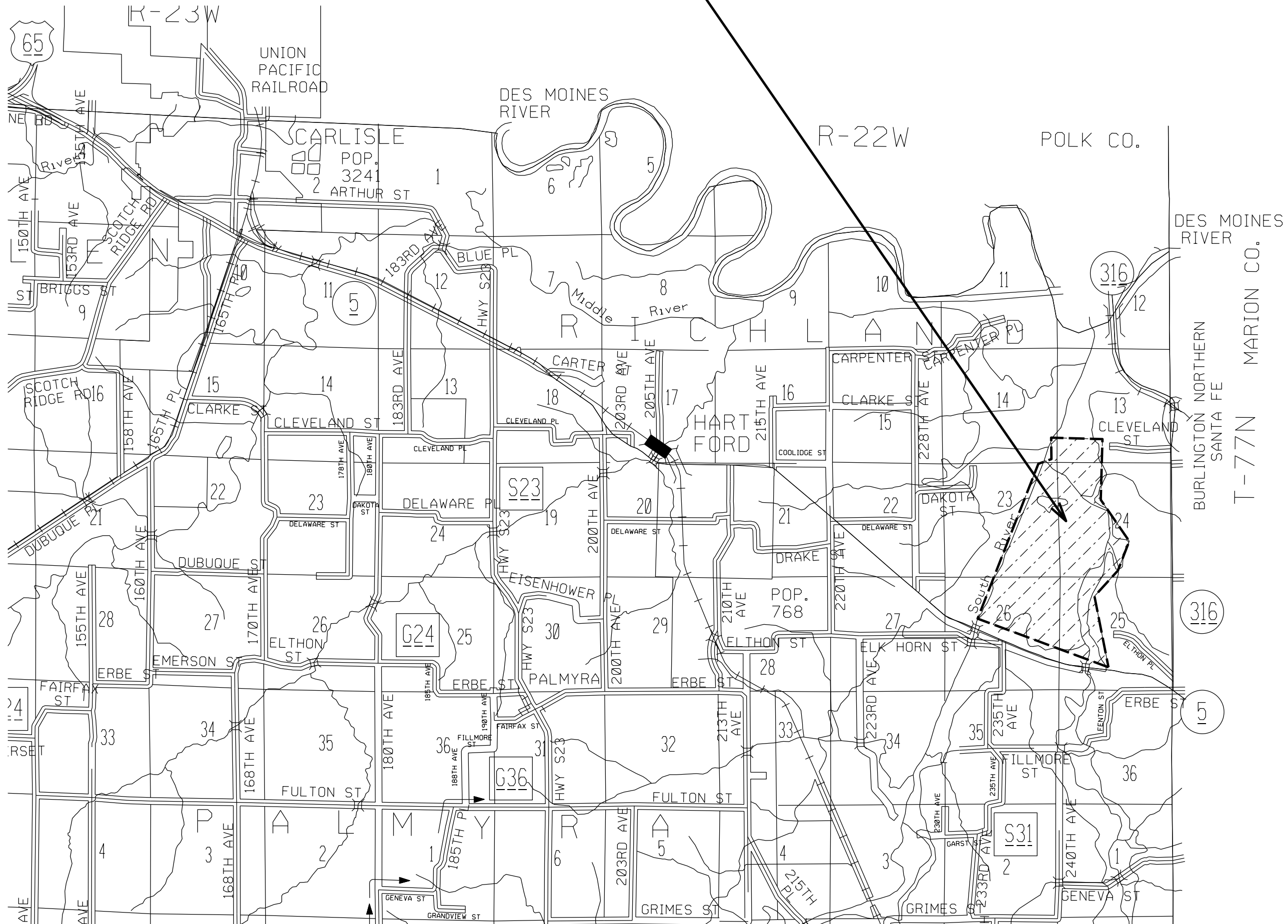
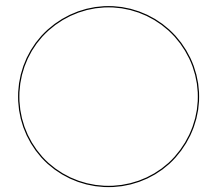


PROJECT LOCATION



CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



PROJECT LOCATION MAP

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

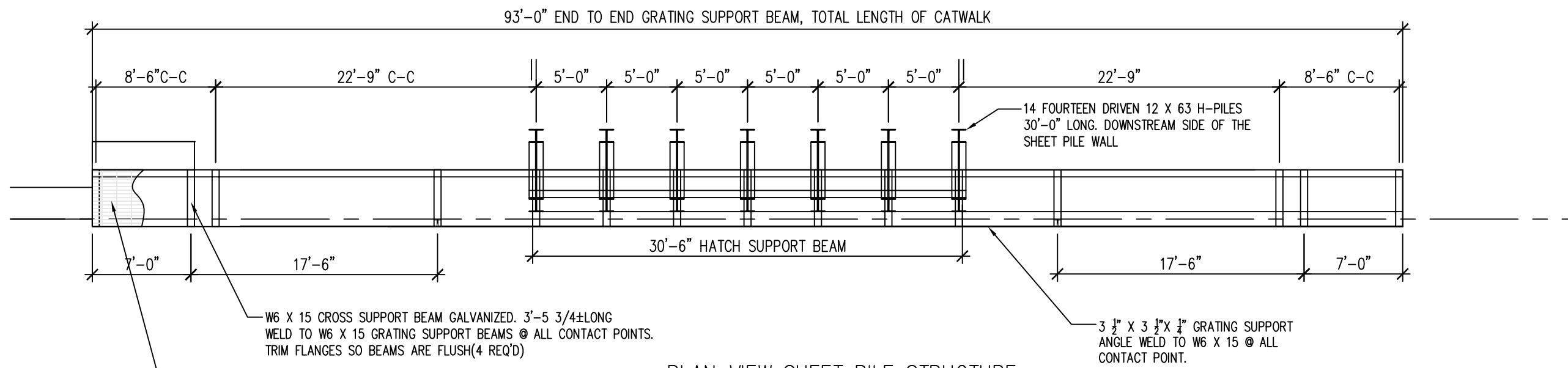
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DRAWN BY: PROJECT NUMBER:
18-05-91-03

CHK'D BY: DATE:
OCT/2020

SHEET NO.:

A.02

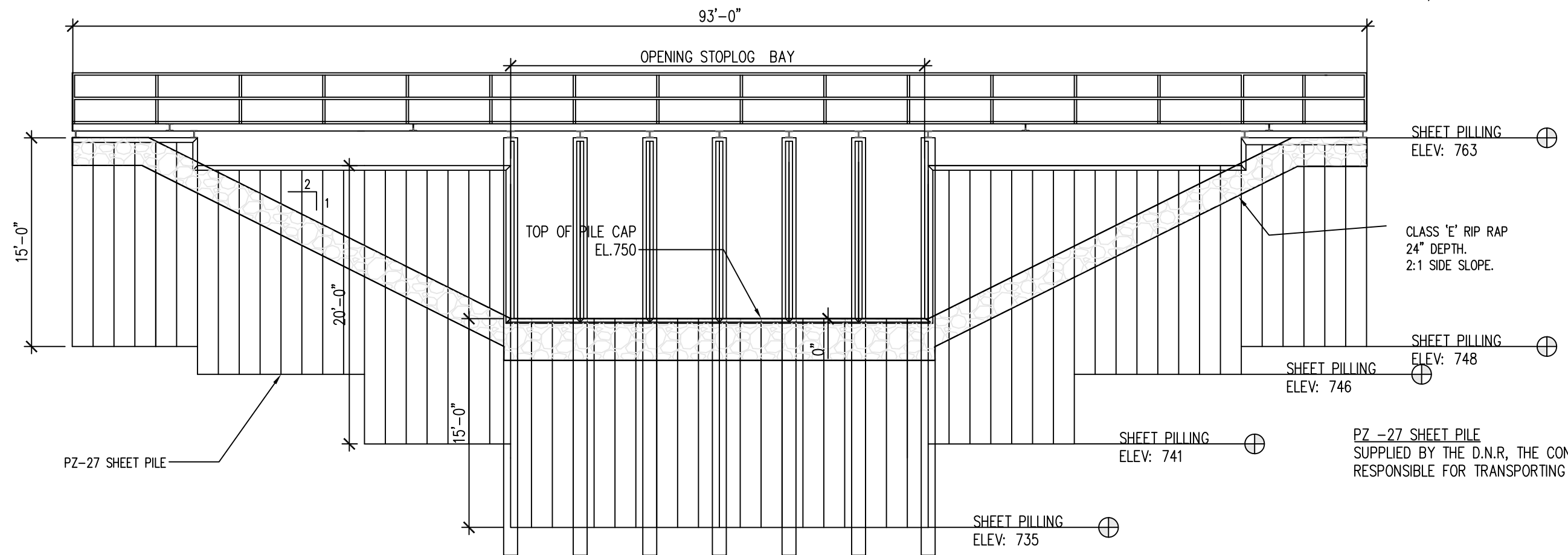


01 PLAN VIEW SHEET PILE STRUCTURE

STEEL GRATING McNICHOLS GW-100A 1" X 1/8",
5.2LB/SF, GALVANIZED OR APPROVED EQUAL BY
DNR FIELD ENGINEER. SPOT WELD GRATING TO
ANGLE FRAME. BEARING BARS RUN
PERPENDICULAR TO SHEET PILE STRUCTURE

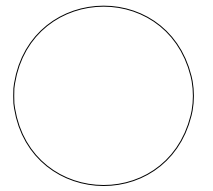
NOTE:
CAT WALK COMPONENTS NOT SHOWN.

SHEET PILE NOTE:
PZ-22 SHEET PILE OR APPROVED EQUAL MINIMUM THICKNESS 0.375 INCHES
MINIUM SECTION MODULUS 18.1 IN³/LF OF WALL



02 FRONT VIEW SHEET PILE STRUCTURE

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



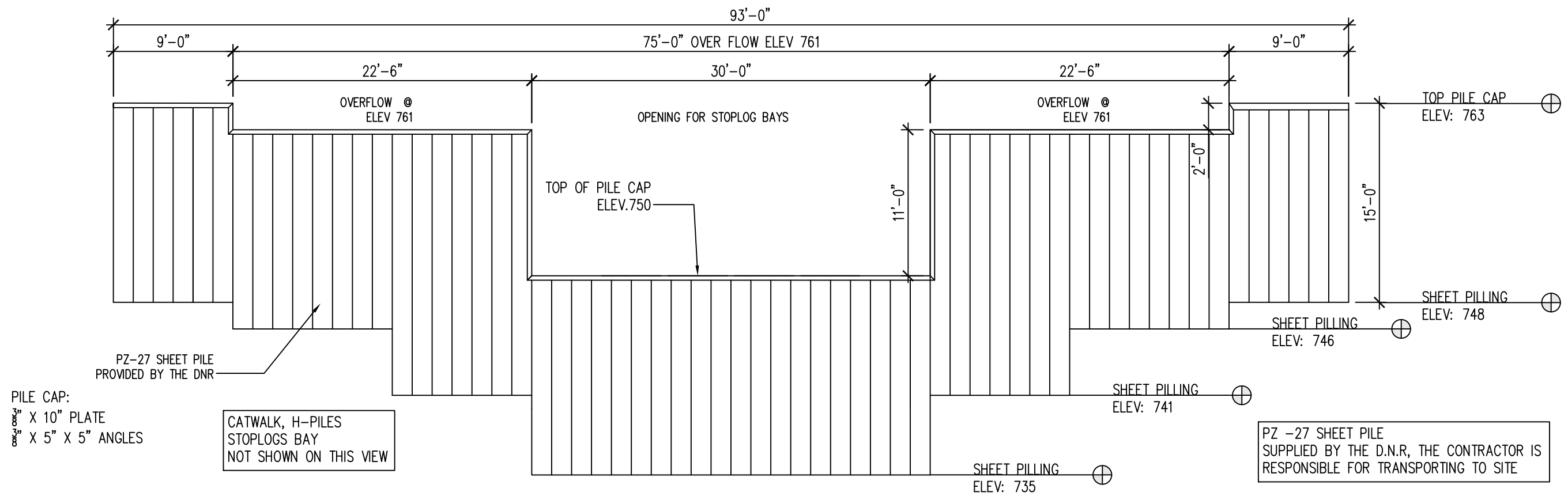
OUTLET STRUCTURE DETAILS

COAL CREEK WETLAND RESTORATION:
RED ROCK WILDLIFE MGT AREA
WARREN COUNTY, IA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER:
ES 18-05-91-03
CHK'D BY: DATE:
JK JAN /2019

SHEET No: **B.01**

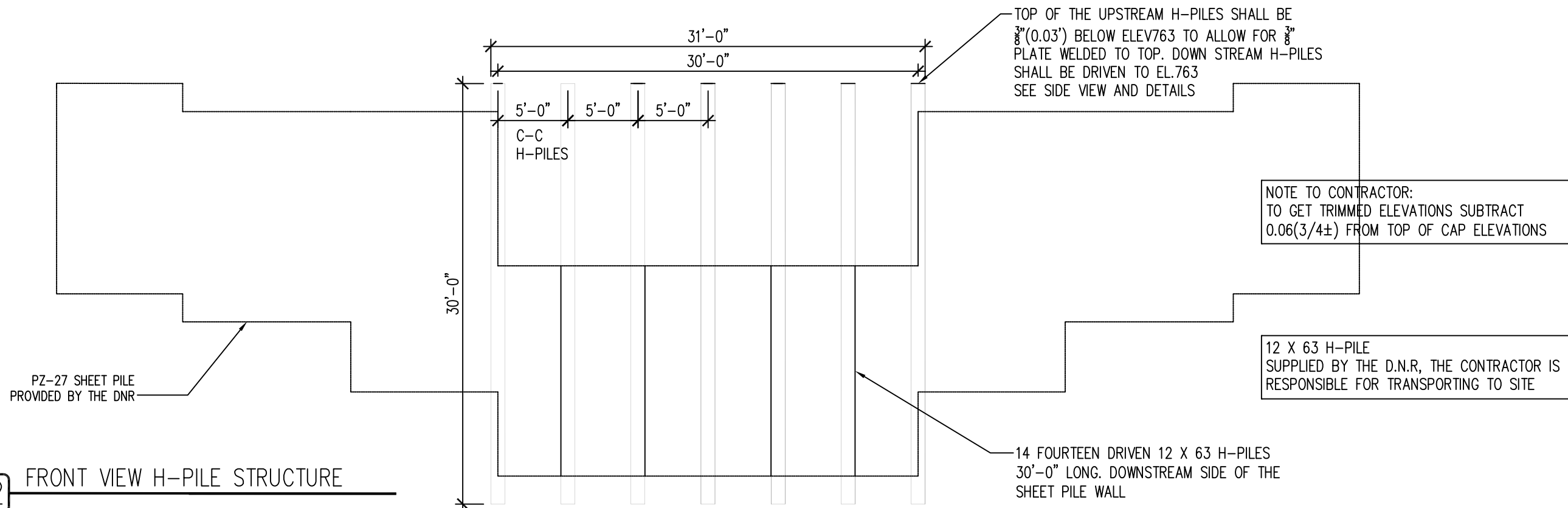


PILE CAP:
 $\frac{3}{8}$ " X 10" PLATE
 $\frac{3}{8}$ " X 5" X 5" ANGLES

CATWALK, H-PILES
 STOPLOGS BAY
 NOT SHOWN ON THIS VIEW

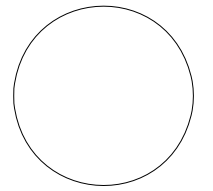
PZ -27 SHEET PILE
 SUPPLIED BY THE D.N.R, THE CONTRACTOR IS
 RESPONSIBLE FOR TRANSPORTING TO SITE

01 FRONT VIEW SHEET PILE STRUCTURE



02 FRONT VIEW H-PILE STRUCTURE

CONSULTANT:



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 502 E. 9TH ST., DES MOINES, IA 50319-0034



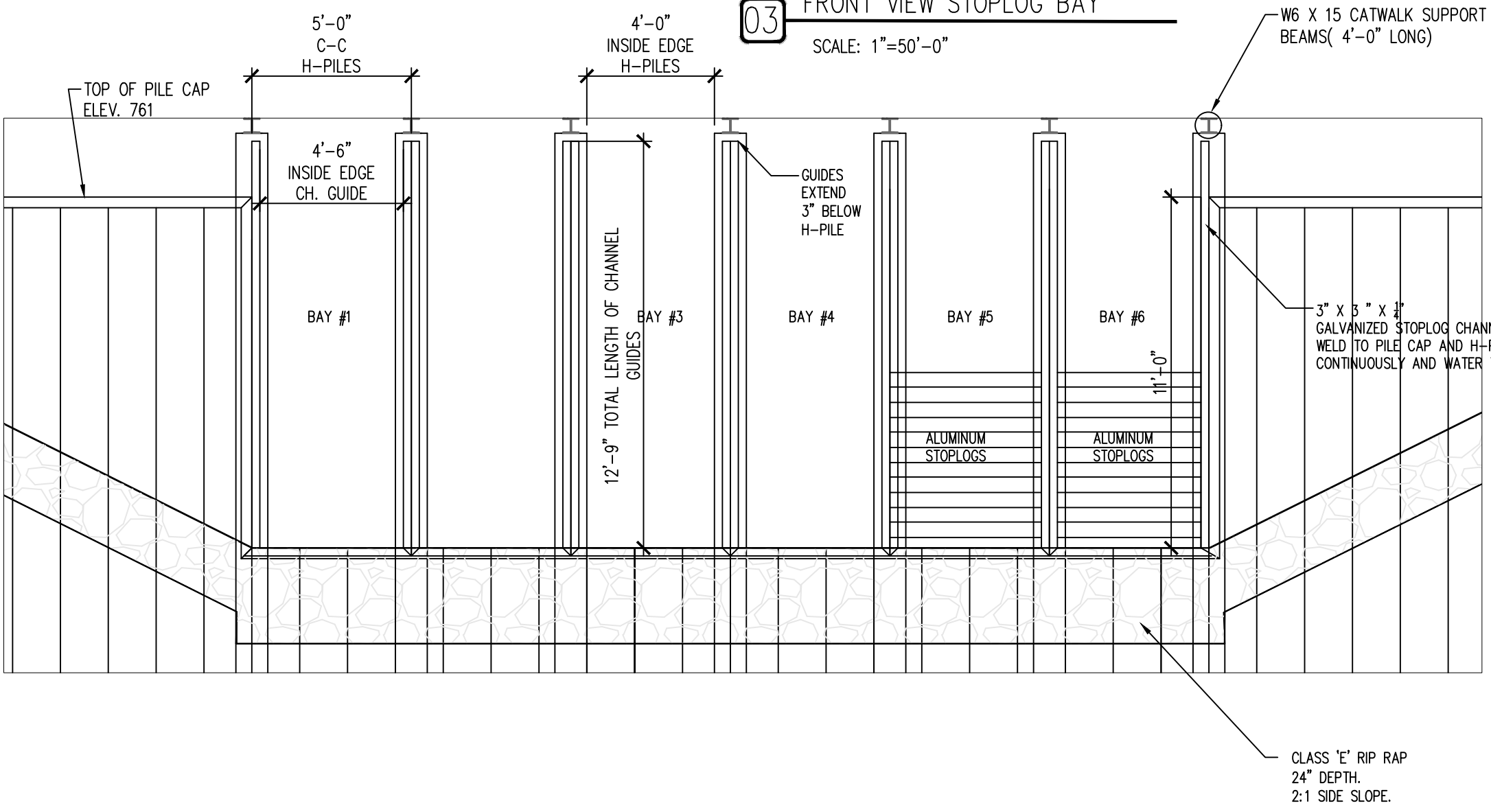
OUTLET STRUCTURE DETAILS
 COAL CREEK WETLAND RESTORATION:
RED ROCK WILDLIFE MGT AREA
 WARREN COUNTY, IA

NO.	BY	DATE	REVISION

DRAWN BY: PROJECT NUMBER:
 ES 18-05-91-03
 CHK'D BY: DATE:
 JK JAN /2019

SHEET No: **B.02**

03 FRONT VIEW STOPLOG BAY
SCALE: 1"=50'-0"

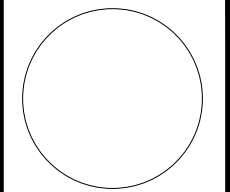


- STOPLOG COMPONENTS:**
 3" X 3" X 1/4" GALVANIZED STOPLOG CHANNEL 2 REQ'D
 LIFTING HOOKS GALVANIZED
- ALUMINUM STOPLOG :**
 2" X 3" X 1/4" STOPLOG WITH LIFTING HOLES
 2" X 6" X 1/4" STOPLOG WITH LIFTING HOLES

NOTE:
 THIS LIST IS PROVIDED FOR INFORMATION ONLY
 ADDITIONAL MATERIALS NOT LISTED HERE MAY BE
 REQUIRED.
 LENGTH OF STEEL STOCK BEYOND WHAT'S LISTED
 HERE MAY BE REQUIRED TO ALLOW FOR FABRICATION

NOTE:
 CAT WALK COMPONENTS NOT
 SHOWN.

CONSULTANT:



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 502 E. 9TH ST., DES MOINES, IA 50319-0034



STOPLOG BAY DETAILS

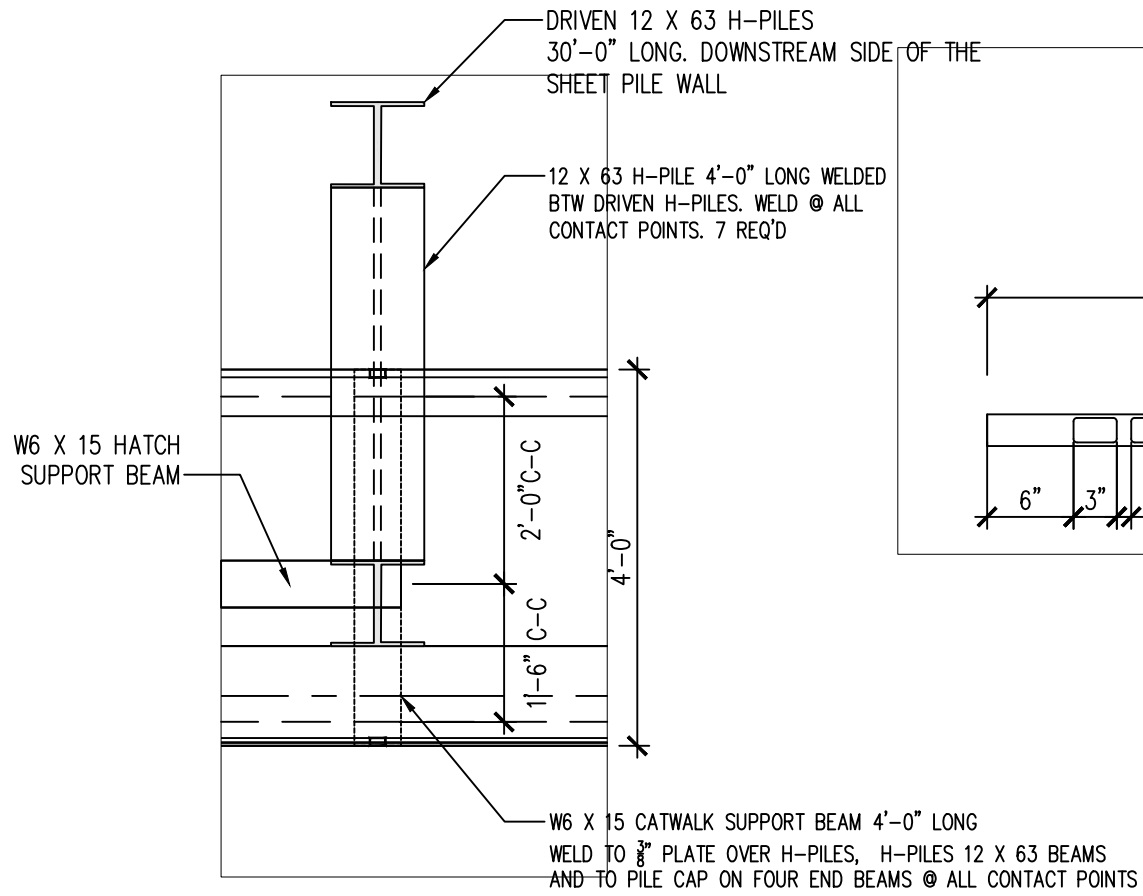
COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

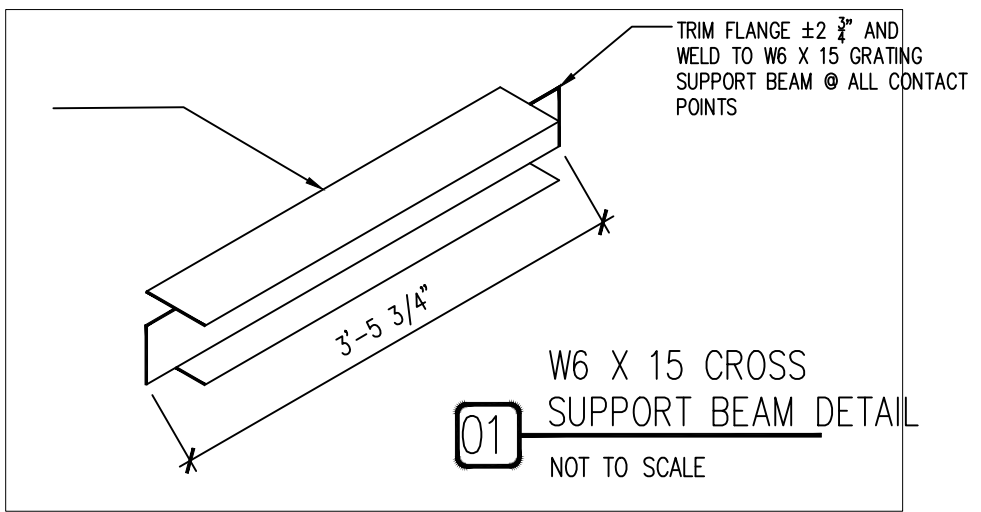
WARREN COUNTY, IA

NO.	BY	REVISION
DATE		

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03
 CHKD BY: JK DATE: AUG/2022
 SHEET No:

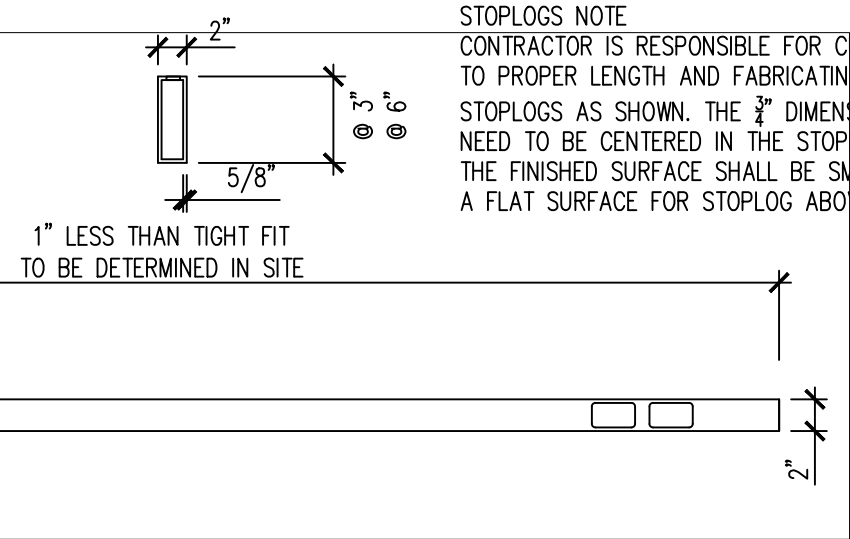


W6 X 15 CATWALK SUPPORT BEAM
WELD TO PILE CAP @ ALL CONTACT POINTS

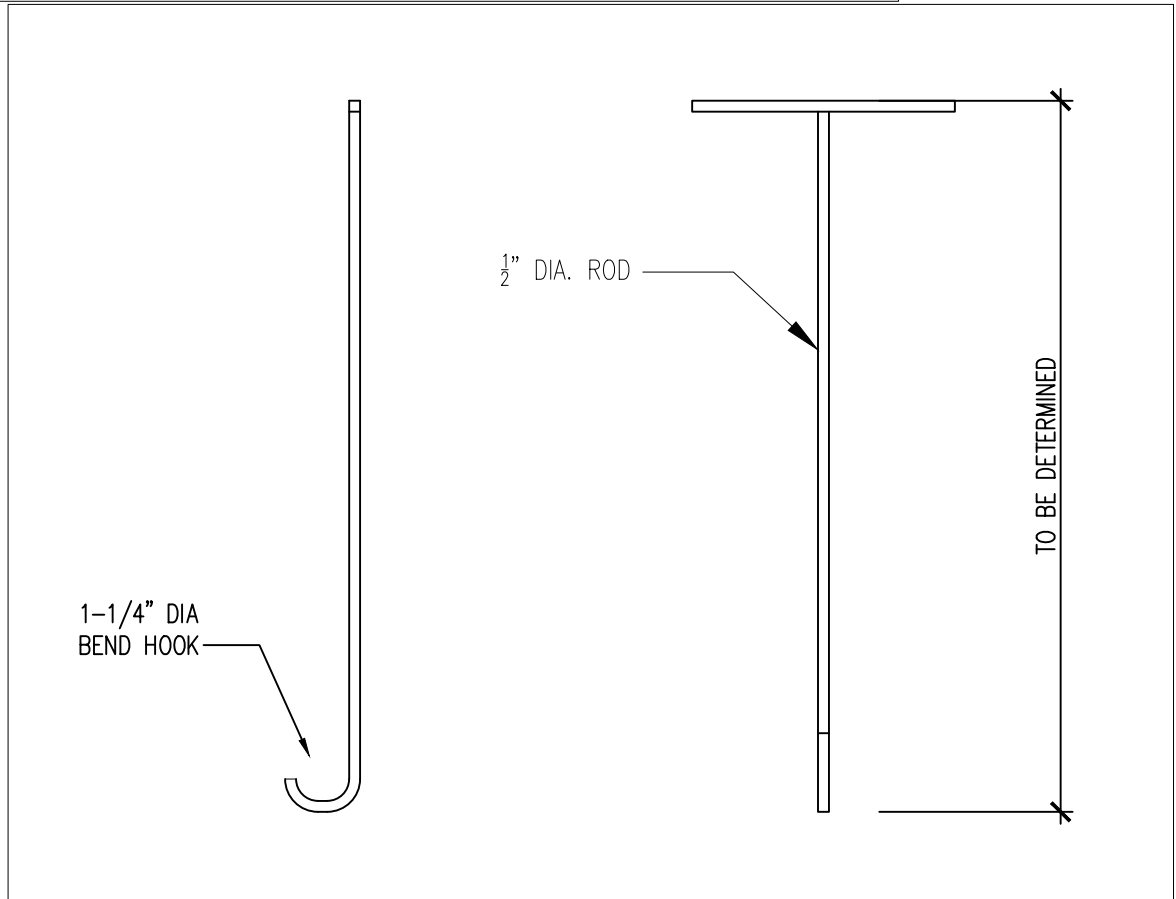


01

W6 X 15 CROSS SUPPORT BEAM DETAIL
NOT TO SCALE



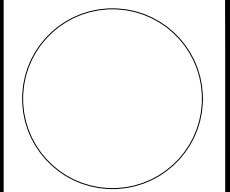
STOPLOGS NOTE
CONTRACTOR IS RESPONSIBLE FOR CUTTING STOPLOGS TO PROPER LENGTH AND FABRICATING THE HOLES IN ALL STOPLOGS AS SHOWN. THE 3/4" DIMENSION IS CRITICAL AND NEED TO BE CENTERED IN THE STOPLOG TO AVOID LEAKAGE THE FINISHED SURFACE SHALL BE SMOOTH TO PROVIDE A FLAT SURFACE FOR STOPLOG ABOVE IT.



- STOPLOG COMPONENTS: (ALL ALUMINUM)
- STOPLOG 2" X 6" X 1/4" ALUMINUM (6061-T6) XX REQ'D
 - STOPLOGS 2" X 3" X 1/4" ALUMINUM (6061-T6) XX REQ'D
 - STOPLOG CHANNEL GUIDE 3" X 3" X 1/4" XX LF
 - (ANGLES WELDED TOGETHER BY A CONTINUOUS WELD AND WATERTIGHT.)
 - LIFTING HOOKS GALVANIZED 2 REQ'D.

THIS LIST IS PROVIDED FOR INFORMATION ONLY ADDITIONAL MATERIALS NOT LISTED HERE MAY BE REQUIRED.
LENGTH OF STEEL STOCK BEYOND WHAT'S LISTED HERE MAY BE REQUIRED TO ALLOW FOR FABRICATION

CONSULTANT:



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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



STOPLOGS DETAILS

COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

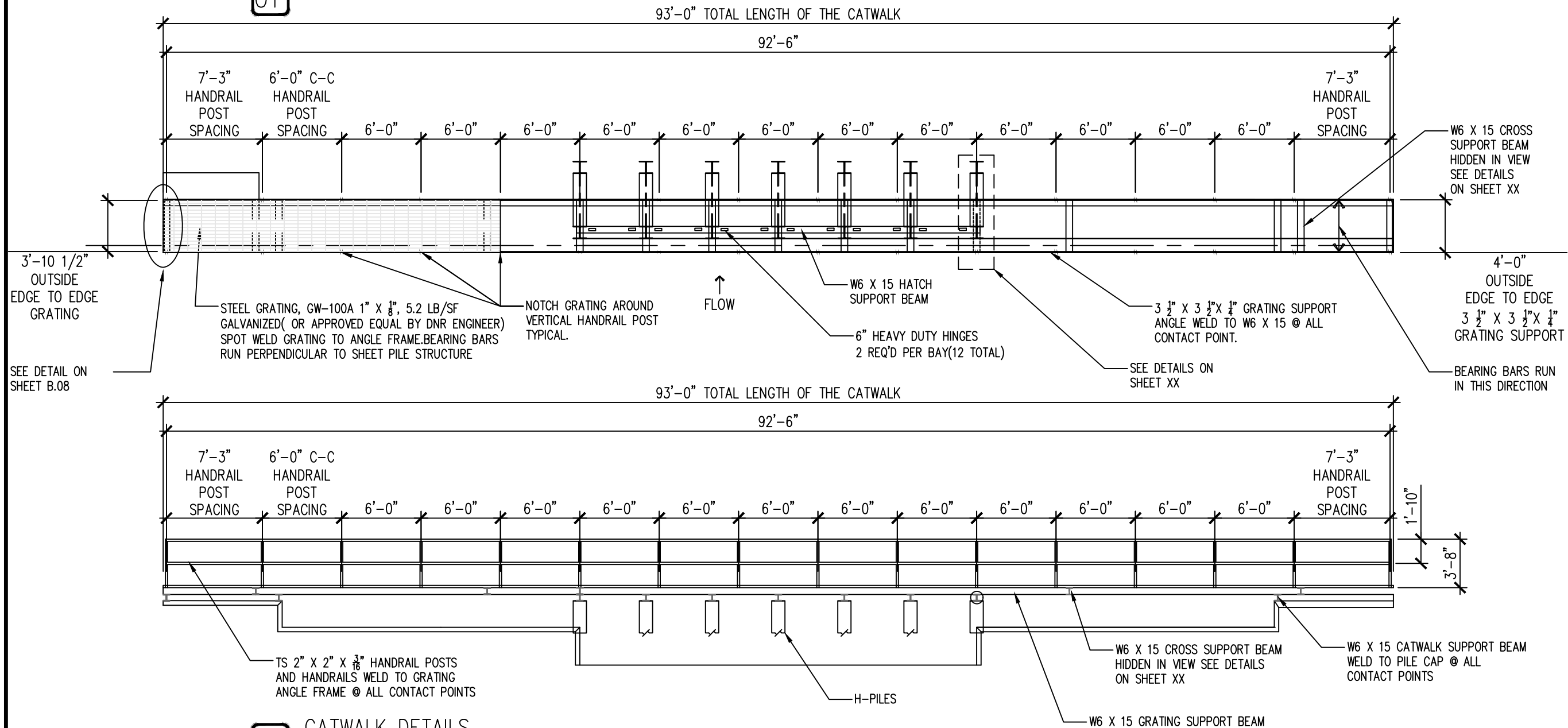
WARREN COUNTY, IA

NO.	BY DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03
CHKD BY: JK DATE: AUG/2022

SHEET No: B.04

01 PLAN VIEW CATWALK SHEET PILE STRUCTURE

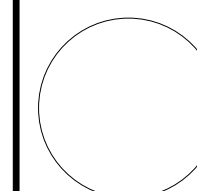


01 CATWALK DETAILS

CATWALK COMPONENTS: (ALL GALVANIZED)	
McNICHOLS GALVANIZED BAR GRATING	372 S.F
TS 2" X 2" X 3/16" HANDRAIL POSTS	118 L.F
TS 2" X 2" X 3/16" HANDRAIL	372 L.F
6" HEAVY DUTY HINGES	12 REQ'D
LOCKING LOOP	6 REQ'D

THIS LIST IS PROVIDED FOR INFORMATION ONLY ADDITIONAL MATERIALS NOT LISTED HERE MAY BE REQUIRED. LENGTH OF STEEL STOCK BEYOND WHAT'S LISTED HERE MAY BE REQUIRED TO ALLOW FOR FABRICATION

CONSULTANT:



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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



OUTLET STRUCTURE CATWALK DETAILS

COAL CREEK WETLAND RESTORATION:

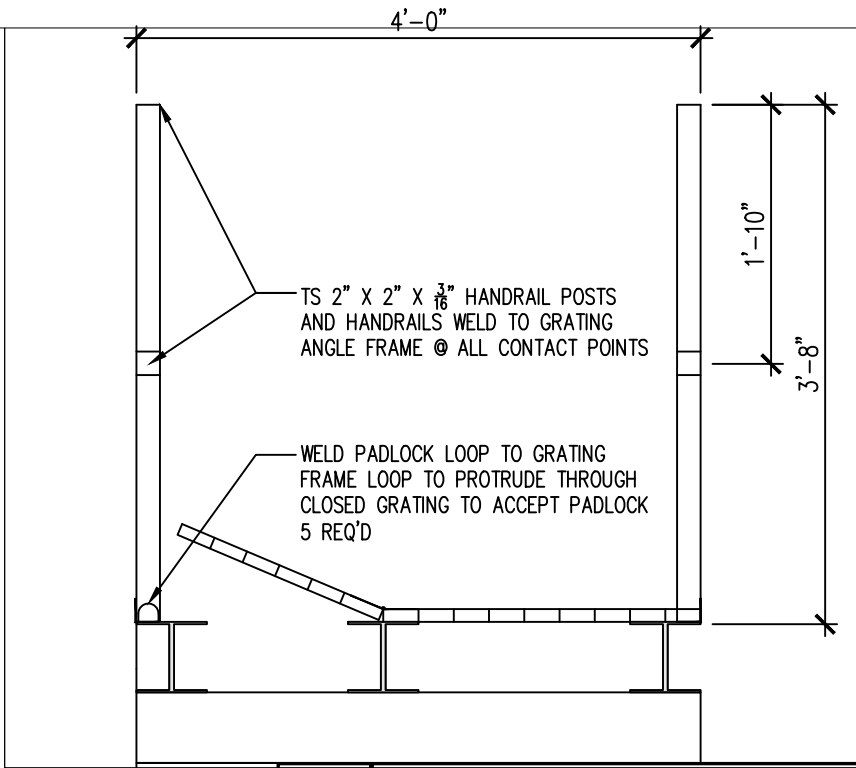
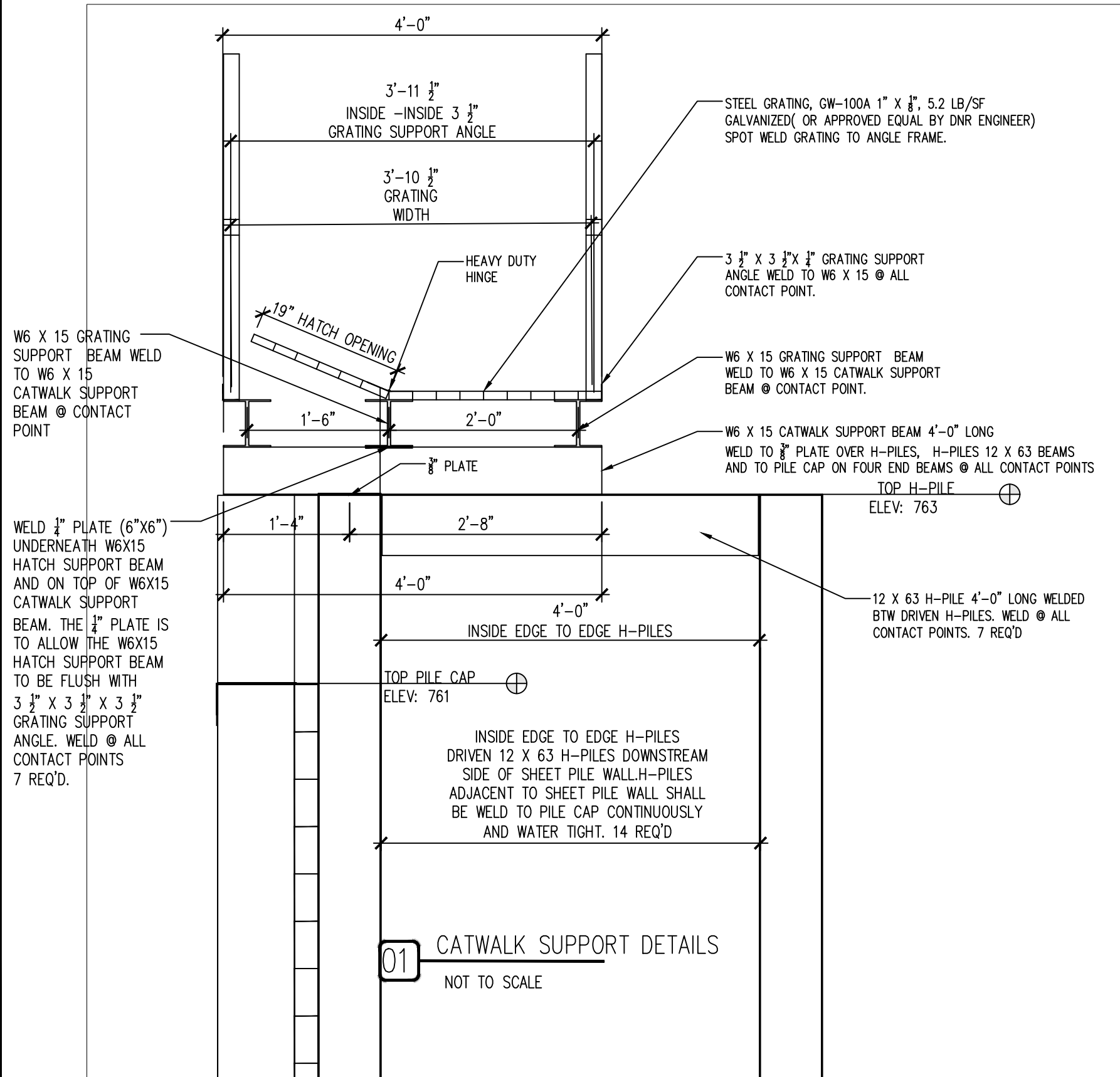
RED ROCK WILDLIFE MGT AREA

WARREN COUNTY, IA

NO.	BY	DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03
CHKD BY: JK DATE: AUG/2022
SHEET No:

B.05

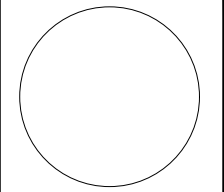


02 HANDRAILS DETAILS
NOT TO SCALE

- CATWALK SUPPORT MEMBERS (ALL GALVANIZED)
- W6 X 15 CATWALK SUPPORT BEAMS 4'-0" LONG
 - W6 X 15 GRATING SUPPORT BEAMS 93'-0" LONG
 - W6 X 15 CROSS SUPPORT BEAMS 3'-5 3/4" LONG
 - W6 X 15 HATCH SUPPORT BEAMS 4'-0" LONG
 - 8" X 8" X 3/8" PLATE WELDED TO TOP OF H-PILES
 - 6" X 6" X 1/4" PLATE WELDED BENEATH HATCH SUPPORT BEAM
 - 16" X 16" X 3/8" GUSSET PLATE TO SUPPORT CATWALK BEAM
 - 3 1/2" X 3 1/2" X 1/4" GRATING SUPPORT ANGLE
- SHEET PILE BRACING:
- 12 X 63 NON- DRIVEN H-PILE 4'-0" LONG
 - 1/4" X 5" X ± 3'-0" LONG GALVANIZED PLATE

THIS LIST IS PROVIDED FOR INFORMATION ONLY ADDITIONAL MATERIALS NOT LISTED HERE MAY BE REQUIRED. LENGTH OF STEEL STOCK BEYOND WHAT'S LISTED HERE MAY BE REQUIRED TO ALLOW FOR FABRICATION

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



CATWALK & HANDRAIL DETAILS

COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

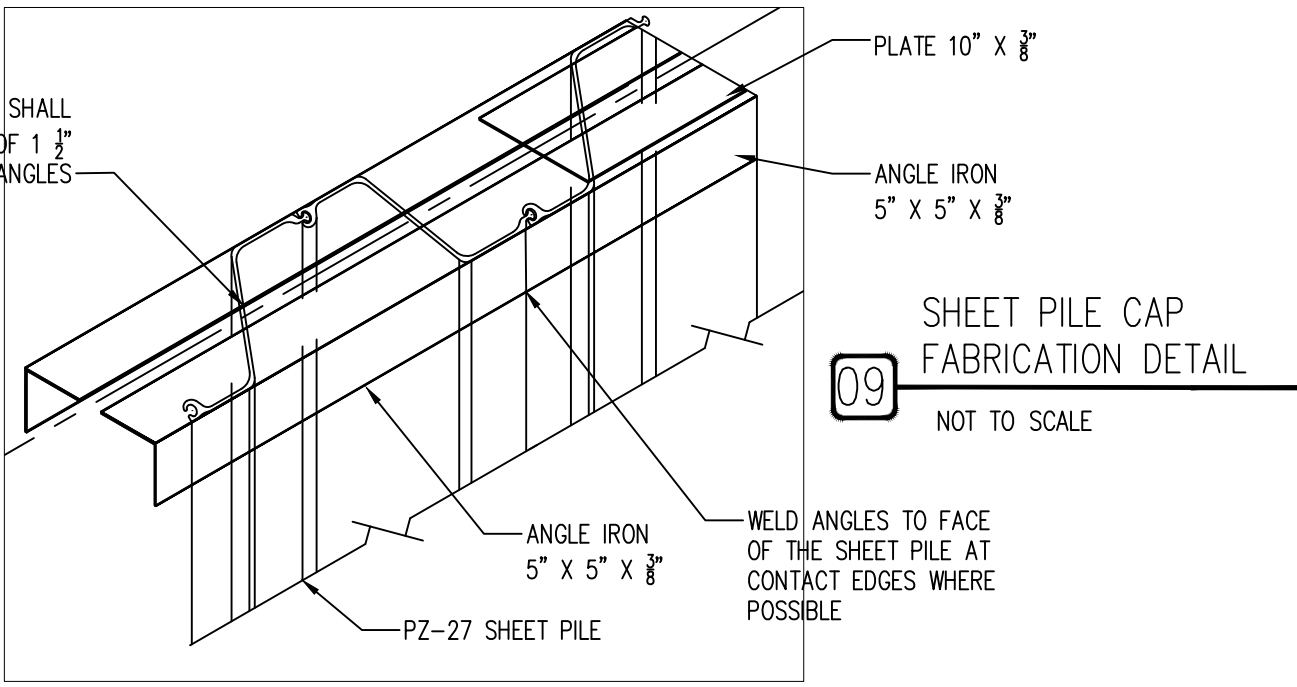
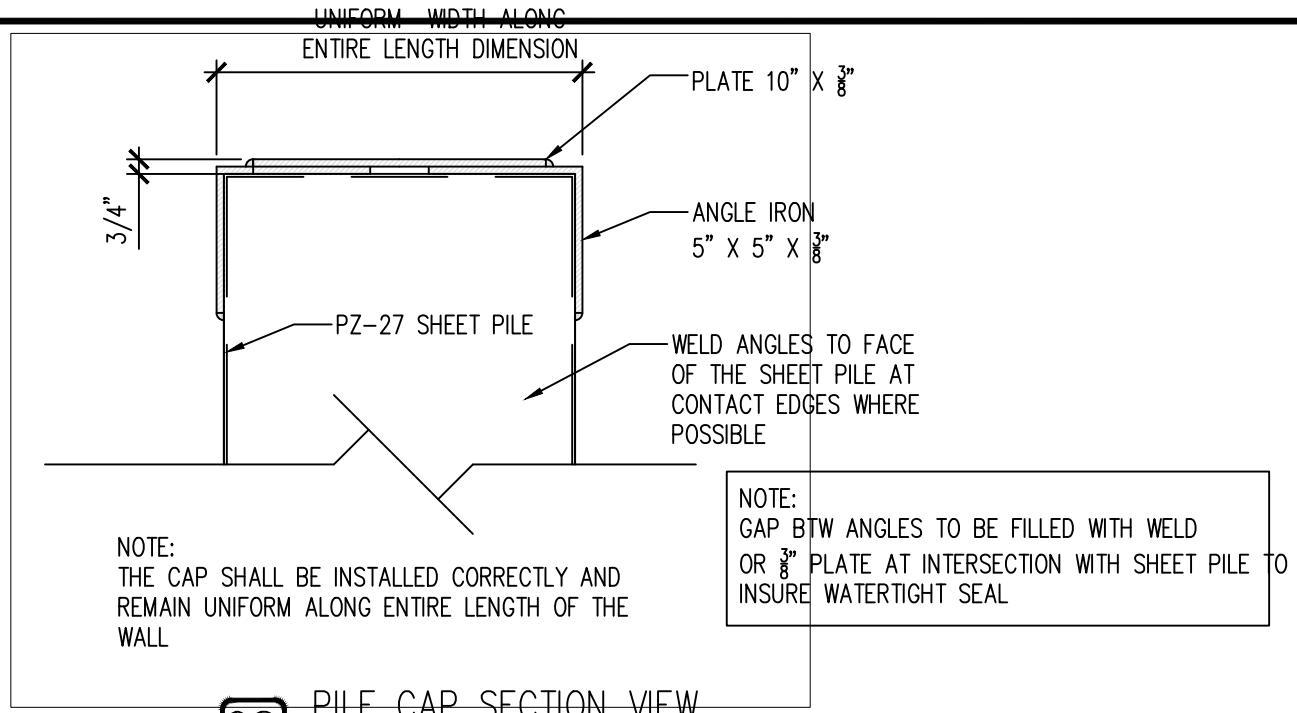
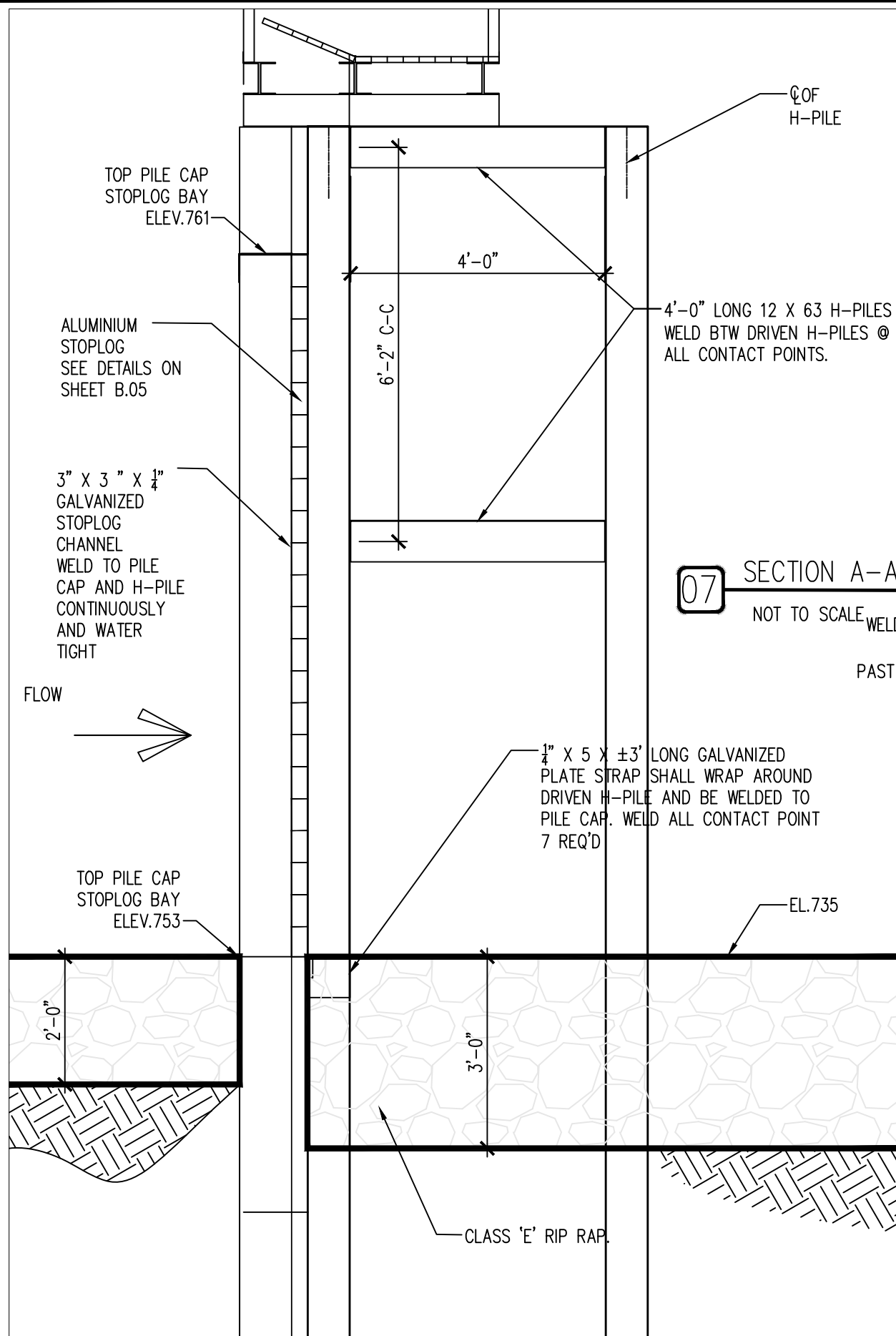
WARREN COUNTY, IA

NO.	BY	DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03

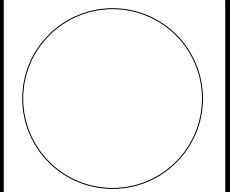
CHKD BY: JK DATE: AUG/2022

SHEET No:



- NOTE:
1. ALL WELDS TO BE $\frac{1}{4}$ " FILLET WELDS
 2. ALL WELDS WILL BE SUBJECT TO LAMPING. ANY AREAS FAILING WILL BE REWELDED BEFORE ACCEPTANCE OF PROJECT
 3. TOP OF SHEET PILE SHALL BE TRIMMED TO GRADES INDICATED ON THE PLANS TO REMOVE ANY DAMAGES CAUSED BY DRIVING, ANY TRIMMING OVER 3" SHALL BE CONSIDERED CUT-OFF AND SHALL BE DEDUCTED FROM THE COST OF SHEET PILES
 4. ABOVE EL. XXX PILE CAP NEED NOT TO BE WATER TIGHT, WELDS SHALL CONSIST OF A 6" BEAM AT 18" C-C (12" BTW WELDS)
 5. ALL WELDS AROUND STOPLOGS BAY SHALL BE CONTINUOUS TO ENSURE A WATERTIGHT SEAL.

CONSULTANT:



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 ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-0034



WARREN COUNTY, IA

OUTLET STRUCTURE DETAILS

COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

NO.	BY	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03
 CHKD BY: JK DATE: AUG/2022

SHEET No: **B.07**

3 1/2" X 3 1/2" X 1/4" GRATING SUPPORT ANGLE WELD TO W6 X 15 SUPPORT BEAM @ ALL CONTACT POINT.

W6 X 15 GRATING SUPPORT BEAM WELD TO W6 X 15 CATWALK SUPPORT BEAM @ ALL CONTACT POINTS.

16" X 16" X 3/8" GUSSET, WELD TO 5" X 5" X 3/8" PILE CAP ANGLE AND W6 X 15 CATWALK SUPPORT BEAM CONTRACTOR SHALL FIELD FIT ADDITIONAL STEEL BELOW 5" ANGLES TO TIE SHEETING TO GUSSET PLATE,

STEEL GRATING McNICHOLS GW-100A 1" X 1/8", 5.2LB/SF, GALVANIZED OR APPROVED EQUAL BY DNR FIELD ENGINEER. SPOT WELD GRATING TO ANGLE FRAME. BEARING BARS RUN PERPENDICULAR TO SHEET PILE STRUCTURE

W6 X 15 CATWALK SUPPORT BEAM 4' LONG RUNNING PERPENDICULAR TO SHEET PILE STRUCTURE, WELD TO 3/8" X 10" PILE CAP AT ALL CONTACT POINTS.

5" X 5" X 3/8" PILE CAP ANGLE WELD TO SHEETING

EXTEND W6 X 15 GRATING SUPPORT BEAM & 3 1/2" GRATING SUPPORT ANGLES 2" PAST OUTSIDE EDGE OF W6 X 15 CATWALK SUPPORT BEAM

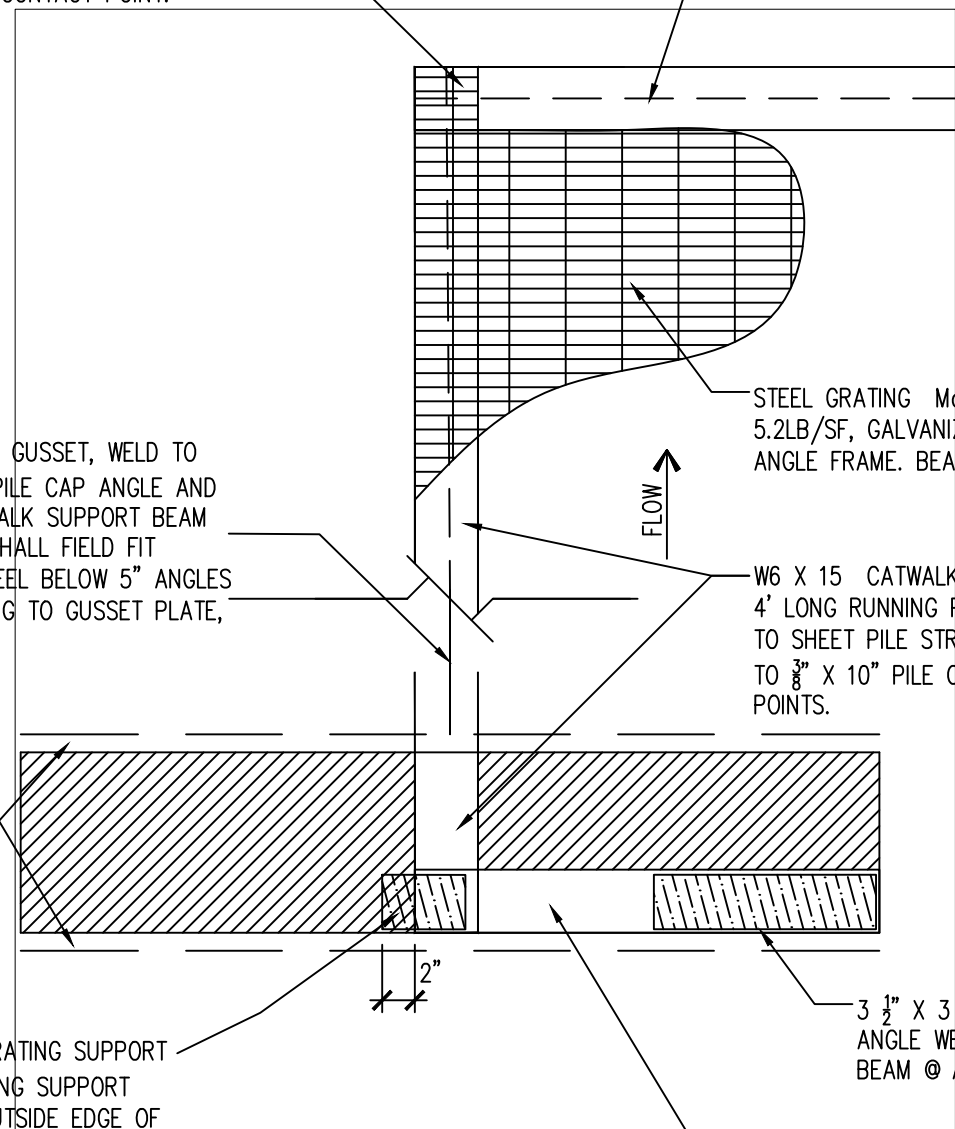
3 1/2" X 3 1/2" X 1/4" GRATING SUPPORT ANGLE WELD TO W6 X 15 SUPPORT BEAM @ ALL CONTACT POINT.

W6 X 15 GRATING SUPPORT BEAM WELD TO W6 X 15 CATWALK SUPPORT BEAM @ ALL CONTACT POINTS.

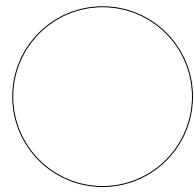
01

GRATING SUPPORT DETAIL

NOT TO SCALE



CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



STOPLOG STORAGE BOX

COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

WARREN COUNTY, IA

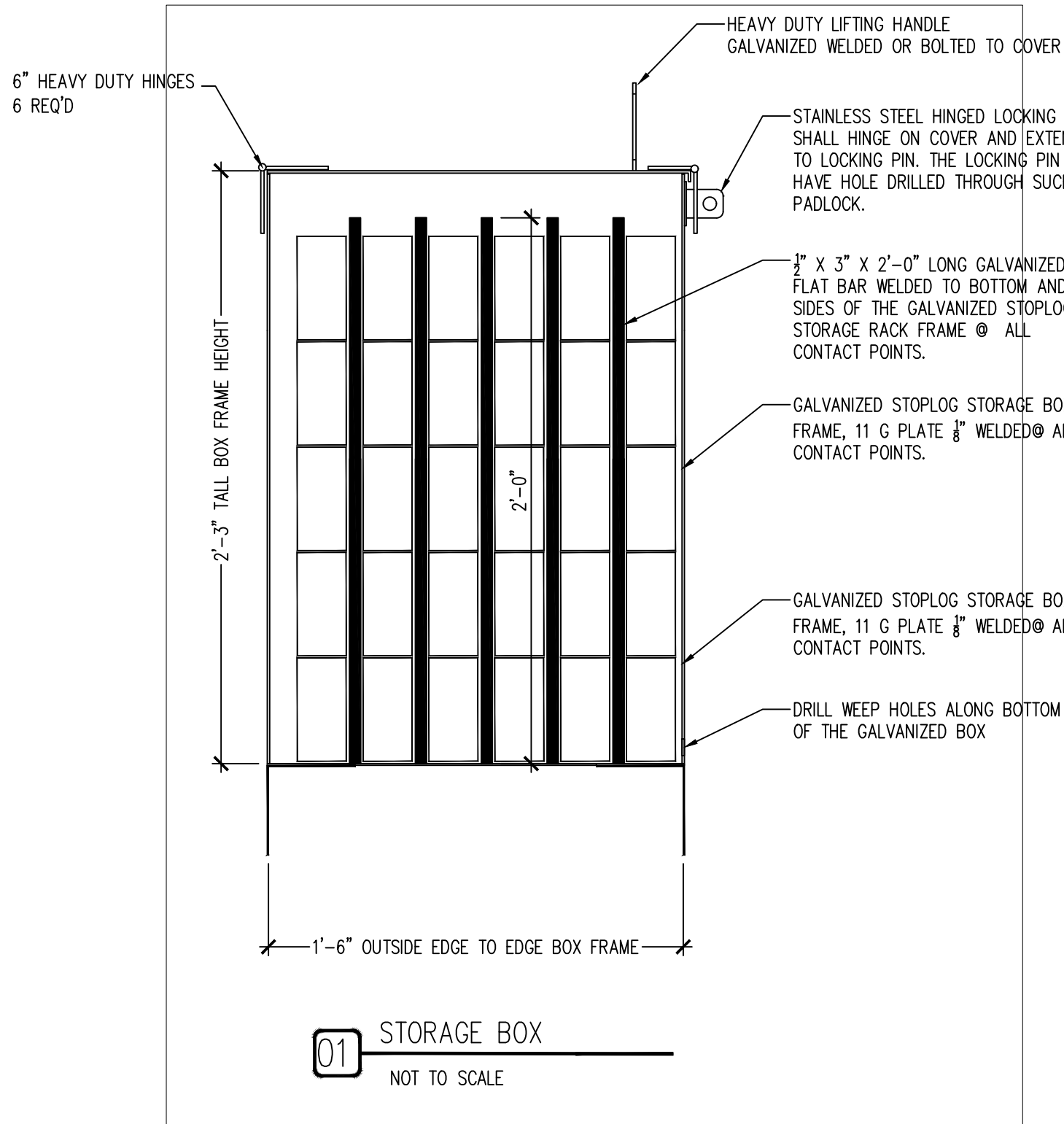
NO. BY REVISION

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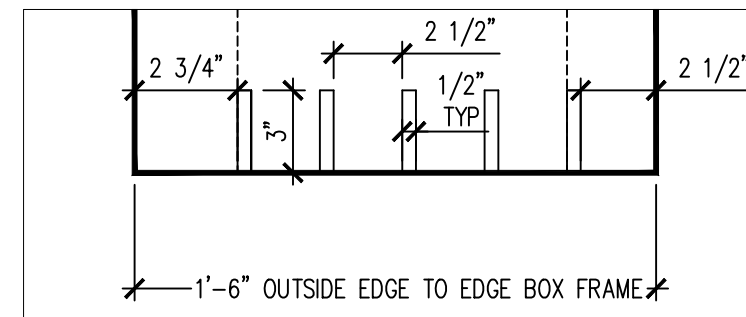
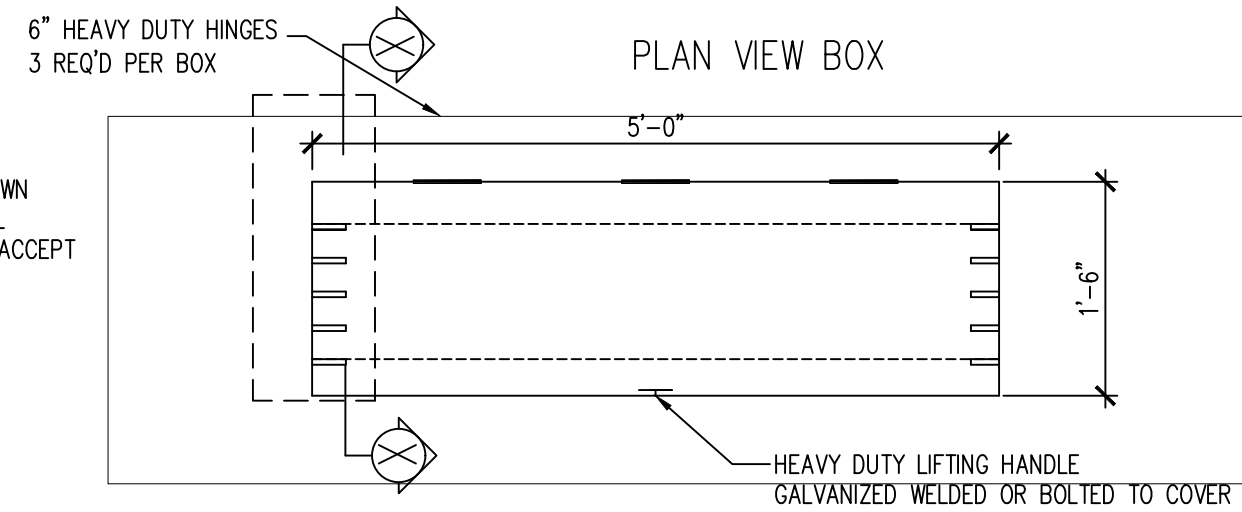
CHKD BY: JK DATE: AUG/2022

SHEET No:

B.08

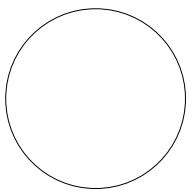


01 STORAGE BOX
NOT TO SCALE

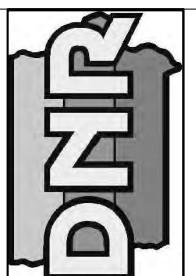


02 SECTION X-X
NOT TO SCALE

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



STOPLOG STORAGE BOX

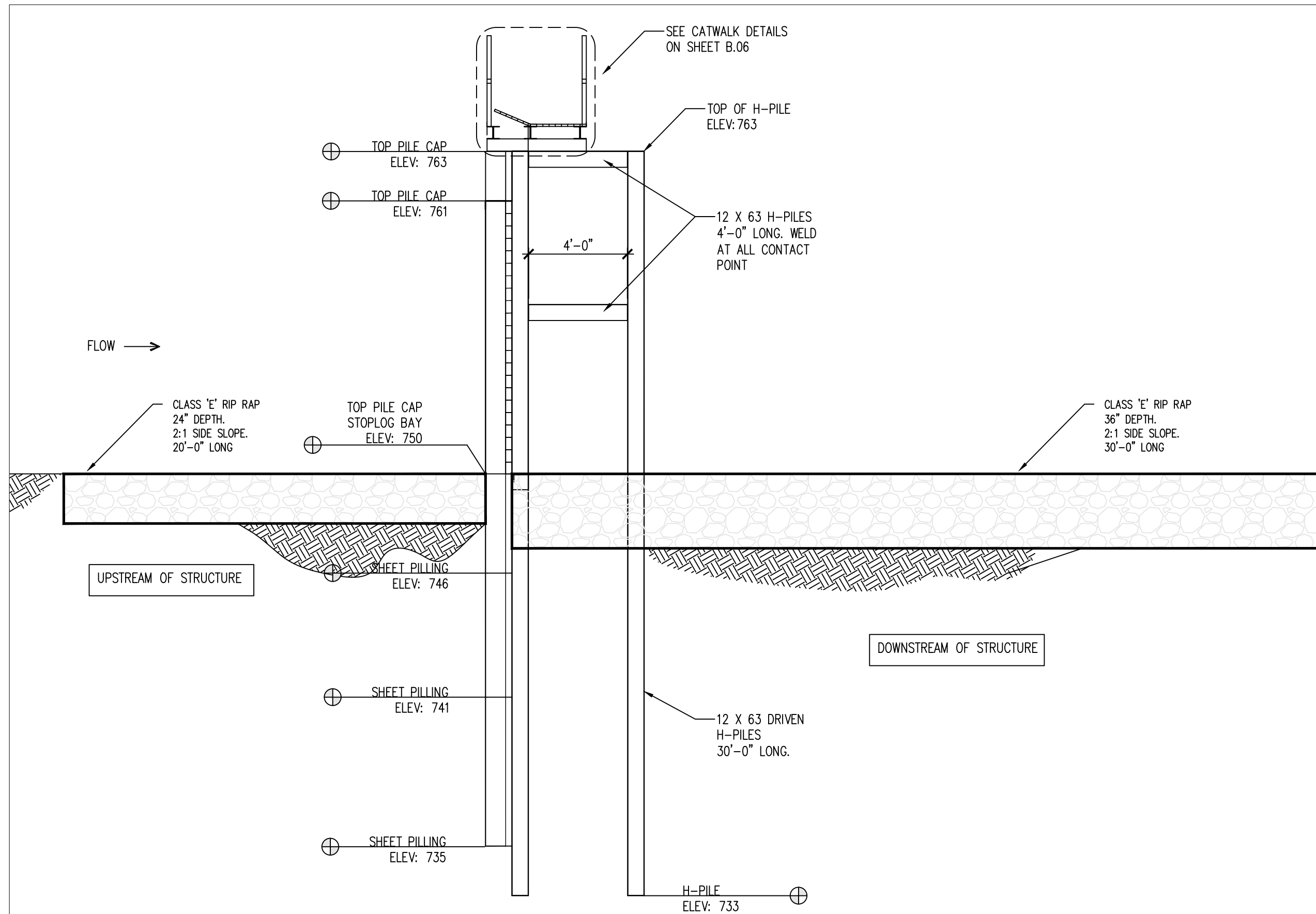
COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

WARREN COUNTY, IA

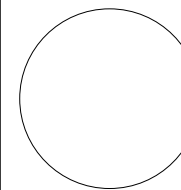
NO.	BY	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03
 CHKD BY: JK DATE: AUG/2022
 SHEET No:



01 SIDE VIEW SHEET PILE STRUCTURE
NOT TO SCALE

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



SIDE VIEW SHEET PILE STRUCTURE

COAL CREEK WETLAND RESTORATION:

RED ROCK WILDLIFE MGT AREA

WARREN COUNTY, IA

NO.	BY	REVISION
DATE		

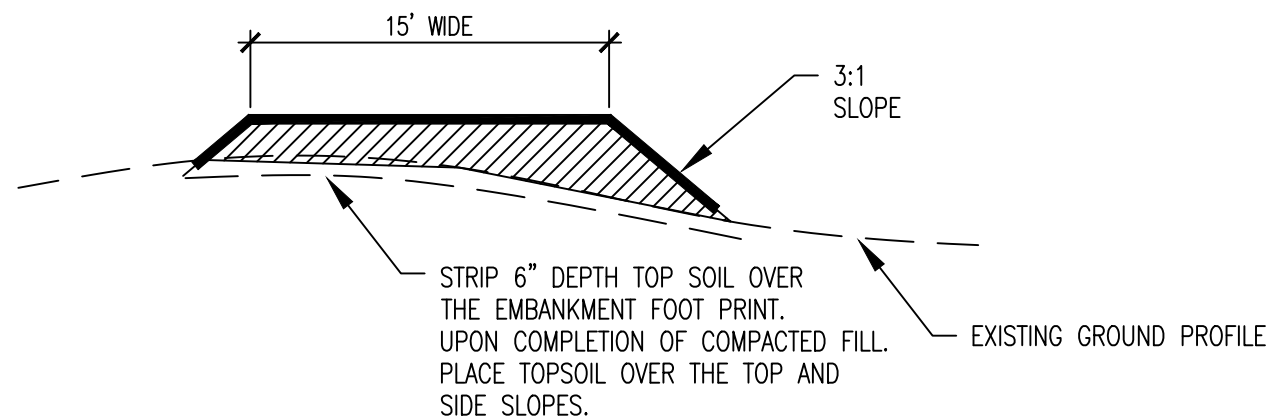
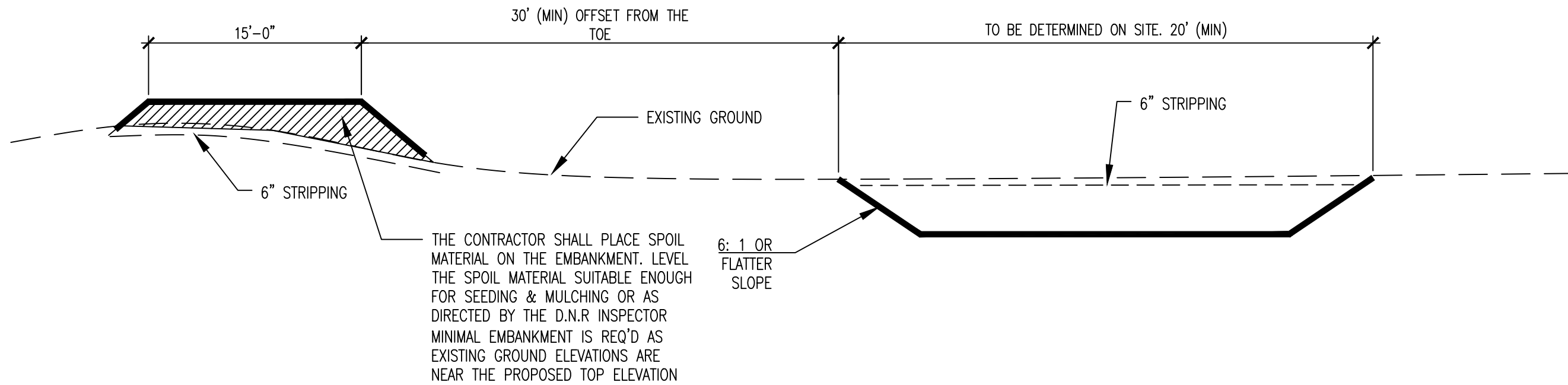
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CHKD BY: JK DATE: AUG/2022

SHEET No:

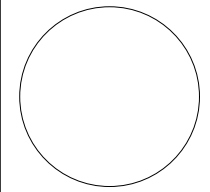
B.10

01 BORROW AREA CROSS-SECTION
NOT TO SCALE



02 DIKE (EMBANKMENT) CROSS-SECTION
NOT TO SCALE

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



BORROW AND DIKE CROSS SECTION

COAL CREEK WETLAND RESTORATION:
RED ROCK WILDLIFE MGT AREA
WARREN COUNTY, IA

NO.	BY DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 18-05-91-03
CHKD BY: JK DATE: AUG/2022
SHEET No:

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	MOBILIZATION	L.S	1
2	CLEARING AND GRUBBING	ACRES	2.7
3	TOPSOIL STRIPPING	C.Y	1945
4	CLASS 10 EXCAVATION, EMBANKMENT	C.Y	6620
5	OUTLET STRUCTURE COMPLETE	L.S	1
6	CLASS E REVETMENT	TONS	1390
7	CONCRETE GROUT FOR REVETMENT	CY	93
8	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)	L.S	1
9	9" STRAW WATTLE	L.F	4200
10	SEEDING, FERTILIZING, AND MULCHING	ACRES	2.7

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
3	A. This line item consists of the 6" deep stripping of topsoil as detailed on sheet B.11.
4	A. This line item consists of constructing the dike embankment.
5	A. The DNR has already purchased a portion of the materials required for this structure. See Sheet C.02 for a breakdown of materials furnished by the DNR and materials that the contractor shall furnish.
7	A. Grout shall be placed over Class E Revetment.
8	A. Contractor is responsible for developing the SWPPP, obtaining the NPDES General Permit #3, conducting required inspections, and maintaining the on-site inspection log.
9	A. Wattles shall be placed near the toe of the dike embankment, on the river-side only.
10	A. All disturbed areas shall be seeded, mulched, and fertilized pursuant to Iowa DOT Permanent Rural mix specification.

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

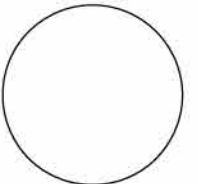
The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



QUANTITIES AND GENERAL INFORMATION

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:

18-05-91-03

CHK'D BY: DATE:

OCT/2020

SHEET No:

C.01

OUTLET SHEET PILE STRUCTURE COMPLETE		QUANTITY
SHEET PILE PZ-27	INSTALL ONLY	XXXX S.F
DRIVEN 8 X 36 H-PILES	INSTALL ONLY	XXXX LINEAR FEET
NON DRIVEN 8 X 36 H-PILES	INSTALL ONLY	420 LINEAR FEET
PILE CAP	INSTALL ONLY	119 LINEAR FEET

12 X 63 NON- DRIVEN H-PILE 4'-0" LONG	7 REQ'D
$\frac{3}{4}$ " X 5" X \pm 3'-0" LONG GALVANIZED PLATE	7 REQ'D

ALUMINUM STOPLOGS COMPONENTS

3" x 3" x $\frac{1}{4}$ " GALVANIZED STOPLOG CHANNEL	120 REQ'D
2" x 6" x $\frac{1}{4}$ " GALVANIZED STOPLOGS	60 REQ'D

STOPLOG STORAGE BOX: (ALL GALVANIZED)	3 REQ'D
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LIFTING HOOKS	2 REQ'D
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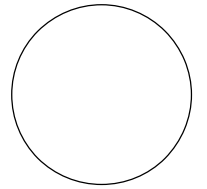
CATWALK COMPONENTS: (ALL GALVANIZED)

McNICHOLS GALVANIZED BAR GRATING GW-100A 1" X $\frac{1}{8}$ "	360 S.F
TS 2" X 2" X 3/16" HANDRAIL POSTS 3'-8"	34 REQ'D
TS 2" X 2" X 3/16" HANDRAIL	185 LINEAR FEET
6" HEAVY DUTY HINGES	12 REQ'D
LOCKING LOOP	6 REQ'D
W6 X 15 CATWALK SUPPORT BEAMS 4'-0" LONG	11 REQ'D
W6 X 15 GRATING SUPPORT BEAMS 93'-0" LONG	2 REQ'D
W6 X 15 CROSS SUPPORT BEAMS 3'-5 $\frac{3}{4}$ " LONG	4 REQ'D
W6 X 15 HATCH SUPPORT BEAMS 31'-0" LONG	1 REQ'D
8" X 8" X $\frac{3}{8}$ " PLATE WELDED TO TOP OF H-PILES	7 REQ'D
6" X 6" X $\frac{1}{4}$ " PLATE WELDED BENEATH HATCH SUPPORT BEAM	7 REQ'D
16" X 16" X $\frac{3}{8}$ " GUSSET PLATE TO SUPPORT CATWALK BEAM	4 REQ'D
3 $\frac{1}{2}$ " X 3 $\frac{1}{2}$ " X $\frac{1}{4}$ " GRATING SUPPORT ANGLE	186 LINEAR FEET

LIST OF MATERIAL ALREADY PURCHASE BY THE DNR				
ITEM	DISCRIPTION	LENGTH	AMOUNT	
PZ-27	SHEET PILE	15 FEET	48	
PZ-27		20 FEET	14	
H-PILES	8 X 36 H-PILES	30 FEET	14	
STEEL ANGLES	5" X 5" X $\frac{3}{8}$ "	20 FEET	14	
PILE CAP	10" X $\frac{3}{8}$ "	20 FEET	14	

MATERIAL LOCATION NOTE
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICK UP, LOADING AND DELIVERY OF THE MATERIAL ALREADY LOCATED AT THE D.N.R OFFICE. THE CONTRACTOR SHALL COORDINATE WITH D.N.R STAFF FOR PICK UP. THIS WORK SHALL BE INCIDENTAL TO INSTALLING SHEET PILE. NO EXTRA PAYMENT SHALL BE PAID. THE D.R.N OFFICE IS LOCATED AT 656 CARPENTER ST MONROE IA 50170 APPROXIMATELY FIFTEEN AND HALF MILES (15.5)

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QUANTITIES AND GENERAL INFORMATION

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

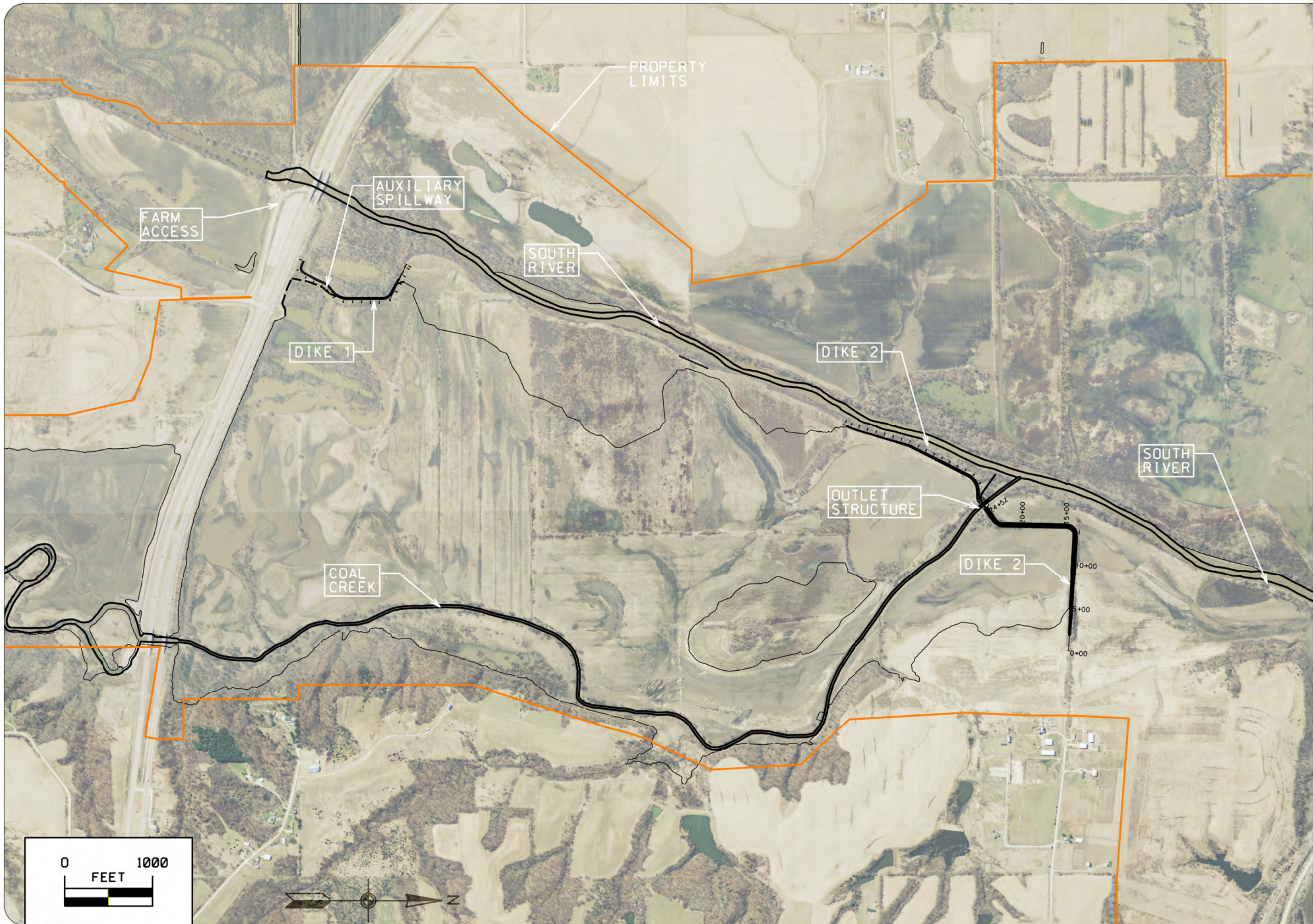
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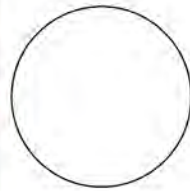
CHK'D BY: DATE:
OCT/2020

SHEET No:

C.02



CONSULTANT:



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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



SITE PLAN

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

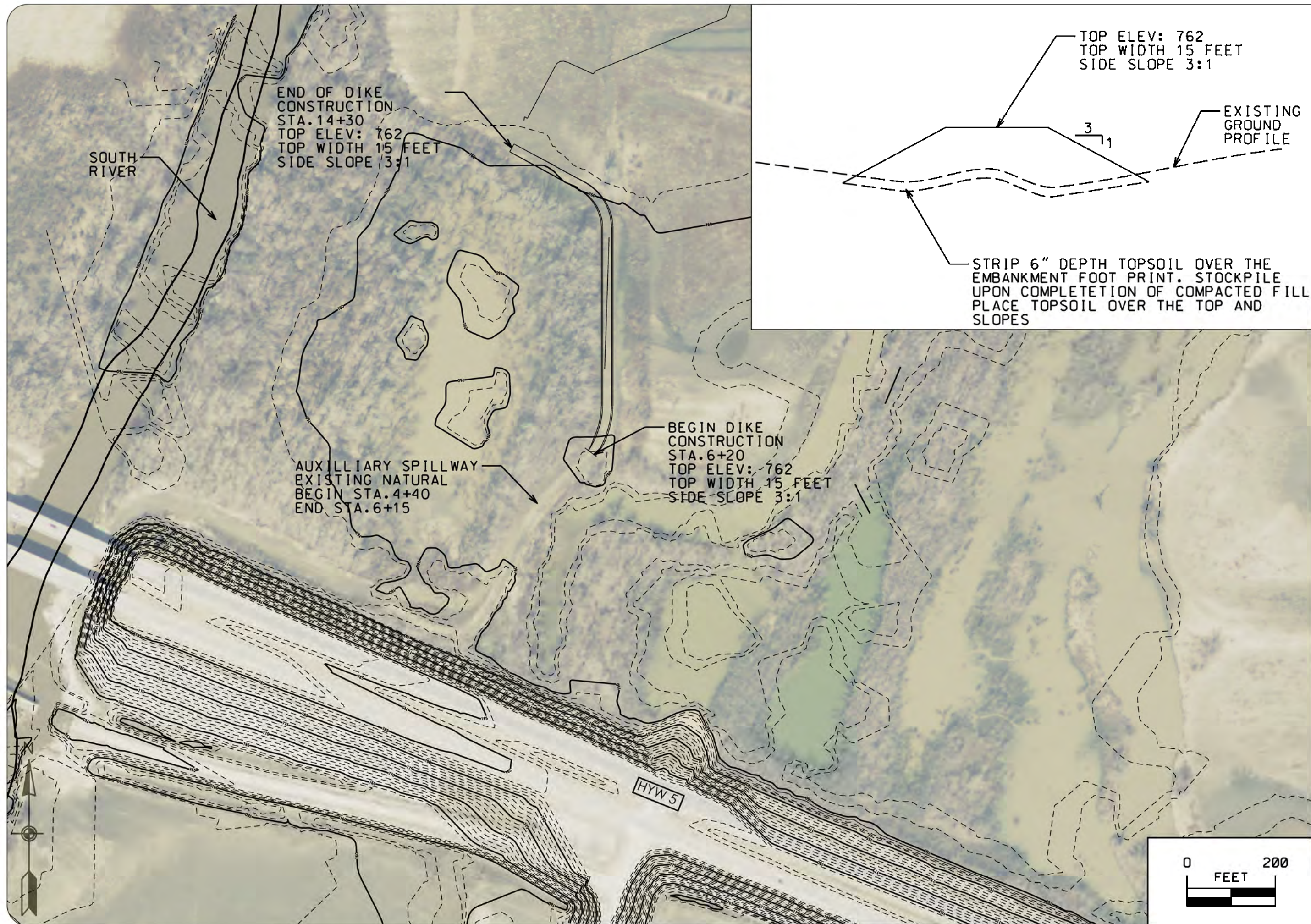
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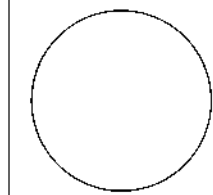
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OCT/2020

SHEET NO.

D.01



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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



DIKE 1 PLAN

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

NO.	DATE	REVISION

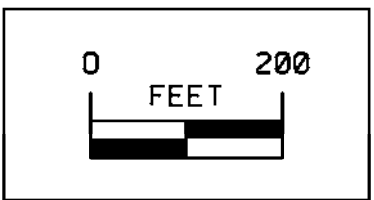
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CHKD BY: DATE: OCT/2020

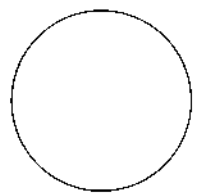
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DIKE 2 PLAN

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:
18-05-91-03

CHK'D BY: DATE:
OCT/2020

SHEET No:

D.03

DIKE 1
TOP OF DIKE
ELEV: 762
WIDTH 15'

CLASS 'E' REVETMENT
ARMORING BOTH INLET
AND OUTLET SEE DETAILS
ON B SHEETS

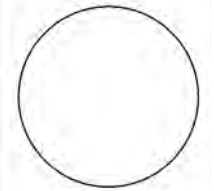
OUTLET
STRUCTURE
SEE DETAILS
ON B SHEETS

COAL
CREEK

DIKE 2
TOP OF DIKE
ELEV: 762
WIDTH 15'



CONSULTANT:



IOWA DEPARTMENT OF
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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



OUTLET SHEET PILE STRUCTURE

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

NO. OF REVISION

NO.	DATE	REVISION

DRAWN BY

PROJECT NUMBER

18-05-91-03

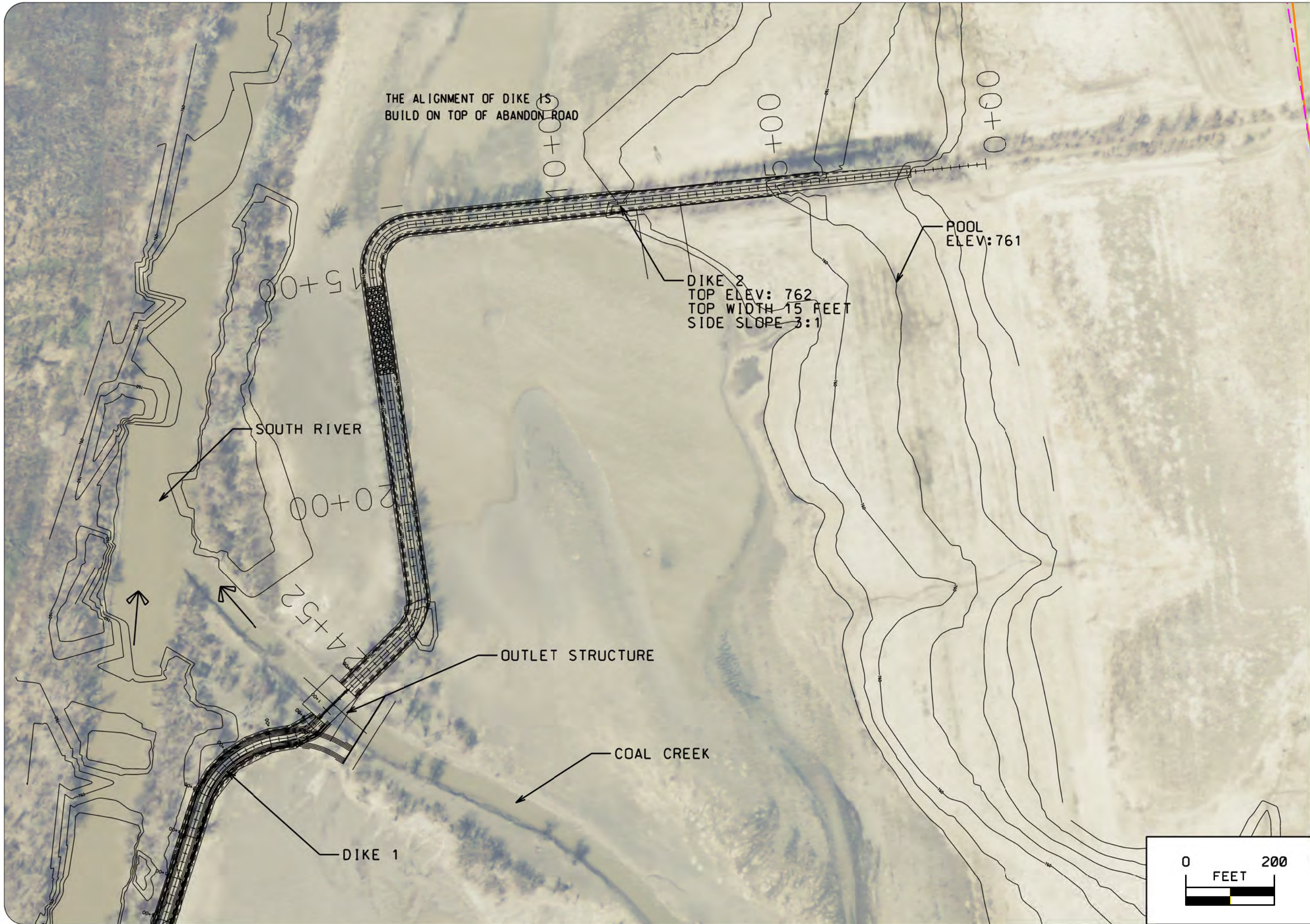
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DATE

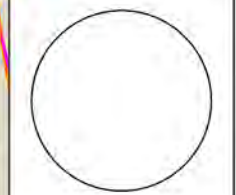
OCT/2020

SHEET NO.

D.04



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502 E. 9TH ST., DES MOINES, IA 50319-0034



DIKE 2 PLAN

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

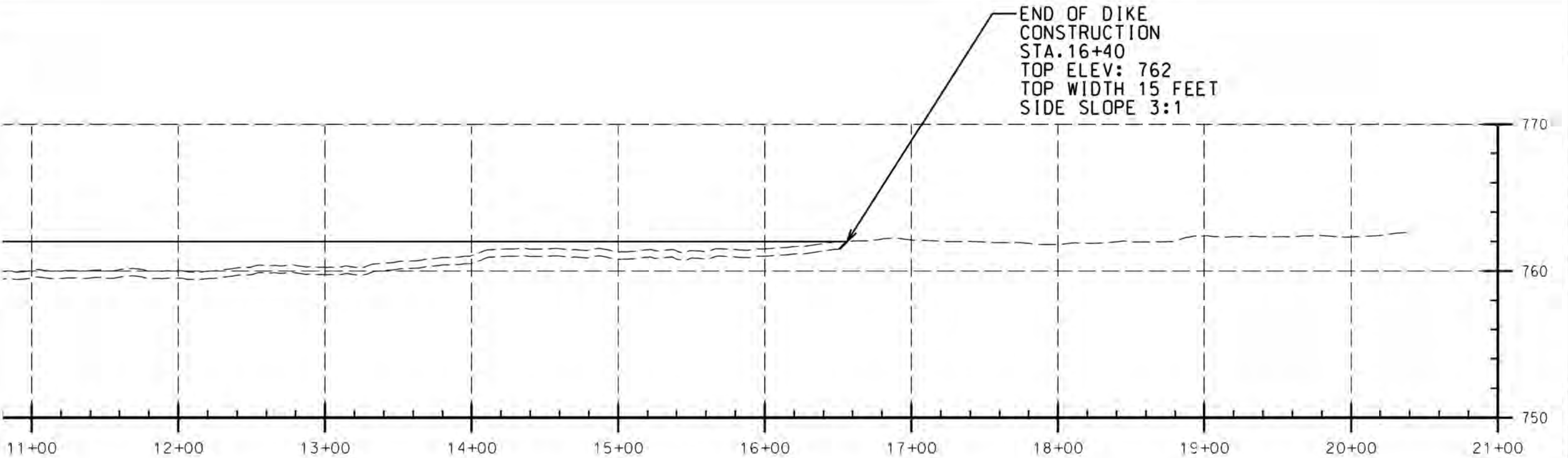
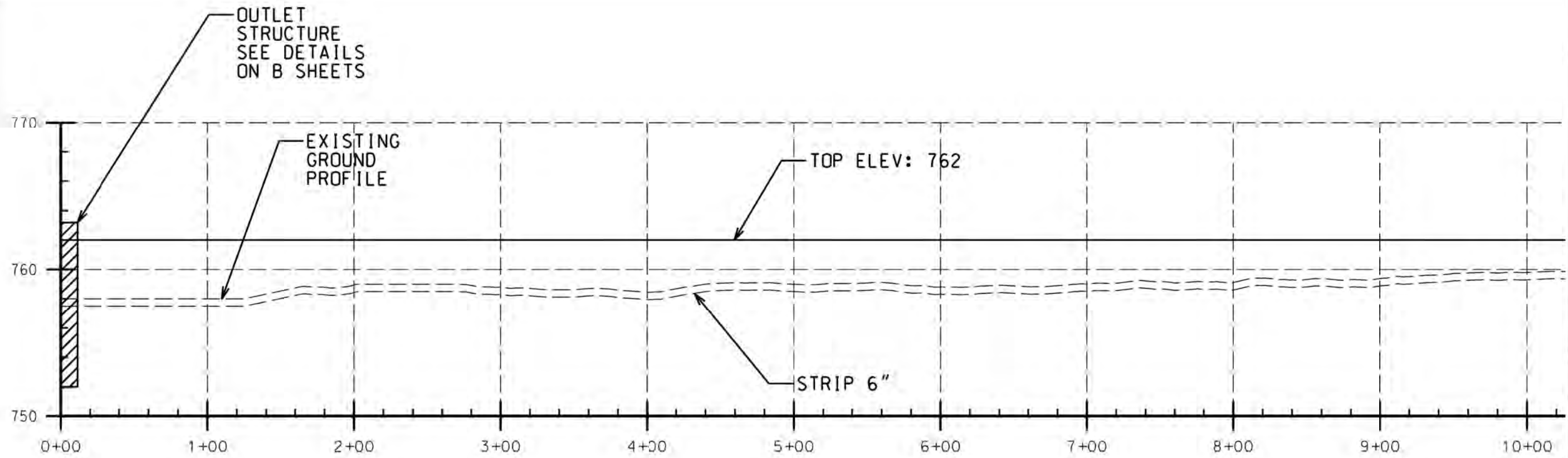
WARREN COUNTY

NO.	DATE	REVISION

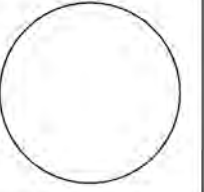
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SHEET No: **D.05**



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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



DIKE 1 PROFILE

COAL CREEK WETLAND RESTORATION FOR:

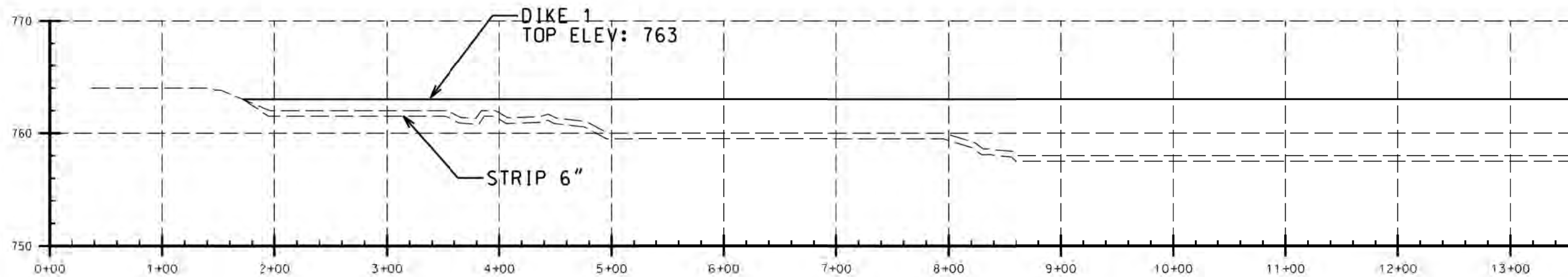
RED ROCK WILDLIFE UNIT

WARREN COUNTY

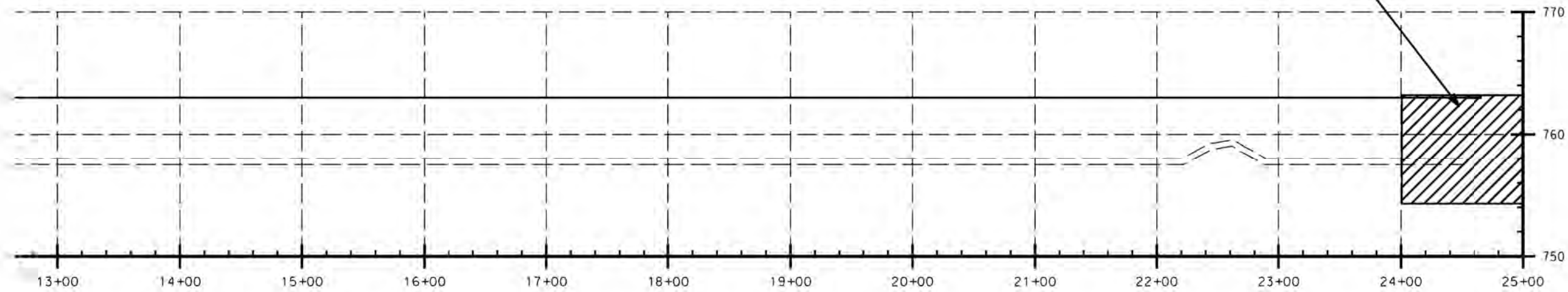
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	OCT/2020
SHEET NO.	

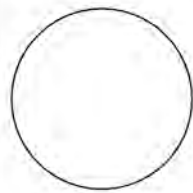
D.06



OUTLET
STRUCTURE
SEE DETAILS
ON B SHEETS



CONSULTANT:



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502 E. 9TH ST., DES MOINES, IA 50319-0034



DIKE 2 PROFILE

COAL CREEK WETLAND RESTORATION FOR:

RED ROCK WILDLIFE UNIT

WARREN COUNTY

NO. DATE REVISION

DRAWN BY: PROJECT NUMBER:
18-05-91-03

CHECK BY: DATE:
OCT/2020

PROJECT NO.:

D.07