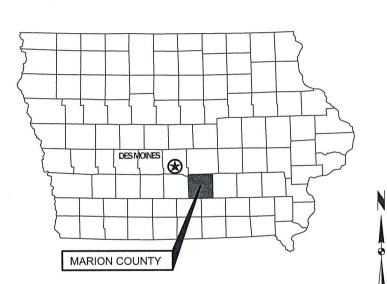
FEAGINS (IA-340) AML RECLAMATION PROJECT

E 1/2 OF THE NW 1/4, SECTION 19, TOWNSHIP 74N, RANGE 18W, MARION 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: S24AF00083**



1-800-292-8989 | 811.

DIVISION OF SOIL CONSERVATION AND WATER QUALITY IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP HOOVER STATE OFFICE BUILDING 1305 E. WALNUT STREET, FIFTH FLOOR DES MOINES, IOWA 50319

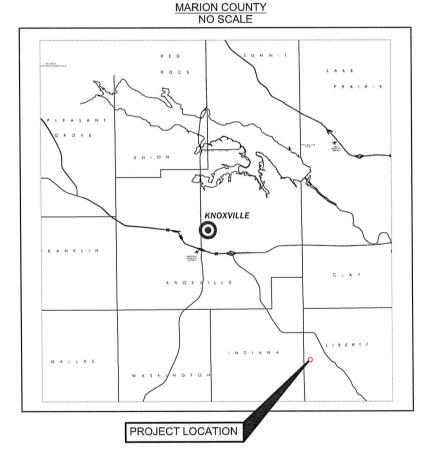
(515) 281-4246

ENGINEER:

SNYDER & ASSOCIATES 2727 SW SNYDER BOULEVARD P O BOX 1159 ANKENY, IOWA 50023 TEL: (515)-964-2020

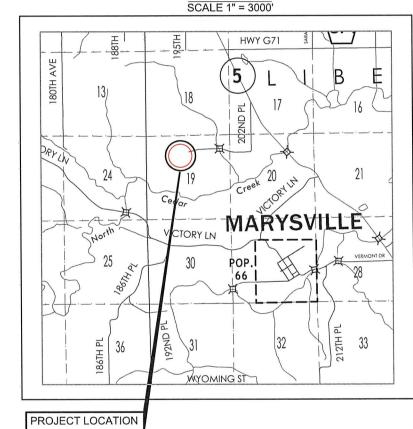
EMAIL: www.snyder-associates.com

THIS DOCUMENT, AND THE IDEAS AND DESIGNS 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 IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP, DIVISION OF SOIL CONSERVATION AND WATER QUALITY.



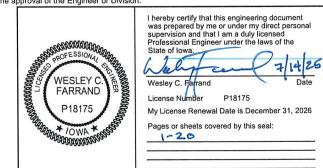
- INDEX OF SHEETS:

 1 TITLE SHEET
 - 2 NOTES, LEGEND, AND QUANTITIES
 - 3 SITE SITUATION PLAN AND SURVEY CONTROL
 - 4 EXISTING SITE AND SITE PREPARATION PLAN
 - 5 PROPOSED GRADING PLAN
 - 6 CUT AND FILL
 - SITE AND DRAINAGE PLAN
- 8-13 DESIGN DETAILS
- 14-18 CROSS SECTIONS
- 19 POLLUTION PREVENTION NOTES
- 20 POLLUTION PREVENTION AND SEEDING PLAN



LOCAL VICINITY

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



SHEET

DESIGN B

FEAGINS
RECLAMATION PROJECT

SNYDER & ASSOCIATES, INC 2727 S.W. SNYDER BLVD ANKENY IOWA 50023

515-964-2020 www.snvder-associates.com

S & A PROJECT No. 123.1031.01

GENERAL NOTES

- ALL IMPROVEMENTS SHOWN ON THESE PLANS SHALL COMPLY WITH THE GENERAL CONDITIONS, STANDARDS, AND SPECIFICATIONS SET FORTH IN PROJECT DOCUMENTS. THESE INCLUDE STANDARD CONSTRUCTION SPECIFICATIONS SET FORTH BY THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY AS WELL AS THE SUPPLEMENTAL SPECIFICATIONS ESTABLISHED BY THE ENGINEER. SPECIFICATIONS OR STANDARDS INCORPORATED BY REFERENCE SHALL ALSO BE FOLLOWED.
- THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DIVISION'S STANDARD SPECIFICATIONS AND THE
- OWNERSHIP: THIS DOCUMENT, AND THE IDEAS AND DESIGN CONTAINED IN THIS DOCUMENT, ARE AN INSTRUMENT OF PROFESSIONAL SERVICE, AND MAY NOT BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE DIVISION OF SOIL CONSERVATION AND WATER QUALITY.
- 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.
- 5. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE ENGINEER AND/OR DIVISION PRIOR TO
- DIMENSIONS, UTILITIES AND GRADING OF THIS SITE ARE BASED ON AVAILABLE INFORMATION AT THE TIME OF LAYOUT. DEVIATIONS MAY BE NECESSARY IN THE FIELD. ANY SUCH CHANGES OR CONFLICTS BETWEEN THIS PLAN AND FIELD CONDITIONS ARE TO BE REPORTED TO THE ENGINEER AND DIVISION IMMEDIATELY
- CONTRACTORS SHALL SATISFY THEMSELVES PRIOR TO SUBMISSION OF BIDS AS TO THE SOIL CONDITIONS. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR UNSATISFACTORY SOIL CONDITIONS.
- CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE IOWA DNR NPDES GENERAL PERMIT NO. 2. THE DIVISION HAS OBTAINED THE PERMIT. THE ENGINEER HAS PROVIDED A SWPPP FOR THE CONTRACTOR TO USE, IMPLEMENT AND MAINTAIN IN ORDER TO COMPLY WITH ALL SOIL EROSION CONTROL REQUIREMENTS OF THE IOWA CODE AND LOCAL ORDINANCES.
- COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
- 10. REPAIR OR REPLACE DAMAGE TO EXISTING FACILITIES DESIGNATED TO REMAIN (UTILITIES, FENCING, ETC) AS WELL AS ANY AREAS DAMAGED OR DISTURBED BY CONSTRUCTION OUTSIDE OF THE CONSTRUCTION LIMITS AT
- 11. THE CONTRACTOR WILL BE REQUIRED TO PAY DAMAGES TO THE RESPECTIVE PARTIES FOR DAMAGE TO CROPLAND OR OTHER ADJACENT PROPERTY CAUSED BY CONSTRUCTION ACTIVITIES OUTSIDE OF THE

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 UTILITES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF ANY CONFLICTS WITH THE DRAWINGS OCCUP 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 UTILITES 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
- 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.

CONSTRUCTION NOTES

- CONFINE ALL CONSTRUCTION ACTIVITY TO WITHIN THE CONSTRUCTION LIMITS SHOWN ON THE DRAWINGS UNLESS OTHERWISE AUTHORIZED. CLEARLY MARK ALL EASEMENT LIMITS IN THE FIELD TO BE PROTECTED.
- PROTECT EXISTING TREES, SHRUBS, FENCES, AND LANDSCAPING UNLESS SPECIFICALLY NOTED OR DESIGNATED OTHERWISE IN THE CONTRACT DOCUMENTS. EQUIPMENT AND MATERIALS ARE PROHIBITED FROM TRAVEL OR STORAGE UNDER THE DRIPLINE OF TREES TO REMAIN. REPLACEMENT OF ANY OF THESE ITEMS DAMAGED DURING CONSTRUCTION WILL BE AT THE CONTRACTOR'S EXPENSE.
- PROTECT AND KEEP DEBRIS DEPOSITED BY THE CONSTRUCTION OFF OF ADJACENT PROPERTIES OUTSIDE THE CONSTRUCTION LIMITS.
- DO NOT RESTRICT DRAINAGE CHANNELS AND PROTECT ALL EXISTING DRAINAGE STRUCTURES. THE CONTRACTOR IS FULLY LIABLE FOR ALL DAMAGES TO PUBLIC OR PRIVATE PROPERTY CAUSED BY THEIR ACTION OR INACTION IN THE HANDLING OF STORM WATER FLOWS DURING CONSTRUCTION. ANY EXTRA GRADING WORK NEEDED TO MAINTAIN POSITIVE DRAINAGE WITHIN THE CONSTRUCTION LIMITS IS CONSIDERED INCIDENTAL TO CONSTRUCTION.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING ALL ACCESSES TO THE CONSTRUCTION LIMITS. THE ACCESSES MUST BE ADEQUATELY SIZED AND PROPERLY SURFACED FOR UTILIZATION BY CONSTRUCTION VEHICLES AND INCLUDE PROVISIONS TO MAINTAIN POSITIVE DRAINAGE.
- THE EARTHWORK BALANCE FOR THIS PROJECT ASSUMES A SHRINKAGE FACTOR OF 15%. THE ACTUAL SHRINKAGE RATE MAY VARY REQUIRING ADJUSTMENTS TO THE GRADING PLAN. MODIFICATIONS TO THE SITE GRADING REQUIRE THE APPROVAL OF THE ENGINEER
- REPAIR ALL FIELD/DRAIN TILES THAT ARE ENCOUNTERED DURING CONSTRUCTION. RECORD THE EXISTING TYPE, SIZE, LOCATION, AND DEPTH.
- QUANTITIES OF FERTILIZER AND LIME ARE ESTIMATED FOR BIDDING PURPOSES. ACTUAL QUANTITIES APPLIED WILL BE DETERMINED BY SOIL TESTS.

BID QUANTITIES TABLE

ITEM	DESCRIPTION	SECTION	QTY	UNIT
1	MOBILIZATION	02100	1.0	LS
2	SITE CLEARING AND PREPARATION	02100	5.1	AC
3	INSTALL ACCESS ROAD	02100	1.0	LS
4	REMOVE ACCESS ROAD	02100	1.0	LS
5	IMPOUNDMENT DISCHARGE	02110	1.0	LS
6	TEMPORARY EARTH DIVERSION STRUCTURE	02120	400.0	LF
7	RECP, TYPCE 2C	02120	280.0	SY
8	TRM, TYPE 2	02120	280.0	SY
9	LINEAR SEDIMENT CONTROL MEASURES	02120	1,695.0	LF
10	EXCAVATION	02200	33,300.0	CY
11	SPECIAL UNDERCUT AND BACKFILL	02200	377.0	CY
12	TERRACE, FINISH GRADING	02300	832.0	LF
13	RISER - TERRACE, 10"	02300	3.0	EA
14	OUTLETS, SCH 40 PVC, 8"	02300	312.0	LF
15	PPHP DUALL WALL PIPE, 24"	02300	132.0	LF
16	EROSION STONE	02300	64.5	TON
17	RIPRAP, CLASS E	02300	265.0	TON
18	RISER OVERFLOW STRUCTURE	02300	1.0	EA
19	TRASH RACK	02300	1.0	EA
20	AGRICULTURAL LIME, SUBGRADE @ 20 TON ECCE/AC	02400	107.0	TON
21	MULCH, SUBGRADE @ 5 TON/AC	02400	6.1	AC
22	WETLAND UNDERCUT AND REPLACEMENT	02400	0.7	AC
23	WETLAND MULCH, SUBGRADE @ 10 TON/AC	02400	0.7	AC
24	AGRICULTURAL LIME, SEEDING @ 5 TON ECCE/AC	02700	26.7	TON
25	FERTILIZER, NITROGEN (N) @ 40 LB/AC	02700	214.0	LB
26	FERTILIZER, PHOSPHOROUS (P) @ 150 LB/AC	02700	801.0	LB
27	FERTILIZER, POTASSIUM (K) @ 200 LB/AC	02700	1,068.0	LB
28	SEEDING, UPLAND	02700	5.84	AC
29	SEEDING, WETLAND FRINGE	02700	0.13	AC
30	MULCH, SEEDING @ 2 TON/AC	02700	5.84	AC

BID QUANTITY NOTES

- COST OF CLEARING, GRADING, FILL, AND SURFACING FOR ACCESS ROAD CONSIDERED INCIDENTAL TO INSTALL ACCESS ROAD. ACCESS ROAD INCLUDES CULVERTS THAT SHALL COMPLY WITH SECTIONS 2300 AND 2310 AND INSTALLED AT A MINIMUM OF 1% LONGITUDINAL SLOPE, WIDTH OF ACCESS ROAD AND LENGTH OF CULVERTS AS DETERMINED BY CONTRACTOR. SIDE SLOPES SHALL NOT BE STEEPER THAN 2:1 (H:V). INSTALLATION OF EROSION AND SEDIMENT CONTROLS SPECIFIC TO ACCESS ROAD CONSIDERED INCIDENTAL.
- 2. REMOVAL OF ACCESS ROAD INCLUDES THE FOLLOWING INCIDENTAL ITEMS: REMOVAL OF CULVERTS, RESTORATION OF CHANNEL BANK TO BLEND WITH SURROUNDING, SCARIFYING SOIL PRIOR TO SEEDING, FERTILIZER, AND MULCHING, AND GENERALLY RESTORING TO PRE-CONSTRUCTION CONDITIONS. REMOVAL OF SEDIMENT AND EROSION CONTROLS.
- 3. FOR SPECIAL UNDERCUT AND BACKFILL BID ITEM, SEE NOTE ON SHEET 5. PAYMENT WILL BE
- 4. FOR SPECIAL WETLAND UNDERCUT BID ITEM, SEE NOTE ON SHEET 5. PAYMENT WILL BE PLAN
- 5. FOR IMPOUNDMENT DISCHARGE, THE USE OF HYDRATED LIME TO NEUTRALIZE ACIDITY IN WATER NOT ANTICIPATED DUE TO pH TESTING RESULTS AS SHOWN ON SHEET 4.
- REMOVAL OF SEDIMENT CONTROLS INCIDENTAL TO BID ITEM AND SHALL BE DONE WITHIN 90 DAYS AFTER GREEN-UP (TURF ESTABLISHMENT).
- 7. QUANTITIES FOR EROSION STONE INCLUDE:
 - ONITHIES FOR EROSION STONE INCOUDE:

 CONSTRUCTION ENTRANCE/EXIT = 20' X 50', 30 TONS, (GEOTEXTILE FABRIC NOT REQUIRED)

 SUBGRADE SUPPORT FOR RISER FOUNDATION = 4.5 TONS

 5 X 10 APRONS AT OUTLETS OF 8" PVC OUTLETS = 4 TONS

 - BURIED CHECK DAM = 26 TONS INCIDENTAL TO ALL EROSION STONE INSTALLATION IS GEOTEXTILE FABRIC THAT COMPLIES WITH IOWA DOT SECTION 4196.B.3-FABRIC FOR USE AS EMBANKMENT EROSION CONTROL.
- 8. NITROGEN FOR WETLAND BOTTOMS (28 lbs) IS INCLUDED IN THE REGULAR NITROGEN FERTILIZER QUANTITY.
- 9. MANHOLE/RISER PIPE ADAPTER SLEEVES, WYES, AND REDUCERS ARE INCIDENTAL TO THE UNIT
- 10. PIPE STRAPS ARE REQUIRED AT EACH PIPE JOINT AND ARE INCIDENTAL TO THE UNIT PRICE FOR
- 11. GRANULAR BACKFILL, WHERE SPECIFIED, IS INCIDENTAL TO THE UNIT PRICE FOR THE PIPE.
- 12. GRANULAR BACKFILL USED AS A LEVELING COURSE FOR STRUCTURES IS INCIDENTAL TO THE
- 13. WHEN PROVIDING SHOP SUBMITTALS, IF PRODUCT IS INCLUDED ON IOWA DOT PRE-APPROVED PRODUCT LIST, DETAILED SUBMITTALS NOT REQUIRED, OTHERWISE, INCLUDE FULL SUBMITTAL
- 14. FOR LINEAR SEDIMENT CONTROL MEASURES, 960' OF FILTER SOCK, NATURAL FIBER, 12" IS SHOWN ON SHEET 20. AN ADDITIONAL 300' IS INCLUDED FOR AD HOC PURPOSES.
- 15. ANTI-SEEP COLLARS ON POND OUTLET PIPE ARE INCIDENTAL TO FURNISHING AND INSTALLATION OF PIPE CULVERT. SEE NOT ON SHEET 13.

LEGEND

Features	Existing	Proposed
Spot Elevation Contour Elevation Fence (Barbed, Field, Hog) Fence (Chain Link)	93.0 93 	×93.0 ×93~
Fence (Wood) Fence (Silt)	•	
Tree Line Tree Stump	~~~~	~~~
Deciduous Tree or Shrub	\odot	\odot
Coniferous Tree or Shrub	O	O
Terrace Top of Berm Terrace Flowline Rock / Rip Rap		
Erosion Control Mat		SECONDE DE LA COMPANION DE LA
Undercut Area		
Wetland		
Pond		
Stream Diversion Berm Staging Area Site Boundary		
No Burn Radii Property Line Communication	—— C(*) ——	
Overhead Communication Fiber Optic Underground Electric Overhead Electric Water Main with Size	OC(*) FO(*) E(*) OE(*)	— OC — FO — E — OE —
(*) Denotes the survey quality service lev	8" W(*) rel for utilities	8" W

LEGEND IS INTENDED FOR GENERAL REFERENCE. NOT ALL SYMBOLS ARE APPLICABLE TO DRAWINGS FOR THIS PROJECT.

UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED.

UTILITY CONTACT INFORMATION

UTILITY CONTACT FOR MAPPING INFORMATION SHOWN AS RECEIVED FROM THE IOWA ONE CALL DESIGN REQUEST SYSTEM, TICKET NUMBER 552307657.

CLEAR PER MAP MIDAMERICAN ENERGY

ASHTON WAGNER 515-281-2989

MARION COUNTY RURAL WATER DISTRICT RANDALL BRANSON 641-842-3304 NO RESPONSE

MCRWMGR@IOWATELECOM.NET

WINDSTREAM COMMUNICATIONS LOCATE DESK 800-289-1901 CLEAR PER MAR

LOCATE.DESK@WINDSTREAM.COM

SURVEY NOTES

- 1. HORIZONTAL DATUM: IOWA REGIONAL COORDINATE SYSTEM ZONE 9 IN U.S.
- 2. VERTICAL DATUM: NAVD 1988 IN U.S. FEET.
- 3. EXISTING TOPOGRAPHY SHOWN ON THESE DRAWINGS WAS DEVELOPED FROM LIDAR INFORMATION COLLECTED IN 2020 WHICH IS PUBLICLY AVAILABLE THROUGH THE NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS LIBRARY. EXISTING FEATURES SHOWN ON THE DRAWINGS WERE LOCATED USING FIELD
- 4. ESTABLISHED CONTROL POINTS FOR THIS PROJECT ARE SHOWN ON THE CONSTRUCTION DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND PROTECTING DURING CONSTRUCTION.
- 5 PROTECT AND SAVE ALL PROPERTY CORNER MONUMENTS LINESS OTHERWISE NOTED. REPLACE ANY MONUMENTS REMOVED OR DESTROYED DURING CONSTRUCTION. REPLACEMENT OF MONUMENTS WILL BE BY A LAND SURVEYOR REGISTERED IN THE STATE OF IOWA
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING CONSTRUCTION SURVEY LAYOUT AND CONTROL AS REQUIRED TO COMPLETE THE WORK. IF SIGNIFICANT DIFFERENCES EXIST BETWEEN THE LIDAR ELEVATIONS SHOWN AND THOSE REPORTED BY SURVEYING EQUIPMENT, THE CONTRACTOR SHALL CALIBRATE THE SURVEYING INSTRUMENTS TO THE LIDAR INFORMATION IN CONSULTATION WITH
- 7. RECORD, USING FIELD SURVEY, THE LOCATION OF EXISTING FENCES PRIOR TO

IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
50319
50319 REVISED: 07-18-2025 IOWA JED:

PROJ FEAGINS LAMATION I

IOTES, LEGEND, AND QUANTITIES

AND

SHEET

