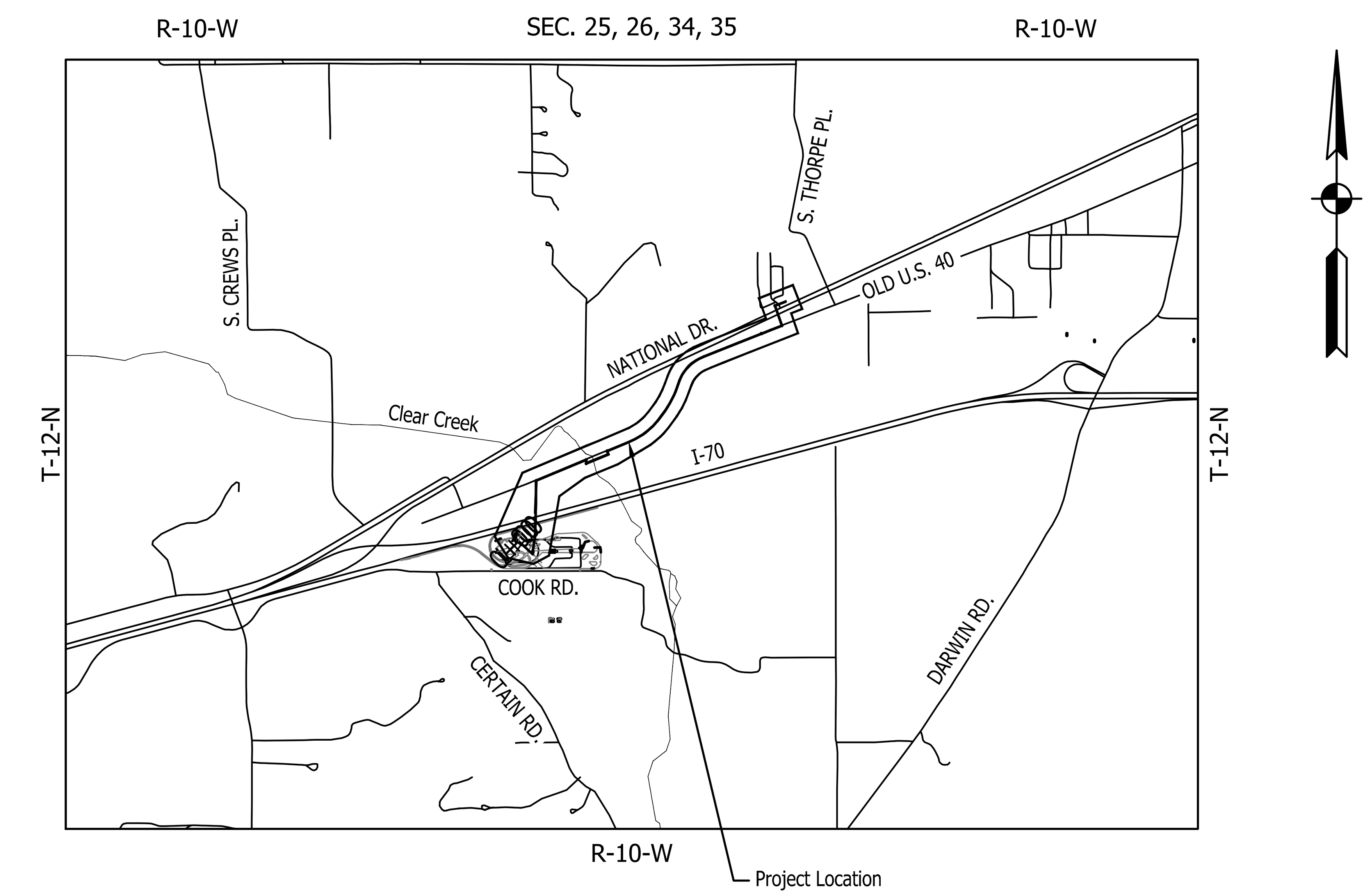
CLEAR CREEK WELCOME CENTER
INDIANA DEPARTMENT OF TRANSPORTATION

DRAWING SET #6 SANITARY SEWER LINES AND LIFT STATIONS
(SPECIFICATIONS VOLUME 6)

UTILITIES

SHEET INDEX

	PROVIDER	PHONE	CONTACT	ADDRESS
ELECTRIC	DUKE ENERGY	(812) 231-8721 (OFFICE) (812) 249-7163 (M)	TYLER ANGLE (DISTRIBUTION)	301 HOME AVE. TERRE HAUTE, IN 47803
		(812) 375-2021	RYAN DAUGHARTY (TRANSMISSION)	2727 CENTRAL AVE. COLUMBUS, IN. 47201
WATER & SEWER	TOWN OF WEST TERRE HAUTE	(812) 533-1053 (OFFICE) (812) 870-5950 (M)	ED STEWART	500 W. NATIONAL AVE WEST TERRE HAUTE, IN 47885
WIRELESS INTERNET	JOINK, LLC	(812) 234-5100 (812) 315-6465	RAY OSLAND	834 S. 10TH ST TERRE HAUTE, IN 47807 2727 Central Ave. Columbus. In. 47201
NATURAL GAS	CENTERPOINT ENERGY	(812) 231-6303	JENNIFER ISBELL-SCOTT	475 S. 1ST. ST TERRE HAUTE, IN 47807



VIGO COUNTY, INDIANA
VICINITY MAP
SCALE: 1" = 2000'

Know what's below. 811 before you dig.

FEBRUARY 2023

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2022,
RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES
DATED 2014 (10 STATE STANDARDS) AND
RECOMMENDED STANDARDS FOR WATER WORKS
DATED 2018 (10 STATE STANDARDS)
TO BE USED WITH THESE PLANS

Certified by: BRIAN A. BULLOCK 02/21/23

JANSSEN & SPAANS ENGINEERING

Fosse & Associates Architects, Inc.

B. C. Engineering, Inc.
501 Carpenter Street
Evansville, IN 47708
Phone: (812) 424-7941
Fax: (812) 424-7942

BLN BEAM·LONGEST·NEFF

PUBLIC WORKS PROJECT NO. 84003001-22-058-C1
CLEAR CREEK WELCOME CENTER
VIGO COUNTY, INDIANA

STATE OF INDIANA
DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
ROOM W467, INDIANA GOVERNMENT CENTER SOUTH
402 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA 46204
317-232-3000

Revisions:	
Project Number: 84003001-22-058-C1	
Requisition Number:	
Account Number:	
Designer: BAB	Drawing Date: 02/21/23
Drafter: OMV	Drawing Scale: 1"=30'
DAPW Approval:	
Client Approval:	
Reference Number: 220005	
Building Reference:	
Drawing Number: G100	
Sheet: 1 of 23	

SHEET INDEX

GENERAL NOTE:

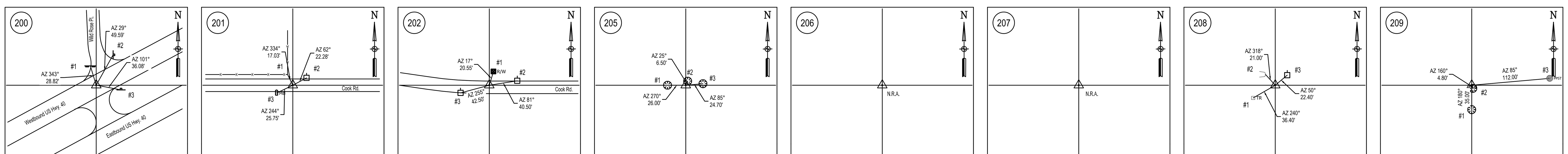
1. Proposed grades, storm sewers, and other utilities are shown for informational purposes. Grading and installation is to be completed by the contractor completing the rest stop re-construction in accordance with the following drawings sets:

    Drawing Set #1 - Welcome Center
    Drawing Set #2 - Trucker Restrooms
    Drawing Set #3 - Maintenance Building & Dumpster Enclosure
    Drawing Set #4 - Landscape
    Drawing Set #5 - Site
    Drawing Set #6 - Sanitary

UTILITY NOTES:

1. See architectural plans for detailed information and exact locations for utility connections to buildings.
2. The contractor is responsible with coordinating with the utility companies for connection of the proposed utility lines for the project site.
3. For viewing clarity of these construction plans, the pipes or structures may not be drawn to scale.
4. A minimum of 18 inches of vertical separation and 10 feet of horizontal separation shall be provided between water and sanitary lines. If this separation cannot be achieved, than the sanitary sewer must be constructed of water works grade materials.
5. A minimum of 18 inches of vertical separation shall be provided between storm and sanitary sewers. If the vertical separation between the storm and sanitary lines cannot be achieved, then a concrete saddle shall be used at these crossings.
6. A minimum of 3 feet of vertical separation and 2 feet of horizontal separation shall be provided between ITS conduit and force main, water main, and gravity sewer utilities.
7. When connections are to be made to existing piping and structures or where construction is in the vicinity of existing piping, the location and elevation of the existing piping and structures shall be field verified by the contractor. If any discrepancies are found, then the engineer shall be notified immediately.
8. All sewer mains shall be installed with tracer wire and locate wire boxes. See project manual.
9. No permanent or temporary impacts to the wetlands shown on the plans shall occur. Steel plates and/or rubber mains may be used to bridge the linear wetlands for equipment crossings with prior approval of the engineer.
10. All sewer force main shall be installed by horizontal directional drilling except for small areas between fittings.
11. All traffic control shall be in accordance with MUTCD.

SECTION CORNER REFERENCES



200

	REF. FOUND / DESCRIPTION
1	E. Edge Stop Sign
2	S. Edge US Hwy 40/Wild Rose Pl. Sign
3	W. Edge One Way Sign

1" Ø IRON PIPE FOUND FLUSH w/SURFACE NORTHWEST CORNER OF NW 1/4, SEC. 35, T12N, R10W

201

	REF. FOUND / DESCRIPTION
1	S. Face Steel Fence Corner Post
2	S. Face Steel Utility Pole
3	N.E. Cor. Mailbox

RAILROAD SPIKE FOUND 0.2' BELOW SURFACE SOUHWEST CORNER OF NW 1/4, SEC. 35, T12N, R10W

202

	REF. FOUND / DESCRIPTION
1	S.W. Cor. R/W Marker
2	Nail w/Bottle Cap in Utility Pole
3	Mag Nail in Utility Pole

BOLT SPIKE FOUND 0.5' BELOW SURFACE SOUHWEST CORNER OF NE 1/4, SEC. 34, T12N, R10W

205

	REF. FOUND / DESCRIPTION
1	16" Beech Tree
2	Double Elm Tree
3	12" Beech Tree

5/8" REBAR FOUND 0.3' ABOVE SURFACE NORTHWEST CORNER OF NE 1/4, SEC. 35, T12N, R10W

206

	REF. FOUND / DESCRIPTION
1	
2	
3	

STONE FOUND FLUSH w/SURFACE NORTHEAST CORNER OF SE 1/4, SEC. 26, T12N, R10W

207

	REF. FOUND / DESCRIPTION
1	
2	
3	

STONE FOUND FLUSH w/SURFACE NORTHWEST CORNER OF SE 1/4, SEC. 26, T12N, R10W

208

	REF. FOUND / DESCRIPTION
1	Telephone Pedistal
2	Guy Wire Anchor
3	Utility Pole

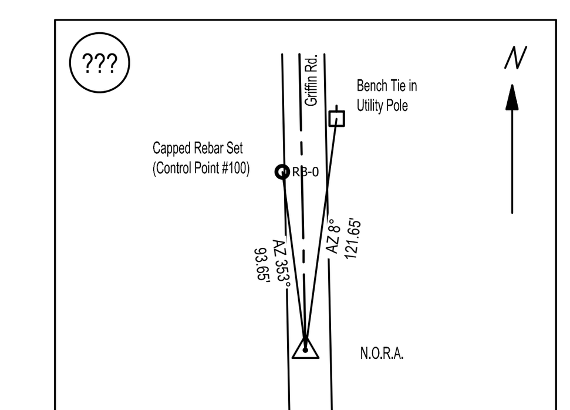
STONE FOUND 0.1' ABOVE SURFACE NORTHWEST CORNER OF SW 1/4, SEC. 26, T12N, R10W

209

	REF. FOUND / DESCRIPTION
1	18" Double Maple
2	12" Maple
3	Post

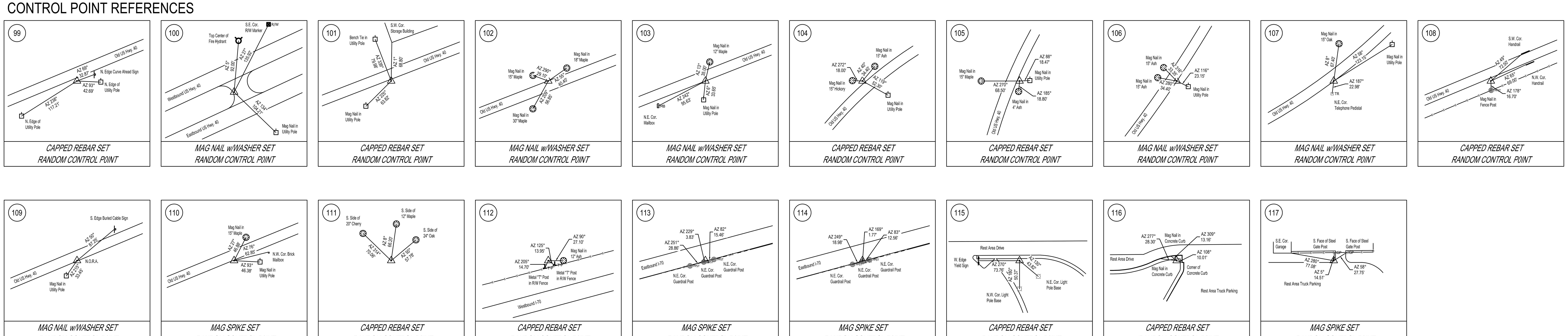
STONE FOUND 0.3' ABOVE SURFACE SOUTHEAST CORNER OF SE 1/4, SEC. 35, T12N, R10W

ALIGNMENT POINT REFERENCES



CAPPED REBAR SET P.O.T. STA. 10+00.00 LINE "X"

CONTROL POINT REFERENCES



- 99: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 100: *MAG NAIL w/WASHER SET RANDOM CONTROL POINT*
- 101: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 102: *MAG NAIL w/WASHER SET RANDOM CONTROL POINT*
- 103: *MAG NAIL w/WASHER SET RANDOM CONTROL POINT*
- 104: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 105: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 106: *MAG NAIL w/WASHER SET RANDOM CONTROL POINT*
- 107: *MAG NAIL w/WASHER SET RANDOM CONTROL POINT*
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- 109: *MAG NAIL w/WASHER SET RANDOM CONTROL POINT*
- 110: *MAG SPIKE SET RANDOM CONTROL POINT*
- 111: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 112: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 113: *MAG SPIKE SET RANDOM CONTROL POINT*
- 114: *MAG SPIKE SET RANDOM CONTROL POINT*
- 115: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 116: *CAPPED REBAR SET RANDOM CONTROL POINT*
- 117: *MAG SPIKE SET RANDOM CONTROL POINT*

BRIAN A. BULLOCK REGISTERED No. 10302366 STATE OF INDIANA PROFESSIONAL ENGINEER
Certified by: BRIAN A. BULLOCK 02/21/23

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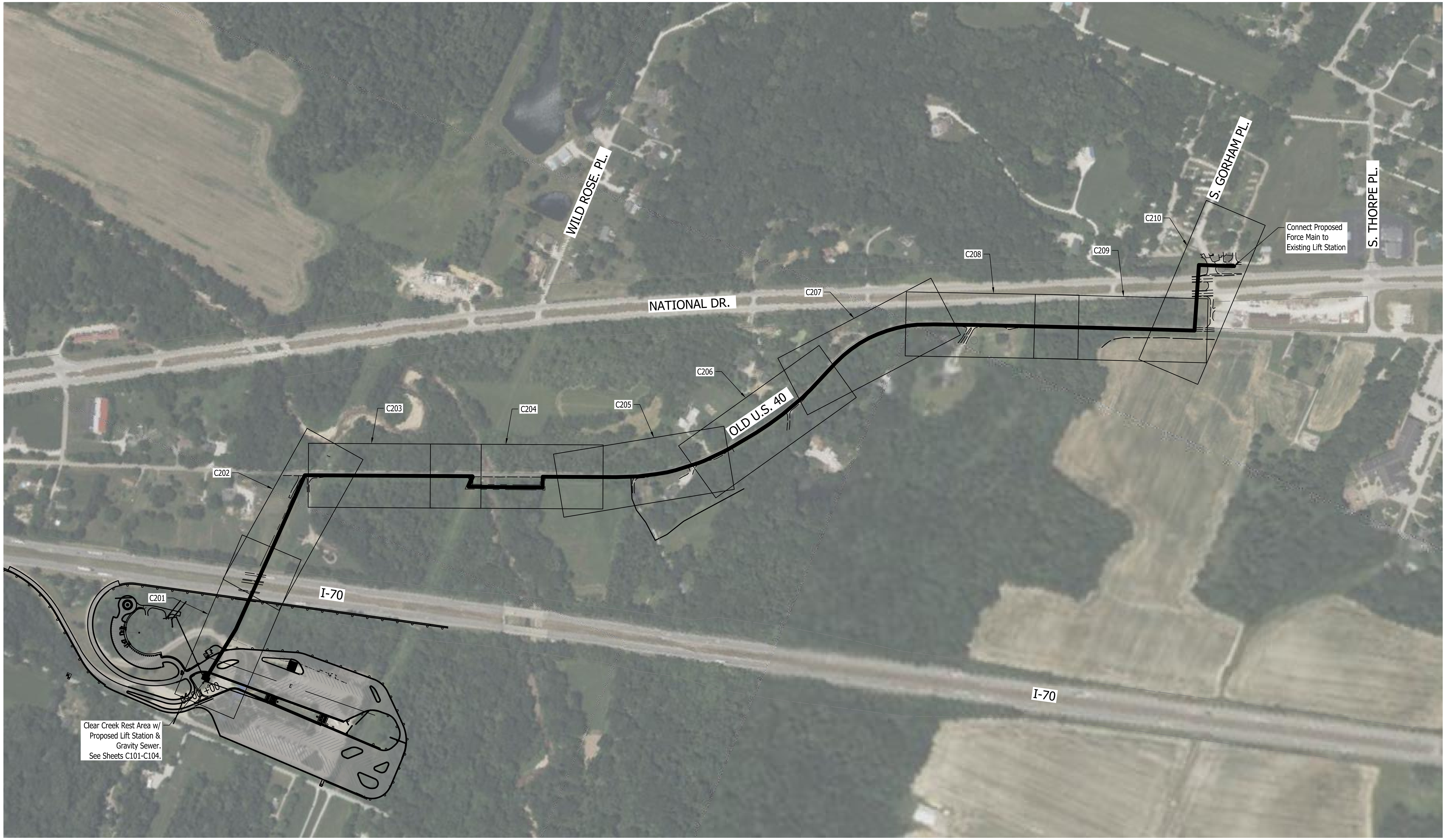
Drawing Number: G101	
Sheet: 2 of 23	



SCALE: 1" = 250'

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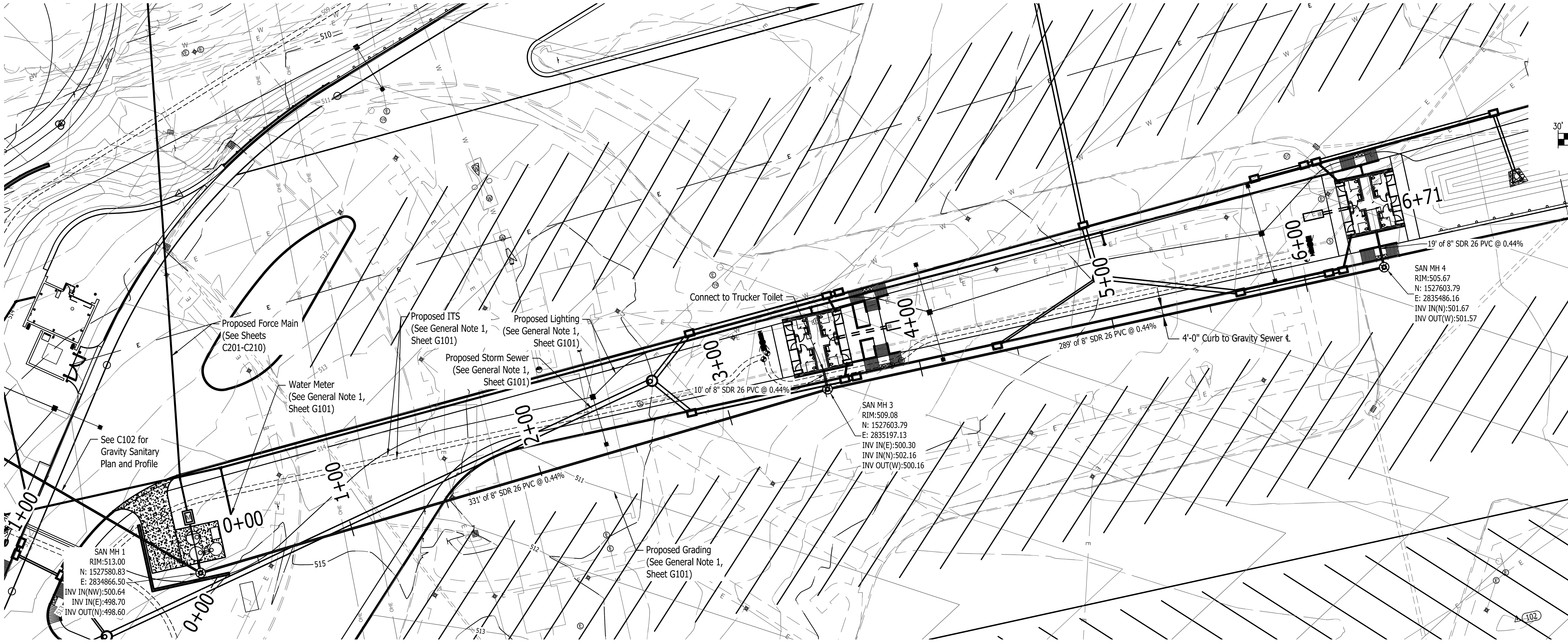

UTILITY NOTES:

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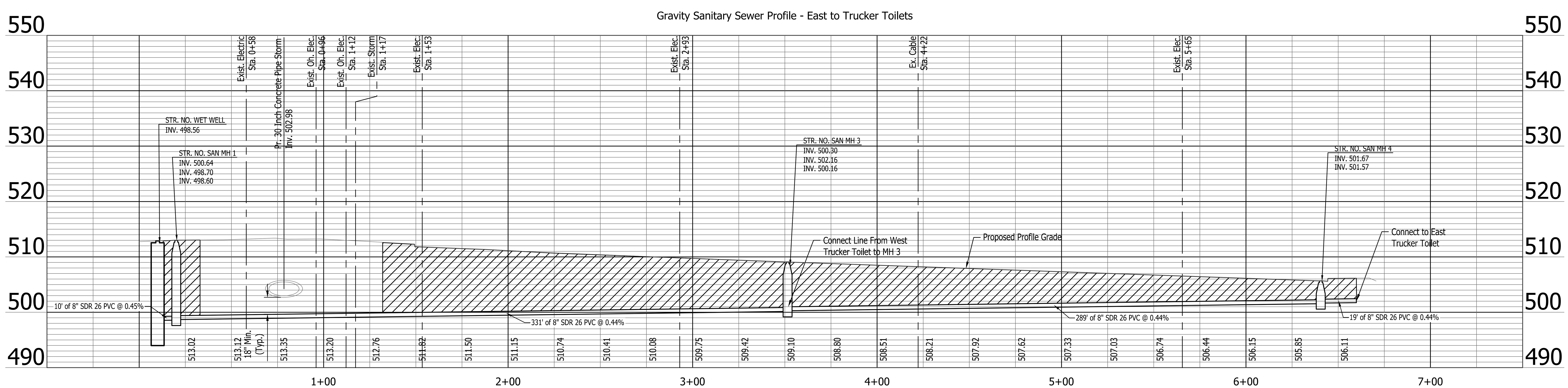

DREW CHARLES WILSON
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Certified by: DREW C. WILSON 02/21/23

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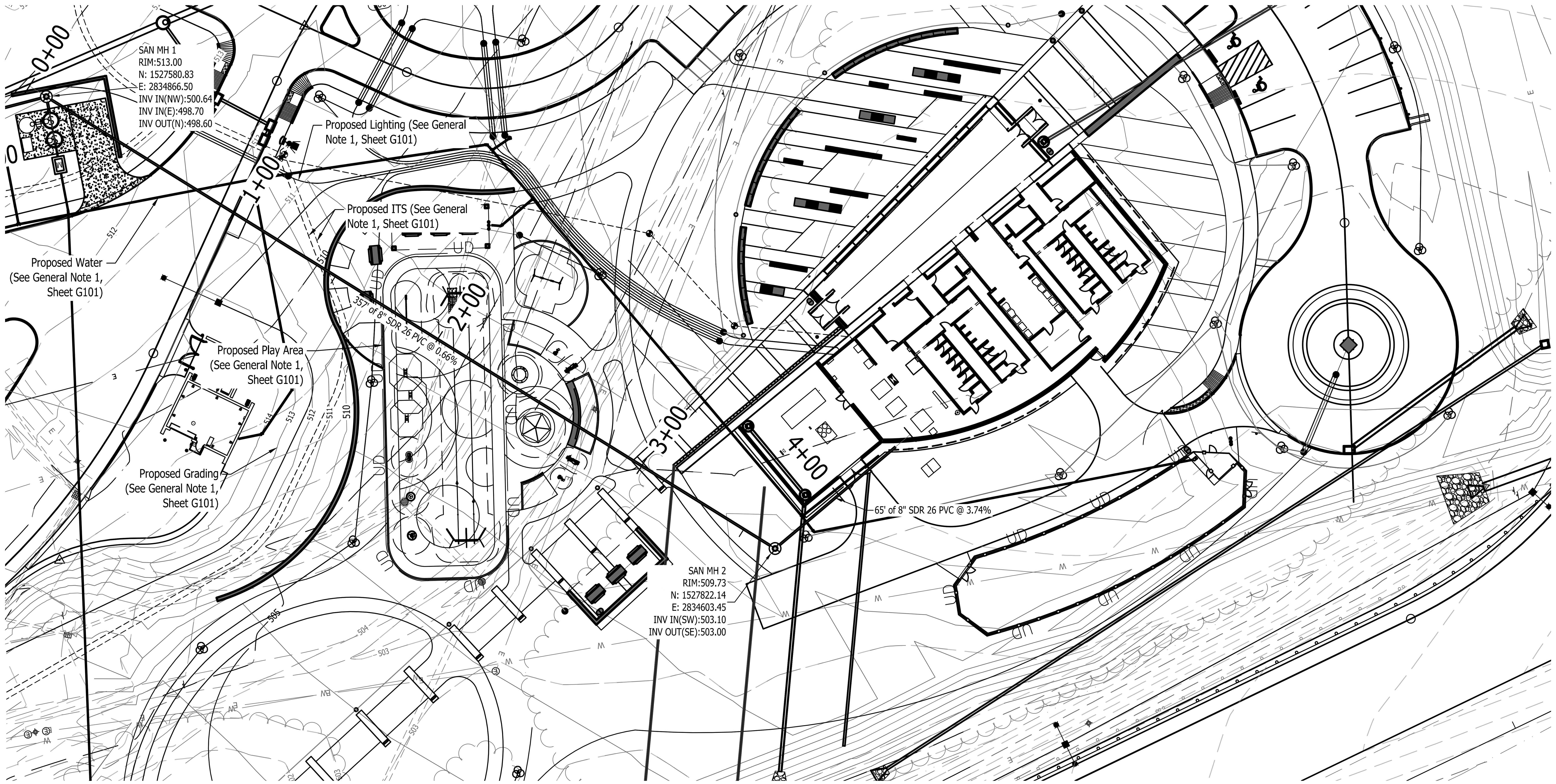

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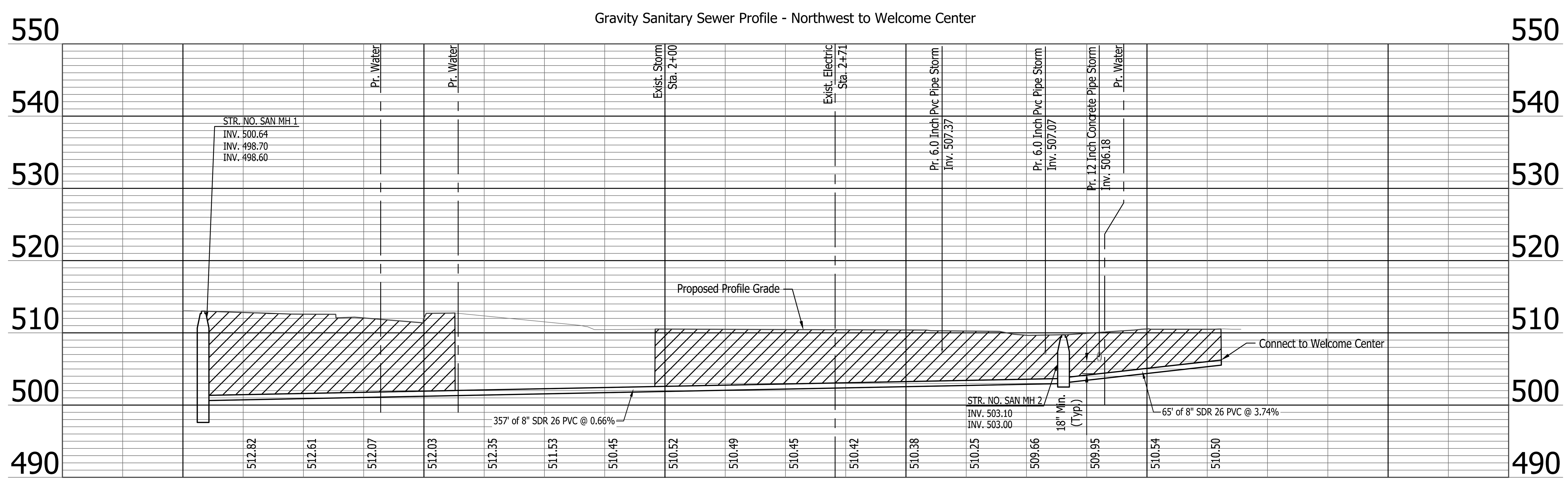
Gravity Sanitary Sewer Profile - Northwest to Welcome Center



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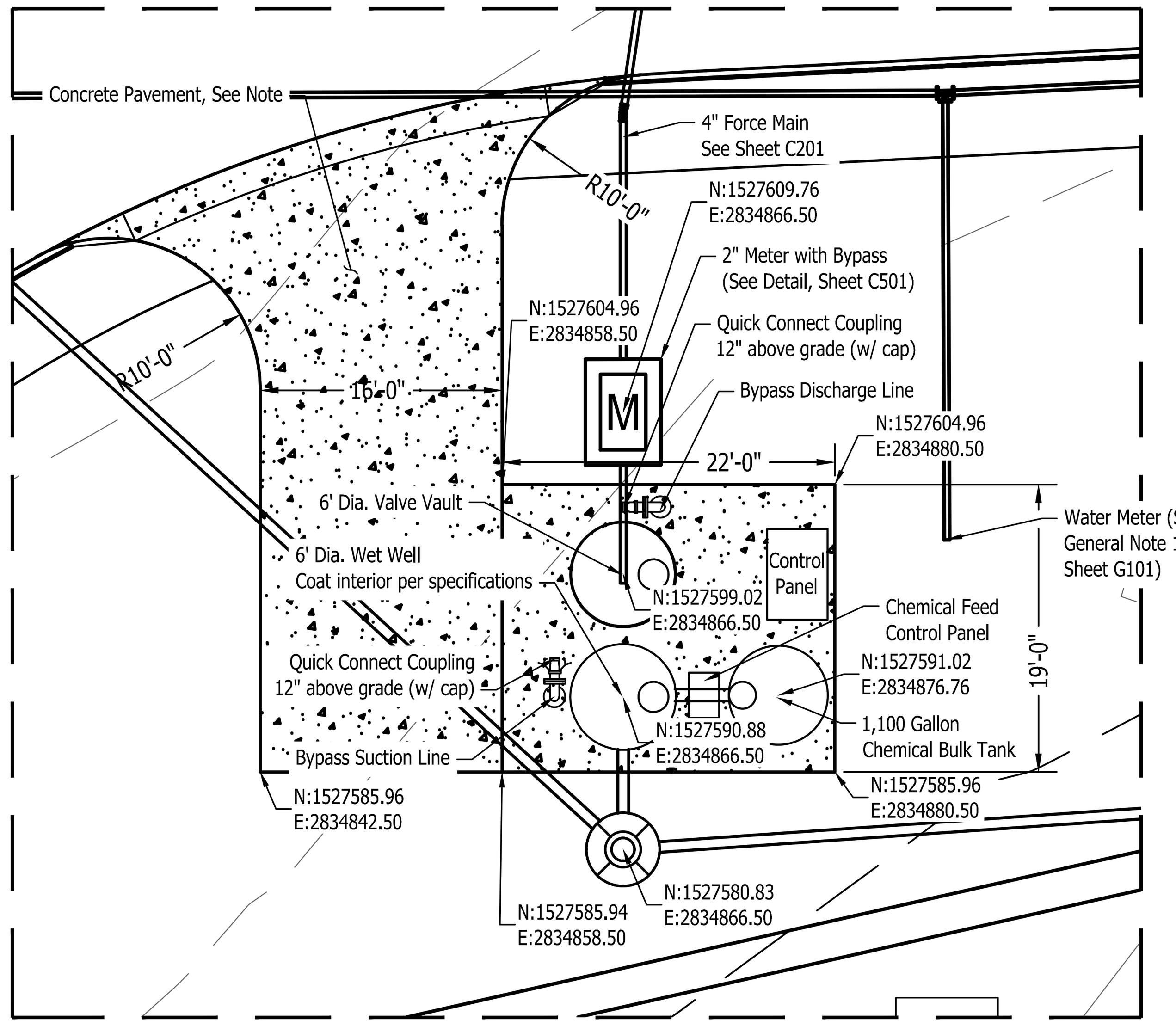
Sheet: 5 of 23	

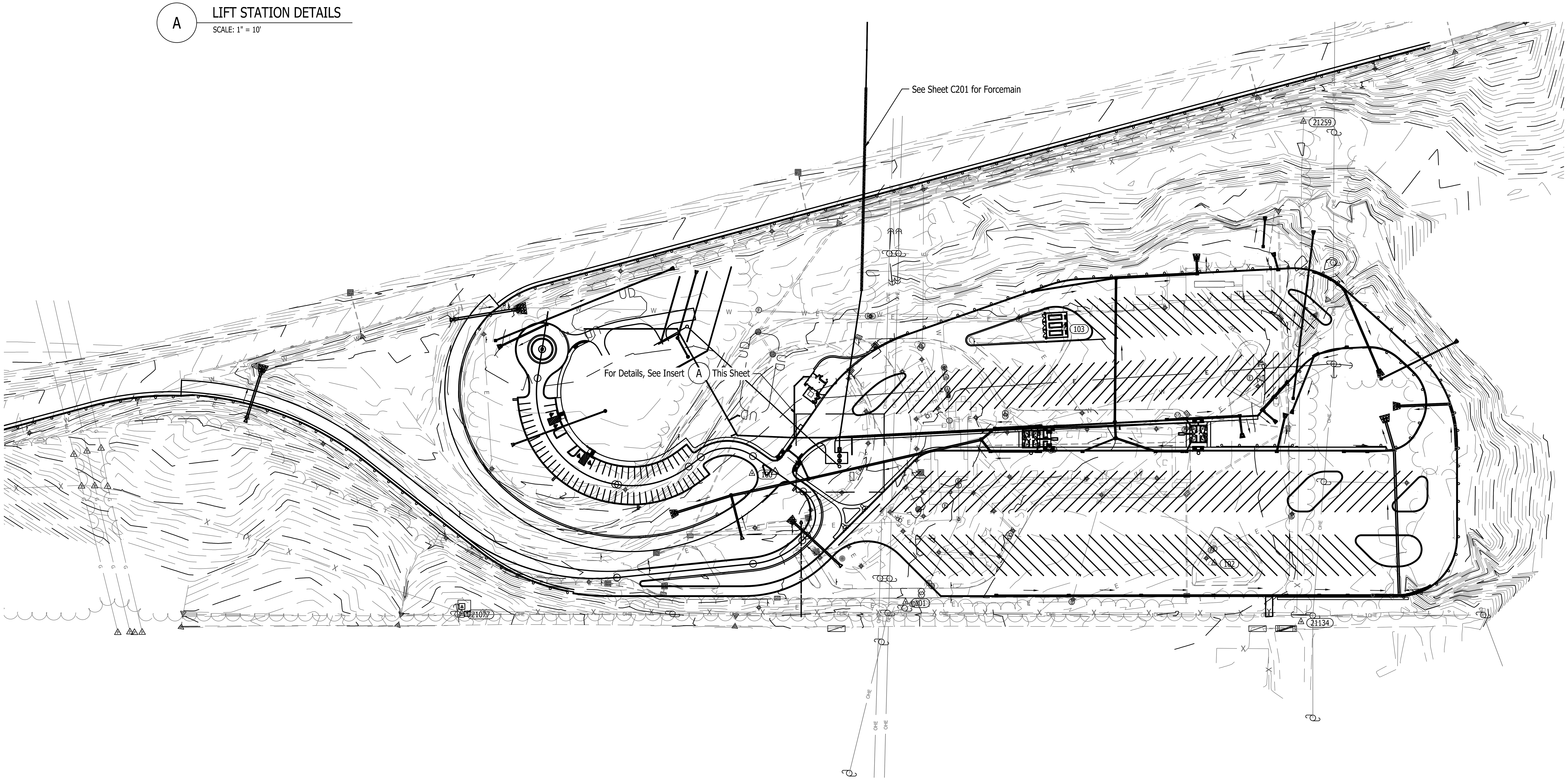


A LIFT STATION DETAILS

SCALE: 1" = 10'

NOTE:
1. Reinforce 8" depth concrete pavement with #4s @ 12" o.c. both ways. Install 12" crushed stone base under concrete pad.

SCALE: 1" = 100'
100' 0 100' 200'



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Client Approval:	
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Building Reference:	
Drawing Number: C103	
Sheet: 6 of 23	

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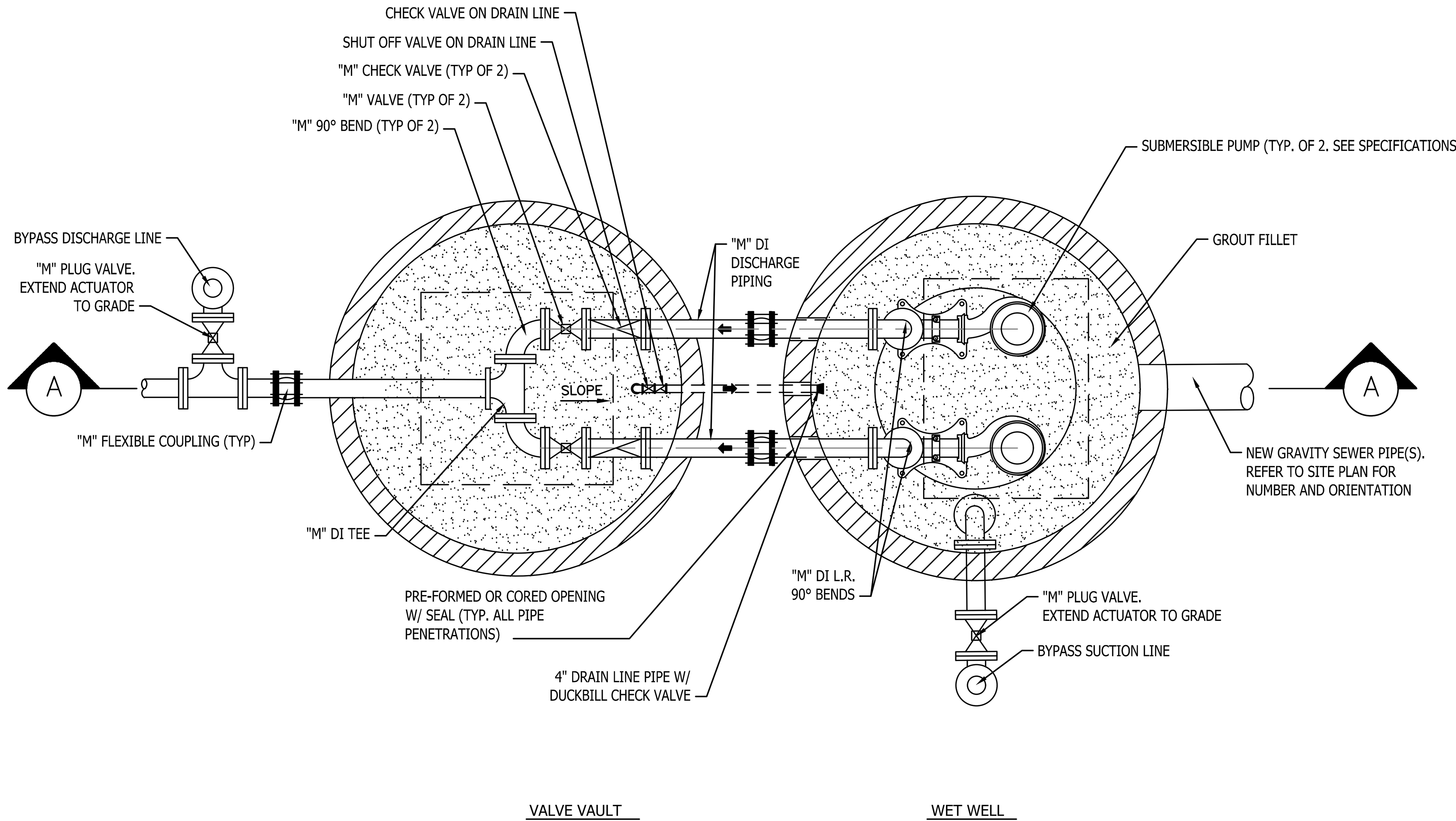
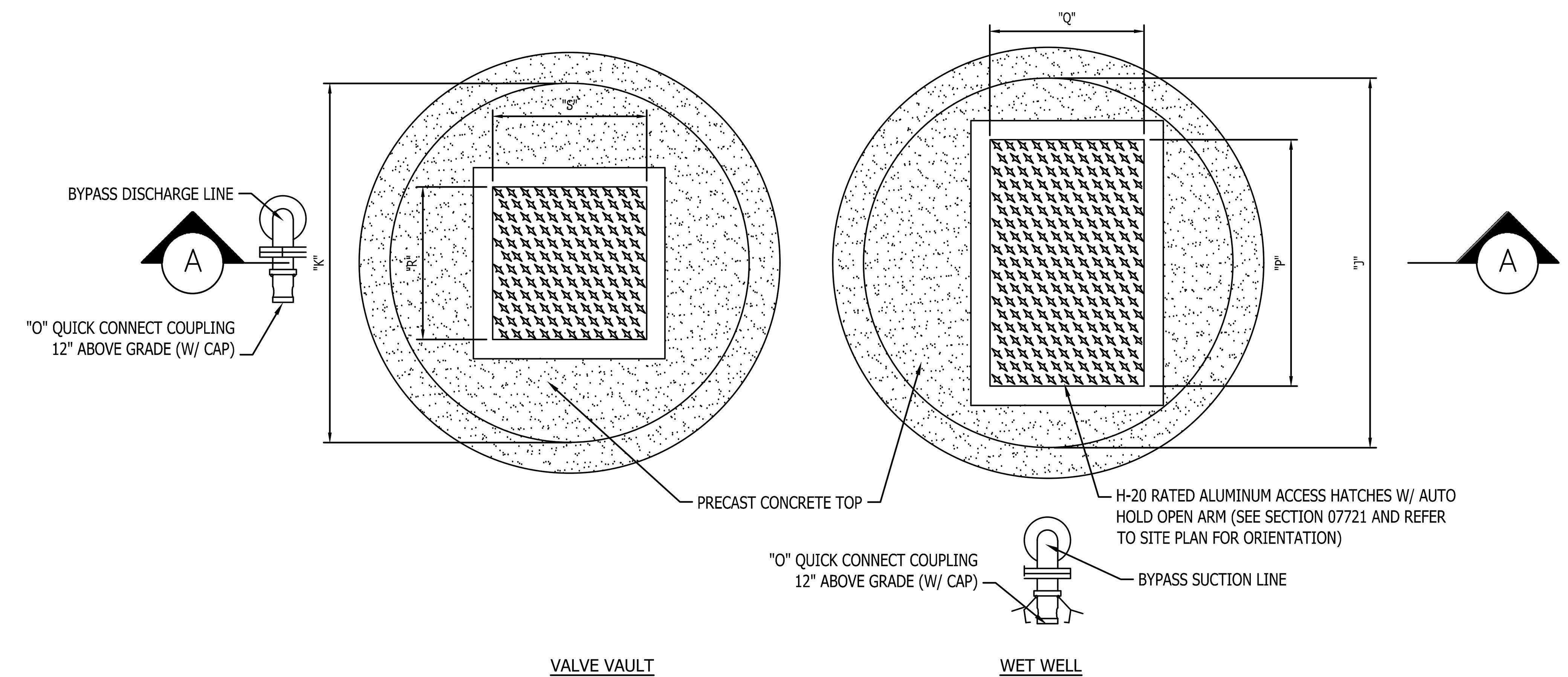
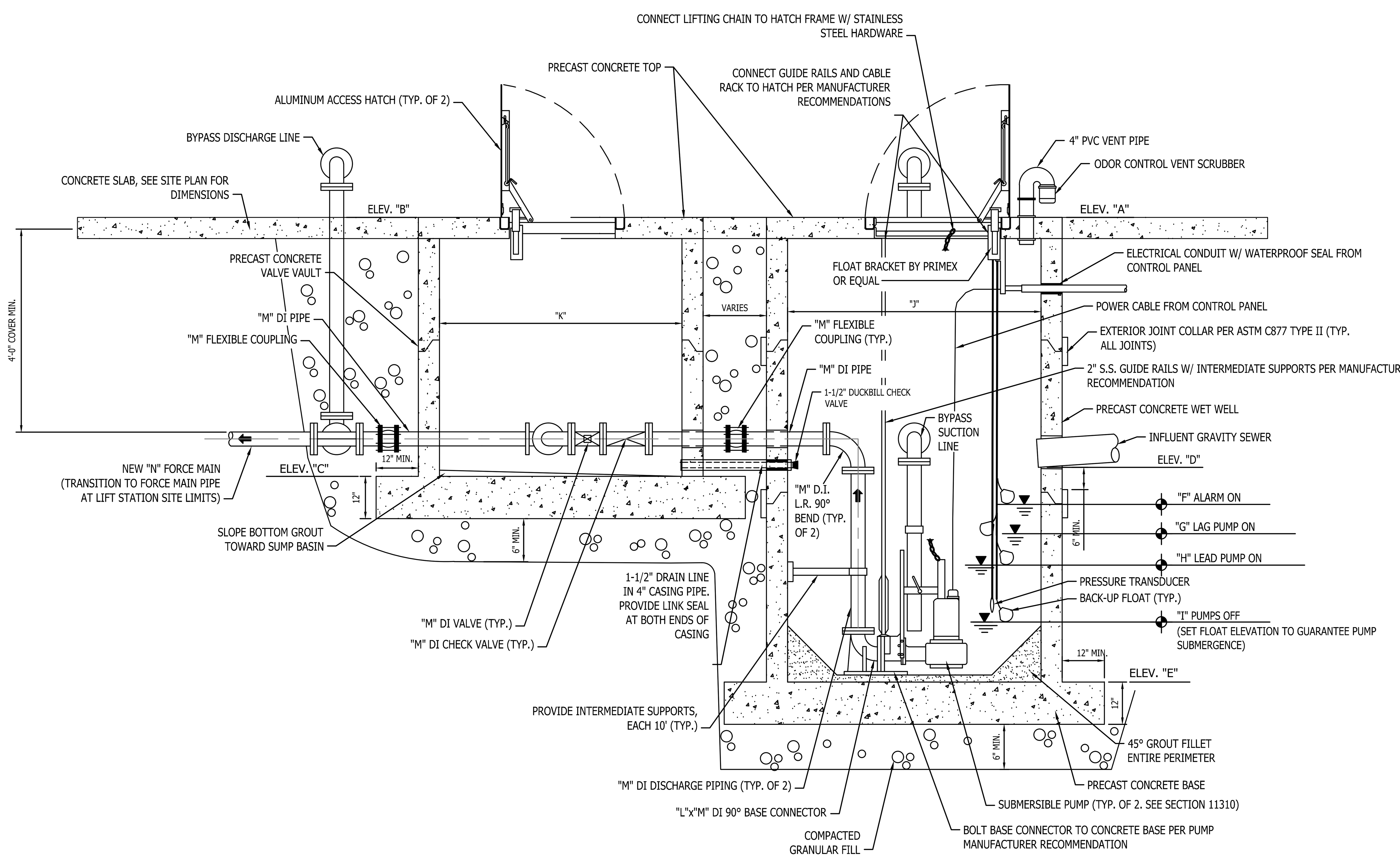


WET WELL AND VALVE VAULT PLAN – BELOW COVER
NOT TO SCALE



WET WELL AND VALVE VAULT PLAN – AT GRADE
NOT TO SCALE

ELEVATION AND DIMENSION TABLE		
TAG	ELEVATION	DIMENSION
"A"	513.00	
"B"	513.00	
"C"	507.00	
"D"	498.56	
"E"	493.11	
"F"	498.06	
"G"	497.56	
"H"	497.06	
"I"	494.61	
"J"		6 FT
"K"		6 FT
"L"		3 IN
"M"		4 IN
"N"		4 IN
"O"		4 IN
"P"		48 IN
"Q"		30 IN
"R"		30 IN
"S"		30 IN



SECTION – REST AREA LIFT STATION (A)
NOT TO SCALE

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Drew Wilson
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Revisions:

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Designer: DCW
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Drawing Scale: NA
DAPW Approval:
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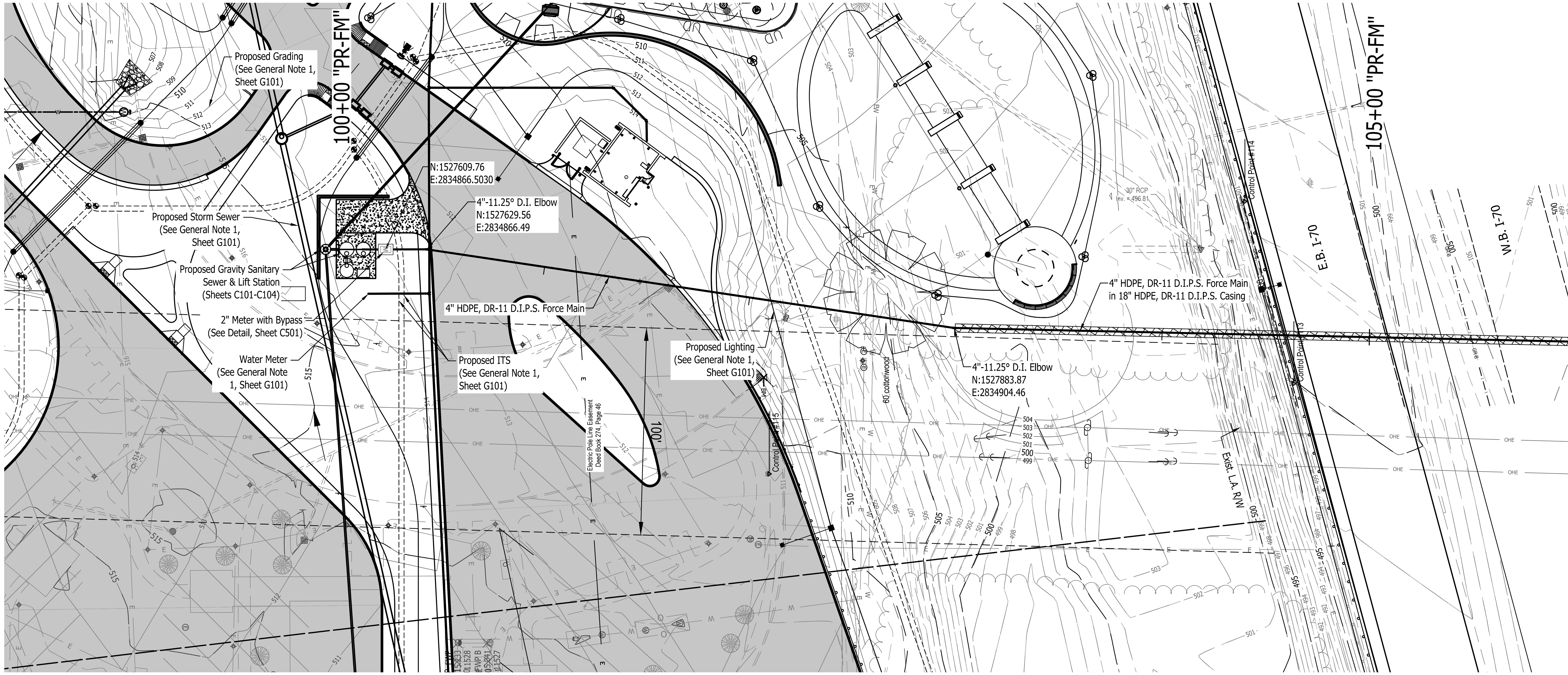
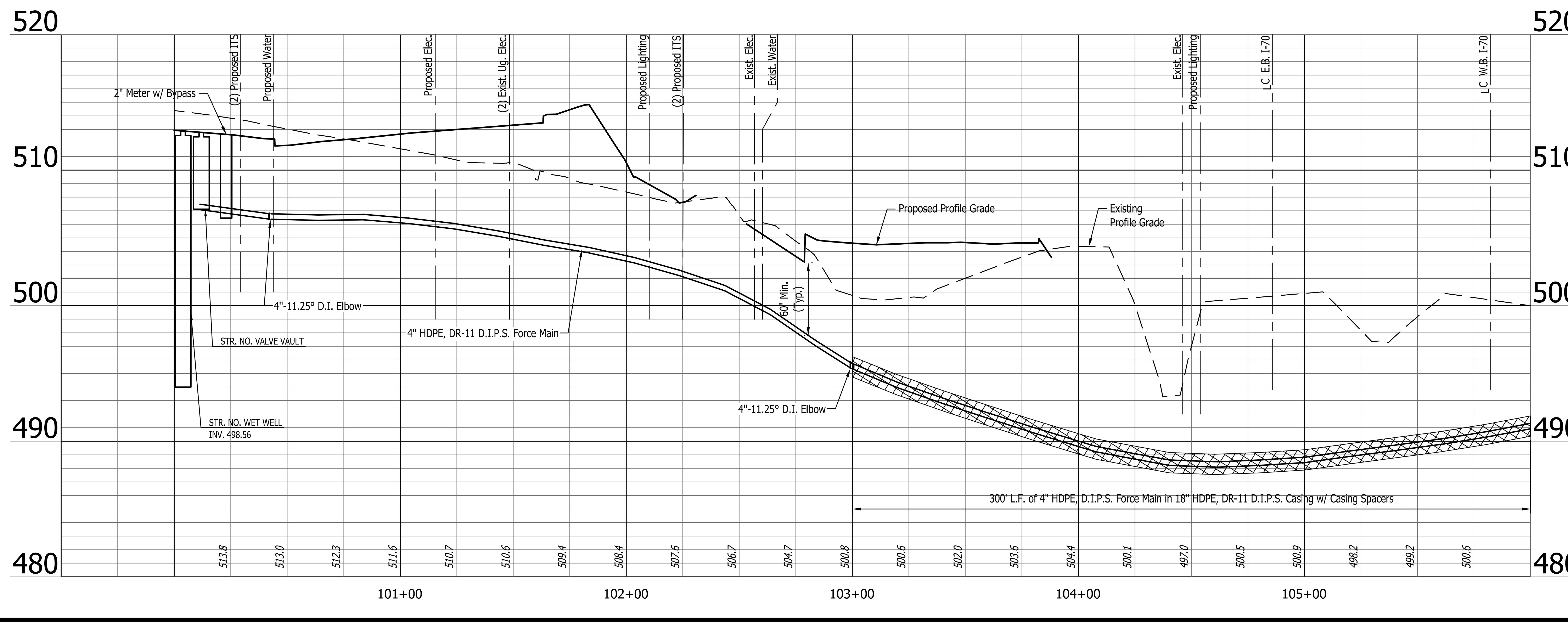
Drawing Number: C104





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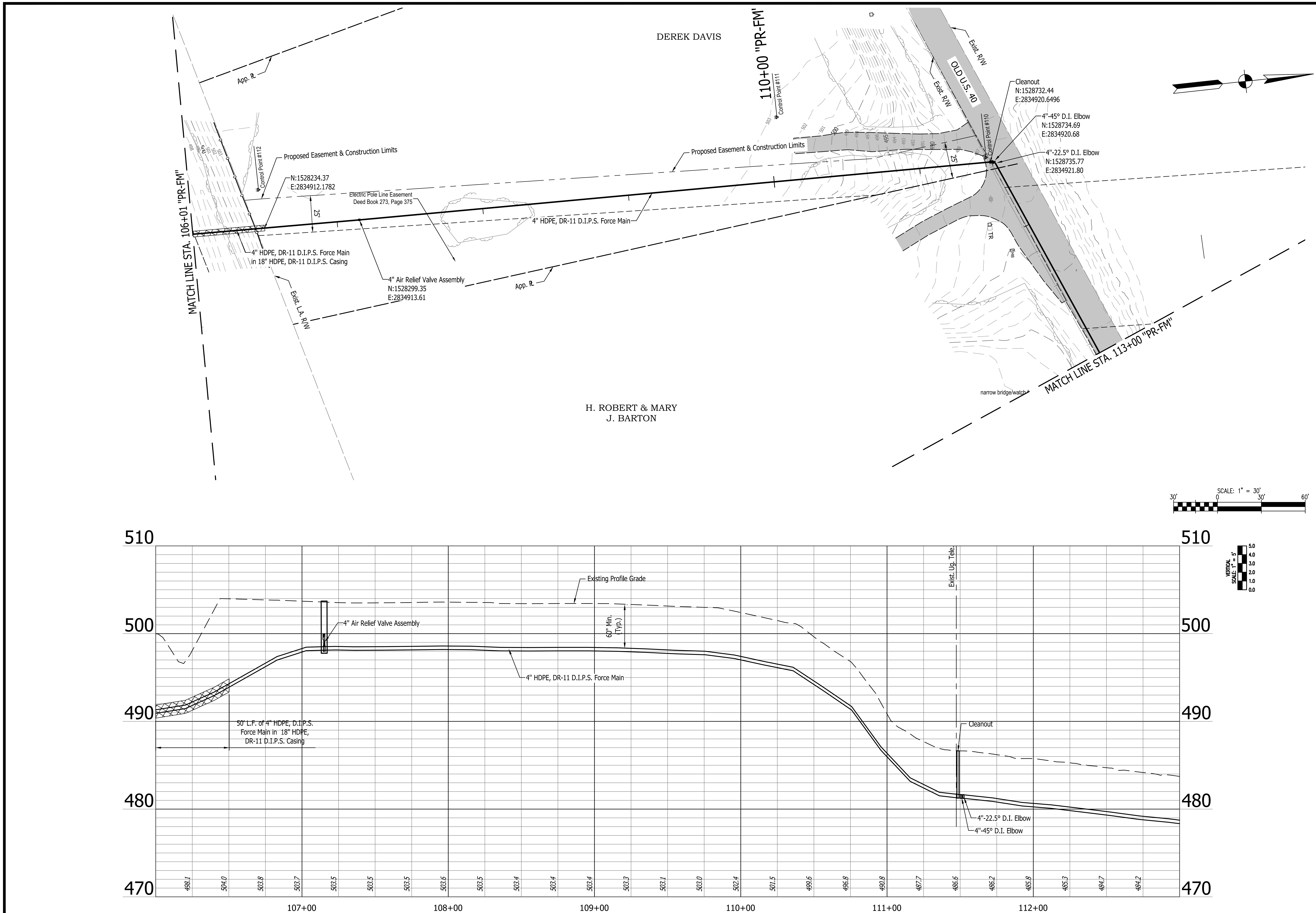

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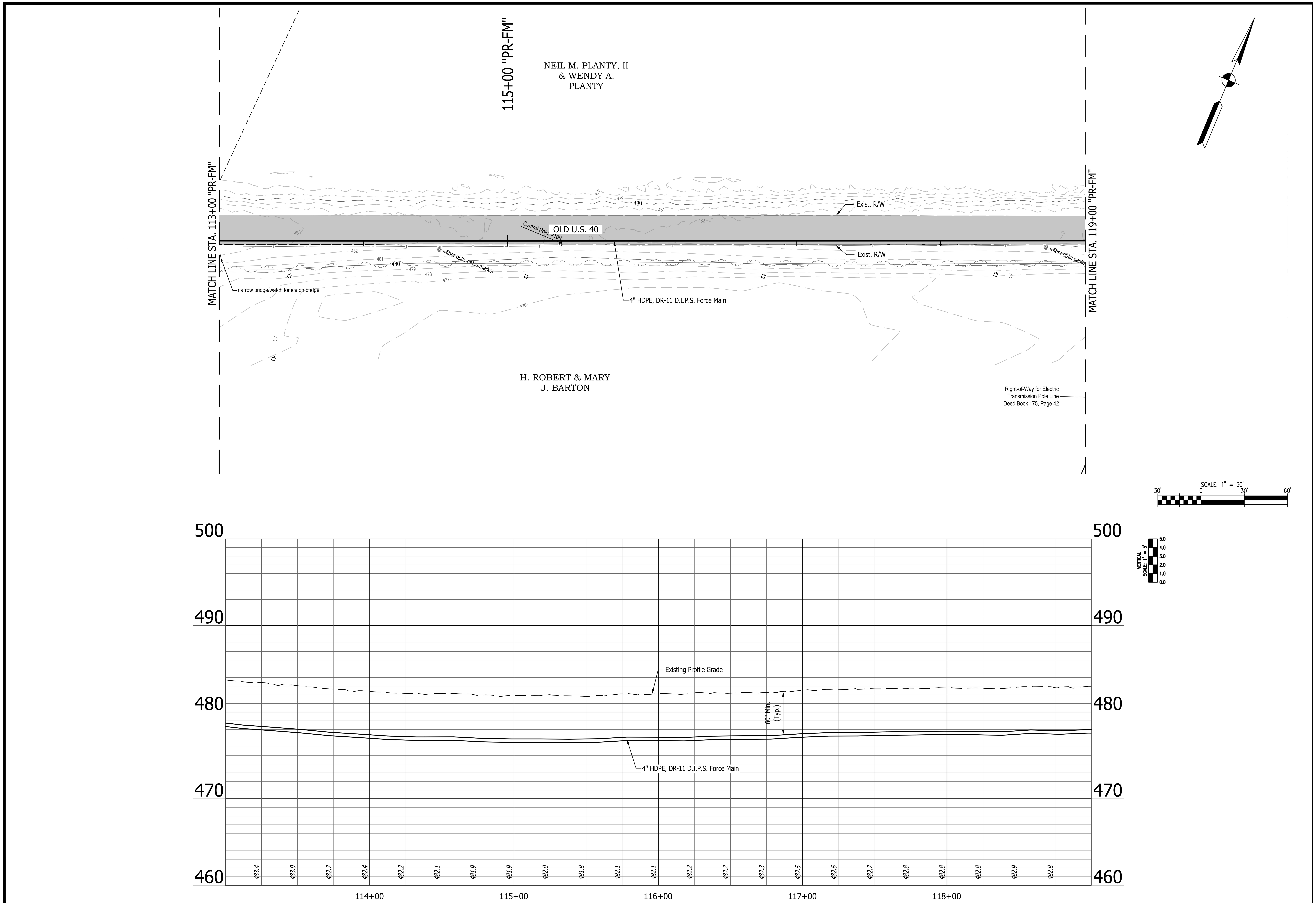
Sheet: 9 of 23	



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PUBLIC WORKS PROJECT NO. 84003001-22-058-C1
CLEAR CREEK WELCOME CENTER
VIGO COUNTY, INDIANA

STATE OF INDIANA
DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
ROOM W467, INDIANA GOVERNMENT CENTER SOUTH
402 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA 46204
317-232-3000

Revisions:

Project Number:	84003001-22-058-C1
Requisition Number:	
Account Number:	
Designer: BAB	Drawing Date: 02/21/23
Drafter: OMV	Drawing Scale: 1"=30'
DAPW Approval:	
Client Approval:	
Reference Number:	220005
Building Reference:	
Drawing Number:	C203
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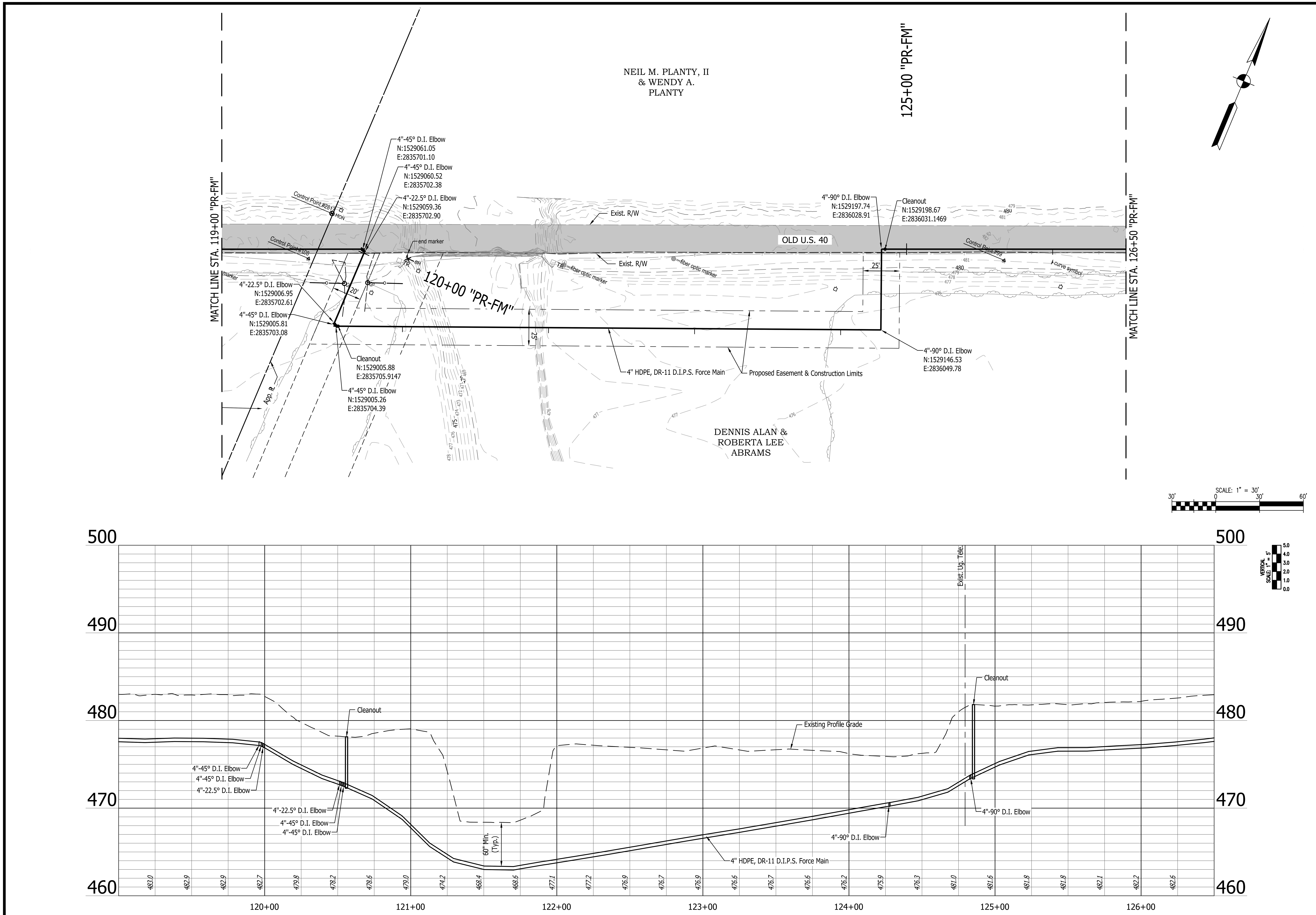

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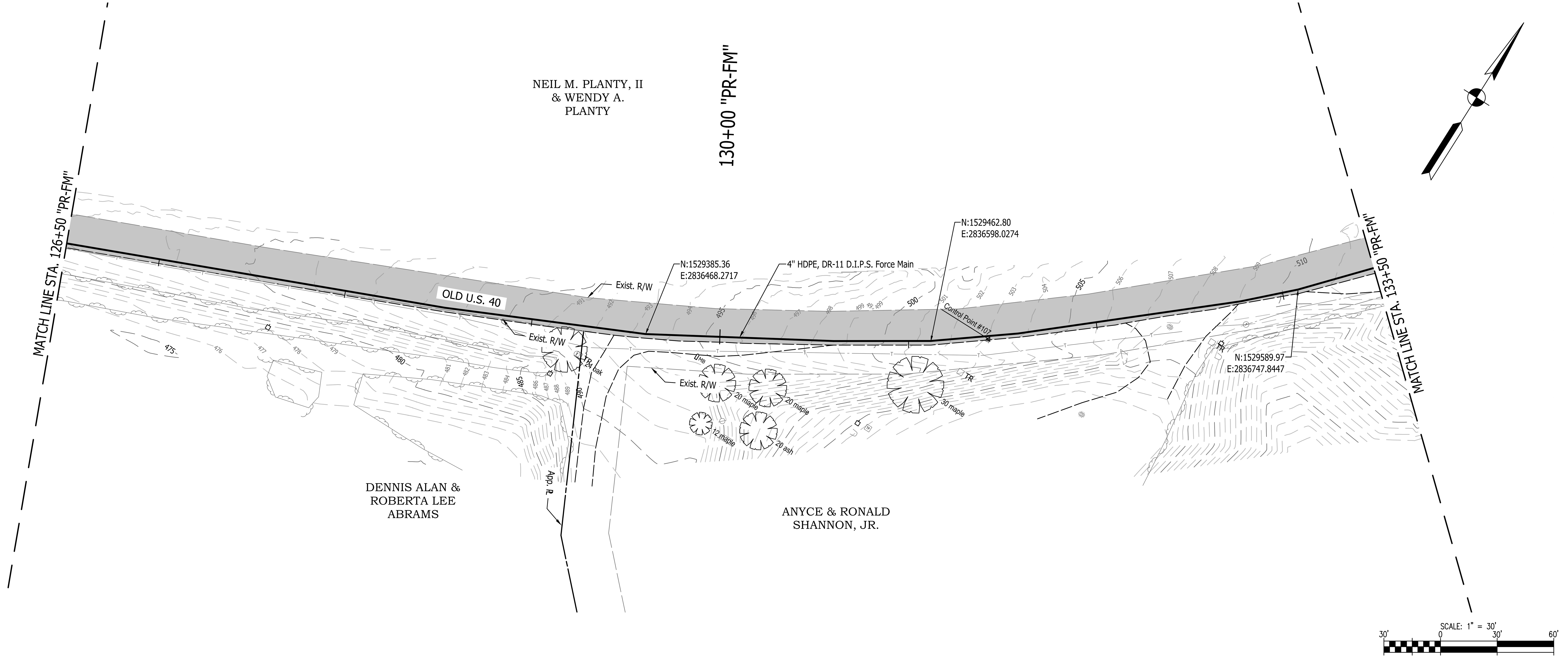

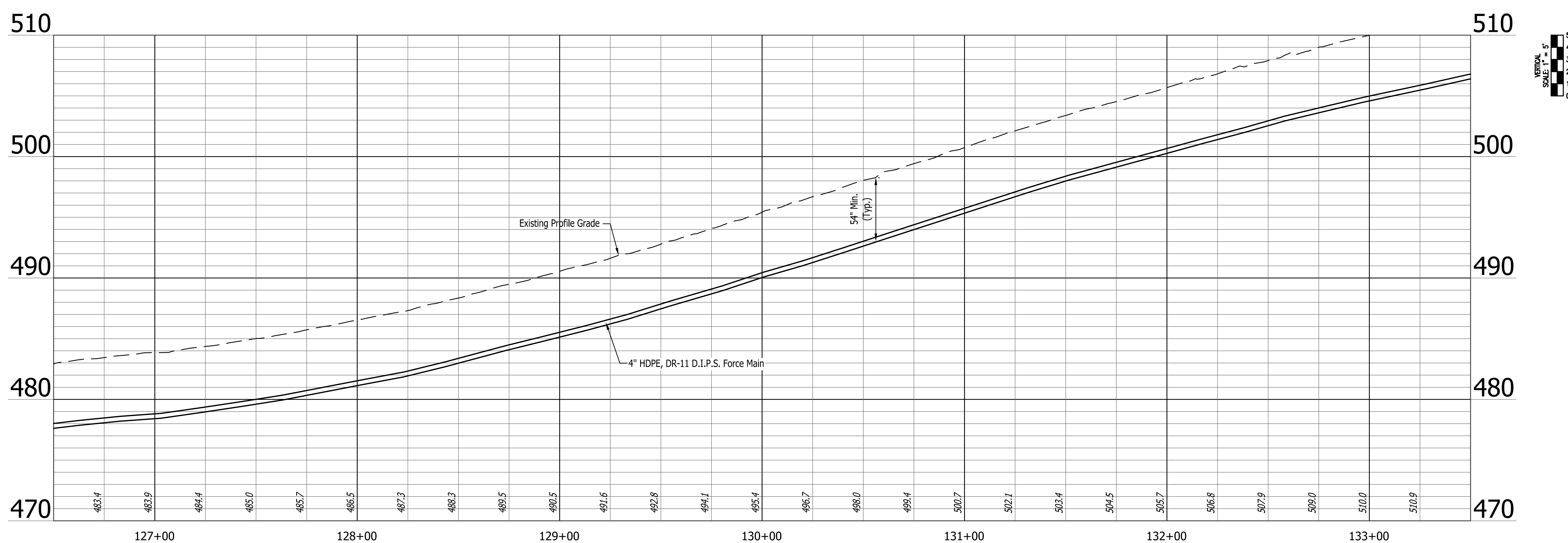

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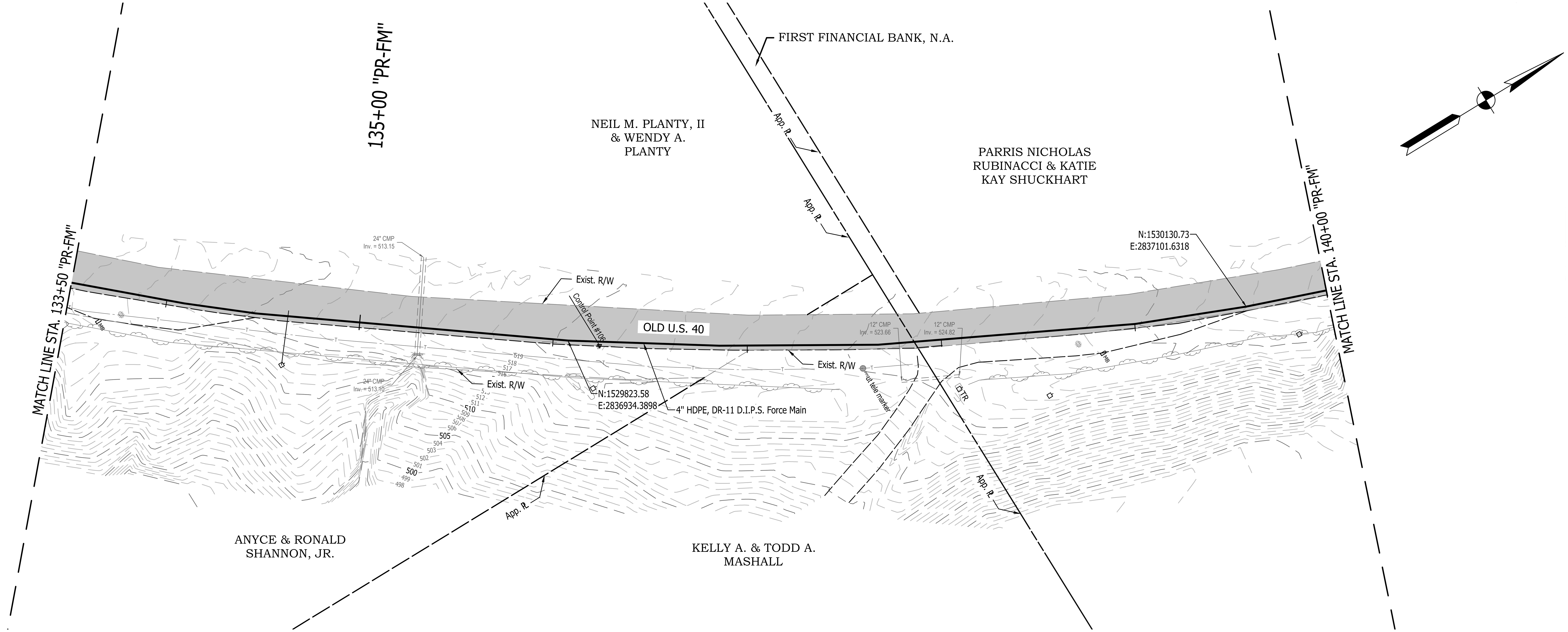

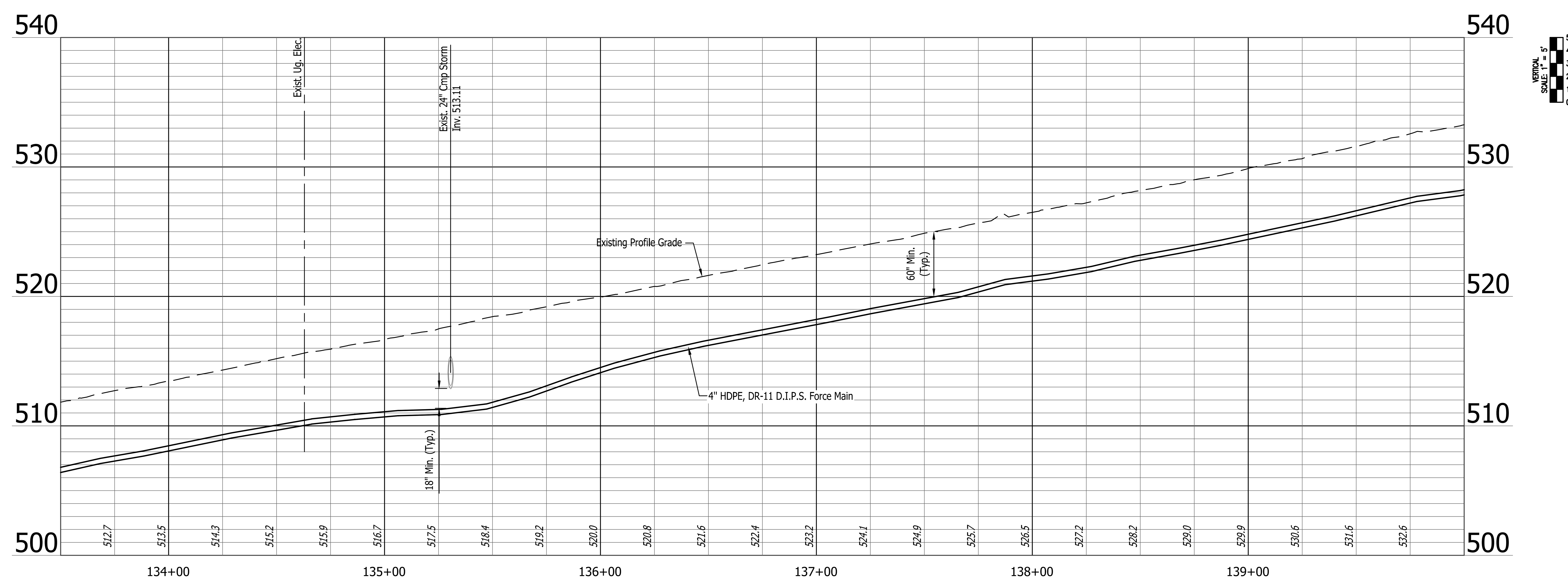

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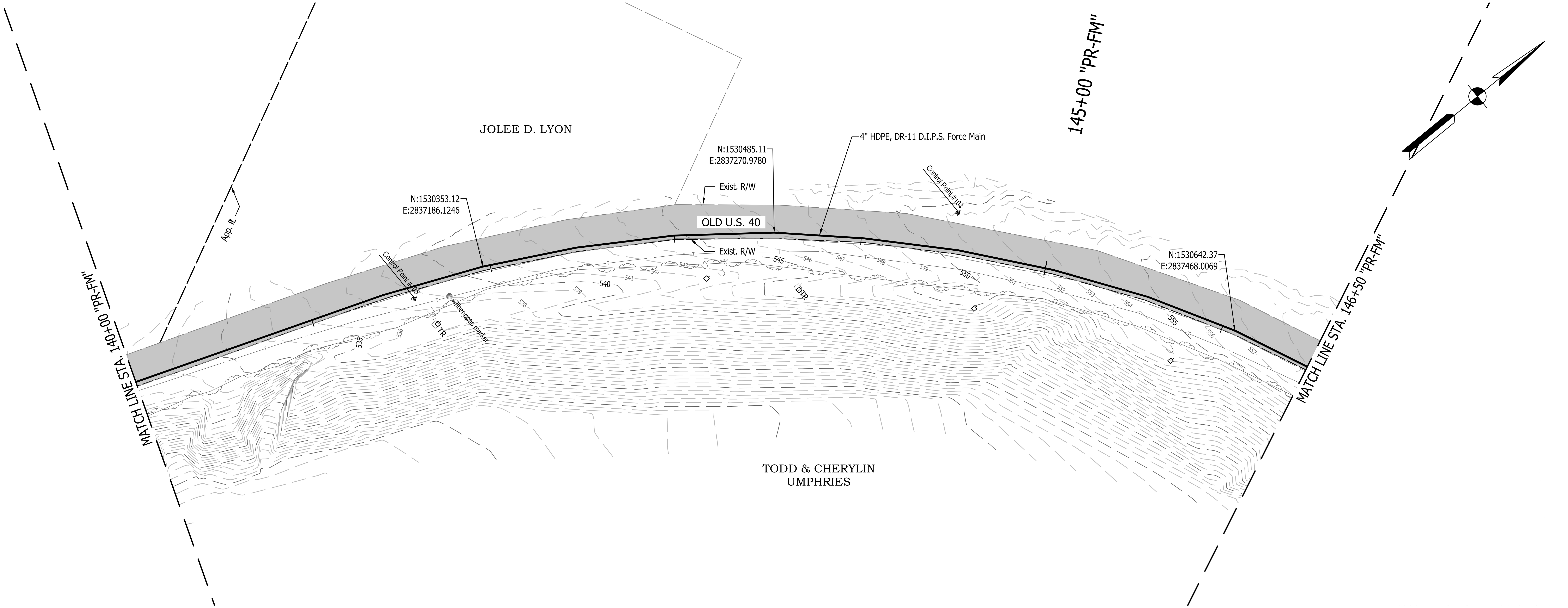

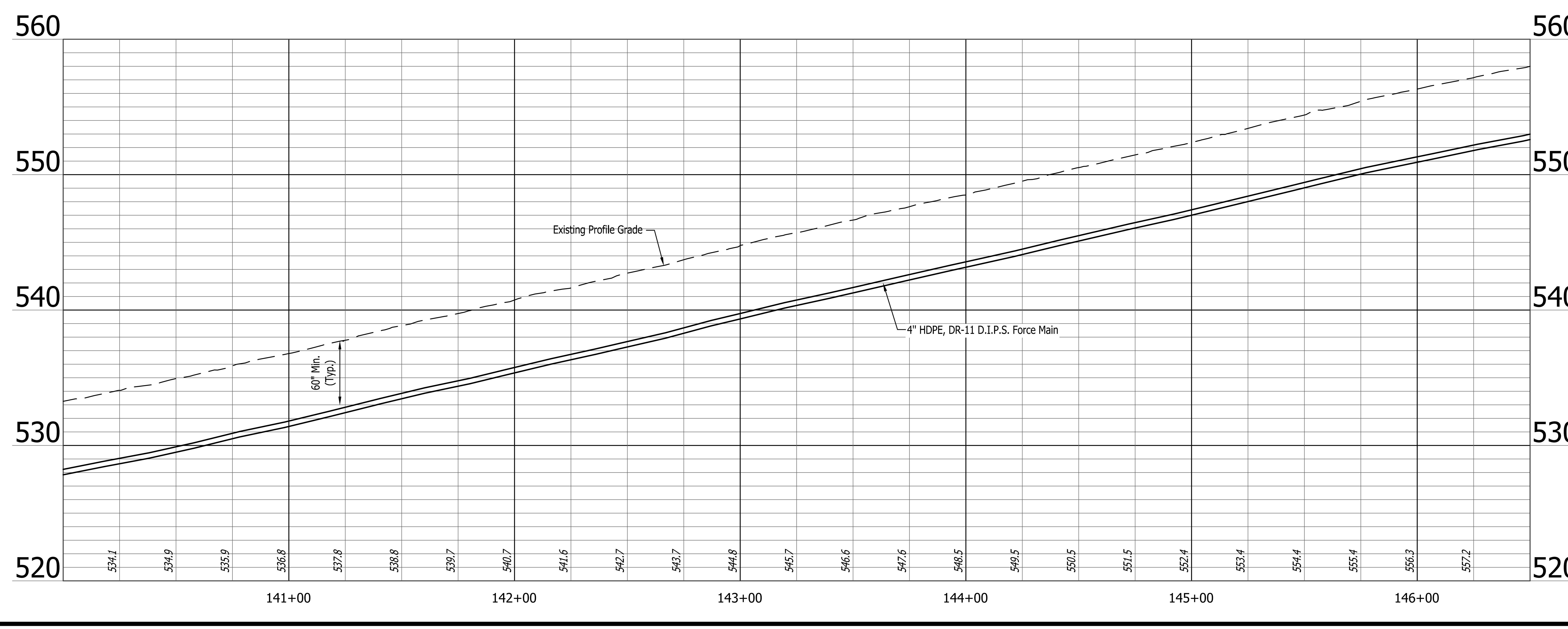

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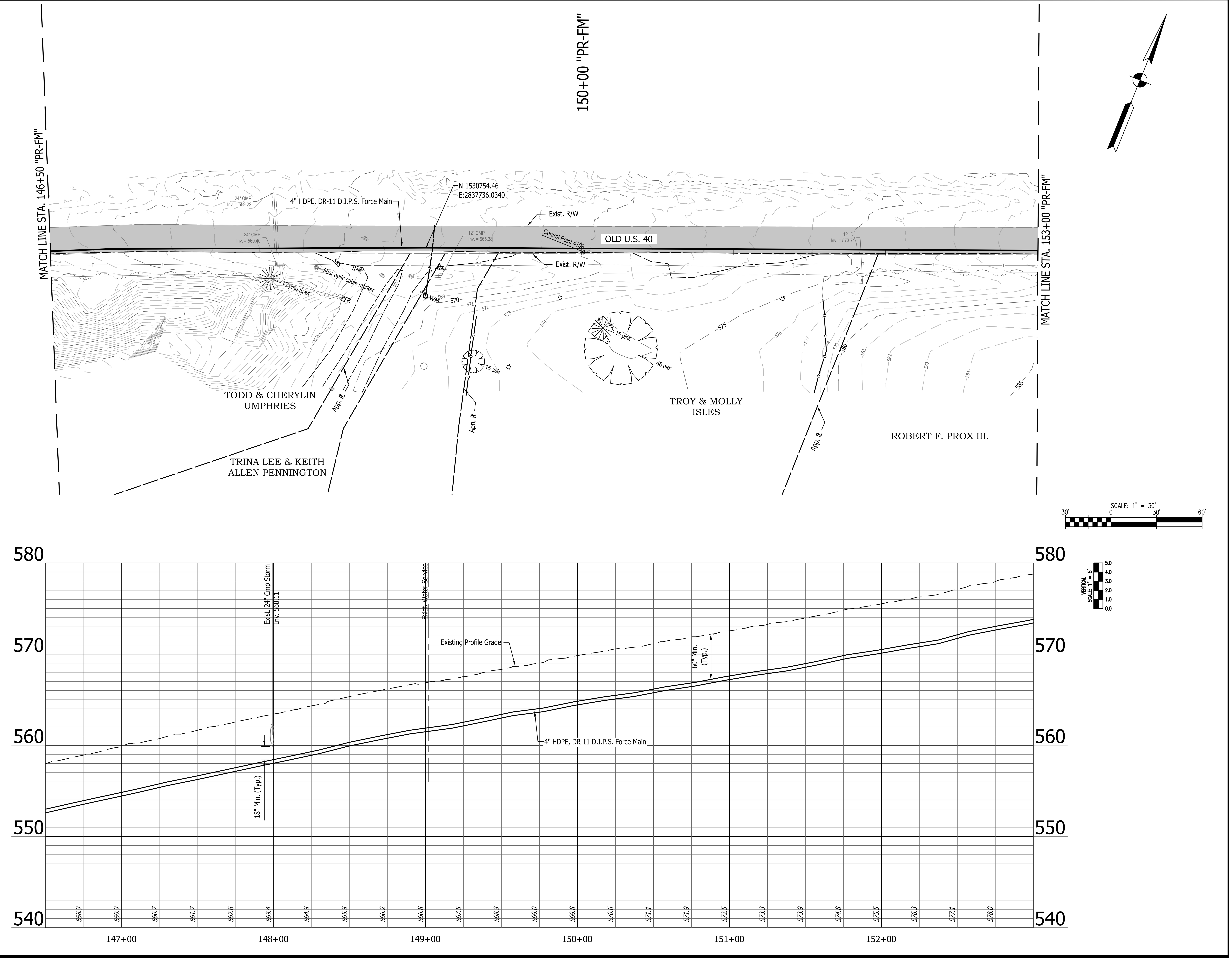

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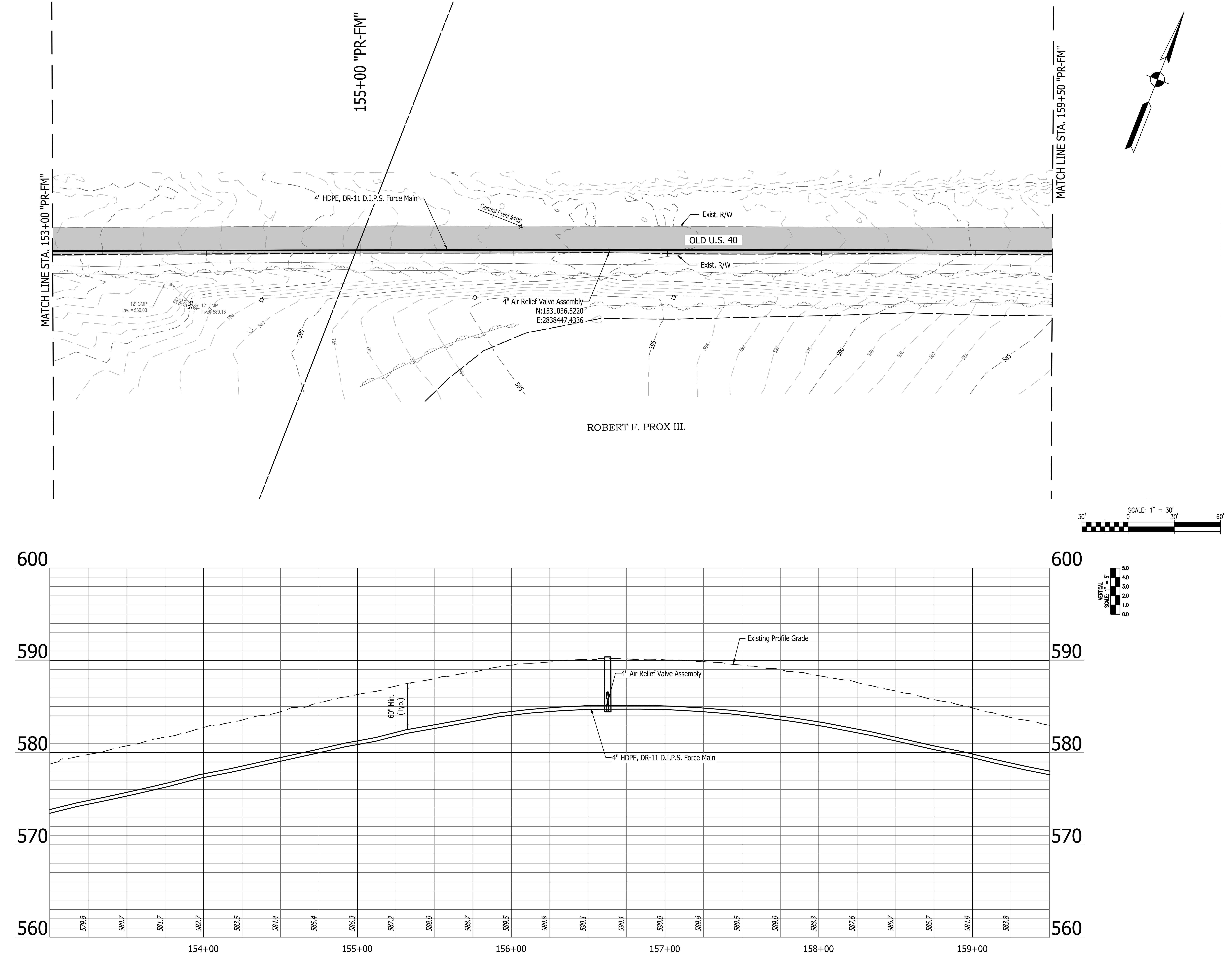

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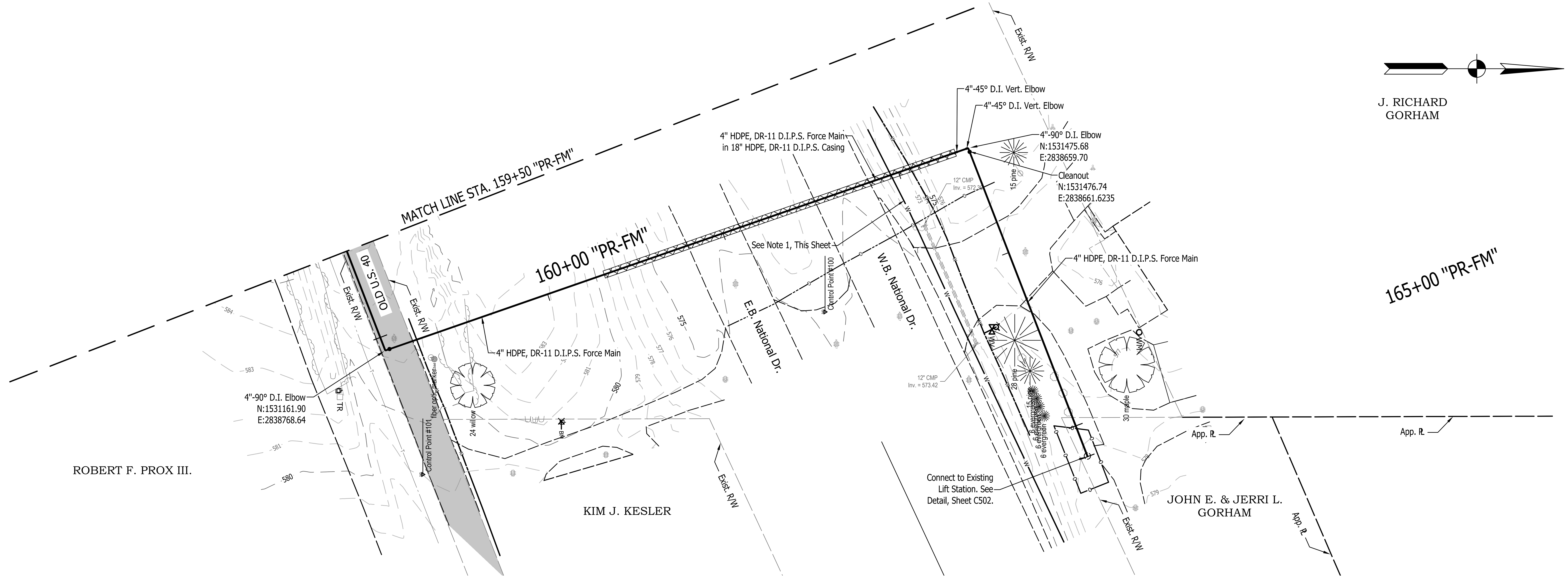
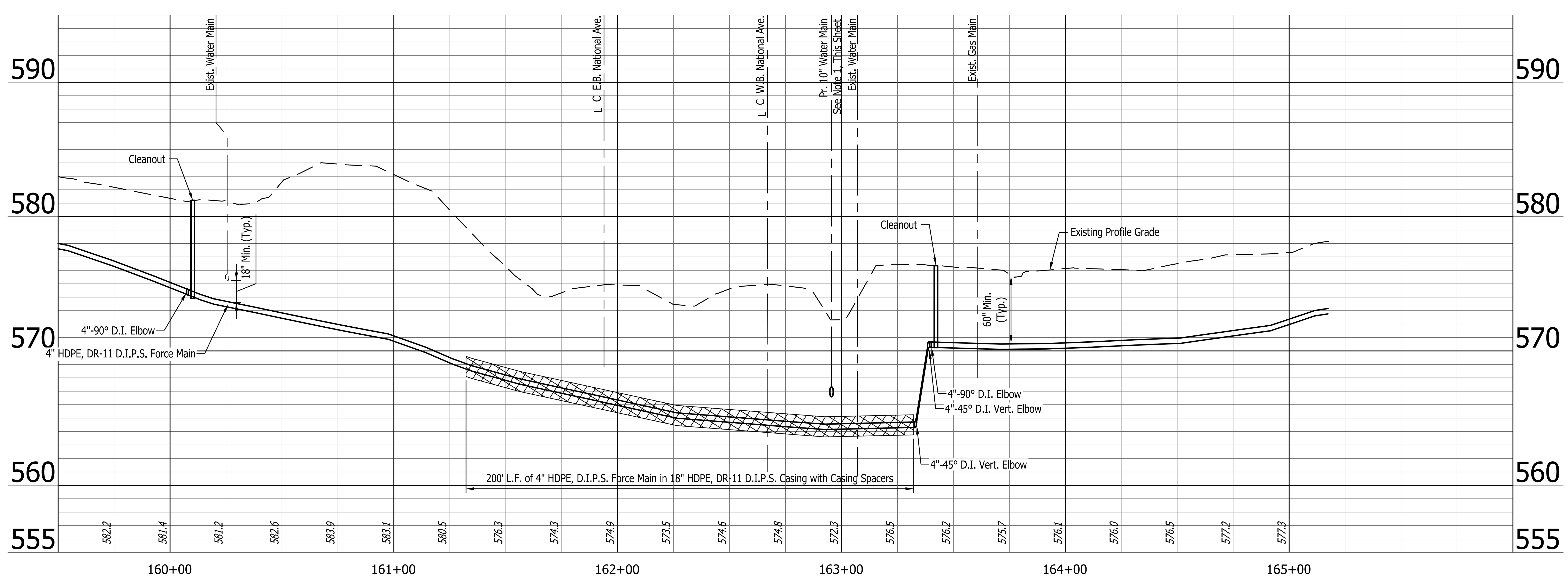


NOTE:
1. Proposed location of a new 10" water main per design plans prepared by Commonwealth Engineers. Contractor shall field verify whether the new water main has been installed at the time of the installation of the new force main and coordinate with the Town of West Terre Haute.

SCALE: 1" = 30'

30' 0 30' 60'



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Client Approval:	
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Sheet: 17 of 23	

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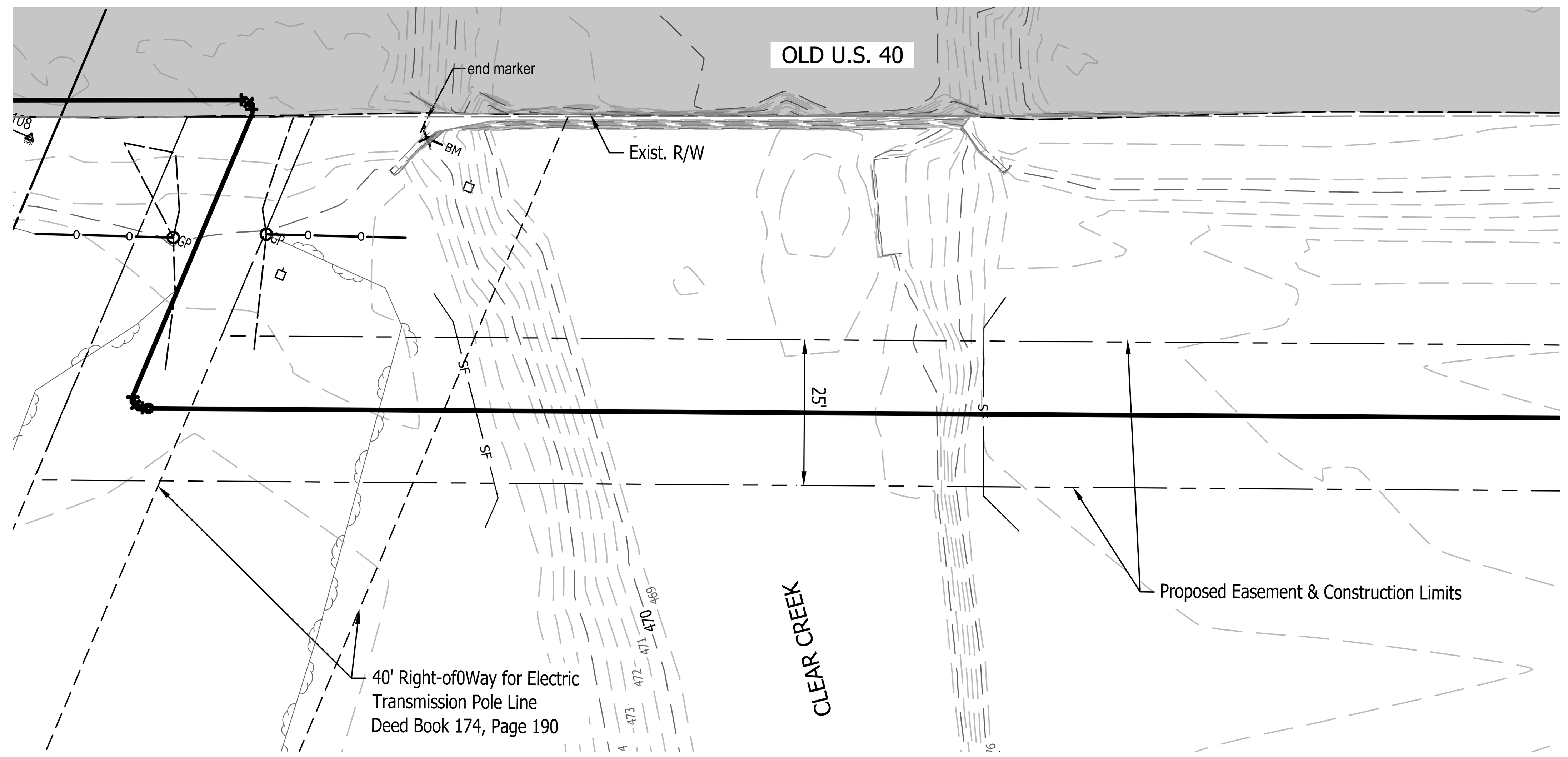
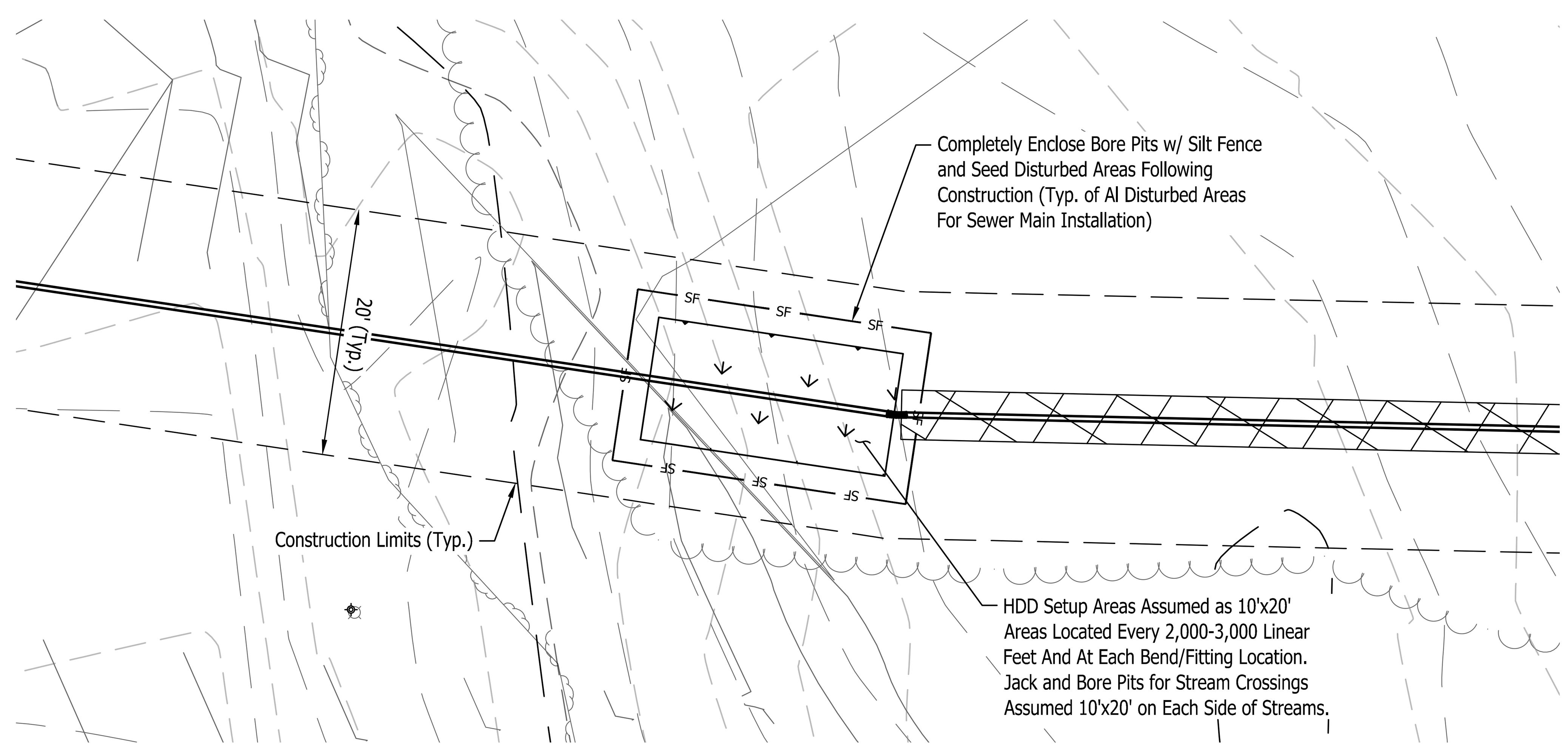


TEMPORARY AND PERMANENT EROSION CONTROL
PROTECTION FOR FORCE MAIN CROSSING AT CLEAR CREEK

SCALE: 1" = 10'



TYPICAL PLAN VIEW
TEMPORARY AND PERMANENT EROSION CONTROL PROTECTION FOR
TRENCHLESS INSTALLATION OF FORCE MAIN

SCALE: 1" = 20'

LEGEND

- (IP) – INLET PROTECTION
- (PS) – PERMANENT SEEDING
- – TEMPORARY SEEDING
- (CE) – CONSTRUCTION ENTRANCE
- (CW) – CONCRETE WASHOUT AREA – NOT USED FOR UTILITY WORK
- —— SF —— – SILT FENCE (UNPAVED AREAS) OR SILT SOCK (PAVED AREAS)

EROSION CONTROL NOTES:

1. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE FIELD INSPECTOR.
2. THERE SHALL BE NO DIRT, DEBRIS, OR STORAGE OF MATERIALS IN THE STREET.
3. GRAVEL BAGS, SILT SOCKS, OR DANDY BAGS CAN BE USED FOR STORM INLET PROTECTION WHERE NECESSARY (SEE DETAILS).
4. CONSTRUCTION ENTRANCES FOR THE NORTHBOUND AND SOUTHBOUND REST AREAS SHALL BE THE EXISTING PAVEMENT. WHERE EXISTING PAVEMENT IS USED FOR CONSTRUCTION ENTRANCES, ENSURE STREET SWEEPING IS PERFORMED DAILY OR MORE FREQUENTLY TO MAINTAIN ROADWAYS CLEAR OF DIRT, DUST, CHEMICALS, AND DEBRIS.
5. NO WETLANDS ARE EXPECTED TO BE DIRECTLY IMPACTED BY CONSTRUCTION ACTIVITIES. HOWEVER, IF WETLANDS OR APPARENT WETLANDS MUST BE TRAVERSED IN ORDER TO OBTAIN SITE ACCESS, TIMBER MATS DESIGNED TO REDUCE WETLAND IMPACTS SHALL BE USED FOR SUCH CROSSINGS.
6. TOTAL AREA WITHIN PROJECT LIMITS: 1,108,546 SF = 25.5 AC
7. TOTAL DISTURBED AREAS:
   - 7.1. REST AREA SITE: 4,615 SF = 0.11 AC
   - 7.2. SEWER FORCE MAIN HDD PITS: 3,915 SF = 0.09 AC
   - 7.3. TOTAL DISTURBED AREA: 8,530 SF = 0.20 AC

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Client Approval:	
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Sheet: 18 of 23	

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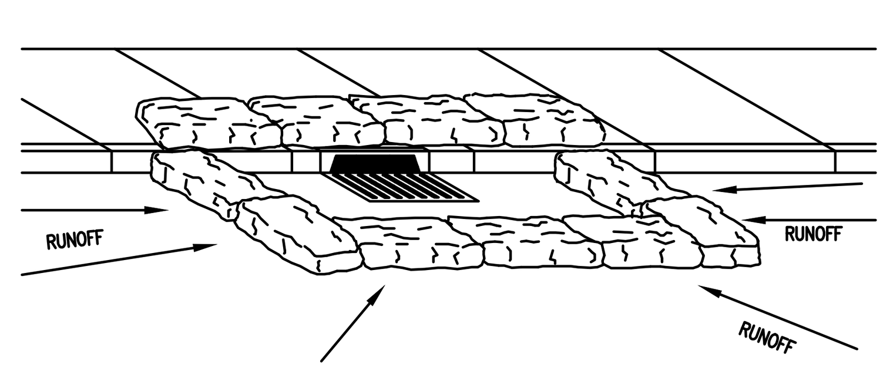


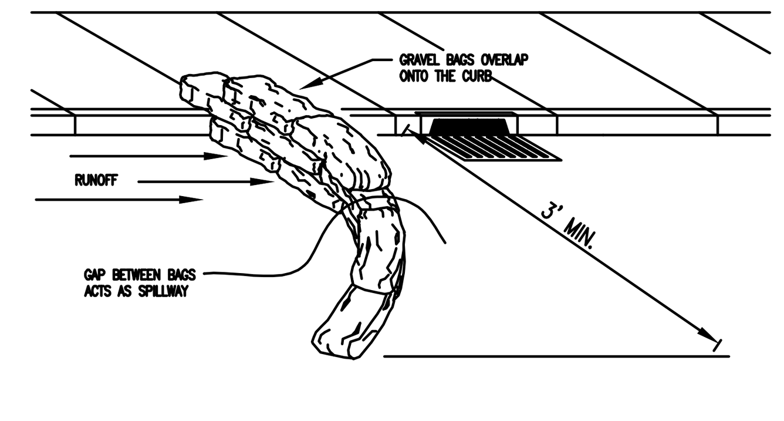
INSTALLATION:
1. GRAVEL BAGS ARE HALF FULL WITH ROCK LARGER THAN THE INLET GRATE AND PACKED CLOSE TOGETHER TO ELIMINATE GAPS.
2. LAY BAGS TIGHTLY END TO END.
3. OVERLAP THE UPPER LAYER OF BAGS OVER THE LOWER LAYER. LEAVE A 1 BAG GAP IN THE MIDDLE OF THE TOP ROW TO SERVE AS A SPILLWAY.

MAINTENANCE:
1. INSPECT WEEKLY AND AFTER EACH STORM EVENT.
2. IF BAG DETERIORATES OR IS DAMAGED, REBAG OLD BAG WITH CONTENTS INTO A NEW BAG.
3. REPAIR OR REPLACE BAG IF DAMAGED BY VEHICULAR TRAFFIC.
4. REMOVE SEDIMENT BUILDUP WHEN IT REACHES 1/2 OF THE BARRIER HEIGHT. DO NOT FLUSH SEDIMENT. DEPOSIT SEDIMENT WHERE IT WILL NOT ENTER THE STORM DRAINS.

FOR INLETS THAT ARE AT LOW POINTS

GRAVEL BAG CURB INLET PROTECTION

NOT TO SCALE – PRACTICE 3.66 (B)



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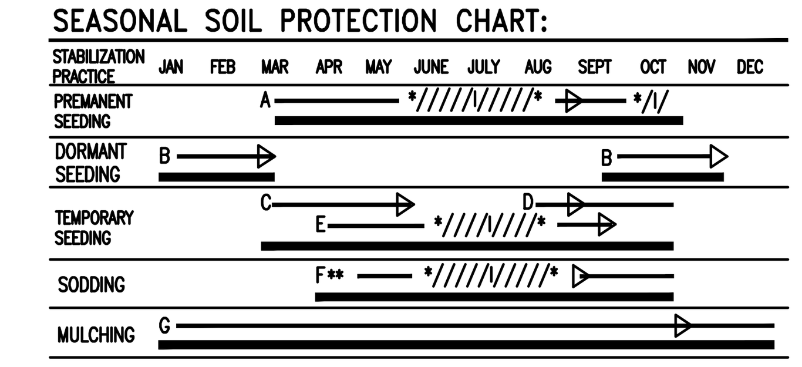
GRAVEL BAG CURB INLET PROTECTION

NOT TO SCALE – PRACTICE 3.64

SEASONAL SOIL PROTECTION CHART:



A = KENTUCKY BLUEGRASS 40 LBS/ACRE; CREEPING RED FESCUE 40 LBS/ACRE; PLUS 2 TONS STRAW MULCH/ACRE, OR ADD ANNUAL RYEGRASS 20 LBS/ACRE.

B = KENTUCKY BLUEGRASS 60 LBS/ACRE; CREEPING RED FESCUE 60 LBS/ACRE; PLUS 2 TONS STRAW MULCH/ACRE, OR ADD ANNUAL RYEGRASS 30 LBS/ACRE.

C = SPRING OATS 3 BUSHEL/ACRE

D = WHEAT OR RYE 2 BUSHEL/ACRE

E = ANNUAL RYEGRASS 40 LBS/ACRE

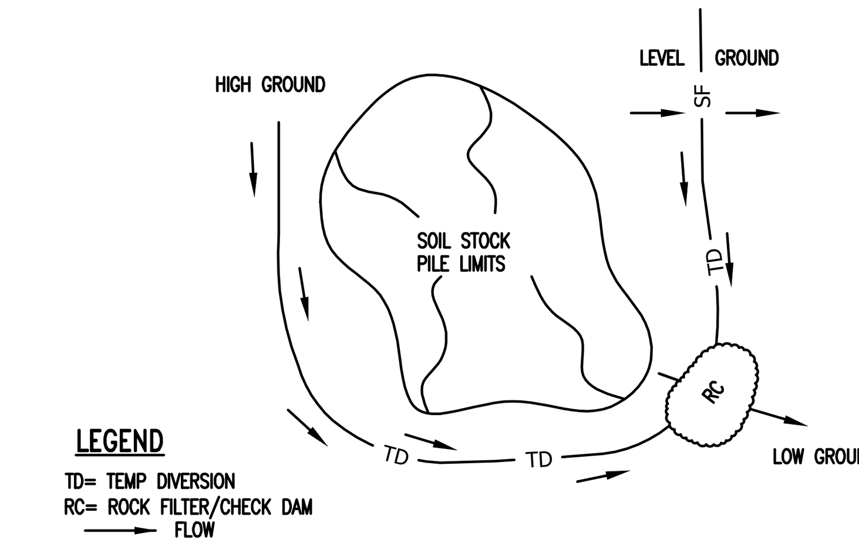
F = SOD

G = STRAW MULCH 2 TONS/ACRE

/\/ IRRIGATION NEEDED DURING JUNE, JULY, AND/OR SEPTEMBER

** IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD

SEASONAL SOIL PROTECTION CHART

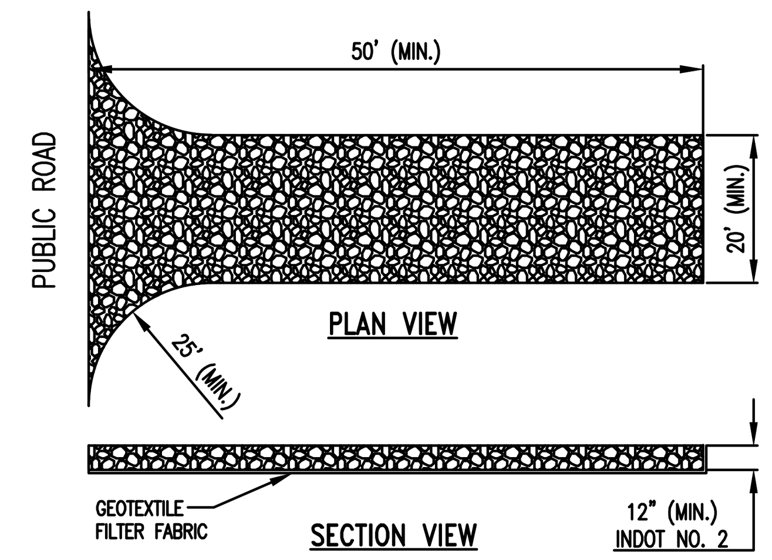


LEGEND
TD= TEMP DIVERSION
RC= ROCK FILTER/CHECK DAM
——▶ FLOW

GENERAL NOTES:
1. STOCK PILES SHALL BE LOCATED SUCH THAT EXISTING AND PROPOSED DRAINAGE PATHS ARE NOT IMPEDED.
2. WHENEVER POSSIBLE, EXCAVATED/STRIPPED SOILS SHOULD BE PLACED/GRADED TO THEIR FINAL LOCATION RATHER THAN STOCKPILED.
3. ANY STOCKPILE OR SECTION OF STOCKPILE THAT WILL NOT BE USED OR DISTURBED WITHIN 15 DAYS SHALL BE STABILIZED WITH AN ACCEPTABLE EROSION CONTROL MEASURE (FABRIC OR MULCH) AND SEEDED IMMEDIATELY.
4. THE MAXIMUM SLOPES ON ANY STOCKPILE SHALL BE 3 HORIZONTAL TO 1 VERTICAL.
5. ALL OTHER EROSION CONTROL PRACTICES SHALL BE INSTALLED ACCORDING TO THE APPRORIATE DETAIL AND GUIDE LINES SHOWN AND IN ACCORDANCES WITH THE INDIANA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS FROM THE DIVISION OF SOIL CONSERVATION, INDIANA DEPARTMENT OF NATURAL RESOURCES.

TYPICAL SOIL STOCKPILE EROSION CONTROLS

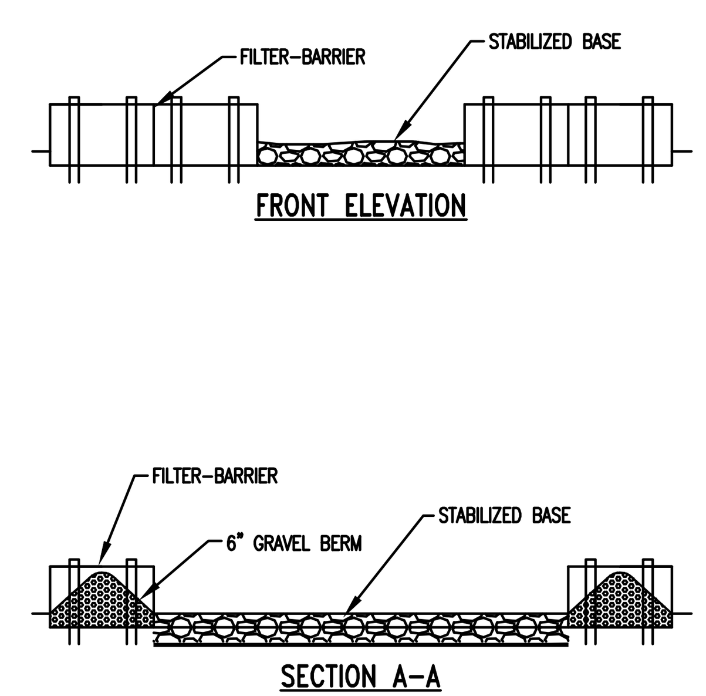
NOT TO SCALE

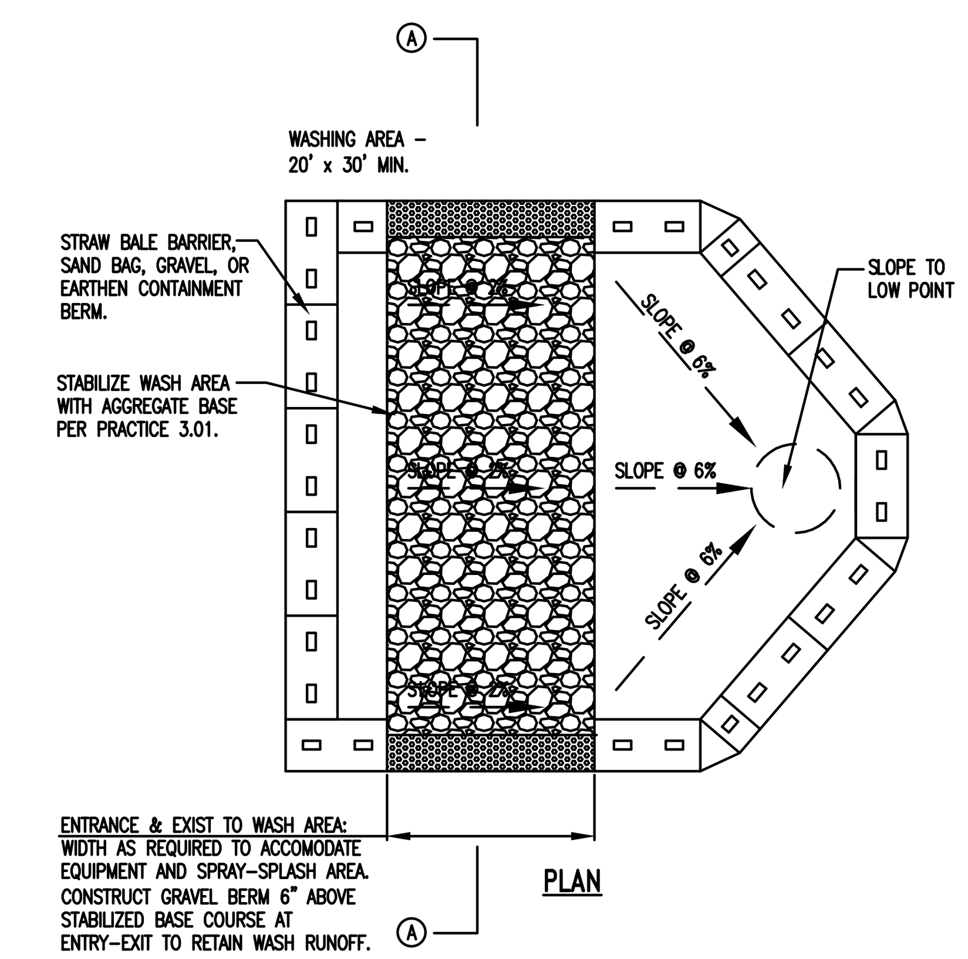


MAINTENANCE:
1. INSPECT WEEKLY, AND AFTER EACH STORM EVENT OR HEAVY USE.
2. RESHAPE AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE AS REQUIRED. MAINTAIN MINIMUM DEPTH THROUGHOUT CONSTRUCTION.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY SWEEPING OR BRUSHING. (DO NOT FLUSH AREA WITH WATER.)
5. REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

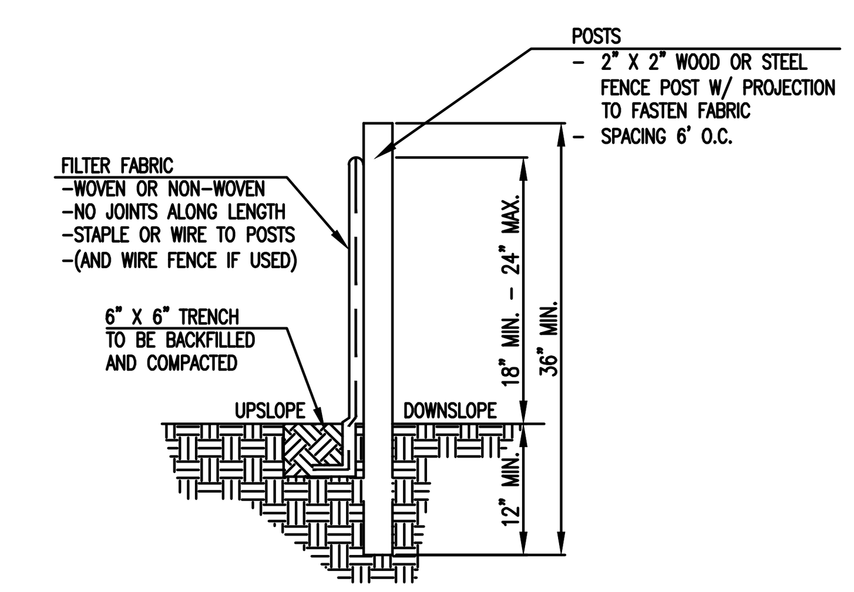
NOT TO SCALE – PRACTICE 3.0





CONCRETE WASHOUT AREA

NOT TO SCALE – PRACTICE 3.01–B

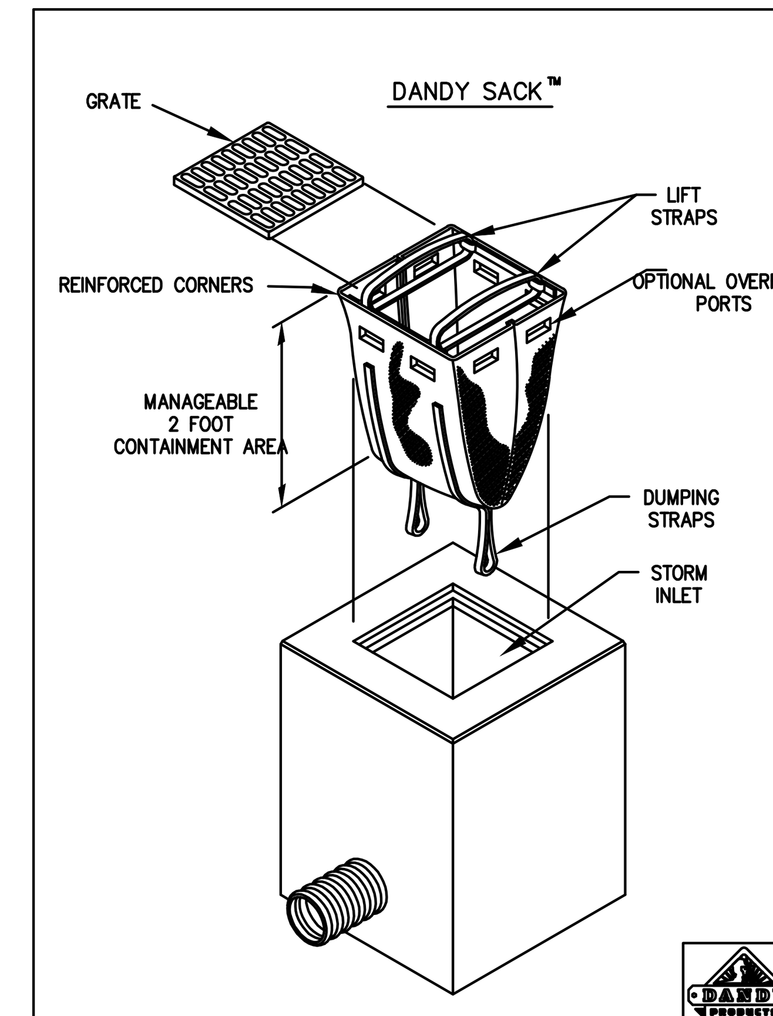


INSTALLATION:
1. THE BOTTOM 1' OF THE FENCE SHALL BE BURIED IN THE TRENCH ON THE UPSLOPE SIDE.
2. FENCE SHALL BE INSTALLED ALONG LEVEL GRADES, NOT ACROSS FLOW CHANNELS.
3. IF OPTIONAL SUPPORT WIRE FENCE IS USED, POST SPACING MAY BE EXTENDED TO 8' O.C.

MAINTENANCE:
1. INSPECT SILT FENCE PERIODICALLY (WEEKLY) AND AFTER EACH STORM EVENT.
2. IF FABRIC IS TORN OR DAMAGED OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE, OR IT IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE NOT TO UNDERMINE THE FENCE DURING SEDIMENT REMOVAL.
5. AFTER THE CONTRIBUTING AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND REMAINING SEDIMENT, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.

SILT FENCE SECTION

NOT TO SCALE – PRACTICE 3.74



DETAIL OF INLET SEDIMENT CONTROL DEVICE

PROJECT:		DR. BY:
CITY/STATE:	DATE:	DR. NO:

DANDY SACK™
SPECIFICATIONS

NOTE: THE DANDY SACK™ WILL BE **MANUFACTURED IN THE U.S.A.** FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

REGULAR FLOW DANDY SACK™ (BLACK)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4833	kN (lbs)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	5506 (800)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.67 (150) x 0.73 (165)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	$1/min/m^2$ ($gal/min/ft^2$)	2852 (70)
Permittivity	ASTM D 4491	Sec^{-1}	0.90

HI–FLOW DANDY SACK™ (SAFETY ORANGE)

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	1.62 (365) X 0.89 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 X 10
Puncture Strength	ASTM D 4833	kN (lbs)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.51 (115) X 0.33 (75)
UV Resistance	ASTM D 4355	%	90
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	$1/min/m^2$ ($gal/min/ft^2$)	5907 (145)
Permittivity	ASTM D 4491	Sec^{-1}	2.1

*Note: All Dandy Sacks™ can be ordered with our optional oil absorbent pillows

BRIAN A. BULLOCK REGISTERED No. 10302366 STATE OF INDIANA PROFESSIONAL ENGINEER
Certified by: BRIAN A. BULLOCK 02/21/23

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BLN
BEAM·LONGEST·NEFF

PUBLIC WORKS PROJECT NO. 84003001-22-058-C1
CLEAR CREEK WELCOME CENTER
VIGO COUNTY, INDIANA

STATE OF INDIANA
DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
ROOM W467, INDIANA GOVERNMENT CENTER SOUTH
402 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA 46204
317-232-3000

Revisions:

Project Number: 84003001-22-058-C1
Requisition Number:
Account Number:
Designer: BAB
Drawing Date: 02/21/23
Drafter: OMV
Drawing Scale: NA
DAPW Approval:
Client Approval:
Reference Number: 220005
Building Reference:
Drawing Number: C401

Last Saved By: ovegvary Printed:2/22/23
P:\220005–JSE I70 Clear Creek Rest Stop\06WRD\5 – Drawings\220005.EC.dwg Feb 22, 2023–9:24:04 am

STORM WATER POLLUTION PREVENTION PLAN (SWP3)

CONSTRUCTION PLAN ELEMENTS

A1 Index of the location of required plan elements in the construction plan
- A Plan Index is provided on G101 All other SWPPP elements can be found on this sheet, the erosion control plan, and erosion control detail sheets.

A2 A vicinity map depicting the project site location in relationship to recognizable local landmarks, towns, and major roads
An overall project vicinity map is provided on G102.

A3 Narrative of the nature and purpose of the project
This project will extend sanitary service to an existing rest area on I–70 about 3 miles southwest of the Town of West Terre Haute. The full scope of the project is as depicted and described by the sheets within this plan set and accompanying project specifications.

A4 Latitude and longitude to the nearest fifteen (15) seconds
The project site is approximately located at Latitude 39°26'30"N and Longitude 87°30'00"W.

A5 Legal description of the project site
Section(s): 34, 35, 56
Township(s): 10N
Range(s): 12W
Civil Township(s): Sugar Creek
County: Vigo

A6 11 X 17–inch plat showing building lot numbers/boundaries and road layout/names
Individual building lots and/or new roadways will not be created for this project. The nature of this utility project does not require a plat to be prepared or recorded.

A7 Boundaries of the one hundred (100) year floodplains, floodway fringes, and floodways
This project is located within Zone X. There are no floodplains, floodway fringes, or floodways to depict on the plans.

A8 Land use of all adjacent properties
North: I–70
South: Forested, residential
West: Forested, residential, I–70
East: Forested, residential

A9 Identification of a U.S. EPA approved or established TMDL
This project is within the Clear Creek watershed. TMDLs have not been established for Clear Creek.

A10 Name(s) of the receiving water(s)
Wabash River is the ultimate downstream receiving water for the project site, but it is highly unlikely any pollutants or sediment–laden runoff will travel far enough downstream to reach Wabash River.

A11 Identification of discharges to a water on the current 303d list of impaired waters and the pollutant(s) for which it is impaired
There will be no discharges to any waters on the 303(d) list. Clear Creek is on the 303(d) list in Hendricks and Putnam counties, but not in Vigo county where this project will take place.

A12 Soil map of the predominant soil types
See "Exhibit 1 – Soils Map" and "Table 1 – Soils Data" on this sheet for soil information..

A13 Identification and location of all known wetlands, lakes and water courses on or adjacent to the project site (construction plan, existing site layout)
Watercourses that cross the project site are indicated by existing contours and labels on the plans. Impacts to these watercourses will be avoided by trenchless utility installation well below the stream bed of each creek.

A14 Identification of any other state or federal water quality permits or authorizations that are required for construction activities.
A 401 Permit is not required for this project since there is no fill, excavation, or disturbance within Waters of the United States.
A 404 Permit is not required for this project since there is no fill, excavation, or disturbance within Waters of the United States.
A Construction in a Floodway permit is not required for this project since there will be no fill, excavation, or disturbance within the floodway of any stream.
A NPDES Permit is not required for this project.
A Water Main Extension NOI is not required for this project.
A Sanitary Sewer Construction permit is being pursued through IDEM.

A15 Identification and delineation of existing cover, including natural buffers
The existing ground cover and location of paved and unpaved areas is depicted within the plan sheets.

A16 Existing topography at a contour interval appropriate to indicate drainage patterns
The existing contours and drainage patterns are depicted within the plan sheets.

A17 Location(s) of where run–off enters the project site
Existing drainage patterns will be maintained during and after construction to the greatest extent possible. No major earthwork or drainage operations are planned as part of this project. The majority of the work will be trenchless utility installation to minimize surface impacts.

A18 Location(s) of where run–off discharges from the project site prior to land disturbance
Existing drainage patterns will be maintained during and after construction to the greatest extent possible. No major earthwork or drainage operations are planned as part of this project. The majority of the work will be trenchless utility installation to minimize surface impacts.

A19 Location of all existing structures on the project site
The locations of all known existing structures and utilities are depicted within the plan sheets.

A20 Existing permanent retention or detention facilities, including manmade wetlands, designed for the purpose of stormwater management
There are no existing retention or detention facilities within the project limits.

A21 Locations where stormwater may be directly discharged into ground water, such as abandoned wells, sinkholes, or karst features
No wells, sinkholes, karst features or other direct drainage paths to ground water exist within the limits of this project.

A22 Size of the project area expressed in acres
The gross project area as delineated by the construction limits is noted on the erosion control plan sheet.

A23 Total expected land disturbance expressed in acres
The disturbed land area for this project is noted on the erosion control plan sheet.

A24 Proposed final topography
Proposed contours for the project are depicted within the plan sheets. Grading work at the rest area site will be by others. The utility installation will not significantly impact existing topography. Trenchless installation will be utilized where possible to minimize surface impacts.

A25 Locations and approximate boundaries of all disturbed areas
The boundaries of the this project's disturbed areas are depicted within the plan sheets.

A26 Location, size, and dimensions of all stormwater drainage systems, such as culverts, storm sewers, and conveyance channels
This sanitary project is not proposing any new drainage systems. Stormwater improvements at the rest area site will be by others.

A27 Locations of specific points where stormwater and non–stormwater discharges will leave the project site
All runoff will continue to utilize existing drainage paths during and after construction. No significant changes are planned to site topography.

A28 Location of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas
See plan sheets for location of all proposed improvements.

A29 Location of all on–site soil stockpiles and borrow areas
No soil stockpiles are planned due to the nature of the project (utility installation, primarily trenchless).

A30 Construction support activities that are expected to be part of the project
Construction Waste Collection

A31 Location of any in–stream activities that are planned for the project including, but not limited to stream crossings and pump grounds.
No in–stream work or activities are planned or anticipated for this project

TABLE 1 - SOILS DATA							
SOIL ID/CODE	SOIL GROUP	HYDROLOGIC GROUP	FLOODING	DEPTH TO RESTRICTIVE LAYER	DEPTH TO WATER TABLE	EROSION CONTROL FACTOR K	EROSION CONTROL FACTOR T
Wx	Whitaker	B/D	None	>79"	15"	0.37	5
AlB2	Alford	B	None	>79"	>79"	0.43	5
Ge	Genesee	B	Frequent	>79"	48"	0.37	5
HkF	Hickory	B	None	>79"	>79"	0.28	5
MuB2	Muren	B/D	None	>79"	18"	0.43	5

STORM WATER POLLUTION PREVENTION PLAN (SWP3)

EROSION AND SEDIMENT CONTROL / PROJECT SITE MANAGEMENT

B1 Construction Potential Pollutant Sources
The main sources of pollution during construction will be silt, construction materials, and petroleum products used in construction equipment. Erosion and sediment control measures will be put in place before construction begins to minimize the possibility of silt entering stormwater. The contractor is to cover all material storage areas before any expected rainfall event to prevent pollution of stormwater from construction materials. The contractor is to maintain a fueling and servicing area to minimize the danger of pollutants entering stormwater from construction equipment. Instructions for the fueling and servicing area are provided within the spill prevention sections of this SWPPP.

B2 Stabilized Construction Entrance
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B3 Temporary and Permanent Stabilization
Refer to the Erosion Control Plan Sheets , Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B4 Sediment Control for Concentrated Flow Areas
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B5 Sediment Control for Sheet Flow Areas
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B6 Runoff Control Measures
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B7 Stormwater Outlet Protection
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B8 Grade Stabilization
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B9 Dewatering Applications
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B10 Work Within Water Bodies
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B11 Stormwater Quality Maintenance
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

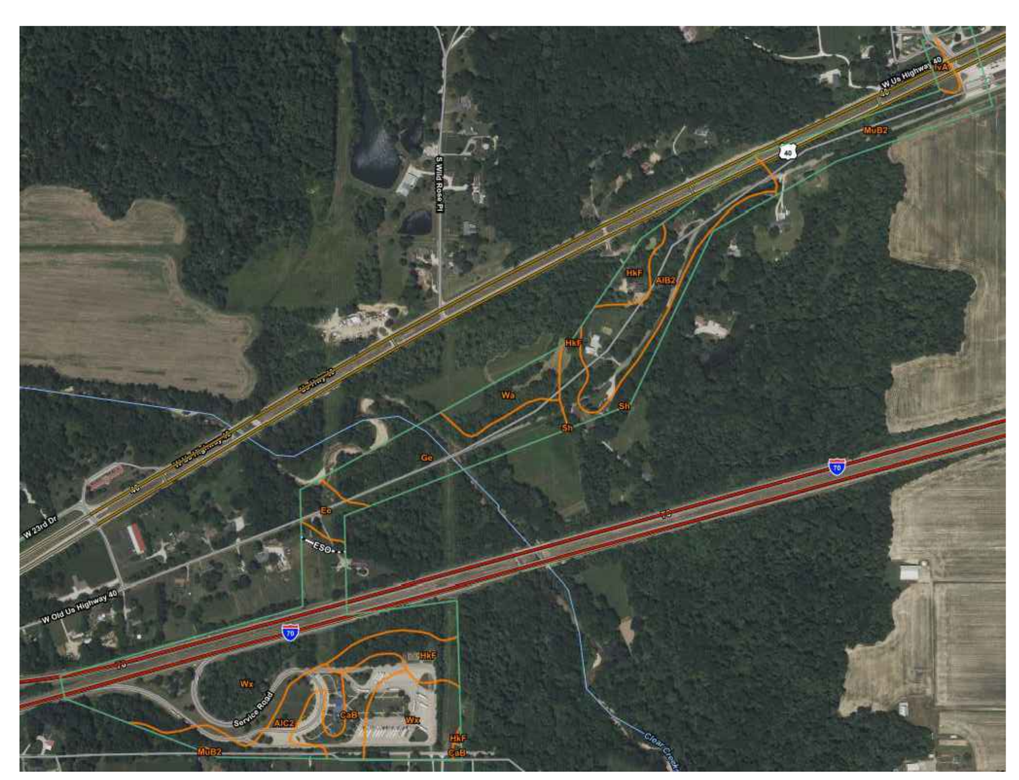
B12 Planned Construction Sequence
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

B13 Provisions for Individiual Residential Lots
The Erosion and Sediment Control Practices pertain to the entire project site. There are no individual building lots for this project.

B14 Material Handling and Spill Prevention
The contractor shall provide a central area for fueling and servicing of equipment. This area shall be contained with a row of staked straw bales around the perimeter. Secondary containment in the form of drip pans or drop cloths shall be used to contain any spills. The contractor shall maintain a supply of oil–absorbent material to clean up any small spills that may occur. Used absorbent material shall be removed from the site and disposed of in accordance with the laws of the State of Indiana. Refer to the Spill Prevention Plan located on this sheet for additional information.

B15 Material Handling and Storage Procedures
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

EXHIBIT 1 – SOILS MAP



STORM WATER POLLUTION PREVENTION PLAN (SWP3)

POST CONSTRUCTION COMPONENTS

C1 Potential Pollutant Sources
The majority of the post construction potential pollutant sources for this project are oil, grease, antifreeze, brake fluid, brake dust, rubber fragments, gasoline, and other hydrocarbons from vehicles. Other potential pollutants could include sediment from wearing of the road surface and washing or falling off of vehicles, trash from littering and other types of improper disposal and storage, and elevated receiving water temperatures from stormwater runoff contact with impervious surfaces.

C2 Post Construction Stormwater Quality Measures
This project was designed to minimize pollutants and the impact on the receiving waters and the surrounding environment. All storm water associated with this project is collected through proposed swales and a storm sewer system that drain into an existing detention pond which will treat the stormwater runoff prior leaving the pond. The existing detention pond was Master Plan designed to be used as the water quality measure for the project area.

C3 Plan Details for Stormwater Measures
Refer to the Erosion Control Details sheet.

C4 Sequence of Stormwater Measure Implementation
Refer to the Erosion Control specifications on this sheet.

C5 Maintenance Guidelines for Post–Construction Stormwater Measures
Refer to the Erosion Control Plan Sheets, Erosion Control Detail Sheets and the Erosion Control Specifications for information regarding this topic.

C6 Entity Responsible for Post–Construction Stormwater Measure Maintenance and Operation
INDOT will be the responsible entity for all post–construction maintenance and operations.

MAINTENANCE / INSPECTION SCHEDULE

1. The inlet protection will need to be monitored and cleaned once a month or after each storm event.
2. The Contractor is responsible for all installation and maintenance of erosion control.

ITEM DESCRIPTION	INTERVAL
Inspection of Embankment	Annual Inspection and/or after major storm events
Inspection of Outlet Structures / Riprap	Monthly Inspection and/or after major storm events
Inspection of Stormwater Inlets	Inspect Monthly

MAINTENANCE / INSPECTION LIST

ITEM DESCRIPTION	SATISFACTORY/ UNSATISFACTORY	ACTION TAKEN/ COMMENTS
1. CONDITION OF EMBANKMENT		
Healthy vegetation with at least 85% ground cover		
No signs of erosion on embankment		
No animal burrows		
Embankment is free of cracking, bulging or sliding		
Embankment is free of woody vegetation		
Embankment is free of leaks or seeps		
No slope protection failure		
2. CONDITION OF OUTLET STRUCTURES		
Low flow outlet free of obstruction		
Flared End Section not blocked or damaged		
Outlet pipe is not blocked and is in good condition		
Outfall channels are stable and free of scouring		
Riprap is good condition and not sediment laden		
3. CONDITION OF INLET STRUCTURES		
No riprap failures		
No evidence of slope erosion or scouring		
Inlet storm pipes are in good condition		
Inlet storm pipes are not clogged and are operational		
Endwalls/Headwalls/End Sections are in good condition		
Inlet grates are free of obstructions		
Inlet bottoms are free of debris and sediment		

EROSION CONTROL SPECIFICATIONS

A. SCOPE OF WORK

1. The work required under this section includes erosion and sediment control measures for construction activities as required by local, state and federal jurisdictions including by not limited to County Soil & Water Conservation District, Local MS4, Indiana Deptartment of Environmental Management and the Environmental Protection Agency.

B. MATERIALS

1. Materials required for this section are provided under the Stormwater Pollution Prevention Plans, Erosion & Seditment Control Notes, and Details.

C. GENERAL

1. This plan is designed as an attempt to prevent any and all sediment from leaving the construction site by way of erosion. If erosion of sediment from the site is taking place, the owner shall take preventative action immediately. The Engineer shall be consulted in the event this happens.
2. Temporary seeding is to be applied within 7 days if no work is anticipated in an area of disturbed soil within 15 days.
3. Permanent seeding is to be applied immediately to areas that have achieved final and finished grade.
4. Preserve existing vegetation on the site whenever and wherever possible to prevent topsoil erosion.
5. All sediment capturing measures are to be implemented prior to the disturbance of the construction area they are intended to service.
6. All erosion control measures proposed are to be properly maintained to continue their effectiveness.
7. If grading occurs during December, January or February dormant seeding procedures shall be used.
8. During dry weather, keep lawns watered with sprinklers or other approved methods. Reseed any areas not germinating or damaged at intervals as may be required according to seasonal condition and/or construction activity. Water grass and execute necessary weeding until full stand of grass has been obtained.
9. The implementation and maintenance of the erosion control is the sole responsibility of the contractor and/or owner.
10. It shall be the Contractor's and/or Owner's responsibility to minimize sedimentation (from on–site construction activities) from being deposited onto adjacent properties and receiving streams/ditches in strict compliance with the United States Environmental Protection Agency (U.S. EPA) and the Indiana Department of Environmental Management (IDEM) Storm Water Phase II criteria. It shall also be the Contractor's and/or owner's responsibility to obtain any approvals required from the local authority having jurisdiction and to submit a complete Notice of Intent form to the Indiana Department of Environmental Management (IDEM) prior to the start of any construction activity.
11. Provide 12" Minimum of INDOT #2 crushed stone on filter fabric construction entrance(s) to site from streets/roads. See details for additional information.
12. Contractor shall at all times insure that erosion control measures protecting existing drainage facilities be in place prior to the commencement of any phase of construction or land alteration activity.
13. As soon as areas are brought to finish grade or new drainage facilities are constructed, contractor shall construct the applicable erosion control measures required by and delineated on the approved plan.
14. During site construction activity, the contractor shall:
    a. Construct all perimeter silt barriers.
    b. Install and maintain clean crushed stone at all construction entrances/exits to the site and any areas used for parking.
    c. Prevent construction silts from leaving the site at all times and place excavated materials away from any direct drainage flow runoff from the site.
15. Temporary vegetation shall be installed within 7 days following completion of any phase of grading.
16. Contractor shall inspect all erosion control measures daily and repair as necessary to prevent erosion. Siltation shall be removed from areas where failures have occurred and corrective action shall be taken within 24 hours to maintain all erosion control.
17. Perimeter siltation barriers shall be maintained at all times.
18. At such time that rough grading of the site is complete and drainage diverts to inlets, inlet erosion control measures shall be installed at all inlet structures to keep piping systems free of siltation.
19. Erosion control measures, construction entrances and siltation barriers shall remain in place until a good stand of grass has been obtained and/or paving operations are complete. After this has been accomplished, all silt in pipes, detention facilities and swales shall be removed within 10 days so that finished grades are met.
20. Once construction is complete and prior to the contractor handing over the project to the owner, the contractor shall clean all debris, pollutants, and sediment from the detention pond and forebay.

SPILL PREVENTION PLAN

All fueling and servicing of vehicles on site will be conducted near the construction entrance/staging area. This area shall be contained with a row of staked straw bales around the perimeter. Secondary containment in the form of drip pans or drop cloths shall be used to contain any spills. The contractor shall maintain a supply of oil–absorbent material to clean up any small spills that may occur. Any spillage will be removed immediately. Used absorbent material shall be removed from the site and disposed of in accordance with the laws of the State of Indiana. Contaminated soils will be placed on heavy plastic and covered or placed into approved containers to prevent contact with storm water. All fuel tanks will be in the containment area. Oils, other vehicle fluids, paints and solvents will be stored in the construction trailer. Any spill in excess of two gallons will be reported to a representative of the contractor.

If a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302 occurs during a 24–hour period, the contractor will immediately notify the permittee who shall then notify the following:
National Response Center (NRC) (800–424–8802)
Indiana State Emergency Management Agency (317–232–3986)
the Local/County Emergency Management Agency
the Local Fire Department (911)
the Local/Municipal Engineering Department.
Also, the engineer will prepare a revision to this document to identify measures to prevent the reoccurrence of such releases.

Concrete trucks will wash out at the designated area near the construction entrance. The contractor shall take care to insure that no waste materials are discharged into the waters of the state. Each contractor is responsible to provide litter control for trash generated by his crew. All trash including but not limited to; solid waste, paint cans, oil cans, used oil and filters will be contained and disposed of by the contractor in accordance with the laws and regulations of the State of Indiana and Local/County requirements.

The contractor shall furnish and maintain sanitary facilities for this project. The facilities shall be cleaned as necessary and the waste materials shall be disposed of in accordance with the laws and regulations of the State of Indiana and Local/County requirements.

GENERAL EROSION AND SEDIMENT CONTROL STAGING NOTES

1. The Contractor shall schedule and hold a pre–construction meeting with the Shelby County Soil and Engineering and Stormwater – MS4 Departments prior to any construction activities.
2. All erosion and sediment control practices shall be in accordance with the Indiana Stormwater Quality Manual, Indiana Department of Environmental Management, and the Sheblyville Stormwater Design Manual and Standards.
3. The Notice of Intent (NOI) and public notice for the project, along with the Governing Municipality Erosion County Permit, shall be posted on a sign installed at or near the site contstruction entrance. The NOI shall list the contact information for the site contact person. The sign and information shall be maintainted and remain leglible throughout construction.
4. A copy of this Erosion and Sediment Control Plan and the Erosion and Sediment Control Report shall be available at the project site throughout the entire construction period.
5. The contractor shall control waste, garbage, debris, wastewater, and other substances on the site so they will not be transported from the site by the action of wind, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building material appropriate to the nature of the waste or material is required.
6. Public or private roadways shall be kept clear of accumulated sediment. All sediment that is cleared must be returned to the likely point of origin or other suitable location. Clearing of large amounts of sediment shall not include flushing the area with water.
7. Minimize the exposure of bare earth by limiting the work area to that necessary to perform the work, and by proper scheduling of manpower and equipment.
8. All erosion and sediment control measures shall be inspected, cleaned, and maintained following each storm event of 0.5 inches or greater.
9. Wherever possible, maintain existing vegetative cover. Use non–vegetative material including mulch, erosion blankets, or stone to control erosion from disturbed areas.
10. A log shall be maintained of all inspections (weekly, and following storm events), maintenance and repair of erosion and sediment control measures. The log shall be maintained on site and be available upon request to the owners representatives and the operating authorities having jurisdiction over the site.
11. The following erosion control measures shall be in place prior to any land disturbing activities:
    11.1. Create a stabilized construction entrance
    11.2. Install Temporary Inlet Protection Measures on existing storm inlets.
    11.3. Install Temporary Silt Fence and/or Silt Sock Protection as shown on approved plans
    11.4. Install Temporary Concrete Washout
12. Once land disturbing activities begin, the following practices shall be provided:
    12.1. Once earth disturbing activities begin, the adjacent roadways, drives, parking lots, etc., shall be continuously monitored for sediment tracking. If sediment is found, immediate action is required to clean the offsite areas and the current erosion control practices will need to be inspected and modified accordingly to prevent any further sediment from leaving the project site.
    12.2. Once the new storm structures/pipes are is in place, the appropriate type of inlet protection measures shall be placed.
    12.3. Continued monitoring of all exposed areas shall be performed in order to verify the surrounding areas are not becoming sediment laden from construction activities onsite.
    12.4. As the construction occurs, disturbed areas shall be stabilized as soon as they are at finished grade or will be left bare for more than 15 days.
    12.5. Provide final grade stabilization upon final grading of all areas including erosion control blanketing, seeding and sodding as appropriate.
    12.6. Storm sewers shall be jet/vacuumed to remove silted materials in the event they become silted from construction activities onsite.
    12.7. Silt fence shall be installed prior to any privacy fence removal. New privacy fence shall be installed before any silt fence is removed.
13. Whenever possible, erosion and sediment control measures shall be constructed and installed prior to performing other earth disturbing activities.
14. Minimize erosion from exposed areas by providing and maintaining temporary or permanent stabilization measures. Erosion control measures to protect exposed areas shall be installed at the end of the day's work or within 24 hours of the completion of the earth disturbing activity, as applicable for the type of measure.
15. All disturbed areas shall be seeded and/or stabilized upon completion of the earth disturbing activity.
16. All graded areas (lawns, banks, mounds, etc.) with slopes equal to or steeper than 6h:1v shall be stabilized with an erosion control blanket unless noted otherwise. All constructed swales channels shall be stabilized with an erosion control blanket to the top of the bank. Soil stockpiles shall be seeded and mulched to minimize erosion.
17. All other lawn and planting areas shall be seeded and stabilized with an anchored, crimped or tackified mulch and seed mixture.
18. Areas to be paved shall be stabilized with a temporary stone cover. The temporary stone stabilization shall be equivalent to the proposed stone sub–base material. Adequate sub–base depths shall be maintained during construction, verified and restored, if necessary, prior to final paving. Stone stabilization shall be installed per the paving specifications and details.
19. Install pipe and grate inlet protection measures and pipe outlet protection as new pipes or pipe extensions are installed. Limit excavation to the work that can be performed that day. Trenches shall be seeded and mulched as part of the backfill operation.
20. Install inlet protection measures to prevent debris and sediment from entering storm system. check weekly and after each storm event for debris and sediment. Clear blockages as identified. Torn, damaged or ineffective measures shall be replaced.
21. Soil stockpiles shall have appropriate perimeter protection to prevent sedimentation of the surrounding acres. Any stock pile that will not be disturbed for 15 days or longer shall be seeded and protected with mulch or erosion control blanket.
22. All disturbed areas where work will potentially cease for 15 days or longer shall be seeded and stabilized immediately upon completion of the activity.
23. Erosion and sediment control measures shall be maintained until the site has a 70% vegetative stand.
24. Once construction is complete and prior to the contractor handing over the project to the owner, the contractor shall clean all debris, pollutants, and sediment from the detention pond.

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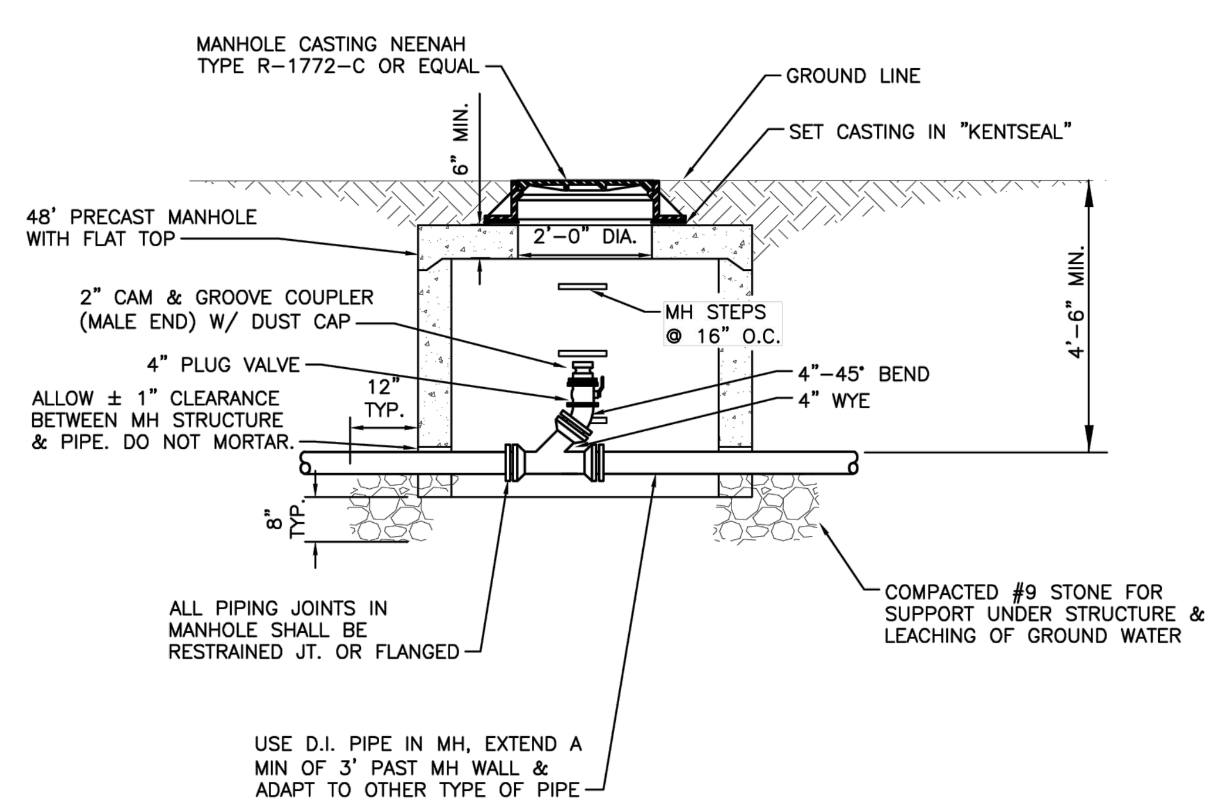
PUBLIC WORKS PROJECT NO. 84003001-22-058-C1
CLEAR CREEK WELCOME CENTER
VIGO COUNTY, INDIANA

STATE OF INDIANA
DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
ROOM W467, INDIANA GOVERNMENT CENTER SOUTH
402 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA 46204
317-232-3000

Revisions:

Project Number: 84003001-22-058-C1
Requisition Number:
Account Number:
Designer: BAB
Drawing Date: 02/21/23
Drafter: OMV
Drawing Scale: NA
DAPW Approval:
Client Approval:
Reference Number: 220005
Building Reference:
Drawing Number: C402



MANHOLE CASTING NEENAH TYPE R-1772-C OR EQUAL
GROUND LINE
SET CASTING IN "KENTSEAL"
6" MIN.
48" PRECAST MANHOLE WITH FLAT TOP
2'-0" DIA.
2" CAM & GROOVE COUPLER (MALE END) W/ DUST CAP
MH STEPS @ 16" O.C.
4'-6" MIN.
4" PLUG VALVE
4"-45° BEND
4" WYE
ALLOW ± 1" CLEARANCE BETWEEN MH STRUCTURE & PIPE. DO NOT MORTAR.
12" TYP.
8" TYP.
ALL PIPING JOINTS IN MANHOLE SHALL BE RESTRAINED JT. OR FLANGED
COMPACTED #9 STONE FOR SUPPORT UNDER STRUCTURE & LEACHING OF GROUND WATER
USE D.I. PIPE IN MH, EXTEND A MIN OF 3' PAST MH WALL & ADAPT TO OTHER TYPE OF PIPE

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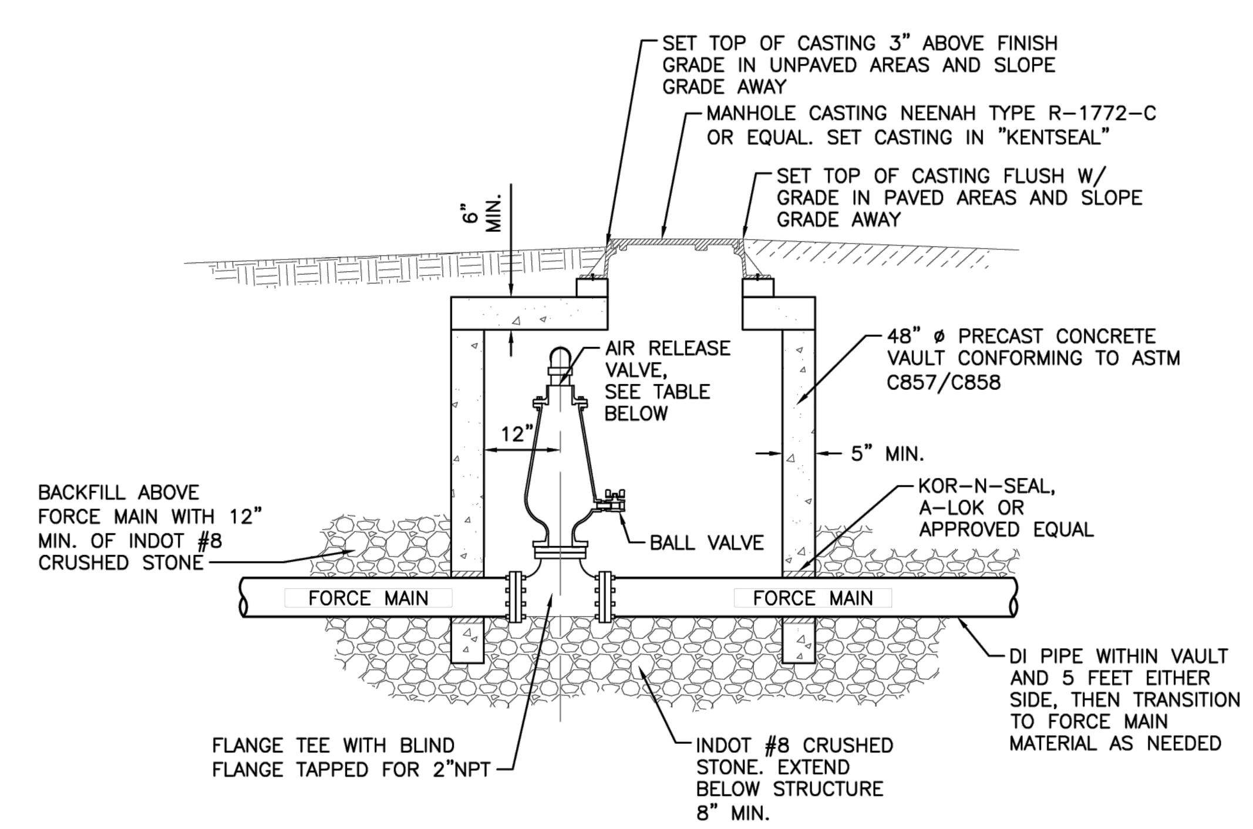
CLEAN-OUT FOR FORCE MAIN

EXHIBIT: Sani-09
SCALE: NTS
DATE: 08/2021



SET TOP OF CASTING 3" ABOVE FINISH GRADE IN UNPAVED AREAS AND SLOPE GRADE AWAY
MANHOLE CASTING NEENAH TYPE R-1772-C OR EQUAL. SET CASTING IN "KENTSEAL"
SET TOP OF CASTING FLUSH W/ GRADE IN PAVED AREAS AND SLOPE GRADE AWAY
6" MIN.
AIR RELEASE VALVE, SEE TABLE BELOW
48" ø PRECAST CONCRETE VAULT CONFORMING TO ASTM C857/C858
12"
5" MIN.
KOR-N-SEAL, A-LOK OR APPROVED EQUAL
BACKFILL ABOVE FORCE MAIN WITH 12" MIN. OF INDOT #8 CRUSHED STONE
BALL VALVE
FORCE MAIN
FORCE MAIN
DI PIPE WITHIN VAULT AND 5 FEET EITHER SIDE, THEN TRANSITION TO FORCE MAIN MATERIAL AS NEEDED
FLANGE TEE WITH BLIND FLANGE TAPPED FOR 2"NPT
INDOT #8 CRUSHED STONE. EXTEND BELOW STRUCTURE 8" MIN.

FORCE MAIN SIZE	ARV SIZE	ARV MODEL
4" ø OR SMALLER	2" ø	ARI D-025, ARI D-025L, OR EQUAL
6"-12" ø	3" ø	ARI D-025, ARI D-025L, OR EQUAL
12" ø OR LARGER	3" ø	ARI D-26 OR EQUAL

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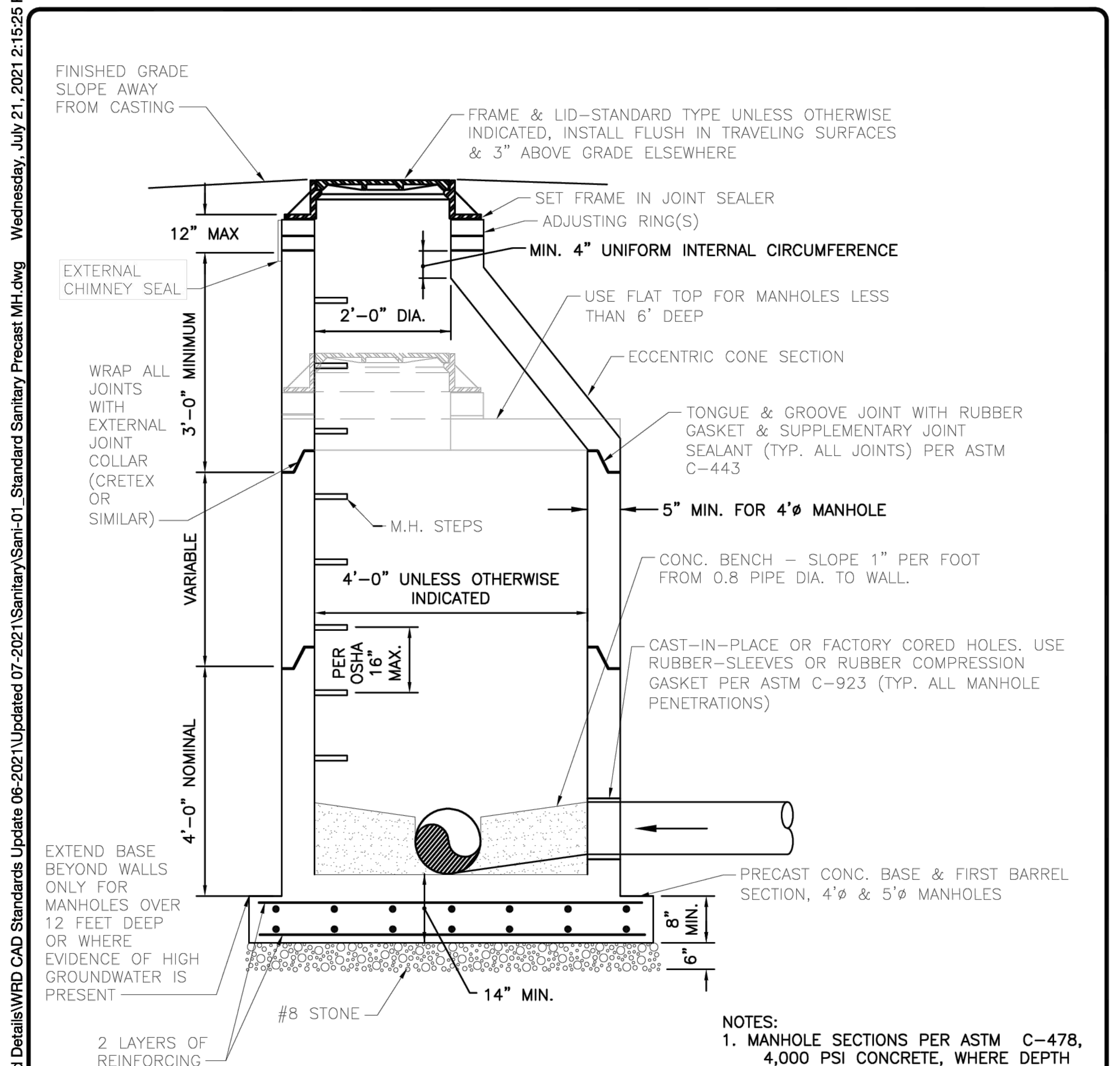
AIR RELEASE VALVE

EXHIBIT: Sani-12
SCALE: NTS
DATE: 08/2021



FINISHED GRADE SLOPE AWAY FROM CASTING
FRAME & LID-STANDARD TYPE UNLESS OTHERWISE INDICATED, INSTALL FLUSH IN TRAVELING SURFACES & 3" ABOVE GRADE ELSEWHERE
SET FRAME IN JOINT SEALER
ADJUSTING RING(S)
12" MAX
MIN. 4" UNIFORM INTERNAL CIRCUMFERENCE
EXTERNAL CHIMNEY SEAL
2'-0" DIA.
USE FLAT TOP FOR MANHOLES LESS THAN 6' DEEP
3'-0" MINIMUM
ECCENTRIC CONE SECTION
WRAP ALL JOINTS WITH EXTERNAL JOINT COLLAR (CRETEX OR SIMILAR)
TONGUE & GROOVE JOINT WITH RUBBER GASKET & SUPPLEMENTARY JOINT SEALANT (TYP. ALL JOINTS) PER ASTM C-443
M.H. STEPS
5" MIN. FOR 4'ø MANHOLE
VARIABLE
4'-0" UNLESS OTHERWISE INDICATED
CONC. BENCH - SLOPE 1" PER FOOT FROM 0.8 PIPE DIA. TO WALL
PER OSHA 16" MAX.
CAST-IN-PLACE OR FACTORY CORED HOLES. USE RUBBER-SLEEVES OR RUBBER COMPRESSION GASKET PER ASTM C-923 (TYP. ALL MANHOLE PENETRATIONS)
4'-0" NOMINAL
EXTEND BASE BEYOND WALLS ONLY FOR MANHOLES OVER 12 FEET DEEP OR WHERE EVIDENCE OF HIGH GROUNDWATER IS PRESENT
PRECAST CONC. BASE & FIRST BARREL SECTION, 4'ø & 5'ø MANHOLES
8" MIN.
6"
#8 STONE
14" MIN.
2 LAYERS OF REINFORCING

NOTES:
1. MANHOLE SECTIONS PER ASTM C-478, 4,000 PSI CONCRETE, WHERE DEPTH EXCEEDS 12', PROVIDE TWO CAGES OF REINFORCEMENT PER ASTM C-76 FOR CLASS 3 PIPE
2. PROVIDE ¼" THICK BACKPLASTER FROM FRAME JOINT TO 2" BELOW ADJUSTING RING

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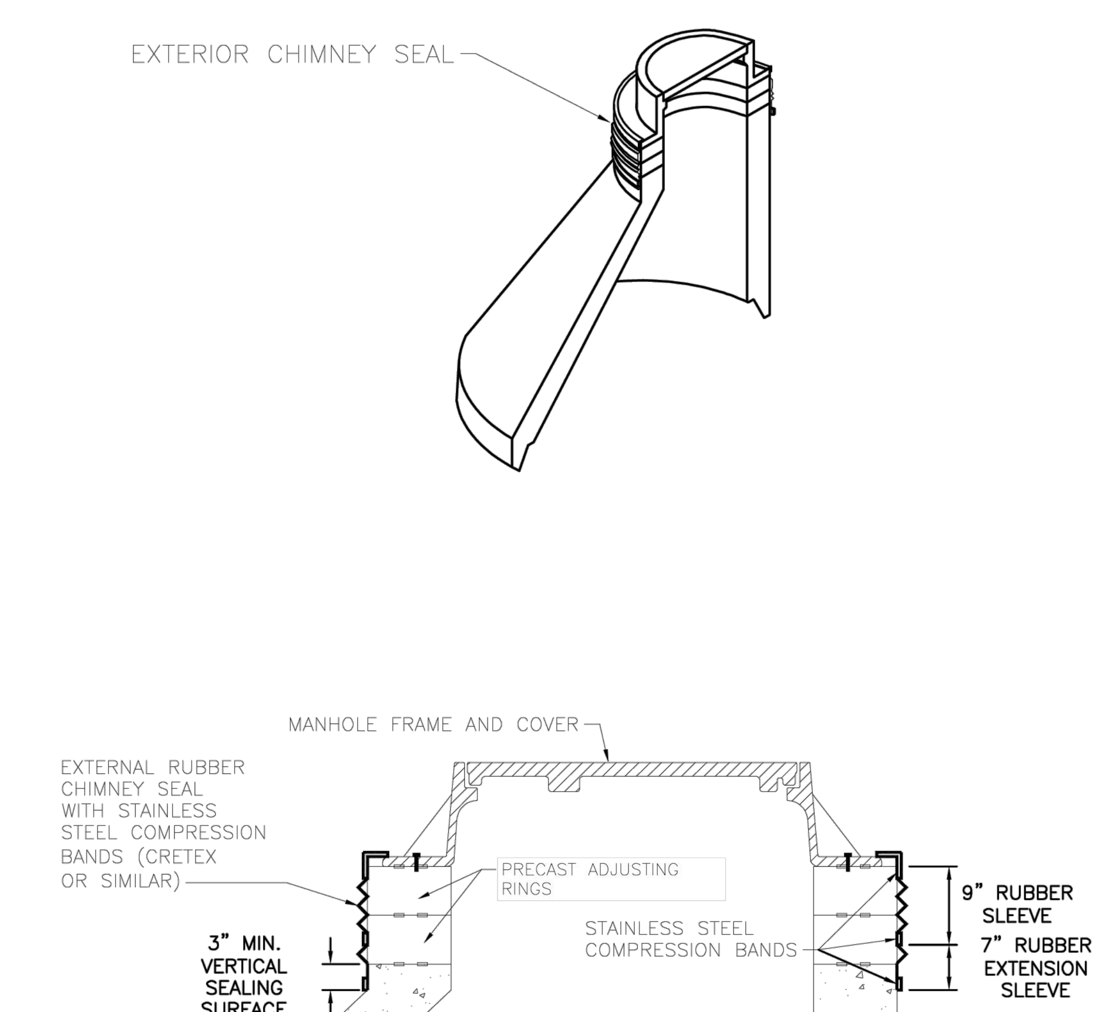
STANDARD SANITARY PRECAST MANHOLE

EXHIBIT: Sani-01
SCALE: NTS
DATE: 08/2021



EXTERIOR CHIMNEY SEAL
MANHOLE FRAME AND COVER
EXTERNAL RUBBER CHIMNEY SEAL WITH STAINLESS STEEL COMPRESSION BANDS (CRETEX OR SIMILAR)
PRECAST ADJUSTING RINGS
STAINLESS STEEL COMPRESSION BANDS
3" MIN. VERTICAL SEALING SURFACE
9" RUBBER SLEEVE
7" RUBBER EXTENSION SLEEVE

NOTES:
1. ADD RUBBER EXTENSION SLEEVES AS NECESSARY TO COMPLETELY COVER THE HEIGHT OF CONCRETE ADJUSTING RINGS. EXTERIOR CHIMNEY SEAL SHALL OVERLAP MANHOLE CONE SECTION A MINIMUM OF 3".

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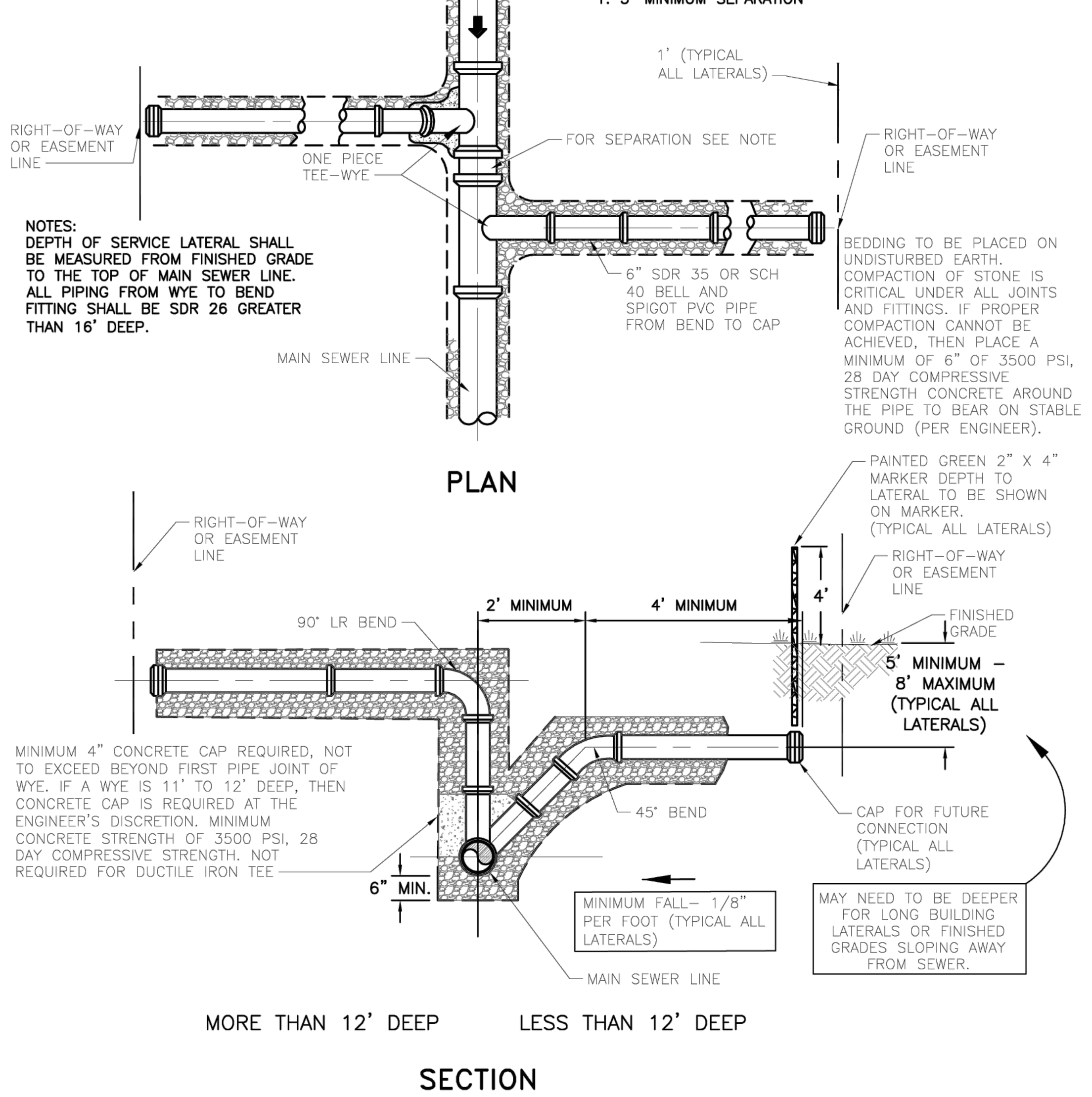
EXTERIOR CHIMNEY SEAL DETAIL

EXHIBIT: Sani-04
SCALE: NTS
DATE: 08/2021

NOTES:
SEPARATION BETWEEN WYE FITTING:
A. OPPOSITE SIDE LATERALS
1. 1' MINIMUM BELL TO BELL
2. BELL TO SPIGOT MAY BE ADJACENT
B. SAME SIDE LATERALS
1. 5' MINIMUM SEPARATION

NOTES:
DEPTH OF SERVICE LATERAL SHALL BE MEASURED FROM FINISHED GRADE TO THE TOP OF MAIN SEWER LINE. ALL PIPING FROM WYE TO BEND FITTING SHALL BE SDR 26 GREATER THAN 16' DEEP.



1' (TYPICAL ALL LATERALS)
RIGHT-OF-WAY OR EASEMENT LINE
FOR SEPARATION SEE NOTE
ONE PIECE TEE-WYE
6" SDR 35 OR SCH 40 BELL AND SPIGOT PVC PIPE FROM BEND TO CAP
BEDDING TO BE PLACED ON UNDISTURBED EARTH. COMPACTION OF STONE IS CRITICAL UNDER ALL JOINTS AND FITTINGS. IF PROPER COMPACTION CANNOT BE ACHIEVED, THEN PLACE A MINIMUM OF 6" OF 3500 PSI, 28 DAY COMPRESSIVE STRENGTH CONCRETE AROUND THE PIPE TO BEAR ON STABLE GROUND (PER ENGINEER).
MAIN SEWER LINE
PLAN
PAINTED GREEN 2" X 4" MARKER DEPTH TO LATERAL TO BE SHOWN ON MARKER. (TYPICAL ALL LATERALS)
90° LR BEND
2' MINIMUM
4' MINIMUM
FINISHED GRADE
5' MINIMUM - 8' MAXIMUM (TYPICAL ALL LATERALS)
MINIMUM 4" CONCRETE CAP REQUIRED, NOT TO EXCEED BEYOND FIRST PIPE JOINT OF WYE. IF A WYE IS 11' TO 12' DEEP, THEN CONCRETE CAP IS REQUIRED AT THE ENGINEER'S DISCRETION. MINIMUM CONCRETE STRENGTH OF 3500 PSI, 28 DAY COMPRESSIVE STRENGTH. NOT REQUIRED FOR DUCTILE IRON TEE
45° BEND
CAP FOR FUTURE CONNECTION (TYPICAL ALL LATERALS)
6" MIN.
MINIMUM FALL- 1/8" PER FOOT (TYPICAL ALL LATERALS)
MAY NEED TO BE DEEPER FOR LONG BUILDING LATERALS OR FINISHED GRADES SLOPING AWAY FROM SEWER.
MAIN SEWER LINE
MORE THAN 12' DEEP
LESS THAN 12' DEEP
SECTION

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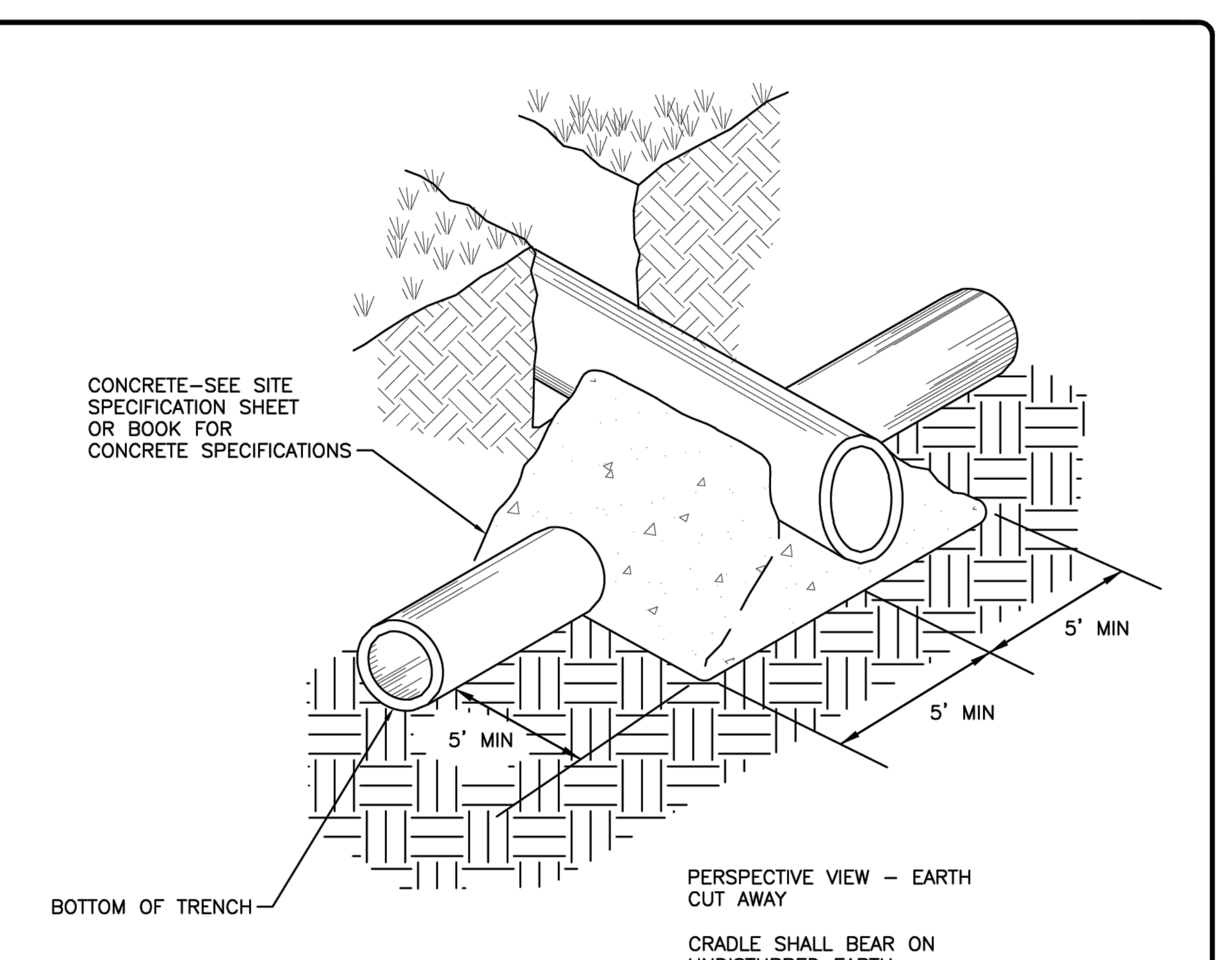
SERVICE LATERAL

EXHIBIT: Sani-11
SCALE: NTS
DATE: 08/2021



NOTE:
TO BE USED WHEN CLEAR DISTANCE (FROM EXTERIOR PIPE DIAMETER TO EXTERIOR PIPE DIAMETER) BETWEEN SANITARY SEWER PIPING (MAINS, LATERALS, FORCE MAINS, ETC.) AND ALL OTHER PIPES ARE 18" OR LESS, PER INSPECTOR'S DIRECTION, OR WHERE NOTED ON THE DRAWINGS. A MINIMUM CLEAR DISTANCE OF 6" MUST BE PROVIDED TO MAINTAIN STRUCTURAL INTEGRITY OF THE CONCRETE.

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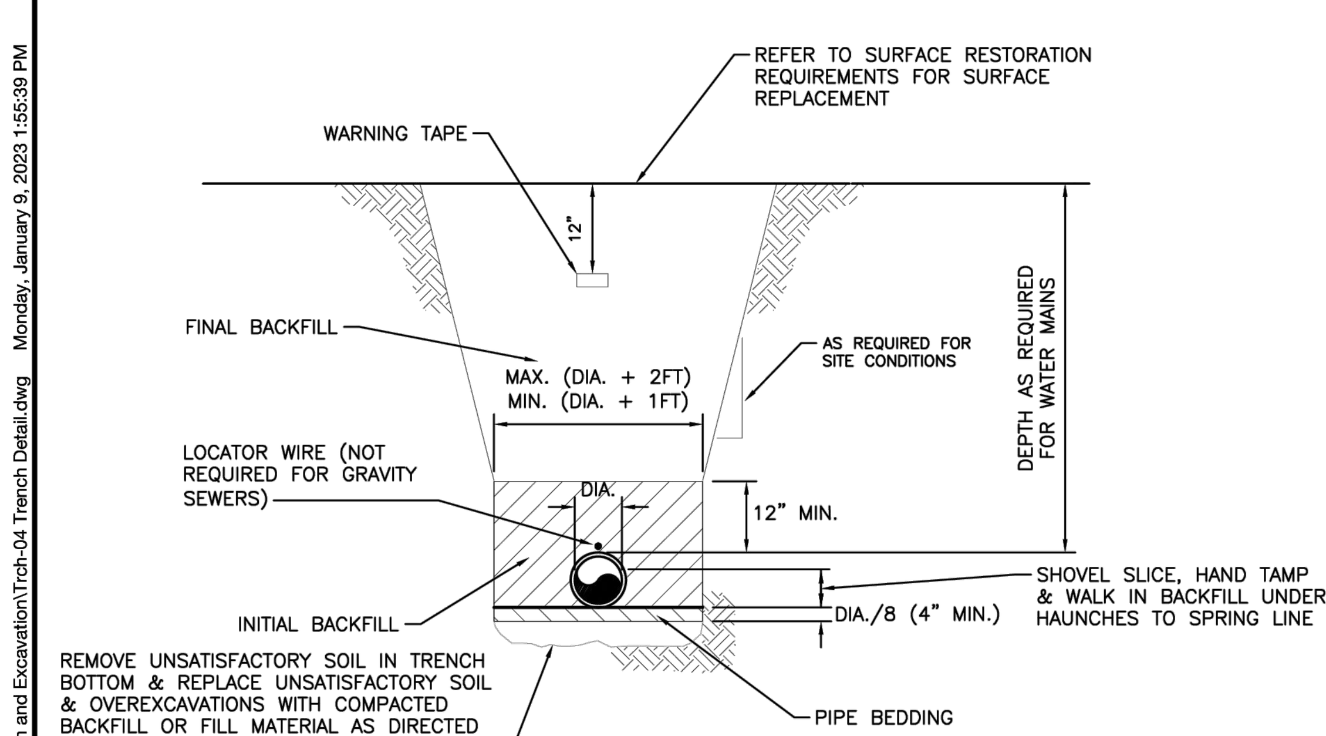
CONCRETE CRADLE DETAIL

EXHIBIT: Trch-05
SCALE: NTS
DATE: 01/2022



REFER TO SURFACE RESTORATION REQUIREMENTS FOR SURFACE REPLACEMENT
WARNING TAPE
12"
FINAL BACKFILL
AS REQUIRED FOR SITE CONDITIONS
MAX. (DIA. + 2FT)
MIN. (DIA. + 1FT)
DEPTH AS REQUIRED FOR WATER MAINS
LOCATOR WIRE (NOT REQUIRED FOR GRAVITY SEWERS)
DIA.
12" MIN.
SHOVEL SLICE, HAND TAMP & WALK IN BACKFILL UNDER HAUNCHES TO SPRING LINE
INITIAL BACKFILL
DIA./8 (4" MIN.)
REMOVE UNSATISFACTORY SOIL IN TRENCH BOTTOM & REPLACE UNSATISFACTORY SOIL & OVEREXCAVATIONS WITH COMPACTED BACKFILL OR FILL MATERIAL AS DIRECTED BY ENGINEER
PIPE BEDDING

PIPE TYPE	LOCATION	PIPE BEDDING	INITIAL BACKFILL	FINAL BACKFILL
FLEXIBLE PIPE*	UNLESS OTHERWISE INDICATED	INDOT #8 OR #9 CRUSHED STONE	INDOT #8 OR #9 CRUSHED STONE	SATISFACTORY SOIL
	UNDER OR WITHIN 5' OF ANY DRIVE OR ROADWAY	INDOT #8 OR #9 CRUSHED STONE	INDOT #8 OR #9 CRUSHED STONE	STRUCTURE BACKFILL
	UNDER SIDEWALKS OR PEDESTRIAN PATHS	INDOT #8 OR #9 CRUSHED STONE	INDOT #8 OR #9 CRUSHED STONE	CLASS I MATERIAL
	WHERE REQUIRED BY UTILITY OR RIGHT-OF-WAY OWNER	INDOT #8 OR #9 CRUSHED STONE	FLOWABLE BACKFILL	FLOWABLE BACKFILL
RIGID PIPE**	UNLESS OTHERWISE INDICATED	INDOT #8 OR #9 CRUSHED STONE OR STRUCTURE BACKFILL	CLASS I, II, OR III MATERIAL	CLASS I, II, OR III MATERIAL
	UNDER OR WITHIN 5' OF ANY DRIVE OR ROADWAY	INDOT #8 OR #9 CRUSHED STONE OR STRUCTURE BACKFILL	STRUCTURE BACKFILL	STRUCTURE BACKFILL
	UNDER SIDEWALKS OR PEDESTRIAN PATHS	INDOT #8 OR #9 CRUSHED STONE OR STRUCTURE BACKFILL	CLASS I MATERIAL	CLASS I MATERIAL
	WHERE REQUIRED BY UTILITY OR RIGHT-OF-WAY OWNER	INDOT #8 OR #9 CRUSHED STONE OR STRUCTURE BACKFILL	FLOWABLE BACKFILL	FLOWABLE BACKFILL

* FLEXIBLE PIPE INCLUDES PVC AND HDPE PIPE
** RIGID PIPE INCLUDES DI, CAST IRON, AND REINFORCED CONCRETE PIPE

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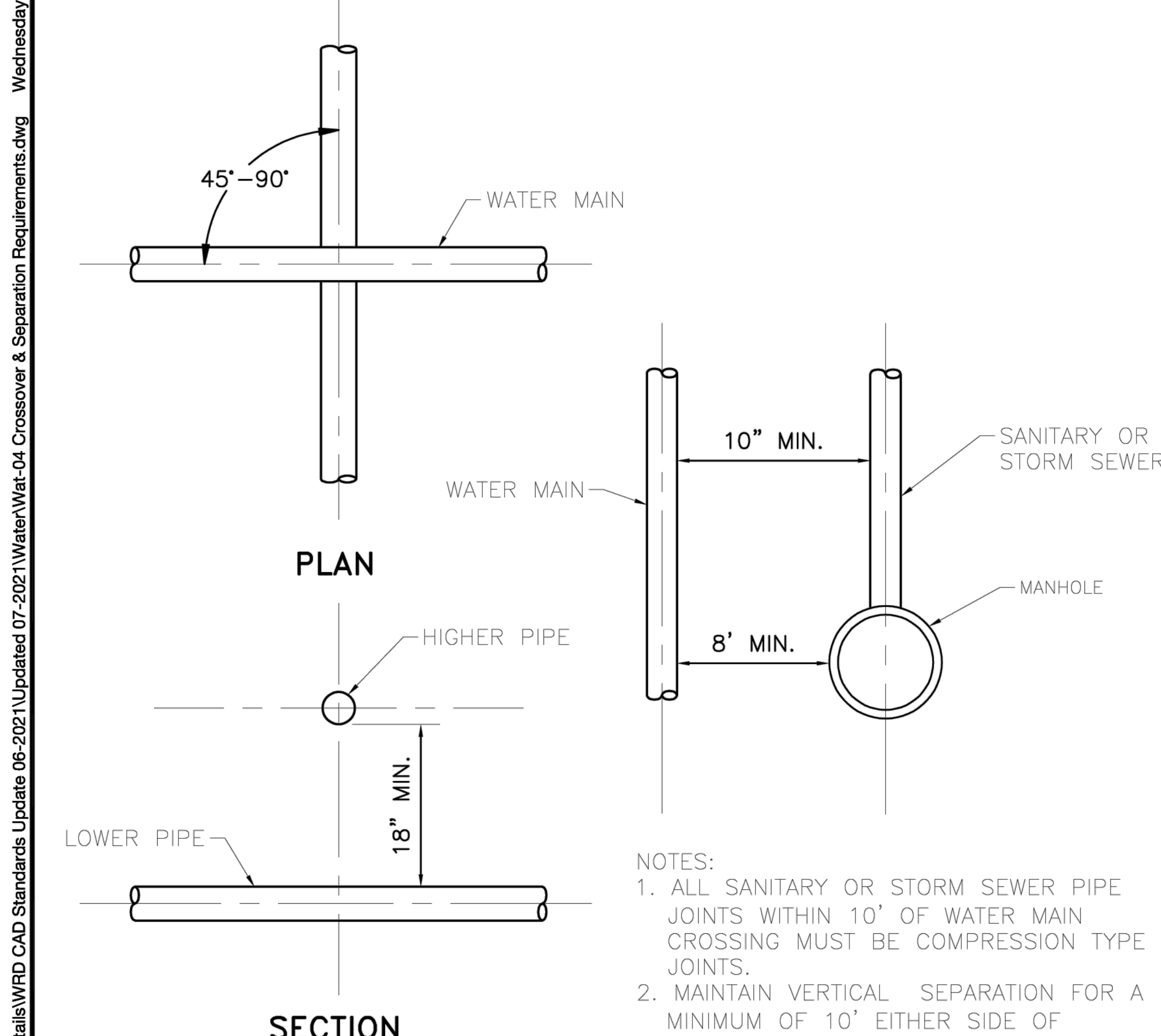
TRENCH DETAIL

EXHIBIT: Trch-04
SCALE: NTS
DATE: 01/2023



NOTES:
1. ALL SANITARY OR STORM SEWER PIPE JOINTS WITHIN 10' OF WATER MAIN CROSSING MUST BE COMPRESSION TYPE JOINTS.
2. MAINTAIN VERTICAL SEPARATION FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING
3. COORDINATE WITH ENGINEER WHERE MINIMUM CROSSING OR SEPARATION REQUIREMENTS CAN NOT BE MET

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MINIMUM CROSSOVER & SEPARATION REQUIREMENTS FOR WATER MAINS WITH SANITARY OR STORM SEWERS

EXHIBIT: Wat-04
SCALE: NTS
DATE: 08/2021

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PUBLIC WORKS PROJECT NO. 84003001-22-058-C1
CLEAR CREEK WELCOME CENTER
VIGO COUNTY, INDIANA

STATE OF INDIANA
DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
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402 WEST WASHINGTON STREET
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317-232-3000

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Drafter: DCW
Drawing Scale: NA
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Reference Number: 220005
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Sheet: 21 of 23

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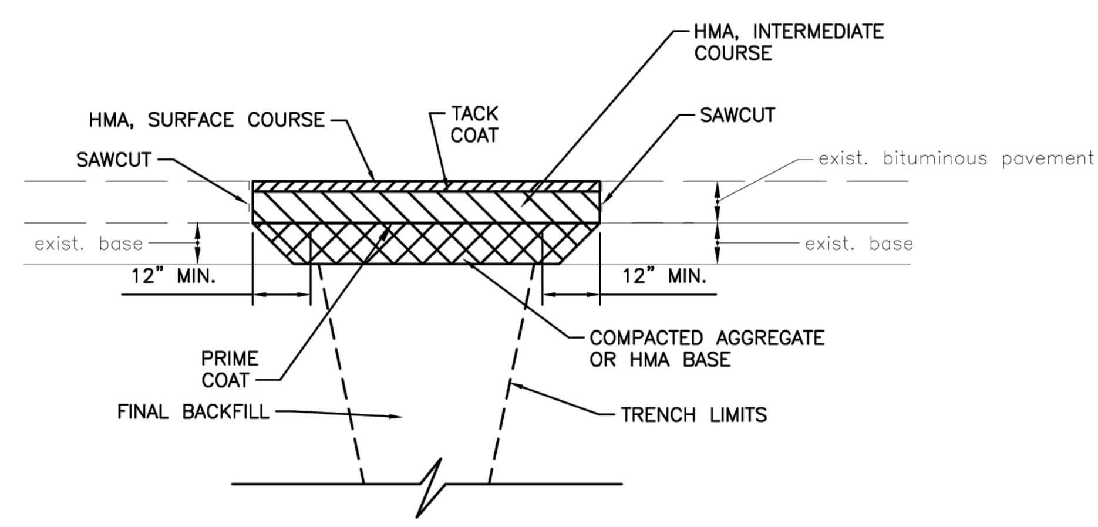

TYPE	BASE		INTERMEDIATE COURSE	SURFACE COURSE
	COMPACTED AGGREGATE	HMA		
SIDEWALK	4" OR	3"	1½"	1½"
RESIDENTIAL DRIVE	6" OR	4"	3"	1½"
LIGHT DUTY ROAD*	8" OR	6"	3"	1½"
INTERMEDIATE DUTY ROAD	8" OR	6"	4"	2"
HEAVY DUTY ROAD	6"		9"	1"

*ALL ALLEYS, COMMERCIAL DR. & PUBLIC ROADS SHALL BE CONSIDERED LIGHT-DUTY ROADS UNLESS INDICATED OTHERWISE

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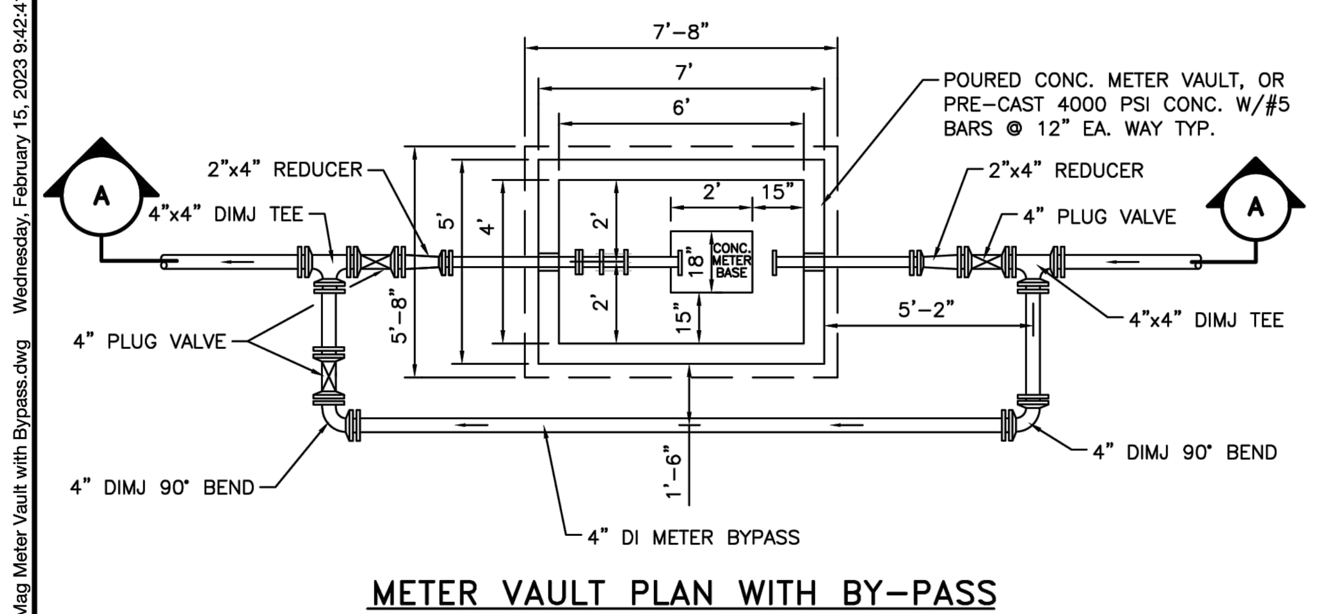
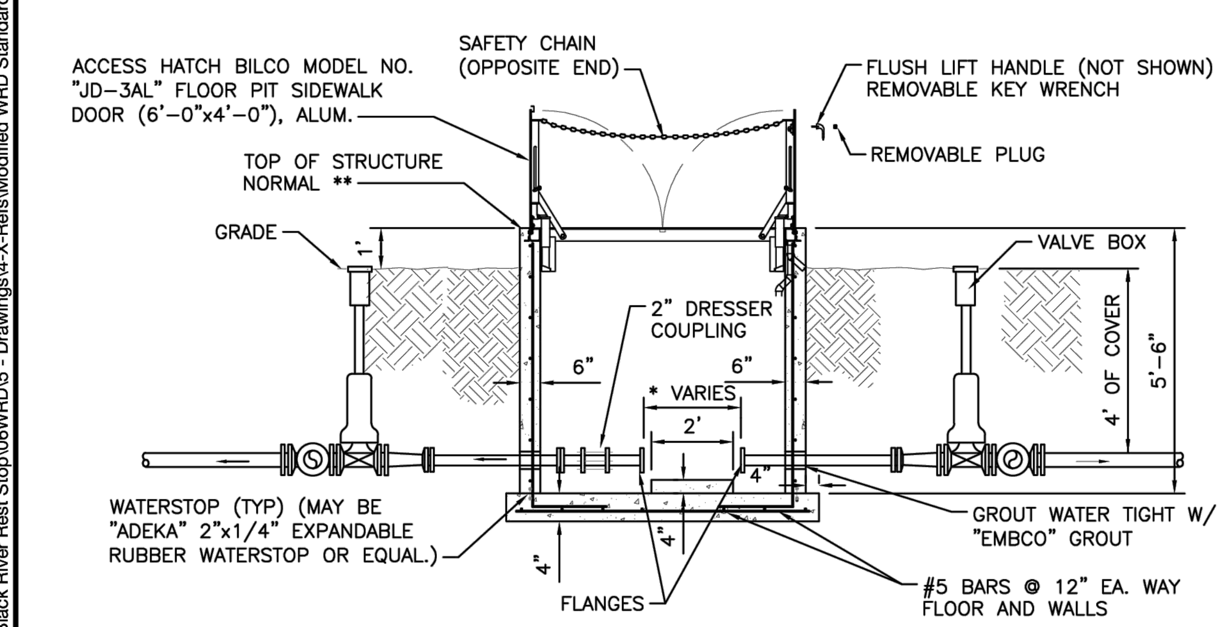
BITUMINOUS PAVEMENT REPAIR

EXHIBIT: Road-05
SCALE: NTS
DATE: 08/2021

P:\220006-JSE I64 Black River Rest Stop\WRD\5 - Drawings\4-X-Ref\Modified WRD Standard Details\Mag Meter Vault with Bypass.dwg Wednesday, February 15, 2023 9:42:41 AM



METER VAULT PLAN WITH BY-PASS



* VERIFY WITH METER MANUFACTURER AND INSTALL PER THEIR INSTRUCTIONS

** WHERE VAULT IS IN A FINISHED SLOPE, TOP TO BE MIN. 6" ABOVE GRADE AT UPPER SIDE.

SECTION A

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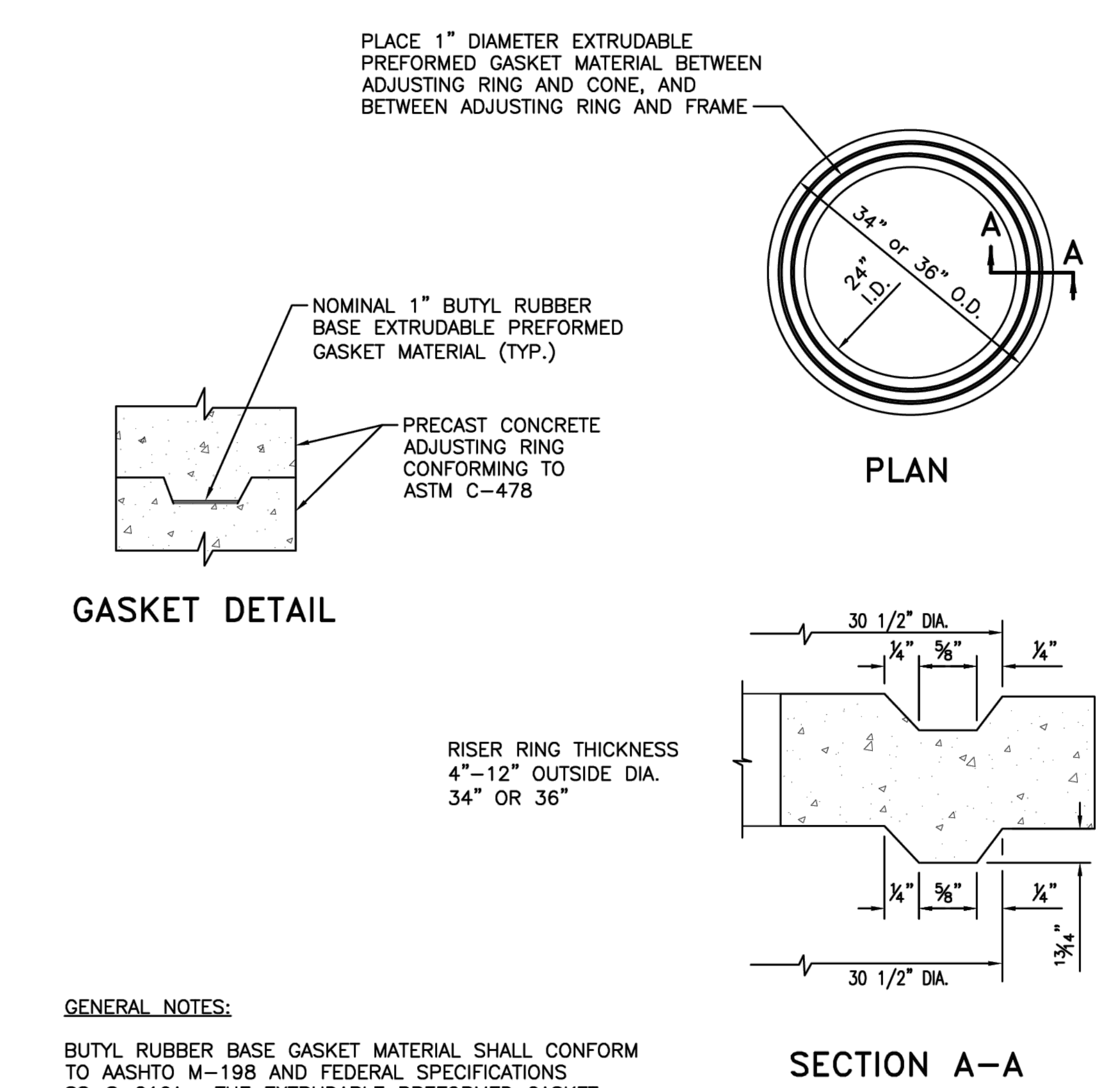
MAG METER VAULT W/ BYPASS

EXHIBIT: Wat-14
SCALE: NTS
DATE: 01/2023

W:\Standard Details\WRD CAD Standards Update 06-2021\Updated 07-2021\Casting\Adjusting Rings.dwg Thursday, January 19, 2023 1:26:23 PM



GENERAL NOTES:

BUTYL RUBBER BASE GASKET MATERIAL SHALL CONFORM TO AASHTO M-198 AND FEDERAL SPECIFICATIONS SS-S-210A. THE EXTRUDABLE PREFORMED GASKET SHALL BE USED BETWEEN THE ADJUSTING RING AND CONE, AND BETWEEN THE ADJUSTING RING AND CASTING. THE GASKET MATERIAL SHALL BE AS MANUFACTURED BY HAMILTON KENT-SEAL OR APPROVED EQUAL.

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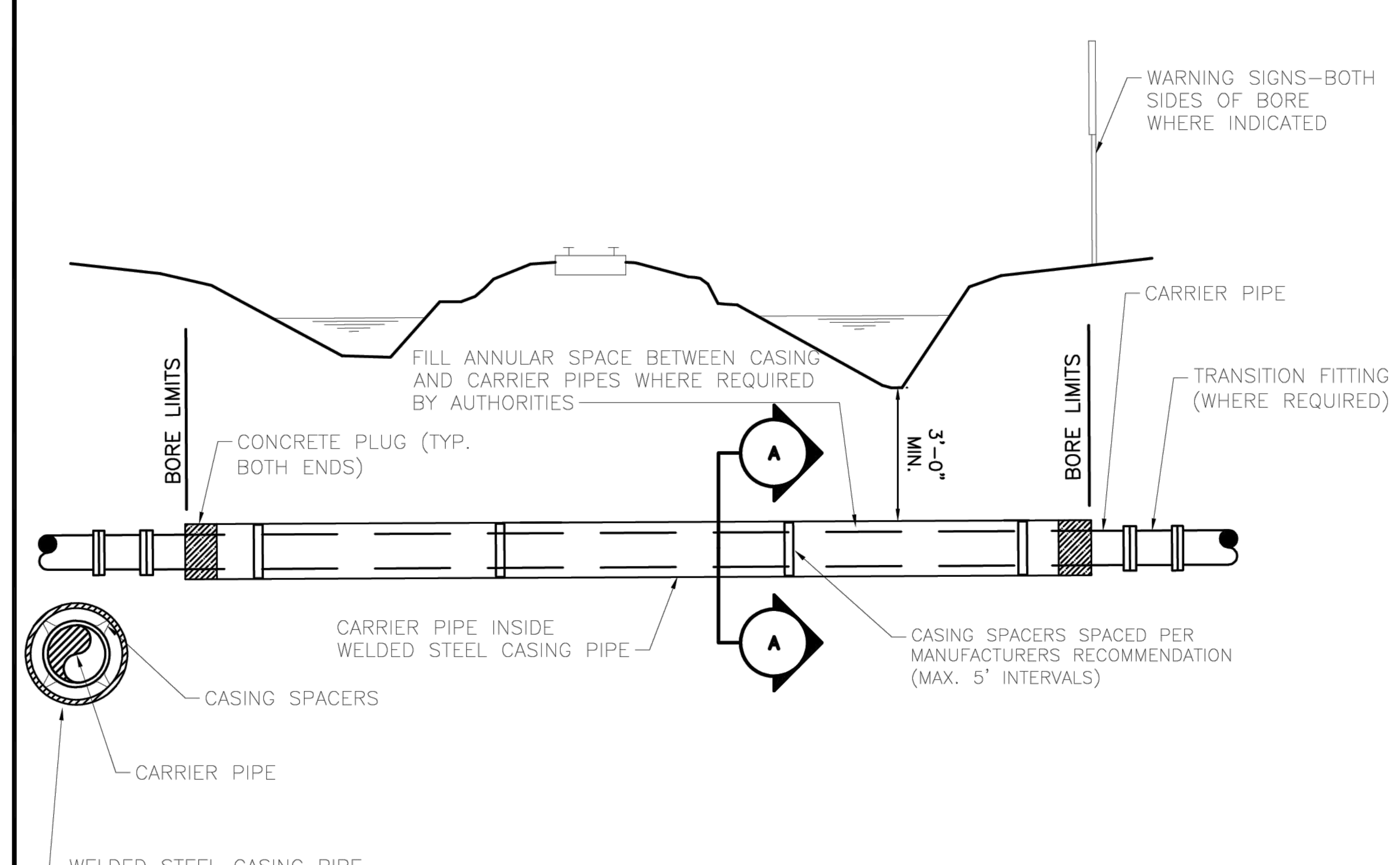
ADJUSTING RING DETAIL

EXHIBIT: Cast-07
SCALE: NTS
DATE: 01/2023

P:\WRD Resources\Standard Details\WRD CAD Standards Update 06-2021\Updated 07-2021\Pipe Installation\Pipe-01 Bore and Jack Detail.dwg Wednesday, July 21, 2021 1:38:05 PM



SECTION A
NTS

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BORE AND JACK DETAIL

EXHIBIT: Pipe-01
SCALE: NTS
DATE: 08/2021

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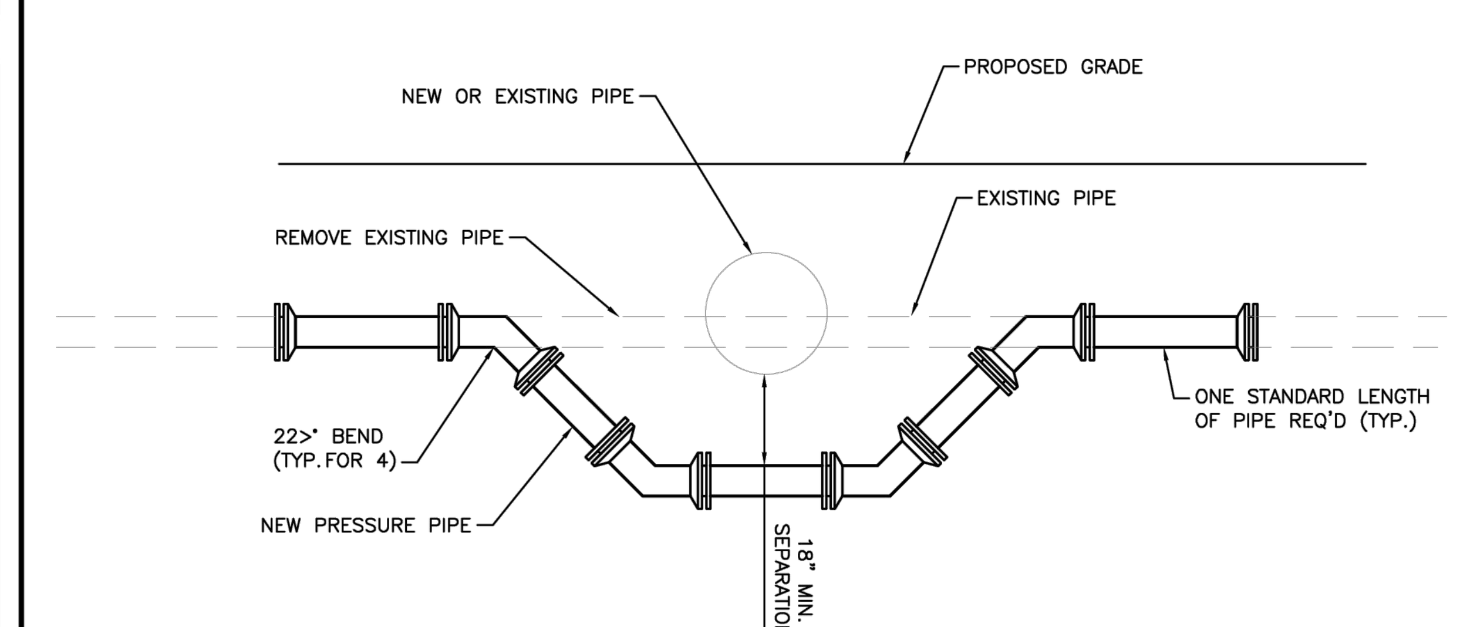

NOTE: USE RESTRAINED JOINTS THROUGHOUT OFFSET

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PRESSURE PIPE OFFSETS

EXHIBIT: Trch-01
SCALE: NTS
DATE: 01/2023

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Last Saved By: cjankowski Printed 2/22/23
P:\220005-JSE I70 Clear Creek Rest Stop\WRD\5 - Drawings\220005.ConstructionDetails.dwg Feb 22, 2023-8:24:29 am

PIPE JOINT RESTRAINT TABLE

PRESSURE PIPE JOINT RESTRAINT TABLE													
MINIMUM LENGTH (L) IN FEET OF STRAIGHT PIPE TO BE RESTRAINED													
FITTING		SIZE OF PIPE											
		3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"
Dead-Ends*		16	19	28	36	45	53	61	70	78	87	104	129
Tees**		6	16	24	41	49	67	74	92	110	117	142	166
Reducers***		--	--	19	26	27	39	40	51	53	64	77	99
Bends, Wyes, and Offsets****													
Direction	Angle (Deg.)												
Horizontal	90	11	14	19	25	31	36	42	48	53	58	69	84
	45	5	6	8	10	13	15	17	20	22	24	29	35
	22.5	2	3	4	5	6	7	8	9	11	12	14	17
	11.25	1	1	2	2	3	4	4	5	5	6	7	8
Vertical	90	32	39	55	73	89	106	123	140	157	174	207	257
	45	13	16	23	30	37	44	51	58	65	72	86	107
	22.5	6	8	11	14	18	21	24	28	31	35	41	51
	11.25	3	4	5	7	9	10	12	14	15	17	20	25

NOTES:
ACCEPTABLE JOINT RESTRAINTS ARE DEFINED IN THE APPLICABLE TECHNICAL SPECIFICATIONS
* INCLUDES OTHER FITTINGS WITH A SINGLE CONNECTING PIPE
** INCLUDES OTHER FITTINGS WITH TWO OR THREE PIPES CONNECTING AT 90 DEGREE ANGLES. TEE SIZE INDICATES RUN SIZE. TEE RESTRAINT LENGTHS ARE APPLICABLE WHERE BRANCH SIZE IS EQUAL TO OR SMALLER THAN 150% OF RUN SIZE.
*** REDUCER LENGTHS ARE APPLICABLE WHERE LARGER PIPE SIZE IS EQUAL TO OR SMALLER THAN 200% OF SMALLER PIPE SIZE
**** INCLUDES OTHER FITTINGS WITH CONNECTIONS AT OTHER THAN 90 DEGREE ANGLES

WHERE ANOTHER FITTING IS LOCATED WITHIN LENGTH (L) OF A FITTING, RESTRAIN ENTIRE LENGTH BETWEEN FITTINGS. THE FOLLOWING CONDITIONS WERE USED TO CALCULATE THE RESTRAINT LENGTHS (L) BASED ON DIPRA RECOMMENDATIONS:

- LAYING CONDITION: TYPE 5 TRENCH
- SOIL: TYPE 2 CLAY
- DEPTH: 4 FEET
- DESIGN PRESSURE: 150 PSI
- SAFETY FACTOR: 1.5
- DI PIPE IS POLYWRAPPED

SUBMIT CALCULATIONS TO ENGINEER FOR REDUCED RESTRAINT LENGTHS DUE TO SITE CONDITIONS, OR FOR OTHER PIPE SIZES, ANGLES OR FITTINGS.

EXHIBIT: Wat-03A
SCALE: NTS
DATE: 08/2021

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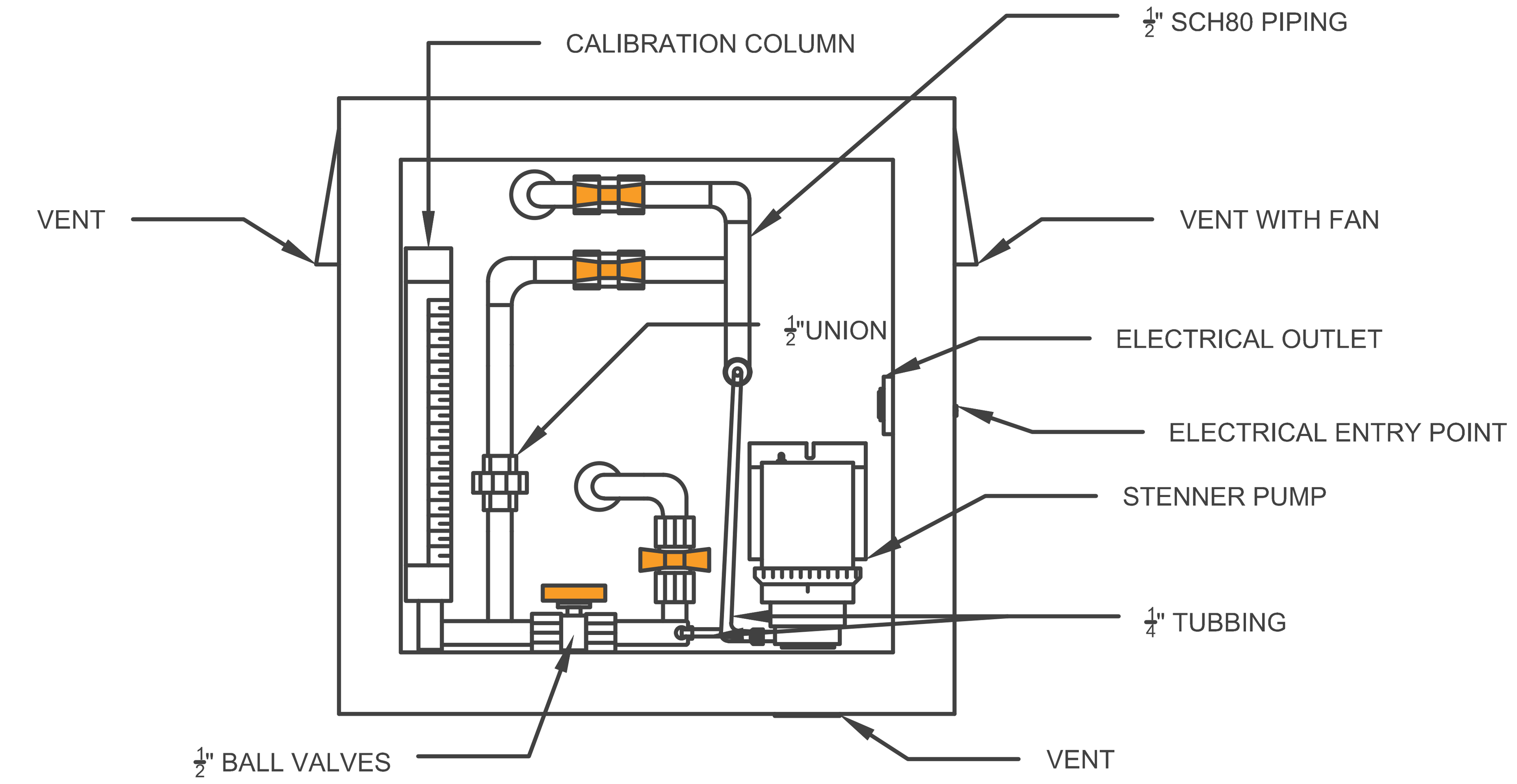
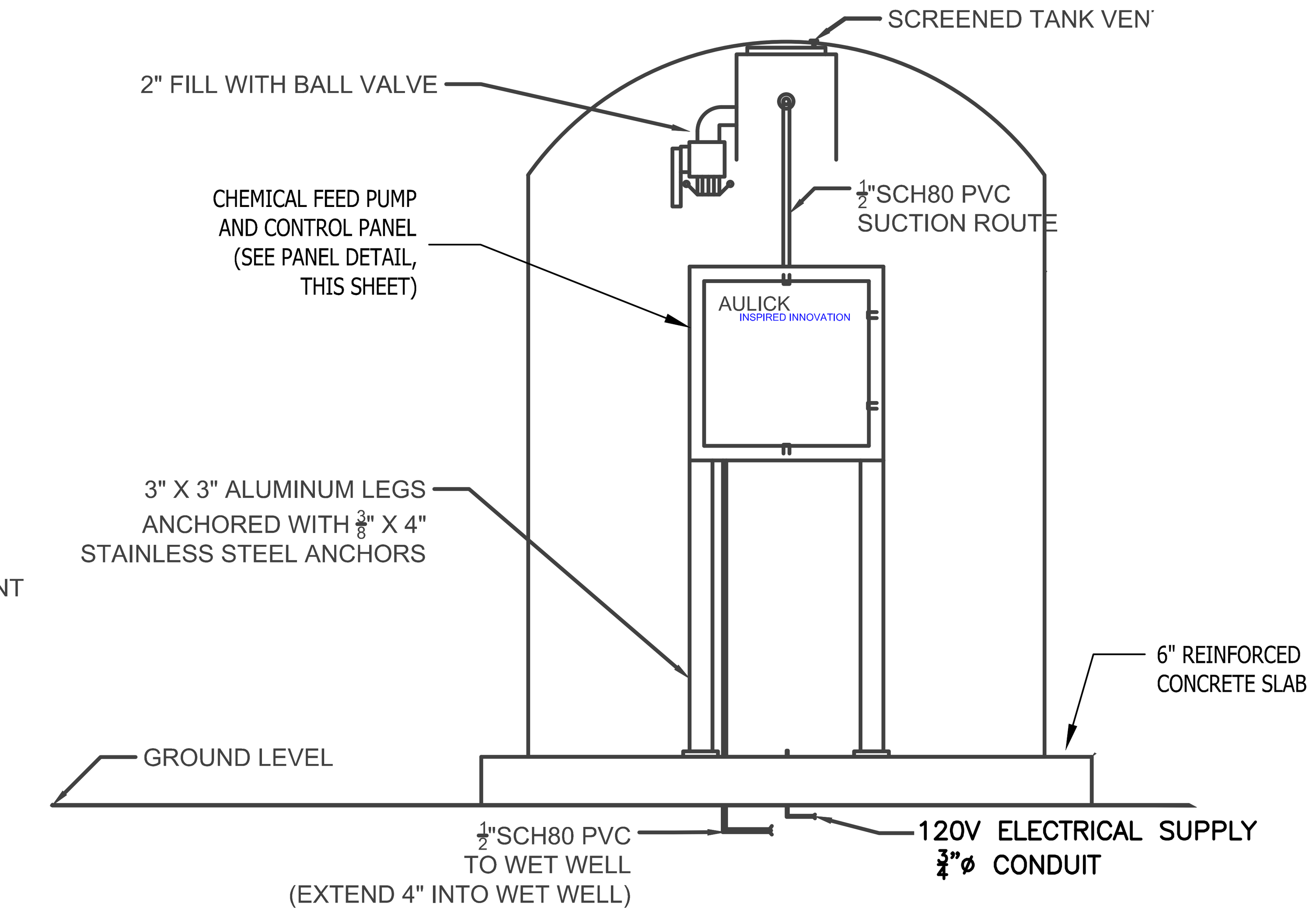
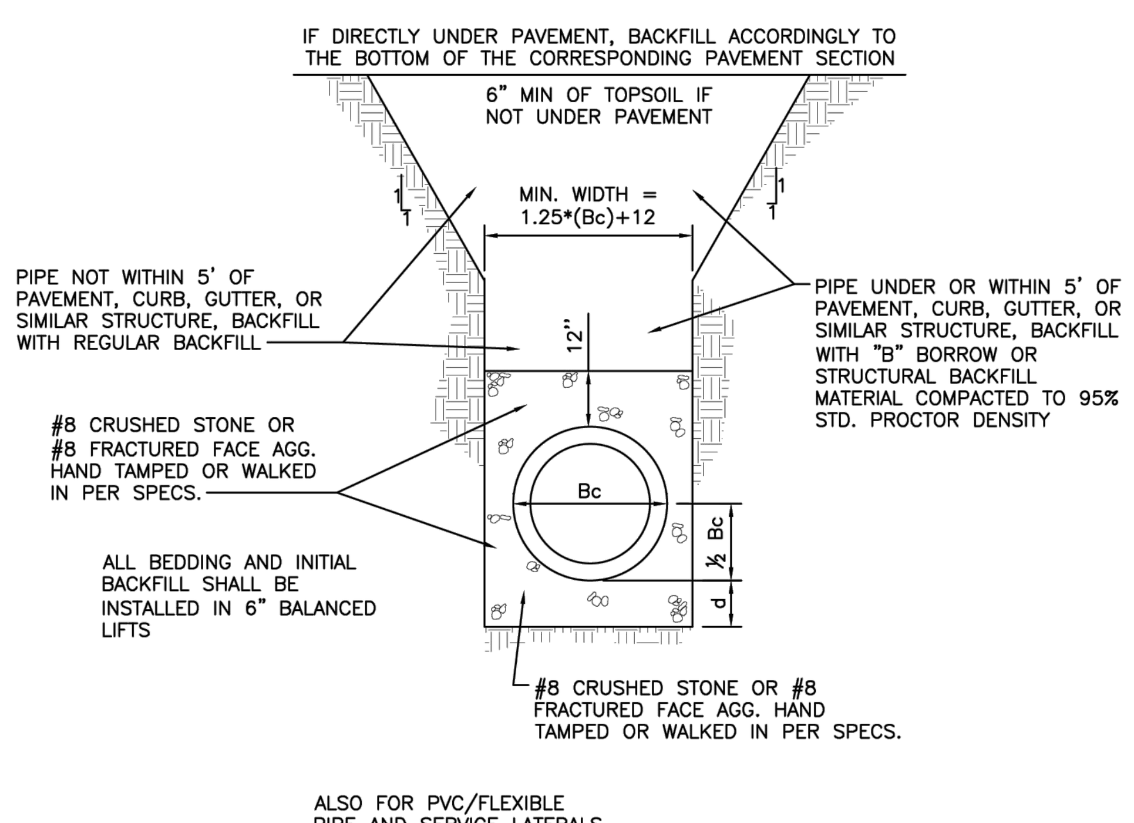
P:\WRD Resources\Standard Details\WRD CAD Standards Update 06-2021\Updated 07-2021\Water\Wat-03A Pipe Joint Restraint Table.dwg Wednesday, Nov



CHEMICAL FEED PUMP CONTROL PANEL
NOT TO SCALE



CHEMICAL BULK TANK AND PUMP FEED PANEL – ELEVATION VIEW
NOT TO SCALE



D – PIPE SIZE	8"–15"	18"& OVER
d – BEDDING BELOW PIPE	O.D./4, MIN.=4"	O.D./4, MAX.=8"

W:\Standard Details\WRD CAD Standards Update 06-2021\Updated 07-2021\Pipe Installation\Pipe-04 HDPE Bedding Section Detail.dwg Thursday, January 19, 2023 4:22:25 PM

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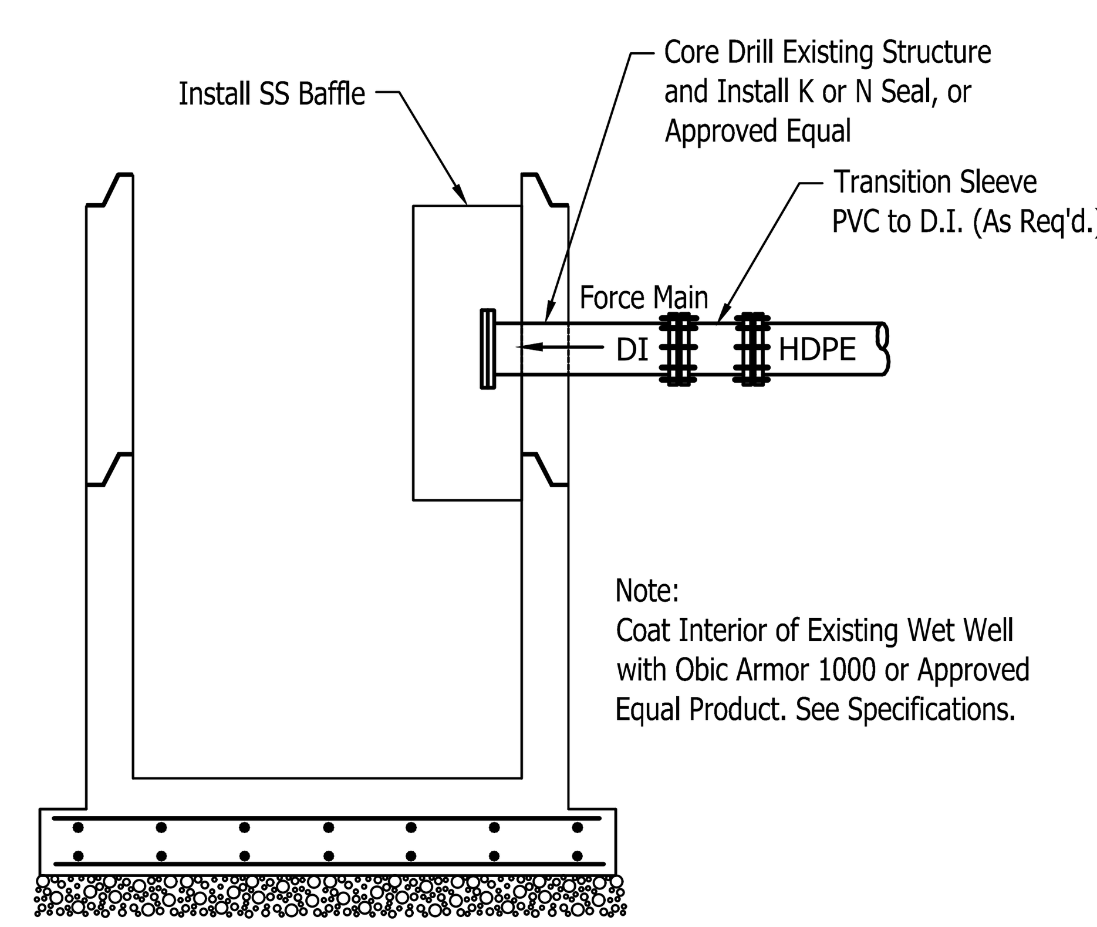
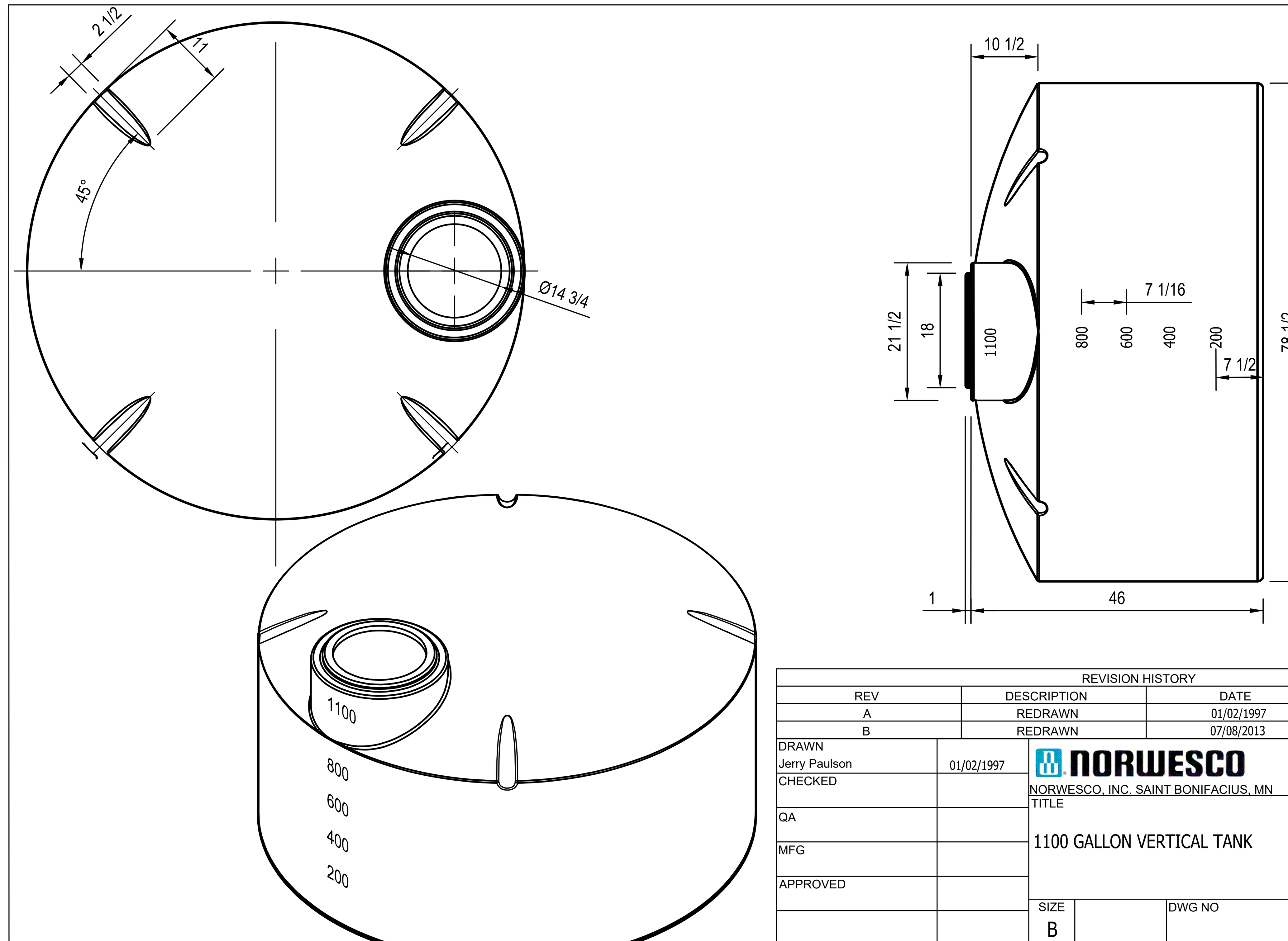
HDPE BEDDING SECTION DETAIL

EXHIBIT: Pipe-04
SCALE: NTS
DATE: 01/2023



Note:
Coat Interior of Existing Wet Well with Obic Armor 1000 or Approved Equal Product. See Specifications.

FORCE MAIN CONNECTION TO WET WELL



REVISION HISTORY			
REV	DESCRIPTION	DATE	AUTHOR
A	REDRAWN	01/02/1997	
B	REDRAWN	07/08/2013	Michael Holden

DRAWN: Jerry Paulson 01/02/1997
CHECKED
QA
MFG
APPROVED

NORWESCO
NORWESCO, INC. SAINT BONIFACIUS, MN
TITLE: 1100 GALLON VERTICAL TANK
SIZE: B | DWG NO | REV: B
SCALE: 3/4" | SHEET 1 OF 1

Last Saved By: cjankowski Printed:2/22/23
P:\220005–ISE I70 Clear Creek Rest Stop\(4)WIP\(5 – Drawings)\220005.ConstructionDetails.dwg Feb 22, 2023–8:24:35 am

BRIAN A. BULLOCK REGISTERED No. 10302366 STATE OF INDIANA PROFESSIONAL ENGINEER
Certified by: BRIAN A. BULLOCK 02/21/23

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PUBLIC WORKS PROJECT NO. 84003001-22-058-C1
CLEAR CREEK WELCOME CENTER
VIGO COUNTY, INDIANA

STATE OF INDIANA
DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION
ROOM W467, INDIANA GOVERNMENT CENTER SOUTH
402 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA 46204
317-232-3000

Revisions:

Project Number: 84003001-22-058-C1
Requisition Number:
Account Number:
Designer: BAB
Drawing Date: 02/21/23
Drafter: DCW
Drawing Scale: NA
DAPW Approval:
Client Approval:
Reference Number: 220005
Building Reference:
Drawing Number: C502