

BUTTERMILK HIGHWALLS

SITE NO.	CONTRACT NO.
1820	E008-282

PIKE COUNTY



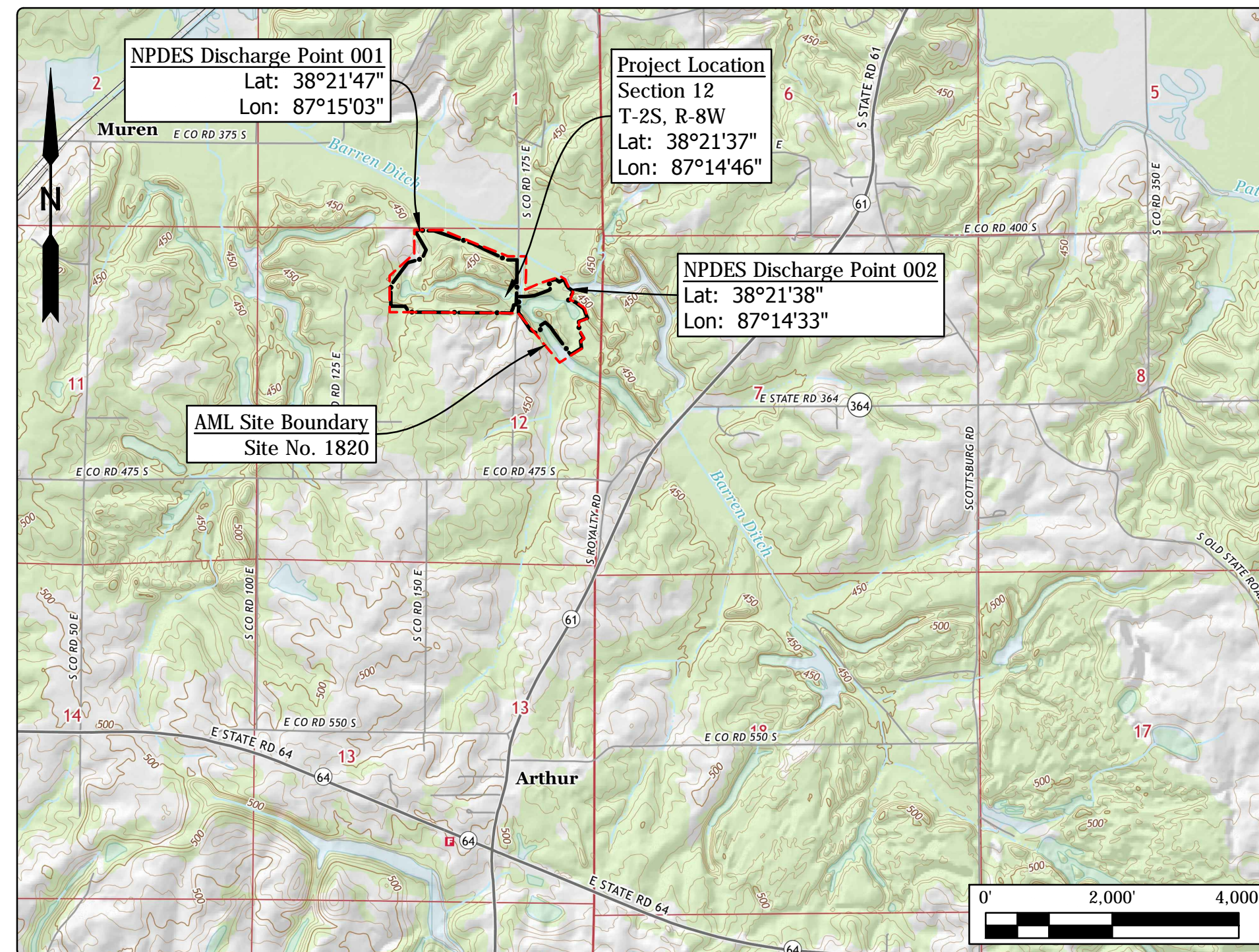
STATE OF INDIANA
INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION



ABANDONED COAL MINE
RESTORATION

BUTTERMILK HIGHWALLS
SITE 1820
CONTRACT E008-282
PIKE COUNTY

Clear and grub, backfill highwalls, construct wetlands,
improve drainage, and revegetate all disturbed areas.



Project Location Map
Oakland City & Augusta US TOPOs (USGS, 2016)

GENERAL NOTES

2010 AML Standard Specifications to be used with these plans.
Plans developed from topographic mapping survey flown in Summer of 2010 by Williams Aerial & Mapping, Inc. in NAD 83, Indiana State Plane West, Feet, unless otherwise noted.
An NPDES discharge permit is required for this project.

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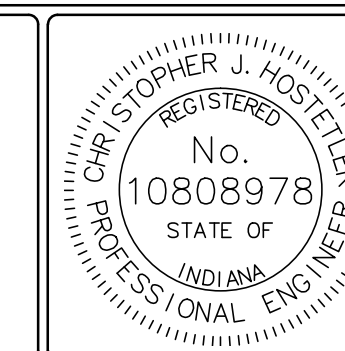
SHEET NO.	SHEET TITLE
1	TITLE, INDEX, & LOCATION MAP
2	SITE MAP
3	SITE PLAN
4	SECTIONS, PROFILES, & REVEGETATION PLAN
5	DETAILS

UTILITIES

The facilities of the following utilities exist near the project site but are not expected to be affected by the proposed construction. If questions arise, the utility may be contacted using the information below.

ELECTRIC: Vectren 1 North Main St. Evansville, IN 47702 (812) 491-4607	TELECOM: Frontier 8001 West Jefferson Blvd. Fort Wayne, IN 46804 (260) 461-3324
NATURAL GAS: Vectren 1 North Main St. Evansville, IN 47702 (812) 491-4607	WATER/SANITARY: Pike-Gibson Water, Inc. 325 N Jackson St. Oakland City, IN 47660 (812) 749-4916
Ohio Valley Gas Corp. 111 Energy Park Dr. Winchester, IN 47394 (765) 548-6842	

Call Before You Dig. Indiana Underground Plant Protection Service (IUPPS) 1-800-382-5544 or 811 from your mobile phone.

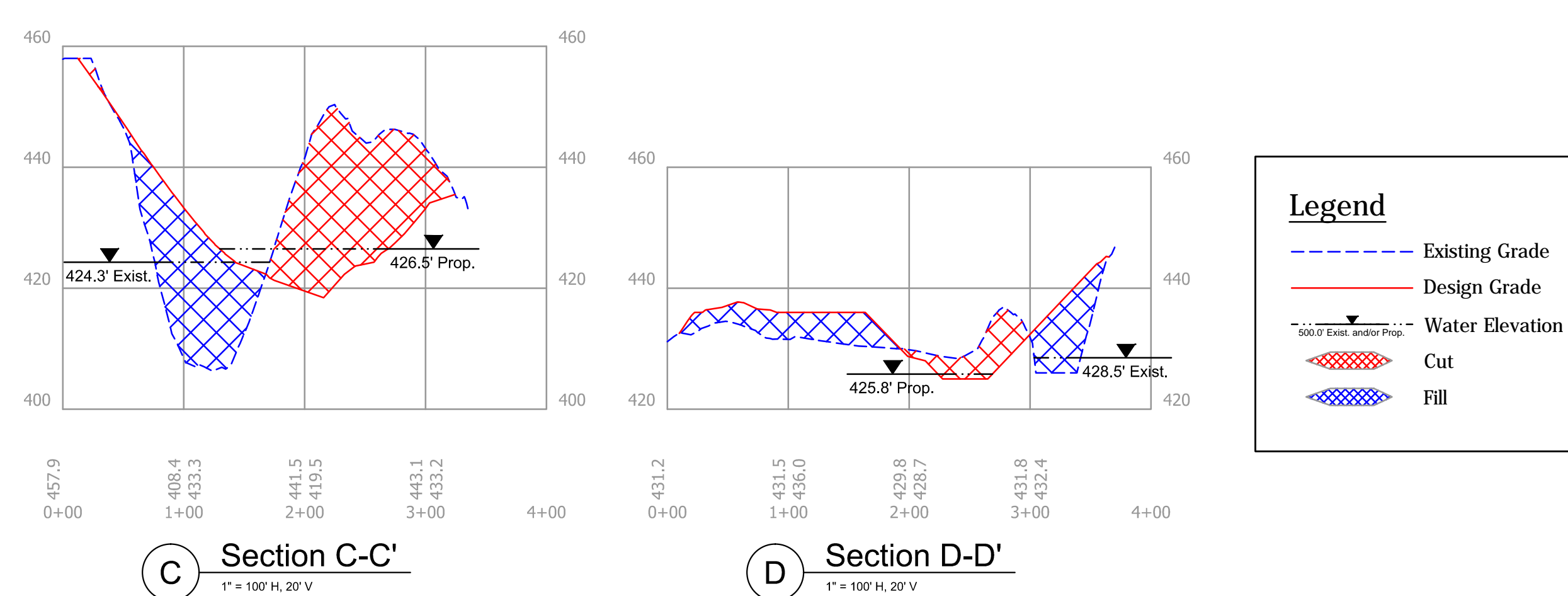
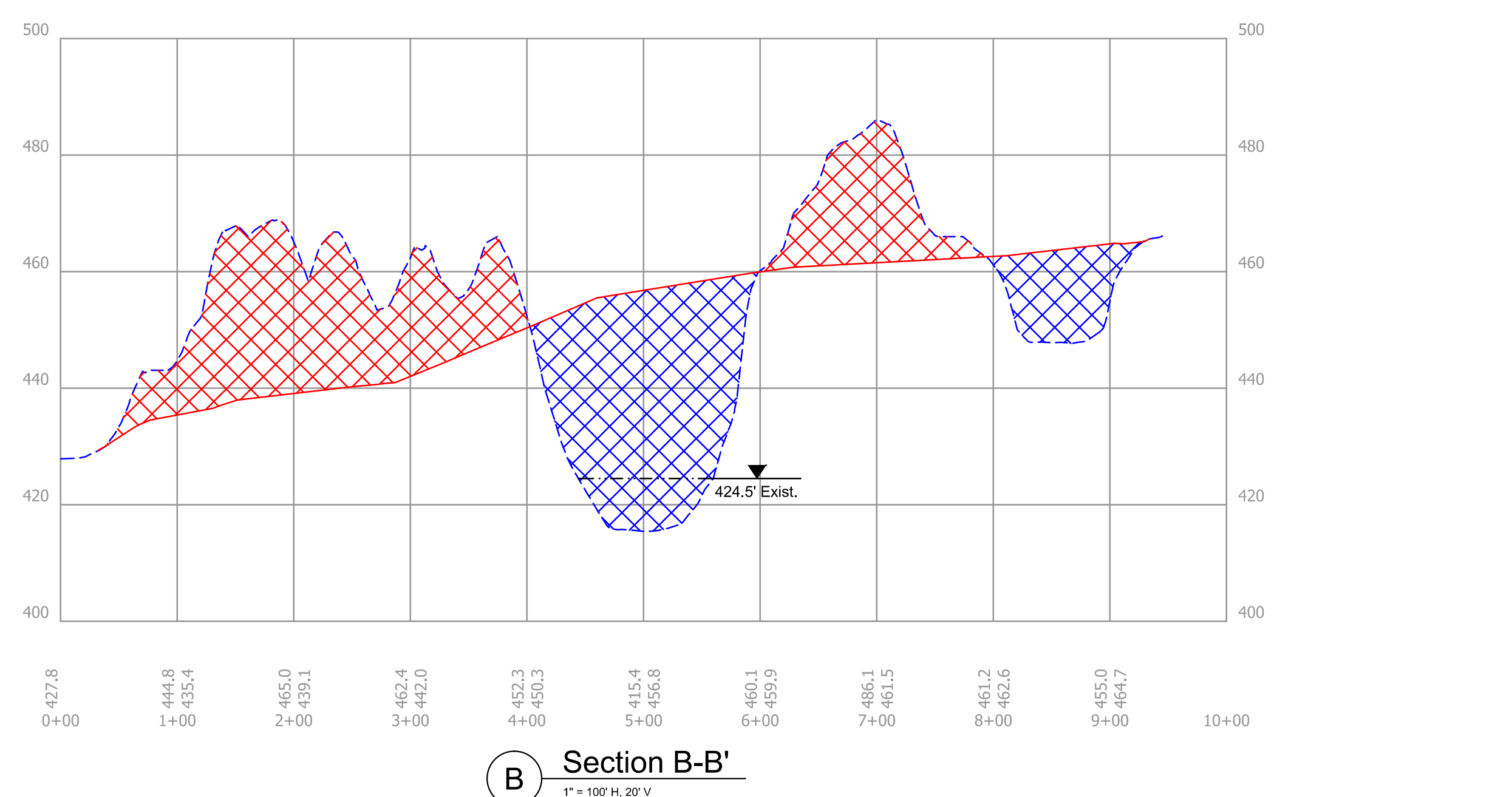
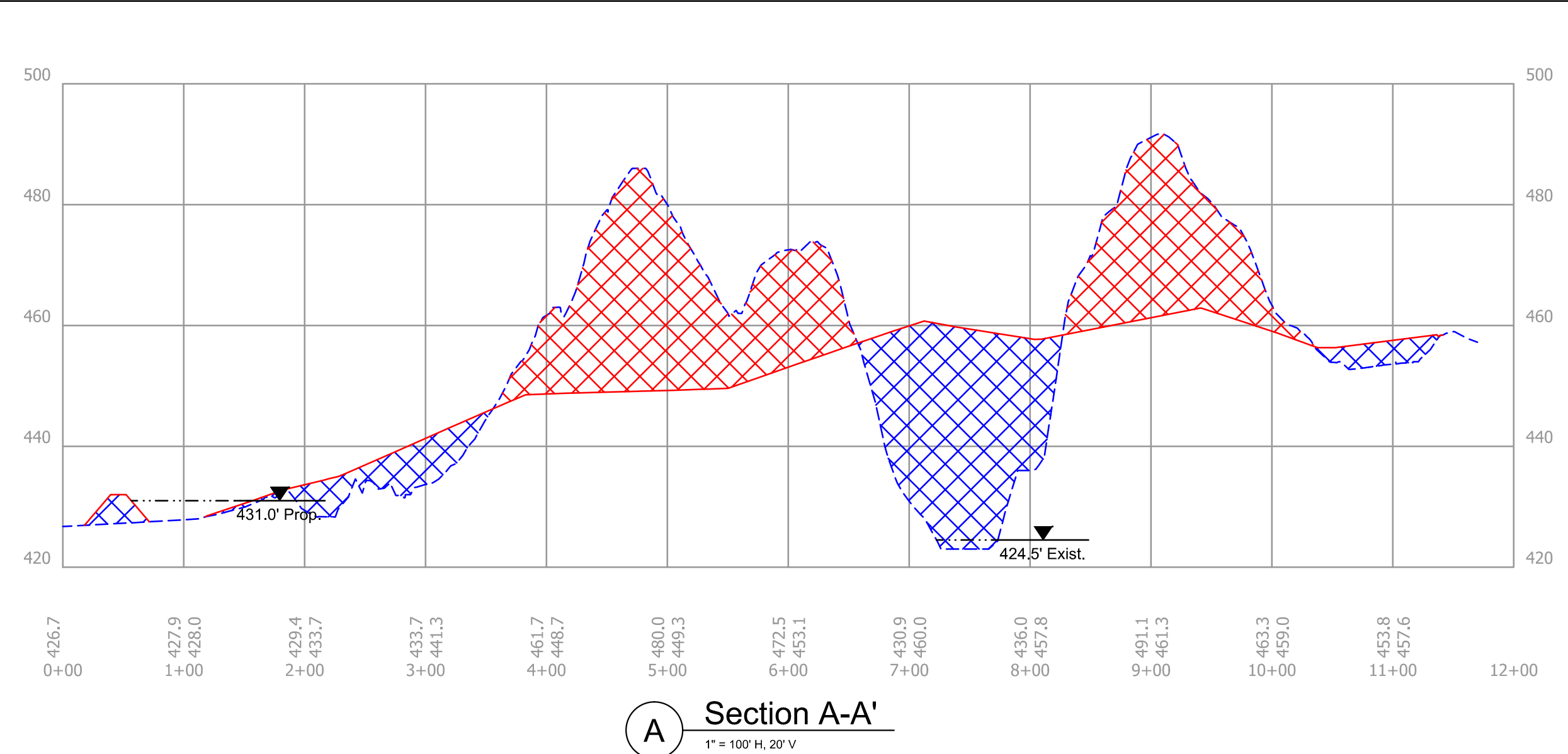


PLANS
PREPARED BY: INDIANA DEPARTMENT OF NATURAL RESOURCES (812) 665-2207
DIVISION OF RECLAMATION PHONE NUMBER
CERTIFIED BY: *Christopher J. Hostetler* 10/2/2017
DATE
APPROVED FOR LETTING: *M. D. E. C.* 10/2/2017
DATE
DIVISION OF RECLAMATION

SCALE AS NOTED	SHEET 1 OF 5
PROJECT E008-282	SITE 1820

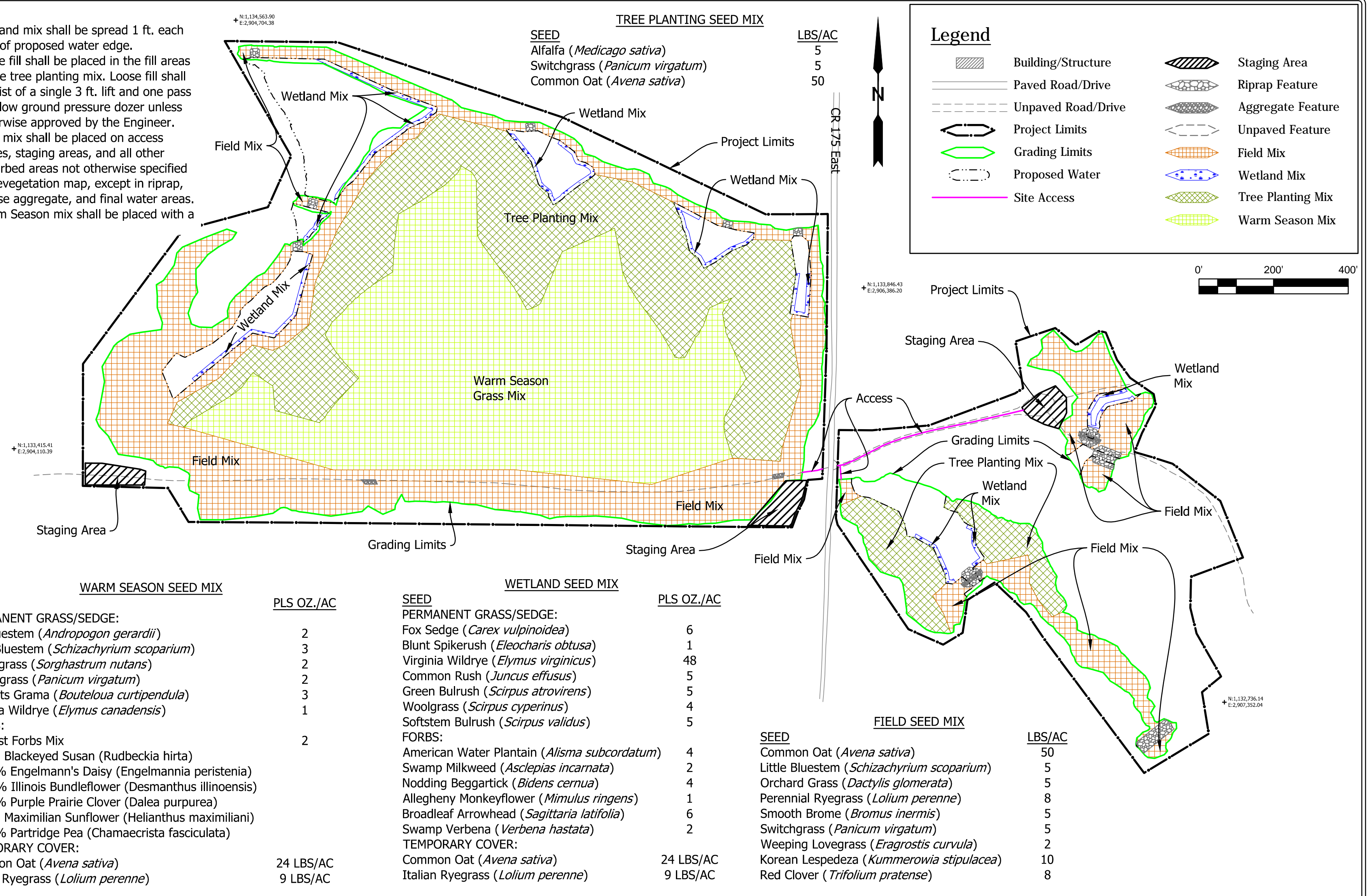


	RECOMMENDED FOR APPROVAL: <i>Christopher J. Hostetler</i> 10/2/2017 <small>DATE</small>	DATE MADE 7/10/2017	SITE MAP	SCALE 1" = 100'	SHEET 2 OF 5
	DESIGNED BY C.J.H.	DRAWN BY C.J.H.	DATE REVISED 9/25/2017 2:52:23 PM	STATE OF INDIANA DEPARTMENT OF NATURAL RESOURCES <small>DIVISION OF RECLAMATION</small>	PROJECT E008-282

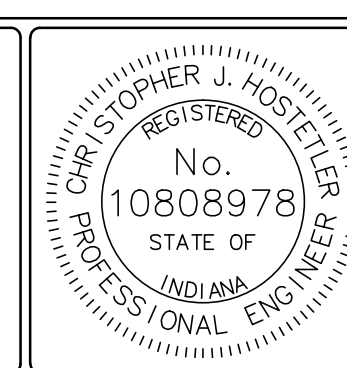
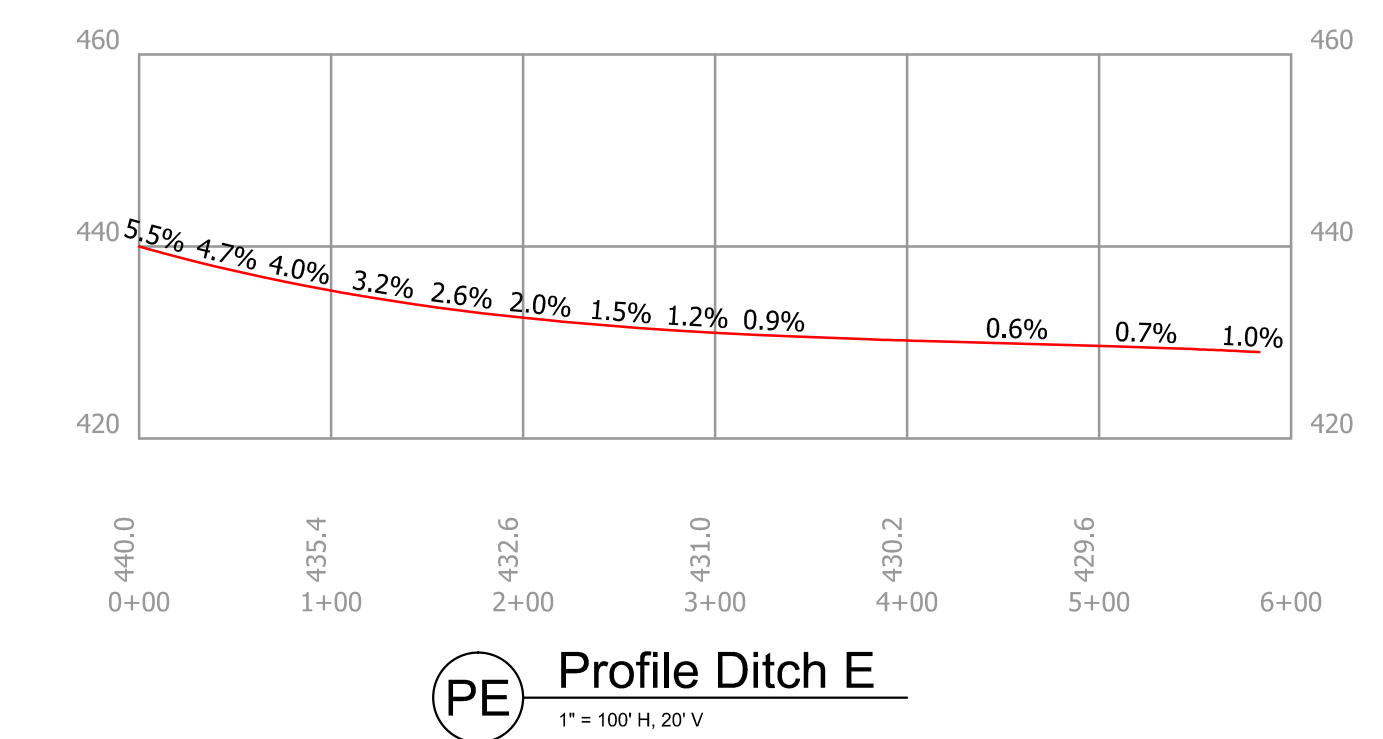
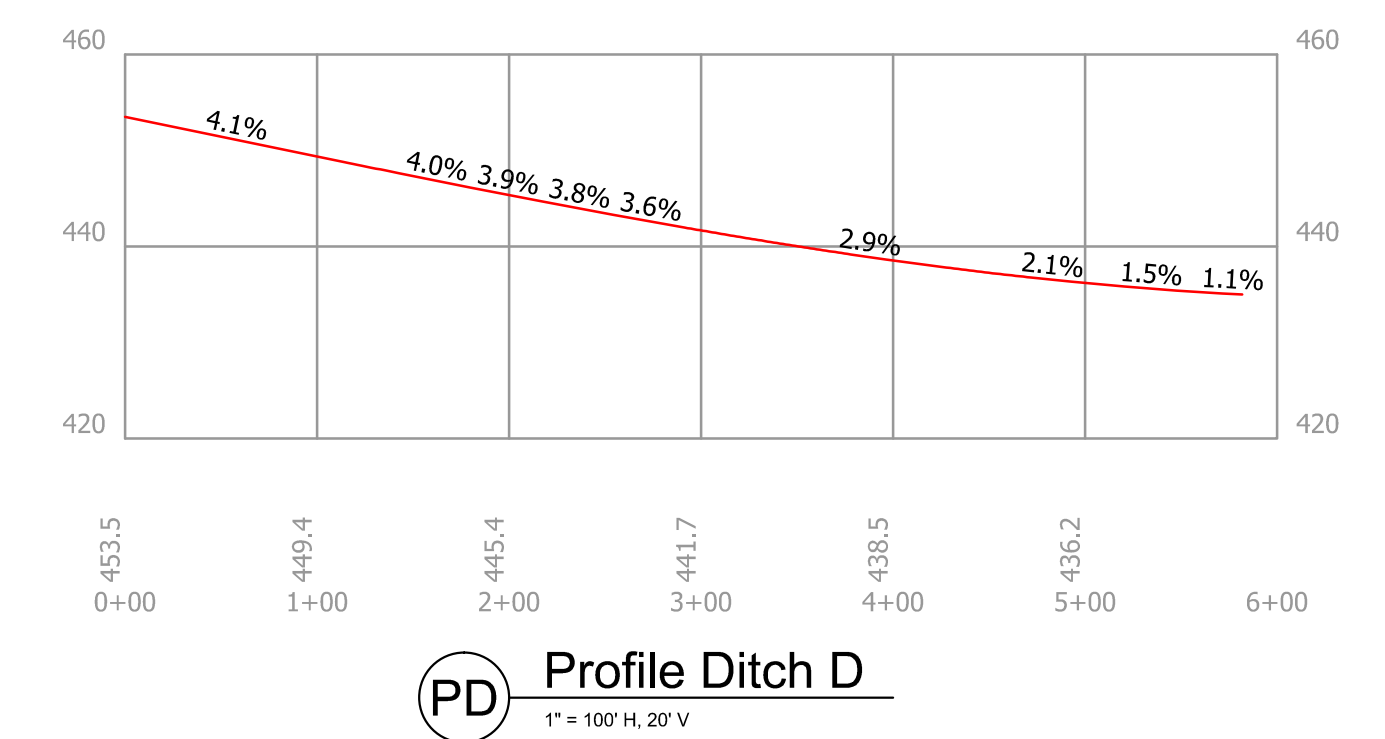


Notes:

1. Wetland mix shall be spread 1 ft. each side of proposed water edge.
2. Loose fill shall be placed in the fill areas of the tree planting mix. Loose fill shall consist of a single 3 ft. lift and one pass of a low ground pressure dozer unless otherwise approved by the Engineer.
3. Field mix shall be placed on access routes, staging areas, and all other disturbed areas not otherwise specified on revegetation map, except in riprap, coarse aggregate, and final water areas.
4. Warm Season mix shall be placed with a drill.



RP Revegetation Plan
1" = 200'



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DATE MADE: 7/10/2017

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SECTIONS, PROFILES, & REVEGETATION PLAN

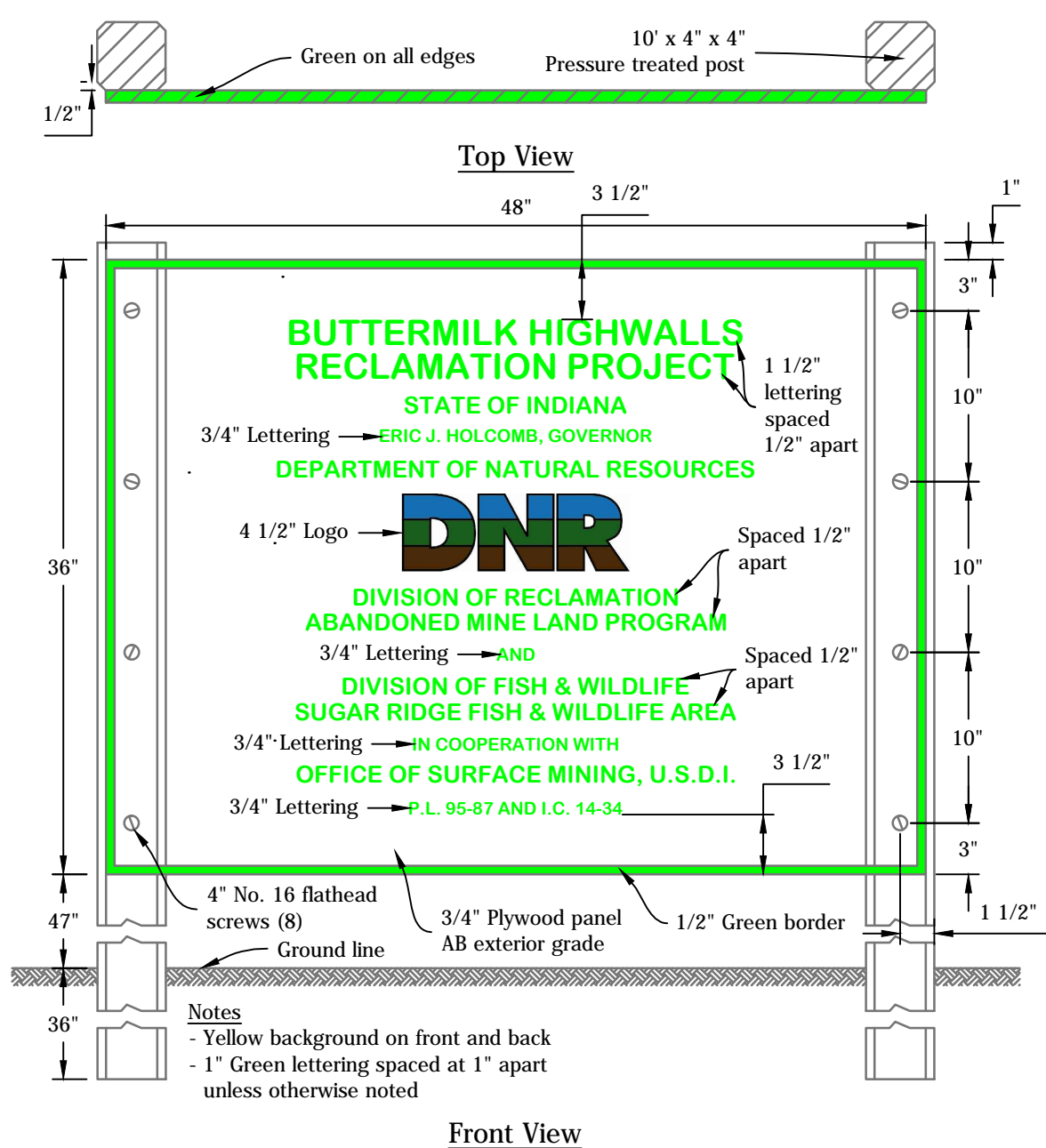
STATE OF INDIANA
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SCALE: AS NOTED

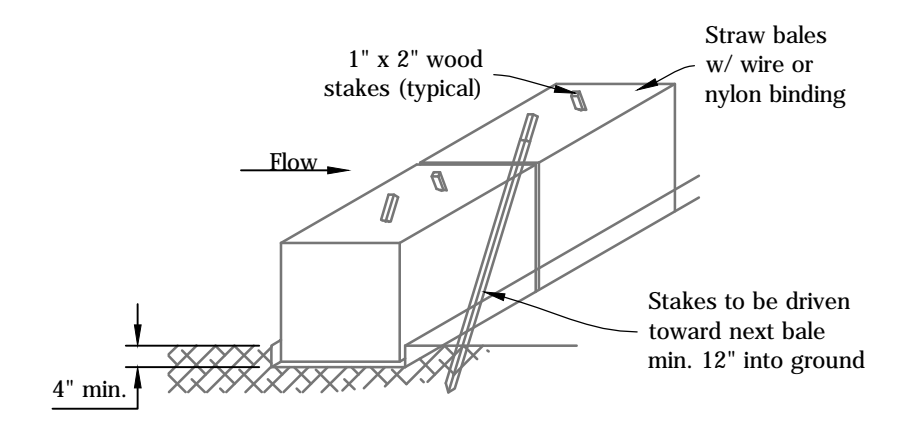
PROJECT: E008-282

SHEET: 4 OF 5

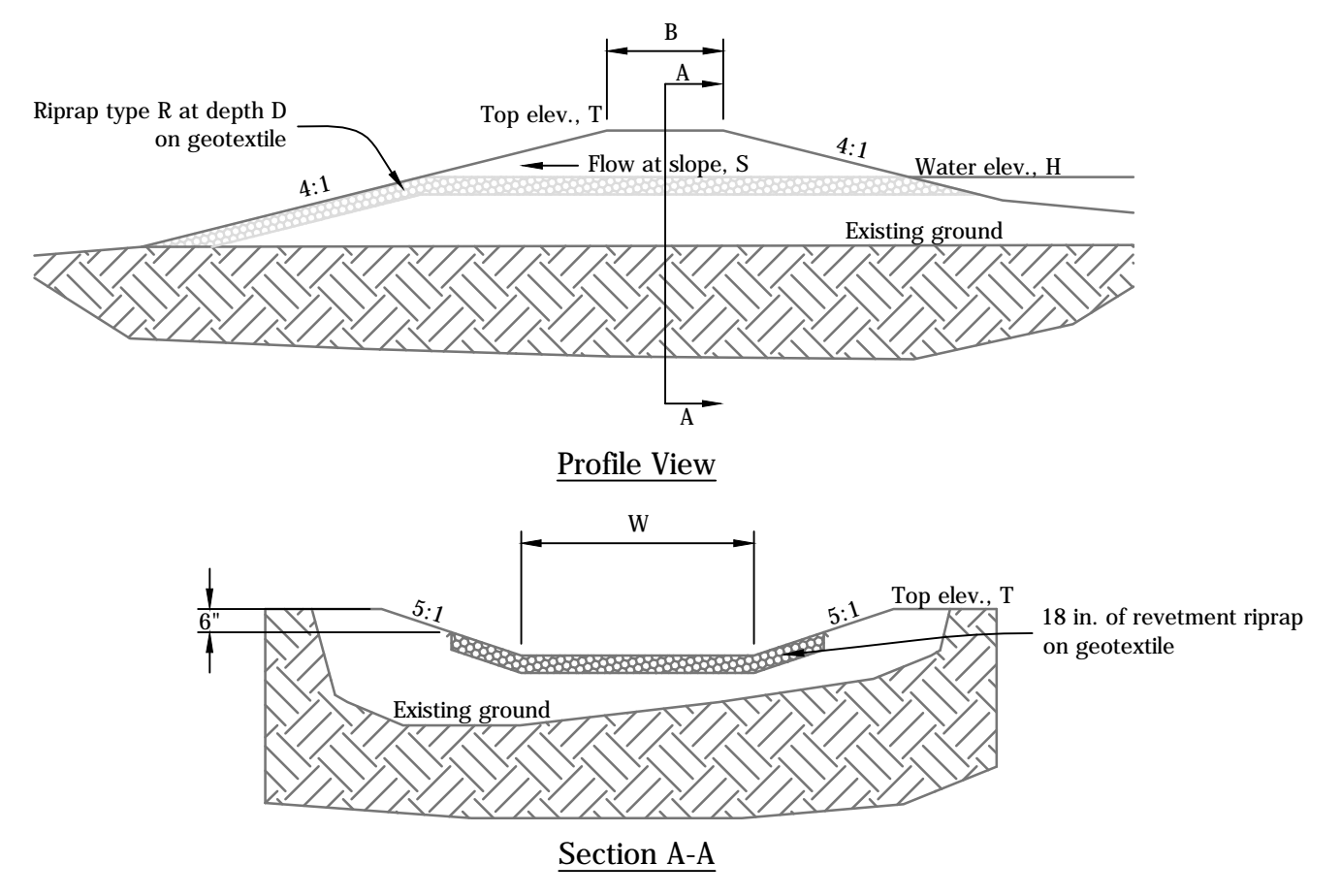
SITE: 1820



1 Project Sign
Not to Scale

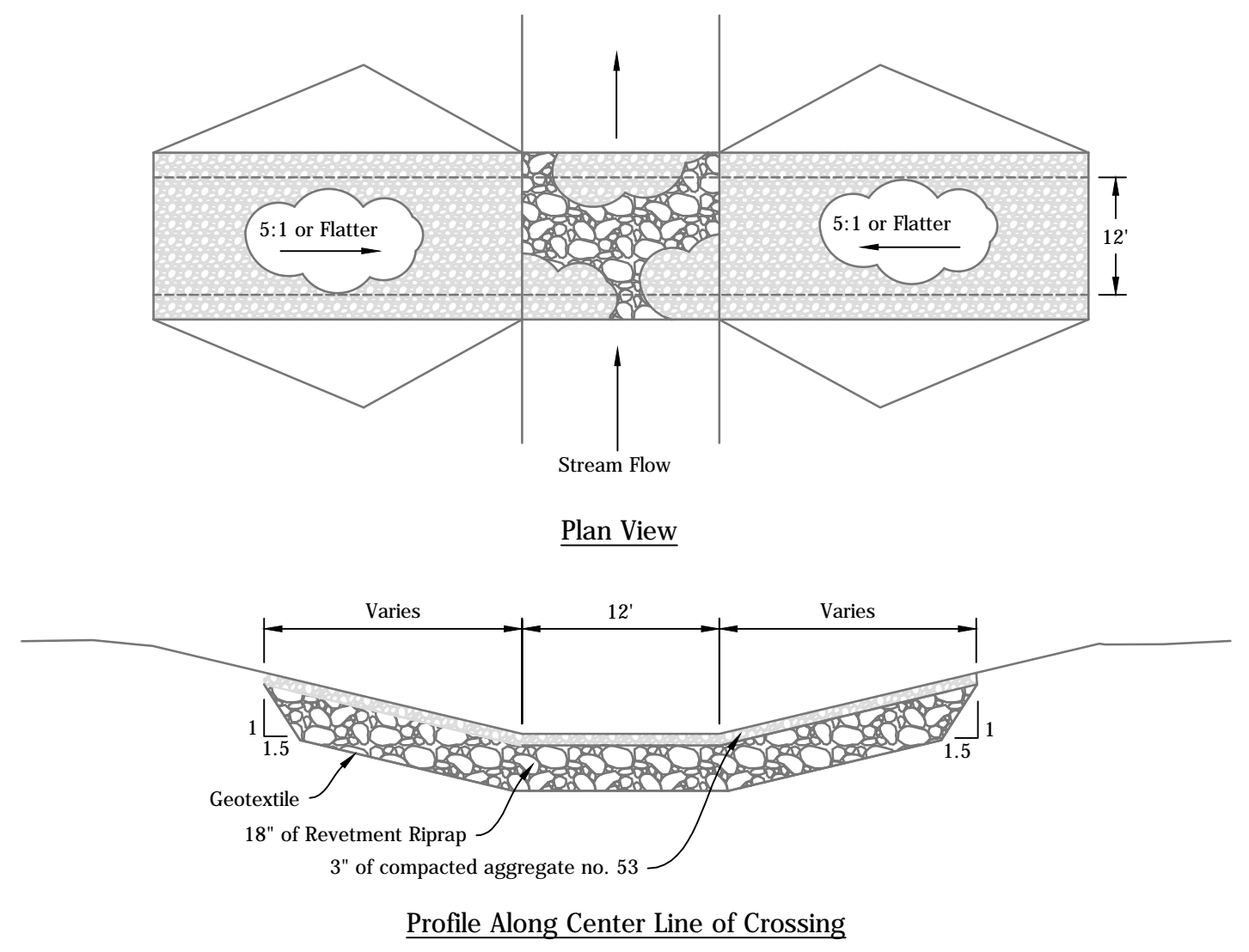


2 Temporary Check Dam, Straw Bale
Not to Scale



3 Outlet Structures No. 1-10
Not to Scale

Outlet Structure Information							
Structure No.	Outlet Width, W	Berm Width, B	Slope, S	Top of Berm Elev., T	Water Elev., H	Riprap Type, R	Riprap Depth, D
1	20'	12'	4.2%	432.0'	431.0'	Revetment	18"
2	20'	12'	4.2%	434.0'	433.0'	Revetment	18"
3	20'	12'	4.2%	436.0'	435.0'	Revetment	18"
4	20'	10'	4.50%	432.0'	431.0'	Revetment	18"
5	20'	10'	5.4%	432.0'	431.0'	Revetment	18"
6	20'	10'	1.8%	430.0'	429.0'	Revetment	18"
7	20'	12'	3.0%	430.0'	426.5'	Class II	36"
8	20'	N/A	0.0%	N/A	426.5'	Class II	36"
9	24'	12'	3.0%	430.0'	426.5'	Class II	36"
10	20'	N/A	1.0%	N/A	428.0'	Class II	36"



5 Ditch Lines A-E, Type I
Not to Scale

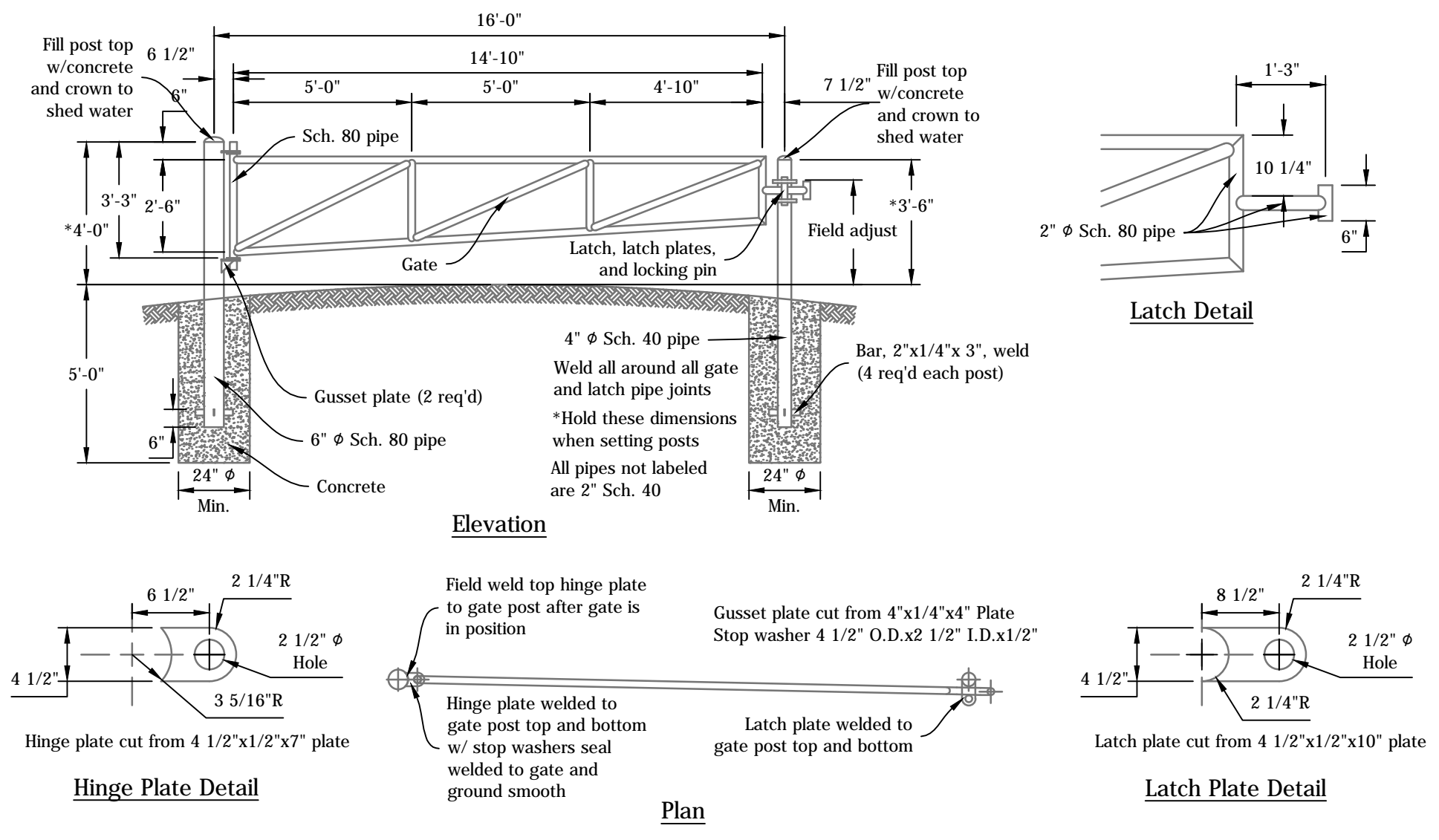
Ditch line A, Type I, 172 LFT
 Centerline Report
 0+00.00, Begin, N: 1,133,902.34 E: 2,904,567.17
 0+00.00, PT, Brg: N 32°34'01" W, Dist: 113.89'
 0+37.79, PI
 0+72.27, PT, Brg: N 65°03'47" E, Dist: 99.23'
 1+71.50, End, N: 1,133,994.74 E: 2,904,706.598
 Profile Report
 0+00.00, 436.00
 1+71.50, 435.16, -0.49%

Ditch line B, Type I, 114 LFT
 Centerline Report
 0+00.00, Begin, N: 1,133,784.55 E: 2,904,544.23
 0+00.00, PT, Brg: S 09°35'16" W, Dist: 16.88'
 0+16.88, PC, Radius: 100.00'
 0+28.81, PI
 0+40.62, PT, Brg: S 04°00'40" E, Dist: 73.74'
 1+14.36, End, N: 1,133,670.68 E: 2,904,545.432
 Profile Report
 0+00.00, 436.00
 1+14.36, 435.00, -0.87%

Ditch line C, Type I, 189 LFT
 Centerline Report
 0+00.00, Begin, N: 1,133,372.27 E: 2,904,495.00
 0+00.00, PT, Brg: N 00°21'57" W, Dist: 81.20'
 0+81.20, PC, Radius: 100.00'
 1+09.91, PI
 1+37.12, PT, Brg: N 31°40'29" E, Dist: 52.37'
 1+89.49, End, N: 1,133,551.19 E: 2,904,536.87
 Profile Report
 0+00.00, 436.80
 1+89.49, 435.00, -0.95%

Ditch line D, Type I, 582 LFT
 Centerline Report
 0+00.00, Begin, N: 1,133,246.57 E: 2,905,114.47
 0+00.00, PT, Brg: N 32°34'01" W, Dist: 113.89'
 1+13.89, PC, Radius: 75.00'
 1+28.42, PI
 1+42.59, PT, Brg: N 54°29'40" W, Dist: 148.88'
 2+91.48, PC, Radius: 100.00'
 3+37.89, PI
 3+78.39, PT, Brg: N 04°41'52" W, Dist: 48.50'
 4+26.89, PC, Radius: 125.00'
 4+72.62, PT, Brg: N 25°39'40" W, Dist: 109.18'
 5+81.80, End, N: 1,133,713.56 E: 2,904,807.581
 Profile Report
 See Profile PD, Sheet 4

Ditch line E, Type I, 584 LFT
 Centerline Report
 0+00.00, Begin, N: 1,133,234.63 E: 2,906,075.00
 0+00.00, PT, Brg: N 44°33'52" E, Dist: 101.21'
 1+01.21, PC, Radius: 30.00'
 1+11.10, PI
 1+20.32, PT, Brg: N 08°04'30" E, Dist: 94.04'
 2+14.36, PC, Radius: 40.00'
 2+17.40, PI
 2+20.43, PT, Brg: N 16°45'57" E, Dist: 160.11'
 3+80.54, PC, Radius: 55.00'
 3+93.87, PI
 4+06.70, PT, Brg: N 10°29'17" W, Dist: 134.45'
 5+41.15, PC, Radius: 75.00'
 5+58.82, PI
 5+75.86, PT, Brg: N 16°01'51" E, Dist: 7.64'
 5+83.50, End, N: 1,133,775.70 E: 2,906,195.770
 Profile Report
 See Profile PE, Sheet 4

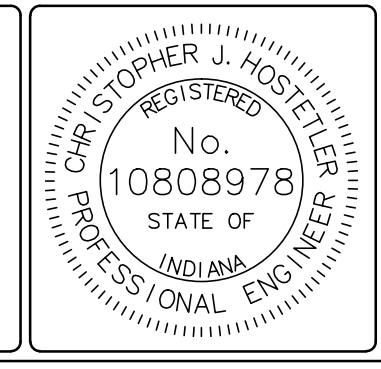


7 Access Gate
Not to Scale

- NOTES**
1. Compact surfacing material by equipment travel. The finished top surface of the rock in the bottom of the channel shall be no higher than the ditch bottom at the upstream edge of the crossing. It is expected that surfacing material will have to be replaced following high flow events.
 2. Blend approaches.
 3. Runoff shall be diverted from the approach.

4 Low Water Crossing
Not to Scale

6 Ditch Centerline & Profile Reports
Not to Scale



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SCALE: AS NOTED

PROJECT: E008-282

SHEET: 5 OF 5

SITE: 1820