

**IOWA DEPARTMENT OF NATURAL RESOURCES  
LAND & WATERS BUREAU  
WALLACE STATE OFFICE BUILDING**

**ADDENDUM No. 1**

HICKORY GROVE LAKE  
PHASE I SHORELINE ARMORING REBID  
STORY COUNTY  
PROJECT NUMBER: 16-02-85-04  
BID DATE: DECEMBER 21, 2017  
ISSUE DATE: DECEMBER 13, 2017

*This Addendum is issued to modify, explain or correct the original Drawings and Specifications, and is hereby made a part of the Contract Documents. Please attach this Addendum to the Project Manual in your possession. Insert the number and issue date of this Addendum in the blank space provided on the Proposal Form.*

**SPECIFICATIONS:**

1. 00300 Proposal - The proposal document has been updated. Disregard the Previous document and use the attached version for bidding.

**CONSTRUCTION PLANS:**

1. Plans - The Construction plans has been revised. Disregard the Previous plans and use the attached version for bidding.

Time and Date of Letting 11:00 AM, 12/21/2017

**PROPOSAL**

Project No. 16-02-85-04

Project Description and Location

**PHASE 1 SHORELINE ARMORING REBID  
HICKORY GROVE LAKE  
STORY CO, IA**

Proposal of: \_\_\_\_\_  
(Name of Bidder)

Located at: \_\_\_\_\_ ( ) \_\_\_\_\_  
(Address) (Area) (Telephone)

Amount of Proposal Guarantee	Specified completion date or Number of Working Days	Approx. or Specified Starting Date or Number of Working Days	Liquidated Damages Per Day
\$7000.00	09/30/2018	N/A	\$200.00

The undersigned hereby agrees, if awarded the contract, to execute the proposed contract and to furnish an approved performance bond in a amount not less than 100 percent of the contract award within 30 days after the date of approval of award of the contract, and to provide all labor, materials, and equipment required to complete the project designated above, for the price hereinafter set forth, in strict compliance with the contract documents prepared by the Iowa Department of Natural Resources.

The undersigned agrees, if awarded the contract, to commence the work within a reasonable time after the preconstruction conference or by the specific starting date, if so specified, and to complete the work within the contract period, or to pay liquidated damages in the amount stipulated herein for each calendar day the work remains uncompleted after the expiration of the contract period or any authorized reduction thereof.

A proposal guarantee in the amount stipulated herein is included with this proposal, to be forfeited to the Iowa Department of Natural Resources if the undersigned fails to execute the contract and furnish an approved performance bond, if awarded the contract.

By virtue of statutory authority, preference will be given to products and provisions grown and coal produced within the state of Iowa, and also, a resident bidder shall be allowed a preference against a nonresident bidder from a state or foreign country which gives or requires a preference to bidders from that state or foreign country on projects in which there are no federal funds involved.

BY

\_\_\_\_\_  
(Iowa Contractor Registration No.)

\_\_\_\_\_  
(Signed) \_\_\_\_\_  
(Date)

\_\_\_\_\_  
(FID/EIN/SSN)

\_\_\_\_\_  
(Phone Number) \_\_\_\_\_  
(Fax Number)

\_\_\_\_\_  
(Email Address)

By signing and submitting the proposal, the bidder:

1. Gives an unsworn declaration on behalf of each person, firm, association, partnership, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract, and is not under debarment currently by the Federal government for a criminal violation which is reasonably related to bidding and contracting procedures; and
2. Affirms to have examined the plans, specifications, and job site to become acquainted with the adjacent areas, means of approach to the site, conditions of the actual job site, and the facilities for delivering, storing, placing, and handling of materials and equipment.

**SCHEDULE OF PRICES**

Project Description and Location

**PHASE 1 SHORELINE ARMORING REBID HICKORY GROVE LAKE STORY CO, IA**

Name of Bidder

**THE "UNIT PRICE" AND "AMOUNT" COLUMNS MUST BE FILLED IN FOR THIS PROPOSAL TO BE CONSIDERED COMPLETE. IF THERE IS A DISCREPANCY BETWEEN UNIT BID PRICES, EXTENSIONS, OR TOTAL AMOUNTS OF BID, THE UNIT PRICES SHALL GOVERN.**

Item No.	Description	Estimated Quantity	Unit Price	Amount
1	Mobilization	1 L.S		
2	Class 'E' Revetment	1,348 TONS		
3	Macadam Stone	160 TONS		
4	Engineering Fabric	2,311 S.Y		
5	Class 'A' Crushed Stone	336 TONS		
6	¾ Inch Minus Granular Surfacing	127 TONS		
7	Intake Structure Complete (East Game Area)	1 L.S		
8	Intake Structure Complete (South Game Area)	1 L.S		
9	6" Corr. Non Perf PE Tubing	140 L.F		
10	24" Dia. CMP 16 GA	16 L.F		
11	Seeding, Fertilizing & Mulching	1 L.S		
		<b>TOTAL</b>		

Bidder Acknowledges Receipt of Any Issued Addenda Below (Number and Date)

# IOWA DEPARTMENT OF NATURAL RESOURCES

# CONSTRUCTION DOCUMENTS

# FOR

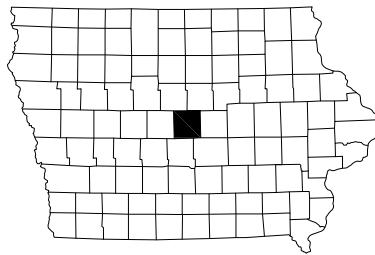
# HICKORY GROVE LAKE

# PHASE I

# SHORELINE ARMORING REBID

## STORY COUNTY, IOWA

THIS PROJECT IS PERFORMED IN PARTNERSHIP  
WITH STORY COUNTY CONSERVATION AND  
IOWA DEPARTMENT OF NATURAL RESOURCES



LICENSED PROFESSIONAL ENGINEER

HEATH B DELZELL  
21074

IOWA

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.

HEATH B DELZELL \_\_\_\_\_ Date

My license renewal date is December 31, 2017.

Pages or sheets covered by this seal: \_\_\_\_\_

## IOWA ONE CALL

1-800-292-8989 | Know where's below. Call before you dig.

www.iowaonecall.com

DIRECTORY			
PROJECT MANAGER		CONSTRUCTION INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 EAST 9TH STREET	ADDRESS	305 SOUTH OAK ST
CITY, STATE, ZIP	DES MOINES, IA 50319	CITY, STATE, ZIP	JEFFERSON, IA 50129
CONTACT	EMMANUEL SANG	CONTACT	DON LABATE
TELEPHONE	515-321-7005	TELEPHONE	515-250-3714
FAX		FAX	
EMAIL	Emmanuel.Sang@dnr.iowa.gov	EMAIL	Don.Labate@dnr.iowa.gov

PROJECT DESCRIPTION

THIS PROJECT INVOLVES SHORELINE ARMORING AND GRADE STABILIZATION STRUCTURES OTHER INCIDENTAL WORK AS REQUIRED BY D.N.R CONSTRUCTION INSPECTOR IN STORY COUNTY, IOWA.

AUTHORIZATION TO BID

AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY

ENGINEERING BUREAU CHIEF \_\_\_\_\_ DATE \_\_\_\_\_

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2	PROJECT LOCATION
3	ESTIMATED QUANTITIES AND GENERAL NOTES
4	SITE PLAN
5	BREZZY BAY AREA
6	BEACH CONCESSION AREA
7	BOB WHITE SHELTER AREA
8	ORIOLE RIDGE AREA (A)
9	ORIOLE RIDGE AREA (B)
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11	EAST GAME AREA (A)
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STORY COUNTY CONSERVATION  
56461 180TH ST AMES, IA 50010

IOWA DEPARTMENT OF  
NATURAL RESOURCES

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

COVER SHEET

SHORELINE ARMORING FOR:  
**HICKORY GROVE LAKE**

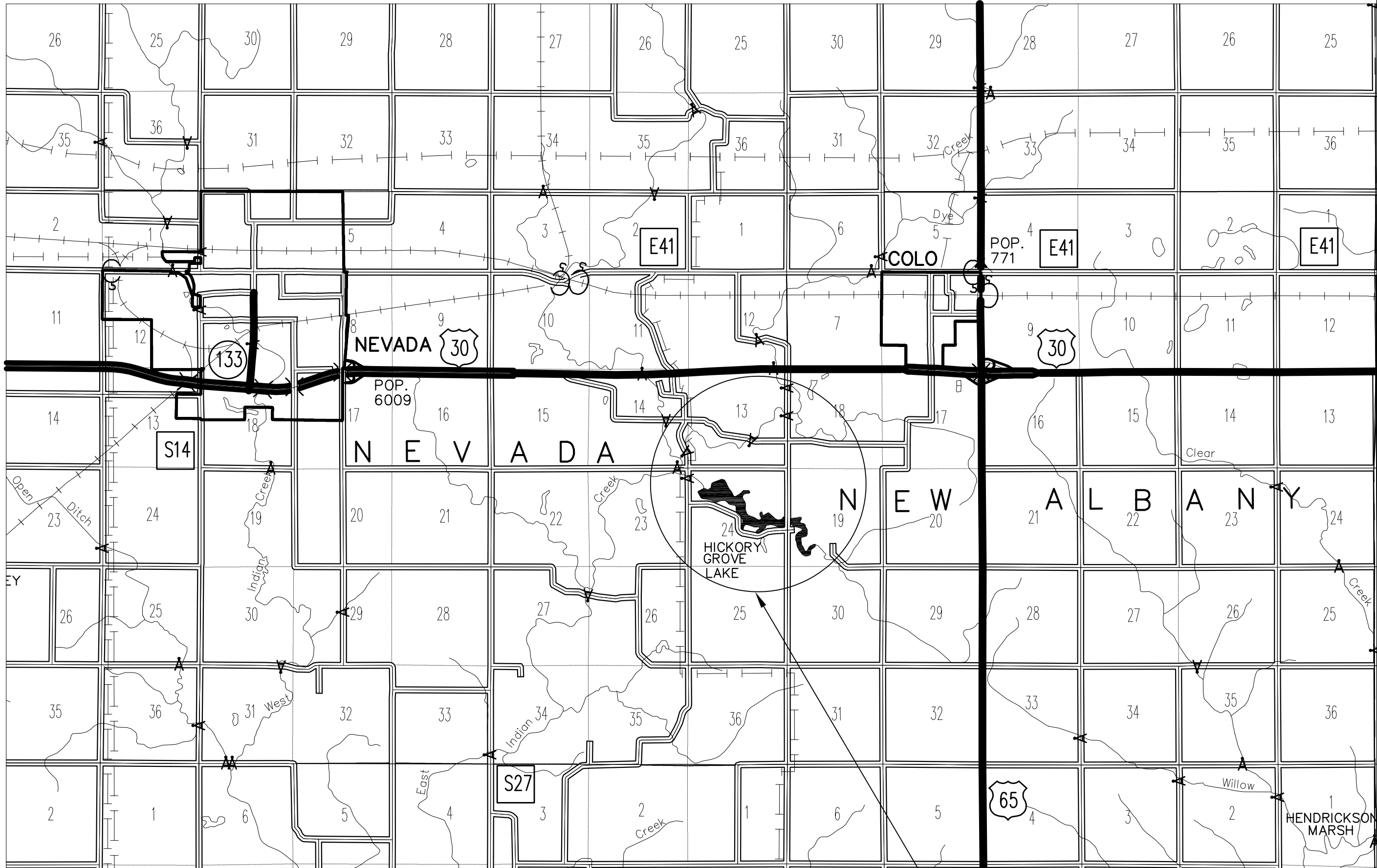
STORY COUNTY, IA

NO.	BY DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 16-02-85-04

CHK'D BY: DATE: NOV/2017

SHEET No: 1



T-83 N, R-22W

PROJECT LOCATION



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



PROJECT LOCATION

SHORELINE ARMORING FOR:  
**HICKORY GROVE LAKE**

FREMONT COUNTY, IA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
 E.S. 16-02-85-04  
 CHK'D BY: DATE:  
 H.D. NOV/2017  
 SHEET No: **2**

STORY COUNTY  
CONSERVATION  
54461 180TH ST  
AMES, IA 50010

### ESTIMATED PROJECT QUANTITIES

ITEM	DESCRIPTION	UNIT	TOTAL
1	MOBILIZATION	L.S	1
2	CLASS 'E' REVETMENT	TONS	1,348
3	MACADAM STONE	TONS	160
4	ENGINEERING FABRIC	S.Y	2,311
5	CLASS 'A' CRUSHED STONE	TONS	336
6	3/8 INCH MINUS GRANULAR SURFACING	TONS	127
7	INTAKE STRUCTURE COMPLETE (EAST GAME AREA)	L.S	1
8	INTAKE STRUCTURE COMPLETE (SOUTH GAME AREA)	L.S	1
9	6" CORR. NON PERF PE TUBING	L.F	140
10	24" DIA. CMP 16GA	L.F	16
11	SEEDING, FERTILIZING & SITE RESTORATION	L.S	1

### GENERAL NOTES:

The contractor shall notify the following two weeks prior to construction:

1. District Inspector:  
DON LABATE  
(515)-250-3714

2. Project Manager:  
EMMANUEL SANG  
(515)-321-7005

The contractor shall verify actual locations and elevations with the D.N.R Inspector. 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 the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specifications, special provisions and contract. The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the D.N.R Inspector of any discrepancies, omissions and/or conflicts prior to proceeding with the work. The contractor is responsible for disposal 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 D.N.R Inspector. The contractor shall not disturb desirable grass areas and desirable trees outside 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 D.N.R inspector. 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. The contractor shall be responsible for any damage to existing facilities resulting from their negligence, or that of a subcontractor, and said repairs shall be approved by the owner.

### ESTIMATE QUANTITIES NOTES:

ITEM	DESCRIPTION
2	CLASS 'E' REVETMENT – BID ITEM INCLUDES SHAPING & PLACING REVETMENT ON THE LAKE SHORELINE AND ROCK SILT DIKES AS SHOWN ON THESE PLANS. THE REVETMENT SHALL MEET IOWA DOT STANDARD SPECIFICATIONS OF HIGHWAY AND BRIDGE SECTION 4130 SERIES 2015 PLUS CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISION.
3	MACADAM STONE THIS BID ITEM IS FOR THE SUPPLY AND INSTALLATION OF 6" OF MACADAM STONE ON ROCK CHECK DAMS AS SHOWN ON THESE PLANS. THE MACADAM STONE SHALL MEET IOWA DOT STANDARD SPECIFICATION 4122 SERIES 2015 PLUS CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISION.
4	ENGINEERING FABRIC THIS BID ITEM IS FOR THE SUPPLY AND INSTALLATION OF ENGINEERING FABRIC AS SHOWN ON THESE PLANS. THE FABRIC SHALL MEET IOWA DOT STANDARD SPECIFICATION 4196.01-3 SERIES 2015 PLUS CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISION.
5	CLASS 'A' CRUSHED STONE THIS BID ITEM IS FOR SUPPLY AND INSTALLATION OF CLASS A CRUSHED STONE ON THE THE TRAIL AND TO REPAIR THE ACCESS ROAD ON THE EAST GAME AREA. THE CLASS A CRUSHED STONE SHALL MEET IOWA DOT STANDARD SPECIFICATION 4120 SERIES 2015 PLUS CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISION.
6	3/8" MINUS GRANULAR SURFACING THIS BID ITEM IS FOR THE SUPPLY AND INSTALLATION OF GRANULAR SURFACING AS SHOWN ON THESE PLANS. SURFACING SHALL MEET IOWA DOT STANDARD SPECIFICATION 7010 SERIES 2015 PLUS CURRENT SUPPLEMENTAL SPECIFICATION AND SPECIAL PROVISION.
7 8	INTAKE STRUCTURE – COMPLETE – BID ITEM INCLUDES EQUIPMENT, MATERIAL AND LABOR REQUIRED TO INSTALL A NEW INTAKE STRUCTURE, PLACE RIPRAP AS SHOWN ON SHEET 11. REPAIR THE BREACHED DIKE, INSTALL NEW INTAKE STRUCTURE AS SHOWN ON SHEET 13
9	6" CORR. NON PERF PE TUBING – THIS BID ITEM IS FOR TILE EXTENSION AS INDICATED ON THESE PLANS
<p>NOTE: THE CONTRACTOR IS RESPONSIBLE FOR SECURING ANY NECESSARY HAULING PERMITS THAT MAY BE REQUIRED BY THE LOCAL MUNICIPALITY</p>	

STORY COUNTY  
CONSERVATION  
56461 180TH ST  
AMES, IA 50010



**IOWA DEPARTMENT OF  
NATURAL RESOURCES**

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



ESTIMATED QUANTITIES

WATER SHED IMPROVEMENT FOR:  
**HICKORY GROVE LAKE**

STORY COUNTY, IA

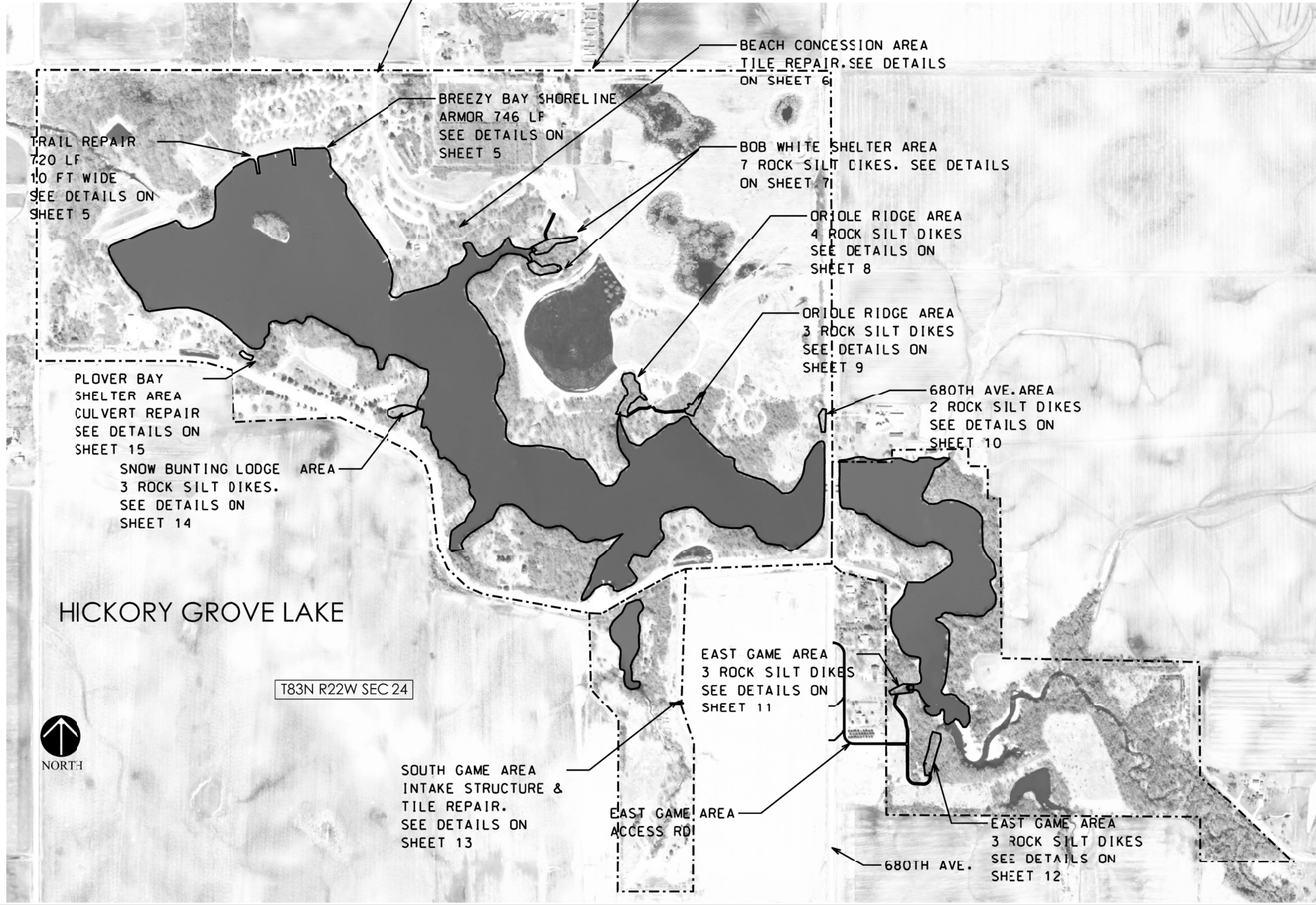
NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:  
ES 16-02-85-04

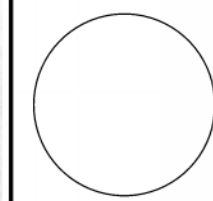
CHK'D BY: DATE:  
HD NOV/2017

SHEET No:





CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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



SITE PLAN

WATERSHED IMPROVEMENT FOR:

HICKORY GROVE LAKE

STORY COUNTY, IA

NO.	BY	REVISION

DRAWN BY:	PROJECT NUMBER:
ES	16-02-85-04
CHKD BY:	DATE:
HD	NOV/2017
SHEET No:	





APPROX. LOCATION OF EXISTING TILE

TILE REPAIR. ACTUAL LOCATION TO BE DETERMINED ON SITE

TRAIL

EXISTING CULVERT

HICKORY GROVE LAKE

BEACH CONCESSION SHOP

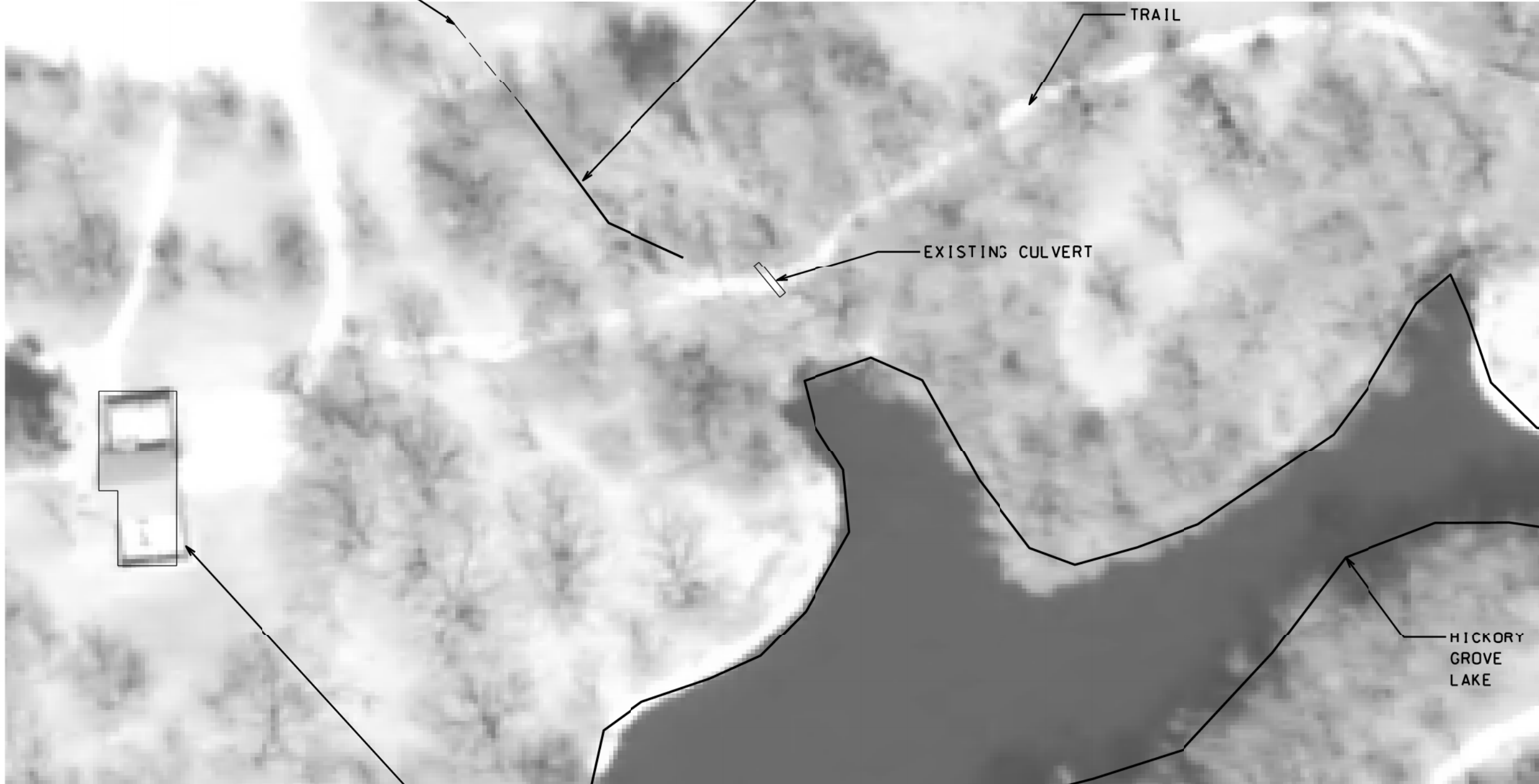
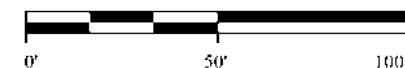
TRAIL REPAIR

TILE REPAIR NOTE:  
THE CONTRACTOR SHALL CONNECT EXISTING 6" CLAY TILE WITH NEW 6" HDPE PIPE 100 LF LONG.  
CONTRACTOR SHALL FURNISH ALL ACCESORIES REQUIRED TO CONNECT CLAY TILE TO NEW HDPE CLAY TILE.  
NOMINAL COVER SHALL BE REQUIRED FOR THE PIPE.



NORTH

SCALE: 1" = 50'



IOWA DEPARTMENT OF NATURAL RESOURCES

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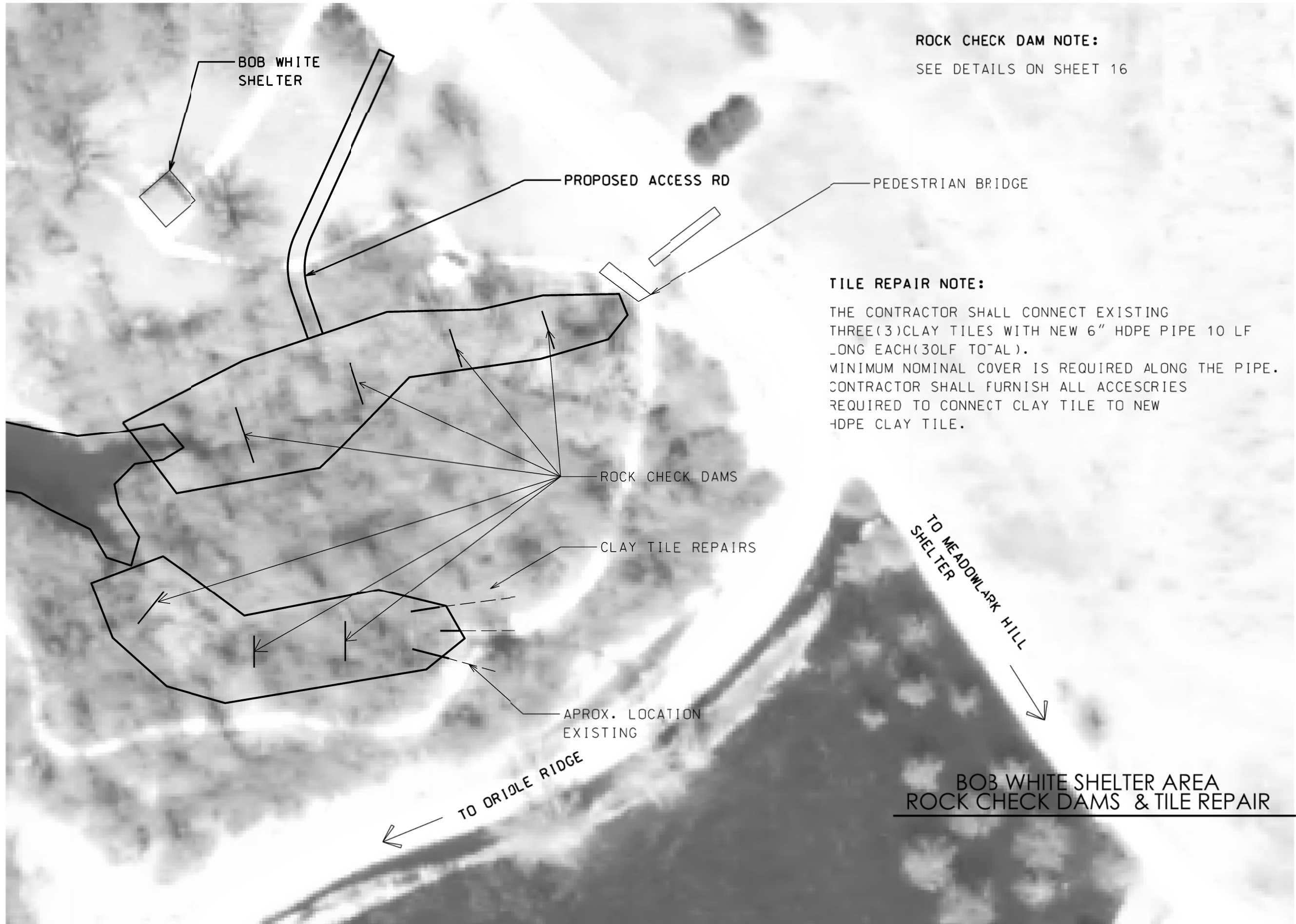
BEACH CONCESSION AREA

LAKE RESTORATION FOR:  
HICKORY GROVE LAKE

STORY COUNTY, IA

NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:  
ES 16-02-85-04  
CHKD BY: DATE:  
HD NOV/2017  
SHEET No:



**ROCK CHECK DAM NOTE:**  
SEE DETAILS ON SHEET 16

**TILE REPAIR NOTE:**  
THE CONTRACTOR SHALL CONNECT EXISTING THREE(3)CLAY TILES WITH NEW 6" HDPE PIPE 10 LF LONG EACH(30LF TOTAL). MINIMUM NOMINAL COVER IS REQUIRED ALONG THE PIPE. CONTRACTOR SHALL FURNISH ALL ACCESORIES REQUIRED TO CONNECT CLAY TILE TO NEW HDPE CLAY TILE.

**BOB WHITE SHELTER AREA  
ROCK CHECK DAMS & TILE REPAIR**



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



**BOB WHITE SHELTER AREA**  
LAKE RESTORATION FOR:  
**HICKORY GROVE LAKE**  
STORY COUNTY, IA

NO.	BY	REVISION

DRAWN BY: ES PROJECT NUMBER: 16-02-85-04  
CHKD BY: H.D. DATE: NOV/2017  
SHEET No: 7

ORIOLE RIDGE AREA A ROCK CHECK DAMS



ROCK CHECK DAM NOTE:  
SEE DETAILS ON SHEET 16



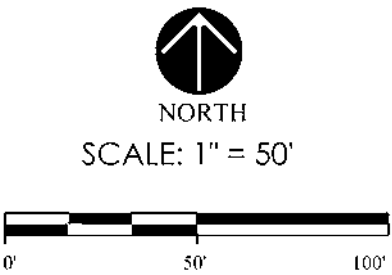
IOWA DEPARTMENT OF  
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ENGINEERING SERVICES - WALLACE BUILDING  
502 E. 9TH ST., DES MOINES, IA 50319-0034



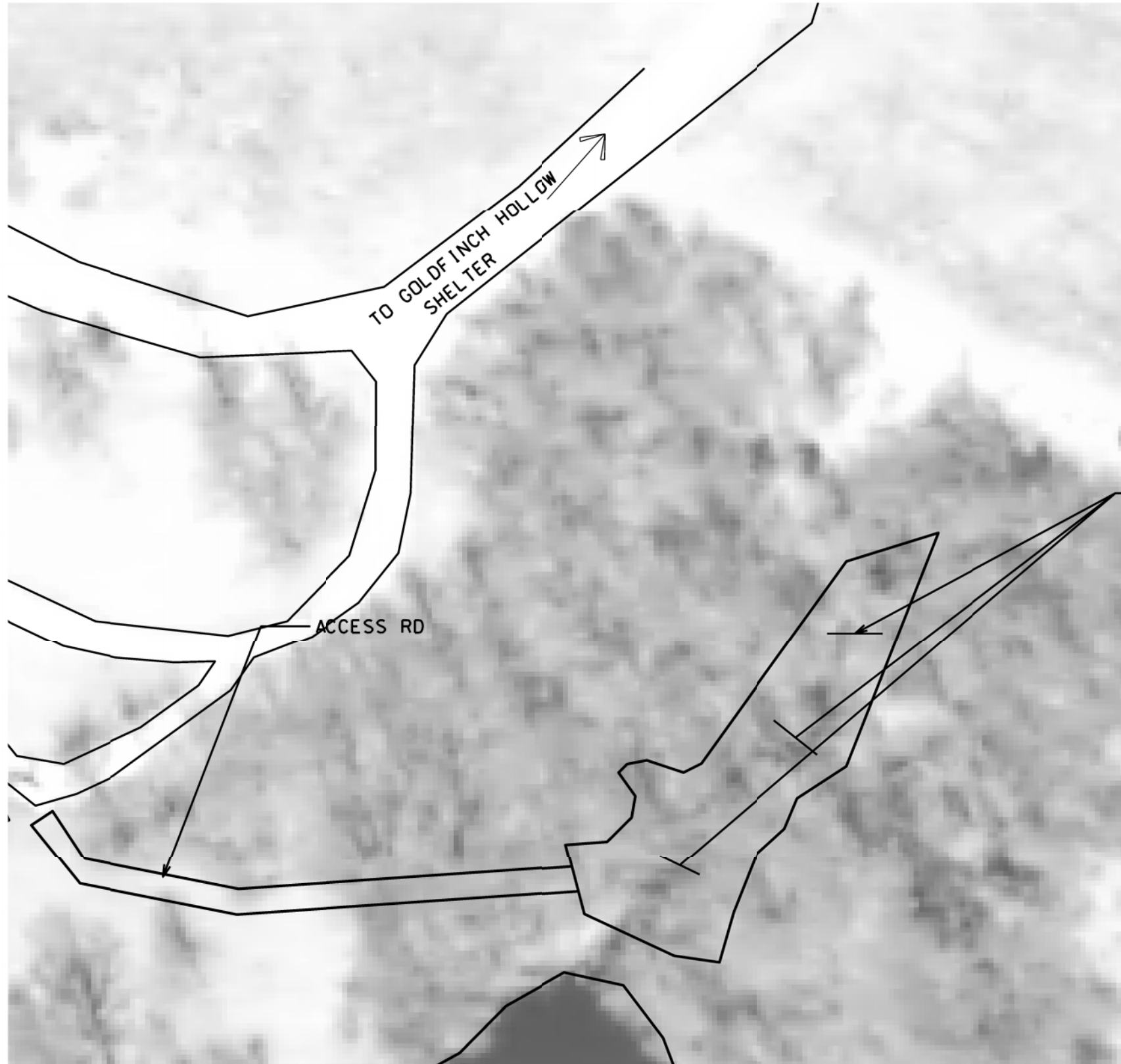
PLAN  
LAKE RESTORATION FOR:  
HICKORY GROVE LAKE  
STORY COUNTY, IA

NO.	BY	DATE	REVISION

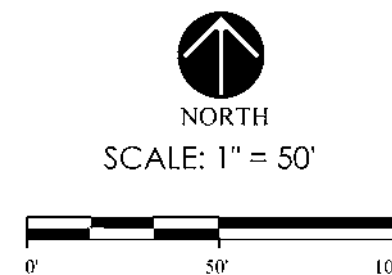
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CHKD BY: H.D DATE: NOV/2017  
SHEET No: 8



ORIOLE RIDGE AREA (B) ROCK CHECK DAMS



ROCK CHECK DAM NOTE:  
SEE DETAILS ON SHEET 16



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



PLAN  
LAKE RESTORATION FOR:  
**HICKORY GROVE LAKE**  
STORY COUNTY, IA

NO.	BY	REVISION

DRAWN BY: ES PROJECT NUMBER: 16-02-85-04  
CHKD BY: H.D. DATE: NOV/2017  
SHEET No: 9

**ROCK CHECK DAMS**

**ROCK CHECK DAM NOTE:**

SEE DETAILS ON SHEET 17  
 CONTRACTOR SEED, FERTILIZE AND RESTORE ALL  
 DISTURBED AREA.

HICKORY GROVE LAKE  
 PROPERTY

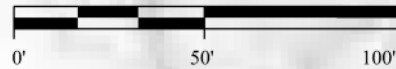
ROCK CHECK DAM

25416 680TH AVE  
 COLO IA 50056-8618



NORTH

SCALE: 1" = 50'



680TH AVE.



56461 180TH ST.  
 AMES, IA 50010

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



SITE PLAN

LAKE RESTORATION FOR:  
**HICKORY GROVE LAKE**

STORY COUNTY, IA

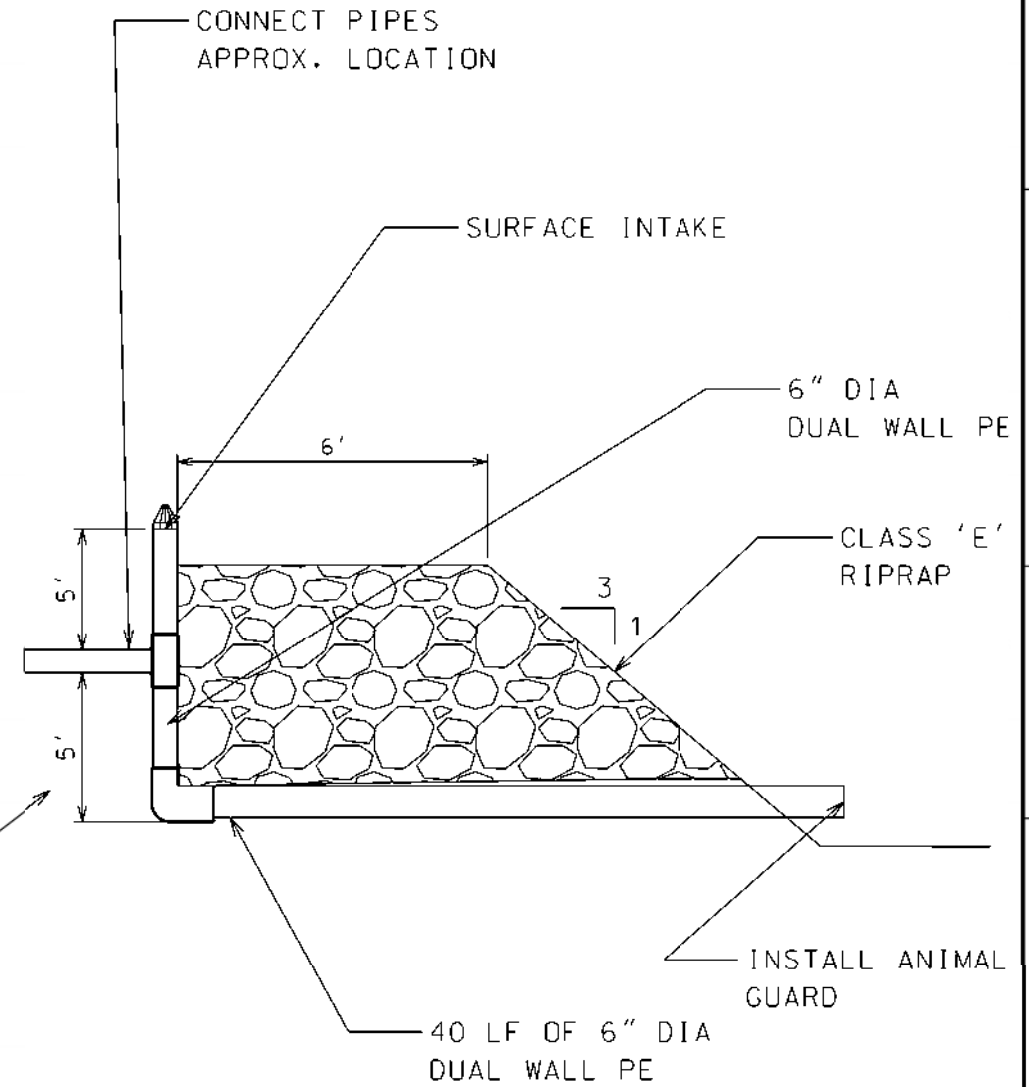
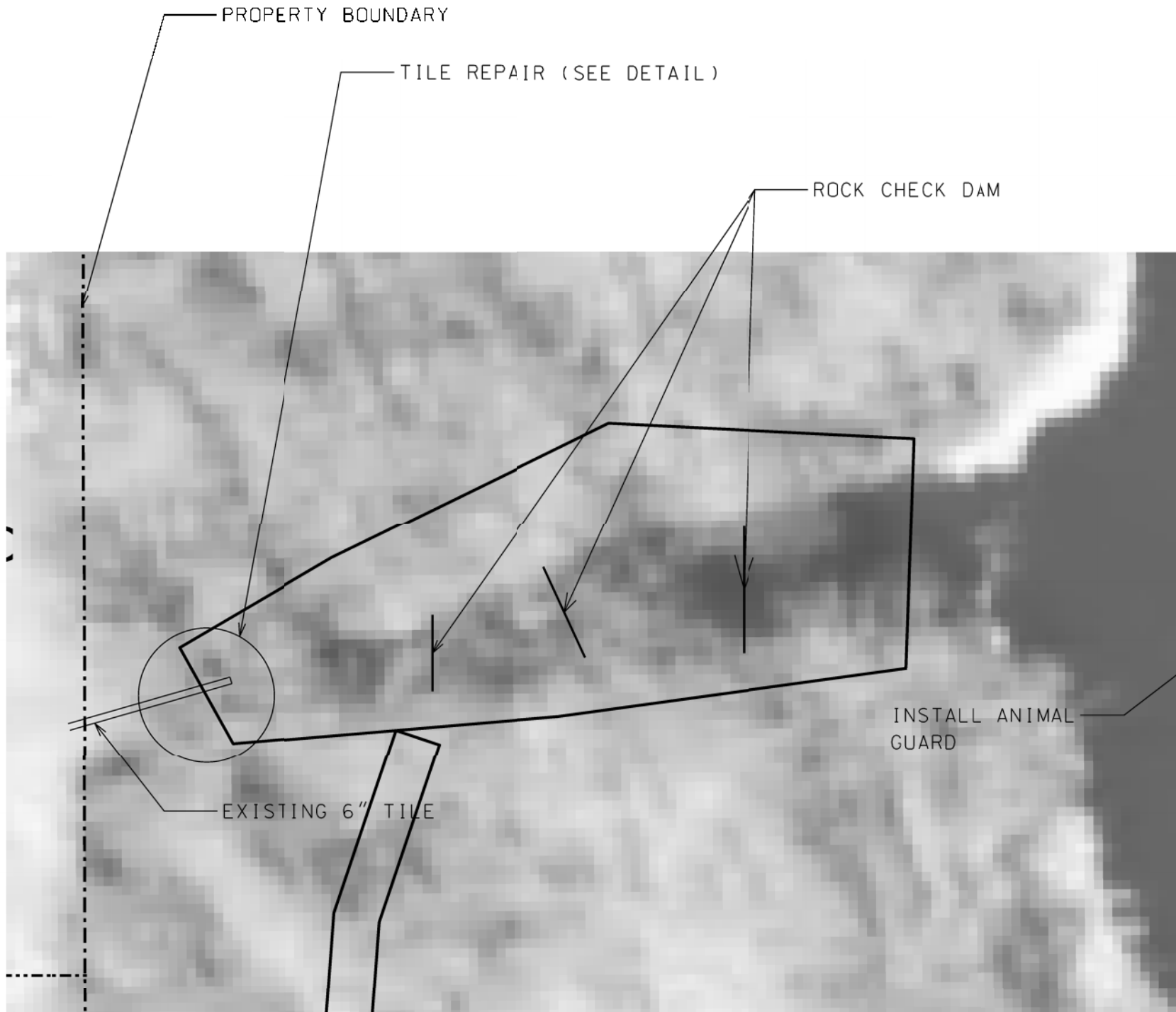
NO.	BY	REVISION

DRAWN BY:	PROJECT NUMBER:
ES	16-02-85-04
CHKD BY:	DATE:
H.D	NOV /2017



# EAST GAME AREA ROCK CHECK DAM & TILE REPAIR



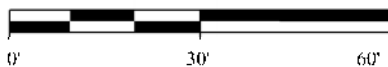
**NOTE:**

THE CONTRACTOR SHALL INSTALL 6" X 5' STEEL RISER (WITH 3'-6" OF THE STEEL RISER SHALL HAVE 1" HOLES, 24 HOLES PER FOOT)  
 CONNECT EXISTING TILE TO THE RISER AND ARMOR WITH RIP RAP 6 FEET WIDE 3:1 SIDE SLOPE  
 THE CONTRACTOR SHALL FURNISH ALL NECESSARY ACCESSORIES REQUIRED FOR CONNECTING PIPES. (6" YELLOW BAR GUARD, 6" ELBOW, 6" TEE AND 6" ANIMAL GUARD)



NORTH

SCALE: 1" = 30'



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



PLAN  
 LAKE RESTORATION FOR:  
 HICKORY GROVE LAKE  
 STORY COUNTY, IA

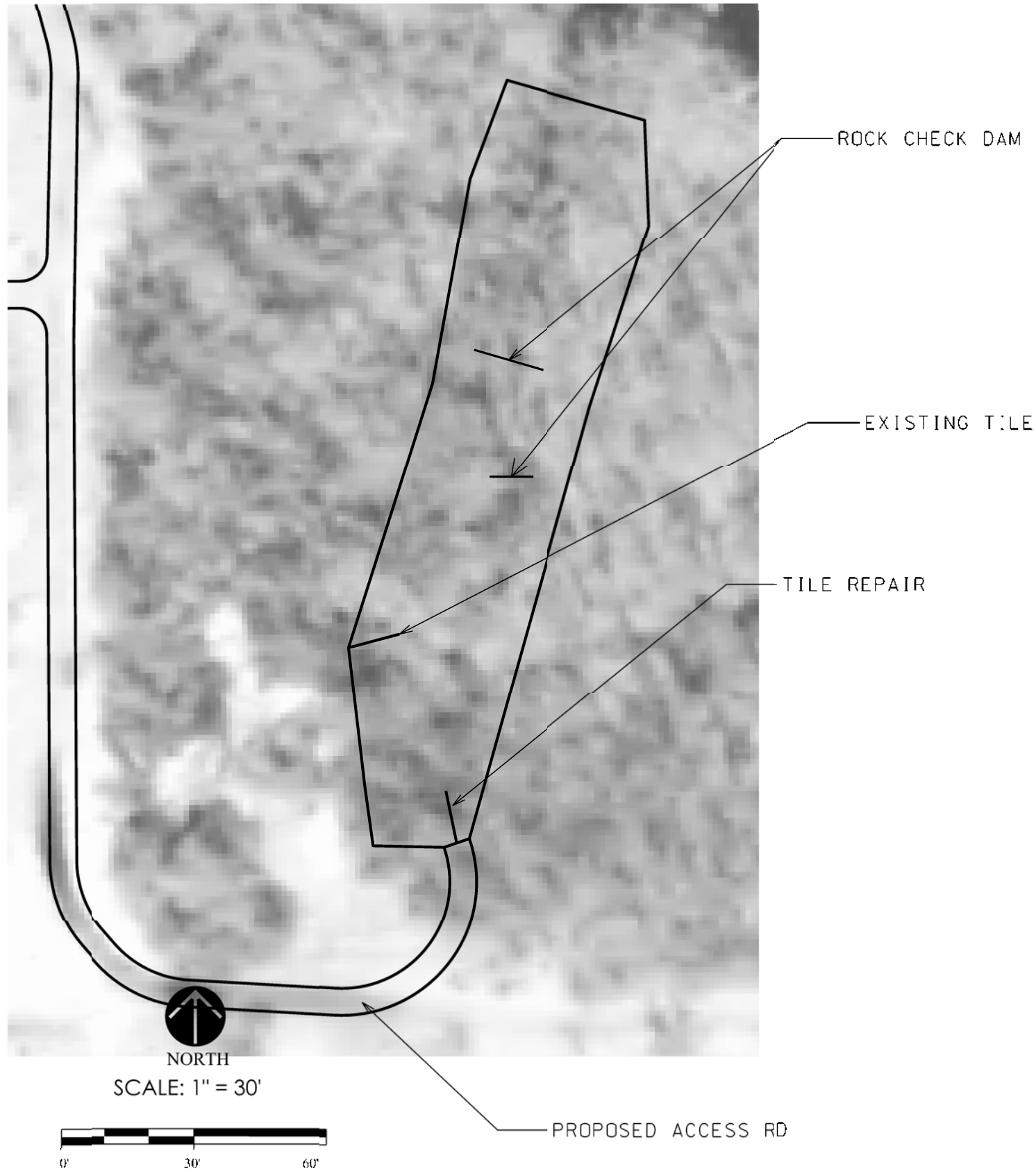
NO.	DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 16-02-85-04  
 CHKD BY: H.D. DATE: NOV/2017  
 SHEET NO: 11

# EAST GAME AREA ROCK CHECK DAM & TILE REPAIR

**ROCK CHECK DAM NOTE:**  
SEE DETAILS ON SHEET 16

**TILE REPAIR NOTE:**  
THE CONTRACTOR SHALL CONNECT EXISTING 6" CLAY TILE WITH NEW 6" HDPE PIPE 10 LF LONG. CONTRACTOR SHALL FURNISH ALL ACCESORIES REQUIRED TO CONNECT CLAY TILE TO NEW HDPE CLAY TILE.



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



**SITE PLAN**  
LAKE RESTORATION FOR:  
**HICKORY GROVE LAKE**  
STORY COUNTY, IA

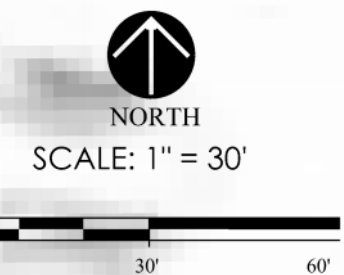
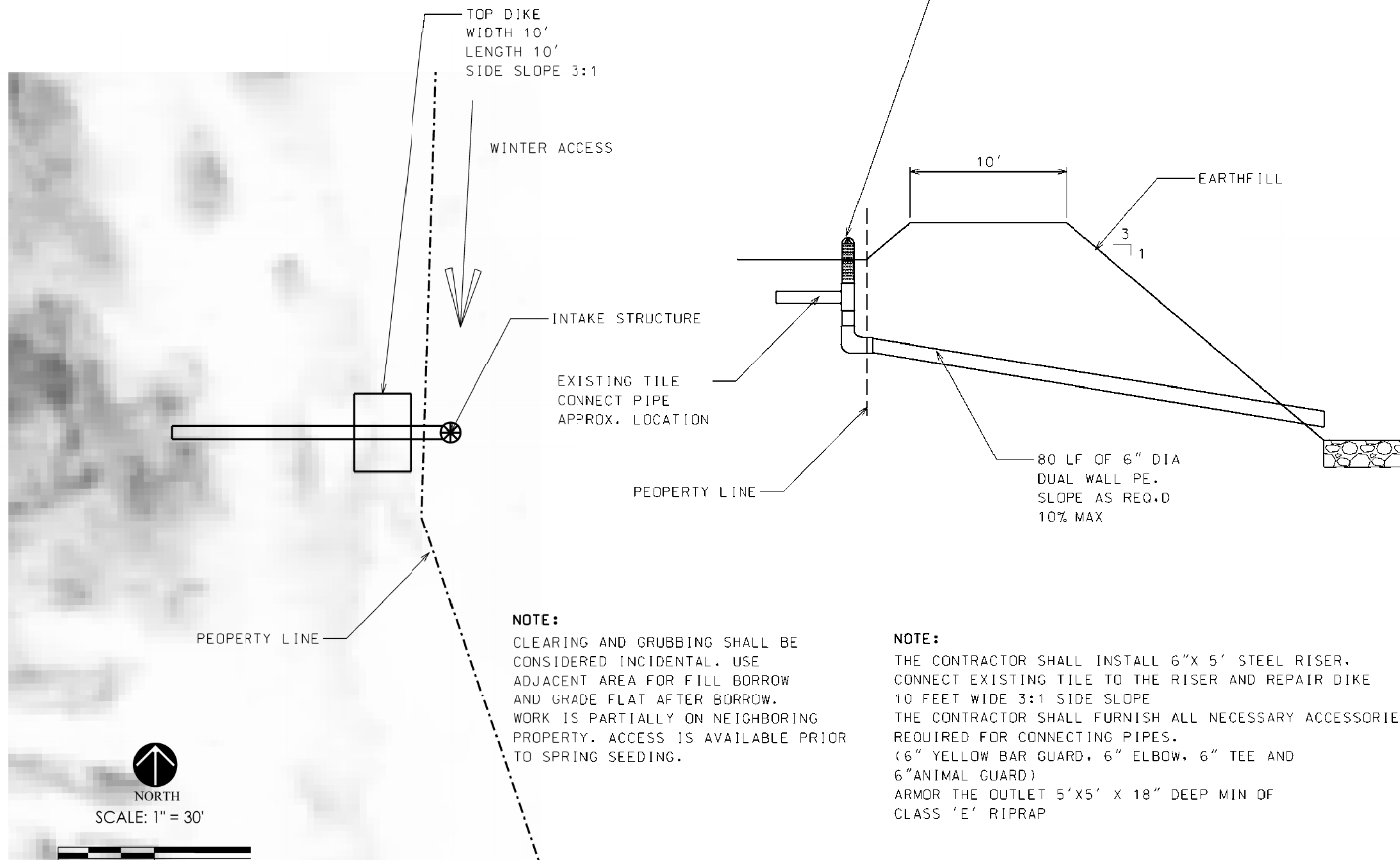
NO.	BY	DATE	REVISION

DRAWN BY: ES  
PROJECT NUMBER: 16-02-85-02

CHKD BY: H.D.  
DATE: APRIL/2017

SHEET No: 12

# SOUTH GAME AREA DAM & TILE REPAIR



**NOTE:**  
CLEARING AND GRUBBING SHALL BE CONSIDERED INCIDENTAL. USE ADJACENT AREA FOR FILL BORROW AND GRADE FLAT AFTER BORROW. WORK IS PARTIALLY ON NEIGHBORING PROPERTY. ACCESS IS AVAILABLE PRIOR TO SPRING SEEDING.

**NOTE:**  
THE CONTRACTOR SHALL INSTALL 6"X 5' STEEL RISER, CONNECT EXISTING TILE TO THE RISER AND REPAIR DIKE 10 FEET WIDE 3:1 SIDE SLOPE THE CONTRACTOR SHALL FURNISH ALL NECESSARY ACCESSORIES REQUIRED FOR CONNECTING PIPES. (6" YELLOW BAR GUARD, 6" ELBOW, 6" TEE AND 6" ANIMAL GUARD) ARMOR THE OUTLET 5'X5' X 18" DEEP MIN OF CLASS 'E' RIPRAP

**STORY COUNTY CONSERVATION**  
56461 180TH ST. AMES, IA 50010

**IOWA DEPARTMENT OF NATURAL RESOURCES**  
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**SITE PLAN**  
LAKE RESTORATION FOR:  
**HICKORY GROVE LAKE**  
STORY COUNTY, IA

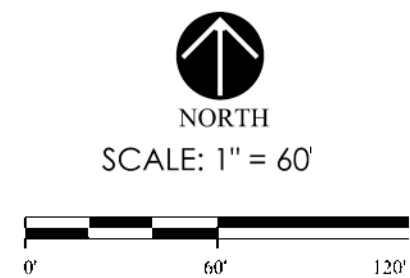
NO.	DATE	REVISION

DRAWN BY: ES PROJECT NUMBER: 16-02-85-04  
CHKD BY: HD DATE: NOV/2017  
SHEET No: 13

SNOW BUNTING LODGE AREA ROCK CHECK DAMS



ROCK CHECK DAM NOTE:  
SEE DETAILS ON SHEET 16



IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



SITE PLAN

LAKE RESTORATION FOR:

HICKORY GROVE LAKE

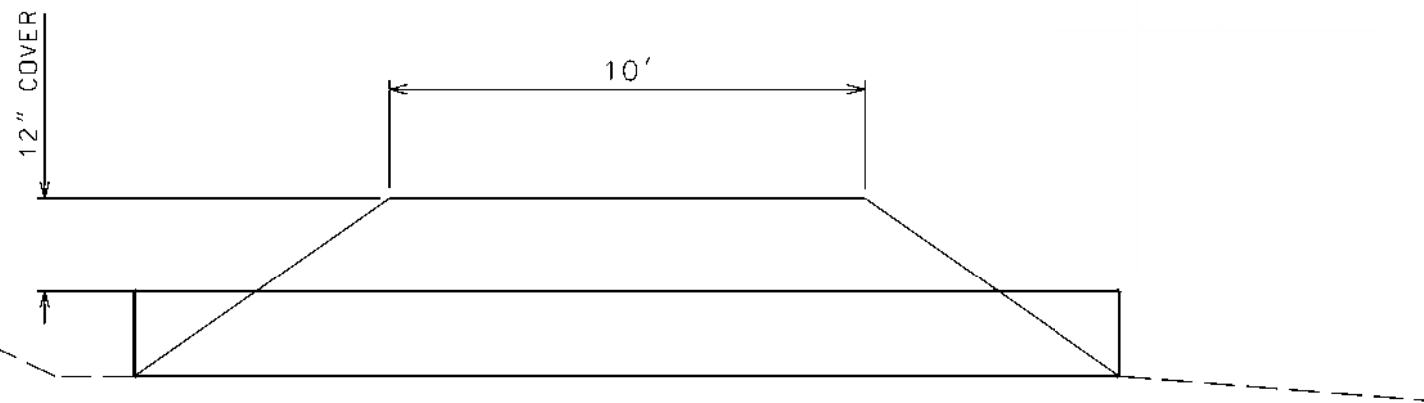
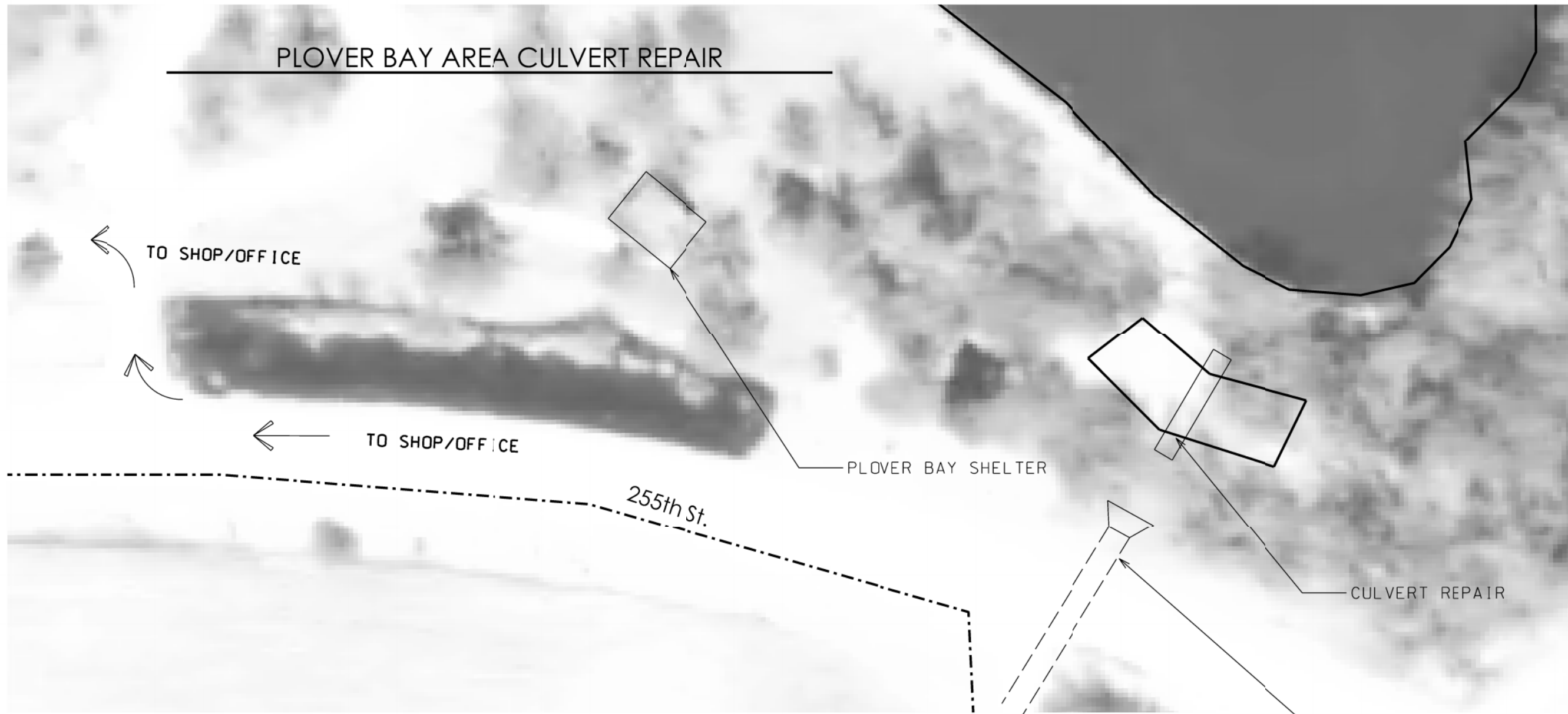
STORY COUNTY, IA

NO.	BY	DATE	REVISION

DRAWN BY:	PROJECT NUMBER:
ES	16-02-85-04
CHKD BY:	DATE:
HD	NOV/2017

PLOVER BAY AREA CULVERT REPAIR



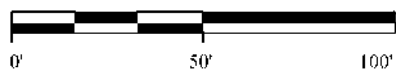
CULVERT REPAIR NOTE:

THE CONTRACTOR SHALL INSTALL 16' LF OF 24" DIA CMP CULVERT.

INLET AND OUTLET ELEV: TO DETERMINED ON SITE.



NORTH  
SCALE: 1" = 50'



IOWA DEPARTMENT OF  
NATURAL RESOURCES

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



PLAN

LAKE RESTORATION FOR:  
**HICKORY GROVE LAKE**

STORY COUNTY, IA

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CHKD BY: H.D. DATE: NOV/2017



