



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Friday, March 14, 2025
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit Modification Approval for Van Wie 1221 N-6H
47-041-05765-00-00

Adding an access road

HG ENERGY II APPALACHIA, LLC

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.



James A. Martin
Chief

Operator's Well Number: Van Wie 1221 N-6H
Farm Name: HG Energy II Appalachia, LLC
U.S. WELL NUMBER: 47-041-05765-00-00
Horizontal 6A New Drill
Date Modification Issued: 3/14/2025

Promoting a healthy environment.

03/14/2025

WEST VIRGINIA
COUNTY MAP

PROJECT LOCATION

Straight Run Entrance

WV-N NAD 83 N: 76309.00
WV-N NAD 83 E: 2063742.91
WV-N NAD 27 N: 763559.77
WV-N NAD 27 E: 2095194.65
Lat. NAD 83: 39.09644219
Lon. NAD 83: -80.66444248
Lat. NAD 27: 39.09635249
Lon. NAD 27: -80.66462154
UTM 17 NAD 83 N: 4327532.55
UTM 17 NAD 83 E: 529017.06

Fink Creek Exit

WV-N NAD 83 N: 763385.30
WV-N NAD 83 E: 2059634.99
WV-N NAD 27 N: 763536.16
WV-N NAD 27 E: 2091086.79
Lat. NAD 83: 39.10135871
Lon. NAD 83: -80.67889360
Lat. NAD 27: 39.10126936
Lon. NAD 27: -80.67907206
UTM 17 NAD 83 N: 4328073.64
UTM 17 NAD 83 E: 527765.48

Staging Area Entrance

WV-N NAD 83 N: 763388.38
WV-N NAD 83 E: 2059640.55
WV-N NAD 27 N: 765339.25
WV-N NAD 27 E: 2091092.35
Lat. NAD 83: 39.10136711
Lon. NAD 83: -80.67887397
Lat. NAD 27: 39.10127776
Lon. NAD 27: -80.67905242
UTM 17 NAD 83 N: 4328074.58
UTM 17 NAD 83 E: 527767.18

Staging Area Exit

WV-N NAD 83 N: 765364.74
WV-N NAD 83 E: 2059939.87
WV-N NAD 27 N: 765315.60
WV-N NAD 27 E: 2091391.67
Lat. NAD 83: 39.10129937
Lon. NAD 83: -80.67781963
Lat. NAD 27: 39.10121000
Lon. NAD 27: -80.67799812
UTM 17 NAD 83 N: 4328067.38
UTM 17 NAD 83 E: 527858.37

Site Entrance

WV-N NAD 83 N: 762954.49
WV-N NAD 83 E: 2063348.90
WV-N NAD 27 N: 762905.26
WV-N NAD 27 E: 2094800.64
Lat. NAD 83: 39.09464922
Lon. NAD 83: -80.66583893
Lat. NAD 27: 39.09455950
Lon. NAD 27: -80.66501796
UTM 17 NAD 83 N: 4327333.13
UTM 17 NAD 83 E: 528897.04

Center of Well Pad

WV-N NAD 83 N: 762961.19
WV-N NAD 83 E: 2062544.18
WV-N NAD 27 N: 762973.41
WV-N NAD 27 E: 2094800.64
Lat. NAD 83: 39.09467556
Lon. NAD 83: -80.66867393
Lat. NAD 27: 39.09458589
Lon. NAD 27: -80.66885286
UTM 17 NAD 83 N: 4327335.16
UTM 17 NAD 83 E: 528651.86
Pad Elev.: 1251.77

Center of AST Pad

WV-N NAD 83 N: 762692.43
WV-N NAD 83 E: 2061991.36
WV-N NAD 27 N: 762931.59
WV-N NAD 27 E: 2093995.92
Lat. NAD 83: 39.09394312
Lon. NAD 83: -80.67062491
Lat. NAD 27: 39.09385347
Lon. NAD 27: -80.67080378
UTM 17 NAD 83 N: 4327253.26
UTM 17 NAD 83 E: 528483.45
Pad Elev.: 1229.00

ASTs to consist of (2) 10,000 bbl (76" diameter) tanks with secondary containment 12,000 bbl (83" diameter) for processed water

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UTM 17 NAD 83 E: 528483.45
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Well Table

N-1H

WV-N NAD 83 N: 763022.62
WV-N NAD 83 E: 2062599.14
WV-N NAD 27 N: 762973.41
WV-N NAD 27 E: 2094050.89
Lat. NAD 83: 39.09484365
Lon. NAD 83: -80.66847951
Lat. NAD 27: 39.09475397
Lon. NAD 27: -80.66863945
UTM 17 NAD 83 (m) N: 4327353.87
UTM 17 NAD 83 (m) E: 528668.61

N-2H

WV-N NAD 83 N: 763032.46
WV-N NAD 83 E: 2062610.47
WV-N NAD 27 N: 762973.41
WV-N NAD 27 E: 2094062.25
Lat. NAD 83: 39.09487055
Lon. NAD 83: -80.66843950
Lat. NAD 27: 39.09478988
Lon. NAD 27: -80.66861844
UTM 17 NAD 83 (m) N: 4327356.87
UTM 17 NAD 83 (m) E: 528672.06

N-3H

WV-N NAD 83 N: 763042.30
WV-N NAD 83 E: 2062621.79
WV-N NAD 27 N: 762983.09
WV-N NAD 27 E: 2094073.53
Lat. NAD 83: 39.09489745
Lon. NAD 83: -80.66839949
Lat. NAD 27: 39.09480778
Lon. NAD 27: -80.66857843
UTM 17 NAD 83 (m) N: 4327359.87
UTM 17 NAD 83 (m) E: 528675.51

N-4H

WV-N NAD 83 N: 763052.14
WV-N NAD 83 E: 2062633.11
WV-N NAD 27 N: 763002.93
WV-N NAD 27 E: 2094084.85
Lat. NAD 83: 39.09492436
Lon. NAD 83: -80.66835948
Lat. NAD 27: 39.09483468
Lon. NAD 27: -80.66849841
UTM 17 NAD 83 (m) N: 4327362.87
UTM 17 NAD 83 (m) E: 528678.96

N-5H

WV-N NAD 83 N: 763061.98
WV-N NAD 83 E: 2062644.43
WV-N NAD 27 N: 763012.77
WV-N NAD 27 E: 2094096.17
Lat. NAD 83: 39.09495126
Lon. NAD 83: -80.66831947
Lat. NAD 27: 39.09486159
Lon. NAD 27: -80.66849841
UTM 17 NAD 83 (m) N: 4327365.87
UTM 17 NAD 83 (m) E: 528682.41

S-6H

WV-N NAD 83 N: 762930.92
WV-N NAD 83 E: 2062555.75
WV-N NAD 27 N: 763022.61
WV-N NAD 27 E: 2094107.49
Lat. NAD 83: 39.09478716
Lon. NAD 83: -80.66827946
Lat. NAD 27: 39.09488849
Lon. NAD 27: -80.66845840
UTM 17 NAD 83 (m) N: 4327368.86
UTM 17 NAD 83 (m) E: 528685.85

S-7H

WV-N NAD 83 N: 762930.92
WV-N NAD 83 E: 2062592.73
WV-N NAD 27 N: 762871.72
WV-N NAD 27 E: 2093834.47
Lat. NAD 83: 39.09478716
Lon. NAD 83: -80.66827946
Lat. NAD 27: 39.09476991
Lon. NAD 27: -80.66842215
UTM 17 NAD 83 (m) N: 4327322.89
UTM 17 NAD 83 (m) E: 528602.68

S-8H

WV-N NAD 83 N: 762930.92
WV-N NAD 83 E: 2062594.05
WV-N NAD 27 N: 762871.72
WV-N NAD 27 E: 2093845.79
Lat. NAD 83: 39.09456568
Lon. NAD 83: -80.66824324
Lat. NAD 27: 39.09450382
Lon. NAD 27: -80.66838214
UTM 17 NAD 83 (m) N: 4327325.88
UTM 17 NAD 83 (m) E: 528606.13

S-9H

WV-N NAD 83 N: 762940.60
WV-N NAD 83 E: 2062405.37
WV-N NAD 27 N: 762891.40
WV-N NAD 27 E: 2093857.11
Lat. NAD 83: 39.09459348
Lon. NAD 83: -80.66816322
Lat. NAD 27: 39.09453072
Lon. NAD 27: -80.66934213
UTM 17 NAD 83 (m) N: 4327328.88
UTM 17 NAD 83 (m) E: 528609.57

S-10H

WV-N NAD 83 N: 762950.44
WV-N NAD 83 E: 2062416.69
WV-N NAD 27 N: 762901.24
WV-N NAD 27 E: 2093868.44
Lat. NAD 83: 39.09467429
Lon. NAD 83: -80.66812321
Lat. NAD 27: 39.09457563
Lon. NAD 27: -80.66930213
UTM 17 NAD 83 (m) N: 4327331.88
UTM 17 NAD 83 (m) E: 528613.02

APPROVED
WVDEP OOG
Modification
3/14/2025

Project Contacts

HG Energy LLC

Jared Stemple - Construction Manager
740-336-2477

Survey and Engineer

Kenneth Kelly
304-338-6985 Off.

John P. See
304-442-0220 Off.

Zackary Summerfield
304-338-6987 Off.

HG Energy, LLC

5260 Dupont Road
Parkersburg, WV 26101
PH: 304-420-1100
Fax: 304-863-3175

Environmental:

Wetland Delineations as provided by Palustris Environmental dated June 20, 2023

Topographic Information:

The topographic information shown herein is based on aerial photography by Blue Mountain Aerial Mapping, Burton, WV

MISS UTILITY OF
WEST VIRGINIA
1-800-245-4848
West Virginia State Law
Section XIV, Chapter 24-C requires
that you call two business days
before
you dig in the state of West Virginia.
IT'S THE LAW
Know what's below.
Call before you dig.

811

HG Energy LLC will obtain an Encroachment Permit (Form MM-109) from the WV Department of Transportation, Division of Highways, prior to the commencement of any construction activities

The WV Mines Website was consulted. Previous mining activities are not within the AOI.

WVDEP Website files show that there are active and/or abandoned gas wells within the AOI

1221 Well Site Fink Creek Access

Site Design, Construction Plan, &
Erosion and Sediment Control Plans

HG Energy LLC

Lewis County

Freemans Creek District

Latitude 39.09467556°

Longitude -80.66867393°

Leading Creek Watershed

Exhibit A: As-Built Modification

03/14/2025

Approach Routes:

From I-79 North near Jane Lew, WV. Take Exit 99 and turn left at the end of the exit onto Co Rt 7, Hackers Creek Rd. Follow Co Rt 7 for 0.9 mi. Turn Left onto US Rt 19 South. Follow US Rt 19 South for 4.9 mi. Turn Right onto Co Rt 12, Jackson Mill Rd. Follow Co Rt 12 for 2.4 mi. Slight Left onto Co Rt 10, Old Mill Rd. Follow Co Rt 10 for 0.6 mi. Turn Left onto Co Rt 10, Old Mill Rd (at Jacksons Mill Fire Station). Follow Co Rt 10 for 500'. Turn Right onto Co Rt 10, Valley Chapel Rd. Follow Co Rt 10 for 4.4 mi. Turn Right onto Co Rt 10, Freemans Creek Rd. Follow Co Rt 10 for 3.8 mi. Turn Right onto Co Rt 9, Churchville Road. Follow Churchville road for 0.2 mi. Turn left onto Co Rt 10, Isaacs Fork Rd. Follow Co Rt 10 for 1.0 mi. Turn Right onto Co Rt 10, Isaacs Fork Rd. Follow Co Rt 10 for 3.6 mi. Continue Straight onto Co Rt 10, Straight Run Rd. Follow Co Rt 10 for 0.5 mi. Continue Straight onto Co Rt 10, Straight Run Rd. Follow Co Rt 10 for 0.5 mi. The site entrance will be on the Right, northwest, side of the road

Well Location Restrictions

All Pad construction complies with the following restrictions.
*250' from an existing well or developed spring used for human or domestic animals.
*625' from an occupied dwelling or barn greater than 2,500 SF used for poultry or dairy measured from the center of the pad.
*300' from the edge of disturbance to a naturally reproducing trout stream.
*1,000' of a surface or ground water intake to a public water supply.

(Well Location Restrictions of WV Code 22-6A-12)

Design Certification

The drawings, construction notes and reference diagrams attached hereto have been prepared in accordance with the West Virginia Code of State Rules, Division of Environmental Protection, Office of Oil and Gas, 25-CSR-10.
All Plans, Sheets, and/or Reference Diagrams included in this design constitute a complete set of plans. A complete set of plans is necessary to construct the site in accordance with the design.
Zackary C. Summerfield
RPE 22214
Kelly Surveying PLLC
CO#0338-0985
Date: 02-04-2025

Sheet

Description

1 Cover Sheet
V1 Schedule of Quantities
N1-N4 Site Notes
2-3 Pre-Construction Site Conditions
4-5 Site Soil Map
6 Clearing Exhibit
7-8 Overall Plan View
9-14 E&S Plan View
15 Toe Key Exhibit
16-23 Plan View
24-27 Cross Sections - Well Pad
28 Cross Sections - Well Pad Access Road
29 Cross Sections - Staging Area
30-32 Cross Sections - Access Road
G1-G2 Geotechnical Exhibit
L1 Landowner Disturbed Area Exhibit
S1 Site Reclamation
M1-M2 Production Exhibit
D1-D2 Erosion and Sediment Control Details
R1 Access Road Details
P1 Pad Details

Pertinent Site Information

1221 Site

Emergency Number: 304-269-8241

Freemans Creek District, Lewis County, WV

Watershed: Leading Creek Watershed

Site 911 Address:

HG Energy Contact Number: 304-420-1100

Property Owner Information - 1221 Well Site

Freemans Creek District - Lewis County

Owner	TM - Parcel	Well Pad	Access Road	Stockpiles	Add. Clearing	Total Disturbed
HG Energy II Appalachia, LLC	2D-3.1	0.00	0.00	0.03	0.10	0.13
HG Energy II Appalachia, LLC	2D-3	4.94	0.75	0.14	2.65	13.97
Anthony & Dawn Van Wie	2D-29	4.56	1.59	0.67	0.00	9.30
Site Totals (Ac)	9.50	2.34	0.81	2.68	8.07	23.40

Property Owner Information - 1221 Fink Creek Access

Freemans Creek District - Lewis County

Owner	TM - Parcel	Staging Area	Access Road	Topsoil/Excess	Add. Clearing	Total Disturbed
Alice Keely et al	2D-48	1.09	0.23	0.24	1.19	2.75
James II & Sheila Gum	2D-3.4	0.00	5.32	1.37	7.47	14.16
James II & Sheila Gum	2C-7	0.00	3.31	0.47	3.81	7.59
Site Totals (Ac)	1.09	8.86	2.08	12.47	24.50	

Well Site Access Road

Surface Owner	TM - Parcel	Road Length	Type
HG Energy II Appalachia, LLC	2D-3	111.47'	New Access Road Construction
Anthony & Dawn Van Wie	2D-29	644.05'	New Access Road Construction

Fink Creek Access Road

Surface Owner	TM - Parcel	Road Length	Type
Alice Keely et al	2D-48	286.52'	New Access Road Construction
James II & Sheila Gum	2D-3.4	3,108.37'	New Access Road Construction
James II & Sheila Gum	2C-7	2,555.68'	New Access Road Construction

Disturbed Area - Well Pad

Well Pad Construction	9.50 Ac
AST Pad Construction	2.34 Ac
Access Road Construction	0.81 Ac
Spill/Excess Material	2.68 Ac
Additional Clearing	8.07 Ac
Total Disturbed Area	23.40 Ac

Disturbed Area - Fink Creek Rd

Staging Area Construction	1.09 Ac
New Access Road Construction <th>8.86 Ac</th>	8.86 Ac
Topsoil/Excess Material <th>2.08 Ac</th>	2.08 Ac
Additional Clearing <th>12.47 Ac</th>	12.47 Ac
Total Disturbed Area <th>24.50 Ac</th>	24.50 Ac

Additional Information

Total Wooded Acres Disturbed	21.65 Ac
Total Linear Feet of Access Road	5,950.57'

1221 Well Site Quantities - Well Site

Description	Cut (CY)	Fill (CY)	Spill (CY)	Borrow (CY)	Max. Slope	Length of Slope	Est Topsoil (CY)
Well Pad	127,216.91	75,685.35	51,531.56	-	N/A	N/A	15,000.00
AST Pad	142.57	26,303.50	-	26,160.93	N/A	N/A	3,800.00
Well Pad Access Road	39.80	7,064.90	-	7,025.10	13.45%	255.18'	N/A
AST Pad Access Road	3.04	1,730.01	-	1,726.97	14.55%	169.46'	N/A
Landowner Access Road	-	-	-	-	N/A	N/A	N/A
Excess Material Stockpiles	-	27,358.80	-	27,358.80	N/A	N/A	N/A
Totals	127,425.12	136,456.68	51,531.56	60,563.12	(Excess Spoil Capacity)		
Total Spoil (CY) =	-	-	-9,031.56	-			

1221 Fink Creek Access Quantities

Description	Cut (CY)	Fill (CY)	Spill (CY)	Borrow (CY)	Max. Slope	Length of Slope
Bypass Access Road	22,252.02	18,886.63	3,365.39	-	-20.38'	78.83'
Staging Area	2,320.28	819.95	1,500.33	-	N/A	N/A
Staging Area East Access	0.33	29.65	-	29.32	N/A	N/A
Staging Area West Access	2.21	6.93	-	4.72	N/A	N/A
Staging Area Stockpile	0.00	3,000.00	-	3,000.00	N/A	N/A
Bypass Access Road Stockpiles	0.00	19,000.00	-	19,000.00	N/A	N/A
Totals	24,574.84	41,743.16	4,865.72	22,034.04	(Excess Stockpile Capacity)	
Total Spoil (CY) =	-	-	-17,168.32	-		

Ephemeral Stream Impact (Linear Feet) - Fink Creek Access Road

Stream and Impact Cause	Culvert (LF)	Inter/Outlet Structures Fill (LF)	Slope Fill (LF)	Const. Disturb. to LOD (LF)	Total Impact (LF)
Watercourse FE (Access Road)	-	10.00	86.60	12.43	109.03
Watercourse FA (Access Road)	-	12.21	45.95	5.00	63.16
Total Stream Impacts					172.19

1221 Fink Creek Access

Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 1 of 32

Schedule of Quantities

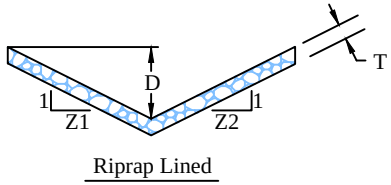
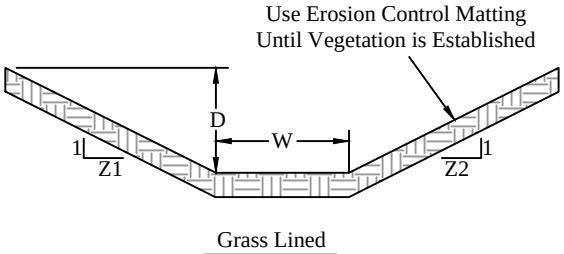
Fink Access Road Pipe Schedule					
Pipe Crossing	Station	Length (ft)	Diameter (ft)	Type	Slope (%)
1	3+62	35	1.5	HDPE	2
2	7+26	35	1.5	HDPE	2
3	9+36	35	1.5	HDPE	2
4	12+37	30	1.5	HDPE	2
5	15+63	35	1.5	HDPE	2
6	18+68	35	1.5	HDPE	2
7	24+93	38	1.5	HDPE	2
8	28+25	40	1.5	HDPE	2
9	34+05	45	1.5	HDPE	2
10	39+30	30	1.5	HDPE	2
11	41+30	35	1.5	HDPE	2
12	46+00	35	1.5	HDPE	2
13	50+39	30	1.5	HDPE	2
14	51+95	32	1.5	HDPE	2
15	53+50	40	1.5	HDPE	2
16	56+83	45	1.5	HDPE	2
17	46+98	80	1.5	HDPE	2
18	51+27	55	1.5	HDPE	2
19	0+14	60	1.5	HDPE	2
20	0+10	80	1.5	HDPE	2

1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification

18" Filter Sock			1875	Belted Silt Retention Fence			1757	Super Silt Fence			3918		
FS18 #1	19	FS18 #22	74	BSRF #1	27	BSRF #17	31	SSF #1	34	SSF #23	63	SSF #45	120
FS18 #2	25	FS18 #23	60	BSRF #2	30	BSRF #18	35	SSF #2	36	SSF #24	67	SSF #46	56
FS18 #3	45	FS18 #24	29	BSRF #3	49	BSRF #19	129	SSF #3	27	SSF #25	52	SSF #47	42
FS18 #4	35	FS18 #25	21	BSRF #4	39	BSRF #20	216	SSF #4	52	SSF #26	51	SSF #48	45
FS18 #5	50	FS18 #26	55	BSRF #5	55	BSRF #21	41	SSF #5	57	SSF #27	43	SSF #49	37
FS18 #6	63	FS18 #27	92	BSRF #6	68	BSRF #22	37	SSF #6	137	SSF #28	35	SSF #50	56
FS18 #7	45	FS18 #28	27	BSRF #7	50	BSRF #23	42	SSF #7	77	SSF #29	27	SSF #51	46
FS18 #8	36	FS18 #29	28	BSRF #8	37	BSRF #24	35	SSF #8	104	SSF #30	33	SSF #52	72
FS18 #9	26	FS18 #30	31	BSRF #9	31	BSRF #25	26	SSF #9	216	SSF #31	34	SSF #53	156
FS18 #10	41	FS18 #31	22	BSRF #10	46	BSRF #26	69	SSF #10	39	SSF #32	32	SSF #54	46
FS18 #11	69	FS18 #32	31	BSRF #11	127	BSRF #27	58	SSF #11	52	SSF #33	36	SSF #55	55
FS18 #12	71	FS18 #33	47	BSRF #12	54	BSRF #28	58	SSF #12	58	SSF #34	33	SSF #56	54
FS18 #13	65	FS18 #34	61	BSRF #13	41	BSRF #29	48	SSF #13	41	SSF #35	98	SSF #57	52
FS18 #14	56	FS18 #35	59	BSRF #14	68	BSRF #30	50	SSF #14	39	SSF #36	57	SSF #58	76
FS18 #15	26	FS18 #36	56	BSRF #15	48	BSRF #31	29	SSF #15	83	SSF #37	33	SSF #59	52
FS18 #16	54	FS18 #37	56	BSRF #16	58	BSRF #32	25	SSF #16	60	SSF #38	63	SSF #60	29
FS18 #17	22	FS18 #38	79					SSF #17	61	SSF #39	82	SSF #61	54
FS18 #18	42	FS18 #39	34					SSF #18	88	SSF #40	30	SSF #62	36
FS18 #19	30	FS18 #40	39					SSF #19	121	SSF #41	30	SSF #63	58
FS18 #20	31	FS18 #41	52					SSF #20	58	SSF #42	38	SSF #64	71
FS18 #21	23	FS18 #42	48					SSF #21	64	SSF #43	47	SSF #65	75
								SSF #22	38	SSF #44	32	SSF #66	72



Rock Lined Channel						
Channel ID	Min Depth (D) (ft)	Width (W) (ft)	z1	z2	T (ft)	Riprap Size D50 (in)
Sump A Outlet	2	4	2	2	1	R4
Sump B Outlet	2	4	2	2	1	R4
Sump C Outlet	2	4	2	2	1	R4
Bench 1 Outlet	2	0	2	2	0.75	R3
AST Drain A	2	0	2	2	1	R4
AST Drain B	2	0	2	2	1	R4
AST Drain C	2	0	2	2	1	R4

Toe Keys	
Toe Key	Toe Key Length (ft)
A	383
B	2037
C	237
D	287
E	255
F	430
G	137
H	340
J	183
K	313
L	1394
M	306
N	470
O	87

Surface Areas			
Area Name	Area (Ac.)	Area (SF)	Area (SY)
Well Pad	5.62	244,841	27,205
Well Pad Access Road	0.40	17,596	1,956
AST Pad	1.05	45,567	5,063
AST Pad Access Road	0.14	6,306	701

Earthwork & Capacity Reports

The earthwork quantities provided are an estimate for consideration. The quantities shown are calculated using a 1:1 Cut / Swell & Shrink factor. The quantities shown may be greater or less than actually excavated. The engineer is not responsible for variances from the estimated quantities and does not certify to their accuracy.

<u>Well Pad Report</u> Top of pad elevation: 1251.77 Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 3,434,856.5 C.F., 127,216.91 C.Y. Total fill: 2,043,504.5 C.F., 75,685.35 C.Y.	<u>Stockpile #1 Pad Report</u> Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 0.0 C.F., 0.00 C.Y. Total fill: 216,002.9 C.F., 8,000.11 C.Y.	<u>1221 Fink Bypass Access Road Report</u> Processing 0+00.00 to 58+33.53 Total Cut : 600804.45 C.F., 22252.02 C.Y. Total Fill: 509939.04 C.F., 18886.63 C.Y.	<u>Staging Area Stockpile Pad Report</u> Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 0.0 C.F., 0.00 C.Y. Total fill: 81,002.5 C.F., 3,000.09 C.Y.
<u>AST Pad Report</u> Top of pad elevation: 1229.00 Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 3,849.3 C.F., 142.57 C.Y. Total fill: 710,194.6 C.F., 26,303.50 C.Y.	<u>Stockpile #2 Pad Report</u> Cut Slope: 50.00% 2.00:1 26.57° Fill Slope: 50.00% 2.00:1 26.57° Pad Earthwork Volumes Total cut : 35.1 C.F., 1.30 C.Y. Total fill: 135,399.7 C.F., 5,014.80 C.Y.	<u>Staging Area Pad Report</u> Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 62,647.5 C.F., 2,320.28 C.Y. Total fill: 22,138.6 C.F., 819.95 C.Y.	<u>Stockpile #1 Report</u> Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 0.0 C.F., 0.00 C.Y. Total fill: 215,999.4 C.F., 8,000.00 C.Y.
<u>Well Pad Access Road Report</u> Processing 0+00.000 to 5+08.218 Total Cut : 991.983 C.F., 36.740 C.Y. Total Fill: 144042.971 C.F., 5334.925 C.Y.	<u>Stockpile #3 Pad Report</u> Cut Slope: 50.00% 2.00:1 26.57° Fill Slope: 50.00% 2.00:1 26.57° Pad Earthwork Volumes Total cut : 0.0 C.F., 0.00 C.Y. Total fill: 22,588.2 C.F., 836.60 C.Y.	<u>Staging Area East Access Road Report</u> Processing 0+00.00 to 0+72.40 Total Cut : 8.81 C.F., 0.33 C.Y. Total Fill: 800.61 C.F., 29.65 C.Y.	<u>Stockpile #2 Report</u> Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 0.0 C.F., 0.00 C.Y. Total fill: 162,000.2 C.F., 6,000.01 C.Y.
<u>AST Access Road Report</u> Processing 0+00.000 to 2+47.299 Total Cut : 81.956 C.F., 3.035 C.Y. Total Fill: 46710.155 C.F., 1730.006 C.Y.	<u>Stockpile #4 Pad Report</u> Cut Slope: 50.00% 2.00:1 26.57° Fill Slope: 50.00% 2.00:1 26.57° Pad Earthwork Volumes Total cut : 1.2 C.F., 0.05 C.Y. Total fill: 243,167.5 C.F., 9,006.20 C.Y.	<u>Staging Area West Access Road Report</u> Processing 0+00.00 to 0+44.64 Total Cut : 59.78 C.F., 2.21 C.Y. Total Fill: 187.21 C.F., 6.93 C.Y.	<u>Stockpile #3 Report</u> Cut Slope: 50.00% 2.00:1 Fill Slope: 50.00% 2.00:1 Pad Earthwork Volumes Total cut : 0.5 C.F., 0.02 C.Y. Total fill: 135,003.2 C.F., 5,000.12 C.Y.
	<u>Stockpile #5 Pad Report</u> Cut Slope: 50.00% 2.00:1 26.57° Fill Slope: 50.00% 2.00:1 26.57° Pad Earthwork Volumes Total cut : 0.0 C.F., 0.00 C.Y. Total fill: 121,529.5 C.F., 4,501.09 C.Y.		

Revision
Design
Date
02-04-2025



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Schedule of Quantities
1221 Well Site
Freemans Creek District
Lewis County, WV



Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet V1 of V1

1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification



Revision
Design

Date
02-04-2025

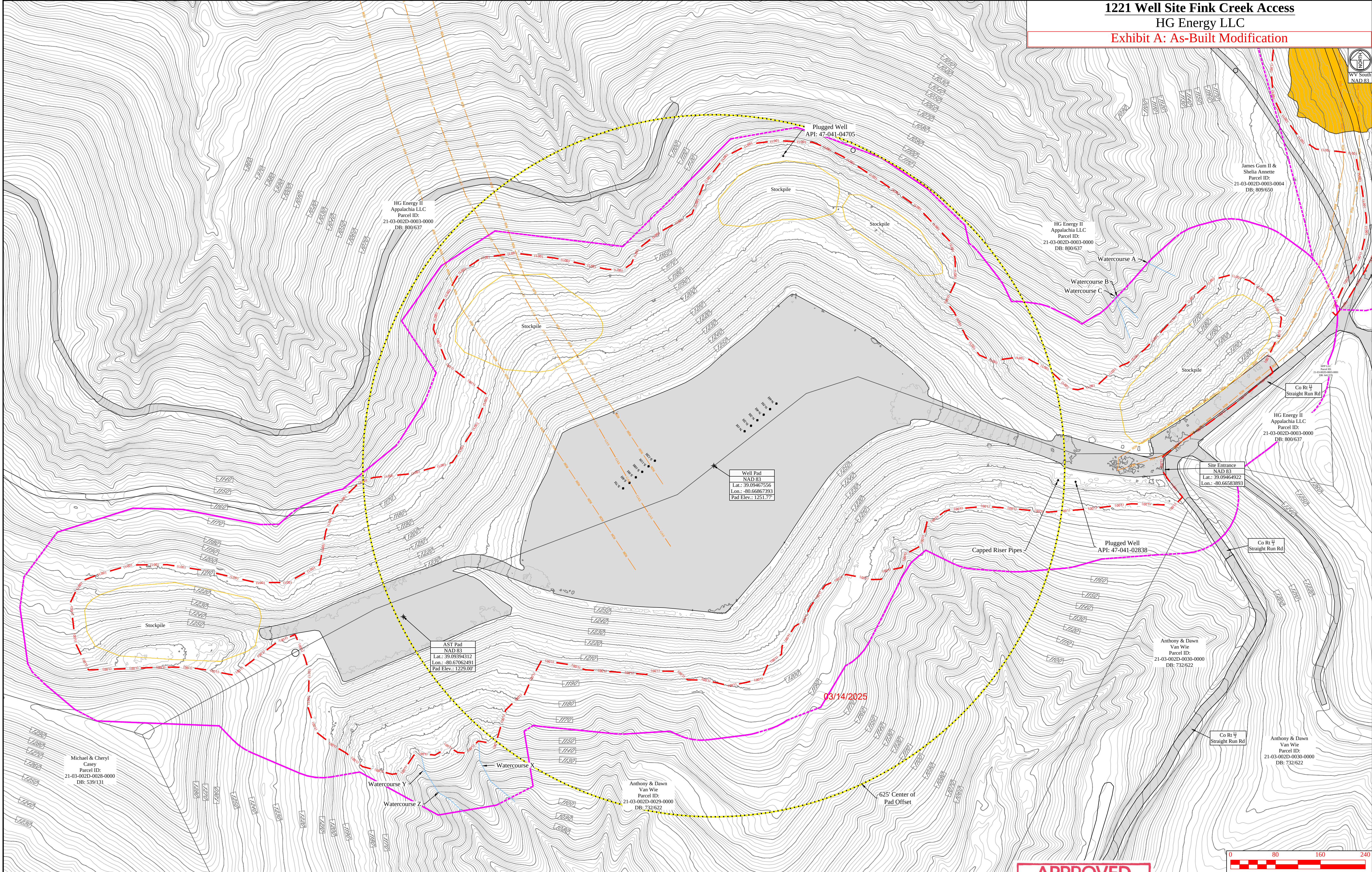


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Pre-Construction Site Conditions
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 2 of 32



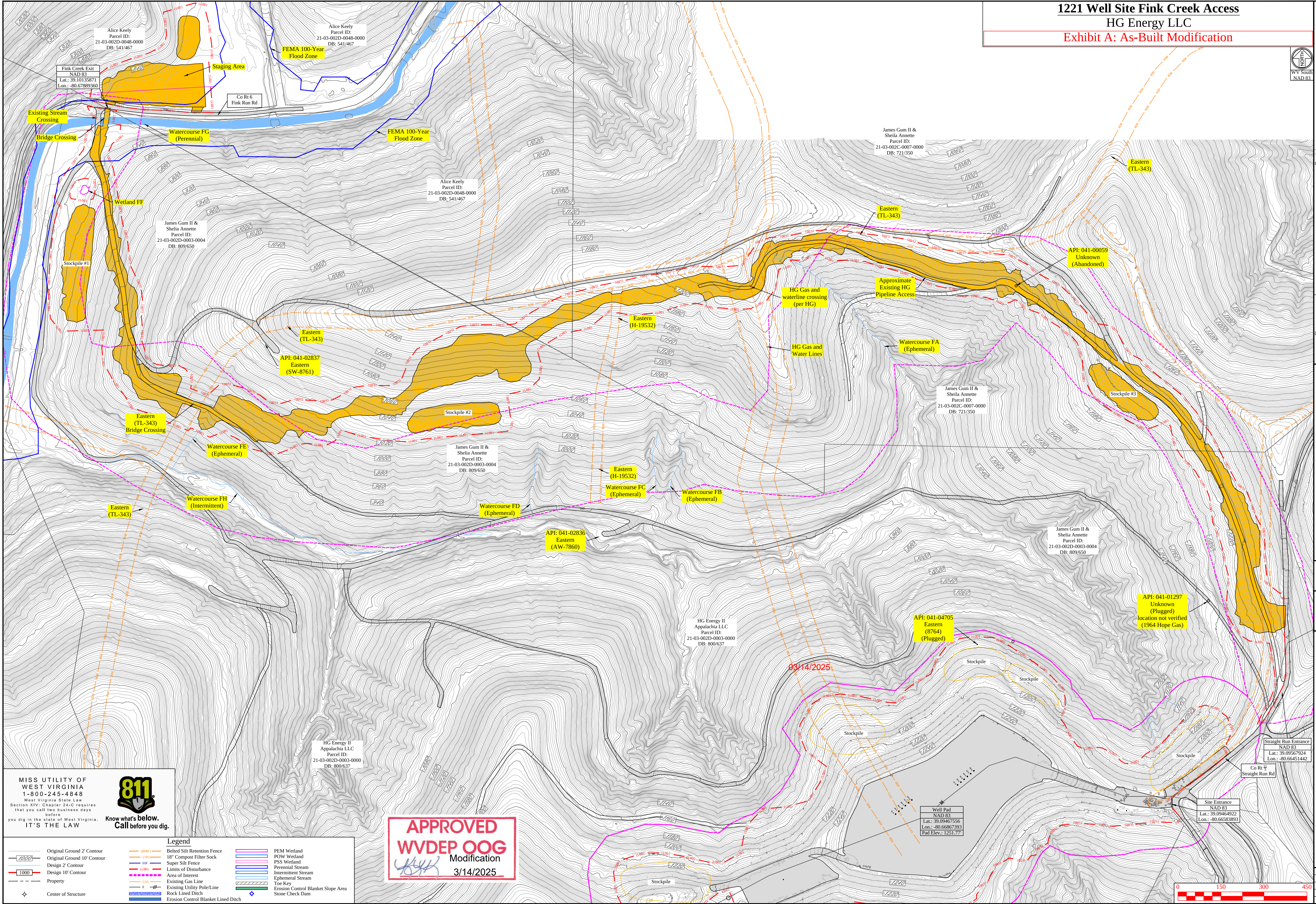
Legend			
	Original Ground 2' Contour		Belted Silt Retention Fence
	Original Ground 10' Contour		18' Compust Filter Sock
	Design 2' Contour		Super Silt Fence
	Design 10' Contour		Limits of Disturbance
	Property		Area of Interest
	Existing Gas Line		Existing Utility Pole/Line
	Rock Lined Ditch		Erosion Control Blanket Lined Ditch
	Center of Structure		PEM Wetland
			PDW Wetland
			PSS Wetland
			Perennial Stream
			Intermittent Stream
			Ephemeral Stream
			Toe Key
			Erosion Control Blanket Slope Area
			Stone Check Dam

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WVDEP OOG
Modification
3/14/2025



MISS UTILITY OF
WEST VIRGINIA
1-800-245-4848
West Virginia State Law
Section XIV, Chapter 24-C requires
that you call two business days
before
you dig in the state of West Virginia.
IT'S THE LAW





1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision	Date	Design
	02-04-2025	



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Pre-Construction Site Conditions - Bypass Access Road
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 3 of 32

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West Virginia State Law
Section XIV, Chapter 24-C requires
that you call two business days
before
you dig in the state of West Virginia.
IT'S THE LAW



Legend
Original Ground 2' Contour
Original Ground 10' Contour
Design 2' Contour
Design 10' Contour
Property
Center of Structure
Belted Silt Retention Fence
18" Composite Filter Sock
Super Silt Fence
Limits of Disturbance
Area of Interest
Existing Gas Line
Existing Utility Pole/Line
Rock Lined Ditch
Erosion Control Blanket Lined Ditch
PEM Wetland
POW Wetland
PSS Wetland
Perennial Stream
Intermittent Stream
Ephemeral Stream
Toe Key
Erosion Control Blanket Slope Area
Stone Check Dam

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WVDEP OOG
Modification
3/14/2025



1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Legend

- Center of Structure
- Property Line
- Limits of Disturbance
- Area of Interest

- PEM Wetland
- POW Wetland
- PSS Wetland
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream

Soil Key

- Cu Chargin silt loam, 0 to 3 percent slopes, occasionally flooded
- GuD Gilpin-Upshur silt loams, 15 to 25 percent slopes
- GuE Gilpin-Upshur silt loams, 25 to 35 percent slopes
- GwF3 Gilpin-Upshur silt loams, 35 to 70 percent slopes, severely eroded
- Ha Hackers silt loam, 0 to 3 percent slopes, rarely flooded
- Su Seneshough silt loam, 0 to 3 percent slopes, occasionally flooded
- VaD Vandalia silt loam, 15 to 25 percent slopes
- VaE Vandalia silt loam, 25 to 35 percent slopes

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WVDEP OOG
Modification
3/14/2025



MISS UTILITY OF
WEST VIRGINIA
1-800-245-4848
West Virginia State Law
Section XIV, Chapter 24-C requires
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IT'S THE LAW



Revision	Date
Design	02-04-2025



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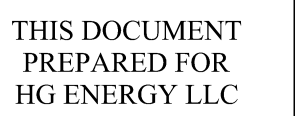
Site Soil Map
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 4 of 32

Exhibit A: As-Built Modification



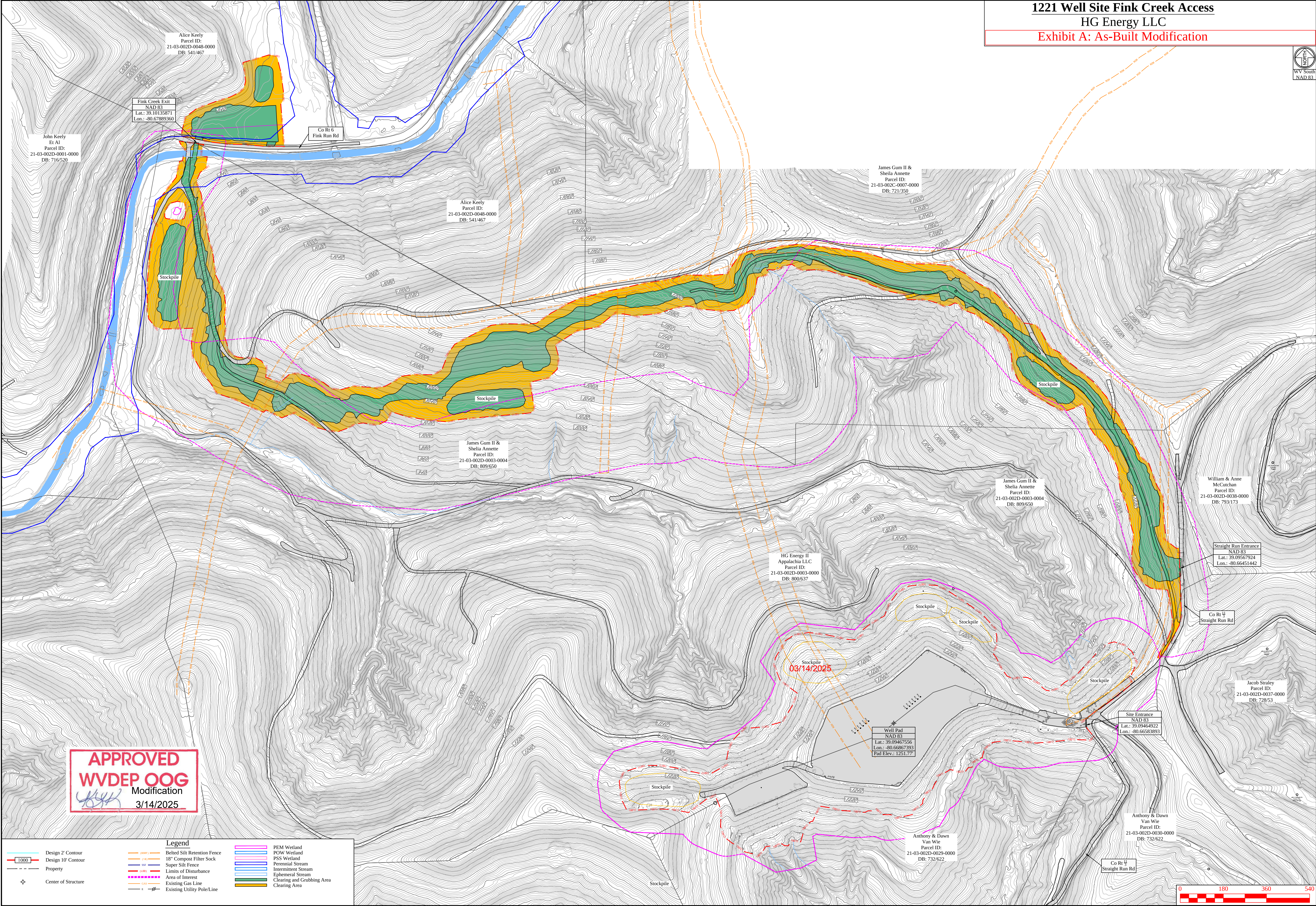
2-04-2025



Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 5 of 32





1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision	Design
Date	02-04-2025
THIS DOCUMENT PREPARED FOR HG ENERGY LLC	
Kelly Surveying P.O. Box 254 Delmar, WV 26039 304-338-0965	
Clearing Exhibit 1221 Well Site Freemans Creek District Lewis County, WV	
Date: 02/04/2025 Scale: As Shown Designed By: ZS File No. Sheet 6 of 32	

HG Energy LLC

WV South

ISP LLC
Parcel ID:
21-03-000-000

Anthony & Dawn
Van Wie
Parcel ID:
1-03-002D-0030-0000
DB: 732/622

03/14/2025

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WVDEP OOG
Modification
3/14/2025

Kelly Surveying
P.O. Box 254
Daley, WV 26259
(304)338-6985

Overall Site Plan

1221 Well Site

Leemans Creek District
Lewis County, WV

Date: 02/04/2025
 Scale: As Shown
 Designed By: ZS
 File No.
 Sheet 7 of 32

The contractor shall not deviate from the above listed construction sequence without the written consent of the design engineer. The contractor must provide a written explanation and provide an updated construction sequence when requesting permission to deviate from the construction sequence.

Legend

(L00)

	(BSRF)	Belted Silt Retention Fence
	(1B)	18" Compost Filter Sock
	SSF	Super Silt Fence
	(LOD)	Limits of Disturbance
		Area of Interest
	GAS	Existing Gas Line
	E	Existing Utility Pole/Line
		Rock Lined Ditch
		Erosion Control Blanket Lin

 PEM Wetland
 POW Wetland
 PSS Wetland
 Perennial Stream
 Intermittent Stream
 Ephemeral Stream
 Toe Key
 Erosion Control Blanket Slope Area
 Stone Check Dam
 Ditch

 PEM Wetland
 POW Wetland
 PSS Wetland
 Perennial Stream
 Intermittent Stream
 Ephemeral Stream
 Toe Key
 Erosion Control Blanket Slope Area
 Stone Check Dam
 Ditch

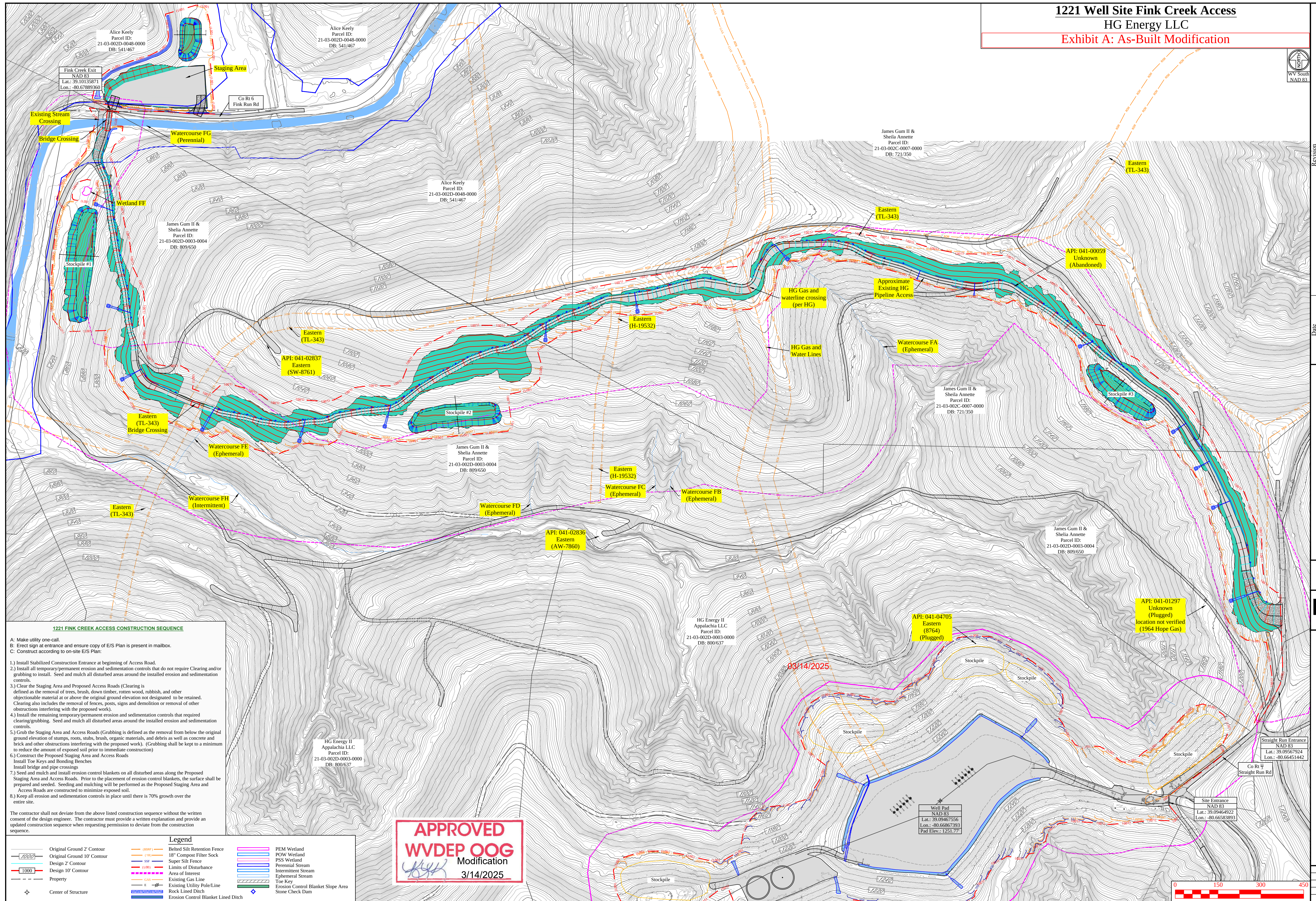
Exhibit A: As-Built Modification

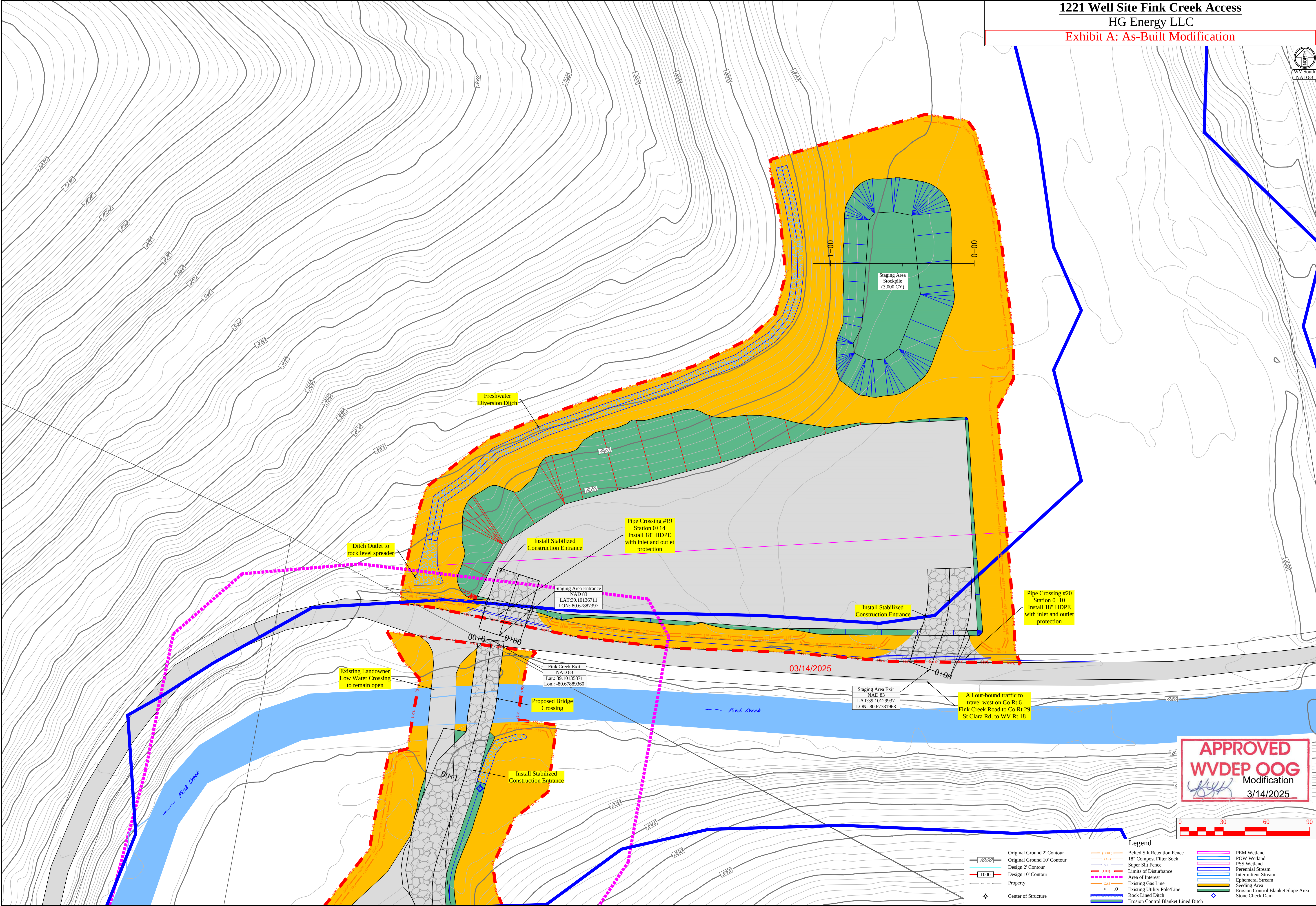


02-04-2025

Kelly Surveying
P.O. Box 254
Dallies, WV 26219

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 8 of 32





1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision	Date
Design	02-04-2025



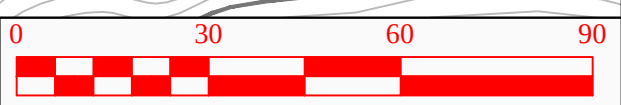
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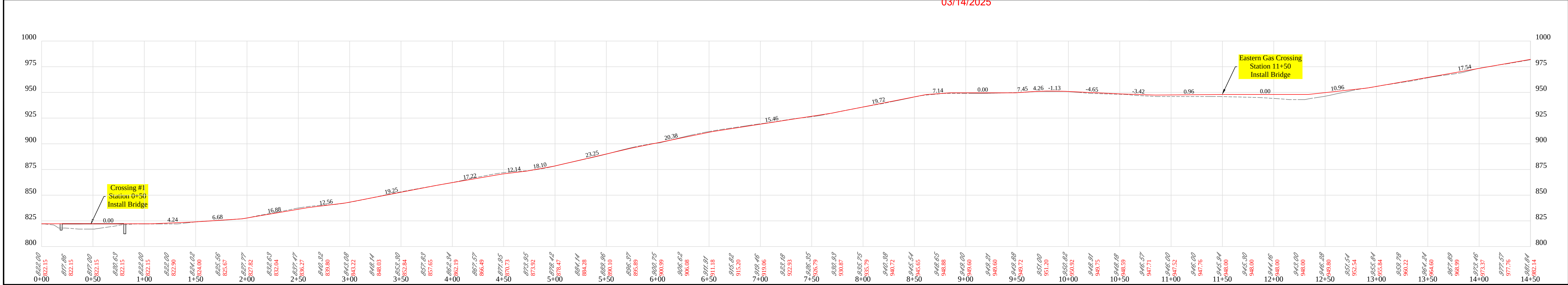
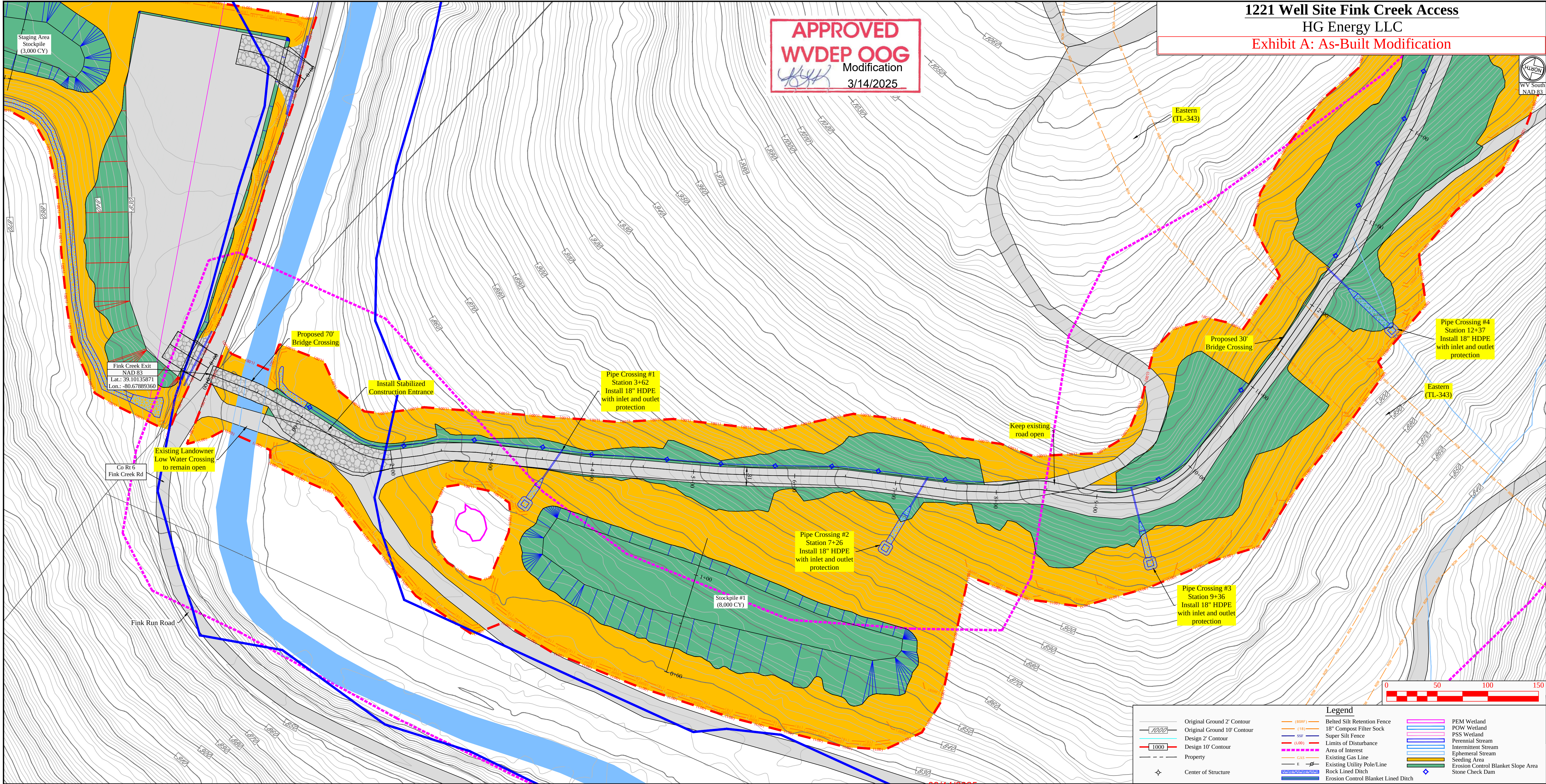
Erosion and Sediment Control Plan
1221 Fink Creek Access
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 9 of 32

APPROVED
WVDEP OOG
Modification
3/14/2025



Legend	
Original Ground 2' Contour	Belted Silt Retention Fence
Original Ground 10' Contour	18" Compost Filter Sock
Design 2' Contour	Super Silt Fence
Design 10' Contour	Limits of Disturbance
Property	Area of Interest
Center of Structure	Existing Gas Line
	Existing Utility Pole/Line
	Rock Lined Ditch
	Erosion Control Blanket Lined Ditch
	PEM Wetland
	POW Wetland
	PSS Wetland
	Perennial Stream
	Intermittent Stream
	Ephemeral Stream
	Seeding Area
	Erosion Control Blanket Slope Area
	Stone Check Dam



Revision	Date	Design
	02-04-2025	

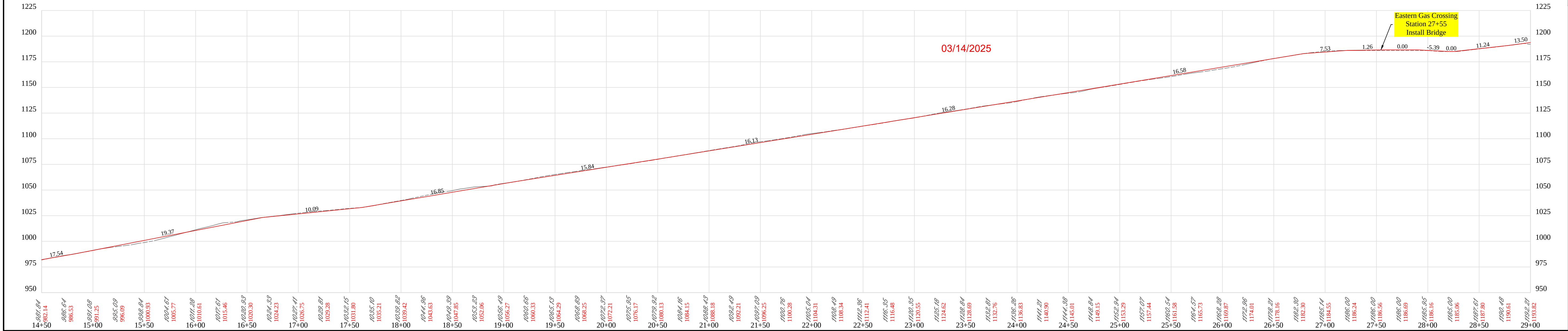
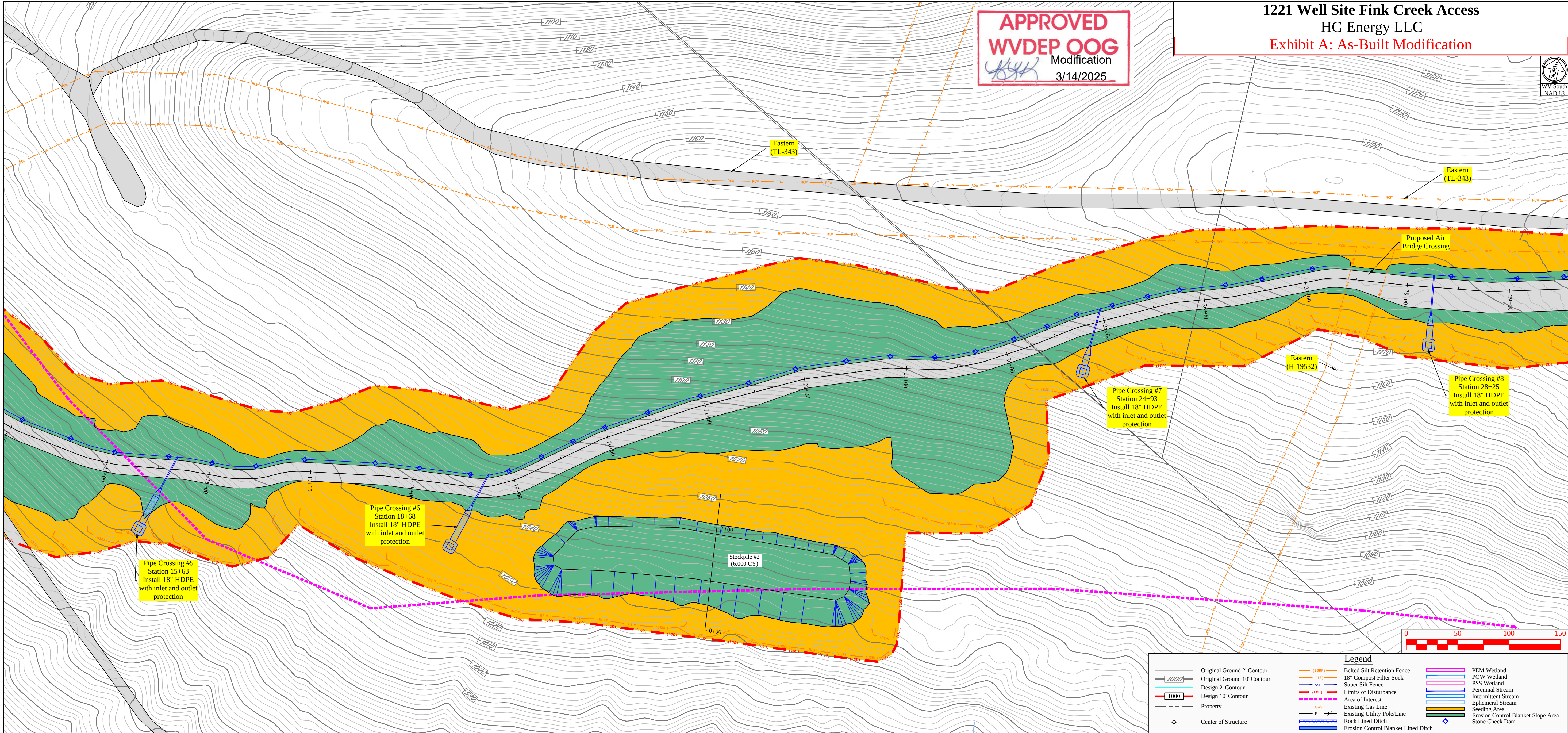
HG ENERGY LLC

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Kelly Surveying
P.O. Box 254
Delmar, WV 26039
304-338-0965

Erosion and Sediment Control Plan
1221 Fink Creek Access
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.:
Sheet 10 of 32



Revision	Date	Design
	02-04-2025	

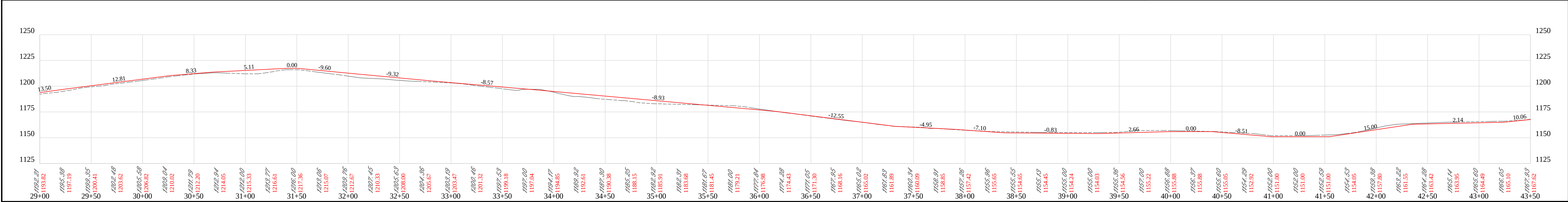
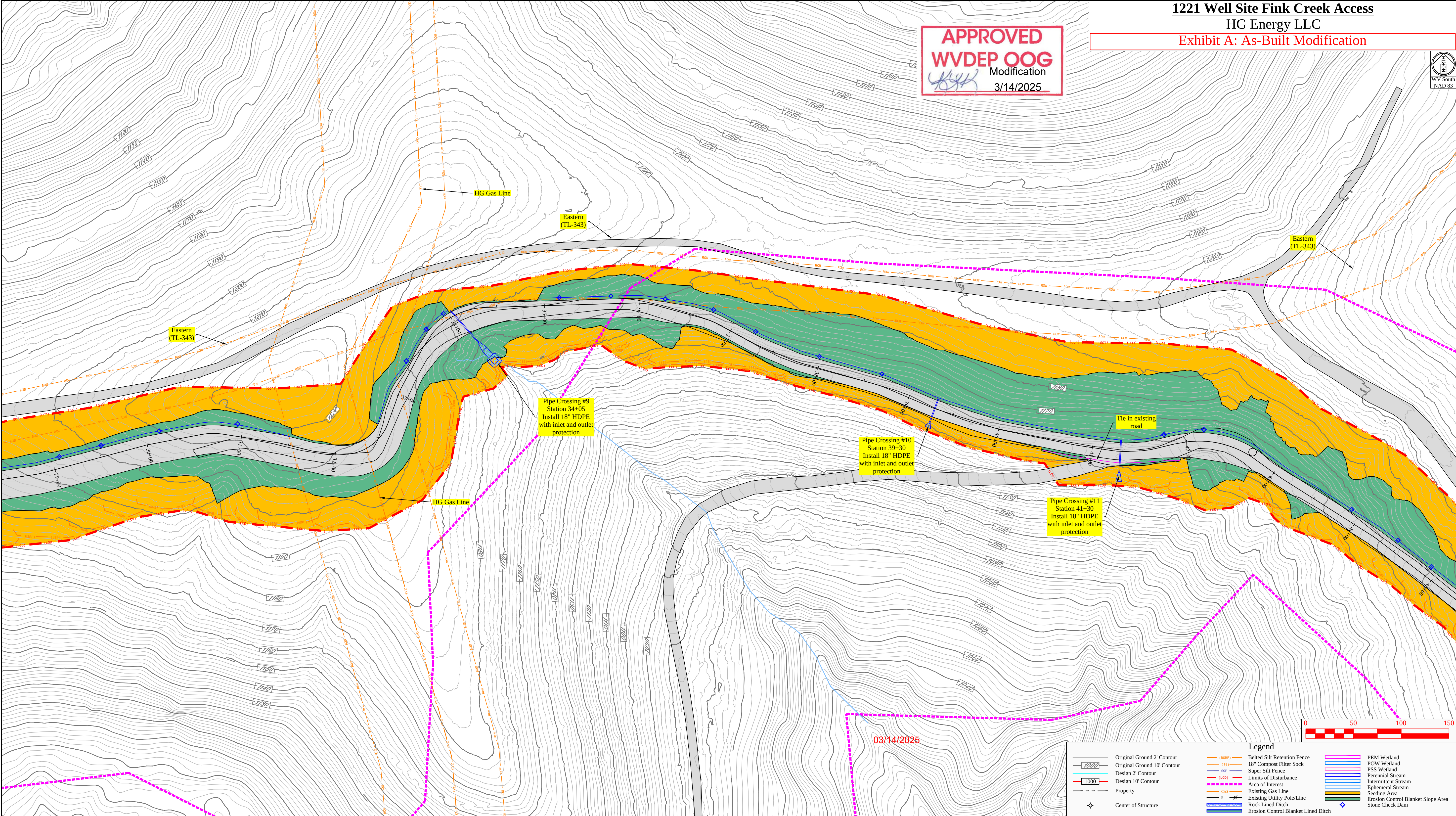
HG ENERGY LLC

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Kelly Surveying
P.O. Box 254
Delmar, WV 26299
304-338-0985

Erosion and Sediment Control Plan
1221 Fink Creek Access
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 11 of 32



1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification

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Modification
3/14/2025



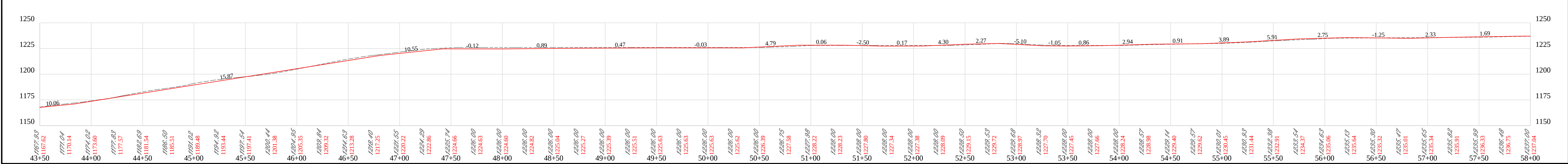
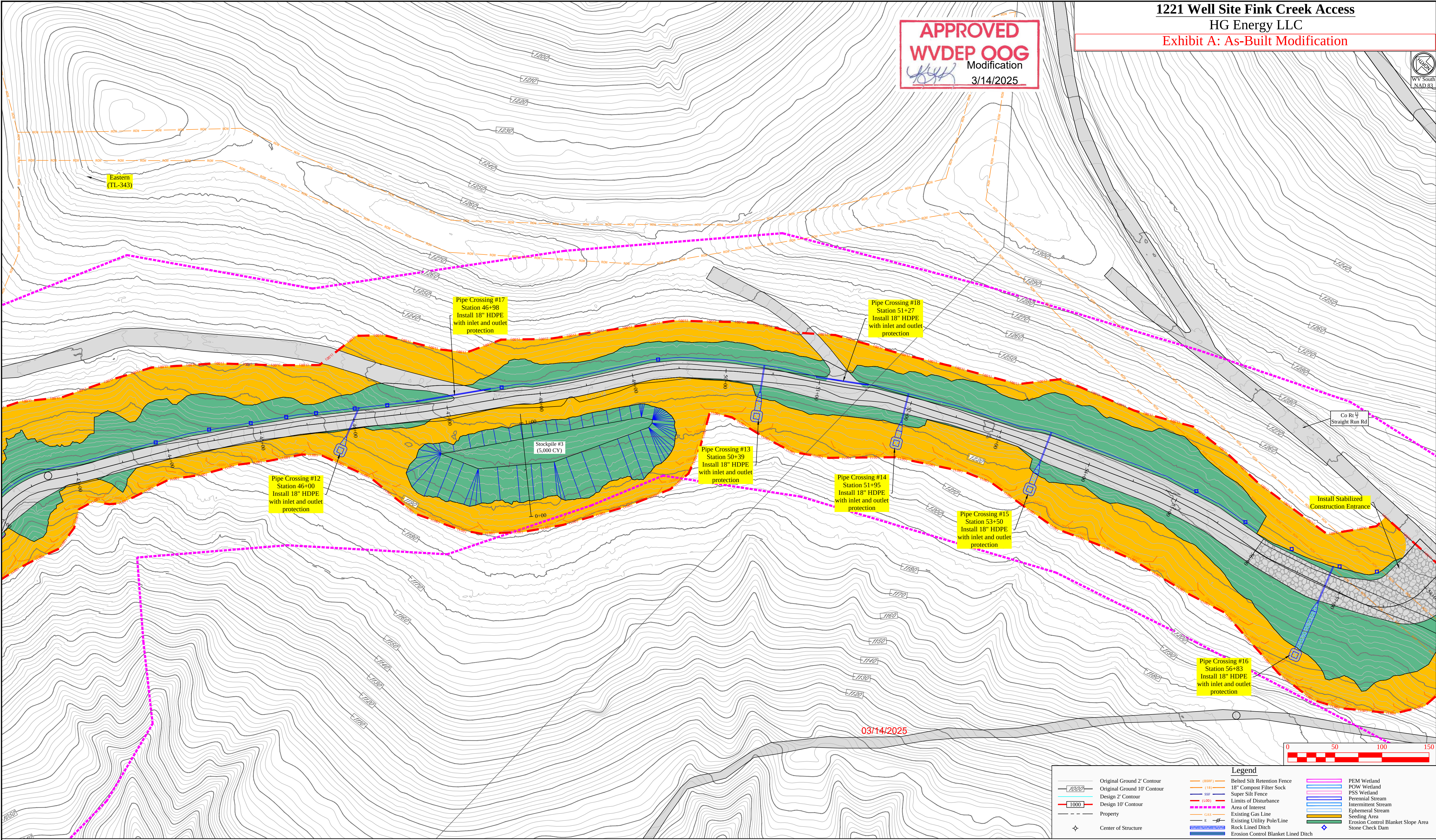
Revision	Date
Design	02-04-2025



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Erosion and Sediment Control Plan
1221 Fink Creek Access
Freemans Creek District
Lewis County, WV



Revision	Design
Date	02-04-2025

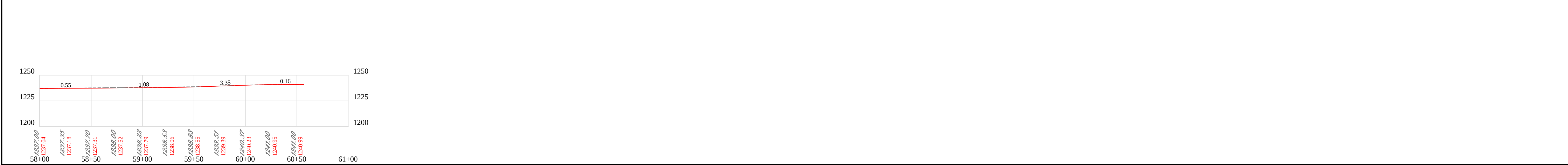
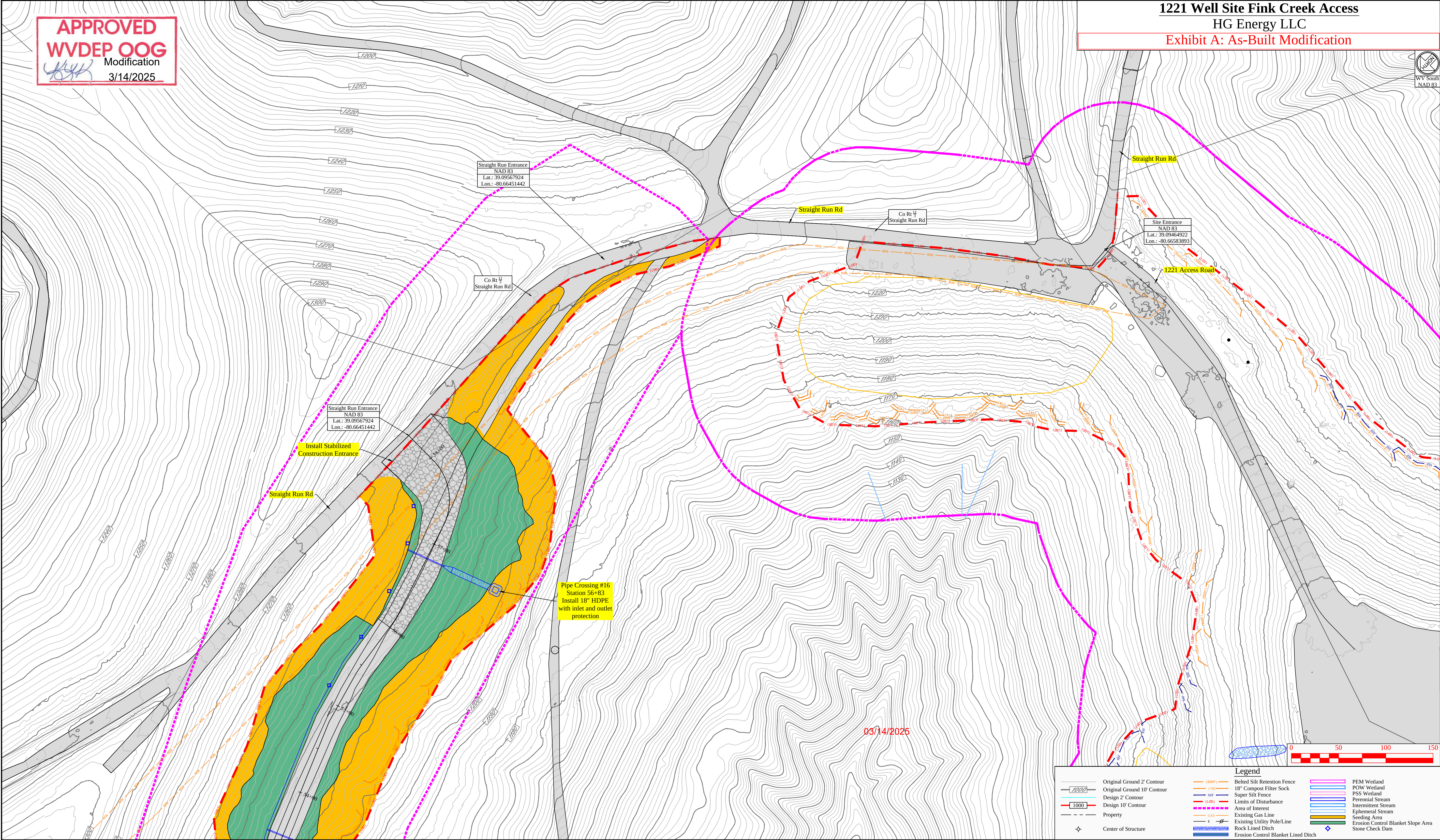
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Kelly S Surveying
P.O. Box 254
Dolley, WV 26239
304-338-0965

Erosion and Sediment Control Plan
1221 Fink Creek Access
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 13 of 32



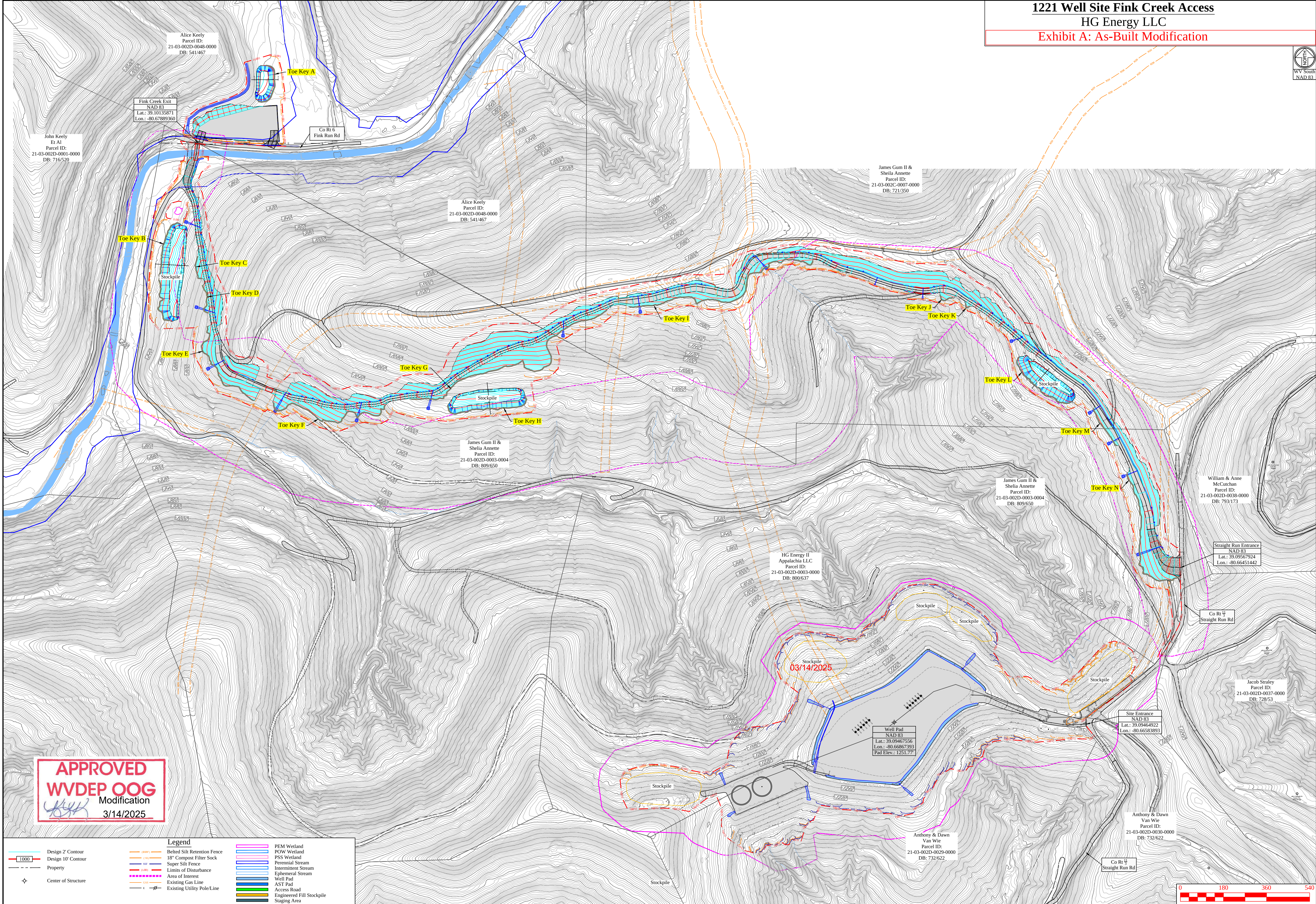
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WVDEP OOG
Modification
3/14/2025

1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision		Date	Description
Rev	By		
01	Design	02-04-2025	
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1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



APPROVED
WVDEP OOG
Modification
3/14/2025

Legend

- | | | | |
|---------------------------|----------------------------|-----------------------|---------------------------|
| Design 2' Contour | Design 10' Contour | Property | Center of Structure |
| 18" Composite Filter Sock | Super Silt Fence | Limits of Disturbance | Area of Interest |
| Existing Gas Line | Existing Utility Pole/Line | PEM Wetland | POW Wetland |
| PSS Wetland | Perennial Stream | Intermittent Stream | Ephemeral Stream |
| Well Pad | AST Pad | Access Road | Engineered Fill Stockpile |
| Staging Area | | | |

Revision
Design

Date
02-04-2025



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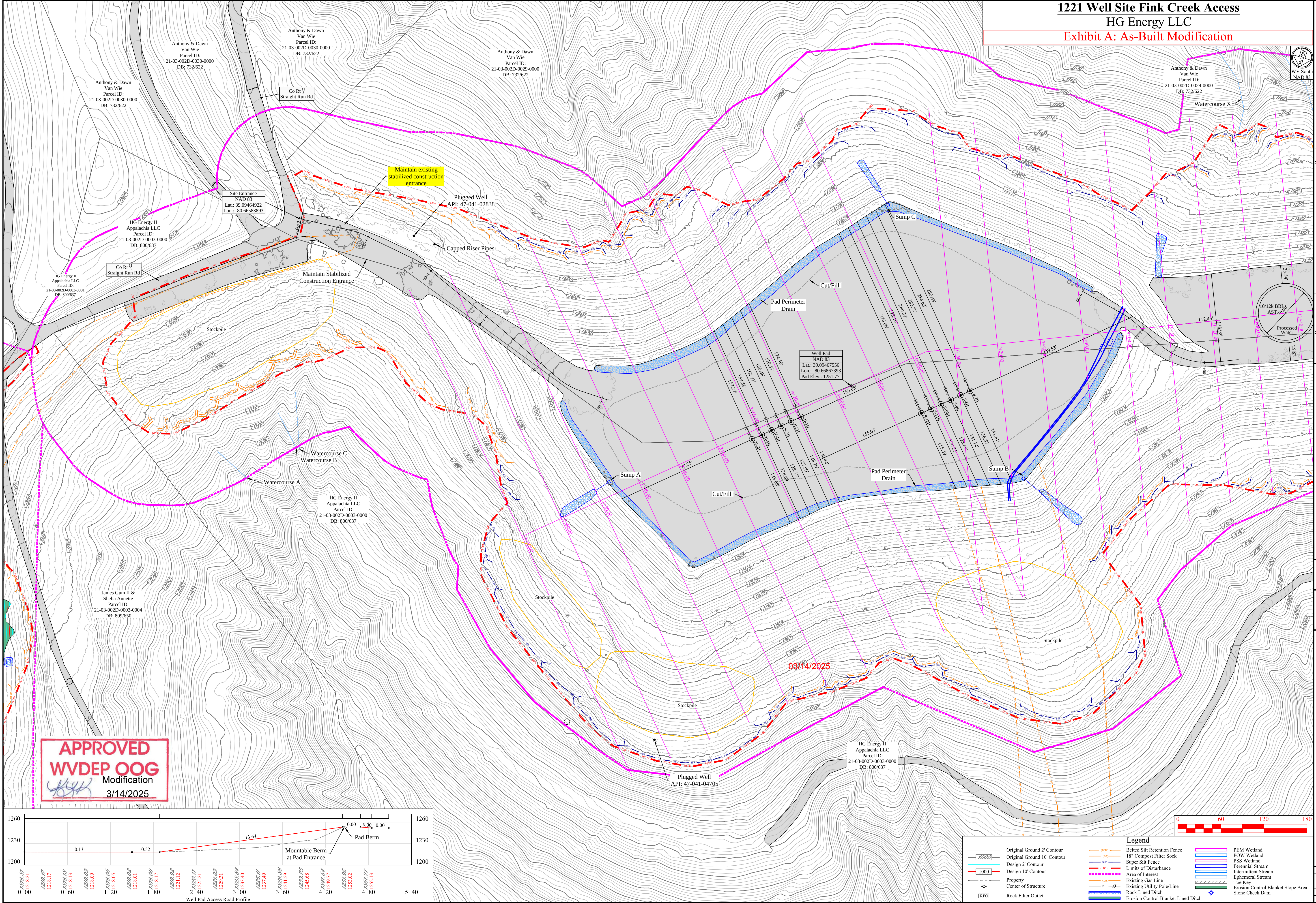
Toe Key Exhibit
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 15 of 32

1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification



Revision	Date	Design
02-04-2025		

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Kelly Surveying
1000 254
Frederick, WV 26299
304-338-0965

1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 16 of 32

1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision
Design

Date
02-04-2025

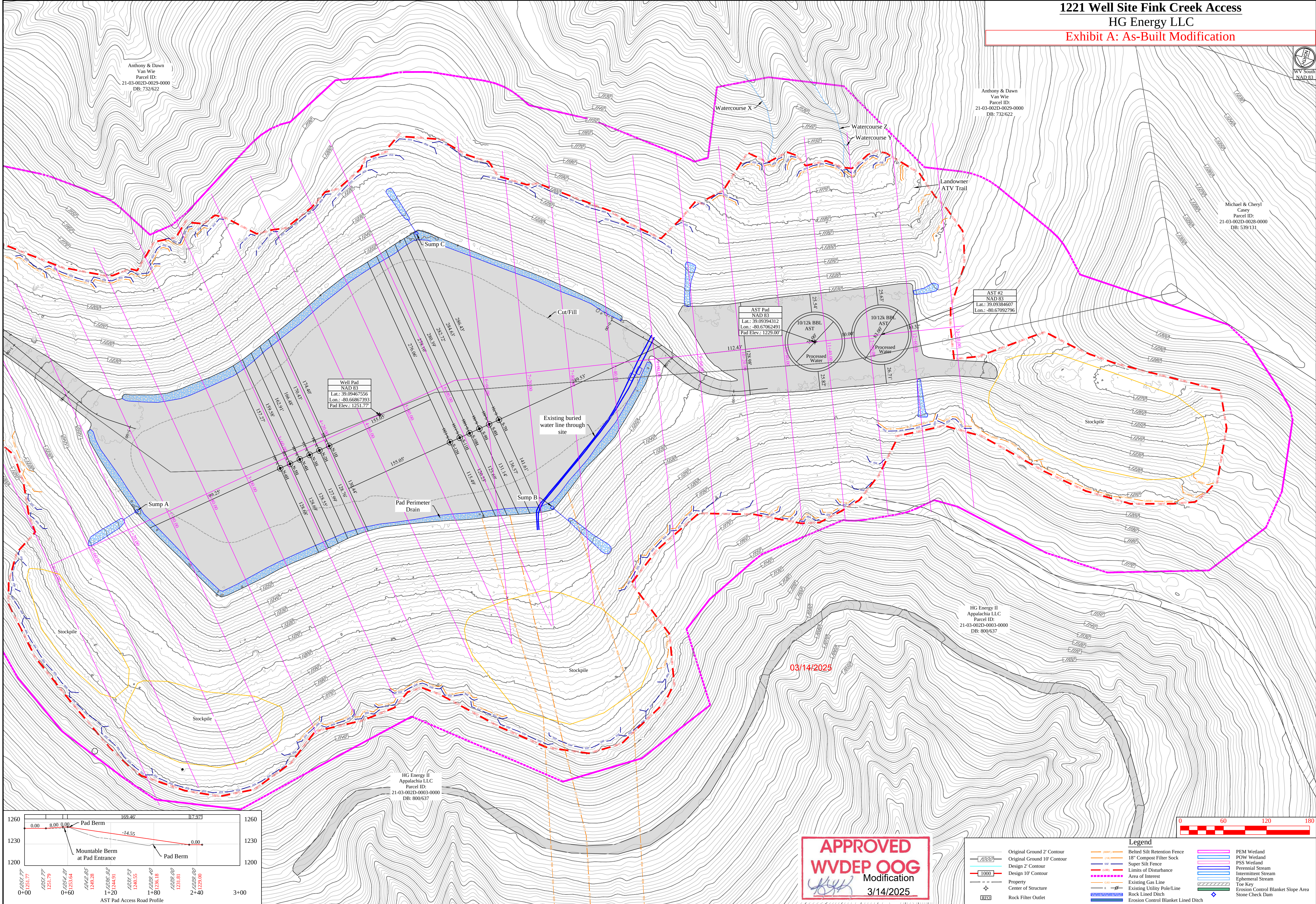


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Site Plan
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 17 of 32



1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision
Design

Date
02-04-2025

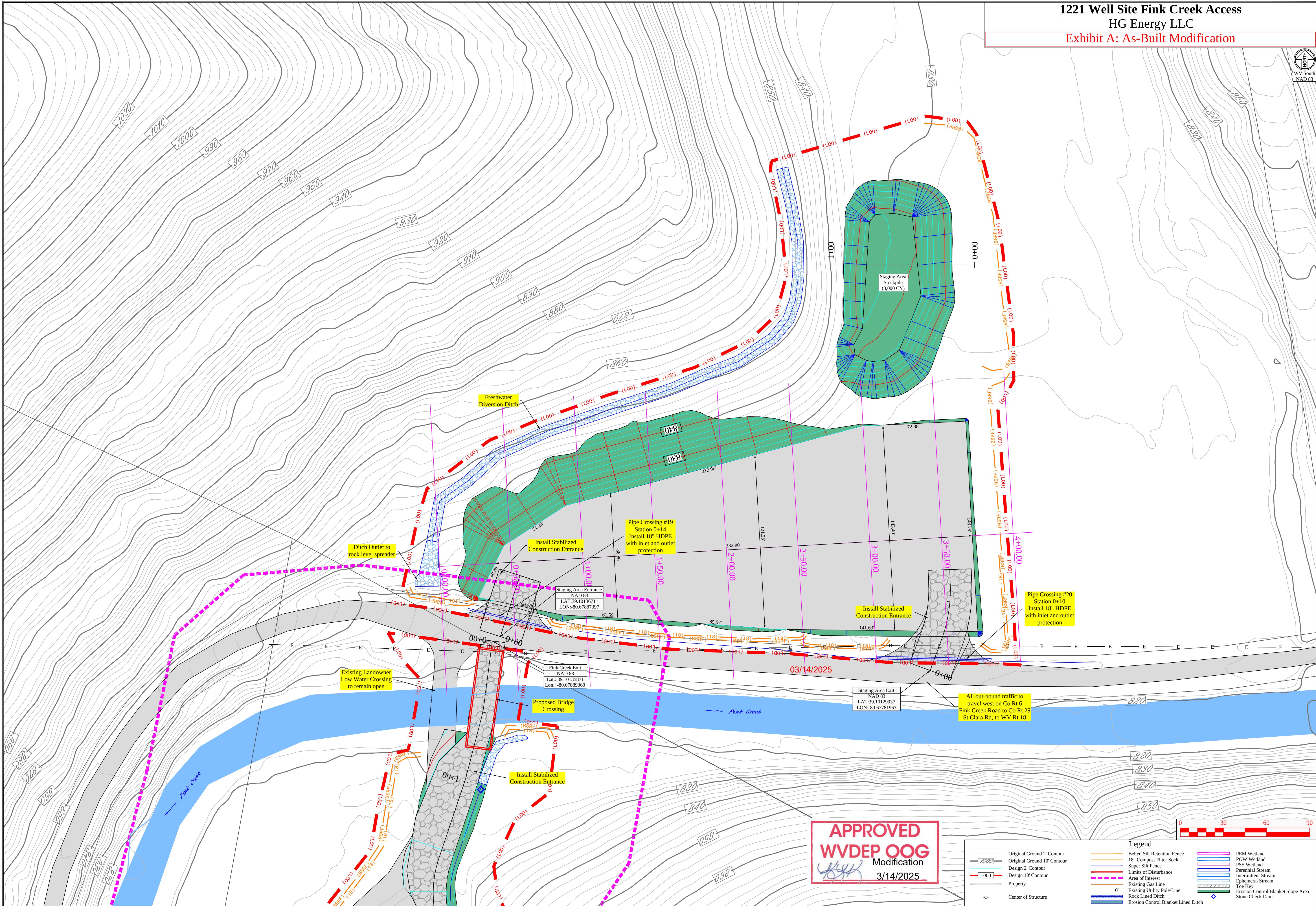


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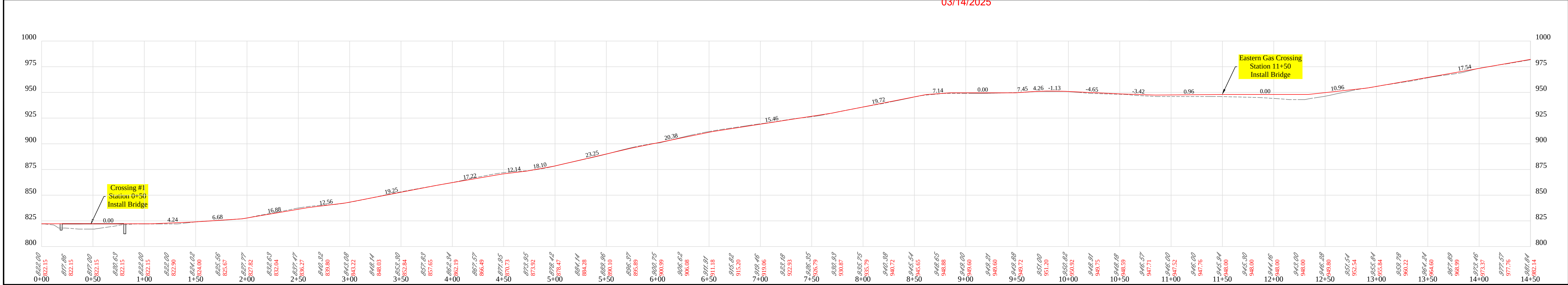
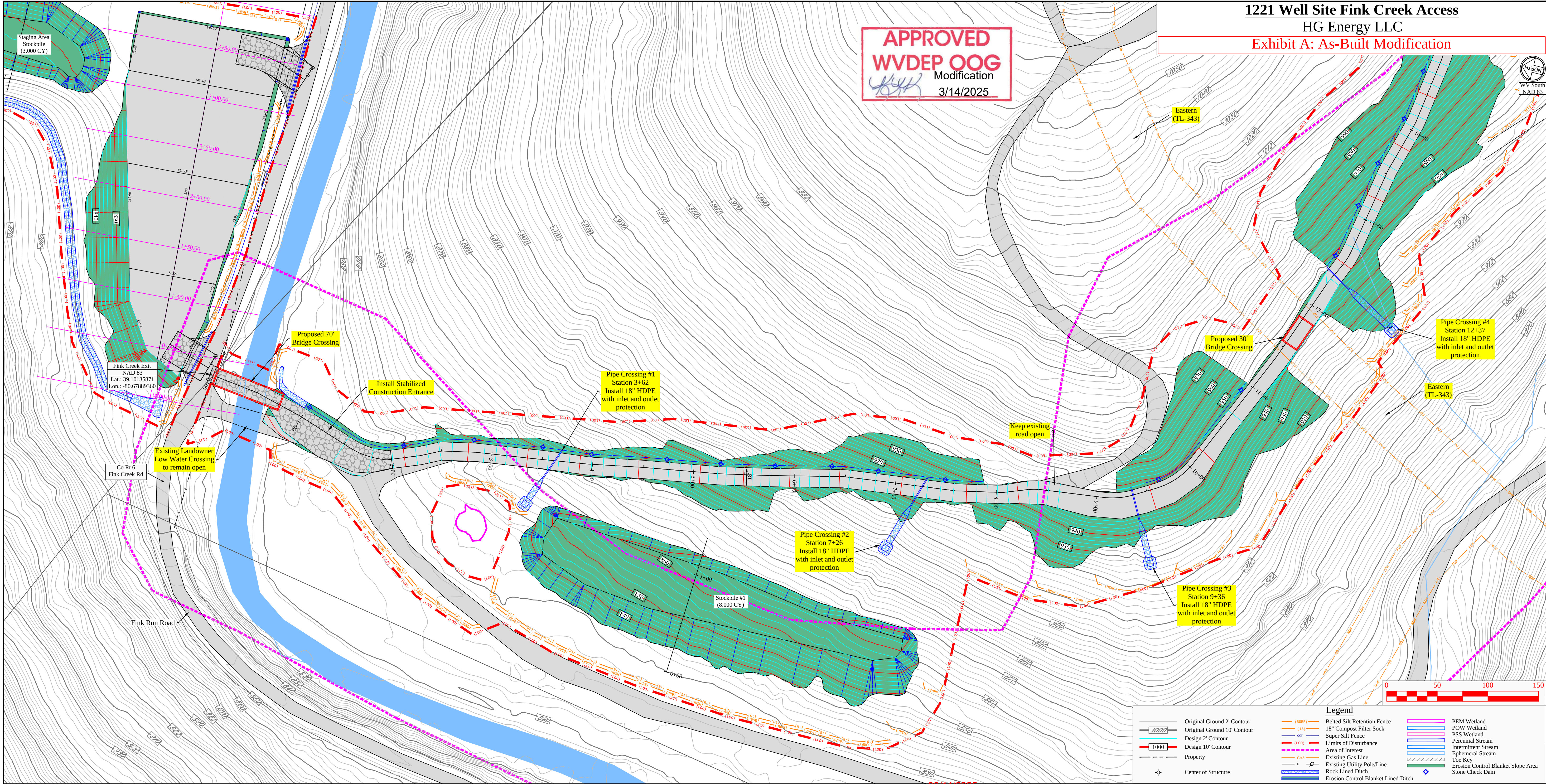
Site Plan - Fink Creek Existing Access
1221 Fink Creek Access
Freemans Creek District
Lewis County, WV

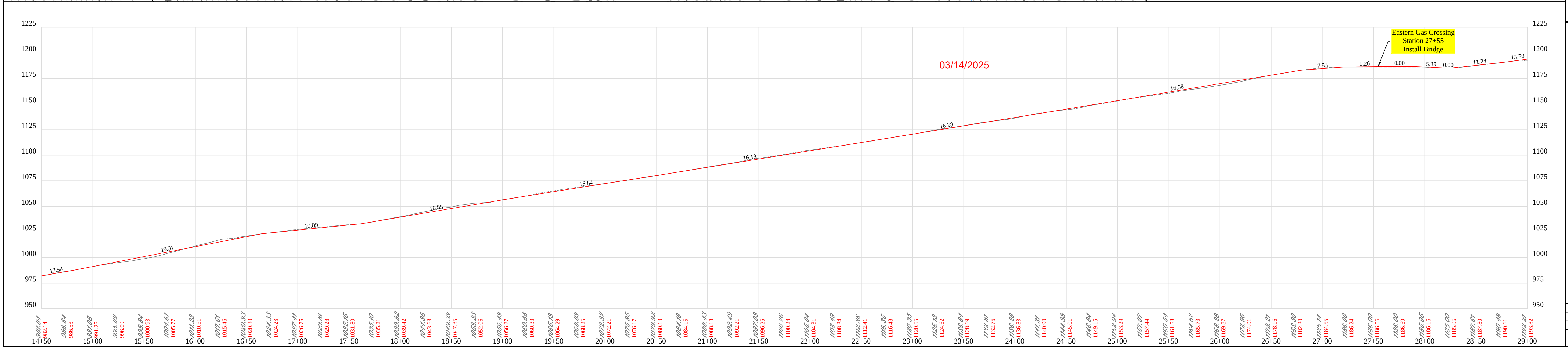
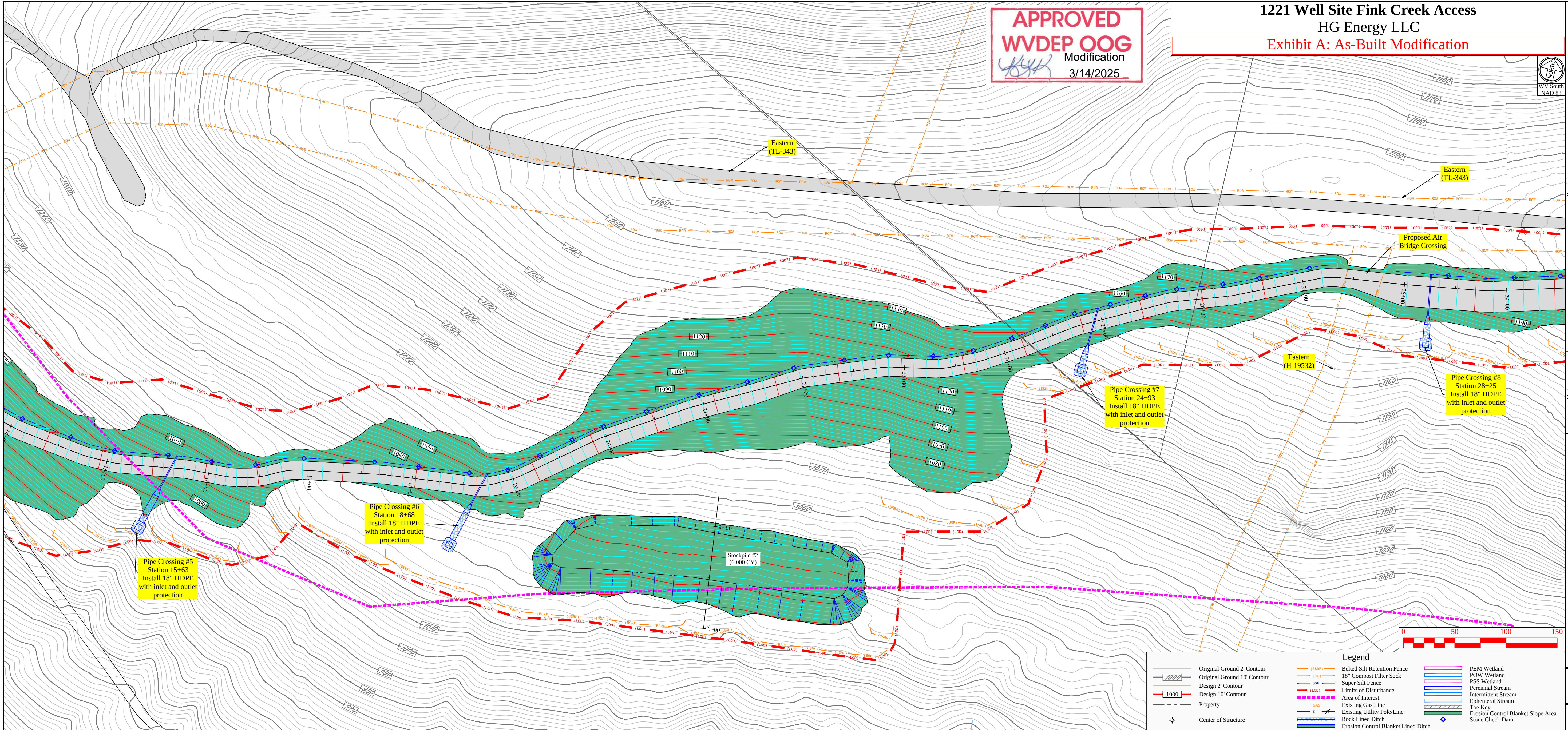
Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
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WVDEP OOG
Modification
03/14/2025

Legend			
	Original Ground 2' Contour		Belied Silt Retention Fence
	Original Ground 10' Contour		18" Compost Filter Sock
	Design 2' Contour		Super Silt Fence
	Design 10' Contour		Limits of Disturbance
	Property		Area of Interest
	Center of Structure		Existing Gas Line
	Rock Lined Ditch		Existing Utility Pole/Line
	Erosion Control Blanket Lined Ditch		PEM Wetland
	POW Wetland		PSS Wetland
	Perennial Stream		Intermittent Stream
	Ephemeral Stream		Toe Key
	Erosion Control Blanket Slope Area		Stone Check Dam





Revision	Design
Date	02-04-2025

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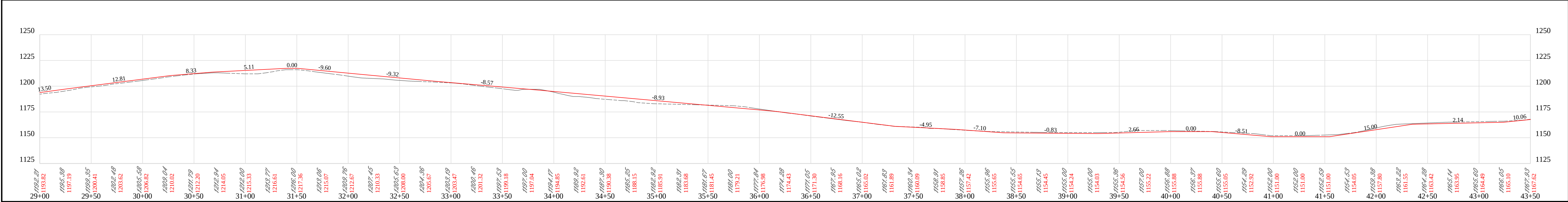
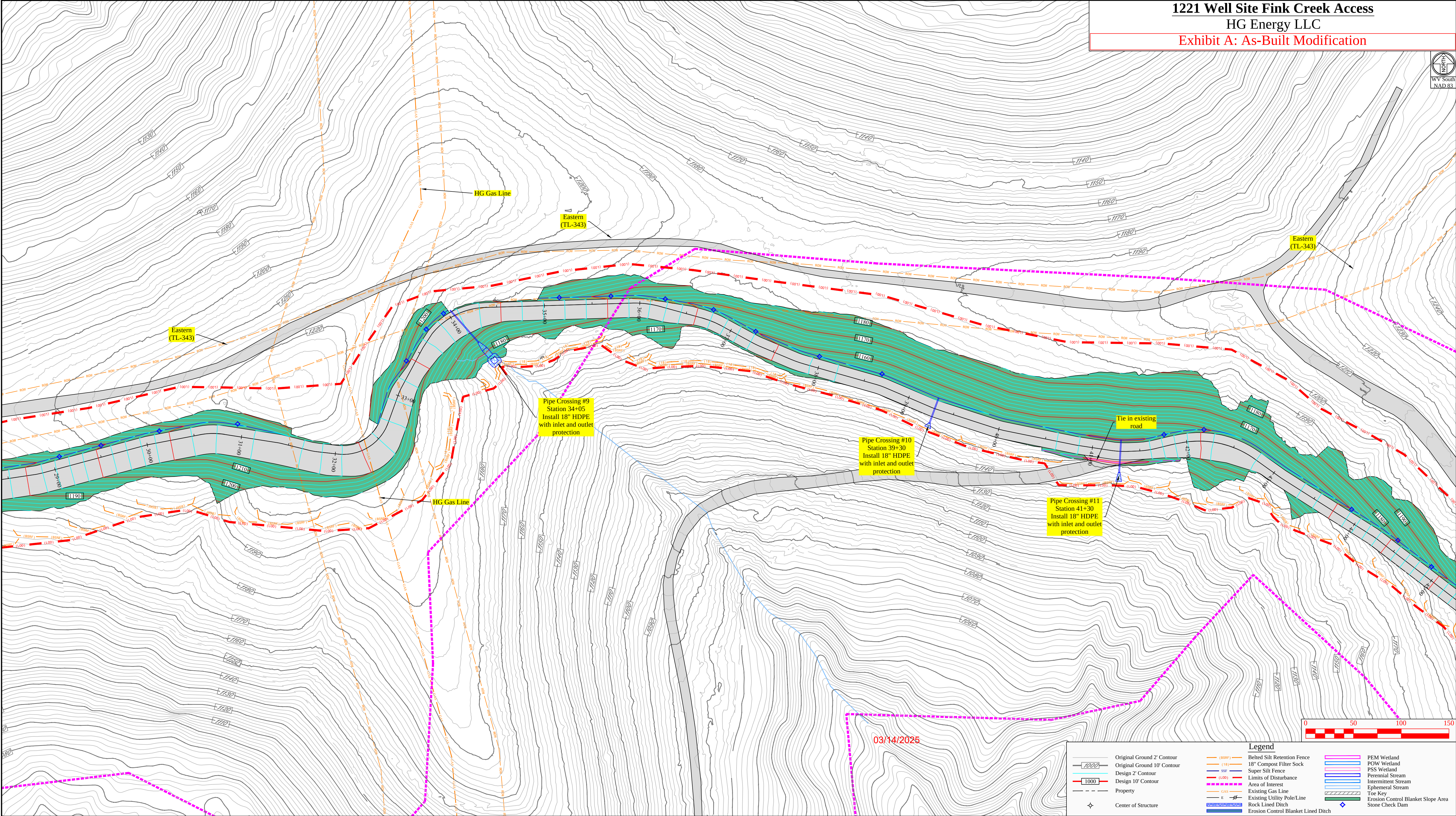
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HG ENERGY LLC

Kelly S
Surveying
P.O. Box 254
Delmar, WV 26299
304-338-0985

Site Plan - Fink Creek Access Road

1221 Well Site
Freemans Creek District
Lewis County, WV

Date:	02/04/2025
Scale:	As Shown
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File No.	
Sheet	20 of 32



1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



Revision	Date
Design	02-04-2025

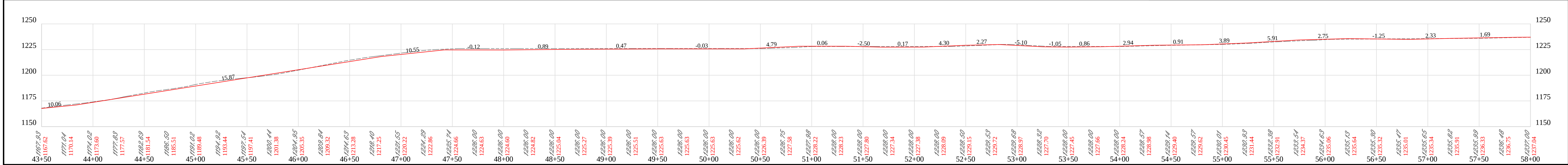
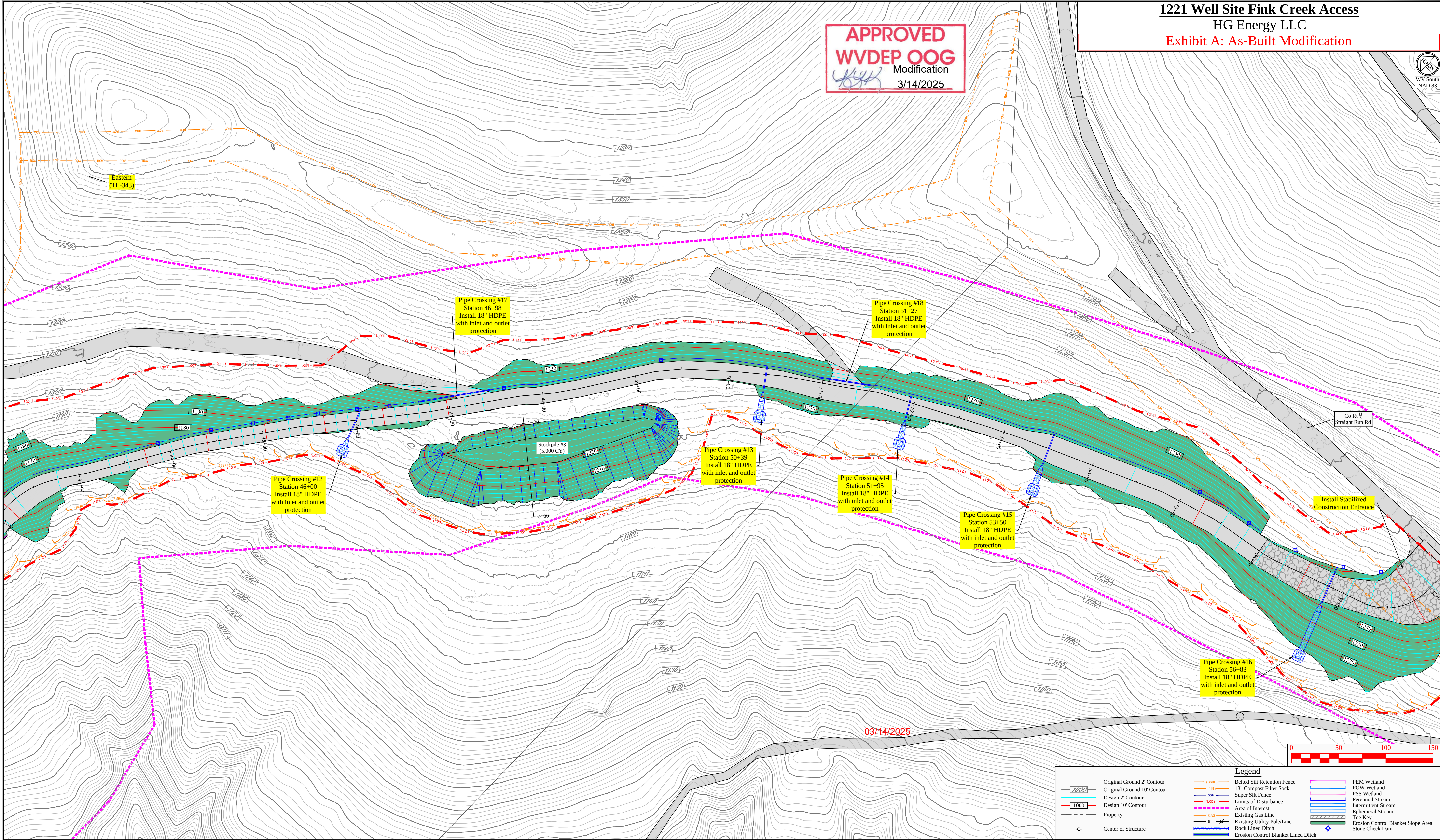


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Site Plan - Fink Creek Access Road
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
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File No.
Sheet 21 of 32



1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification

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WVDEP OOG
Modification
3/14/2025

WV South
NAD83

Date
02-04-2025

Revision
Design

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LLC

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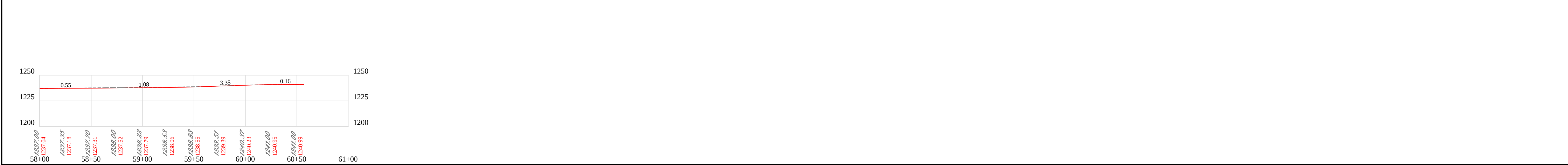
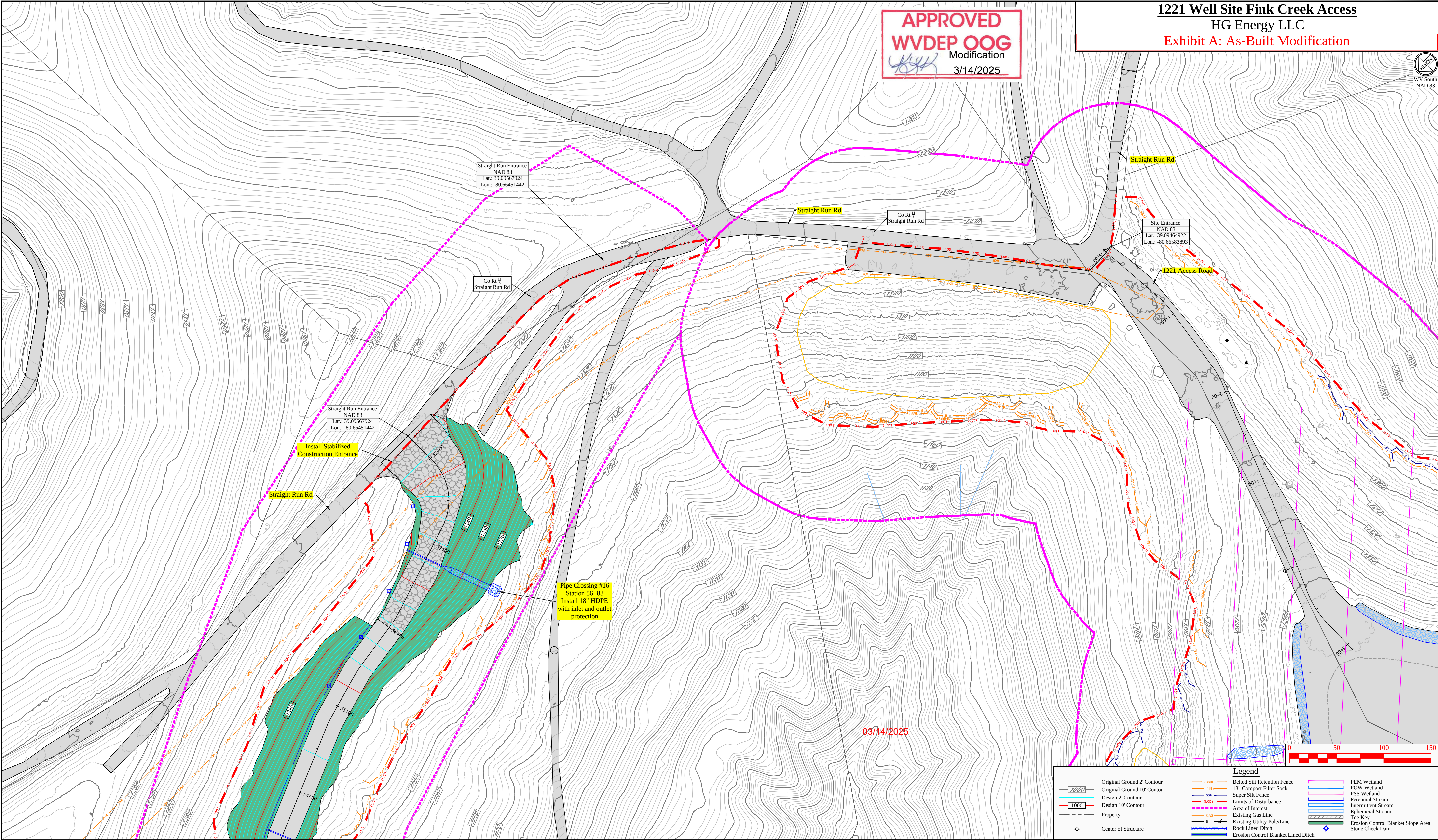
Kelly S
Surveying

1500 254
Dallan, WV 26039
304-338-0965

Site Plan - Fink Creek Access Road

1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
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Modification
3/14/2025

1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification

WV South
NAD 83

Revision
Design

Date
02-04-2025



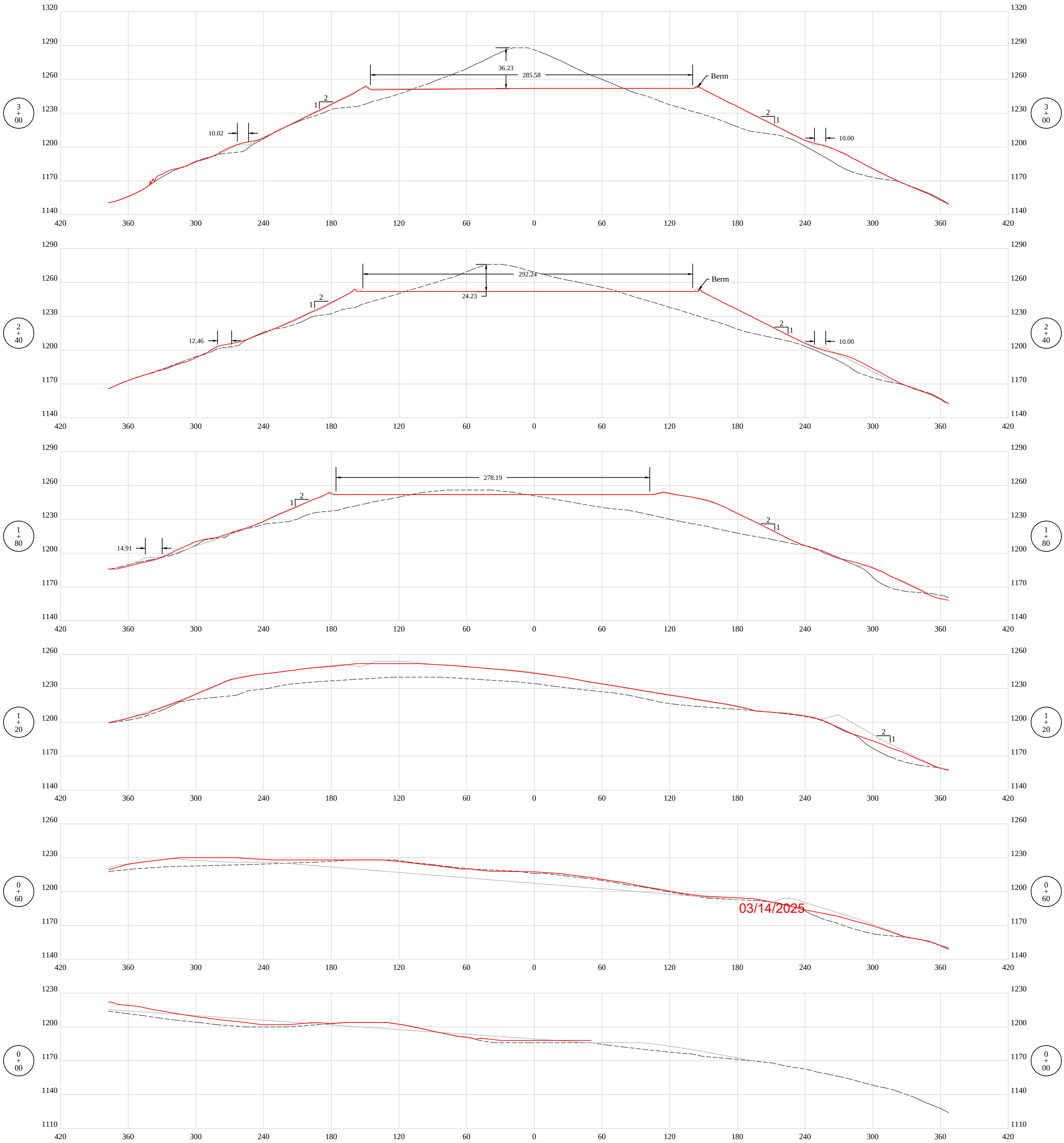
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Kelly Surveying
P.O. Box 254
Dallman, WV 26029
(304) 338-0965

Site Plan - Fink Creek Access Road
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
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Sheet 23 of 32

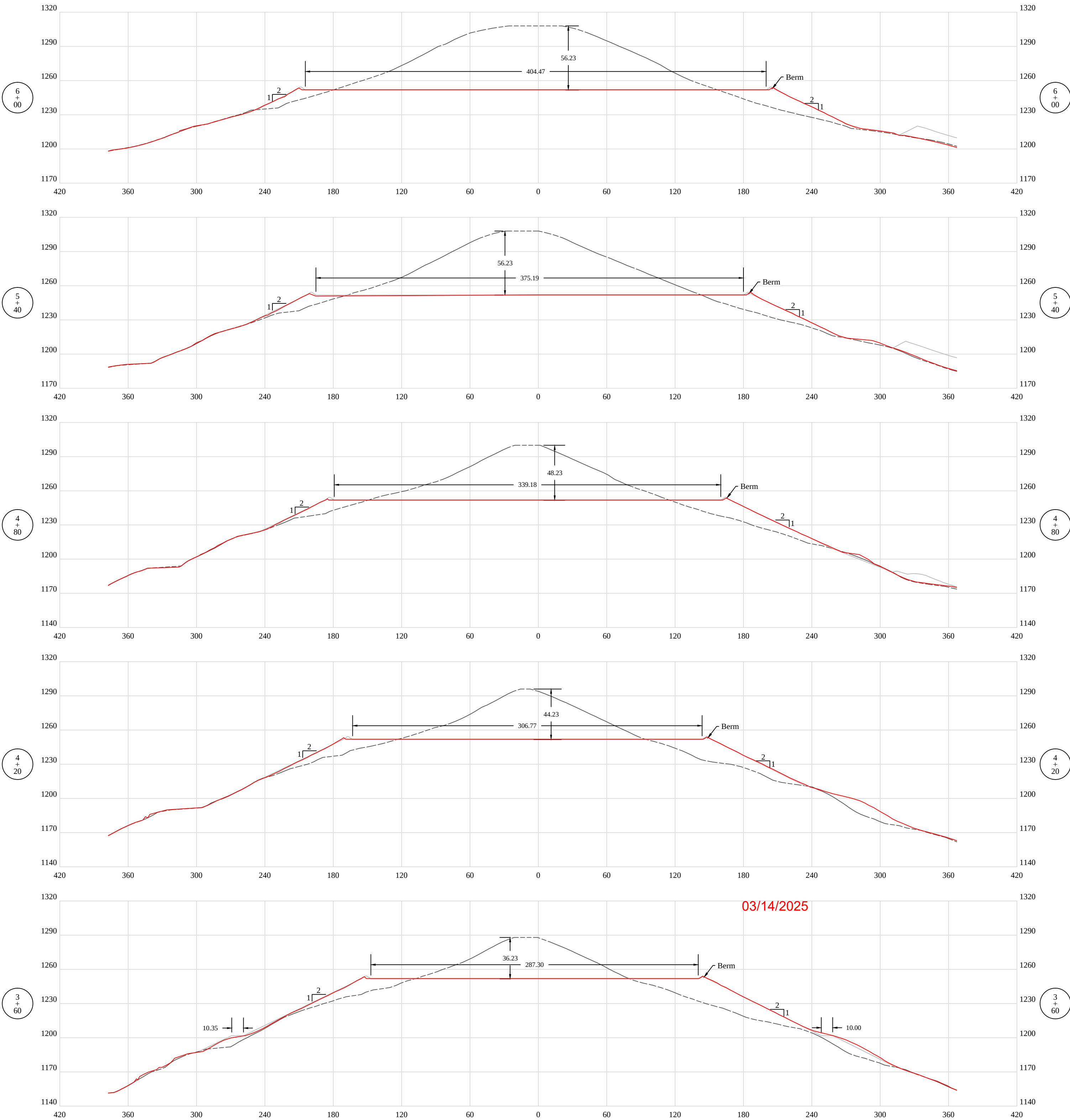
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WVDEP OOG
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3/14/2025



Revision	Design
Date	02-04-2025
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Kelly Surveying P.O. Box 254 Delmar, WV 26299 (304)338-0985	
Cross Sections - Well Pad 1221 Well Site Freemans Creek District Lewis County, WV	
Date: 02/04/2025 Scale: As Shown Designed By: ZS File No. Sheet 24 of 32	



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3/14/2025



Revision	Design
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Kelly Surveying P.O. Box 254 Biller, WV 26209 (304)338-0985	
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3/14/2025

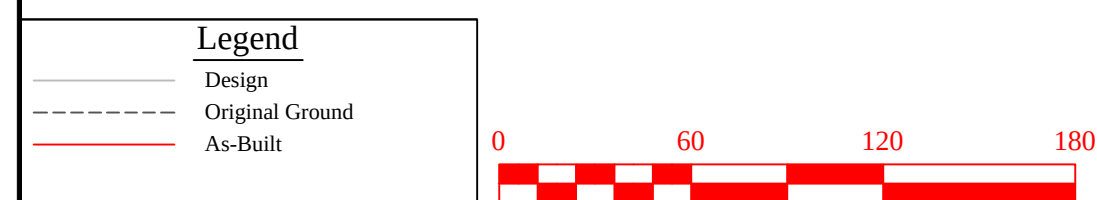
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02-04-2025

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Cross Sections - Well Pad
1221 Well Site
Freemans Creek District
Lewis County, WV

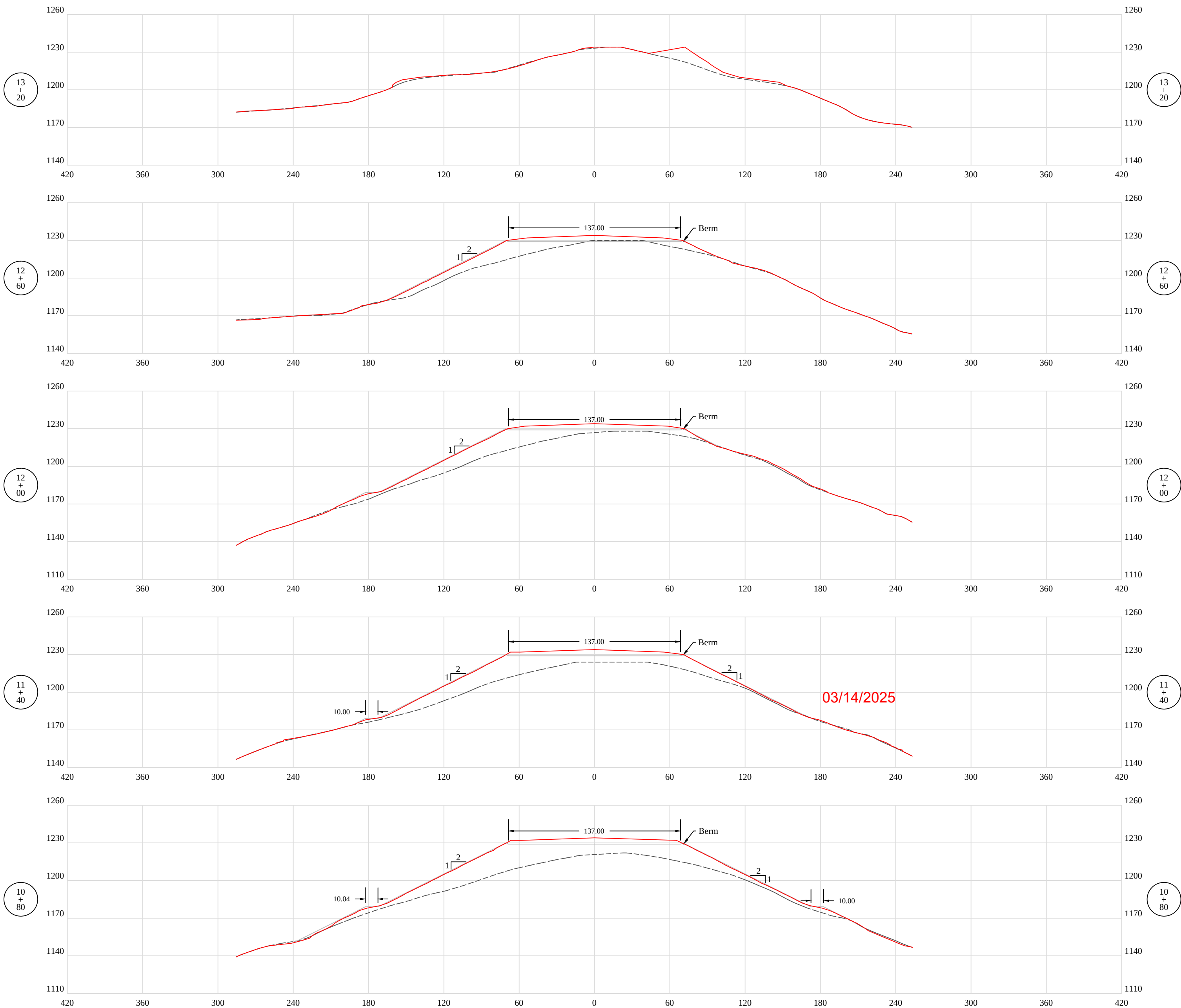
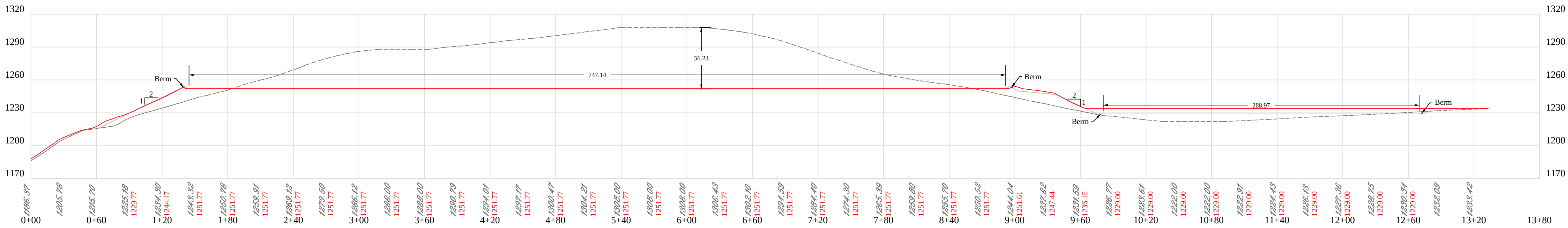
Date: 02/04/2025
Scale: As Shown
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File No.
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1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification



Legend

- Design
- Original Ground
- As-Built

Revision
Design

Date
02-04-2025



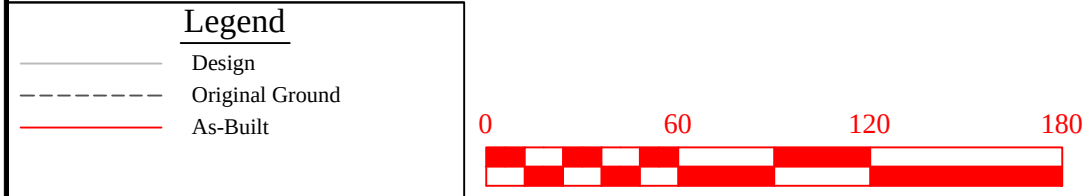
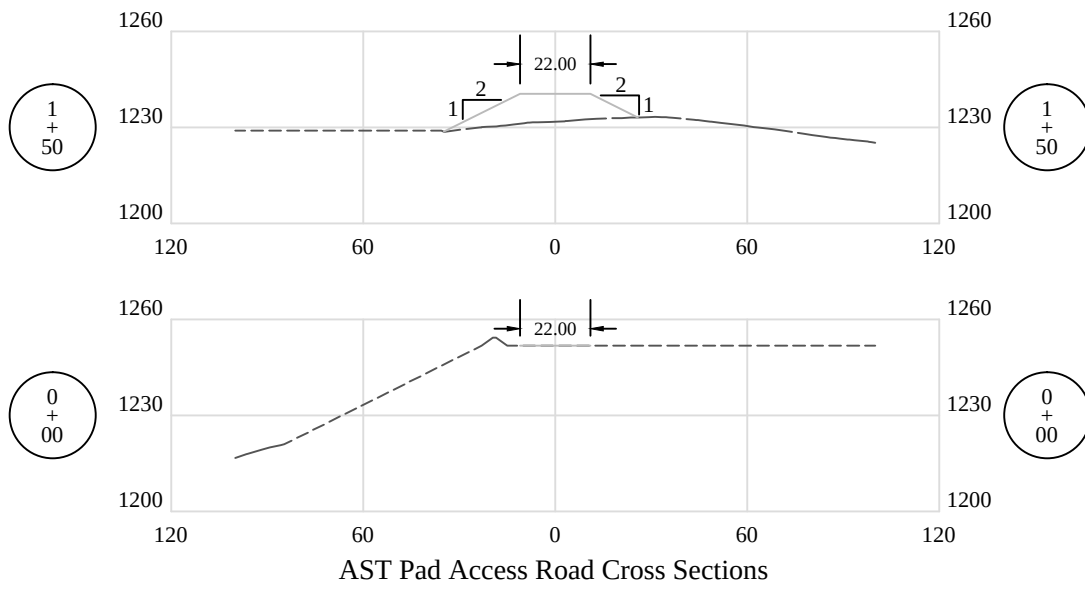
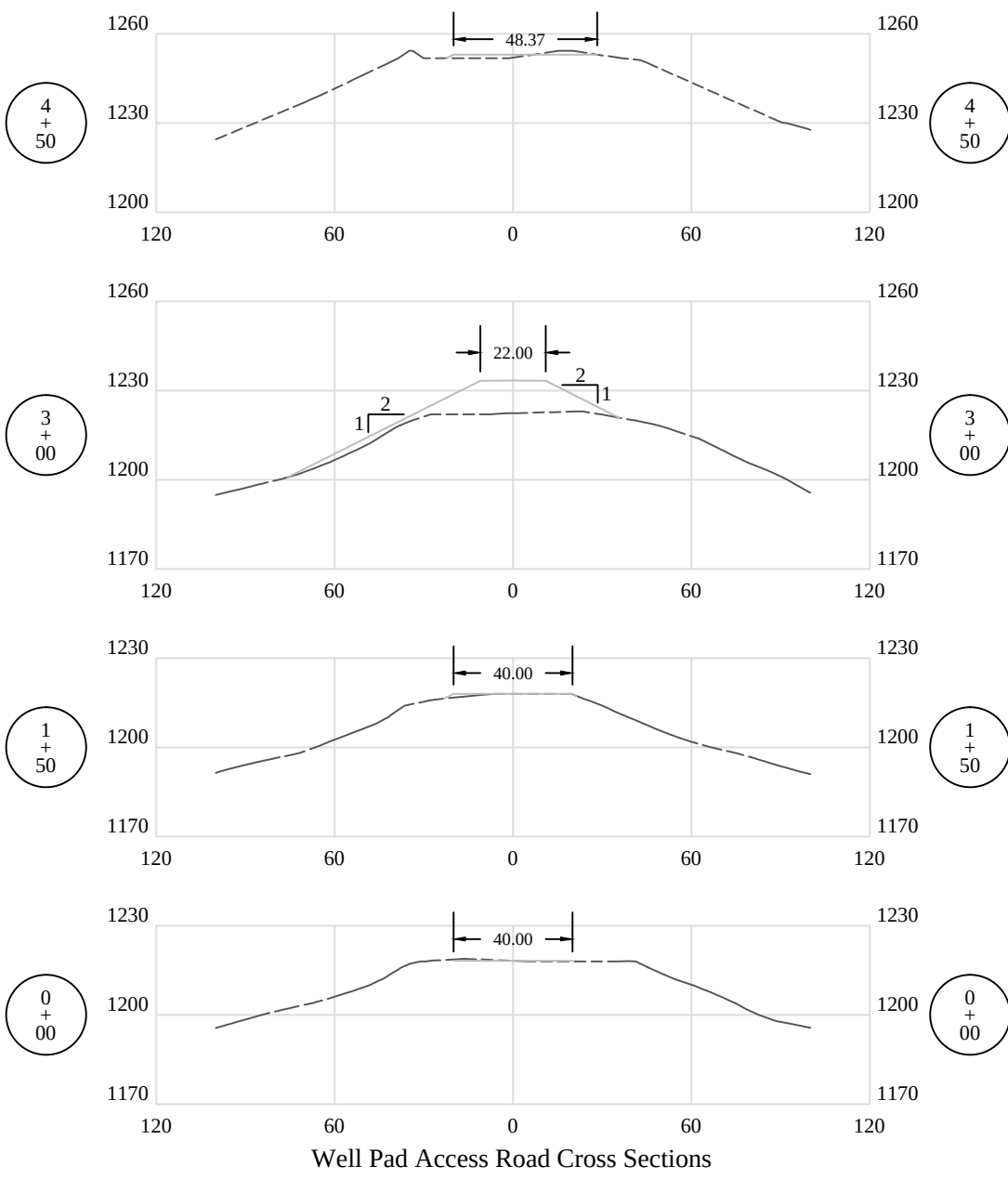
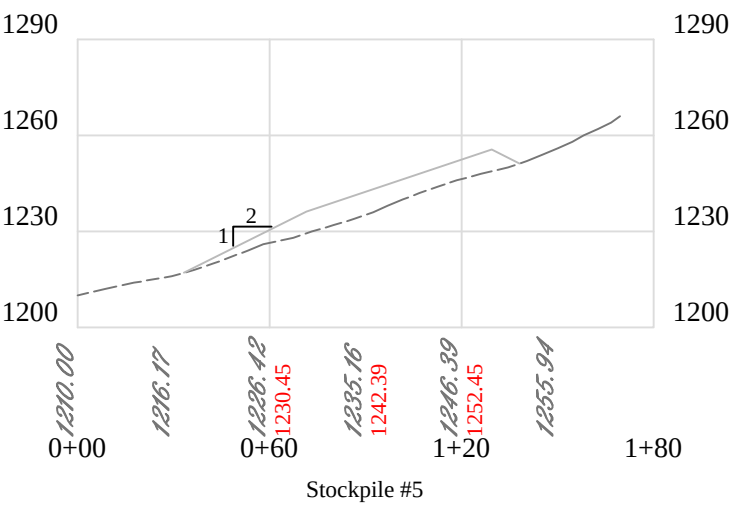
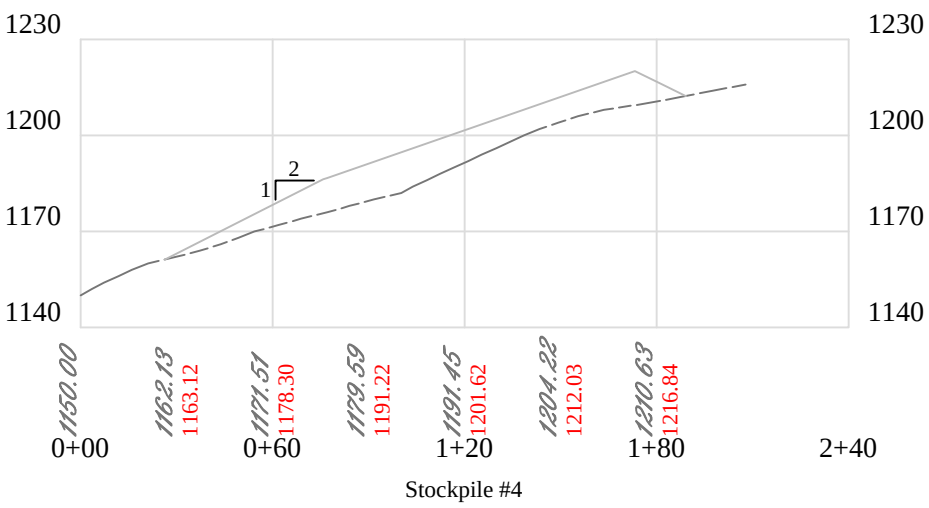
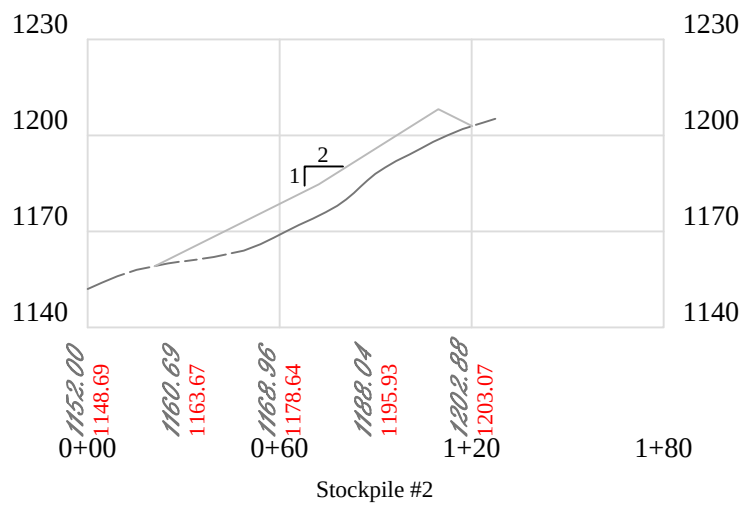
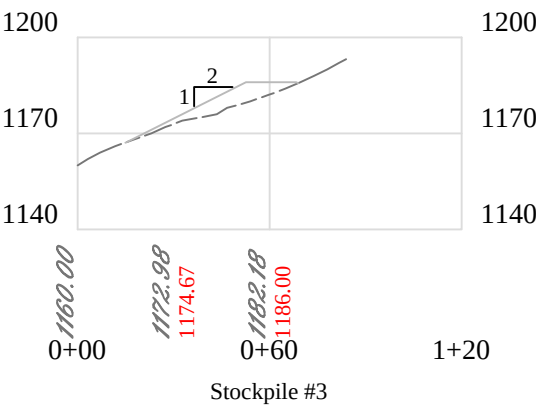
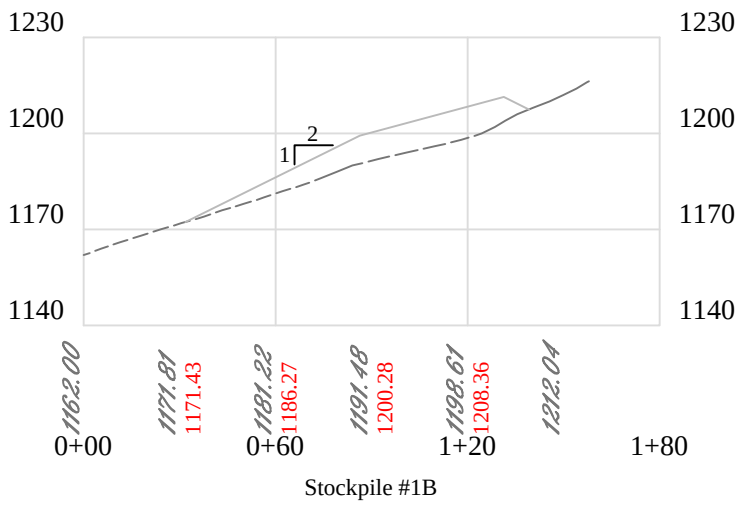
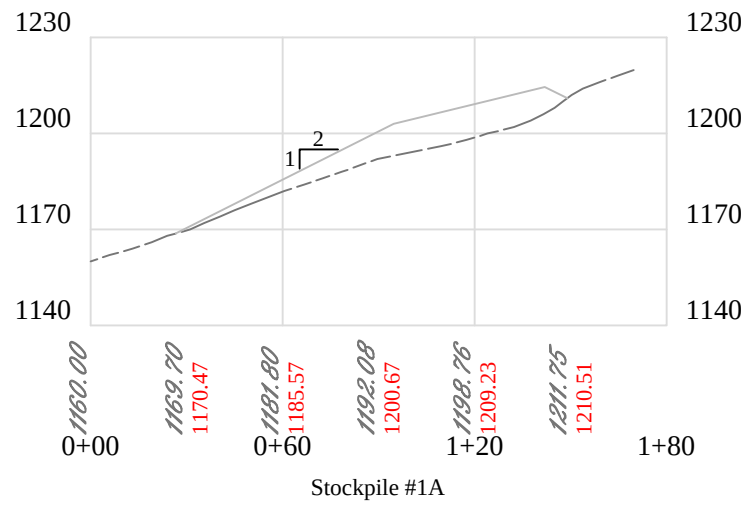
THIS DOCUMENT
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Kelly Surveying
P.O. Box 254
Delmar, WV 26039
(304) 338-0965

Cross Sections - Well Pad
1221 Well Site
Freemans Creek District
Lewis County, WV

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WVDEP OOG
Modification
3/14/2025

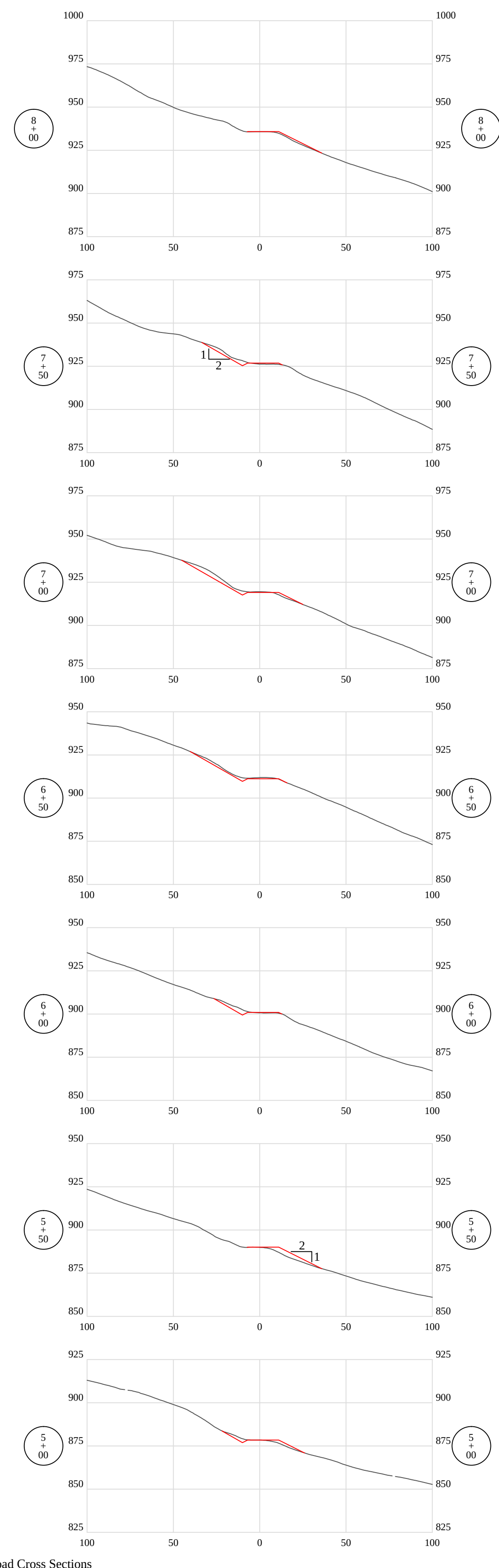
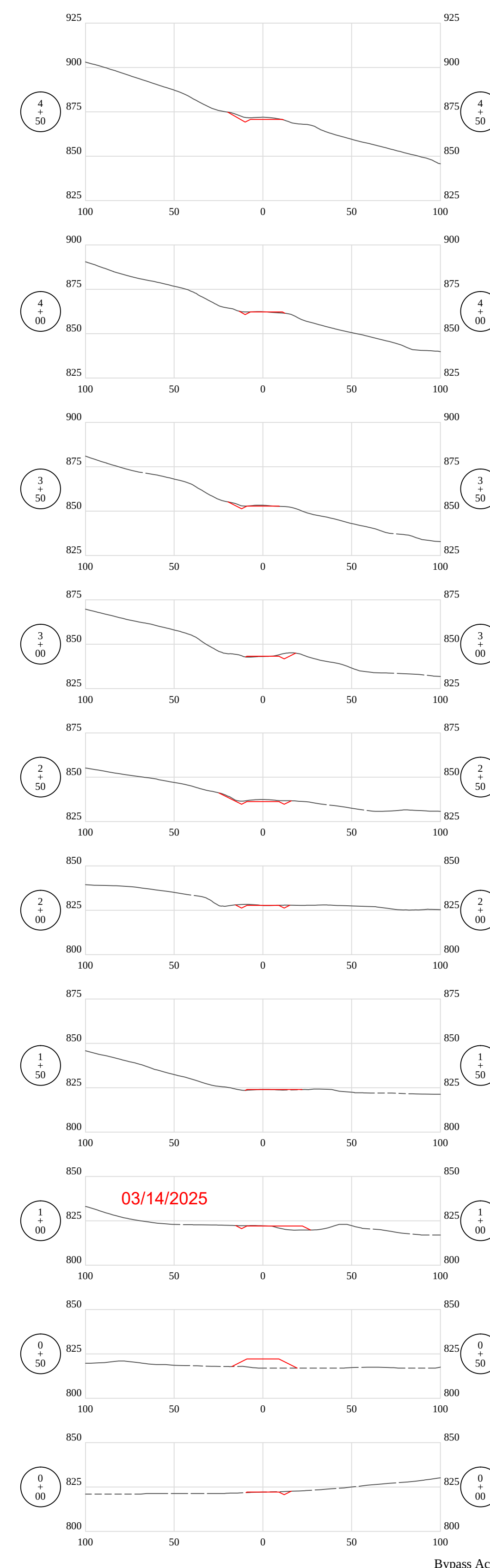
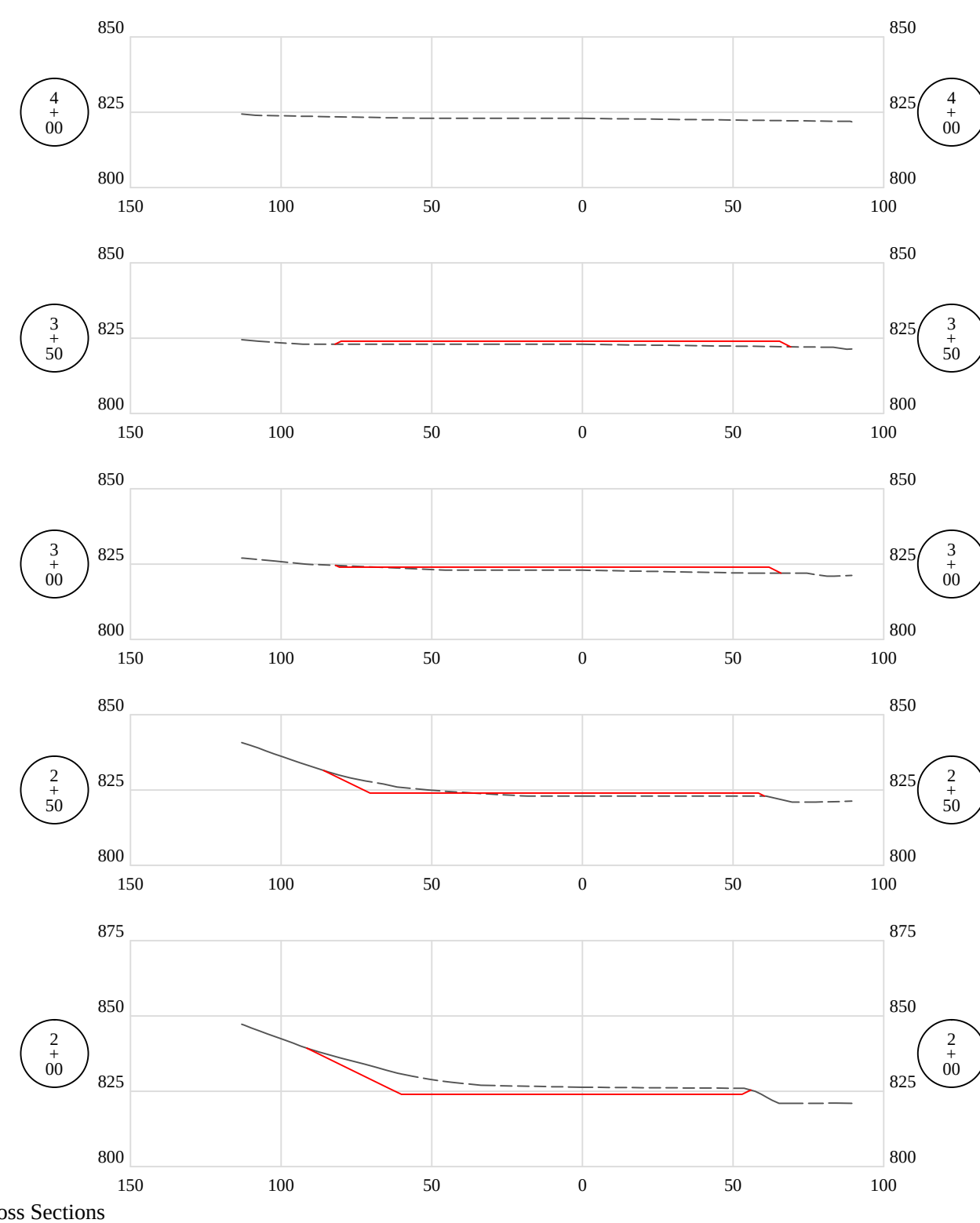
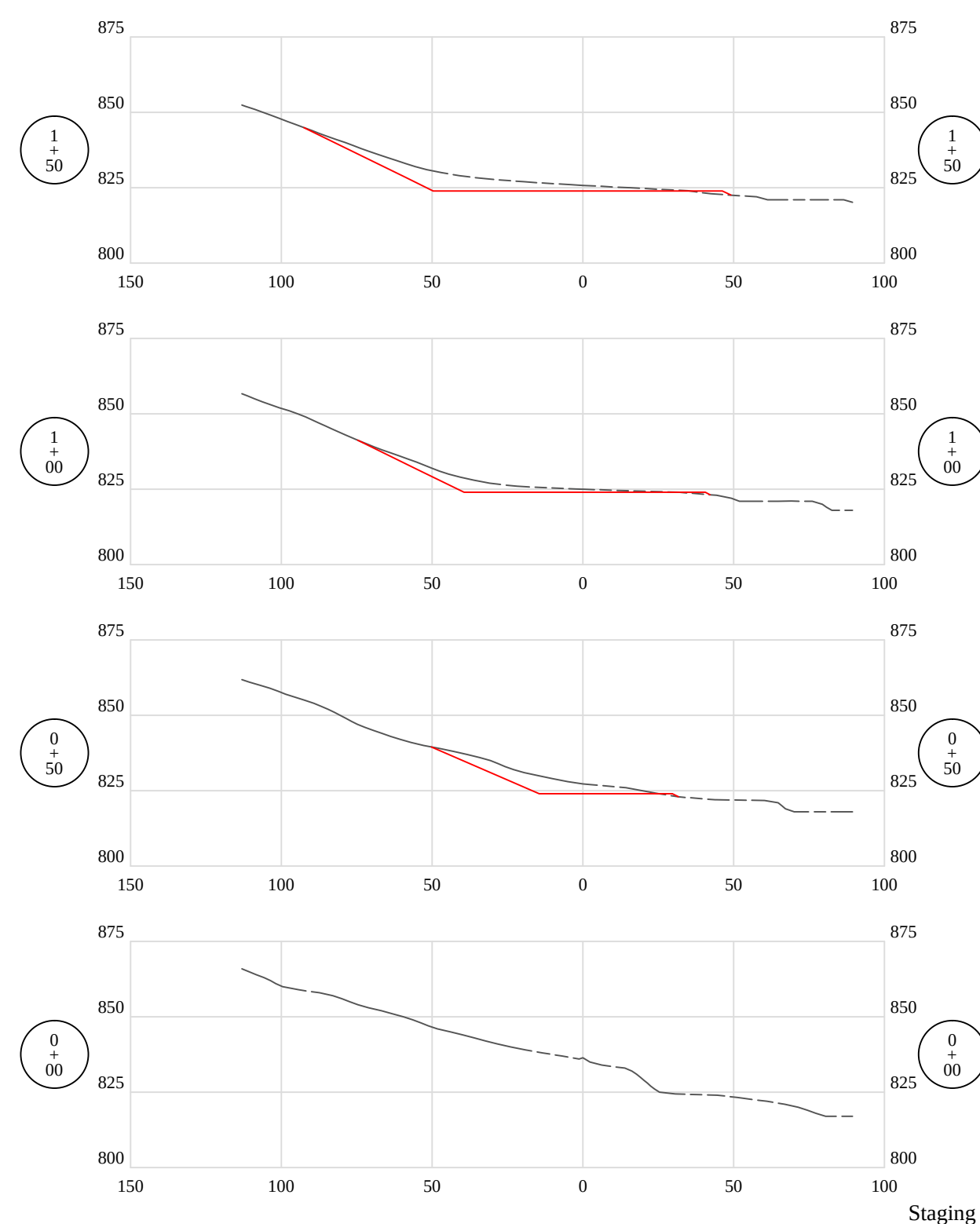
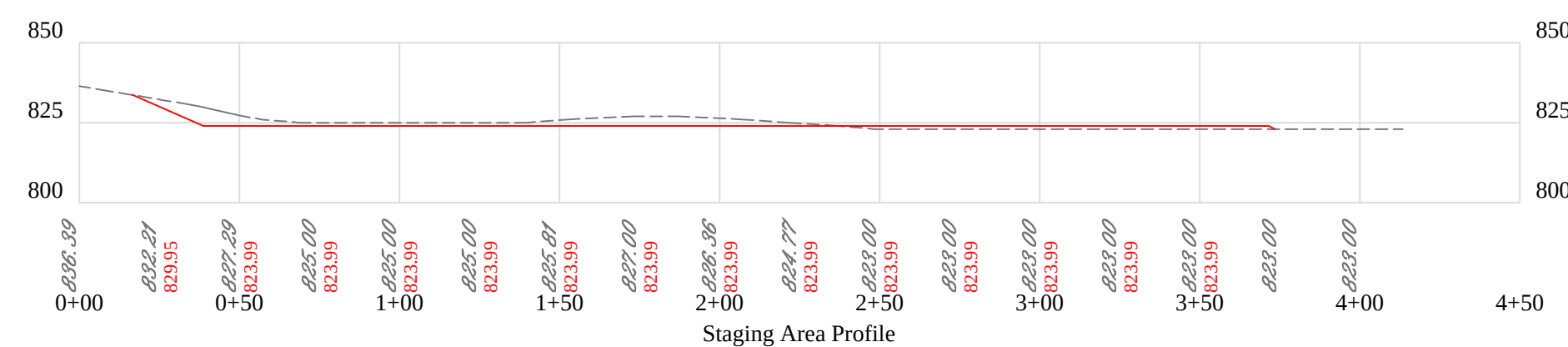
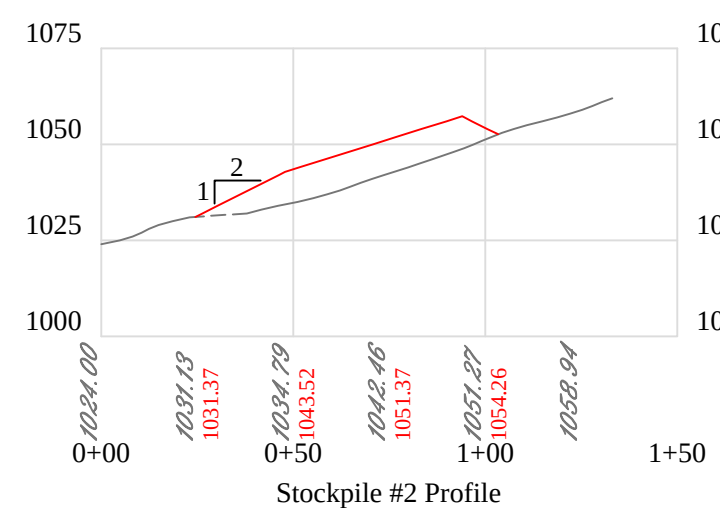
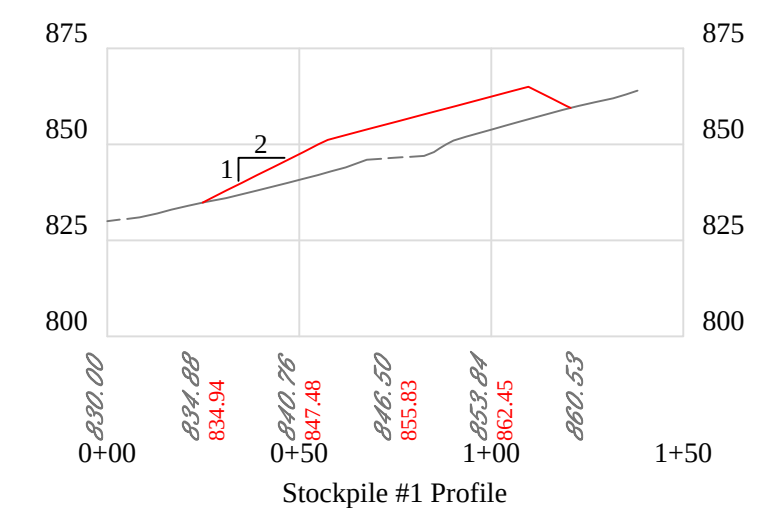
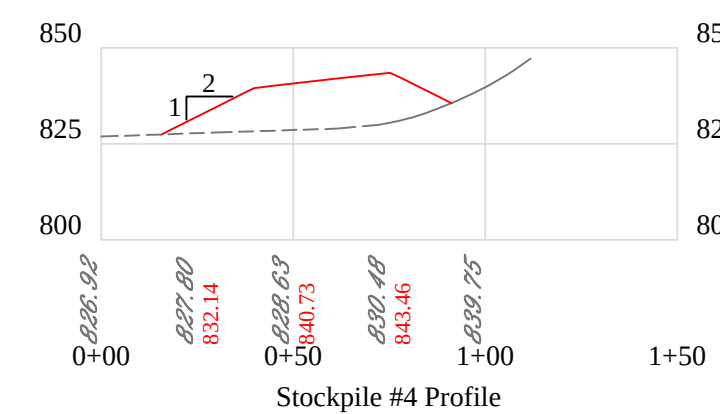
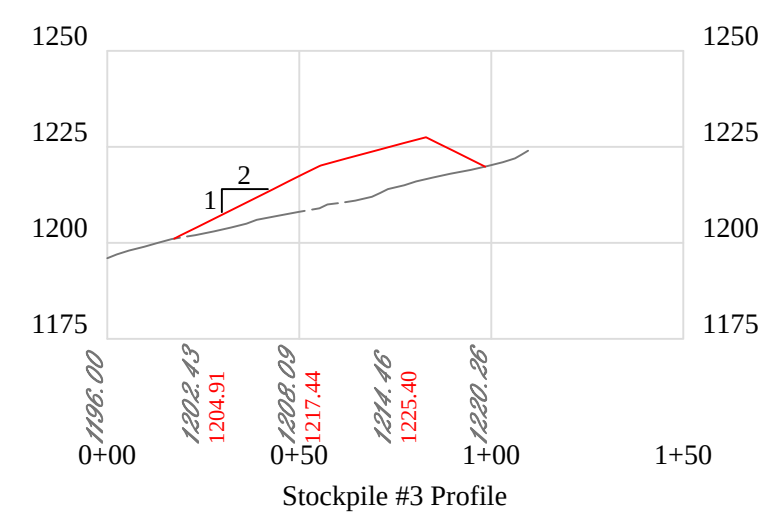
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Scale: As Shown
Designed By: ZS
File No.
Sheet 27 of 32



03/14/2025



Revision	Design
Date	02-04-2025
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Kelly Surveying P.O. Box 254 Dunbar, WV 26029 (304)338-0985	
Cross Sections - Access Road 1221 Well Site Freemans Creek District Lewis County, WV	
Date:	02/04/2025
Scale:	As Shown
Designed By:	ZS
File No.	
Sheet	28 of 32



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Modification
3/14/2025

1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification

Date	Revision
12-04-2025	Design

Date
02-04-2025

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Cross Sections - Staging Area

1221 Well Site

Freemans Creek District
Lewis County, WV

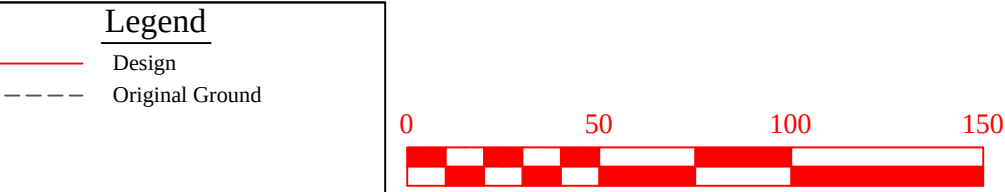
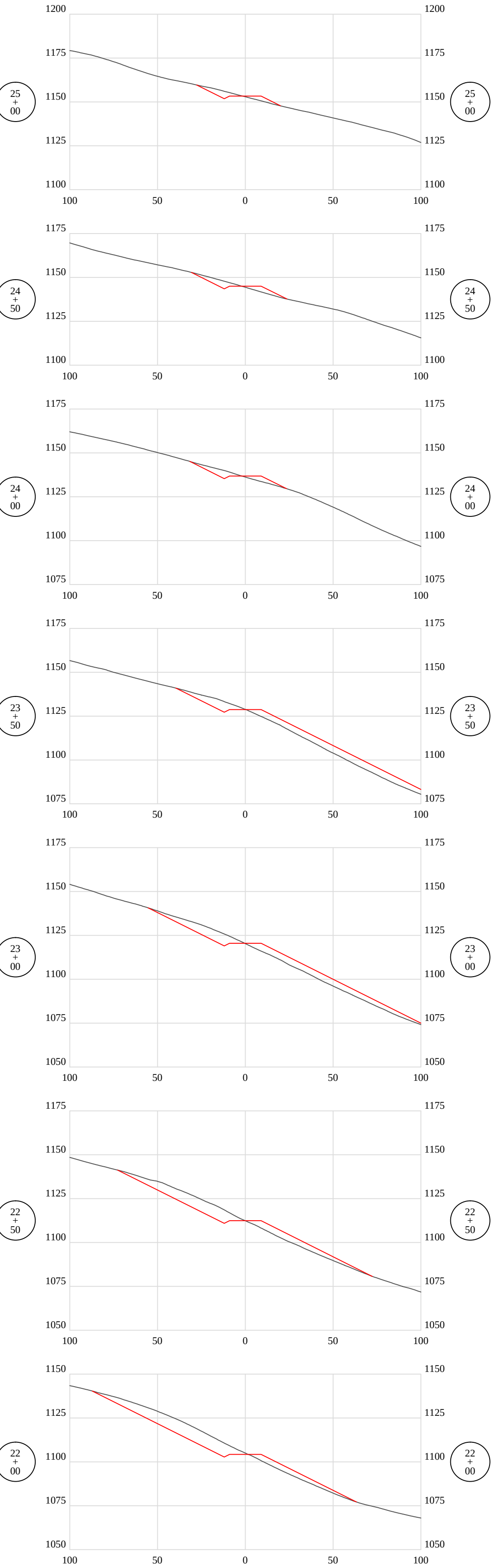
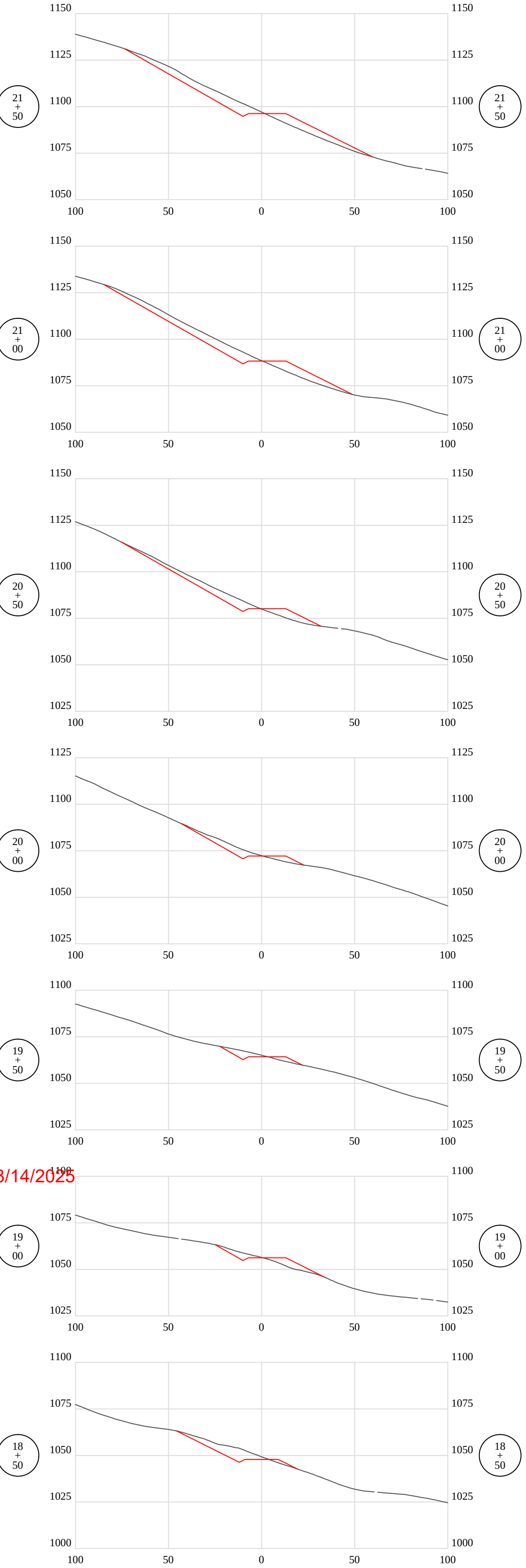
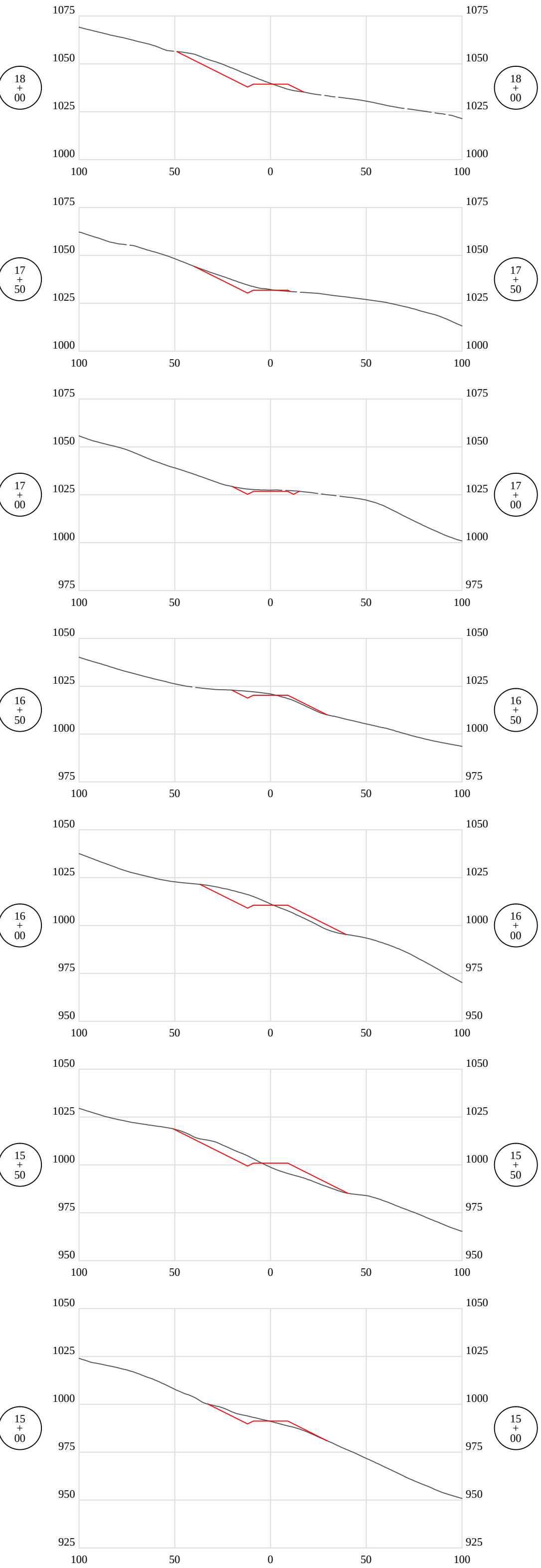
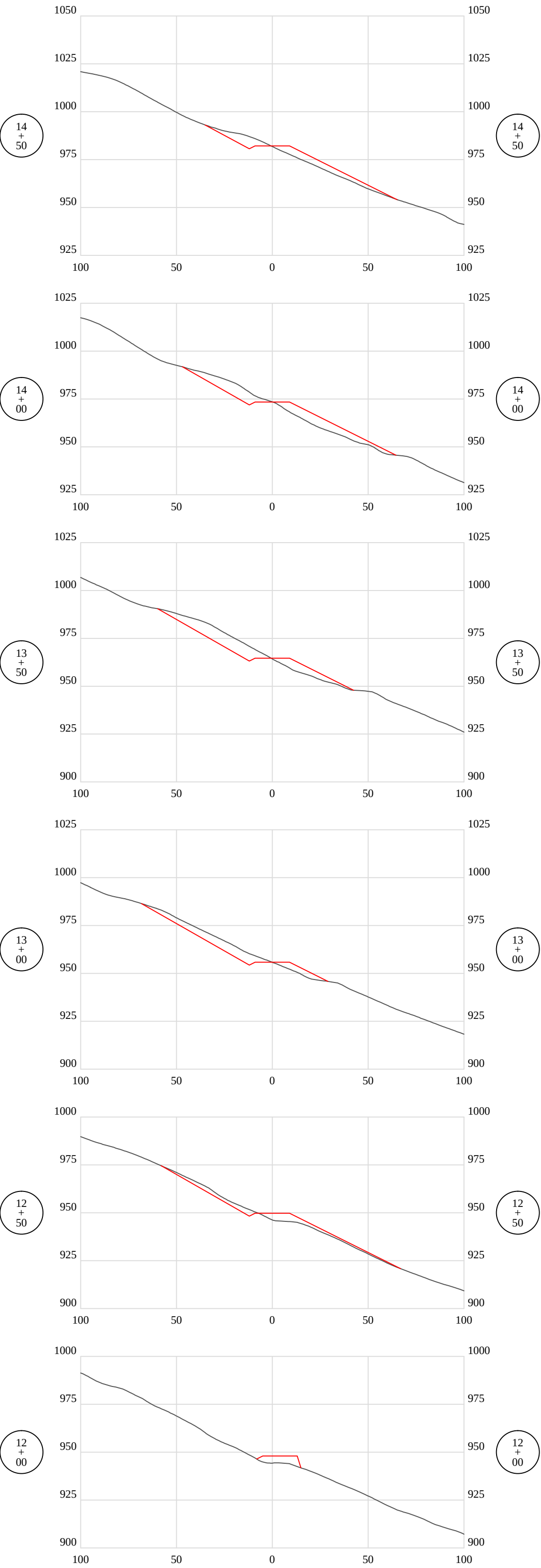
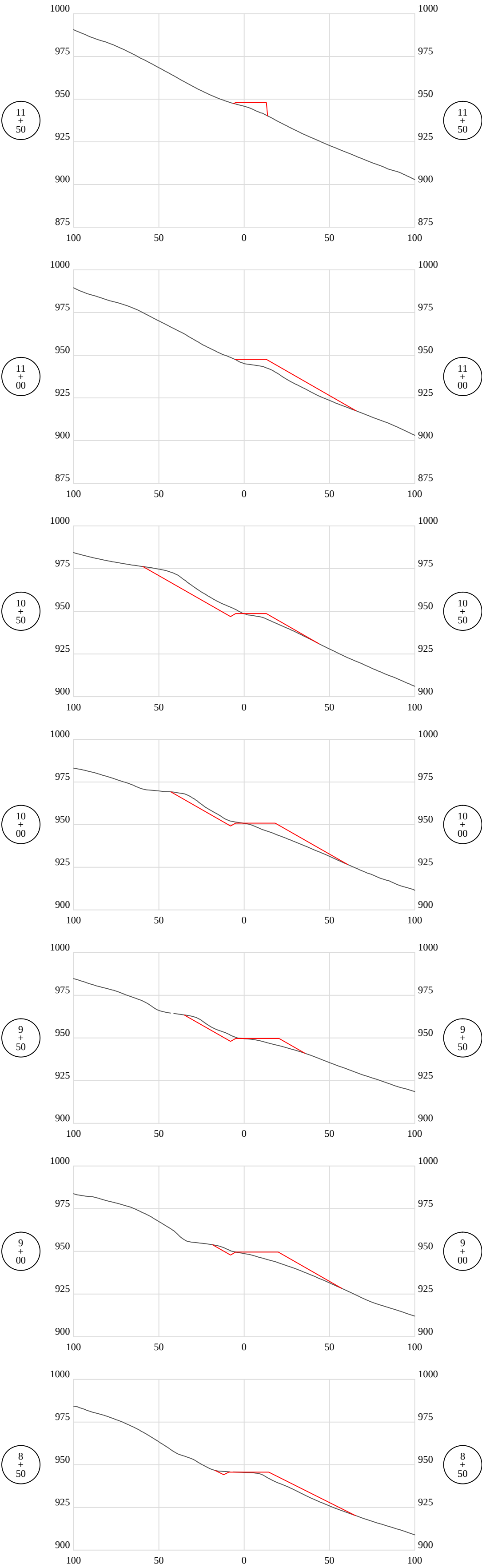
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Scale: As Shown
Designed By: ZS
File No.
Sheet 29 of 32

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Modification
3/14/2025

1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification



Revision
Design

Date
02-04-2025



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HG ENERGY LLC

Kelly Surveying
P.O. Box 254
Biller, WV 26209
(304)338-0985

Cross Sections - Bypass Access Road

1221 Well Site

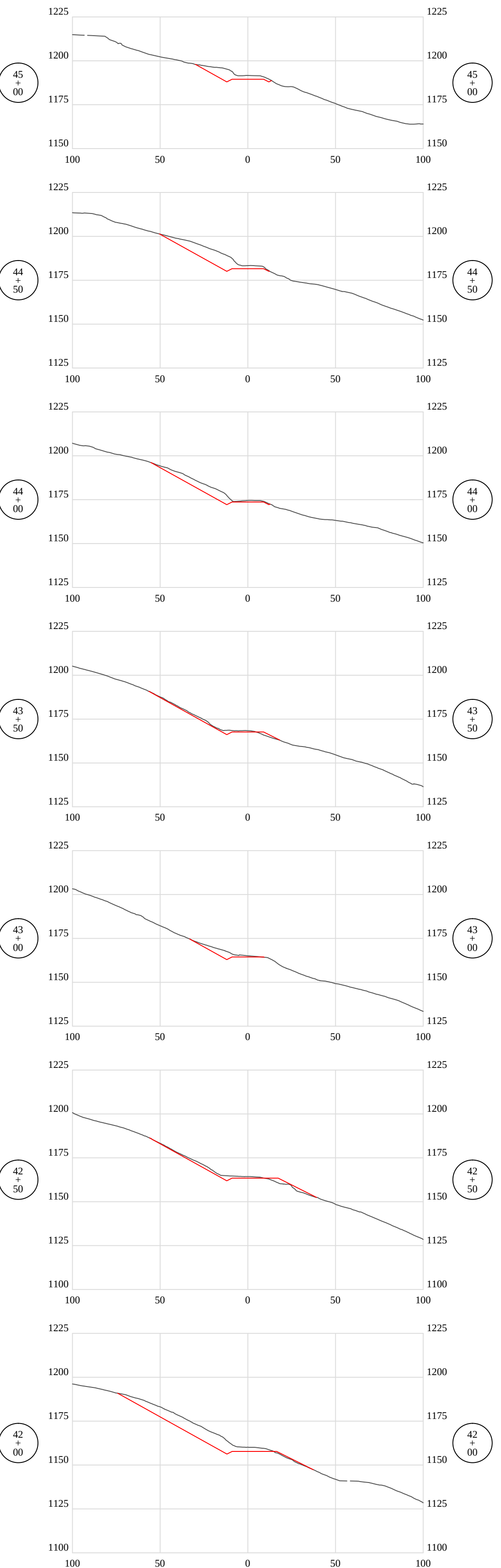
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 30 of 32

HG Energy LLC
Exhibit A: As-Built Modification

Exhibit A: As-Built Modification

Modification
3/14/2025



———— Design
 - - - - - Original Ground



Design

2025-04-04



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Kelly Surveying
P.O. Box 254
Dailey, WV 26259
(304)338-6985

Cross Sections - Bypass Access Road

1221 Well Site

Freemans Creek District
Lewis County, WV

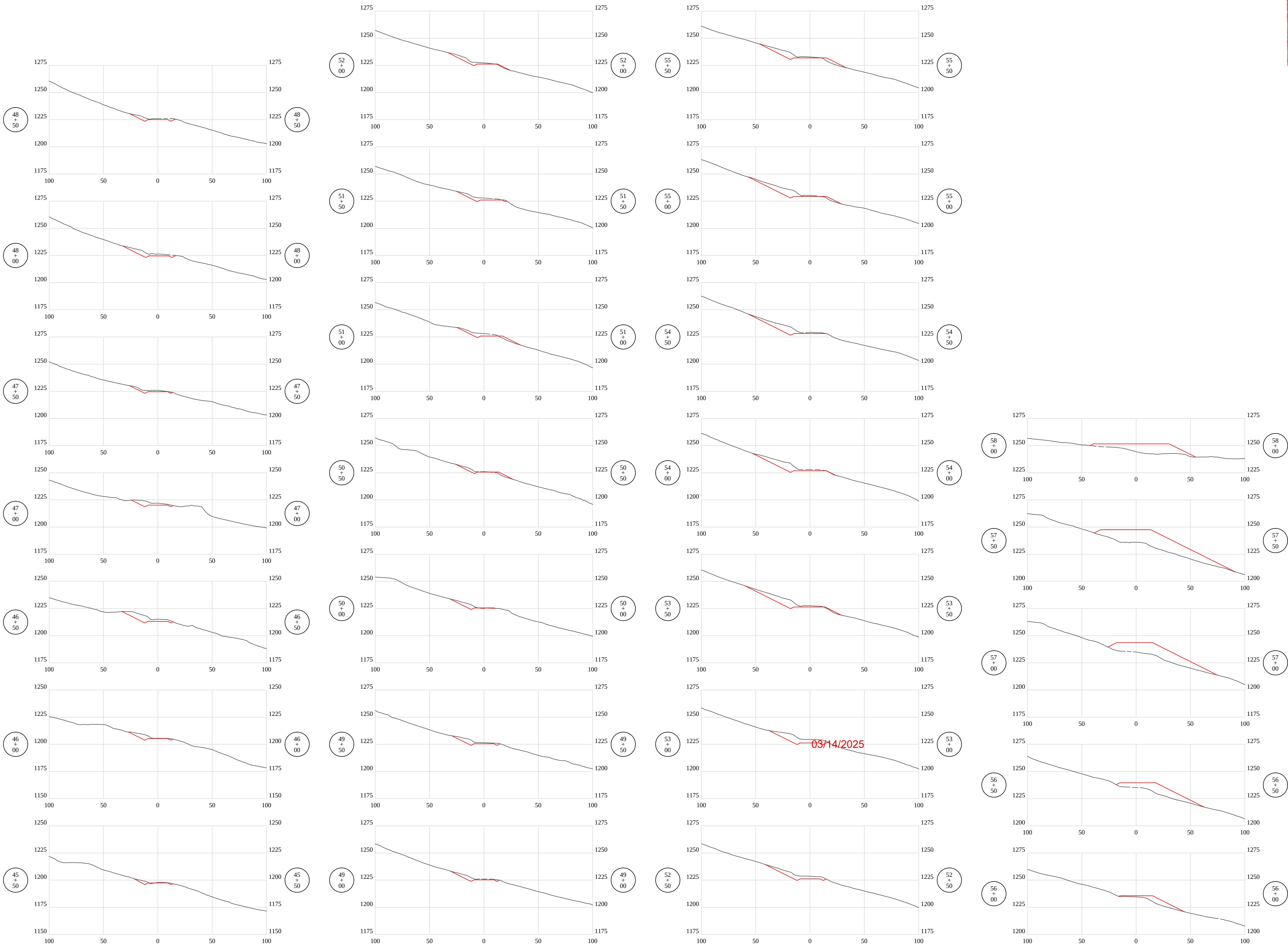
Date: 02/04/2025
Scale: As Shown
Designed By: ZS
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Sheet 31 of 32

1221 Well Site Fink Creek Access

HG Energy LLC

Exhibit A: As-Built Modification

APPROVED
WVDEP OOG
Modification
3/14/2025



Legend

Design
Original Ground



Revision
Design
Date
02-04-2025

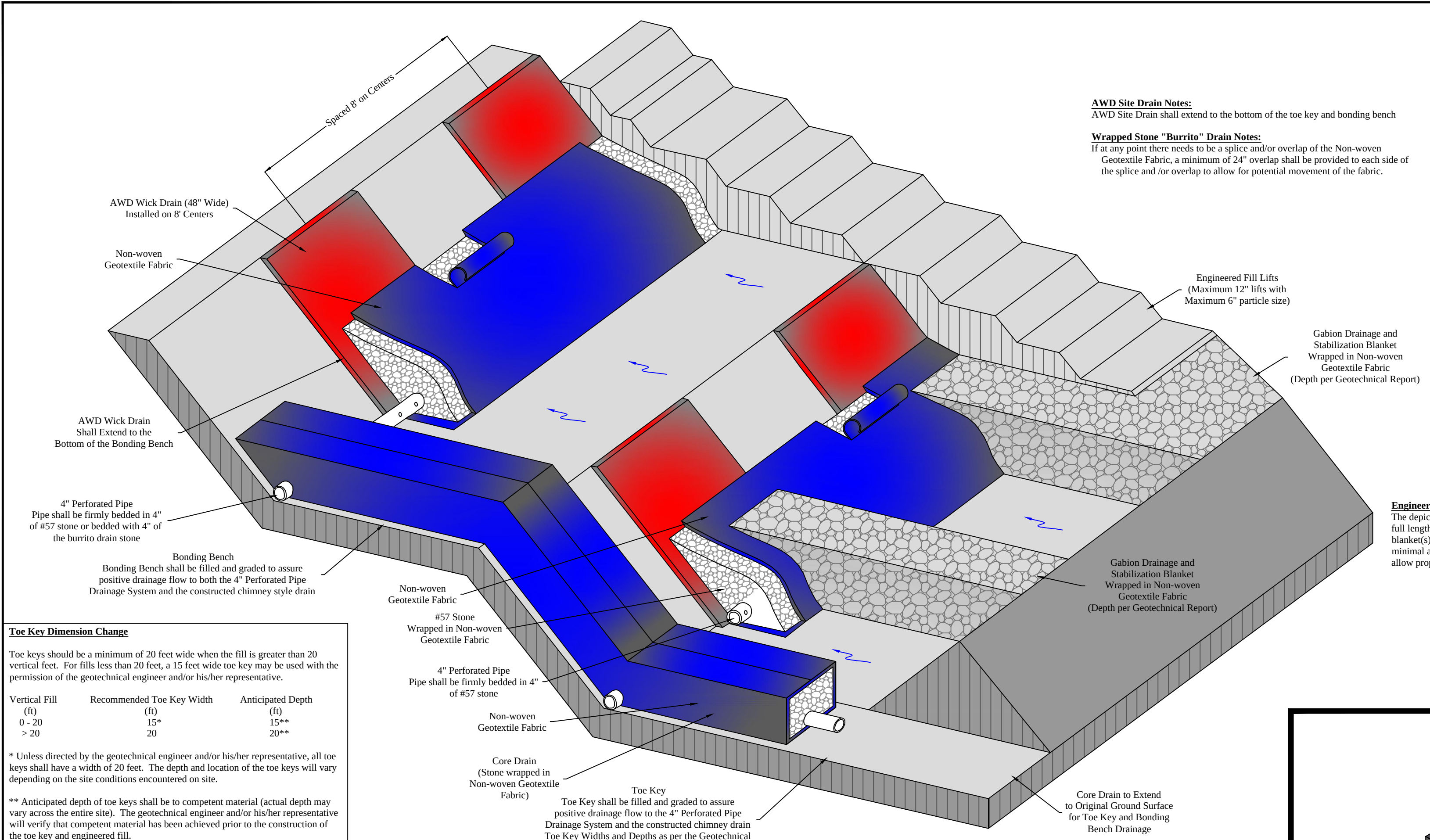


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Kelly S
Surveying
P.O. Box 254
Biller, WV 26209
(304)338-0985

Cross Sections - Bypass Access Road
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
File No.
Sheet 32 of 32



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WVDEP OOG
Modification
3/14/2025

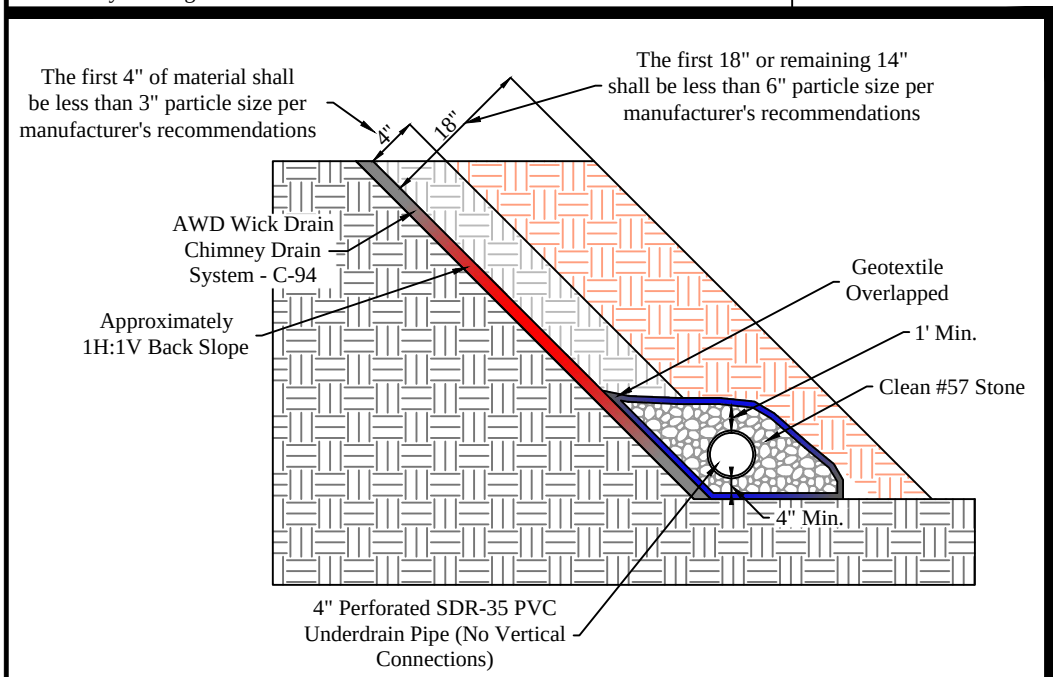
AWD Site Drain Notes:
AWD Site Drain shall extend to the bottom of the toe key and bonding bench

Wrapped Stone "Burrito" Drain Notes:
If at any point there needs to be a splice and/or overlap of the Non-woven Geotextile Fabric, a minimum of 24" overlap shall be provided to each side of the splice and /or overlap to allow for potential movement of the fabric.

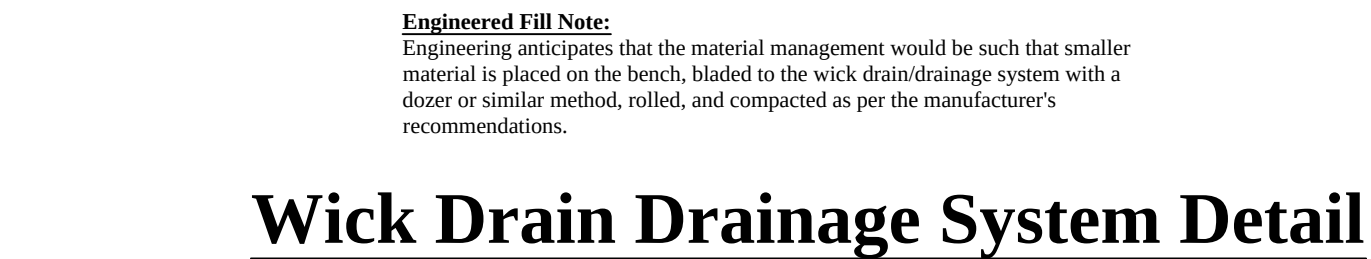
Toe Key Dimension Change		
Vertical Fill (ft)	Recommended Toe Key Width (ft)	Anticipated Depth (ft)
0 - 20	15*	15**
> 20	20	20**

* Unless directed by the geotechnical engineer and/or his/her representative, all toe keys shall have a width of 20 feet. The depth and location of the toe keys will vary depending on the site conditions encountered on site.

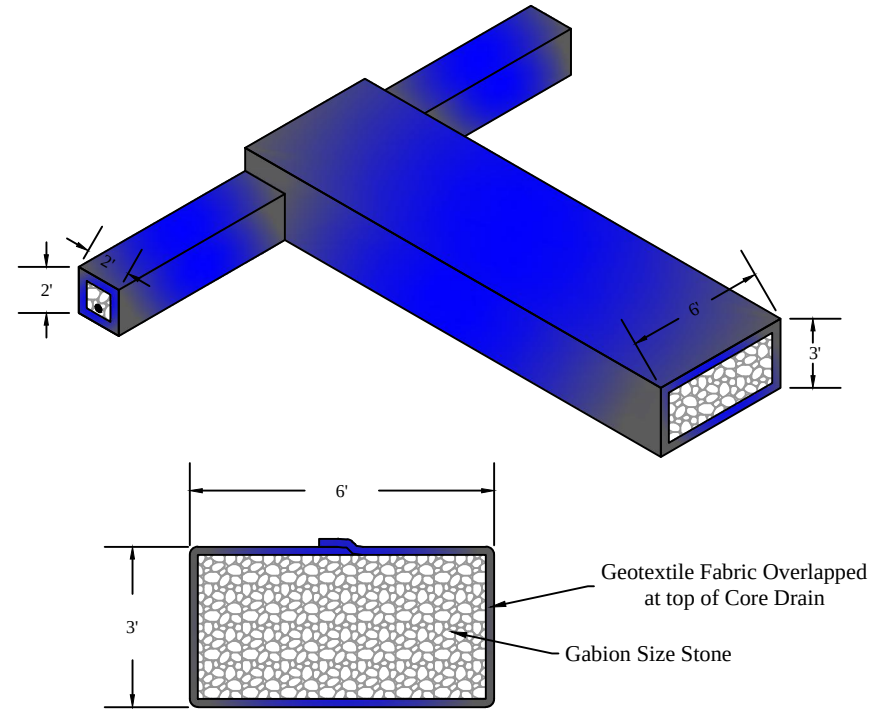
** Anticipated depth of toe keys shall be to competent material (actual depth may vary across the entire site). The geotechnical engineer and/or his/her representative will verify that competent material has been achieved prior to the construction of the toe key and engineered fill.



G2 Typical Face Drain Detail
Scale: NTS

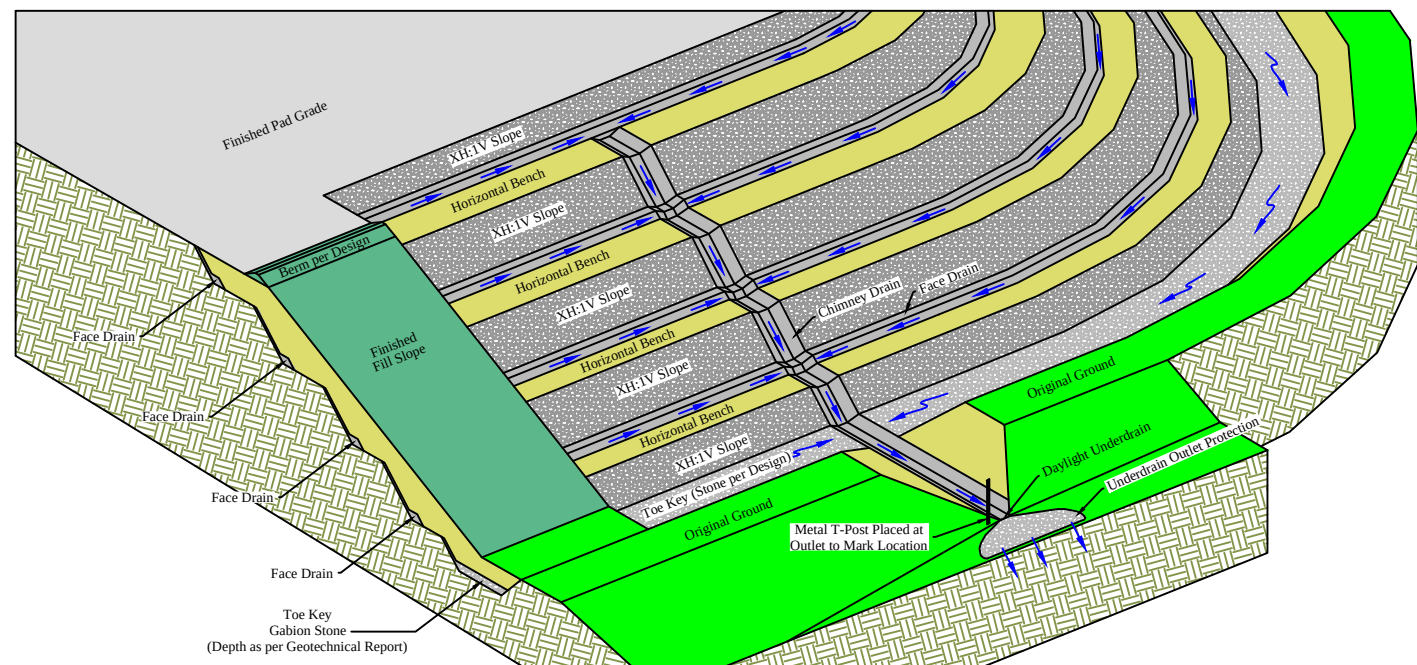


G1 Typical Engineered Fill Detail
Scale: NTS



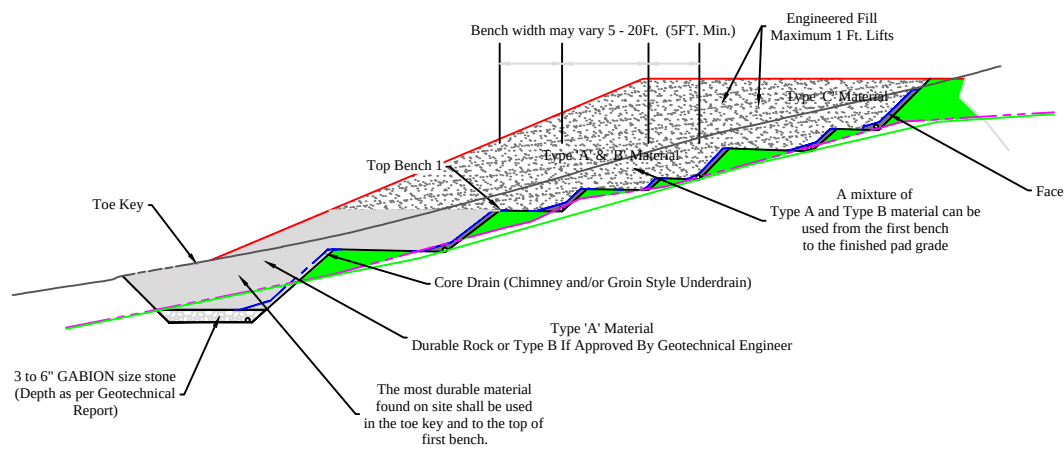
G3 Typical Core Drain Detail
Scale: NTS

1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification

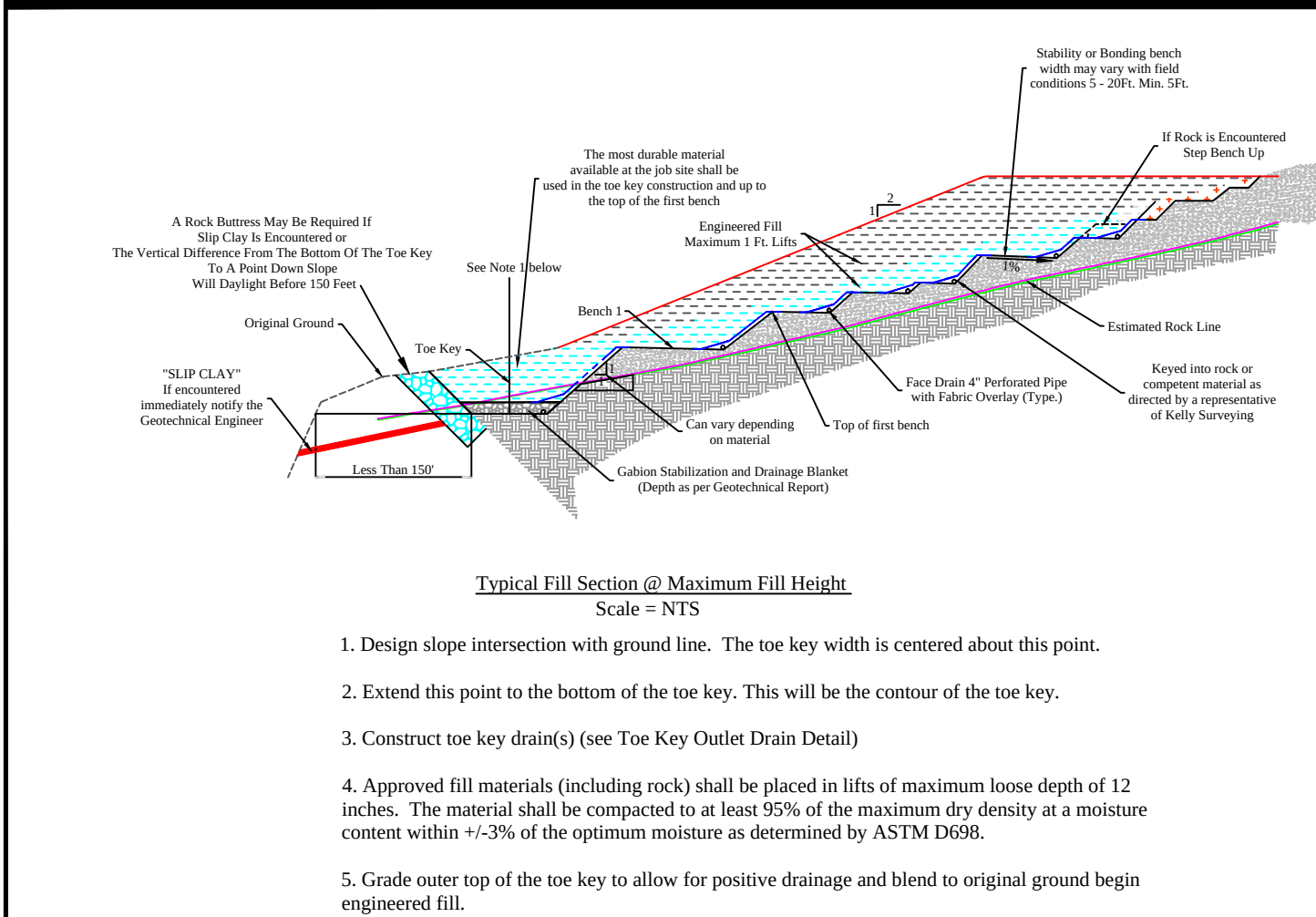


Note:
Toe Key and Bonding Bench Slope Cut as per the Geotechnical Report (XH:1V)
Finished Fill Slope as per the design

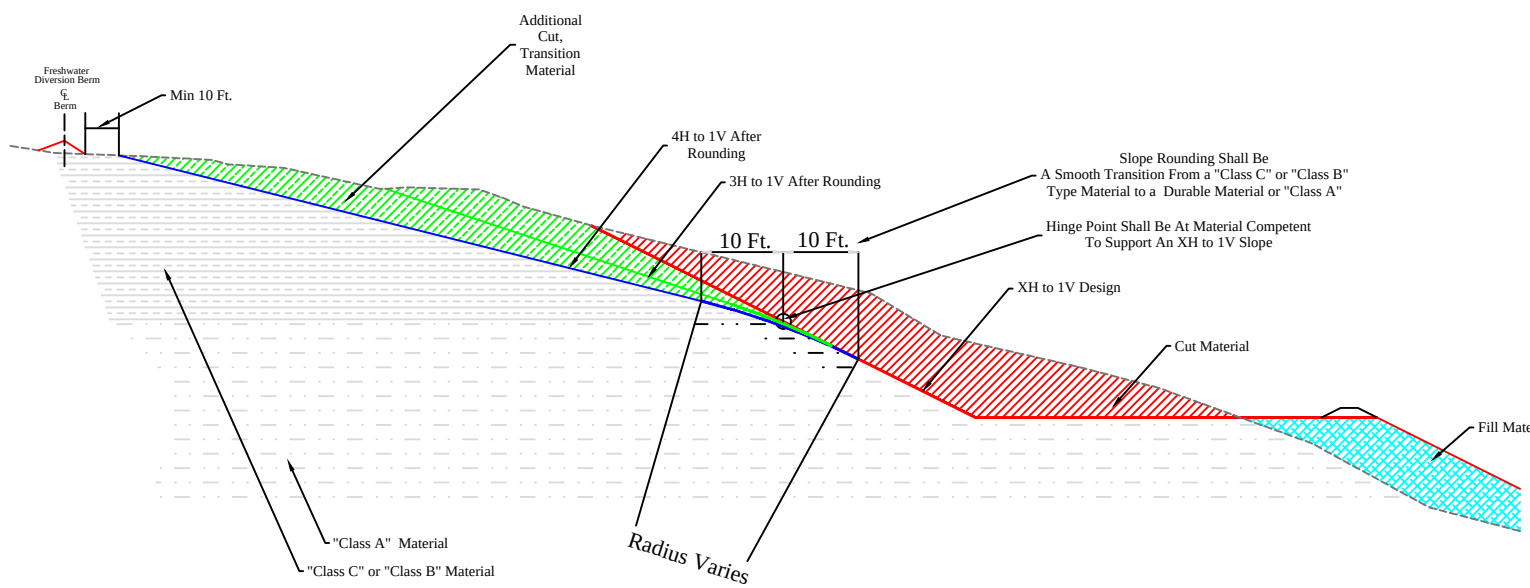
G4 Typical Engineered Fill Detail
Scale: NTS



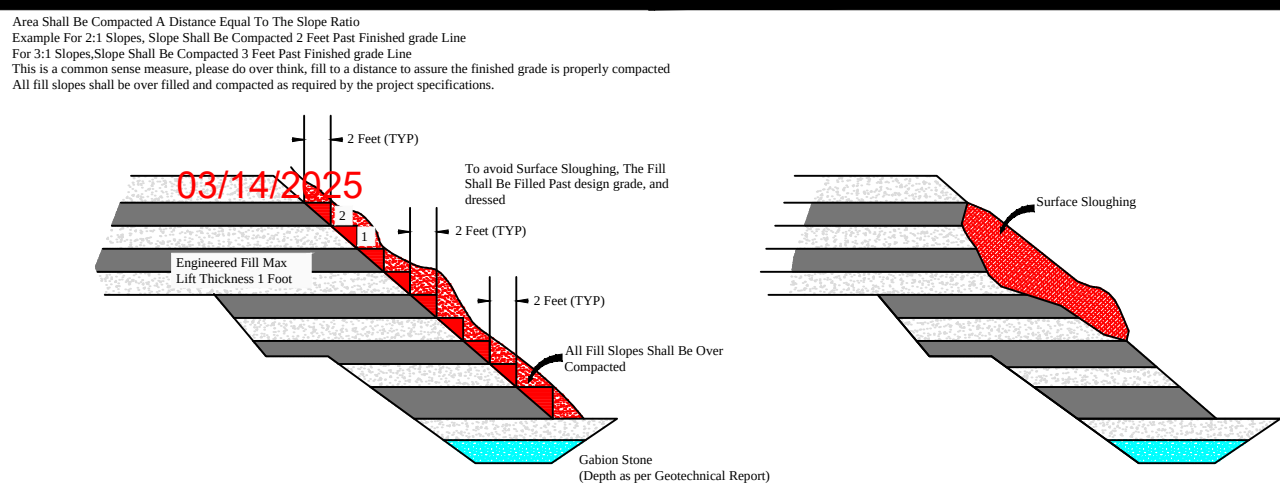
G5 Material Management Detail
Scale: NTS



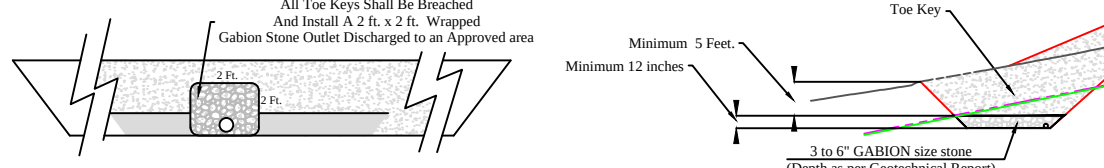
G6 Typical Fill Section at Maximum Fill Height
Scale: NTS



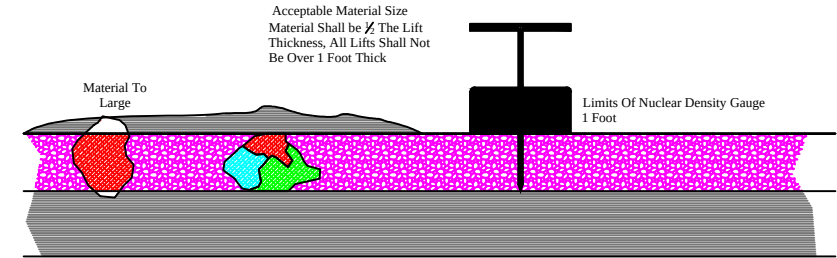
G7 Unstable Slope Management: Slope Rounding
Scale: NTS



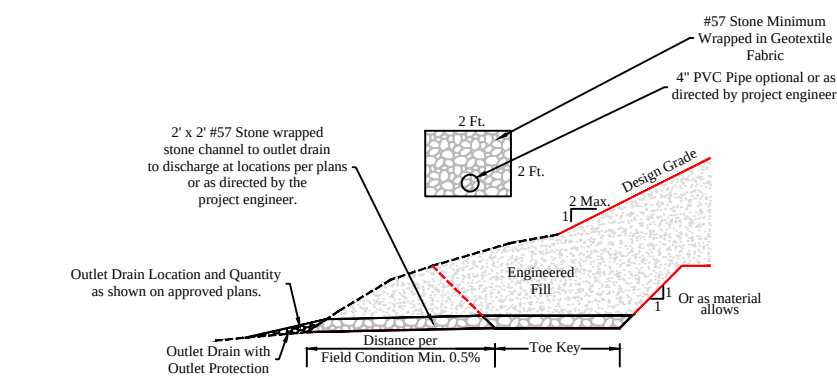
G8 Fill Slope Over-Compaction Detail
Scale: NTS



G10 Minimum Typical Toe Key Detail
Scale: NTS



G9 Compaction Testing Detail
Scale: NTS



G11 Minimum Toe Key Outlet Drain Detail
Scale: NTS

Date	Revision
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Date: 02/04/2025	
Scale: As Shown	
Designed By: ZS	
File No.	
Sheet G1 of G2	

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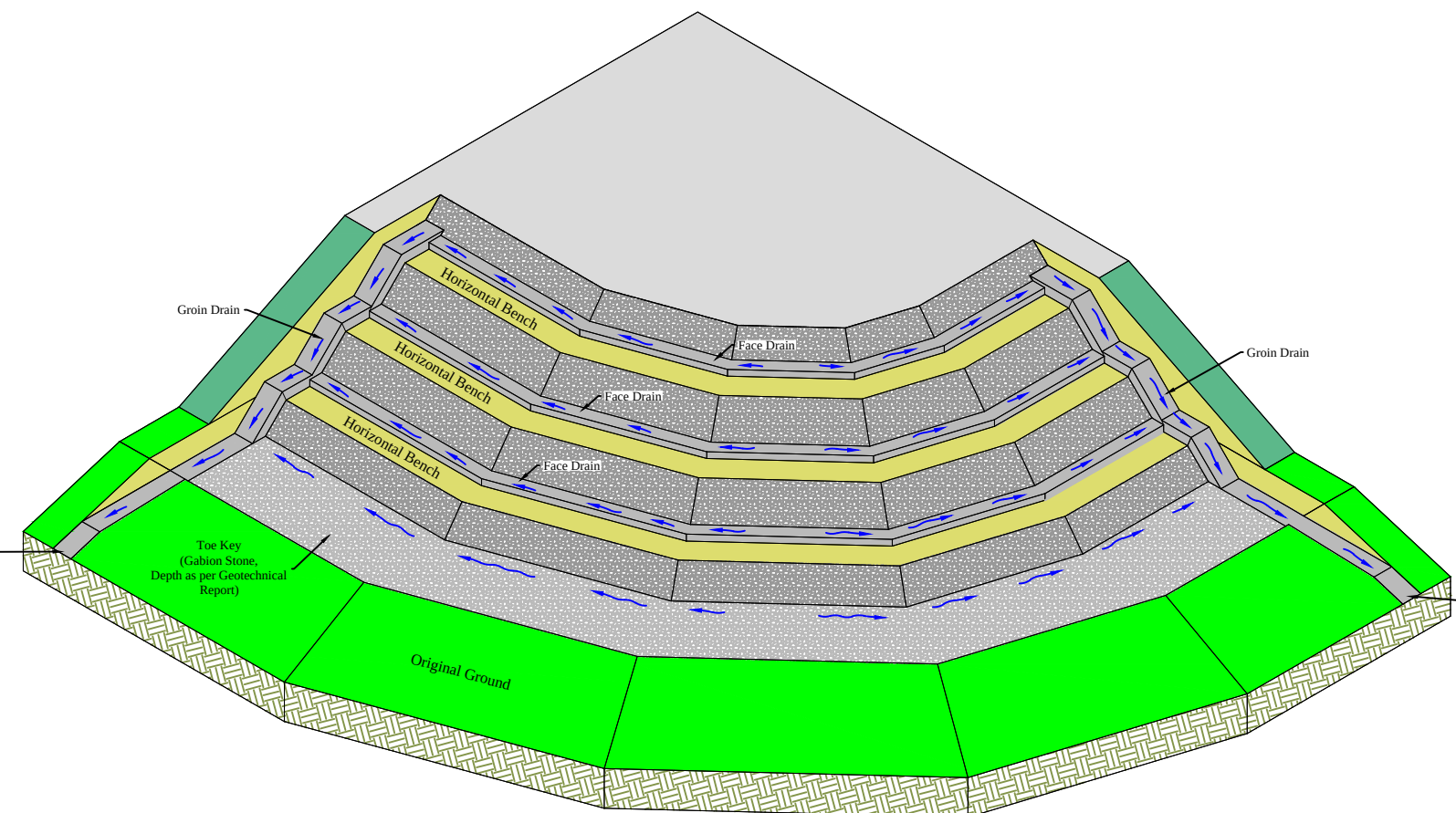
Kelly Surveying
P.O. Box 254
Delmar, WV 26039
304-338-0965

Typical Geotechnical Details

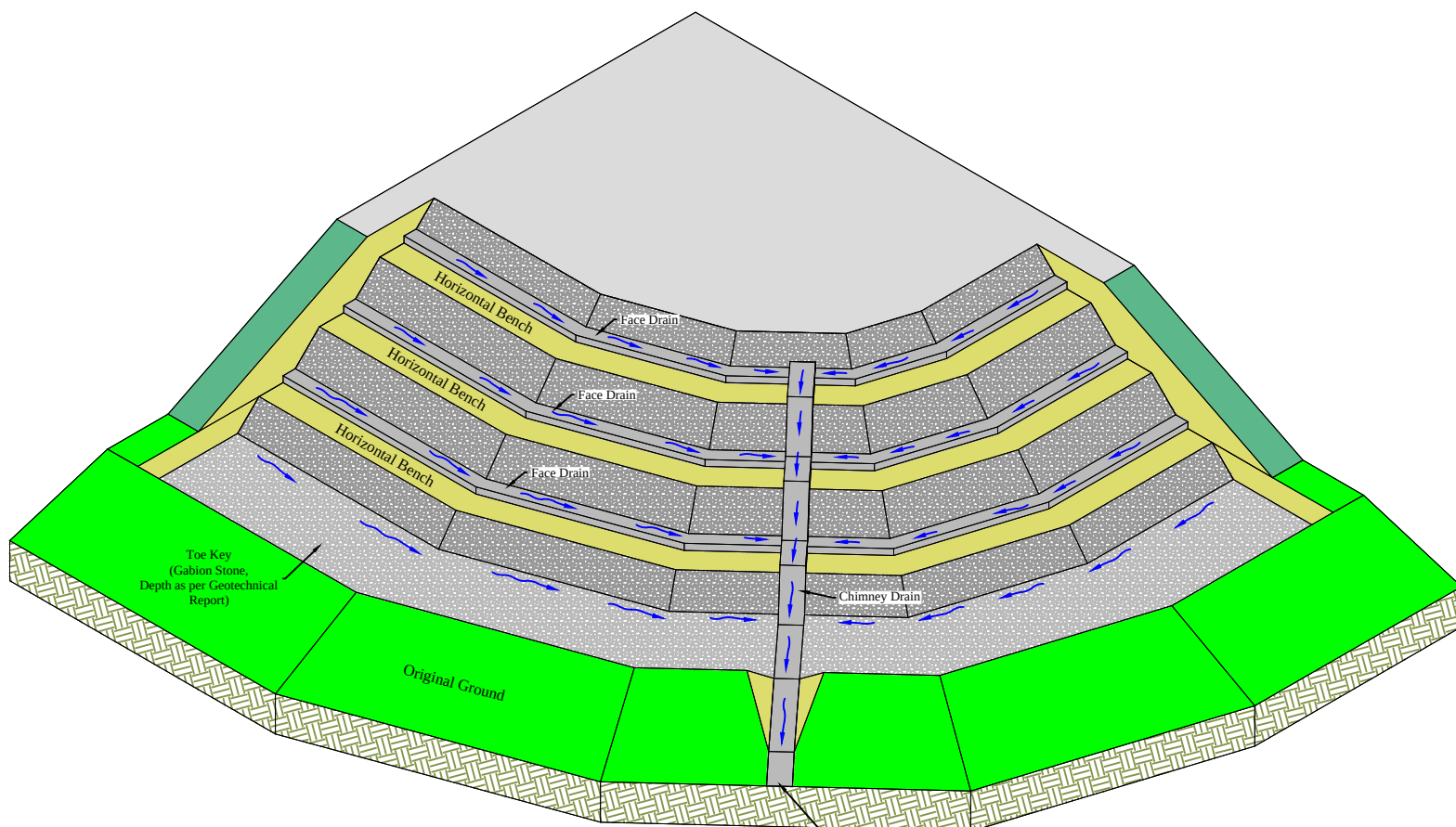
1221 Well Site
Freemans Creek District
Lewis County, WV

Revision
Design

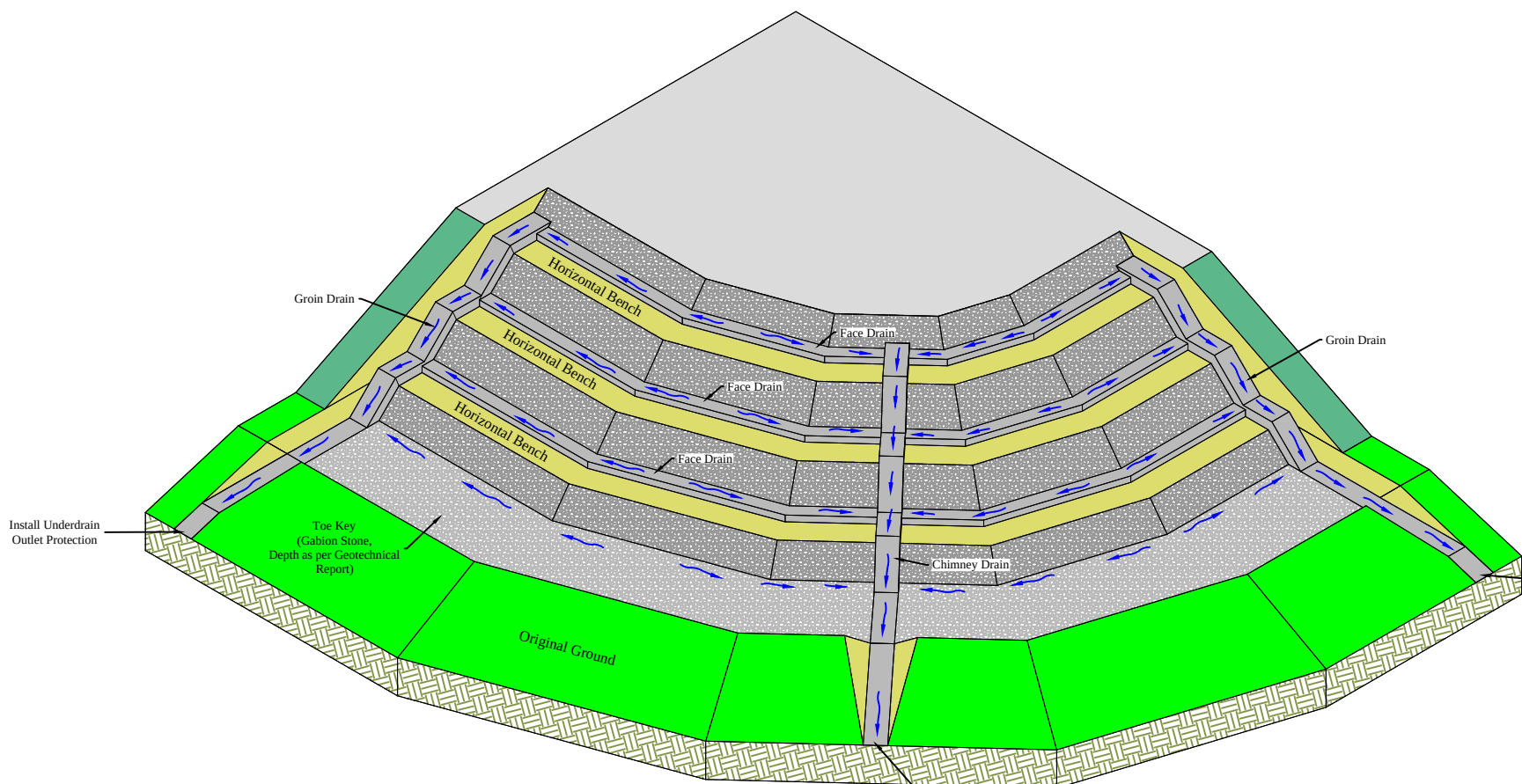
Date
02-04-2025



Groin Drain Underdrain Isometric View



Chimney Drain Underdrain Isometric View



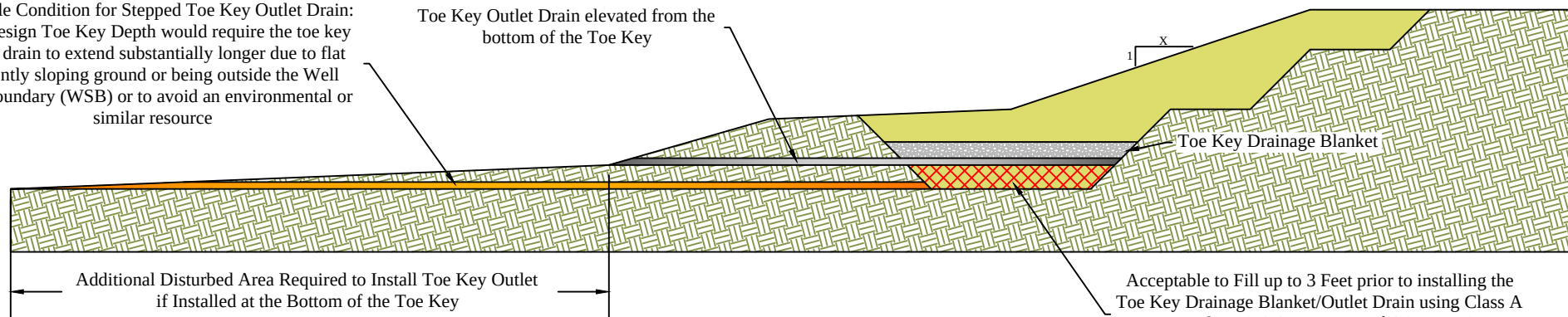
Groin Drain and Chimney Drain Underdrain Isometric View

G12

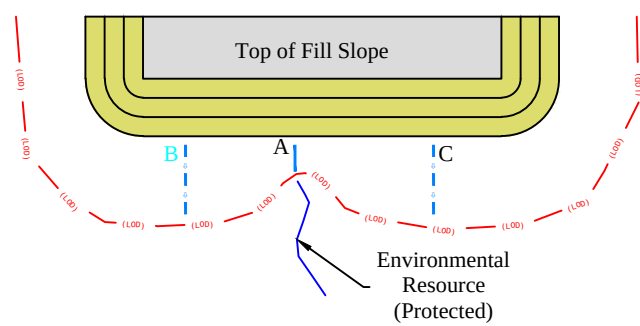
Chimney and Groin Underdrain Detail (Core Drain)

Scale: NTS

Possible Condition for Stepped Toe Key Outlet Drain:
The Design Toe Key Depth would require the toe key outlet drain to extend substantially longer due to flat or gently sloping ground or being outside the Well Site Boundary (WSB) or to avoid an environmental or similar resource



Applicable Case: Flat Slope at Toe Key Outlet



Toe Key Outlet Field Relocation

In the scenario above, Outlet Location A cannot provide positive drainage for the fill slope without impacting the Environmental Resource. Outlet Location A may be moved to Outlet Location B or Location C or, depending on subsurface conditions, Outlet Location A may be replaced with both Outlet Locations B & C to provide positive drainage from the fill slope without impacting the Environmental Resource or similar resource. Toe Key outlets shall be installed every 150' minimum or as field conditions allow.

Notes:

If a condition exists that will degrade the drainage system of the engineered fill, the Geotechnical Engineer and/or his/her representative shall elevate the toe key or bonding bench material before installing the drainage system to provide positive flow to an approved outlet. The toe key or bonding bench may be filled at maximum 15" loose lifts compacted to 12" using Class A Material Compacted to 98% ASTM D 698 for up to three feet or per the Geotechnical Engineer.

The Toe Key outlets can be field adjusted depending on the material horizon. The toe key outlet locations are conceptual as shown on the plan with the intent of providing a location that shall guarantee positive drainage away from the Toe Key without impacting environmental or similar resources.

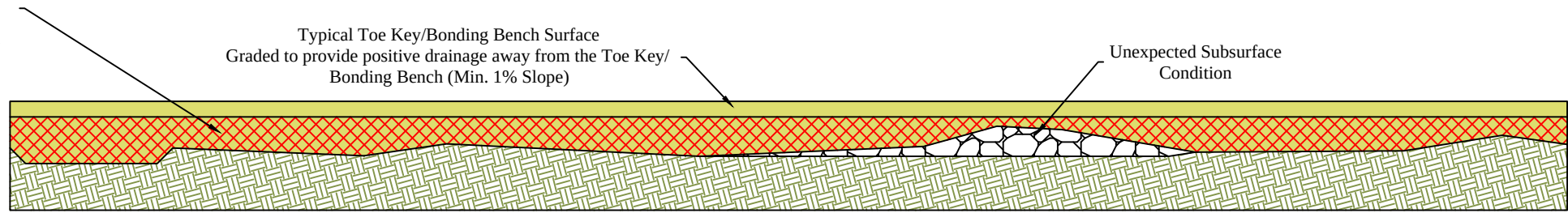
G13

Stepped Toe Key/Bonding Bench

Scale: NTS

Acceptable to Fill up to 3 Feet prior to installing the Toe Key or Bonding Bench drainage structure to provide positive drainage away from the Toe Key/ Bonding Bench with the approval of the site Geotechnical Engineer

Fill to be Class A Material at 98% Compaction of ASTM D 698 or as approved by the site Geotechnical Engineer



Applicable Case: Excessively Rough/Uneven Surface at Toe Key/Bonding Bench



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Typical Geotechnical Details

1221 Well Site

Freemans Creek District
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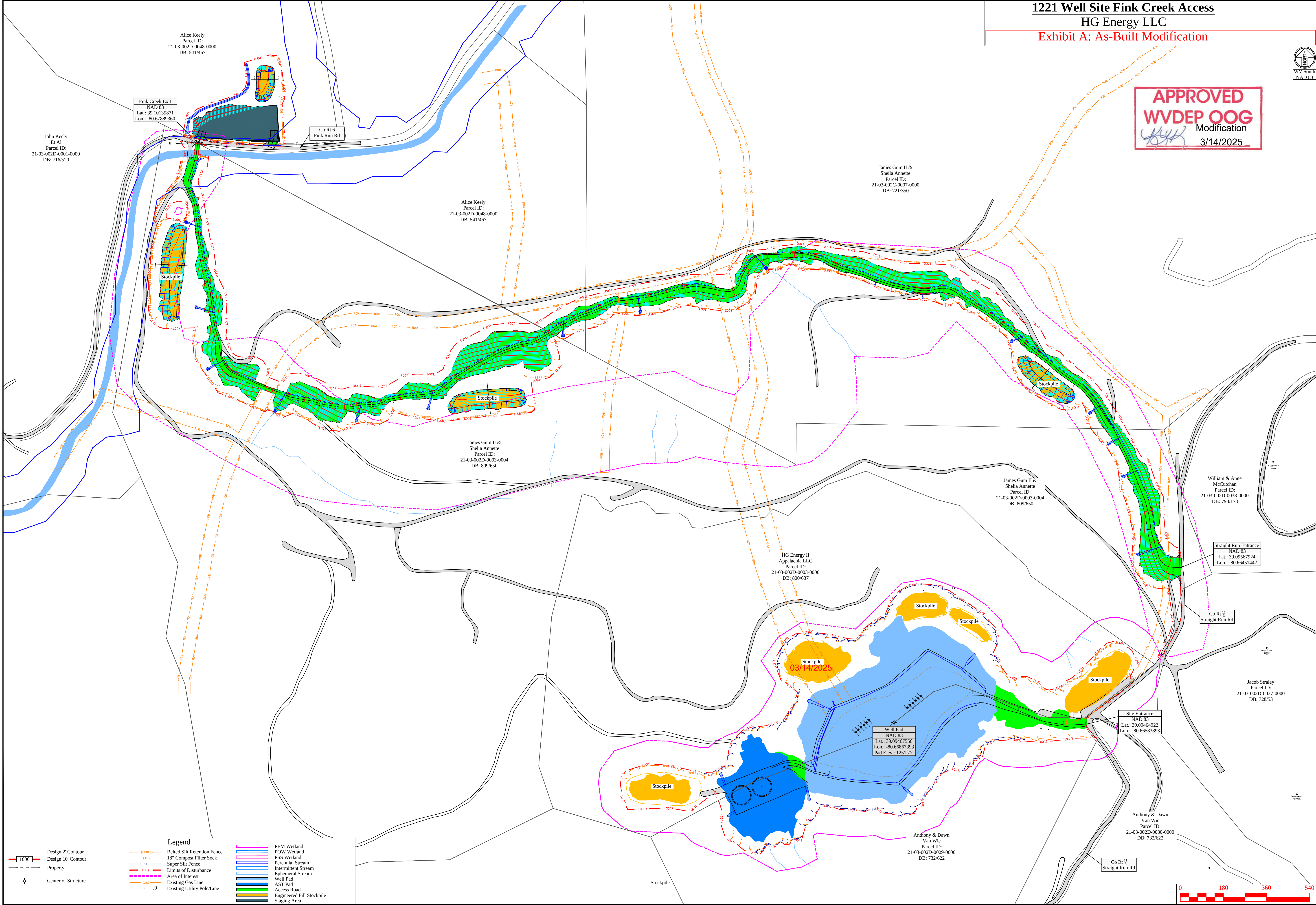
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File No.
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1221 Well Site Fink Creek Access
HG Energy LLC
Exhibit A: As-Built Modification



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Legend

- | | | |
|---------------------|----------------------------|---------------------------|
| Design 2' Contour | Belts Silt Retention Fence | PEM Wetland |
| Design 10' Contour | 18" Compust Filter Sock | PDW Wetland |
| Property | Super Silt Fence | PSS Wetland |
| Center of Structure | Limits of Disturbance | Perennial Stream |
| | Area of Interest | Intermittent Stream |
| | Existing Gas Line | Ephemeral Stream |
| | Existing Utility Pole/Line | Well Pad |
| | | AST Pad |
| | | Access Road |
| | | Engineered Fill Stockpile |
| | | Staging Area |

Revision	Date
Design	02-04-2025

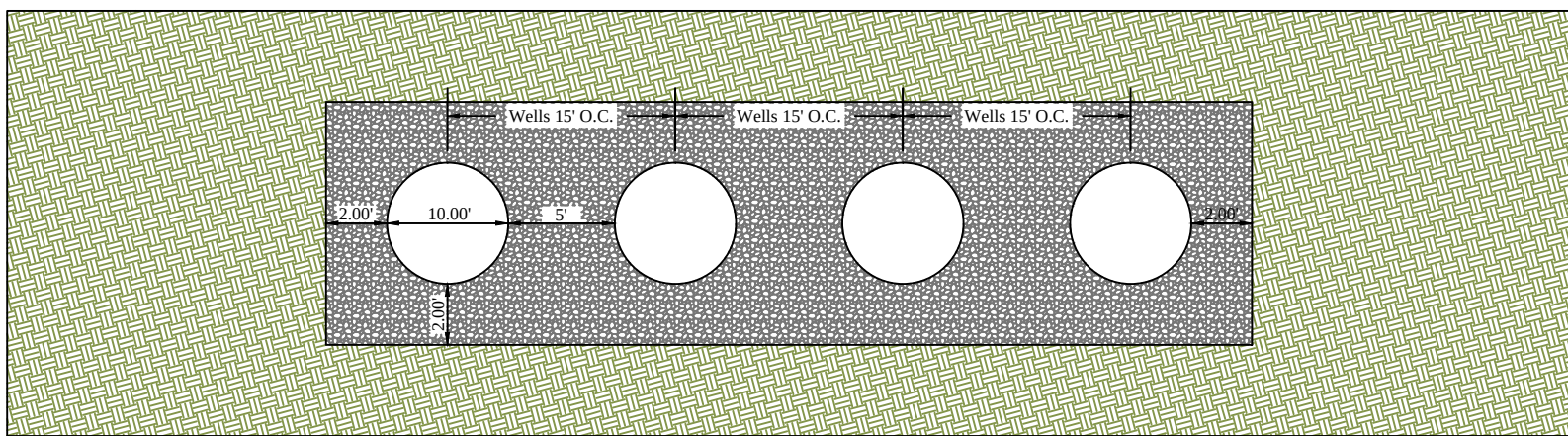


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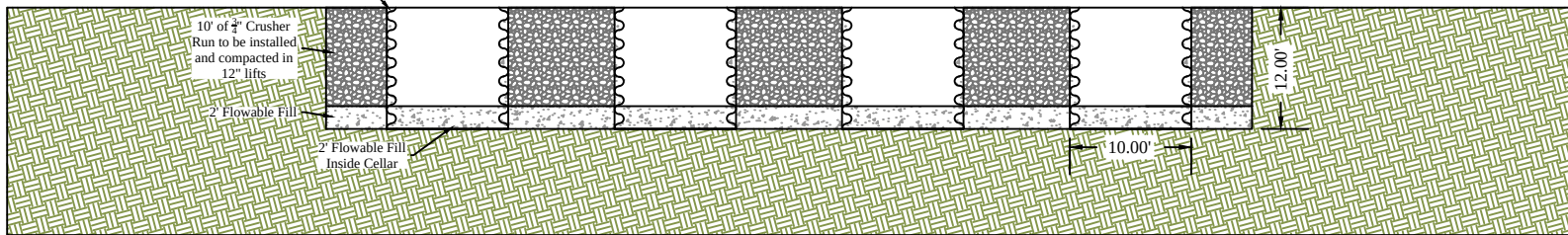


Landowner Exhibit
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
Scale: As Shown
Designed By: ZS
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Trench Cellar Plan View

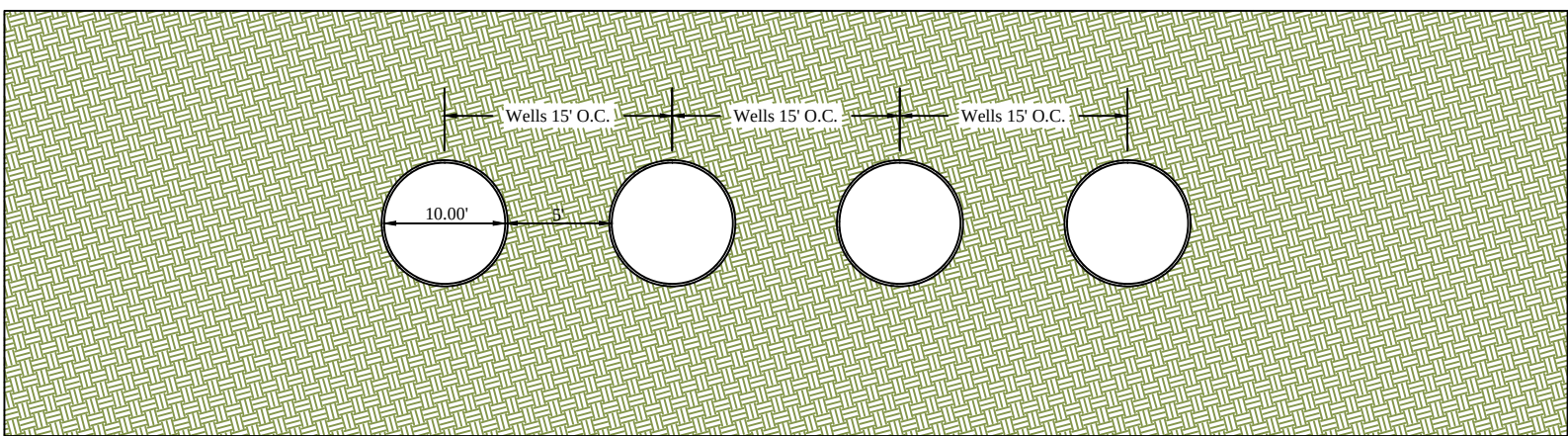
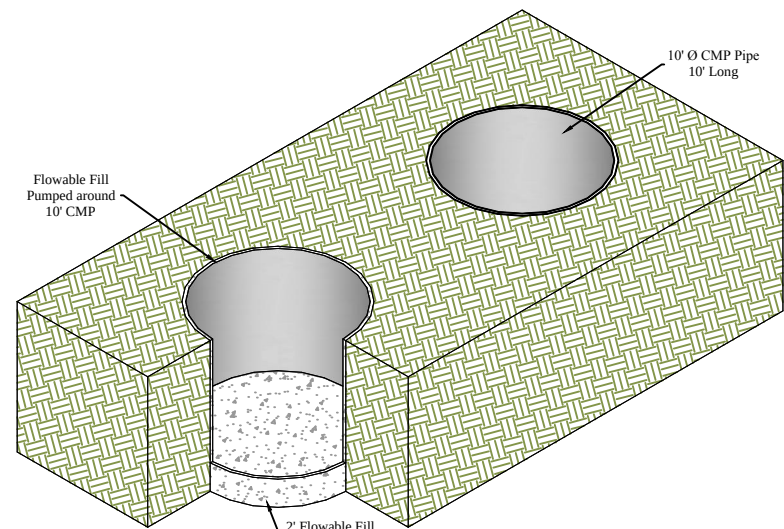


Trench Cellar Section View

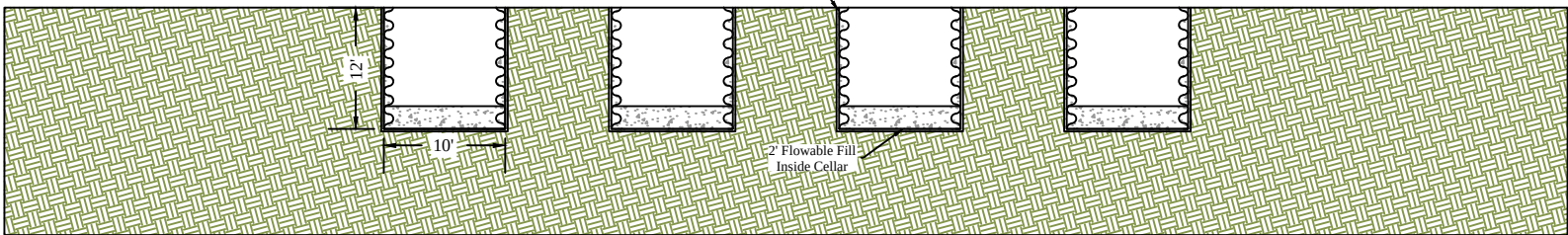
M1 Typical Trenched Cellar Detail

Scale: NTS

Note:
All stone placed on the pad and around the cellars shall be compacted.



Auger Cellar Plan View

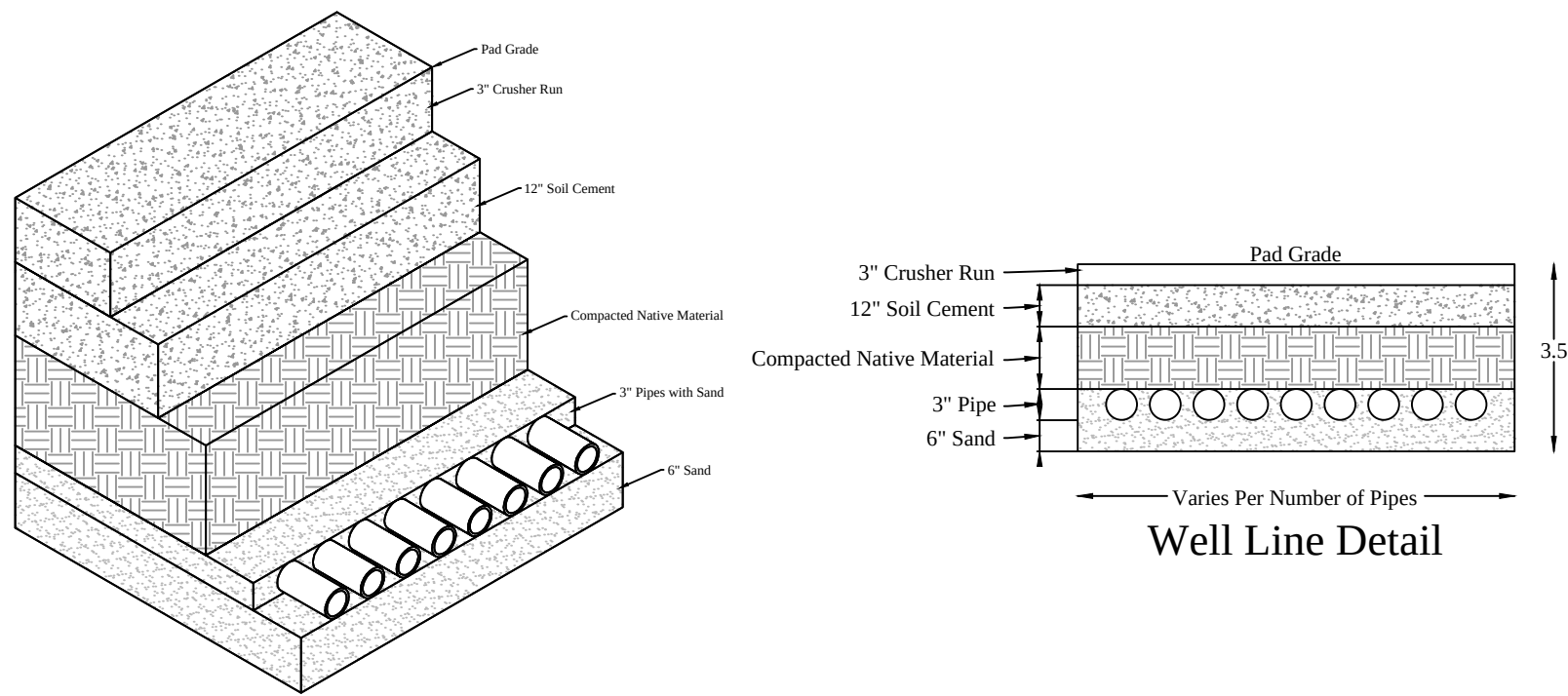


Auger Cellar Section View

M2 Typical Augered Cellar Detail

Scale: NTS

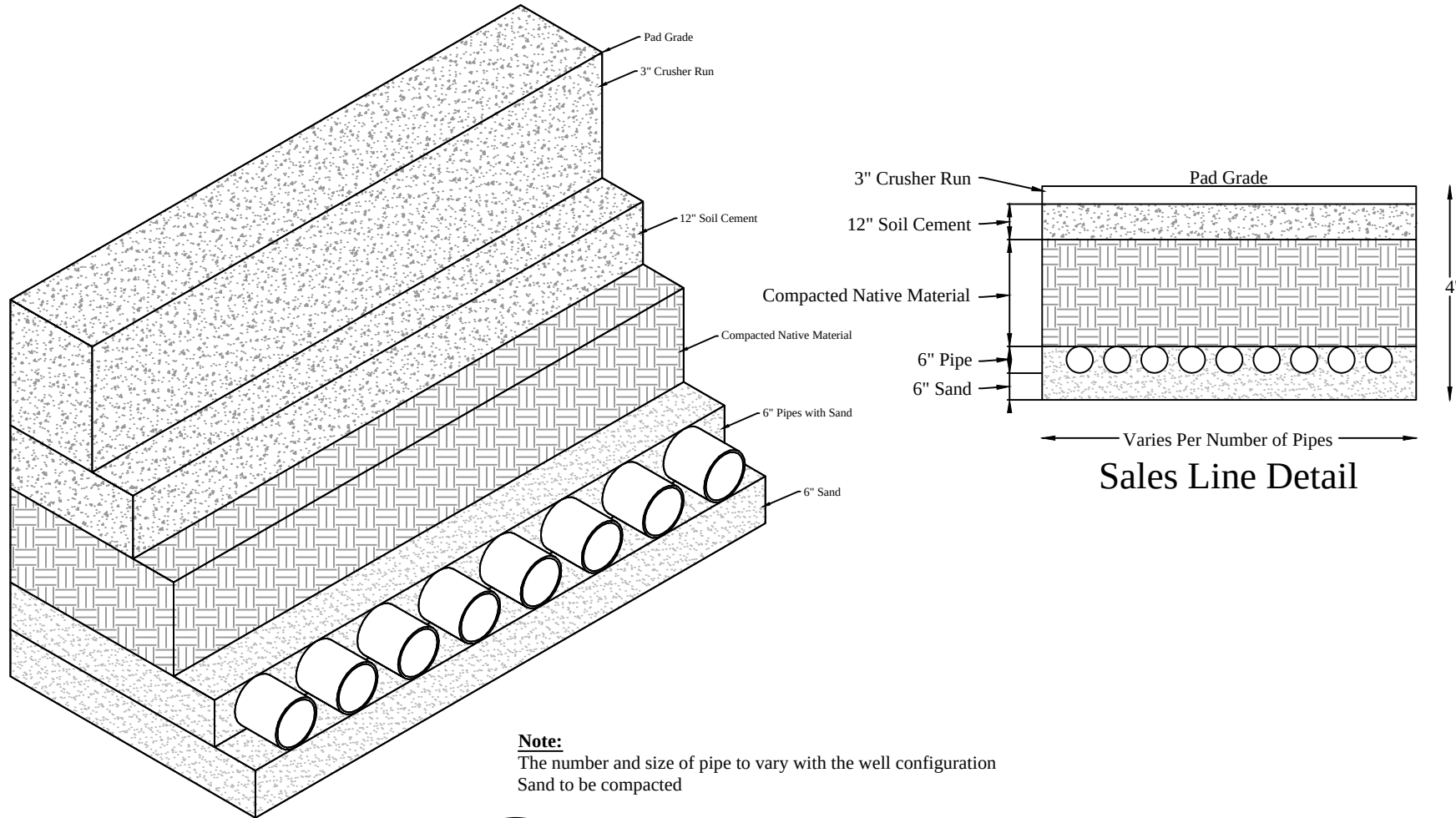
Note:
All stone placed on the pad and around the cellars shall be compacted.



Note:
The number and size of pipe to vary with the well configuration
Sand to be compacted

M3 Typical Well Line Detail

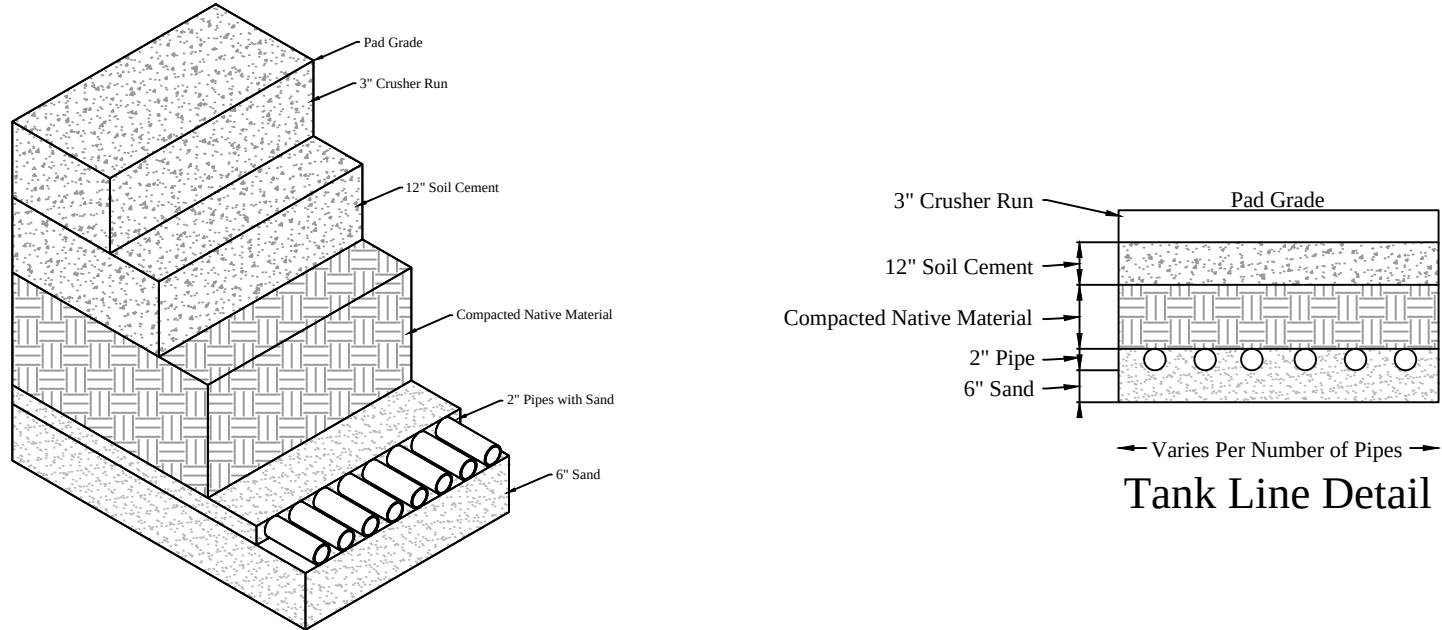
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Note:
The number and size of pipe to vary with the well configuration
Sand to be compacted

M4 Typical Sales Line Detail

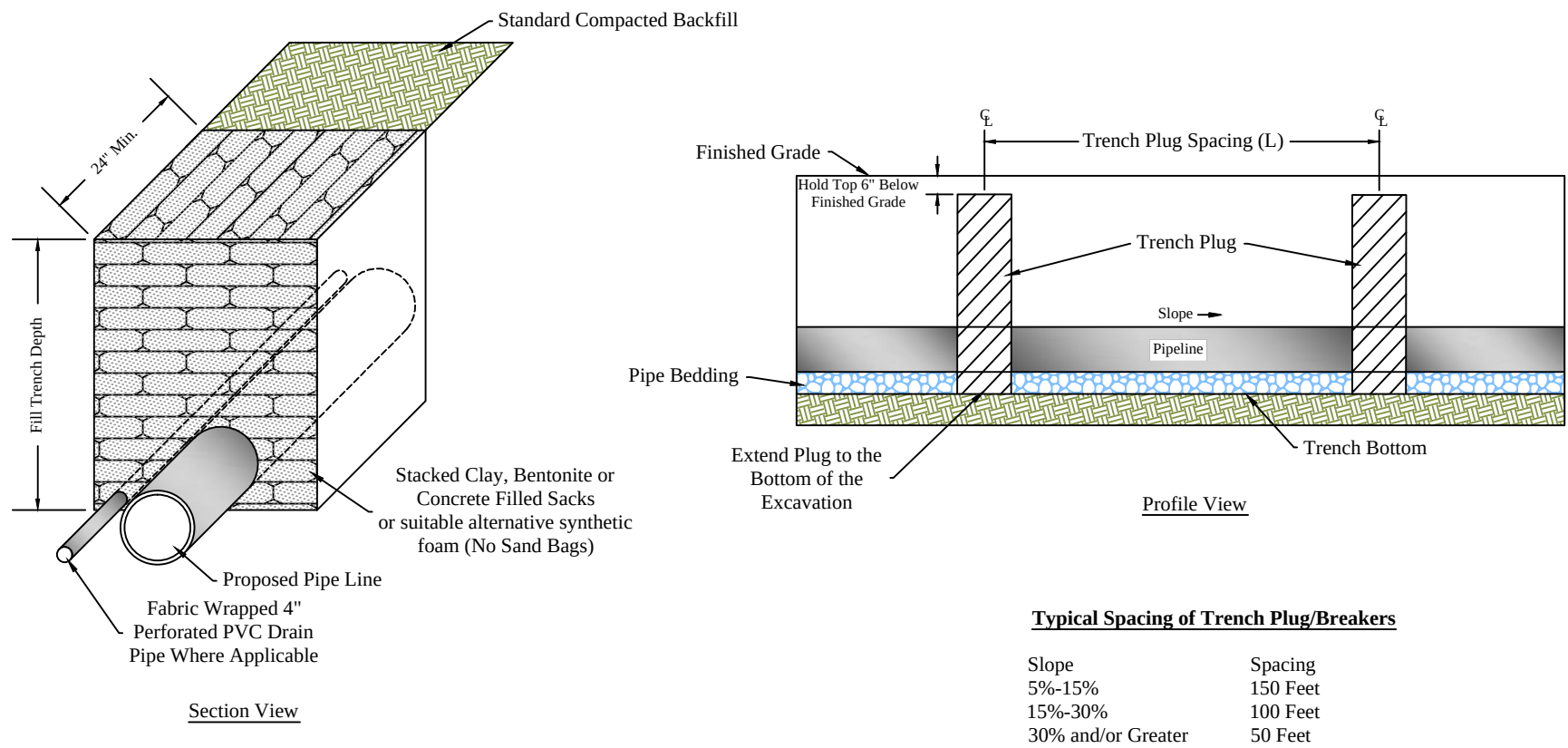
Scale: NTS



Note:
The number and size of pipe to vary with the well configuration
Sand to be compacted

M5 Typical Tank Line Detail

Scale: NTS

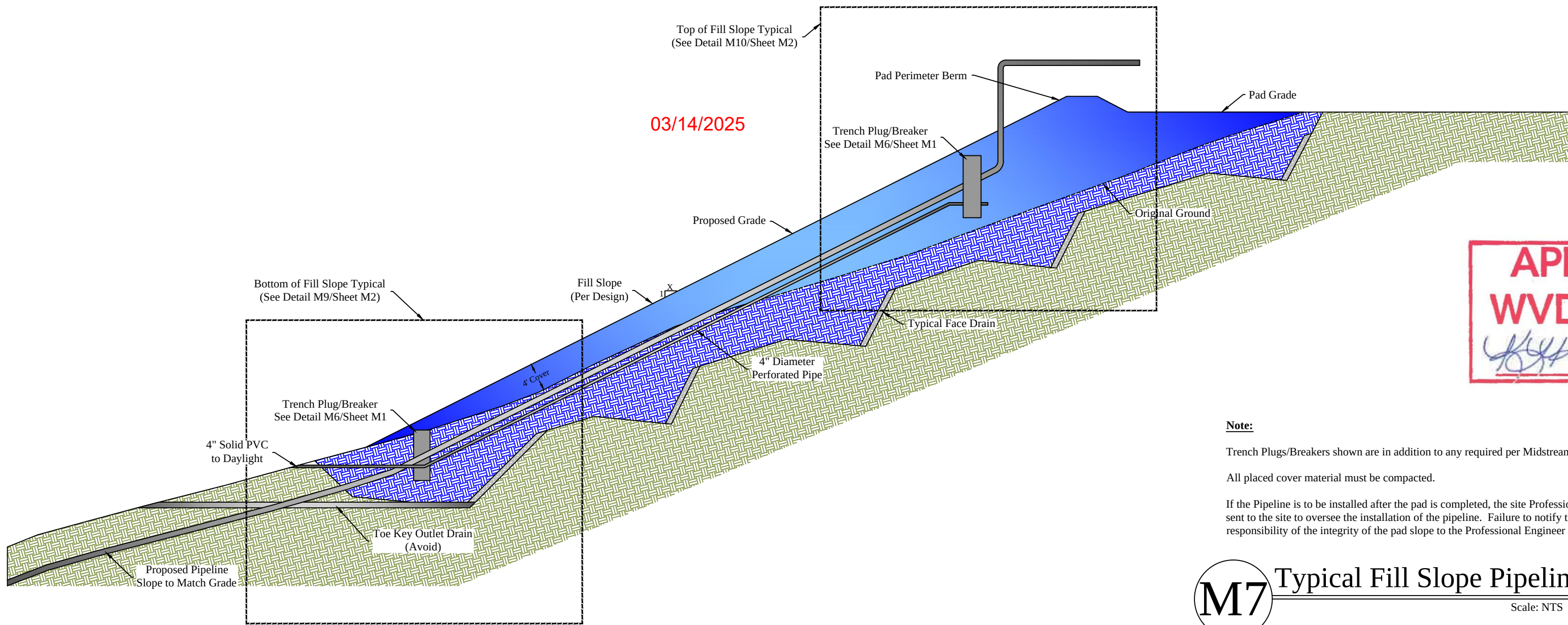


Typical Spacing of Trench Plug/Breakers

Slope	Spacing
5%-15%	150 Feet
15%-30%	100 Feet
30% and/or Greater	50 Feet

M6 Typical Impervious Trench Plug/Breaker

Scale: NTS



Note:

Trench Plugs/Breakers shown are in addition to any required per Midstream Plans/Details for the Proposed Pipeline.

All placed cover material must be compacted.

If the Pipeline is to be installed after the pad is completed, the site Professional Engineer must be contacted and an inspector sent to the site to oversee the installation of the pipeline. Failure to notify the site Professional Engineer will transfer the responsibility of the integrity of the pad slope to the Professional Engineer who designed the pipeline.

M7 Typical Fill Slope Pipeline Installation Section

Scale: NTS

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02-04-2025



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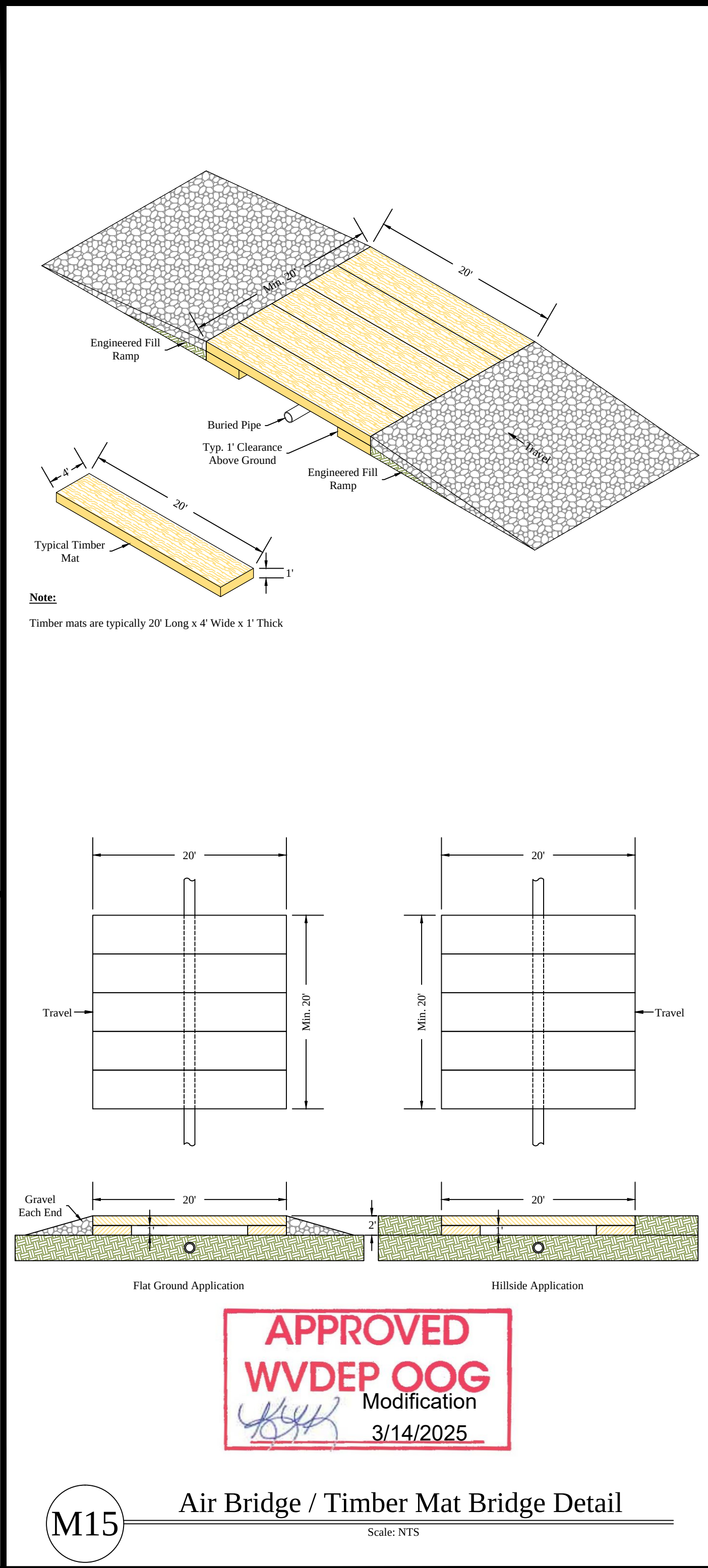
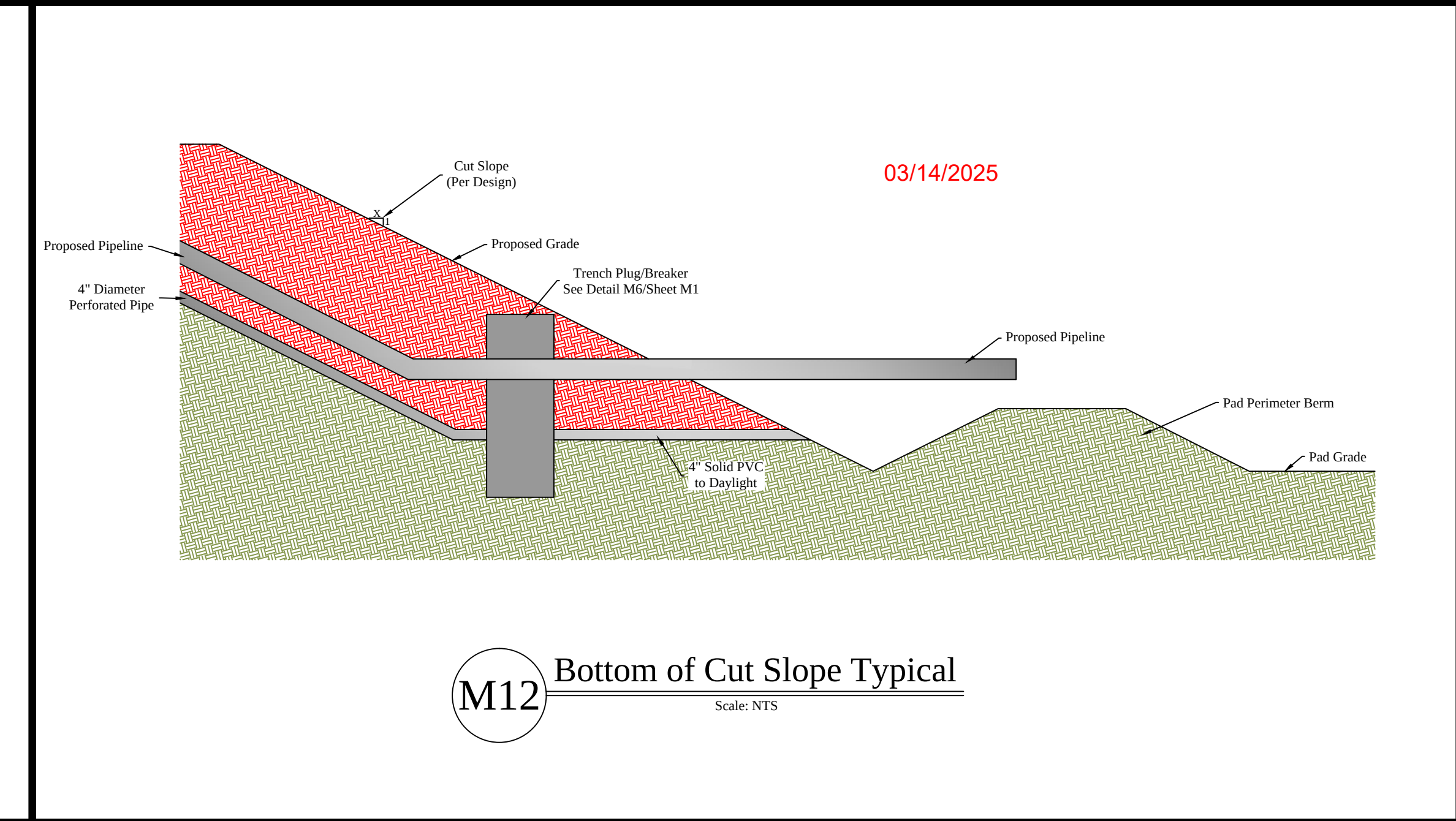
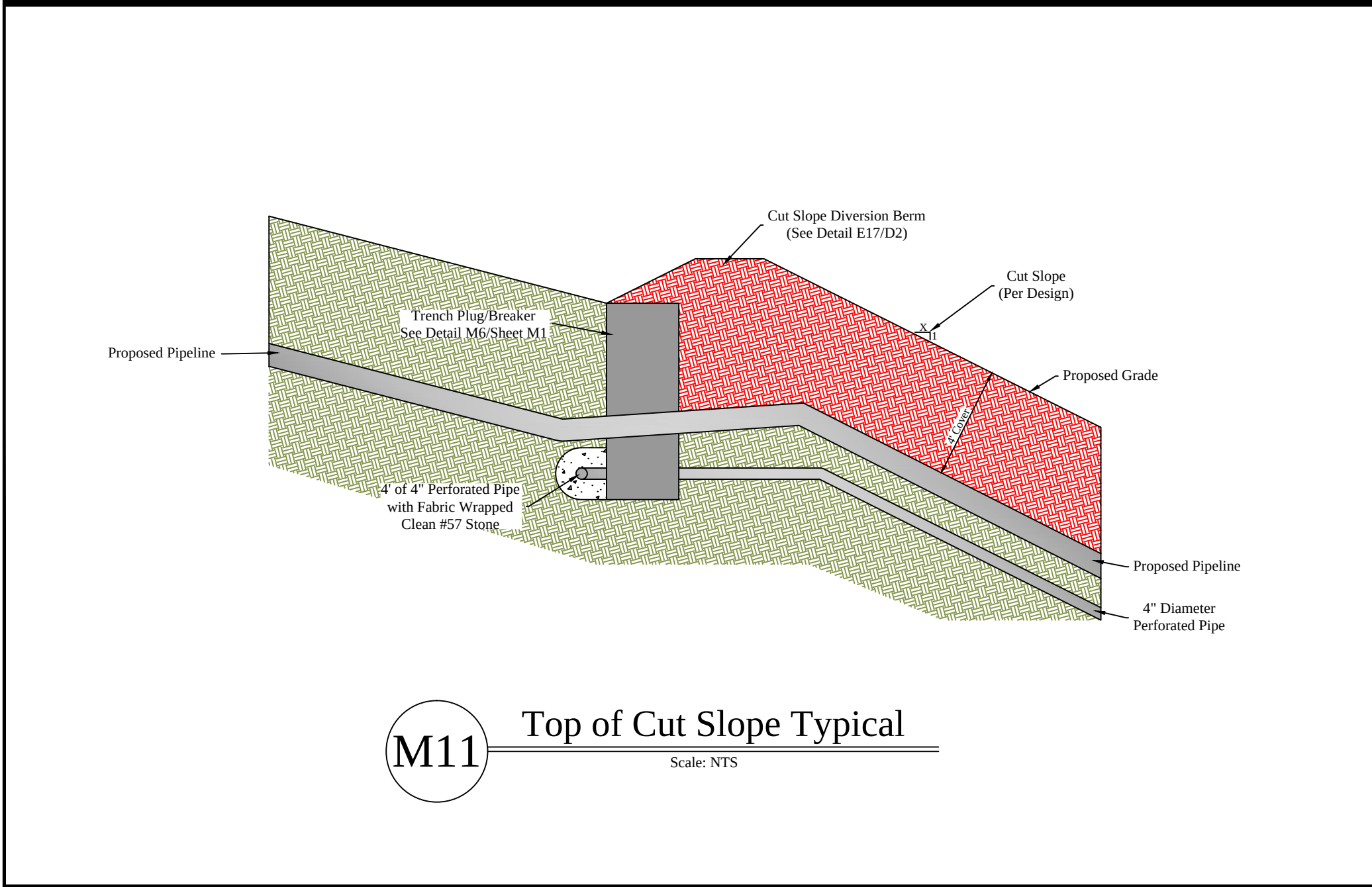
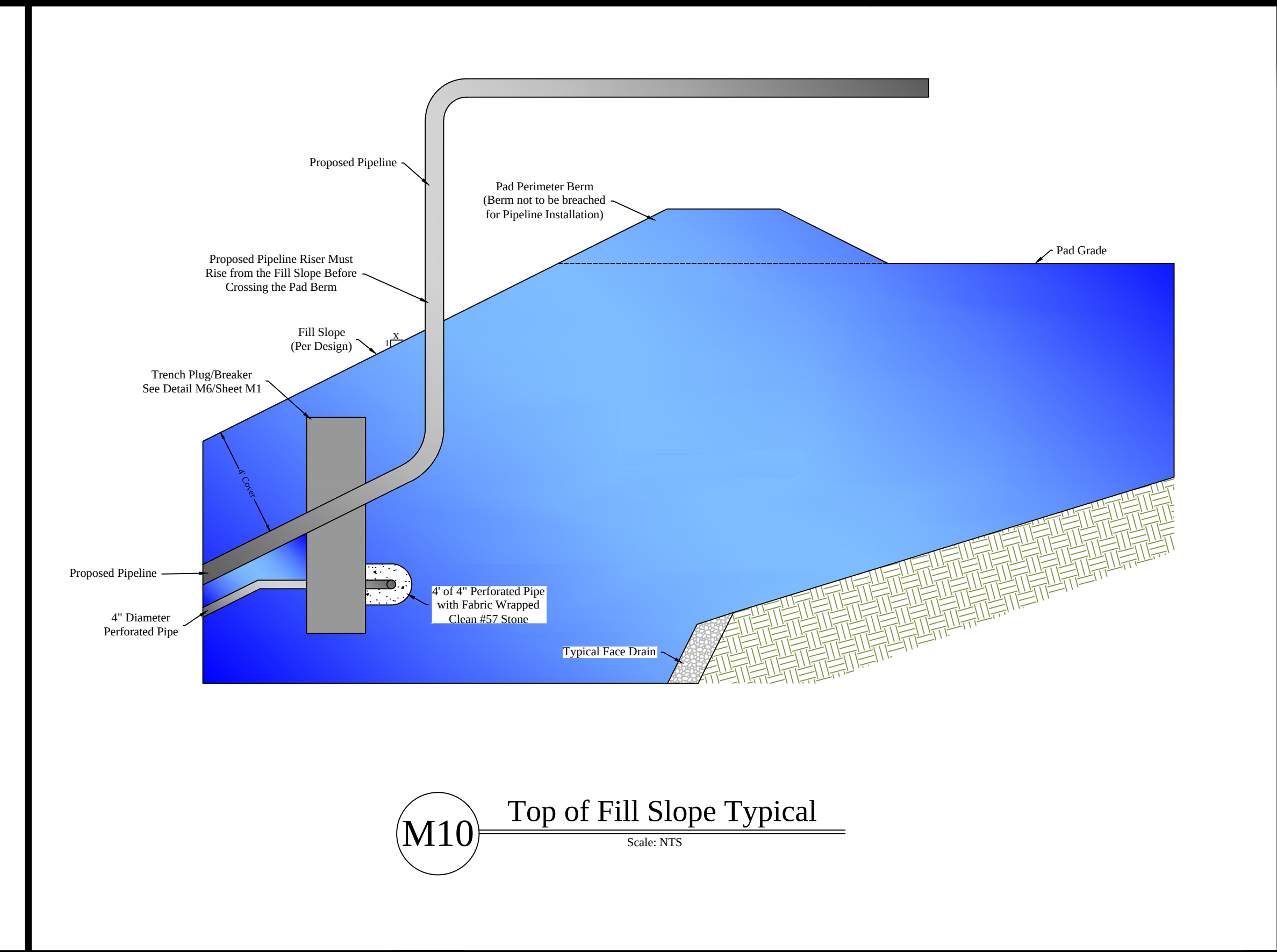
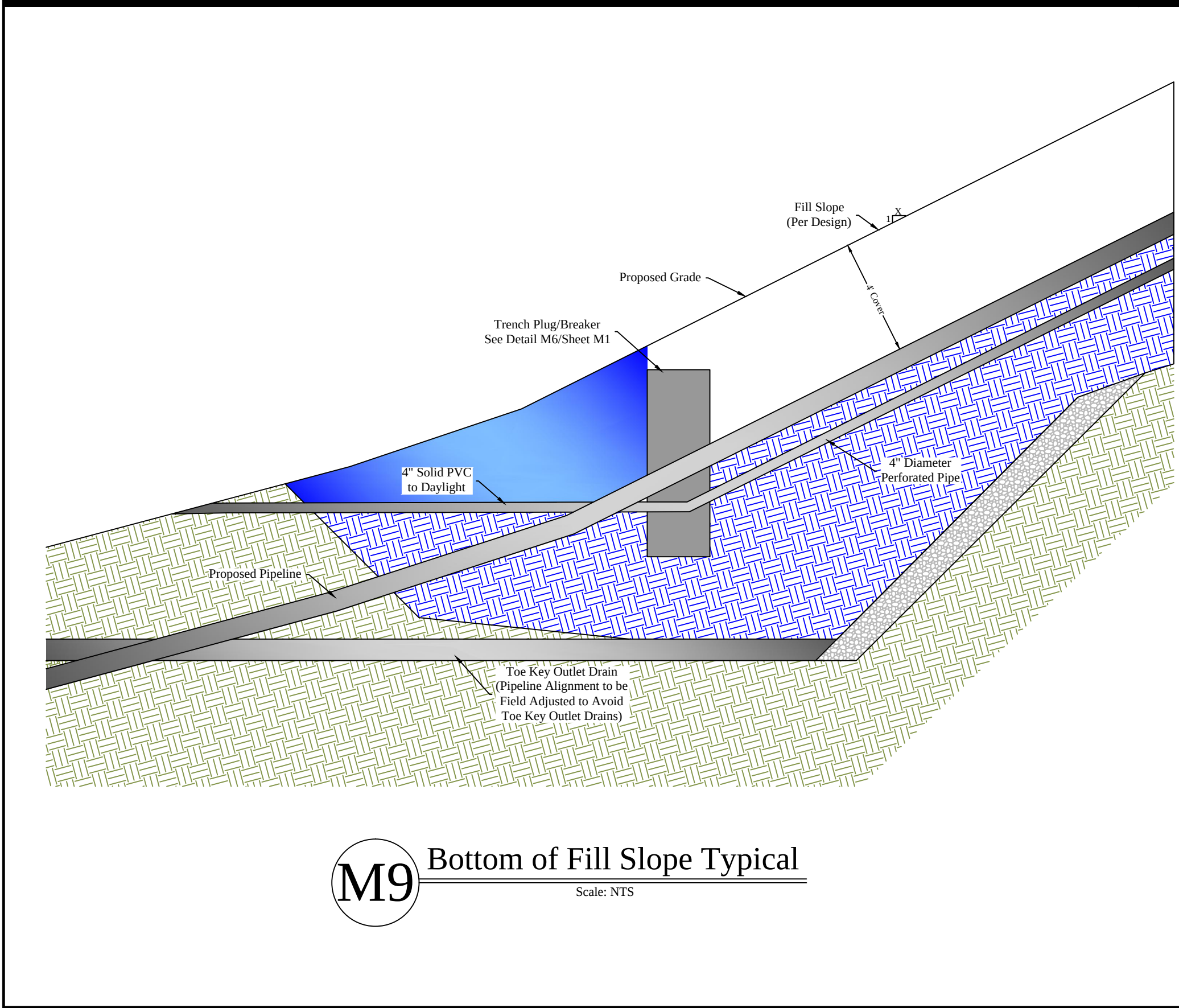
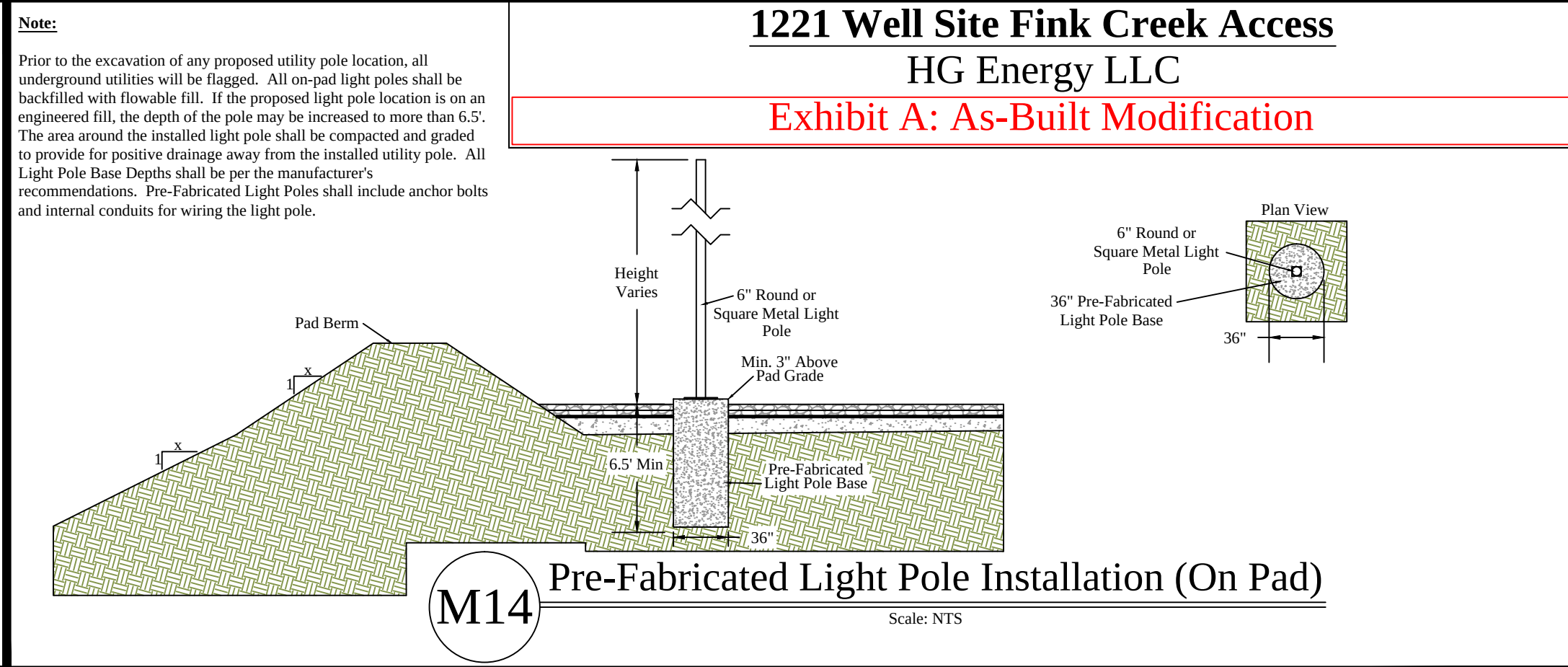
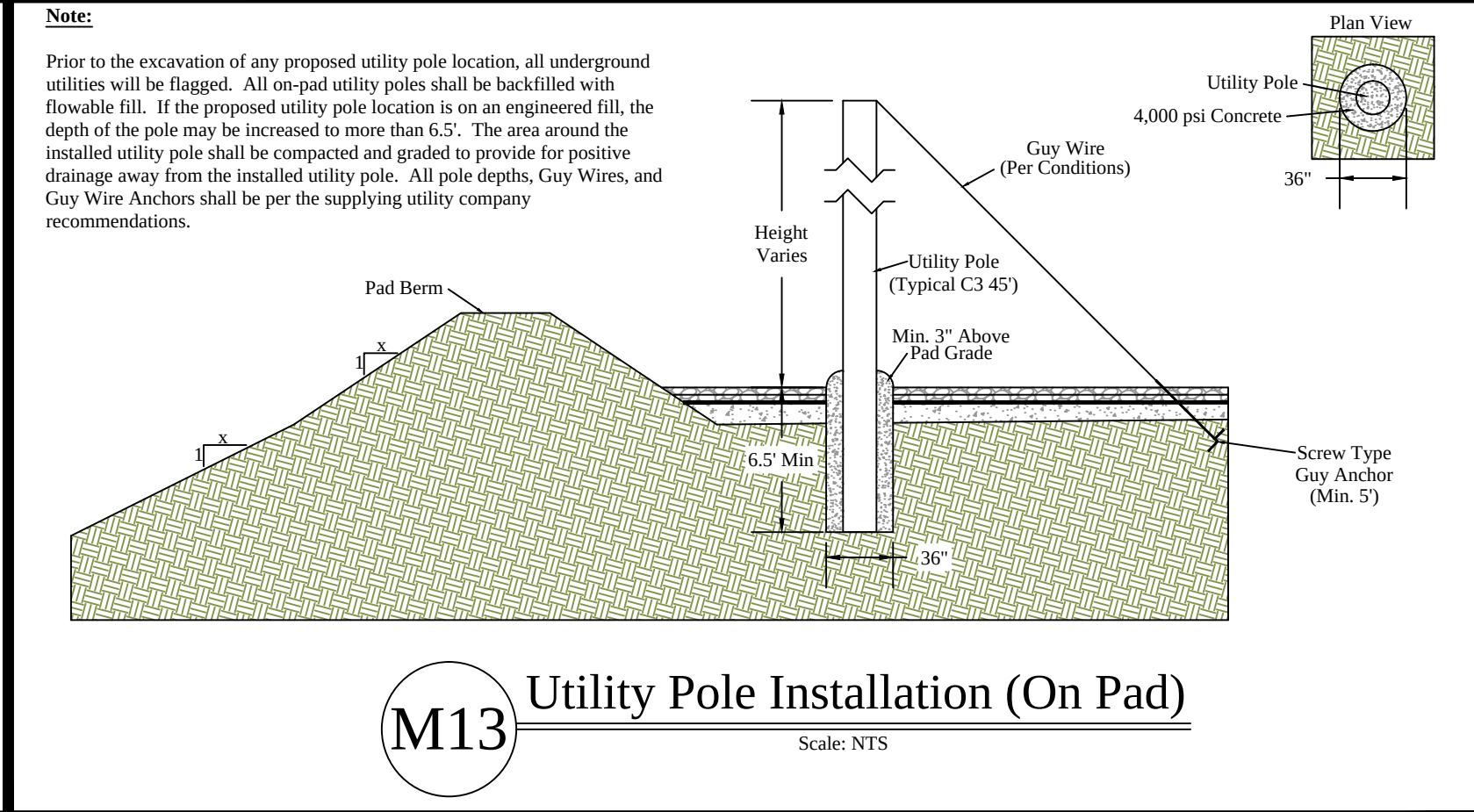
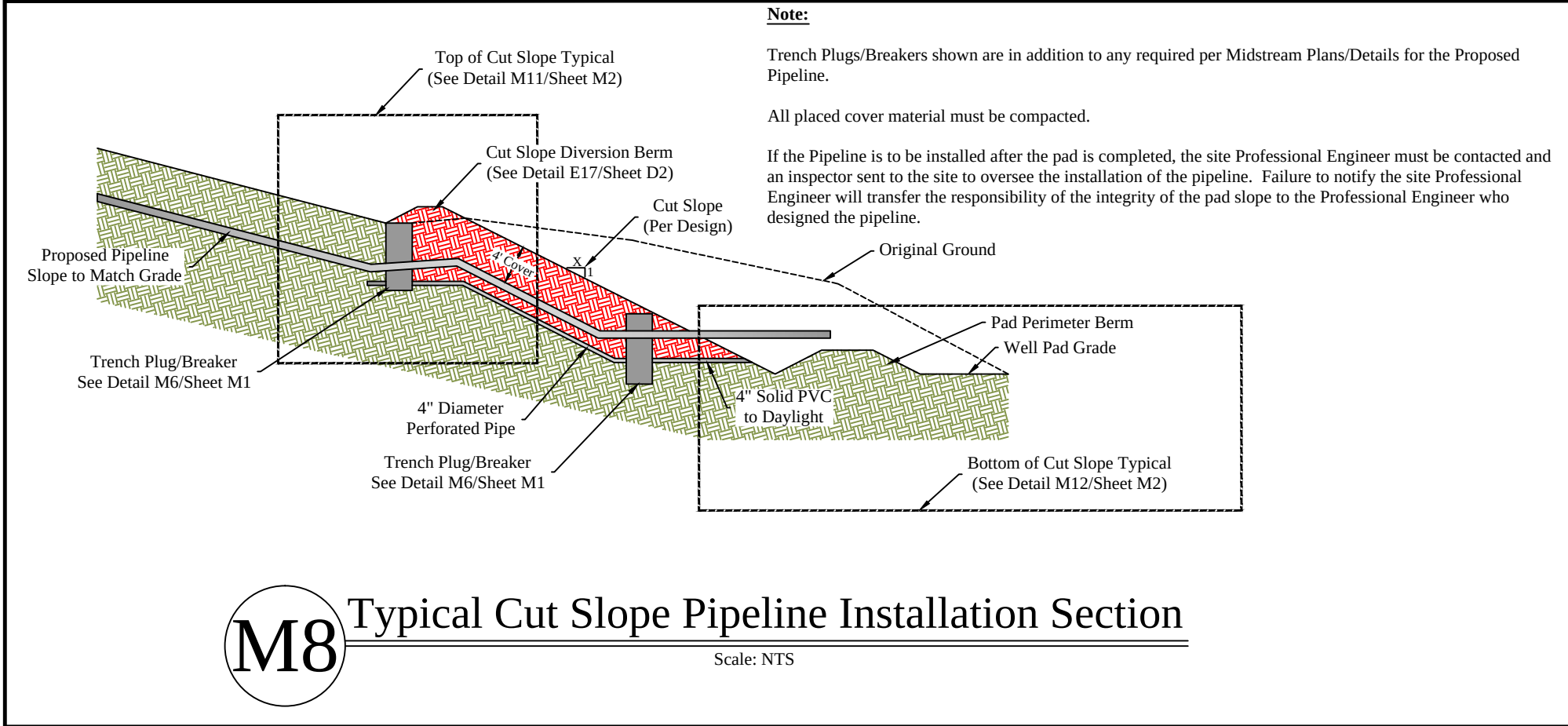


Typical Midstream Production Details

1221 Well Site

Freemans Creek District
Lewis County, WV

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(304) 338-0965

Typical Midstream Production Details

1221 Well Site

Freemans Creek District
Lewis County, WV

Date: 02/04/2025

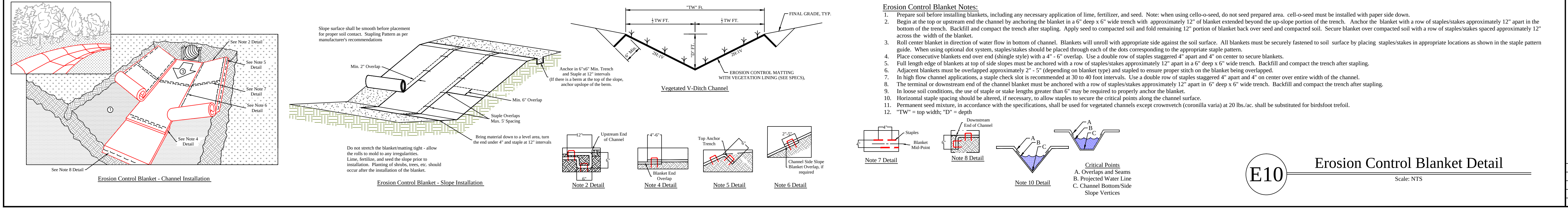
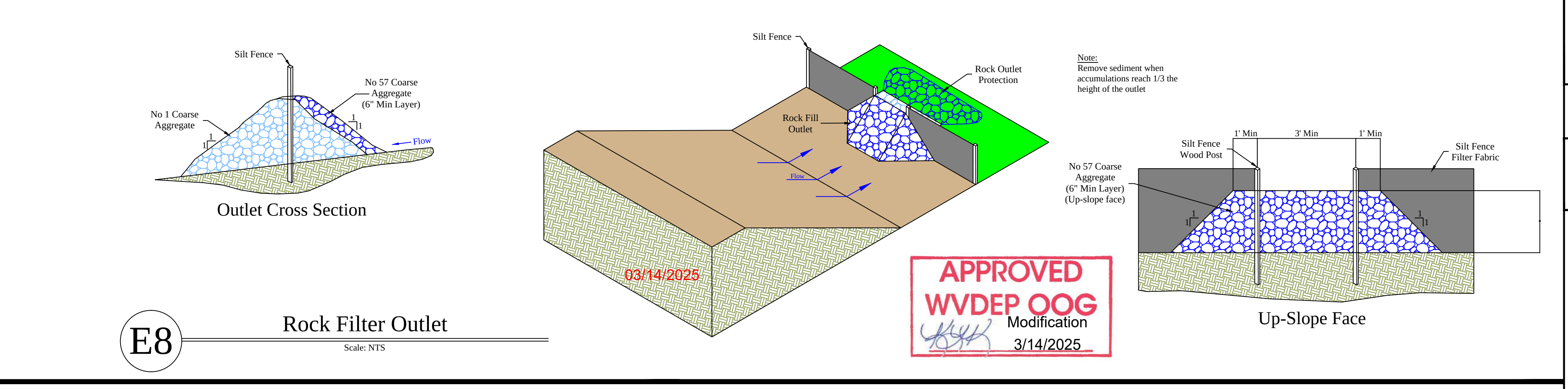
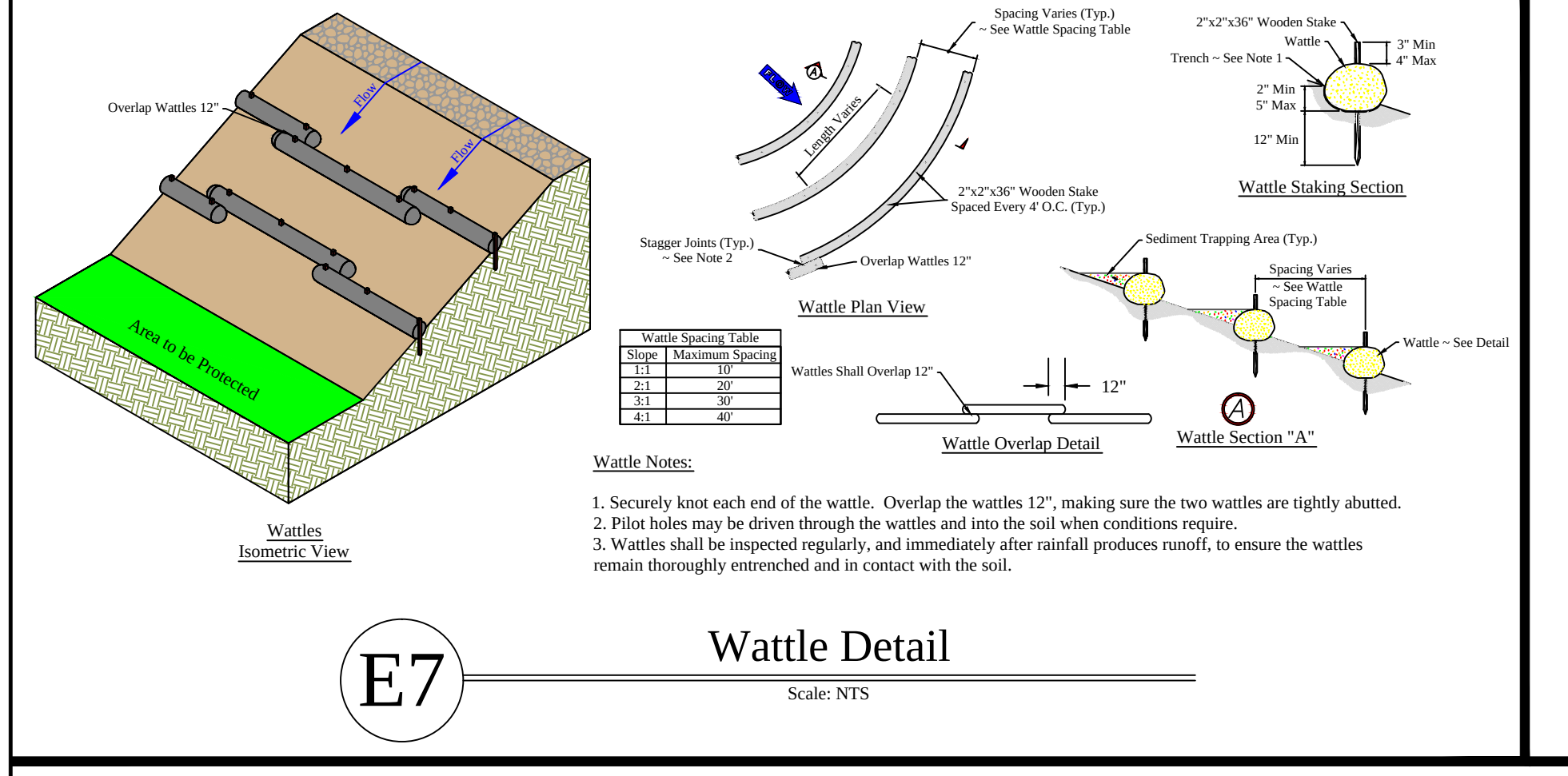
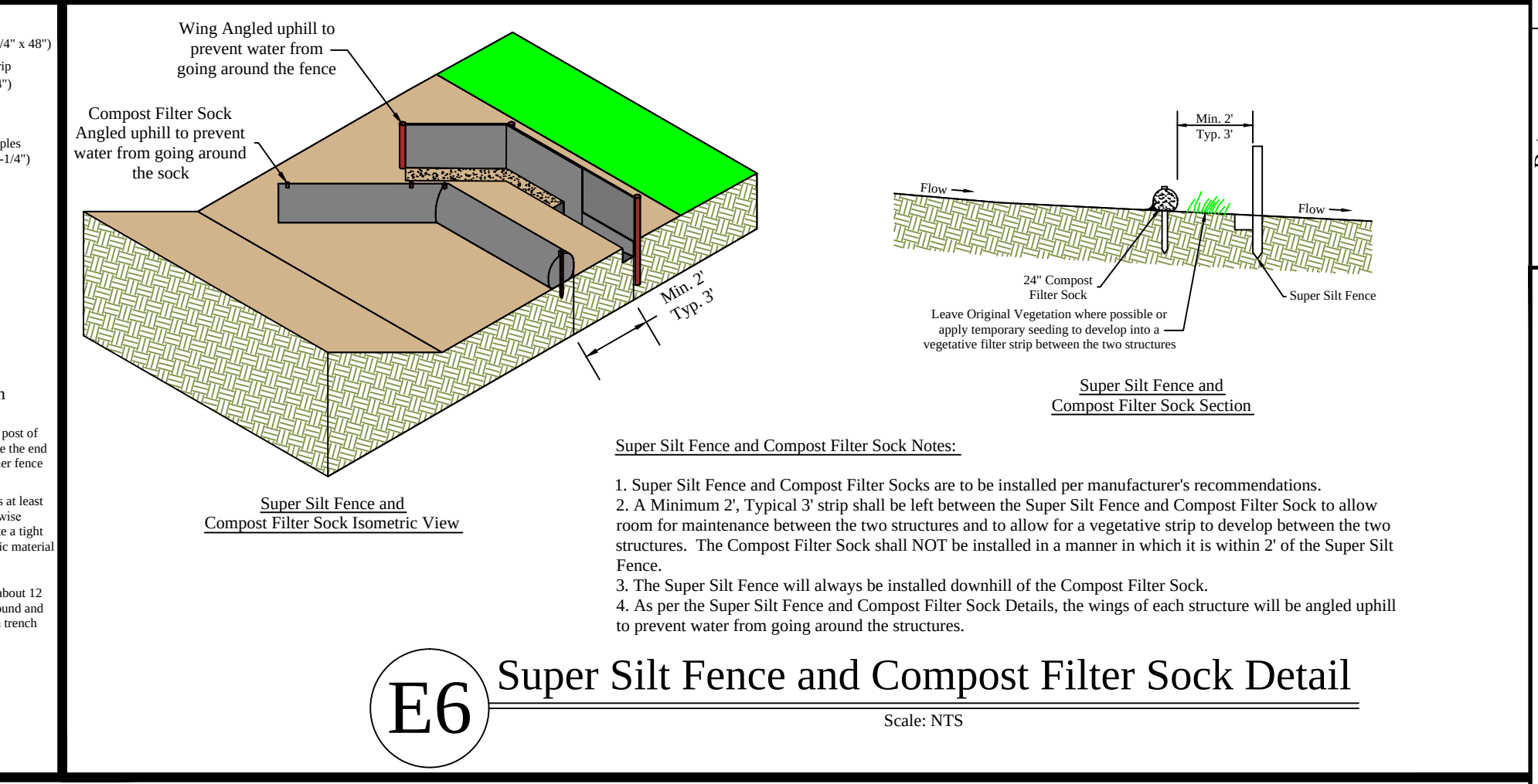
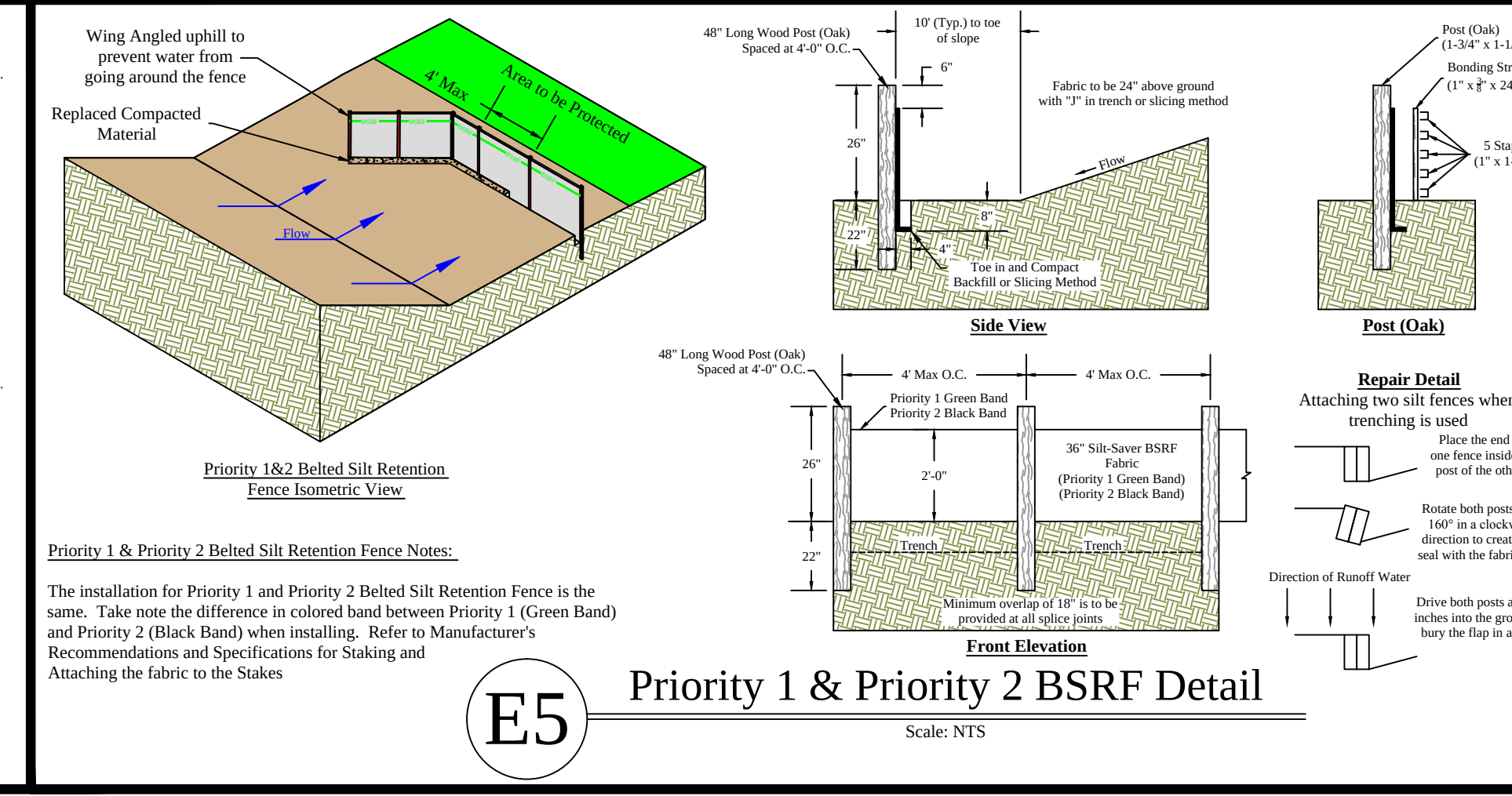
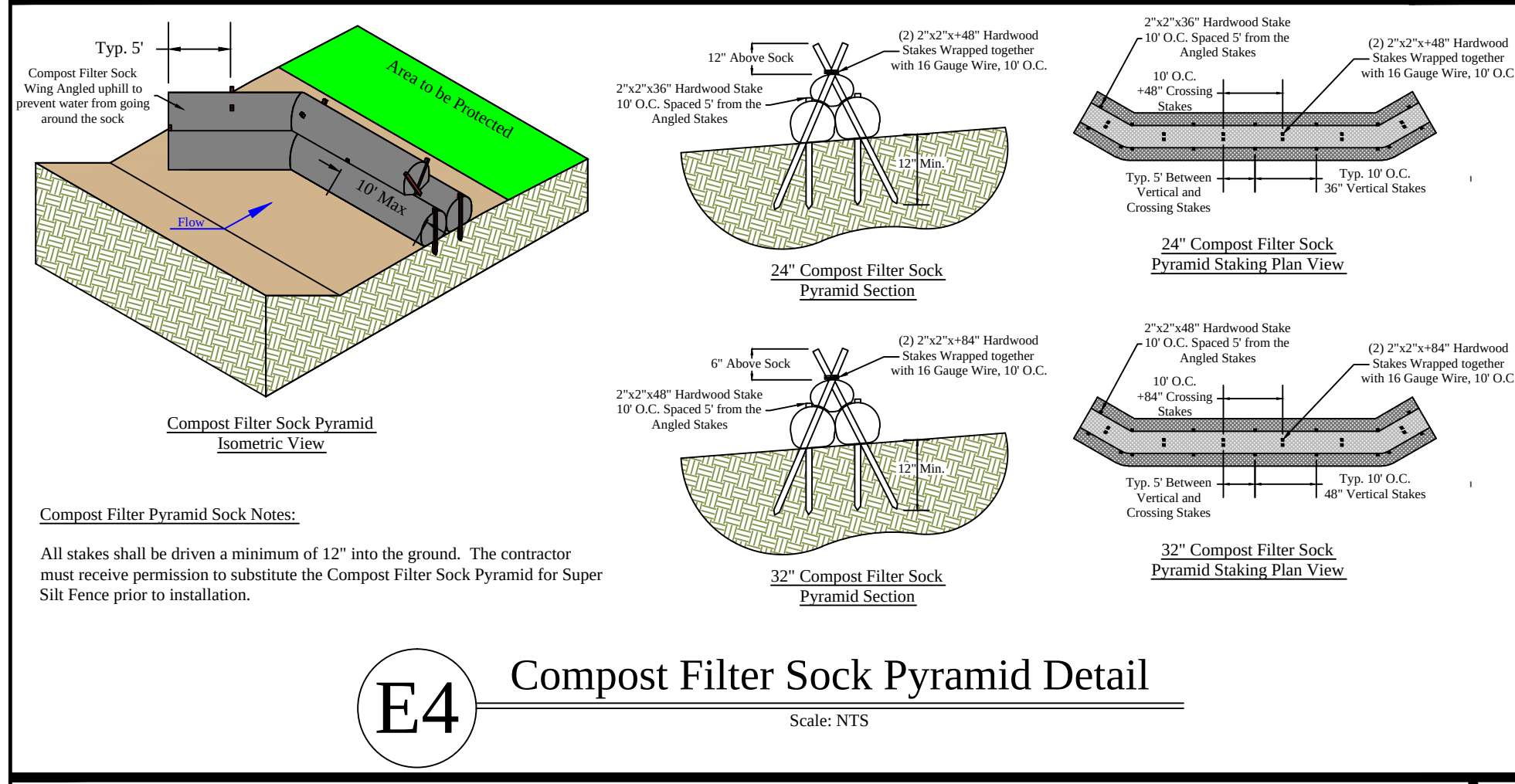
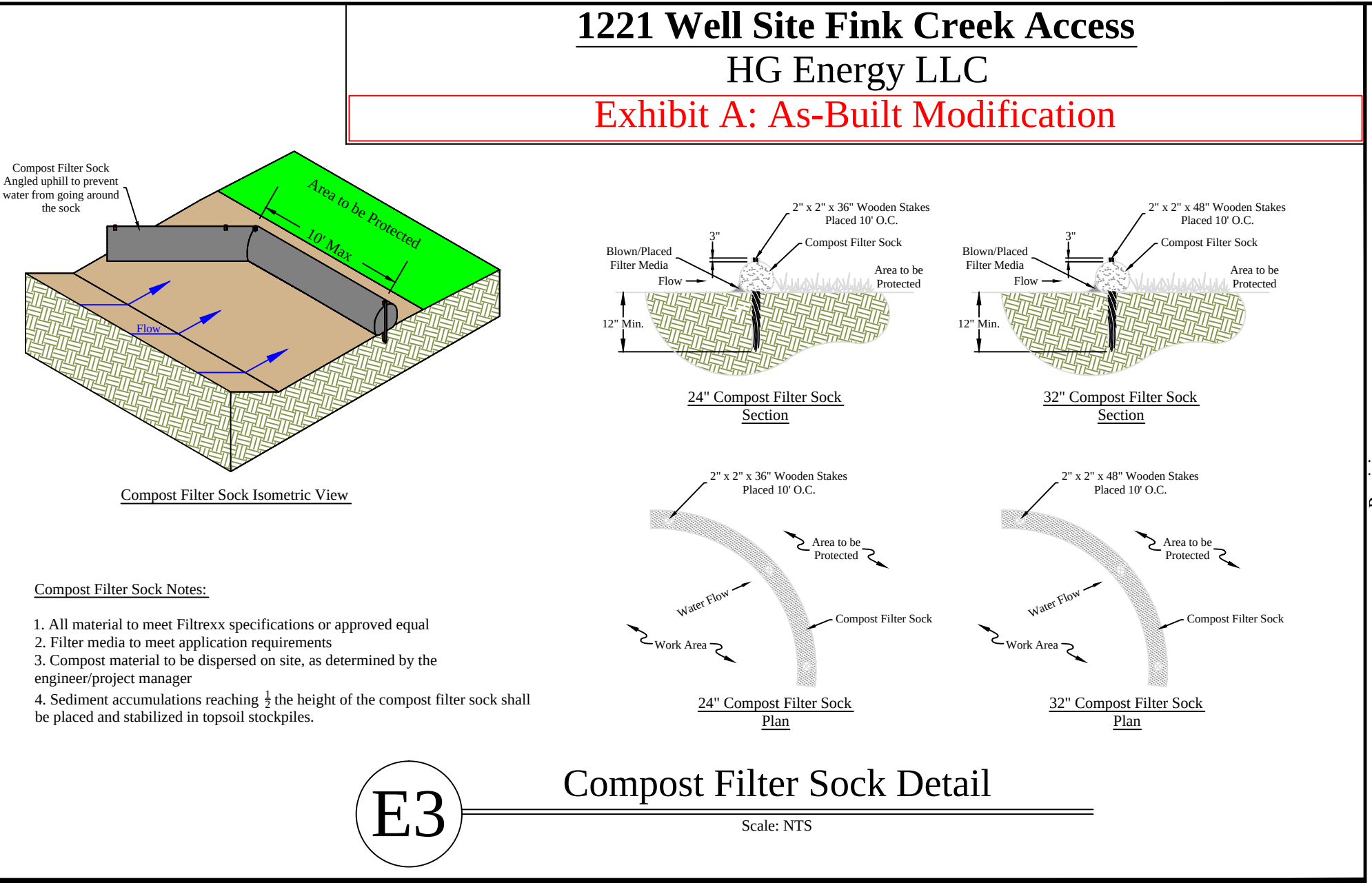
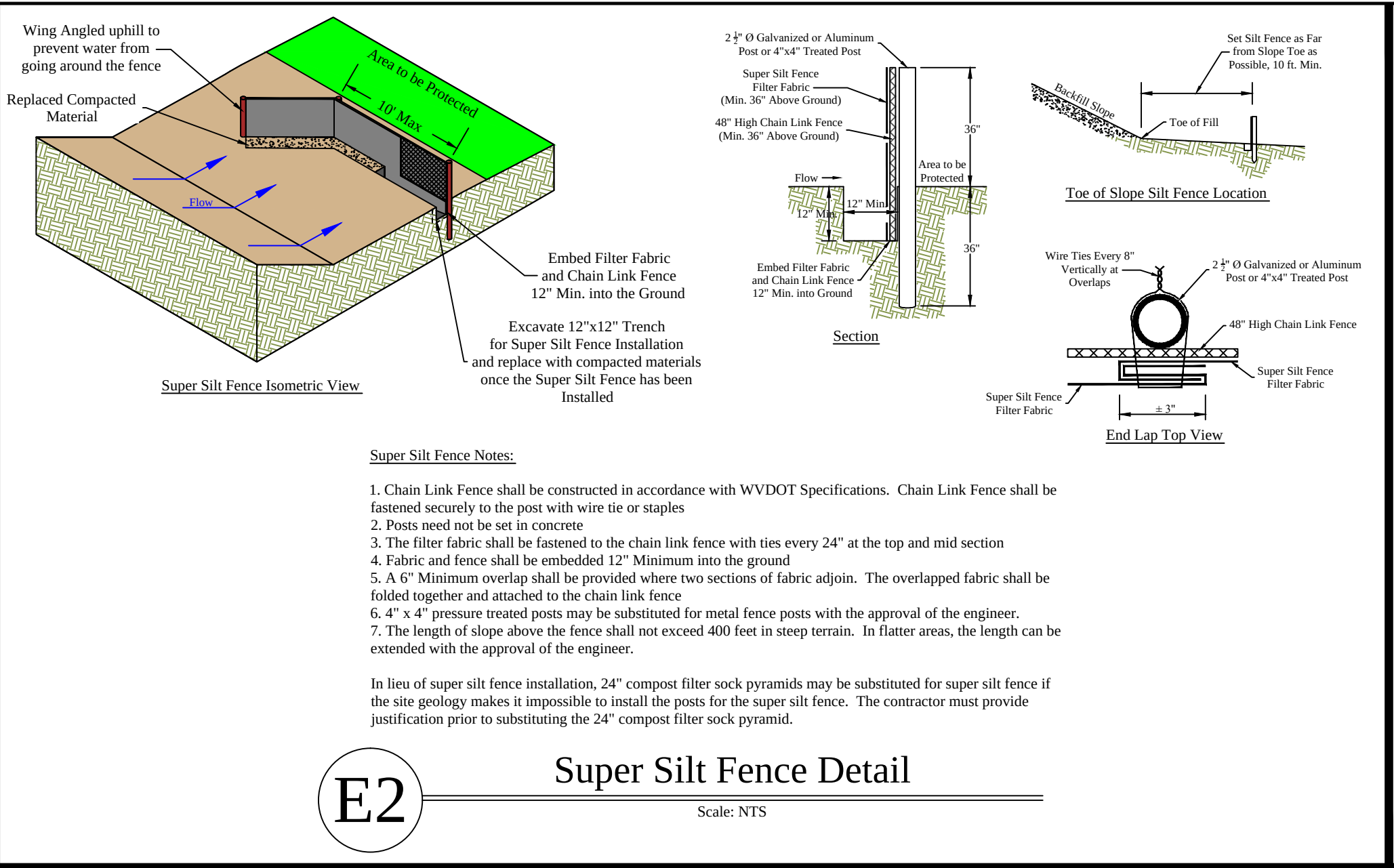
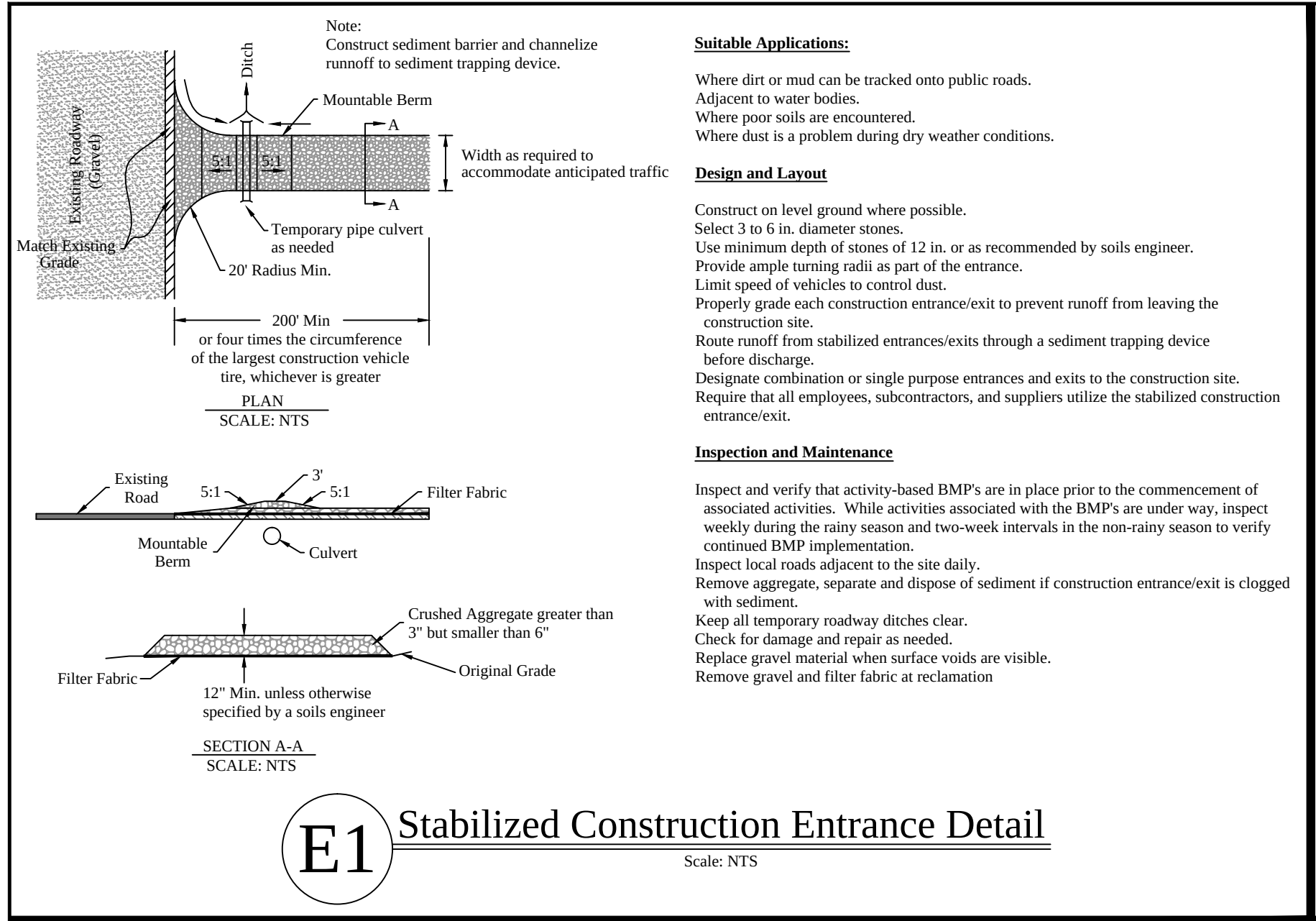
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Sheet M2 of M2

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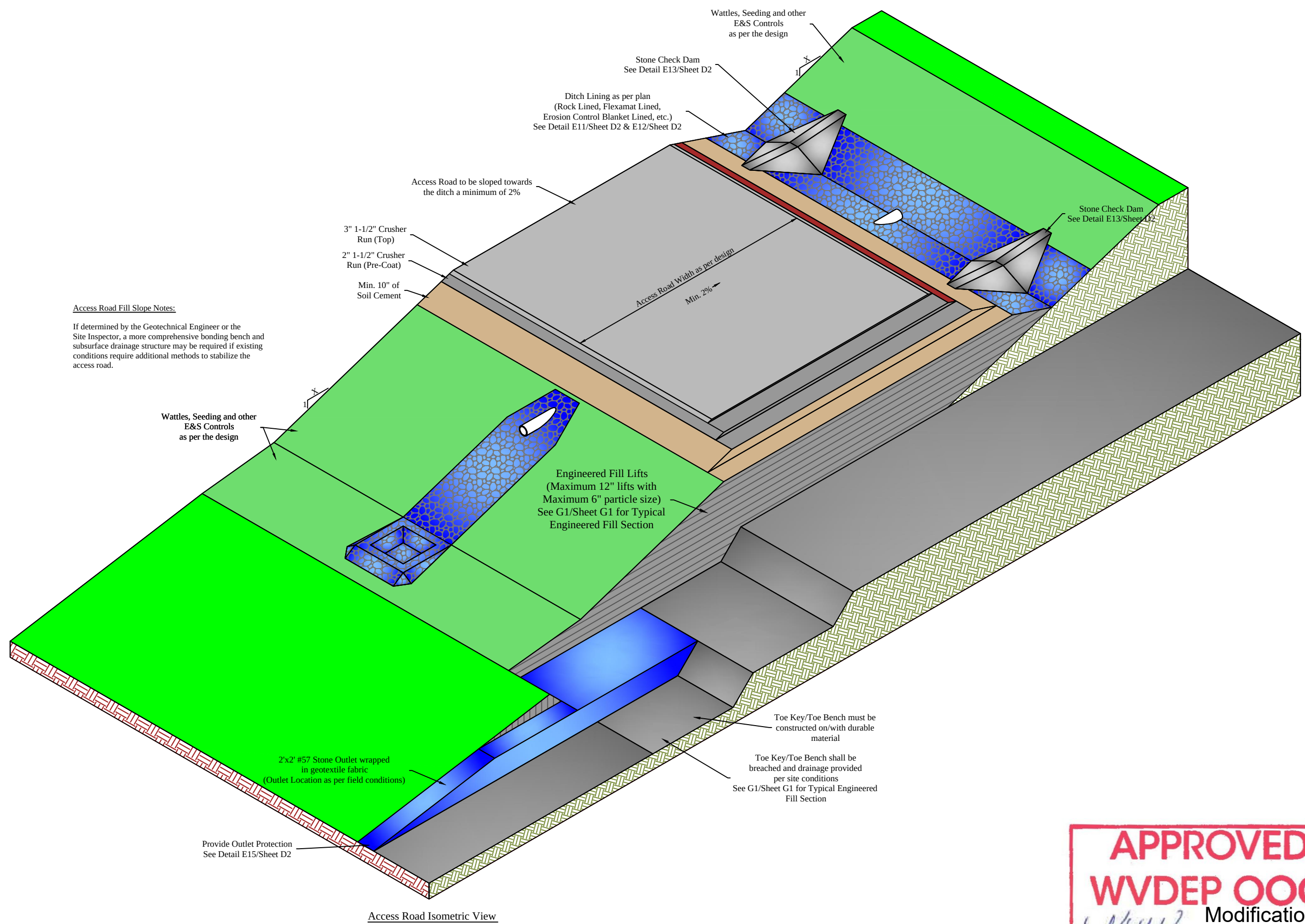
Erosion and Sediment Control Details
1221 Well Site
Freemans Creek District
Lewis County, WV

Date: 02/04/2025
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File No.
Sheet D1 of D2

1221 Well Site Fink Creek Access

HG Energy LLC

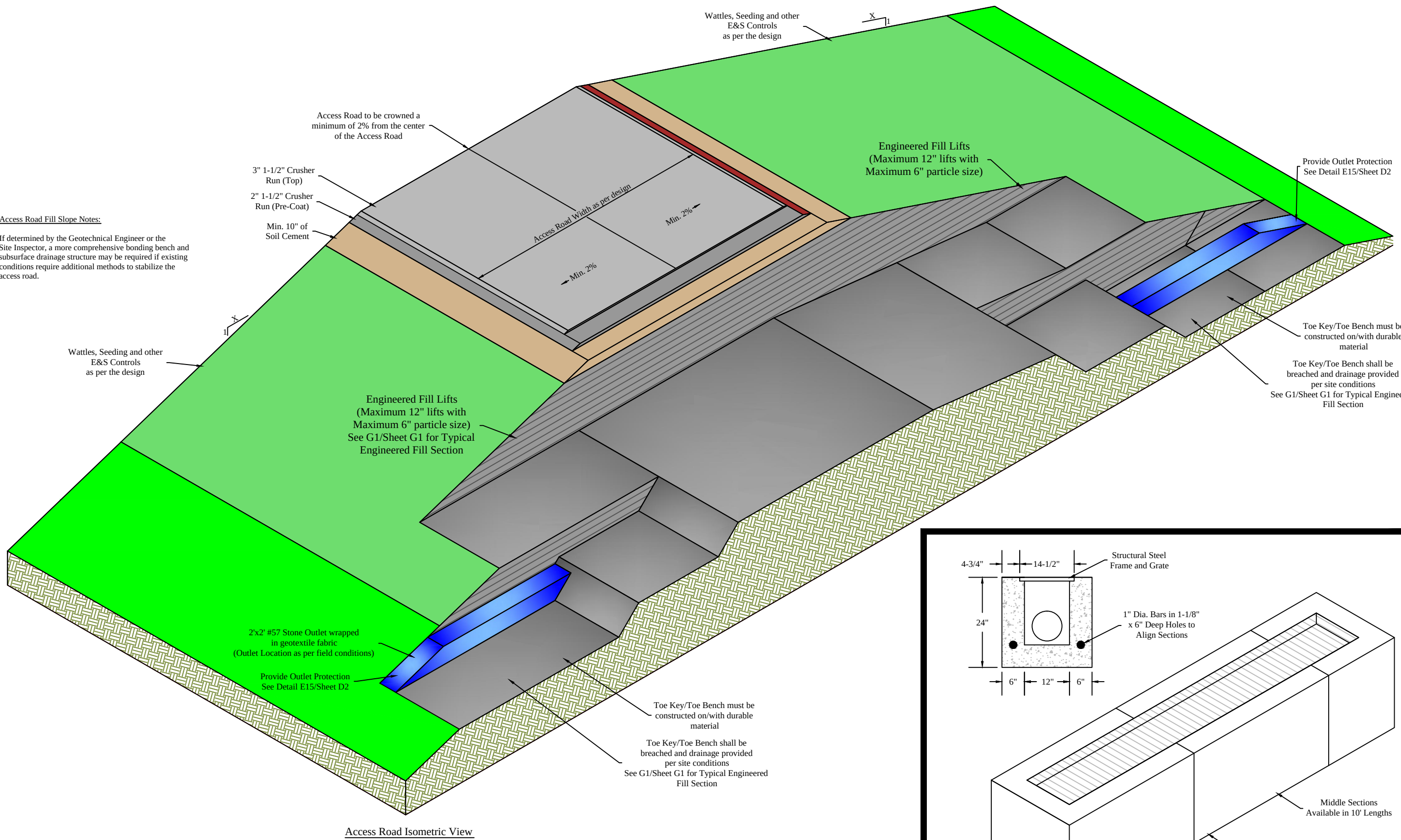
Exhibit A: As-Built Modification



R1 Typical Access Road Cut Section Details

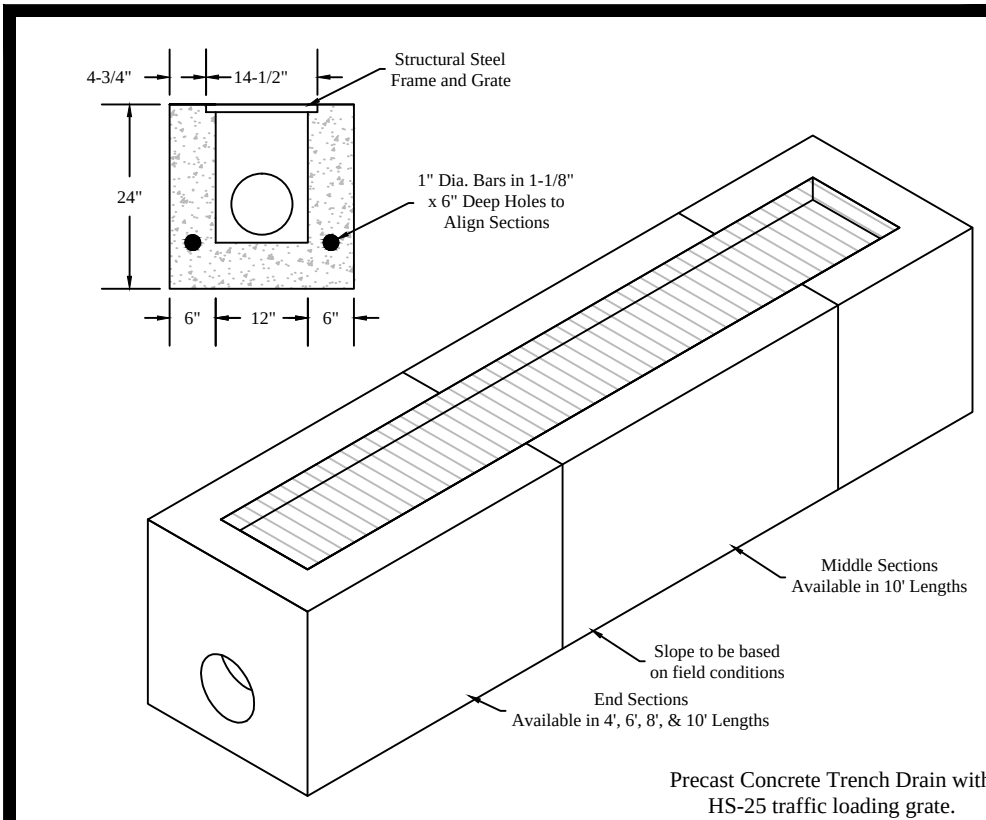
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3/14/2025



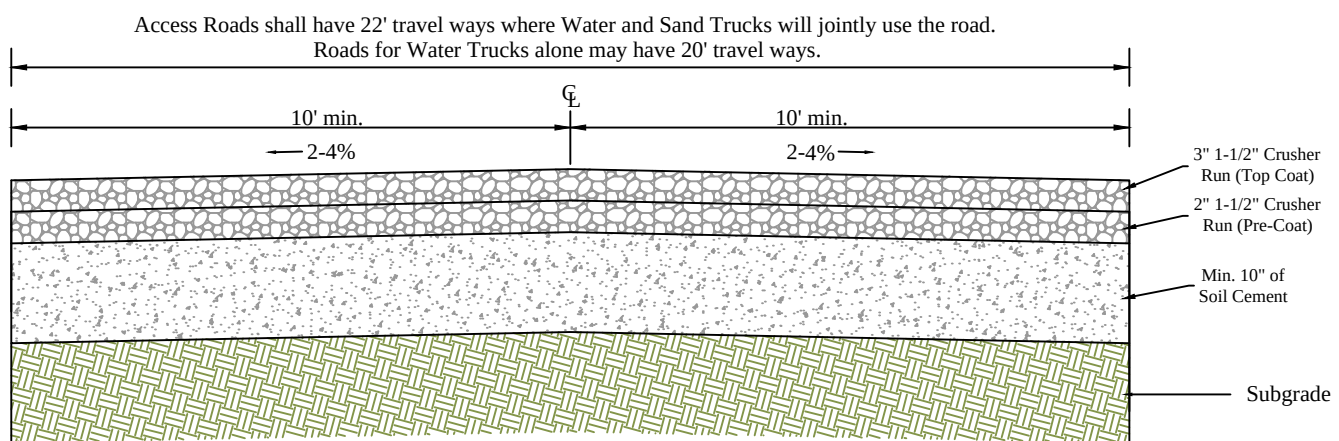
R2 Typical Access Road Fill Section Details

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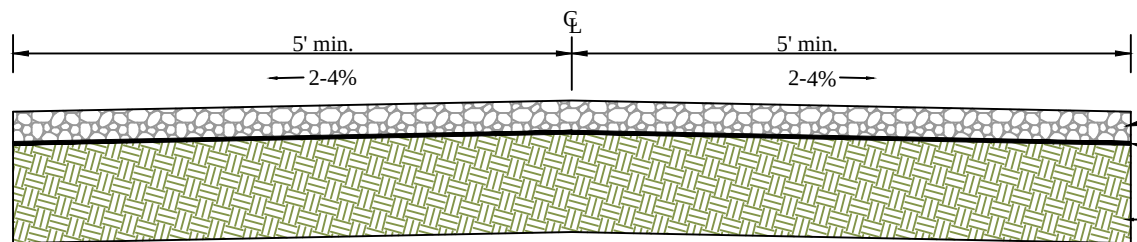
R8 Trench Grate Detail

Scale: NTS



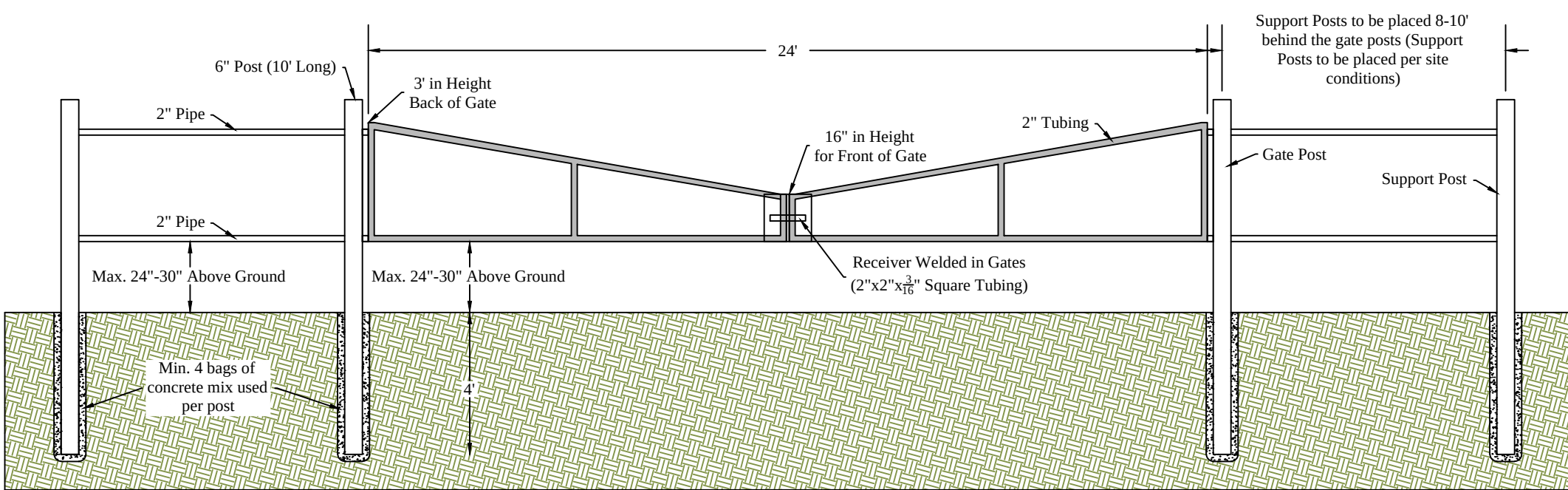
R3 Typical Access Road Surfacing Details

Scale: NTS



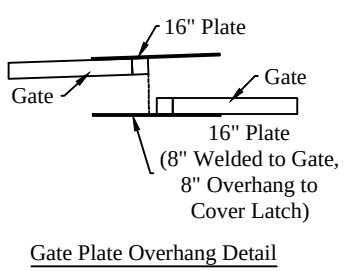
R4 Temporary/Adjacent Access Road Surfacing Details

Scale: NTS



R5 Access Road Gate Detail

Scale: NTS



Gate Specification and Installation

- Prior to any excavation or installation, a "One Call" must be performed
- Gates shall be constructed of Two Inch (2") square tubing
 - Gate posts shall be constructed of Six Inch (6") Steel Pipe, Ten Feet (10') in length
 - Gates are to be Twelve Feet (12') in length each with at least 1 upright brace between the front and rear uprights
 - Two (2) posts will be used to hang gates and an additional Two (2) posts shall be used as supports, approximately 8-10' behind the gate posts
 - Two Inch (2") pipe may be used as bracing between gate posts to secure posts and keep ATV's from going around the gate
 - Gate posts should be installed Four Feet (4') in the ground with a minimum of four (4) bags of concrete mix used per post
 - Gates will have a Sixteen Inch (16") steel plate welded at closure points to secure locks. The plate shall be mounted so that Eight Inches (8") of the plate is welded to the gate and Eight Inches (8") is left to overhang to overlap the other gate
 - The receiver for the latch on the gate needs to be constructed using 2"x2"x 1/8" tubing to allow space for the latch
 - The bottom of the gates shall be between 24"-30" max. above the road surface to prevent ATV's from driving under the gates
 - Gates shall be painted safety yellow and signs shall be provided to attach to the gates
 - A spacing of 1" between the gates needs to be maintained for the latch to fit and operate properly
 - Fabricators shall have freedom to design their hinges to allow adjustability as the gates require precise installation for the latch system to work properly. A typical design is available from HG Energy LLC
 - Proper function of the gates must be verified before leaving the site

CONSTRUCTION STAKING GUIDE & STANDARD RIBBON COLOR SCHEME

03/14/2025

	Yellow Ribbon: Yellow Ribbon used to indicate top of Cuts (C) Cut to be determined at time of stakeout Slope determined by site design		Blue & White Stripe Ribbon: Blue & White Stripe Ribbon used to indicate Limits of Disturbance (LOD) and Clearing Limits
	Yellow and Orange Ribbon: Yellow and Orange Ribbon used to indicate Grade at Top of Pad/Pond/Pit		Orange & Black Stripe Ribbon: Orange & Black Stripe Ribbon used to indicate Vertical Cut (VC) at Centerline or edge of access road Orange & Black Stripe Ribbon used to indicate Vertical Fill (VF) at centerline or edge of access road
	Orange Ribbon: Orange Ribbon used to indicate toes of Fills (F) Fill to be determined at time of stakeout Slope determined by site design		Pink & White Stripe Ribbon: Pink & White Stripe Ribbon used to indicate Erosion and Sediment Control Structures Silt Fence (SF) Reinforced Filter Fence (RFF) Super Silt Fence (SSF) Filter Sock (FS)
	Pink Ribbon: Pink Ribbon used to indicate Top Hole Location Pink Ribbon used to indicate Survey Control Location		Orange & White Stripe Ribbon: Orange & White Stripe Ribbon used to indicate Topsoil Stockpile Locations / Engineered Fill Stockpiles
	Pink & Black Stripe Ribbon: Pink & Black Stripe Ribbon used to indicate Vertical Cut (VC) at Pad/Pond/Pit corner or edge Pink & Black Stripe Ribbon used to indicate Vertical Fill (VF) at Pad/Pond/Pit corner or edge Vertical Cut/Vertical Fill to be determined at time of stakeout		Blue Ribbon: Blue Ribbon used to indicate Centerline (CL) Ditch Blue Ribbon used to indicate Bottom (BTM) Sediment Traps

R6 Construction Staking Guide

Scale: NTS

Revision
Design

Date
02-04-2025

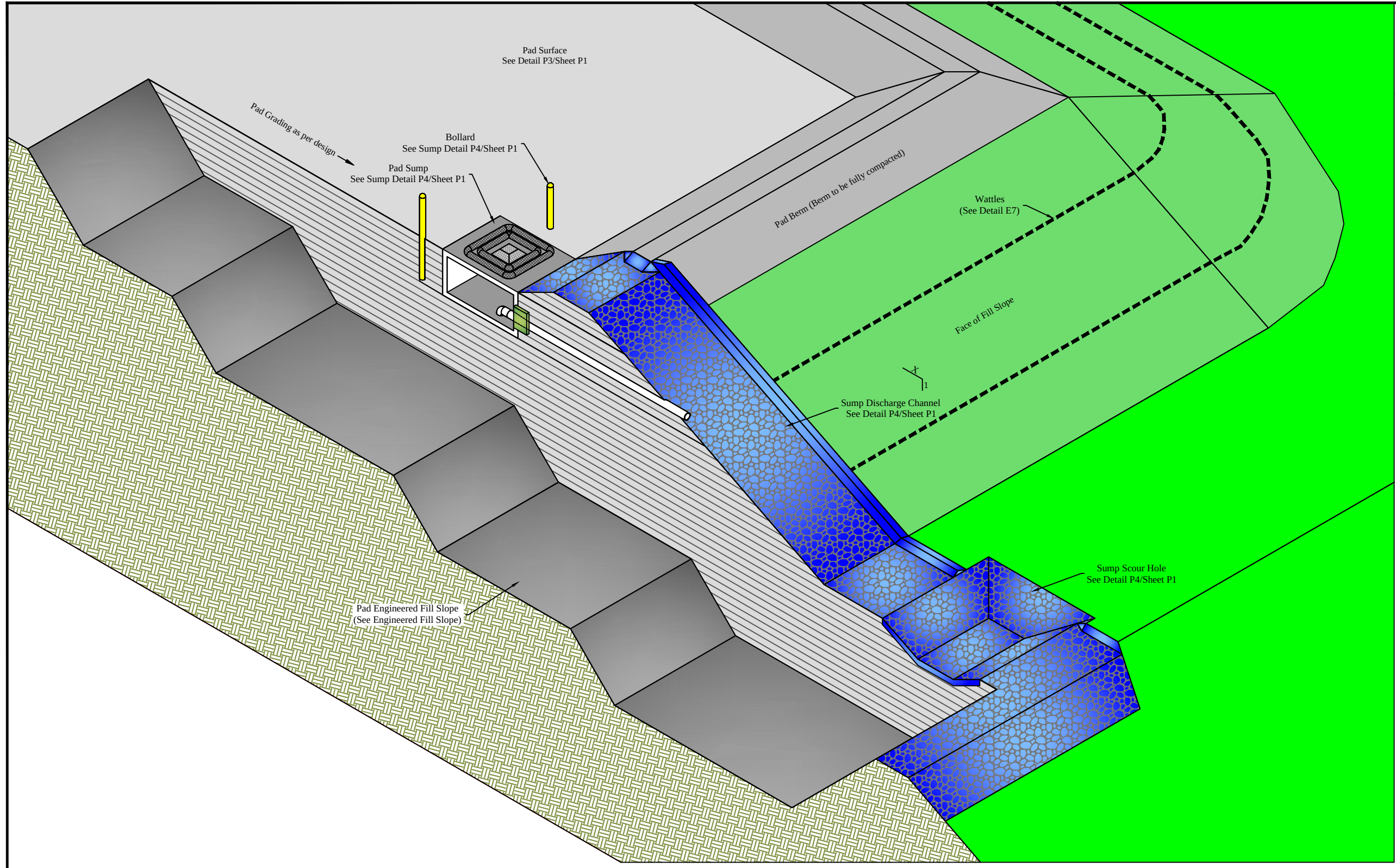


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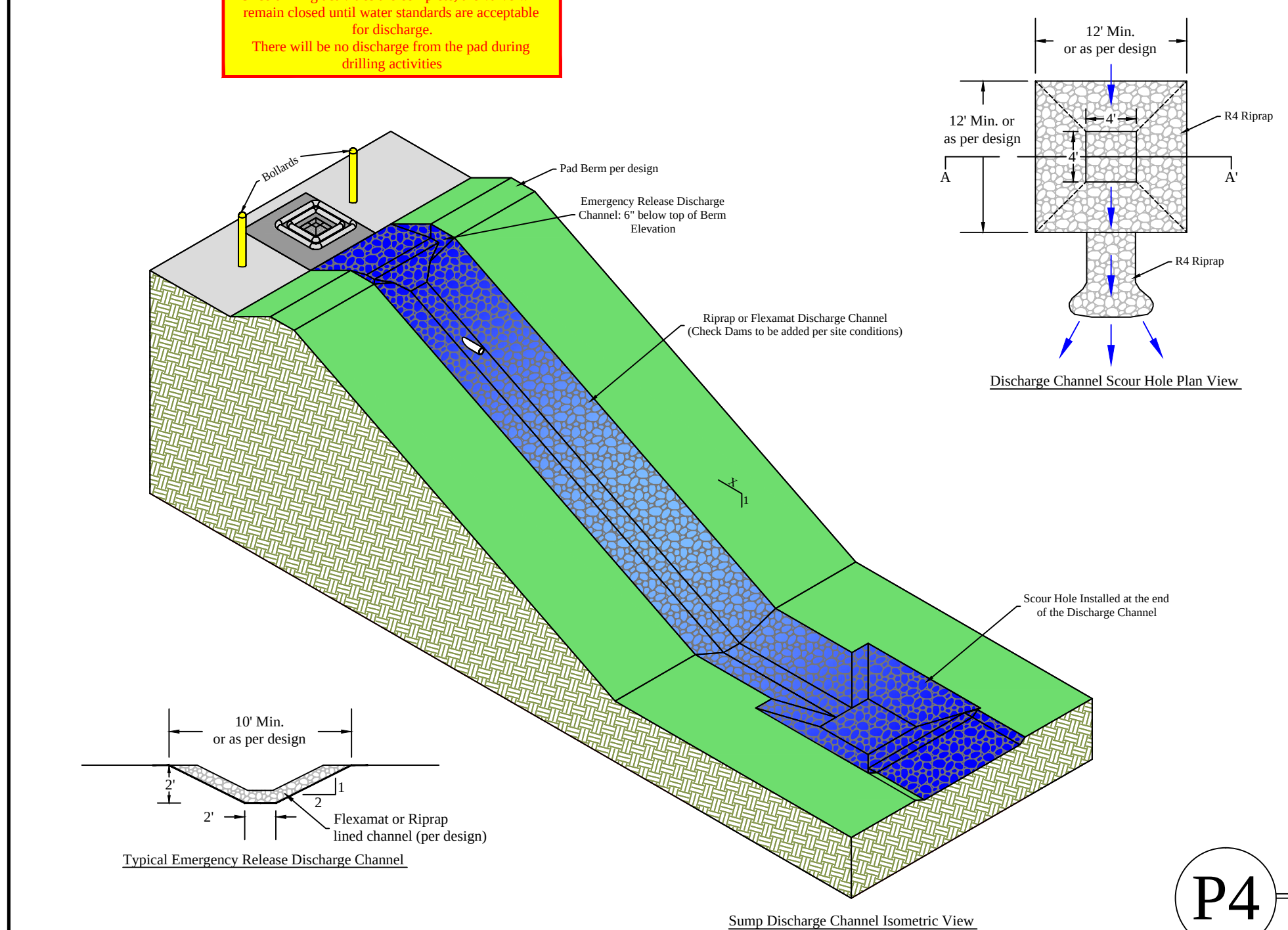
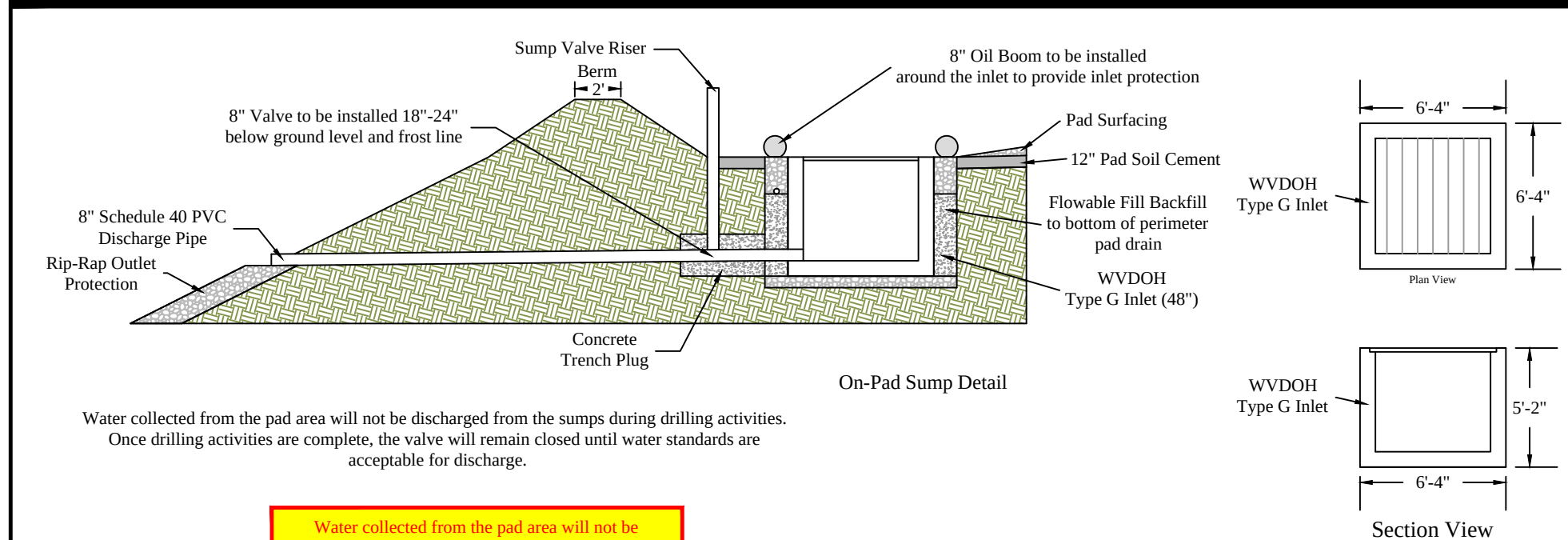


Typical Access Road Details
1221 Well Site
Freemans Creek District
Lewis County, WV

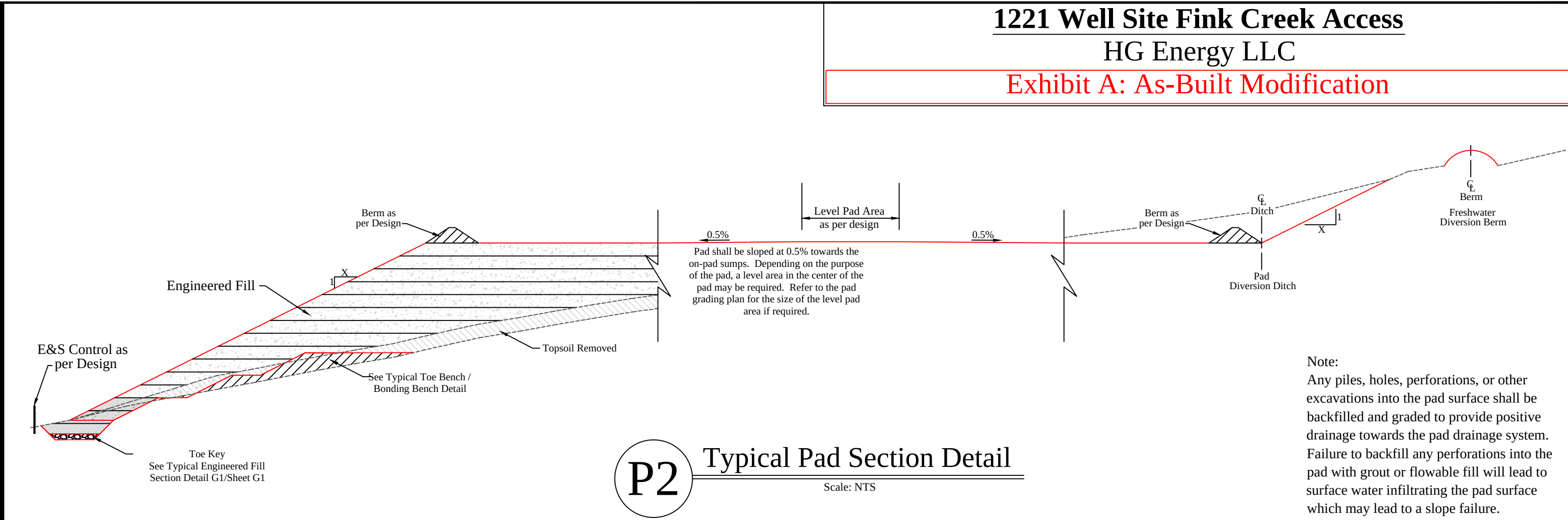
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Sheet R1 of R1



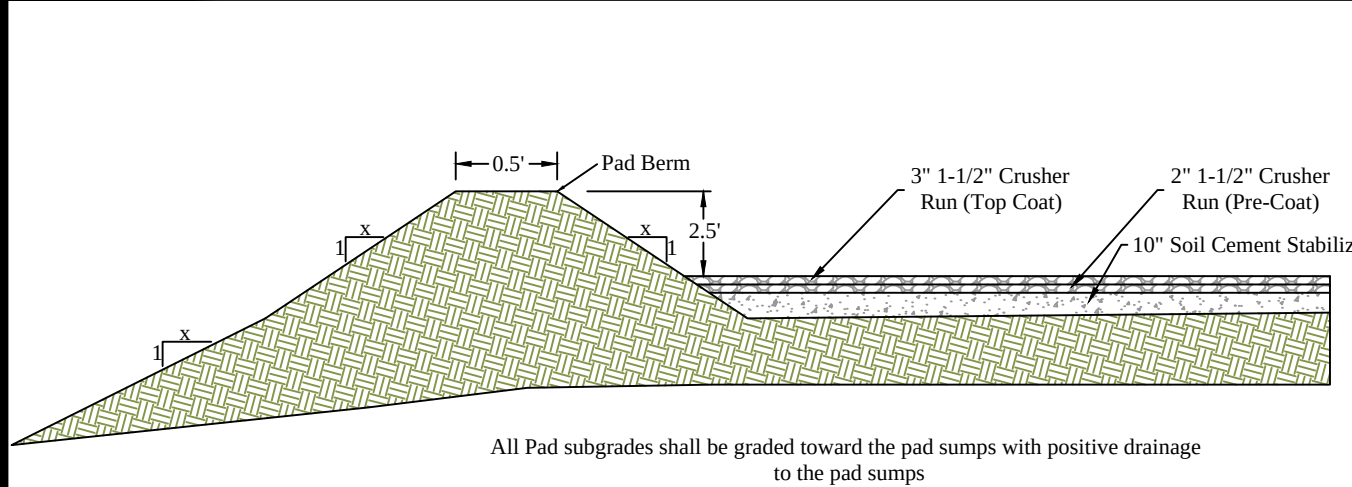
P1 Typical Pad Isometric View Detail
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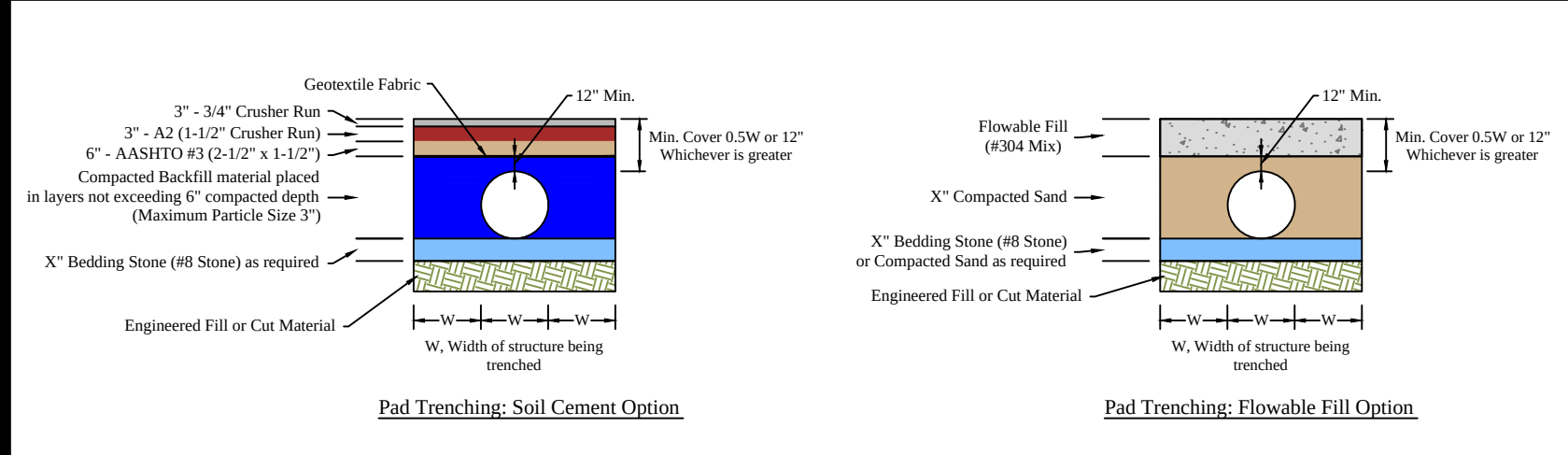
P4 On-Pad Sump Detail
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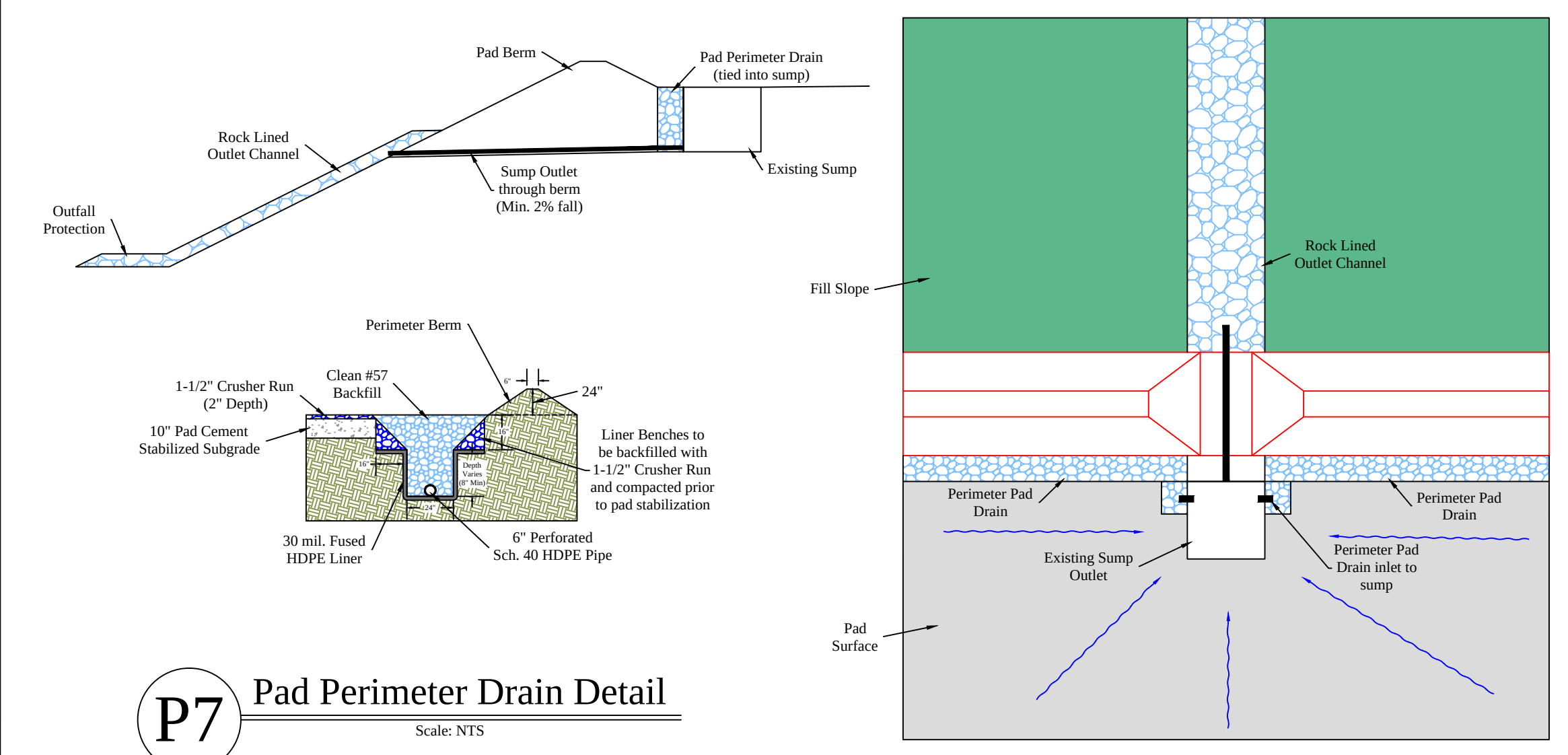
P2 Typical Pad Section Detail
Scale: NTS



P3 Pad Surfacing Detail
Scale: NTS



P6 Typical Pad Trenching Detail
Scale: NTS



P7 Pad Perimeter Drain Detail
Scale: NTS

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