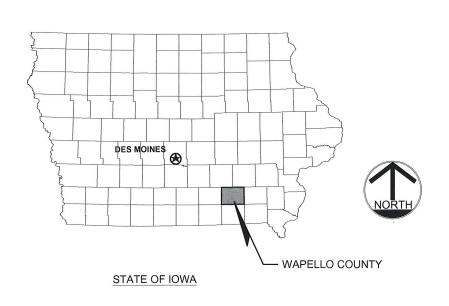
# TAYLOR (IA-166) **AML RECLAMATION PROJECT**

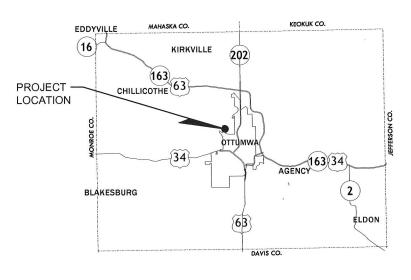
SW1/4 SECTION 11, IN TOWNSHIP 72N, RANGE 14W, WAPELLO COUNTY

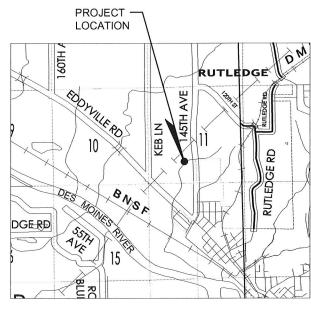
# IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY

**FUNDED BY:** U.S. DEPARTMENT OF THE INTERIOR

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT **GRANT NO: S25AF00144** 







LOCAL VICINITY

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WAPELLO COUNTY

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hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional

Pages or sheets covered by this seal: ENTIRE DOCUMENT

DECEMBER 31, ZOZL

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

FRENCH-RENEKER ASSOCIATES

AML RECLAMATION PROJECT

TAYLOR,

SHEET

### **GENERAL NOTES:**

- 1. ALL IMPROVEMENTS SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE GENERAL CONDITIONS, STANDARDS, AND SPECIFICATIONS SET FORTH IN THE PROJECT DOCUMENTS. THESE INCLUDE STANDARD CONSTRUCTION SPECIFICATIONS SET FORTH BY THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY (DIVISION) AS WELL AS THE SUPPLEMENTAL SPECIFICATIONS ESTABLISHED BY THE ENGINEER. SPECIFICATIONS AND STANDARDS INCORPORATED BY REFERENCE SHALL ALSO BE FOLLOWED.
- 2. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DIVISION'S STANDARD SPECIFICATIONS AND THE ENGINEER'S SUPPLEMENTAL
- 3. 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.
- 4. REFERENCES TO PARTICULAR PRODUCTS, TRADENAMES, OR MANUFACTURERS ARE 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 ENGINEER AND DIVISION.
- 5. THE CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND THE WAPELLO COUNTY ENGINEER PRIOR TO COMMENCING CONSTRUCTION.

### **UTILITY NOTES:**

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES 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 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 FOR FIELD LOCATING EXISTING UTILITY LINES IN AND 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. THE CONTRACTOR SHALL EXERCISE PROPER CAUTION TO PROTECT EXISTING UTILITY IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE THERETO AT NO ADDITIONAL EXPENSE TO THE OWNER OR DIVISION.

### **SURVEYING NOTES:**

- 1. THIS DRAWING IS SET TO HORIZONTAL COORDINATES OF NAD 1983, IOWA STATE PLANE, SOUTH ZONE SYSTEM IN U.S. SURVEY FEET. ELEVATIONS CORRESPOND TO NAVD 1988 DATUM IN U.S. FEET.
- 2. EXISTING TOPOGRAPHY SHOWN ON THIS DRAWING WAS DEVELOPED WITH STATEWIDE LIDAR DATA AND SUPPLEMENTED WITH TOPOGRAPHIC SURVEY DATA COLLECTED BY FRENCH-RENEKER-ASSOCIATES ON DECEMBER 14, 2023.
- 3. FIVE LOCAL CONTROL POINTS HAVE BEEN ESTABLISHED FOR THIS PROJECT AS SHOWN ON SHEET 3.
- 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.

# PROJECT NOTES

ITEM		TABLE: ESTIMATED QUANTITIES			
2         TRAFFIC CONTROL         6-10         1         L.S.           3         SITE CLEARING & PREPARATION         02100         9.0         ACRE           4         APPROVED SEDIMENT CONTROL MEASURES         02120         800         S.Y.           5         RECP, TYPE 1.D         02120         800         S.Y.           6         EXCAVATION         02200         18,094         C.Y.           7         UNDERCUT EXCAVATION, EARTH DAM         02220         2,025         C.Y.           8         IMPERVIOUS FILL, EARTH DAM         02220         7,224         C.Y.           9         RISER - TERRACE, 6"         02300         3         EACH           10         RISER - TERRACE, 8"         02300         3         EACH           11         PIPE - 8" NON-PERFORATED DWPE         02300         396         L.F.           12         PIPE - 8" NON-PERFORATED DWPE         02300         35         L.F.           13         PIPE - 24" DIA., PPHP         02300         3         EACH           14         PIPE OUTLET - 6" PVC         02300         3         EACH           15         PIPE OUTLET - 6" PVC         02300         1         EACH           16<	—	ITEM		QTY.	UNITS
3 SITE CLEARING & PREPARATION   02100   9.0   ACRE	1	MOBILIZATION	02100	1	L.S.
4 APPROVED SEDIMENT CONTROL MEASURES  5 RECP, TYPE 1.D  6 EXCAVATION  7 UNDERCUT EXCAVATION, EARTH DAM  02220  800  S.Y.  6 EXCAVATION  7 UNDERCUT EXCAVATION, EARTH DAM  02220  7,224  C.Y.  8 IMPERVIOUS FILL, EARTH DAM  02220  7,224  C.Y.  9 RISER - TERRACE, 6"  02300  1 EACH  10 RISER - TERRACE, 8"  02300  10 EACH  11 PIPE - 6" NON-PERFORATED DWPE  11 PIPE - 8" NON-PERFORATED DWPE  12 PIPE - 8" NON-PERFORATED DWPE  13 PIPE - 24" DIA., PPHP  14 PIPE OUTLET - 6" PVC  15 PIPE OUTLET - 6" PVC  16 PIPE APRON - 24" DIA. RCP  17 QUARRIED STONE - MACADAM STONE BASE  18 QUARRIED STONE - MACADAM STONE BASE  19 RISER - 72" DIA. PIPE, SRPE  10 QUARNIED STONE - RIPRAP, CLASS E  10 QUARNIED STONE - RIPRAP, EASS E  10 QUARNIED STONE - RIPRAP, EASS E  10 QUARNIED STONE - MACADAM STONE BASE  10 QUARNIED STONE - MACADAM STONE BASE  11 PIPE - 12" DIA. PIPE, SRPE  12 PIPE - 12" DIA. PIPE, SRPE  13 SUBGRADE PREPARATION  14 AGRICULTURAL LIME  15 SUBGRADE PREPARATION  16 WETLAND FERRILIZER (30 LBS/AC)  17 WETLAND UNDERCUT AND REPLACEMENT  18 WETLAND FERRERATION  19 ROAD STONE SEEDING  10 ROAD STONE SEEDING  10 ROAD STONE SEEDING  10 CACRE  11 OCATOR  12 OCATOR  12 OCATOR  13 ON TOROGEN (1) OCATOR  14 AGRICULTURAL LIME  15 PIPE - 12" DIA. PIPE, SRPE  16 QUARNIED STONE SASE  17 OCATOR  18 OCATOR  19 RISER - 72" DIA. PIPE, SRPE  19 OCATOR  10 CACRE  20 SEEDBED PREPARATION  10 OCATOR  21 OCATOR  22 OCATOR  23 OCATOR  24 OCATOR  25 OCATOR  26 WETLAND UNDERCUT AND REPLACEMENT  10 OCATOR  26 WETLAND UNDERCUT AND REPLACEMENT  10 OCATOR  27 OCATOR  28 WETLAND UNDERCUT AND REPLACEMENT  10 OCATOR  29 SEEDBED PREPARATION  10 OCATOR  20 TACSSIUM (K) (200 LBS/AC)  21 PHOSPHORUS (P) (100 LBS/AC)  22 OCATOR  23 OCATOR  26 WETLAND FRINGE SEEDING  27 OCATOR  27 OCATOR	2	TRAFFIC CONTROL	6-10	1	L.S.
5         RECP, TYPE 1.D         02120         800         S.Y.           6         EXCAVATION         02200         18,094         C.Y.           7         UNDERCUT EXCAVATION, EARTH DAM         02220         2,025         C.Y.           8         IMPERVIOUS FILL, EARTH DAM         02220         7,224         C.Y.           9         RISER - TERRACE, 6"         02300         3         EACH           10         RISER - TERRACE, 8"         02300         1         EACH           11         PIPE - 6" NON-PERFORATED DWPE         02300         396         L.F.           12         PIPE - 8" NON-PERFORATED DWPE         02300         132         L.F.           12         PIPE - 6" NON-PERFORATED DWPE         02300         155         L.F.           14         PIPE - 6" NON-PERFORATED DWPE         02300         15         L.F.           14         PIPE - 6" NON-PERFORATED DWPE         02300         15         L.F.           14         PIPE - 6" NON-PERFORATED DWPE         02300         15         L.F.           14         PIPE - 6" VC         02300         3         EACH           15         PIPE - 8" VC         02300         1         EACH	3	SITE CLEARING & PREPARATION	02100	9.0	ACRE
6         EXCAVATION         02200         18,094         C.Y.           7         UNDERCUT EXCAVATION, EARTH DAM         02220         2,025         C.Y.           8         IMPERVIOUS FILL, EARTH DAM         02220         7,224         C.Y.           9         RISER – TERRACE, 6"         02300         3         EACH           10         RISER – TERRACE, 8"         02300         1         EACH           11         PIPE – 6" NON-PERFORATED DWPE         02300         396         L.F.           12         PIPE – 8" NON-PERFORATED DWPE         02300         132         L.F.           13         PIPE – 24" DIA., PPHP         02300         55         L.F.           14         PIPE – 08" NON-PERFORATED DWPE         02300         3         EACH           15         PIPE – 24" DIA., PPHP         02300         3         EACH           15         PIPE – 0"LILET – 6" PVC         02300         3         EACH           15         PIPE OUTLET – 8" PVC         02300         1         EACH           16         PIPE APRON – 24" DIA. RCP         02300         2         EACH           17         QUARRIED STONE – RIPRAP, CLASS E         02120         265         TON	4	APPROVED SEDIMENT CONTROL MEASURES	02120	725	L.F.
7         UNDERCUT EXCAVATION, EARTH DAM         02220         2,025         C.Y.           8         IMPERVIOUS FILL, EARTH DAM         02220         7,224         C.Y.           9         RISER - TERRACE, 6"         02300         3         EACH           10         RISER - TERRACE, 8"         02300         1         EACH           11         PIPE - 6" NON-PERFORATED DWPE         02300         396         L.F.           12         PIPE - 8" NON-PERFORATED DWPE         02300         396         L.F.           13         PIPE - 24" DIA., PPHP         02300         55         L.F.           14         PIPE OUTLET - 6" PVC         02300         3         EACH           15         PIPE OUTLET - 8" PVC         02300         1         EACH           16         PIPE APRON - 24" DIA. RCP         02300         2         EACH           17         QUARRIED STONE - MACADAM STONE BASE         02120         265         TON           18         QUARRIED STONE - RIPRAP, CLASS E         02120         908         TON           19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1 <td< td=""><td>5</td><td>RECP, TYPE 1.D</td><td>02120</td><td>800</td><td>S.Y.</td></td<>	5	RECP, TYPE 1.D	02120	800	S.Y.
8         IMPERVIOUS FILL, EARTH DAM         02220         7,224         C.Y.           9         RISER – TERRACE, 6"         02300         3         EACH           10         RISER – TERRACE, 8"         02300         1         EACH           11         PIPE – 6" NON-PERFORATED DWPE         02300         396         L.F.           12         PIPE – 8" NON-PERFORATED DWPE         02300         396         L.F.           13         PIPE – 8" NON-PERFORATED DWPE         02300         132         L.F.           13         PIPE – 8" NON-PERFORATED DWPE         02300         132         L.F.           14         PIPE – 8" NON-PERFORATED DWPE         02300         155         L.F.           14         PIPE – 8" NON-PERFORATED DWPE         02300         3         EACH           15         PIPE – 9" NON-PERFORATED DWPE         02300         3         EACH           15         PIPE – 9" PIPE         02300         3         EACH           16         PIPE APRON – 24" DIA. RCP         02300         2         EACH           17         QUARRIED STONE – RIPRAP, CLASS E         02120         265         TON           18         QUARRIED STONE – RIPRAP, CLASS E         02120         908 <td>6</td> <td>EXCAVATION</td> <td>02200</td> <td>18,094</td> <td>C.Y.</td>	6	EXCAVATION	02200	18,094	C.Y.
9 RISER - TERRACE, 6" 10 RISER - TERRACE, 8" 11 PIPE - 6" NON-PERFORATED DWPE 11 PIPE - 8" NON-PERFORATED DWPE 12 PIPE - 8" NON-PERFORATED DWPE 13 PIPE - 24" DIA., PPHP 14 PIPE OUTLET - 6" PVC 15 PIPE OUTLET - 6" PVC 16 PIPE APRON - 24" DIA. RCP 17 QUARRIED STONE - MACADAM STONE BASE 18 QUARRIED STONE - RIPRAP, CLASS E 19 RISER - 72" DIA. PIPE, SRPE 20 CTRASH RACK - 72" DIA. RISER 21 PIPE - 12" DIA. PIPE, SRPE 22 PIPE - 48" DIA. PIPE, SRPE 23 SUBGRADE PREPARATION 24 AGRICULTURAL LIME 25 MULCH, SUBGRADE (5 TON/AC) 26 WETLAND WILCH, SUBGRADE (10 TON/ACRE) 27 POLY SIED POLY DIA. PIPE, SRPE 30 SUBGRADE PREPARATION 30 CHARDA PREPARATION 30 CARDA PREPARATION 30 CARDA PREPARATION 30 CARDA PREPARATION 30 CARDA PREPARATION 31 WETLAND UNDERCUT AND REPLACEMENT 32 SEEDBED PREPARATION 32 POTASSIUM (K) (200 LBS/AC) 33 UPLAND SEEDING 34 WETLAND FRINGE SEEDING 35 WETLAND FRINGE SEEDING 36 WETLAND FRINGE SEEDING 37 ON CREE 38 WETLAND FRINGE SEEDING 38 WETLAND FRINGE SEEDING 39 CARDA POUND 30 CARDA POUND 30 CARDA POUND 31 UPLAND SEEDING	7	UNDERCUT EXCAVATION, EARTH DAM	02220	2,025	C.Y.
10       RISER - TERRACE, 8"       02300       1       EACH         11       PIPE - 6" NON-PERFORATED DWPE       02300       396       L.F.         12       PIPE - 8" NON-PERFORATED DWPE       02300       132       L.F.         13       PIPE - 24" DIA., PPHP       02300       55       L.F.         14       PIPE OUTLET - 6" PVC       02300       3       EACH         15       PIPE OUTLET - 8" PVC       02300       1       EACH         16       PIPE APRON - 24" DIA. RCP       02300       2       EACH         17       QUARRIED STONE - MACADAM STONE BASE       02120       265       TON         18       QUARRIED STONE - RIPRAP, CLASS E       02120       908       TON         19       RISER - 72" DIA. PIPE, SRPE       02310       1       EACH         20       TRASH RACK - 72" DIA. RISER       02310       1       EACH         21       PIPE - 12" DIA. PIPE, PE       02310       20       L.F.         22       PIPE - 48" DIA. PIPE, SRPE       02310       126       L.F.         23       SUBGRADE PREPARATION       02400       8.7       ACRE         24       AGRICULTURAL LIME       02400       392       TON	8	IMPERVIOUS FILL, EARTH DAM	02220	7,224	C.Y.
11         PIPE - 6" NON-PERFORATED DWPE         02300         396         L.F.           12         PIPE - 8" NON-PERFORATED DWPE         02300         132         L.F.           13         PIPE - 24" DIA., PPHP         02300         55         L.F.           14         PIPE - 24" DIA., PPHP         02300         3         EACH           15         PIPE OUTLET - 6" PVC         02300         3         EACH           16         PIPE OUTLET - 8" PVC         02300         1         EACH           16         PIPE APRON - 24" DIA. RCP         02300         2         EACH           17         QUARRIED STONE - MACADAM STONE BASE         02120         265         TON           18         QUARRIED STONE - RIPRAP, CLASS E         02120         908         TON           19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1         EACH           21         PIPE - 12" DIA. PIPE, SRPE         02310         20         L.F.           22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7	9	RISER - TERRACE, 6"	02300	3	EACH
12       PIPE - 8" NON-PERFORATED DWPE       02300       132       L.F.         13       PIPE - 24" DIA., PPHP       02300       55       L.F.         14       PIPE OUTLET - 6" PVC       02300       3       EACH         15       PIPE OUTLET - 8" PVC       02300       1       EACH         16       PIPE APRON - 24" DIA. RCP       02300       2       EACH         17       QUARRIED STONE - MACADAM STONE BASE       02120       265       TON         18       QUARRIED STONE - MACADAM STONE BASE       02120       908       TON         19       RISER - 72" DIA. PIPE, SRPE       02310       1       EACH         20       TRASH RACK - 72" DIA. RISER       02310       1       EACH         21       PIPE - 12" DIA. PIPE, SRPE       02310       20       L.F.         22       PIPE - 48" DIA. PIPE, SRPE       02310       126       L.F.         23       SUBGRADE PREPARATION       02400       8.7       ACRE         24       AGRICULTURAL LIME       02400       392       TON (ECCE)         25       MULCH, SUBGRADE (5 TON/AC)       02400       30       POUND         27       WETLAND FERTILIZER (30 LBS/AC)       02400       30	10	RISER - TERRACE, 8"	02300	1	EACH
13       PIPE - 24" DIA., PPHP       02300       55       L.F.         14       PIPE OUTLET - 6" PVC       02300       3       EACH         15       PIPE OUTLET - 8" PVC       02300       1       EACH         16       PIPE APRON - 24" DIA. RCP       02300       2       EACH         17       QUARRIED STONE - MACADAM STONE BASE       02120       265       TON         18       QUARRIED STONE - RIPRAP, CLASS E       02120       908       TON         19       RISER - 72" DIA. PIPE, SRPE       02310       1       EACH         20       TRASH RACK - 72" DIA. RISER       02310       1       EACH         21       PIPE - 12" DIA. PIPE, SRPE       02310       20       L.F.         22       PIPE - 48" DIA. PIPE, SRPE       02310       126       L.F.         23       SUBGRADE PREPARATION       02400       8.7       ACRE         24       AGRICULTURAL LIME       02400       392       TON (ECCE)         25       MULCH, SUBGRADE (5 TON/AC)       02400       8.7       ACRE         26       WETLAND FERTILIZER (30 LBS/AC)       02400       30       POUND         27       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02400       <	11	PIPE - 6" NON-PERFORATED DWPE	02300	396	L.F.
14       PIPE OUTLET - 6" PVC       02300       3       EACH         15       PIPE OUTLET - 8" PVC       02300       1       EACH         16       PIPE APRON - 24" DIA. RCP       02300       2       EACH         17       QUARRIED STONE - MACADAM STONE BASE       02120       265       TON         18       QUARRIED STONE - RIPRAP, CLASS E       02120       908       TON         19       RISER - 72" DIA. PIPE, SRPE       02310       1       EACH         20       TRASH RACK - 72" DIA. RISER       02310       1       EACH         21       PIPE - 12" DIA. PIPE, PE       02310       20       L.F.         22       PIPE - 48" DIA. PIPE, SRPE       02310       126       L.F.         23       SUBGRADE PREPARATION       02400       8.7       ACRE         24       AGRICULTURAL LIME       02400       392       TON (ECCE)         25       MULCH, SUBGRADE (5 TON/AC)       02400       8.7       ACRE         26       WETLAND FERTILLIZER (30 LBS/AC)       02400       30       POUND         27       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02400       0.5       ACRE         28       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02	12	PIPE - 8" NON-PERFORATED DWPE	02300	132	L.F.
15         PIPE OUTLET - 8" PVC         02300         1         EACH           16         PIPE APRON - 24" DIA. RCP         02300         2         EACH           17         QUARRIED STONE - MACADAM STONE BASE         02120         265         TON           18         QUARRIED STONE - RIPRAP, CLASS E         02120         908         TON           19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1         EACH           21         PIPE - 12" DIA. PIPE, PE         02310         20         L.F.           22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND EFRTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400 <td>13</td> <td>PIPE - 24" DIA., PPHP</td> <td>02300</td> <td>55</td> <td>L.F.</td>	13	PIPE - 24" DIA., PPHP	02300	55	L.F.
16         PIPE APRON - 24" DIA. RCP         02300         2         EACH           17         QUARRIED STONE - MACADAM STONE BASE         02120         265         TON           18         QUARRIED STONE - RIPRAP, CLASS E         02120         908         TON           19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1         EACH           21         PIPE - 12" DIA. PIPE, PE         02310         20         L.F.           22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700 </td <td>14</td> <td>PIPE OUTLET - 6" PVC</td> <td>02300</td> <td>3</td> <td>EACH</td>	14	PIPE OUTLET - 6" PVC	02300	3	EACH
17         QUARRIED STONE - MACADAM STONE BASE         02120         265         TON           18         QUARRIED STONE - RIPRAP, CLASS E         02120         908         TON           19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1         EACH           21         PIPE - 12" DIA. PIPE, PE         02310         20         L.F.           22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700	15	PIPE OUTLET - 8" PVC	02300	1	EACH
18         QUARRIED STONE - RIPRAP, CLASS E         02120         908         TON           19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1         EACH           21         PIPE - 12" DIA. PIPE, PE         02310         20         L.F.           22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700	16	PIPE APRON - 24" DIA. RCP	02300	2	EACH
19         RISER - 72" DIA. PIPE, SRPE         02310         1         EACH           20         TRASH RACK - 72" DIA. RISER         02310         1         EACH           21         PIPE - 12" DIA. PIPE, PE         02310         20         L.F.           22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700 <t< td=""><td>17</td><td>QUARRIED STONE - MACADAM STONE BASE</td><td>02120</td><td>265</td><td>TON</td></t<>	17	QUARRIED STONE - MACADAM STONE BASE	02120	265	TON
20       TRASH RACK - 72" DIA. RISER       02310       1       EACH         21       PIPE - 12" DIA. PIPE, PE       02310       20       L.F.         22       PIPE - 48" DIA. PIPE, SRPE       02310       126       L.F.         23       SUBGRADE PREPARATION       02400       8.7       ACRE         24       AGRICULTURAL LIME       02400       392       TON (ECCE)         25       MULCH, SUBGRADE (5 TON/AC)       02400       8.7       ACRE         26       WETLAND FERTILIZER (30 LBS/AC)       02400       30       POUND         27       WETLAND UNDERCUT AND REPLACEMENT       02400       0.5       ACRE         28       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02400       1.0       ACRE         29       SEEDBED PREPARATION       02700       8.7       ACRE         30       NITROGEN (N) (40 LBS/AC)       02700       348       POUND         21       PHOSPHORUS (P) (100 LBS/AC)       02700       870       POUND         32       POTASSIUM (K) (200 LBS/AC)       02700       1,740       POUND         33       UPLAND SEEDING       02700       8.0       ACRE         34       WETLAND FRINGE SEEDING       02700 <td< td=""><td>18</td><td>QUARRIED STONE - RIPRAP, CLASS E</td><td>02120</td><td>908</td><td>TON</td></td<>	18	QUARRIED STONE - RIPRAP, CLASS E	02120	908	TON
21       PIPE - 12" DIA. PIPE, PE       02310       20       L.F.         22       PIPE - 48" DIA. PIPE, SRPE       02310       126       L.F.         23       SUBGRADE PREPARATION       02400       8.7       ACRE         24       AGRICULTURAL LIME       02400       392       TON (ECCE)         25       MULCH, SUBGRADE (5 TON/AC)       02400       8.7       ACRE         26       WETLAND FERTILIZER (30 LBS/AC)       02400       30       POUND         27       WETLAND UNDERCUT AND REPLACEMENT       02400       0.5       ACRE         28       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02400       1.0       ACRE         29       SEEDBED PREPARATION       02700       8.7       ACRE         30       NITROGEN (N) (40 LBS/AC)       02700       348       POUND         21       PHOSPHORUS (P) (100 LBS/AC)       02700       870       POUND         32       POTASSIUM (K) (200 LBS/AC)       02700       1,740       POUND         33       UPLAND SEEDING       02700       8.0       ACRE         34       WETLAND FRINGE SEEDING       02700       0.7       ACRE	19	RISER - 72" DIA. PIPE, SRPE	02310	1	EACH
22         PIPE - 48" DIA. PIPE, SRPE         02310         126         L.F.           23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	20	TRASH RACK - 72" DIA. RISER	02310	1	EACH
23         SUBGRADE PREPARATION         02400         8.7         ACRE           24         AGRICULTURAL LIME         02400         392         TON (ECCE)           25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	21	PIPE - 12" DIA. PIPE, PE	02310	20	L.F.
24       AGRICULTURAL LIME       02400       392       TON (ECCE)         25       MULCH, SUBGRADE (5 TON/AC)       02400       8.7       ACRE         26       WETLAND FERTILIZER (30 LBS/AC)       02400       30       POUND         27       WETLAND UNDERCUT AND REPLACEMENT       02400       0.5       ACRE         28       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02400       1.0       ACRE         29       SEEDBED PREPARATION       02700       8.7       ACRE         30       NITROGEN (N) (40 LBS/AC)       02700       348       POUND         21       PHOSPHORUS (P) (100 LBS/AC)       02700       870       POUND         32       POTASSIUM (K) (200 LBS/AC)       02700       1,740       POUND         33       UPLAND SEEDING       02700       8.0       ACRE         34       WETLAND FRINGE SEEDING       02700       0.7       ACRE	22	PIPE - 48" DIA. PIPE, SRPE	02310	126	L.F.
25         MULCH, SUBGRADE (5 TON/AC)         02400         8.7         ACRE           26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	23	SUBGRADE PREPARATION	02400	8.7	ACRE
26         WETLAND FERTILIZER (30 LBS/AC)         02400         30         POUND           27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	24	AGRICULTURAL LIME	02400	392	TON (ECCE)
27         WETLAND UNDERCUT AND REPLACEMENT         02400         0.5         ACRE           28         WETLAND MULCH, SUBGRADE (10 TON/ACRE)         02400         1.0         ACRE           29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	25	MULCH, SUBGRADE (5 TON/AC)	02400	8.7	ACRE
28       WETLAND MULCH, SUBGRADE (10 TON/ACRE)       02400       1.0       ACRE         29       SEEDBED PREPARATION       02700       8.7       ACRE         30       NITROGEN (N) (40 LBS/AC)       02700       348       POUND         21       PHOSPHORUS (P) (100 LBS/AC)       02700       870       POUND         32       POTASSIUM (K) (200 LBS/AC)       02700       1,740       POUND         33       UPLAND SEEDING       02700       8.0       ACRE         34       WETLAND FRINGE SEEDING       02700       0.7       ACRE	26	WETLAND FERTILIZER (30 LBS/AC)	02400	30	POUND
29         SEEDBED PREPARATION         02700         8.7         ACRE           30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	27	WETLAND UNDERCUT AND REPLACEMENT	02400	0.5	ACRE
30         NITROGEN (N) (40 LBS/AC)         02700         348         POUND           21         PHOSPHORUS (P) (100 LBS/AC)         02700         870         POUND           32         POTASSIUM (K) (200 LBS/AC)         02700         1,740         POUND           33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	28	WETLAND MULCH, SUBGRADE (10 TON/ACRE)	02400	1.0	ACRE
21       PHOSPHORUS (P) (100 LBS/AC)       02700       870       POUND         32       POTASSIUM (K) (200 LBS/AC)       02700       1,740       POUND         33       UPLAND SEEDING       02700       8.0       ACRE         34       WETLAND FRINGE SEEDING       02700       0.7       ACRE	29	SEEDBED PREPARATION	02700	8.7	ACRE
32       POTASSIUM (K) (200 LBS/AC)       02700       1,740       POUND         33       UPLAND SEEDING       02700       8.0       ACRE         34       WETLAND FRINGE SEEDING       02700       0.7       ACRE	30	NITROGEN (N) (40 LBS/AC)	02700	348	POUND
33         UPLAND SEEDING         02700         8.0         ACRE           34         WETLAND FRINGE SEEDING         02700         0.7         ACRE	21	PHOSPHORUS (P) (100 LBS/AC)	02700	870	POUND
34 WETLAND FRINGE SEEDING 02700 0.7 ACRE	32	POTASSIUM (K) (200 LBS/AC)	02700	1,740	POUND
	33	UPLAND SEEDING	02700	8.0	ACRE
35 MULCH, SEEDING (2 TON/AC) 02700 8.7 ACRE	34	WETLAND FRINGE SEEDING	02700	0.7	ACRE
	35	MULCH, SEEDING (2 TON/AC)	02700	8.7	ACRE

### PROJECT CONSTRUCTION NOTES:

- 1. QUANTITIES OF FERTILIZER AND LIME ARE ESTIMATED FOR BIDDING PURPOSES. ACTUAL QUANTITIES APPLIED WILL BE DETERMINED BY SOIL TESTING. AGRICULTURAL LIME REQUIRES TWO APPLICATIONS (SUBGRADE SECTION 2400 AND SEEDING SECTION 2700). QUANTITIES ARE BASED ON ASSUMED APPLICATION RATES OF 40 TON ECCE/AC FOR SUBGRADE AND 5 TON ECCE/AC FOR SEEDING.
- 2. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE CONSTRUCTION STAKING FOR A MINIMUM OF THE FOLLOWING ITEMS:

CONSTRUCTION LIMITS TERRACES TERRACE RISERS TILE OUTLETS STRUCTURES AND PIPE WETLAND UNDERCUT AREAS

WHEN GPS GRADING IS USED, THE FOLLOWING DO NOT NEED TO BE STAKED:

TERRACES AND WETLAND UNDERCUT AREAS

3. 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.

## LEGEND

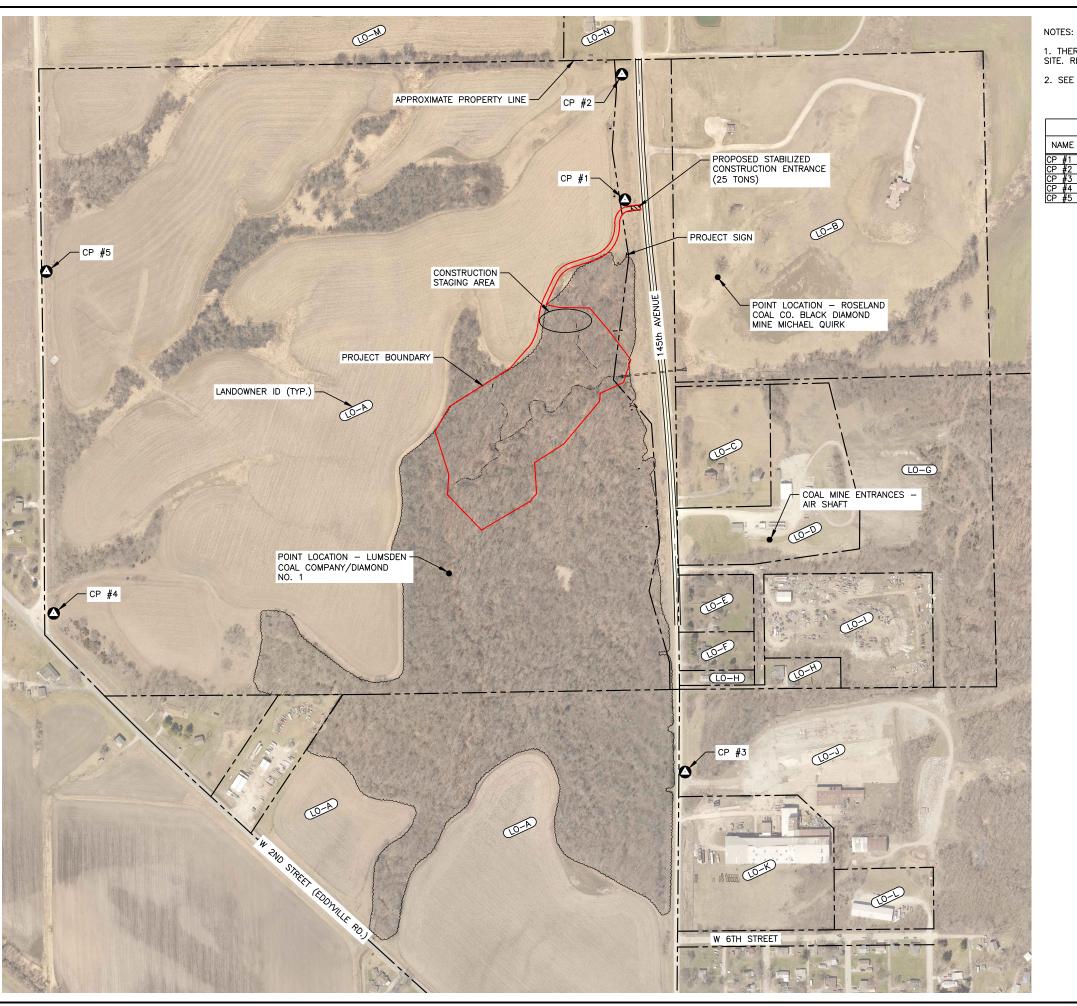
—— Е	EXISTING UNDERGROUND ELECTRIC LINE
-0-	EXISTING POWER POLE
OE	EXISTING OVERHEAD ELECTRIC LINE
STM	EXISTING STORM SEWER OR TILE
w	EXISTING WATER LINE
<del>_x x x x x x x -</del>	EXISTING FENCE LINE
~~~ ⊙	EXISTING TREE LINE OR TREE
	EXISTING UNNAMED TRIBUTARY
	APPROXIMATE EXISTING PROPERTY LINE
	APPROXIMATE EXISTING ROAD ROW
٥	SURVEY CONTROL POINT
	PROPOSED CONSTRUCTION LIMITS
NO BURN	-1/4 MILE NO BURN RADIUS
	APPROVED SEDIMENT CONTROL MEASURE
<del></del>	PROPOSED TERRACE CHANNEL WITH FLOW DIRECTION
	PROPOSED TERRACE RIDGE
	PROPOSED TERRACE RISER INTAKE WITH STRAW WATTLE
	PROPOSED TILE
255	PROPOSED RIPRAP
	PROPOSED EROSION CONTROL MAT
UAC	USE AS CONSTRUCTED
lacktriangle	SOIL BORING
•	SOURCE OF ACID MINE DRAINAGE

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

PROJECT !

PROJECT NOTES, QUANTITIES, AND LEG

SHEET of **16** 



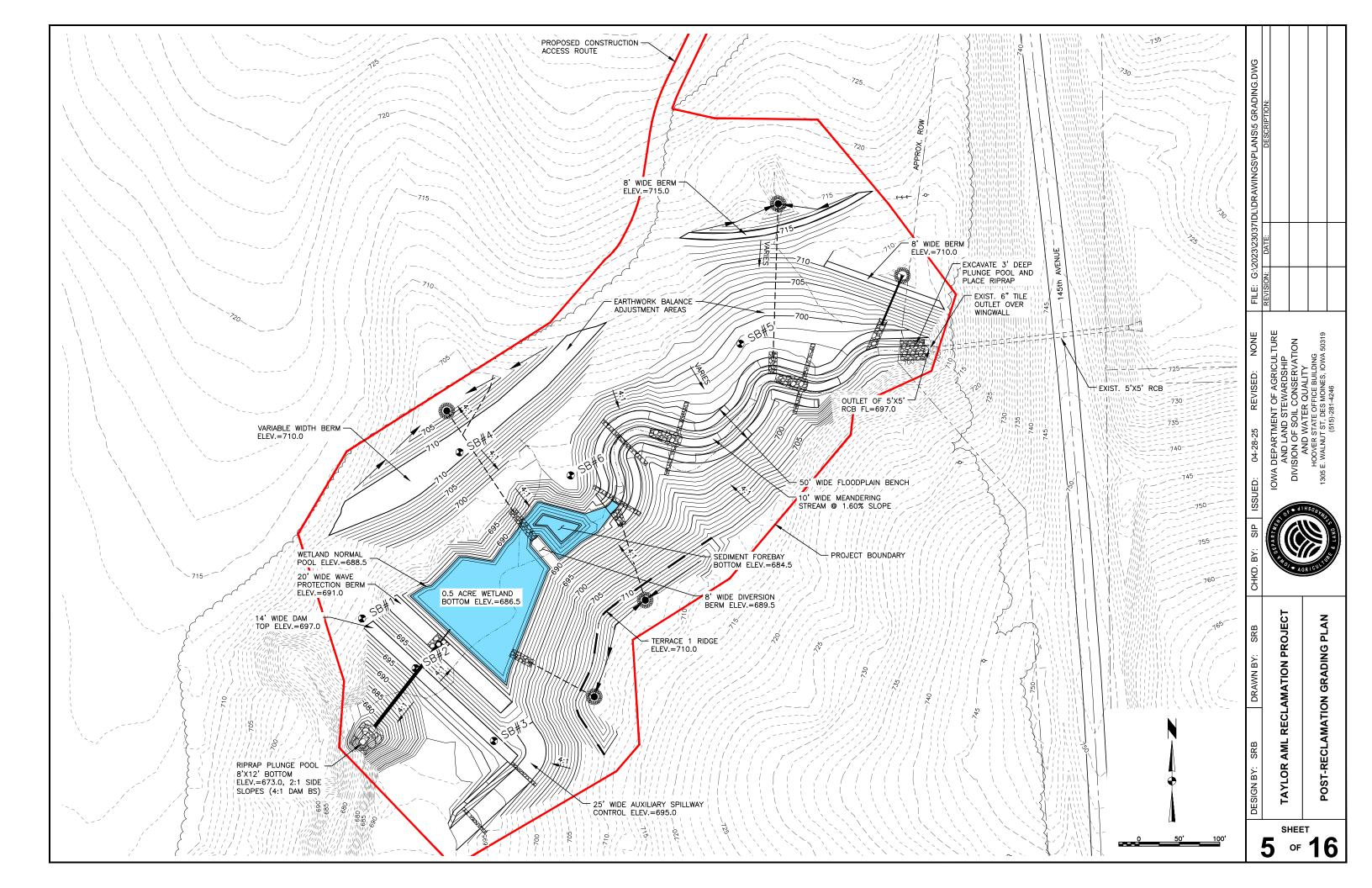
- 1. THERE SHALL BE NO BURNING OF CLEARED AND GRUBBED MATERIAL ON THIS SITE. REFER TO SUPPLEMENTAL SPECIFICATIONS.
- 2. SEE IOWA DOT STANDARD ROAD PLAN TC-202 FOR TRAFFIC CONTROL DETAILS.

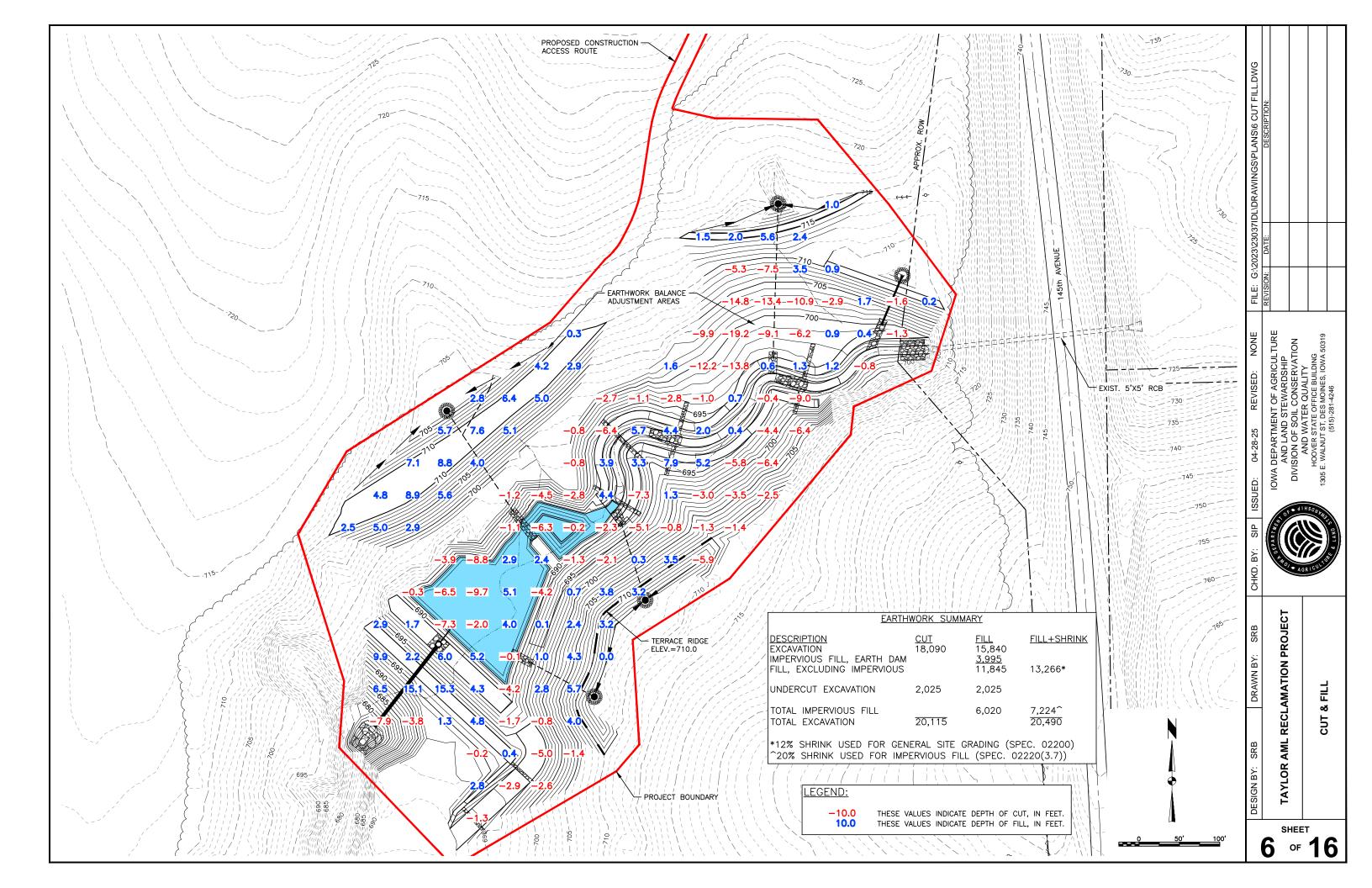
	CONTROL POINT COORDINATES							
NAME	:  -	COORD Y (NORTHING)	NATES X (EASTING)	ELEV.	REMARKS			
CP #1		384713.30	1932940.14	743.76	5/8"x30"	REBAR W/ALUM. CAF		
CP #2		385235.81	1932927.62	770.04	5/8"x30"	REBAR W/ALUM. CAF		
CP #3		382328.89	1933190.84	692.96	5/8"x30"	REBAR W/ALUM. CAF		
CP #4		382989.77	1930560.14	678.15	5/8"x30"	REBAR W/ALUM. CAF		
CP #5		384414.09	1930529.61	703.15	5/8"x30"	REBAR W/ALUM. CAF		

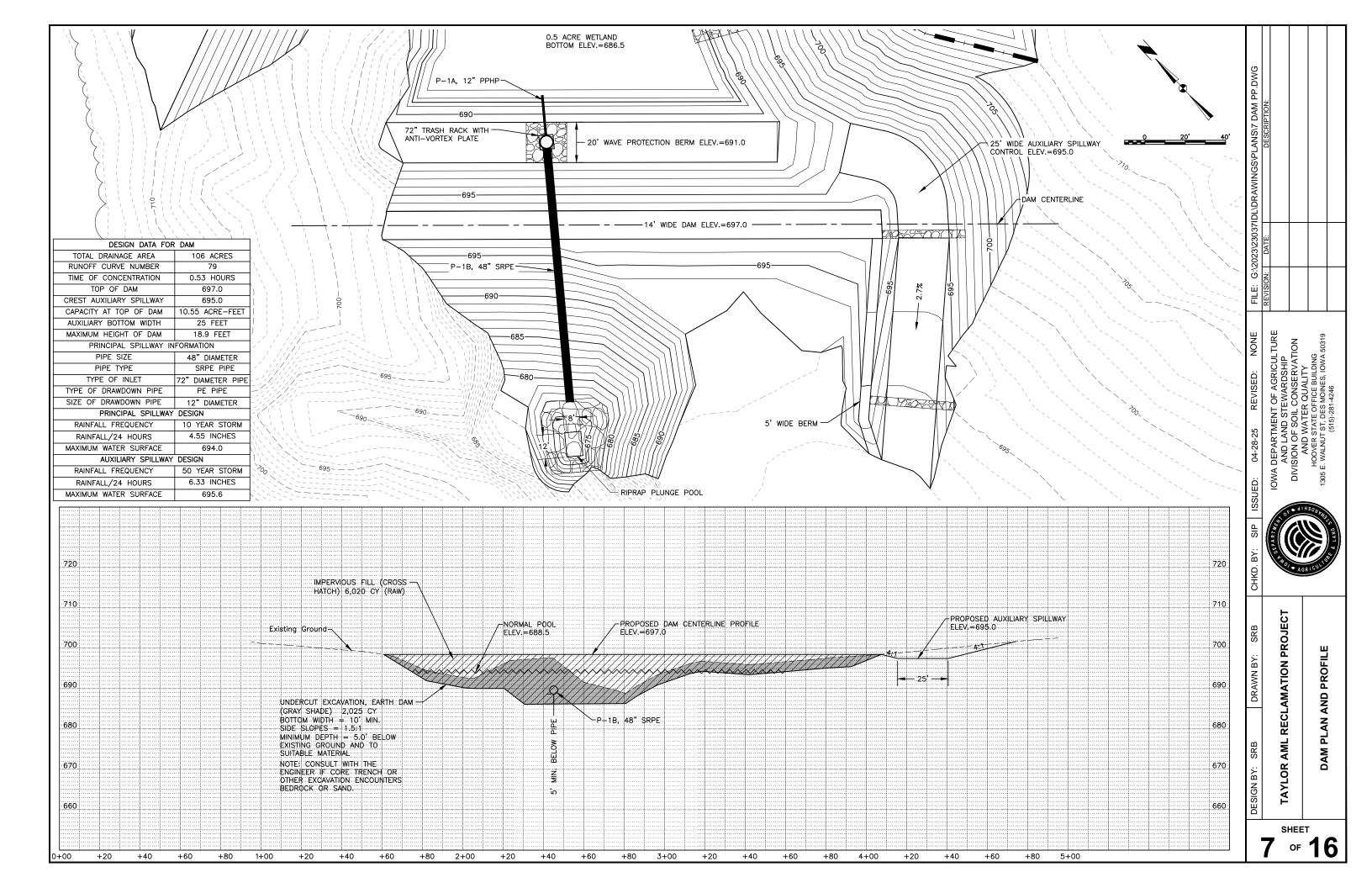
	LANDOWNER IDENTIFICATION
LANDOWNER ID	LANDOWNER NAME(S)
LO-A	MARILYN EDEL
LO-B	GREG & CINDY LIST
LO-C	STEPHEN MORRISSEY
LO-D	MFA OIL COMPANY
LO-E	WESTON & MARISSA KARP
LO-F	LISA KARP
LO-G	JOHN BEACHY JR.
LO-H	BOBBY THOMASON
LO-I	HARRY PAULOS
LO-J	JOHN & CONNIE ESTLE, TRUSTEES
LO-K	ALTER TRADING CORPORATION
LO-L	B & L PROPERTIES
LO-M	M & L ENTITIES, INC.
LO-N	KENNETH CARNAHAN

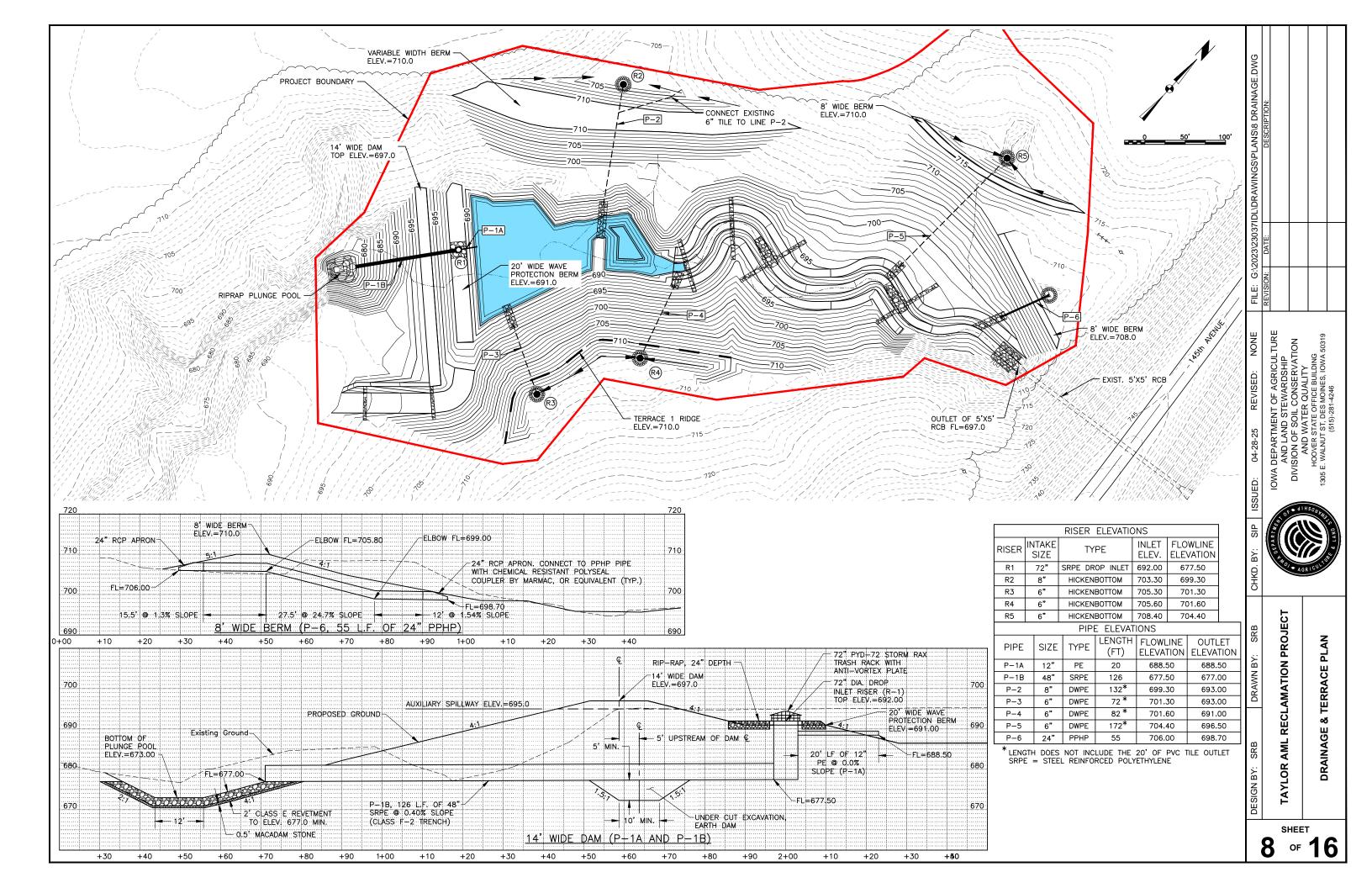
	DRAWN BY: SRB		CHKD. BY:	SIP	ISSUED:	04-28-25	CHKD. BY: SIP   ISSUED: 04-28-25 REVISED: NONE	NONE	FILE: G:\2	2023\23037	FILE: G:\2023\23037IDL\DRAWINGS
									REVISION:	DATE:	
			OEP	ARTMEN	IOWA	DEPARTME	IOWA DEPARTMENT OF AGRICULTURE	ULTURE			
띦	<b>ECLAMATION PROJECT</b>	OJECT	200			AND LAND	AND LAND STEWARDSHIP	₽			
					NIO	ISION OF SC	DIVISION OF SOIL CONSERVATION	ATION			
			GR		I H	AND WA	AND WATER QUALITY				
ATK	ATION PLAN		CU		say	HOOVER STAT	HOOVER STATE OFFICE BUILDING	NG			
ō	COTINGS VAVOITO	3			1305 [	E. WALNUT ST, I	1305 E. WALNUT ST, DES MOINES, IOWA 50319	VA 50319			
ת א			1 345	1	•	1,11	0,0,00				

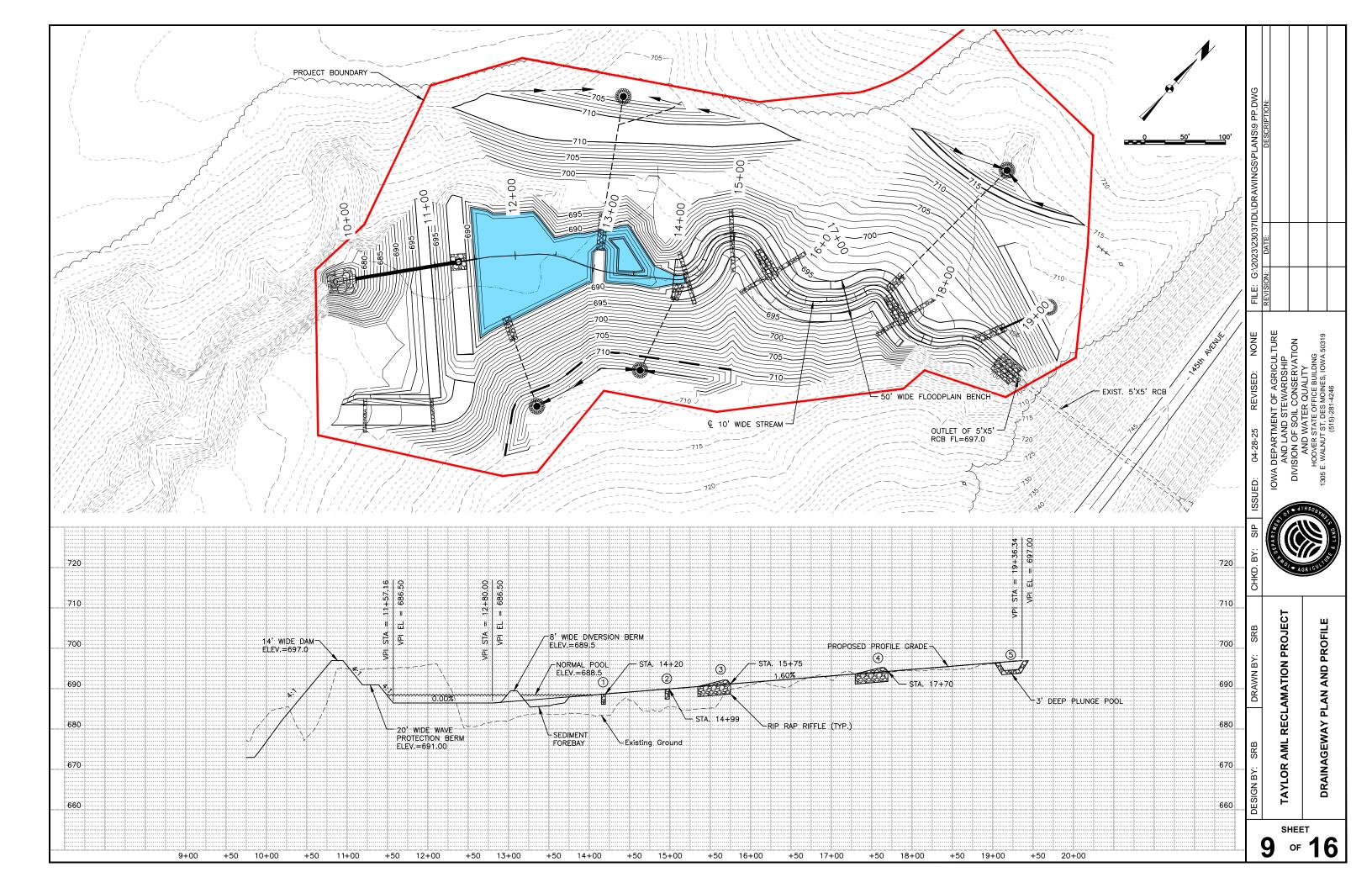
	EXISTING	CTDEA	MS				
	EVISTING			ROPOSED	PROPOSED	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
WATER BODY TYPE	FATE			ROPOSED ONSTRUCTEI (FT)	PROPOSED FILLED (FT)	PROPOSED STABILIZED CONSTRUCTION ACCESS ROUTE  PROJECT BOUNDARY	
ST-1 PERENNIAL STREAM	RECONSTRUC	T/FILL 953	3.33	787.00	180.0	PROPOSED STABILIZED	
EXISTING ACII	D MINE [	DRAINAGE	E WATER	R QUALI	ΤΥ	CONSTRUCTION ENTRANCE (25 TONS) ADDITIONAL	
CONSTITUENT	07/11/04		AMPLING DA		<b>.</b>	PROPOSED CONSTRUCTION	
SAMPLE LOCATION	07/11/24 AMD #1	9/16/24 AMD #1	AMD #1	12/19/24 AMD #2	_	ACCESS ROUTE	
pH	6.10	1.01	7.8	6.7	6.1	PROJECT SIGN	
D.O. (mg/L) Temp. (*C)	0.01	1.91 15.6	10.5 1.92	8.69 3.20	6.20 1.6		
Alkalinity (mg/L as CaCO )	18	144	143	78	47	CONSTRUCTION CONSTRUCTION	
Acidity (mg/L as CaCo )	368	369	<10	<10	192	STAGING AREA	
Total Iron (mg/L)  Total Manganese (mg/L)	168	162 12.9	0.493	53.9	72.1		
Total Aluminum (mg/L)	0.385	0.396				PROJECT BOUNDARY	+++
Sulfur (mg/L as sulfate)	2460	2410		1 1		- 「Note of Facing Limits - Note of Facing Limits - N	
	//		<u> </u>			ARE THE SAME AS PROJECT BOUNDARY, 9.0 ACRES  ARE THE SAME AS OVER WINGWALL	
EXISTING ACID							
	PLING DATE (	I		E (gpm)		NON E	AND LAND STEWARDSHIP VISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 5 E. WALNUT ST, DES MOINES, IOWA 50319 (515)-281-4246
07/11/24	9/16/24	12/19/24 <sup>2</sup> 9.42	^		1 1 1		IIP 'ATIC IING WA 5i
FM-1 1.95 FM-2 8.16	1.96 13.00	23.60			<i>,</i>	FM-1 FLOW 8 MEASUREMENT 100 JOSEPH 100 JOSEP	ERV ERV SUILD ES, 10
AMD ENTERING 8.16	13.00	14.18	11	.78	///	MEASUREMENT LOCATION  AMD #1 WATER SAMPLING LOCATION AND SOURCE  LOCATION AND SOURCE	WAR WAR OUA QUA FICE I MOINE
ST-1 ONSITE 8.16	13.00	14.16		.78		AMD #1 WATER SAMPLING LOCATION AND SOURCE OF ACID MINE DRAINAGE	STE OIL COLL COLL COLL COLL COLL COLL COLL
*ALL SAMPLES COLLECTED FILTER IN THE FIELD PRIOR	ON 12/19/2	4 WERE FIL	TERED THRO	OUGH A 0.4	5 MICRON		AND DF SC WA' STAT T ST, (515)
DATES WERE NOT FILTERED.	O TESTING	. RESULIS	FROM ALL	OTHER SAM	IPLING	SOURCE OF ACID MINE DRAINAGE  B A A A A A A A A A A A A A A A A A A	AD L ON C OVER ALNU
^SURFACE WATER RUNOFF OTHER SAMPLING DATES HA	PRESENT UP	STREAM OF	FM-1 ON	12/19/24. STREAM OF	ALL FM-1	760	AI VISIG
/ January Salvi Elito Dales Tia		) I	)	)	)	AMD #2 WATER	1306 1306
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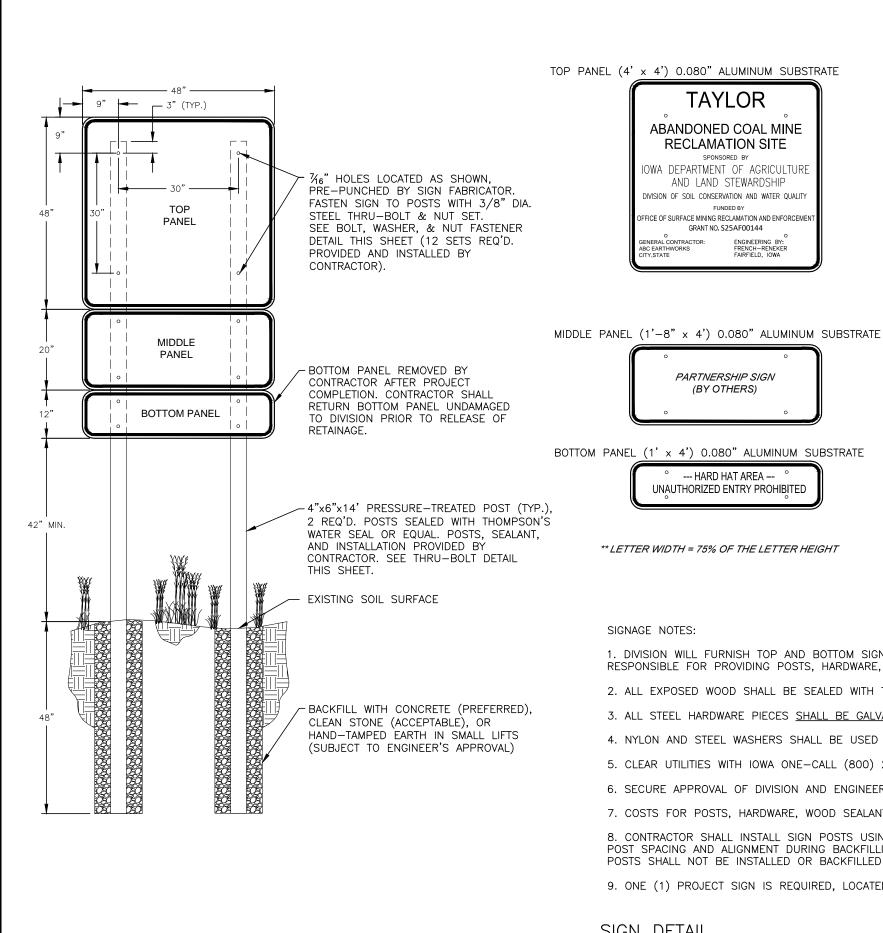












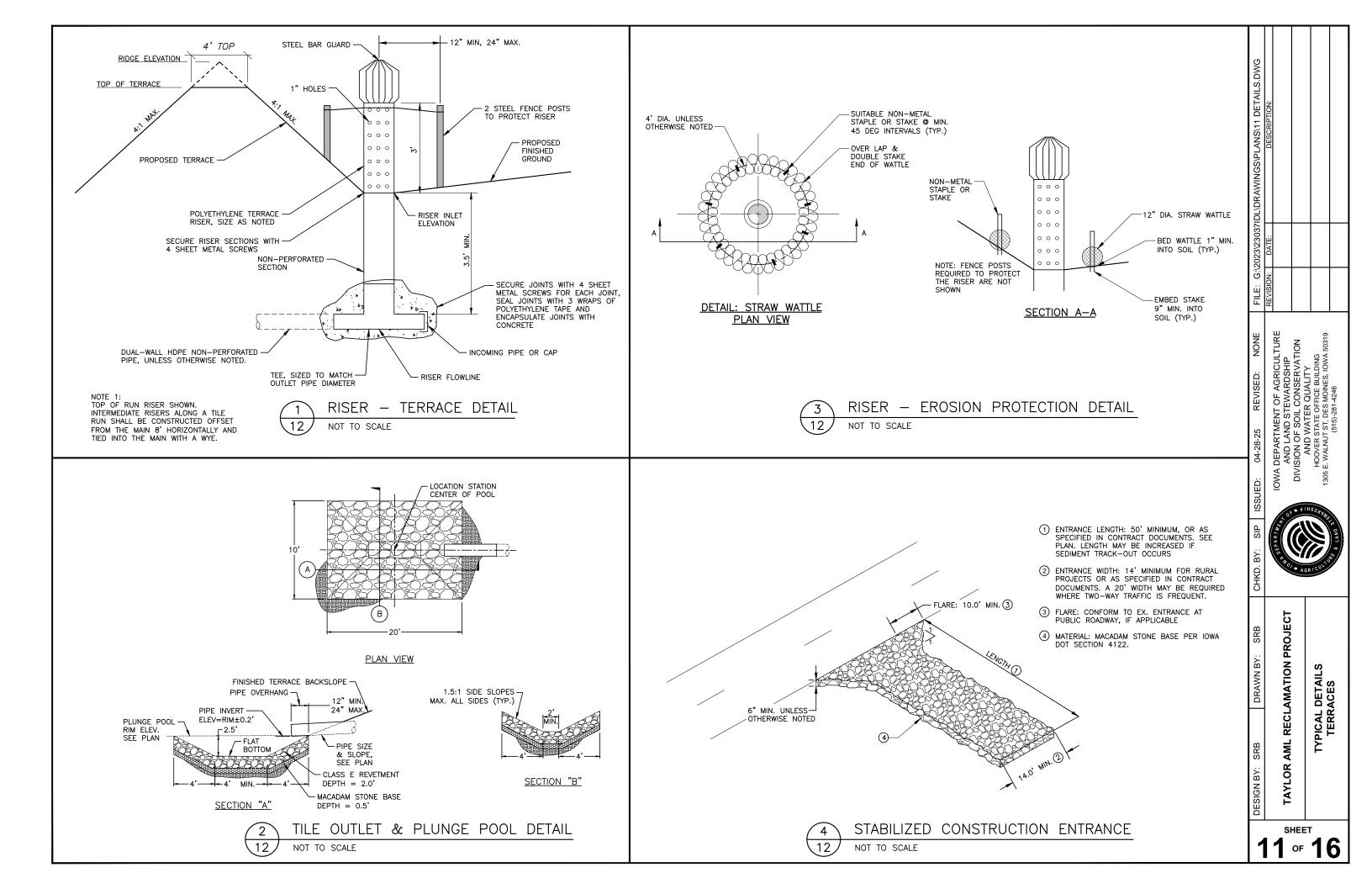
-SIGN PANEL FACE NOM. 6" DIMENSION ORIENTED PERPENDICULAR TO PANEL FACE. THRU-BOLT REQ'D. LAG SCREWS SHALL NOT BE ACCEPTABLE COUNTERBORE 1" MAX. DEPTH (ACCEPTABLE IF NECESSARY) NUT & WASHER ON BACK FACE OF POST (PREFERRED) HEAD, GALVANIZED 3" DIA. BOLT - GALVANIZED STEEL WASHER NOMINAL NYLON WASHER AGAINST 4" x 6" FACE OF SIGN TREATED POST THICKNESS FOR SIGN & POST GALVANIZED STEEL WASHER BACK OF POST BOLT, WASHER, & NUT FASTENER DETAIL THRU-BOLT DETAIL

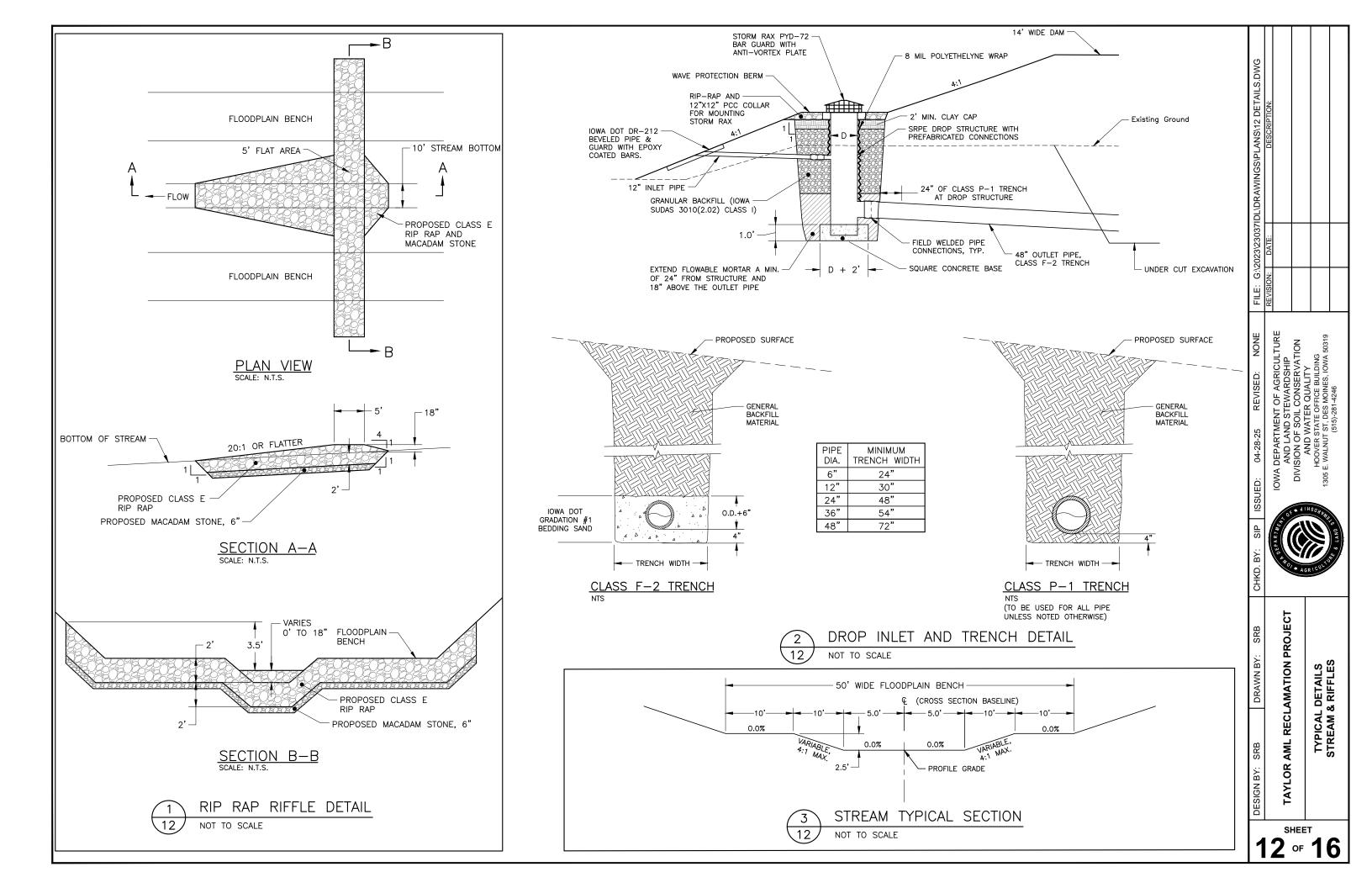
- 1. DIVISION WILL FURNISH TOP AND BOTTOM SIGN PANELS. MIDDLE PANEL PROVIDED BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING POSTS, HARDWARE, AND INSTALLATION FOR ALL PANELS.
- 2. ALL EXPOSED WOOD SHALL BE SEALED WITH THOMPSON'S WATER SEAL OR EQUAL MEETING ASTM D-4446-08.
- 3. ALL STEEL HARDWARE PIECES 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.

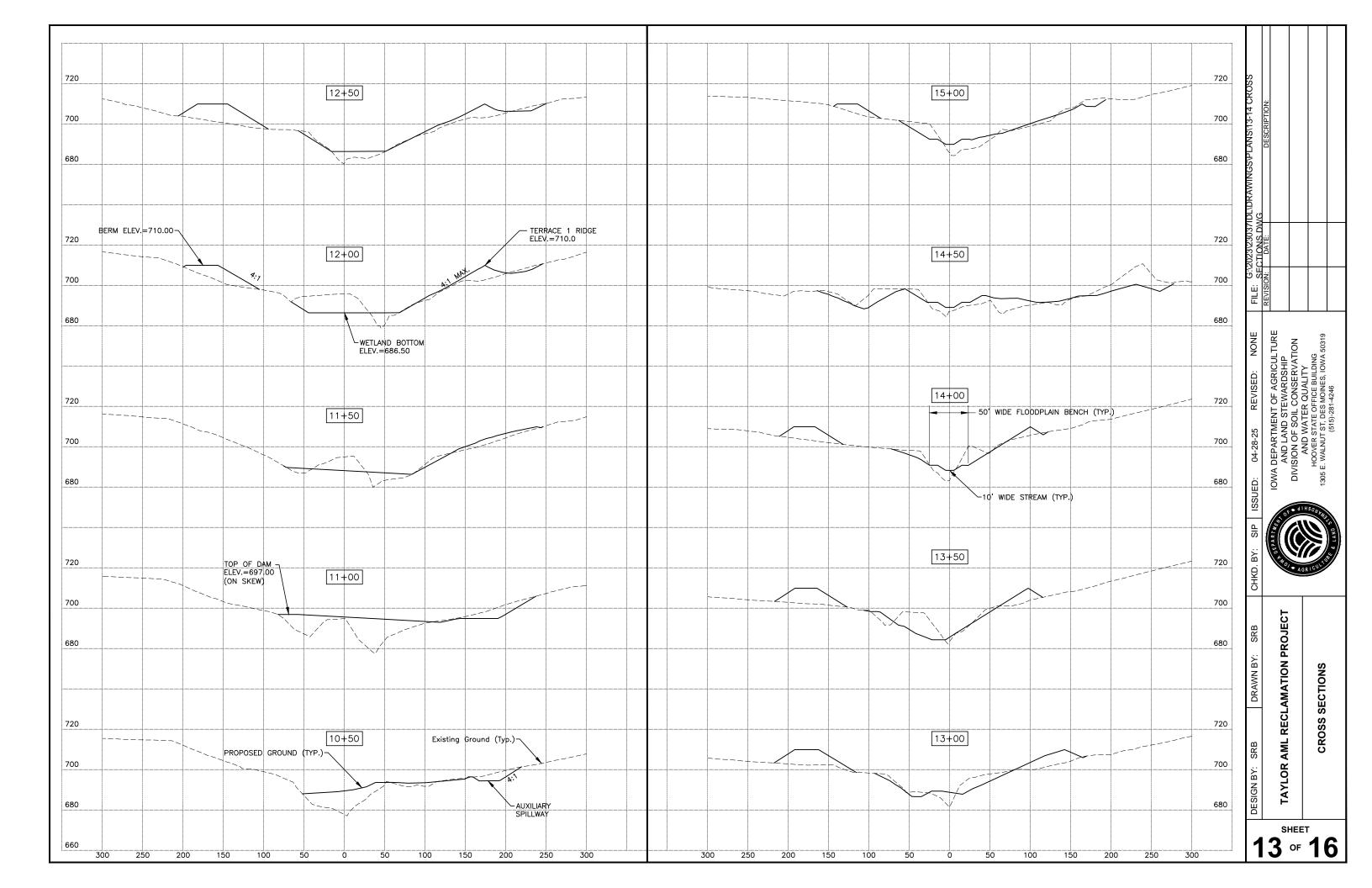
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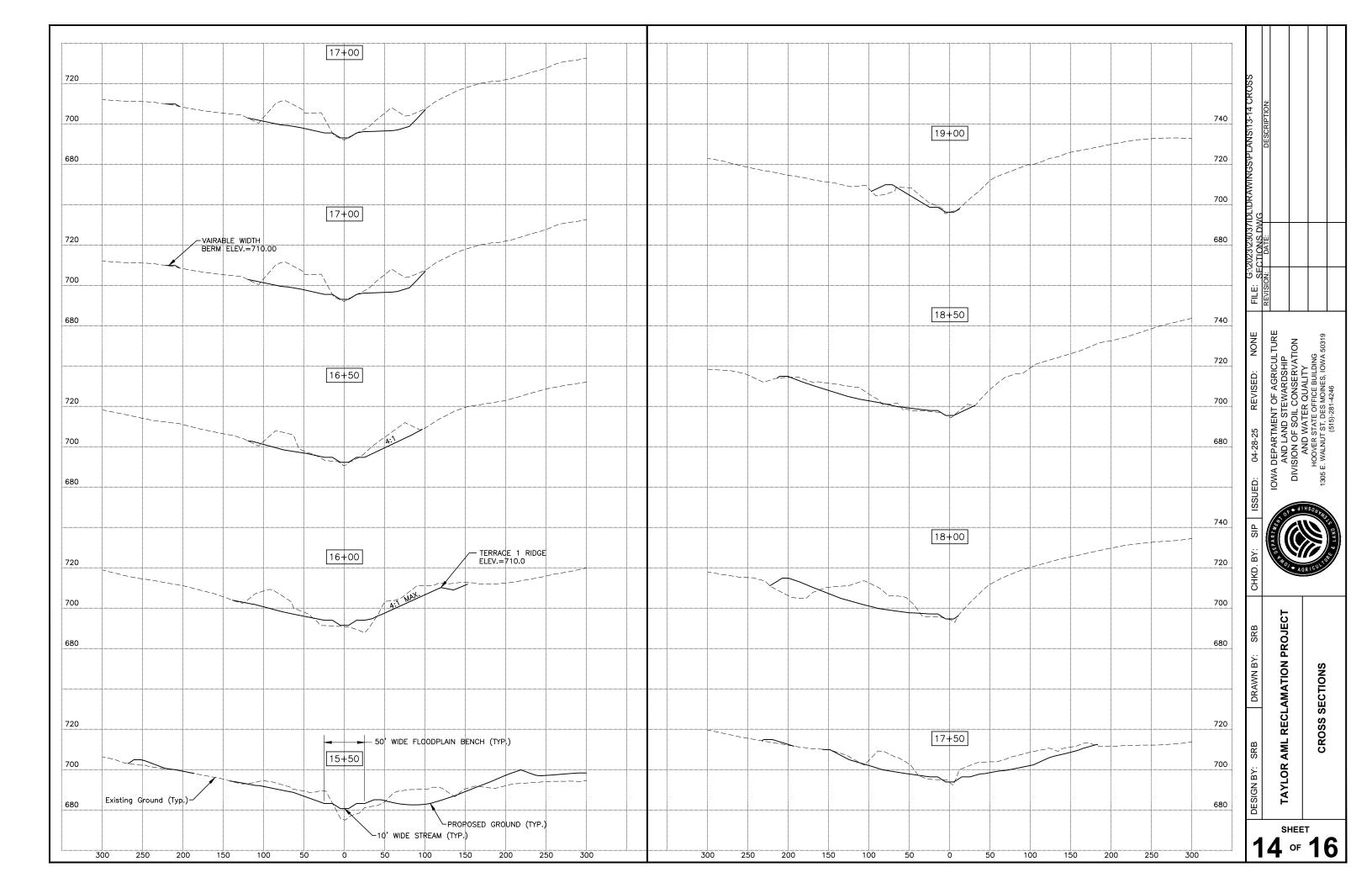
IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT ST, DES MOINES, IOWA 50319
(515)-281-4246 DETAILS SIGNAGE RECLAMATION TYPICAL I AML

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# STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

REFER TO: CONTENTS OF THE POLLUTION PREVENTION PLAN IN PART IV. D. OF IOWA NPDES GENERAL PERMIT NO. 2 -- EFFECTIVE MARCH 1, 2023 THROUGH FEBRUARY 29, 2028.

### 1. SITE DESCRIPTION

### A. DESCRIBE NATURE OF CONSTRUCTION ACTIVITY:

- THE PROJECT CONSISTS OF RECLAIMING THE AML SITES DISTURBED BY PAST COAL MINING ACTIVITIES. THE MAIN OBJECTIVE OF THE AML RECLAMATION IS TO MITIGATE PRIORITY FEATURES THAT PRESENT A DANGER TO THE HEALTH AND SAFETY OF THE GENERAL PUBLIC.
- THE MAJOR PHASES OF THE PROJECT ARE TEMPORARY EROSION CONTROL; ROUGH GRADING; LIME TREATMENT OF SURFACE SOILS. FERTILIZING, MULCHING, PERMANENT SEEDING INCLUDING INSTALLATION OF PERMANENT EROSION CONTROL PRACTICES LIKE RIP-RAP, TERRACES, AND STORM WATER BASINS
- END USE OF SITE IS: LIVESTOCK PASTURE, WILDLIFE HABITAT AND/OR RECREATIONAL USE.
- THE ESTIMATED PROJECT TIMELINE IS: OCTOBER 2025 TO DECEMBER 2026

### B. ESTIMATE THE TOTAL AREA OF THE SITE AND THE AREA EXPECTED TO BE DISTURBED BY EXCAVATION, **GRADING OR OTHER ACTIVITIES:**

9.0 ACRES DISTURBED BY MASS GRADING.

### C. ESTIMATE THE SOIL RUNOFF COEFFICIENT OF THE SITE AFTER CONSTRUCTION IS COMPLETED, AND DESCRIBE THE WATER QUALITY OF ANY EXISTING DISCHARGE FROM THE SITE.

- THE RATIONAL RUNGEE COFFECIENT FOLLOWING THE ESTABLISHMENT OF FINAL VEGETATION IS. ESTIMATED TO BE ABOUT 0.4 TO 0.5. THIS IS ROUGHLY EQUIVALENT TO AN SCS CURVE NUMBER OF 80 WHICH IS TYPICAL FOR PASTURE-GRASS VEGETATION
- THE WATER QUALITY BEING DISCHARGED FROM THE SITE, AT PRESENT, IS IMPAIRED WITH ACIDIC PH AND HIGH DISSOLVED IRON CONCENTRATIONS WHICH ARE DERIVED FROM THE WATER'S CONTACT WITH BARE MINE SPOIL MATERIAL ON THE SITE. THIS POOR WATER QUALITY IS OFTEN INDICATED BY RUST-COLORED PRECIPITANT IN THE RECEIVING WATERS.

### D. PROVIDE A SITE MAP SATISFYING REQUIREMENTS DESCRIBED IN PART IV. D.1.A.D.:

• SEE BMP PLAN SHEET 16 FOR CONTROLS THAT WILL BE IMPLEMENTED.

### E. PROVIDE NAME OF THE RECEIVING WATER(S) AND THE ULTIMATE RECEIVING WATERS(S).

THE RECEIVING WATER IS AN UNNAMED TRIBUTARY TO THE DES MOINES RIVER

### 2. CONTROLS -- A.(1) STABILIZATION PRACTICES:

DESCRIBE TEMPORARY & PERMANENT STABILIZATION PRACTICES WITH SEQUENCE FOR IMPLEMENTATION

- 1 UNLESS PRECLUDED BY SNOW COVER OR FROZEN SITE CONDITIONS AREAS TO BE GRADED AND LEFT UNDISTURBED FOR 14 OR MORE CALENDAR DAYS WILL BE ROUGH DISKED ON THE CONTOUR TO INCREASE SURFACE ROUGHNESS. ROUGH DISKING WILL BE USED EXCLUSIVELY PRIOR TO SEEDING THE FINAL VEGETATION. ROUGH DISKING IS USUALLY CONCURRENT WITH INCORPORATION OF AG LIME AND MULCH FOR THE WORK OF SUBGRADE PREPARATION
- 2. ONCE ALL GRADING IS COMPLETE, AND THE SOIL PH ADJUSTMENT IS ACCOMPLISHED, A PERMANENT SEEDING MIX CONSISTING OF WARM AND COOL SEASON GRASSES WILL BE PLANTED WITH AN APPROPRIATE COVER CROP OF OATS OR WINTER WHEAT.
- 3 APPROXIMATELY 2 TONS OF STRAW MUI CH PER ACRE WILL BE SPREAD ACROSS THE SEEDED SOIL AND TUCKED IN WITH A TUCKING MACHINE TO PROVIDE PROTECTION FROM RAIN DROPLET IMPACT WHILE THE SEEDING BECOMES ESTABLISHED.
- 4. THE SEEDING TYPICALLY GERMINATES WITHIN 14 DAYS & LATER PROVIDES AT LEAST 70% VEGETATIVE COVER

### A.(2) STRUCTURAL PRACTICES DESCRIBE EROSION AND SEDIMENT CONTROL PRACTICES THAT WILL USED ON THE SITE:

### **EROSION CONTROL PRACTICES**

- 1. ROUGH DISKING AS DESCRIBED IN "STABILIZING PRACTICES" ABOVE WILL BE USED AS NECESSARY TO REDUCE SURFACE RUNOFF VELOCITIES AND INCREASE INFILTRATION.
- 2. TERRACES WILL BE USED TO REDUCE SLOPE LENGTHS AND DETAIN/RETAIN STORM WATER RUNOFF. TERRACES WILL BE DRAINED WITH PERFORATED PLASTIC RISERS AND CONCRETE OPEN-SIDED INTAKES.
- 3. RIP RAP PLUNGE POOLS (STILLING BASINS) WILL BE USED AT DRAINAGE OUTLETS TO ABSORB ENERGY OF FLOWING STORM DRAINAGE.
- 4. WATER PUMPED DURING CONSTRUCTION OPERATIONS SHALL BE HANDLED IN A PROPER MANNER. EROSION AND SCOUR SHALL BE PREVENTED AT POINTS WHERE THE PUMP(S) DISCHARGE. LEVEL SPREADERS, RIPRAP, AND/OR OTHER ENERGY ABSORBING DEVICES OR APPROPRIATE BMPS SHALL BE USED.

### A.(2) STRUCTURAL PRACTICES CONT'D:

DESCRIBE EROSION AND SEDIMENT CONTROL PRACTICES THAT WILL USED ON THE SITE:

### SEDIMENT CONTROL PRACTICES:

- 1 STRAW WATTLES OR FILTER SOCK OR SHALLOW DITCHES ACTING AS SEDIMENT TRAPS WILL BE USED AROUND RISERS, INLETS, INTAKES, AND ALONG THE PERIMETERS OF THE SITE AS NECESSARY TO PREVENT MIGRATION OF SEDIMENT INTO THOSE WATERS OUTSIDE THE PROJECT BOUNDARY PROPOSED WATERBODIES WITHIN THE PROJECT BOUNDARY MAY INCLUDE STORAGE VOLUME BELOW THE NORMAL POOL ELEVATION FOR SOME ACCUMULATED SEDIMENT.
- 2. FILTER SOCKS OR SHALLOW TRENCHES WILL BE INSTALLED IN DRAINAGE WAYS AS NECESSARY TO TRAP SEDIMENT TRANSPORTED FROM SLOPES DURING CONSTRUCTION. IN CONCENTRATED DRAINAGES RIPRAP WILL BE INCLUDED TO SLOW FLOW VELOCITIES AND TRAP TRANSPORTED SEDIMENTS.
- 3. FOUR STORMWATER BASINS FOLLOWED BY A WETLAND WILL BE CONSTRUCTED ONSITE AS SHOWN ON THE PLANS. AS THESE PROPOSED BASINS ARE CONSTRUCTED, THEY WILL BEGIN TO RETAIN SEDIMENT ERODED FROM THE UPLAND SLOPES. THE BASINS WILL BE CLEANED OUT JUST PRIOR TO PROJECT COMPLETION. SEDIMENT CLEANED OUT WILL BE RE-SPREAD ONTO THE LANDSCAPE. PRIOR TO CONSTRUCTION OF THE WETLANDS, TEMPORARY PRACTICES INDICATED IN ITEM 2 ABOVE WILL BE INSTALLED.
- 4. THE PERMANENT WETLAND HAS AN OUTLET PROTECTED FROM EROSION WITH RIPRAP AND A DROP INLET RISER CONNECTED TO A PIPE THAT OUTLET INTO A RIPRAP PLUNGE POOL.

A.(2)(a). DESCRIBE PRACTICES WHICH PROVIDE AT LEAST 3600 CUBIC FEET OF STORAGE PER [DISTURBED] ACRE FOR COMMON DRAINAGE LOCATIONS SERVING MORE THAN TEN (10) ACRES OF DISTURBED AREA:

### A.(2)(b). DESCRIBE PRACTICES WHICH ARE USED TO RETAIN SEDIMENT ON SITE FOR COMMON DRAINAGE LOCATIONS SERVING TEN (10) OR FEWER ACRES OF DISTURBED AREA:

THE PROPOSED PROJECT INCLUDES CONSTRUCTION OF THREE STORM WATER BASINS ONE PERMANENT WETLAND, AND ONE TERRACE. THE PROJECT DISTURBED AREA IS 9.0 ACRES.

### A.(2)(c), SURFACE WATER WITHDRAWAL, SURFACE WATER BUFFERS, STORM WATER DISCHARGE INTO VEGETATED AREAS, & TOPSOIL PRESERVATION:

### i. DESCRIBE OUTLETS THAT WITHDRAW WATER FROM SURFACE OF BASINS:

PERFORATED PLASTIC HICKENBOTTOM (OR EQUAL) INTAKES ARE USED TO DRAIN TERRACES. MANUFACTURED SRPE DROP STRUCTURES ARE USED TO DRAIN THE CONSTRUCTED WETLAND

### ii. DESCRIBE NATURAL BUFFERS AROUND SURFACE WATERS:

THE PROPOSED PROJECT INCLUDES RE-ESTABLISHING VEGETATION IN THE RIPARIAN BUFFER AREA OF PROPOSED STREAM CHANNELS AND CONSTRUCTED WETLANDS. EXISTING VEGETATION OUTSIDE THE PROJECT LIMITS WILL REMAIN TO PROVIDE A BUFFER TRANSITIONING BACK TO NON-RECLAIMED AREAS.

### iii. REDIRECTION OF STORM WATER DISCHARGES TO AND THROUGH VEGETATED AREAS FOR INCREASED SEDIMENT REMOVAL AND OPPORTUNITY FOR INFILTRATION TO THE SOIL

WHERE PRACTICABLE, OFFSITE AND ONSITE RUNOFF FLOWS ARE DIRECTED INTO TERRACES, DETENTION BASINS, AND CONSTRUCTED WETLANDS.

### iv. TOPSOIL PRESERVATION:

THE SITE IS AN ABANDONED COAL MINE RECLAMATION PROJECT; NO TOPSOIL EXISTS PRIOR TO RECLAMATION-RELATED CONSTRUCTION ACTIVITIES. THEREFORE, THE TOPSOIL PRESERVATION REQUIREMENT WILL NOT BE MET. THE SITE CONSISTS OF MINE SPOIL MATERIAL CLASSIFIED AS MINE PITS AND DUMPS - SOIL TYPE 502 ON USDA SOIL SURVEY MAPS. AFTER FINAL GRADE IS ACHIEVED, AGRICULTURAL LIME WILL BE APPLIED AT A RATE TO BE DETERMINED BY SOIL TESTS. THE AGRICULTURAL LIME, ALONG WITH 5 TONS OF MULCH WILL BE INCORPORATED INTO THE UPPER ONE (1) FOOT OF THE MINE SPOIL TO PRODUCE A GROWING MEDIUM AS OUTLINED IN PROJECT SPECIFICATION 02400. AFTER A PERIOD OF TIME TO ALLOW FOR NEUTRALIZATION AND MULCH DECOMPOSITION. THE SITE WILL BE PREPARED FOR SEEDING. AGRICULTURAL LIME, FERTILIZER, SEED AND CRIMPED MULCH WILL BE APPLIED AS OUTLINED IN PROJECT SPECIFICATION 02700.

### B(1). DESCRIBE POST-CONSTRUCTION PRACTICES THAT WILL ATTENUATE PEAK RUNOFF FLOWS AND REDUCE SUSPENED SOLIDS IN WATER FLOWS:

THE PROPOSED PROJECT INCLUDES CONSTRUCTION OF THREE STORM WATER BASINS, ONE PERMANENT WETLAND, AND ONE TERRACE. ALL OF THESE STRUCTURES WILL STORE TEMPORARY STORMWATER RUNOFF, TRAPPING SEDIMENT AND REDUCING THE SUSPENDED SOLIDS OF THE FEELUENT

### B.(2). DESCRIBE TYPE AND LOCATION OF VELOCITY DISSIPATION DEVICES:

ALL PIPE OUTLETS WILL BE PROTECTED WITH RIP-RAP PLUNGE POOLS. THESE PLUNGE POOLS WILL DISSIPATE ENERGY AND REDUCE VELOCITIES OF THE RUNOFF. THE CENTRAL STREAM CHANNEL IN THE SITE ALSO INCLUDES FIVE RIP-RAP CHECK DAMS WHICH WILL DISSIPATE ENERGY AND HELP SETTLE OUT SEDIMENT FROM THE RUNOFF.

### C.(1). WASTE DISPOSAL -- DESCRIBE HOW BUILDING MATERIALS WASTE WILL BE ADDRESSED ON THE SITE:

THIS PROJECT IS PRIMARILY A GRADING AND DRAINAGE PROJECT. BUILDING MATERIALS WASTES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, CARDBOARD PACKAGING, PIECES OF WOOD, PLASTIC SHRINK WRAP, STEEL BANDS USED FOR PACKAGING, PIECES OF UNUSED PLASTIC PIPE OR FITTINGS, AND PORTLAND CEMENT CONCRETE WASHOUT RESIDUE. ALL CONSTRUCTION WASTES WILL BE DISPOSED OFFSITE.

### C.(2). TRACKING OF SEDIMENTS -- DESCRIBE HOW VEHICLE TRACKING OF SEDIMENTS TO OFFSITE AREAS WILL BE MINIMIZED:

- TRACKING OF SEDIMENTS OFFSITE WILL BE REDUCED BY AVOIDING VEHICLE TRAVEL ACROSS THE SITE SURFACE SOILS WHEN THEY ARE WET.
- A GRAVELED ENTRANCE WILL BE INSTALLED USING 3" NOMINAL MACADAM STONE. THE INSTALLATION WILL FUNCTION TO AID IN CLEANING OFF THE TIRES OF VEHICLES LEAVING THE SITE.
- IF "a" CANNOT BE ACCOMPLISHED, AND "b" PROVES INEFFECTIVE, THEN MUD FROM VEHICLE TIRES WILL BE MANUALLY CLEANED OFF, TO THE EXTENT PRACTICABLE, BEFORE THE VEHICLE LEAVES THE SITE.

### C.(3). COMPLIANCE WITH STATE OR LOCAL SANITARY WASTE DISPOSAL REGULATIONS:

POLLUTION FROM HUMAN SANITARY WASTE WILL BE PREVENTED WITH THE USE OF A PORTABLE TOILET INSTALLED ON THE SITE. THE PORTABLE TOILET WILL BE SUPPLIED AND MAINTAINED BY THE CONTRACTOR. ON TIMELY INTERVALS, HUMAN SANITARY WASTE FROM THE PORTABLE TOILET WILL BE COLLECTED AND DISPOSED OFFSITE BY A QUALIFIED PROFESSIONAL SERVICES COMPANY RETAINED BY THE CONTRACTOR. PORTABLE TOILET FACILITIES MUST BE ANCHORED TO THE SOIL SURFACE TO RESIST OVERTURNING BY WIND OR VANDALISM.

### 3. MAINTENANCE -- DESCRIBE MAINTENANCE AND PROTECTIVE MEASURES TO KEEP CONTROLS AND PRACTICES IN WORKING ORDER:

TO THE EXTENT PRACTICABLE. THE EFFORTS WILL BE MADE TO AVOID TRAFFIC OVER OR DAMAGE TO INSTALLED PRACTICES AND CONTROLS. IF DAMAGED, REPAIRS OR REPLACEMENTS TO BMP'S WILL BE MADE AS SOON AS POSSIBLE OR WITHIN SEVEN (7) DAYS FOLLOWING INSPECTION

# 4. INSPECTIONS, REVISIONS & REPAIRS -- NOTE SPECIAL CONSIDERATIONS OR PROCEDURES, IF ANY, FOR

PER CONTRACT DOCUMENTS, IDALS-DSCWQ IN PARTNERSHIP WITH PATHFINDERS RC&D WILL PERFORM AND DOCUMENT ALL WEEKLY INSPECTIONS FOR THIS SWPPP IN ACCORDANCE WITH PART IV.D.4.C. ELECTRONIC COPIES OF WEEKLY INSPECTIONS REPORTS WILL BE AVAILABLE UPON REQUEST. REQUIRED REVISIONS OR REPAIRS WILL BE MADE WITHIN SEVEN (7) DAYS FOLLOWING INSPECTION.

### 5. NON-STORMWATER DISCHARGES -- DESCRIBE PRACTICES TO PREVENT NON-STORMWATER POLLUTION:

LESS THAN 1000 GALLONS OF DIESEL FUEL AND/OR LUBRICATING OILS ARE EXPECTED TO BE ON SITE AT ANY ONE TIME. THEREFORE, RISK OF GROSS POLLUTION TO RECEIVING WATERS IS MINIMAL. IF FUEL OR OIL SPILLS OCCUR, LIQUID POLLUTANTS WILL BE CONTAINED USING SMALL BERMS MADE FROM SITE SOILS TO PREVENT TRAVEL OF POLLUTANTS TO RECEIVING WATERS. SUFFICIENT TIME WILL BE GIVEN FOR THE POLLUTANTS IN IT TO VOLATILIZE IN THE CONTAMINATED SOIL AND/OR CONTAMINATED SOIL WILL BE DISPOSED OFF-SITE.

### 6. ADDITIONAL REQUIREMENTS FOR STORM WATER DISCHARGE FROM INDUSTRIAL ACTIVITIES **OTHER THAN CONSTRUCTION:**

THERE ARE NO ADDITIONAL REQUIREMENTS BECAUSE THIS SWPPP IS FOR A "CONSTRUCTION ONLY" SITE WHERE THERE IS NO INDUSTRIAL SOURCE, OTHER THAN CONSTRUCTION, THAT IS GENERATING THE DISCHARGE.

### 7. IMPLEMENTATION OF CONTROLS:

THE GENERAL CONTRACTOR IDENTIFIED ON THE CONTRACT, WILL BE ULTIMATELY RESPONSIBLE FOR ALL ASPECTS OF THE PROJECT. THESE INCLUDE GRADING, PIPE INSTALLATION, AND INSTALLATION OF BMPS. AN EROSION CONTROL OR SEEDING SUBCONTRACTOR MAY BE RESPONSIBLE IN SOME SITUATIONS.

# 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

PROJEC RECLAMATION

SUMMAR

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