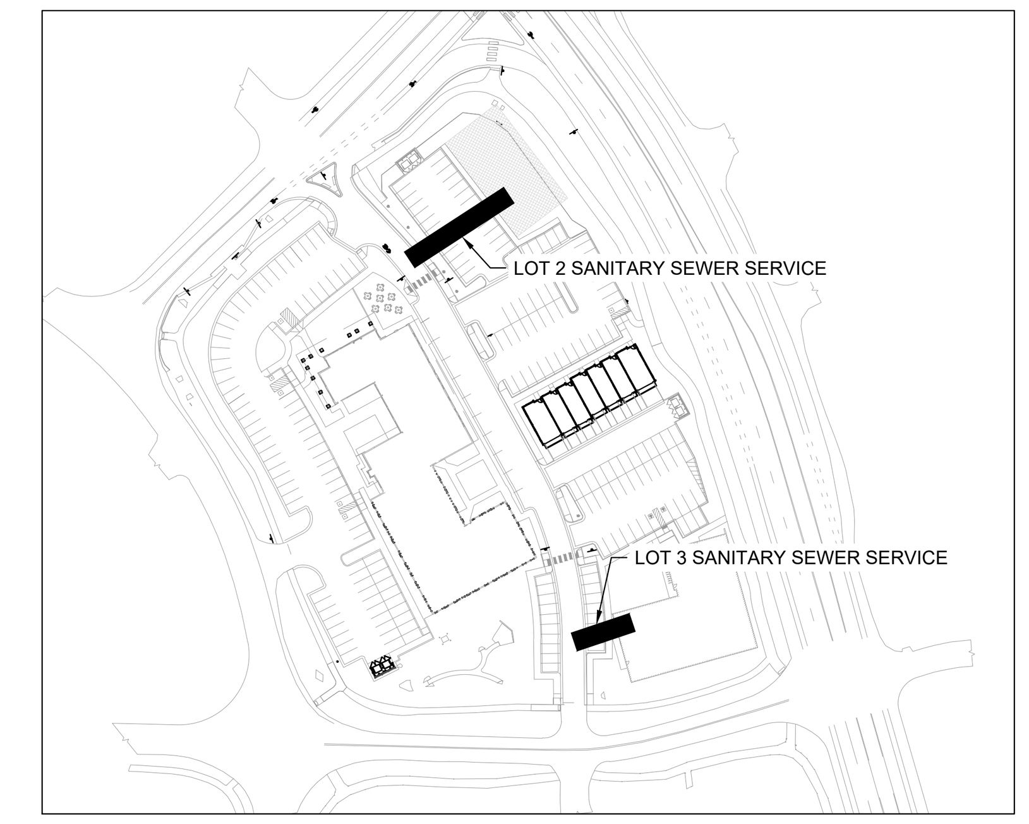

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10. ALL MATERIALS USED FOR BACKFILL SHALL BE FREE FROM REFUSE ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES OR FROZEN SOILS GREATER THAN 6-INCHES IN DIAMETER.
11. ALL TRENCHES SHALL BE COMPACTED TO 95% AS DETERMINED BY ASTM D698 (STANDARD PROCTOR) OR AS SPECIFIED BY GEOTECHNICAL ENGINEER.
12. ALL WATER MAINS AND SERVICES (4-INCHES AND LARGER DIAMETER) SHALL BE PVC, NOT D.I.P.
13. COORDINATE WATER/SEWER SERVICE AND PAVEMENT WORK DISRUPTIONS WITH OWNERS OF EX. TOWNHOMES AND CITY OF STEAMBOAT SPRINGS.

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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(970) 871-9494 ~ www.LANDMARK-CO.com

COLORADO LICENSED PROFESSIONAL ENGINEER 64423 3/13/26

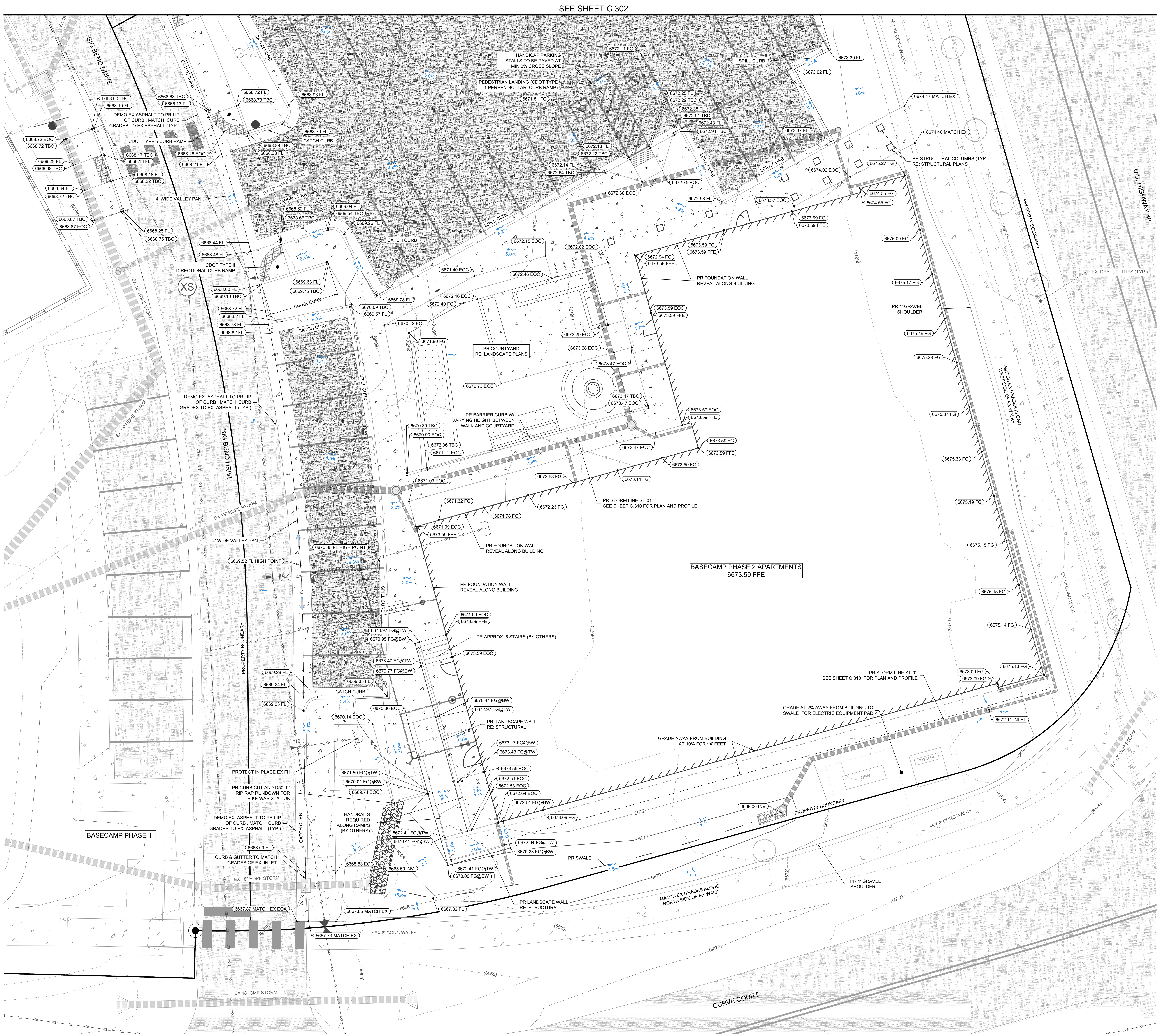
NO.	DATE:	BY:	DESCRIPTION:

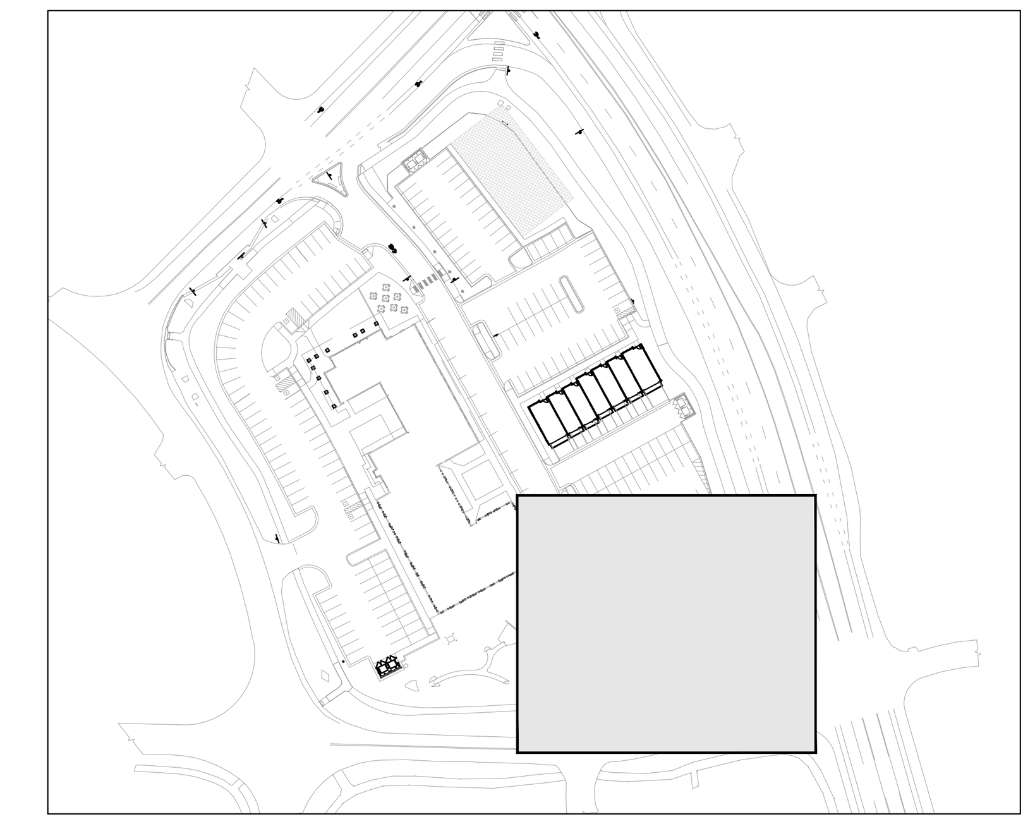
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micah@landmark-co.com

Steamboat Basecamp 2 Residential
Sanitary Sewer Plan & Profile

SHEET
C.220

SEE SHEET C.302





KEY MAP
NOT TO SCALE

LEGEND:

PROPOSED STORM SEWER W/ FLARED END SECTION	
PROPOSED STORM INLET (CURB & AREA)	
PROPOSED STORM MANHOLE & CLEANOUT	
EXISTING MAJOR CONTOUR	(6805)
EXISTING MINOR CONTOUR	
PROPOSED MAJOR CONTOUR	6805
PROPOSED MINOR CONTOUR	
PROPOSED SWALE	
PROPOSED CURB & GUTTER	
PROPERTY BOUNDARY	
SPOT ELEVATION	6790.50
PROPOSED OVERLAND FLOW DIRECTION W/ SLOPE	2.0%
STORM SEWER FLOW DIRECTION	
EX ASPHALT	
EX CONCRETE	
PR ASPHALT	
PR CONCRETE	

NOTES:

1. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR FOR ALL UNKNOWN UNDERGROUND UTILITIES.
2. PROJECT BENCHMARK: A RECOVERED NO.5 REBAR W/ ALUMINUM CAP STAMPED "LS 29039" HAVING AN ELEVATION OF 6667.80' BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS SHOWN HEREON.
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5. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS, UNLESS NOTED OTHERWISE. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.
6. CONTOUR INTERVAL = 2-FT

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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COLORADO LICENSED PROFESSIONAL ENGINEER
MICAH PATRICK GIBBONS
64423
3/13/26

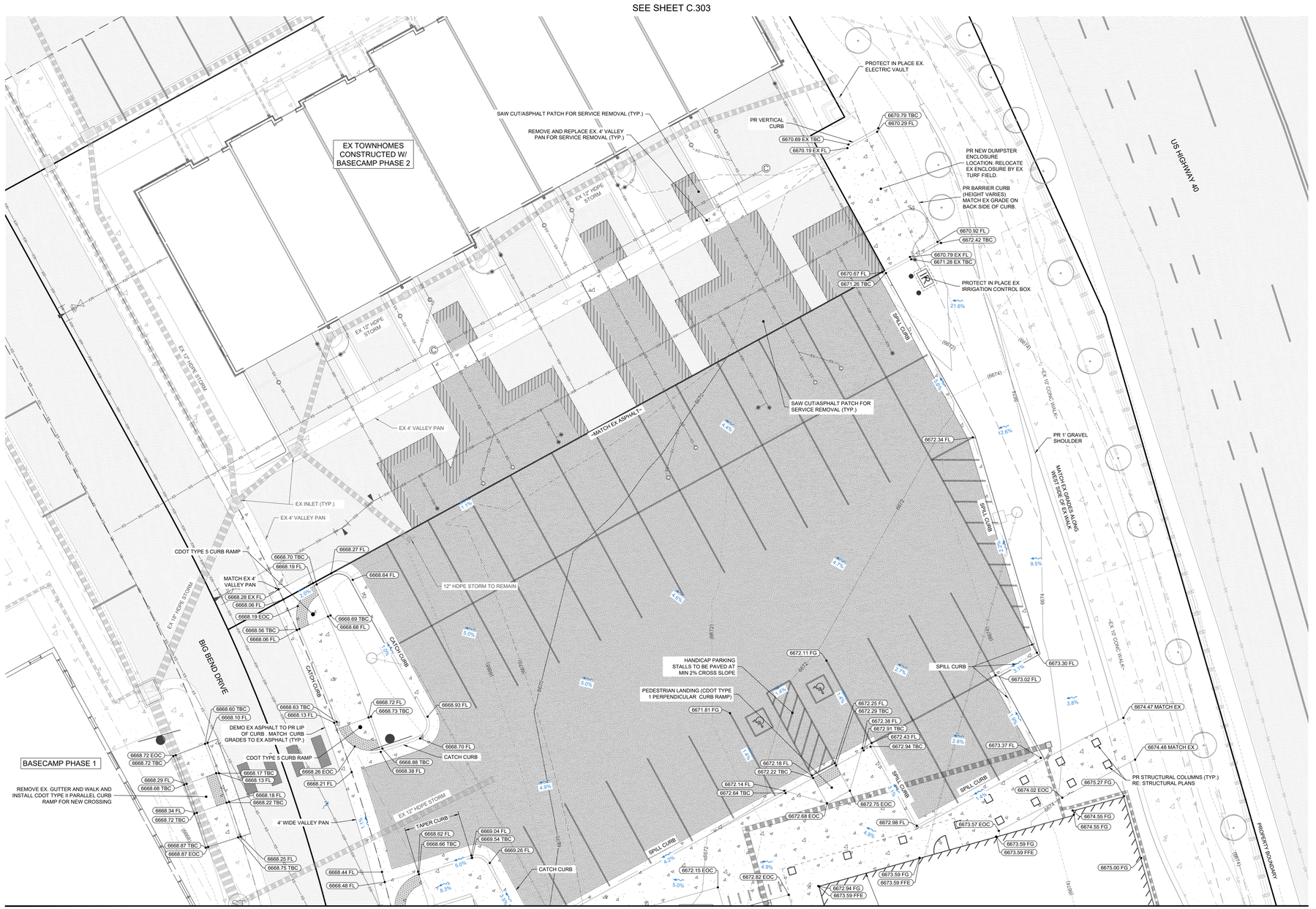
NO.	DATE:	BY:	DESCRIPTION:

PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential

Grading & Drainage Plan

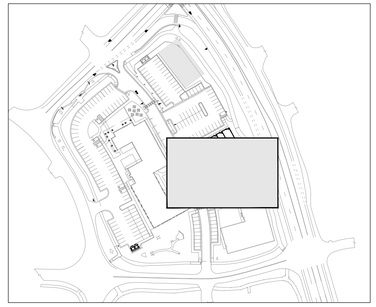
SHEET
C.301



NORTH

10 0 10 20 30

(IN FEET)
1 IN. = 10 FT.



KEY MAP
NOT TO SCALE

LEGEND:

PROPOSED STORM SEWER W/ FLARED END SECTION	▷▬▬▬
PROPOSED STORM INLET (CURB & AREA)	▬ ■
PROPOSED STORM MANHOLE & CLEANOUT	ST ⓒ
EXISTING MAJOR CONTOUR	— — —(6805)— — —
EXISTING MINOR CONTOUR	- - - - - -
PROPOSED MAJOR CONTOUR	——— 6805 ———
PROPOSED MINOR CONTOUR	———
PROPOSED SWALE	—— · · ——
PROPOSED CURB & GUTTER	═ · · ═
PROPERTY BOUNDARY	━━━
SPOT ELEVATION	6790.50
PROPOSED OVERLAND FLOW DIRECTION W/ SLOPE	← 2.0%
STORM SEWER FLOW DIRECTION	⇐
EX ASPHALT	▭
EX CONCRETE	▨
PR ASPHALT	▭
PR CONCRETE	▨

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MICAH PATRICK GIBBONS
64423
3/13/26

NO.	DATE:	BY:	DESCRIPTION:

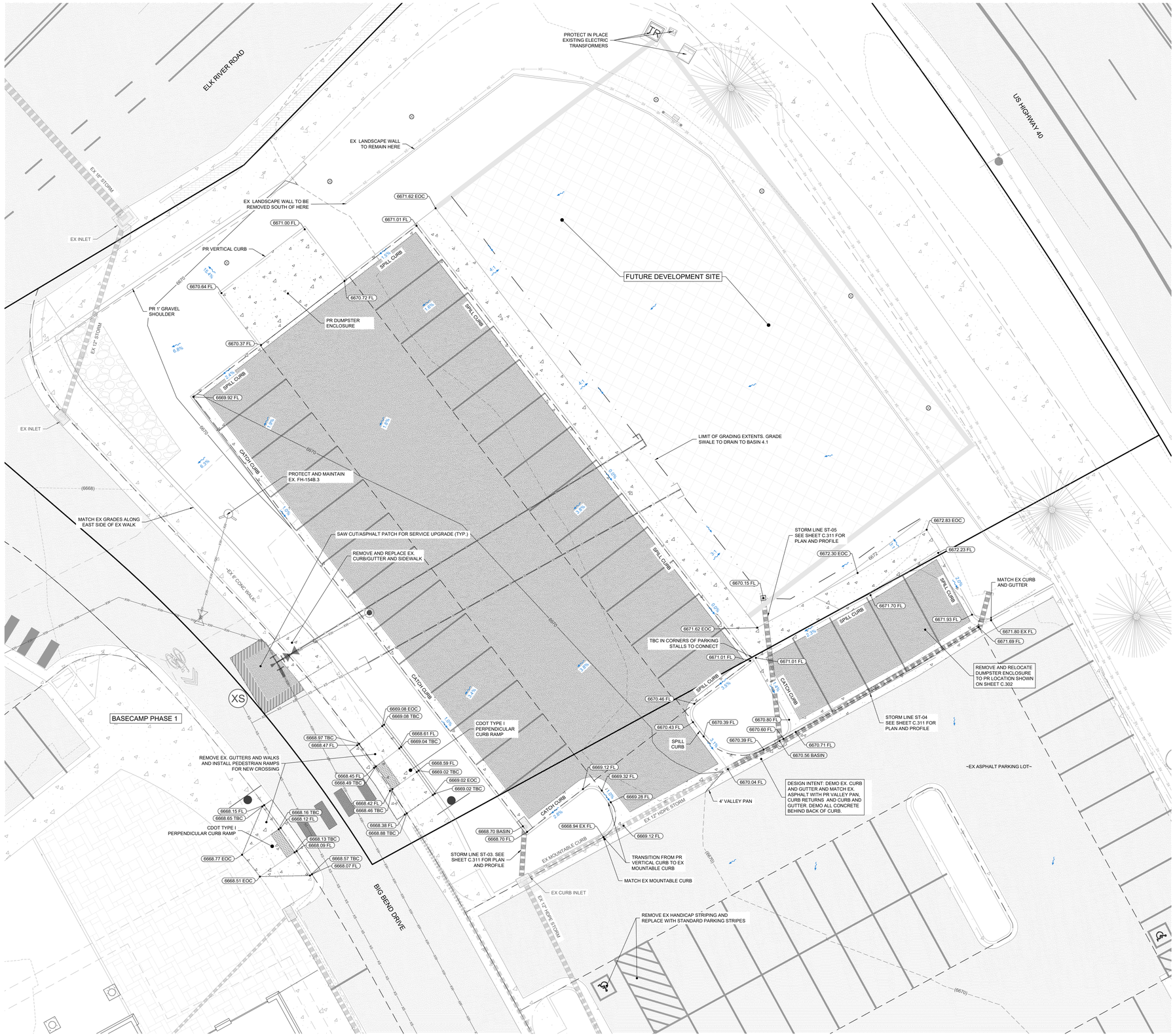
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential
Grading & Drainage Plan

SHEET
C.303

DRAWING FILENAME: P:\2387-008\DWGs\Production Drawings\Construction Documents\2387-008-CD-C.300-Grading & Drainage.dwg LAYOUT NAME: C.302 DATE: Mar 13, 2026 - 4:50pm CAD OPERATOR: micah

LIST OF XREFS: [2387-008-xUtil] [2387-008-xBndy] [2387-008-xExist] [2387-008-xExist-Util] [2387-008-xSite] [xGRAD_Leg] [xBORDER] [2387-008-xHatch] [2387-004-PR Surface] [XKEYMAP] [Gibbons Stamp Signed]



SEE SHEET C.302

NORTH

0 ## ##

(IN FEET)
1 IN. = ## FT.

KEY MAP
NOT TO SCALE

LEGEND:

PROPOSED STORM SEWER W/ FLARED END SECTION	
PROPOSED STORM INLET (CURB & AREA)	
PROPOSED STORM MANHOLE & CLEANOUT	ST ◎
EXISTING MAJOR CONTOUR	(6805)
EXISTING MINOR CONTOUR	
PROPOSED MAJOR CONTOUR	6805
PROPOSED MINOR CONTOUR	
PROPOSED SWALE	
PROPOSED CURB & GUTTER	
PROPERTY BOUNDARY	
SPOT ELEVATION	6790.50
PROPOSED OVERLAND FLOW DIRECTION W/ SLOPE	2.0%
STORM SEWER FLOW DIRECTION	⇦
EX ASPHALT	
EX CONCRETE	
PR ASPHALT	
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MICAH PATRICK GIBBONS
64423
3/13/26
PROFESSIONAL ENGINEER

NO.	DATE:	BY:	DESCRIPTION:

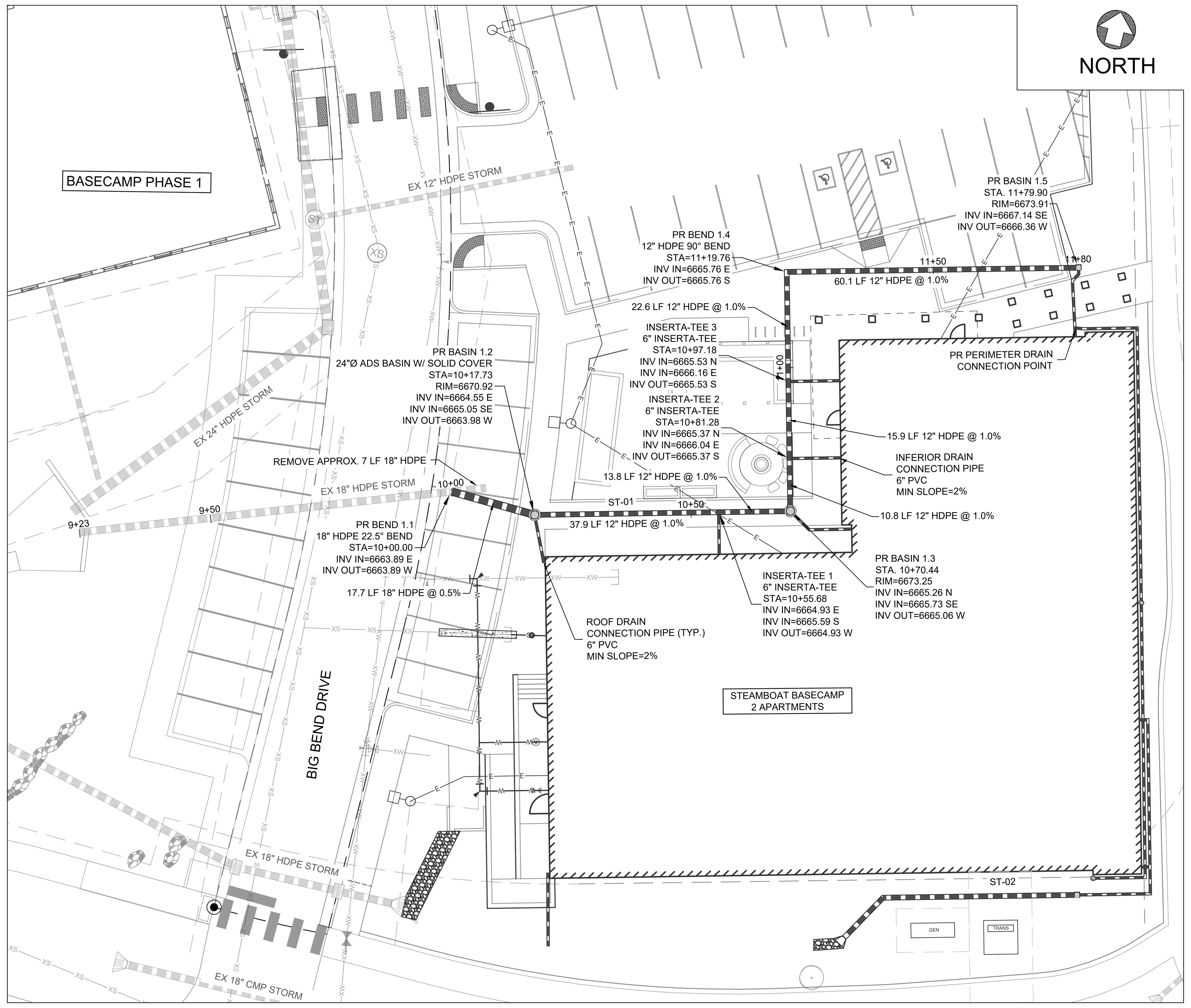
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential

Grading & Drainage Plan

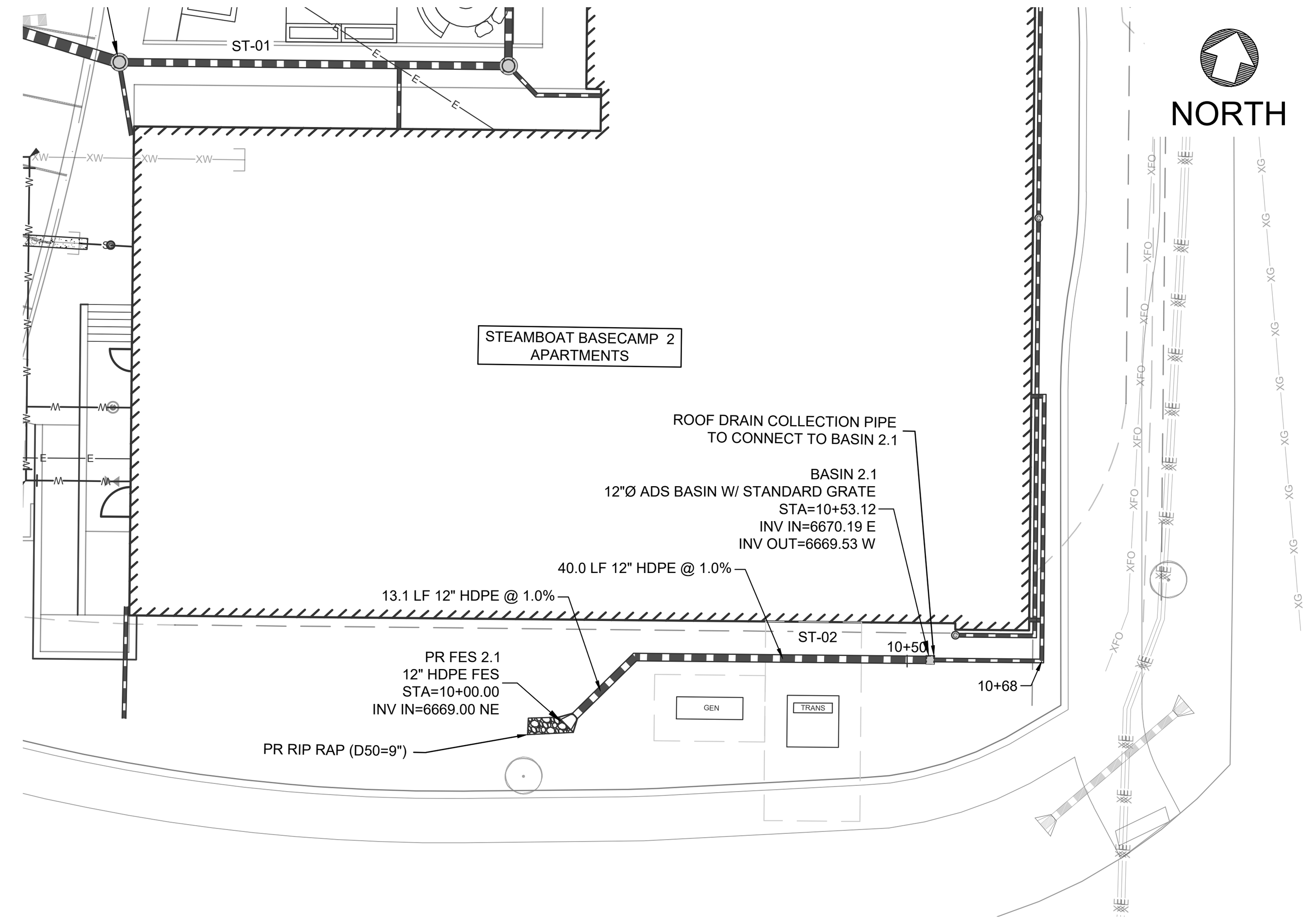
SHEET
C.303

DRAWING FILENAME: P:\2387-008\DWGs\Production Drawings\Construction Documents\2387-008-CD-C.300-Grading & Drainage.dwg LAYOUT NAME: C.303 DATE: Mar 13, 2026 - 4:50pm CAD OPERATOR: micah
LIST OF XREFS: [2387-008-xUtil] [2387-008-xBndy] [2387-008-xExist] [2387-008-xExist-Util] [2387-008-xSite] [xGRAD_Leg] [xBORDER] [2387-008-xHatch] [2387-004-PR Surface] [XKEYMAP] [Gibbons Stamp Signed]



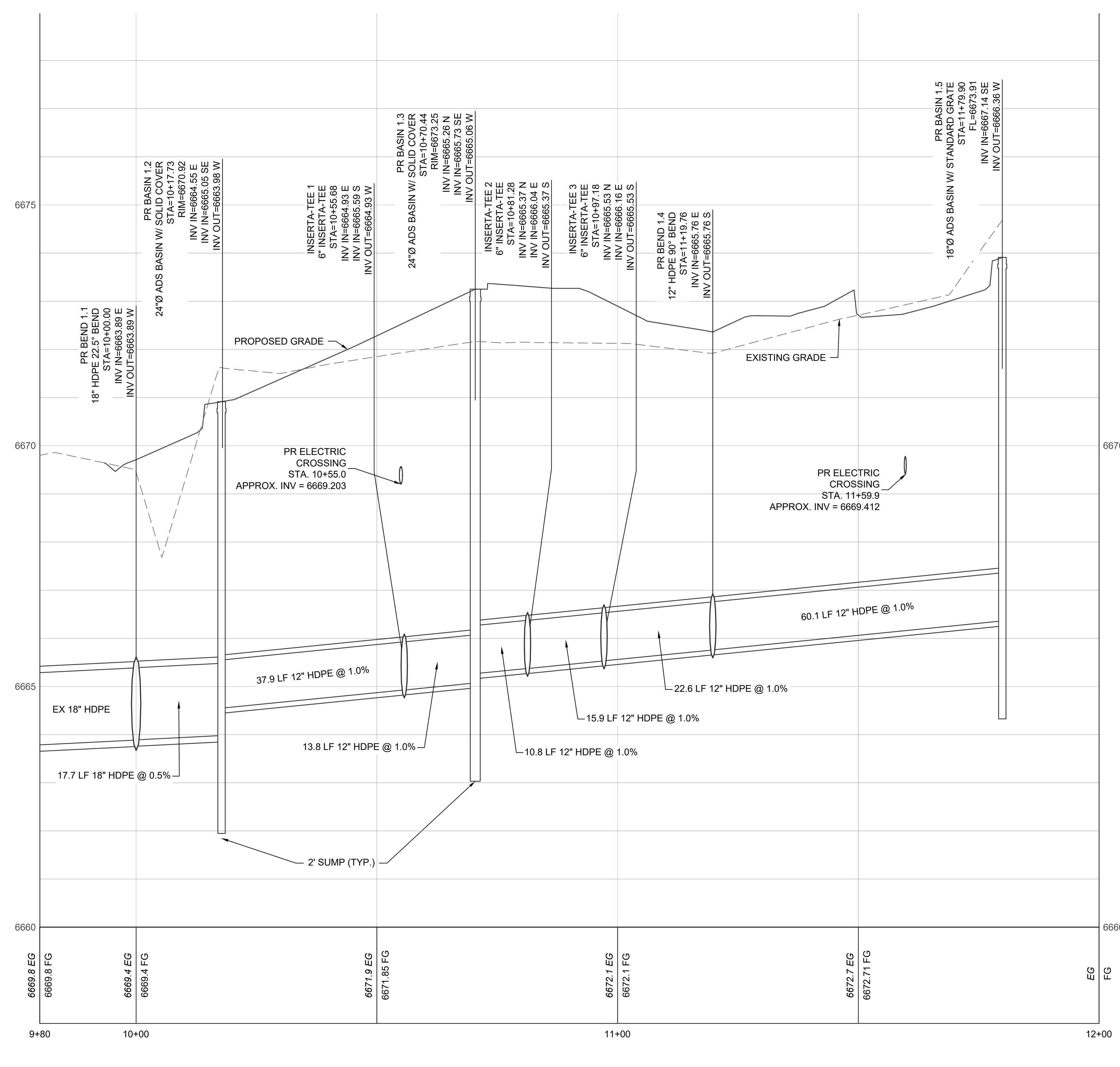
ST-01 PLAN & PROFILE

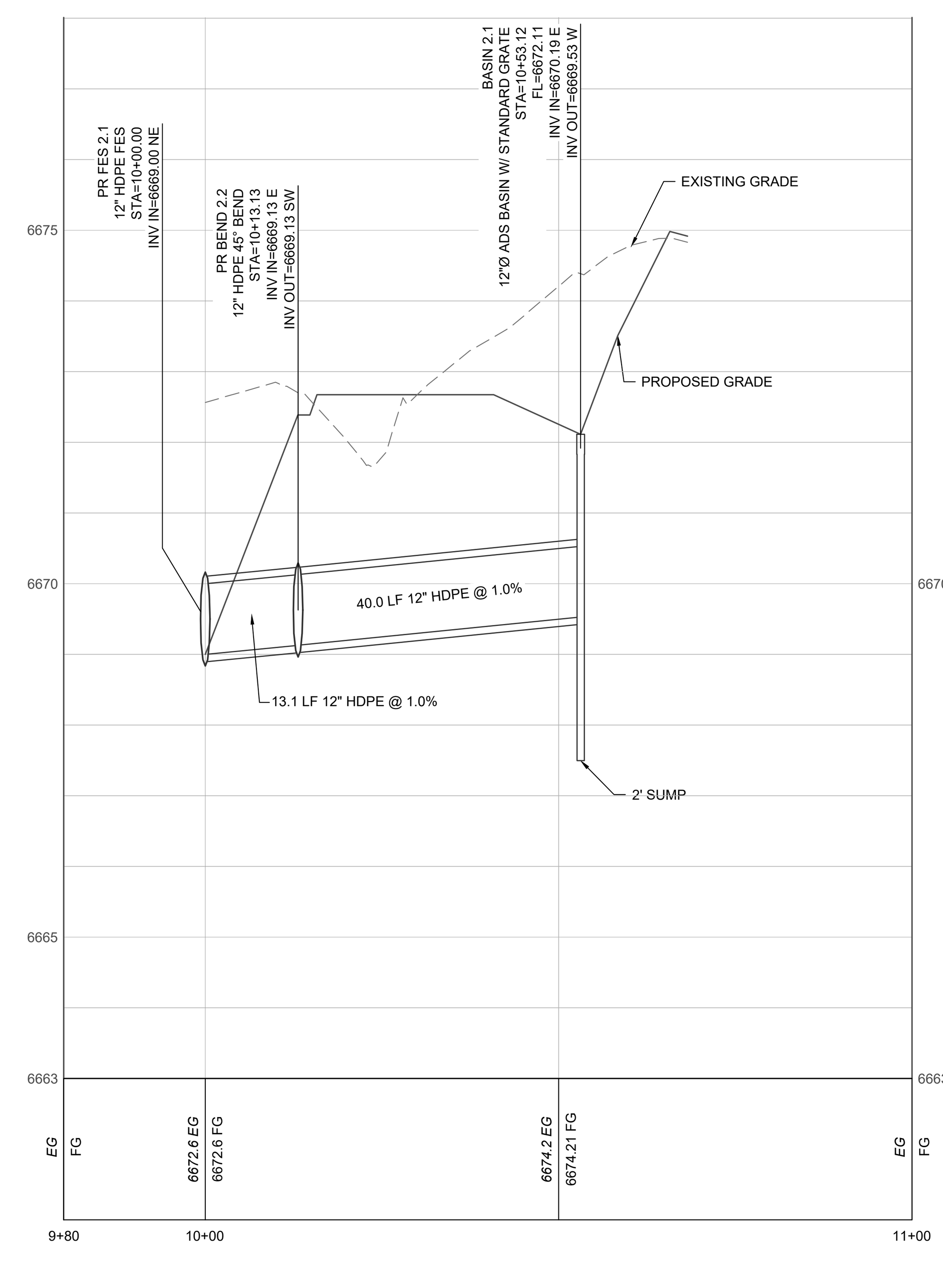
PROFILE SCALE: 1" = 20' (H) 1" = 2' (V)



ST-02 PLAN & PROFILE

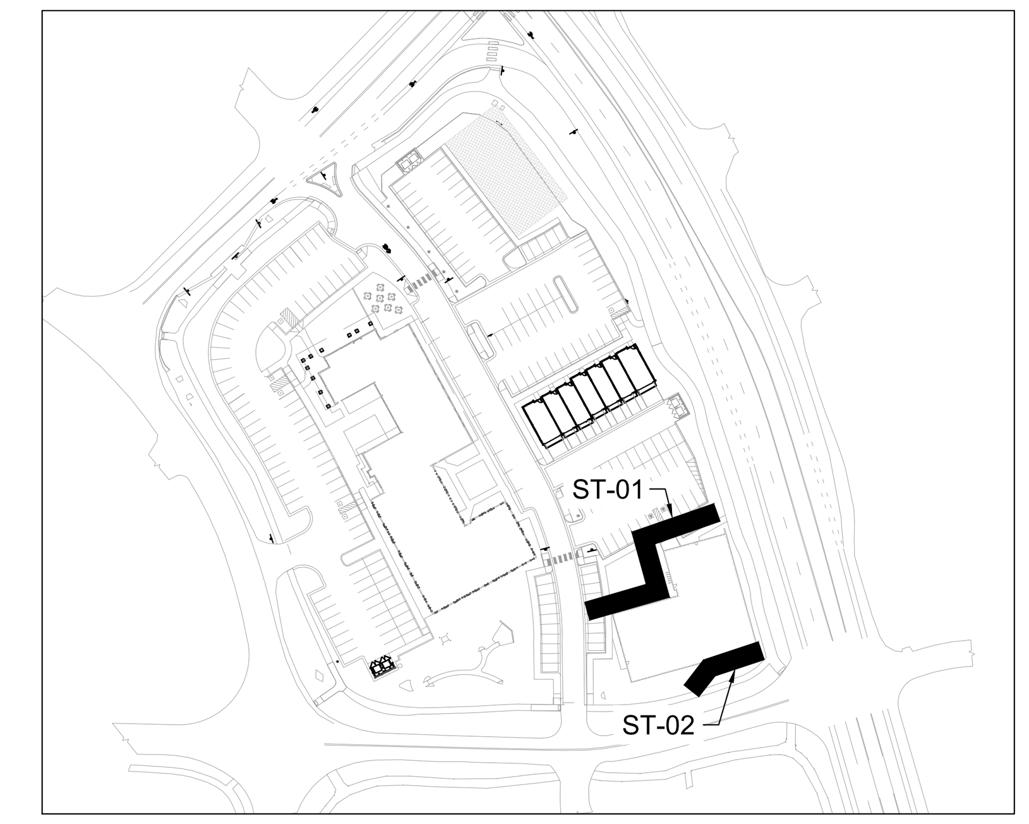
PROFILE SCALE: 1" = 20' (H) 1" = 2' (V)





20 0 20 40 60

(IN FEET)
1 IN. = 20 FT.



KEY MAP
NOT TO SCALE

UTILITY PLAN LEGEND:

- EXISTING SANITARY SEWER W/ MH & C.O.
- EXISTING WATER
- PROPOSED SANITARY SEWER W/ MH & C.O.
- PROPOSED WATER PIPE
- PROPOSED GV, FH & CS
- PROPOSED STORM SEWER W/ FLARED END SECTION
- PROPOSED STORM INLET (CURB & AREA)
- PROPOSED STORM MANHOLE & CLEANOUT
- APPROX. PAVEMENT SAW CUT

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5. MANHOLES LOCATED OUTSIDE OF THE ROADWAY SHALL PROTRUDE 1' ABOVE EXISTING GRADE TO REDUCE INFILTRATION. GRADE SURFACE TO DRAIN AROUND/AWAY FROM MANHOLE RIMS.
6. ALL MANHOLES LOCATED IN THE ROADWAY SHALL HAVE RIM ELEVATIONS ADJUSTED TO ¼" BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.
7. SEWER SERVICE SHALL HAVE A MINIMUM OF 4-FT OF COVER.
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MICAH PATRICK GIBBONS
64423
3/13/26

NO.	DATE:	BY:	DESCRIPTION:

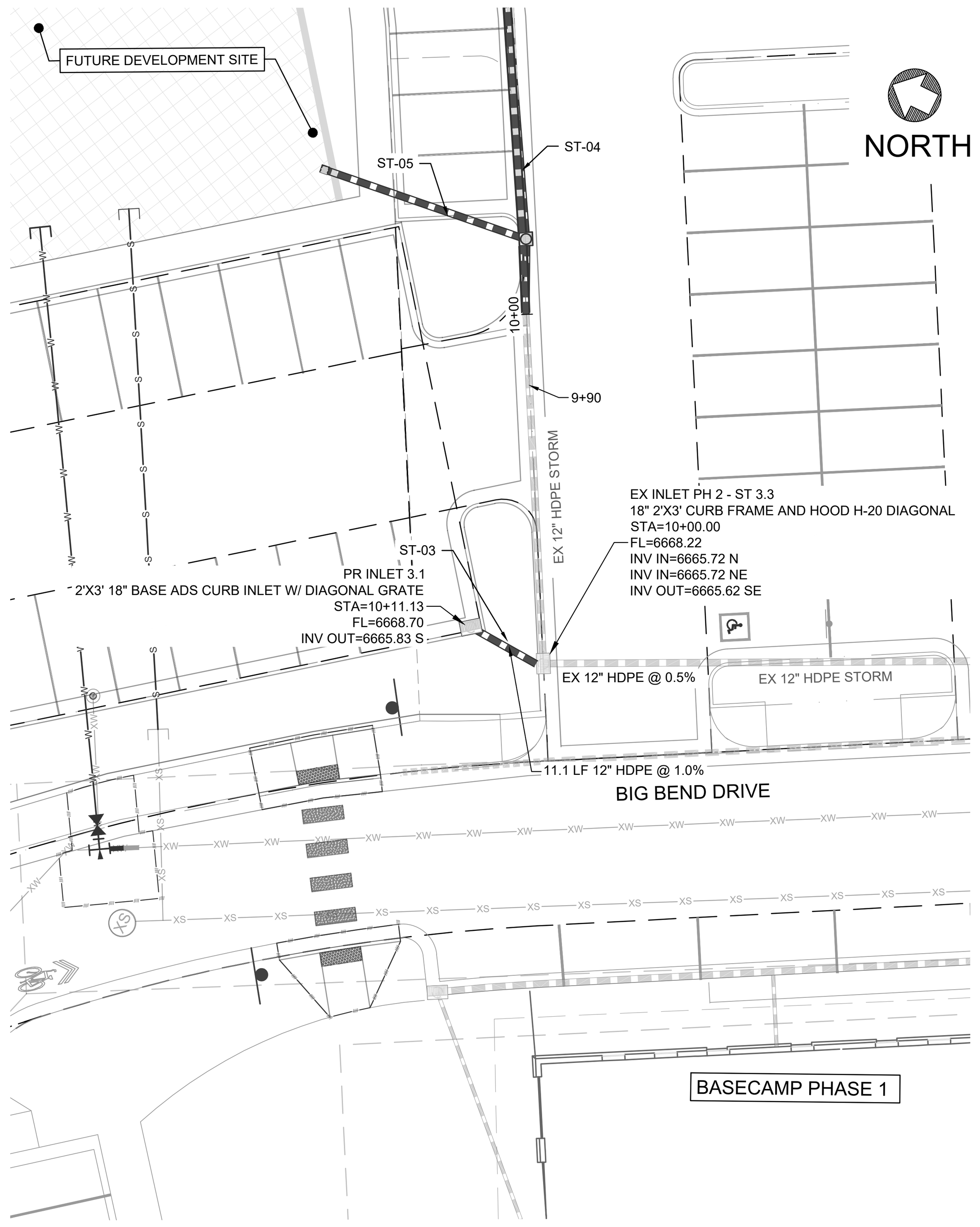
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

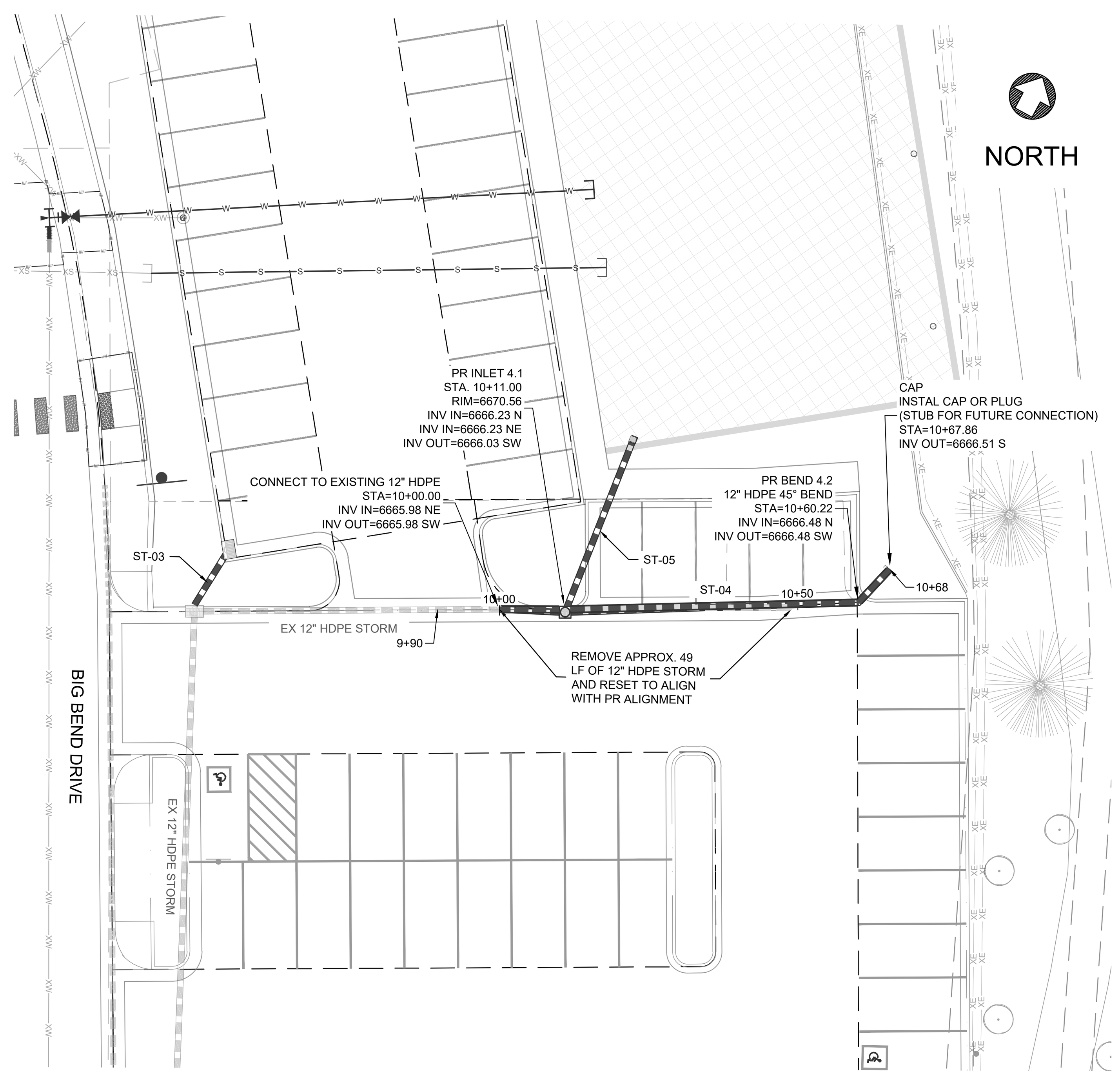
Steamboat Basecamp 2 Residential

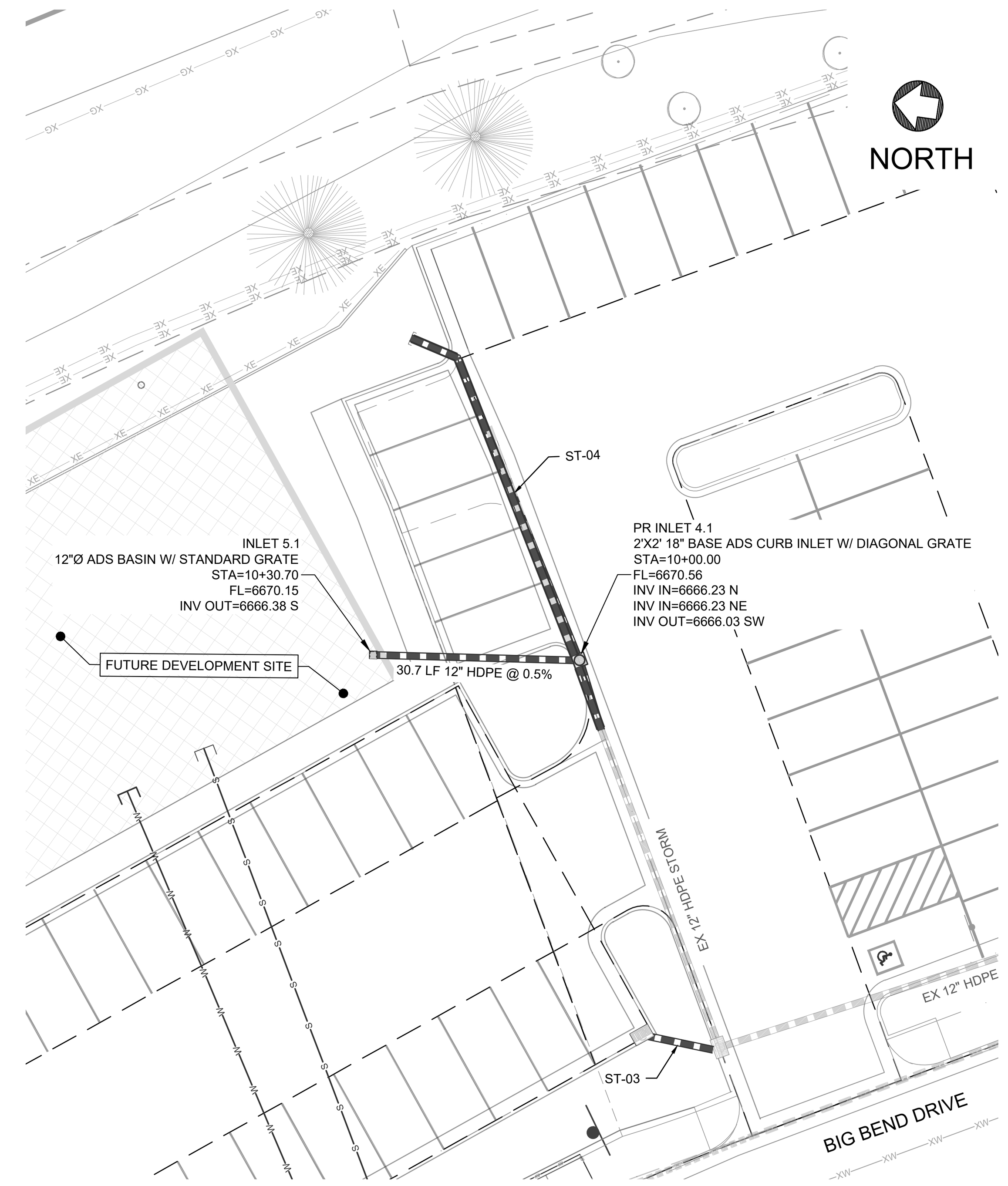
Storm Plan & Profile

SHEET

C.310

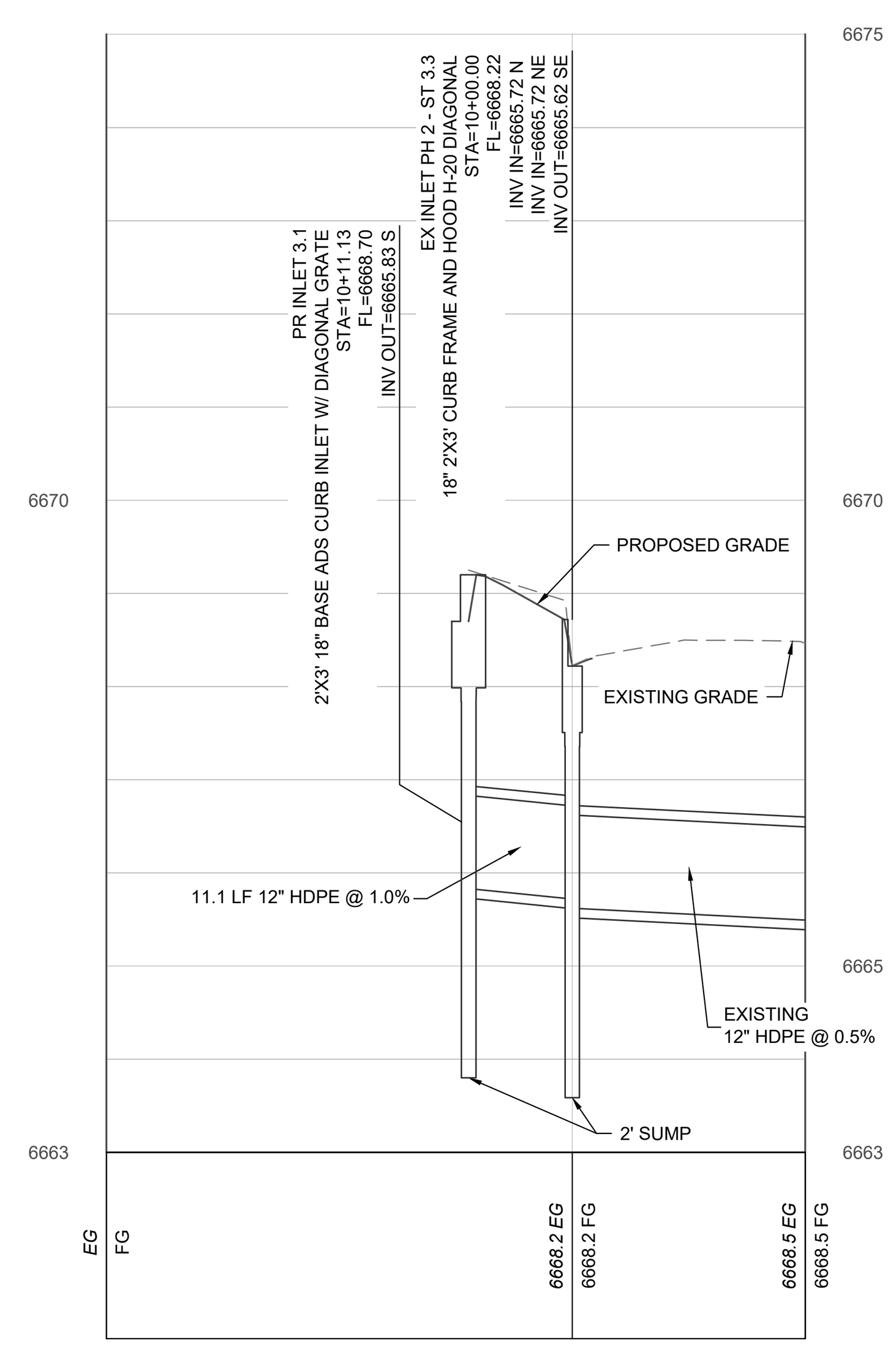






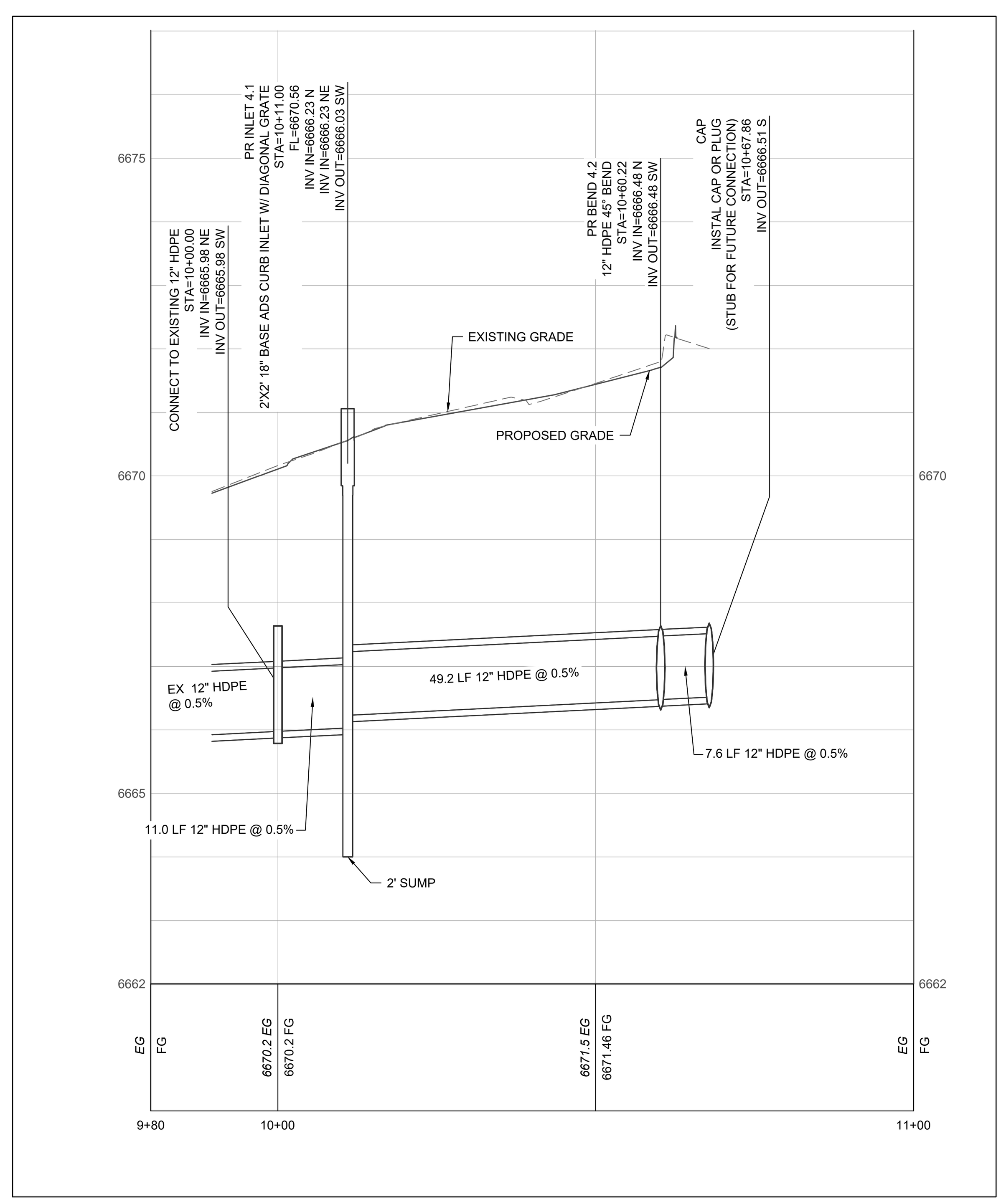
ST-03 PLAN & PROFILE

PROFILE SCALE: 1" = 20' (H) 1" = 2' (V)



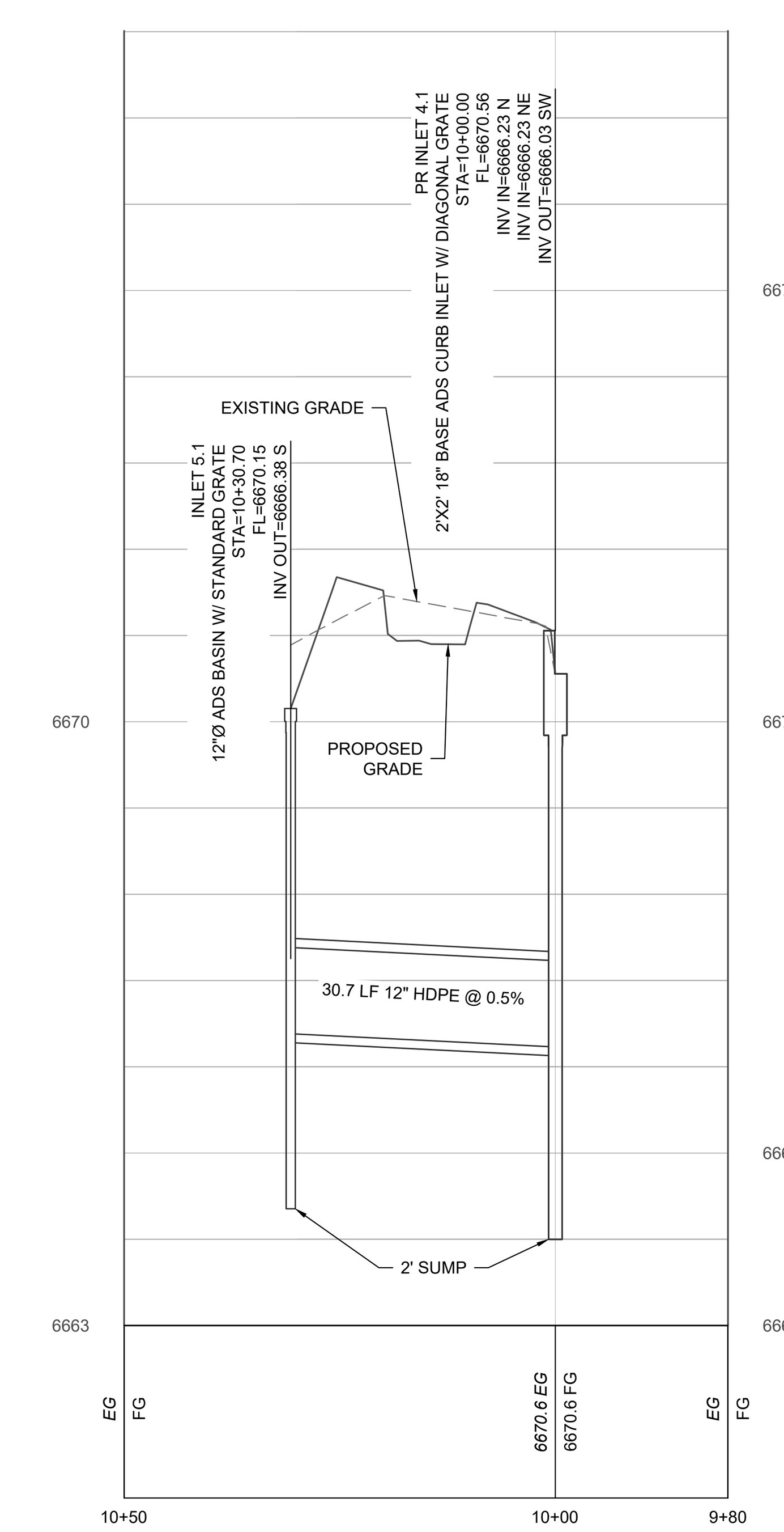
ST-04 PLAN & PROFILE

PROFILE SCALE: 1" = 20' (H) 1" = 2' (V)



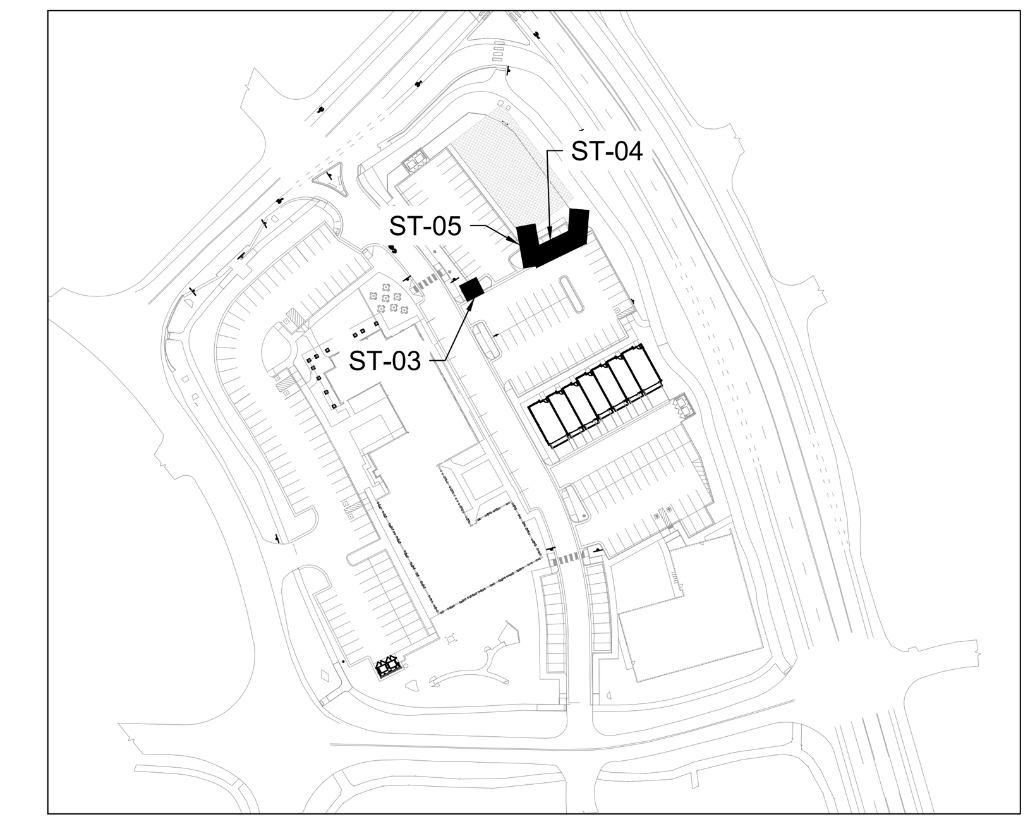
ST-05 PLAN & PROFILE

PROFILE SCALE: 1" = 20' (H) 1" = 2' (V)



20' 0 20' 40' 60'

(IN FEET)
1 IN. = 20 FT.



KEY MAP
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- EXISTING WATER
- PROPOSED SANITARY SEWER W/ MH & C.O.
- PROPOSED WATER PIPE
- PROPOSED GV, FH & CS
- PROPOSED STORM SEWER W/ FLARED END SECTION
- PROPOSED STORM INLET (CURB & AREA)
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COLORADO LICENSED PROFESSIONAL ENGINEER
MICAH PATRICK GIBBONS
64423
3/13/26

NO.	DATE:	BY:	DESCRIPTION:

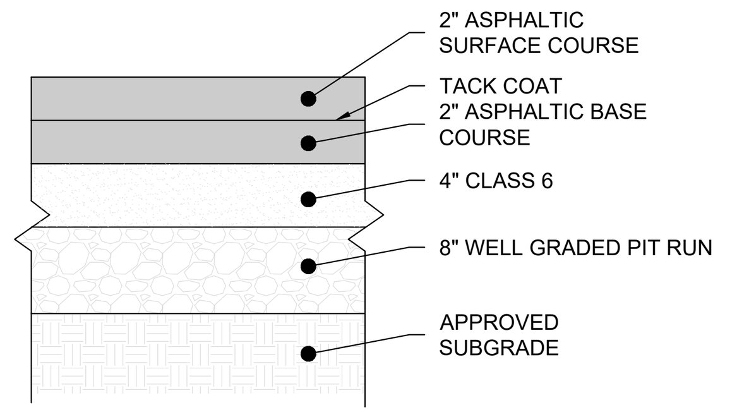
PROJECT:	2387-008
DATE:	3/13/2026
CONTACT:	Micah Gibbons
EMAIL:	micahg@landmark-co.com

Steamboat Basecamp 2 Residential

Storm Plan & Profile

SHEET

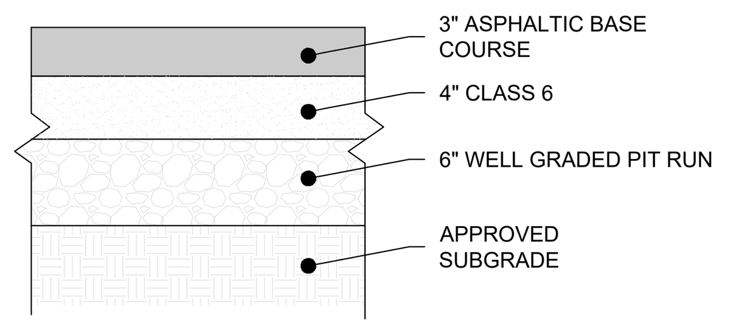
C.311



NOTE:

1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.

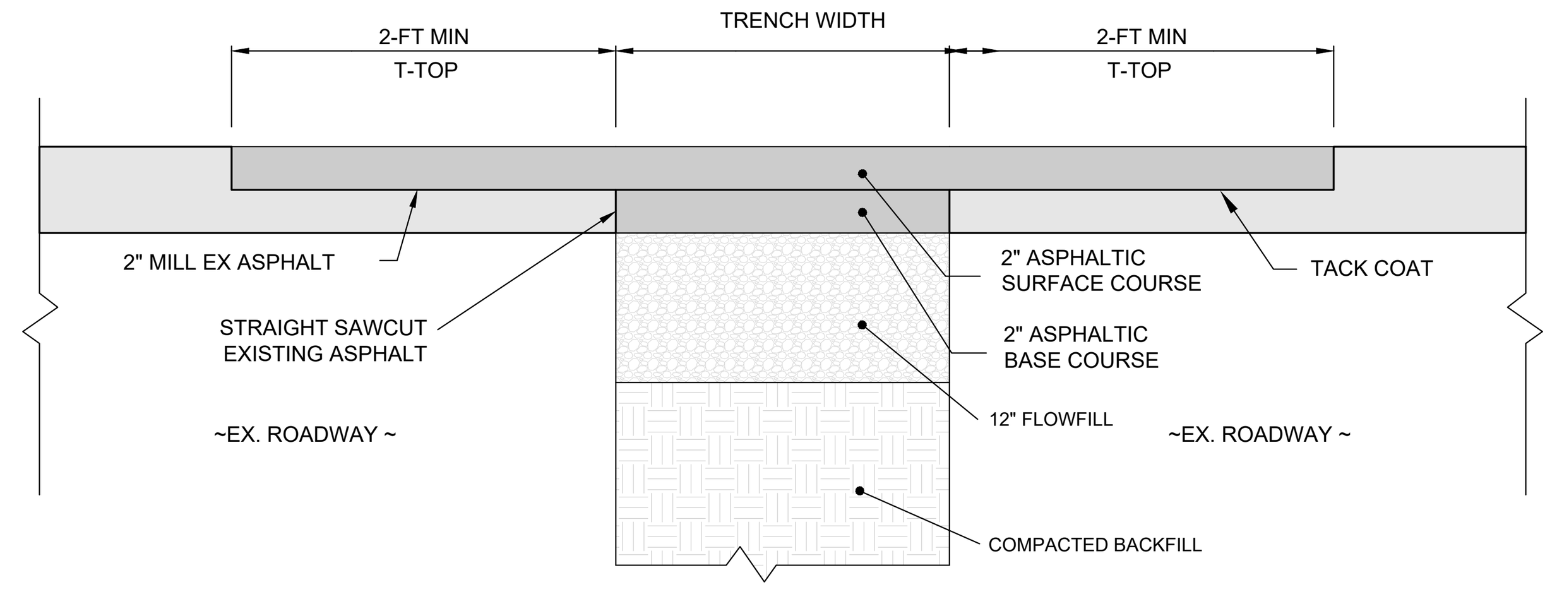
1.1 HEAVY TRAFFIC (ALL NON-PARKING STALLS) ASPHALT SECTION
N.T.S.



NOTE:

1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.

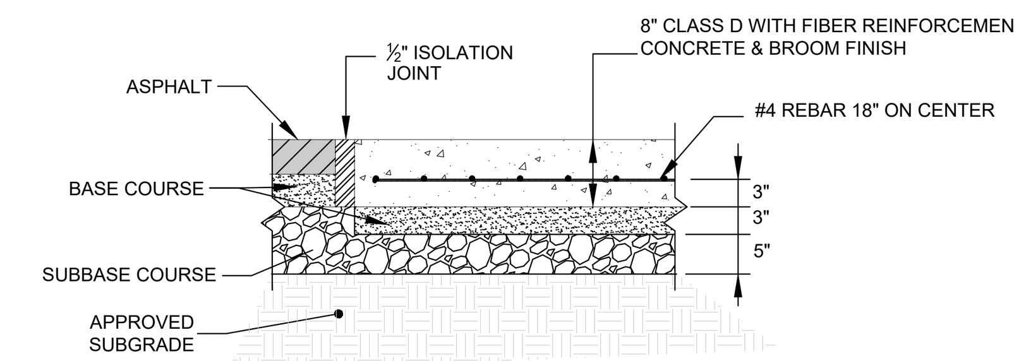
1.2 LIGHT TRAFFIC (PARKING STALLS) ASPHALT SECTION
N.T.S.



1.3 T-TOP AND ASPHALT TRENCH PATCH (W/ FLOWFILL) SECTION
N.T.S

NOTES:

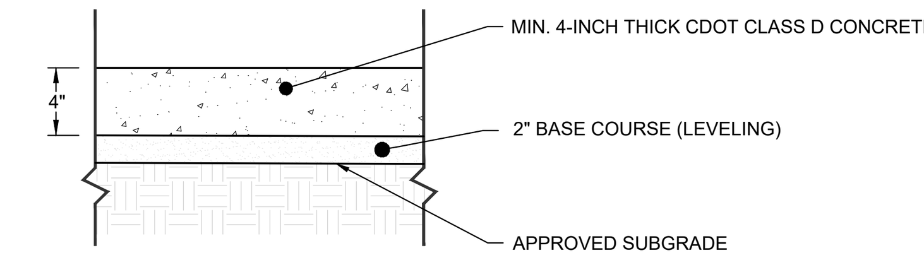
1. IF FINAL PAVING IS NOT SCHEDULED WITHIN 48 HOURS OF PLACEMENT OF FLOW FILL, CONTRACTOR SHALL PLACE FLOW FILL TO FINISHED GRADE, THEN THE TOP 4-INCHES SHALL BE REMOVED IMMEDIATELY PRIOR TO FINAL ASPHALT PAVING.



NOTE:

1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.

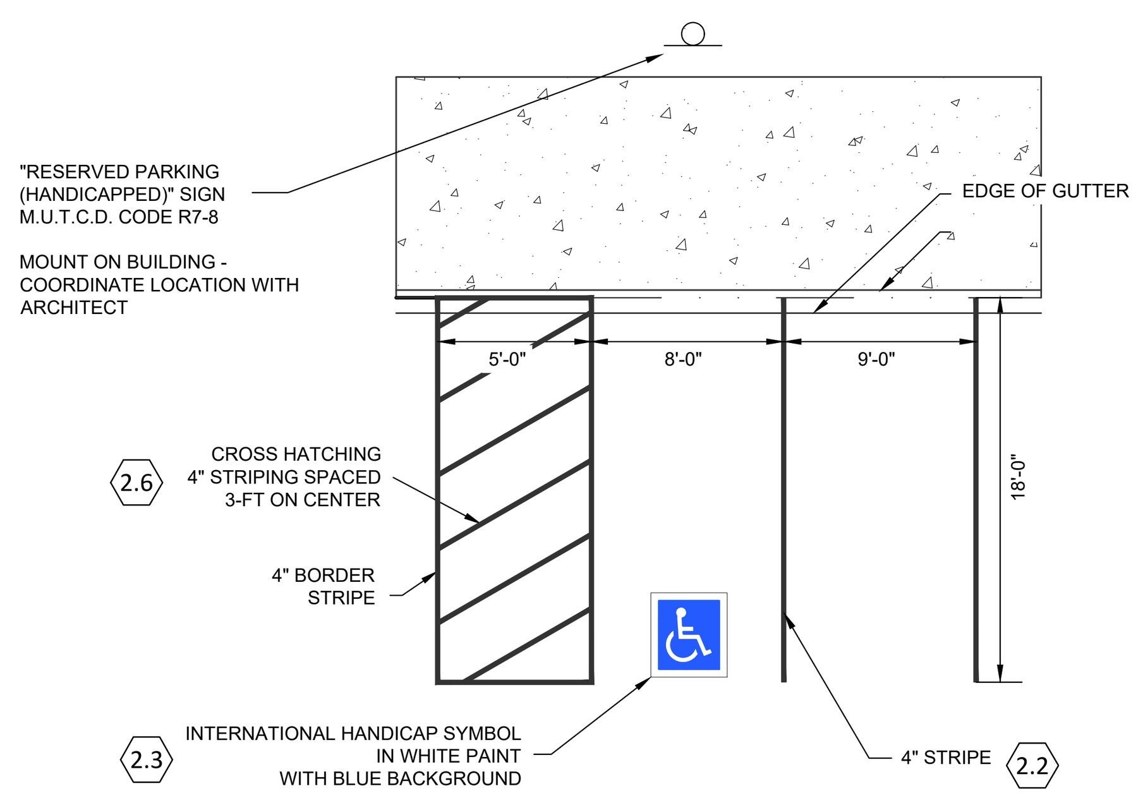
1.5 DUMPSTER PAD
N.T.S.



1.6 SIDEWALK AND PATIO SECTION - NON-TRAFFIC
N.T.S.

NOTE:

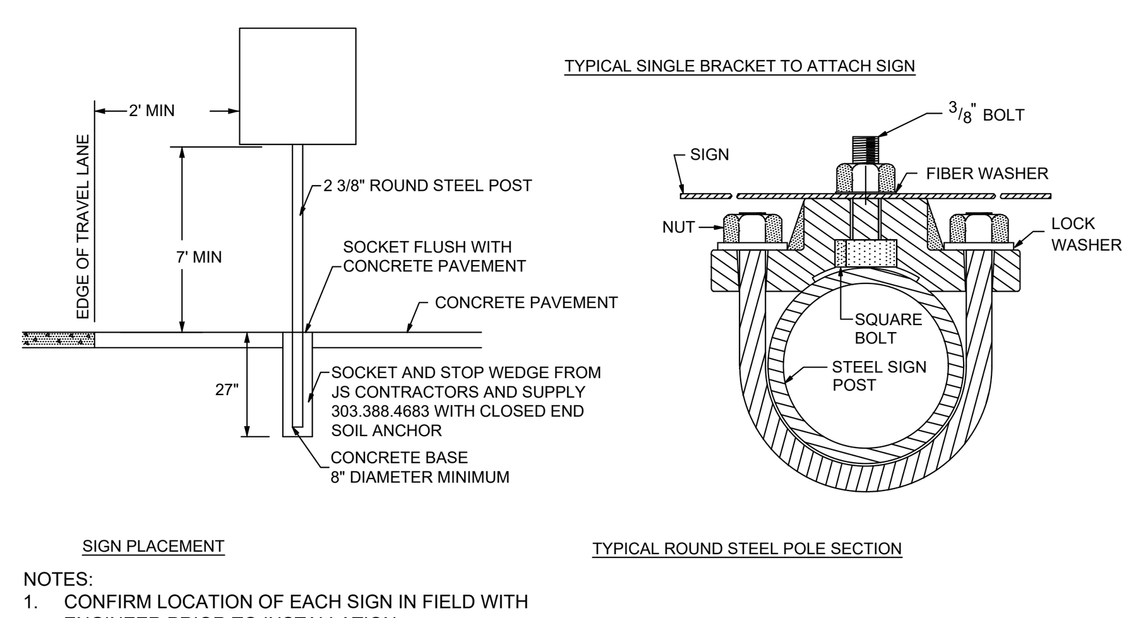
1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.



PAVEMENT MARKING NOTES:

1. PAVEMENT MARKING PAINT SHALL BE YELLOW LATEX, WATERBORNE EMULSION, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH FS TT-P-1952, WITH DRYING TIME LESS THAN 45 MINUTES.
2. PAINT PAVEMENT MARKINGS ONLY ON CLEAN, DRY SURFACES AND AT A MINIMUM AMBIENT OR SURFACE TEMPERATURE OF 50° F AND MAXIMUM AMBIENT OR SURFACE TEMPERATURE OF 95° DEG F.

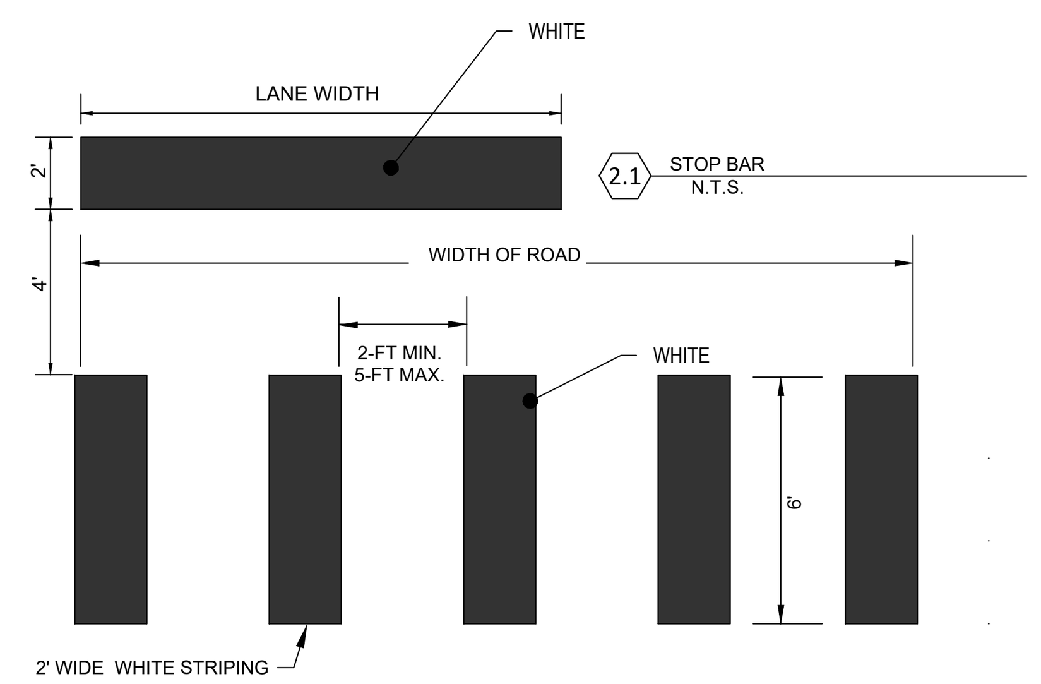
TYPICAL STRIPED PARKING LAYOUT
N.T.S.



NOTES:

1. CONFIRM LOCATION OF EACH SIGN IN FIELD WITH ENGINEER PRIOR TO INSTALLATION.

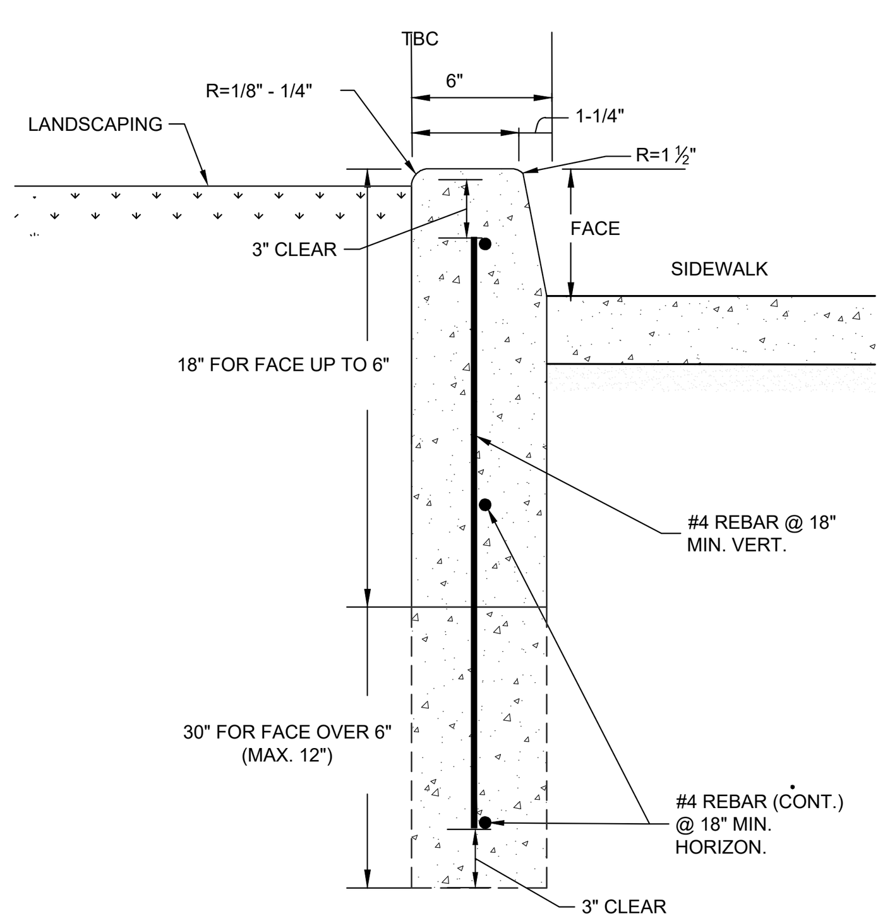
SIGN INSTALLATION DETAIL
N.T.S.



2.5 CONTINENTAL CROSS WALK STRIPING
N.T.S.

CONTINENTAL CROSS WALK STRIPING NOTES:

1. CENTER CROSSWALKS ON CURB RAMPS. IF SUCH RAMPS ARE NOT PROVIDED, CENTER ON SIGNAL POLES WHEREVER PRACTICAL.
2. CENTER CROSSWALKS ON EDGE LINES, LANE LINES AND CHANNELIZING LINES.
3. CENTER CROSSWALKS BETWEEN ADJACENT LINES.
4. MARKINGS SHALL NOT BE WITHIN WHEEL PATH OF VEHICLES.
5. REFER TO CDOT STANDARD PLAN NO. S-627-1 FOR ADDITIONAL INFORMATION



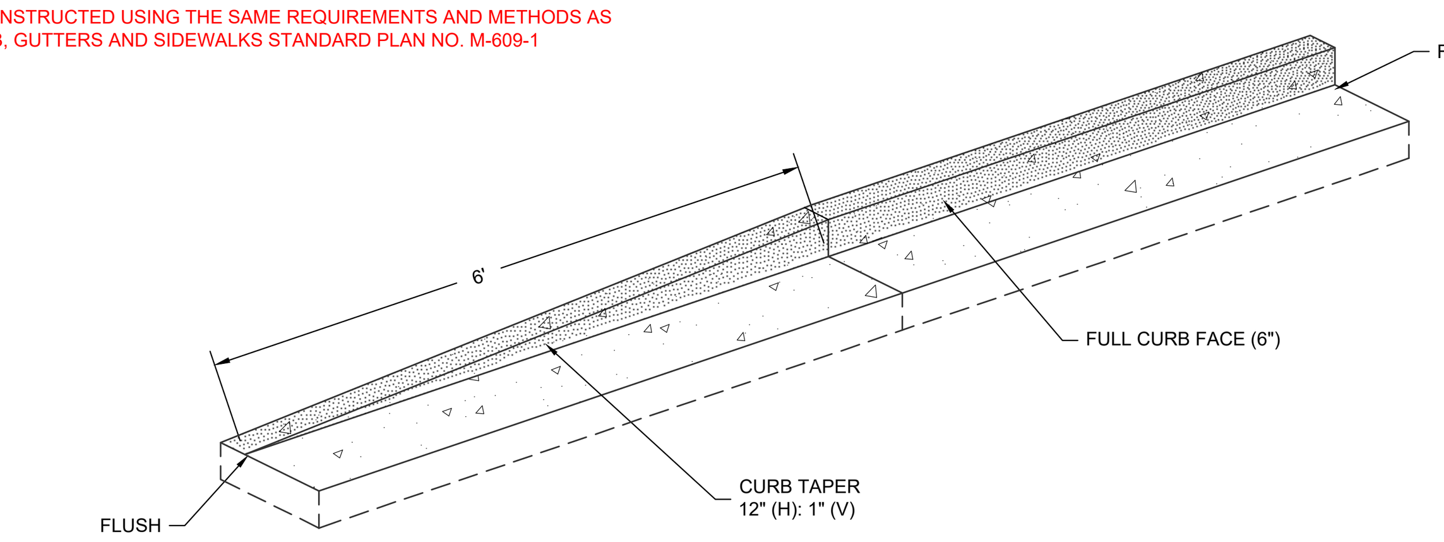
4.4 MODIFIED CDOT CURB TYPE-2 (SECTION B)
N.T.S.

NOTE:

THESE CURBS SHALL BE CONSTRUCTED USING THE SAME REQUIREMENTS AND METHODS AS DESCRIBED IN CDOT'S CURB, GUTTERS AND SIDEWALKS STANDARD PLAN NO. M-609-1

NOTE:

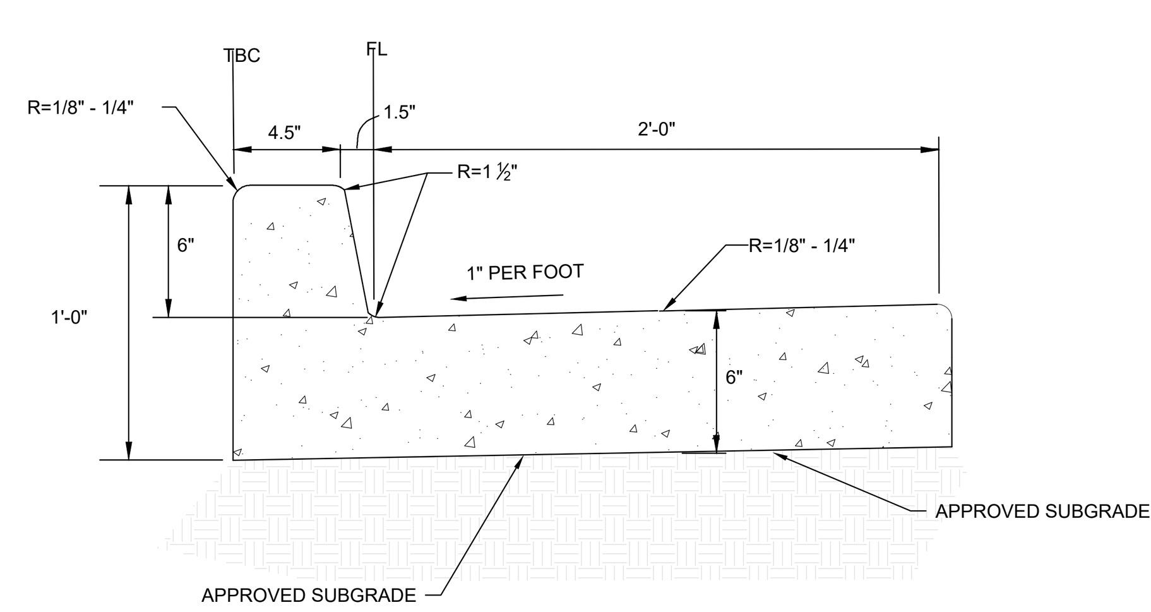
THESE CURBS SHALL BE CONSTRUCTED USING THE SAME REQUIREMENTS AND METHODS AS DESCRIBED IN CDOT'S CURB, GUTTERS AND SIDEWALKS STANDARD PLAN NO. M-609-1



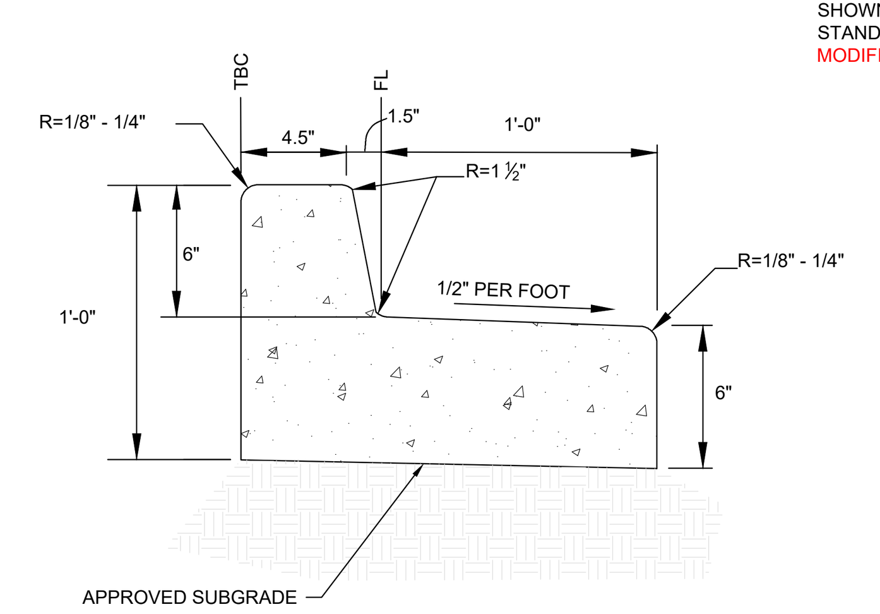
4.5 TAPERED CURB
N.T.S.

NOTE:

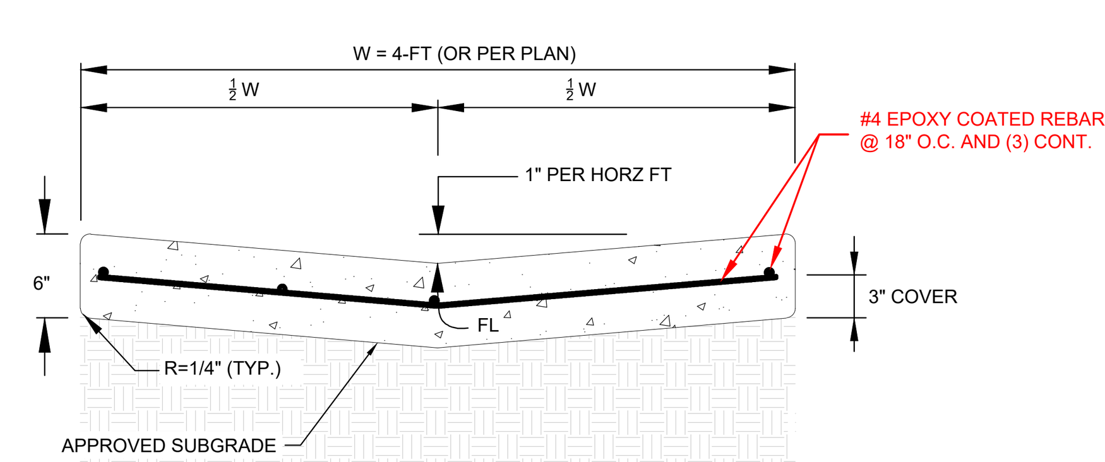
THESE DETAILS WERE REPLICATED FROM CDOT'S CURB, GUTTERS AND SIDEWALKS STANDARD PLAN NO. M-609-1 AND ARE SHOWN FOR CONVENIENCE. CONTRACTOR TO REFER TO THAT DOCUMENT AND THE CITY OF STEAMBOAT SPRINGS ENGINEERING STANDARDS FOR FULL REQUIREMENTS WHICH ARE HEREBY ADOPTED AND REFERENCED FOR THIS PROJECT. PROJECT SPECIFIC MODIFICATIONS ARE SHOWN IN RED.



4.1 CDOT CURB AND GUTTER TYPE-2 (SECTION IIB)
N.T.S.
A.K.A.: CATCH CURB AND GUTTER OR VERTICAL CURB



4.2 CDOT CURB AND GUTTER TYPE-2 (SECTION IB)
N.T.S.
A.K.A.: SPILL CURB AND GUTTER



4.3 CDOT GUTTER TYPE-2
N.T.S.
A.K.A.: VALLEY PAN

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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CIVIL ENGINEERS | SURVEYORS
141 9th Street ~ P.O. Box 774943, Steamboat Springs, CO 80477
(970) 871-9494 ~ www.LANDMARK-CO.com

COLORADO LICENSED PROFESSIONAL ENGINEER 64423 3/13/26

NO.	DATE:	BY:	DESCRIPTION:

PROJECT: 2387-008
DATE: 3/13/2026
CONTACT: Micah Gibbons
EMAIL: micahg@landmark-co.com

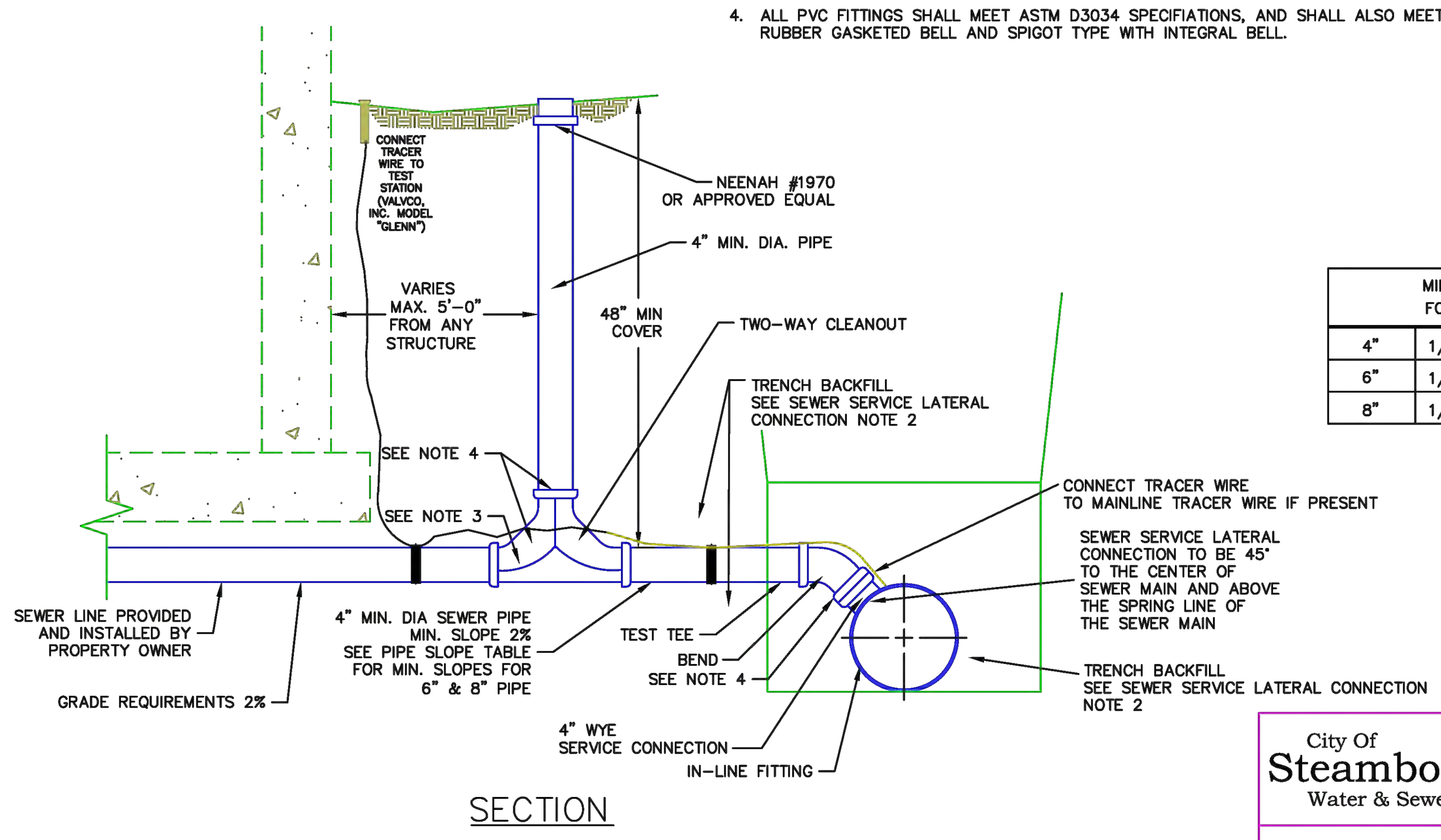
Steamboat Basecamp 2 Residential
Civil Details

SHEET
C.500

SEWER SERVICE LATERAL CONNECTION NOTES:

1. INSPECTION: PRIOR TO BACKFILL, SECURE A PASSING INSPECTION BY THE CITY UTILITY DEPARTMENT FOR ALL PIPE, FITTINGS, COUPLINGS, AND GRADE.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER CITY OF STEAMBOAT SPRINGS STANDARD SPECIFICATIONS SECTION 24 AND AS SHOWN WITHIN THE TRENCH CROSS SECTION DETAIL.
3. RUBBER GASKETED BELL AND SPIGOT TYPE COUPLER FOR TRANSITION FROM SCHEDULE 40 PVC TO SDR35.
4. ALL PVC FITTINGS SHALL MEET ASTM D3034 SPECIFIATIONS, AND SHALL ALSO MEET ASTM D3212 SPECIFICATIONS FOR RUBBER GASKETED BELL AND SPIGOT TYPE WITH INTEGRAL BELL.

MINIMUM PIPE SLOPES FOR SEWER SERVICES		
4"	1/4" PER FOOT	2%
6"	1/8" PER FOOT	1%
8"	1/16" PER FOOT	0.5%



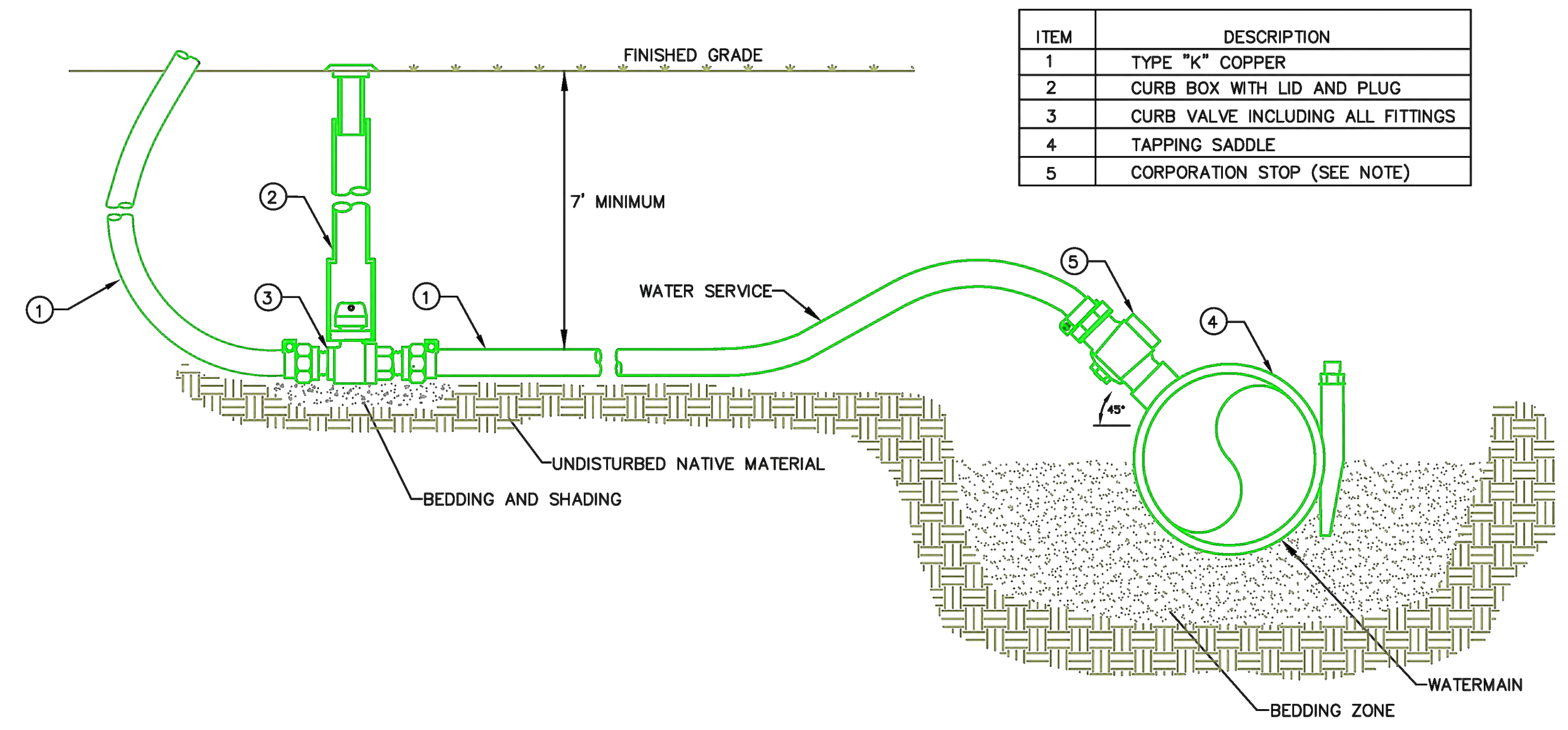
SECTION

SEWER SERVICE LATERAL CONNECTION DETAIL

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: ALG
Scale: N.T.S. Date: April 2023
Revision description:
SS-001 SANITARY SEWER

ITEM	DESCRIPTION
1	TYPE "K" COPPER
2	CURB BOX WITH LID AND PLUG
3	CURB VALVE INCLUDING ALL FITTINGS
4	TAPPING SADDLE
5	CORPORATION STOP (SEE NOTE)

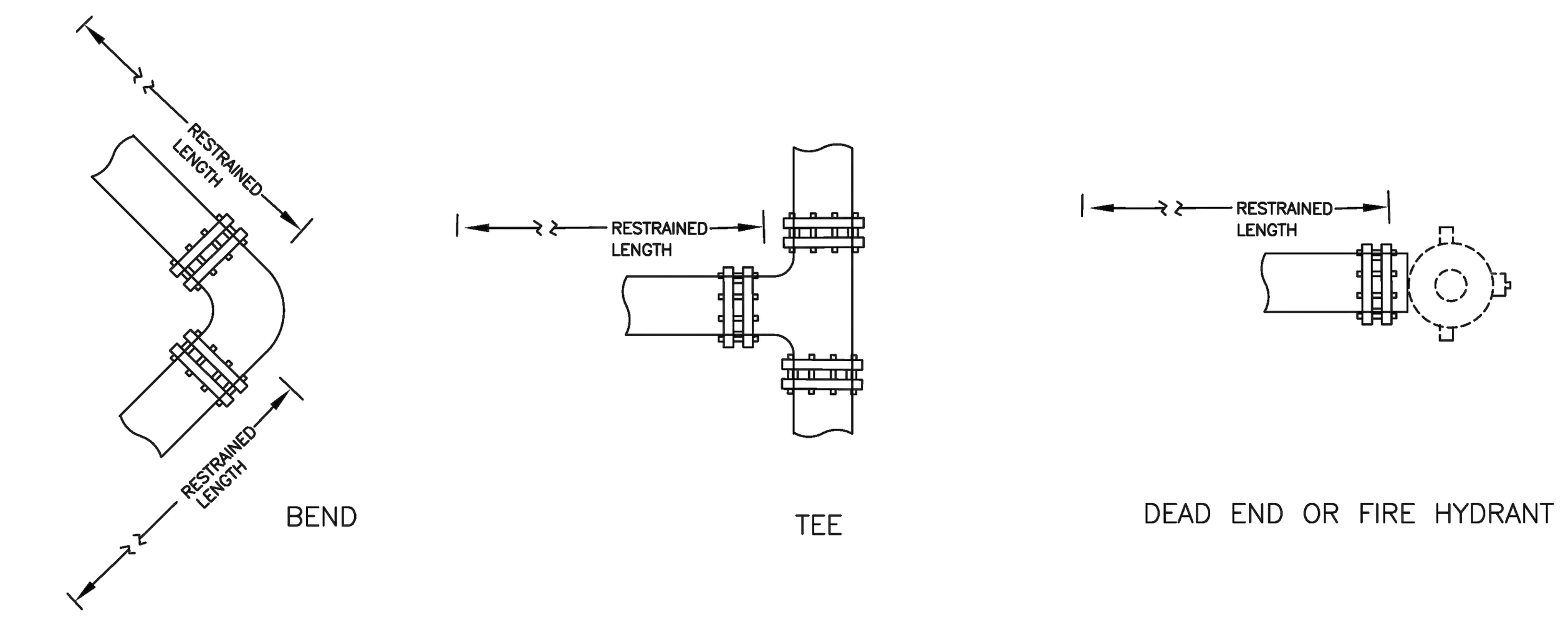


NOTE: CORPORATION STOP DEMARKS OWNERSHIP OF SERVICE LINE BETWEEN THE CITY AND PROPERTY OWNER.

CURB STOP DETAIL

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: JSF
Scale: N.T.S. Date: April 2023
Revision description:
W-007 WATER DISTRIBUTION



REQUIRED RESTRAINT LENGTH (FT)

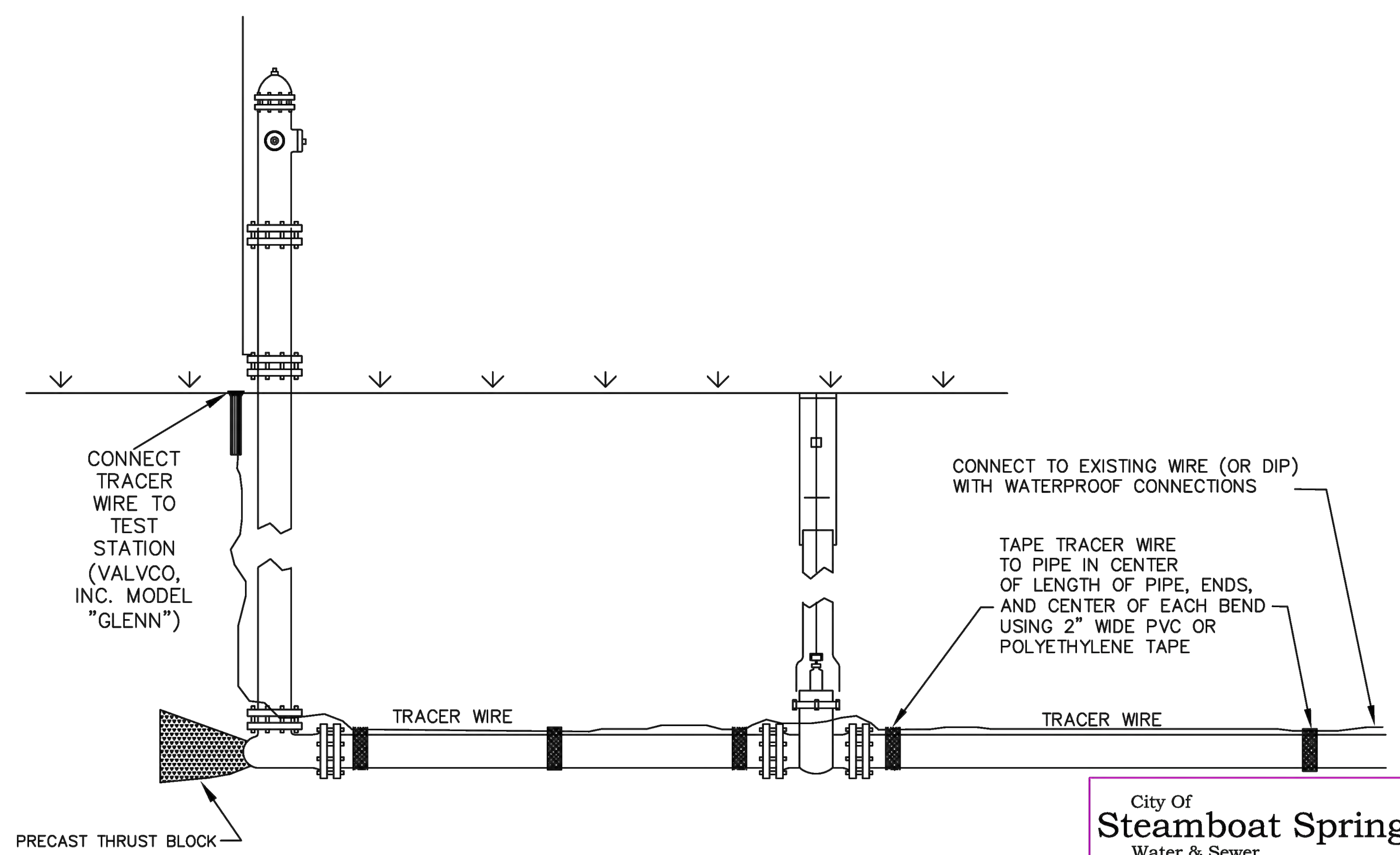
FITTING TYPE	MAIN SIZE (INCHES) 4"	6"	8"	10"	12"
90° BEND, BRANCH OF TEE, IN LINE VALVE, OR DEAD END	30'	45'	60'	73'	86'
45° BEND	20'	20'	20'	21'	25'
22 1/2° BEND	20'	20'	20'	20'	20'
11 1/4° BEND	20'	20'	20'	20'	20'

NOTE: THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT.

RESTRAINT DETAIL

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: GLB
Scale: N.T.S. Date: April 2023
Revision description:
D-003 GENERAL

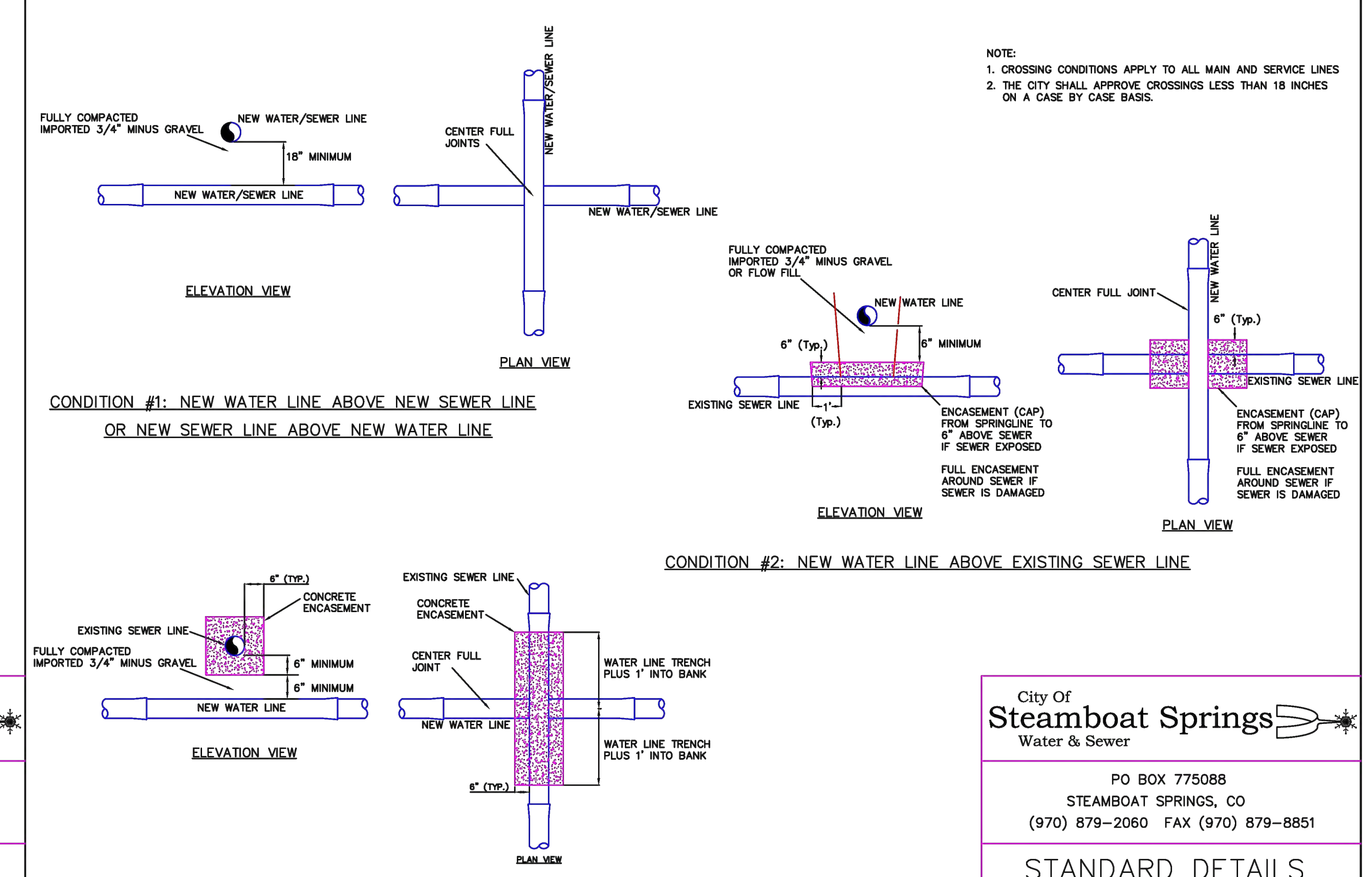


TRACER WIRE

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: GLB
Scale: N.T.S. Date: April 2023
Revision description: Update
D-002 GENERAL

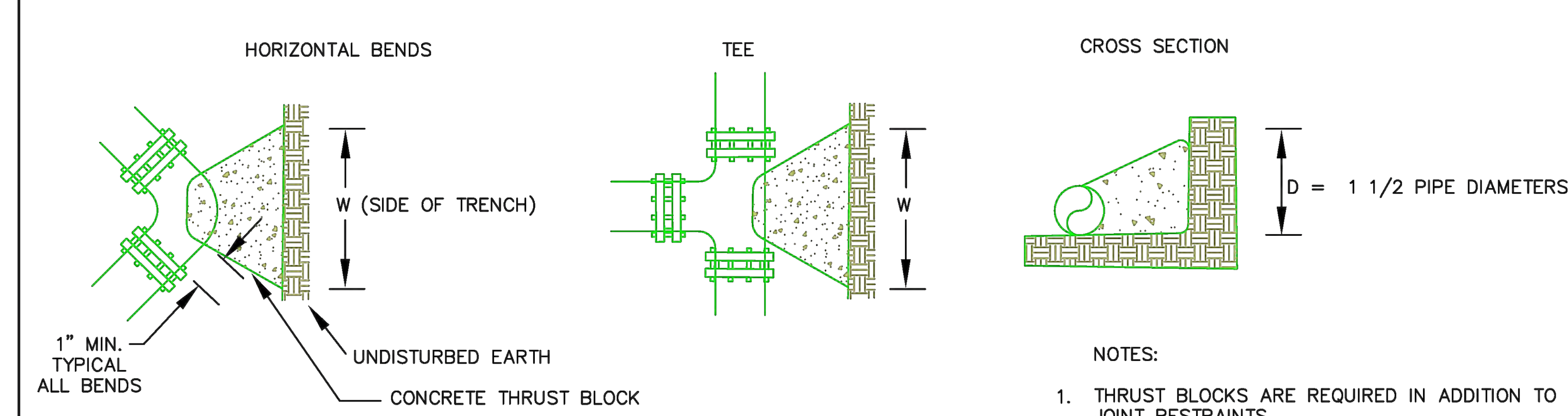
NOTE:
1. CROSSING CONDITIONS APPLY TO ALL MAIN AND SERVICE LINES
2. THE CITY SHALL APPROVE CROSSINGS LESS THAN 18 INCHES ON A CASE BY CASE BASIS.



WATER AND SEWER CROSSING CONDITIONS (SHEET 1 OF 2)

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: JS
Scale: N.T.S. Date: April 2023
Revision description: Update
SS-006 SANITARY SEWER



NOTES:

1. THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINTS.
2. ALL THRUST BLOCKS SHALL BE PRE-CAST PRIOR TO PLACEMENT.
3. WRAP FITTINGS WITH POLYETHYLENE PRIOR TO PLACING THRUST BLOCKS SO THAT CONCRETE DOES NOT COME IN CONTACT WITH JOINT BOLTS.
4. THRUST BLOCKS SHALL BE INSTALLED SO THAT ALL JOINTS ARE ACCESSIBLE.
5. IF OVER-EXCAVATION OCCURS, THE CONTRACTOR SHALL PLACE COMPACTED CLASS 6 AGGREGATE BASE COURSE OR FLOW FILL BETWEEN THE THRUST BLOCK AND UNDISTURBED EARTH.

MINIMUM BEARING SURFACE (SF) FOR 200 PSI AND LESS

SIZE OF PIPE	BENDS 11-1/4°	22-1/2°	45°	90°	TEE OR DEAD END
4"	1.3	2.5	2.5	4	6.4
6"	1.3	2.5	5.0	9.0	6.4
8"	1.3	2.5	5.0	9.0	6.4
10"	1.9	3.8	7.4	13.7	9.7
12"	2.7	5.4	10.5	19.3	13.7

MINIMUM BEARING SURFACE (SF) FOR 201 TO 250 PSI

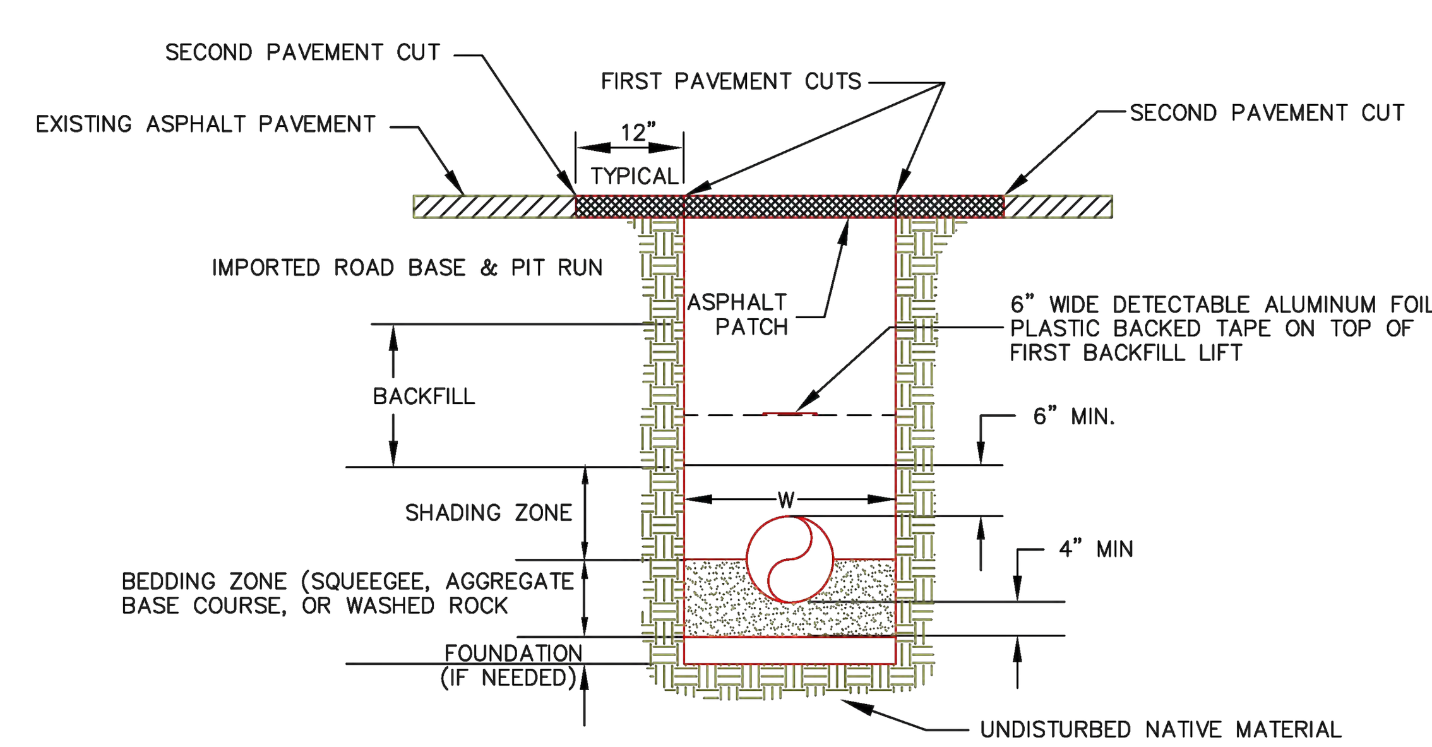
SIZE OF PIPE	BENDS 11-1/4°	22-1/2°	45°	90°	TEE OR DEAD END
4"	1.6	3.1	4	4	8.0
6"	1.6	3.1	6.2	11.4	8.0
8"	1.6	3.1	6.2	11.4	8.0
10"	2.4	4.7	9.25	17.1	12.0
12"	3.4	6.7	13.1	24.2	17.1

THRUST BLOCK BEARING AREA IN SQUARE FEET. (AREA = W X D)

THRUST BLOCK DETAIL

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: GLB
Scale: N.T.S. Date: April 2023
Revision description: Update
D-004 GENERAL



TRENCH CROSS SECTION

NTS

NOTES:

A GUIDE FOR DESIRABLE TRENCH WIDTH (W) AT THE TOP OF THE PIPE SHALL BE THE NOMINAL DIAMETER OF THE PIPE PLUS 12-INCHES ON EACH SIDE OF THE PIPE.

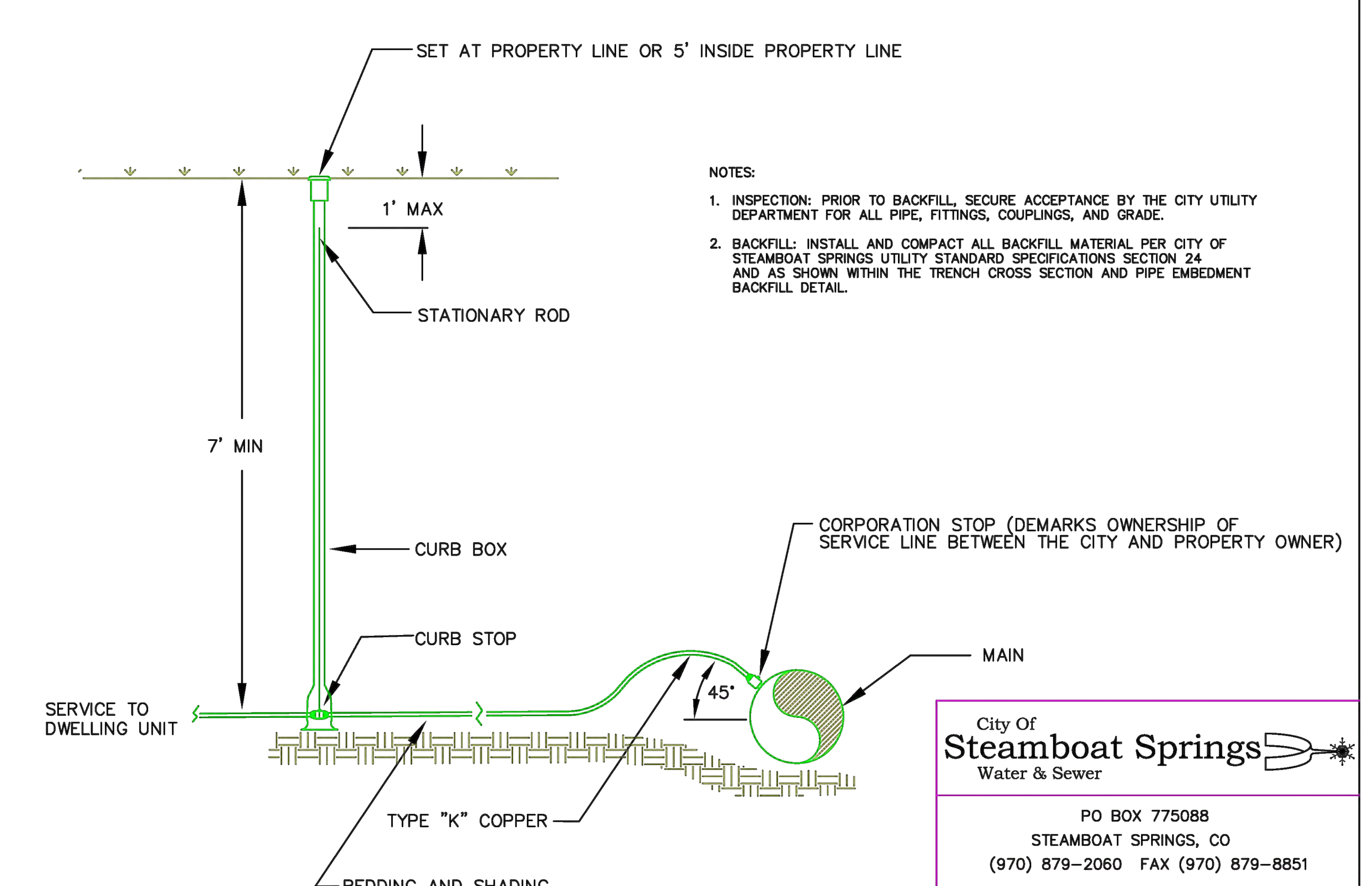
A SECOND PAVEMENT CUT SHALL BE REQUIRED PRIOR TO PLACING THE ASPHALT PATCH. REMOVE ALL IRREGULAR ASPHALT EDGES A MINIMUM OF 12-INCHES BEYOND ANY DAMAGED SURFACE TO A CLEAN VERTICAL EDGE. APPLY A BITUMINOUS TACK COAT PRIOR TO PLACING THE ASPHALT PATCH.

THE ASPHALT PATCH SHALL BE PLACED IN TWO 2-INCH LIFTS AND ROLLER COMPACTED TO MATCH THE ADJACENT ASPHALT EDGES.

SUB-BASE MATERIALS SHALL CONSIST OF 4-INCHES OF ROAD BASE ON 8-INCHES OF PIT-RUN. COMPACTION REQUIREMENTS SHALL EXCEED 95% MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 TEST PROCEDURES.

THE CONTRACTOR MUST COMPLY WITH THE TRENCHING AND EXCAVATION REQUIREMENTS OF 29 CFR 1926.651 AND 1926.652 OR COMPARABLE OSHA-APPROVED STATE PLAN REQUIREMENTS.

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: JS
Scale: N.T.S. Date: April 2023
Revision description: Update
D-001 GENERAL



NOTES:

1. INSPECTION: PRIOR TO BACKFILL, SECURE ACCEPTANCE BY THE CITY UTILITY DEPARTMENT FOR ALL PIPE, FITTINGS, COUPLINGS, AND GRADE.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER CITY OF STEAMBOAT SPRINGS UTILITY STANDARD SPECIFICATIONS SECTION 24 AND AS SHOWN WITHIN THE TRENCH CROSS SECTION AND PIPE EMBEDMENT BACKFILL DETAIL.

WATER SERVICE LINE DETAIL

NTS

City Of Steamboat Springs Water & Sewer
PO BOX 775088
STEAMBOAT SPRINGS, CO
(970) 879-2060 FAX (970) 879-8851
STANDARD DETAILS
Drawn by: GLB
Scale: N.T.S. Date: April 2023
Revision description: Update
W-001 WATER DISTRIBUTION

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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COLORADO LICENSED PROFESSIONAL ENGINEER 64423 3/13/26

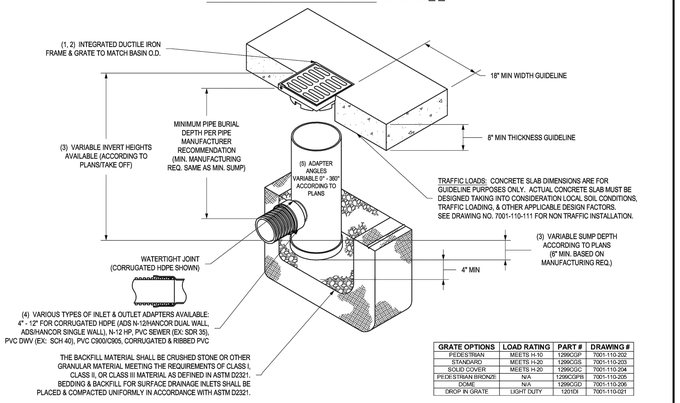
NO.	DATE:	BY:	DESCRIPTION:

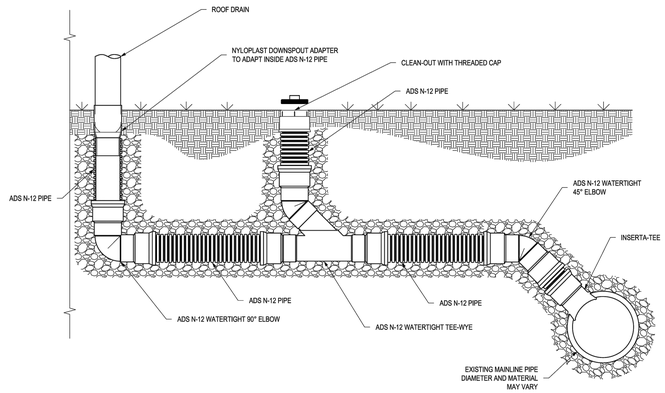
PROJECT: 2387-008
DATE: 3/13/2026
CONTACT: Micah Gibbons
EMAIL: micahg@landmark-co.com

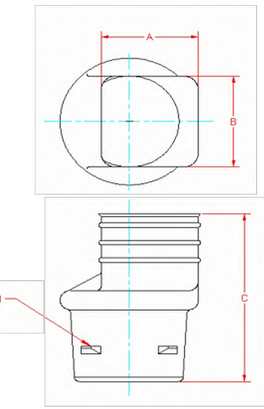
Steamboat Basecamp 2 Residential

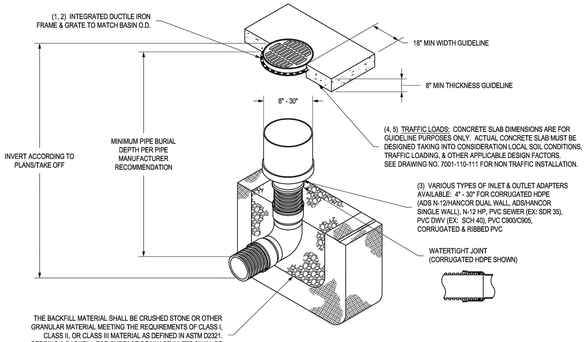
Water And Sewer Details

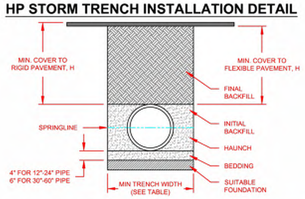
SHEET
C.510

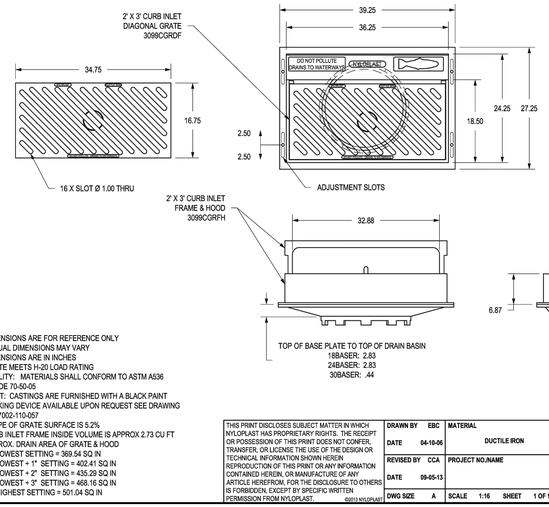












NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X

TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

(4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 4" - 12" FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE WALL), N-12 HP, PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1299CGP	7001-110-202
STANDARD	MEETS H-20	1299CGS	7001-110-203
SOLID COVER	MEETS H-20	1299CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1299CGPB	7001-110-205
DOME	N/A	1299CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY EBC DATE 03-29-06 REVISED BY NMH DATE 03-11-16 DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:20 SHEET 1 OF 1
Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
TITLE 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DWG NO. 7001-110-189 REV E

NYLOPLAST DOWNSPOUT ADAPTER WITH CLEANOUT AND INSERTA-TEE

DRAWN BY NMH DATE 2-14-19 APPD BY NMH DATE 2-14-19 DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:16 SHEET 1 OF 1
Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
TITLE NYLOPLAST DOWNSPOUT ADAPTER WITH CLEANOUT AND INSERTA-TEE TYING INTO MAINLINE AT 45°
DWG NO. 6000-110-234 REV A

DOWNSPOUT ADAPTERS

PART #	PIPE SIZE	A	B	C
0364AA	3 in (76 mm)	2.5 in (64 mm)	3.3 in (83 mm)	4.8 in (121 mm)
0464AA	4 in (102 mm)	2.5 in (64 mm)	3.3 in (83 mm)	4.8 in (121 mm)
0465AA	4 in (102 mm)	3.3 in (83 mm)	4.5 in (114 mm)	5.0 in (127 mm)
0466AA	4 in (102 mm)	2.6 in (65 mm)	2.6 in (65 mm)	4.6 in (118 mm)
0664AA	6 in (152 mm)	3.6 in (92 mm)	5.6 in (143 mm)	6.4 in (163 mm)
0664AC*	6 in (152 mm)	3.6 in (92 mm)	5.6 in (143 mm)	6.4 in (163 mm)

* Part 0664AC is PVC

NOTE: ALL DIMENSIONS ARE NOMINAL

ADS ADVANCED DRAINAGE SYSTEMS, INC.

DRAWING #:	6000	
DRAWN BY:	JCB	03.20.07
APPROVED BY:	JCB	06.28.07
REVISIONS:	NJP	06.20.07

NON TRAFFIC INSTALLATION

DRAIN BASIN

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

INLINE DRAIN

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

DRAWN BY CJA DATE 9-30-99 REVISED BY NMH DATE 03-11-16 DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:25 SHEET 1 OF 1
ADS Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
TITLE DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION
DWG NO. 7001-110-111 REV F

HP STORM TRENCH INSTALLATION DETAIL

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS; CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48" (300mm - 1200mm)	12" (305mm)	48" (1219mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE, ft

	CLASS I	CLASS II			CLASS III		CLASS IV
PIPE DIA	COMPACTED	95%	90%	85%	95%	90%	95%
12" (300mm)	41 (12.5m)	28 (8.5m)	21 (6.4m)	16 (4.9m)	20 (6.1m)	16 (4.9m)	16 (4.9m)
15" (375mm)	42 (12.8m)	29 (8.8m)	21 (6.4m)	16 (4.9m)	21 (6.4m)	16 (4.9m)	16 (4.9m)
18" (450mm)	44 (13.4m)	30 (9.1m)	21 (6.4m)	16 (4.9m)	22 (6.7m)	17 (5.2m)	16 (4.9m)
24" (600mm)	37 (11.3m)	26 (7.9m)	18 (5.5m)	14 (4.3m)	19 (5.8m)	14 (4.3m)	14 (4.3m)
30" (750mm)	39 (11.9m)	27 (8.2m)	19 (5.8m)	14 (4.3m)	19 (5.8m)	15 (4.6m)	14 (4.3m)
36" (900mm)	28 (8.5m)	20 (6.1m)	14 (4.3m)	10 (3.0m)	14 (4.3m)	11 (3.4m)	10 (3.0m)
42" (1050mm)	30 (9.1m)	21 (6.4m)	14 (4.3m)	10 (3.0m)	15 (4.6m)	11 (3.4m)	10 (3.0m)
48" (1200mm)	29 (8.8m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	10 (3.0m)
60" (1500mm)	29 (8.8m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	9 (2.7m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE
UNIT WEIGHT OF SOIL (γs) = 120 PCF

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
6	REV. MAXIMUM COVER HEIGHTS	RWD	01/11/17	

TRENCH INSTALLATION DETAIL (HP STORM)
DRAWING NUMBER: STD-101D
ADS ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026
JAB 01/29/09 NTS 1 OF 1

3099CGSQ & 3099CGSQFH

APPROX. GRATE DRAIN AREA = 146.18 SQ IN
*APPROX. WEIGHT WITH FRAME & HOOD = 287.00 LBS

TOP OF BASE PLATE TO TOP OF DRAIN BASIN
12BASEG: 2.82
15BASEG: 2.82
18BASEG: 2.82
24BASEG: 2.82
30BASEG: .38

*WEIGHT DOES NOT INCLUDE DUCTILE IRON BASE PLATE
12BASEG: APPROX. 109.00 LBS
15BASEG: APPROX. 98.00 LBS
18BASEG: APPROX. 85.00 LBS
24BASEG: APPROX. 93.00 LBS
30BASEG: APPROX. 82.00 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7002-110-053
SLOPE OF GRATE SURFACE IS 5.2%
CURB INLET FRAME INSIDE VOLUME IS APPROX 1.76 CU FT
APPROX. DRAIN AREA OF GRATE & HOOD
LOWEST SETTING = 227.37 SQ IN
LOWEST + 1" SETTING = 248.25 SQ IN
LOWEST + 2" SETTING = 269.12 SQ IN
LOWEST + 3" SETTING = 290.00 SQ IN
HIGHEST SETTING = 310.87 SQ IN

DRAWN BY EBC DATE 03-28-06 REVISED BY CCA DATE 09-05-13 DWG SIZE A
MATERIAL DUCTILE IRON
PROJECT NO./NAME
SCALE 1:16 SHEET 1 OF 1
ADS Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
TITLE 2 FT X 2 FT CURB INLET STANDARD GRATE ASSEMBLY
DWG NO. 7002-110-042 REV D

NYLOPLAST INLINE DRAIN WITH STANDARD GRATE

(4, 5) TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

(3) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 4" - 30" FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE WALL), N-12 HP, PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO INLINE DRAINS SEE DRAWING NO. 7003-110-000 & 7003-110-001.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
4 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
5 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

DRAWN BY EBC DATE 1-23-06 REVISED BY NMH DATE 03-15-16 DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:40 SHEET 1 OF 1
ADS Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
TITLE INLINE DRAIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL
DWG NO. 7003-110-022 REV J

3099CGRDF & 3099CGRFH

APPROX. GRATE DRAIN AREA = 232.87 SQ IN
*APPROX. WEIGHT WITH FRAME & HOOD = 344.00 LBS

TOP OF BASE PLATE TO TOP OF DRAIN BASIN
18BASER: 2.83
24BASER: 2.83
30BASER: .44

*WEIGHT DOES NOT INCLUDE DUCTILE IRON BASE PLATE
18BASER: APPROX. 133.50 LBS
24BASER: APPROX. 122.00 LBS
30BASER: APPROX. 92.50 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7002-110-057
SLOPE OF GRATE SURFACE IS 5.2%
CURB INLET FRAME INSIDE VOLUME IS APPROX 2.73 CU FT
APPROX. DRAIN AREA OF GRATE & HOOD
LOWEST SETTING = 369.54 SQ IN
LOWEST + 1" SETTING = 402.41 SQ IN
LOWEST + 2" SETTING = 435.29 SQ IN
LOWEST + 3" SETTING = 468.16 SQ IN
HIGHEST SETTING = 501.04 SQ IN

DRAWN BY EBC DATE 04-10-06 REVISED BY CCA DATE 09-05-13 DWG SIZE A
MATERIAL DUCTILE IRON
PROJECT NO./NAME
SCALE 1:16 SHEET 1 OF 1
ADS Nyloplast 3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
TITLE 2 FT X 3 FT CURB INLET DIAGONAL GRATE ASSEMBLY
DWG NO. 7002-110-046 REV D

SECTION 2723

ENGINEERED SURFACE DRAINAGE PRODUCTS

GENERAL

PVC SURFACE DRAINAGE INLETS SHALL BE OF THE CURB INLET STRUCTURE TYPE AS INDICATED ON THE CONTRACT DRAWINGS AND REFERENCED WITHIN THE CONTRACT SPECIFICATIONS. THE **DUCTILE IRON FRAME, GRATE AND HOOD** FOR EACH OF THESE STRUCTURES ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SURFACE DRAINAGE INLET AND SHALL BE FURNISHED BY THE SAME MANUFACTURER. THE CURB INLET STRUCTURE SHALL BE AS MANUFACTURED BY NYLOPLAST A DIVISION OF ADVANCED DRAINAGE SYSTEMS, INC. OR PRIOR APPROVED EQUAL.

MATERIALS

THE CURB INLET STRUCTURE REQUIRED FOR THIS CONTRACT SHALL BE MANUFACTURED FROM PVC PIPE STOCK, UTILIZING A THERMO-MOLDING PROCESS TO REFORM THE PIPE STOCK TO THE SPECIFIED CONFIGURATION. THE DRAINAGE PIPE CONNECTION STUBS SHALL BE MANUFACTURED FORM PVC PIPE STOCK AND FORMED TO PROVIDE A WATERTIGHT CONNECTION WITH THE SPECIFIED PIPE SYSTEM. THIS JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPE USING FLEXIBLE ELASTOMERIC SEALS. THE FLEXIBLE ELASTOMERIC SEALS SHALL CONFORM TO ASTM F477. THE PIPE BELL SPIGOT SHALL BE JOINED TO THE MAIN BODY OF THE STRUCTURE. THE RAW MATERIAL USED TO MANUFACTURE THE PIPE STOCK THAT IS USED TO MANUFACTURE THE MAIN BODY AND PIPE STUBS OF THE SURFACE DRAINAGE INLETS SHALL CONFORM TO ASTM D1784 CELL CLASS 12454.

THE GRATE, FRAME AND HOOD FOR ALL CURB INLET STRUCTURES SHALL BE DUCTILE IRON AND SHALL BE MADE SPECIFICALLY FOR EACH SO AS TO PROVIDE A ROUND BOTTOM FLANGE THAT CLOSELY MATCHES THE DIAMETER OF THE PVC STRUCTURE BODY. THE GRATE, FRAME AND HOOD SHALL BE CAPABLE OF SUPPORTING H-20 WHEEL LOADING FOR TRAFFIC AREAS. THE HOOD SECTION WILL HAVE A SOLID BACK AND BE ADJUSTABLE BY USE OF THREE (3) LOCKING HEX HEAD BOLTS. THE METAL USED IN THE MANUFACTURE OF THE CASTINGS SHALL CONFORM TO ASTM A536 GRADE 70-50-05 FOR DUCTILE IRON.

INSTALLATION

THE SPECIFIED PVC SURFACE DRAINAGE INLET SHALL BE INSTALLED USING CONVENTIONAL FLEXIBLE PIPE BACKFILL MATERIALS AND PROCEDURES. THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS 1, CLASS 2, OR CLASS 3 MATERIAL AS DEFINED IN ASTM D2321. BEDDING AND BACKFILL FOR THE CURB INLET STRUCTURE SHALL BE PLACED AND COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321. THE CURB INLET STRUCTURE BODY WILL BE CUT AT THE TIME OF THE FINAL GRADE. NO BRICK, STONE OR CONCRETE BLOCK WILL BE REQUIRED TO SET THE GRATE TO THE FINAL GRADE HEIGHT. FOR H-20 LOAD RATED INSTALLATIONS, A CONCRETE RING WILL BE POURED UNDER THE FRAME, GRATE, AND HOOD. THE CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, AND OTHER APPLICABLE DESIGN FACTORS. FOR OTHER INSTALLATION CONSIDERATIONS SUCH AS MIGRATION OF FINES, GROUND WATER, AND SOFT FOUNDATIONS REFER TO ASTM D2321 GUIDELINES.

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COLORADO LICENSED PROFESSIONAL ENGINEER
MICAH PATRICK GIBBONS
64423
3/13/26

NO.	DATE:	BY:	DESCRIPTION:

PROJECT: 2387-008
DATE: 3/13/2026
CONTACT: Micah Gibbons
EMAIL: micahg@landmark-co.com

Steamboat Basecamp 2 Residential

Drainage Structure Details

SHEET
C.520

DRAWING FILENAME: P:\2387-008\DWGs\Production Drawings\Construction Documents\2387-008-CD-C.500 Civil Details.dwg LAYOUT NAME: C.520 DATE: Mar 13, 2026 - 4:50pm CAD OPERATOR: micah
LIST OF XREFS: [xBORDER] [Gibbons Stamp Signed]