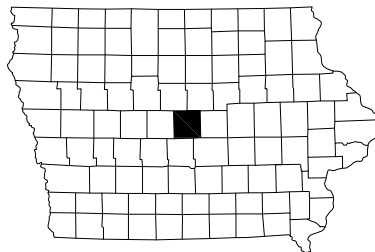


IOWA DEPARTMENT OF NATURAL RESOURCES

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

www.iowaonecall.com

811
Know where below. Call before you dig.

SHEET INDEX	
1	COVER SHEET
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)
10	680 TH AVE.
11	EAST GAME AREA (A)
12	EAST GAME AREA (B)
13	SOUTH GAME AREA
14	SNOW BUNTING LODGE AREA
15	PLOVER BAY AREA
16	ROCK CHECK DAM DETAIL
17	

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

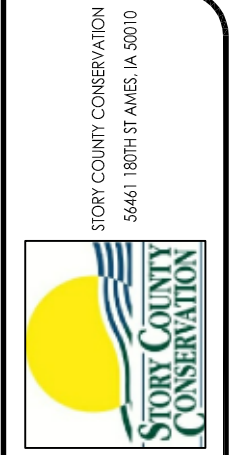
PROJECT DESCRIPTION

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 _____



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

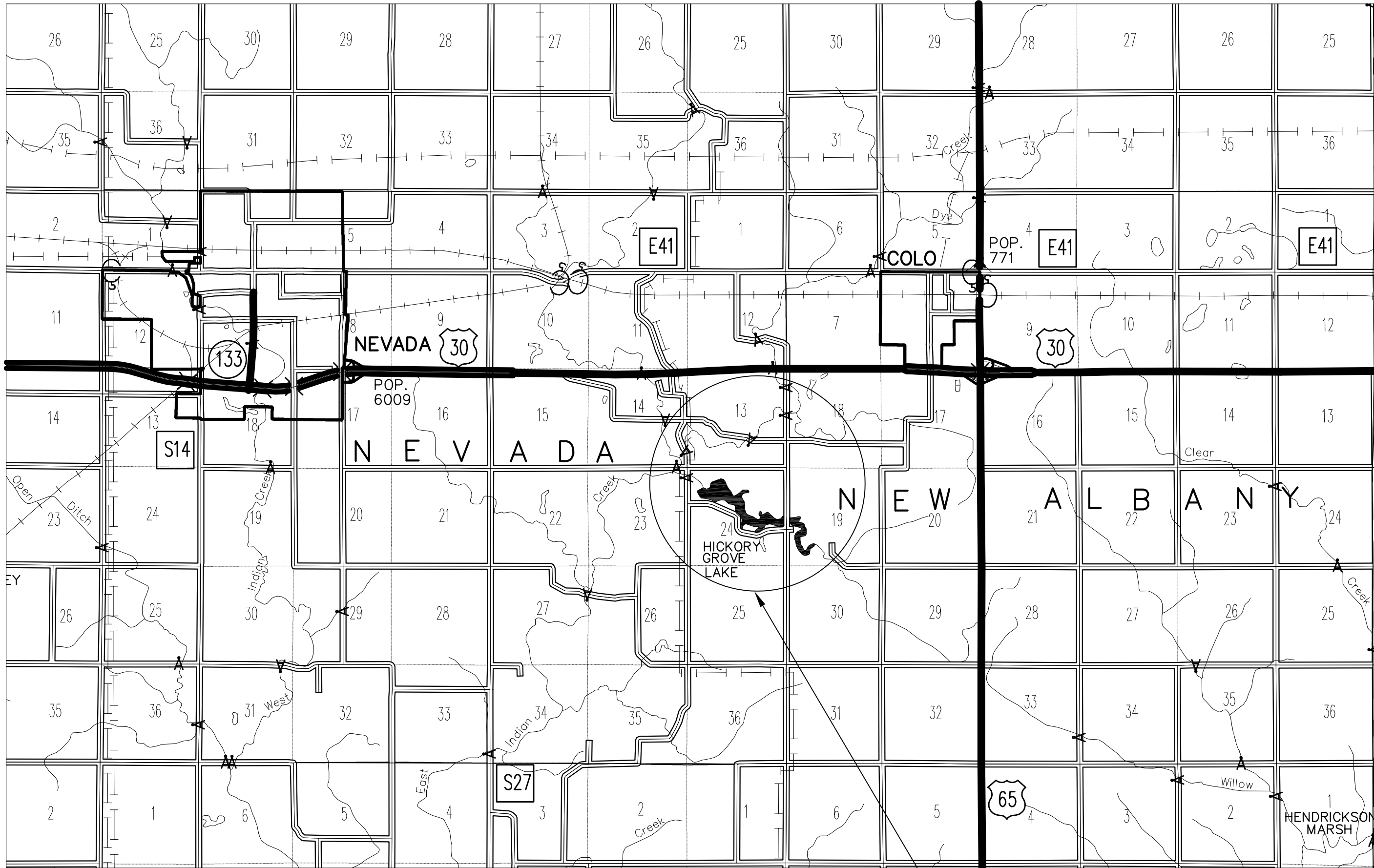
STORY COUNTY, IA

NO.	BY DATE	REVISION

DRAWN BY: PROJECT NUMBER:
E.S. 16-02-85-04

CHK'D BY: DATE:
H.D. NOV/2017

SHEET No: 1



T-83 N, R-22W

PROJECT LOCATION

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



PROJECT LOCATION

SHORELINE ARMORING FOR:

HICKORY GROVE LAKE

FREMONT COUNTY, IA

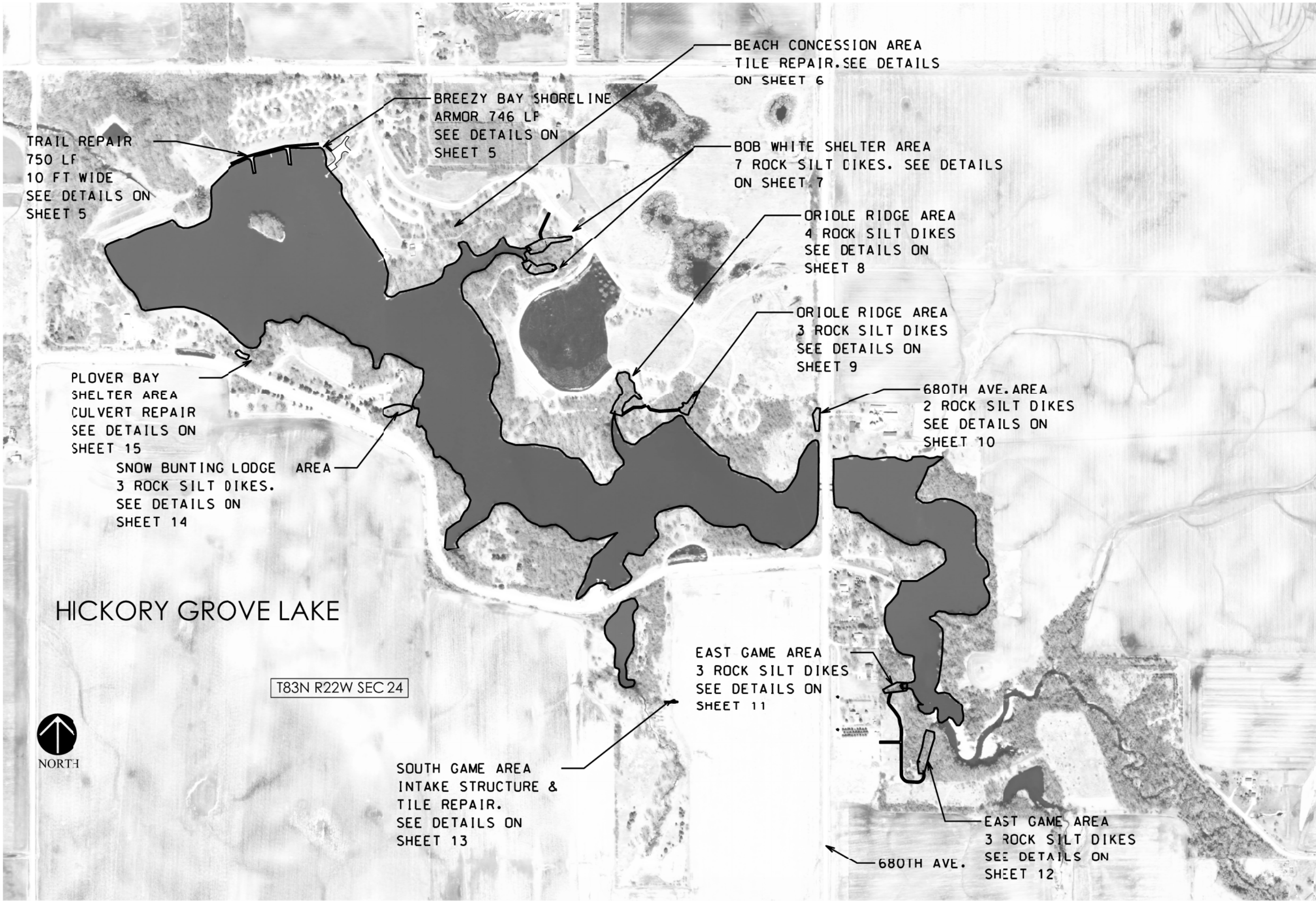
NO.	BY	REVISION

DRAWN BY: PROJECT NUMBER:
E.S. 16-02-85-04

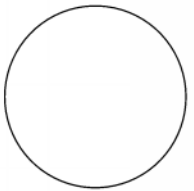
CHK'D BY: DATE:
H.D. NOV/2017

SHEET No:

2



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	DATE	REVISION

DRAWN BY:

PROJECT NUMBER:

ES 16-02-85-04

CHKD BY: DATE:

H.D. NOV/2017

SHEET NO:

4

PHASE 1 SHORELINE STABILIZATION & TRAIL REPAIR

TRAIL NOTE:
THE CONTRACTOR SHALL INSTALL 10' WIDE AND 737 LF OF TRAIL . SEE DETAILS ON SHEET 16.

BEGIN TRAIL REPAIR
N:3460213.55
E:4959374.54
SEE NOTE AND DETAILS ON SHEET 16

EXISTING BOAT RAMP

BEGIN SHORELINE ARMORING
N:3460108.10
E:4959336.93
SEE NOTE AND DETAILS ON SHEET 16

JETTY

BOAT RAMP

RIPRAP NOTE:
THE CONTRACTOR SHALL PLACE 746 LF OF CLASS 'E' RIPRAP ALONG THE SHORELINE AS SHOWN WITH ENGINEERING FABRIC. SEE DETAILS ON SHEET 16.



CAMPGROUND



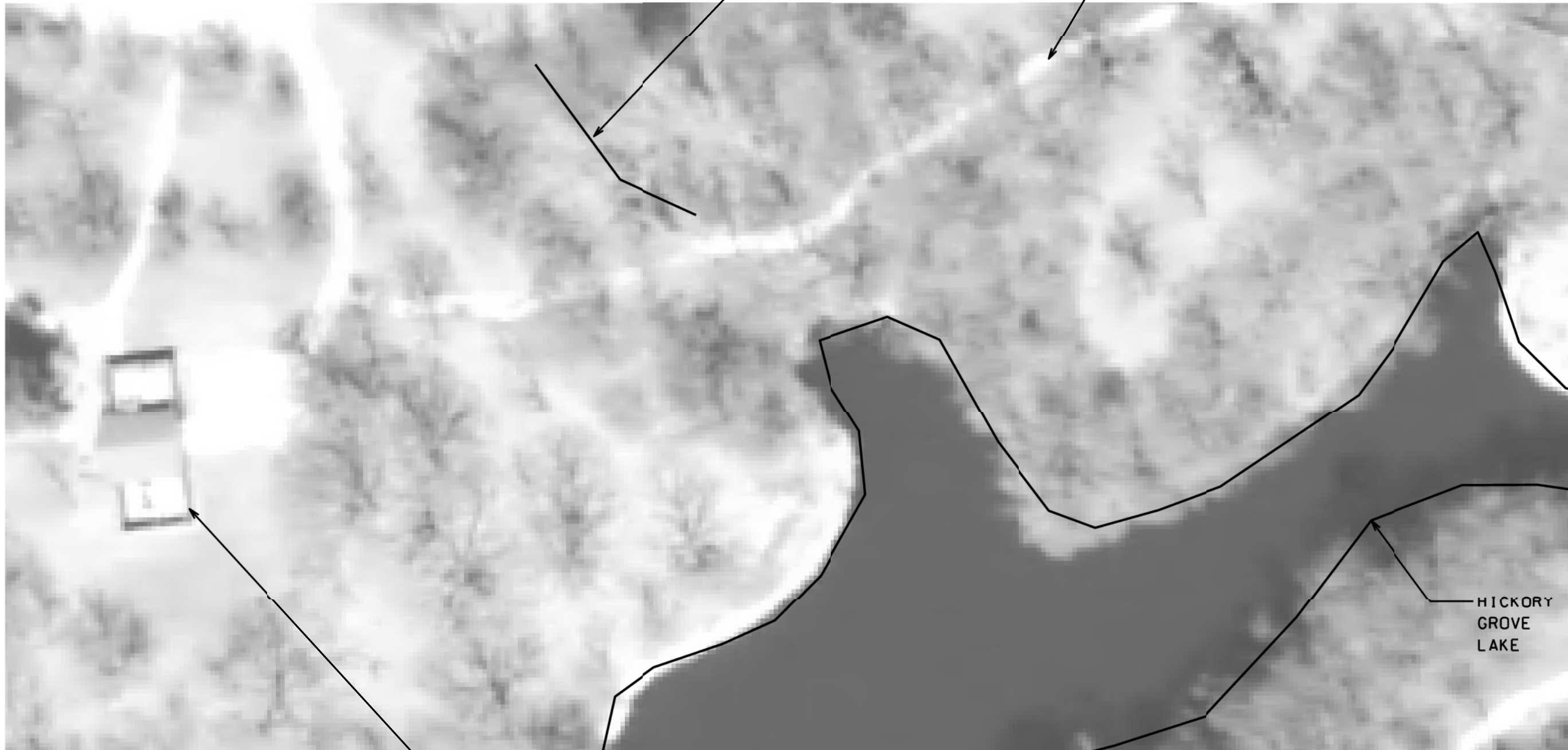
BREEZY BAY AREA
LAKE RESTORATION FOR:
HICKORY GROVE LAKE
STORY COUNTY, IA

NO.	BY	REVISION
DATE		

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

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

SHEET No: 4



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.

CONTRACTOR SEED, FERTILIZE AND RESTORE ALL DISTURBED AREA.

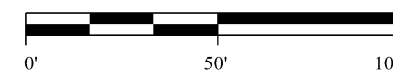
BEACH CONCESSION SHOP

TRAIL REPAIR



NORTH

SCALE: 1" = 50'



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



BEACH CONCESSION AREA
LAKE RESTORATION FOR:
HICKORY GROVE LAKE
STORY COUNTY, IA

NO.	DATE	REVISION

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



ROCK CHECK DAM NOTE:

SEE DETAILS ON SHEET 17

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.

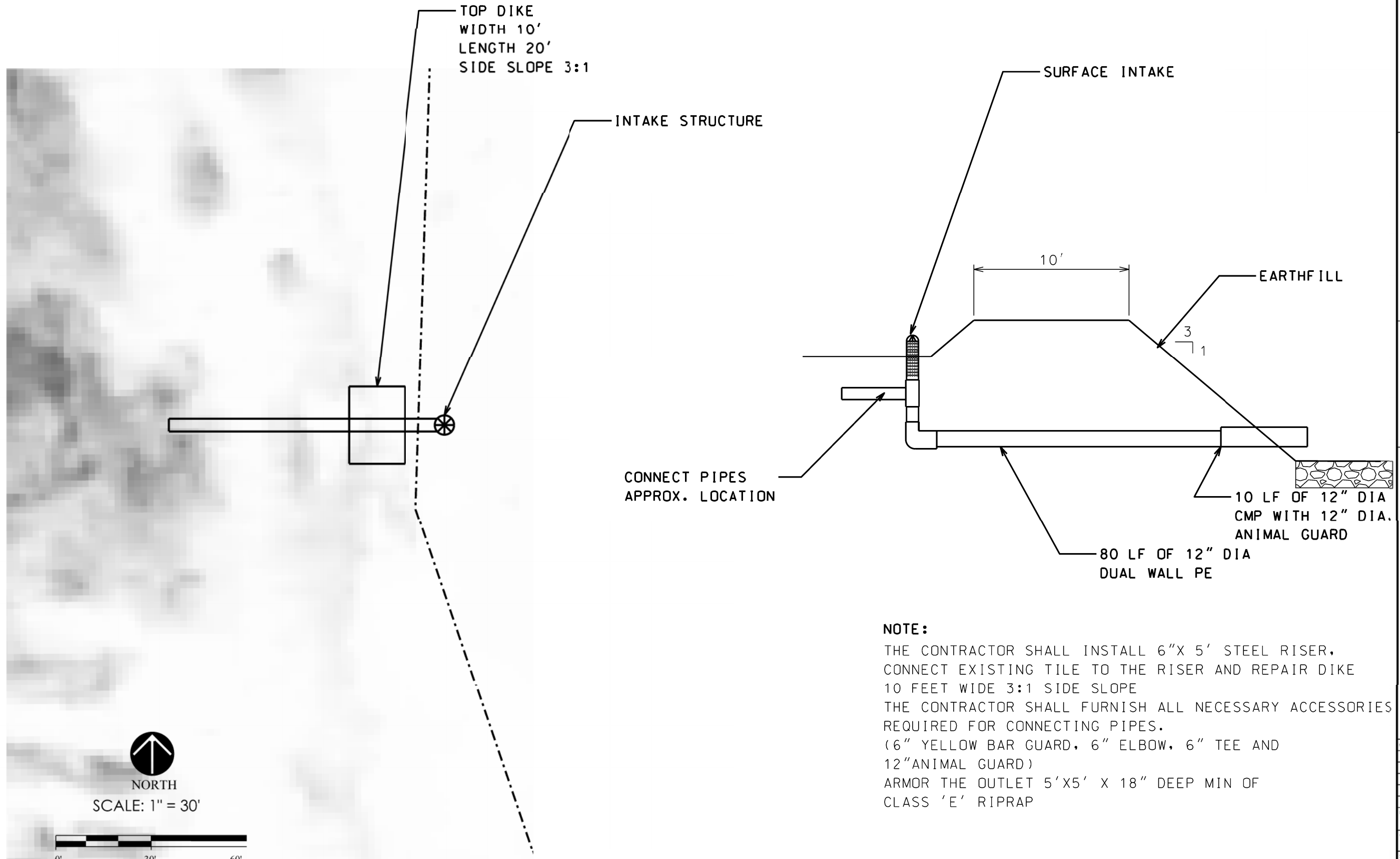
CONTRACTOR SEED, FERTILIZE AND RESTORE ALL DISTURBED AREA.

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



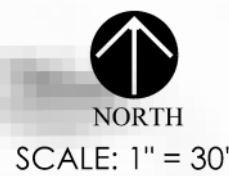
NO.	BY	REVISION
DRAWN BY:		PROJECT NUMBER:
ES		16-02-85-04
CHKD BY:		DATE:
H.D.		NOV/2017
SHEET No:		

SOUTH GAME AREA DAM & TILE REPAIR



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 12" ANIMAL GUARD)
 ARMOR THE OUTLET 5' X 5' X 18" DEEP MIN OF CLASS 'E' RIPRAP



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	REVISION

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

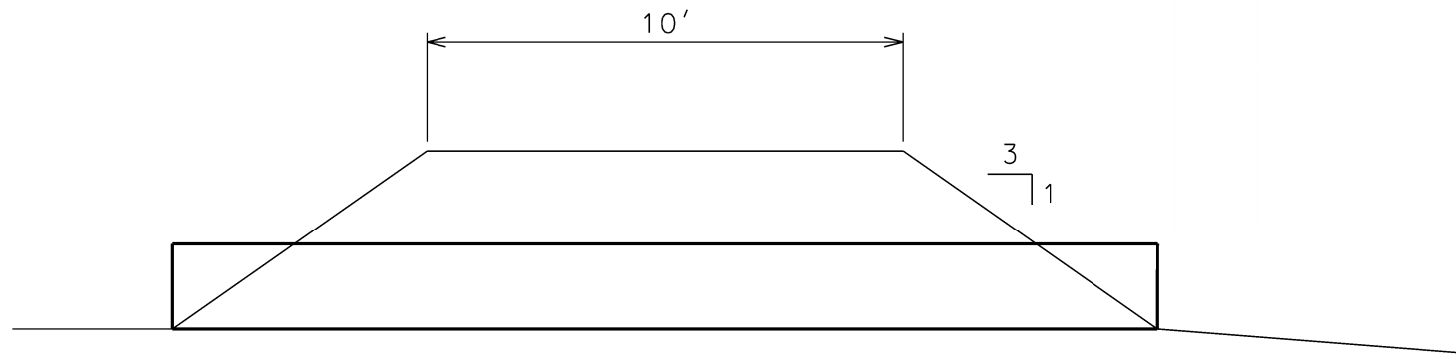
PHASE 1 SHORELINE STABILIZATION & TRAIL REPAIR

PLOVER BAY SHELTER



255th St.

CULVERT REPAIR



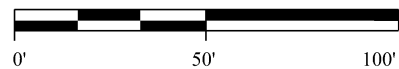
CULVERT REPAIR NOTE:

THE CONTRACTOR SHALL INSTALL 14' LF OF 36" DIA CMP CULVERT. CONTRACTOR SEED, FERTILIZE AND RESTORE ALL DISTURBED AREA. INLET AND OUTLET ELEV: TO DETERMINED ON SITE.



NORTH

SCALE: 1" = 50'



56461 180TH ST.
AMES, IA 50010

**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

SHEET No: **15**

