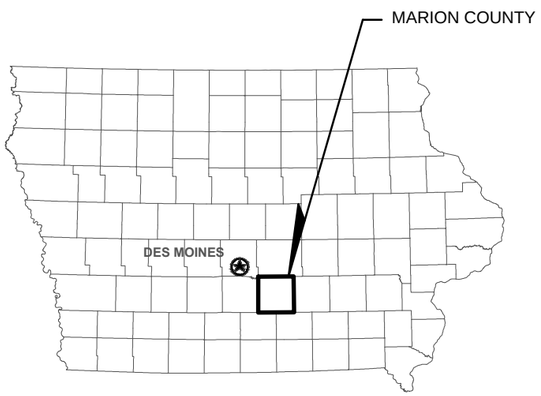
LANE (IA-115)
AML RECLAMATION PROJECT

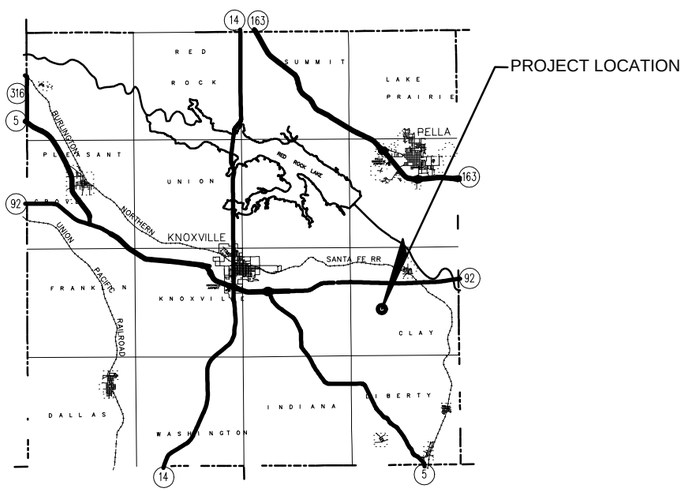
SW ¼ NE ¼ SECTION 20, TOWNSHIP 75N, RANGE 18W, MARION COUNTY IOWA

DIVISION OF SOIL CONSERVATION
IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

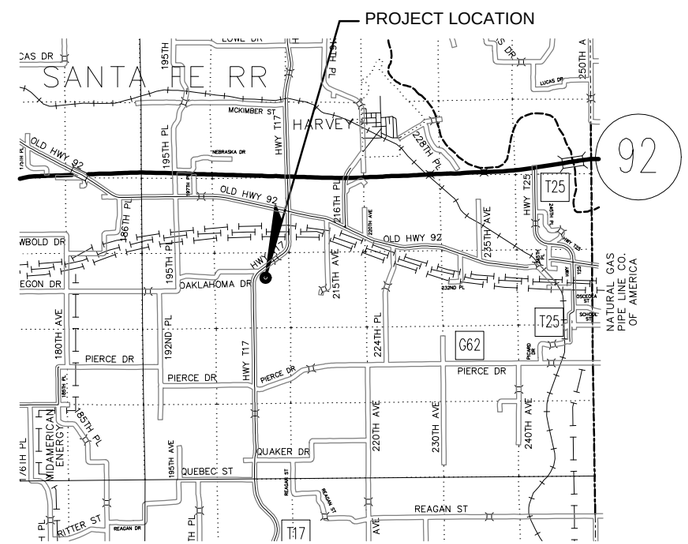
FUNDED BY:
U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
GRANT NO: S11AF20027
IN PARTNERSHIP WITH MARION SWCD, RED ROCK ENVIRONMENT EDUCATION FUND, AND PATHFINDERS RC & D
WATERSHED COOPERATIVE AGREEMENT PROGRAM



STATE OF IOWA



MARION COUNTY



LOCAL VICINITY

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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: Wallace J. Greenlees Date: 7/9/2012

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License Number: 16735
My license renewal date is: DECEMBER 31, 2012
Pages or sheets covered by this seal: ENTIRE DOCUMENT (1 - 16)

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1	7/9/2012	REVISED SELECTED NOTE TEXT ON SHEETS 7,9,13,15
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IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

LANE
AML RECLAMATION PROJECT

COVER SHEET

PROJECT NOTES

GENERAL NOTES:

1. 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 AS WELL AS THE SUPPLEMENTAL SPECIFICATIONS ESTABLISHED BY THE ENGINEER. SPECIFICATIONS OR 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 SPECIFICATIONS.

2. 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.

3. 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 ENGINEER.

3. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND/OR DIVISION 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 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 CONTRACTORS 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 EXCERCISE 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.

CONSTRUCTION SURVEYING NOTES:

1. THE CONTRACTOR SHALL POSSESS OR HIRE A SURVEYOR THAT POSSESSES GPS EQUIPMENT CAPABLE OF COMMUNICATING WITH THE IOWA RTN OR SIMILAR CONTINUOUSLY OPERATING REFERENCE STATION NETWORK. THE SURVEYORS EQUIPMENT SHALL BE CAPABLE OF COLLECTING AND STAKING OUT DATA IN THE IOWA STATE PLANE COORDINATE SYSTEM.

2. GPS MACHINE CONTROL IS NOT REQUIRED FOR THIS PROJECT.

3. HORIZONTAL MEASUREMENTS ARE IN U.S. SURVEY FEET. THIS DRAWING IS SET TO THE NAD 1983 IOWA STATE PLANE, SOUTH ZONE COORDINATE SYSTEM.

4. ELEVATION MEASUREMENTS ARE BASED UPON THE NAVD 1988 AND ARE IN U.S. FEET.

5. EXISTING TOPOGRAPHY SHOWN ON THIS DRAWING WAS DEVELOPED FROM LIDAR INFORMATION FOR MARION COUNTY, IOWA THAT IS PUBLICLY AVAILABLE THROUGH THE NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS LIBRARY. LIDAR DATA WAS COLLECTED IN THE SPRING OF 2008 AND PUBLISHED FEBRUARY 19, 2010, IT IS MADE AVAILABLE THROUGH A PROGRAM OF THE IOWA DEPARTMENT OF NATURAL RESOURCES.

6. NO LOCAL CONTROL POINTS HAVE BEEN ESTABLISHED FOR THIS PROJECT. IF ANY ARE REQUIRED, THE CONTRACTOR SHALL DIRECT HIS SURVEYOR TO ESTABLISH CONTROL POINTS AS NECESSARY TO FACILITATE PROPER CONSTRUCTION STAKING.

7. SHOULD THERE EXIST SIGNIFICANT DIFFERENCES BETWEEN THE LIDAR ELEVATIONS SHOWN ON THE DRAWINGS AND THOSE REPORTED BY THE SURVEYING EQUIPMENT, THE CONTRACTOR SHALL DIRECT HIS SURVEYOR TO CALIBRATE THE GPS INSTRUMENTS TO THE LIDAR ELEVATIONS SHOWN.

TABLE: ESTIMATED QUANTITIES

ITEM NO.	ITEM	SPEC. SECTION	QTY.	UNITS
1	MOBILIZATION	02100	1	LUMP SUM
2	CLEARING & SITE PREPARATION	02100	9.5	ACRES
3	OFF-SITE WASTE DISPOSAL	02100	7	TON
4	SURFACE ROUGHENING	02120	9.5	ACRES
5	SILT FENCE INSTALLATION	02120	2105	LF
6	SILT FENCE REMOVAL	02120	2105	LF
7	STRAW WATTLE INSTALLATION, 9" DIA.	02120	75	LF
8	RECP, TYPE 3.B	02120	270	SY
9	EXCAVATION	02200	41305	CY
10	SELECT BORROW, EARTHWORK	02210	13083	CY
11	TERRACES	02300	722	LF
12	RIPRAP	02300	33	TON
13	TERRACE TILING, 8"	02300	370	LF
14	TERRACE HDPE PIPE, 12"	02300	274	LF
15	TERRACE INLET RISERS, 8"	02300	2	EACH
16	TERRACE INLET RISERS, 12"	02300	1	EACH
17	TERRACE TILING OUTLET, 8"	02300	2	EACH
18	TERRACE TILING OUTLET, 12"	02300	1	EACH
19	AG LIME, SUBGRADE, (15 TON ECCE/ACRE)	02400	120	TON ECCE
20	MULCH, SUBGRADE, (5 TON/ACRE)	02400	1.4	ACRES
21	AG LIME, SEEDING, (5 TON ECCE/ACRE)	02700	48	TON ECCE
22	NITROGEN (N), (80 LB./ACRE)	02700	500	POUNDS
23	PHOSPHOROUS (P), (60 LB./ACRE)	02700	400	POUNDS
24	POTASSIUM (K), (100 LB./ACRE)	02700	772	POUNDS
25	PERMANENT SEEDING	02700	9.5	ACRES
26	MULCH, SEEDING (3 TON/ACRE)	02700	9.5	ACRES

PROJECT CONSTRUCTION NOTES:

1. QUANTITIES OF FERTILIZER AND LIME ARE ESTIMATED FOR BIDDING PURPOSES. ACTUAL QUANTITIES APPLIED WILL BE DETERMINED BY SOIL TESTS.

2. REQUIRED CONSTRUCTION STAKING: WETLAND EXCLUSION BOUNDARY, NORTH AREA GRADING LIMITS, TERRACE LOCATION AND ELEVATION, STAKING FOR SUBGRADE ELEVATION, ROUGH GRADING FOR THE SOUTH BASIN, AND AUX SPILLWAY DITCH ALIGNMENT AND GRADE.

3. SOUTH AREA CLEARING LIMITS, SLOPE STAKING, AND GRADE STAKES FOR MASS CUT AREAS ARE STRONGLY RECOMMENDED, IN SUBSTANTIAL CONFORMANCE TO THE REQUIREMENTS OF SPECIFICATION SECTION 02010,3.6 A.

LEGEND

- OE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- UT — UNDERGROUND TELEPHONE
- OT — OVERHEAD TELEPHONE
- SAN — SANITARY SEWER
- ST — STORM SEWER OR TERRACE DRAIN
- W — WATER LINE
- G — NATURAL GAS LINE
- FO — FIBER OPTIC LINE
- —*^*— TREE LINE
- X — EXISTING FENCE
- O — PROPOSED FENCE
- SILT FENCE
- TERRACE CHANNEL FLOW DIRECTION
- NO — BURN — ¼ MILE BURN RADIUS LIMIT LINE
- SURVEY CONTROL POINT
- SECTION CORNER FOUND
- POWER POLE

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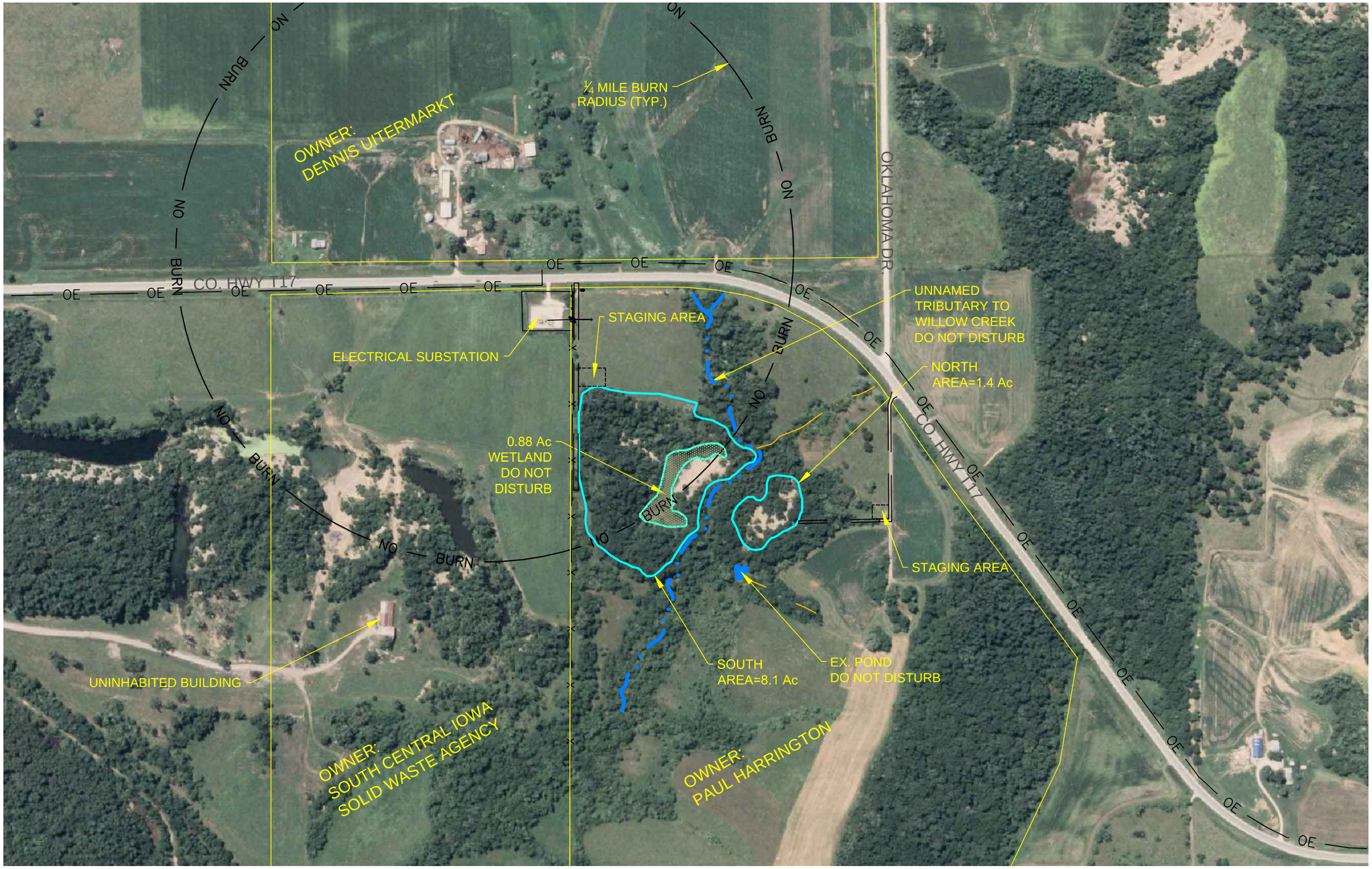
PROJECT NOTES, LEGEND & QUANTITIES



NOTES THIS SHEET:

1. PROPERTY LINES AND SECTION LINES, IF SHOWN, ARE APPROXIMATE.
2. NO SURVEY CONTROL POINTS FOR THIS PROJECT HAVE BEEN ESTABLISHED
3. CONTRACTORS SURVEYOR SHALL CALIBRATE SURVEY INSTRUMENTS TO THE SITE.

0 400 800

SCALE: 1"=400'

NORTH

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SITUATION PLAN
BURN RADII & SITE FEATURES

SHEET 3 OF 16

NOTES THIS SHEET:

1. UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY.
2. CONTRACTOR SHALL CONTACT IOWA ONE-CALL FOR UTILITY LOCATES.

0 200 400

SCALE: 1"=200'

NORTH

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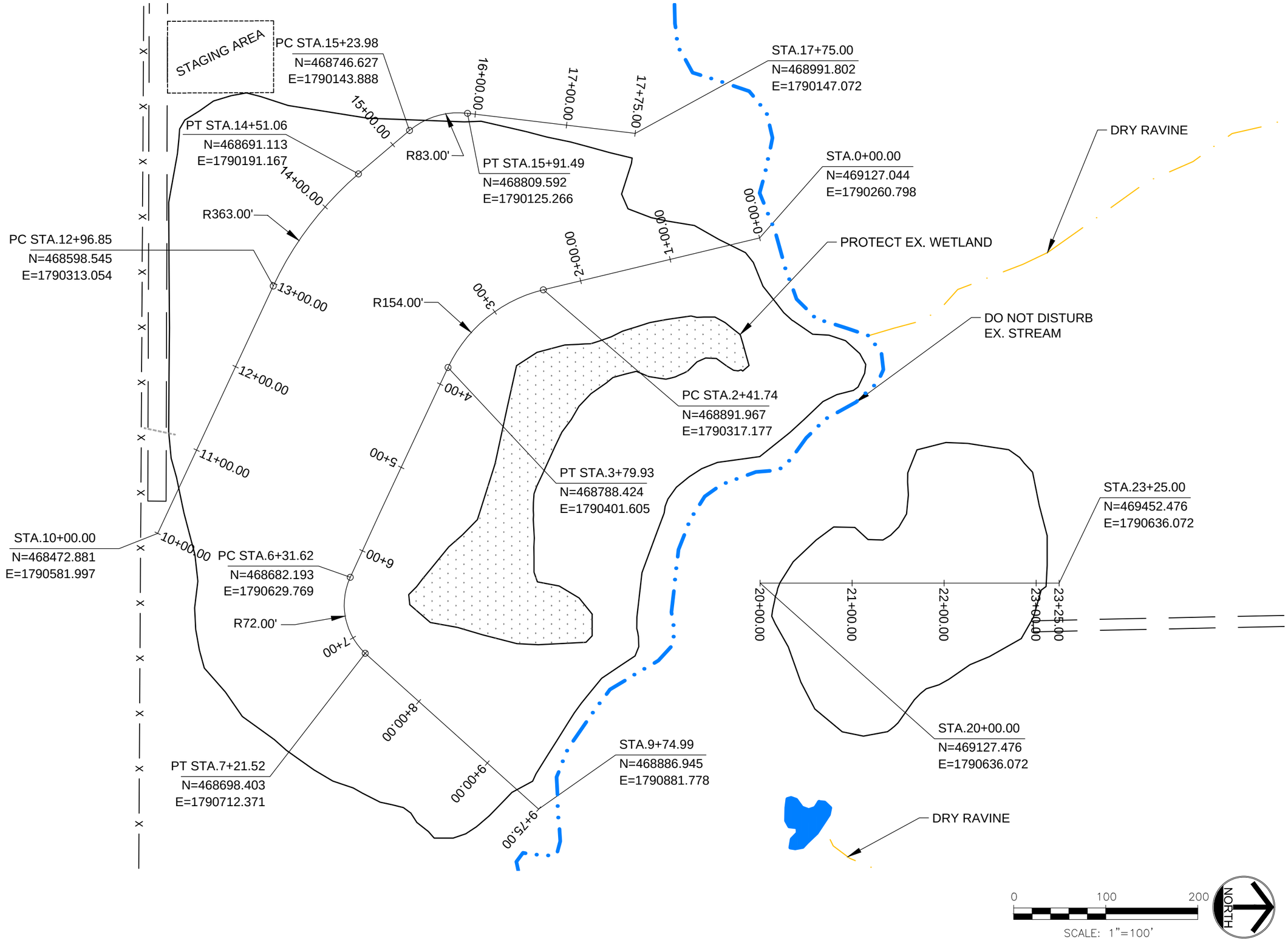
SITUATION PLAN
CLEARING & SITE PREPARATION



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SITUATION PLAN
SURVEY BASELINE DETAILS

SHEET **5** OF **16**

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

SITE INFORMATION:

1. SITE IS LOCATED IN THE SW ¼ OF THE NE ¼ SECTION 20 TOWNSHIP 75 NORTH RANGE 18 WEST, MARION COUNTY, IOWA

2. THIS SWPPP COVERS THE RECLAMATION OF APPROXIMATELY 9.5 ACRES OF STRIP MINED LAND.

3. THE PREDOMINATE SOIL TYPES ARE: MINE SPOIL SURROUNDED BY GARA LOAM, LADOGA SILT LOAM, AND SHARPSBURG SILTY CLAY LOAM.

4. RUNOFF FROM THE CONSTRUCTION AREA WILL FLOW INTO AN UNNAMED TRIBUTARY TO THE WILLOW CREEK TO THE WALNUT CREEK

5. THE AVERAGE NRCS RUNOFF CURVE NUMBER FOR THIS LAND AFTER PERMANENT VEGETATION IS ESTABLISHED IS ESTIMATED TO BE 74.

GENERAL:

1. THIS PROJECT WILL BE COVERED BY NPDES GENERAL PERMIT NO. 2 WHICH REGULATES RUNOFF FROM CONSTRUCTION SITES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE REQUIRED MONITORING INSPECTION, AND MAINTENANCE OF ALL BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED BY THE PERMIT.

2. THE PRIME CONTRACTOR AND ALL ITS SUBCONTRACTORS SHALL CONDUCT THEIR OPERATIONS IN A MANNER WHICH MINIMIZES EROSION AND PREVENTS SEDIMENTS FROM LEAVING THE CONSTRUCTION SITE. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION AND COMPLIANCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE ENTIRE CONTRACT. THIS REPONSIBILITY SHALL BE FURTHER SHARED WITH ALL ITS SUBCONTRACTORS.

3. THE WORK SHALL BE DONE IN ACCORDANCE WITH THIS PLAN, THE CONTRACT DRAWINGS, AND SECTION 02120 OF THE CONSTRUCTION SPECIFICATIONS. IN THE EVENT OF CONFLICT BETWEEN THESE REQUIREMENTS AND WATER POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF OTHER FEDERAL, STATE OR LOCAL AGENCIES, THE MORE RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.

4. A COPY OF THE SWPPP SHALL BE KEPT IN A CONTRACTOR-SUPPLIED, WEATHER-PROTECTED ENCLOSURE SUCH AS A MAILBOX, SO THAT THE PLAN IS ACCESSIBLE AT THE SITE AT ALL TIMES. A SIGN OR NOTICE POSTED BY THE CONTRACTOR SHALL INDICATE THE PLAN'S LOCATION.

5. THE CONTRACTOR SHALL NOTIFY THE IOWA DNR, THE DIVISION, AND THE LOCAL POILICE DEPARTMENT OF ANY HAZARDOUS CONDITIONS AS SOON AS POSSIBLE BUT NOT MORE THAN SIX (6) HOURS AFTER ONSET OF HAZARDOUS CONDITIONS. HAZARDOUS CONDITIONS AR DEFINED AS ANY SITUATION INVOLVING THE ACTUAL, IMMINENT, OR PROBABLE SPILLAGE, LEAKAGE, OR RELEASE OF A HAZARDOUS SUBSTANCE ONTO THE LAND, INTO WATERS OF THE STATE, OR INTO THE ATMOSPHERE, WHICH CREATES AN IMMEDIATE OR POTENTIAL DANGER TO THE PUBLIC HEALTH OR SAFETY OR THE ENVIRONMENT.

6. CONTRACTOR SHALL FOLLOW THE IOWA CONSTRUCTION SITE EROSION CONTROL MANUAL.

EROSION CONTROLS:

1. GRANULAR SURFACING SHALL BE INSTALLED AND MAINTAINED AT THE ENTRANCE INTO THE SITE AND OFFICE PARKING AREA TO CONTROL MUD FROM BEING TRACKED OFF SITE. ON AND OFF SITE TRACKING OF MUD SHALL BE REMOVED AS NECESSARY, IN ADDITION, WATER SHALL BE APPLIED TO HAUL ROADS AND OTHER DISTURBED EARTHEN SURFACES AS NECESSARY TO CONTROL DUST THROUGHOUT THE CONTRACT PERIOD.

2. 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, RIP-RAP, AND/OR OTHER ENERGY ABSORBING DEVICES OR APPROPRIATE BMPs SHALL BE USED.

3. EXISTING VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION SHALL BE PRESERVED.

4, WHERE PRACTICABLE, SILT FENCE SHALL BE INSTALLED AT THE DOWNSTREAM PERIMETER OF THE CONSTRUCTION AREA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITY.

5. RISERS, INLETS, INTAKES, AND OTHER SUCH WATER-CONVEYING STRUCTURES SHALL BE PROTECTED WITH SILT FENCES AT THE TIME OF THEIR INITIAL INSTALLATION.

6. IN AREAS WHERE PRESENCE OF SILT FENCE WILL INTERFERE WITH CONSTRUCTION ACTIVITIES, DIVERSION DITCHES AND TEMPORARY SEDIMENT TRAPS SHALL BE UTILIZED UNTIL THE SILT FENCE OR OTHER PRACTICES CAN BE INSTALLED.

7. LOCATIONS AND QUANTITIES OF SILT FENCE OR OTHER BMPs SHOWN ON THE PLAN ARE APPROXIMATE. ACTUAL LOCATIONS OR QUANTITIES ARE TO BE DETERMINED IN THE FIELD WITH THE APPROVAL OF THE DIVISION OR THE THE ENGINEER.

8. AS THE WORK PROGRESSES, ADDITIONAL EROSION CONTROL MEASURES DEEMED NECESSARY, AS DETERMINED BY THE DIVISION OR ENGINEER AFTER INVESTIGATION, SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE CONTRACTOR.

9. IF CONSTRUCTION ACTIVITY IS NOT PLANNED TO OCCUR IN A DISTURBED AREA FOR AT LEAST TWENTY-ONE (21) DAYS, THE AREA SHALL BE STABILIZED AS SOON AS PRACTICABLE AND WITHIN FOURTEEN (14) DAYS FOLLOWING THE LAST DISTURBANCE (UNLESS THE GROUND IS FROZEN OR SNOW COVERED) BY SURFACE ROUGHENING, TEMPORARY SEEDING, OR OTHER APPROVED METHOD.

10. NO MORE THAN FIVE (5) TOTAL ACRES OF EXPOSED ERODIBLE AREA IS ALLOWED AT ANY ONE TIME WITH PERMISSION OF THE DIVISION OR ENGINEER.

11. WHEN AREAS REACH FINAL GRADE, AND IF NO COVER MATERIAL IS PRESENT SAID AREAS SHALL BE STABILIZED BY INCORPORATING MULCH AT THE RATE OF FIVE (5) TONS PER ACRE INTO THE UPPER TWELVE (12) INCHES OF THE SOIL SURFACE. THIS SHALL ALSO INCLUDE THE INCORPORATION OF LIME AT THE RATE SPECIFIED BY SOIL TESTS.

12. PERMANENT SEEDING SHALL BE INTIATED AS SOON AS SOIL TESTS INDICATE A FAVORABLE SOIL pH. SEEDING MUST BE DONE WITHIN THE SEEDING SEASONS OUTLINED IN THE SPECIFICATIONS.

13. EROSION CONTROL MEASURES BY THE CONTRACTOR SHALL CONTINUE UNTIL PERMANENT GROUND COVER IS ESTABLISHED. AND ACCEPTED BY THE DIVISION.

14. ALL AREAS DISTURBED BEYOND CONSTRUCTION LIMITS SHOWN ON THIS PLAN MUST BE SEEDED AND STABILIZED. THE SEED MIXTURE USED SHOULD INCLUDE SPECIES SIMILAR TO AND COMPATIBLE WITH THE SURROUNDING VEGETATION.

OTHER POLLUTION CONTROLS:

1. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION SITE FREE OF ALL WASTES INCLUDING LITTER, USED PARTS, USED OIL AND CONTAINERS, TIRES, AND ANY OTHER WASTES GENERATED BY CONSTRUCTION ACTIVITIES. SANITARY WASTE GENERATED ON SITE SHALL BE TREATED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS. CONTRACTOR DISPOSAL OF UNUSED CONSTRUCTION MATERIALS AND WASTES SHALL ALSO COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

2. CONCRETE WASHOUT RESIDUE SHOULD BE CONTAINED AND HAULED OFF SITE ONCE IT HARDENS. AREAS WHERE CONCRETE WASHOUT OCCURS SHALL BE FILLED AND STABILIZED.

INSPECTIONS:

1. SITE INSPECTION SHALL BE PERFORMED BY QUALIFIED PERSONNEL OF THE CONTRACTOR, OR BY THE DIVISION OR THE ENGINEER. INSPECTIONS SHALL BE PERFORMED ONCE EVERY SEVEN (7) DAYS AND WITHIN TEWNTY-FOUR (24) HOURS FROM THE END OF A STORM PRODUCING ONE-HALF (1/2) OR GREATER RAINFALL.

2. INSPECTIONS SHALL INCLUDE: ALL SILT FENCES, HAY BALE DIKES, DITCHES, SEDIMENT TRAPS, AND ALL OTHER EROSION CONTROL DEVICES; AREAS DISTURBED BY CONSTRUCTION ACTIVITY OR USED FOR STORAGE OF MATERIALS WHICH ARE EXPOSED TO PRECIPITATION; POLLUTION CONTROL MEASURES TO ENSURE PROPER OPERATION; DRAINAGE LOCATIONS TO DETERMINE EFFECTIVENESS IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS; AND LOCATION WHERE VEHICLES AND EQUIPMENT ENTER AND EXIT THE SITE FOR EVIDENCE OF OFF-SITE TRACKING.

3. SITE INSPECTION REPORTS SHALL BE PROPERLY SIGNED BY THE PERSON CONDUCTING THE INSPECTION. THE REPORT SHALL INCLUDE: DATE, NAME AND TITLE/POSITION OF THE INSPECTOR; WEATHER INFORMATION; LOCATION OF SEDIMENT/POLLUTANT DISCHARGE; CONTROL MEASURES A) REQUIREING MAINTENANCE, B) THAT HAVE FAILED, AND C) THAT ARE NEEDED; AND CORRECTIVE ACTIONS REQUIRED INCLUDING CHANGES/UPDATES TO THE SWPPP.

4. THE FINDINGS OF EACH INSPECTION SHALL BE RECORDED AND KEPT AT THE SITE IN A PROJECT FILE. THE CONTRACTOR SHALL IMMEDIATELY BEGIN CORRECTIVE ACTION ON ALL DEFICIENCIES FOUND. ALL CORRECTIVE ACTIONS SHALL BE COMPLETED WITHIN THREE (3) WORKING DAYS OF THE INSPECTION.

5. THE SWPPP MAY BE REVISED BASED ON FINDINGS OF THE INSPECTIONS. SUCH REVISIONS SHALL BE MADE WITHIN SEVEN (7) DAYS OF THE INSPECTION. THE CONTRACTOR SHALL IMPLEMENT ALL REVISIONS.

6. COPIES OF INSPECTION REPORTS WILL BE RETAINED WITH THE SWPPP FOR THREE (3) YEARS FROM THE DATE THE PERMIT COVERAGE TERMINATES.

MAINTENANCE:

1. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES IN PROPER WORKING ORDER FOR THE DURATION OF THE CONTRACT. IF A MEASURE IS NO LONGER NEEDED AS DETERMINED BY THE DIVISION OR ENGINEER, IT SHALL BE REMOVED, MAINTENANCE INCLUDES CLEANING, REPAIRING, OR REPLACING AS REQUIRED. IN GENERAL, MAINTENANCE SHALL BE PERFORMED PRIOR TO THE NEXT ANTICIPATED STORM EVENT.

2. REMOVE SEDIMENT FROM SEDIMENT TRAPS, DITCHES, AND SILT FENCES WHEN THEIR INSTALLED CAPACITY IS REDUCED BY FIFTY (50) PERCENT OR MORE.

3. SEDIMENT WHICH ESCAPES THE SITE SHALL BE CLEANED UP BY THE CONTRACTOR AND RETURNED TO THE SITE FOR PROPER DISPOSAL.

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LANE
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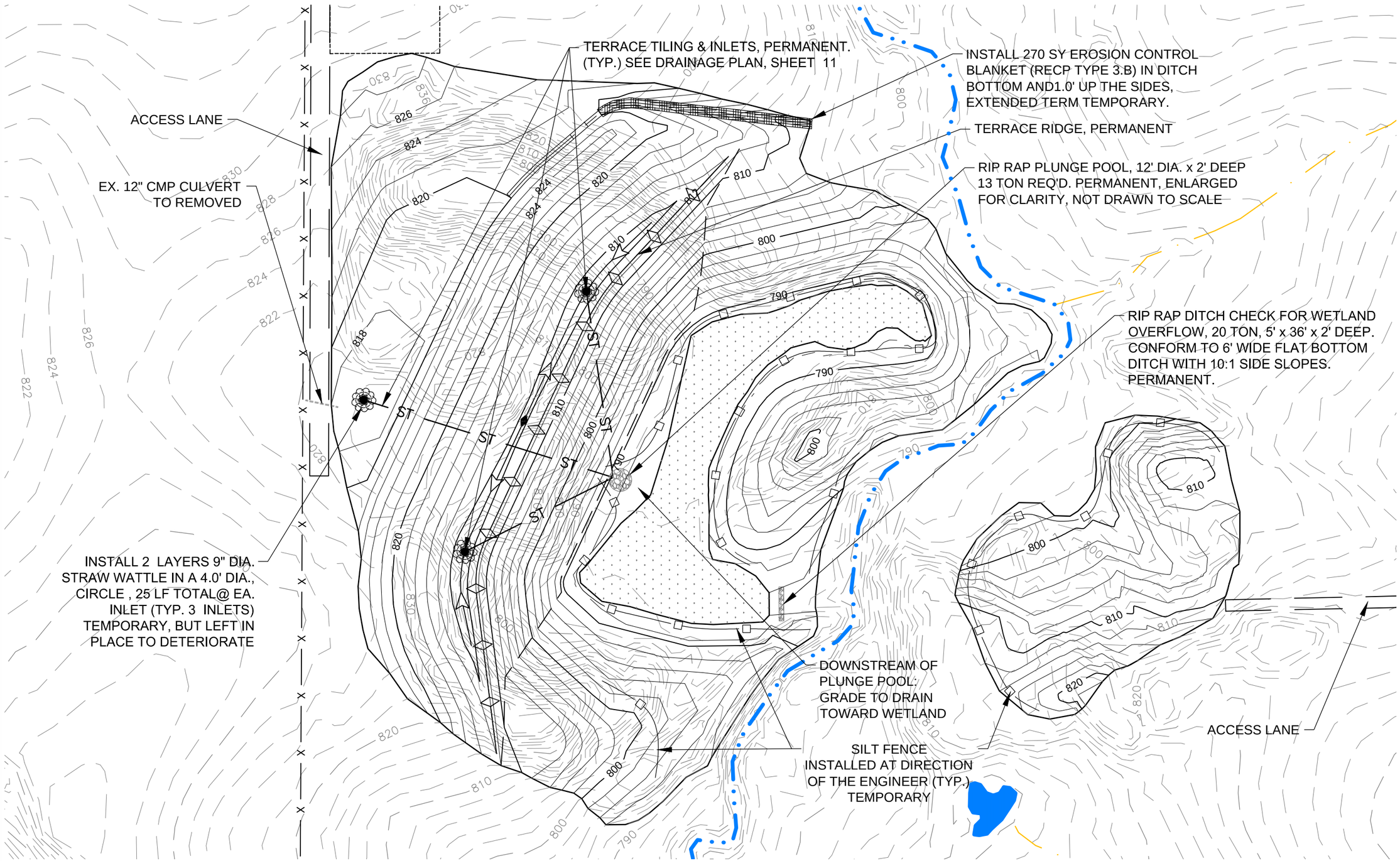
SWPPP DESCRIPTION

DIVISION OF SOIL CONSERVATION
IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
HENRY A. WALLACE BUILDING
502 E. 9th STREET, DES MOINES, IOWA 50319
(515)281-4246

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)



WETLAND AREA: DO NOT DISTURB

RIP RAP

RECP TYPE 3.B SEE SPEC. SEC. 2120, 2.1H

0 100 200

SCALE: 1"=100'

NORTH

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REVISION:	DATE:	DESCRIPTION:
1	7/9/2012	ADDED NOTE: GRADING BELOW PLUNGE POOL
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ISSUE DATE: 06-27-2012

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IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP

CHKD. BY: MLB

DRAWN BY: WJG

DESIGN BY: WJG

LANE
AML RECLAMATION PROJECT

SWPPP DESIGN

SHEET 7 OF 16

STAGING AREA

1.5 Ac SELECT BORROW AREA
13,083 CY SELECT BORROW
ASSUMES 15% BULKING.

6.6 AC, EXCLUDING WETLAND AREA,
TO CONSTRUCT 1.0' LOWER THAN
FINISHED GRADE: EXCAVATION = 39,015 CY
VOLUME OF SELECT MATERIAL IMPORT TO
FILL TOP 1.0' = 12,317 CY.
16% SHINKAGE ASSUMED.

DO NOT DISTURB

WETLAND AREA

1.4 Ac NORTH AREA:
NO EXPORT OF SPOIL
NO IMPORT OF SELECT FILL
EXCAVATION: 2290 CY.

STAGING AREA

EXPORT APPROX. 3500 CY FROM SPOIL PILE
NORTH OF WETLAND TO CREATE GRADED
CONTOURS 1' LOWER THAN FINISHED GRADES
SHOWN ON SHT. 9

WETLAND AREA:
DO NOT DISTURB

EXCAVATION AREA FOR
SELECT BORROW

AREA TO CONSTRUCT 1' LOWER THAN FINISHED CONTOURS SHOWN ON
SHEET 9. PLACEMENT OF 1.0' SELECT FILL MUST INCLUDE TERRACE
CONSTRUCTION. TERRACE IS CONSTRUCTED OF SPOIL MATERIAL
EXCEPT FOR TOP 1.0'

0 100 200
SCALE: 1"=100'

NORTH

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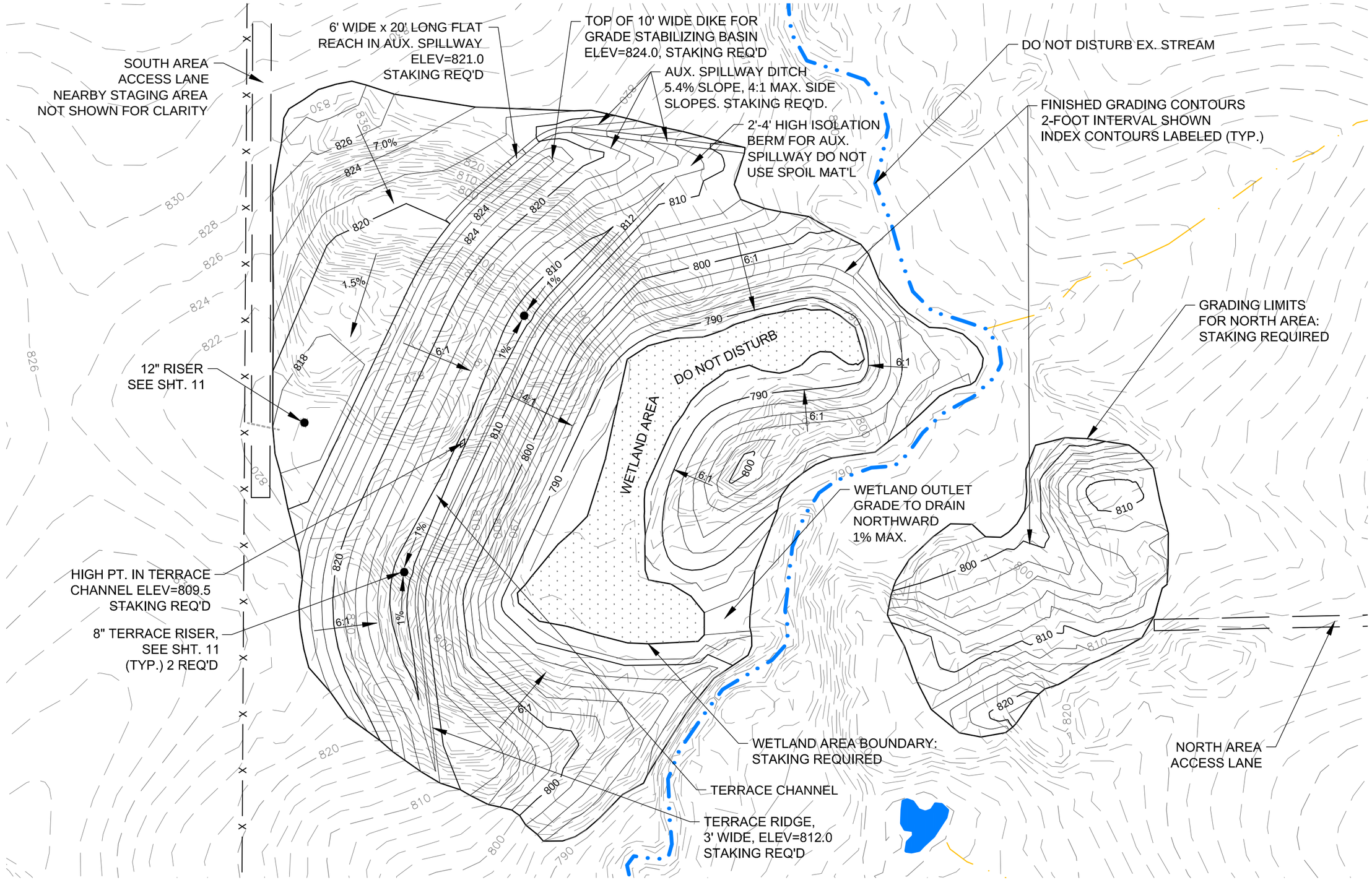
SELECT BORROW & FILL PLAN

SHEET 8 OF 16



NOTES THIS SHEET:

1. PROPERTY LINES, SECTION LINES, AND FENCE LINES, IF SHOWN, ARE APPROXIMATE.
2. PROPOSED GRADING CONTOURS SHOWN ARE TO FINISHED ELEVATION WHICH INCLUDES 1.0' OF SELECT FILL.
3. AREAS TO RECEIVE SELECT FILL SHALL BE BUILT 1.0' LOWER THAN CONTOUR LINES SHOWN ON THIS SHEET. REFER TO SHT. 8

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REVISION:	DATE:	DESCRIPTION:
1	7/9/2012	ADDED SIDE SLOPE INFO TO AUX. SPILLWAY
2	7/9/2012	ADDED "STAKING REQ'D TO SEVERAL NOTES
3		
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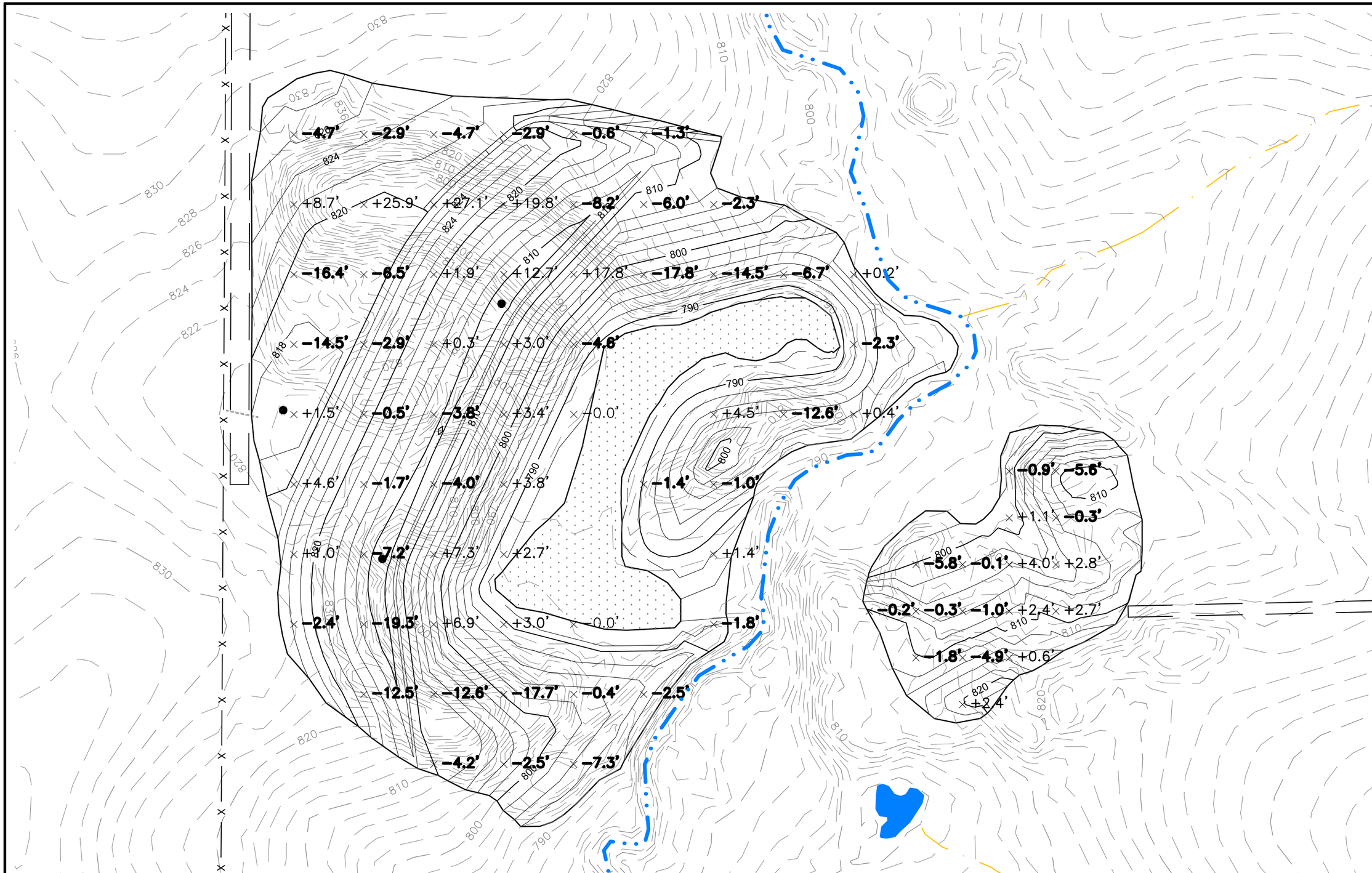
LANE
AML RECLAMATION PROJECT

FINISHED GRADING PLAN

SHEET **9** OF **16**



NOTES THIS SHEET:

1. NEGATIVE (−) VALUES INDICATE AREAS OF CUT.
2. POSITIVE (+) VALUES INDICATE AREAS OF FILL.
3. ALL VALUES SHOWN ARE IN FEET.
4. ALL CONTOURS SHOWN ARE TO FINISHED GRADE, WHICH INCLUDES TERRACE CONSTRUCTION

0 100 200

SCALE: 1"=100'

NORTH

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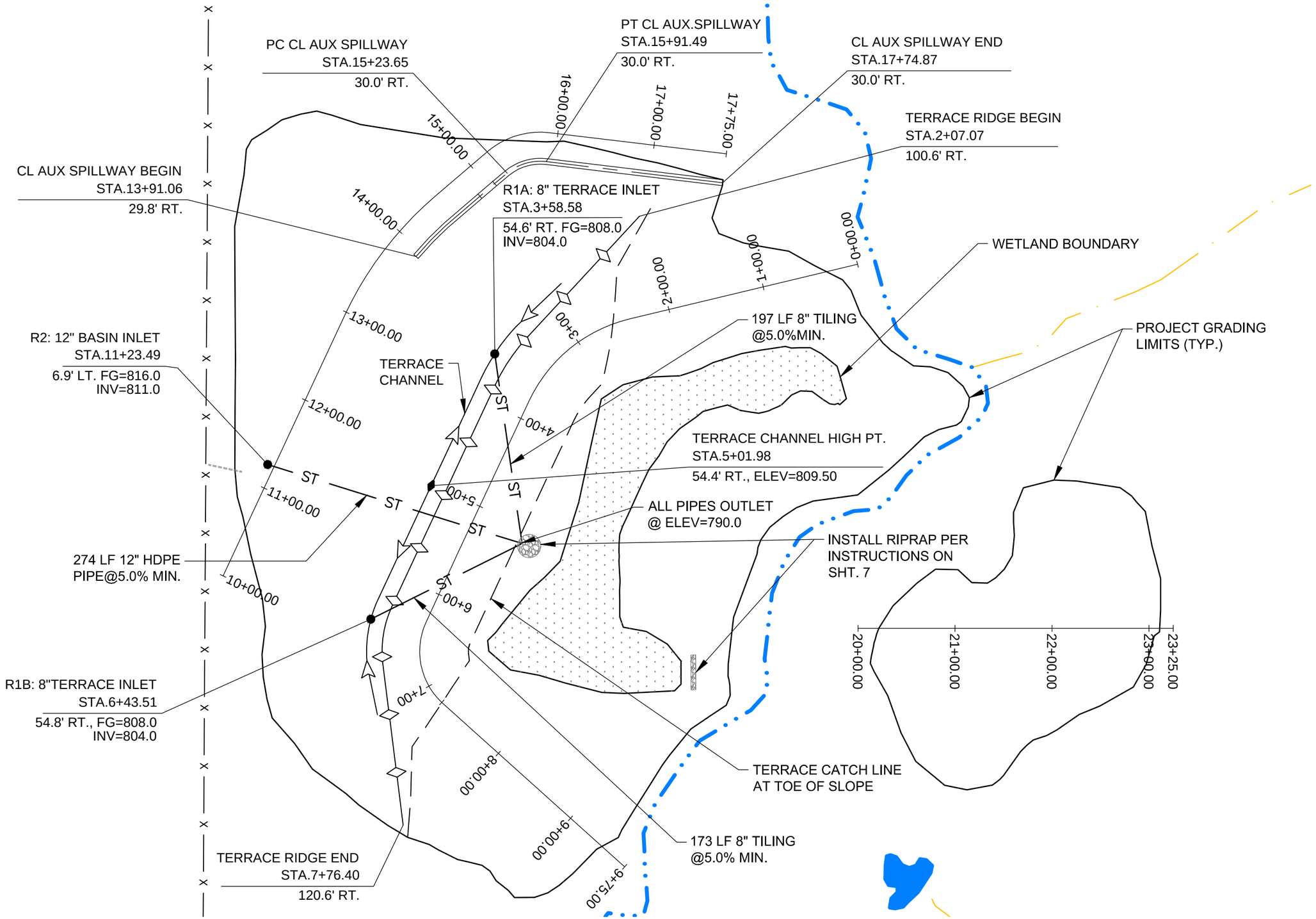
LANE
AML RECLAMATION PROJECT

CUT & FILL PLAN

SHEET **10** OF **16**



NOTES THIS SHEET:

1. FG=FINISH GRADE ELEVATION AT BASE OF INLET RISER; INV=FLOWLINE INVERT ELEVATION OF THE PIPE OR TEE.
2. PC=POINT OF CURVATURE; PT=POINT OF TANGENCY; CL=CENTERLINE; AUX=AUXILLIARY
3. ALL ELEVATIONS ARE SHOWN IN FEET.
4. PIPE SLOPES SHOWN ARE MINIMUM REQUIREMENTS FOR DESIGN CAPACITY. FIELD CONDITIONS ARE EXPECTED TO ALLOW STEEPER PIPE SLOPES.

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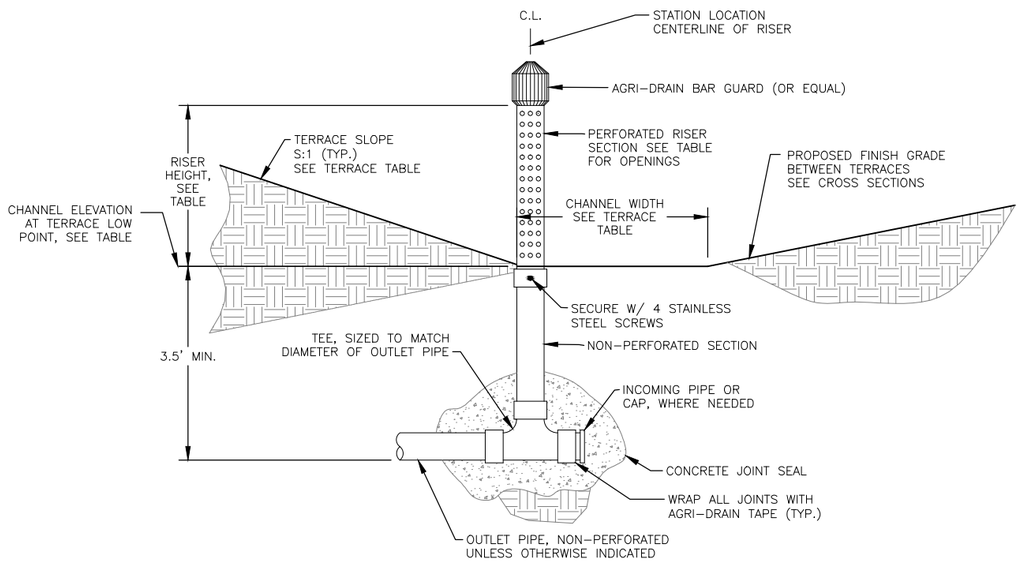
(SITE NAME)
AML RECLAMATION PROJECT

DRAINAGE & TERRACE PLAN

SHEET **11** OF **16**



NOTE: TWO (2) STEEL FENCE POSTS
REQUIRED TO SUPPORT RISER, NOT SHOWN

1/12 TERRACE INTAKE DETAIL

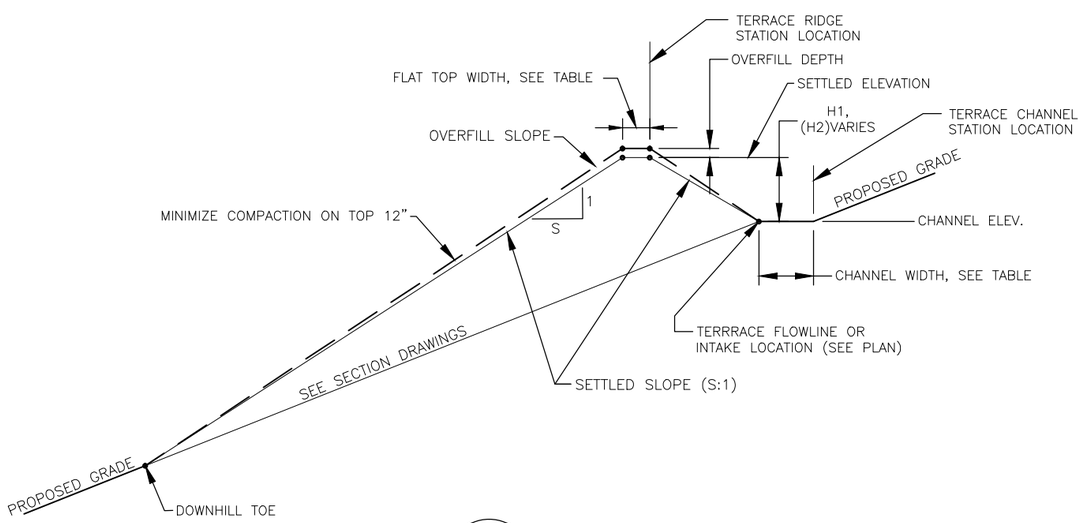
SCALE: NONE

TABLE: TERRACE INTAKES, PIPES & OUTLETS

		INTAKE RISER								TERRACE PIPE/TILE			OUTLET/END TREATMENT		
LOCATION I.D.	DWG. SHEET	DIA. (IN.)	INTAKE MATERIAL	HOLES QTY./FT	HOLE SIZE, (IN.)	CHANNEL LOW PT. ELEV(FT.)	RISER HEIGHT, (FT.)	BAR GUARD (Y/N)	9" STRAW WATTLE, L.F.	PIPE DIA., (IN.)	MIN. SLOPE, (%)	PIPE MATERIAL	RODENT GUARD	OUTLET TEE (Y/N)	DISCHARGE INTO
R1A	9	8	PLASTIC	56	1	808	2.5	YES	25	8	5.0	PLASTIC	YES	NO	PL. POOL
R1B	9	8	PLASTIC	56	1	808	2.5	YES	25	8	5.0	PLASTIC	YES	NO	PL. POOL
R2	9	12	PLASTIC	72	1	816	4.0	YES	25	12	5.0	PLASTIC	YES	NO	PL. POOL

NOTES:

1. UNLESS OTHERWISE NOTED, TWO (2) STEEL FENCE POSTS SHALL BE INSTALLED ADJACENT TO AND ON OPPOSITE SIDES OF EACH TERRACE INTAKE RISER TO REINFORCE AGAINST OVERTURNING. FENCE POSTS SHALL BE WIRED TO THE INTAKE RISER.
2. COST OF FENCE POSTS SHALL BE CONSIDERED INCIDENTAL TO COST OF INSTALLING INTAKE RISER.
3. INSTALL PRESCRIBED LENGTH OF 9" DIA. STRAW WATTLE AROUND EACH INTAKE IN THE FORM OF A 4' DIA. CIRCLE IN A STACK OF TWO LAYERS. EACH 4' DIA. LAYER WILL CONTAIN APPROXIMATELY 12.5 LF OF STRAW WATTLE. STRAW WATTLE SHALL BE STAKED IN PLACE.
4. LAST 20 LF OF ALL PLASTIC PIPE OR TILING TO DAYLIGHT SHALL BE SCH. 40 PVC OR SDR 26. PROPER ADAPTORS FROM PLASTIC TO PVC SHALL BE USED.



2/12 FILL TERRACE DETAIL

SCALE: NONE

TABLE: FILL TERRACE INFORMATION

				LOW POINT			RIDGE				CHANNEL			HIGH POINT	
TERRACE I.D.	DWG. SHEET	FILL VOLUME (C.Y.)	MAX. SETTLED SLOPE (S:1)	ELEV. (FT.)	H1 HEIGHT (FT.)	OVERFILL DEPTH, (FT.)	SETTLED ELEV. (FT.)	LENGTH, (L.F.)	WIDTH, (FT.)	LEG	LENGTH (L.F.)	WIDTH (FT.)	MAX. SLOPE (%)	CHANNEL ELEV. (FT.)	H2 HEIGHT (FT.)
T1A	9	**	3.5	808	4.0	0.5	+4	361	3	W	100	0	1.0	+1.0	3
										E	151	0	1.0	+1.5	2.5
T1B	9	**	3.5	808	4.0	0.5	+4	361	3	W	151	0	1.0	+1.5	2.5
										E	100	0	1.0	+1.0	3

NOTES:

1. CHANNEL AND RIDGE ELEVATIONS ARE SHOWN RELATIVE TO THE LOW POINT ELEVATION OF THE TERRACE CHANNEL AT THE INTAKE RISER.
2. H1=HEIGHT FROM LOW POINT IN THE TERRACE CHANNEL AT THE INTAKE TO TOP OF THE SETTLED RIDGE.
3. H2=HEIGHT FROM HIGH POINT IN THE TERRACE CHANNEL AT THE ENDS TO TOP OF THE SETTLED RIDGE.
4. TERRACE RIDGES ARE UNIFORM (LEVEL) THROUGHOUT THE ENTIRE LENGTH.
5. RIDGE LENGTHS ARE MEASURED ALONG THE CENTERLINE OF THE RIDGE.
6. OVERFILL DEPTH IS A MINIMUM ADDITIONAL 12.5% OF H1 OR 6 INCHES, WHICHEVER IS GREATER UNLESS NOTED OTHERWISE.
7. CHANNEL LENGTHS ARE MEASURED ALONG THE STATION LOCATION LINE, IN THE CHANNEL BED, TOWARD THE HIGH POINT FROM THE LOW POINT LOCATION.
8. THE FILL VOLUME IS THE ESTIMATED SETTLED VOLUME OF SOIL OF THE TERRACE CONSTRUCTED ABOVE THE FINISHED GRADE NOT INCLUDING OVERFILL.
9. ** VOLUME FOR TERRACE CONSTRUCTION IS INCLUDED IN THE OVERALL EARTHWORK QUANTITY.

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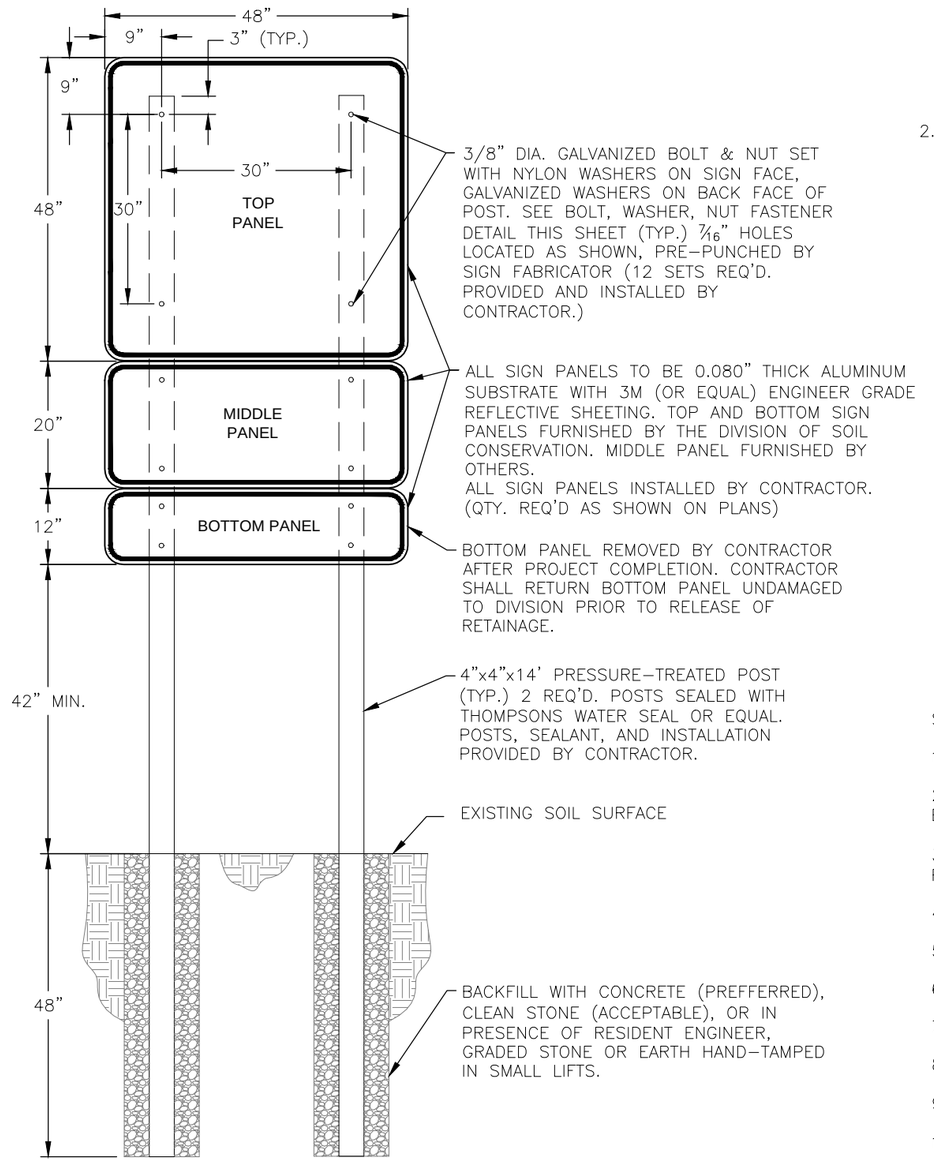
DESIGN BY: WJG

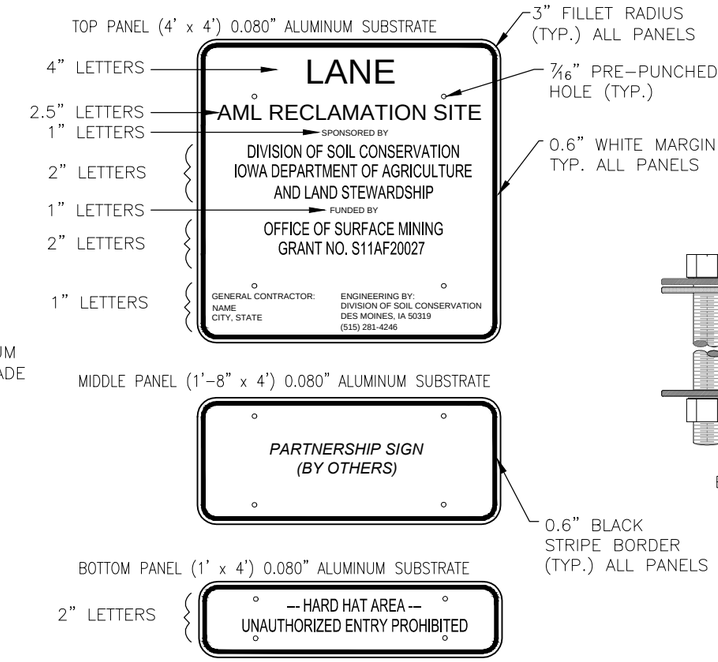
DRAWN BY: WJG

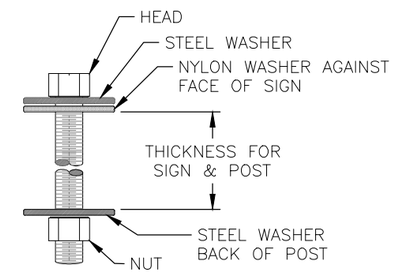
LANE
AML RECLAMATION PROJECT

TYPICAL DETAILS & TABLES

SHEET 12 OF 16







BOLT, WASHER, NUT FASTENER DETAIL
NOT TO SCALE

SIGNAGE NOTES:

1. LETTERING AND SIGN FABRICATION SHALL BE PERFORMED BY A PROFESSIONAL SIGN MAKER.

2. SIGN PANELS SHALL BE COVERED WITH WHITE, 3M ENGINEER GRADE PRISMATIC REFLECTIVE SHEETING SERIES 3430, OR EQUAL, MEETING ASTM D4956 TYPE I. SHEETING SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS.

3. LETTERING SHALL BE BLACK. INK FOR LETTERING SHALL BE 3M SERIES 880N OR EQUAL APPLIED PER MANUFACTURER'S RECOMMENDATIONS.

4. LETTERING AND LINE SPACING SHALL BE ADJUSTED TO AVOID INTERFERENCE WITH PRE-PUNCHED HOLES.

5. LETTERING AND SHEETING MUST HAVE A MINIMUM 5-YEAR PERFORMANCE WARRANTY AGAINST PEELING AND CRACKING.

6. ALL EXPOSED WOOD SHALL BE SEALED WITH THOMPSONS WATER SEAL OR EQUAL MEETING ASTM D-4446-08.

7. ALL HARDWARE SHALL BE GALVANIZED OR RUST RESISTANT.

8. NYLON AND STEEL WASHERS SHALL BE USED AS SHOWN ON THE BOLT, WASHER, NUT FASTENER DETAIL ABOVE.

9. CLEAR UTILITIES WITH IOWA ONE-CALL (800) 292-8989 BEFORE EXCAVATING FOR POSTS.

10. SECURE ENGINEERS APPROVAL FOR SIGN LOCATION BEFORE INSTALLATION.

11. COSTS FOR POSTS, HARDWARE, WOOD SEALANT AND SIGN INSTALLATION SHALL BE INCIDENTAL TO MOBILIZATION.

12. ONE (1) PROJECT SIGN IS REQUIRED, LOCATED AS SHOWN ON PLANS

3/13 PROJECT SIGN (1 REQ'D)
1"=2'

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REVISION:	DATE:	DESCRIPTION:
1	7/9/2012	REMOVED WCAP & REPLACED WITH OSM GRANT NO.
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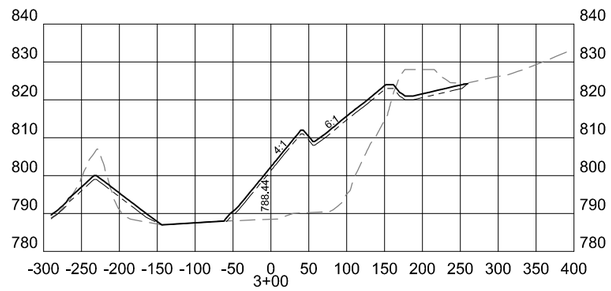
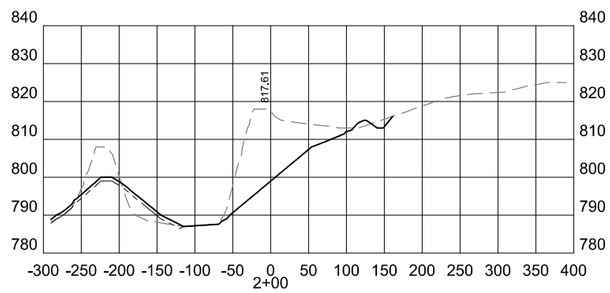
LANE
AML RECLAMATION PROJECT

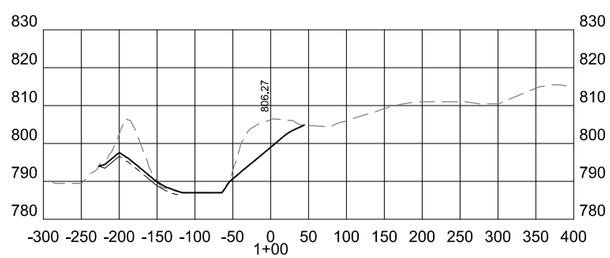
TYPICAL DETAILS
PROJECT SIGNAGE

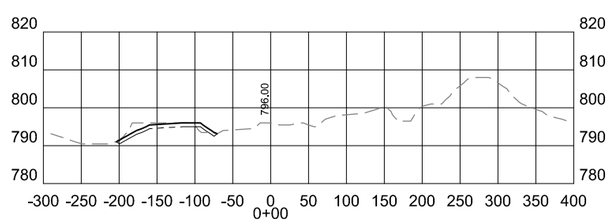
SHEET
13 OF 16

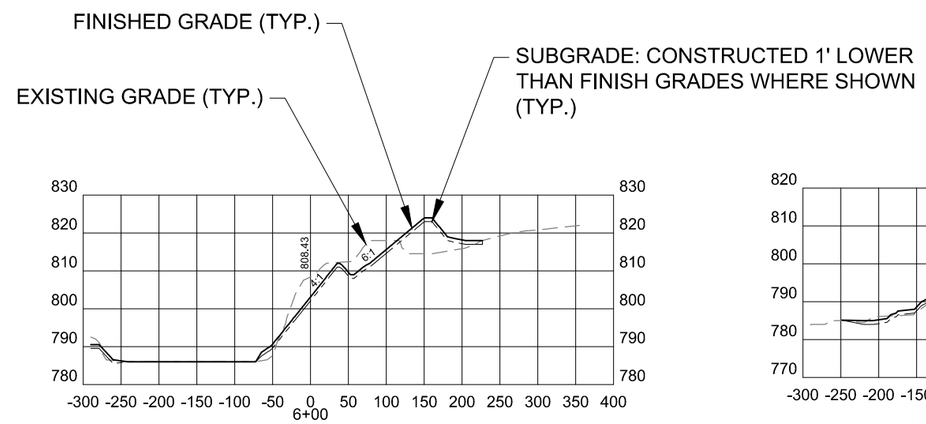
CROSS SECTIONS FOR SOUTH RECLAMATION AREA ALONG MAIN TERRACE (STA. 0+00 TO 9+00)

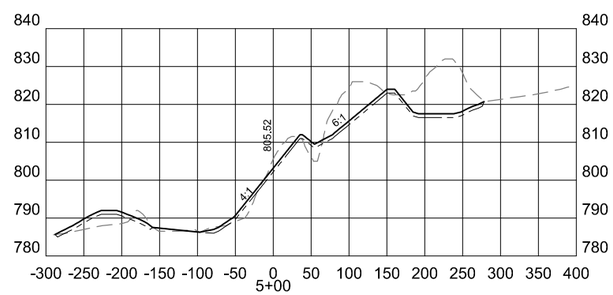


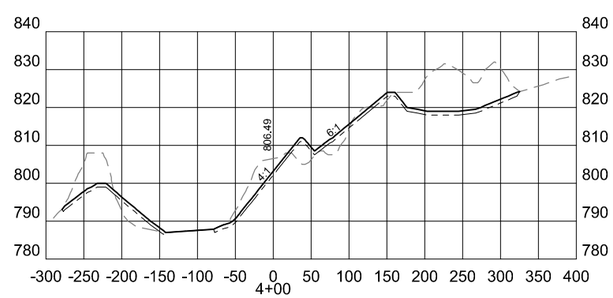


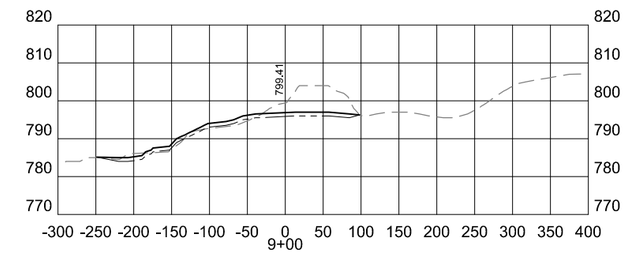


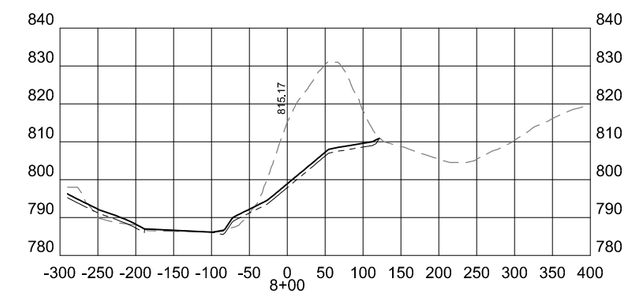


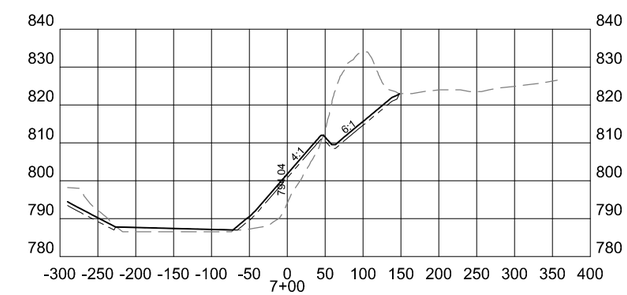












Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 40'

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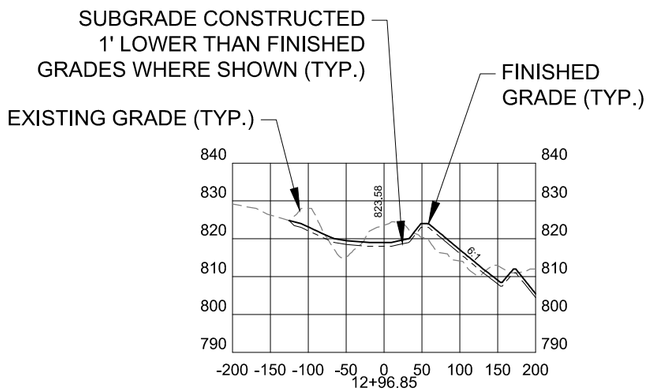
DESIGN BY: WJG

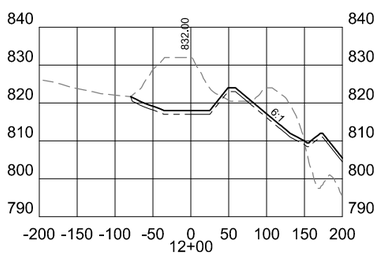
LANE
AML RECLAMATION PROJECT

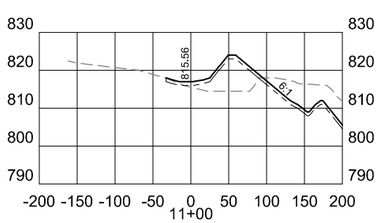
CROSS SECTIONS

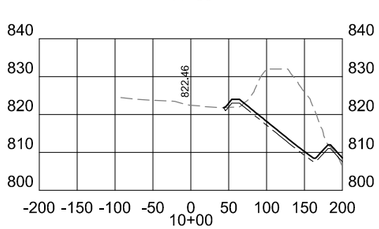
SHEET **14** OF **16**

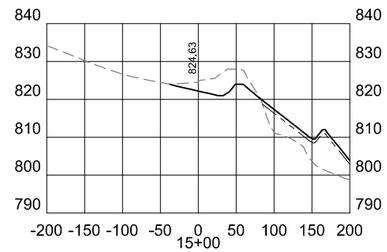
CROSS SECTIONS FOR SOUTH RECLAMATION AREA THROUGH SOUTH BASIN (STA. 10+00 TO 17+75)

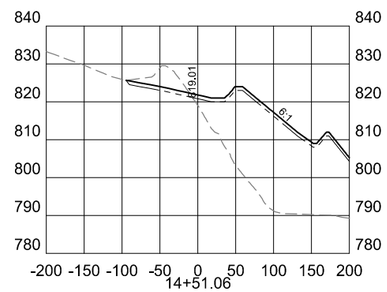


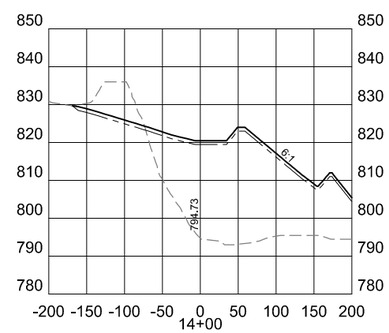


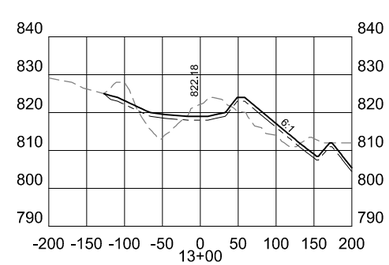


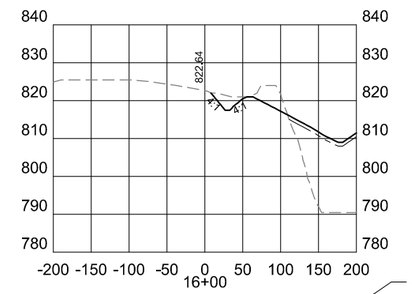


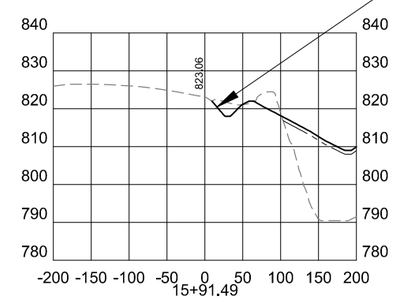


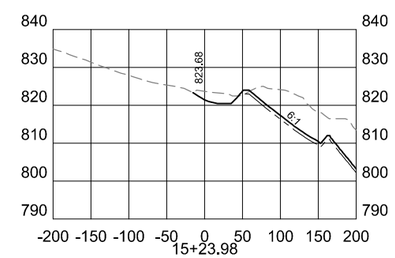


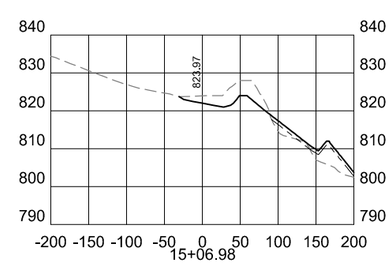


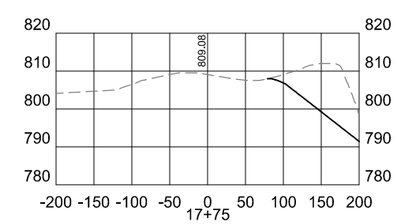


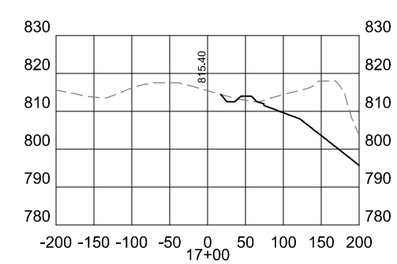












Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 40'

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REVISION:	DATE:	DESCRIPTION:
1	7/9/2012	ADDED NOTE: 4:1 MAX. SIDE SLOPES TO AUX. SPILLWAY
2		
3		
4		

ISSUE DATE: 06-27-2012

CHKD. BY: MLB

DIVISION OF SOIL CONSERVATION
IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
HENRY A. WALLACE BUILDING
502 E. 9th STREET, DES MOINES, IOWA 50319
(515)281-4246

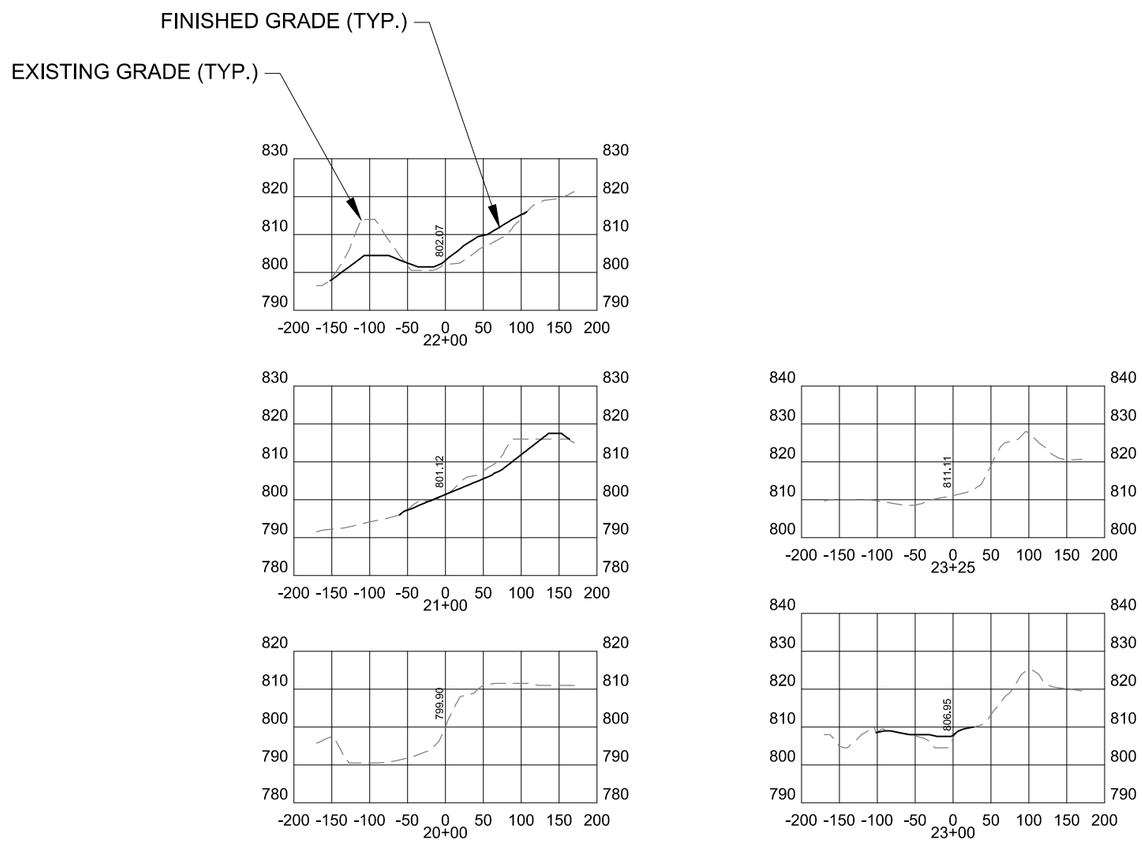
DESIGN BY: WJG

DRAWN BY: WJG

LANE
AML RECLAMATION PROJECT

CROSS SECTIONS

CROSS SECTIONS FOR NORTH RECLAMATION AREA (STA. 20+00 TO 23+25)



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LANE
AML RECLAMATION PROJECT

CROSS SECTIONS

SHEET
16 OF **16**