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west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Friday, January 17, 2025  
PERMIT MODIFICATION APPROVAL  
Horizontal 6A / New Drill

DIVERSIFIED PRODUCTION LLC  
101 MCQUISTON DRIVE

JACKSON CENTER, PA 16133

Re: Permit Modification Approval for Abbey South 6MH  
47-033-06047-00-00

**Extending Well Pad**

DIVERSIFIED PRODUCTION 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.

A blue ink signature of James A. Martin, written in a cursive style.

James A. Martin  
Chief

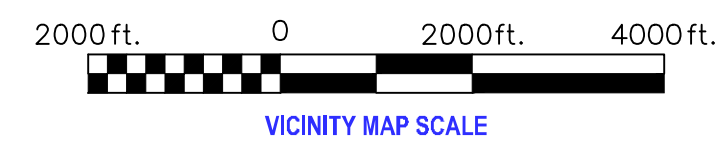
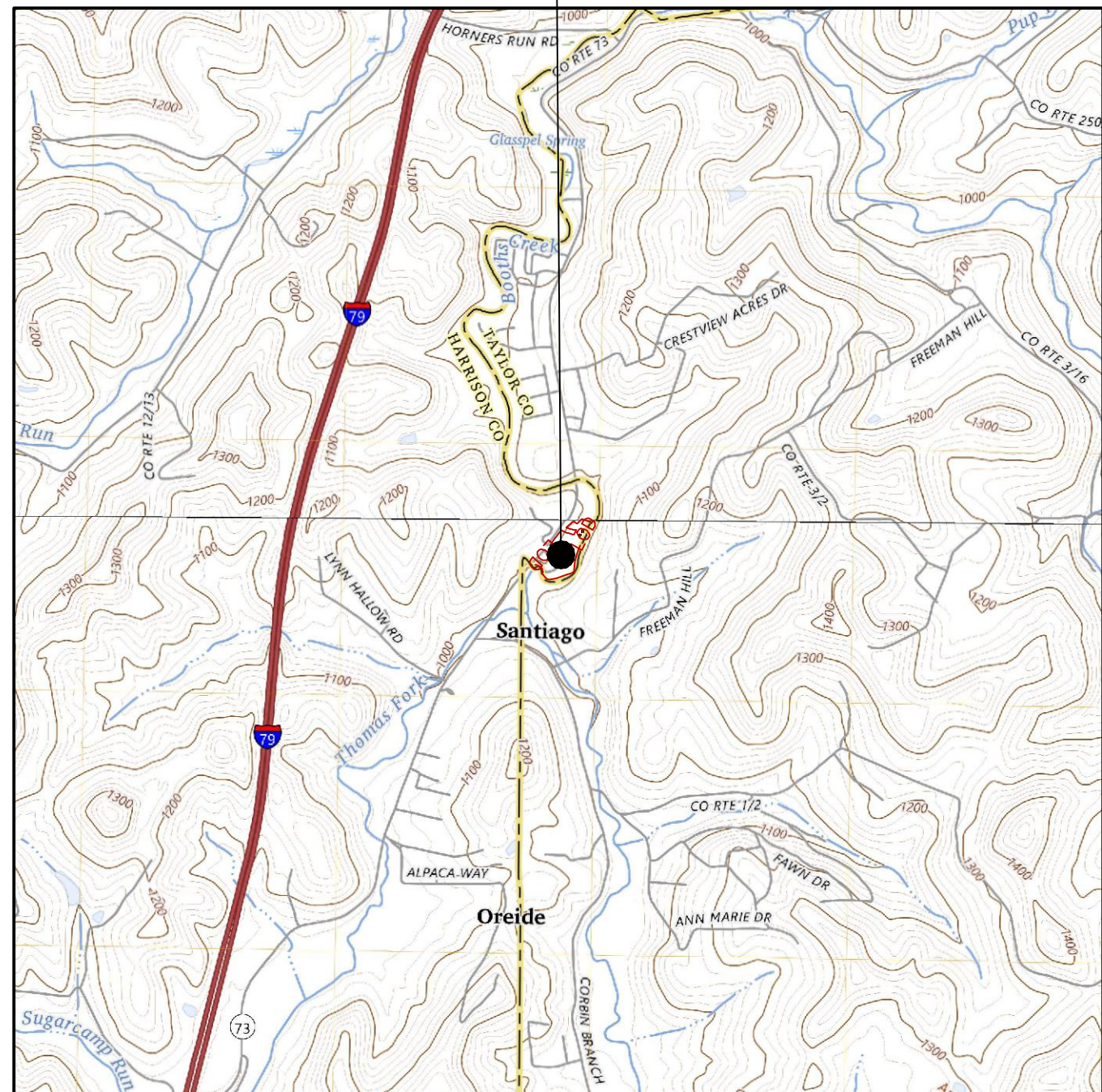
Operator's Well Number: Abbey South 6MH  
Farm Name: Long Ridge West Virginia LLC  
U.S. WELL NUMBER: 47-033-06047-00-00  
Horizontal 6A New Drill  
Date Modification Issued: 1/17/2025

Promoting a healthy environment.

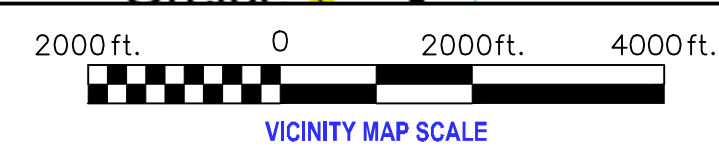
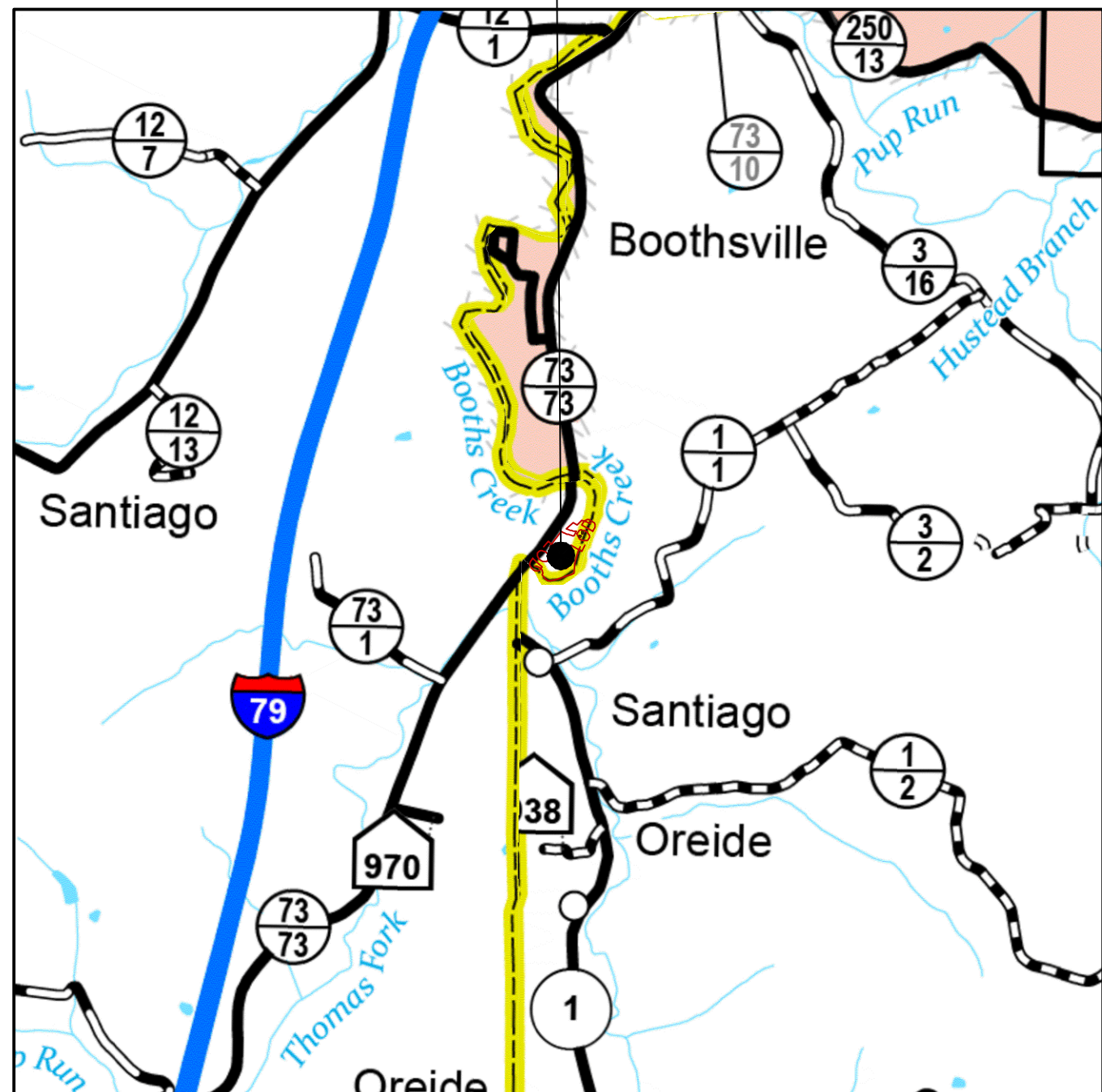
01/17/2025



APPROXIMATE SITE LOCATION



APPROXIMATE SITE LOCATION



# ABBEY WELL PAD

## ISSUED FOR CONSTRUCTION PLANS

# T70-11275

## HARRISON COUNTY, WEST VIRGINIA

# DECEMBER 2024

Disturbance Summary

Property Owner (District - Tax Map - Parcel)	Access Road Disturbance (Ac.)	Well Pad Disturbance (Ac.)	Laydown Area Disturbance (Ac.)	Stockpile Disturbance (Ac.)	Total Disturbance (Ac.)
WILLOW CREEK MHV LLC (17-5-210-44.2)	0.35	2.52	1.80	0.78	5.45
WILLOW CREEK MHV LLC (17-5-210-44.1)	0.00	0.00	0.00	0.53	0.53
<b>Total Disturbance</b>	<b>0.35</b>	<b>2.52</b>	<b>1.80</b>	<b>1.31</b>	<b>5.98</b>

911 ADDRESS  
39 CATHERINE DRIVE  
SHINNSTON, WV 26431

SHEET	DESCRIPTION
1	COVER
2	GENERAL NOTES
3	QUANTITIES
4	SITE SAFETY MAP
5	EXISTING CONDITIONS
6	OVERALL SITE PLAN
7	OVERALL SITE PLAN WITH ORTHO
8	ACCESS ROAD STA. 100+00 - 102+25
9	BUILDING ACCESS ROAD PLAN & PROFILE
10	ACCESS ROAD SECTIONS
11	DETAILED WELL PAD PLAN
12	WELL PAD BASELINE
13	WELL PAD SECTIONS
14	STOCKPILE BASELINES
15	STOCKPILE SECTIONS
16	CULVERT PROFILE
17	OVERALL GEOMETRIC LAYOUT
18	GEOMETRIC LAYOUT TABLES
19	RECLAMATION PLAN
20	TYPICAL SECTIONS
21-28	DETAILS

Abbey Well Pad Well Head Coordinates

Coordinate Label	2MH	4MH	6MH	8MH
Latitude	N 39.373639°	N 39.373667°	N 39.373696°	N 39.373724°
Longitude	W 80.201062°	W 80.201024°	W 80.200986°	W 80.200947°
WV83-N Northing	318,976.473 ft	318,986.775 ft	318,996.963 ft	319,007.378 ft
WV83-N Easting	1,770,317.364 ft	1,770,328.270 ft	1,770,339.053 ft	1,770,350.077 ft
UTM 83-17 Northing	4,358,545.395 m	4,358,548.589 m	4,358,551.747 m	4,358,554.976 m
UTM 83-17 Easting	568,816.540 m	568,819.810 m	568,823.044 m	568,826.350 m

Abbey Well Pad Site Coordinates

Coordinate Label	Access Road Beginning	Well Pad Center	Well Pad N Corner	Well Pad NE Corner	Well Pad SE Corner	Well Pad SW Corner	Well Pad NW Corner
Latitude	N 39.373609°	N 39.373601°	N 39.373988°	N 39.373788°	N 39.373422°	N 39.373222°	N 39.373547°
Longitude	W 80.201663°	W 80.200808°	W 80.200725°	W 80.200150°	W 80.200340°	W 80.201280°	W 80.201436°
WV83-N Northing	318,966.860 ft	318,962.143 ft	319,103.067 ft	319,028.748 ft	318,895.827 ft	318,825.258 ft	318,943.849 ft
WV83-N Easting	1,770,147.360 ft	1,770,389.115 ft	1,770,413.762 ft	1,770,575.610 ft	1,770,520.953 ft	1,770,254.547 ft	1,770,211.489 ft
UTM 83-17 Northing	4,358,541.603 m	4,358,541.393 m	4,358,584.453 m	4,358,562.631 m	4,358,521.857 m	4,358,499.005 m	4,358,534.918 m
UTM 83-17 Easting	568,764.794 m	568,838.473 m	568,845.267 m	568,894.954 m	568,878.976 m	568,798.169 m	568,784.449 m

Kenny Willott 1/1/25



Diversified Production LLC 01/17/2025

DIVERSIFIED PRODUCTION, LLC  
PHONE: (304) 543-1779  
101 McQUISTON DRIVE  
JACKSON CENTER, PA 16133

CONTACTS

CLIENT'S CONTACT  
DIVERSIFIED PRODUCTION, LLC  
ATTN: JIM BOWER  
(412) 551-3585

BRIDGEPORT, WV OFFICE  
600 WHITE OAKS BLVD.  
BRIDGEPORT, WV 26330  
(304) 624-4108  
PO BOX 940

ENGINEER  
THE THRASHER GROUP  
ATTN: COLE ANDERSON, P.E.  
(304) 624-4108

PLAN REPRODUCTION WARNING

THESE PLANS ARE INTENDED TO BE PLOTTED ON ANSI D (22" X 34") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE. THESE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THESE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES. \*\*WARNING\*\*: INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING.

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WELL RESTRICTIONS CHECKLIST (HORIZONTAL 6A WELLS)	
AT LEAST 100 FEET FROM PAD AND LOD (INCLUDING ANY E&S CONTROL FEATURE) TO ANY PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND:	NO
AT LEAST 300 FEET FROM PAD AND LOD (INCLUDING ANY E&S CONTROL FEATURE) TO ANY NATURALLY PRODUCING TROUT STREAM:	YES
AT LEAST 1000 FEET FROM PAD AND LOD (INCLUDING ANY E&S CONTROL FEATURE) TO ANY GROUND WATER INTAKE OR PUBLIC WATER SUPPLY:	YES
AT LEAST 250 FEET FROM ANY EXISTING WATER WELL OR DEVELOPED SPRING TO WELL BEING DRILLED:	YES
AT LEAST 625 FEET FROM AN OCCUPIED DWELLING STRUCTURE TO CENTER OF PAD:	YES
AT LEAST 625 FEET FROM AGRICULTURAL BUILDINGS LARGER THAN 2500 SQAURE FEET TO THE CENTER OF PAD:	YES



CONTRACTOR SHALL NOTIFY THE ONE-CALL SYSTEM OF THE INTENDED EXCAVATION OR DEMOLITION NOT LESS THAN FORTY-EIGHT (48) HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL FEDERAL OR STATE HOLIDAYS, NOR MORE THAN TEN (10) WORK DAYS PRIOR TO THE BEGINNING OF SUCH WORK.  
CALL811.COM/811-IN-YOUR-STATE

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
IFC1	6,7,11-15,17,18	DMP	12.20.2024	EXPANDED WELL PAD

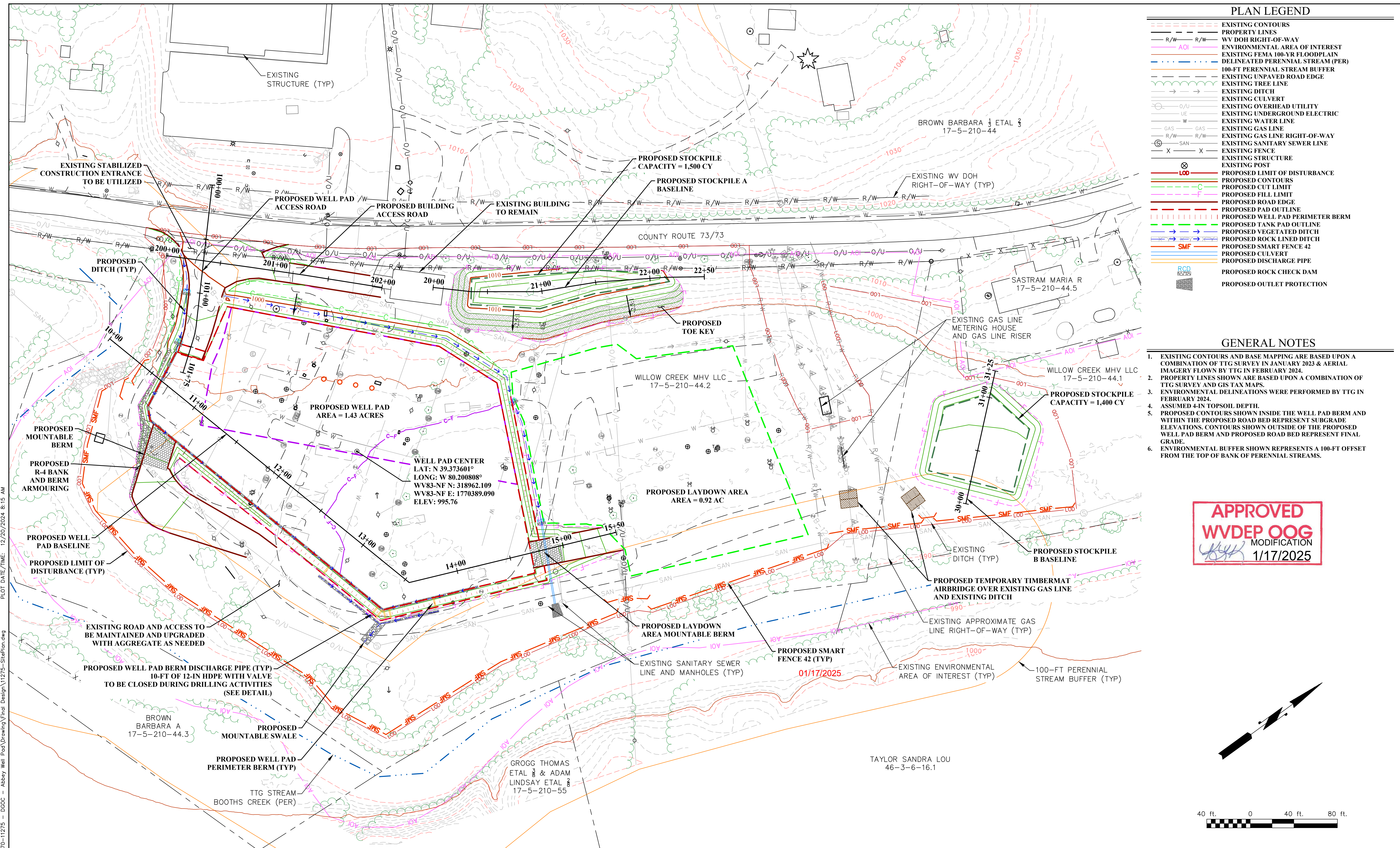


JAMES C. ANDERSON, WV P.E. #25316

ISSUED FOR PERMITS	DATE: 09.24.2024	BY: JCA
ISSUED FOR BID	DATE: 11.08.2024	BY: JCA
ISSUED FOR CONSTRUCTION	DATE: 11.19.2024	BY: JCA

CAD FILE: R:\070\T70-11275 - DGOC - Abbey Well Pad\Drawing\Final Design\11275-COVER.dwg PLOT DATE/TIME: 12/23/2024 11:14 AM USER: Tyler W. Weiss



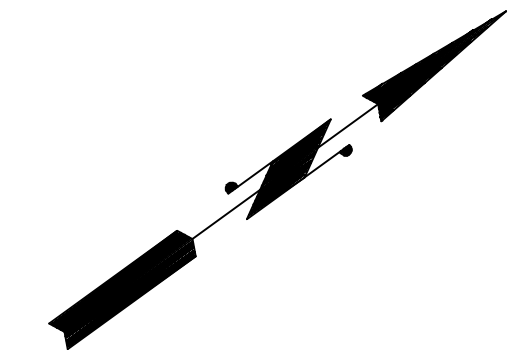


### PLAN LEGEND

	EXISTING CONTOURS
	PROPERTY LINES
	WV DOH RIGHT-OF-WAY
	ENVIRONMENTAL AREA OF INTEREST
	EXISTING FEMA 100-YR FLOODPLAIN
	DELINEATED PERENNIAL STREAM (PER)
	100-FT PERENNIAL STREAM BUFFER
	EXISTING UNPAVED ROAD EDGE
	EXISTING TREE LINE
	EXISTING DITCH
	EXISTING CULVERT
	EXISTING OVERHEAD UTILITY
	EXISTING UNDERGROUND ELECTRIC
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING GAS LINE RIGHT-OF-WAY
	EXISTING SANITARY SEWER LINE
	EXISTING FENCE
	EXISTING STRUCTURE
	EXISTING POST
	PROPOSED LIMIT OF DISTURBANCE
	PROPOSED CONTOURS
	PROPOSED CUT LIMIT
	PROPOSED FILL LIMIT
	PROPOSED ROAD EDGE
	PROPOSED PAD OUTLINE
	PROPOSED WELL PAD PERIMETER BERM
	PROPOSED TANK PAD OUTLINE
	PROPOSED VEGETATED DITCH
	PROPOSED ROCK LINED DITCH
	PROPOSED SMART FENCE 42
	PROPOSED CULVERT
	PROPOSED DISCHARGE PIPE
	PROPOSED ROCK CHECK DAM
	PROPOSED OUTLET PROTECTION

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  - ENVIRONMENTAL BUFFER SHOWN REPRESENTS A 100-FT OFFSET FROM THE TOP OF BANK OF PERENNIAL STREAMS.

**APPROVED**  
**WV DEP OOG**  
 MODIFICATION  
*[Signature]*  
 1/17/2025



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NO.	BY	DATE	ISSUED FOR
IFC1	JCA	12.20.2024	EXPANDED WELL PAD FOOTPRINT
IFC	JCA	11.19.2024	ISSUED FOR CONSTRUCTION
IFB	JCA	11.08.2024	ISSUED FOR BID
IFP	JCA	09.24.2024	ISSUED FOR PERMITTING

**Diversified Production LLC**

SCALE:

DRAWN:	DMP	DATE:	11.08.2024
CHECKED:	JCA	DATE:	11.08.2024
APPROVED:		DATE:	
SURVEY DATE:			
SURVEY BY:			
FIELD BOOK No.:			

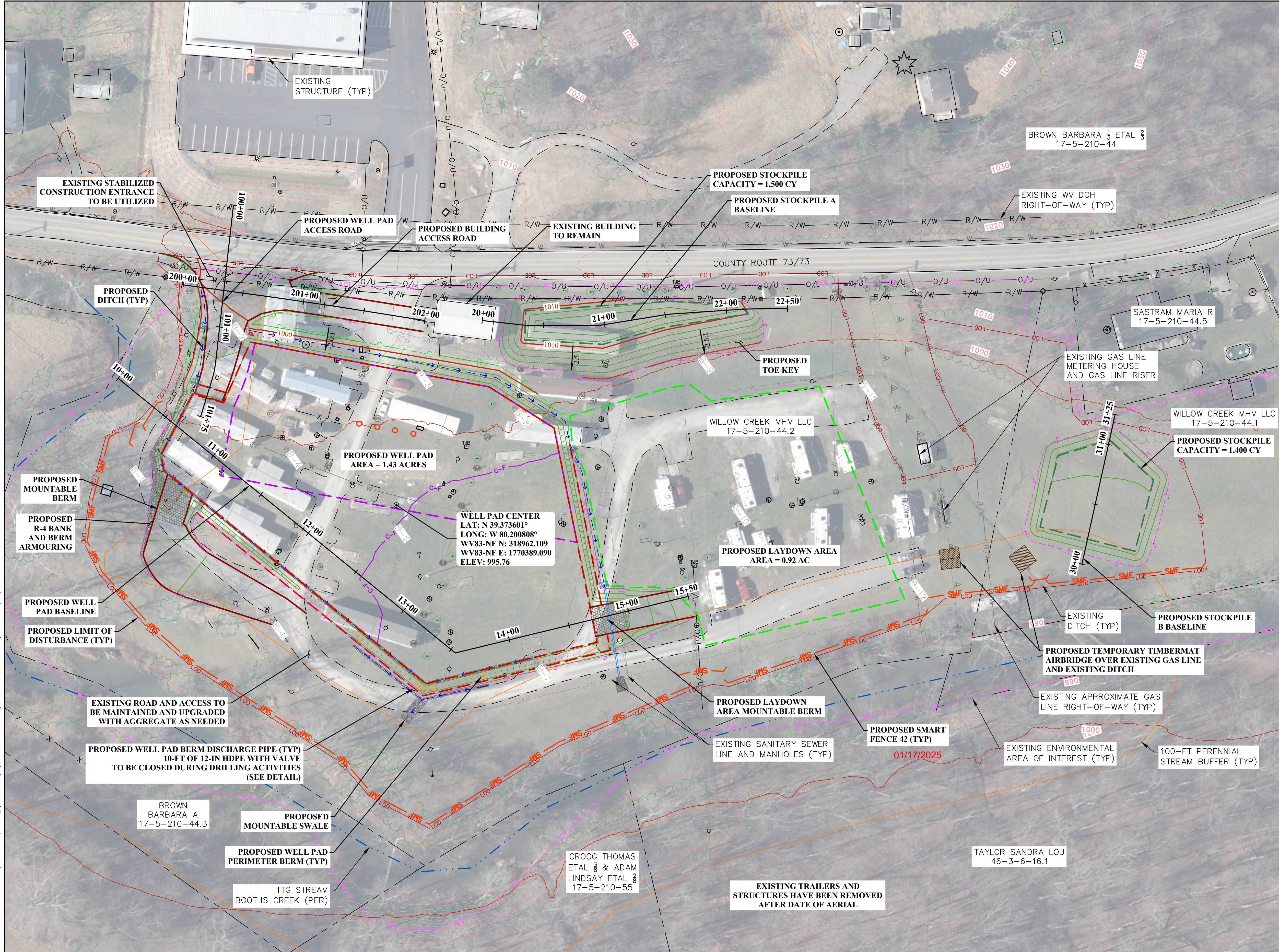
**THRASHER**  
THE THRASHER GROUP INC.  
CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES  
600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330  
PHONE (304) 624-4108 • FAX (304) 624-7631

PHASE No.	
CONTRACT No.	
PROJECT No.	<b>170-11275</b>

**DIVERSIFIED PRODUCTION, LLC**  
 ISSUED FOR CONSTRUCTION PLANS FOR THE  
**ABBAY WELL PAD**  
 HARRISON COUNTY, WV  
**OVERALL SITE PLAN**

SHEET No.  
**6**



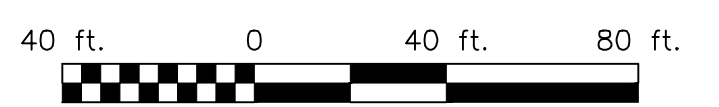
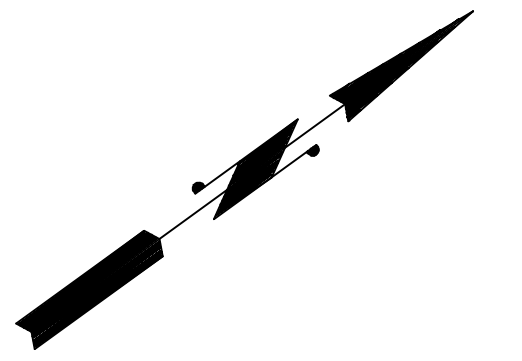


### PLAN LEGEND

	EXISTING CONTOURS
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	ENVIRONMENTAL AREA OF INTEREST
	EXISTING FEMA 100-YR FLOODPLAIN
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	PROPOSED DISCHARGE PIPE
	PROPOSED ROCK CHECK DAM
	PROPOSED OUTLET PROTECTION

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**APPROVED**  
**WVDEP OOG**  
MODIFICATION  
*[Signature]*  
1/17/2025



PLOT DATE/TIME: 12/20/2024 8:15 AM  
CAD FILE: R:\070\170-11275 - DGC - Abbey Well Pad\Drawing\Final\11275-StdPlan.dwg

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IFP	JCA	09.24.2024	ISSUED FOR PERMITTING

**Diversified Production LLC**

SCALE:

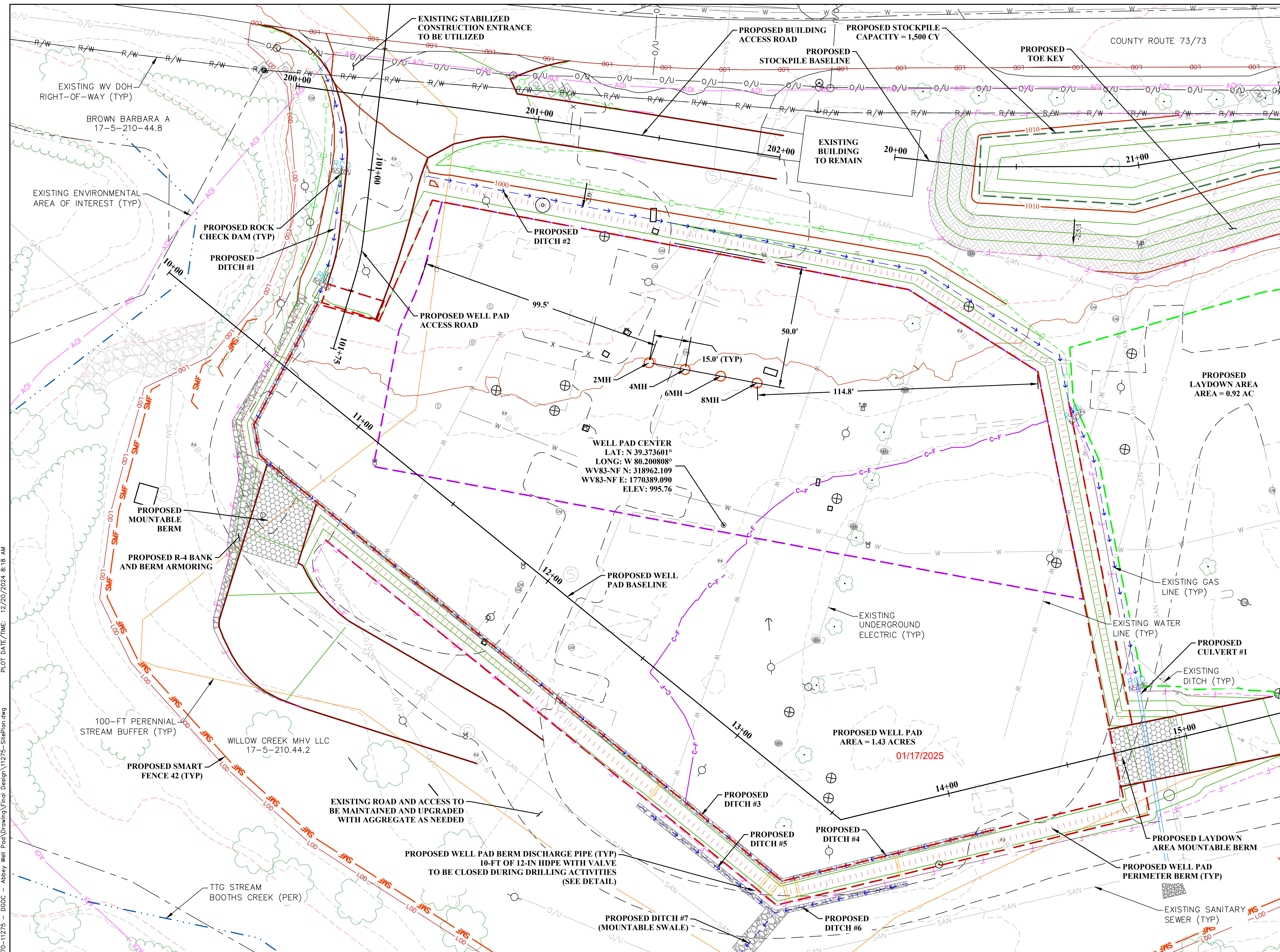
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APPROVED:		DATE:	
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SURVEY BY:			
FIELD BOOK No.:			

**THRASHER**  
THE THRASHER GROUP INC.  
CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES  
600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330  
PHONE (304) 624-4108 • FAX (304) 624-7631

PHASE No.	
CONTRACT No.	
PROJECT No.	<b>170-11275</b>

**DIVERSIFIED PRODUCTION, LLC**  
ISSUED FOR CONSTRUCTION PLANS FOR THE  
**ABBHEY WELL PAD**  
HARRISON COUNTY, WV  
OVERALL SITE PLAN WITH ORTHO



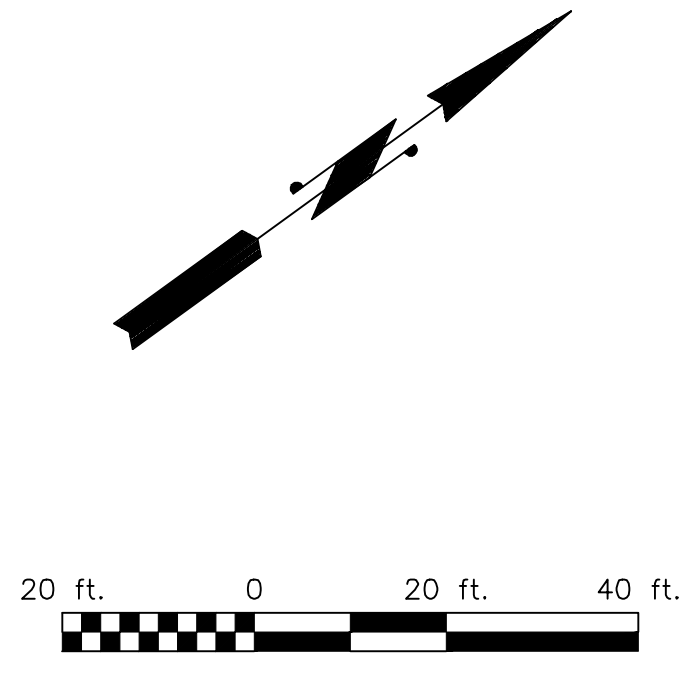


**PLAN LEGEND**

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**APPROVED**  
**WVDEP OOG**  
 MODIFICATION  
 1/17/2025



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Diversified Production LLC

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 CIVIL • ENVIRONMENTAL • CONSULTING • FIELD SERVICES  
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 PHONE (304) 624-4108 • FAX (304) 624-7631

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DIVERSIFIED PRODUCTION, LLC  
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 HARRISON COUNTY, WV  
 DETAILED WELL PAD PLAN



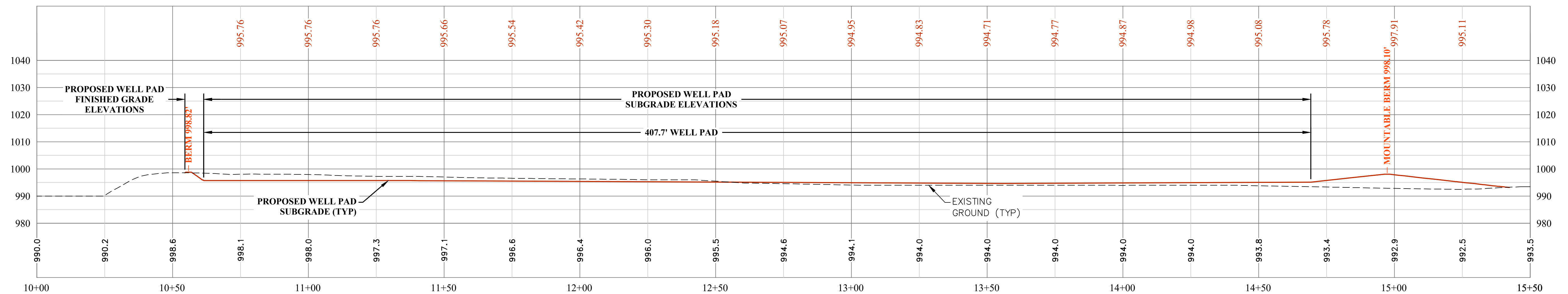
PROFILE LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED CULVERT

GENERAL NOTES

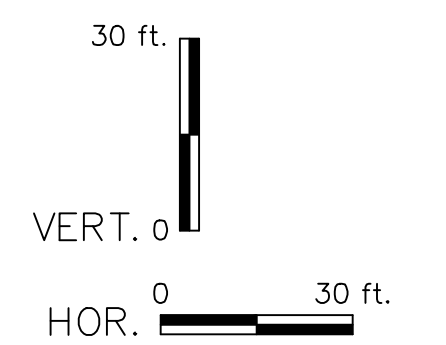
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PROPOSED WELL PAD BASELINE PROFILE



01/17/2025

**APPROVED**  
**WVDEP OOG**  
 MODIFICATION  
 1/17/2025



PLOT DATE/TIME: 12/20/2024 8:15 AM

CAD FILE: R:\070\T70-11275 - D60C - Abbey Well Pad\Drawing\Final Design\11275-StePlan.dwg

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Diversified  
 Production LLC

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 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330  
 PHONE (304) 624-4108 • FAX (304) 624-7831

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PROJECT No.	T70-11275

DIVERSIFIED PRODUCTION, LLC  
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 ABBEY WELL PAD  
 HARRISON COUNTY, WV  
 WELL PAD BASELINE

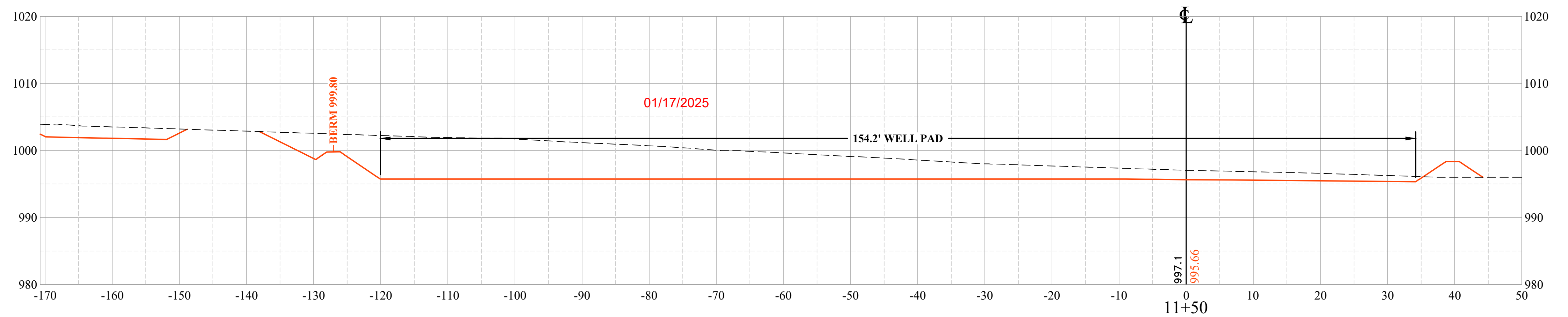
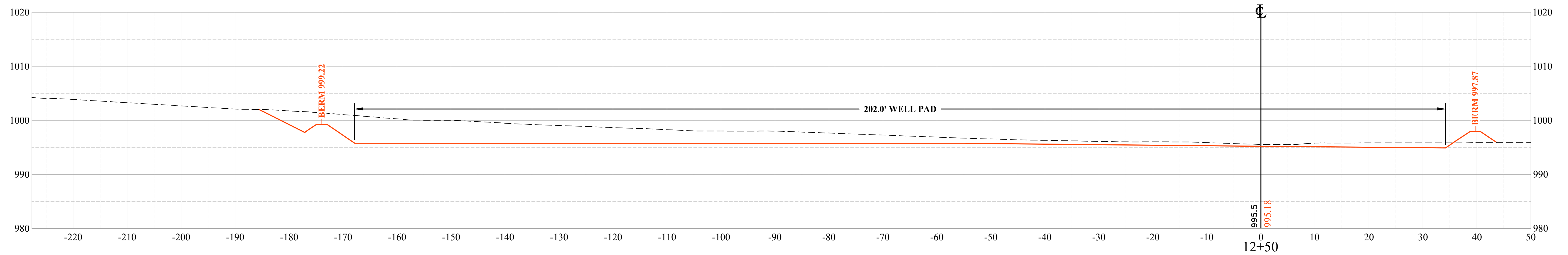
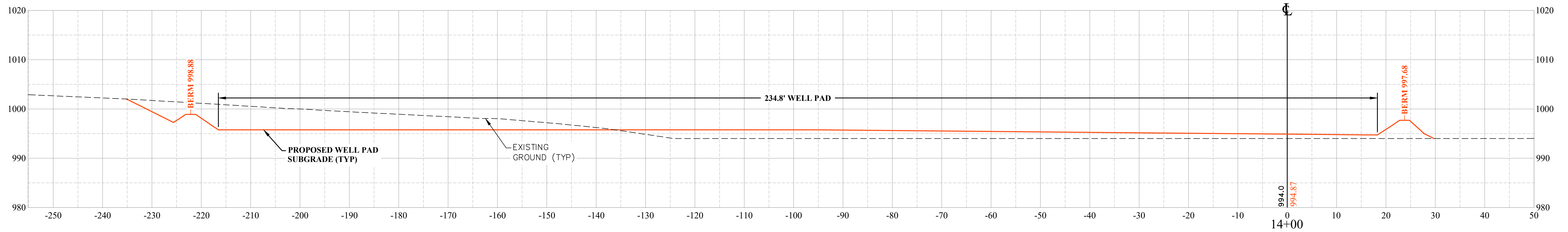
SHEET No.  
**12**

SECTION LEGEND

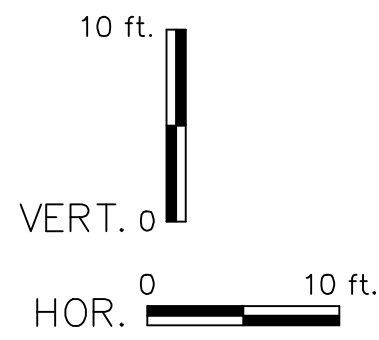
----- EXISTING GROUND  
 \_\_\_\_\_ PROPOSED GRADE

GENERAL NOTES

1. PROPOSED CONTOURS SHOWN INSIDE THE WELL PAD BERM AND WITHIN THE PROPOSED ROAD BED REPRESENT SUBGRADE ELEVATIONS. CONTOURS SHOWN OUTSIDE OF THE PROPOSED WELL PAD BERM AND PROPOSED ROAD BED REPRESENT FINAL GRADE.



**APPROVED**  
**WVDEP OOG**  
 MODIFICATION  
*[Signature]*  
 1/17/2025



CAD FILE: R:\070\T70-11275 - D000 - Abbey Well Pad\Drawing\Final Design\11275-StePlan.dwg PLOT DATE/TIME: 12/20/2024 8:15 AM

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NO.	BY	DATE	ISSUED FOR PERMITTING
IFC1	JCA	12.20.2024	EXPANDED WELL PAD FOOTPRINT
IFC	JCA	11.19.2024	ISSUED FOR CONSTRUCTION
IFB	JCA	11.08.2024	ISSUED FOR BID
IFP	JCA	09.24.2024	ISSUED FOR PERMITTING

Diversified Production LLC

SCALE:	
DRAWN:	DMP DATE: 11.08.2024
CHECKED:	JCA DATE: 11.08.2024
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No.	
CONTRACT No.	
PROJECT No.	T70-11275

DIVERSIFIED PRODUCTION, LLC  
 ISSUED FOR CONSTRUCTION PLANS FOR THE  
 ABBEY WELL PAD  
 HARRISON COUNTY, WV  
 WELL PAD SECTIONS

SHEET No.  
**13**

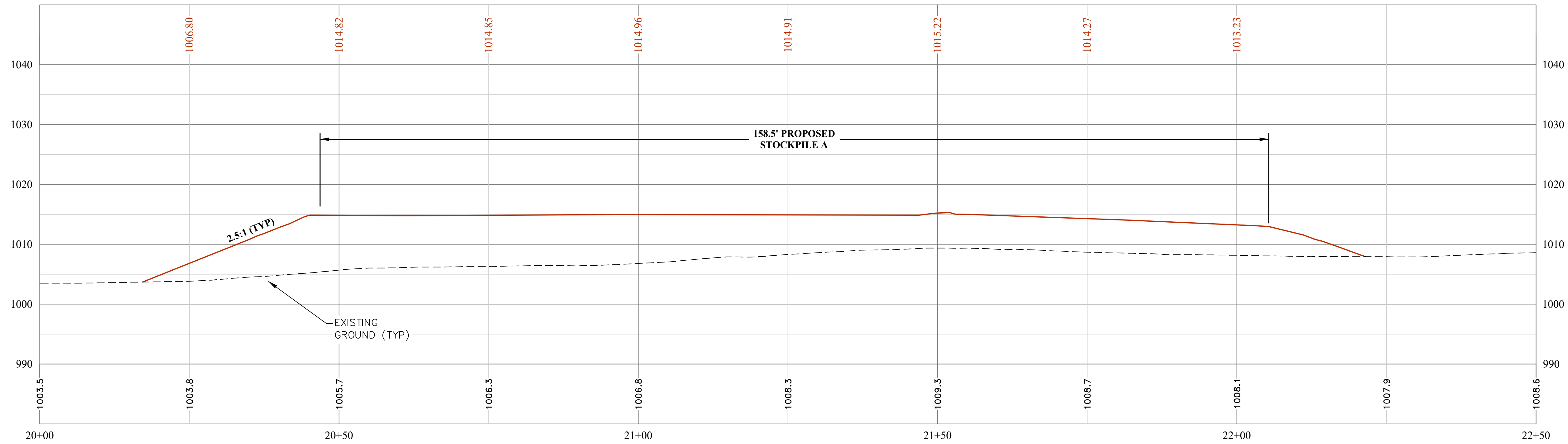
**PROFILE LEGEND**

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED CULVERT

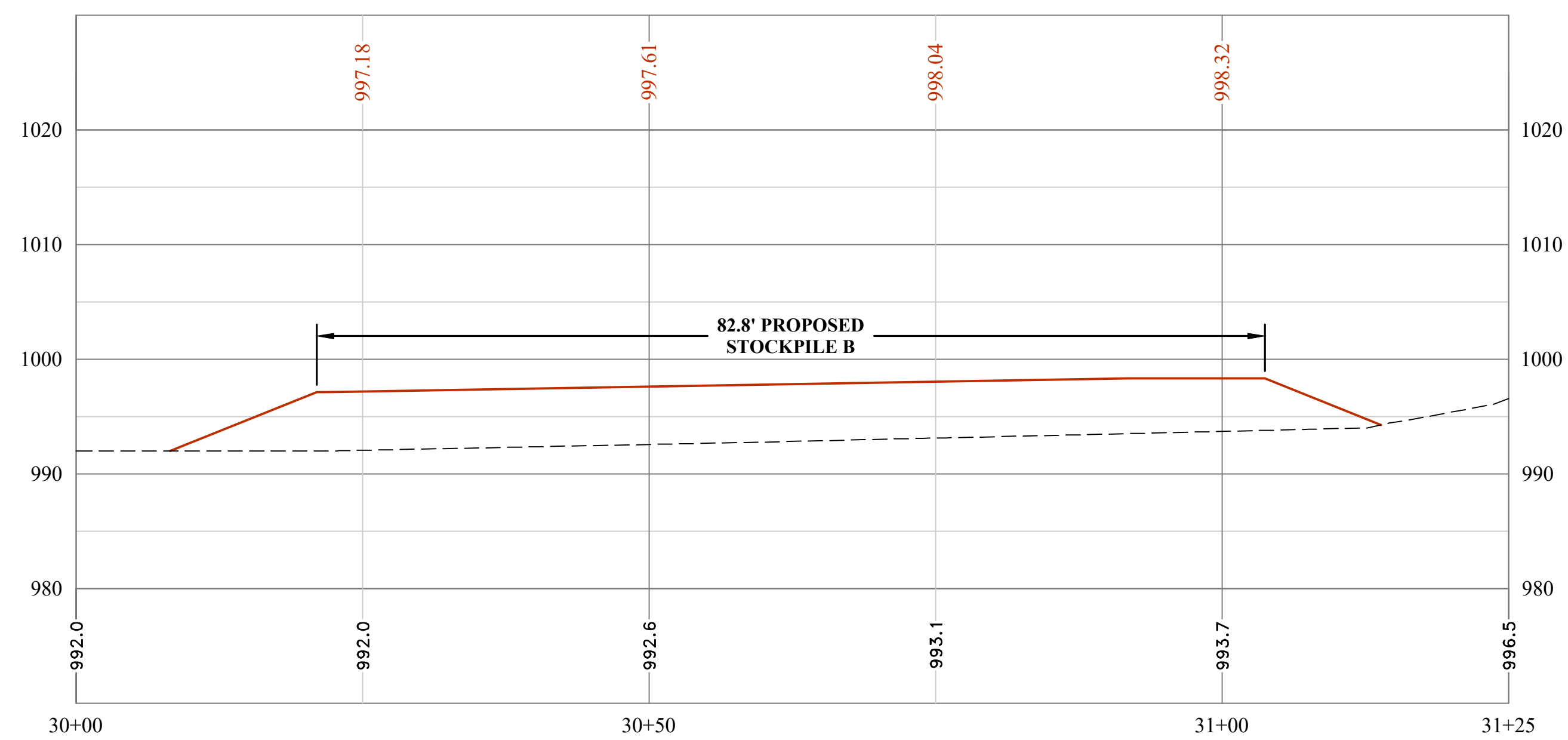
**GENERAL NOTES**

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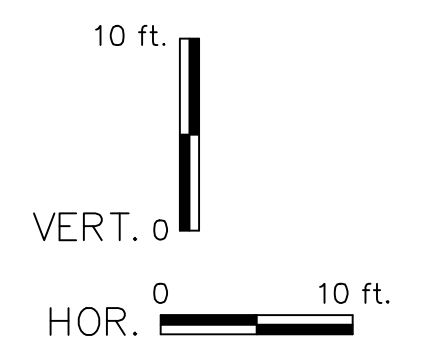
**PROPOSED STOCKPILE A BASELINE PROFILE**



**PROPOSED STOCKPILE B BASELINE PROFILE**



01/17/2025



CAD FILE: R:\070\T70-11275 - D60C - Abbey Well Pad\Drawing\Final Design\11275-StockPile.dwg PLOT DATE/TIME: 12/20/2024 8:15 AM

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SCALE:
DRAWN: DMP DATE: 11.08.2024
CHECKED: JCA DATE: 11.08.2024
APPROVED: DATE:
SURVEY DATE:
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FIELD BOOK No.:



PHASE No.
CONTRACT No.
PROJECT No.
<b>T70-11275</b>

**DIVERSIFIED PRODUCTION, LLC**  
**ISSUED FOR CONSTRUCTION PLANS FOR THE**  
**ABBAY WELL PAD**  
**HARRISON COUNTY, WV**  
**STOCKPILE BASELINES**

SHEET No.
<b>14</b>

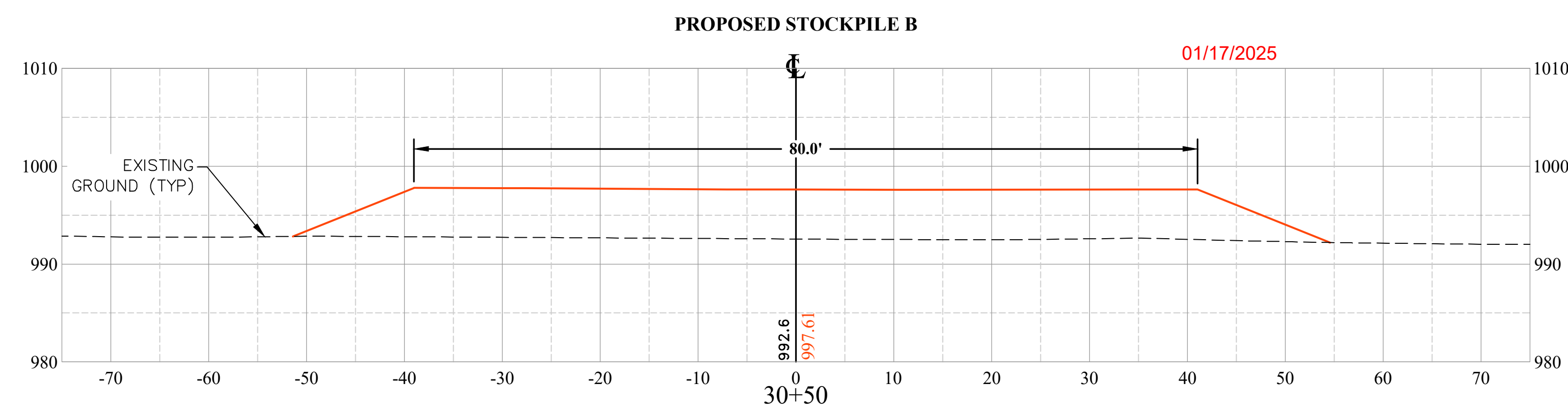
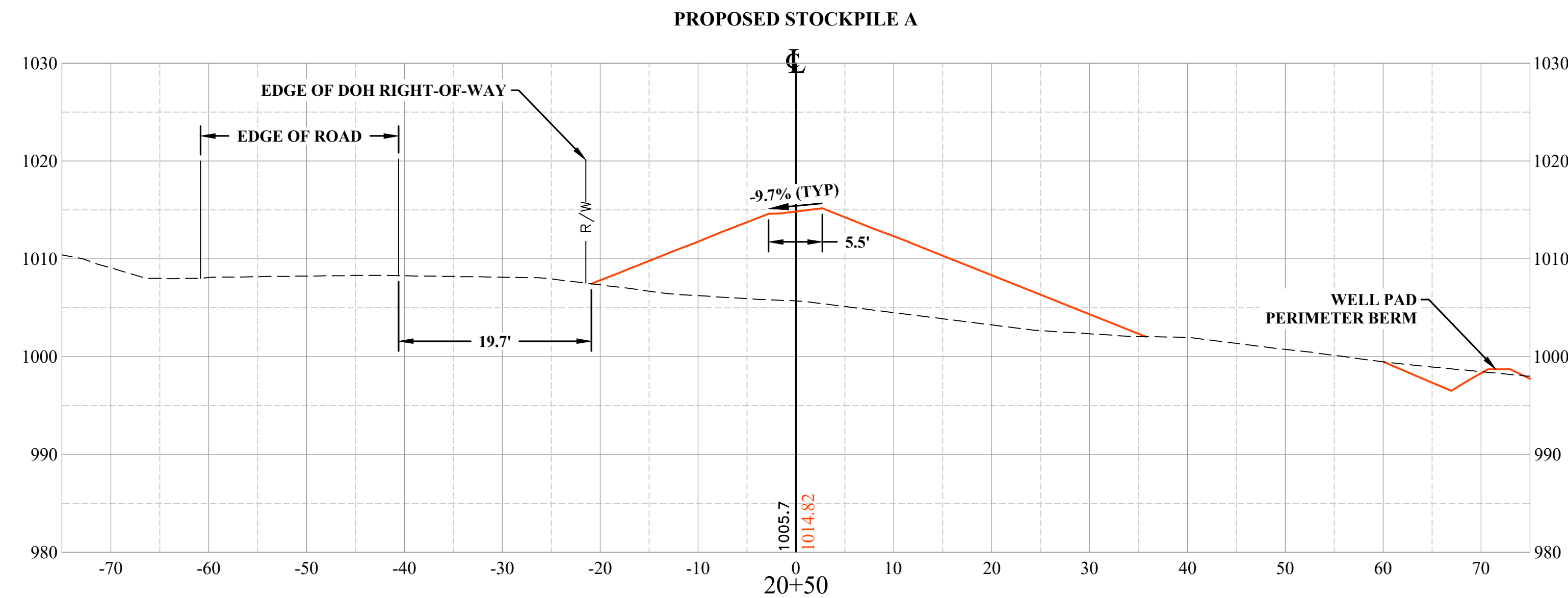
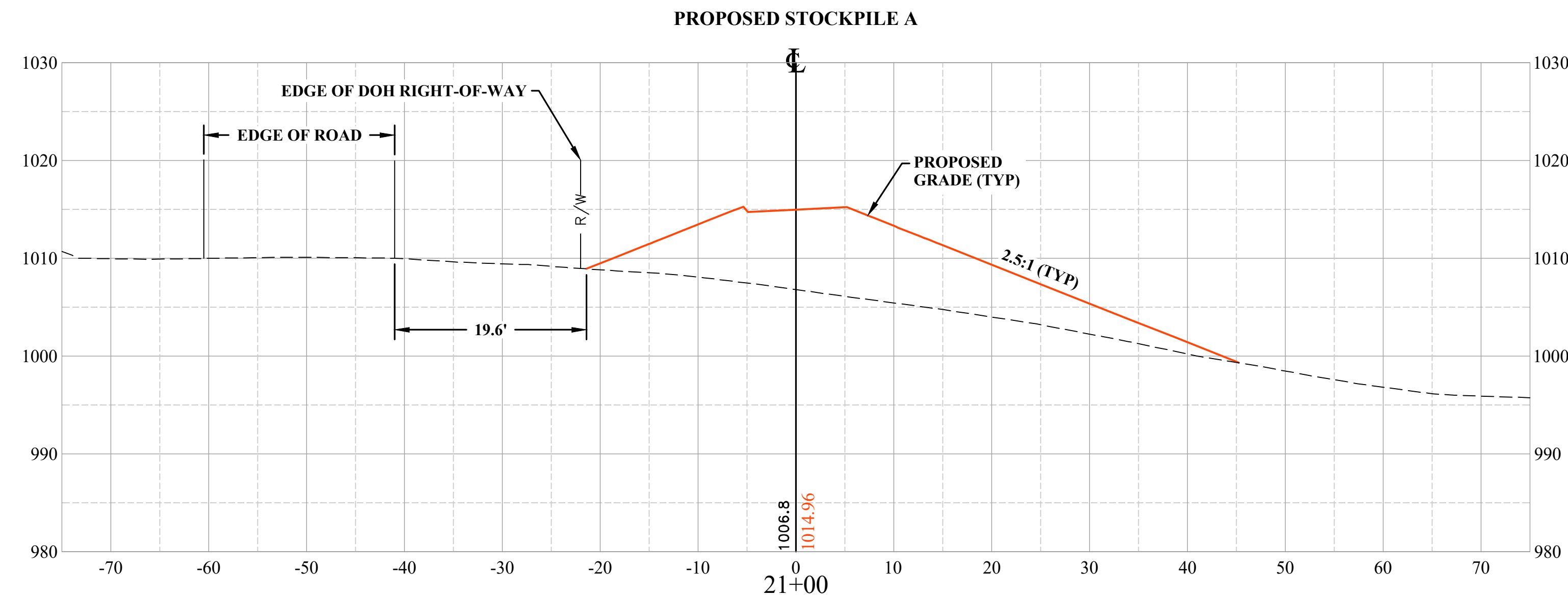


SECTION LEGEND

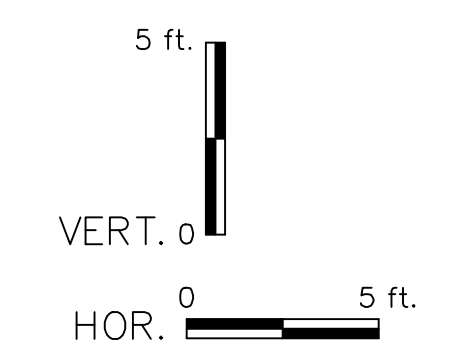
----- EXISTING GROUND  
 \_\_\_\_\_ PROPOSED GRADE

GENERAL NOTES

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**APPROVED**  
**WVDEP OOG**  
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 1/17/2025



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SCALE:	
DRAWN:	DMP DATE: 11.08.2024
CHECKED:	JCA DATE: 11.08.2024
APPROVED:	DATE:
SURVEY DATE:	
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PHASE No.	
CONTRACT No.	
PROJECT No.	T70-11275

DIVERSIFIED PRODUCTION, LLC  
 ISSUED FOR CONSTRUCTION PLANS FOR THE  
 ABBEY WELL PAD  
 HARRISON COUNTY, WV  
 STOCKPILE SECTIONS

SHEET No.  
**15**



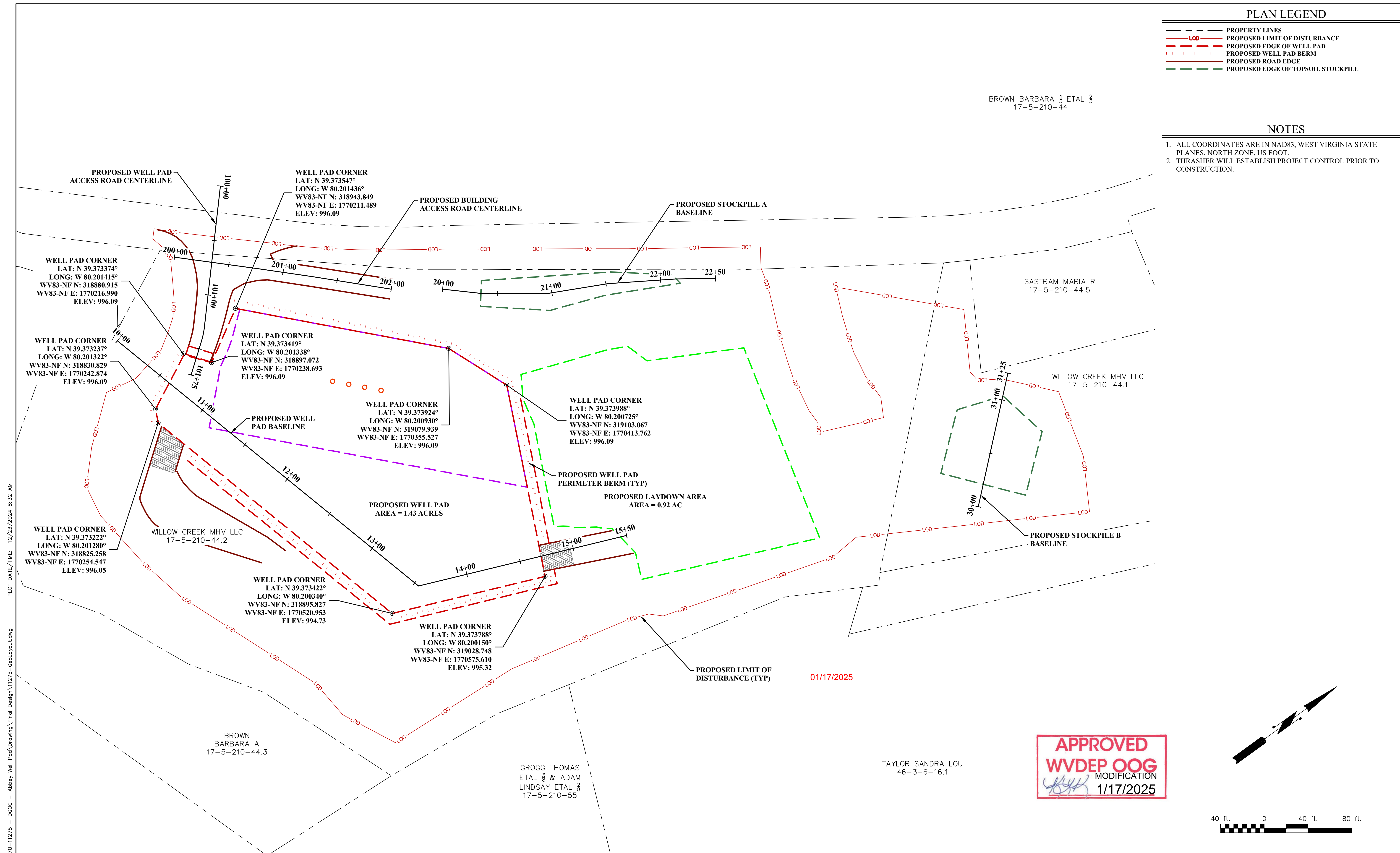
PLAN LEGEND

- PROPERTY LINES
- LOO- PROPOSED LIMIT OF DISTURBANCE
- - - PROPOSED EDGE OF WELL PAD
- - - PROPOSED WELL PAD BERM
- - - PROPOSED ROAD EDGE
- - - PROPOSED EDGE OF TOPSOIL STOCKPILE

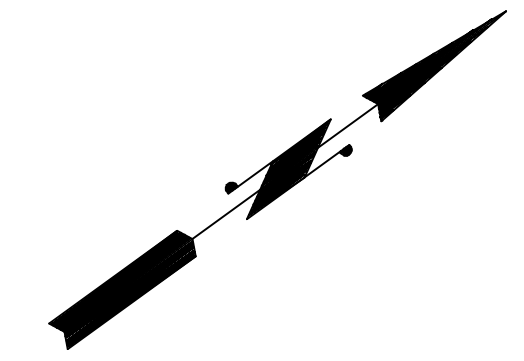
NOTES

1. ALL COORDINATES ARE IN NAD83, WEST VIRGINIA STATE PLANES, NORTH ZONE, US FOOT.
2. THRASHER WILL ESTABLISH PROJECT CONTROL PRIOR TO CONSTRUCTION.

BROWN BARBARA & ETAL  
17-5-210-44



**APPROVED**  
**WVDEP OOG**  
MODIFICATION  
*[Signature]*  
1/17/2025



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Diversified Production LLC

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PHASE No.	
CONTRACT No.	
PROJECT No.	170-11275

DIVERSIFIED PRODUCTION, LLC  
ISSUED FOR CONSTRUCTION PLANS FOR THE  
ABBAY WELL PAD  
HARRISON COUNTY, WV  
OVERALL GEOMETRIC LAYOUT

SHEET No.  
**17**



PLOT DATE/TIME: 12/23/2024 8:32 AM

CAD FILE: R:\070\T70-11275 - DBOC - Abbey Well Pad\Drawing\Final Design\11275-GeoLayout.dwg

WELL PAD ACCESS ROAD																
No.	Type	Start Station	End Station	Length	Direction	Start Point (WV83-N E,N)	End Point (WV83-N E,N)	PI Station	PI Point	Degree of Curvature by ARC Dc	Delta Angle Δ	Radius R	External Tangent T	Chord Length LC	External Secant E	Mid-Ordinated M
1	Line	100+00.00'	101+28.88'	128.877'	S 47° 32' 07.85" E	1770112.9831',318998.3225'	1770208.0554',318911.3132'									
2	Curve	101+28.88'	101+43.31'	14.437'		1770208.0554',318911.3132'	1770217.7456',318900.6390'	101+36.12'	1770213.3958',318906.4257'	73°26'45"	10°36'13"	78.011'	7.239'	14.417'	0.335'	0.334
3	Line	101+43.31'	101+75.00'	31.686'	S 36° 55' 55.23" E	1770217.7456',318900.6390'	1770236.7844',318875.3112'									

BUILDING ACCESS ROAD																
No.	Type	Start Station	End Station	Length	Direction	Start Point (WV83-N E,N)	End Point (WV83-N E,N)	PI Station	PI Point	Degree of Curvature by ARC Dc	Delta Angle Δ	Radius R	External Tangent T	Chord Length LC	External Secant E	Mid-Ordinated M
1	Line	200+00.00'	200+77.16'	77.165'	N 43° 45' 10.43" E	1770140.9227',318926.2679'	1770194.2858',318982.0061'									
2	Curve	200+77.16'	201+26.95'	49.790'		1770194.2858',318982.0061'	1770229.1186',319017.5810'	201+02.06'	1770211.5025',318999.9891'	2°35'02"	1°17'11"	2217.426'	24.896'	49.788'	0.140'	0.14
3	Line	201+26.95'	202+00.00'	73.046'	N 45° 02' 21.85" E	1770229.1186',319017.5810'	1770280.8054',319069.1967'									

WELL PAD BASELINE							
No.	Type	Start Station	End Station	Length (L)	Direction	Start Point (WV83-N E,N)	End Point (WV83-N E,N)
1	Line	10+00.00'	13+54.57'	354.572'	N 75° 09' 48.49" E	1770171.9939',318839.2564'	1770514.7446',318930.0489'
2	Line	13+54.57'	15+50.00'	195.428'	N 22° 21' 09.19" E	1770514.7446',318930.0489'	1770589.0667',319110.7928'

STOCKPILE A BASELINE							
No.	Type	Start Station	End Station	Length (L)	Direction	Start Point (WV83-N E,N)	End Point (WV83-N E,N)
1	Line	20+00.00'	20+32.84'	32.836'	N 44° 26' 02.65" E	1770317.7688',319098.3734'	1770340.7567',319121.8200'
2	Line	20+32.84'	21+37.49'	104.656'	N 29° 10' 03.55" E	1770340.7567',319121.8200'	1770391.7626',319213.2055'
3	Line	21+37.49'	21+68.43'	30.937'	N 30° 23' 44.09" E	1770391.7626',319213.2055'	1770407.4156',319239.8900'
4	Line	21+68.43'	21+89.60'	21.175'	N 32° 26' 31.03" E	1770407.4156',319239.8900'	1770418.7751',319257.7608'
5	Line	21+89.60'	22+14.30'	24.695'	N 32° 27' 11.99" E	1770418.7751',319257.7608'	1770432.0267',319278.5991'
6	Line	22+14.30'	22+50.00'	35.700'	N 30° 12' 22.01" E	1770432.0267',319278.5991'	1770449.9878',319309.4518'

STOCKPILE B BASELINE							
No.	Type	Start Station	End Station	Length (L)	Direction	Start Point (WV83-N E,N)	End Point (WV83-N E,N)
1	Line	30+00.00'	31+25.00'	125.000'	N 41° 31' 50.25" W	1770756.6509',319388.0650'	1770673.7734',319479.6382'

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**WVDEP OOG**  
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*[Signature]*  
**1/17/2025**

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Diversified  
Production LLC

SCALE:	
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DIVERSIFIED PRODUCTION, LLC  
ISSUED FOR CONSTRUCTION PLANS FOR THE  
ABBAY WELL PAD  
HARRISON COUNTY, WV  
GEOMETRIC LAYOUT TABLES

SHEET No.

**18**