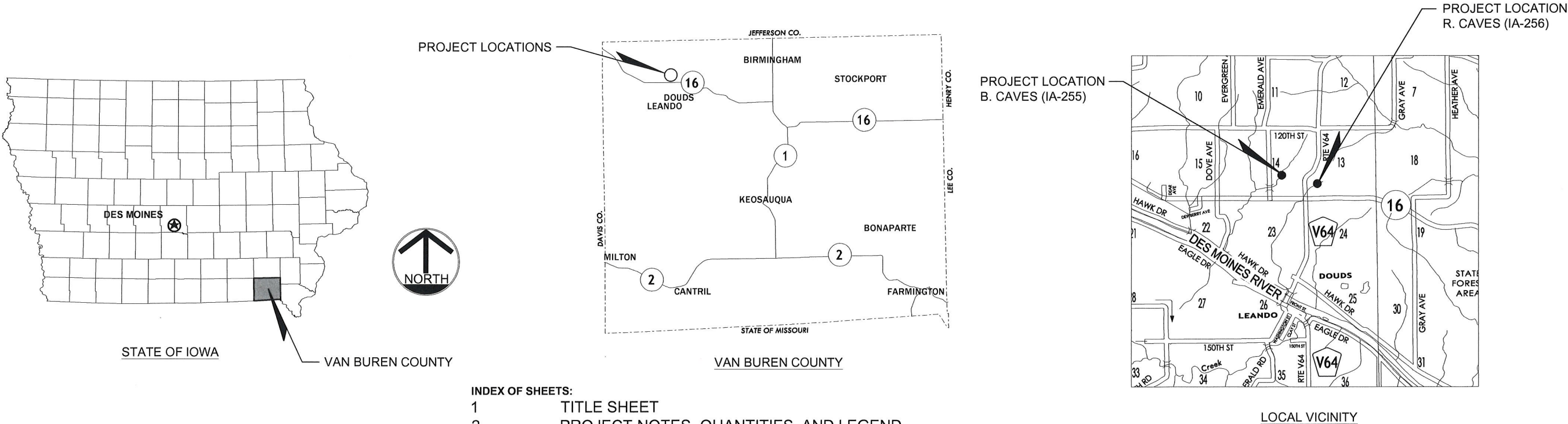


B. CAVES AND R. CAVES AML RECLAMATION PROJECT
 BID NO. IA-255 AND 256

SE1/4 SECTION 14, IN TOWNSHIP 70N, RANGE 11W, VAN BUREN COUNTY (B. CAVES IA-255)
 SW1/4 SECTION 13, IN TOWNSHIP 70N, RANGE 11W, VAN BUREN COUNTY (R. CAVES IA-256)

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
 DIVISION OF SOIL CONSERVATION AND WATER QUALITY

FUNDED BY:
 U.S. DEPARTMENT OF THE INTERIOR
 OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
 GRANT NO: S24AF00059



INDEX OF SHEETS:

1	TITLE SHEET
2	PROJECT NOTES, QUANTITIES, AND LEGEND
3	SITUATION PLAN - BURN RADII & SURVEY CONTROL
4	SITUATION PLAN - CLEARING & SITE PREPARATION B. CAVES (IA-255)
5	POST-RECLAMATION GRADING PLAN B. CAVES (IA-255)
6	CUT & FILL B. CAVES (IA-255)
7	DRAINAGE & TERRACE DESIGN PLAN B. CAVES (IA 255)
8	DRAINAGEWAY PLAN AND PROFILE B. CAVES (IA 255)
9	SITUATION PLAN - CLEARING & SITE PREPARATION R. CAVES (IA-256)
10	POST-RECLAMATION GRADING PLANS R. CAVES (IA-256)
11	CUT & FILL R. CAVES (IA-256)
12	TYPICAL DETAILS - PROJECT SIGNAGE
13-15	TYPICAL DETAILS
16-18	CROSS SECTIONS B. CAVES (IA-255)
19-20	CROSS SECTIONS R. CAVES (IA-256)
21	SWPPP SUMMARY B. CAVES (IA-255)
22	B. CAVES (IA-255) SWPPP BMP MAP
23	SWPPP SUMMARY R. CAVES (IA-256)
24	R. CAVES (IA-256) SWPPP BMP MAP

PREPARED FOR:
 IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP
 DIVISION OF SOIL CONSERVATION AND WATER QUALITY
 HOOVER STATE OFFICE BUILDING
 1305 E. WALNUT STREET
 DES MOINES, IOWA 50319
 (515) 281-4246

ENGINEER:
 STEPHEN I. PEDRICK
 FRENCH-RENEKER-ASSOCIATES
 TELEPHONE: (641) 472-5145
 EMAIL: STEPHENP@FRENCH-RENEKER.COM

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa

Signature: *Stephen I. Pedrick* Date: 8/1/25

Name (printed or typed): Stephen I. Pedrick, PE

License Number: 22586

My license renewal date is: DECEMBER 31, 2026

Pages or sheets covered by this seal: ENTIRE DOCUMENT

FILE: G:\2023\23042\DL\DRAWINGS\PLANS\1 COVER.DWG

Prepared By
FRENCH-RENEKER-ASSOCIATES
 ENGINEERS & SURVEYORS

CHKD BY: SIP
 ISSUED: 11-15-24
 REVISED: NONE
 NONE

DRAWN BY: SRB

DESIGN BY: SRB

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
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 HOOVER STATE OFFICE BUILDING
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B. CAVES AND R. CAVES
 AML RECLAMATION PROJECT

TITLE SHEET

SHEET
 1 OF 24

4. THE CONTRACTOR'S SURVEYOR SHALL HAVE GPS EQUIPMENT CAPABLE OF CALIBRATING TO THE CONTROL POINTS SHOWN. THE EQUIPMENT SHALL BE CAPABLE OF COLLECTING AND STAKING OUT DATA IN THAT CALIBRATION.

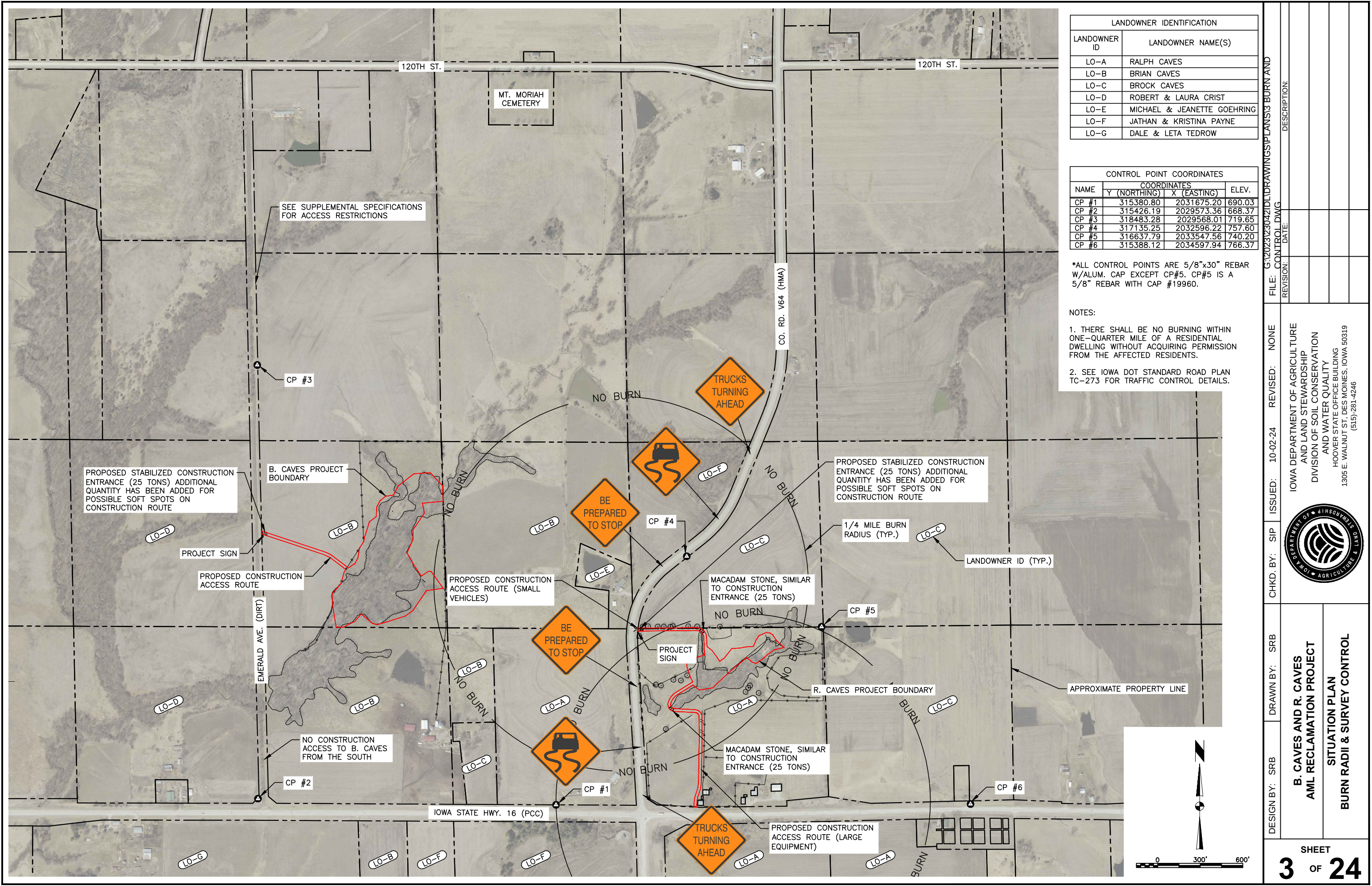
TABLE: ESTIMATED QUANTITIES

	ITEM	SECTION	UNITS	B. CAVES	R. CAVES	TOTAL
1	MOBILIZATION	02100	L.S.	0.5	0.5	1.0
2	TRAFFIC CONTROL	6-10	L.S.	0	1.0	1.0
3	SITE CLEARING & PREPARATION	02100	ACRE	10.8	3.1	13.9
4	HYDRATED LIME	02110	TON	1.0	0	1.0
5	IMPOUNDMENT DISCHARGE	02110	L.S.	1.0	0	1.0
6	APPROVED TEMPORARY SEDIMENT CONTROL MEASURES	02120	L.F.	1,480	195	1,675.0
7	TEMPORARY ROLLED EROSION CONTROL PRODUCTS, RECP, TYPE 1.D	02120	S.Y.	400	100	500.0
8	EXCAVATION	02200	C.Y.	30,326	3,936	34,262.0
9	UNDERCUT EXCAVATION, EARTH DAM	02220	C.Y.	818	0	818.0
10	SELECT BORROW, EARTHWORK	02250	C.Y.	0	563	563.0
11	RISER - TERRACE, 6"	02300	EA	1	3	4.0
12	RISER - TERRACE, 12"	02300	EA	5	0	5.0
13	PIPE, 6" DWPE	02300	L.F.	40	375	415.0
14	PIPE, 12" DWPE	02300	L.F.	430	0	430.0
15	OUTLET PIPE- 6" PVC	02300	EA	1	3	4.0
16	OUTLET PIPE - 12" PVC	02300	EA	5	0	5.0
17	QUARRIED STONE - EROSION STONE	02120	TON	90	0	90.0
18	QUARRIED STONE - MACADAM STONE BASE	02120	TON	300	232	532.0
19	QUARRIED STONE - RIPRAP, CLASS E	02120	TON	1,026	522	1548.0
20	RISER - 36" DIA. PPHP DROP INLET	02310	EA	2	0	2.0
21	RISER - 48" DIA. PPHP DROP INLET	02310	EA	1	0	1.0
22	PIPE - 24" PPHP	02310	L.F.	132	0	132.0
23	PIPE - 36" PPHP	02310	L.F.	167	0	167.0
24	SUBGRADE PREPARATION	02400	ACRE	10.5	2.4	12.9
25	AGRICULTURAL LIME	02400	TON (ECCE)	490.6	109.5	600.1
26	MULCH, SUBGRADE (5 TON/AC)	02400	ACRE	10.0	2.4	12.4
27	WETLAND FERTILIZER (30 LBS/ACRE)	02400	POUND	30	0	30.0
28	WETLAND UNDERCUT AND REPLACEMENT	02400	ACRE	0.5	0	0.5
29	WETLAND MULCH, SUBGRADE (10 TON/ACRE)	02400	ACRE	1.0	0	1.0
30	FIELD FENCE	02500	L.F.	275	816	1091.0
31	SINGLE GATE, 16'	02500	EA	1	1	2.0
32	SEEDBED PREPARATION	02700	ACRE	10.1	3.1	13.2
33	NITROGEN (N) (40 LBS/AC)	02700	POUND	404	124	528.0
34	PHOSPHORUS (P) (100 LBS/AC)	02700	POUND	1,011	310	1321.0
35	POTASSIUM (K) (200 LBS/AC)	02700	POUND	2,022	620	2642.0
36	UPLAND SEEDING	02700	ACRE	8.0	0.0	8.0
37	WETLAND FRINGE SEEDING	02700	ACRE	2.1	0	2.1
38	PASTURE SEEDING	02700	ACRE	0	3.1	3.1
39	MULCH, SEEDING (2 TON/AC)	02700	ACRE	10.1	3.1	13.2

5. AT THE REQUEST OF THE CONTRACTOR, THE ENGINEER WILL PROVIDE AN AUTOCAD DRAWING OF THE HORIZONTAL LOCATIONS OF THE CONSTRUCTION LIMITS, TERRACES, TERRACE RISERS, OUTLETS, STRUCTURES AND PIPE, AND WETLAND UNDERCUT, IN ADDITION TO THE EXISTING AND PROPOSED CONTOURS.

	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING POWER POLE
	EXISTING OVERHEAD ELECTRIC LINE
	EXISTING STORM SEWER OR TILE
	EXISTING WATER LINE
	EXISTING FENCE LINE
	EXISTING TREE LINE OR TREE
	PERENNIAL STREAM
	EROSIONAL FEATURE
	EXISTING OPEN WATER
	APPROXIMATE EXISTING PROPERTY LINE OR ROAD ROW
	SURVEY CONTROL POINT
	PROPOSED PROJECT BOUNDARY
	1/4 MILE NO BURN RADIUS
	APPROVED SEDIMENT CONTROL MEASURE
	PROPOSED TERRACE CHANNEL WITH FLOW DIRECTION
	PROPOSED TERRACE RIDGE
	PROPOSED TERRACE RISER INTAKE WITH STRAW WATTLE
	PROPOSED TILE
	PROPOSED RIPRAP
	RECP TYPE 1.D
	USE AS CONSTRUCTED
	PROPOSED FENCE REMOVAL
	PROPOSED FENCE & GATE





LANDOWNER IDENTIFICATION	
LANDOWNER ID	LANDOWNER NAME(S)
LO-A	RALPH CAVES
LO-B	BRIAN CAVES
LO-C	BROCK CAVES
LO-D	ROBERT & LAURA CRIST
LO-E	MICHAEL & JEANETTE GOEHRING
LO-F	JATHAN & KRISTINA PAYNE
LO-G	DALE & LETA TEDROW

CONTROL POINT COORDINATES			
NAME	COORDINATES		ELEV.
	Y (NORTHING)	X (EASTING)	
CP #1	315380.80	2031675.20	690.03
CP #2	315426.19	2029573.36	668.37
CP #3	318483.28	2029568.01	719.65
CP #4	317135.25	2032596.22	757.60
CP #5	316637.79	2033547.56	740.20
CP #6	315388.12	2034597.94	766.37

*ALL CONTROL POINTS ARE 5/8"x30" REBAR W/ALUM. CAP EXCEPT CP#5. CP#5 IS A 5/8" REBAR WITH CAP #19960.

- NOTES:
- THERE SHALL BE NO BURNING WITHIN ONE-QUARTER MILE OF A RESIDENTIAL DWELLING WITHOUT ACQUIRING PERMISSION FROM THE AFFECTED RESIDENTS.
 - SEE IOWA DOT STANDARD ROAD PLAN TC-273 FOR TRAFFIC CONTROL DETAILS.

DESIGN BY: SRB

DRAWN BY: SRB

CHKD. BY: SIP

ISSUED: 10-02-24

REVISED: NONE

FILE: CONTROL DWG

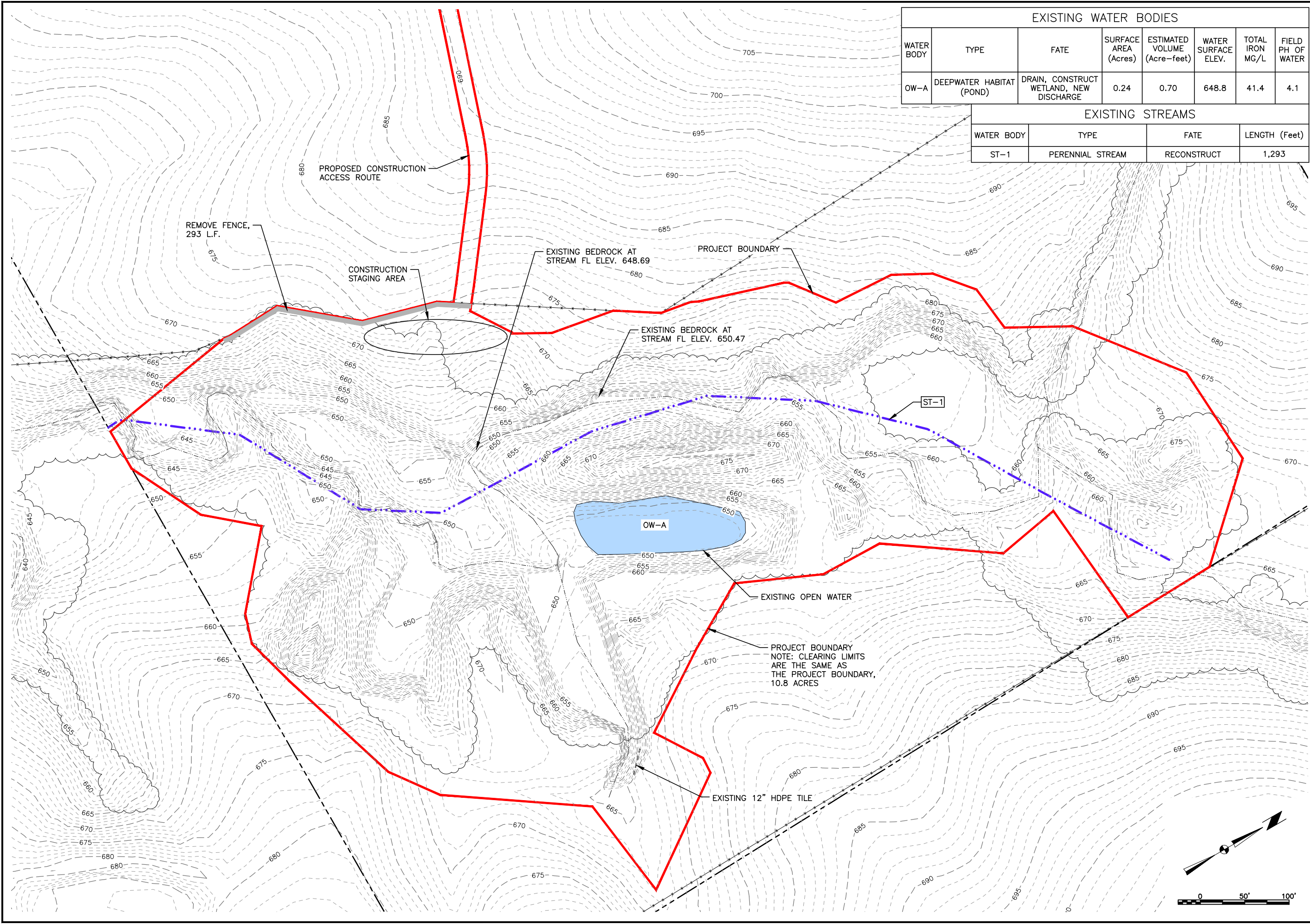
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B. CAVES AND R. CAVES
AML RECLAMATION PROJECT

SITUATION PLAN
BURN RADIUS & SURVEY CONTROL

IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
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(515) 281-4246

SHEET
3 OF 24



EXISTING WATER BODIES							
WATER BODY	TYPE	FATE	SURFACE AREA (Acres)	ESTIMATED VOLUME (Acre-feet)	WATER SURFACE ELEV.	TOTAL IRON MG/L	FIELD PH OF WATER
OW-A	DEEPWATER HABITAT (POND)	DRAIN, CONSTRUCT WETLAND, NEW DISCHARGE	0.24	0.70	648.8	41.4	4.1

EXISTING STREAMS			
WATER BODY	TYPE	FATE	LENGTH (Feet)
ST-1	PERENNIAL STREAM	RECONSTRUCT	1,293

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CHKD. BY: SIP

ISSUED: 10-02-24

REVISED: NONE

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REVISION: PREPARED DATE:

B. CAVES AND R. CAVES
AML RECLAMATION PROJECT

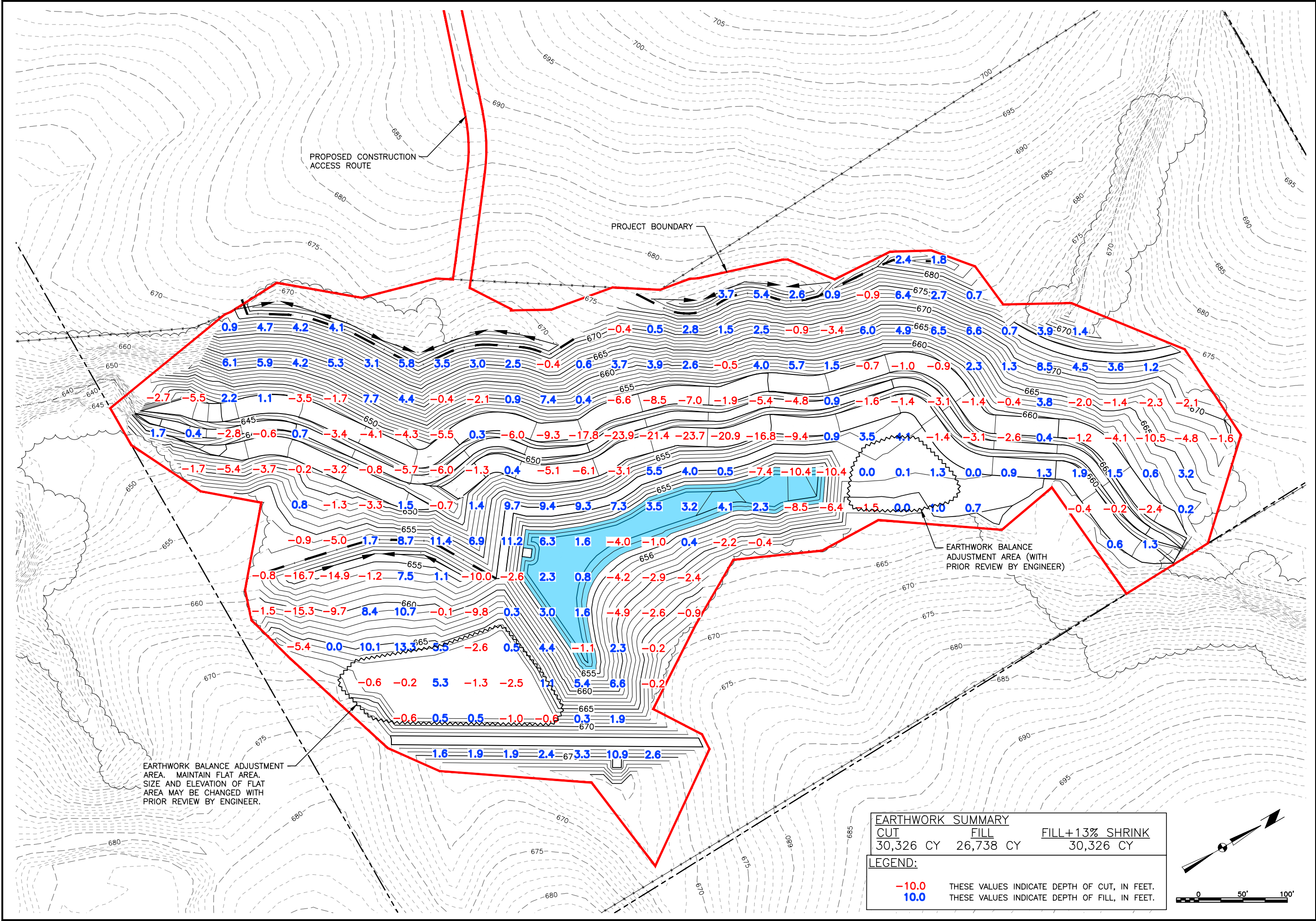
SITUATION PLAN
CLEARING & SITE PREPARATION
B. CAVES (IA-255)

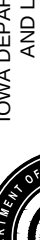


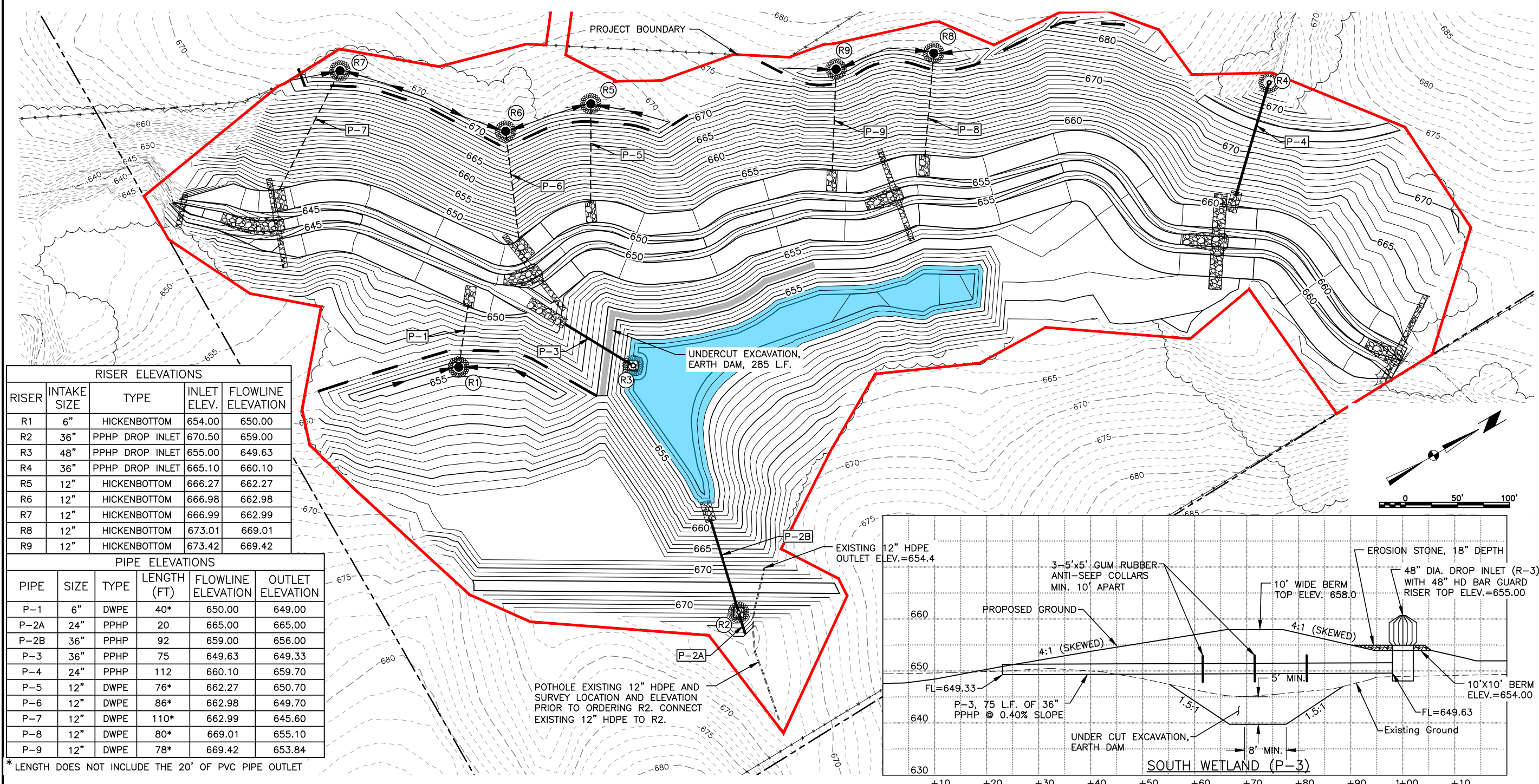
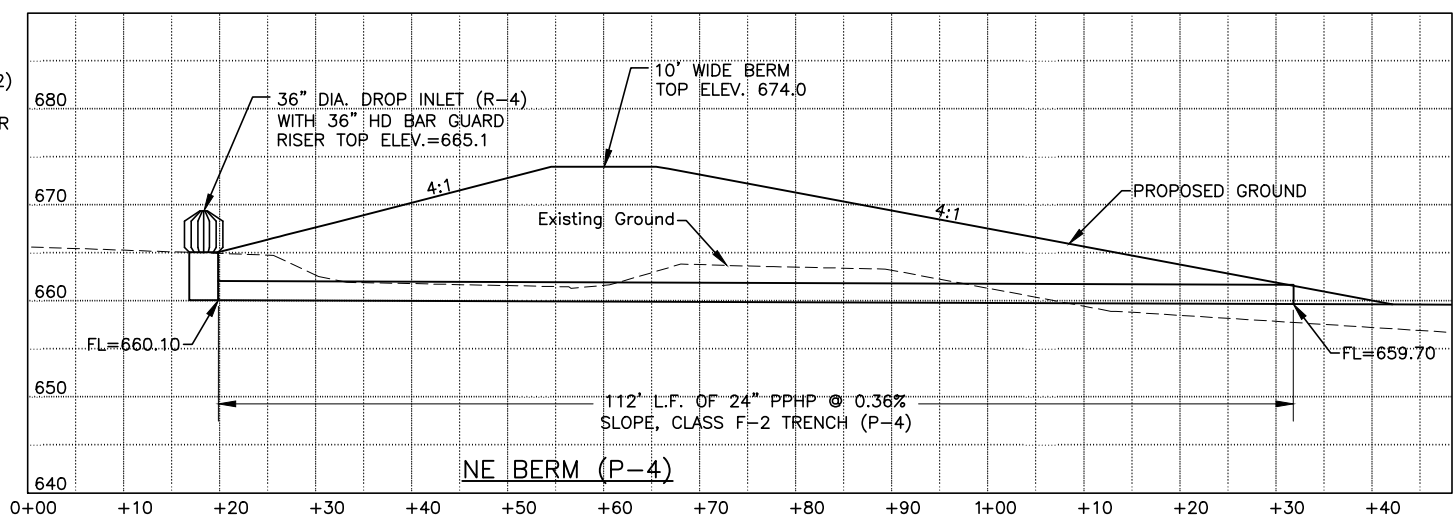
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4 OF 24



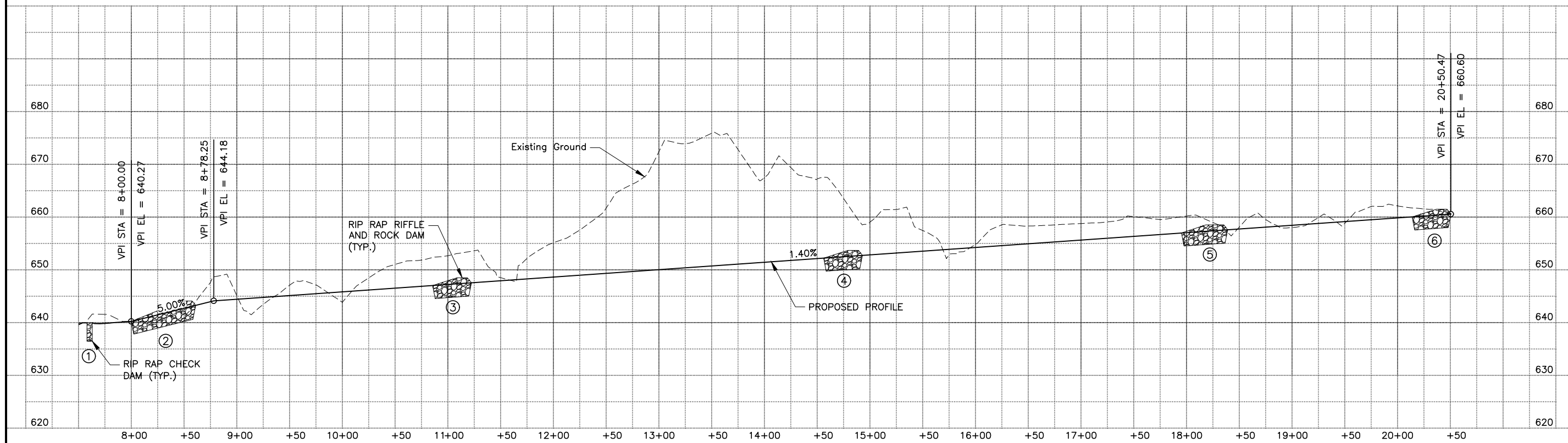
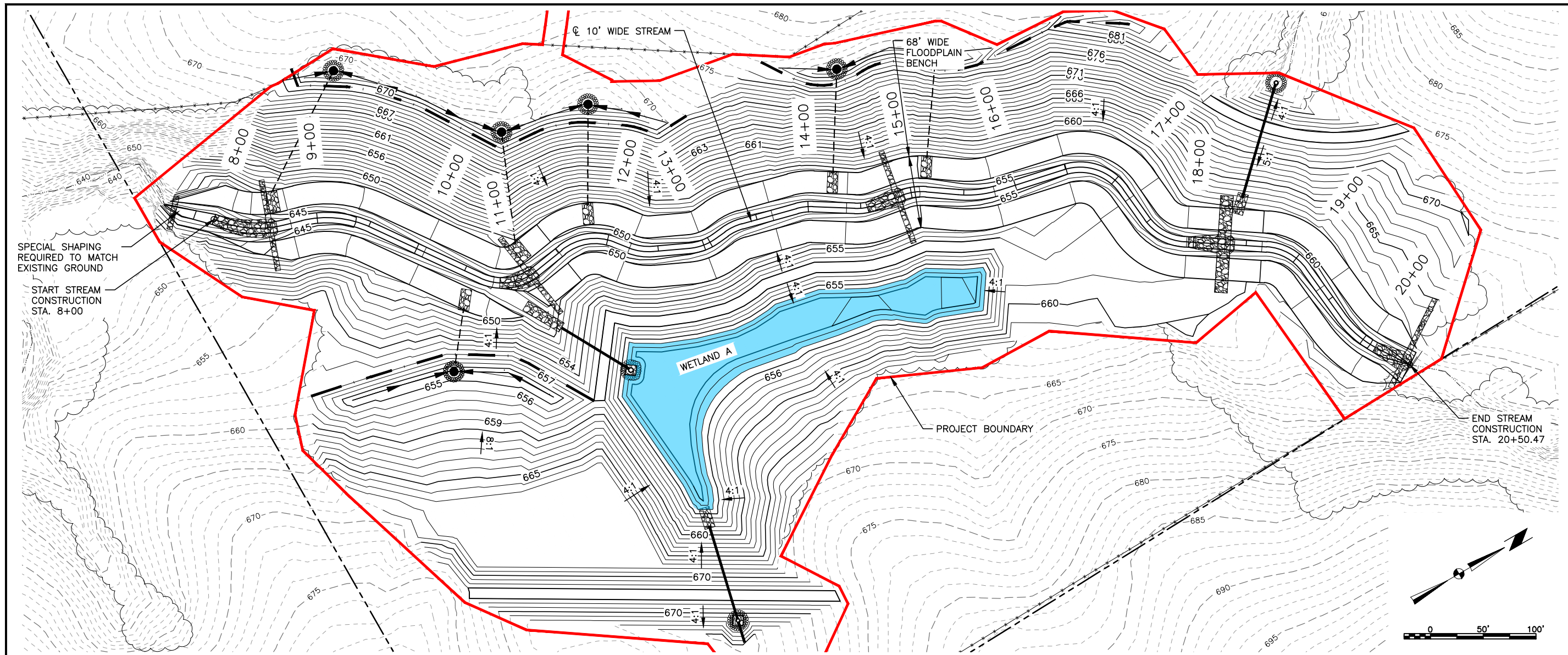
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B. CAVES AND R. CAVES AML RECLAMATION PROJECT				IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 1305 E. WALNUT ST. DES MOINES, IOWA 50319 (515) 281-4246			REVISION:	DATE:
CUT & FILL B. CAVES (IA-255)								
SHEET								
6 OF 24								



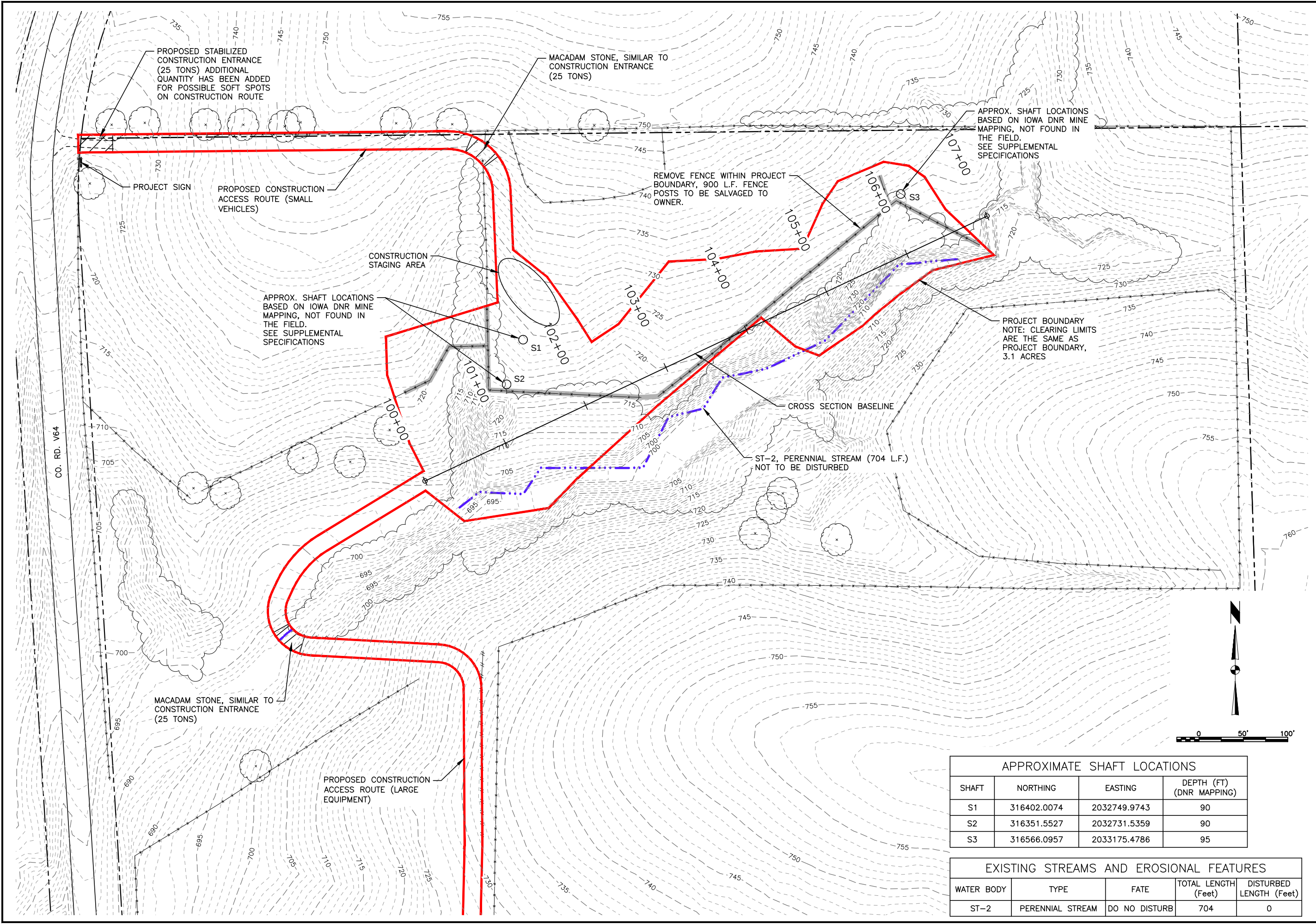
RISER ELEVATIONS				
RISER	INTAKE SIZE	TYPE	INLET ELEV.	FLOWLINE ELEVATION
R1	6"	HICKENBOTTOM	654.00	650.00
R2	36"	PPHP DROP INLET	670.50	659.00
R3	48"	PPHP DROP INLET	655.00	649.63
R4	36"	PPHP DROP INLET	665.10	660.10
R5	12"	HICKENBOTTOM	666.27	662.27
R6	12"	HICKENBOTTOM	666.98	662.98
R7	12"	HICKENBOTTOM	666.99	662.99
R8	12"	HICKENBOTTOM	673.01	669.01
R9	12"	HICKENBOTTOM	673.42	669.42

PIPE ELEVATIONS					
PIPE	SIZE	TYPE	LENGTH (FT)	FLOWLINE ELEVATION	OUTLET ELEVATION
P-1	6"	DWPE	40*	650.00	649.00
P-2A	24"	PPHP	20	665.00	665.00
P-2B	36"	PPHP	92	659.00	656.00
P-3	36"	PPHP	75	649.63	649.33
P-4	24"	PPHP	112	660.10	659.70
P-5	12"	DWPE	76*	662.27	650.70
P-6	12"	DWPE	86*	662.98	649.70
P-7	12"	DWPE	110*	662.99	645.60
P-8	12"	DWPE	80*	669.01	655.10
P-9	12"	DWPE	78*	669.42	653.84

* LENGTH DOES NOT INCLUDE THE 20' OF PVC PIPE OUTLET



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DESIGN BY: SRB		DRAWN BY: SRB	CHKD. BY: SIP	ISSUED: 10-02-24	REVISED: NONE
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HOOVER STATE OFFICE BUILDING					
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B. CAVES AND R. CAVES					
AML RECLAMATION PROJECT					
DRAINAGEWAY PLAN AND PROFILE					
B. CAVES (IA-255)					
SHEET					
8 OF 24					



APPROXIMATE SHAFT LOCATIONS			
SHAFT	NORTHING	EASTING	DEPTH (FT) (DNR MAPPING)
S1	316402.0074	2032749.9743	90
S2	316351.5527	2032731.5359	90
S3	316566.0957	2033175.4786	95

EXISTING STREAMS AND EROSIONAL FEATURES				
WATER BODY	TYPE	FATE	TOTAL LENGTH (Feet)	DISTURBED LENGTH (Feet)
ST-2	PERENNIAL STREAM	DO NO DISTURB	704	0

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CHKD. BY: SIP

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REVISED: NONE

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REVISION: DATE:

B. CAVES AND R. CAVES
AML RECLAMATION PROJECT

SITUATION PLAN
CLEARING & SITE PREPARATION
R. CAVES (IA-256)

IOWA DEPARTMENT OF AGRICULTURE
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9 OF 24