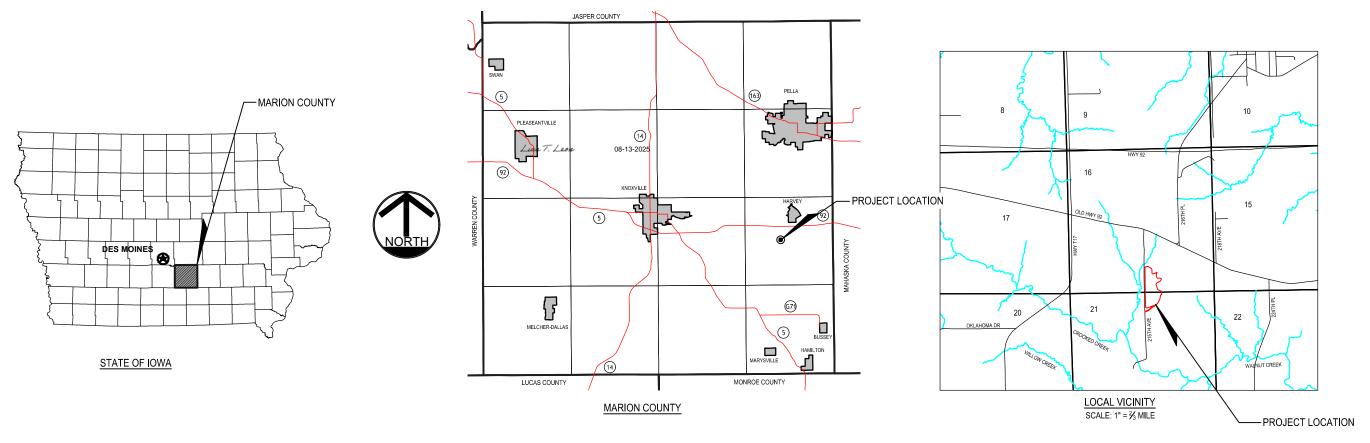
CROZIER FAMILY AML RECLAMATION PROJECT BID NO. IA-365

SE \(\frac{1}{4}\) SECTION 16 & NE \(\frac{1}{4}\) SECTION 21, TOWNSHIP 75N, RANGE 18W, MARION COUNTY, IOWA

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

U.S. DEPARTMENT OF THE INTERIOR OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT **GRANT NO: S23AF00088**



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

LT LEON ASSOCIATES, INC. 1823 OHIO STREET, SUITE 101 DES MOINES, IOWA 50314 TEL: (515) 422-7016

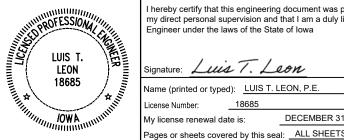
INDEX OF SHEETS:

- TITLE SHEET
- PROJECT NOTES, QUANTITIES AND LEGEND
- SITUATION PLAN CLEARING AND SITE PREPARATION
- **GRADING PLAN**
- **CUT AND FILL PLAN**
- DRAINAGE PLAN
- TYPICAL DETAILS
- **CROSS SECTIONS**
- STORMWATER POLLUTION PREVENTION PLAN
- RESTORATION AND SWPPP BMP PLAN



DISCLAIMER:

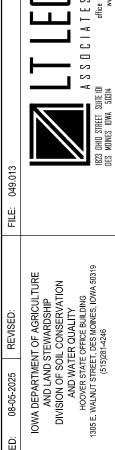
Reference to particular products, tradenames, or manufacturers is intended for clarity only and does not represent endorsement by the State of Iowa. Equivalent products or materials may be suitable, subject to the approval of the Engineer or Division.



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

Date: 08-13-2025

DECEMBER 31, 2025



CROZIER FAMILY (IA-365) AML RECLAMATION PROJECT

SHEET

GENERAL NOTES:

- REFERENCES TO "DIVISION" SHALL MEAN "DIVISION OF SOIL CONSERVATION AND WATER QUALITY".
- 2. ALL IMPROVEMENTS SHOWN ON THESE PLANS SHALL COMPLY WITH THE GENERAL CONDITIONS, STANDARDS, AND SPECIFICATIONS SET FORTH IN PROJECT DOCUMENTS. THESE INCLUDE STANDARD CONSTRUCTION SPECIFICATIONS SET FORTH BY THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY AS WELL AS THE SUPPLEMENTAL SPECIFICATIONS ESTABLISHED BY ENGINEER. SPECIFICATIONS OR STANDARDS INCORPORATED BY REFERENCE SHALL ALSO BE FOLLOWED
- 3. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DIVISION'S STANDARD SPECIFICATIONS AND THE ENGINEER'S SUPPLEMENTAL SPECIFICATIONS.
- . OWNERSHIP: THIS DOCUMENT, AND THE IDEAS AND DESIGN CONTAINED IN THIS DOCUMENT, ARE AN INSTRUMENT OF PROFESSIONAL SERVICE, AND MAY NOT BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY.
- 5. REFERENCES TO PARTICULAR PRODUCTS, TRADENAMES, OR MANUFACTURERS IS INTENDED FOR CLARITY ONLY AND DO NOT REPRESENT EXCLUSION OR ENDORSEMENT BY THE STATE OF IOWA. EQUIVALENT PRODUCTS OR MATERIALS MAY BE SUITABLE, SUBJECT TO THE APPROVAL OF THE
- 6. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND DIVISION PRIOR TO COMMENCING CONSTRUCTION.
- 7. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR
- 8. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
- 9. ALL DEBRIS AND TRASH ENCOUNTERED DURING CONSTRUCTION WITHIN THE PROJECT LIMITS, OR DIRECTED BY THE ENGINEER, SHALL BE PROPERLY DISPOSED OF ACCORDING TO THE PROJECT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBSERVE EXISTING SITE CONDITIONS AND IDENTIFY ALL DEBRIS TO BE REMOVED.
- 10. CONTRACTOR IS RESPONSIBLE FOR
- 11. REPAIR OR REPLACE DAMAGE TO EXISTING FACILITIES (TILE, UTILITIES, FENCES, ETC.) DESIGNATED TO REMAIN AT NO ADDITIONAL EXPENSE TO THE
- 12. THE CONTRACTOR SHALL KEEP ALL ROADS OPEN TO THROUGH TRAFFIC AT ALL TIMES.
- 13. NO TREES SHALL BE CLEARED BETWEEN THE DATES OF APRIL 1 TO SEPTEMBER 30.
- 14. SUBMIT MANUFACTURER'S CERTIFICATION AND MATERIAL DATA FOR ALL MATERIALS DELIVERED TO THE PROJECT SITE AS REQUIRED BY THE OWNER'S REPRESENTATIVE.

UTILITY NOTES:

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING LITILITIES AND PUBLIC ROADWAYS, INCLUDING ANY NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF ANY CONFLICTS WITH THE DRAWINGS OCCUR. ANY DAMAGE TO EXISTING UTILITIES AND/OR PAVED STREETS CAUSED BY TRENCHING AND GRADING OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE.
- 2. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, PUBLIC RECORDS, AND FIELD INVESTIGATION. THEIR LOCATIONS SHALL BE CONSIDERED TO BE APPROXIMATE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT IOWA ONE-CALL AND/OR EACH UTILITY COMPANY FOR THE FIELD LOCATION(S) OF EXISTING UTILITY LINES IN OR NEARBY THE CONSTRUCTION AREA PRIOR TO BEGINNING ANY CONSTRUCTION.
- 3. THERE MAY BE ADDITIONAL PRIVATE OR OTHER UNDERGROUND UTILITIES NOT SHOWN OR KNOWN AT THE TIME OF THE PUBLICATION OF THIS DRAWING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND LOCATION OF ANY ADDITIONAL UNDERGROUND UTILITIES NOT SHOWN ON THIS DRAWING IN ORDER TO AVOID DAMAGE THERETO.
- 4. ALL OPEN UTILITY TRENCH EXCAVATION SHALL BE PROTECTED.

ESTIMATED QUANTITIES

0				
ITEM NO.	DESCRIPTION	SPEC. SECTION	QUANTITY	UNIT
1	MOBILIZATION	02100	1	LS
2	SITE CLEARING AND PREPARATION	02100	15.7	ACRE
3	TEMPORARY EARTH DIVERSION BERM	02120	1,465	LF
4	FILTER SOCK, 12" DIA.	02120	36	LF
5	TIED CONCRETE BLOCK MAT	02120	2,100	SF
6	STABILIZED CONSTRUCTION ENTRANCE	02120	33	TON
7	MACADAM STONE	02120	47	TON
8	RIPRAP, CLASS 'E'	02120	196	TON
9	EXCAVATION	02200	124,965	CY
10	TERRACES	02300	2,950	LF
11	RISER - TERRACE, 6"	02300	1	EA
12	RISER - TERRACE, 24"	02300	2	EA
13	OPEN SIDED AREA INTAKE, 4'X4'	02300	1	EA
14	DUAL WALL HDPE PIPE, 6"	02300	191	LF
15	PPHP PIPE, 15"	02300	344	LF
16	PPHP PIPE, 18"	02300	73	LF
17	SUBGRADE PREPARATION	02400	15.4	ACRE
18	DEEP RIPPING, SUBGRADE	02400	1.7	ACRE
19	AGRICULTURAL LIME (40 TON ECCE/ACRE)	02400	616	TON ECCE
20	MULCH, SUBGRADE, (5 TONS/ACRE)	02400	15.4	ACRE
21	WETLAND UNDERCUT AND REPLACEMENT	02400	0.5	ACRE
22	WETLAND FERTILIZER, NITROGEN (N), (30 LB./ACRE)	02400	15	POUND
23	FIELD FENCE	02500	1,731	LF
24	DOUBLE 12' PANEL GATE	02500	1	EA
25	INSTALL SALVAGED 20' GATE	02500	1	EA
26	SEEDBED PREPARATION	02700	14.9	ACRE
27	NITROGEN (N), (50 LB./ACRE)	02700	745	POUND
28	PHOSPHOROUS (P), (100 LB./ACRE)	02700	1,490	POUND
29	POTASSIUM (K), (160 LB./ACRE)	02700	2,384	POUND
30	PASTURE SEEDING	02700	14.7	ACRE
31	WETLAND FRINGE SEEDING	02700	0.2	ACRE
32	MULCH, SEEDING (2 TONS/ACRE)	02700	14.9	ACRE

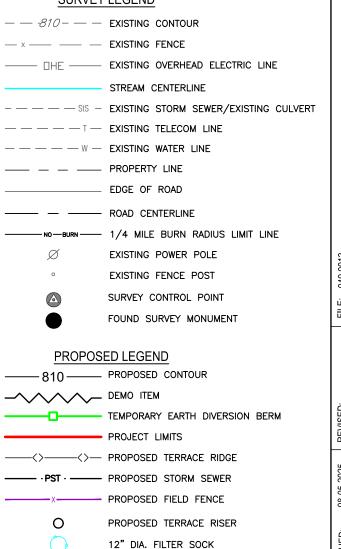
CONSTRUCTION SURVEY NOTES:

- HORIZONTAL MEASUREMENTS ARE IN U.S. FEET. THIS DRAWING IS SET TO THE NAD 1983 IOWA STATE PLANE, SOUTH ZONE COORDINATE SYSTEM.
- ELEVATION MEASUREMENTS ARE BASED UPON THE NAVD 1988 AND ARE IN U.S. FEET.
- EXISTING TOPOGRAPHY SHOWN ON THIS DRAWING WAS DEVELOPED FROM LIDAR INFORMATION BY ENGINEER AND SUPPLEMENTAL TOPOGRAPHIC SURVEY DATA. DATA WAS COLLECTED ON 2024-03-27. LOCAL CONTROL POINTS HAVE BEEN ESTABLISHED FOR THIS PROJECT. SEE SHEET 3. CONTRACTOR SHALL VERIFY SURVEY CONTROL AND EXISTING SURFACE PRIOR TO CONSTRUCTION. REFER TO SPECIFICATIONS.
- SHOULD THERE EXIST SIGNIFICANT DIFFERENCES BETWEEN THE EXISTING ELEVATIONS SHOWN ON THE DRAWINGS AND THOSE REPORTED BY THE SURVEYING EQUIPMENT, ALL CONSTRUCTION DE-WATERING THAT IS THE CONTRACTOR SHALL DIRECT THEIR SURVEYOR TO CALIBRATE THE GPS INSTRUMENTS TO THE EXISTING ELEVATIONS SHOWN.
 - 5. REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA.

PROJECT CONSTRUCTION NOTES:

- 1. QUANTITIES OF FERTILIZER AND LIME ARE ESTIMATED FOR BIDDING PURPOSES. ACTUAL QUANTITIES APPLIED WILL BE DETERMINED BY SOIL TESTS.
- 2. CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY LAYOUT AND CONTROL REQUIRED TO COMPLETE ALL WORK.
- 3. A SHRINKAGE FACTOR OF 15% WAS ESTIMATED FOR THIS PROJECT. THE CONTRACTOR SHALL MAKE CHANGES IN EARTHWORK AS NEEDED TO ADJUST FOR INACCURACIES INHERENT WITH ESTIMATING THE SHRINKAGE FACTOR. THESE CHANGES SHALL ONLY BE MADE AFTER CONSULTATION AND APPROVAL BY THE ENGINEER AND DIVISION. NO ADDITIONAL COMPENSATION SHALL BE GIVEN FOR ANY GRADE ADJUSTMENTS DUE TO DEVIATIONS OF SHRINKAGE FACTOR.
- 4. THE CONTRACTOR IS REQUIRED TO CONSTRUCT THE RECLAMATION SURFACE AS DEPICTED ON THE PLANS. SITE GRADING SHALL BE COMPLETED TO ± 0.3 FEET OF DESIGN ELEVATIONS. THE CONTRACTOR SHALL PROVIDE A GRADE CHECKER FOR SLOPE STAKING AND OFFSETS. THE USE OF GPS MACHINE MOUNTED GRADE CONTROL EQUIPMENT FOR FINISH GRADING IS RECOMMENDED. CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADE.
- 5. BEYOND THE PROJECT LIMITS. NO WORK SHALL BE PERFORMED WITHOUT PRIOR AUTHORIZATION FROM THE DIVISION.
- 6. ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ACCESS OFF OF 215TH AVE AS SHOWN ON THE PLANS. BEFORE THE CLOSE OF THE PROJECT, THE CONTRACTOR SHALL REPAIR THE ACCESS ROAD TO ITS EXISTING CONDITION AND SEED THE AREA. QUANTITIES OF THE PERMANENT SEEDING ARE ESTIMATED FOR BIDDING PURPOSES AND INCLUDE THE SITE ACCESS AS SHOWN ON THE PLANS. IF THE CONTRACTOR REQUIRES ADDITIONAL SITE ACCESS, APPROVAL FROM THE ENGINEER AND DIVISION IS

SURVEY LEGEND



UTILITY CONTACTS

RIPRAP OR MACADAM STONE

TIED CONCRETE BLOCK MAT

WETLAND FRINGE MIX SEEDING

CONSTRUCTED WETLAND

PASTURE MIX SEEDING

STAGING AREA

ONE CALL 1-800-292-8989

INTERNET, CARLE, TELEPHONES WINDSTREAM COMMUNICATIONS 3540 SW 61ST STREET DES MOINES, IA 50321 (800)289-1901

FLECTRIC: MIDAMERICAN 2411 N MARKET STREET OSKALOOSA, IA 52577 (515)281-2989

GAS: KINDER MORGAN 1616 165TH AVE KNOXVILLE, IA 50138 (641)842-5091 WATER:

MARION COUNTY RURAL WATER DISTRICT 1921 W BELL AVE KNOXVILLE, IA 50138 (641)842-3304

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 305 E. WALNUT STREET, DES MOINES, 10WA 50319 OWA

ت

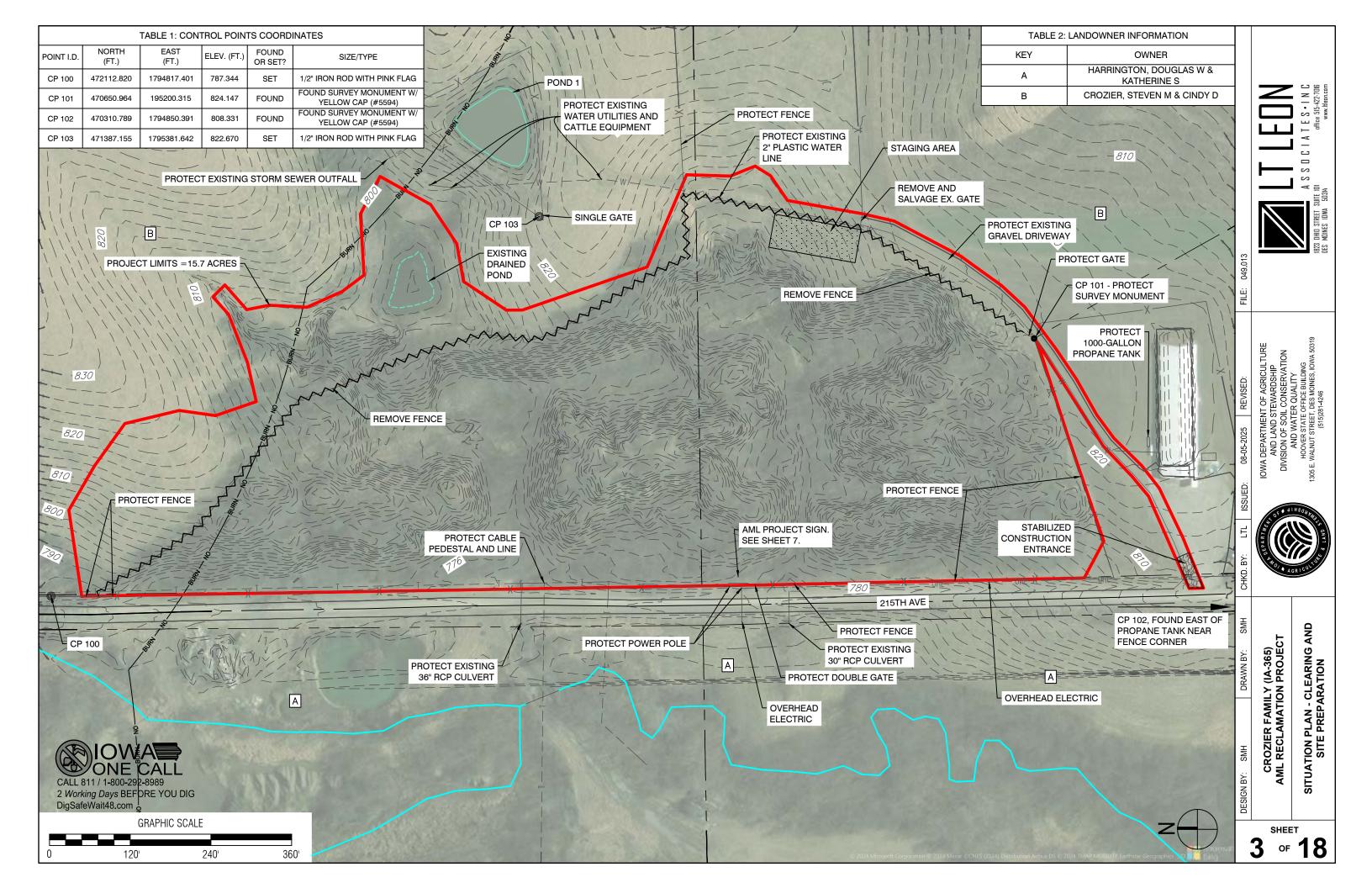
 \Box

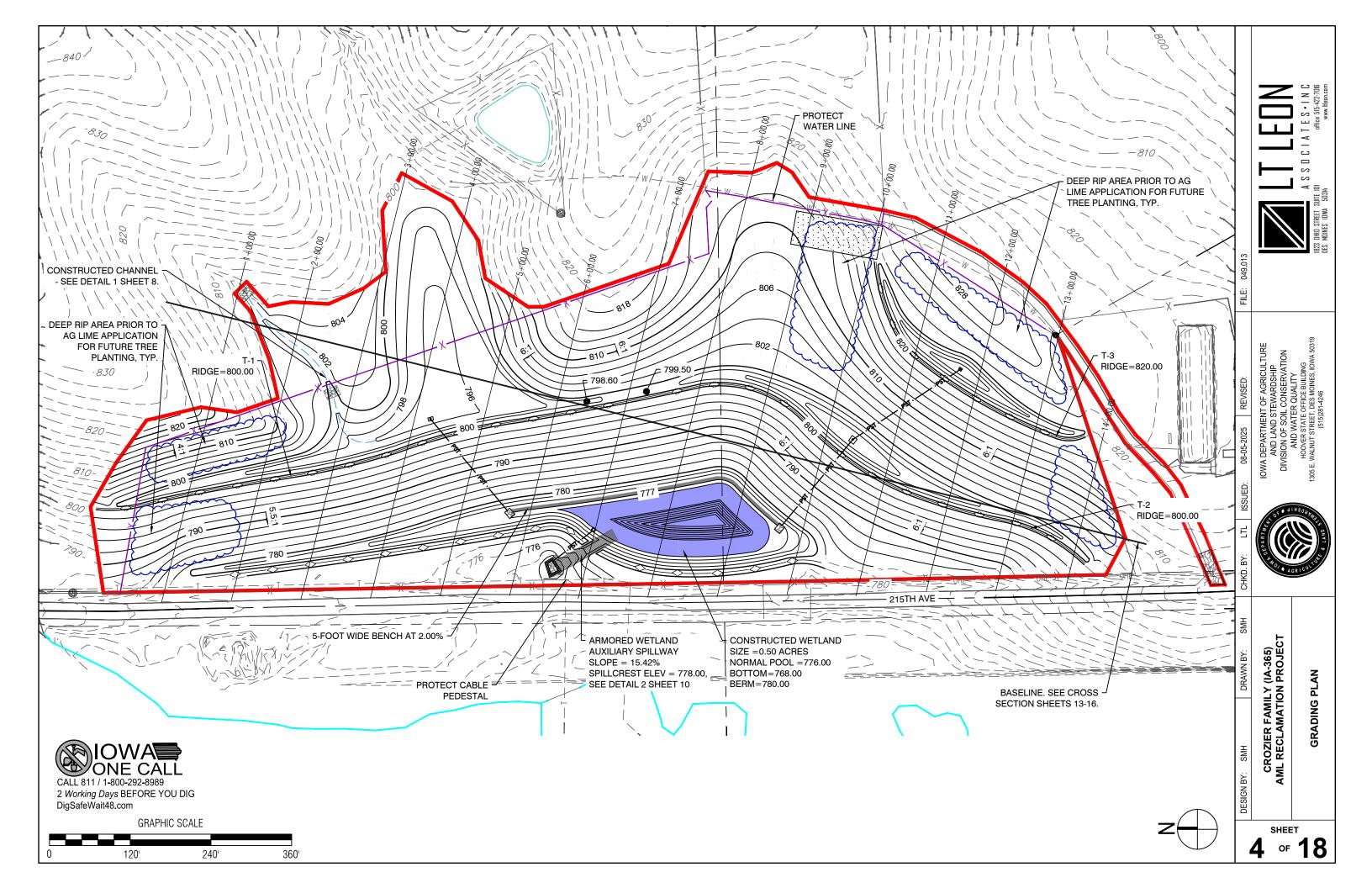
[2]

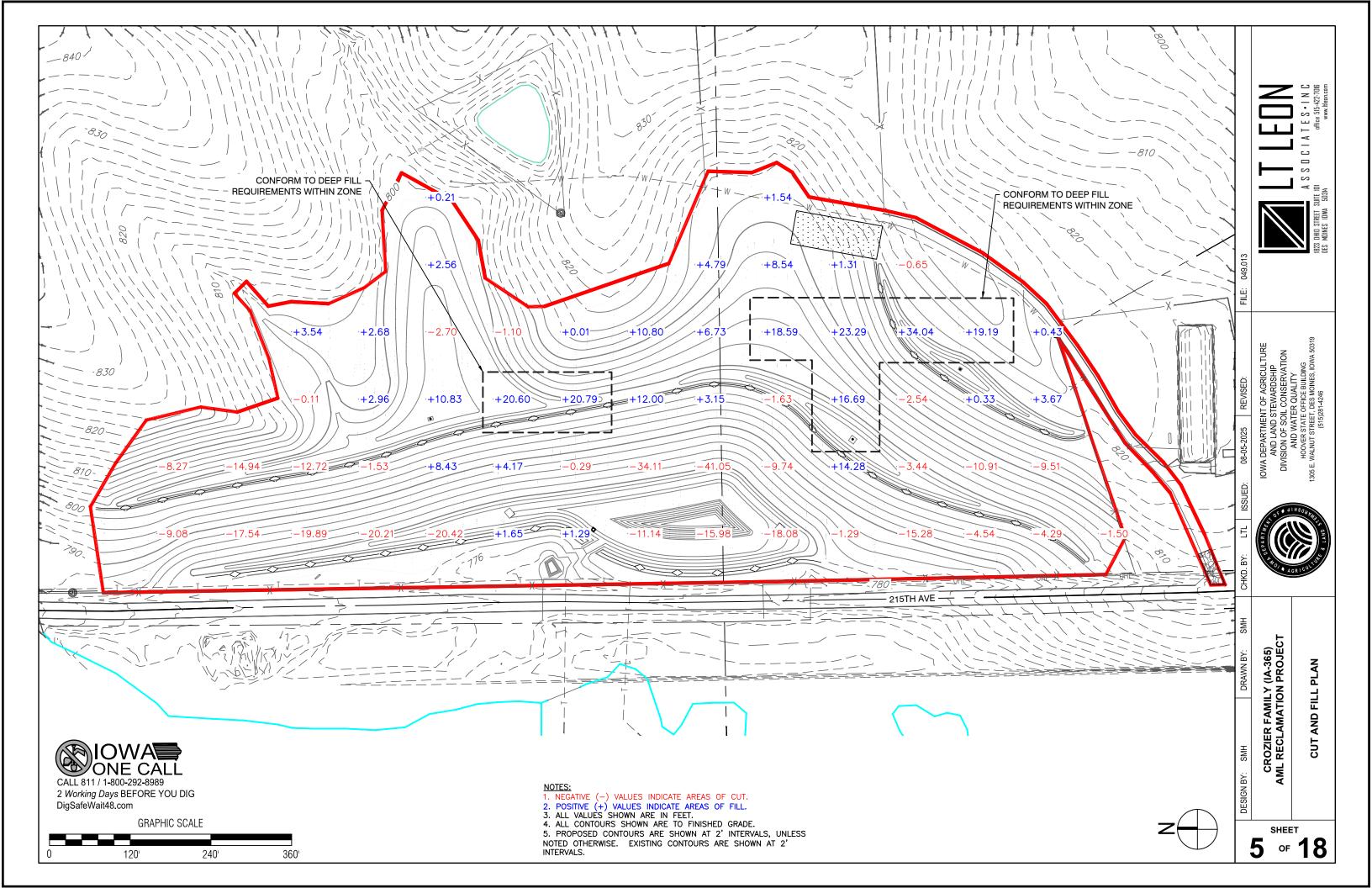
(IA-365) PROJECT , QUANTITIES ,

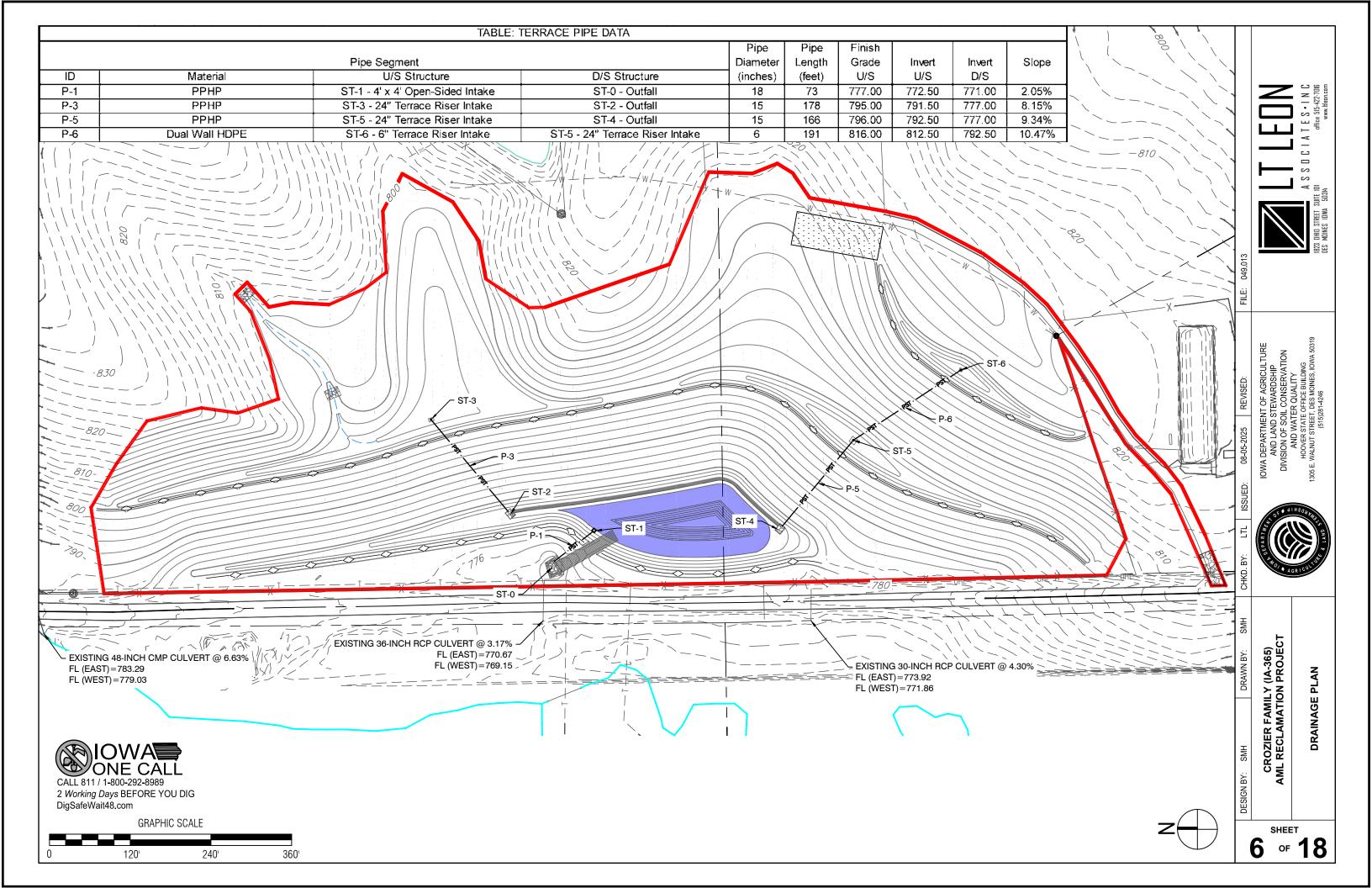
CROZIER FAMILY ML RECLAMATION PROJECT NOTES, LEGI

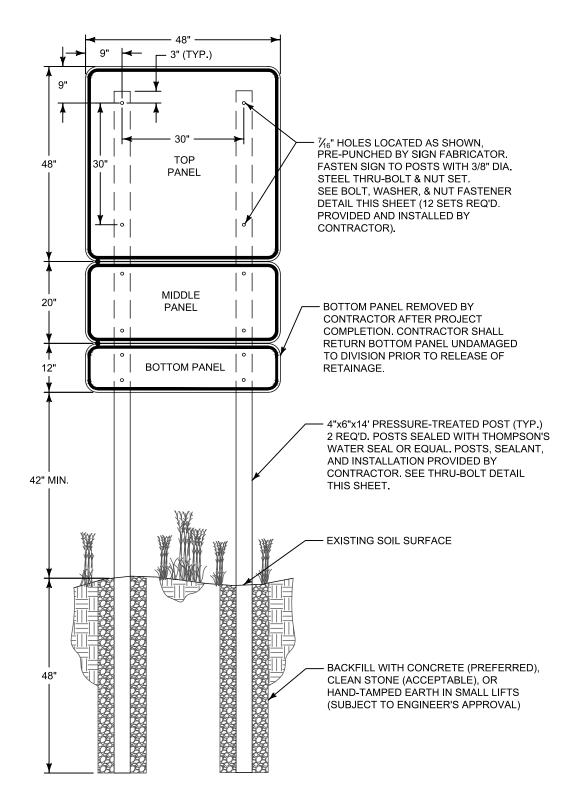
SHEET OF











TOP PANEL (4' x 4') 0.080" ALUMINUM SUBSTRATE



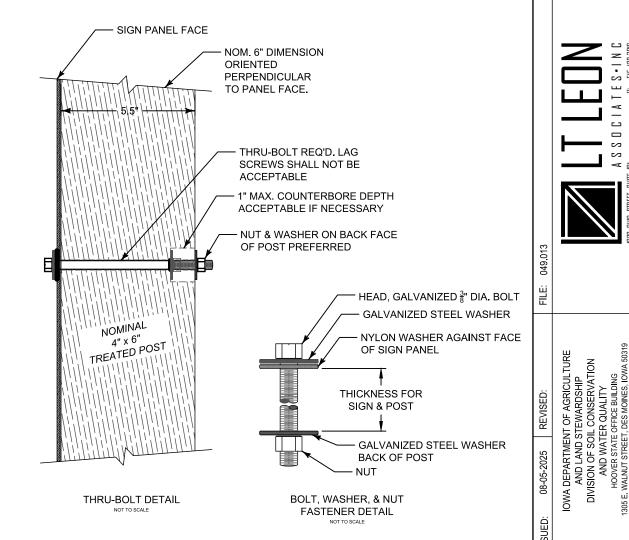
MIDDLE PANEL (1'-8" x 4') 0.080" ALUMINUM SUBSTRATE

PARTNERSHIP SIGN (BY OTHERS)

BOTTOM PANEL (1' x 4') 0.080" ALUMINUM SUBSTRATE

--- HARD HAT AREA ---UNAUTHORIZED ENTRY PROHIBITED

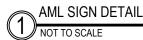
** LETTER WIDTH = 75% OF THE LETTER HEIGHT



SIGNAGE NOTES:

- 1. DIVISION WILL FURNISH TOP AND BOTTOM SIGN PANELS. MIDDLE PANEL PROVIDED BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING POSTS, HARDWARE, AND INSTALLATION FOR ALL PANELS.
- 2. ALL EXPOSED WOOD SHALL BE SEALED WITH THOMPSON'S WATER SEAL OR EQUAL MEETING ASTM D-4446-08.
- 3. ALL STEEL HARDWARE PIECES SHALL BE GALVANIZED.
- 4. NYLON AND STEEL WASHERS SHALL BE USED AS SHOWN ON THE BOLT, WASHER, NUT FASTENER DETAIL ABOVE.
- 5. CLEAR UTILITIES WITH IOWA ONE-CALL (800) 292-8989 BEFORE EXCAVATING FOR POSTS.
- 6. SECURE APPROVAL OF DIVISION AND ENGINEER FOR SIGN LOCATION BEFORE INSTALLATION.
- 7. COSTS FOR POSTS, HARDWARE, WOOD SEALANT AND SIGN INSTALLATION SHALL BE INCIDENTAL TO MOBILIZATION.
- 8. CONTRACTOR SHALL INSTALL SIGN POSTS USING A PLYWOOD OR OTHER SUITABLE TEMPLATE TO MAINTAIN ACCURATE POST SPACING AND ALIGNMENT DURING BACKFILLING OF THE POST HOLES. TO AVOID BENDING OF THE SIGN PANELS, POSTS SHALL NOT BE INSTALLED OR BACKFILLED WITH SIGN PANELS ATTACHED.
- 9. ONE (1) PROJECT SIGN IS REQUIRED, LOCATED AS SHOWN ON PLANS.

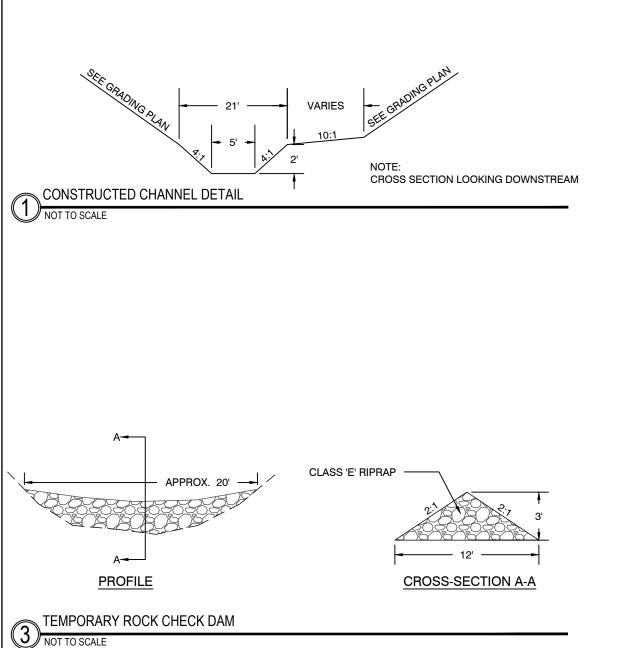
ERSION DATE: 03-27-2025

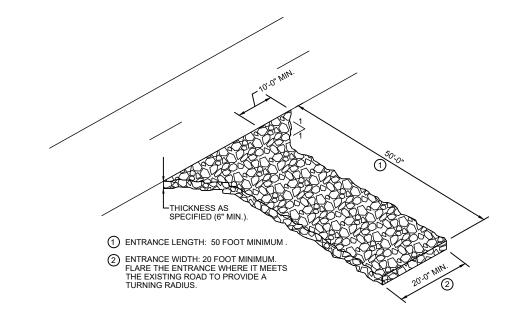


SHEET OF

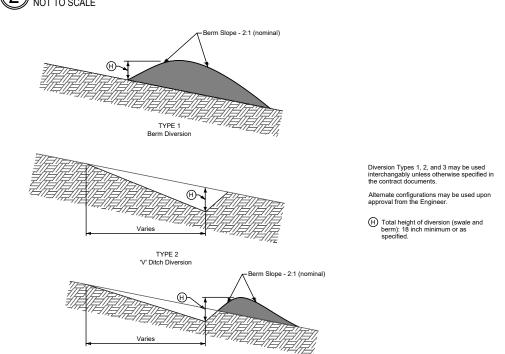
CROZIER FAMILY (IA-365) ML RECLAMATION PROJECT

TYPICAL DETAILS





STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



TEMPORARY EARTH DIVERSION STRUCTURE DETAIL

TYPE 3 Ditch/Berm Diversion

NOT TO SCALE

CROZIER FAMILY (IA-365)
AML RECLAMATION PROJECT
TYPICAL DETAILS

SHEET

of 18