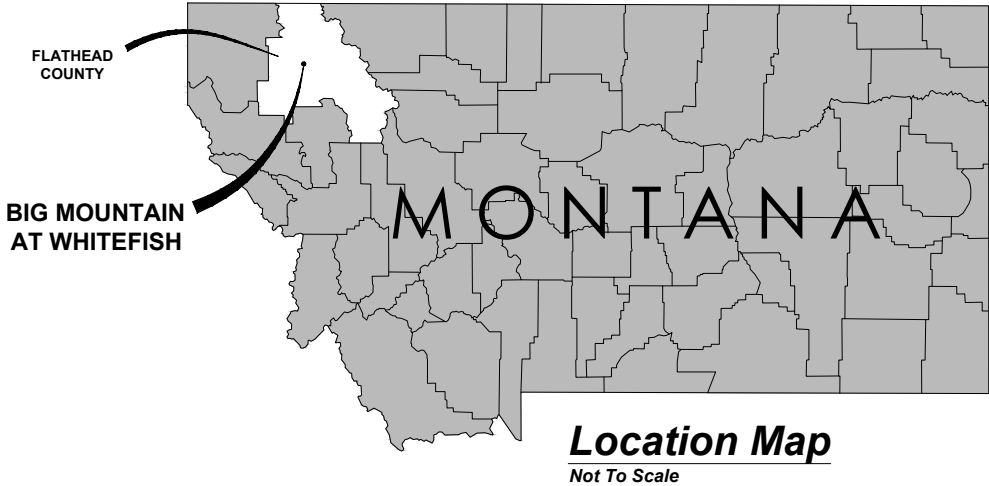


I&I Mitigation Project

Big Mountain County Sewer District

Whitefish, Montana



BASE BID:

- CURED-IN PLACE (CIP) LINING 14 SANITARY SEWER MANHOLES;
- REPLACING ONE SANITARY SEWER MANHOLE;
- RAISING/REBUILDING 17 SANITARY SEWER MANHOLE CHIMNEY SECTIONS;
- RAISING/RE-SEALING 7 SANITARY SEWER MANHOLE CASTINGS/LIDS;
- SPOT REPAIR 8" SEWER AT 1 LOCATION.
- ABANDON ONE MANHOLE;
- ABANDON ONE MANHOLE INLET

ALTERNATE B:

- CURED-IN PLACE (CIP) LINING 4 SANITARY SEWER MANHOLES;
- ONE NEW SANITARY SEWER MANHOLE;
- RAISING/REBUILDING 7 SANITARY SEWER MANHOLE CHIMNEY SECTIONS;
- RAISING/RE-SEALING 1 SANITARY SEWER MANHOLE CASTING/LID.

ALTERNATE C:

- CURED-IN PLACE (CIP) LINING 1 SANITARY SEWER MANHOLE;
- SPOT REPAIR 8" SEWER AT 2 LOCATIONS.

WORKSCOPE FOR BASE BID & ALL ALTERNATES INCLUDES:

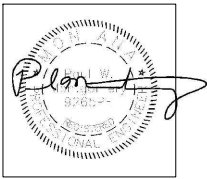
- ALL APPURTENANT WORK: BYPASS PUMPING; DEWATERING; TRAFFIC CONTROL; ASPHALT AND SURFACE RESTORATION; ETC.

PROJECT DESIGN TEAM

ANDERSON MONTGOMERY CONSULTING ENGINEERS

PRIMARY CONTACTS

Project Owner - Big Mountain County Sewer District
P.O. Box 1252, Whitefish, MT 59620
Jen Sato, Board President, bigmtsewerdist@gmail.com
AMCE - Paul Montgomery, (406) 459-8463, Paul@a-mce.com
On Site - Jason Hanchett, (406) 862-1991, jasonh@skiwhitefish.com



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.



Owner
Big Mountain County Sewer District

Project Title
I&I Mitigation Project

Sheet Title
Cover

Sheet
1

X:\BIG MOUNTAIN SEWER DISTRICT\DRAWINGS\Sheets Re-Bid\Sheet 2 - Key Sheet.dwg SAVED:6/2/22 PRINTED:6/2/22 BY: ADAM

GENERAL NOTES:

1.

CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS FOR CONSTRUCTION, DEWATERING AND STORMWATER DISCHARGES.
2.

AS CONSTRUCTED ELEVATIONS SHALL BE WITHIN 0.1' OF ELEVATION SPECIFIED ON THE PLAN DRAWINGS.
3.

CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING SITE FEATURES (INCLUDING VEGETATION, SURFACES, STRUCTURES, SURVEY MONUMENTATION, MAILBOXES, CULVERTS, SIGNAGE, DRAINAGE, ETC.) TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SITE FEATURES SHALL BE REPAIRED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4.

CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SEWER MAIN SIZE, MATERIAL TYPE, MANHOLE SIZE, MATERIALS AND CONDITION PRIOR TO INITIATION OF SEWER SYSTEM REPLACEMENT/REHABILITATION ACTIVITIES.
5.

CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DUST CONTROL DURING CONSTRUCTION.
6.

CONTRACTOR MUST COMPLY WITH MONTANA DEPARTMENT OF TRANSPORTATION REQUIREMENTS FOR CONSTRUCTION CONTRACTORS.
7.

THE OWNER AND RESIDENTS SHALL BE NOTIFIED PRIOR TO CHANGE OR DISRUPTION OF WATER OR SEWER SYSTEM OPERATION. SEWER SERVICE SHALL BE INTERRUPTED FOR A PERIOD NO LONGER THAN 5 HOURS. SERVICE INTERRUPTION ON THE OUTFALL LINE SHALL NOT BE PERMITTED AND BYPASS PUMPING WILL BE REQUIRED.
8.

ALL SEWER INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND MPW STANDARD DRAWINGS 02221-1, 02660-2, 02720-3, 02720-5 AND SECTION 02730.
9.

TRENCHES FOR THE INSTALLATION OF WATER OR SEWER MAINS SHALL BE PROPERLY BACKFILLED AS QUICKLY AS POSSIBLE, BUT NO MORE THAN 48 HOURS AFTER INITIAL DIGGING. UNLESS OTHERWISE PROVIDED.
10.

WHEN WORKING NEAR OR EXPOSING EXISTING UTILITIES AND SERVICE LINES, WORKERS SHALL UTILIZE HAND DIGGING IN ORDER TO AVOID DAMAGE TO THOSE UTILITIES. IF DAMAGE OCCURS, THE COST OF REPAIR AND PENALTIES CAN BE IMPOSED BY THE OWNER UPON THE CONTRACTOR.
11.

ALL NEW SEWER INSTALLED SHALL BE SDR 35 PCV PIPE.
12.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY DIMENSIONS AND LOCATIONS OF UTILITY INFRASTRUCTURE AND IMPACTED SITE FEATURES TO DETERMINE FOR HIMSELF/HERSELF THE LEVEL OF WORK NECESSARY TO COMPLETE THE PROJECT.
13.

MANHOLE REHABILITATION INCLUDES ANY COMBINATION OF: REPLACEMENT OF JOINT MASTIC; EXTERNAL JOINT & PENETRATION WATERPROOFING; EXTERNAL CHIMNEY SEAL; COMPOSITE RISER RING(S); BOLTED FRAME/LID AND CONCRETE COLLAR(S).

UTILITY NOTES:

1.

BEFORE BEGINNING ANY EXCAVATION, THE CONTRACTOR SHALL PROVIDE VERIFICATION THAT ONE-CALL HAS BEEN NOTIFIED AND UTILITIES HAVE BEEN LOCATED.
2.

THE ENGINEER HAS OBTAINED UTILITY INFORMATION FROM ONE-CALL DURING SURVEYING. THE UTILITY LOCATION INFORMATION IS APPROXIMATE AND MAY BE INCOMPLETE.
3.

AFTER AN OWNER OF AN UNDERGROUND FACILITY HAS LOCATED AND MARKED THE UNDERGROUND FACILITIES, THE CONTRACTOR SHALL DETERMINE IF WEATHER, TIME, OR OTHER FACTORS MAY HAVE AFFECTED LOCATION MARKS, WARRANTING RELOCATION OF THE FACILITIES.
4.

IF EXCAVATION HAS NOT OCCURRED WITHIN 30 DAYS OF THE LOCATE AND MARK, THE CONTRACTOR SHALL REQUEST THAT THE FACILITY BE RELOCATED AND REMARKED BEFORE EXCAVATING UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE WITH THE UNDERGROUND UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH RELOCATING AND REMARKING A FACILITY THAT IS NOT EXCAVATED WITHIN 30 DAYS OF THE LOCATE AND MARK.
5.

THE CONTRACTOR MAY NOT BEGIN EXCAVATING BEFORE THE LOCATING AND MARKING IS COMPLETE OR BEFORE THE CONTRACTOR IS NOTIFIED THAT LOCATING AND MARKING IS UNNECESSARY.
6.

THE CONTRACTOR SHALL LOCATE AND MARK THE AREA TO BE EXCAVATED IF REQUESTED BY THE UNDERGROUND FACILITY OWNER OR THEIR REPRESENTATIVE. IF THE CONTRACTOR DISCOVERS AN UNDERGROUND FACILITY THAT HAS NOT BEEN LOCATED AND MARKED, THE CONTRACTOR SHALL STOP EXCAVATING IN THE VICINITY OF THE FACILITY AND NOTIFY THE FACILITY OWNER OR THE ONE-CALL NOTIFICATION CENTER. IF THIS OCCURS THE CONTRACTOR SHALL PROCEED WITH OTHER ELEMENTS OF THE PROJECT, AT NO COST TO THE PROJECT OWNER, UNTIL THE UNDERGROUND FACILITY OWNER HAS NOTIFIED THE CONTRACTOR THAT EXCAVATION CAN PROCEED.
7.

PRIVATE INDIVIDUAL UNDERGROUND FACILITIES HAVE NOT BEEN LOCATED AND ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR SHOULD THEY BE DAMAGED. THESE INDIVIDUAL UNDERGROUND FACILITIES MAY INCLUDE BUT ARE NOT LIMITED TO: INDIVIDUAL ELECTRIC, NATURAL GAS, PROPANE, TELEPHONE, SEWER, SATELLITE DISH, AND WATER SERVICE LINES. TELECOMMUNICATION UTILITIES SHALL BE CONTACTED IN ADVANCE TO COORDINATE UTILITY LOCATION AND CONSTRUCTION WORK.

LEGEND / ABBREVIATIONS:	SYMBOL:
CAST IRON PIPE	CIP
DUCTILE IRON PIPE	DIP
POLYVINYL CHLORIDE	PVC
CENTERLINE	C
ELEVATION	ELEV.
EXISTING	EX.
CUBIC YARDS	C.Y.
EACH	EA
INVERT ELEVATION	IE
LINEAL FOOT	LF
SHEET	SHT.
TYPICAL	TYP.
HORIZONTAL DIRECTIONAL DRILL	HDD
RIGHT OF WAY	ROW
PROPERTY LINE	----
EDGE OF PAVEMENT	-----
FENCE	—o—o—
CABLE TELEVISION	— CTV —
GAS	— GAS —
OVERHEAD ELECTRICAL	— OE —
UNDERGROUND ELECTRICAL	— UE —
TELEPHONE	— T —
POWER POLE	PP
POWER POLE (SYMBOL)	● PP
GUY WIRE	— GUY —
LIGHT POLE	○
STREET SIGN	●
EXISTING WATER	— W —
NEW WATER	— W —
WATER SERVICE	— WS —
MANHOLE	MH
MANHOLE (SYMBOL)	⊗
EXISTING SANITARY SEWER	— S —
NEW SANITARY SEWER	— S —
FORCEMAIN	— FM —
PLUG, ABANDON EXISTING	E
STORM SEWER	— ST —
CULVERT	▨
CASING PIPE	▬
FLANGE	FL
MECHANICAL JOINT	MJ
PLAIN END	PE
BEND	Y
CROSS, TEE	⊕
REDUCER	△
CURB STOP	○
HYDRANT	⊙
VALVE	⊗

NOTES: CONTACT THE ENGINEER FOR SYMBOLS NOT LISTED. THIS IS A STANDARD LEGEND SHEET. THEREFORE, SOME SYMBOLS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.

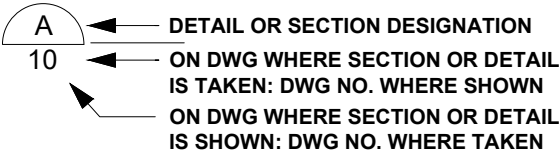
SHEET INDEX: ALTERNATE B

GENERAL	
1	COVER
2	KEY SHEET
3	METADATA
4	VILLAGE PLAN
5	OUTFALL LINE PLAN
6	OUTFALL LINE PLAN CONT.
7	OUTFALL LINE PLAN CONT.
8	OUTFALL LINE PLAN CONT.
9	OUTFALL LINE PLAN CONT.
10	SPOT REPAIR MH A3-1 TO MH A3-1A
11	SPOT REPAIR MH A3-1A TO MH A3-1B
12	SEWER WORK MH A4.6 TO MH A4.5
13	MANHOLE A1
14	MANHOLE A1B
15	MANHOLE A1-1.1
16	MANHOLE A1-1.3
17	MANHOLE A1-1.4
18	MANHOLE A2-1.5
19	MANHOLE A2-2
20	MANHOLE A2-2.1
21	MANHOLE A2-2.4
22	MANHOLE A2-4A
23	MANHOLE A3-1
24	MANHOLE A3-1A
25	MANHOLE A3-2.3
26	MANHOLE A3-3
27	MANHOLE A3-5
28	MANHOLE A3-5.1
29	MANHOLE A3-5.3
30	MANHOLE A3-5.6

ALTERNATE C

GENERAL CONTINUED	
31	MANHOLE A4B
32	MANHOLE A4.6
33	MANHOLE S1-1
34	MANHOLE 1B
35	MANHOLE 7
36	MANHOLE 8
37	MANHOLE 9
38	MANHOLE 11
39	MANHOLE 16
40	MANHOLE 21
41	MANHOLE 22
42	MANHOLE 26A
43	MANHOLE 27
44	MANHOLE 30
45	MANHOLE 30A
46	MANHOLE 31
47	MANHOLE 32
48	MANHOLE 32A
49	MANHOLE 33
50	MANHOLE 33A
DETAILS	
D1	MANHOLE DETAILS
D2	MAHOLE DETAILS CONTINUED
D3	DETAILS

DETAIL DESIGNATION:



Revision

Date

By

Draft

12-20-21

AE

Draft

3-10-22

AE

Final

4-17-22

AE

Re-Bid Final

6-10-22

AE

Revision

Re-Bid Final

Plot Scale

1:2

Drawn By

A.Eckhart, P.E.

Approved By

P.Montgomery, P.E.

Checked By

A.Eckhart, P.E.

Designed By

P.Montgomery, P.E.

Engineer

AM

Anderson~ Montgomery

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Owner

Big Mountain County Sewer District

Project Title

I&I Mitigation Project

Sheet Title

Key Sheet

Sheet

2

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Point 50



Point 51

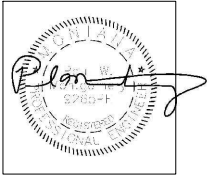


Point 52



Point 53

SURVEY CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
50	792248.445	1579699.729	4627.15	RPC ELI
51	792776.253	1574572.202	4257.28	RPC ELI
52	790705.014	1573733.99	3945.38	X ON 3/4 REBAR
53	791462.421	1563952.789	3106.65	X ON 3/4 REBAR



Revision	Date	By
Draft	12-20-21	AE
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Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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District

Project Title

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Project

Sheet Title

Survey
Control
Coordinates

Sheet

3

Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
e-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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owner

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Project

Sheet Title

Village Plan View

meet

4



ALTERNATE B

ALTERNATE C

Village Plan

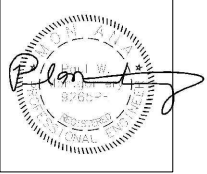
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Outfall Line Plan



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Big Mountain
County
Sewer
District

Project Title

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Project

Sheet Title

Outfall Line
Plan View

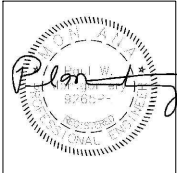
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Outfall Line Plan Continued



Revision	Date	By
Draft	12-20-21	AE
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Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

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Owner

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Project Title

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Project

Sheet Title

Outfall Line
Plan View
Continued

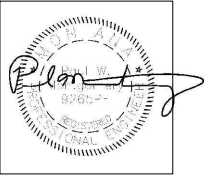
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Outfall Line Plan Continued



Revision	Date	By
Draft	12-20-21	AE
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Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
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Project Title

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Sheet Title

Outfall Line
Plan View
Continued

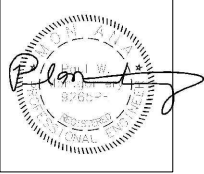
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Outfall Line Plan Continued



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Sheet Title

Outfall Line
Plan View
Continued

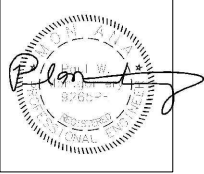
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Outfall Line Plan Continued



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
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Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
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Project Title

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Project

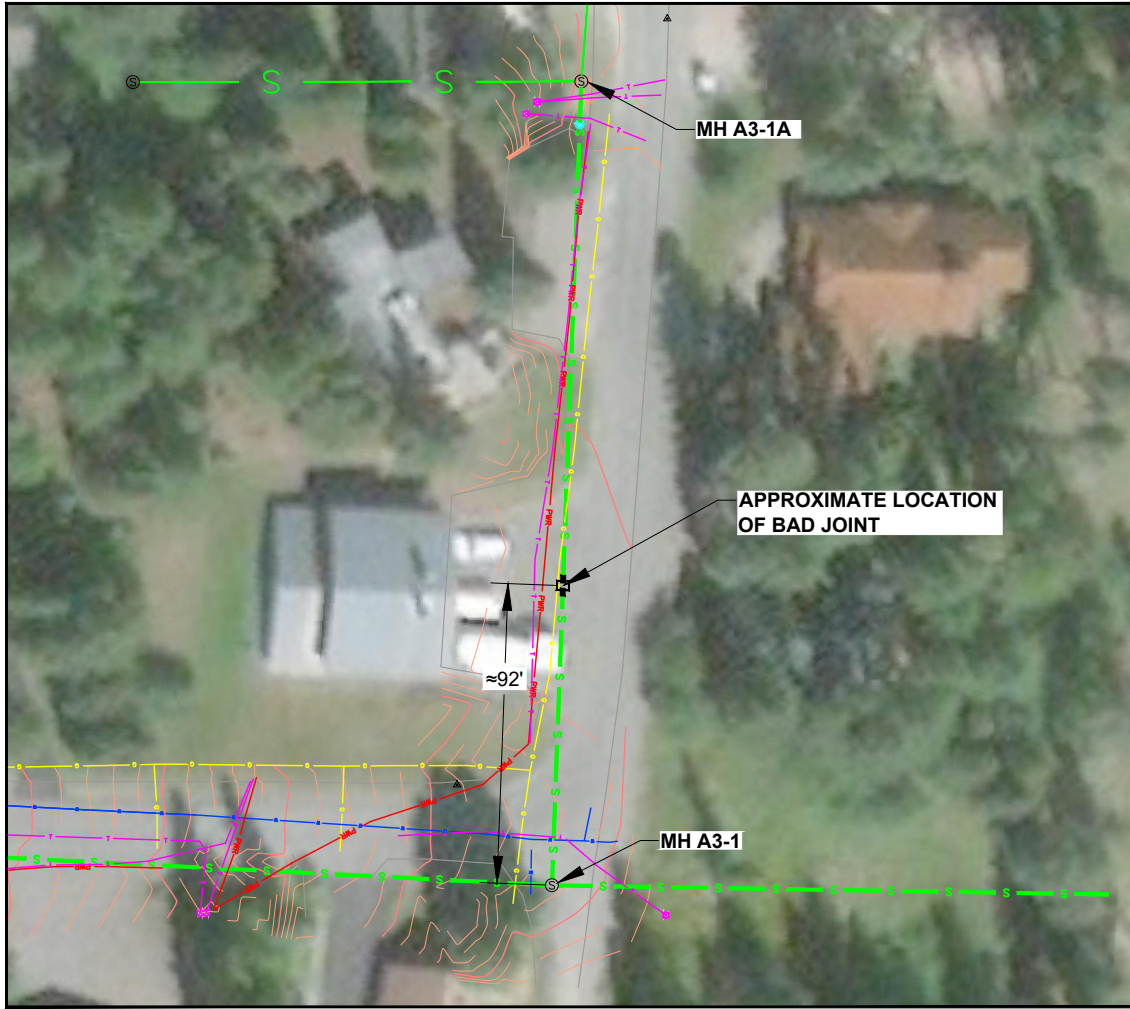
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Outfall Line
Plan View
Continued

Sheet

9

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Spot Repair A3-1 to A3-1A

1
4

SCALE 30 15 0 30 60
Feet

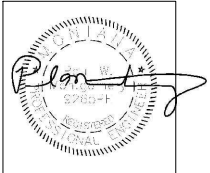


- NOTES:**
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT WERE SURVEYED TO HELP CONTRACTOR LOCATE SPOT REPAIR.
 - LOCATION OF SPOT REPAIR IS APPROXIMATE AND BASED OFF CCTV TAPES.
 - CCTV TAPE INDICATED THAT THERE IS EVIDENCE OF INFILTRATION AT A PIPE JOINT. CONTRACTOR SHALL LOCATE THE JOINT VIA EXPLORATORY EXCAVATION, INSPECT THE JOINT AND REPORT TO THE ENGINEER.



Spot Repair Photo

ALTERNATE C



Revision	Date	By
Draft	12-20-21	AE
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Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Project

Sheet Title

**Spot Repair
MH A3-1
To
MH A3-1A**

Sheet

10

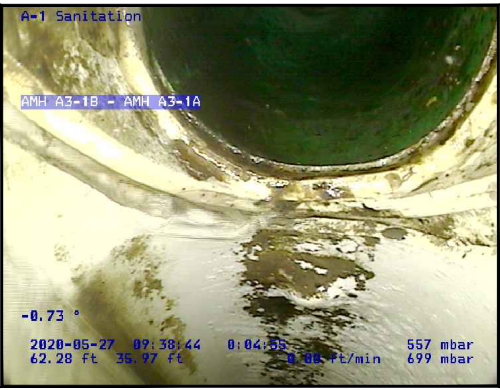
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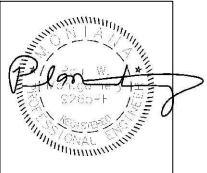
Spot Repair A3-1A to A3-1B



- NOTES:
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT WERE SURVEYED TO HELP CONTRACTOR LOCATE SPOT REPAIR.
 - LOCATION OF MANHOLE A3-1B IS APPROXIMATE AND BASED OFF CCTV TAPES.



Spot Repair Photos



Revision	Date	By
Draft	12-20-21	AE
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Final	4-17-22	AE
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Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

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District

Project Title

I&I
Mitigation
Project

Sheet Title

Spot Repair
MH A3-1A
to
MH A3-1B

Sheet

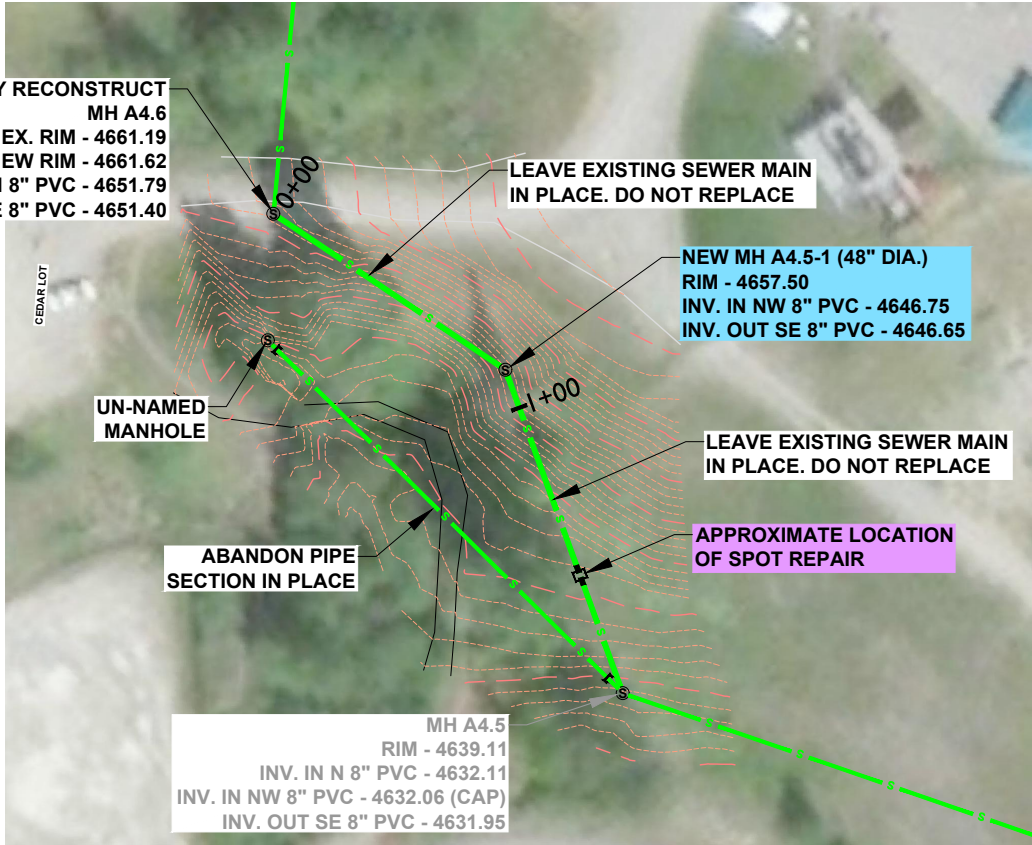
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X:\BIG MOUNTAIN SEWER DISTRICT\DRAWINGS\Sheets Re-Bid\Sheet 12 - Sewer Work A4.6 to A4.5.dwg SAVED:6/2/22 PRINTED:6/9/22 BY:ADAM

- NOTE:
- UTILITY CROSSING ELEVATIONS ARE APPROXIMATE
 - ALL LANDSCAPING AFFECTED BY CONSTRUCTION SHALL BE REPLACED TO ORIGINAL OR BETTER CONDITION
 - RECONNECT ALL EXISTING SERVICE LINES AFFECTED BY WORK ASSOCIATED WITH THIS SHEET. SERVICE LINES WERE LOCATED USING CCTV TAPES. LOCATIONS SHOWN ON MAP ARE APPROXIMATE. SEE DETAIL



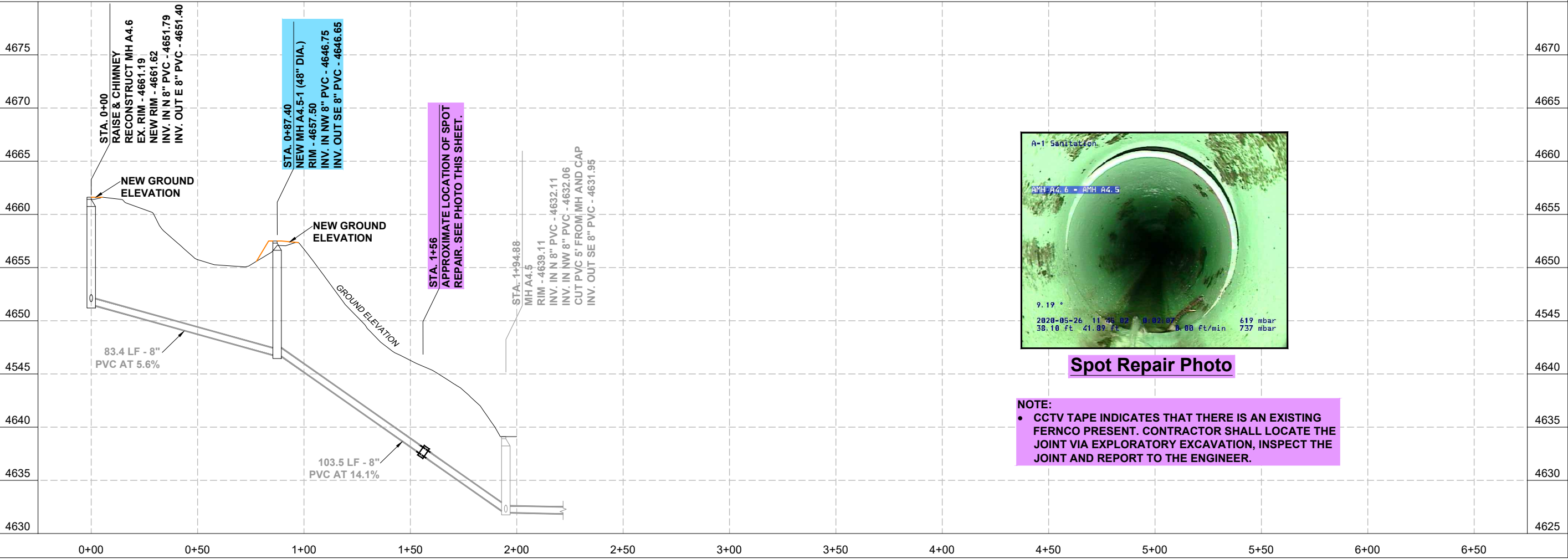
RAISE & CHIMNEY RECONSTRUCT
MH A4.6
EX. RIM - 4661.19
NEW RIM - 4661.62
INV. IN N 8" PVC - 4651.79
INV. OUT E 8" PVC - 4651.40



MANHOLE SCHEDULE:

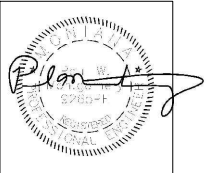
- MH A4.6**
- RAISE & CHIMNEY RECONSTRUCT - SEE DETAIL
- MH A4.5-1**
- NEW EXISTING 48" DIAMETER MANHOLE
 - ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE BEND IN THE MAIN AND VERIFY DEPTH OF PIPE INVERT. NEW MH A4.5-1 CHANNEL SHALL MATCH INLET FROM MH A4.6 AND OUTLET TO MH A4.5. SEE DETAIL
- MH A4.5**
- INV. IN NW CUT PVC 5' FROM MANHOLE AND CAP
- UN-NAMED MH**
- REMOVE CASTING, RISER RINGS, AND CONE SECTION. FILL BARREL WITH SAND, BACKFILL WITH NATIVE MATERIAL, COMPACT TO 85% STANDARD PROCTOR. CUT PVC 5' FROM MANHOLE, FILL MINIMUM 2' OF PIPE WITH LOW SLUMP CONCRETE AND CAP.

ALTERNATE B ALTERNATE C



Spot Repair Photo

- NOTE:
- CCTV TAPE INDICATES THAT THERE IS AN EXISTING FERNCO PRESENT. CONTRACTOR SHALL LOCATE THE JOINT VIA EXPLORATORY EXCAVATION, INSPECT THE JOINT AND REPORT TO THE ENGINEER.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer

1064 N. Warren
Helena, MT 59601
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Owner

Big Mountain County Sewer District

Project Title

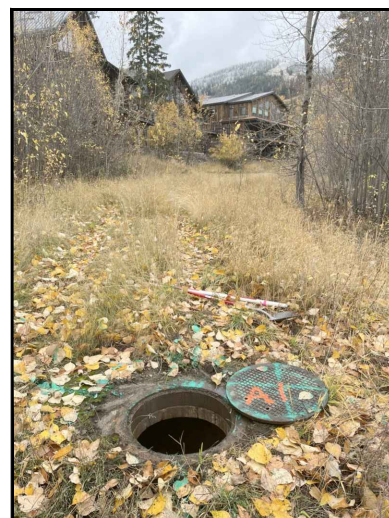
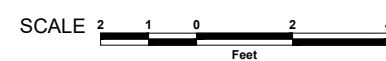
I&I Mitigation Project

Sheet Title

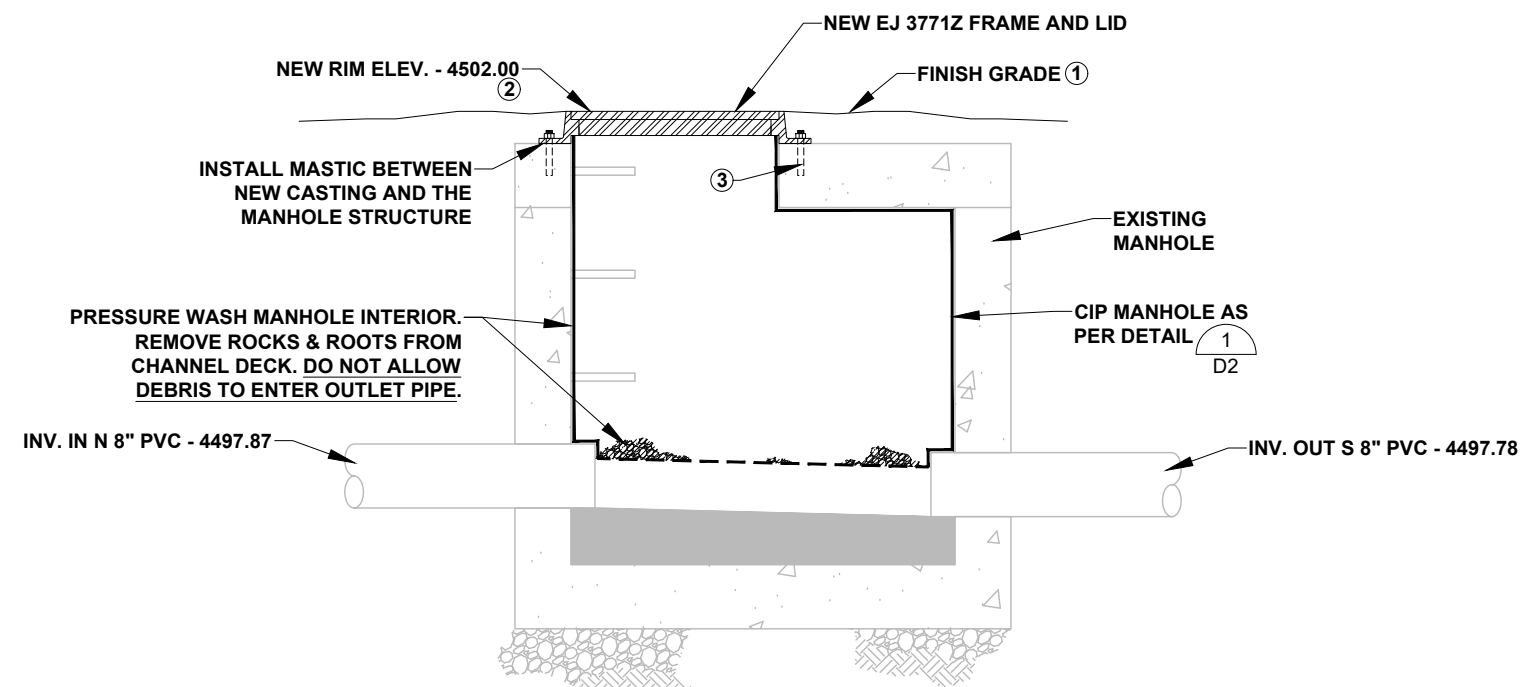
Sewer Work MH A4.6 To MH 4.5

Sheet

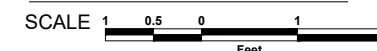
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Manhole A1 Photos

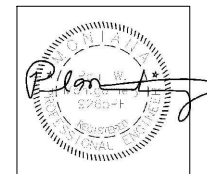


Manhole A1 Section



NOTES:

- NOTES:**
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
 - ② INSTALL THE NEW CASTING DIRECTLY ON THE MANHOLE STRUCTURE. IF THE RIM ELEVATION IS LOWER THAN WHAT IS SHOWN ON THE DRAWING ADD COMPOSITE RISER RINGS TO REACH $\pm 1/4"$ OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS. IF THE RIM ELEVATION OF THE NEW CASTING INSTALLED DIRECTLY ON TOP OF THE MANHOLE STRUCTURE IS HIGHER THAN WHAT IS SHOWN ON THE DRAWINGS NOTE THE ELEVATION ON THE AS-BUILT DRAWINGS.
 - ③ THE NEW FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision
Re-Bid Final

Plot Scale 1:2

Drawn By
A.Eckhart, P.E.

Approved By
P. Montgomery, P.E.

Checked By
A. Eckhart, P.E.

Designed By	P.Montgomery, P.E.
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Owner

Big
Mountain
County
Sewer
District

Project Title

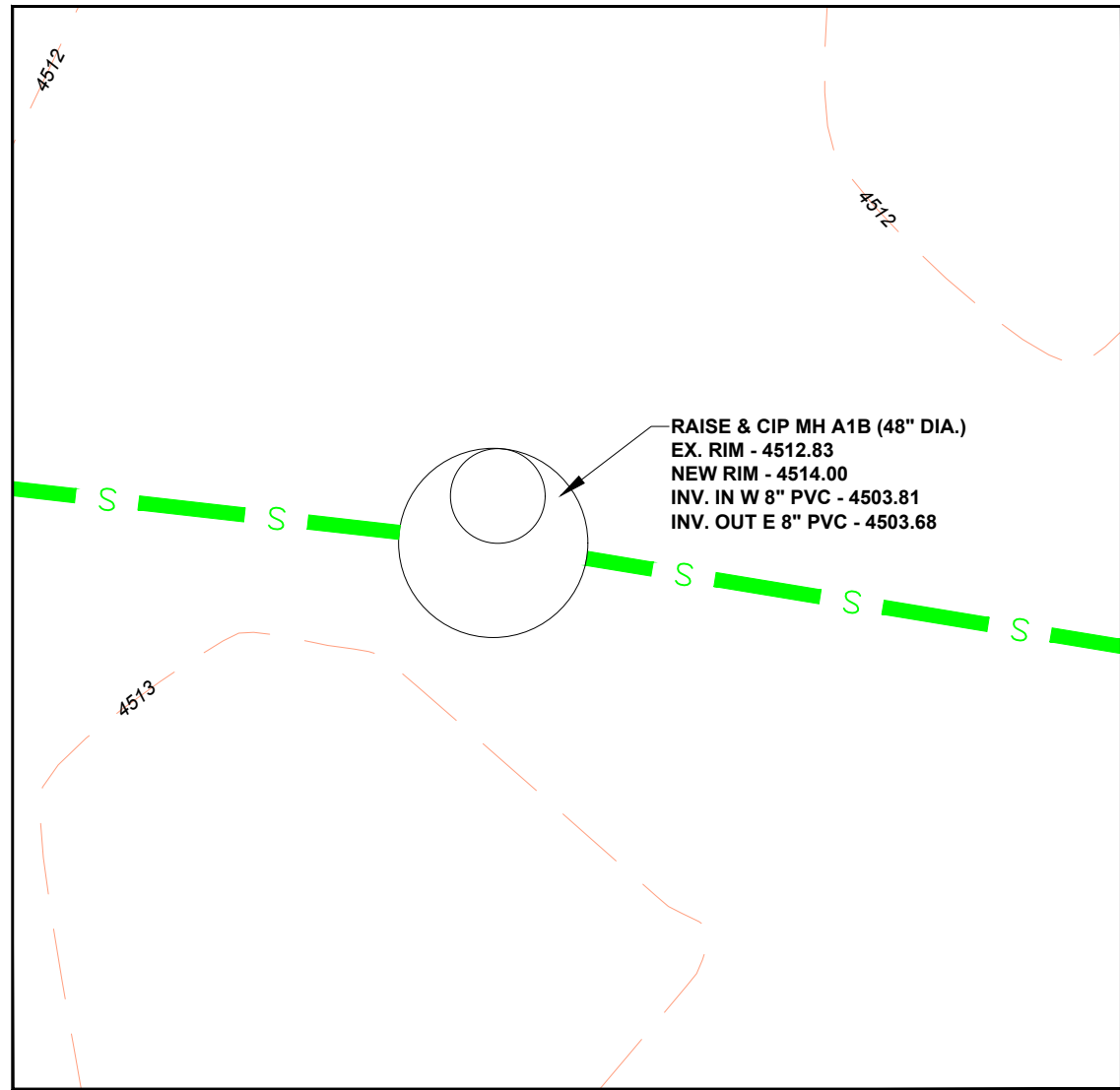
I&I
Mitigation
Project

Sheet Title

Manhole A1

Sheet

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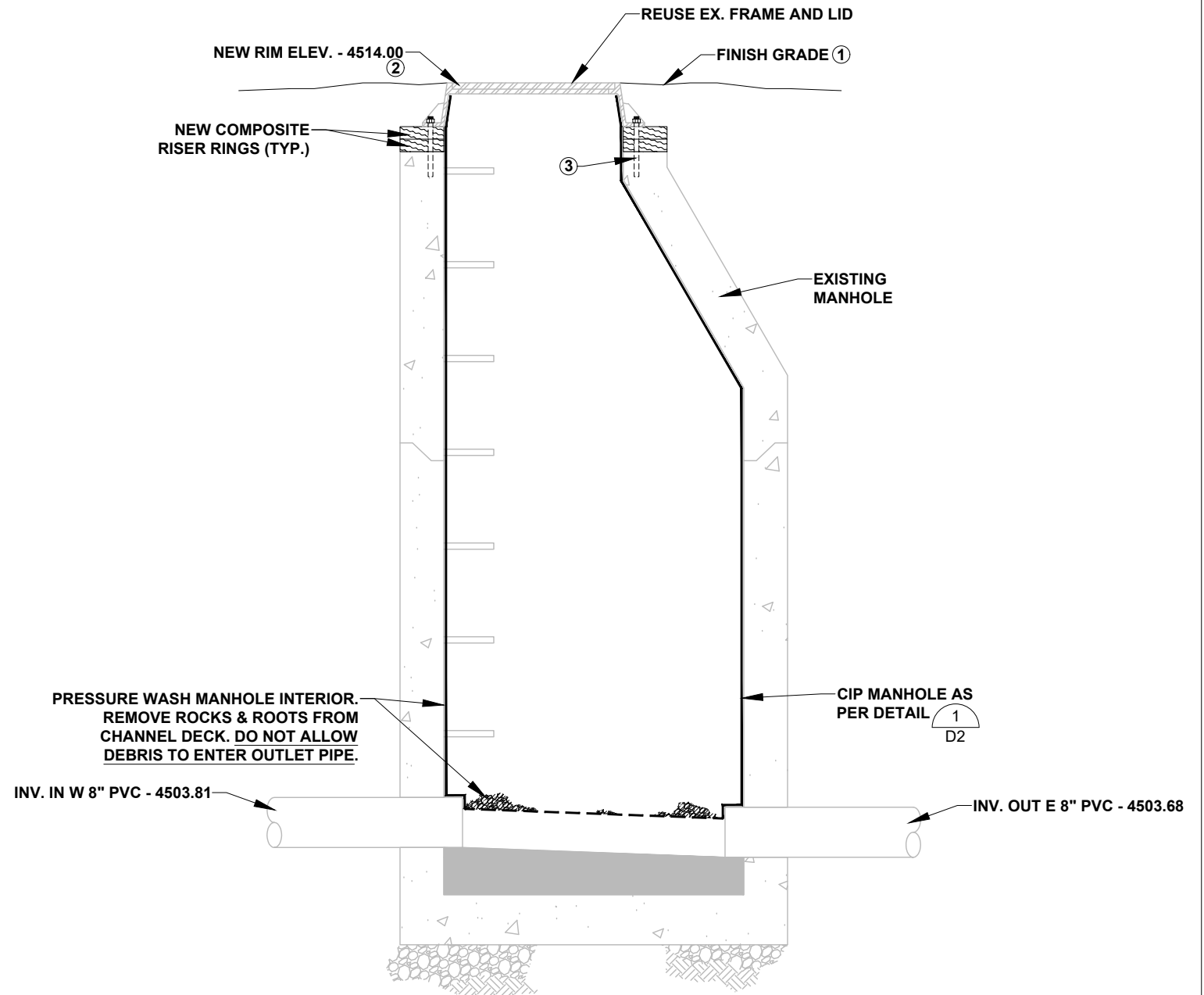


Manhole A1B $\frac{1}{4}$

SCALE Feet



Manhole A1B Photos

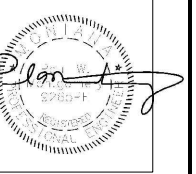


Manhole A1B Section

SCALE Feet

NOTES:

- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
- ② FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4$ " OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
- ③ THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision
Re-Bid Final
Plot Scale
1:2
Drawn By
A.Eckhart, P.E.
Approved By
P.Montgomery, P.E.
Checked By
A.Eckhart, P.E.
Designed By
P.Montgomery, P.E.

Engineer



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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

Sheet Title

**Manhole
A1B**

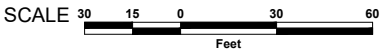
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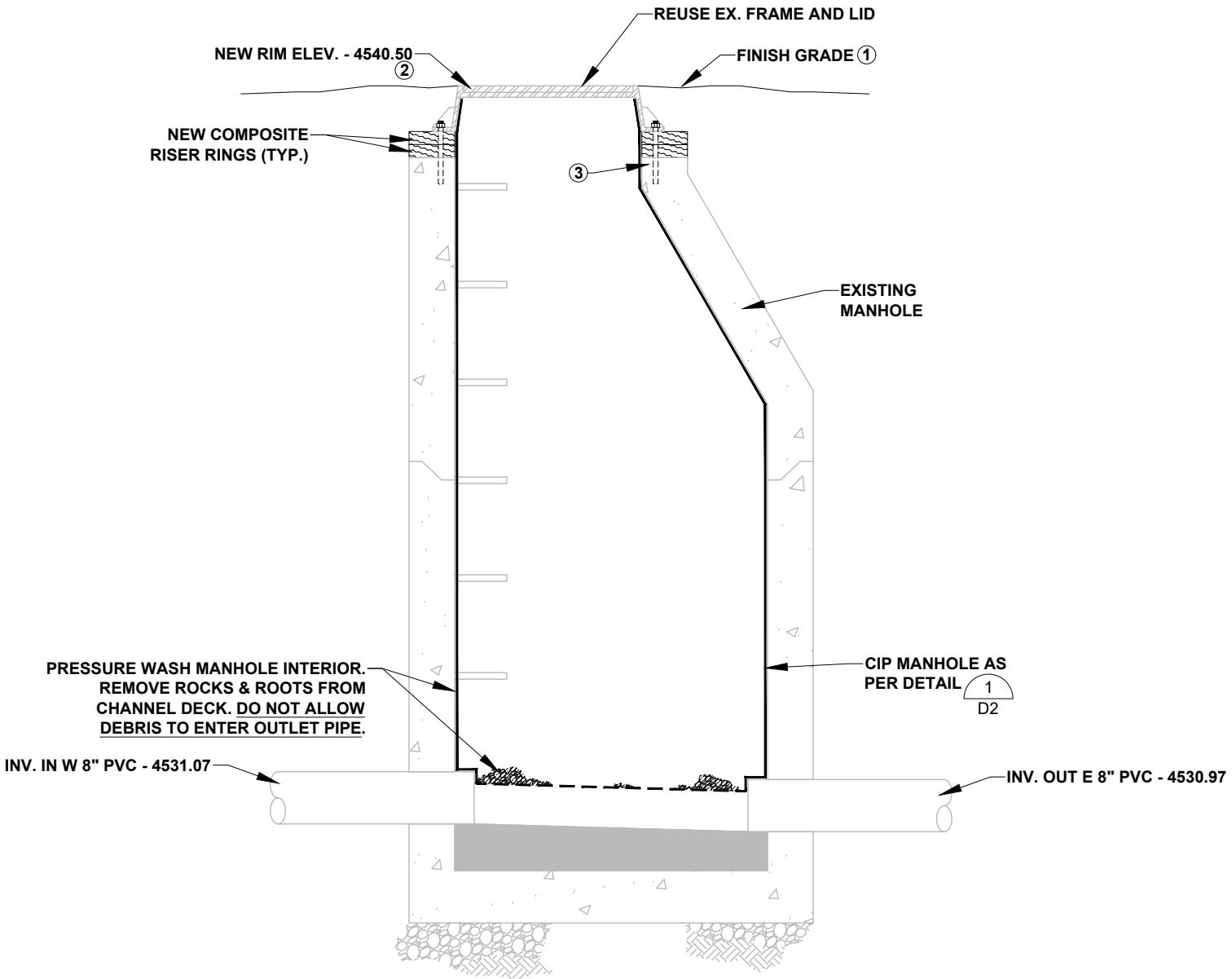
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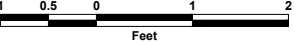






Manhole A1-1.1 

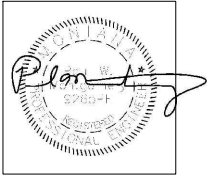


- NOTES:**
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT WERE SURVEYED TO HELP CONTRACTOR LOCATE MANHOLE A1-1.1.
 - LOCATION OF MANHOLE A1-1.1 IS APPROXIMATE AND BASED OFF CCTV TAPES.



Manhole A1-1.1 Section
SCALE 

- NOTES:**
-  SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
 -  FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4$ " OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
 -  THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.
 -  CONTRACTOR SHALL VERIFY RIM ELEVATION & INV. ELEVATIONS AND PRESENT THEM TO THE ENGINEER TO DETERMINE THE NEW MANHOLE RIM ELEVATION. THE ELEVATIONS SHOWN ON THE DRAWING ARE ESTIMATED BASED ON THE SURVEY DATA COLLECTED.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer



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Big Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

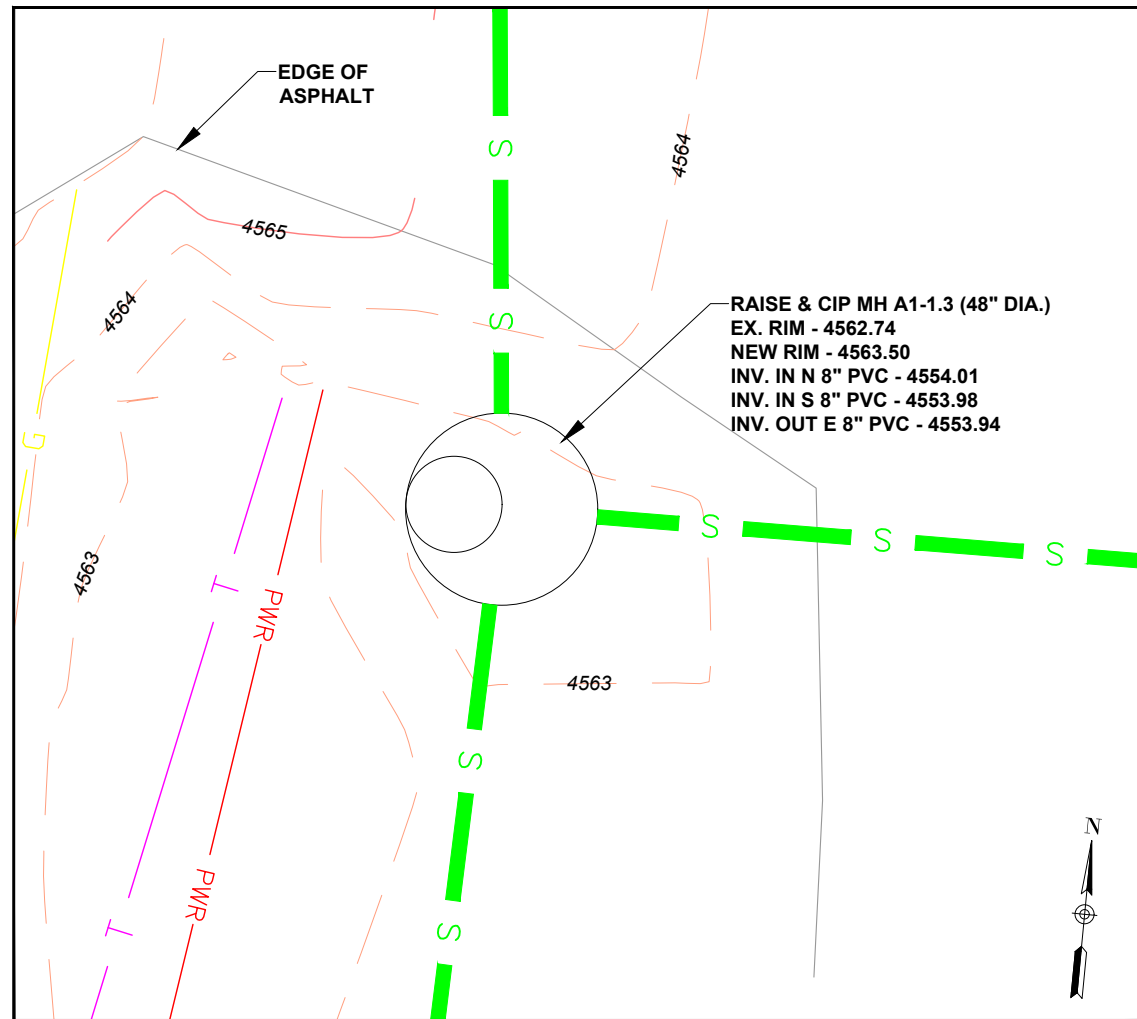
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**Manhole
A1-1.1**

Sheet

15

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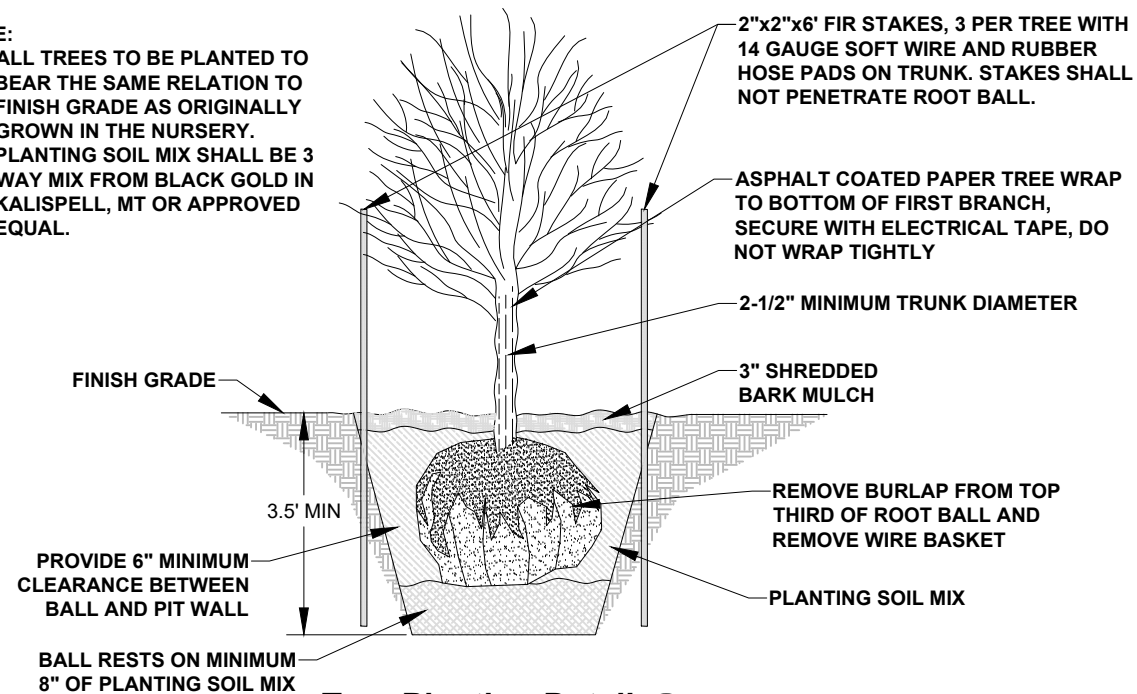


Manhole A1-1.3 1
4

SCALE 0 2 4
Feet

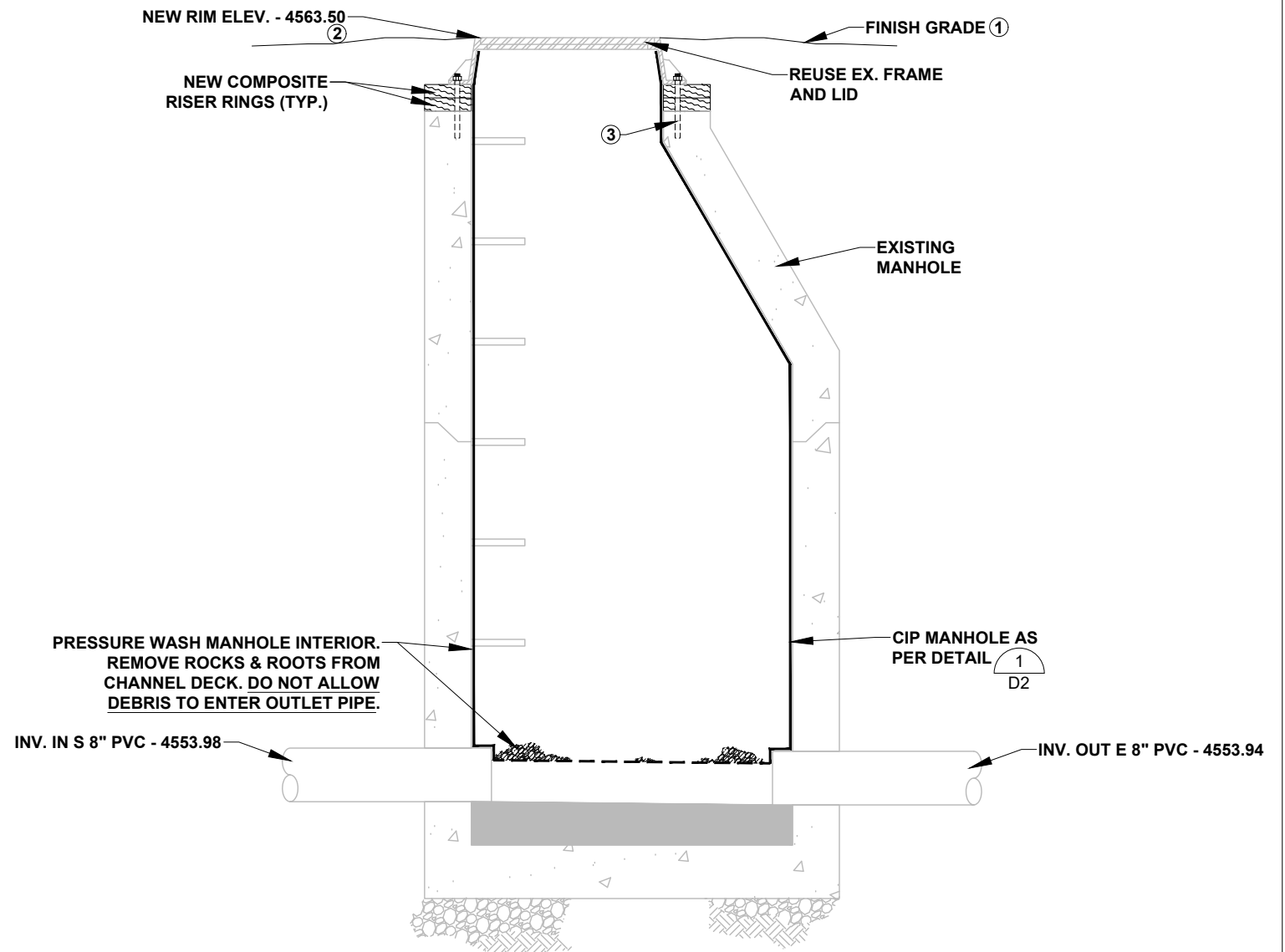
NOTE:

- ALL TREES TO BE PLANTED TO BEAR THE SAME RELATION TO FINISH GRADE AS ORIGINALLY GROWN IN THE NURSERY.
- PLANTING SOIL MIX SHALL BE 3 WAY MIX FROM BLACK GOLD IN KALISPELL, MT OR APPROVED EQUAL.



Tree Planting Detail 2
16

NO SCALE



Manhole A1-1.3 Section

SCALE 0 1 2
Feet

NOTES:

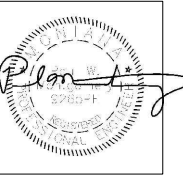
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
- ② FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4$ " OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
- ③ THE EX. FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.



RESTORE
LANDSCAPING

REPLACE ALL TREES LARGER
THAN 6" DIAMETER IMPACTED BY
CONSTRUCTION. SEE DETAIL 2

16



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer



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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

Sheet Title

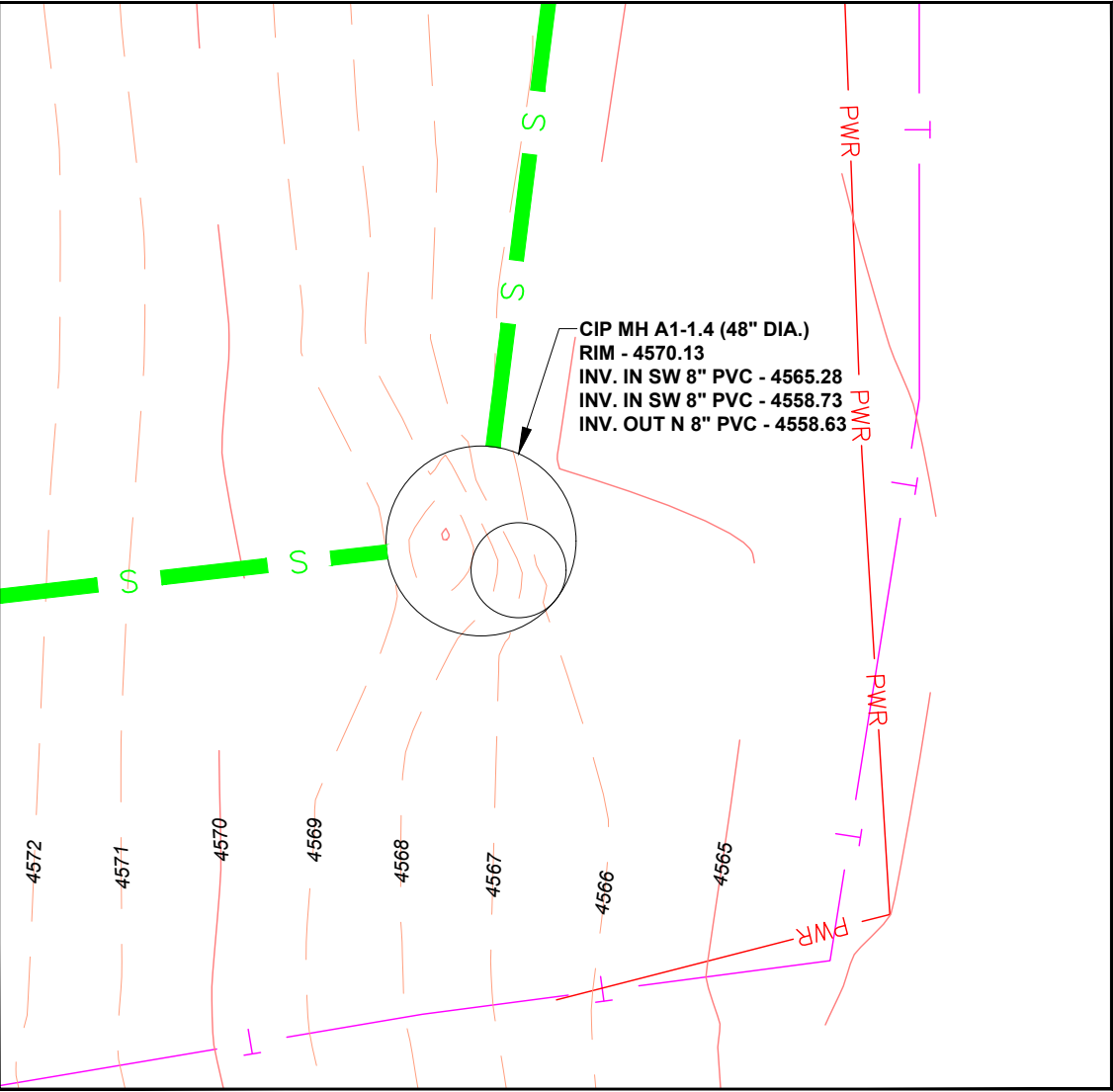
**Manhole
A1-1.3**

Sheet

16

Manhole A1-1.3 Photos

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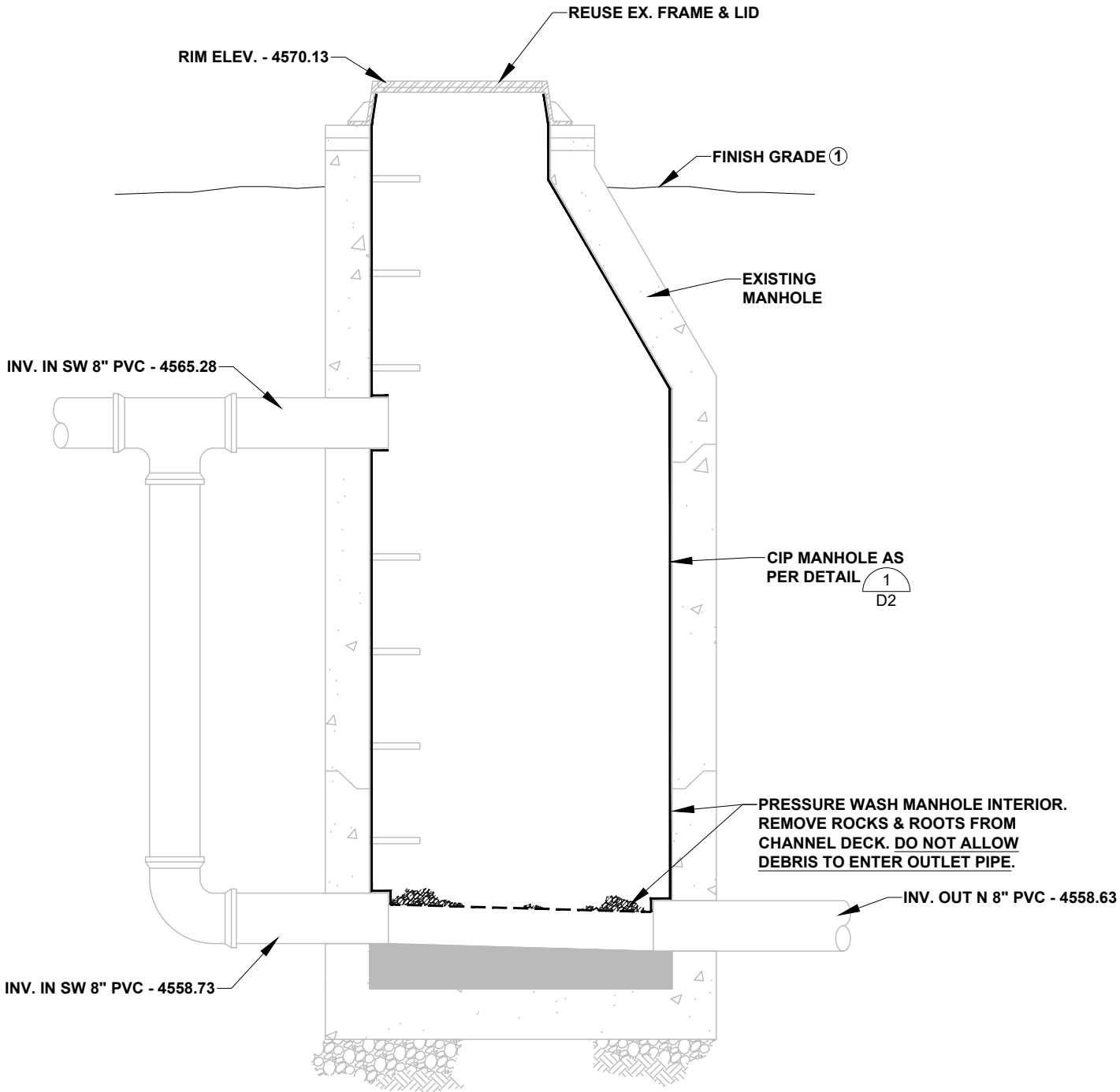
Manhole A1-1.4 $\frac{1}{4}$

SCALE 2 1 0 2 4
Feet



RESTORE
LANDSCAPING

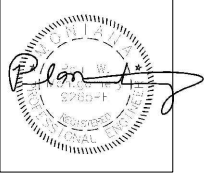
Manhole A1-1.4 Photos



Manhole A1-1.4 Section

SCALE 1 0.5 0 1 2
Feet

NOTES:
① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

Anderson-Montgomery
CONSULTING ENGINEERS

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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

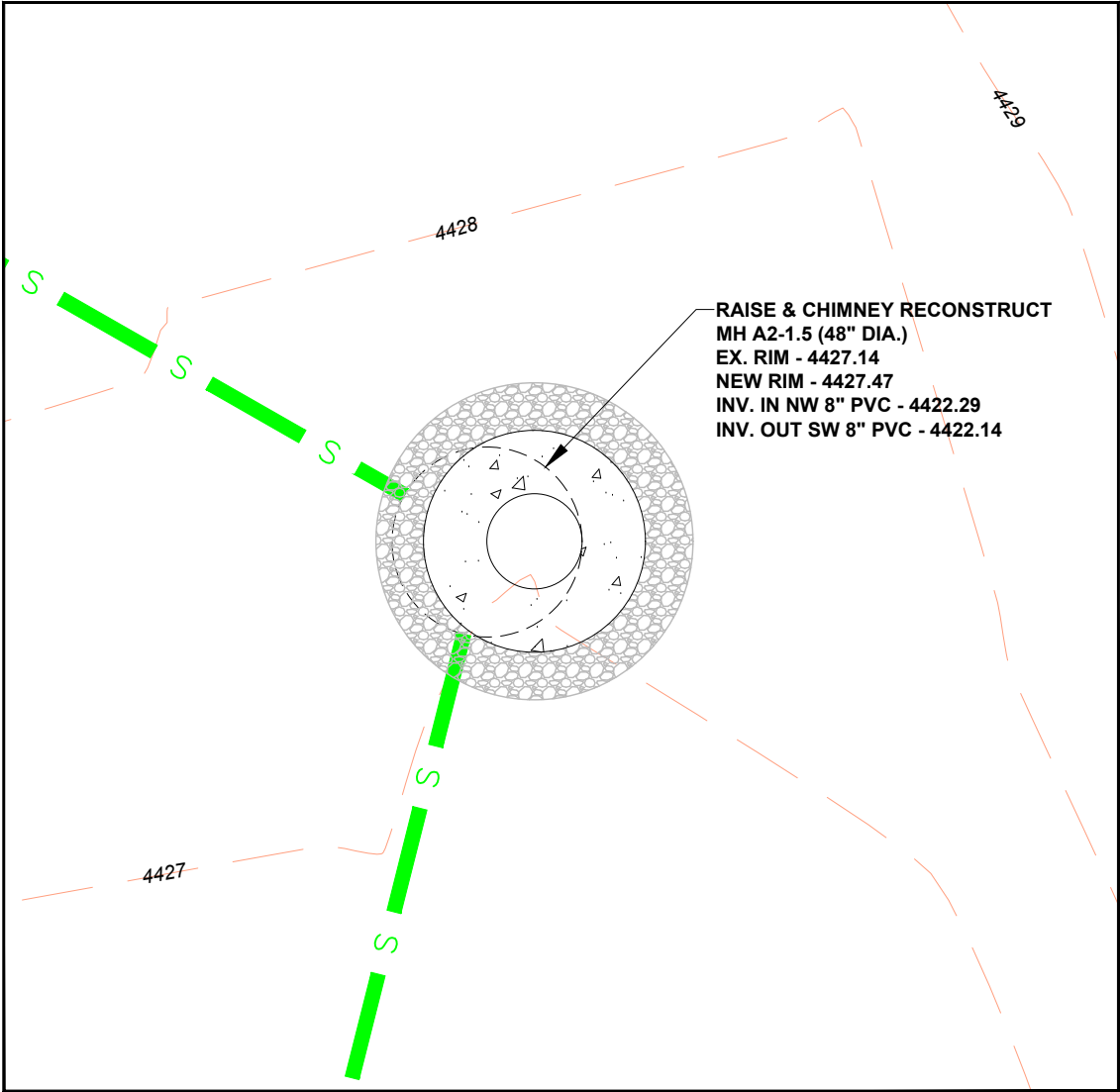
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**Manhole
A1-1.4**

Sheet

17

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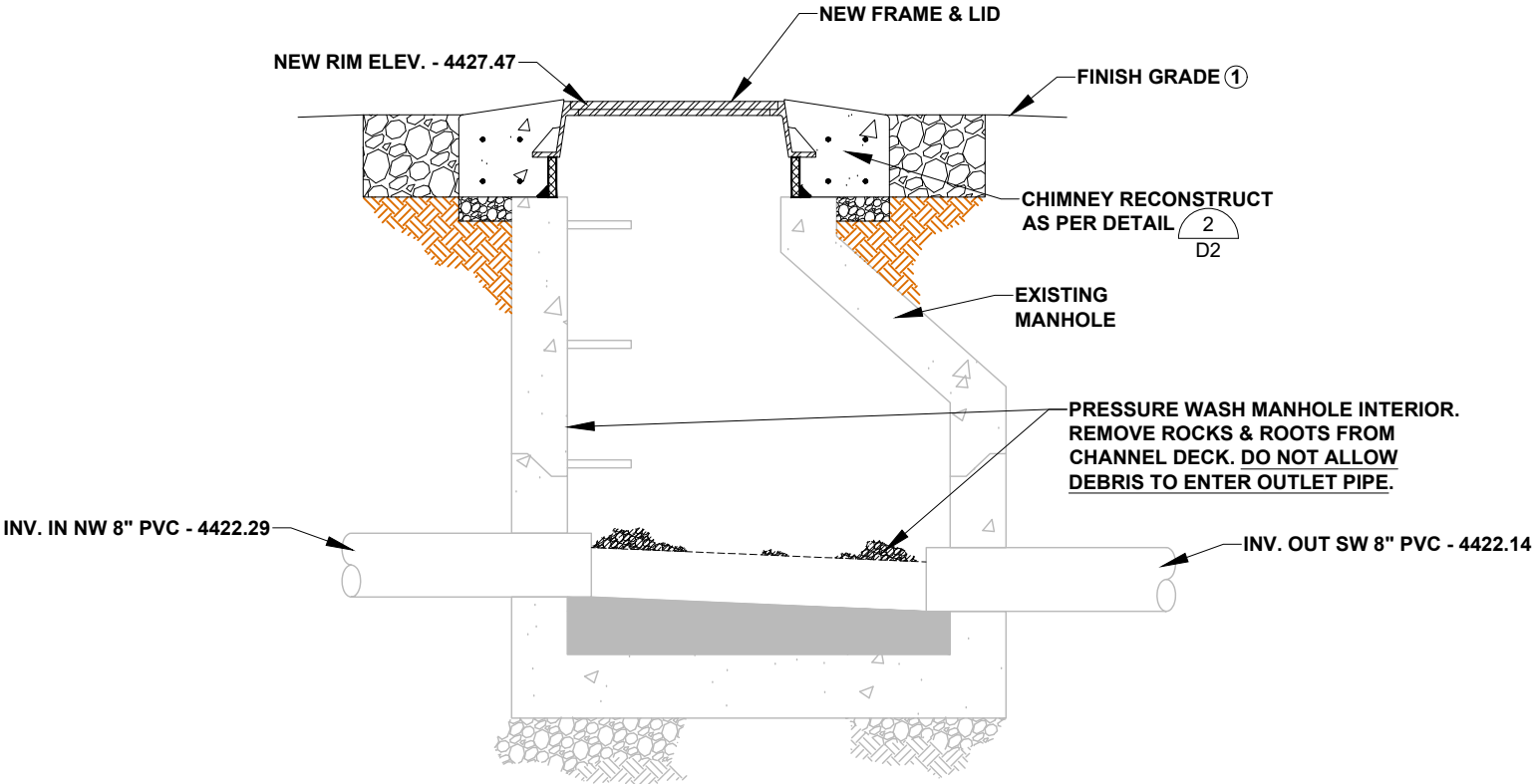


Manhole A2-1.5 $\frac{1}{4}$

SCALE 2 1 0 2 4
Feet



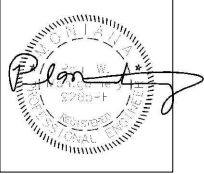
Manhole A2-1.5 Photos



Manhole A2-1.5 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:**
① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE
OUTSIDE GRAVEL RING



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By
Re-Bid Final
Plot Scale
1:2
Drawn By
A.Eckhart, P.E.
Approved By
P.Montgomery, P.E.
Checked By
A.Eckhart, P.E.
Designed By
P.Montgomery, P.E.

Engineer
Anderson-Montgomery
CONSULTING ENGINEERS
1064 N. Warren
Helena, MT 59601
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Fax (406) 449-3304

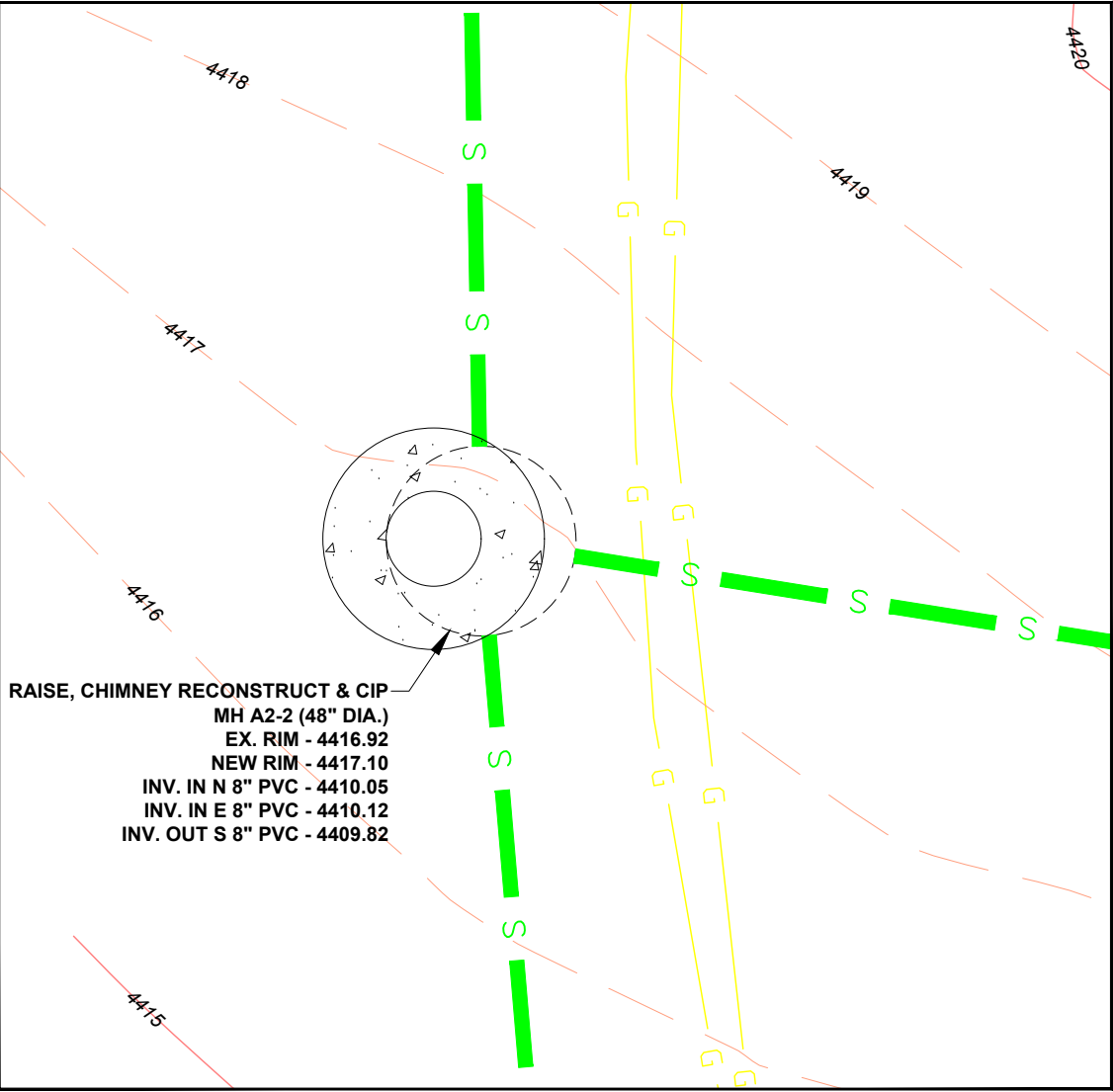
Owner
**Big Mountain
County
Sewer
District**

Project Title
**I&I
Mitigation
Project**

Sheet Title
**Manhole
A2-1.5**

Sheet
18

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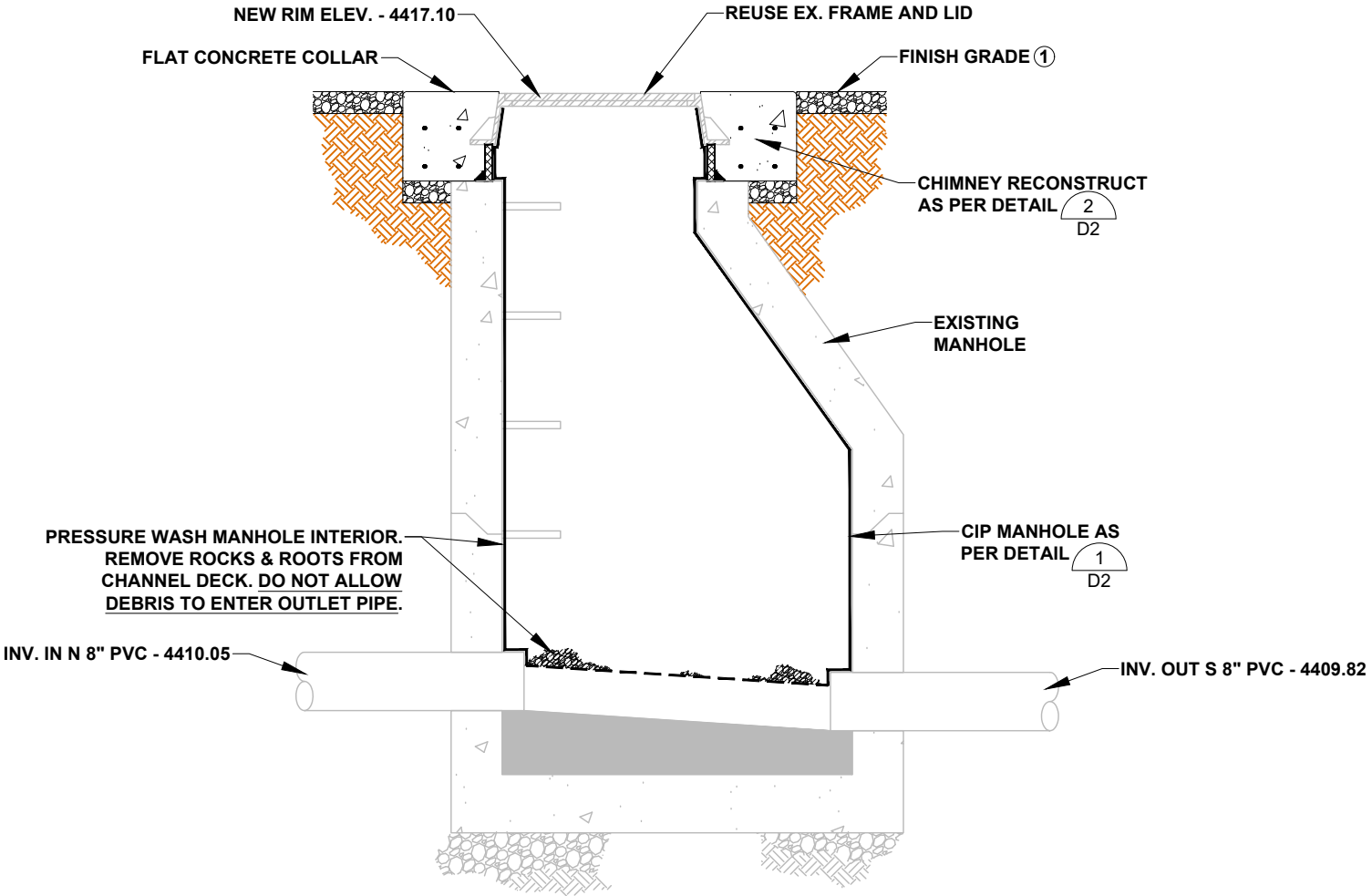
Manhole A2-2



SCALE 2 1 0 2 4 Feet



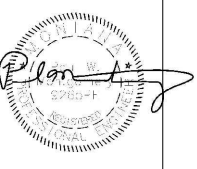
Manhole A2-2 Photos



Manhole A2-2 Section



NOTES:
① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE CONCRETE COLLAR.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By: Re-Bid Final
Plot Scale: 1:2
Drawn By: A. Eckhart, P.E.
Approved By: P. Montgomery, P.E.
Checked By: A. Eckhart, P.E.
Designed By: P. Montgomery, P.E.

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Owner
Big Mountain County Sewer District

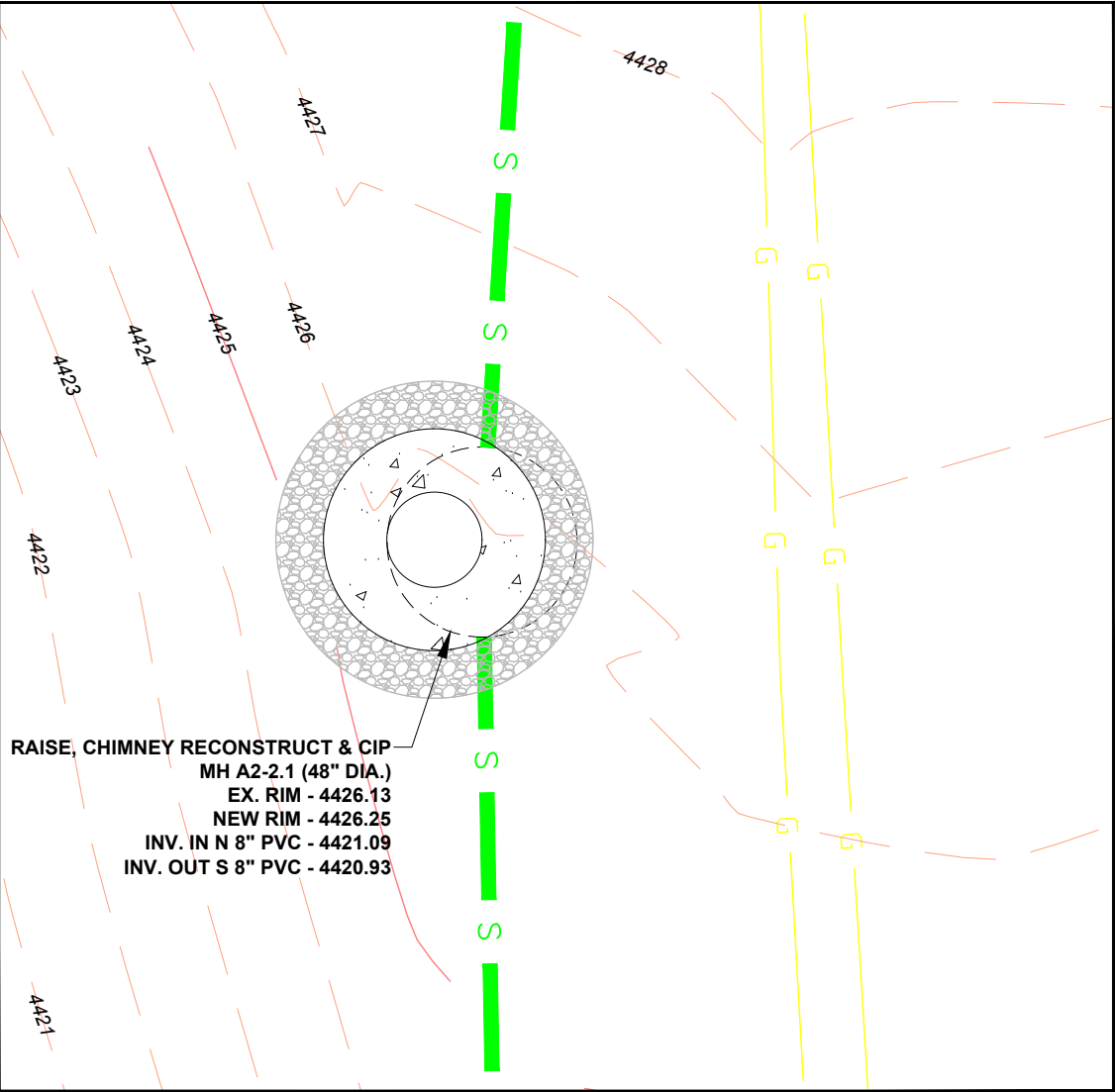
Project Title
I&I Mitigation Project

Sheet Title
Manhole A2-2

Sheet
19

ALTERNATE B

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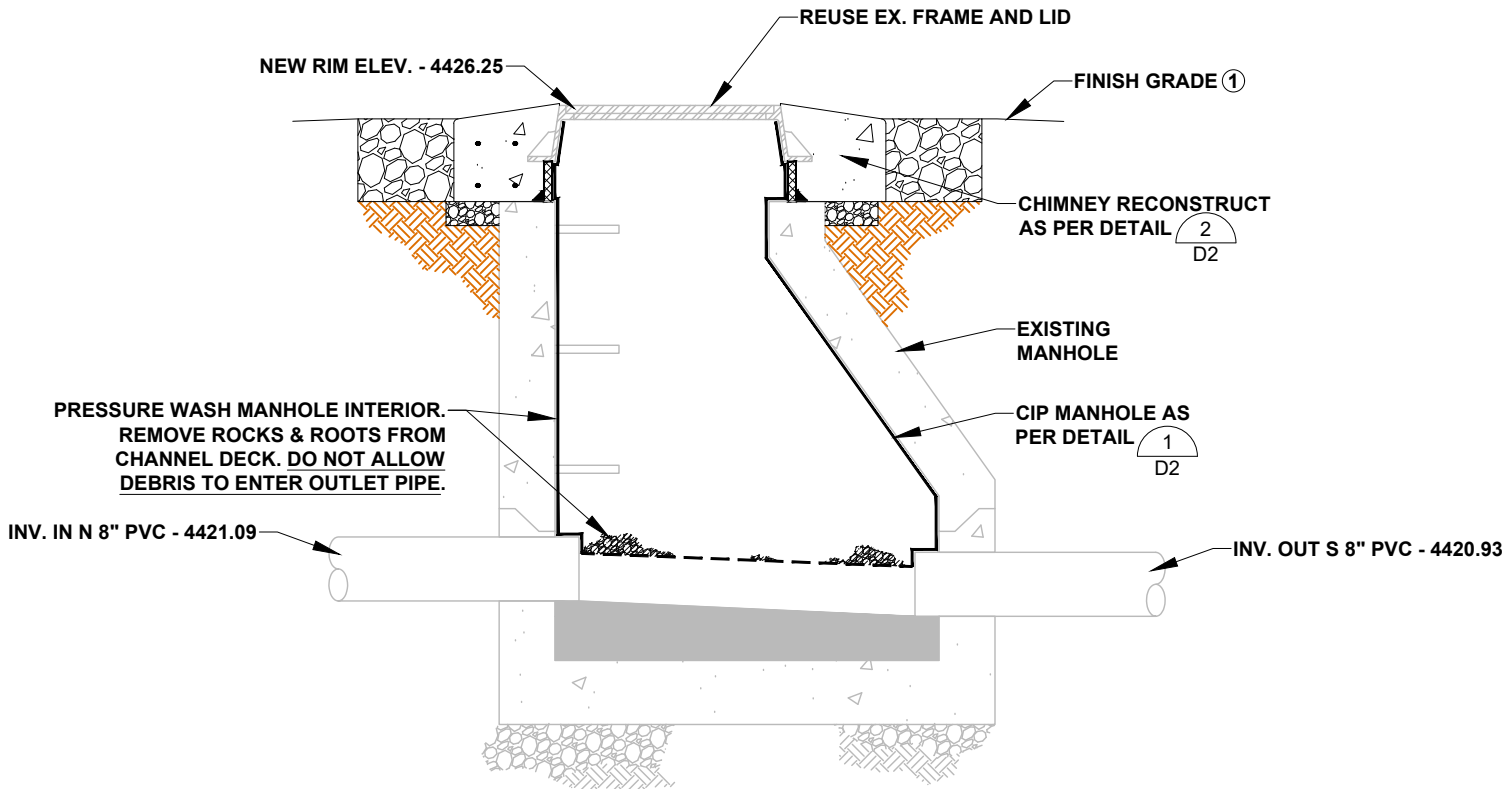
Manhole A2-2.1



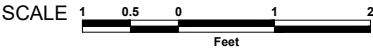
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Manhole A2-2.1 Photos

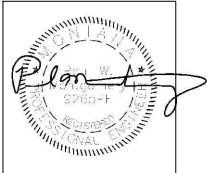


Manhole A2-2.1 Section



NOTES:

- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	P. Montgomery, P.E.
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

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Owner

Big Mountain
County
Sewer
District

Project Title

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Project

Sheet Title

Manhole
A2-2.1

Sheet

20

ALTERNATE B

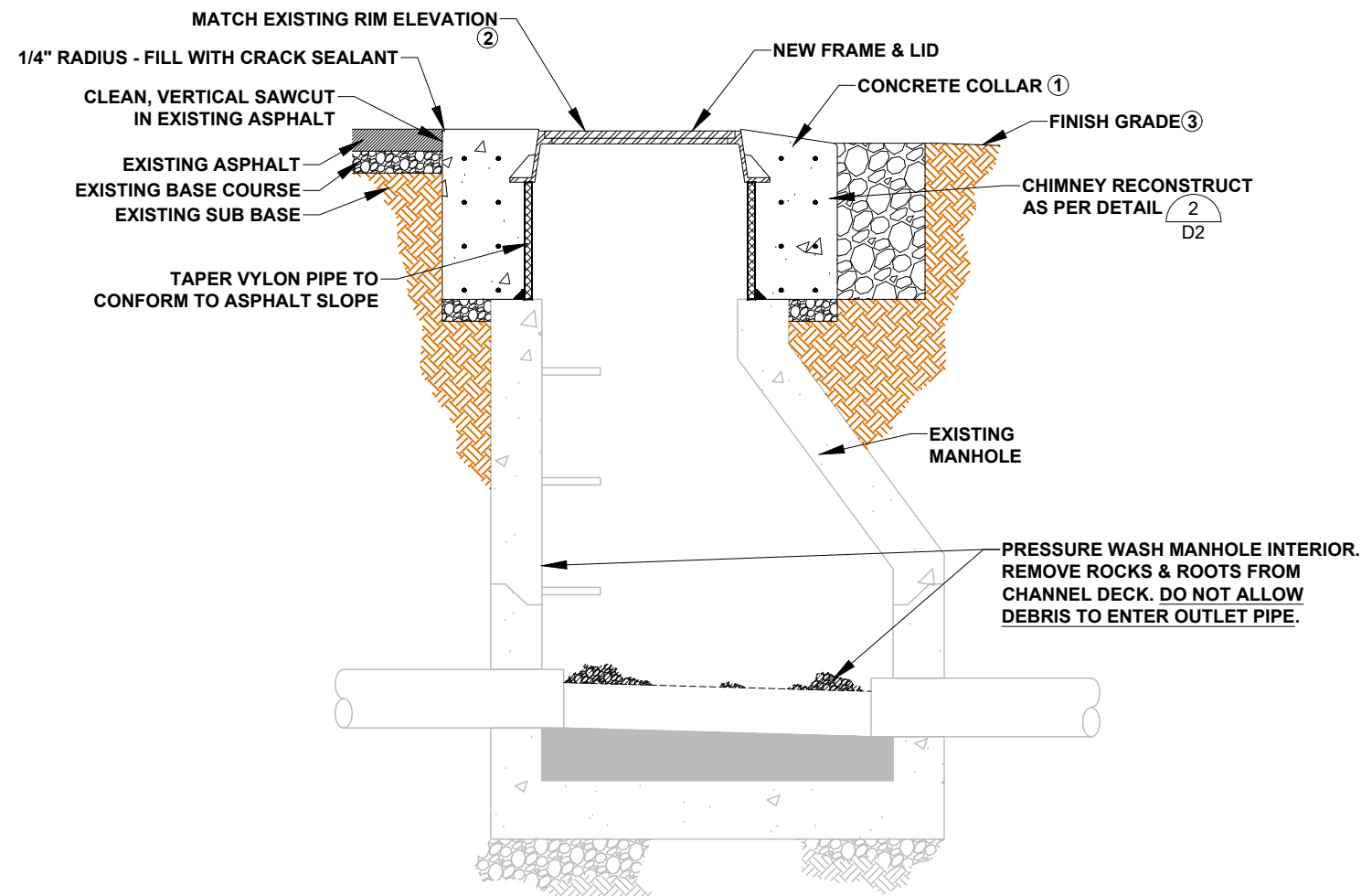
SCALE 30 15 0 30 60
Feet



- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES TO HELP CONTRACTOR LOCATE MANHOLE A2-4A
- LOCATION OF MANHOLE A2-4A IS APPROXIMATE AND BASED OFF OLD AS-BUILT DRAWINGS.



Manhole A2-4A Photos



Manhole A2-4A Section

SCALE 1 0.5 0 1
Feet

- ① CONCRETE COLLAR SHALL BE FLUSH WITH SURROUNDING ASPHALT AND SLOPED AWAY FROM RIM WITHIN DITCH AS PER THE CHIMNEY RECONSTRUCT DETAIL. THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.
- ② FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
- ③ SLOPE FINISH GRADE WITHIN DITCH BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING.

Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Re-Bid Final

Plot Scale 1:2

Drawn By
A.Eckhart, P.E.

Approved By
P.Montgomery, P.E.

Checked By
A.Eckhart, P.E.

Designed By
P.Montgomery, P.E.

[illegible]

--	--

Engineer



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Helena, Mt 59601
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Owner

Big
Mountain
County
Sewer
District

Project Title

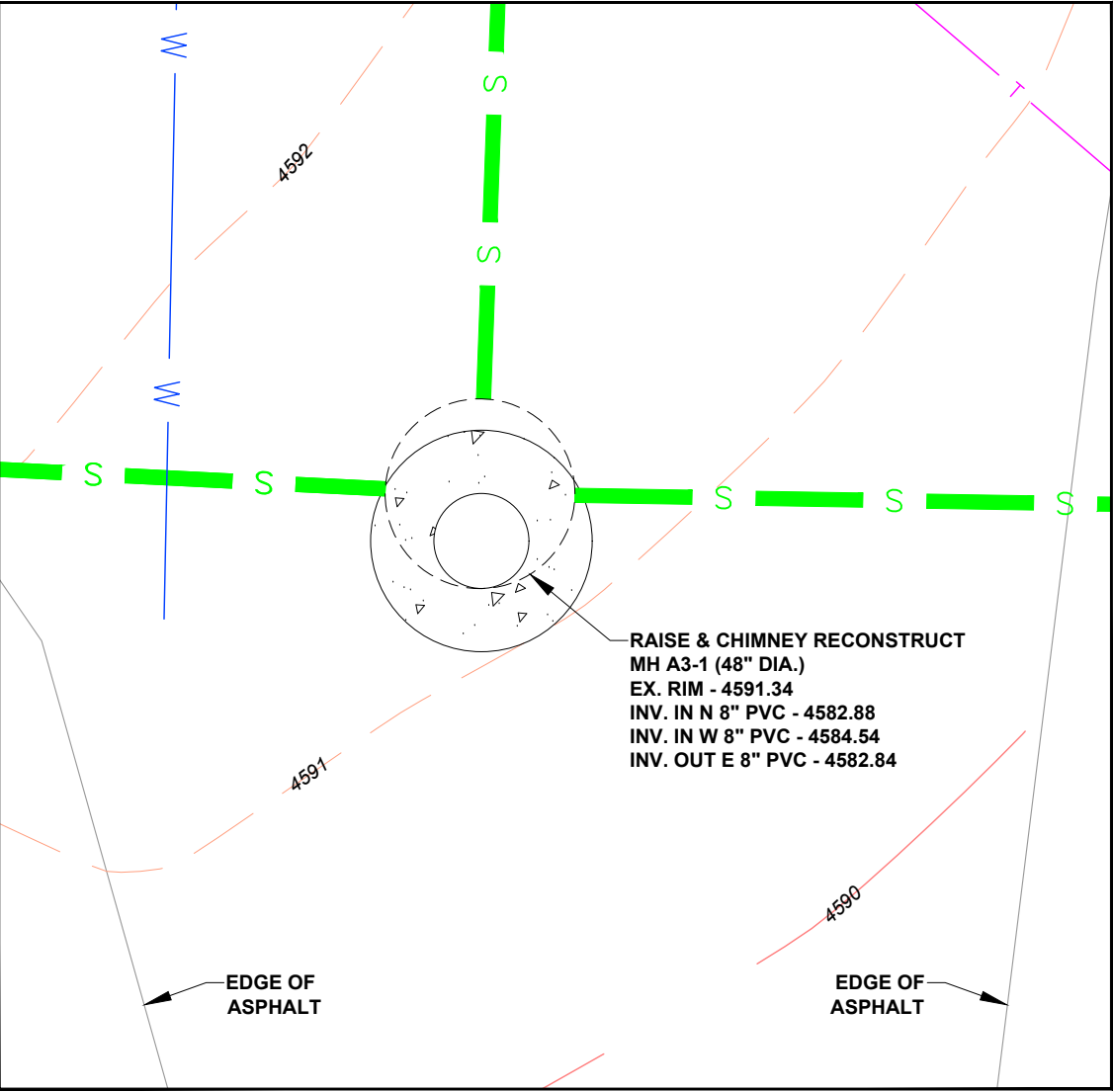
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Project

Sheet Title

**Manhole
A2-4A**

heet

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RAISE & CHIMNEY RECONSTRUCT
MH A3-1 (48" DIA.)
EX. RIM - 4591.34
INV. IN N 8" PVC - 4582.88
INV. IN W 8" PVC - 4584.54
INV. OUT E 8" PVC - 4582.84

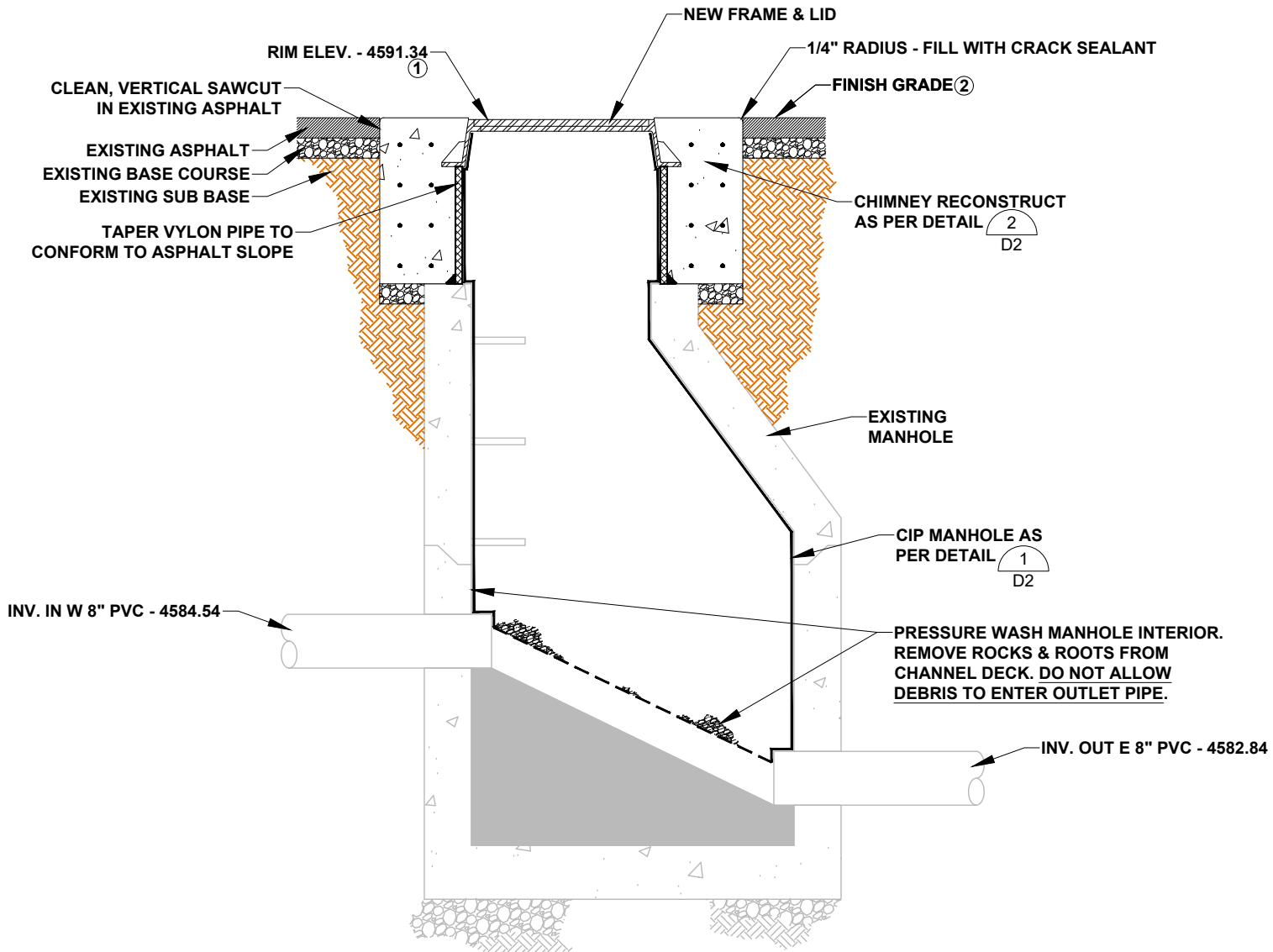
Manhole A3-1



SCALE 2 1 0 2 4
Feet



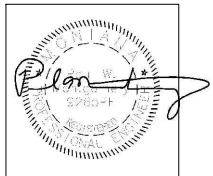
Manhole A3-1 Photos



Manhole A3-1 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
- ① FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
 - ② THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

Sheet Title

Manhole
A3-1

Sheet

23

ALTERNATE C

Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
e-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Not Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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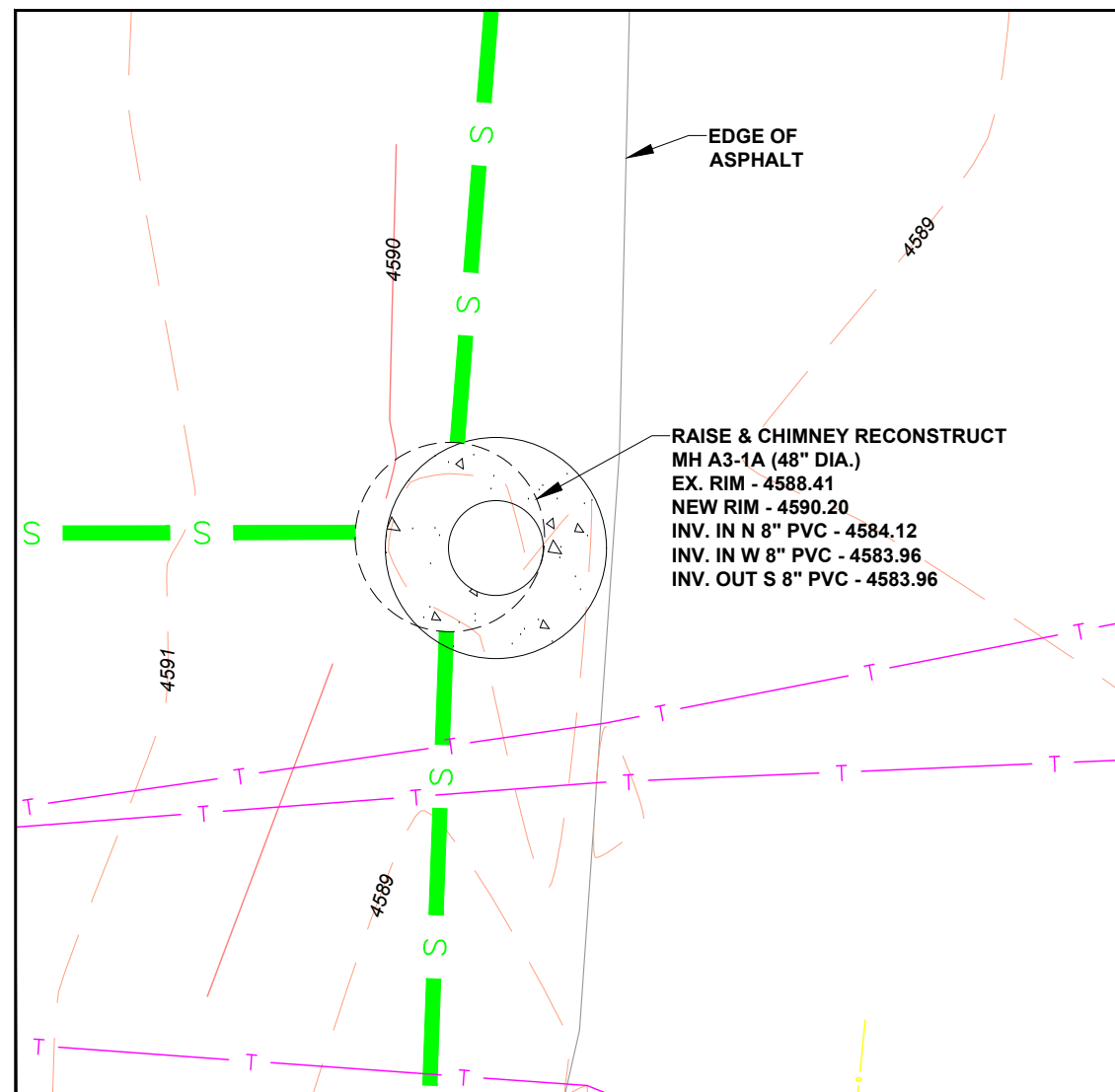
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Mitigation
Project

Sheet Title

**Manhole
A3-1A**

Sheet

24



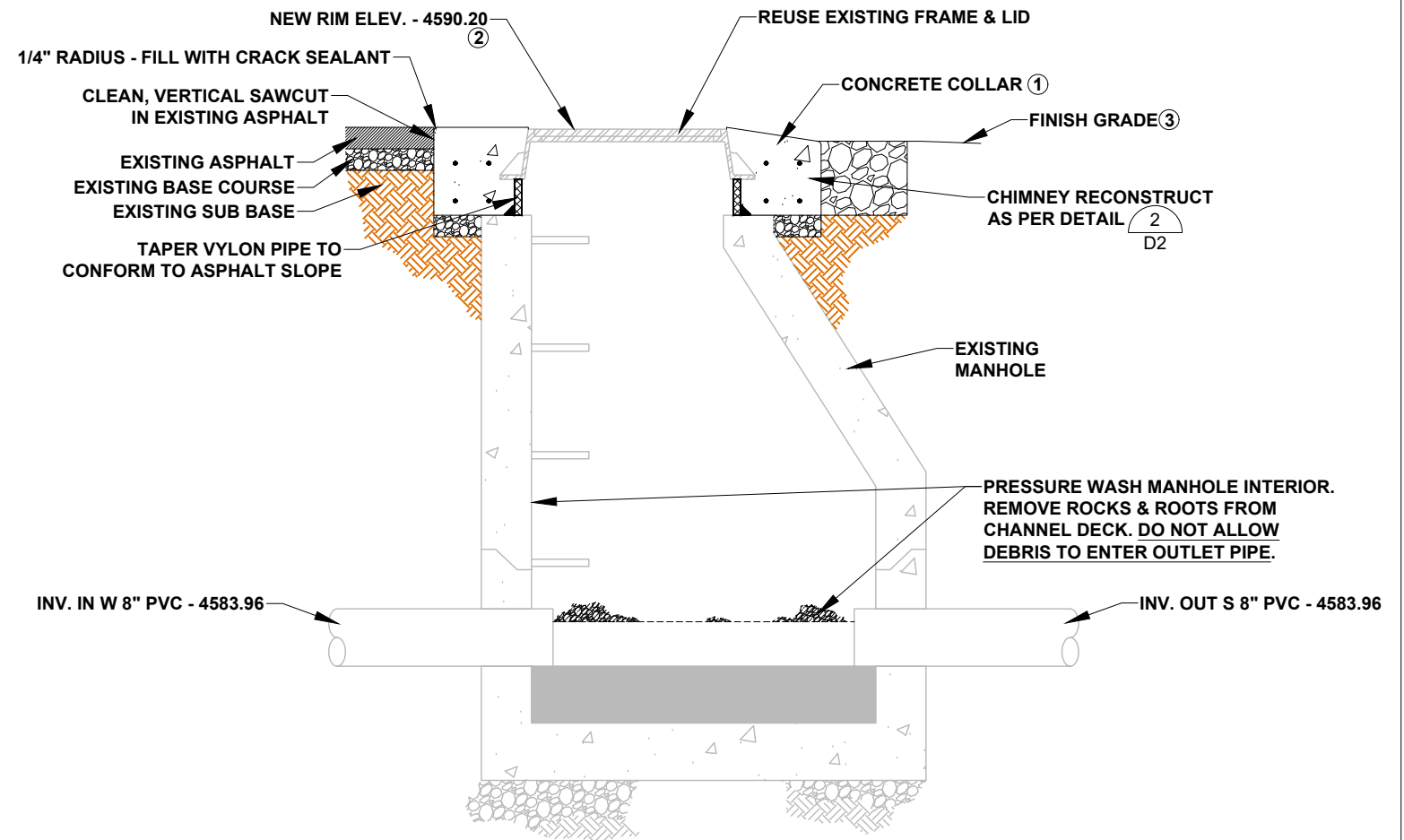
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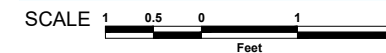
SCALE 2 1 0 2
Feet



Manhole A3-1A Photos



Manhole A3-1A Section



NOTES:

- ① CONCRETE COLLAR SHALL BE FLUSH WITH SURROUNDING ASPHALT AND SLOPED AWAY FROM RIM WITHIN DITCH AS PER THE CHIMNEY RECONSTRUCT DETAIL. THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.
- ② FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
- ③ SLOPE FINISH GRADE WITHIN DITCH BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING

ALTERNATE B

Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
e-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Not Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

engineer



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owner

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Project

Sheet Title

Manhole A3-2.3

Sheet

25

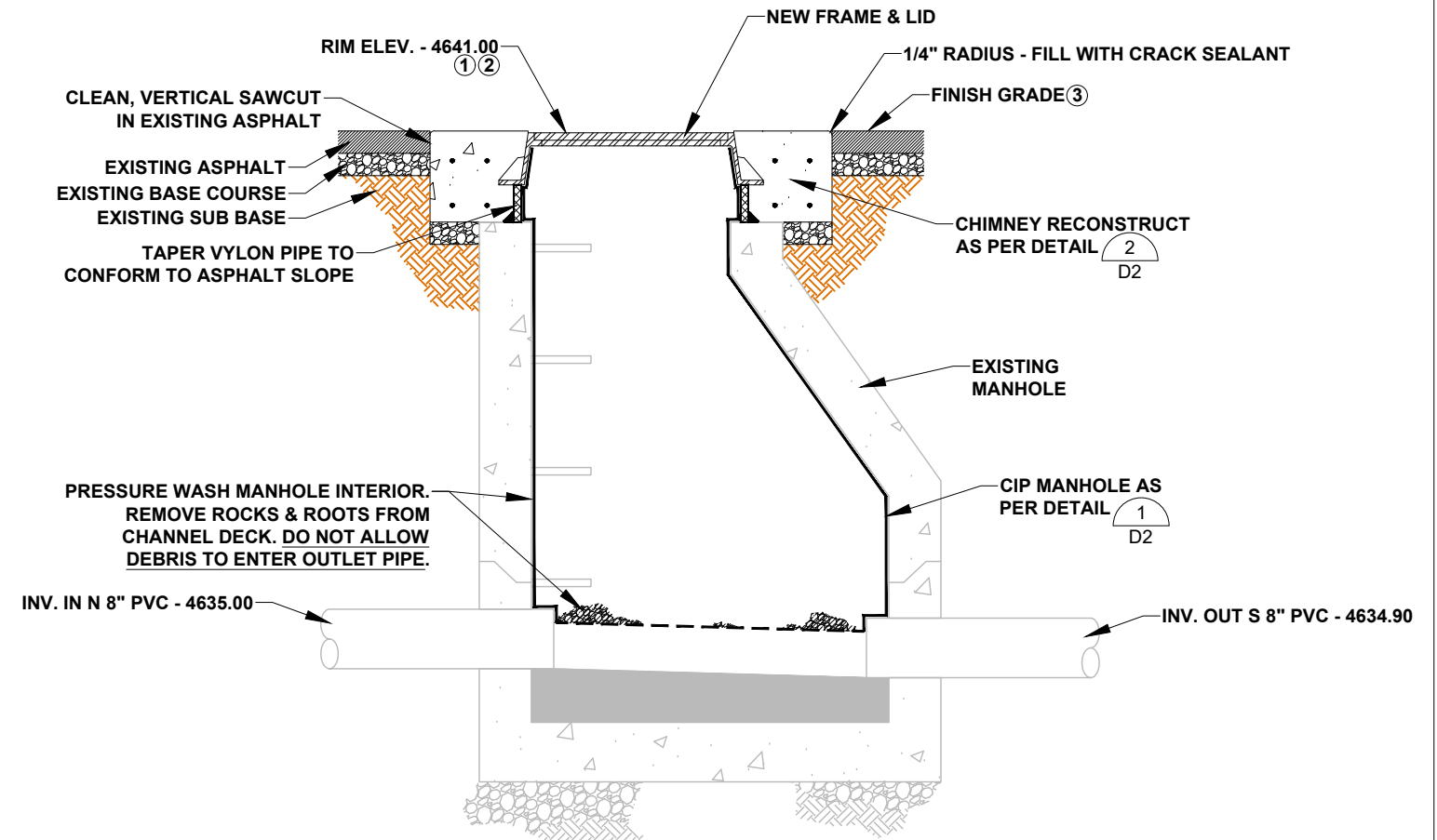

$$\frac{1}{4}$$

SCALE 30 15 0 30 60
Feet



NOTES:

- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT WERE SURVEYED TO HELP CONTRACTOR LOCATE MANHOLE A3-2.3.
- LOCATION OF MANHOLE A3-2.3 IS APPROXIMATE AND BASED OFF CCTV TAPES.



Manhole A3-2.3 Section

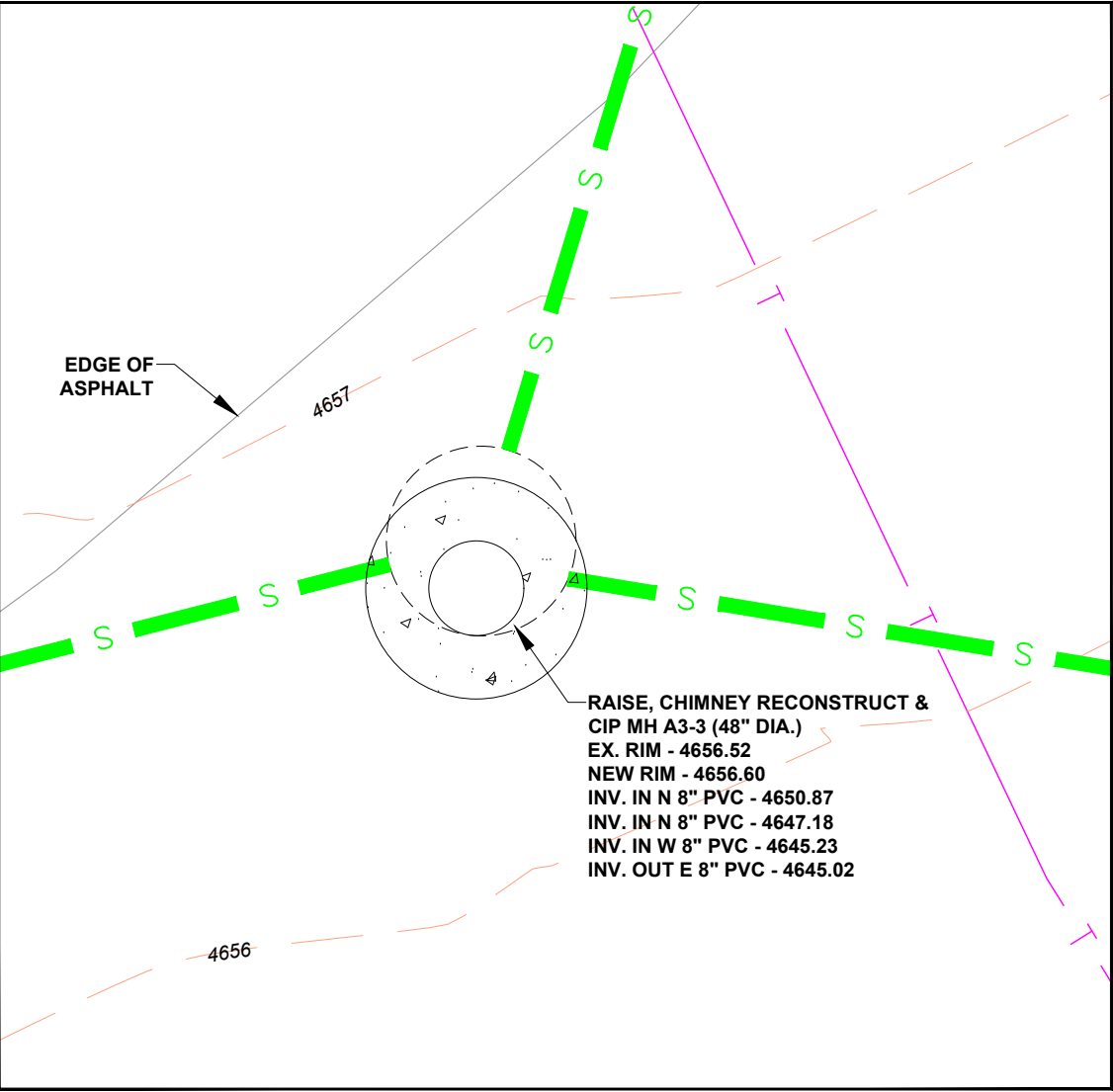
SCALE 1 0.5 0 1
Feet

NOTES:

- ① CONTRACTOR SHALL VERIFY RIM ELEVATION & INV. ELEVATIONS AND PRESENT THEM TO THE ENGINEER TO DETERMINE THE MANHOLE NEW RIM ELEVATION. THE ELEVATIONS SHOWN ON THE DRAWING ARE ESTIMATED BASED ON THE SURVEY DATA COLLECTED.
- ② FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
- ③ THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.

ALTERNATE B

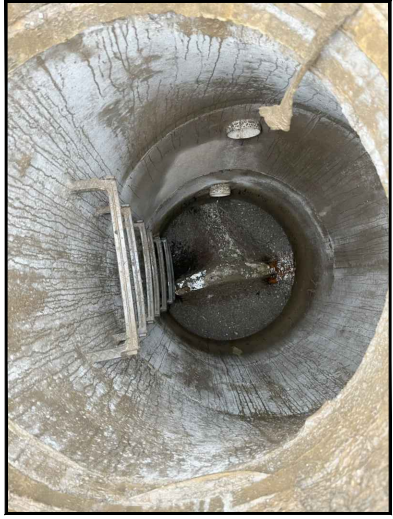
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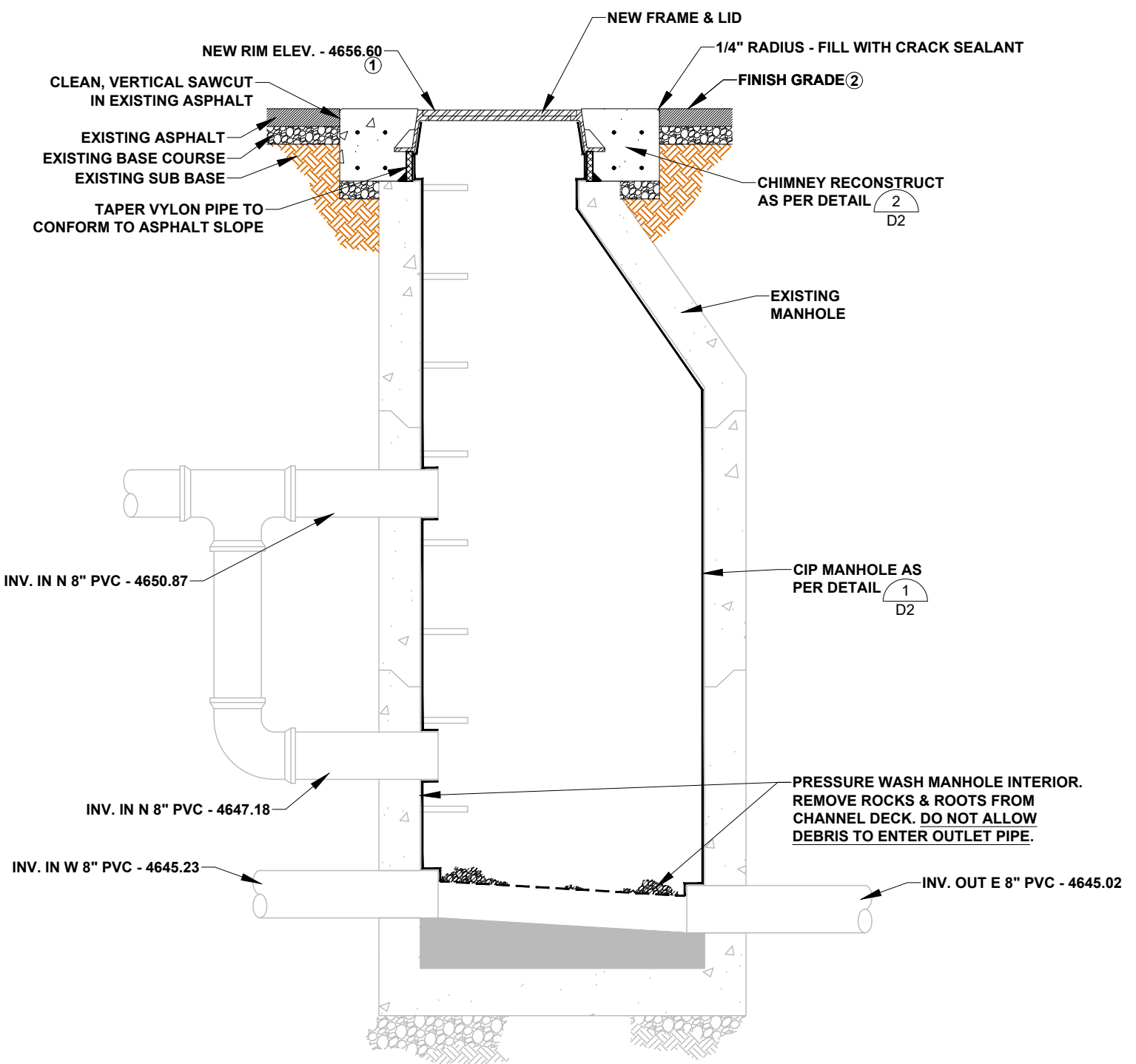
Manhole A3-3

1/4

SCALE 2 1 0 2 4 Feet



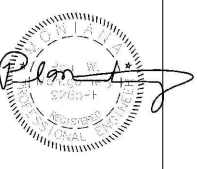
Manhole A3-3 Photos



Manhole A3-3 Section

SCALE 1 0.5 0 1 2 Feet

- NOTES:
- ① FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
 - ② THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Owner

Big
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District

Project Title

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Mitigation
Project

Sheet Title

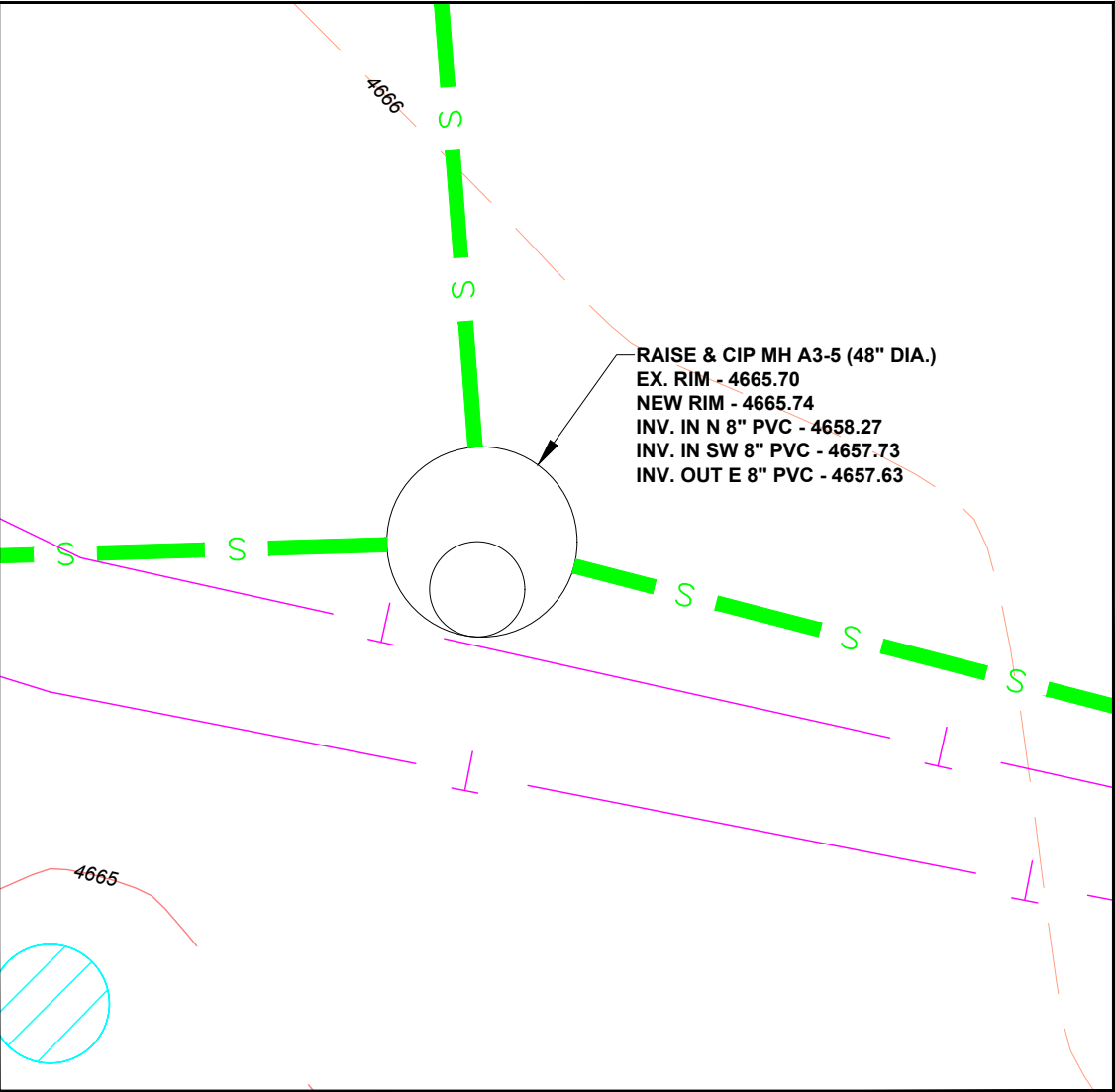
Manhole
A3-3

Sheet

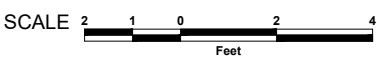
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ALTERNATE B

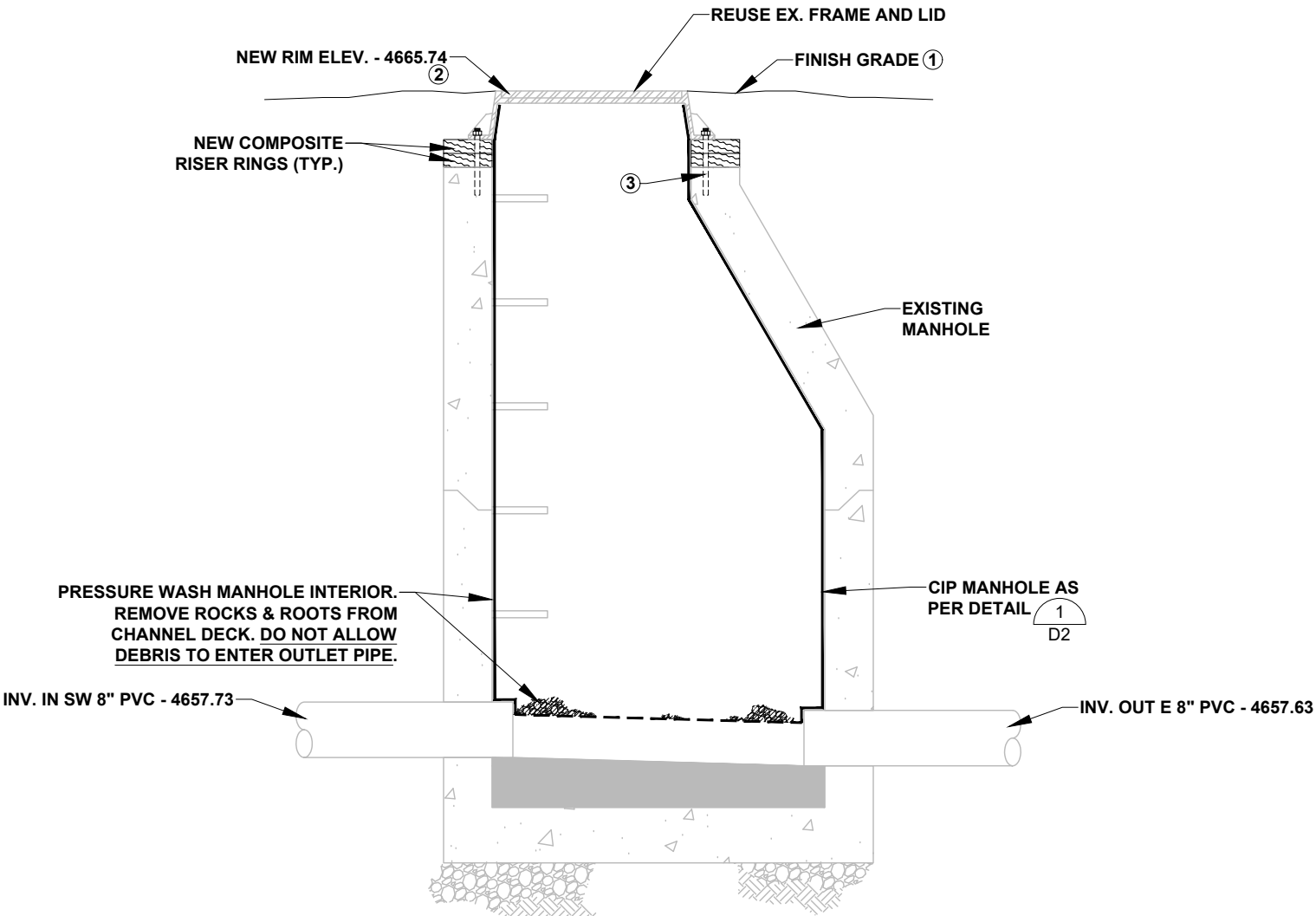
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Manhole A3-5 $\frac{1}{4}$



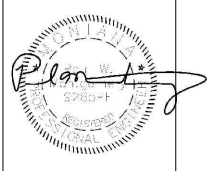
Manhole A3-5 Photos



Manhole A3-5 Section



- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
 - ② FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4$ " OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
 - ③ THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

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Project Title

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Project

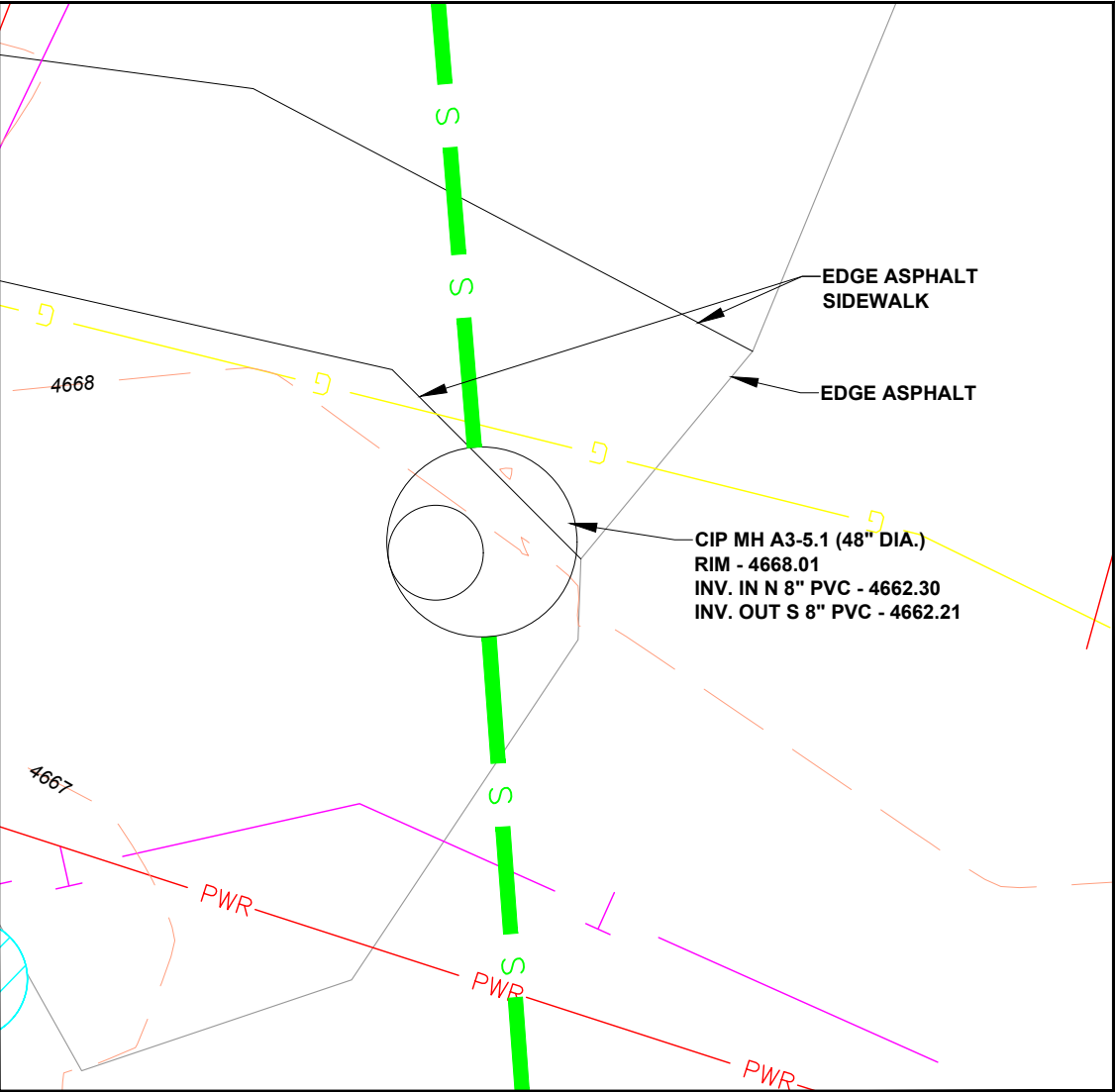
Sheet Title

Manhole
A3-5

Sheet

27

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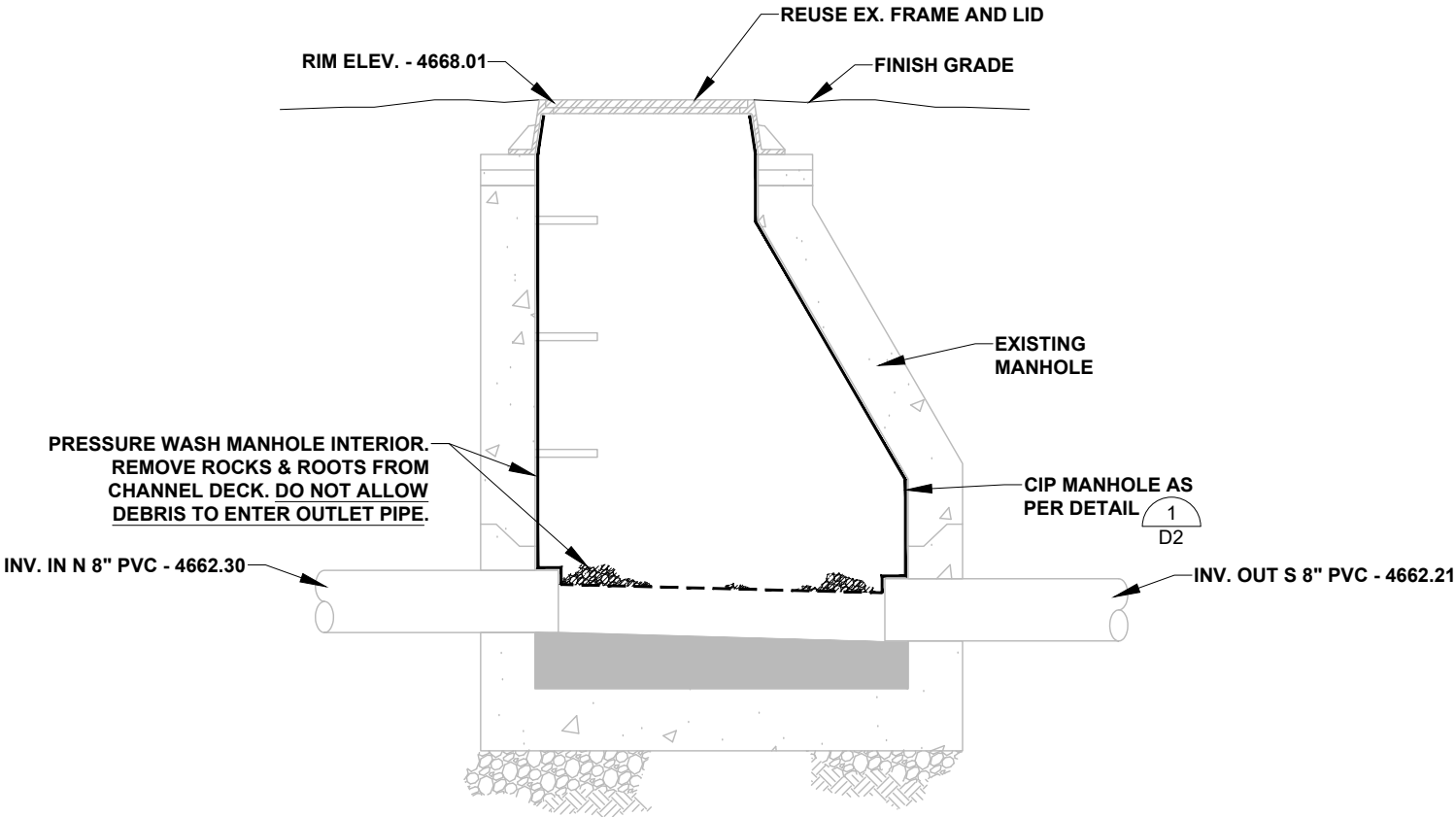
Manhole A3-5.1 $\frac{1}{4}$

SCALE 2 1 0 2 4
Feet



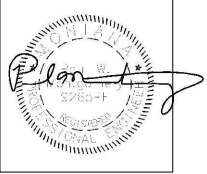
RESTORE ASPHALT
AND LANDSCAPING

Manhole A3-5.1 Photos



Manhole A3-5.1 Section

SCALE 1 0.5 0 1 2
Feet



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer

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Owner

Big
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County
Sewer
District

Project Title

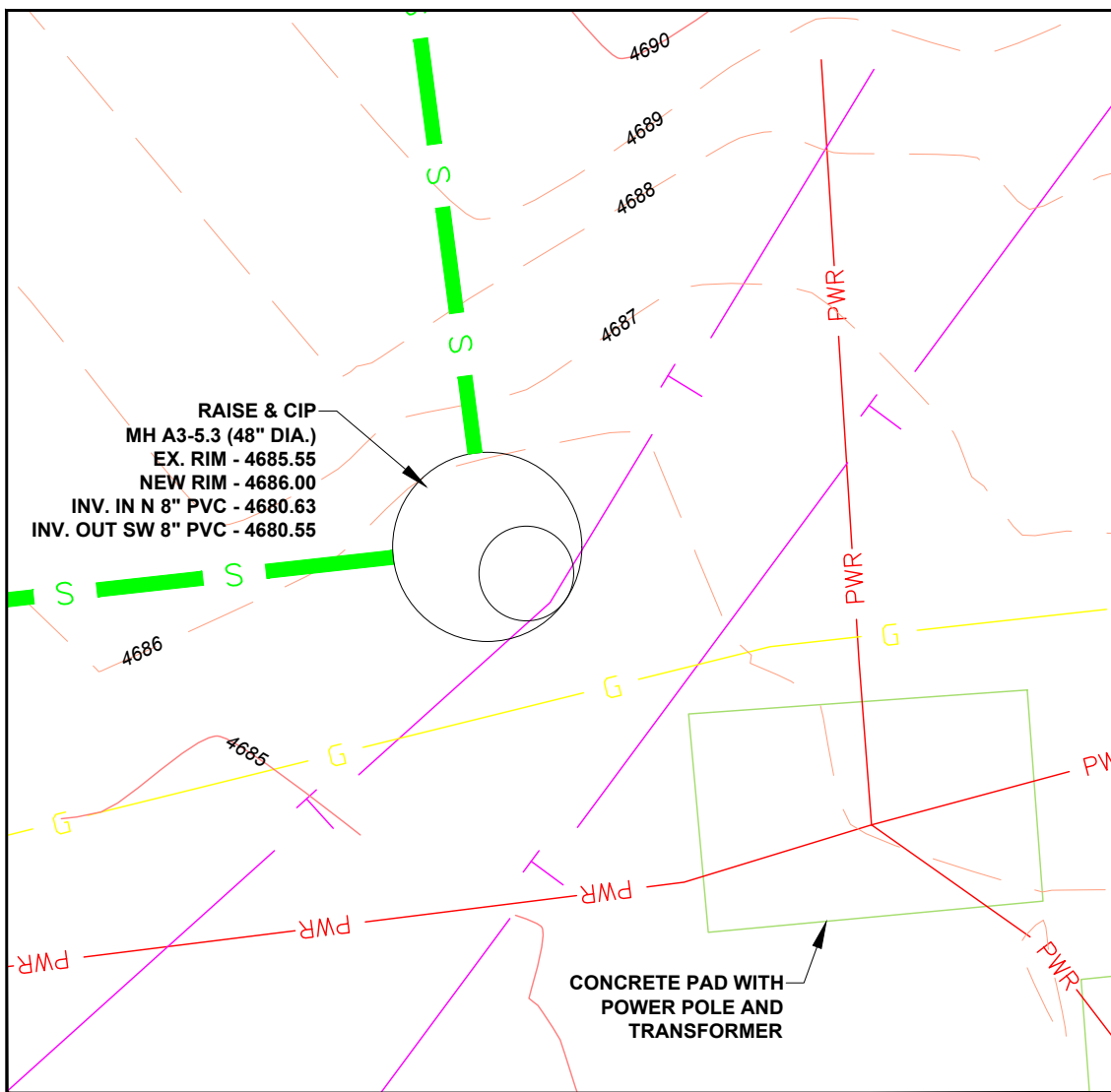
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Project


Sheet Title

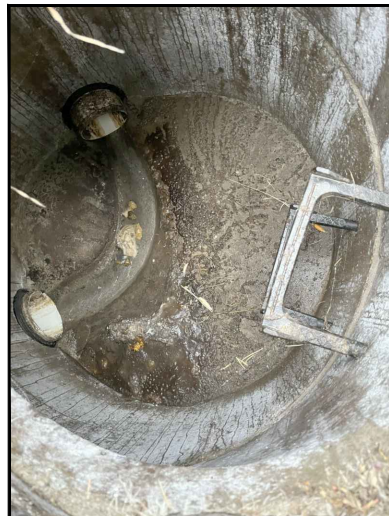
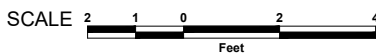
**Manhole
A3-5.1**

Sheet

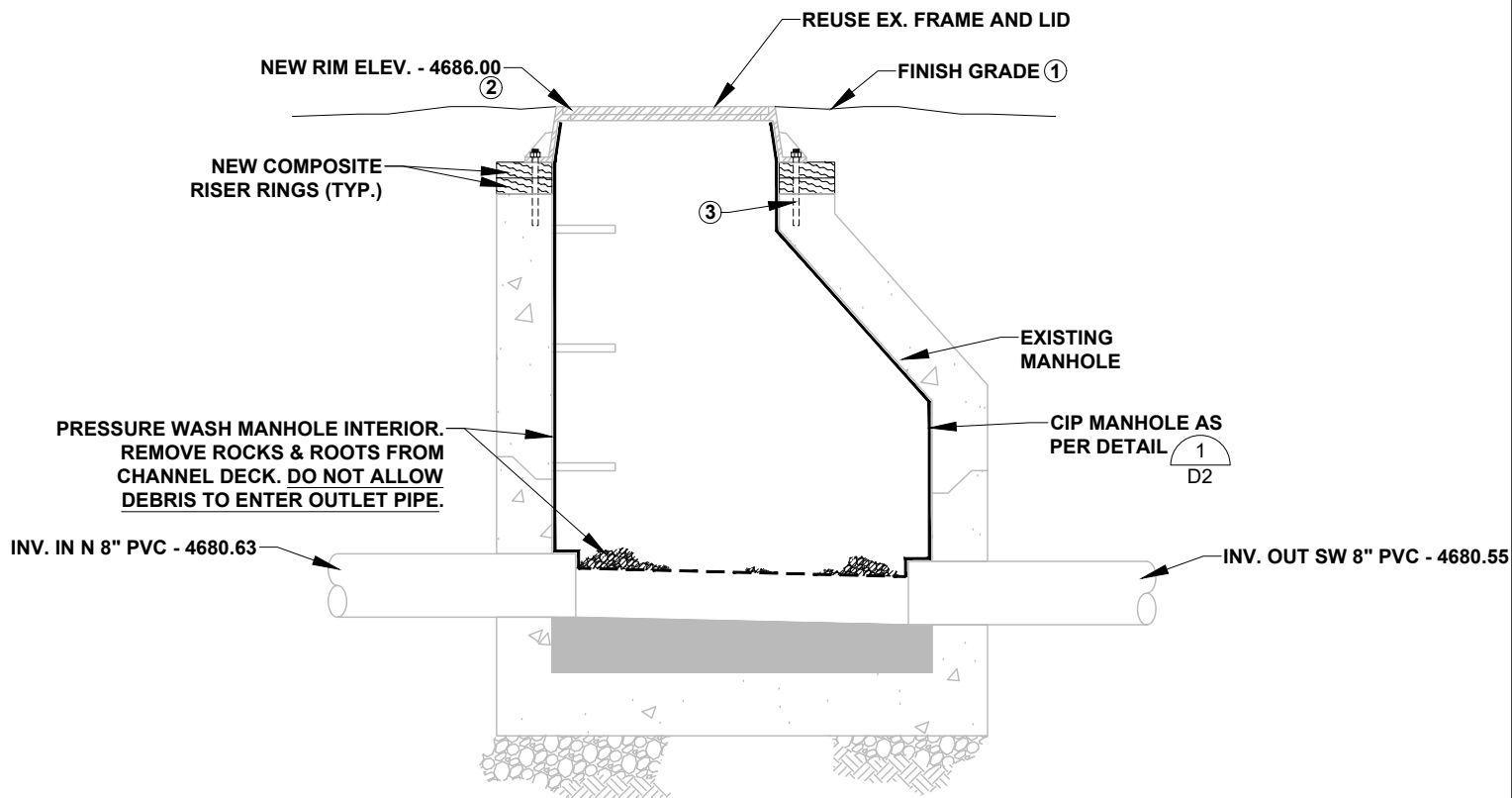
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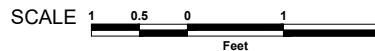
Manhole A3-5.3 



**RESTORE ALL DISTURBED
LANDSCAPING**

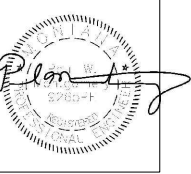


Manhole A3-5.3 Section



NOTES:

- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
- ② FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4"$ OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
- ③ THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
e-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

engineer



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owner

Big
Mountain
County
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District

Project Title

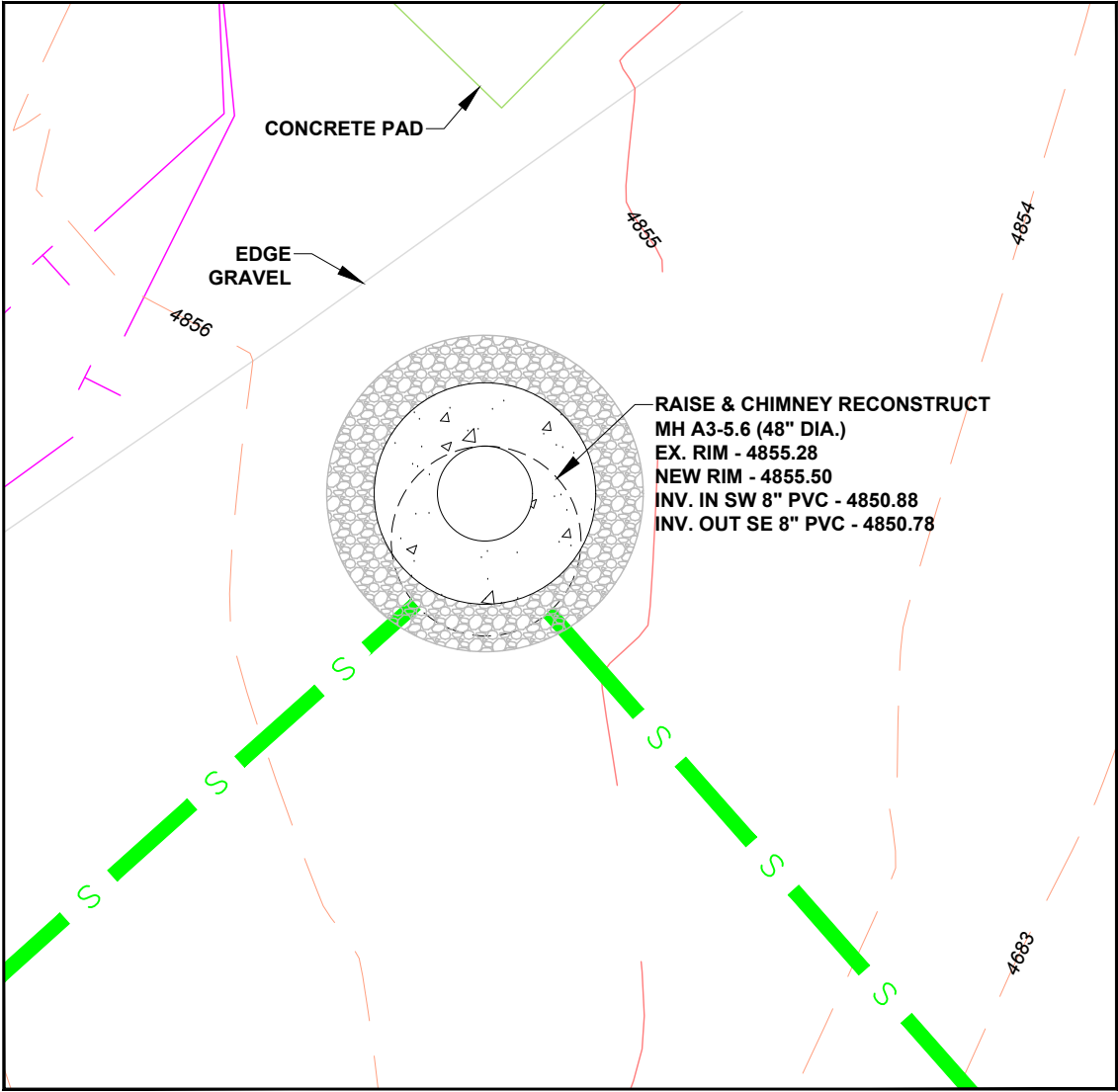
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Sheet Title

**Manhole
A3-5.3**

Sheet

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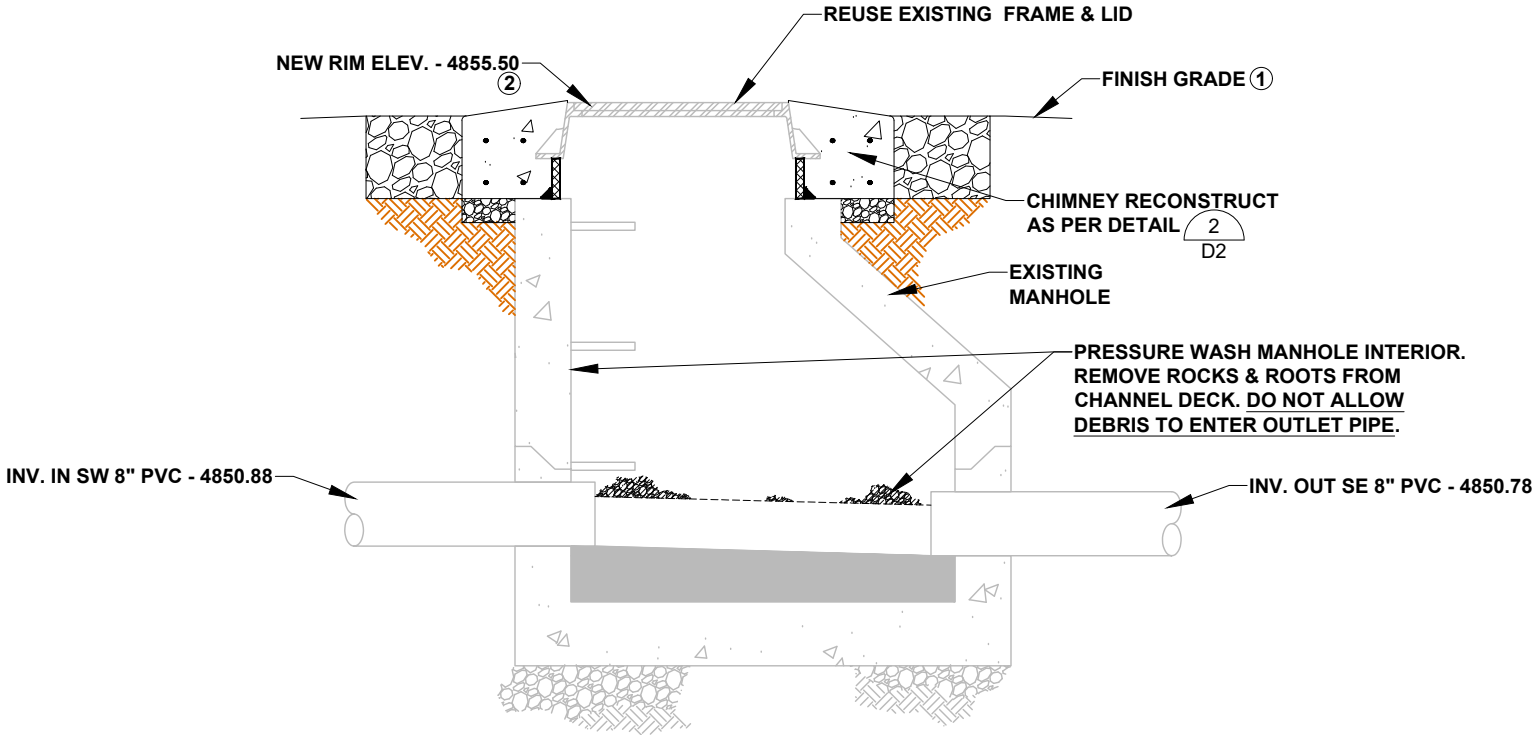


Manhole A3-5.6

SCALE 2 1 0 2 4
Feet



Manhole A3-5.6 Photos

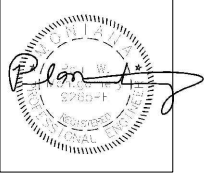


Manhole A3-5.6 Section

SCALE 1 0.5 0 1 2
Feet

NOTES:

- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Owner

**Big Mountain
County
Sewer
District**

Project Title

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Project**

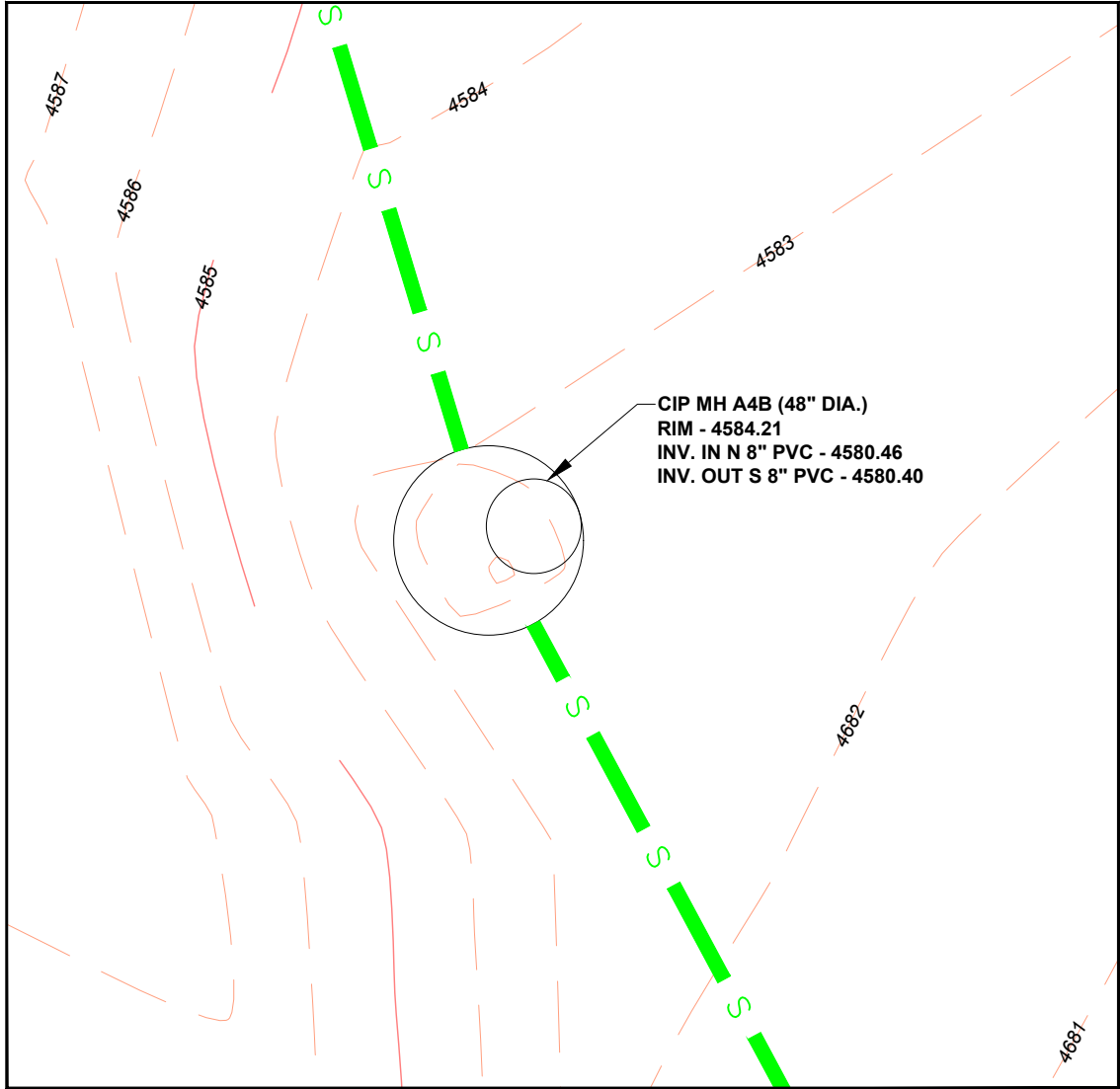
Sheet Title

**Manhole
A3-5.6**

Sheet

30

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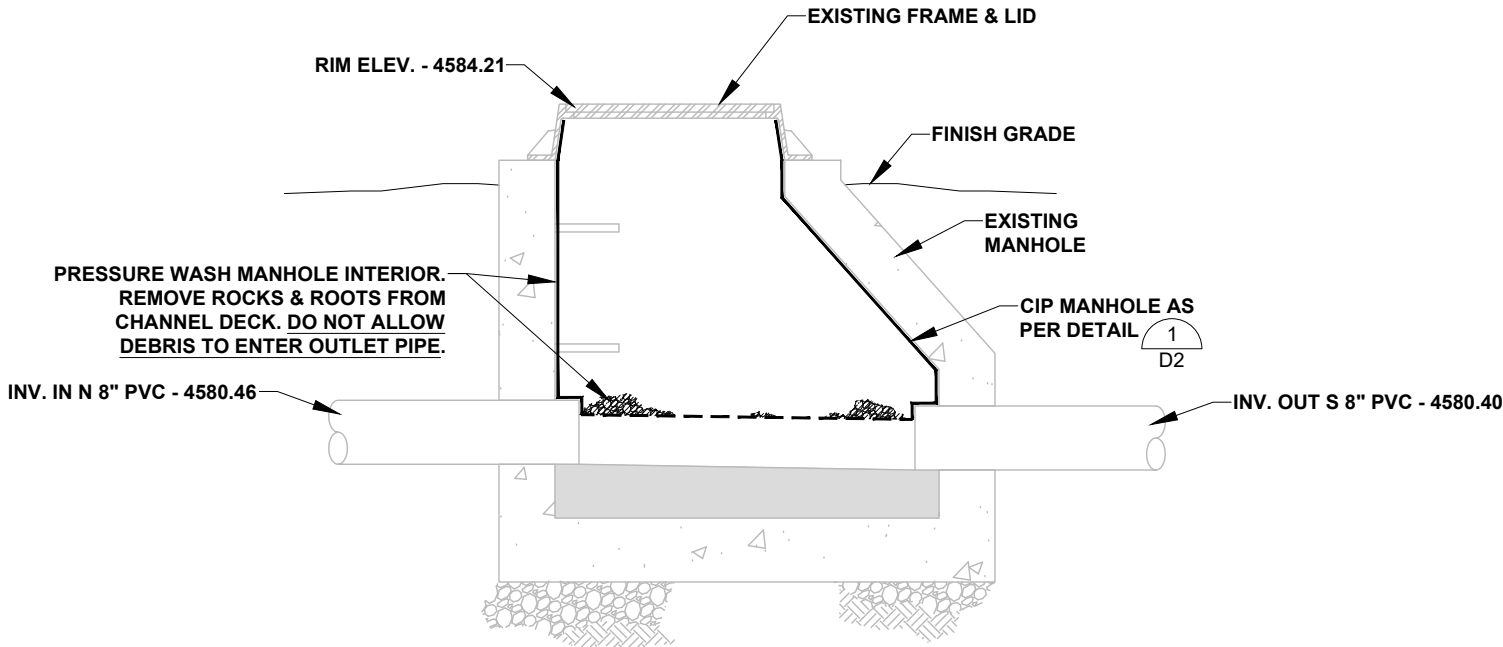


Manhole A4B

SCALE Feet

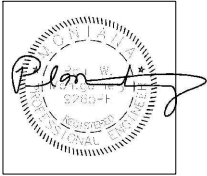


Manhole A4B Photos



Manhole A4B Section

SCALE Feet



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer

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Owner

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Sewer
District

Project Title

I&I
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Project

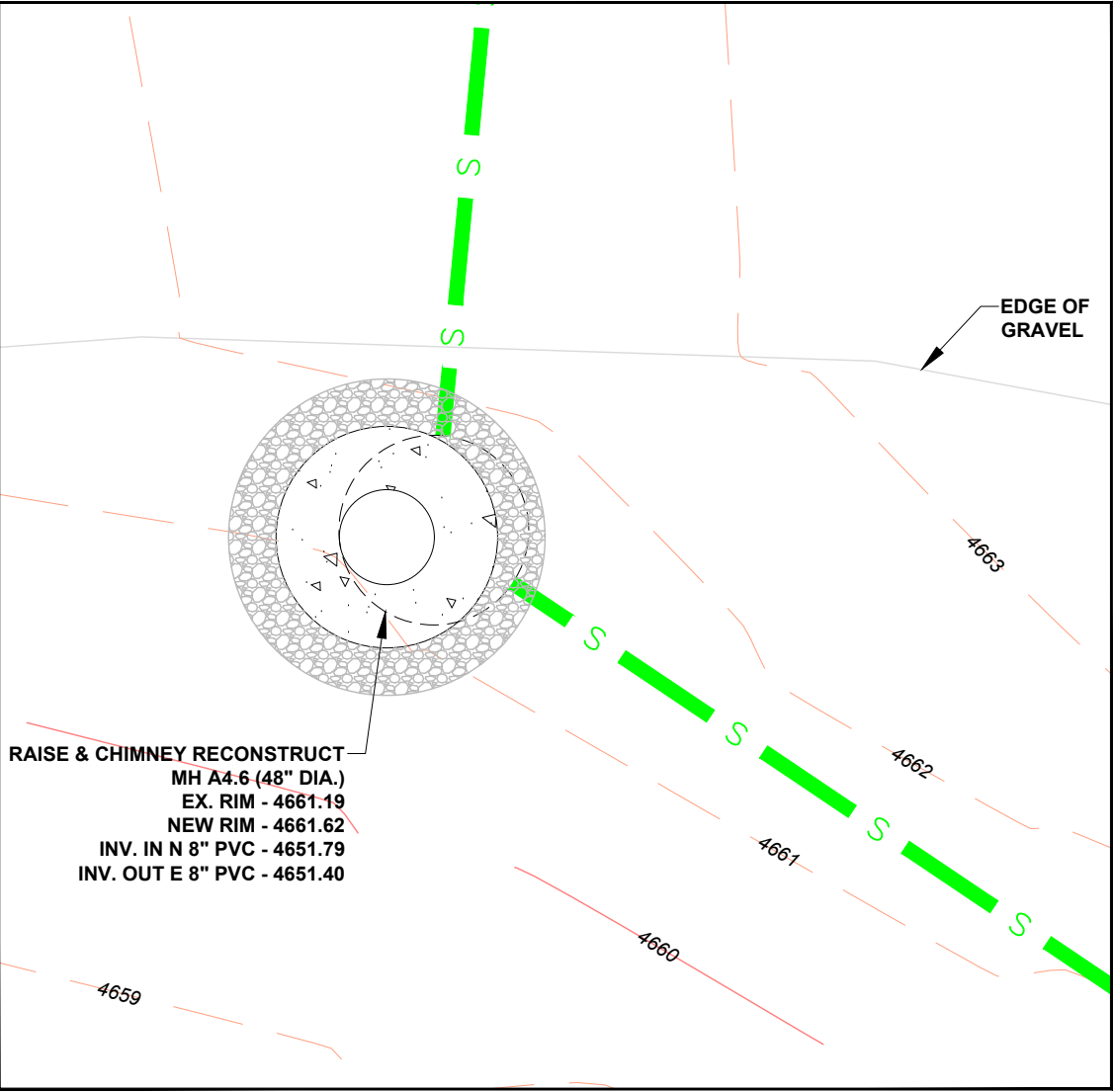
Sheet Title

**Manhole
A4B**

Sheet

31

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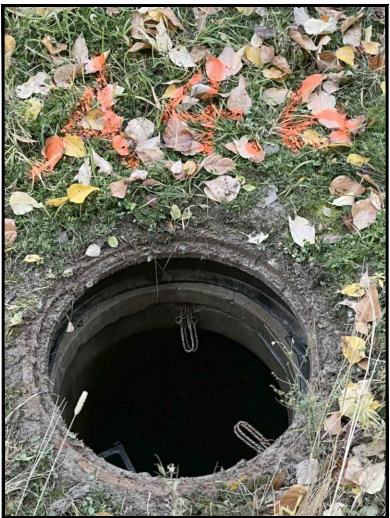


RAISE & CHIMNEY RECONSTRUCT
MH A4.6 (48" DIA.)
EX. RIM - 4661.19
NEW RIM - 4661.62
INV. IN N 8" PVC - 4651.79
INV. OUT E 8" PVC - 4651.40

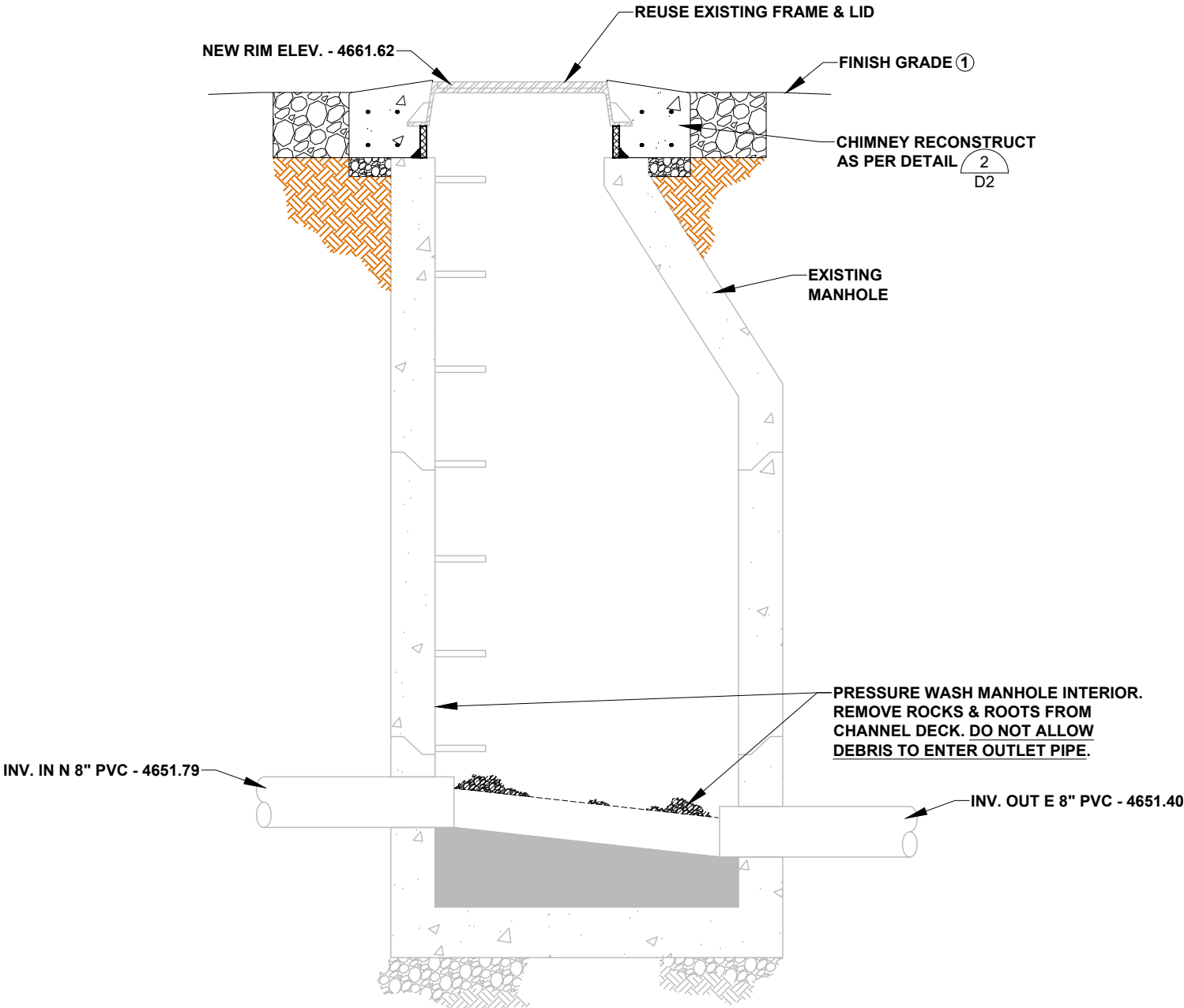
Manhole A4.6

1/4

SCALE 2 1 0 2 4
Feet



Manhole A4.6 Photos



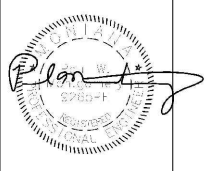
INV. IN N 8" PVC - 4651.79

INV. OUT E 8" PVC - 4651.40

Manhole A4.6 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Owner

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Sewer
District

Project Title

I&I
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Project

Sheet Title

Manhole
A4.6

Sheet

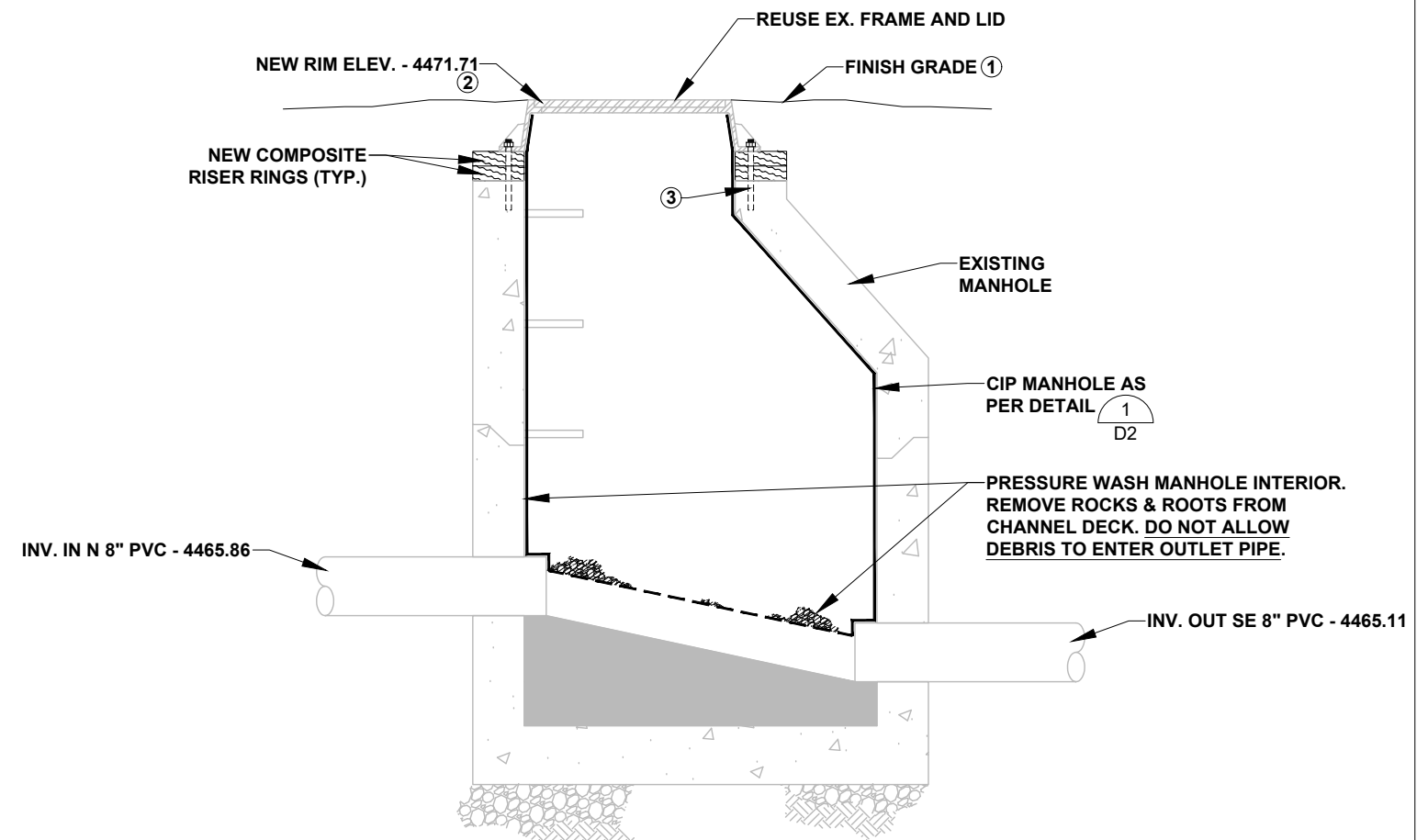
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ALTERNATE B

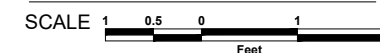
SCALE 2 1 0 2
Feet



Manhole S1-1 Photos



Manhole S1-1 Section



NOTES:

- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
- ② FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4"$ OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
- ③ THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.

Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
e-Bid Final	6-10-22	AE

Revision

Re-Bid Final
Lot Scale

1:2

Drawn By
A Eckhart P E

A.ECKHart, F.E.
Approved By

P.Montgomery, P.E.

Checked By
A. Eckhart, P.E.

Designed By	A. Eckhart, P.E.
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P.Montgomery, P.E.

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Engineer



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Owner

Big
Mountain
County
Sewer
District

Project Title

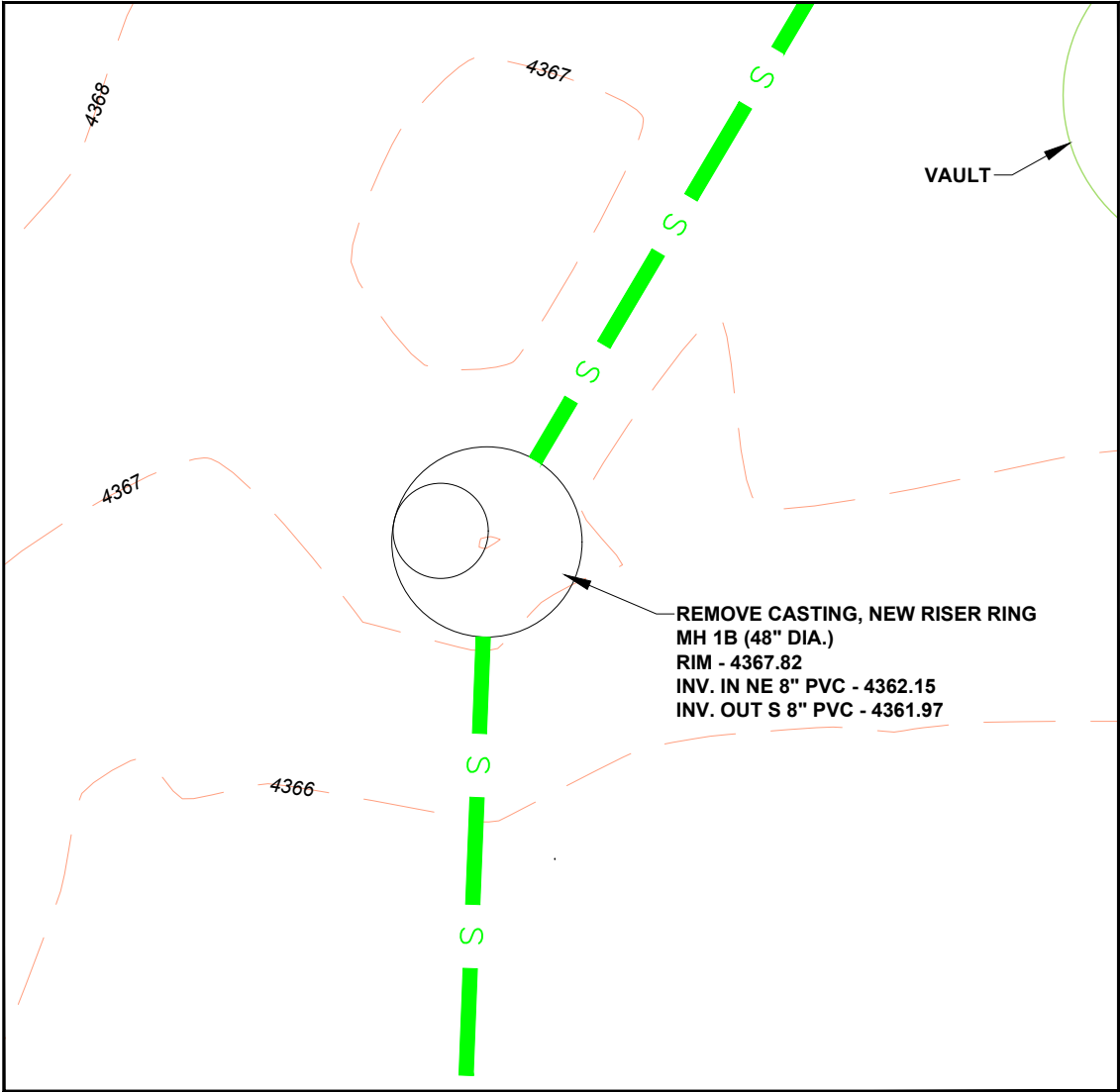
I&I
Mitigation
Project

Sheet Title

**Manhole
S1-1**

Sheet

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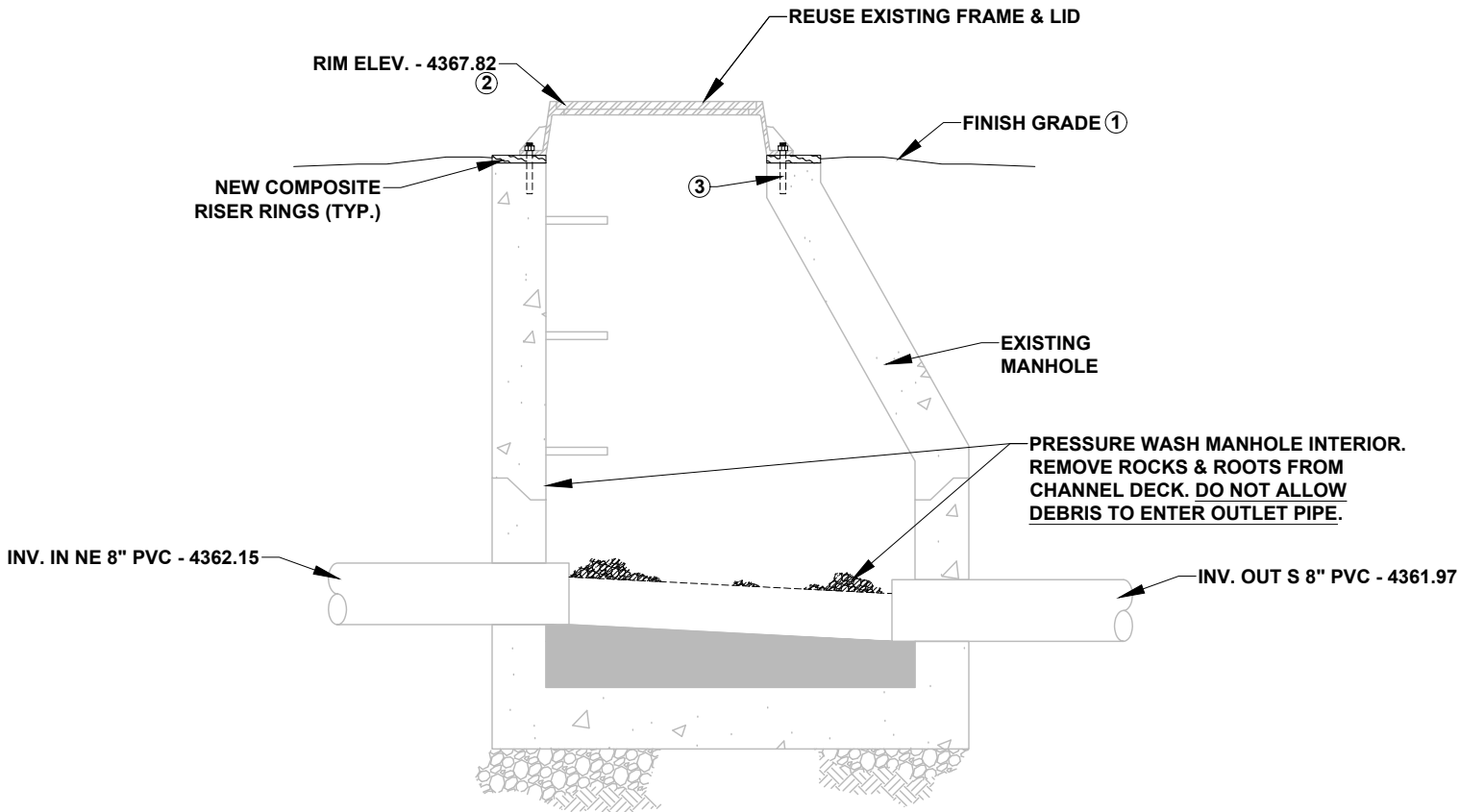
Manhole 1B

1/5

SCALE 2 1 0 2 4
Feet



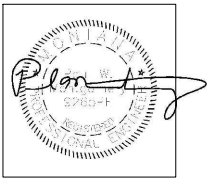
Manhole 1B Photos



Manhole 1B Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
 - ② FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4"$ OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
 - ③ THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE EXISTING STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE EXISTING STRUCTURE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

Sheet Title

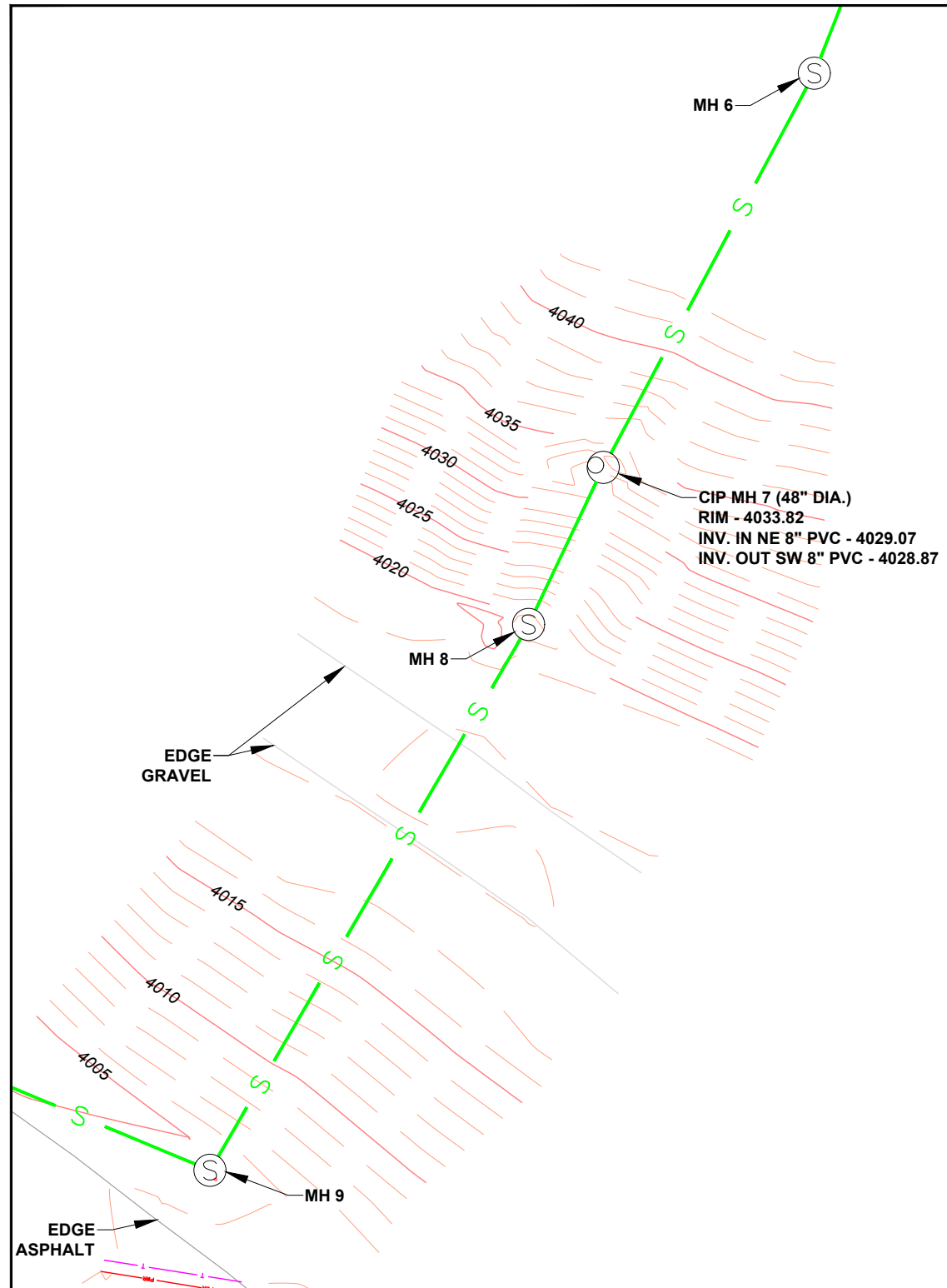
Manhole
1B

Sheet

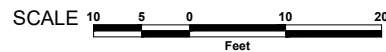
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ALTERNATE B

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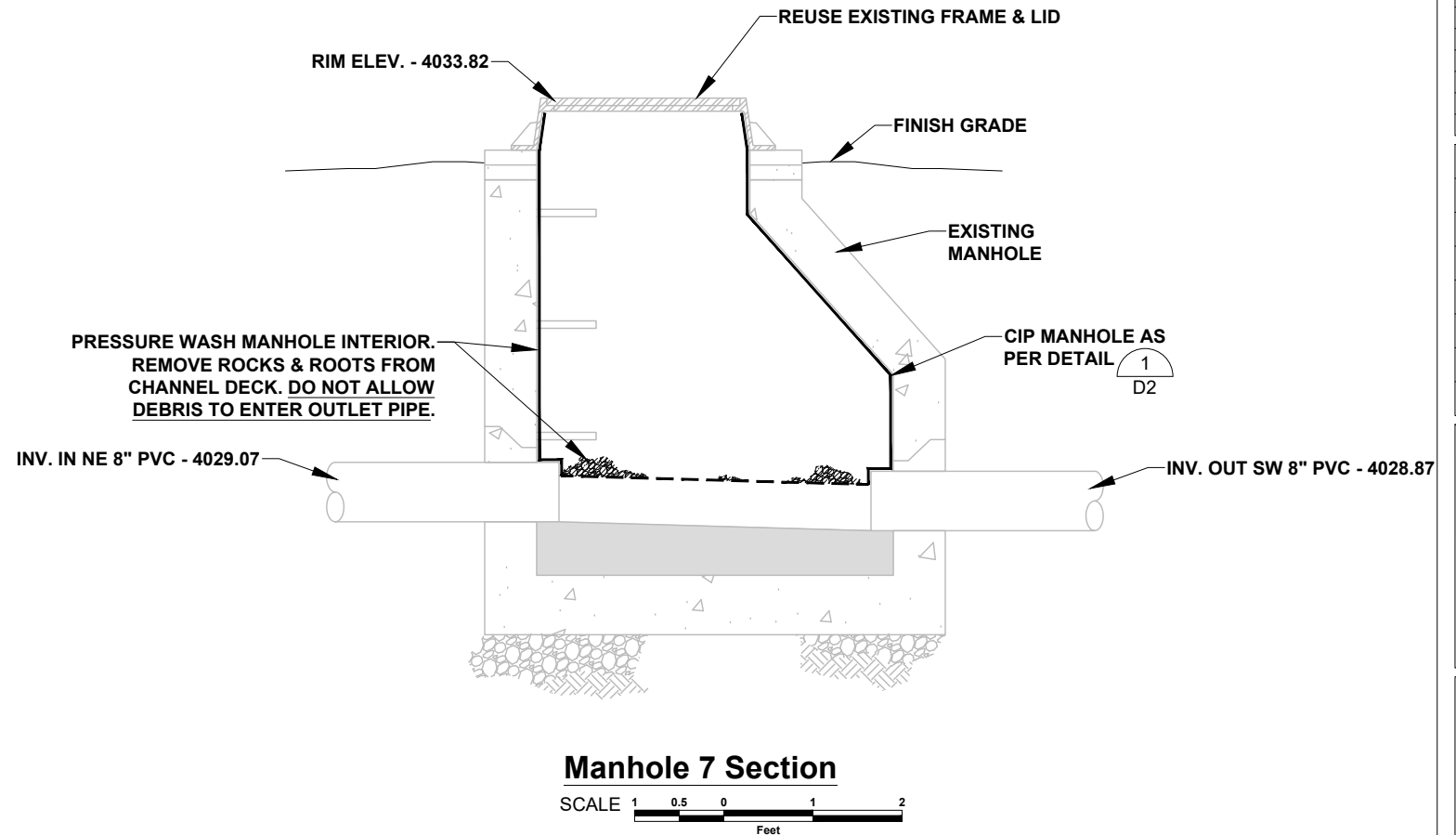


Manhole 7 $\frac{1}{5 \text{ \& 6}}$

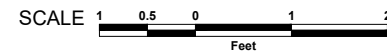


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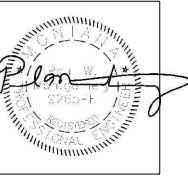
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT ARE LOCATED IN CLOSE PROXIMITY TO AID THE CONTRACTOR IN LOCATING THE CORRECT MANHOLE.



Manhole 7 Section



Manhole 7 Photos



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Big Mountain County Sewer District

Project Title

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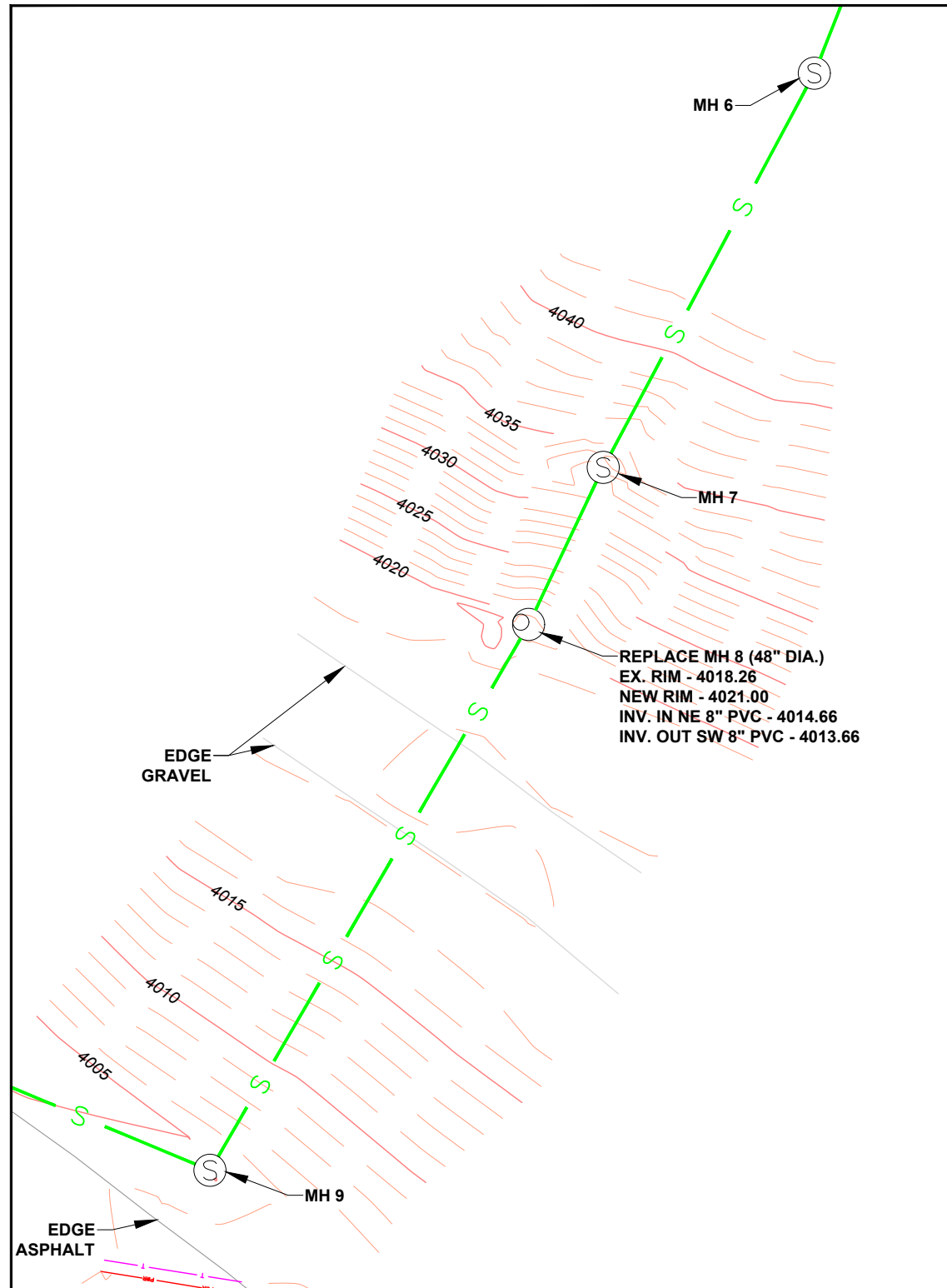
Sheet Title

Manhole 7

Sheet

35

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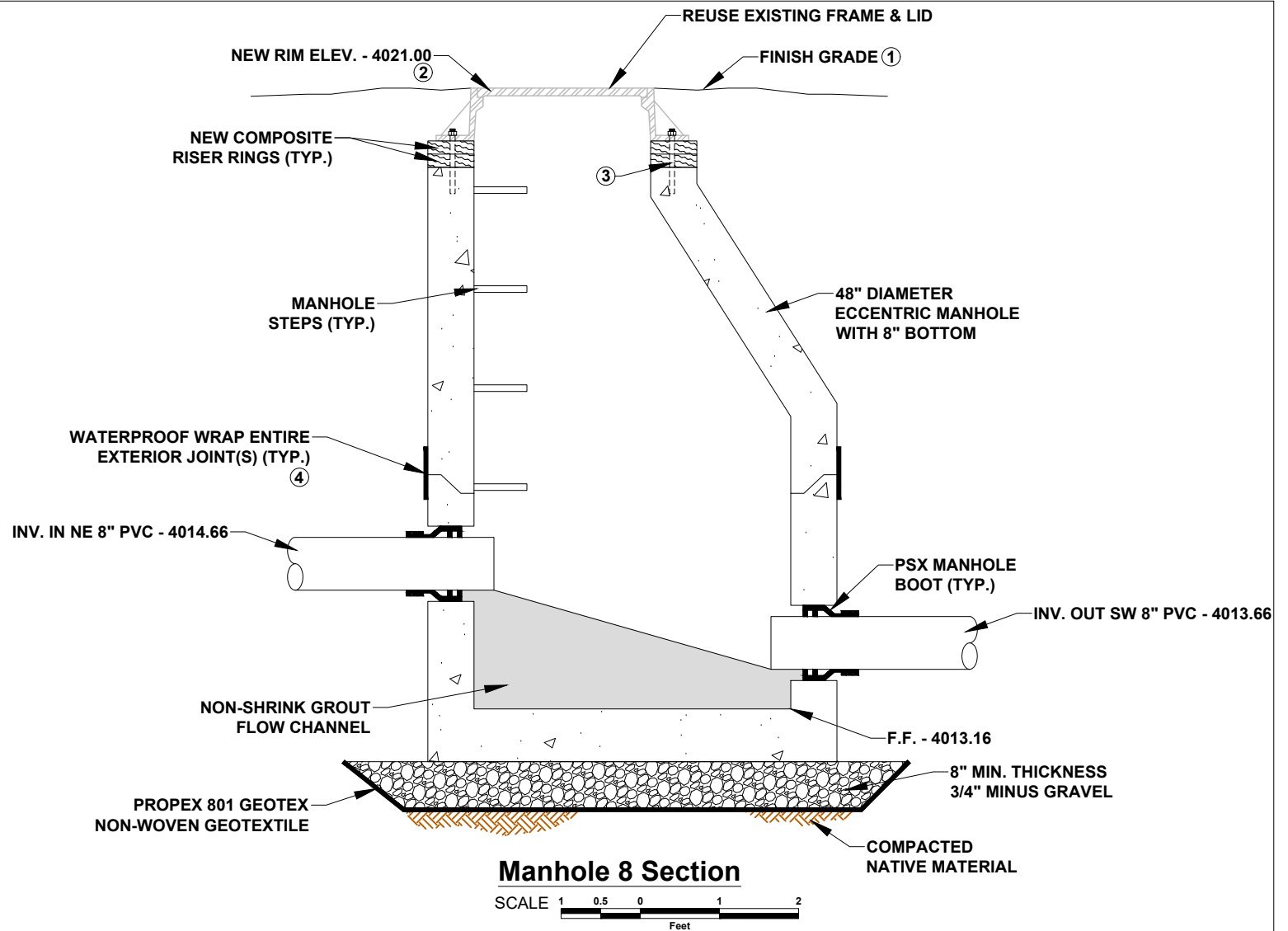


Manhole 8 1
5 & 6

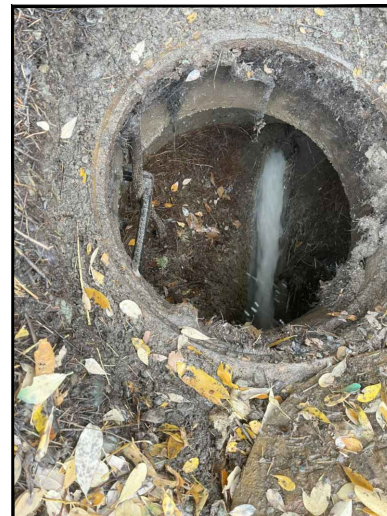
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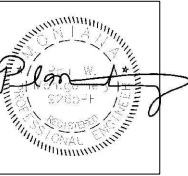
- NOTES:**
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT ARE LOCATED IN CLOSE PROXIMITY TO AID THE CONTRACTOR IN LOCATING THE CORRECT MANHOLE.



- NOTES:**
- SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.
 - FINAL NEW RIM ELEVATION SHALL BE $\pm 1/4"$ OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS.
 - THE EXISTING FRAME SHALL BE BOLTED DOWN TO THE NEW STRUCTURE WITH FOUR $5/8"$ DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE NEW STRUCTURE.
 - INSTALL WATERPROOF WRAP AT ALL JOINTS. FOLLOW PREPARATION AND WATERPROOFING INSTRUCTIONS PER SPECIFICATION 33 01 31.



Manhole 8 Photos



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

Big Mountain County Sewer District

Project Title

I&I Mitigation Project

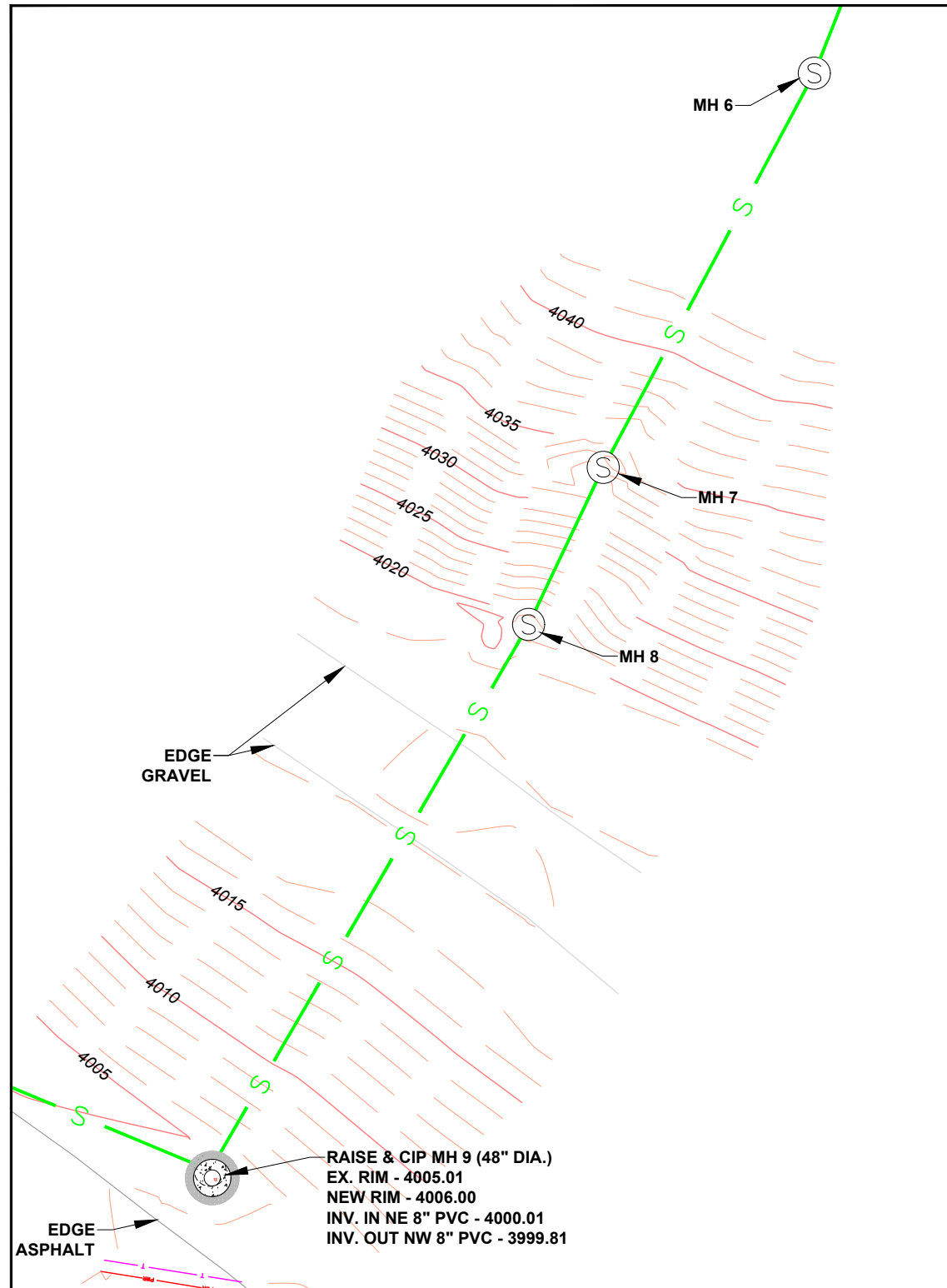
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Manhole 8

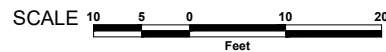
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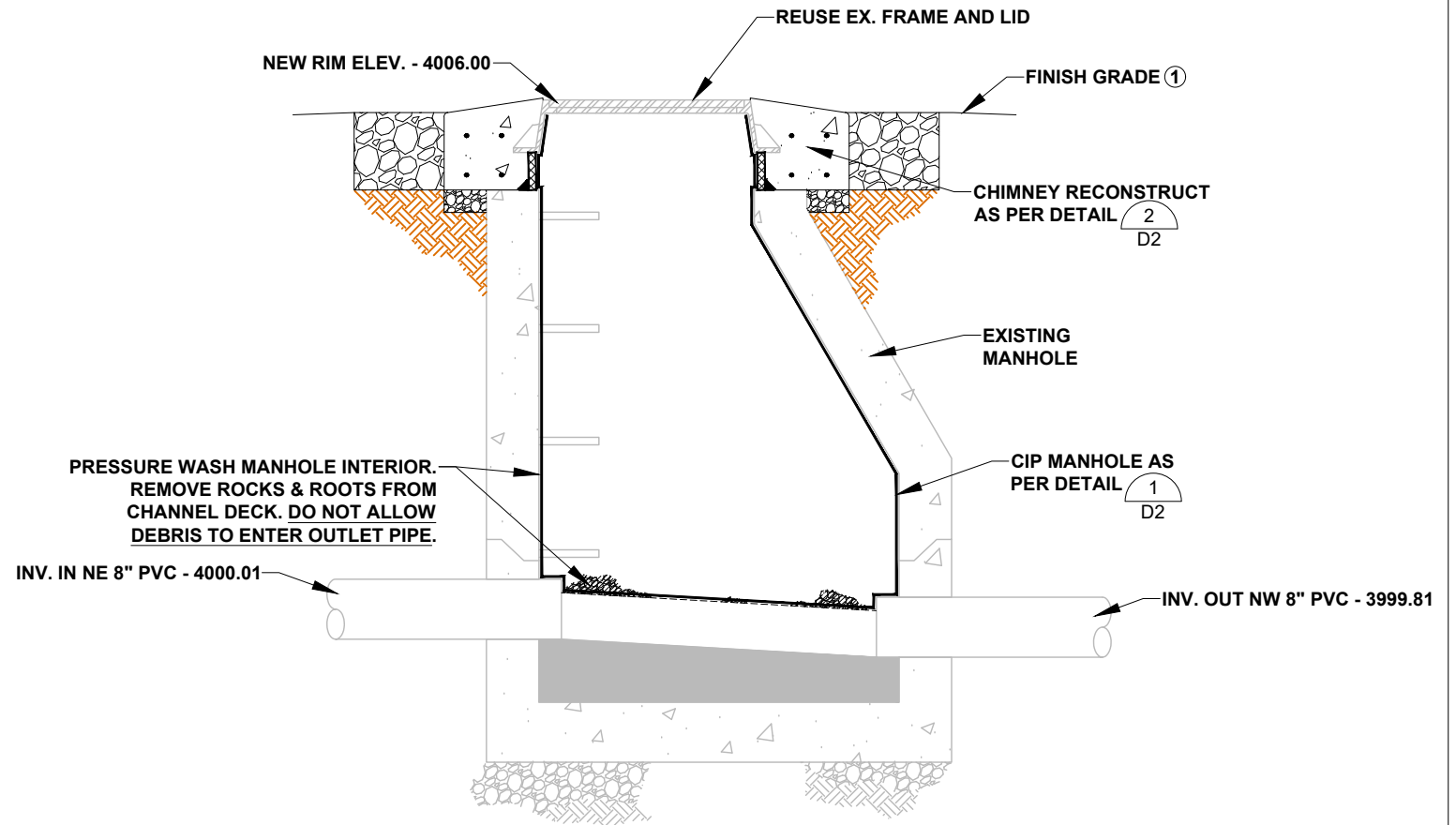
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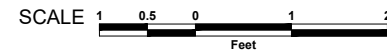
Manhole 9 $\frac{1}{5 \text{ \& 6}}$



- NOTES:**
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT ARE LOCATED IN CLOSE PROXIMITY TO AID THE CONTRACTOR IN LOCATING THE CORRECT MANHOLE.



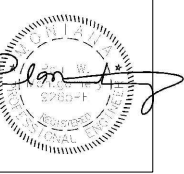
Manhole 9 Section



- NOTES:**
- SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING.



Manhole 9 Photos



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

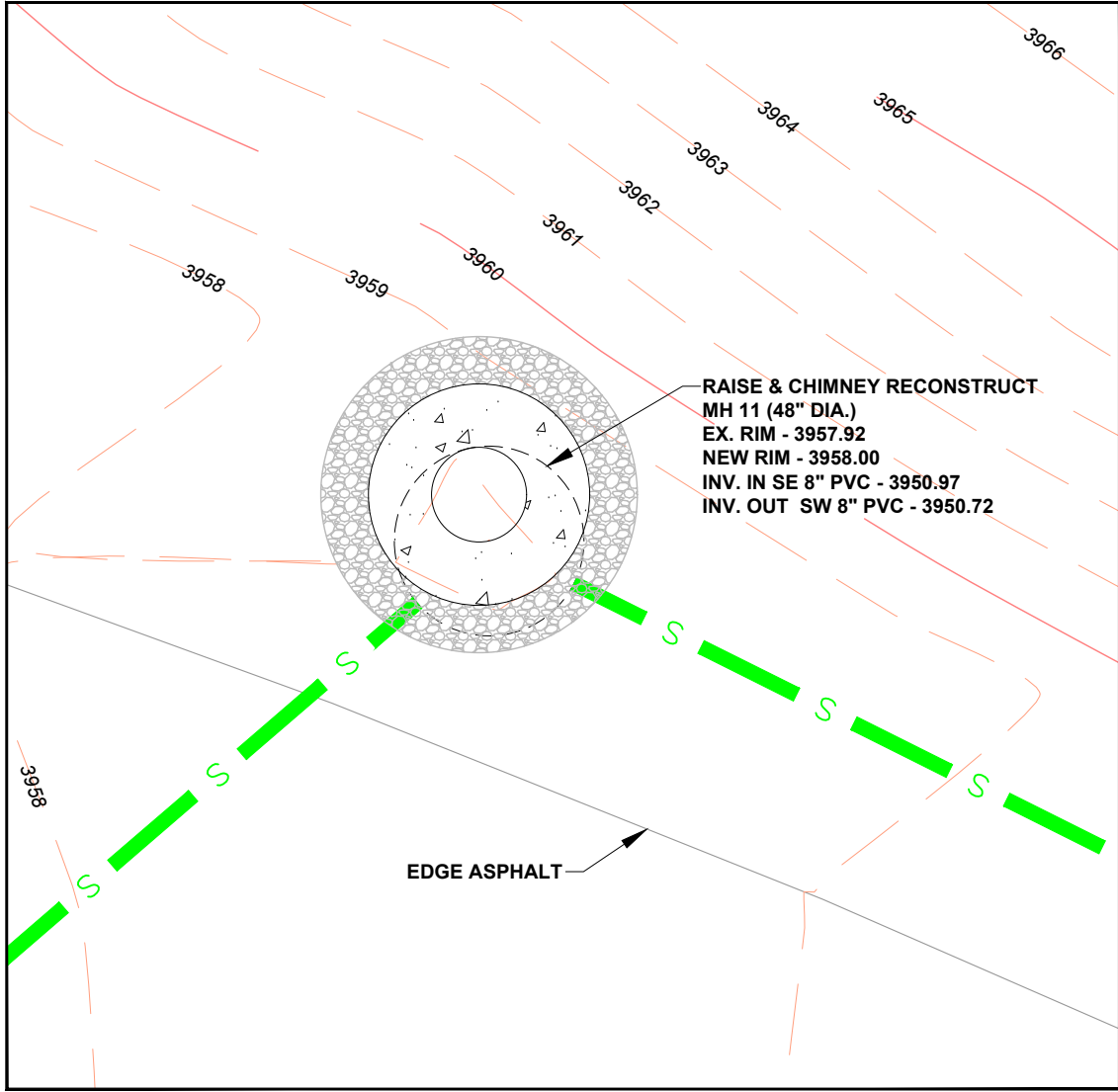
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Owner
Big Mountain County Sewer District

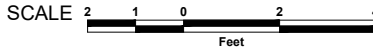
Project Title
I&I Mitigation Project

Sheet Title
Manhole 9

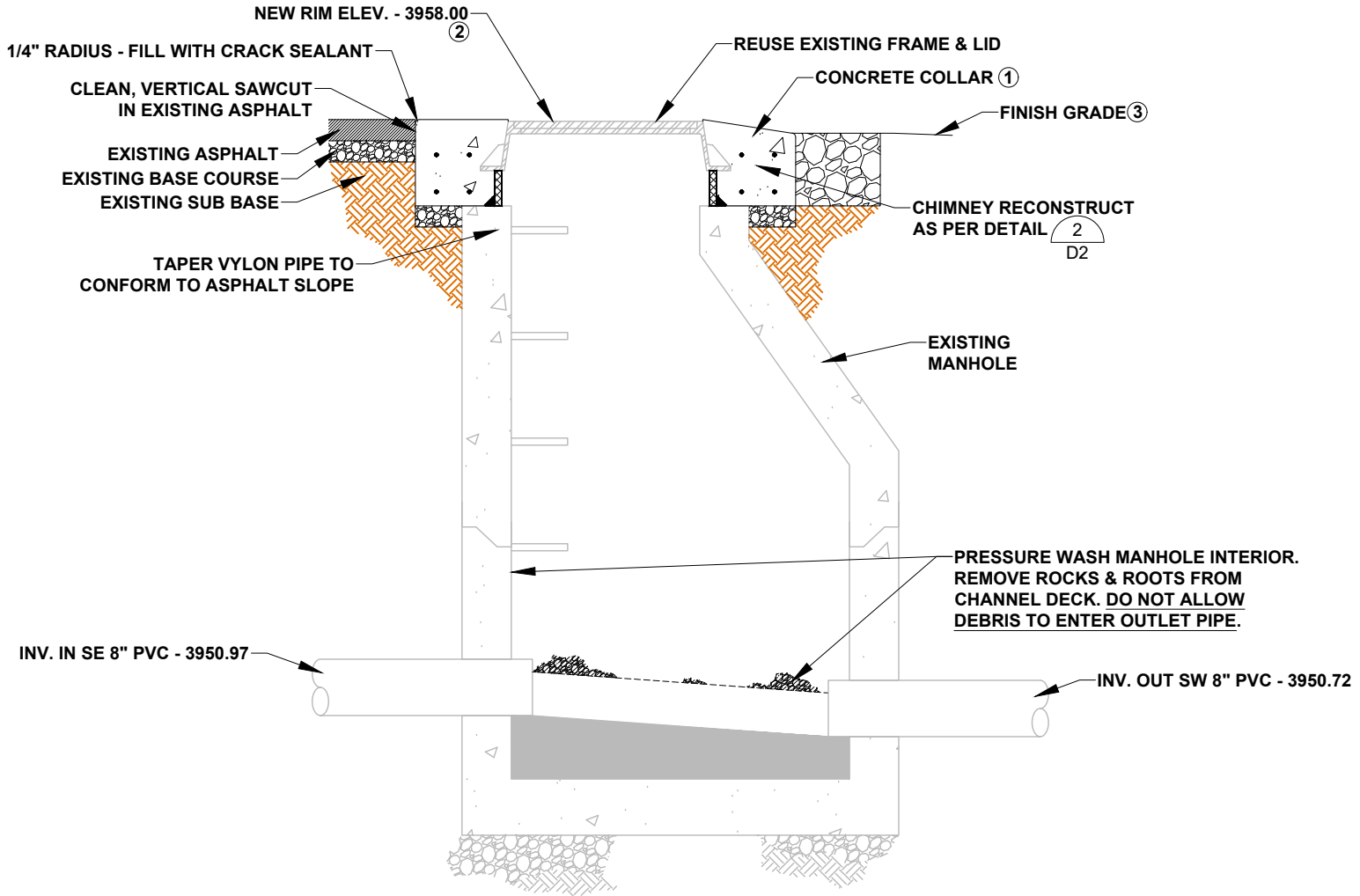
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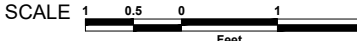
Manhole 11 



Manhole 11 Photos

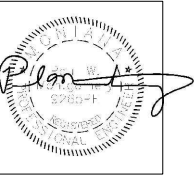


Manhole 11 Section



NOTES:

- ① CONCRETE COLLAR SHALL BE FLUSH WITH SURROUNDING ASPHALT AND SLOPED AWAY FROM RIM WITHIN DITCH AS PER THE CHIMNEY RECONSTRUCT DETAIL. THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.
- ② FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
- ③ SLOPE FINISH GRADE WITHIN DITCH BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
e-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

Big
Mountain
County
Sewer
District

Project Title

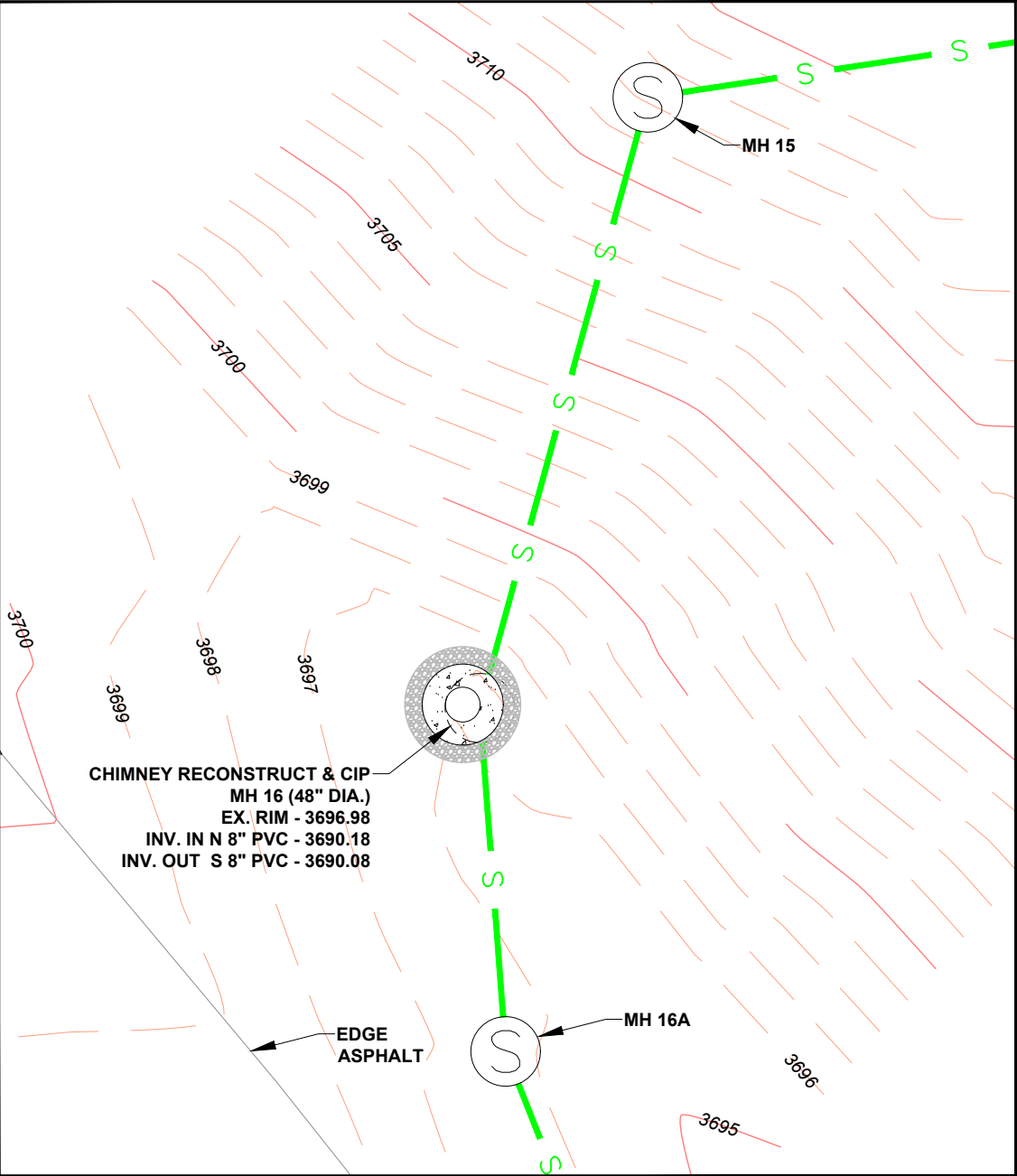
I&I
Mitigation
Project

Sheet Title

Manhole 11

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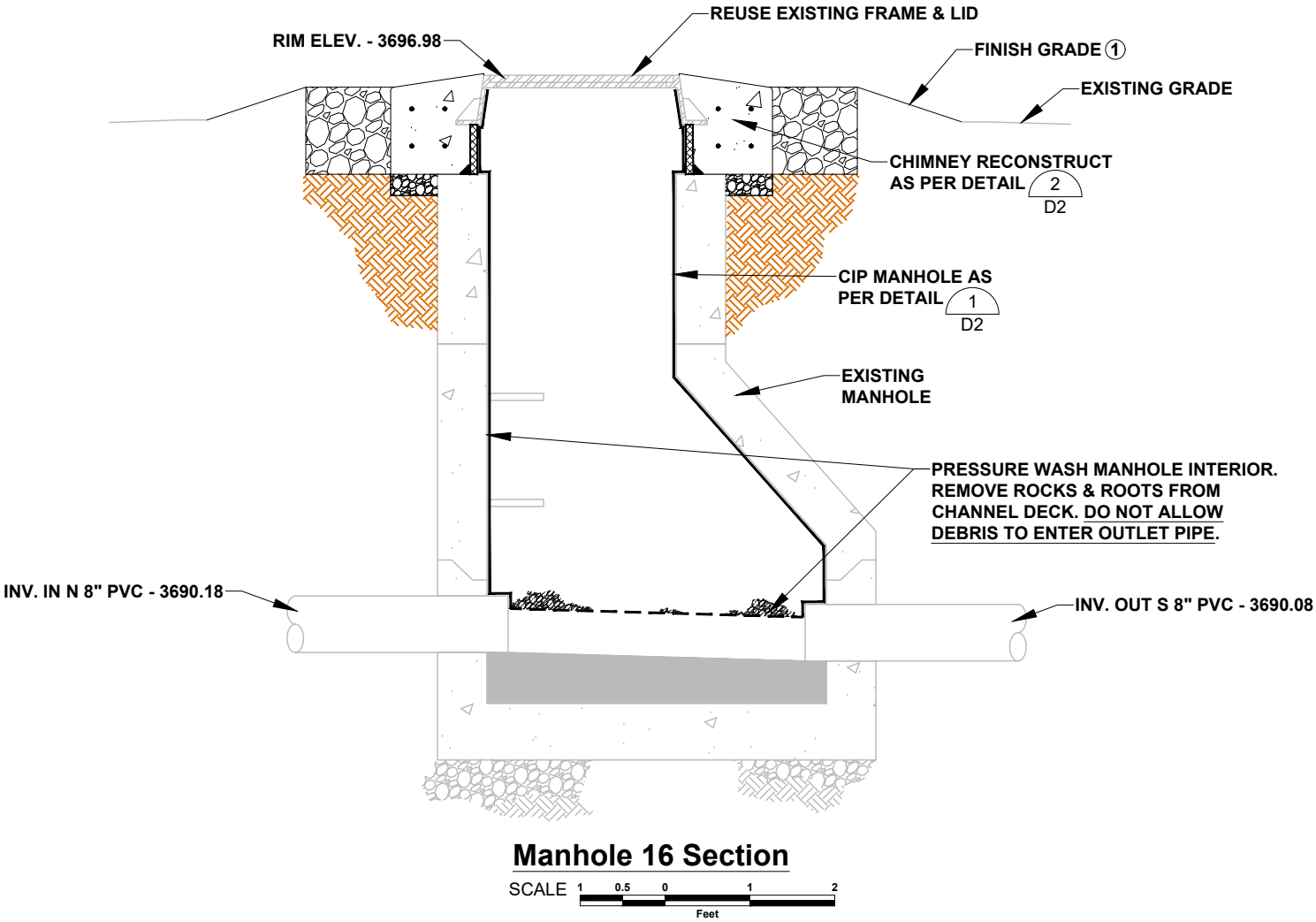
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Manhole 16 1/6

SCALE 5 2.5 0 5 10 Feet

- NOTES:
- VIEWPORT EXPANDED TO SHOW ADDITIONAL MANHOLES THAT ARE LOCATED IN CLOSE PROXIMITY TO AID THE CONTRACTOR IN LOCATING THE CORRECT MANHOLE.



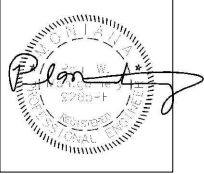
Manhole 16 Section

- NOTES:
- SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE 2' FROM STRUCTURE.

REMOVE & DISPOSE EXISTING RISER RING



Manhole 16 Photos



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

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Owner

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Sewer
District

Project Title

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Project

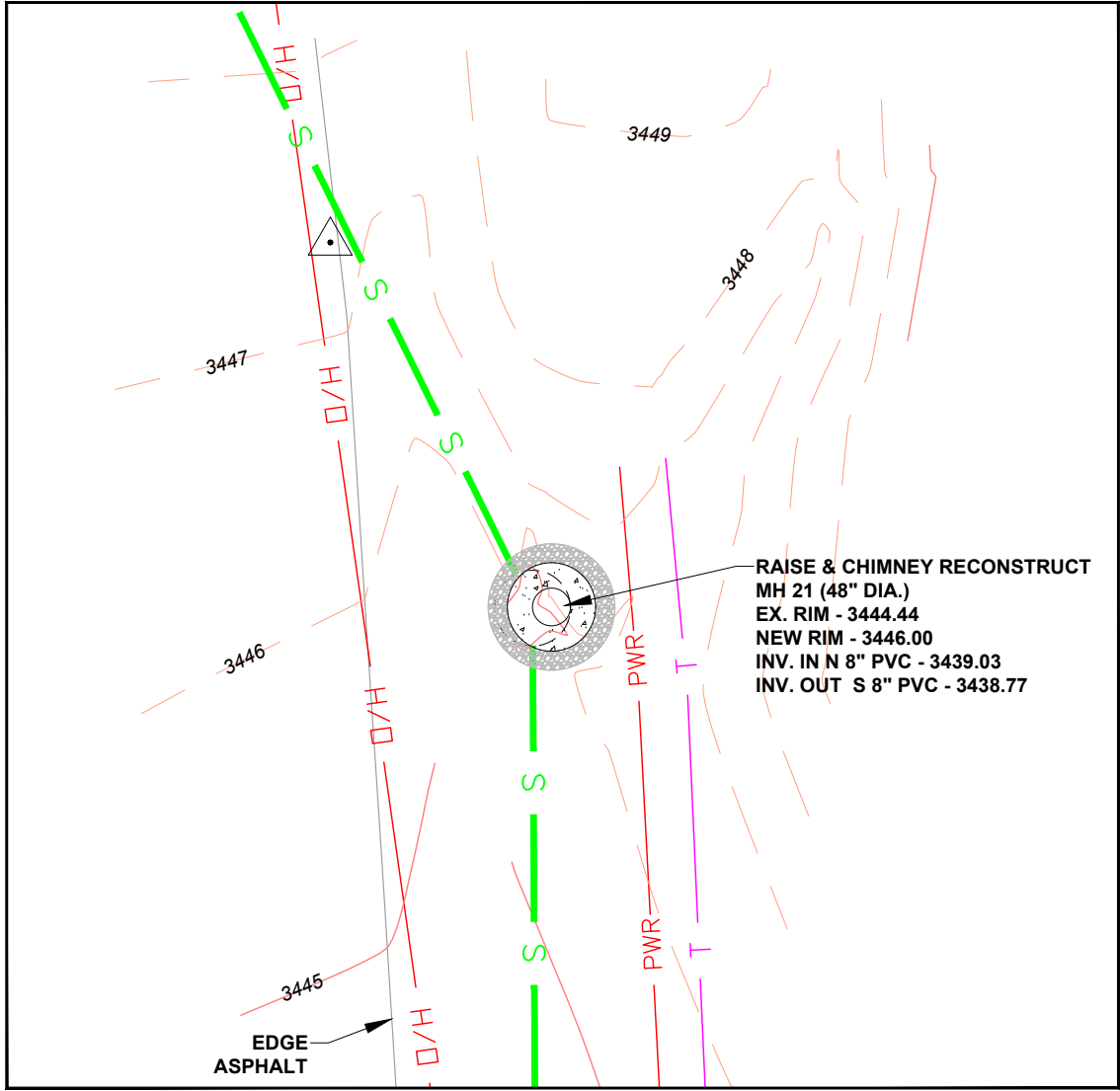
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Manhole
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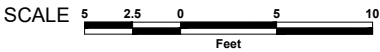
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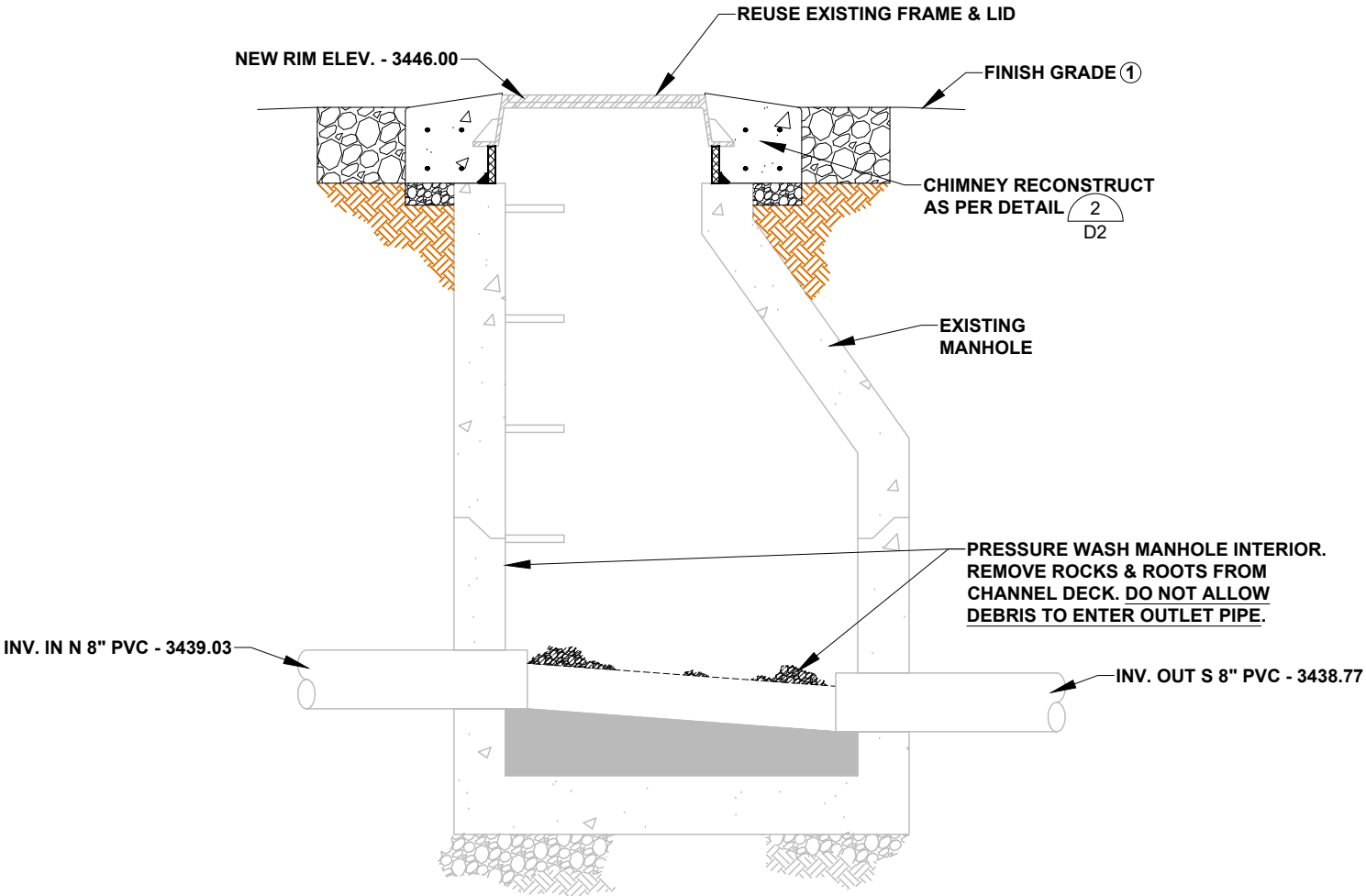
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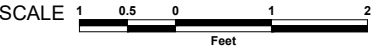
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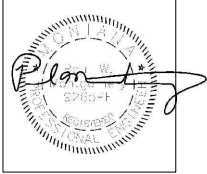
Manhole 21 Photos



Manhole 21 Section



- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING. SLOPE GRADE FROM ROAD TO MANHOLE RIM AT A CONSTANT SLOPE.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
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Project

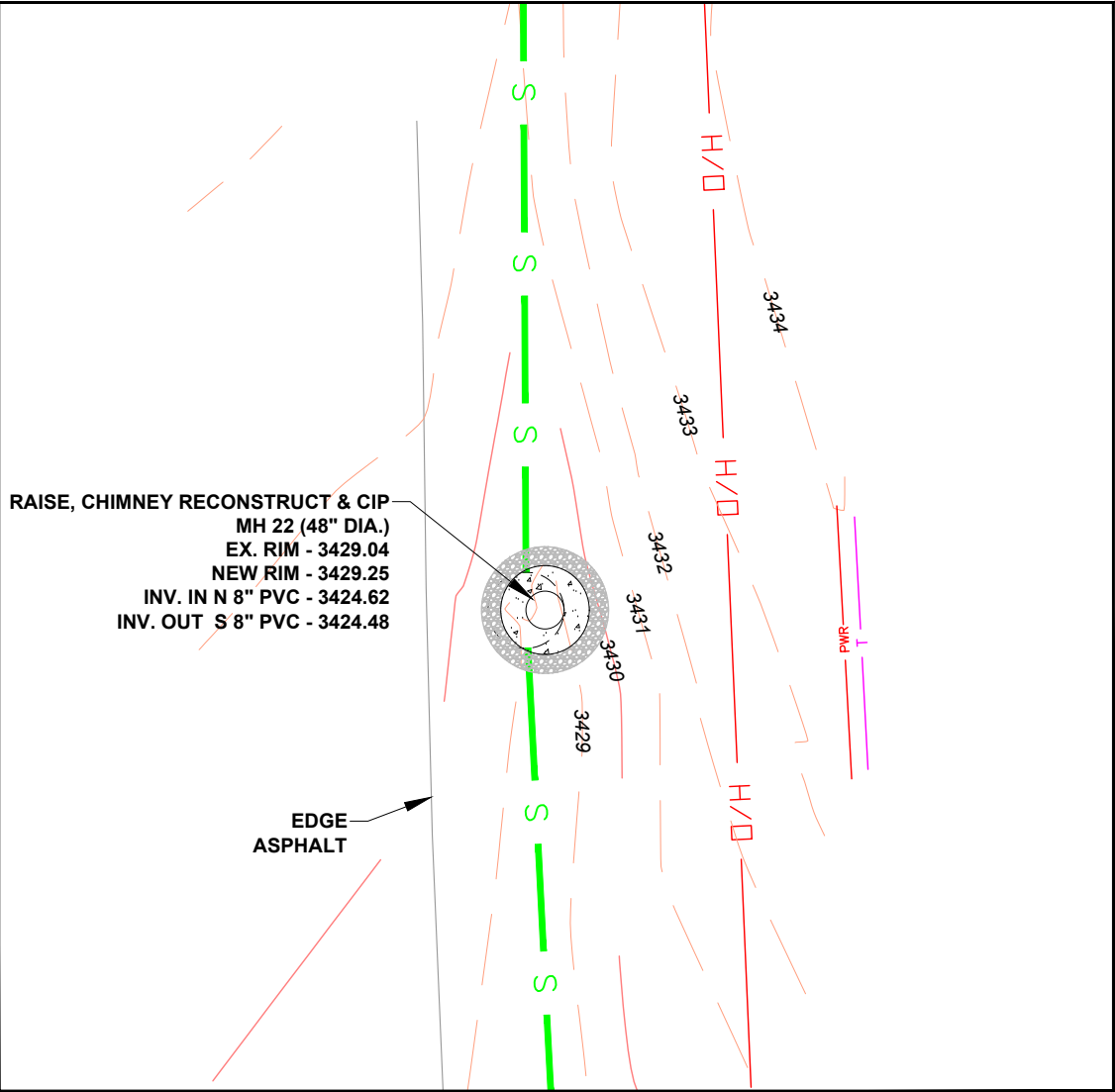
Sheet Title

Manhole
21

Sheet

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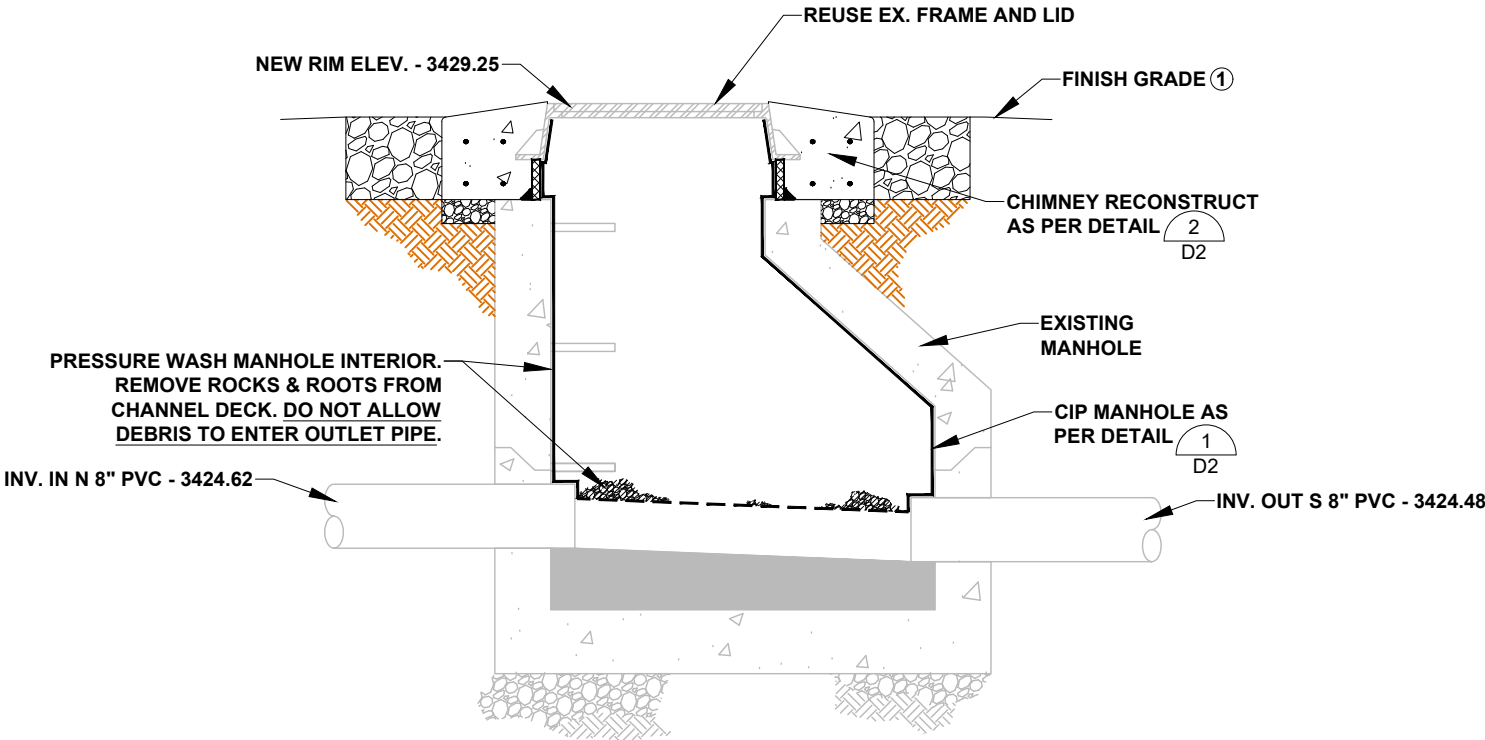


Manhole 22 $\frac{1}{7 \text{ \& } 8}$

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Feet



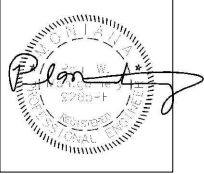
Manhole 22 Photos



Manhole 22 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL TO EAST SIDE OF MANHOLE RIM.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

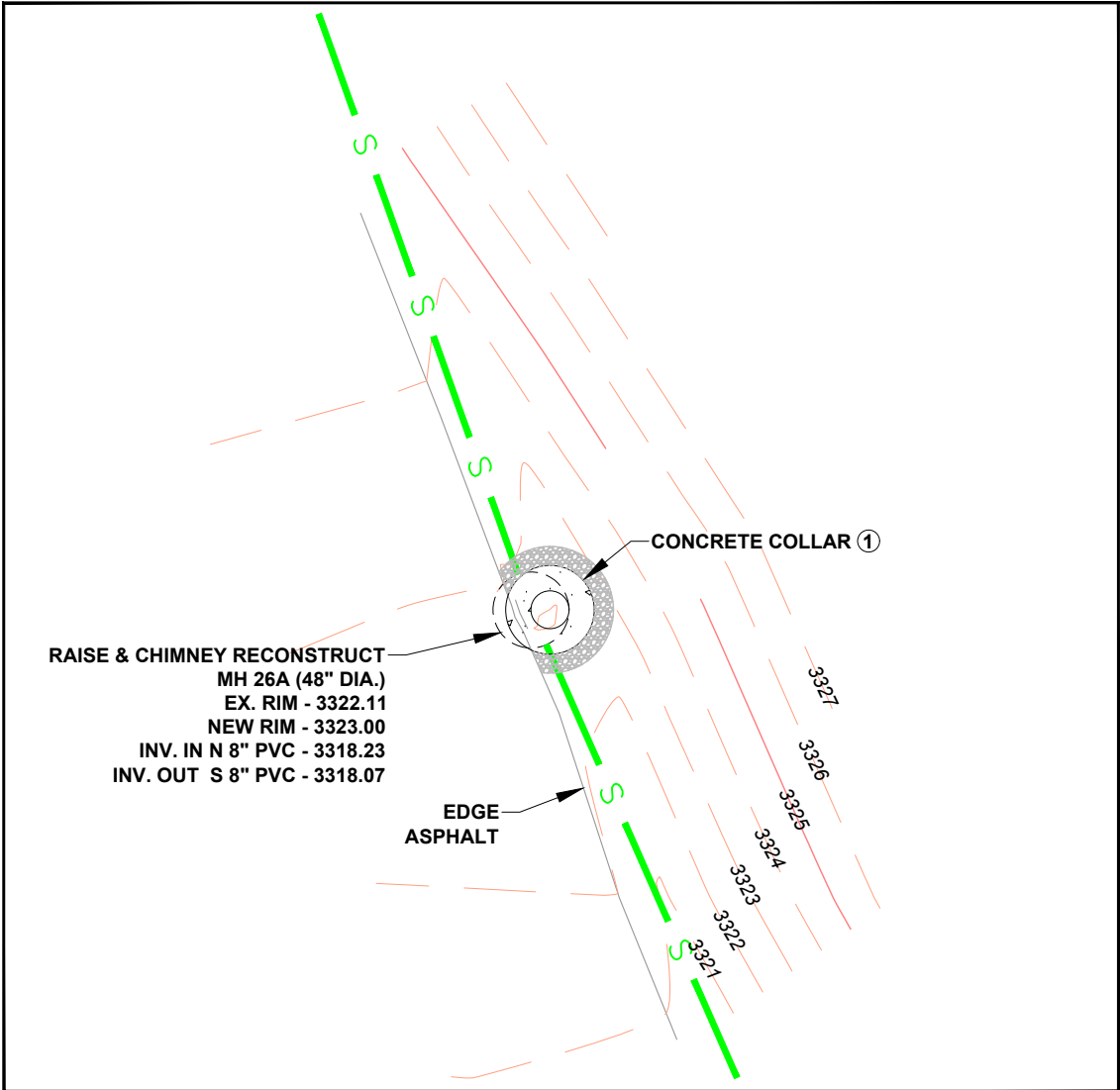
Sheet Title

Manhole
22

Sheet

41

X:\BIG MOUNTAIN SEWER DISTRICT\DRAWINGS\Sheets Re-Bid\Sheet 42 - MH 26A.dwg SAVED: 6/1/22 PRINTED: 6/2/22 BY: ADAM

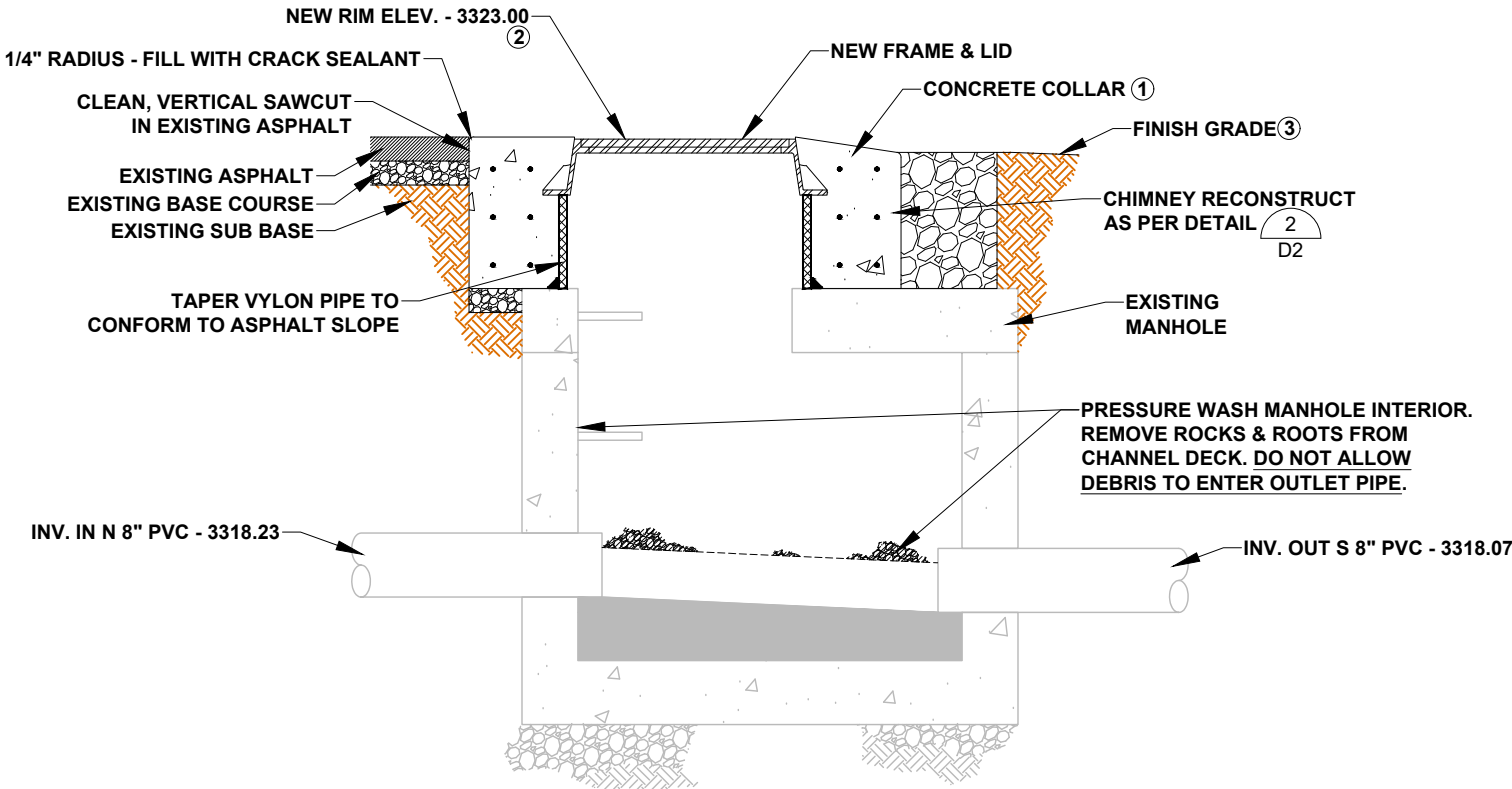


Manhole 26A $\frac{1}{8}$

SCALE 5 2.5 0 5 10
Feet



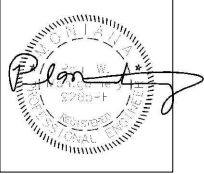
Manhole 26A Photos



Manhole 26A Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
- ① CONCRETE COLLAR SHALL BE FLUSH WITH SURROUNDING ASPHALT AND SLOPED AWAY FROM RIM WITHIN DITCH AS PER THE CHIMNEY RECONSTRUCT DETAIL. THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.
 - ② FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
 - ③ SLOPE FINISH GRADE WITHIN DITCH BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Project Title

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Mitigation
Project

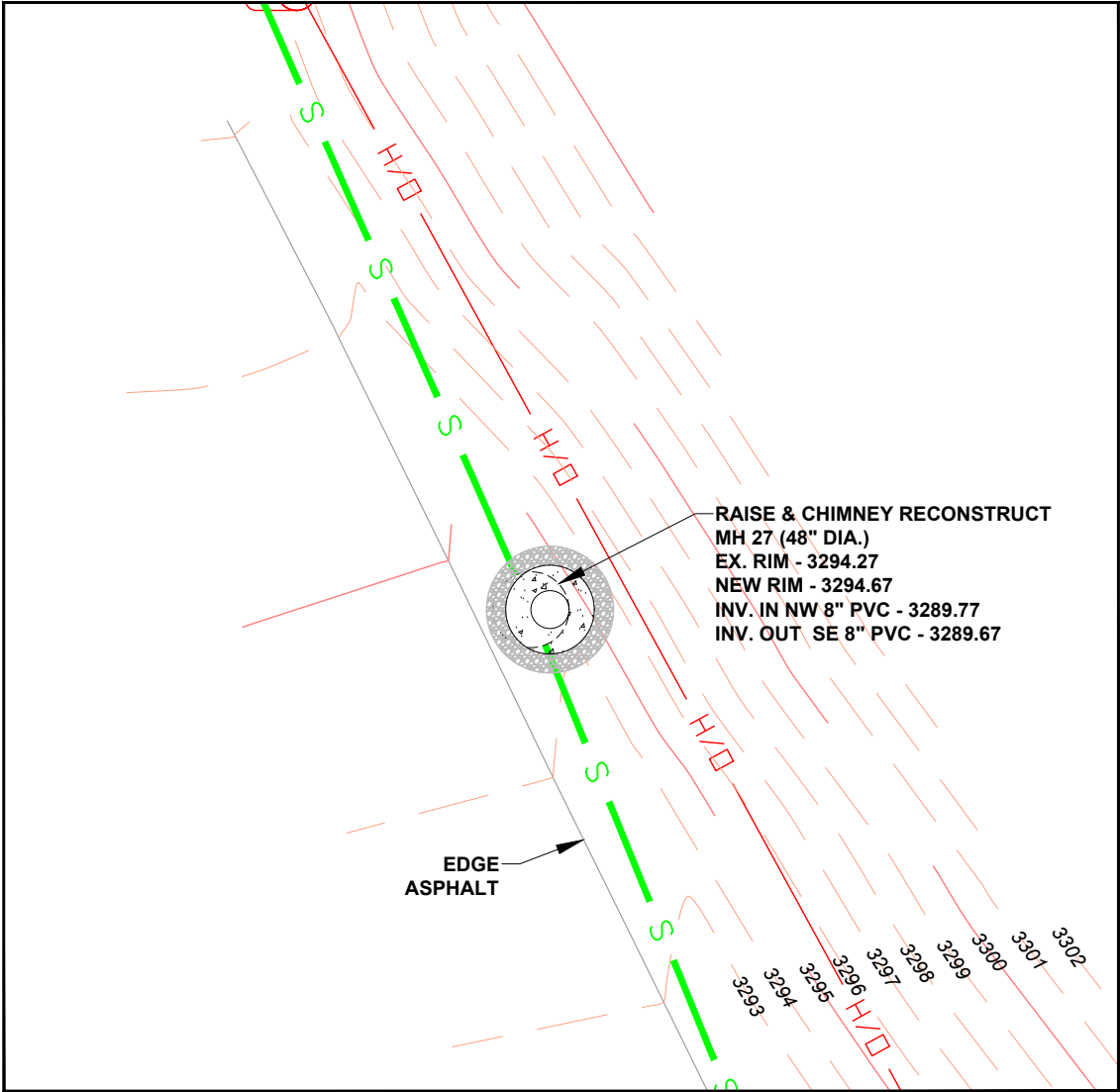
Sheet Title

Manhole
26A

Sheet

42

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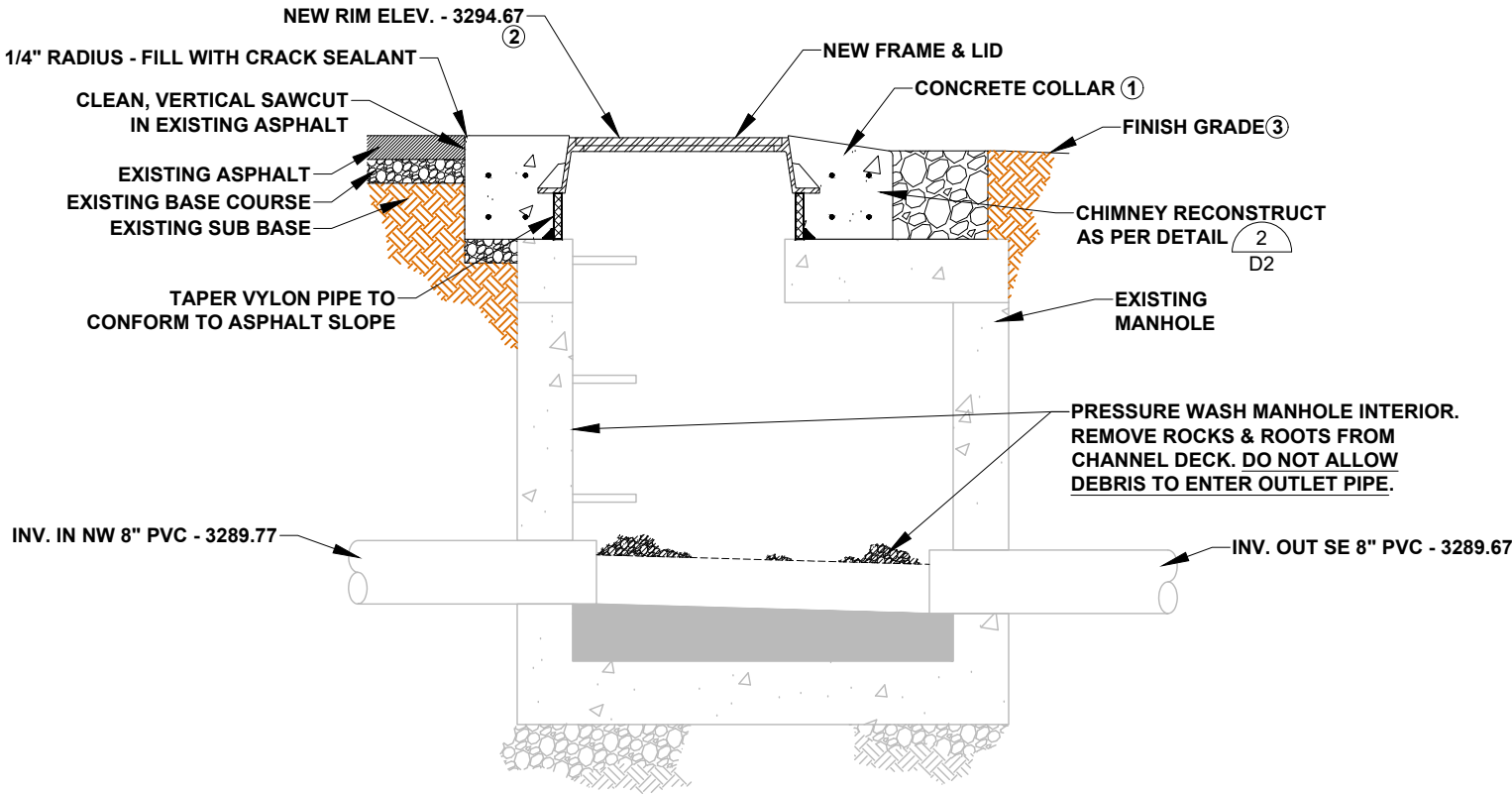


Manhole 27 $\frac{1}{8}$

SCALE 5 2.5 0 5 10
Feet



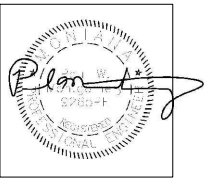
Manhole 27 Photos



Manhole 27 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
- ① CONCRETE COLLAR SHALL BE FLUSH WITH SURROUNDING ASPHALT AND SLOPED AWAY FROM RIM WITHIN DITCH AS PER THE CHIMNEY RECONSTRUCT DETAIL. THE CONCRETE COLLAR SHALL MATCH THE EXISTING GRADE OF THE SURROUNDING ASPHALT.
 - ② FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
 - ③ SLOPE FINISH GRADE WITHIN DITCH BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Project Title

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Project

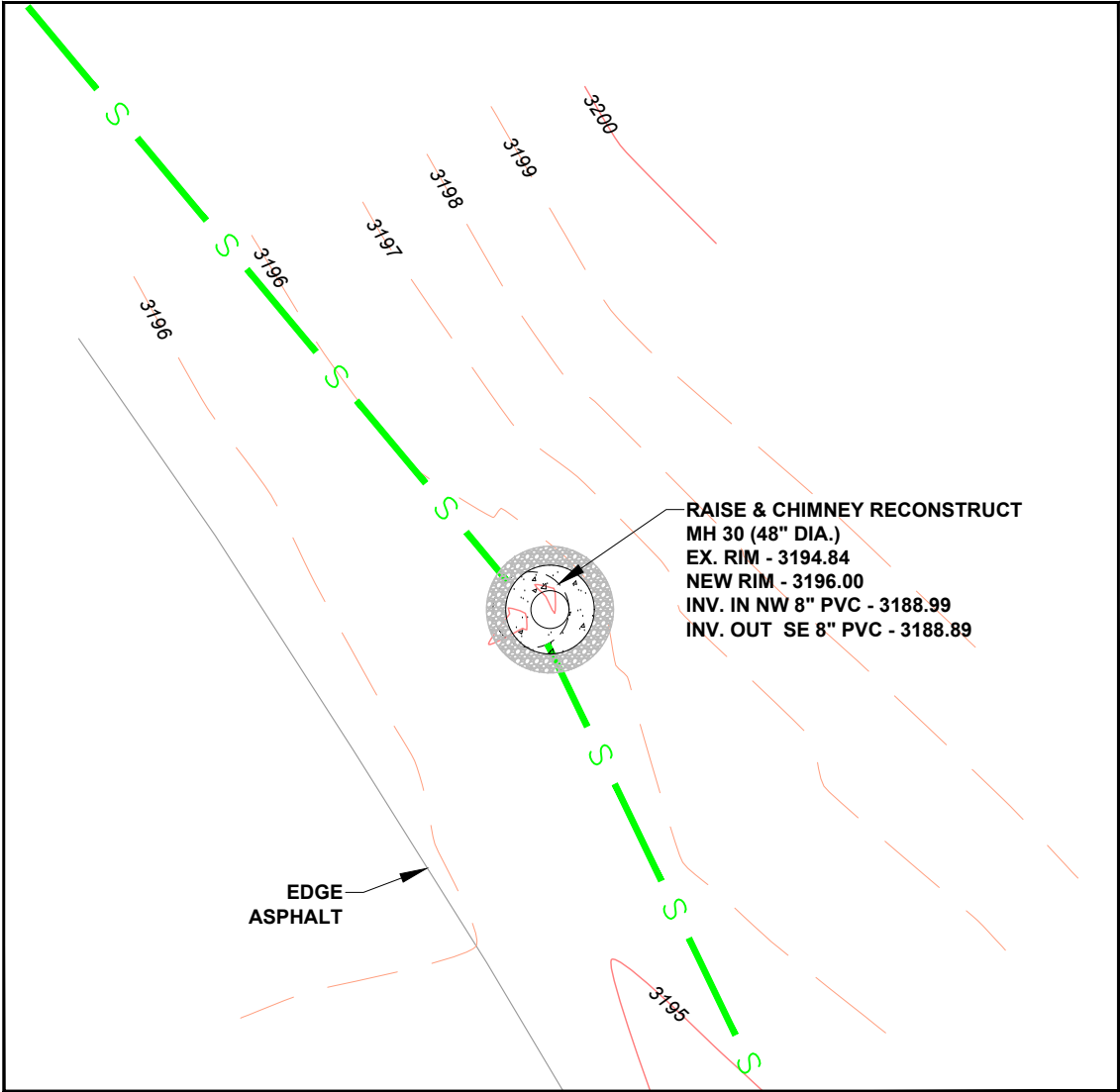
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Manhole
27

Sheet

43

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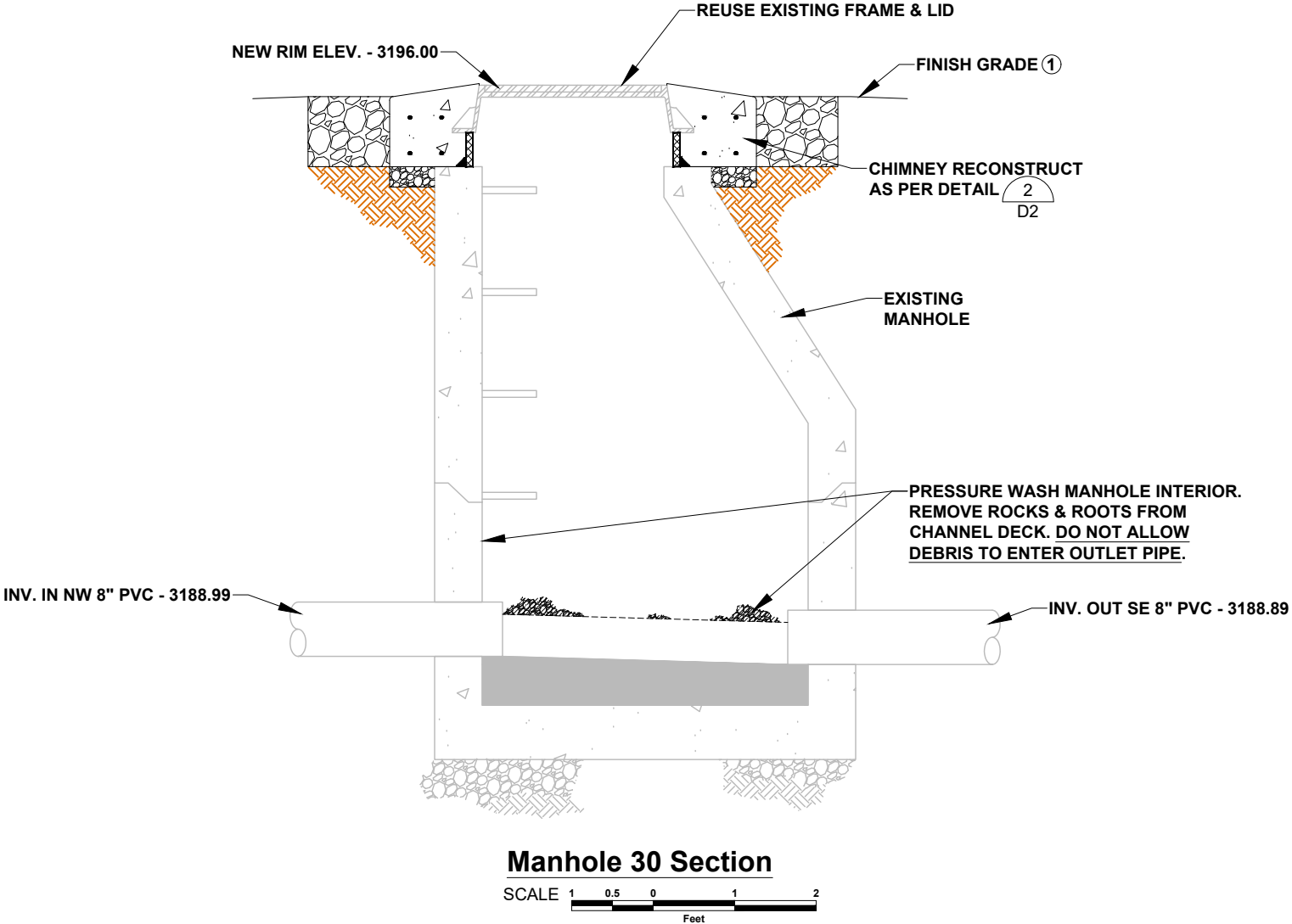


Manhole 30 $\frac{1}{8 \text{ \& 9}}$

SCALE 5 2.5 0 5 10
Feet



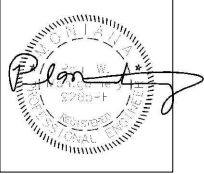
Manhole 30 Photos



Manhole 30 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:**
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL BETWEEN THE MANHOLE RIM AND THE ROAD.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Big Mountain County Sewer District

Project Title

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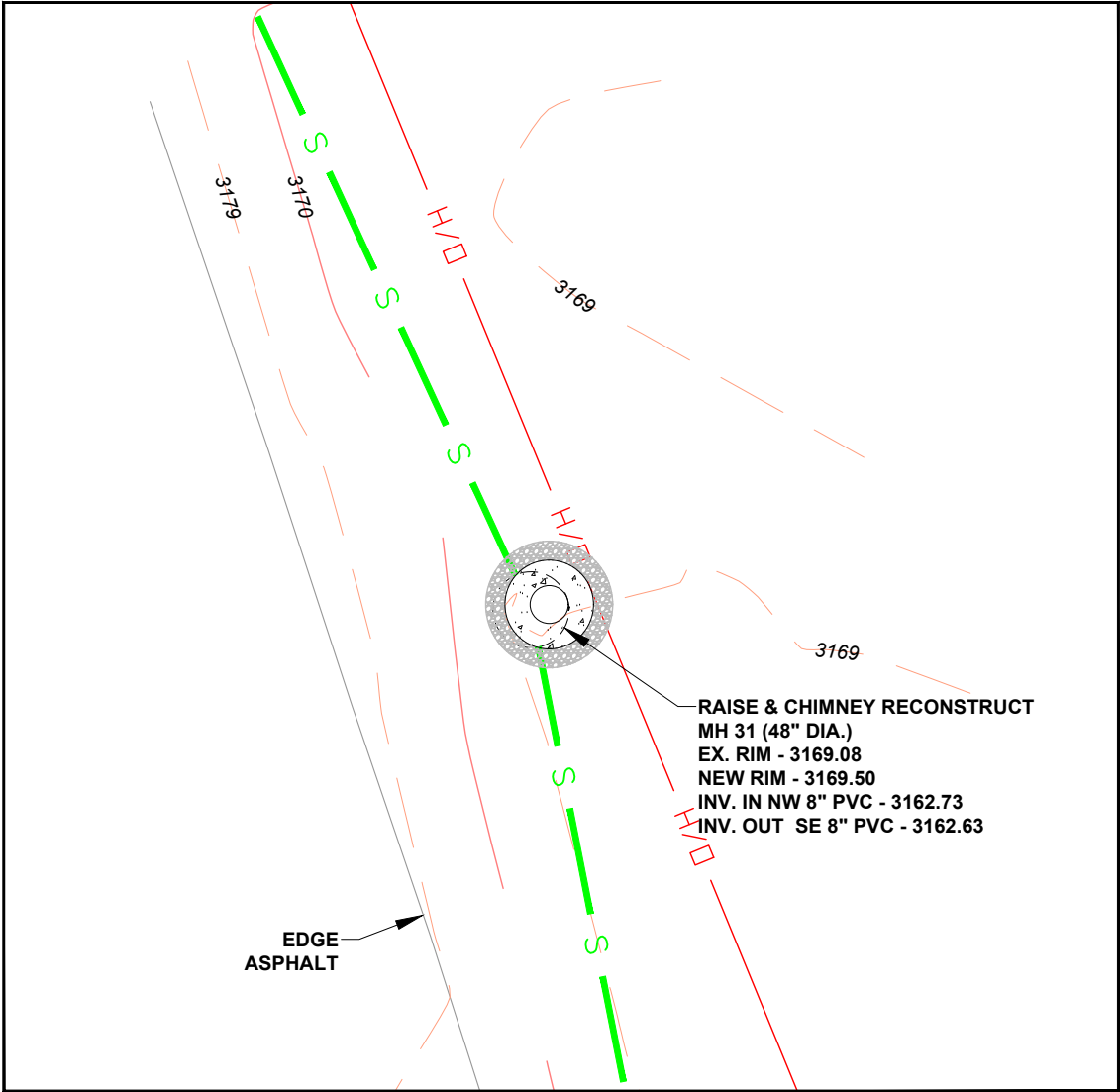
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Manhole 30

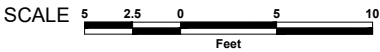
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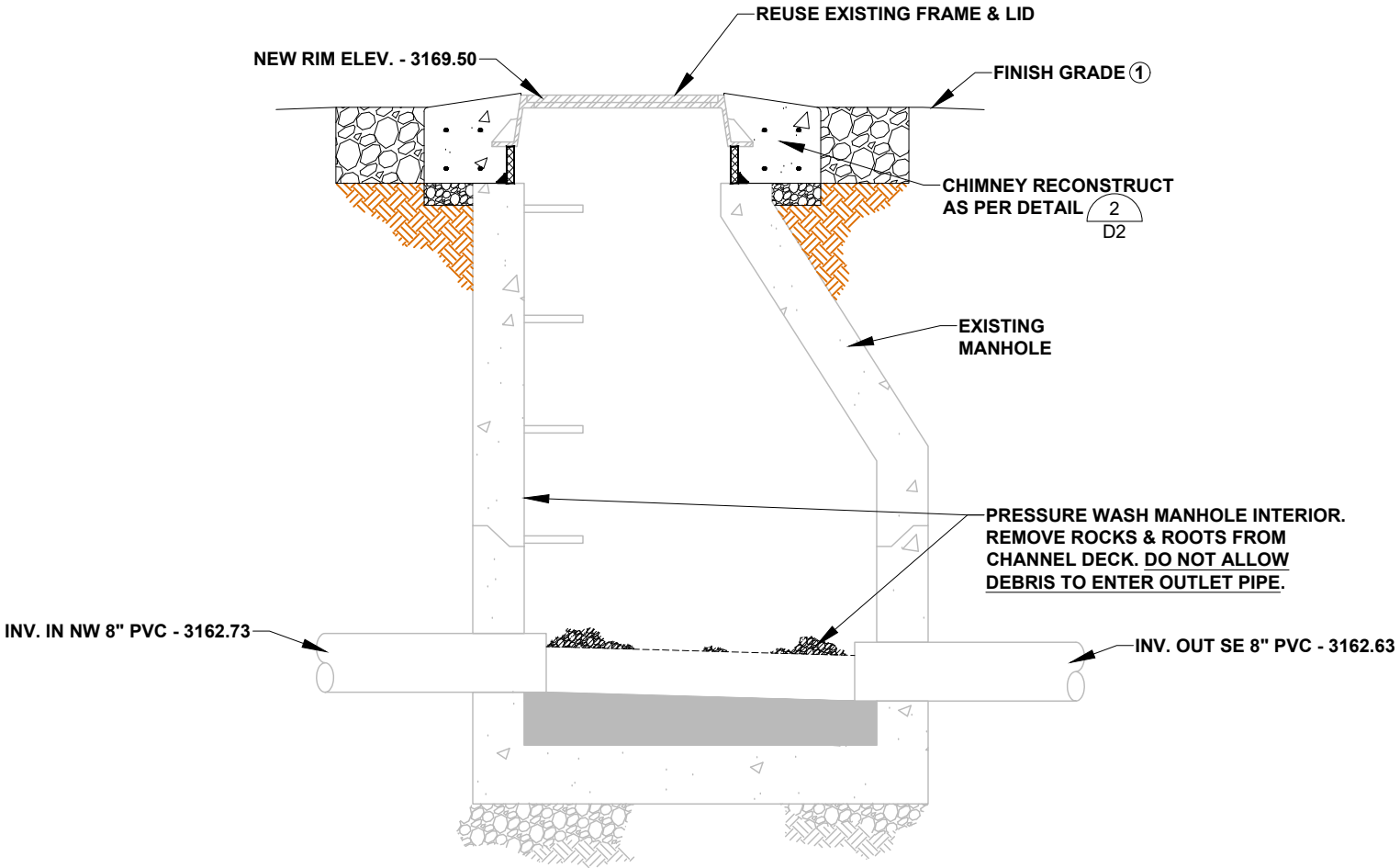
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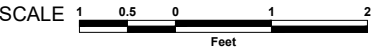
Manhole 31 $\frac{1}{9}$



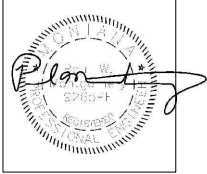
Manhole 31 Photos



Manhole 31 Section



- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL BETWEEN THE MANHOLE RIM AND THE ROAD.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

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Project Title

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Project

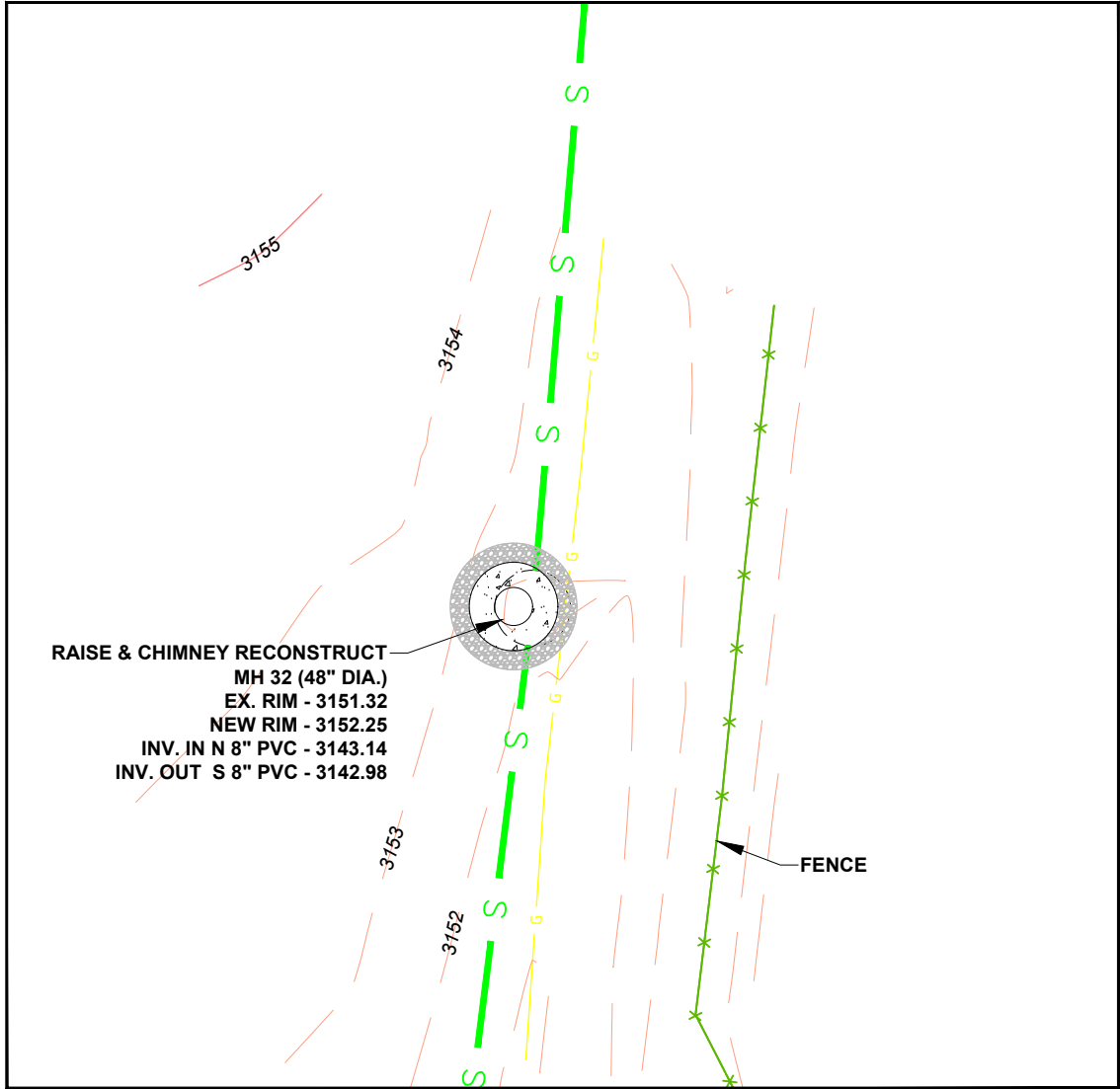
Sheet Title

Manhole
31

Sheet

46

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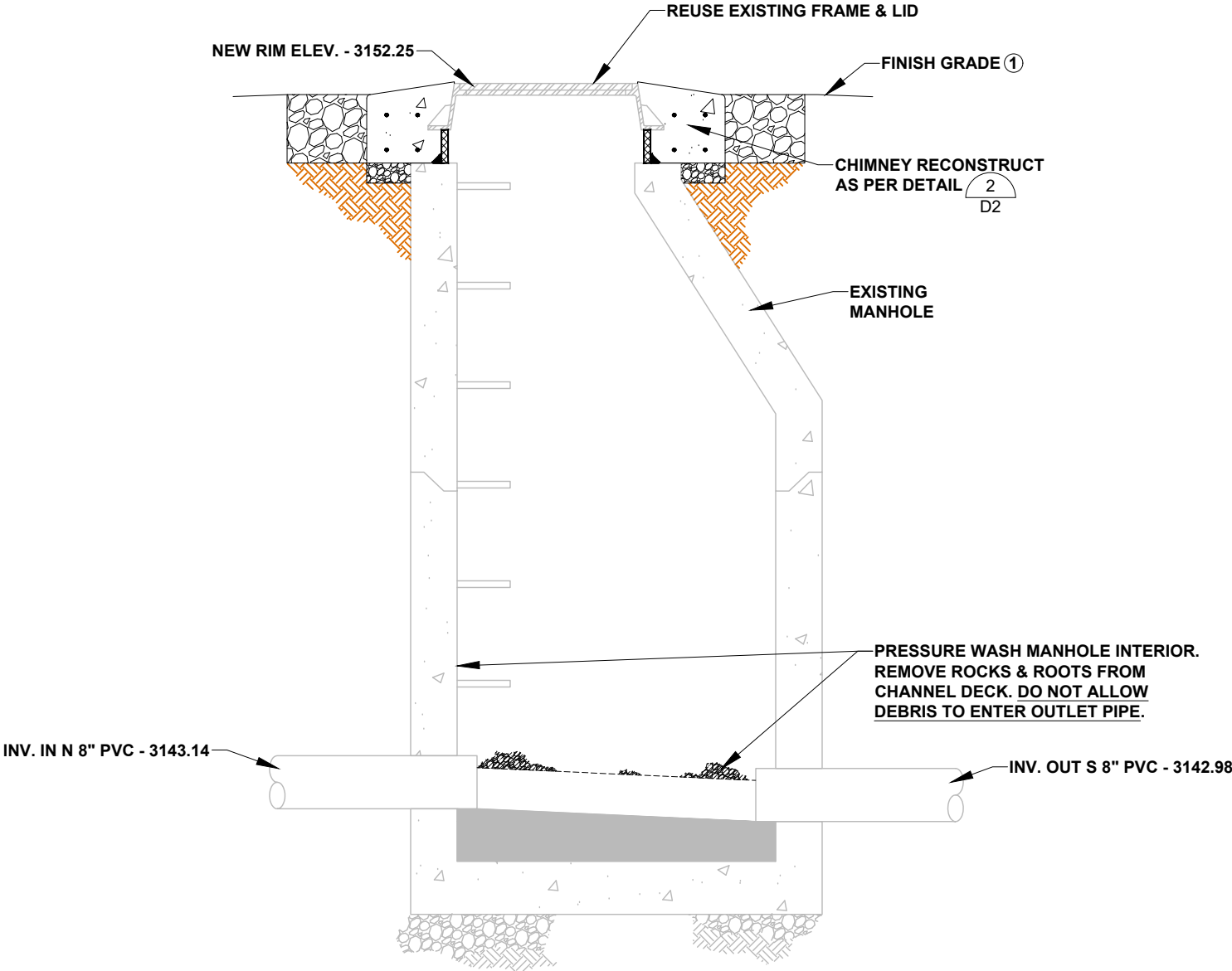


Manhole 32 $\frac{1}{9}$

SCALE 5 2.5 0 5 10
Feet



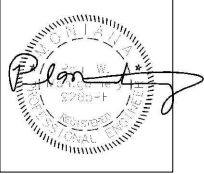
Manhole 32 Photos



Manhole 32 Section

SCALE 1 0.5 0 1 2
Feet

- NOTES:
① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE
OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL TO THE EAST OF THE
MANHOLE RIM.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer

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Owner

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Project Title

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Project

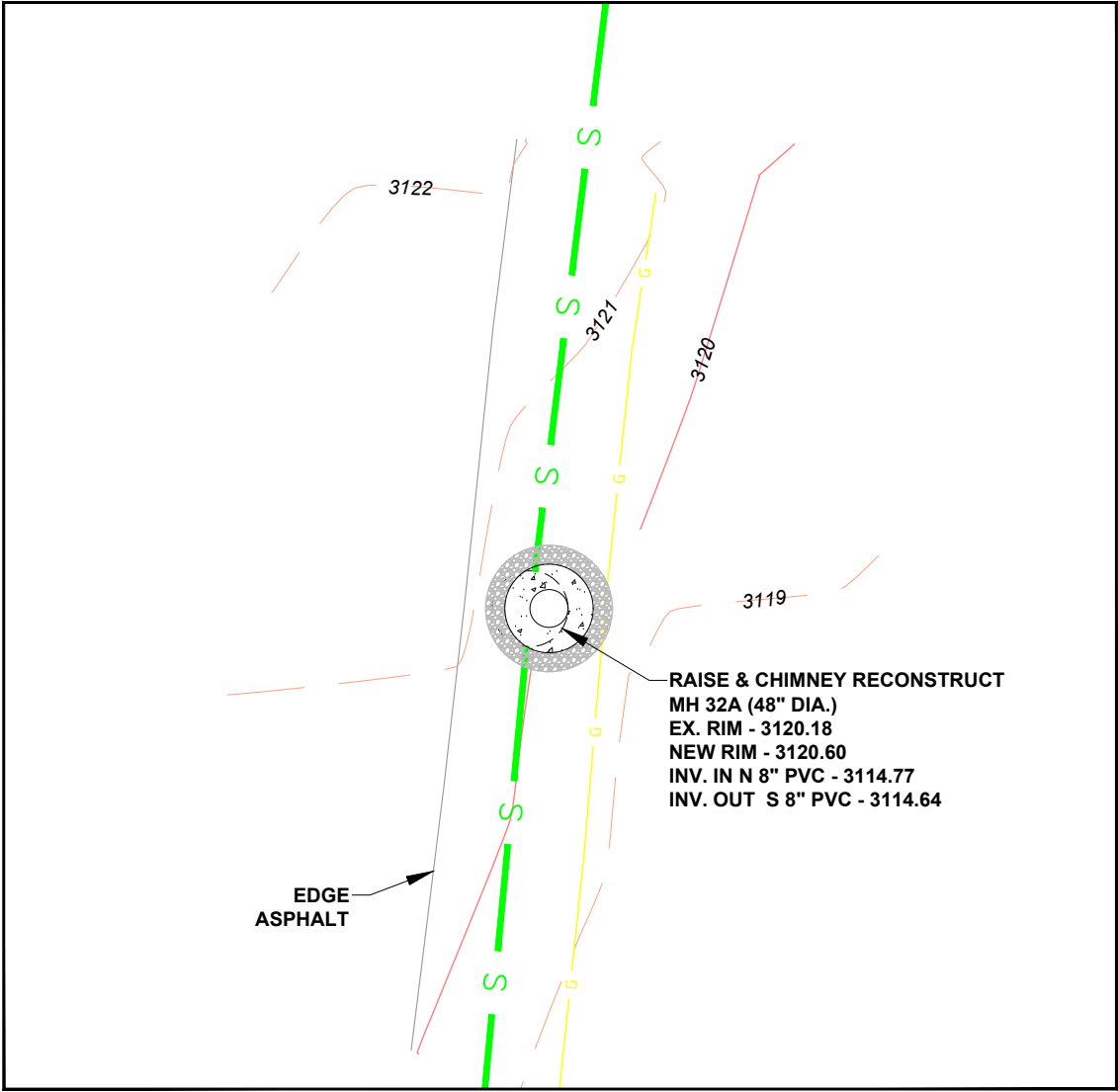
Sheet Title

Manhole
32

Sheet

47

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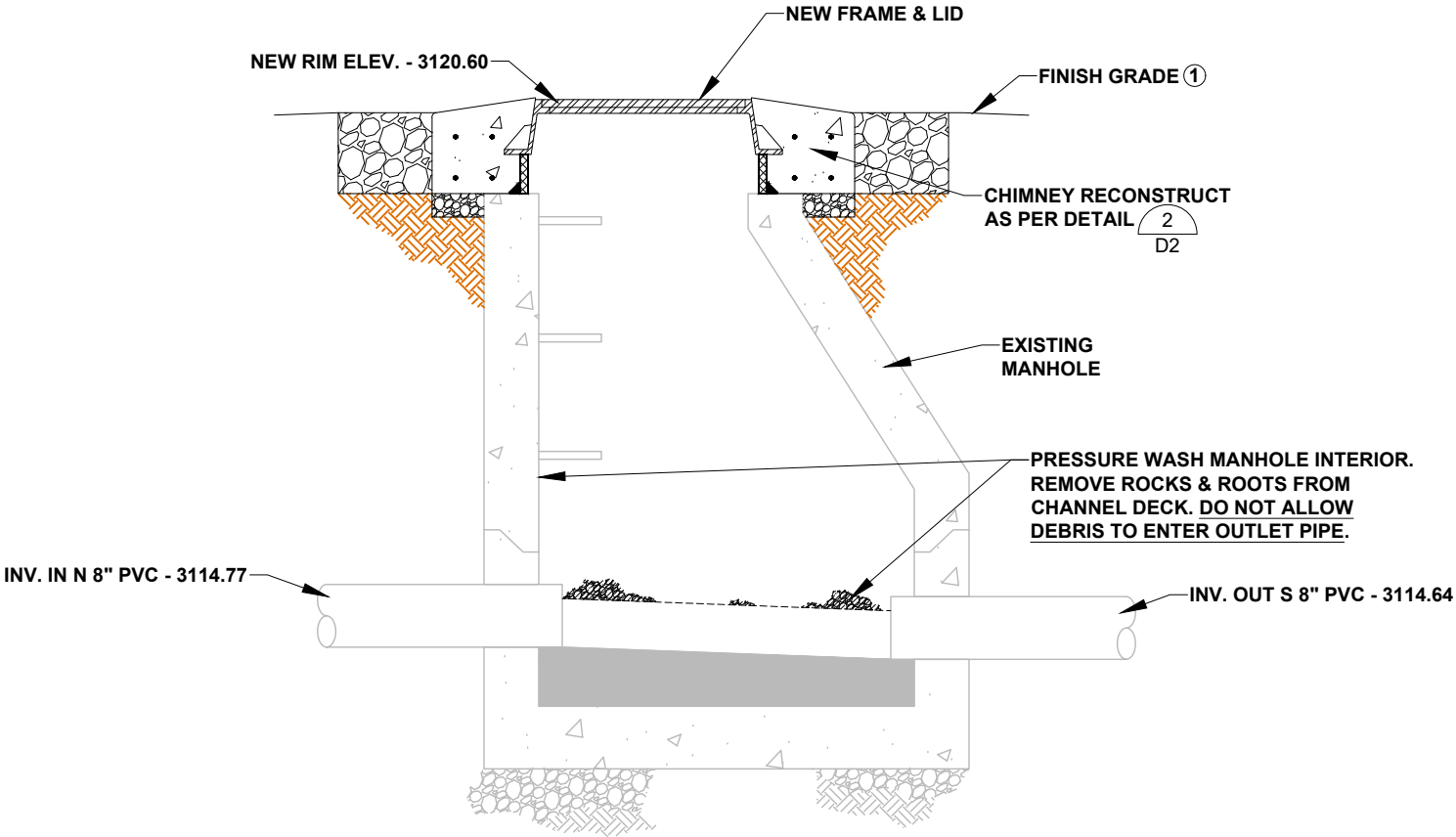


Manhole 32A $\frac{1}{9}$

SCALE 5 2.5 0 5 10 Feet



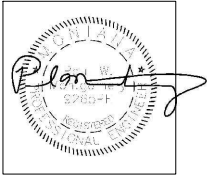
Manhole 32A Photos



Manhole 32A Section

SCALE 1 0.5 0 1 2 Feet

- NOTES:**
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL TO THE EAST OF THE MANHOLE RIM.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

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Owner

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Sewer
District

Project Title

I&I
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Project

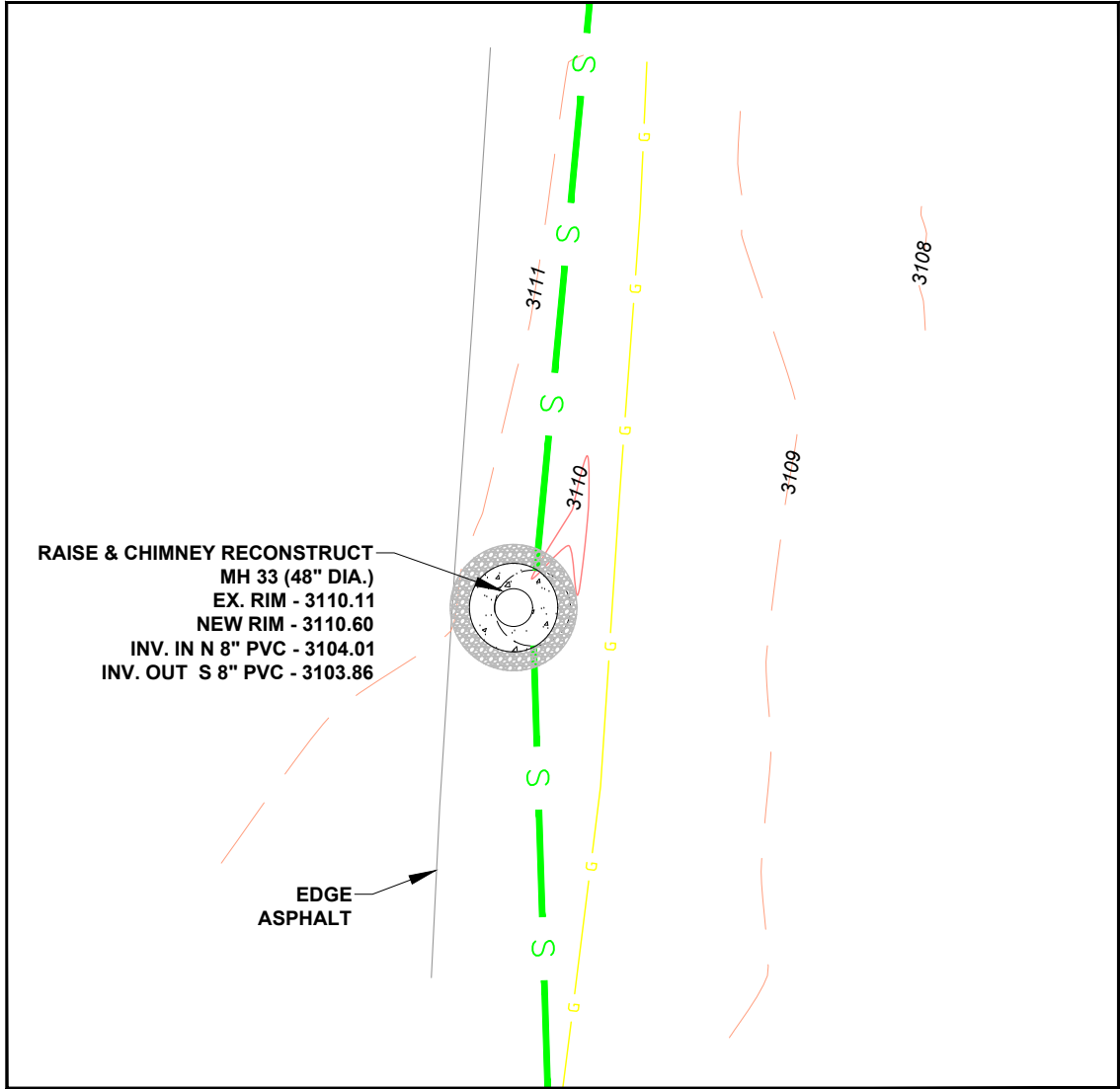
Sheet Title

**Manhole
32A**

Sheet

48

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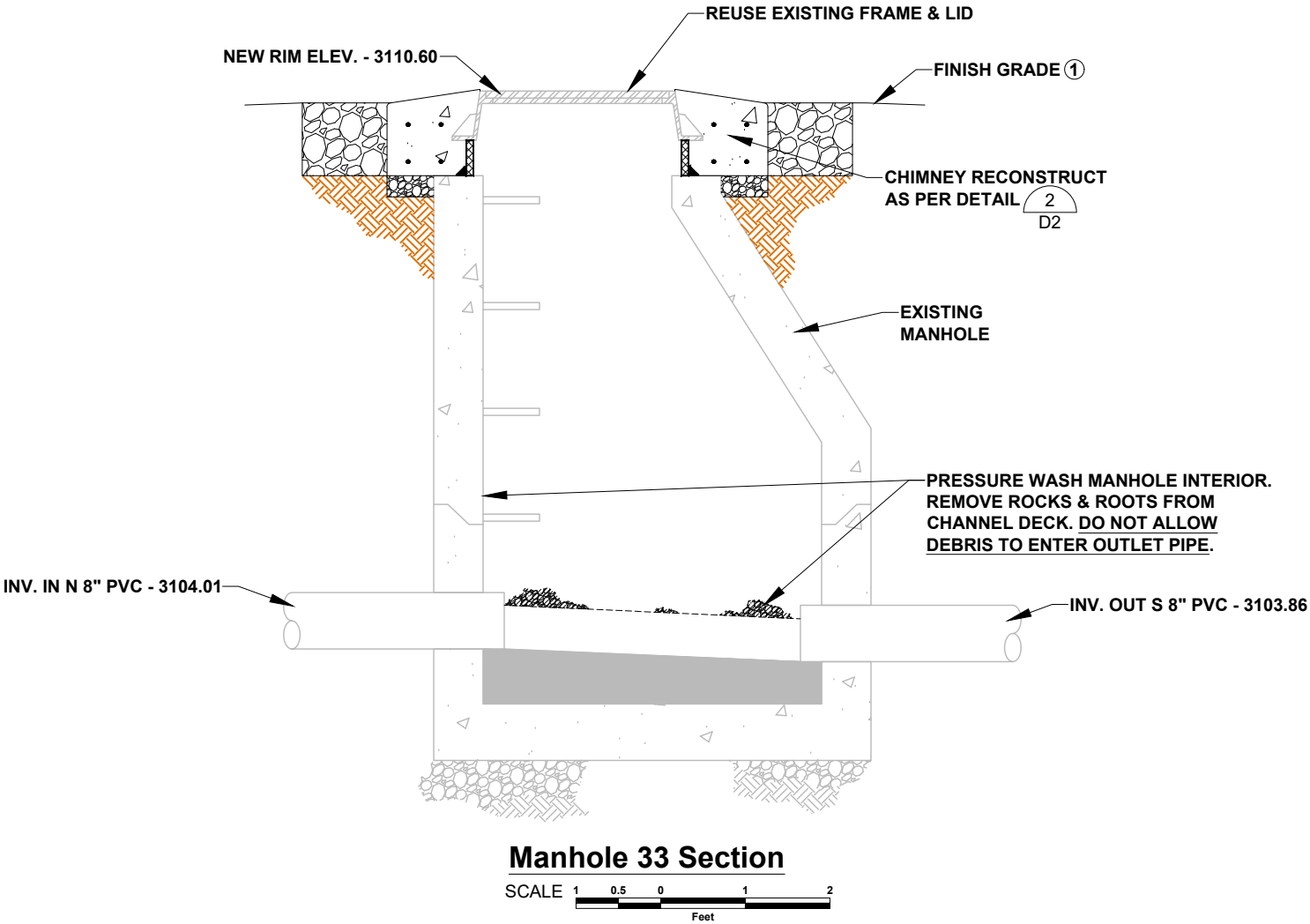


Manhole 33 $\frac{1}{9}$

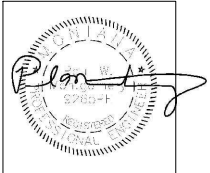
SCALE 5 2.5 0 5 10
Feet



Manhole 33 Photos



NOTES:
① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE
OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL TO THE EAST OF THE
MANHOLE RIM.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer

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Owner

Big
Mountain
County
Sewer
District

Project Title

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Mitigation
Project

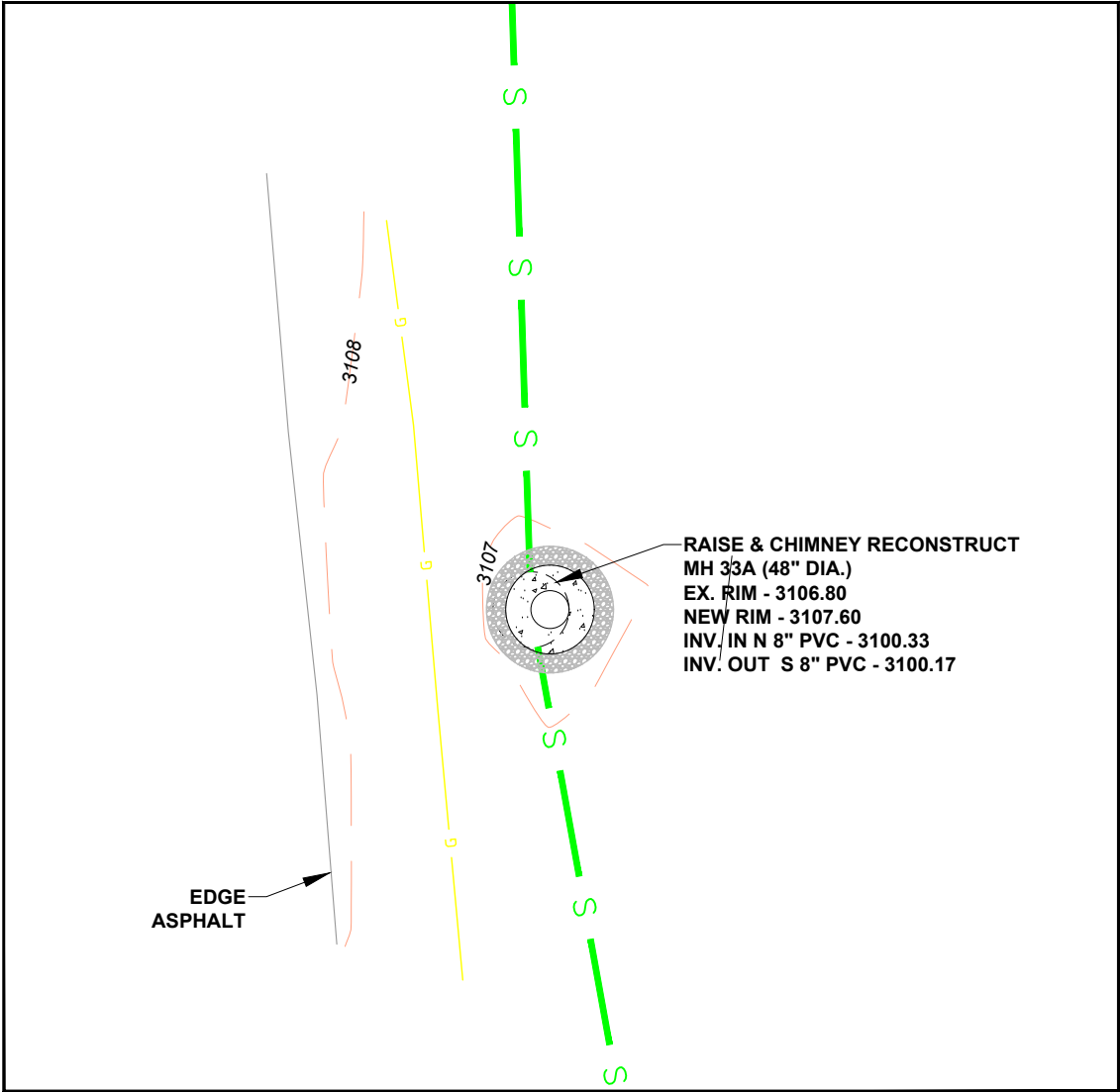
Sheet Title

Manhole
33

Sheet

49

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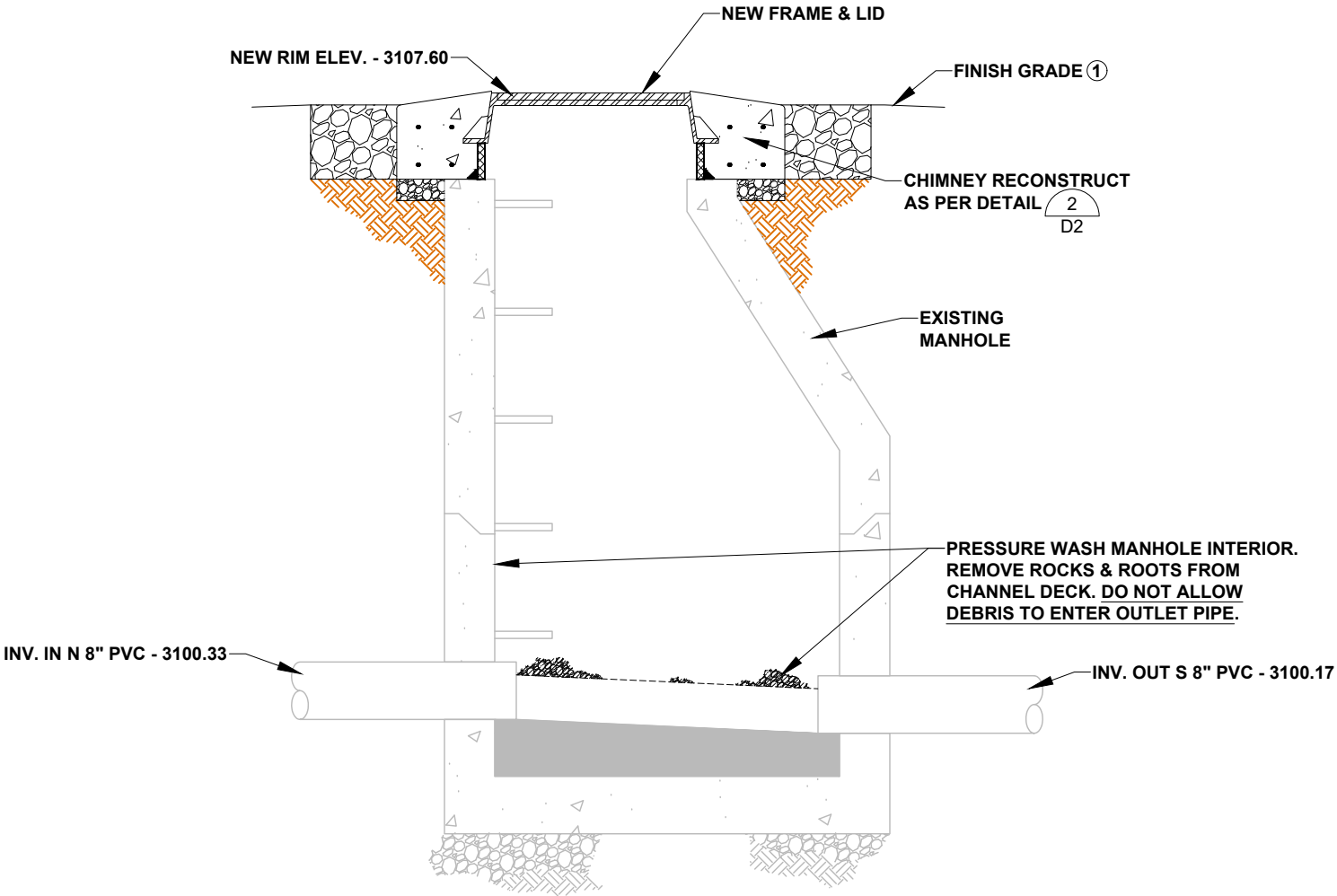


Manhole 33A $\frac{1}{9}$

SCALE 5 2.5 0 5 10 Feet



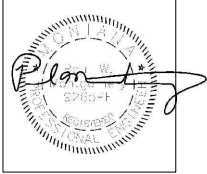
Manhole 33A Photos



Manhole 33A Section

SCALE 1 0.5 0 1 2 Feet

- NOTES:
- ① SLOPE FINISH GRADE BACK TO EXISTING GRADE AT A 3:1 SLOPE. BEGIN SLOPE OUTSIDE GRAVEL RING. GRADE DRAINAGE CHANNEL TO THE EAST OF THE MANHOLE RIM.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised By	Re-Bid Final
Plot Scale	1:2
Drawn By	A. Eckhart, P.E.
Approved By	P. Montgomery, P.E.
Checked By	A. Eckhart, P.E.
Designed By	P. Montgomery, P.E.

Engineer

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Owner

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District

Project Title

I&I
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Project

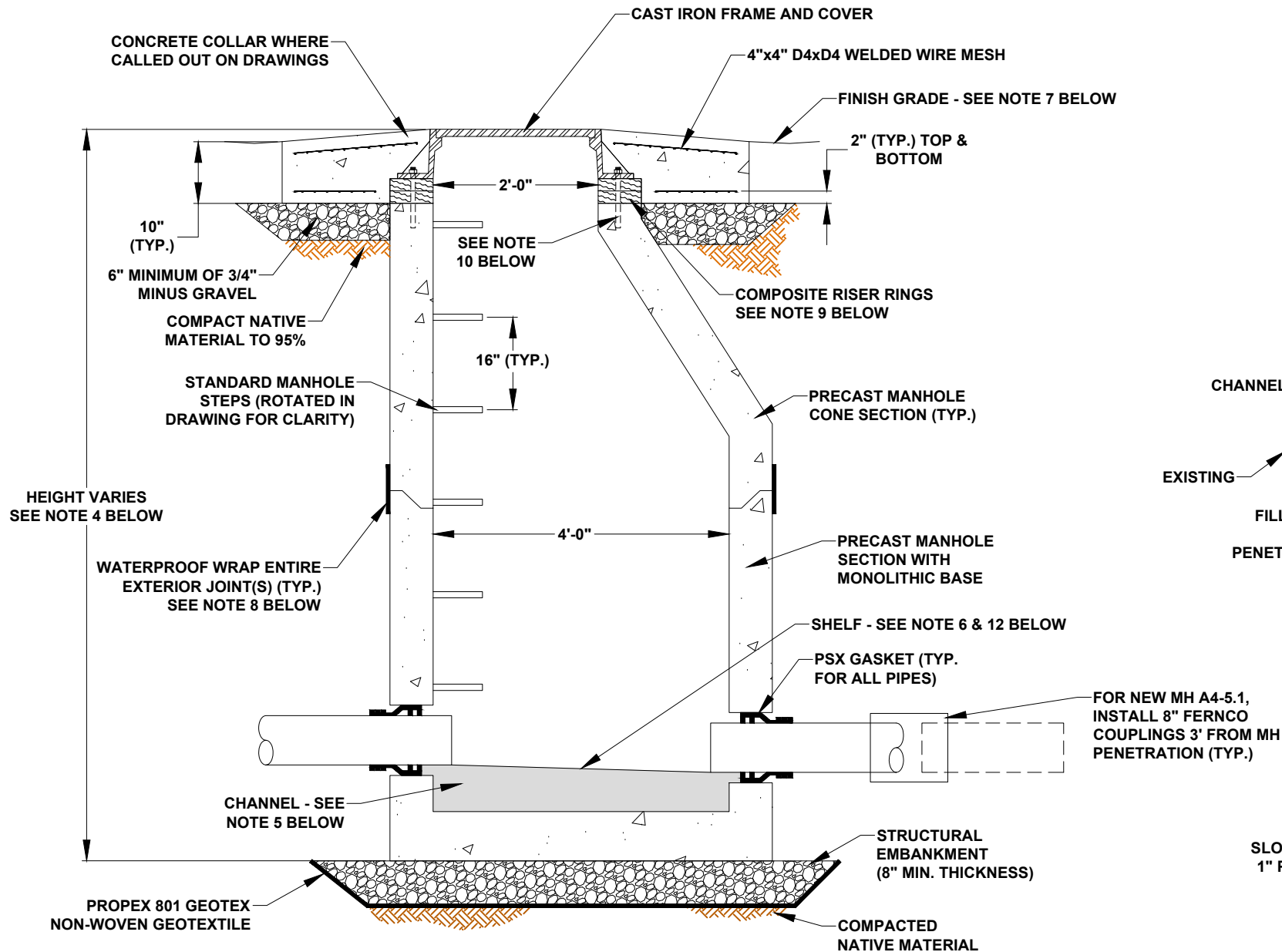
Sheet Title

Manhole
33A

Sheet

50

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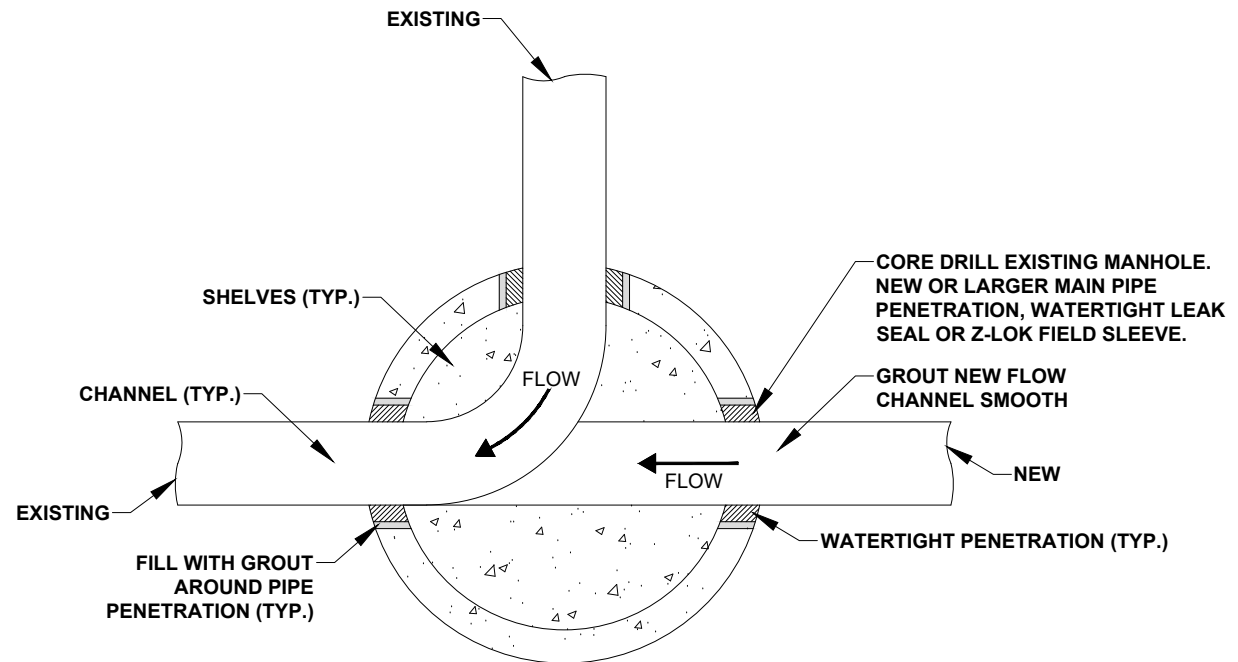


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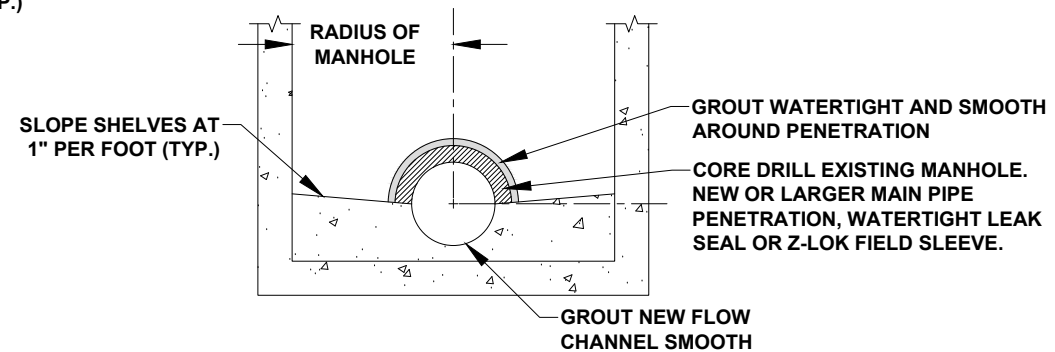
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478.
2. ALL JOINTS SHALL BE WATERTIGHT. MATERIAL SHALL BE RAM-NEK OR APPROVED EQUAL.
3. MANHOLE COVER SHALL BE MARKED "SEWER" OR "SANITARY SEWER".
4. SEE INDIVIDUAL SHEETS FOR MANHOLE DIMENSIONS. PROVIDE RISER SECTION AND COVER SLAB.
5. CHANNEL SHALL BE HALF THE DIAMETER OF THE PIPE.
6. CONCRETE SHELVES SHALL SLOPE TOWARD THE CHANNEL(S) AT 1" PER FOOT.
7. PROVIDE FILL MATERIAL, SLOPED AT 3 HORIZONTAL TO 1 VERTICAL FOR COVERS SET ABOVE EXISTING GROUND LEVEL.
8. INSTALL WATERPROOF WRAP AT ALL JOINTS. FOLLOW PREPARATION AND WATERPROOFING INSTRUCTIONS PER SPECIFICATION 33 01 31.
9. FINAL NEW ELEVATION SHALL BE $\pm 1/4"$ OF THE ELEVATION SHOWN ON THE DRAWINGS TO ACCOMMODATE OFF THE SHELF COMPOSITE RISER RINGS. CONTRACTOR TO DETERMINE THE REQUIRED THICKNESS OF RINGS NECESSARY TO ATTAIN FINAL RIM ELEVATION. SELECT AND INSTALL PER SPECIFICATION SECTION 33 01 31. HI-TEC INDUSTRIES 4000 SERIES MS POLY-SEALANT SHALL BE APPLIED TO ALL SURFACES (FRAME, RINGS, & CONE) DURING INSTALLATION.
10. THE FRAME SHALL BE BOLTED DOWN TO THE STRUCTURE WITH FOUR 5/8" DIA. ALL-THREAD RODS. CUT THE RODS LONG ENOUGH TO ACCOMMODATE THE FRAME & RISER RINGS AND EPOXY SET THE RODS 4" INTO THE STRUCTURE.
11. CONCRETE COLLAR SHALL BE 10" THICK. THERE SHALL BE A MINIMUM OF 6" OF 3/4" MINUS GRAVEL BENEATH COLLAR. COMPACT NATIVE MATERIAL BELOW COLLAR TO 95%.
12. CONSTRUCT SHELVES PER LATEST EDITION OF MPW.
13. ALL PIPE PENETRATIONS SHALL BE WATERTIGHT.
14. NEW MANHOLES SHALL BE COATED WITH AN EXTERIOR DAMPPROOFING; BITUMINOUS COAT OR COAL TAR EPOXY.
15. FINISHED MANHOLES SHALL BE IN ACCORDANCE WITH LATEST EDITION OF MPWSS STANDARD SPECIFICATIONS.
16. STEPS SHALL BE PLACED AT 90° TO THE LINE OF SEWER PIPE WHERE APPLICABLE. STEPS ARE ROTATED IN DRAWING FOR CLARITY.
17. PROVIDE ALL SHORING NECESSARY TO PROTECT EXISTING STRUCTURES AND INFRASTRUCTURE.

Standard Sanitary Sewer Manhole

NO SCALE



CONFIGURATION MAY VARY



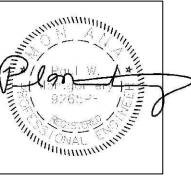
CHANNEL SECTION

NOTES:

- SLOPE ALL SHELVES TO CHANNEL AT 1" PER FOOT.
- ALL NEW HOLES SHALL BE CORED AND LARGE ENOUGH FOR WATERTIGHT SEAL. GROUT SEAL IN PLACE WITH NON-SHRINK GROUT.
- ROTATE CONE AND STAIRS SUCH THAT STAIRS ARE NOT ABOVE CHANNELS.
- RECONSTRUCT FLOW CHANNEL IN ACCORDANCE WITH MPWSS STANDARD DRAWING NO. 02720-7.
- MANHOLE CONFIGURATIONS MAY VARY FROM DETAIL DEPICTED ABOVE.

Modify Existing Manhole

NO SCALE



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revised	Re-Bid Final
Plot Scale	1:2
Drawn By	A.Eckhart, P.E.
Approved By	P.Montgomery, P.E.
Checked By	A.Eckhart, P.E.
Designed By	P.Montgomery, P.E.

Engineer

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Owner

Big Mountain County Sewer District

Project Title

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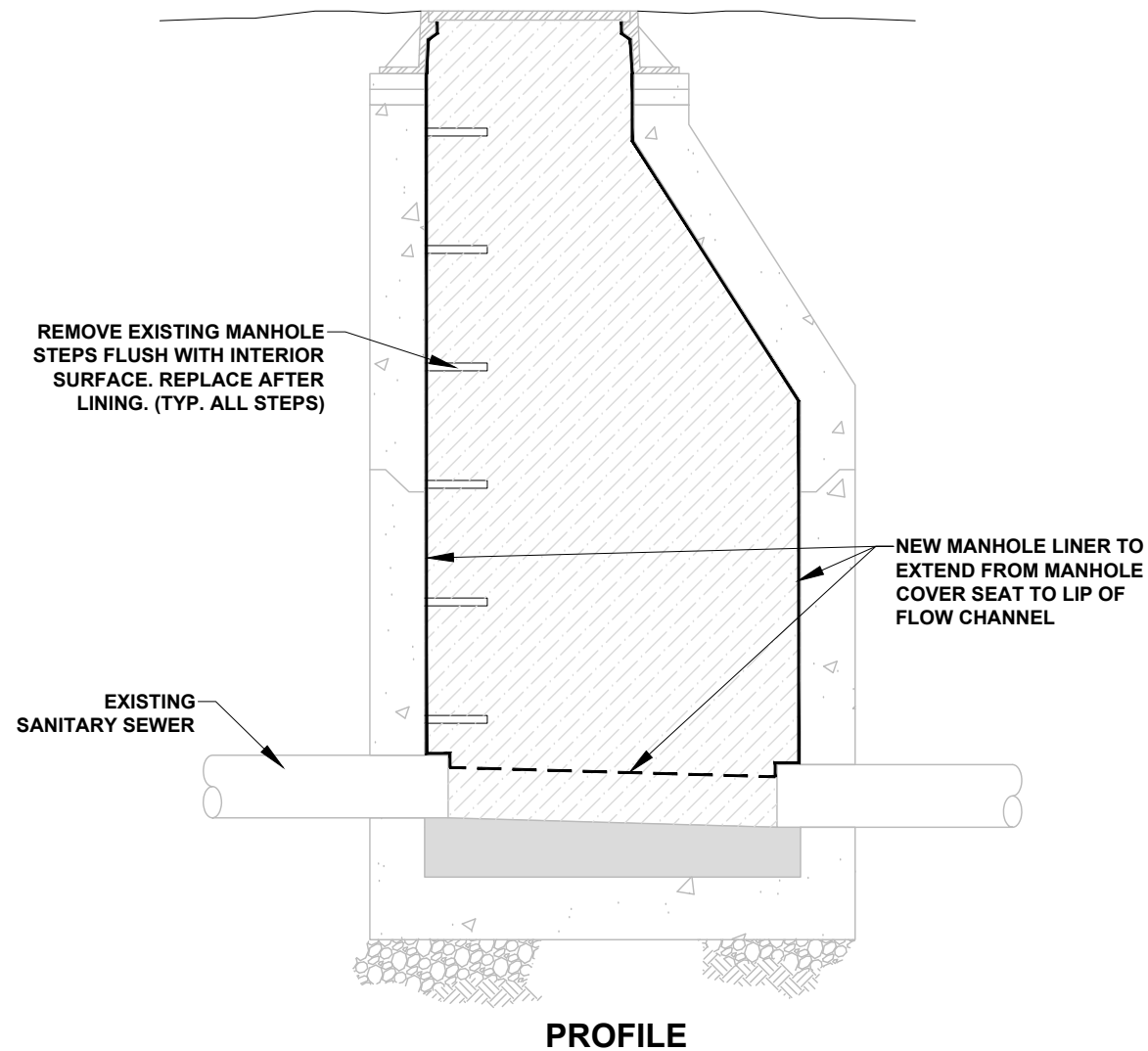
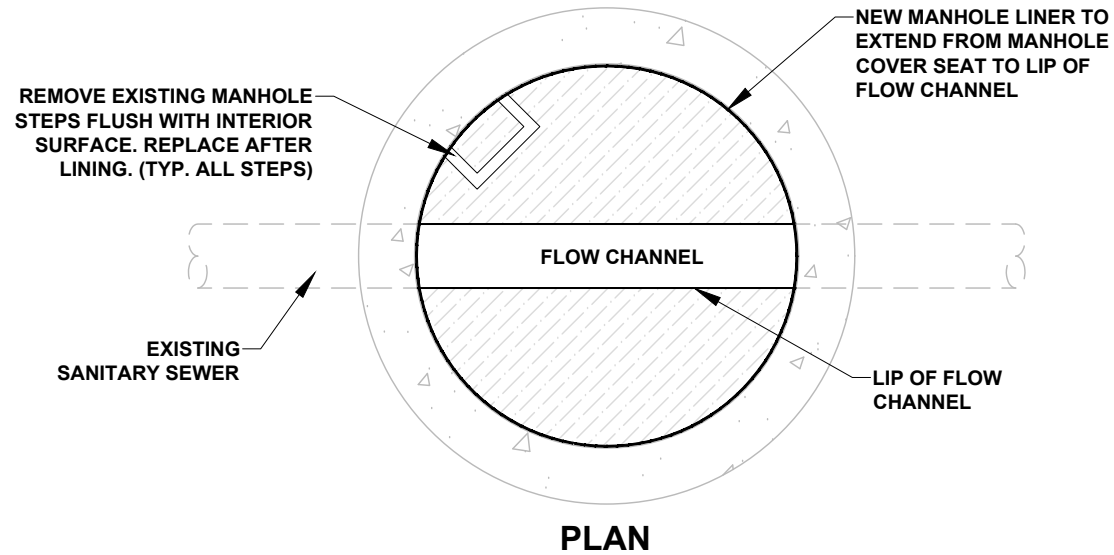
Sheet Title

New Manhole Details

Sheet

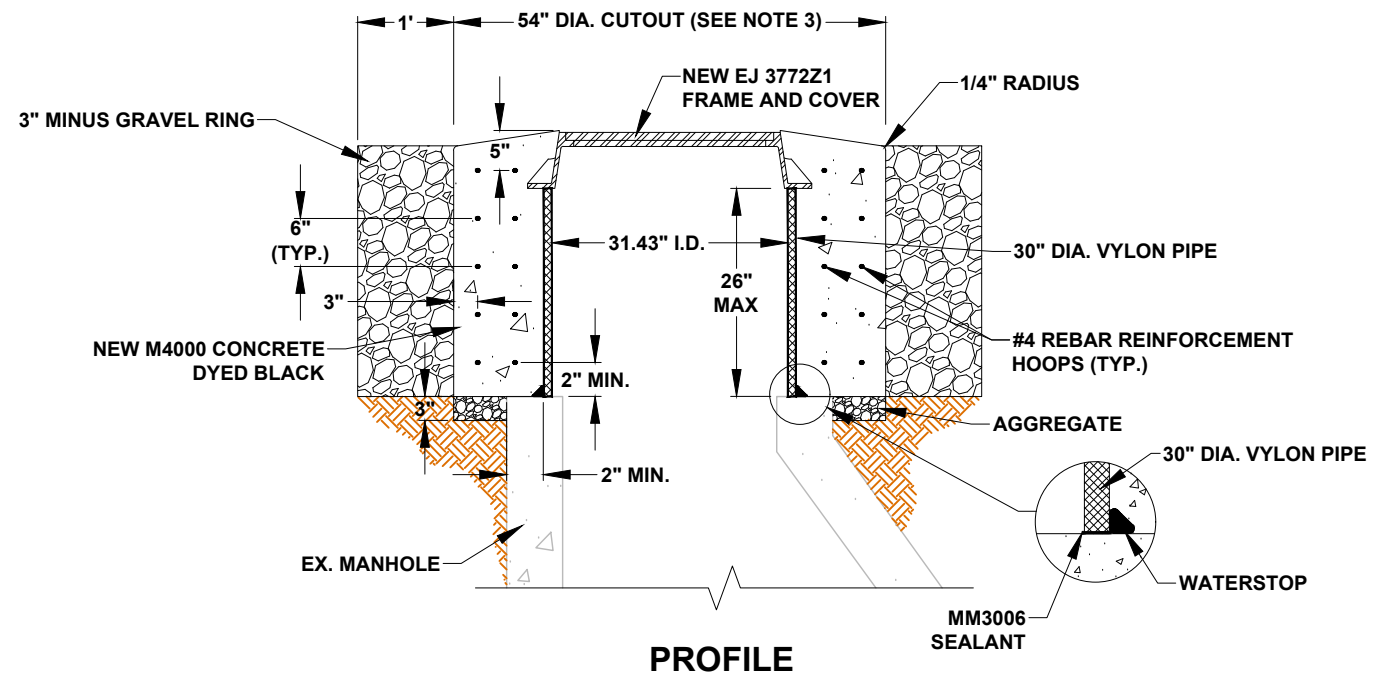
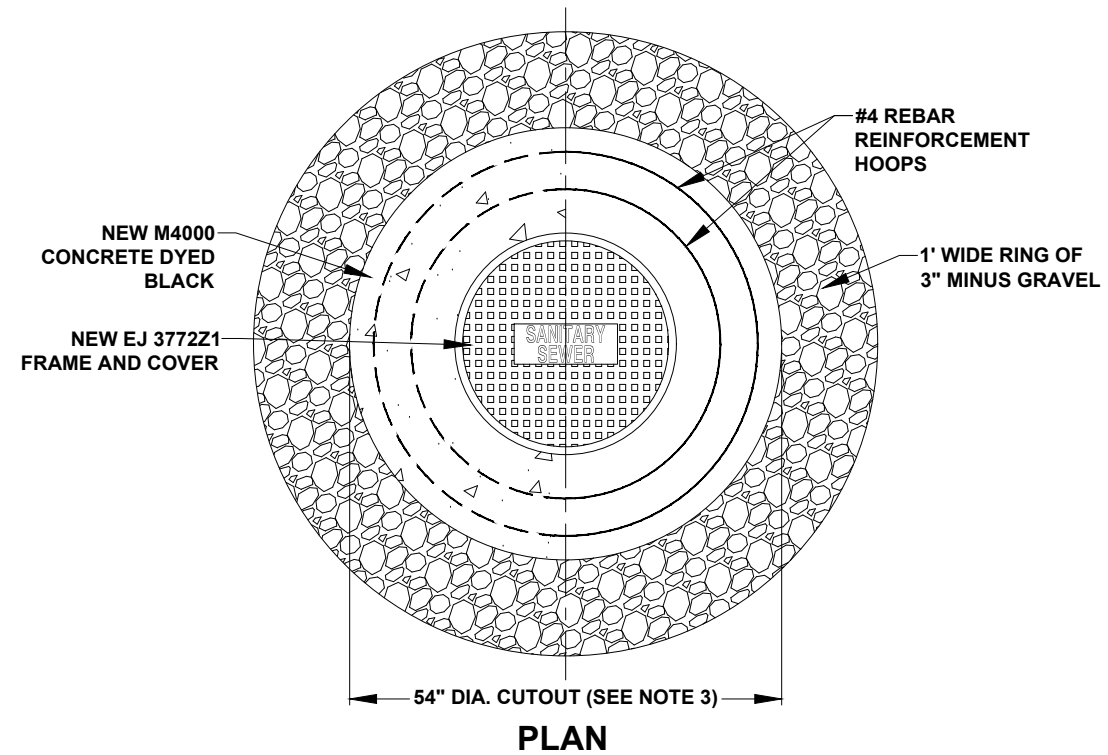
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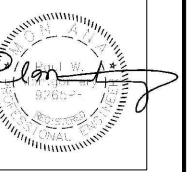
Existing Full Depth Manhole Rehabilitation Detail 1
NO SCALE

- NOTES:
- SEE NOTES ON EACH INDIVIDUAL MANHOLE SHEET FOR SPECIFIC REQUIREMENTS



Manhole Chimney Reconstruction Detail 2
NO SCALE

- NOTES:
1. THIS CHIMNEY RECONSTRUCTION IS MODELED AFTER THE "MR. MANHOLE" METHOD FOUND AT WWW.MRMANHOLE.COM, PREFERRED BY OWNER.
 2. THE CASTINGS SHALL BE PRECISELY LOCATED PLUMB OVER THE EXISTING CONE SECTION.
 3. INCREASE TO 68" DIA. CUTOUT WHERE EXISTING CONCRETE COLLAR SLAB EXISTS.
 4. FINAL RIM ELEVATION SHALL BE 1/4" LOWER THAN THE CONCRETE COLLAR AS TO PREVENT PLOW BLADES FROM CATCHING THE RIM OF THE CASTING.
 5. FINAL RIM ELEVATION SHALL BE A MINIMUM OF 2" HIGHER THAN THE SURROUNDING EXISTING GRADE WHEN LOCATED IN GRAVEL/GRASS AREAS.
 6. APPLY BUTYL RUBBER SEALANT FOR WATERTIGHT SEAL TO THE TOP SURFACE OF THE CONE. THIS SEALANT SHALL BE PLACED IN THE MIDDLE OF THE OUTSIDE HALF OF THE CONE SURFACE.
 7. APPLY MR. MANHOLE SEALANT, MM3006, FOR ADDITIONAL WATERTIGHT SEAL TO THE TOP SURFACE OF THE CONE. THIS SEALANT SHALL BE PLACED IN THE MIDDLE OF THE INSIDE HALF OF THE CONE SURFACE.
 8. THE DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
 9. FOR MANHOLES WHERE ASPHALT IS AFFECTED, SEE INDIVIDUAL SHEET FOR ADDITIONAL DETAILS.



Revision	Date	By
Draft	12-20-21	AE
Draft	3-10-22	AE
Final	4-17-22	AE
Re-Bid Final	6-10-22	AE

Revision
Re-Bid Final
Plot Scale
1:2
Drawn By
A.Eckhart, P.E.
Approved By
P.Montgomery, P.E.
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Owner

Big
Mountain
County
Sewer
District

Project Title

I&I
Mitigation
Project

Sheet Title

Rehab
Manhole
Details

Sheet

D2

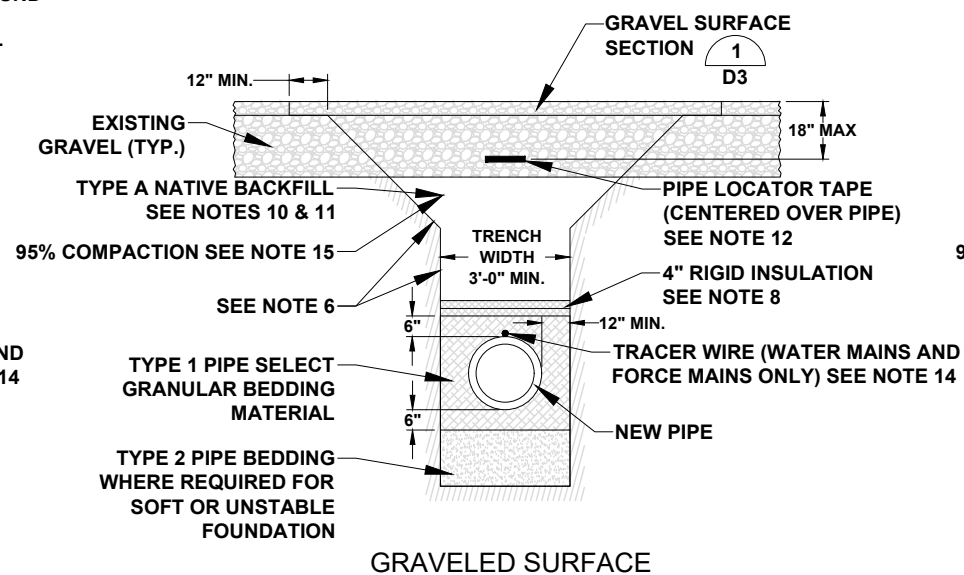


NOTES:

- 1. WHERE TRENCH PASSES THROUGH UNIMPROVED SURFACES:
THE TOPSOIL SHALL BE REMOVED AND REPLACED A MINIMUM OF 12" FROM THE
EDGE OF THE TRENCH OPENING.**
- 2. WHERE TRENCH PASSES THROUGH EXISTING GRAVEL:
THE GRAVEL SHALL BE REMOVED AND REPLACED A MINIMUM OF 12" FROM THE
EDGE OF THE TRENCH OPENING.**
- 3. WHERE TRENCH PASSES THROUGH EXISTING PAVEMENT:
THE PAVEMENT SHALL BE CUT ALONG A NEAT VERTICAL LINE A MINIMUM OF 12"
FROM THE EDGE OF THE TRENCH OPENING, JUST PRIOR TO PAVING.**
- 4. WHERE TRENCH PASSES THROUGH EXISTING PAVEMENT: SAWCUT THE ASPHALT
ALONG A NEAT VERTICAL LINE PER LIMITS SHOWN ON THE PLANS, JUST PRIOR TO
PAVING. WHERE IMPORTED TRENCH BACKFILL IS NOT USED,
SEPARATION/STABILIZATION FABRIC, PROPEX GEOTEX 801 NON-WOVEN
GEOTEXTILE FABRIC OR APPROVED EQUAL WILL BE USED.**
- 5. VERIFY THAT COMPACTION METHODS ARE COMPARABLE WITH PIPE
MANUFACTURER'S RECOMMENDATIONS. ANY DAMAGE TO THE PIPE WILL BE THE
CONTRACTOR'S RESPONSIBILITY.**

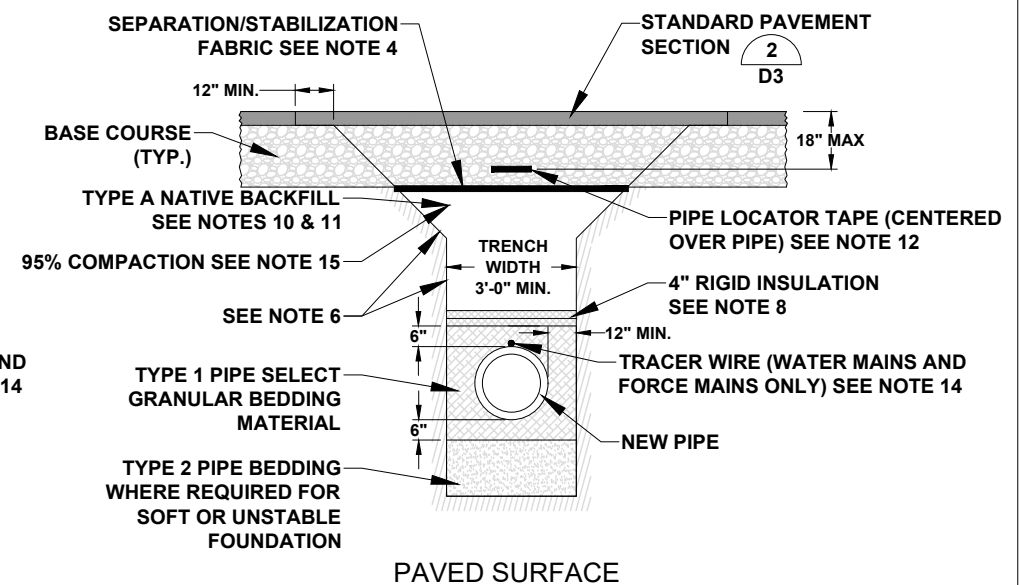
NOTES CONTINUED:

6. TRENCH SHALL BE CONSTRUCTED TO OSHA SPECIFICATIONS FOR EXCAVATION. DRAWINGS DO NOT SHOW TRENCH DIMENSIONS OR BACK-SLOPES THAT MAY BE REQUIRED. CONTRACTOR REQUIRED TO DETERMINE WHICH OSHA SPECIFICATIONS ARE APPLICABLE.
7. ALL SPOILS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED LOCATION.
8. INSTALL 4" OF RIGID INSULATION THE FULL WIDTH OF THE TRENCH IN AREAS SHOWN ON PLANS OR WHERE THE PIPE COVER IS LESS THAN 6 FEET.
9. ALL ROCKS GREATER THAN 12" IN ANY DIMENSION SHALL BE HAULED OFF SITE AND DISPOSED OF PROPERLY.
10. NO ROCKS OR LUMPS LARGER THAN 2" IN ANY DIMENSION SHALL BE ALLOWED WITHIN 6" OF THE PIPE.
11. USE SUITABLE NATIVE MATERIAL FOR BACKFILL. SEE TECHNICAL SPECIFICATIONS FOR CONDITIONS REQUIRING IMPORTED TRENCH BACKFILL.



NOTES CONTINUED:

12. USE LABELED AND COLOR-CODED TAPE FOR THE APPROPRIATE UTILITY PIPE, PLACED 18" MAXIMUM BELOW FINISHED SURFACE.
13. SEED, FERTILIZER, AND MULCH ALL DISTURBED AREAS WHICH ARE NOT PAVED, CONCRETED, SODDED, OR GRAVELED PER SPECIFICATIONS.
14. FOR WATER MAINS AND FORCE MAINS TRACER WIRE SHALL BE TAPED TO TOP OF ALL PLASTIC PIPE (PVC, POLYETHYLENE, AND HDPE) AND BROUGHT UP FIRE HYDRANTS AND VALVE PIPE CASINGS.
15. COMPACTION REFERS TO PERCENT OF MAXIMUM DENSITY DETERMINED BY A STANDARD PROCTOR. ASTM D698-91. TRENCHES EXCEEDING 10 FEET IN DEPTH SHALL BE COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D698-91.
16. FINISHED GRADE MUST MATCH THE ORIGINAL EXISTING GRADE WHERE PIPE IS INSTALLED UNLESS OTHERWISE NOTED.
17. REFER TO GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.



NO SCALE

sheet

D3