

WATER PERMIT NO. 2611-2

Name of Applicant: **Robbie Huddleston**

Address: **23055 284th St, Martin SD 57551**

Phone: **605 685-6379**

Amount of Water Claimed: **45.20 AF**

Total Acres: **NA**

Source of Water Supply: **Pass Creek**

Water to be used for: **fish & wildlife propagation**

County: **Bennett**

Type of Waste Disposal System:

Location: **20 miles northeast of Martin**

PRIORITY

Date Received: **2-27-07**

Application/License Fee: **\$200**

Corrected Application Received:

Period of Annual Use: **January 1 – December 31**

Remarks: **Reconstruction of existing dam**

Diversion Point: **N ½ NE ¼ Sec 14-T38N-R35W**

Land to be Irrigated: **NA**

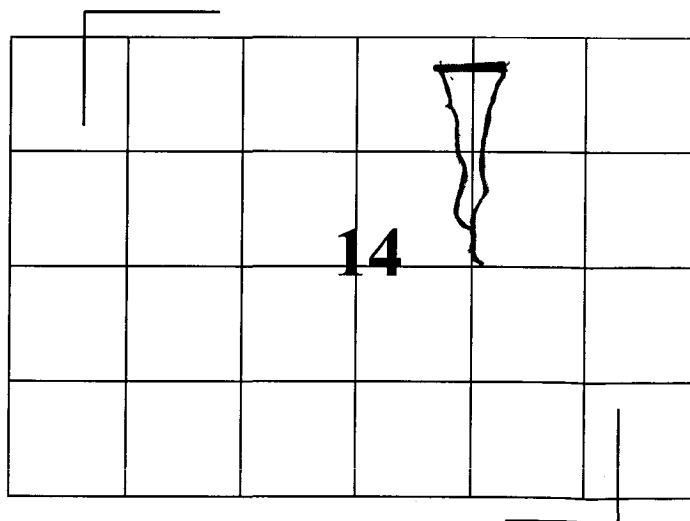
Depth of Well: **NA**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by: **Roger Smith PE**



Reviewed and the Number Assigned on: **2-27-07**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>2611-2</u> (office use only) Hydrologic Unit <u>10140202</u>
	Basin <u>White River</u>
	Newspaper <u>Bennett Co. Booster Martin</u>
	<u>605-685-6816</u> <u>SD52551</u>

RECEIVED
FEB 27 2007
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

- | | | | |
|---|---|---|--|
| ☐ Municipal | ☐ Suburban Housing | ☐ Recreational | ☐ Institutional |
| ☐ Rural Water System | ☐ Commercial | ☒ Fish & Wildlife | ☐ Geothermal Heat |
| ☐ Domestic (over 18 gpm) | ☐ Industrial | ☐ Other _____ | |

Type of Application: (check one)

- ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

- Name of Applicant Robbie Huddleston Phone (605) 685-6379
(check one) ☐ Owner ☐ Tenant/lessee
Mailing Address 23055 284th Street Martin State SD 57551
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed _____ *CFS or _____ **GPM 45.20 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Pass Creek
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Bennett
N 1/2 NE 1/4, SECTION 14, TWP. 38N RGE. 35W (Latitude 43° 16' 19.5" Longitude 101° 25' 13.7")
water impounded: NE 1/4 Sec 14 T38N R35W
- County or counties where water will be used Bennett
- Annual period during which water is to be used 12 months Jan 1 - Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Reconstruction of existing dam, installation of primary spillway and construction of new emergency spillway. Design Report and Construction Plans accompany application.

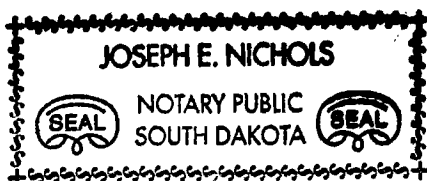
STATE OF SOUTH DAKOTA)
County of Bennett) SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

I, Robbie Huddleston, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Robbie Huddleston

Subscribed and sworn to before me this 24 day of Feb 20 07



Joseph S. Nichols
Notary Public signature
My Comm. Expires: March 26, 2011.

**SOUTH DAKOTA
WATER PERMIT NO. 2611-2**

Date of first receipt of application February 27, 2007.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2611-2 to Robbie Huddleston, 23055 284th St, Martin SD 57551 authorizing the construction of the dam and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2611-2 authorizes impoundment of 45.20 acre-feet of water from Pass Creek by reconstructing a dam located in the N 1/2 NE 1/4 Section 14 with water impounded in the NE 1/4 Section 14; all in T38N-R35W.
2. The water appropriated shall be used for fish and wildlife propagation and livestock water purposes and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 2611-2 is April 16, 2007.
5. The date from which applicant may claim right is February 27, 2007.
6. One-fifth of the construction is to be completed on or before October 16, 2009.
7. All construction is to be completed on or before April 15, 2012.
8. Water is to be put to beneficial use on or before April 15, 2016.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Water Permit No. 2611-2 authorizes a dam with a storage capacity of 45.2 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation of 2,900 feet mean sea level.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

By: Garland Erbele

Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAY 09 2007
date



(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter _____ Depth _____
- b) Casing Type _____ Diameter _____ Thickness _____
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth to Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
- On applicants property _____ On property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System _____

3. Dugout Information

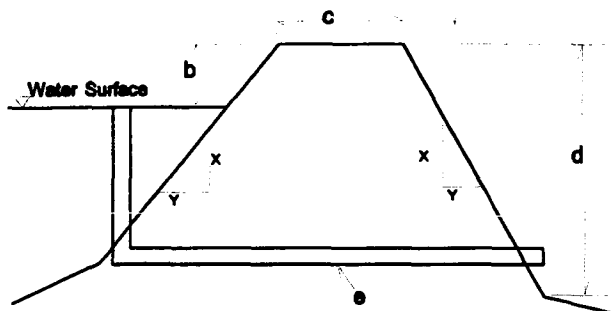
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

Ducks Unlimited
 Engineer - Roger C. Smith, P.E.
 2525 River Road
 Bismarck, ND 58503 (701-355-3553)



- b) Freeboard _____ 6'
- c) Crest Width _____ 12'
- Crest Length _____ 682'
- d) Height _____ 12'
- e) Primary Outlet Capacity _____ 1318 cfs
 If pipe, diameter _____ sheet pile weir- 30'
- f) Secondary Spillway Capacity _____ 388 cfs
 Spillway Width _____ 100'
- g) X & Y Slope _____
 Upstream _____ 3:1 +10' berm at fsl
 Downstream _____ 3:1
- h) Surface Area of Impoundment _____ 18 acres
- i) Storage _____ 45.2 Acre Feet
- j) Drainage Area Above Dam _____ 9,984.6 Acres

**PROJECT
LOCATION**

N 43° 16' 19.5"
W 101° 25' 13.7"

NE 1/4 14
ROBBIE HUDDLESTON

SEC 14
TWP 38N, RGE 35W

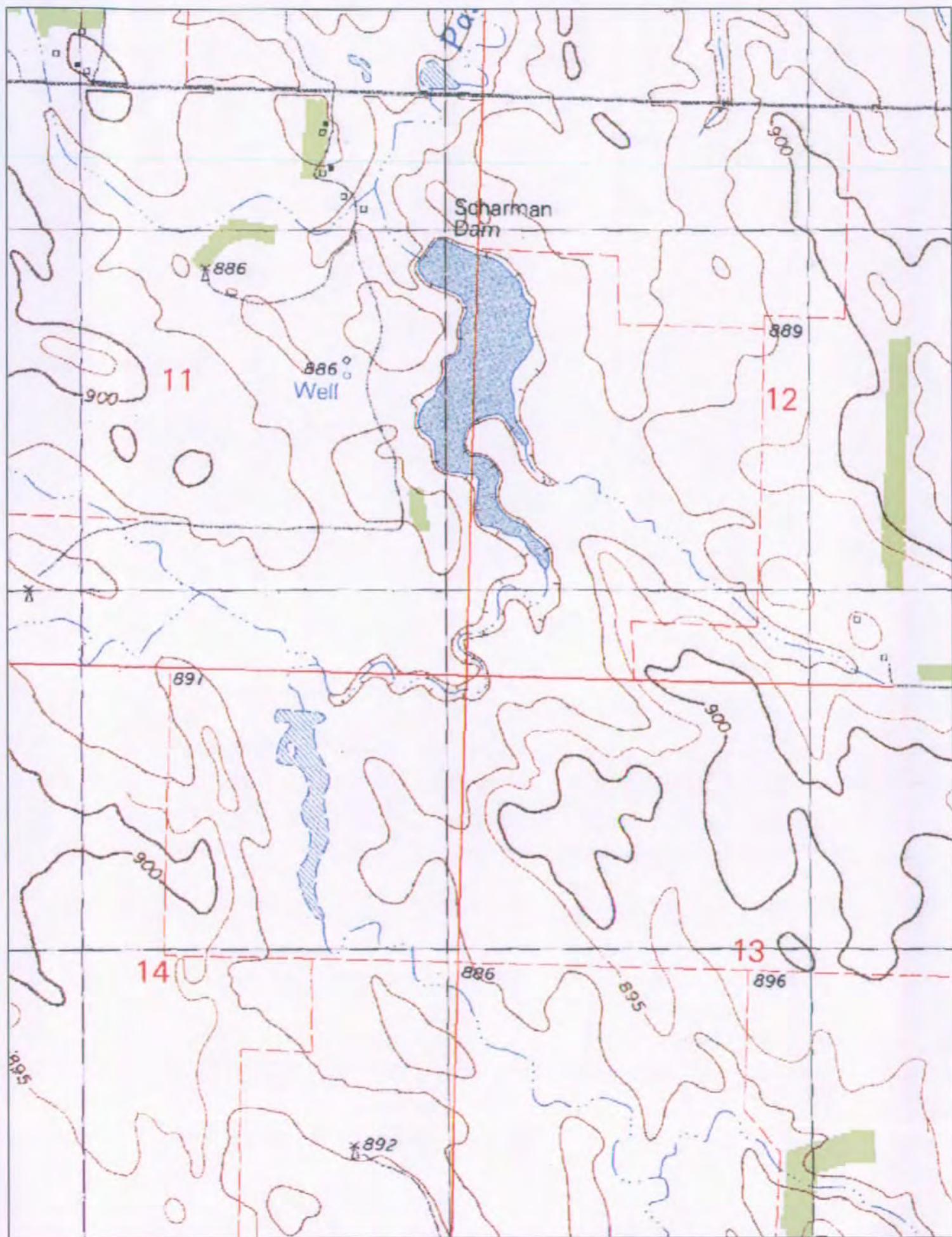
SEC 13
TWP 38N, RGE 35W

SE 1/4 14
KENNETH BOLZER

SW 1/4 13
LEO WAYNE LIVERMONT

**HUDDLESTON WETLAND
LOCATION MAP**

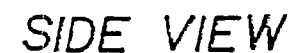
NOT TO SCALE







1. THE 4" DIA. PIPE SHALL BE ASTM D1785, SCHEDULE 40, PVC.
2. PROVIDE AN ANIMAL GUARD ON DRAIN OUTLET PIPE. DRILL 2, 1/2" DIA. HOLES, ON 6" FROM END OF PIPE AND PLACE A 3/8" DIA., 5 1/2" LONG GALVANIZED STEEL BOLT THRU THEM AND SECURE WITH A NUT (PLACE BOLT HORIZONTAL).



SIEVE SIZE	PERCENT PASSING
3/8"	100
4	95-100
8	80-100
15	50-85
30	25-60
50	10-30
100	2-10

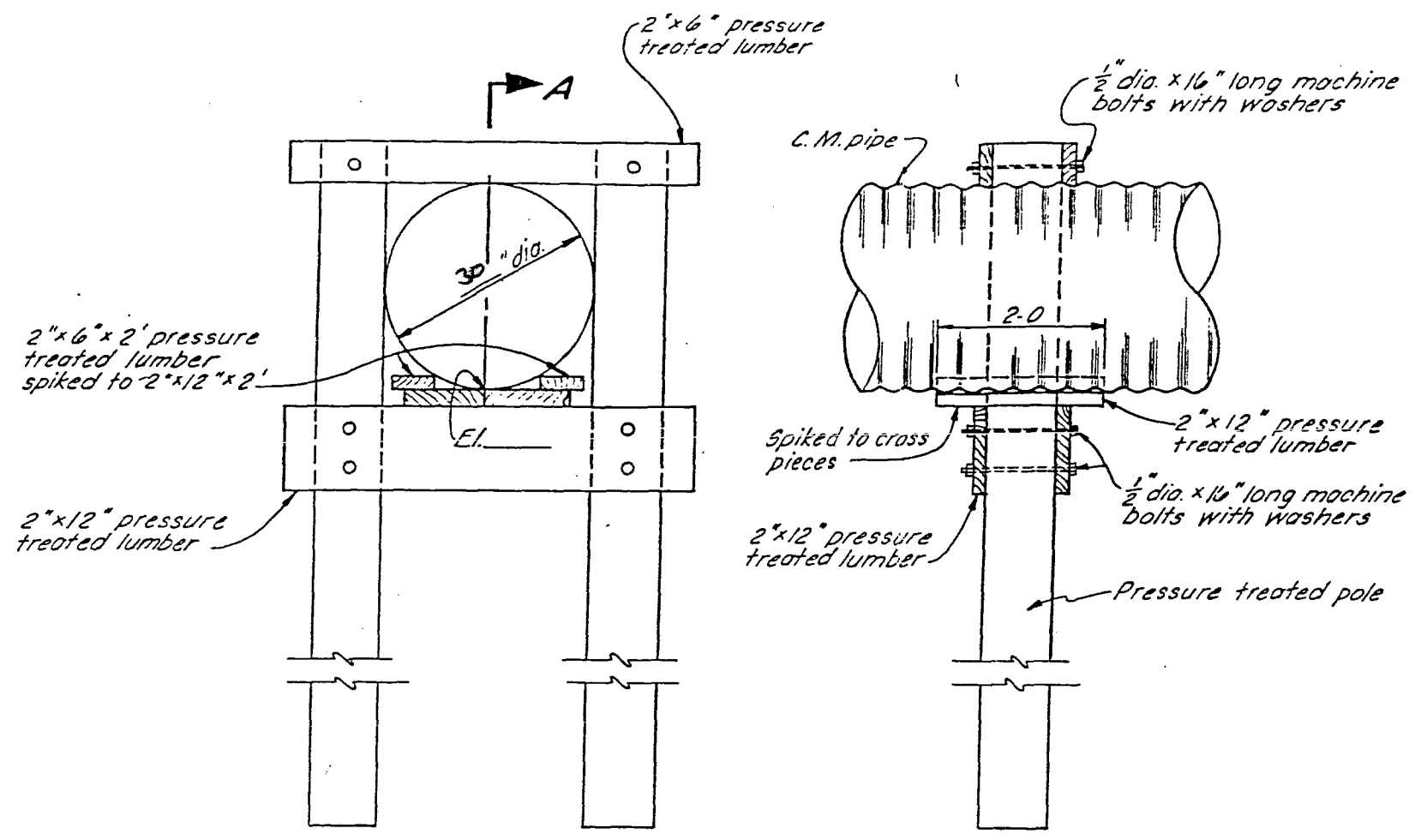
Bennett County
LOCATION

SAND ANTISEEP COLLAR

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

	Date	Approved by
Designed		Title
Drawn		Title
Traced		Sheet No
Checked		Drawing No

JOB PLAN NO. 3.8



ELEVATION
SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR ____" DIA. C.M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE ____" DIA.		EACH	
2" X 12" PRESSURE TREATED LUMBER		EACH	
2" X 6" PRESSURE TREATED LUMBER		EACH	
2" X 12" PRESSURE TREATED LUMBER		EACH	
2" X 6" PRESSURE TREATED LUMBER		EACH	
1/2" DIA. MACHINE BOLTS WITH NUTS		EACH	
1/2" DIA. WASHERS		EACH	

Does not need to be to
Exact specs - just a
good strong support

Only one is needed -
It is to be set 5-6 ft.
in from the pipe
outlet.

NOTES:

- HAND OR MACHINE TAMP BACKFILL THOROUGHLY AROUND FOOTINGS AND COLUMNS.

TIMBER PIPE SUPPORT

OPERATOR: VERA SCHARMAN

CONSERVATION DISTRICT: Bennett

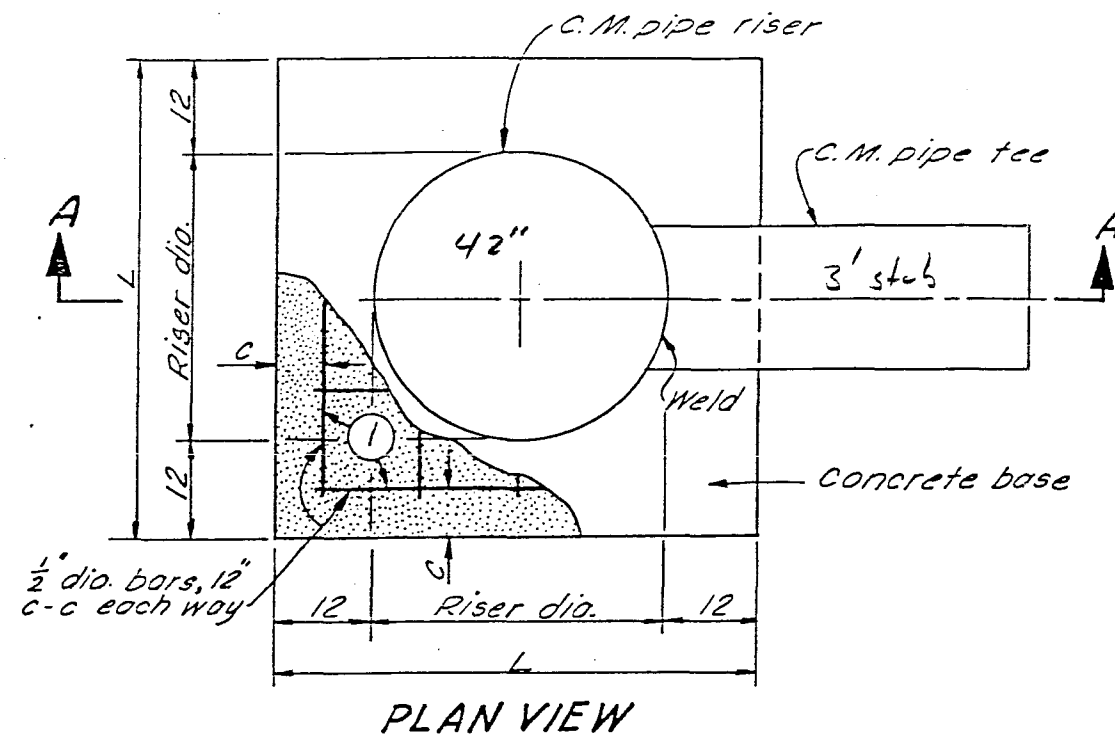
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed _____ Drawn _____ Traced _____ Checked _____	Date _____ Approved by _____ Title _____ Title _____ Sheet _____ Drawing No. _____ No _____ of _____
--	---

REFERENCE: GUIDE PLAN NO. 4.0

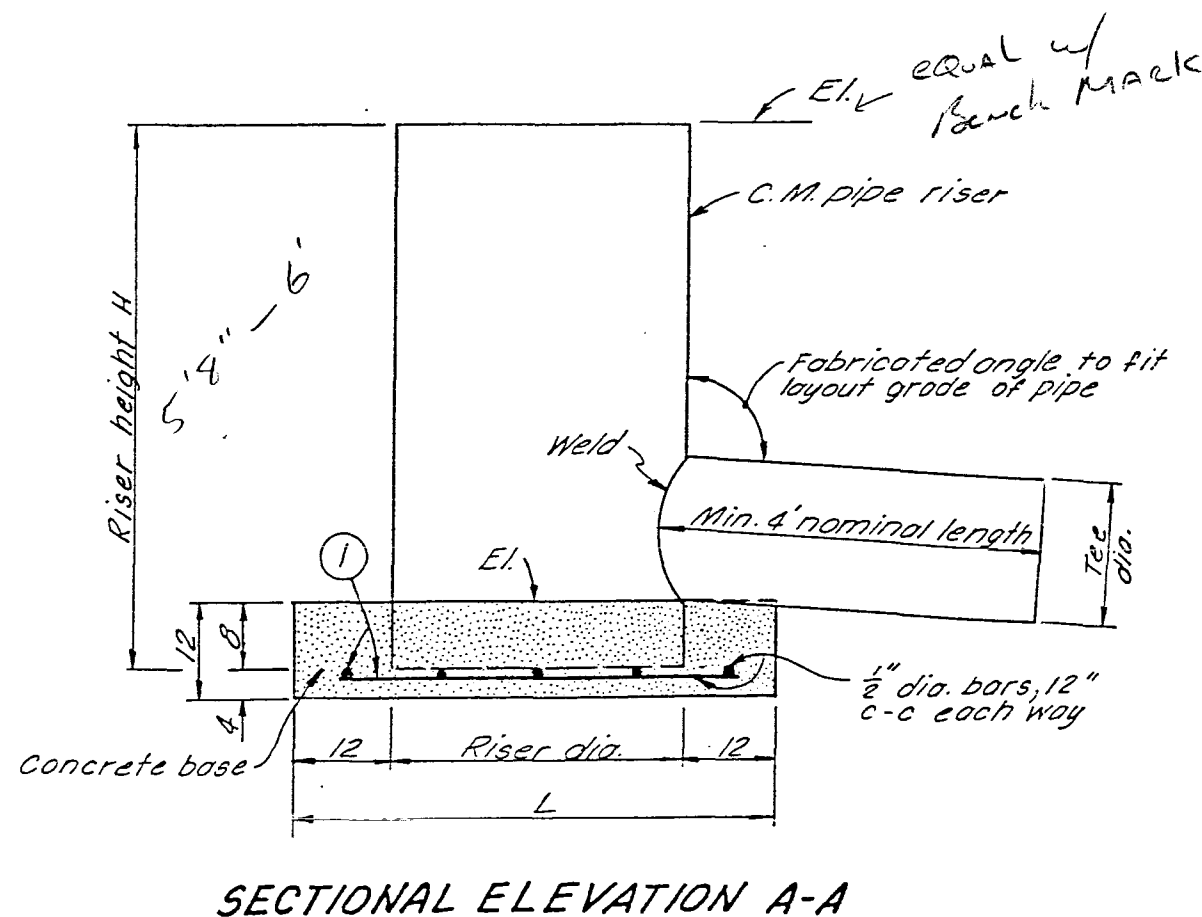
JOB PLAN NO. 4.0

5, N-29,073.4a



STEEL SCHEDULE AND CONCRETE QUANTITIES										
RISER DIA. IN.	BAR SIZE	MARK	TYPE	NO. REQ'D.	LENGTH FT.-IN.	TOTAL LENGTH FT.-IN.	TOTAL WT. LB.	C IN.	L FT.-IN.	CONC. CU.YD.
18	4	I	STR.	8	3-0	24-0	16	3	3-6	0.5
24	4	I	STR.	8	3-6	28-0	19	6	4-0	0.6
30	4	I	STR.	10	4-0	40-0	27	3	4-6	0.8
36	4	I	STR.	10	4-6	45-0	30	6	5-0	1.0
42	4	I	STR.	12	5-0	60-0	40	3	5-6	1.2
48	4	I	STR.	12	5-6	66-0	44	6	6-0	1.4
54	4	I	STR.	14	6-0	84-0	56	3	6-6	1.6
60	4	I	STR.	14	6-6	91-0	61	6	7-0	1.9

- NOTES: 1. TRANSFER DIMENSIONS AND QUANTITIES TO JOB PLAN.
 2. SPECIFY COATING OR JOINT SEALING REQUIREMENTS ON JOB PLAN IF APPLICABLE.
 3. SEE SOUTH DAKOTA PLAN SERIES 6 FOR TRASH RACK.



THICKNESS AND GAGE OF PIPE

PIPE TEE DIA. INCHES	GAGE	THICKNESS INCHES
12-21	16	0.064
24-30	14	0.079
36-42	12	0.109
48-60	10	0.138

C.M. PIPE RISER WITH FABRICATED TEE

SOUTH DAKOTA GUIDE PLAN NO. 5.3	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Designed <i>D.H., D.T.</i>	Date <i>5-70</i>
Drawn	Approved by
Traced	Title
Checked	Sheet No / of
	Drawing No

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 2/27/07, 20__

RECEIVED OF Robbie Huddleston 23055 284th St Martin SD 57551

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>2611-2</u> to Appropriate Water, to construct and to put water to beneficial use	150	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>2611-2</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	200 00

No.

02968

By

Gerald Escherle
Chief Engineer

[Signature]

Invoice 125157

Invoice Date 07/03/98

HURON CULVERT & TANK CO.

220 4TH ST NW

PO BOX 1439

HURON, SD 57350

Telephone: 605/352-8643

Pipe purchased for Scharman Dam
Location: Bennett county, S. Dakota

SE1/4, NE1/4, Sec. 11 T38N R35W

Bill To:

US FISH & WILDLIFE SERVICE
PO BOX 247
BROOKINGS, SD 57006

Ship To:

US FISH & WILDLIFE SERVICE
PO BOX 247
BROOKINGS, SD 57006

Customer	Ship Via	F.O.B.	Terms		
USF3	HCT 6-4-98	Origin	Net 30 Days		
Purchase Order Number		Salesperson	Order Date	Our Order Number	
Herber Bros		HU	04/29/98	111133	
Quantity Ordered	Quantity Shipped	Item Number	Unit of Measure	Unit Price	Extended Price
	Back Ordered	Item Description		Discount %	Tax
1		1 CULV		521.330	521.33
		0 42" 14ga. 6' Poly Riser w/30" 14ga. 2' Stub at 93 Degree		N	
1		1 SP4-30X28		784.840	784.84
		0 30" 14ga. 28' Poly Spiral Culvert		N	
1		1 SP4-30X30		840.900	840.90
		0 30" 14ga. 30' Poly Spiral Culvert		N	
2		2 BA30X24W		96.530	193.06
		0 30" Poly Watertight Band 24" Wide		N	
12		12 RL30		0.000	0.00
		0 30" Rods & Lugs (Included in Band Price)		N	
2		2 DIA30-72-14		741.800	1483.60
		0 30" 14ga. 72" x 72" Poly Diaphragm (Rods & Lugs		N	
Nontaxable Subtotal					3823.73
Taxable Subtotal					0.00
Tax					0.00
Total Invoice					3823.73

RECEIVED
MAR 13 2007
WATER RIGHTS
PROGRAM

CONSTRUCTION SPECIFICATIONS

FOR

SCHARMAUS DAM

SE 1/4 NE 1/4 SEC 11 T 38 R 35

Restoration / Tube Replacement



Prepared by:

Bob Timberman

Assisting:

Bennett Co. Conservation District

Project DONE!
20 Aug 1998

Landowner Vera Scharman, the U.S. Fish and Wildlife Service, the Bennett Co. Conservation District, and the Cedar Creek Sportsmans Club are working together to repair and enhance "Scharmans Dam."

This project will:

Create new opportunities for anglers who enjoy fishing from the comfort of their bass boat. (a new ramp will be installed) *was not done.*

Increase fishing access by building a (floating dock. *was not done.*)

Ensure that the pond can attain the proper depth and remain structurally sound by replacing the 43 year old bent/leaking riser and pipe.

Provide another area in Bennett Co. where bird watchers and nature lovers can go to observe a variety of wildlife species.

Continue to be of direct benefit to resident wildlife.

Provide the assurance that this enhanced wetland will continue to provide quality migratory waterfowl resting, pairing, nesting, and brood rearing habitat for years to come.

.....

This project has many obvious benefits for people and wildlife. The land will continue to be financially productive for the landowner through livestock production.

SCHARMANS DAM

This project is to replace the existing riser and pipe.

The riser has been bent back by ice and the 43 yr old pipe (although it appears to be structurally sound) has developed three leaks that will only get worse with time.

A small amount of piping is occurring and this would eventually washout the structure.

All construction will be done to SCS specifications with FWS modifications.

All vegetation and sod will be stripped from the location prior to breaching the dam.

A temporary dike must be built to hold back the water while the dam is breached.

The pipe is to be dugout in a V fashion that has sides of 4:1 or flatter.

Prior to removing the riser, it must be separated from the pipe. Care is to be taken when removing the pipe so that it remains straight. The old riser is to be taken to a landfill.

A new 42 inch diameter riser - 6 ft tall - attached to a 30 inch pipe - 56 ft long will need to be installed.

The new riser will be set in concrete. (plans provided) *yes*

The pipe is to be installed using the provided (SCS) guidelines.

A sand anti-seep collar will be part of the pipe installation and specifications are provided. *yes*

A pipe support is to be installed using pressure treated lumber. Guidelines are provided, but a strong support is all that matters. *yes*

The back slope will be contoured to match the original slope. The front slope will be extended so that it surrounds the new riser with a 4 ft flat on all sides and has 3:1 minimum side slopes.

The top and sides will be backfilled with the topsoil that was originally stockpiled.

The top will be overbuilt approx. 5% so that it settles to the same elevation as the rest of the grade.

TOTAL COST FOR THE PROJECT ABOVE.....\$ _____

CONTRACTOR SIGNATURE _____

SCHARMANS DAM SECONDARY BID

As discussed in the field, fill dirt is to be spilled over the entire front of the dam. This is to be wheel compacted if possible. This "refacing" is to be done as good as possible while leaving the trees standing.

The dam top will require fill dirt to be brought in to fill the holes and generally improve the surface. No sod is to be removed with the fill dirt going directly on the grass.

TOTAL COST FOR THE PROJECT ABOVE.....\$_____

CONTRACTOR SIGNATURE_____

An area will need to be sloped and smoothed for boat ramp installation at a later date. (as discussed in the field)

TOTAL COST.....\$_____

CONTRACTOR SIGNATURE_____

CONSTRUCTION SPECIFICATION

SD-12B CONCRETE FOR MINOR STRUCTURES
(FOR STRUCTURES UP TO 10 C.Y.)

12B.1 SCOPE

The work shall consist of proportioning, forming, placing, finishing, and curing portland cement concrete.

Acceptance:

The acceptance or rejection of concrete made under this specification will depend upon adherence to the procedures set forth herein, and the appearance of the finished structure.

12B.2 MATERIALS

Portland Cement shall be Type II or Type IIA Portland Cement. Cement that is partially hydrated or otherwise damaged shall not be used.

Fine Aggregate is defined as all material which will pass a $\frac{1}{4}$ -inch screen. Fine aggregate shall compose between 35 and 45 percent of the total aggregate and shall not contain more than 1 percent clay lumps or more than 4 percent finer than a No. 200 sieve. Coal in fine aggregate shall not exceed $\frac{1}{2}$ of 1 percent.

Coarse Aggregate is defined as all material larger than $\frac{1}{4}$ inch. Maximum size aggregate shall not exceed:

1 inch - Concrete thickness of 4 inches or less
1 $\frac{1}{2}$ inch - Concrete thickness of 4 inches or more

Coarse aggregate shall compose between 55 and 65 percent of total aggregate and shall not contain more than $\frac{1}{4}$ of 1 percent of clay lumps or more than 1 percent of material finer than No. 200 sieve. Coal shall not exceed one percent.

Mixed fine and coarse aggregate or pit-run aggregate may be used provided the requirements stated above are met.

Water shall be clean and free of harmful chemicals (suitable for drinking).

12B.3 DESIGN OF CONCRETE MIX

The contractor or person in charge of construction shall be responsible for designing a high quality concrete mix conforming to this specification.

The mix shall contain less than 6 gallons of water per bag of cement, and at least 6 bags of cement per cubic yard of concrete. The air-entrainment shall be between 4 and 7 percent by volume, and the slump after mixture shall be between 2 and 4 inches..

The following table is recommended as a guide for developing a satisfactory mix to give 3000 psi compressive strength for air-entrained concrete.

Max. Size Aggregate	Gal. Water per sack of cement	% of Fine Aggregate	Sacks Cement per cu. yd.	Pounds Fine Aggregate per sack cement	Pounds Coarse Aggregate per sack cement
1"	6.0	40	6.0	190-200	300-310
1½"	6.0	35	6.0	180-190	330-340

Ready Mixed concrete may be used provided it meets the requirements of these specifications. Upon request the vendor shall provide the owner with a signed delivery ticket giving the quantities of concrete, cement, fine aggregate, coarse aggregate and water contained in the batch.

Measurements of materials shall be by weight where suitable scales are available. Where suitable scales are not available, volume measurement may be used provided volume-weight relationships are carefully determined. Calcium chloride or other accelerators or anti-freeze compounds shall not be used.

Measurements (by weight) of materials in the mix shall be made available to the technician.

12B.4 FORMS FOR CONCRETE

Forms shall be made of wood, plywood, steel or other approved material. The type, size, shape, quality and strength of forms will be subject to approval by the technician.

All forms shall be true to line and grade, mortar tight, and rigid enough to prevent bulging or displacement. Tolerances will be close enough to assure that the structure appears and performs well.

All forms shall be removed from the concrete. Forming shall not be embedded in the concrete.

12B.5 PLACING CONCRETE

Concrete shall be placed in final position within one and one-half hours after mixing with cement.

Concrete shall be consolidated by hand spading and tamping or by mechanical vibration.

All concrete placed on earth shall be placed on clean damp surface, free of frost, ice, or running water. Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

Uniformed surfaces (excluding slip form concrete) exposed in the completed work shall have a wood float finish. Exposed concrete edges shall be chamfered or finished with molding tools.

Concrete shall be placed at air temperatures between 40°F. and 80°F. unless special measures are taken to protect the concrete. Concrete shall be protected from freezing for 7 days after placement.

12B.6 CURING CONCRETE

All concrete shall be cured by keeping all exposed surfaces wet for 7 days or by applying a spray type curing compound to exposed concrete surfaces immediately after the free water has disappeared after pouring.

12B.7 DEFECTIVE CONCRETE

Honey combed areas and other voids in concrete will be promptly repaired with mortar patching immediately upon discovery.

Concrete subjected to damage and/or other violations of this specification will be rejected.

CONSTRUCTION SPECIFICATION

SD-13 STEEL REINFORCEMENT

13.1 SCOPE

The work shall consist of furnishing and placing steel reinforcement for reinforced concrete.

13.2 MATERIALS

All reinforcement shall be free from all flaky rust, oil, grease, paint, mill scale, or other foreign substance.

Steel bar reinforcement shall be deformed billet steel conforming to either ASTM specification A 15 Intermediate Grade or A 615 Grade 40.

Welded Steel wire fabric reinforcement shall conform to the requirements of ASTM Specification A 185.

13.3 CUTTING AND BENDING

Reinforcing bars may be mill or field cut or bent. All bends shall be made without heating and in accordance with standard practices. (See American Concrete Institute Standard 315). Bars with kinks, cracks, or improper bends will be rejected.

13.4 SPLICING BAR REINFORCEMENT

Unless otherwise specified on the drawings, splices of reinforcing bars shall provide an overlap equal to at least 30 times the diameter of the smaller bar in the splice but not less than 12 inches.

Welded wire fabric shall be overlapped one full mesh (not counting cut portions) and tied as necessary to keep the fabric in place during pouring.

13.5 PLACING

All reinforcement shall be placed as shown on the drawings, and shall be supported and tied in a manner assuring that it will not be moved during concrete placement. Tack welding of bars will not be allowed. Dimensions shown on the plans, indicating concrete cover, are the clear distance from the concrete surface to the reinforcing steel.

Reinforcement hangers and supports shall be of a type and used in such a manner that they will not be exposed or contribute to discoloration and deterioration of the concrete. On structures exceeding one cu. yd. in volume, concrete shall not be placed until the reinforcement has been inspected and approved by the technician.

PIPE CONSTRUCTION SPECIFICATIONS

Trench Construction

The trench bottom shall be uniform so that the pipe will lay on the bottom without bridging. Clods, rocks, and uneven spots which could damage or cause non-uniform support to the pipe shall be removed. Where rocks, boulders, or any other material which might damage the pipe are encountered, the trench bottom shall be undercut a minimum of 4 inches below final grade and filled with bedding material consisting of compacted fine-grained soils.

Provisions shall be made to insure safe working conditions where unstable soil, trench depth, or other conditions are such as to impose safety hazard to personnel working in the trench.

Placement

Care shall be taken to prevent permanent distortion and pipe damage when handling during unusually warm or cold weather. The pipe shall be uniformly and continuously supported over its entire length on firm stable material. Blocking or mounding shall not be used to bring the pipe to final grade.

Backfilling

The initial backfill shall be of selected material free from sharp edged rocks, stones, or clods. Care shall be taken to avoid deformation or displacement of the pipe during initial backfill operations. The pipe shall be loaded sufficiently during backfilling around the side to prevent its being lifted from the bedding.

Backfill around the pipe shall be placed in layers not more than 4 inches thick before compaction. Each layer of backfill shall be compacted with power tampers or hand tamping to the same density requirements as specified for the adjacent embankment. Backfill over and around the pipe shall be brought up uniformly on all sides and shall extend a minimum of 2 feet over the pipe before earth embankment with earth moving equipment over the pipe is started. Special care shall be taken not to disturb the grade and alignment during backfill operations.

All special requirements of the manufacturer shall be strictly observed. Installation and backfilling should be done in a workmanlike manner. Provisions for stabilization of disturbed areas and control of erosion should be installed as shown on the drawings and directed by the technician.

Engineering Specifications

Maximum pipe slope is 30%, minimum pipe slope for inlet to operate as hood inlet is that required to overcome friction in the pipe. In general, slopes over 5% will be adequate, slopes less than 5% should be investigated further. Minimum slope does not apply to outlet section. Place outlet section on approximately a 1% slope (see technical guide).

If needed to minimize erosion around entrance to inlet, place rock riprap or concrete paving 4' in all directions from the pipe. Use a minimum size rock of 12" for riprap.

If slope of barrel from inlet to outlet exceeds 5%, an elbow will be required with outlet pipe grade about 1% and must be shown on job plan. If barrel is 5% or less, no elbow will be required.

CONSTRUCTION SPECIFICATION

SD-7S EARTH FILL-CLASS S

7S.1 SCOPE

The work shall consist of the construction of compacted earth fills where the amount of compaction is to be controlled by a method type of specification.

7S.2 MATERIALS

All fill materials shall be obtained from required excavations and designated borrow areas. The selection, blending, routing and disposition of materials shall be subject to approval by the technician.

Fill materials shall not contain frozen material, sod, brush, roots, or other perishable materials, or rocks larger than 8 inches in diameter. Fill shall not be placed on a frozen surface.

7S.3 FOUNDATION PREPARATION

After stripping (see stripping specification), the foundation shall be scarified or plowed to a minimum depth of 4 inches. The entire foundation area shall then be compacted by the process used on the fill.

7S.4 PLACEMENT

All foundation excavations and/or preparation shall be completed before placing fill. The fill shall be placed such that the distribution of materials is essentially uniform throughout the entire fill and is free from lenses, pockets, streaks, or layers of materials differing substantially from surrounding material.

Fill, adjacent to structures, shall be placed in a manner that will prevent damage to the structures and allow the structures to assume the backfill loads gradually and uniformly. Equipment weighing more than 400 pounds shall not be operated within 2 feet of any structure.

Fill shall be placed in approximately equal horizontal layers. Fill layer thicknesses shall not exceed 9 inches for machine compaction or 4 inches for hand compaction (including hand directed power tampers adjacent to structures).

7S.5 MOISTURE CONTENT

The fill material shall have a moisture content that when kneaded in the hand will form a ball which does not easily crumble when struck sharply with a pencil or which does not crumble when pressed between the hands.

If the soil is too wet, it will yield free water when kneaded in the hand. The fill may have to be wetted or dried to achieve proper moisture control.

7S.6 COMPACTION (CLASS S)

The fill shall be compacted by one of the following methods.

- a. By routing the hauling and spreading equipment such that all points of the fill is traversed by at least one tread track of the loaded equipment, parallel to the centerline of the fill.
- b. By at least two passes of a tamping (sheepfoot) roller weighing at least 100 pounds per square inch of bearing area.

Fill adjacent to structures shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tampers or plate vibrators. Heavy equipment shall not be operated within 2 feet of any structure.

Compaction of fill adjacent to concrete structures shall not be started until the following time limits have elapsed after placement of the concrete.

<u>Structure</u>	<u>Time Interval</u>
Walls and counterforts	14 days
Conduits and Spillway Risers (cast in place)	14 days
Conduits, precast, cradled	2 days
Conduits, precast, bedded	1 day
Anti-seep Collars and Cantilever pipe props	3 days

CENTRAL SUPPLY

P.O. BOX 103
PIERRE, SOUTH DAKOTA 57501
Phone: 605-224-5222

SOLD TO LE CREEK NATIONAL WILDLIFE

INVOICE QUOTE 3-21-95
DATE

MARTIN, S.D.

SHIPPED TO jobsite

MR. BOB TIMBERMAN

FAX # 605-685-1173

OUR ORDER NO.	YOUR ORDER NO.	SALESMAN	TERMS	SHIPPED VIA	PPD. OR COLL.
---------------	----------------	----------	-------	-------------	---------------

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1	42" X 6 foot riser tube	22.27	133.62
1	30" X 2 feet riser outlet 3'		
2	30" X 28 feet SMP PIPE 56' 59' @	14.15	834.85
2	30" X 12" bands w/ rods & lugs 2 @,	33.38	67.16
1	42" X 30" riser, welding & fabrication chg. 1 @	184.49	184.49
			1220.12
	sales tax		48.80
	TOTAL		\$ 1268.92
			+ 140.00

NOTE:

ADD FOR THESE MATERIALS IF NEEDED.

~~ANTI SEEP COLLARS 2 PC \$ 179.00 each~~

ANTI VORTEX BAFFLE DEVICE \$ 140.00 each

plus 4% sales tax

THANKS BOB

Bob Timberman



1. Looking West



2. Grade & Pipe



3. Drop inlet



4. Outlet



5. EM Spillway 80'



6. Tail H₂O



Tim if you want any of these on jpeg let me know by #. -Jre

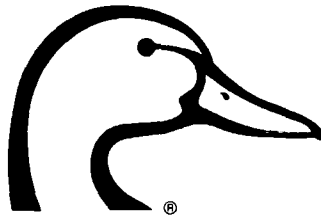
DESIGN REPORT

For

**HUDDLESTON
WETLAND**

BENNETT COUNTY, SD (SD-418-02)

February 13, 2007



Ducks Unlimited, Inc.
2525 River Road
Bismarck, ND 58501

PROJECT: Huddleston Wetland
SD -418-02

LOCATIONS: NE¼, SECTION 14, SE¼ SECTION 14, SW¼ SECTION 13,
TWP. 38N RGE. 35W
Latitude 43° 16' 19.5" Longitude 101° 25' 13.7"
Bennett County, South Dakota

MARSH DATA: Full Service Level (FSL) @ 2900.0
18.0 Surface Acres @ FSL
45.21 Acre-Feet Capacity @ FSL
Maximum Depth – 5.1'

PROJECT DATA: Top of Dam - elevation 2906.0 (Top of compacted fill add 4" for topsoil)
Primary Spillway - elevation 2900.0
Emergency Spillway - elevation 2903.0 (Top of finished grade)
Upstream Berm – 10' wide @ elevation 2900.0
Side Slopes - 3 (horizontal): 1 (vertical)

CLASSIFICATION: Based on the classification criteria outlined in Chapter 74:02:08 "Safety of Dams," it is recommended that the proposed reconstructed dam be classified as a small, Category 3 dam. No loss of life and minimal economic loss is expected should failure occur. The product of the "maximum storage capacity" times the "effective height" is 822. ((117.55 acre-feet x (2903.0-2896.0))

PRELIMINARY RISK ASSESSMENT: The proposed dam reconstruction is planned on the headwaters of Pass Creek, a tributary to the White River. Huddleston Dam is upstream of the recently reconstructed (US FWS -1998) Soharman Dam, located 1.5 miles downstream in the NE¼ Section 11. There are no structures between the dam reconstruction and Soharman Dam. There are no roadway crossings on Pass creek for 7.6 miles downstream of Soharman Dam. There are no major highways that cross Pass Creek.

PROPOSED PROJECT: The full history of the dam has not been obtained. It is believed the existing embankment was constructed prior to 1955 and it is unknown whether a water permit has ever been obtained. The project consists of reconstructing an existing dam, installing a primary spillway, in the form of a sheep pile weir and excavating a new emergency spillway. The exiting dam may have contained a primary spillway at one time. The center of the existing embankment has breached, either purposely or resulting from a primary spillway failure. The existing emergency spillway located in the left abutment has eroded back to the basin. The top of the original embankment is estimated to be approximately 2905.0

Reconstruction will include the installation of driven sheet pile structure to act as a primary spillway with variable level drawdown capabilities. The new emergency spillway will be constructed on the right (east) abutment. The existing fill will be stripped of topsoil and become part of the upstream berm. New material will be placed immediately downstream of the reconstructed berm and comprise the main dam. Embankment material will be compacted to 95% (Standard Proctor) and at -1% to +3% of optimum moisture. The dam will be constructed having a top width of 12'. All slopes will be constructed to a 3:1 slope.

PRIMARY SPILLWAY: The structure will consist of a sheet pile curtain driven to resist overturn. It will have a fixed weir at elevation 2900.0 and drawdown capabilities to 2896.0 via a 3' wide stop log bay. The weir will be a trapezoidal configuration having a 30' fixed level and 2:1 side slopes. Downstream protection will be provided by gabion baskets filled with rock. Vertical drop to the top of the gabion baskets will be 4'.

EMERGENCY SPILLWAY: The emergency spillway will be excavated having a 100' bottom width and 3:1 slopes. The top of the finished spillway grade, after replacing 4" of topsoil, will be 2903.0 or 3 feet above the crests of the primary spillway, and 2' below the dam crest. The length of the level crest at the spillway centerline is 299' feet. The new emergency spillway will outlet onto an undisturbed well vegetated slope. The natural grade is 11.9%. The drop back into Pass Creek may create a minor risk of erosion if the Pass creek is not bank full when the spillway is utilized. It is anticipated that Pass Creek will be bank full during events requiring the use of the emergency spillway.



Looking downstream at spillway discharge area

HYDROLOGY / HYDRAULICS: A hydrologic analysis of surface water runoff was performed using two methods. A peak discharge was determined from regression equations developed in WATER-RESOURCE INVESTIGATIONS REPORT 80-80 USGS. HydroCAD software using the TR-20 method was used to determine the inflow hydrograph and route the runoff events through the primary and emergency spillways. Peak inflows developed by the regression equations yielded much lower peak inflows than those developed by HydroCAD. Inflows developed by the more conservative HydroCAD model were used for design purposes. Other assumptions made in developing inflow hydrographs by the TR-20 METHOD were:

Rain Duration = 24 hours
Rain Table # = Type I 24 hr Rainfall
Antecedent moisture condition = 2

Inflow hydrographs developed from the TR-20 METHOD were routed through the primary and emergency spillways. This yielded outflow hydrographs revealing peak discharges at maximum reservoir elevations corresponding to various runoff events. The following table is a summary of that printout:

PARAMETERS:
WATERSHED – 15.6 SQ MI
TIME OF CONCENTRATION – 5.0 HOURS
CURVE # – 66

Event	Curve #	Peak Inflow	Peak Outflow		Peak Discharge	Maximum WSP
			Primary	Emergency		
5 yr	66	394	367.5	0	367.5	2902.24
10 yr	66	632.8	586.5	0	586.5	2902.99
25 yr	66	981.9	861	64.85	925.8	2903.77
100 yr	66	1755	1318.2	387.8	1706	2904.87

*Soil Infiltration Index values used in Regression Equations is 1.9.

**Calculated from top of compacted fill, excluding topsoil.

***A spillway-rating curve for the primary and emergency spillways is contained within this report.

DROUGHT ANALYSIS: The frequency in which there will be adequate runoff was not an important criteria to project sponsors. Using NRCS methods, the 80% and 50% annual runoff will generate 50 and 166 acre-feet respectively (using isogram map #1½, and curve number 72). The annual requirement assuming an evaporative loss of approximately 3.0 feet is 35 acre-feet. Annual dry cycles are considered to be beneficial to waterfowl habitat.

SOIL INVESTIGATION: As of this writing a geotechnical investigation is planned to be completed when conditions allow. A preliminary investigation determined that suitable quantities of acceptable material are likely. It is anticipated that bag samples will be taken for the purpose of conducting proctor tests. Compacted fill specifications will be used during construction. Moisture /density tests will be taken during construction at the discretion of the engineer. Compaction specifications require that material be placed at 95% (standard proctor) and at +3% to -1% of optimum moisture content.

IMPACTS TO SURROUNDING PROPERTY: The land ownership containing the dam and associated reservoir is as follows: The dam and all construction is contained within the NE ¼ Sec.14. All in Township 38N, Range 35W.
NE ¼ Section 14 – Robbie Huddleston
SE ¼ Section 14 – Kenneth Bolzer
W ½ Section 13 – Leo Wayne Livermont

The following table shows the acres inundated and the corresponding volume at the full service level, emergency spillway elevation, and the top of dam elevation within the properties upstream (south) of Robbie Huddleston's property. These values were derived from topographic survey to one foot intervals.

Marsh	Area	Accumulative	
Elevation	Acres	Acre-Feet	Comments
Area - Capacity NE 1/4 SE 1/4 Section 14 - Bolzer			
2900.00	0.1	0.31	FSL
2903.00	2.4	5.66	ES
2906.00	3.7	14.91	Top of Dam
Area - Capacity section 13 - Livermont			
2900.00	0.1	0.00	FSL
2903.00	2.0	2.50	ES
2906.00	10.4	18.48	Top of Dam

As shown as, at the full service level of 2900.0 some land will be inundated in SE¼ Section 14 owned by Bolzer and Section 13 owned by Livermont respectively. The full service level is defined as the weir elevation of primary spillway. Water will be held at this elevation unless lost to evaporation or drawn down for biological purposes. At this elevation the land inundated will be confined to the natural channel.

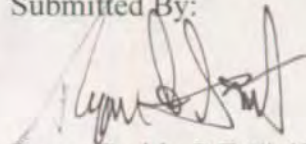
Runoff events requiring the use of the primary spillway will create a temporary reservoir pool to whatever elevation is required to pass the peak event. The duration of the inundation will vary and be based on the hydrologic characteristics of the event. Events exceeding a peak runoff of 591 cfs will require the use of the excavated emergency spillway. The table on page 3 predicts the maximum reservoir level for corresponding events. Hydrologic models can not accurately predict the time duration of the runoff event as events vary greatly. It is however safe to say that the capacity of the structures will discharge water in a way that inundation will be counted in days rather than weeks.

Both upstream landowners have been notified that the reconstructed dam will impact their property to some degree. All required easements are being secured.

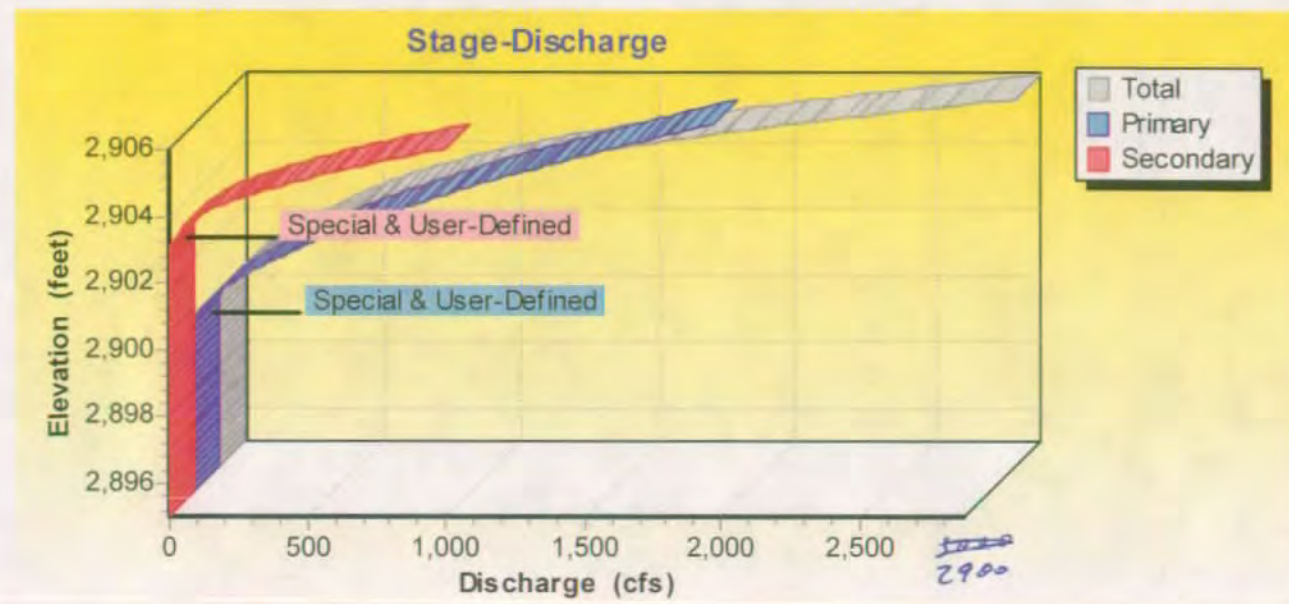
The natural channel delivering runoff to the basin enters from the south. A east-west roadway crosses the natural channel and contains a 36" corrugated metal pipe. The north invert is 2905.94 and the south invert is 2905.81. The roadway is at approximately 3012. Since the top of dam elevation is 2906.0, excluding topsoil, any impacts from the dam construction to the roadway and upstream lands would have to be caused by extremely large events and would be short lived as the integrity of the dam would be in jeopardy.

Dated: February 13, 2007

Submitted By:

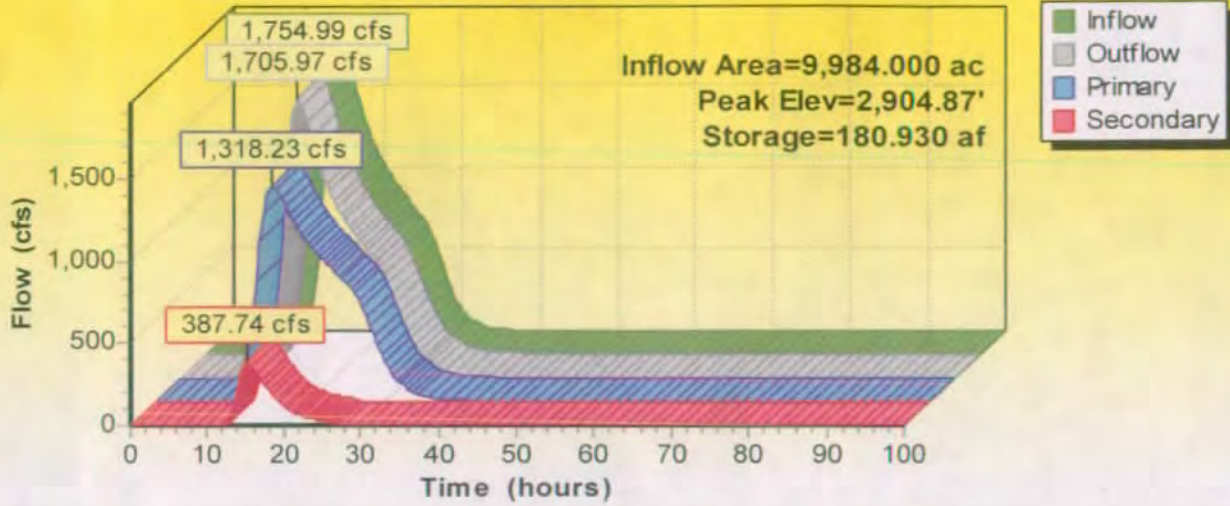


Roger Smith, P.E. (#4325)
Regional Engineer
Ducks Unlimited
Great Plains Regional Office



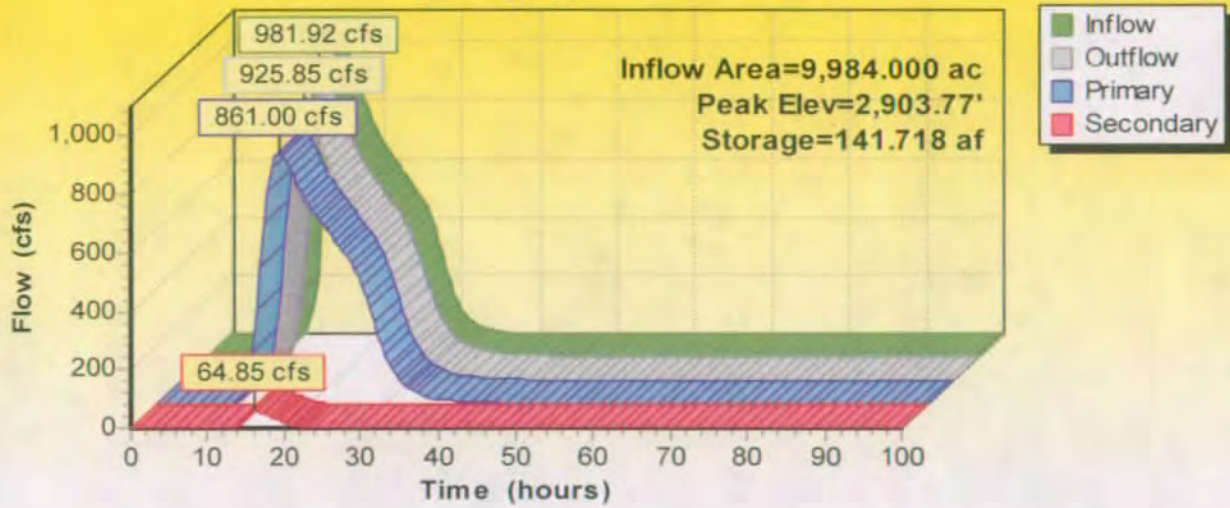
100 Year Event Hydorgraph

Hydrograph



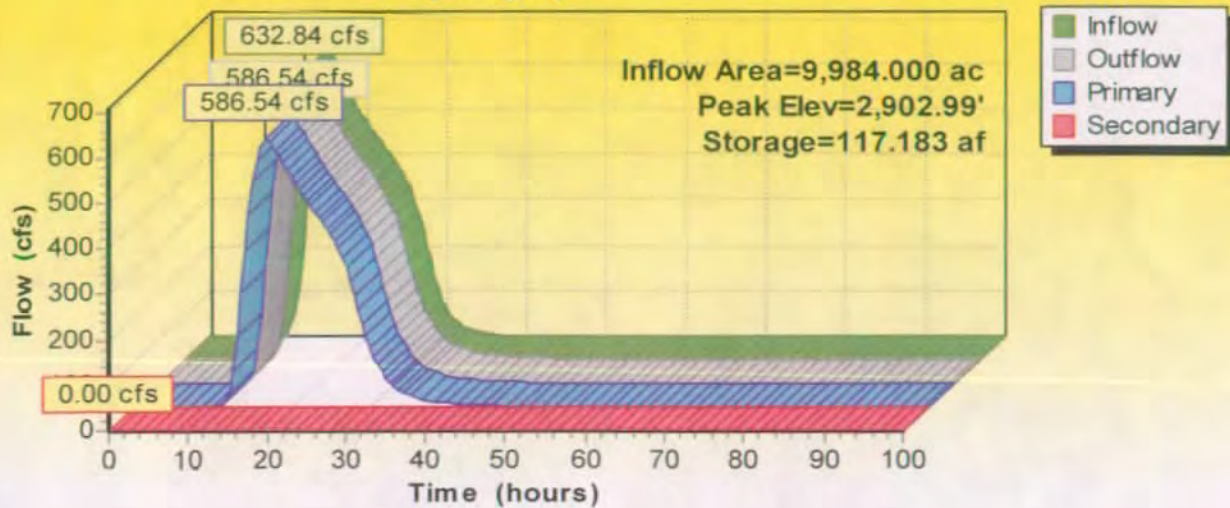
25 Year Event Hydrograph

Hydrograph



10 Year Event Hydorgraph

Hydrograph





GREAT PLAINS REGIONAL OFFICE

2525 River Road

Bismarck, ND 58503-9011

(701) 355-3500 Fax (701) 355-3575

www.ducks.org

February 20, 2007

Robbie Huddleston
23055 284th St
Martin, SD 57551

Joe Nichols
US Fish & Wildlife Service
29746 Bird Road
Martin, SD 57551-6006

Eric Gronlund
Water Rights
Joe Foss Building
523 E Capitol
Pierre, SD 57501

RE: Huddleston Wetland

You are all receiving the construction plans, design report, and an Application for Permit to Appropriate Water.

Mr. Huddleston will have to sign the Application for Permit to Appropriate Water, have it notarized and return it to the DENR with the appropriate fee. **In this case the permit application fee will be \$200 made payable to the Water Rights Program, DENR.** The DENR will need the signed application and fee prior to processing.

Joe, you will have to work with the DNER to produce the proper documentation on easements from the two upstream landowners.

By way of this mailing the DENR is receiving the 2 copies of the construction plans, design report, unsigned Application for Permit to Appropriate Water, and a 8½"x11" location map,

If you have any questions regarding the construction plans, design reports, or other technical questions, please contact me.

Sincerely,
Roger Smith, P.E.

Director of Conservation Services
Ducks Unlimited, Inc

RECEIVED

FEB 22 2007

SURFACE WATER PROGRAM

Document prepared by:
Joseph E. Nichols, Wildlife Biologist
US Fish & Wildlife Service
29746 Bird Road
Martin, SD 57551
(605) 685-6508

RECEIVED
FEB 21 2007
WATER RIGHTS
PROGRAM

AGREEMENT AND GRANT OF EASEMENTS

This AGREEMENT AND GRANT OF EASEMENTS is made by and between Kenneth E. Bolzer of 23348 286th Street, Martin, SD 57551, hereafter referred to as GRANTOR, and Robbie Huddleston of 23055 284th Street, Martin, SD 57551, hereafter referred to as GRANTEE.

Consideration for this agreement is \$1 and other valuable consideration, receipt of which is acknowledged by GRANTOR. In consideration thereof the parties agree as follows:

GRANTOR is the owner in fee of real property situated in Bennett County, South Dakota and described as: NE 1/4 SE 1/4 Section 14, T38N, R35W, which property is hereafter referred to as PROPERTY.

Due to an approved renovation project by the GRANTEE, in cooperation with the U.S. Fish & Wildlife Service and Ducks Unlimited Inc., on and to a structure locally known as the Huddleston Dam located on GRANTEE downstream property in the NW 1/4 NE 1/4 Section 14, T38N, R35W and need for additional easements to facilitate said project, GRANTOR grants and conveys to the GRANTEE additional rights and easements on GRANTOR's PROPERTY as provided herein.

GRANTOR grants and conveys to GRANTEE the right to temporarily flood certain portions of GRANTOR's PROPERTY as described above in perpetuity. Temporary flooding of PROPERTY during rare and extreme runoff events will extend to elevation 2906.0 feet mean sea level, the same elevation as the top of the reconstructed Huddleston Dam structure. Elevation of the normal dam pool is at 2900.0 feet mean sea level and will impound 0.6 acres of water on GRANTOR's PROPERTY.

GRANTOR, for the consideration stated herein, for himself and for his heirs, successors, and assigns, expressly waives and releases GRANTEE and its assigns or representatives from any and all claims they may have for damages which may have occurred or which in the future may occur by reason of construction or maintenance of any of the facilities and structures contemplated by the renovation project and as permitted by this agreement by reason of flooding, overflow, or the depositing of material resulting from said flooding or overflow.

The covenants, agreements, and obligations herein contained shall extend to, bind and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors and assigns.

IN WITNESS WHEREOF, the GRANTOR and the GRANTEE have executed this Agreement as of the day affixed to this Agreement.

GRANTOR

Kenneth E. Bolzer executed this 26 day of Sep, 2006.
Kenneth E. Bolzer

GRANTEE

Robbie Huddleston executed this 25 day of Sept, 2006.
Robbie Huddleston

STATE OF SOUTH DAKOTA

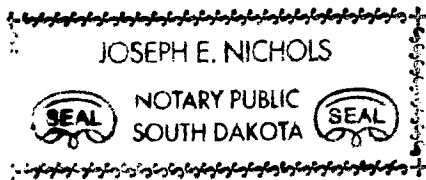
COUNTY OF Bennett)SS
)

On this the 26 day of Sept, 2006, before me, the undersigned officer, personally appeared Kenneth E. Bolzer, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In WITNESS WHEREOF, I hereunto set my hand and official seal.

(NOTARY SEAL)

Joseph E. Nichols
Notary Public, South Dakota
Commission expires: 03/26/2011



STATE OF SOUTH DAKOTA

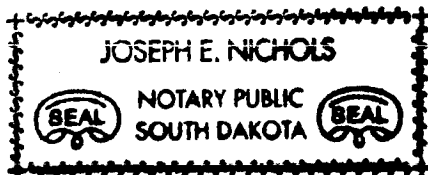
COUNTY OF Bennett)SS
)

On this the 25 day of Sept, 2006, before me, the undersigned officer, personally appeared Robbie Huddleston, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In WITNESS WHEREOF, I hereunto set my hand and official seal.

(NOTARY SEAL)

Joseph E. Nichols
Notary Public, South Dakota
Commission expires: 03/26/2011



Document prepared by:
Joseph E. Nichols, Wildlife Biologist
U.S. Fish & Wildlife Service
29746 Bird Road
Martin, SD 57551
(605) 685-6508

AGREEMENT AND GRANT OF EASEMENTS

This AGREEMENT AND GRANT OF EASEMENTS is made by and between designated Trustee being the Bureau of Indian Affairs (Superintendent in charge signing) of P.O. Box 1203, Pine Ridge, SD 57770 also the landowner of Allotment # 2185, Leo Wayne Livermont of P.O. Box 326, Martin, SD 57551, hereafter referred to as GRANTORS, and Robbie Huddleston of 23055 284th Street, Martin, SD 57551 hereafter referred to as GRANTEE.

Consideration for this agreement is \$1 and other valuable consideration, receipt of which is acknowledged by GRANTORS. In consideration thereof the parties agree as follows:

GRANTORS are the owner in fee of real property situated in Bennett County, South Dakota and described as: NW 1/4SW 1/4 Section 13, T38N, R35W, (Allotment #2185) which property is hereafter referred to as PROPERTY.

Due to an approved renovation project by the GRANTEE, in cooperation with the U.S. Fish & Wildlife Service and Ducks Unlimited Inc., on and to a structure locally known as the Huddleston Dam located on GRANTEE downstream property in the NW 1/4NE 1/4 Section 14, T38N, R35W and need for additional easements to facilitate said project, GRANTORS grant and conveys to the GRANTEE additional rights and easements on GRANTORS' PROPERTY as provided herein.

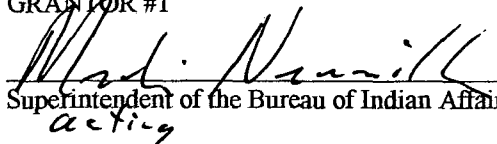
GRANTORS grant and convey to GRANTEE the right to temporarily flood certain portions of GRANTORS' PROPERTY as described above in perpetuity. Temporary flooding of PROPERTY during rare and extreme runoff events will extend to elevation 2906.0 feet mean sea level, the same elevation as the top of the reconstructed Huddleston Dam structure. Elevation of the normal dam pool is at 2900.0 feet mean sea level and will impound 0.1 acres of water on GRANTORS' PROPERTY.

GRANTORS, for the consideration stated herein, for Bureau of Indian Affairs, for himself and for his heirs, successors, and assigns, expressly waives and releases GRANTEE and its assigns or representatives from any and all claims they may have for damages which may have occurred or which in the future may occur by reason of construction or maintenance of any of the facilities and structures contemplated by the renovation project and as permitted by this agreement by reason of flooding, overflow, or the depositing of material resulting from said flooding or overflow.

The covenants, agreements, and obligations herein contained shall extend to, bind and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors and assigns.

IN WITNESS WHEREOF, the GRANTORS and the GRANTEE have executed this Agreement as of the day affixed to this Agreement.

GRANTOR #1

 executed this 22 day of Sept, 2006.
Superintendent of the Bureau of Indian Affairs
acting

GRANTOR #2

 executed this 22 day of Sept, 2006.
Leo Wayne Livermont

GRANTEE

Robbie Huddleston
Robbie Huddleston

executed this 25 day of Sept, 2006.

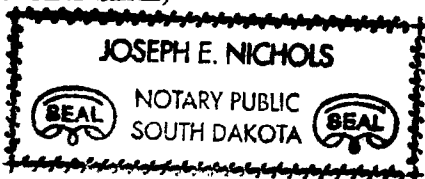
STATE OF SOUTH DAKOTA

COUNTY OF Shannon)SS
)

On this the 22 day of Sept., 2006, before me, the undersigned officer, personally appeared Superintendent of the Bureau of Indian Affairs, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In WITNESS WHEREOF, I hereunto set my hand and official seal.

(NOTARY SEAL)



Joseph E. Nichols
Notary Public, South Dakota
Commission expires: 03/26/2011

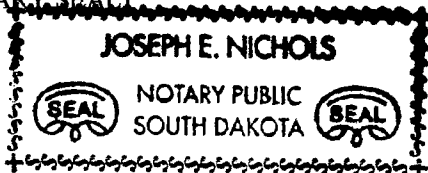
STATE OF SOUTH DAKOTA

COUNTY OF Bennett)SS
)

On this the 22 day of Sept., 2006, before me, the undersigned officer, personally appeared Leo Wayne Livermont, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In WITNESS WHEREOF, I hereunto set my hand and official seal.

(NOTARY SEAL)



Joseph E. Nichols
Notary Public, South Dakota
Commission expires: 03/26/2011

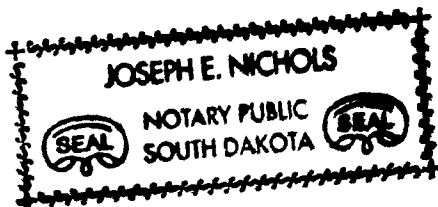
STATE OF SOUTH DAKOTA

COUNTY OF Bennett)SS
)

On this the 25 day of Sept., 2006, before me, the undersigned officer, personally appeared Robbie Huddleston, known to me or satisfactorily proven to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In WITNESS WHEREOF, I hereunto set my hand and official seal.

(NOTARY SEAL)



Joseph E. Nichols
Notary Public, South Dakota
Commission expires: 03/26/2011

ELEV	AREA	ACCUMULATIVE	
	ACRES	ACRE-FEET	Comments
ENTIRE MARSH SECTIONS 13 & 14			
2895.00	0.0	0.00	
2896.00	3.2	4.72	
2897.00	6.2	9.45	
2898.00	9.8	17.45	
2899.00	13.9	29.28	
2900.00	18.0	45.21	FSL
2901.00	22.4	65.39	
2902.00	26.1	89.63	
2903.00	29.7	117.55	ES
2904.00	33.0	148.93	
2905.00	40.4	185.68	
2906.00	46.3	229.07	TOP OF DAM
2907.00	54.2	279.32	

ELEV	AREA	ACCUMULATIVE	
	ACRES	ACRE-FEET	Comments
Area - Capacity NE 1/4 SE 1/4 SECTION 14			
2899.00	0.0	0.00	
2900.00	0.6	0.31	FSL
2901.00	1.7	1.48	
2902.00	2.1	3.39	
2903.00	2.4	5.66	ES
2904.00	2.9	8.31	
2905.00	3.3	11.41	
2906.00	3.7	14.91	TOP OF DAM

ELEV	AREA	ACCUMULATIVE	
	ACRES	ACRE-FEET	Comments
Area - Capacity SECTION 13			
2900.00	0.1	0.00	FSL
2901.00	0.4	0.22	
2902.00	1.1	0.95	
2903.00	2.0	2.50	ES
2904.00	2.6	4.81	
2905.00	7.2	9.70	
2906.00	10.4	18.48	TOP OF DAM

Water Permit Application No 2611-2

Robbie Huddleston

Top of Dam Elev. - 2906 } Cat. 3 - Low Hazard Dam
 2nd Spillway Elev. - 2903 }
 P. Spillway Elev. - 2900 } Ht = 12 ft.
 Dis Emb. Toe Elev. - 2894 }

Normal Storage Capacity - 45.21 A.-Ft
 Int. Storage Capacity - 117.55
 Max Storage Capacity - 229.07

Int Capacity x Eff Ht. = $117.55 \times 7 = 822 < 3000 \therefore 25\text{yr}$
Minimum Spillway Design

From USGS WRI 98-4055 "Tech for Est. Peak-Flows ... in SO"
 Region C DA = 9984 A. = 15.6 m.²

$$Q_{25} = 207 CA^{.573}$$

$$= 207 (15.6)^{.573}$$

$$= \underline{999 \text{ cfs}}$$

$$Q_{100} = 379 CA^{.566}$$

$$= 379 (15.6)^{.566}$$

$$= \underline{1795 \text{ cfs}}$$

Spillway Capacities

Primary - 30 ft weir 2:1 slopes

$$Q = CLH^{3/2}$$

$$= 3(40)(6)^{1.5}$$

$$= \underline{1700 \text{ cfs}}$$

Secondary - 100' wide

$$Q = CLH^{3/2}$$

$$= 2.6(100)(3)^{1.5}$$

$$= \underline{1350 \text{ cfs}}$$

Section 74:02:08:09

1. Topo Map - OK
2. Dam Axis Profile - OK
3. Dam Max X-Sec. - OK
4. Area Capacity - OK
5. Outlet Details - OK
6. Spillway Rating - OK
7. Spillway Details - OK
8. Specs - OK
9. EPP - N/A Cat. 3 - OK

NRCs Annual Yield

$$CN=72 \quad IS_2=1\frac{1}{2} \quad DA=9984$$

$$80\% \text{ chance} = 0.06$$

$$0.06 \times 9984^{1/2} = \underline{50 \text{ A.-Ft}}$$

$$50\% \text{ chance} = 0.19$$

$$0.19 \times 9984^{1/2} = \underline{160 \text{ A.-Ft}}$$

$$10\% \text{ chance} = 1.1$$

$$1.1 \times 9984^{1/2} = \underline{915 \text{ A.-Ft}}$$



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

March 19, 2007

Robbie Huddleston
23055 284th St.
Martin, SD 57551

Dear Mr. Huddleston:

We have reviewed the plans and specifications for your dam project located in the NE ¼ of Sec. 14-T38N-R35W, in Bennett County. The plans and specifications for the reconstruction of your dam are approved. Approval of the plans and specifications does not authorize reconstruction of the dam. The reconstruction of the dam may not begin until Water Permit No. 2611-2 is approved.

Our review was to determine compliance with the requirements of the Water Management Board Safety of Dams Rules, Chapter 74:02:08. Approval of these plans and specifications does not release you, as owner of the dam, from the responsibility for operating and maintaining the dam in good repair to ensure the safety of the dam.

The Huddleston Dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 12 ft. and a normal storage capacity of 45.2 acre-feet and a maximum storage capacity of 229 acre-feet.

If you have any questions, please feel free to contact us.

Sincerely,

Timothy G. Schaal, P.E.
Natural Resources Engineering Specialist
for Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

c: Roger Smith, Ducks Unlimited
Joe Nichols, USFWS



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**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2611-2, Robbie Huddleston**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2611-2, Robbie Huddleston, 23055 284th Street, Martin SD 57551.

The Chief Engineer is recommending APPROVAL of Application No. 2611-2 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. Water Permit No. 2611-2 authorizes a dam with a storage capacity of 45.2 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation of 2,900 feet mean sea level.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

See report on application for additional information.

Garland Erbele, Chief Engineer
March 16, 2007

REPORT ON
WATER PERMIT APPLICATION No. 2611-2
Robbie Huddleston
March 9, 2007

Water Permit Application No. 2611-2 has been filed by Robbie Huddleston to impound 45.2 acre-feet of water by reconstructing a dam located in the N $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 14-T38N-R35W, in Bennett County. The application also requests impoundment of sufficient water to maintain water at the outlet elevation of 2900.00 feet mean sea level (fmsl). The water will be used for fish and wildlife production and livestock water.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. Ducks Unlimited, Inc. has designed the dam. The plans and specifications have been reviewed and will be approved; however, construction of the dam can not begin until Water Permit Application No. 2611-2 is approved.

The dam will be 12 feet high with a normal storage capacity of 45.2 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 229 acre-feet with a reservoir level at the top of dam elevation. A dam of this size and hazard classification is required to have a minimum spillway design capable of passing a 25-year frequency event.

The dam has a drainage area of 9984 acres or 15.6 square miles. The dam is designed to have a 30 foot wide steel sheet pile weir with 2 to 1 side slopes and six feet of freeboard as the primary spillway, and a 100 foot wide earthcut spillway with three feet of freeboard as the secondary spillway. A 25 year frequency event produces a peak runoff of approximately 999 cfs and a 100 year frequency event produces a peak runoff of approximately 1795 cfs. The Huddleston Dam will have a combined spillway capacity of approximately 3000 cfs.

The annual yield for this drainage area with an 80 percent chance of occurrence, or 8 out of 10 years, is expected to be 50 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 160 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 915 acre-feet.

The Huddleston Dam is located in the N $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 14-T38N-R35W on the headwaters of Pass Creek, about 35 miles upstream of the confluence of Pass Creek and the White River. The Huddleston Dam is about 1 mile upstream of Scharman Dam, which is also located on Pass Creek in the NE $\frac{1}{4}$ of Section 11-T38N-R35W. There are no Water Permits or Location Notices filed for the Scharman Dam. There are no existing Water Rights/Permits located on Pass Creek between the proposed reconstructed dam and Scharman Dam or between Scharman Dam and the White River.

The Huddleston Dam will have a surface area of 18 acres when water is impounded at the primary spillway elevation of 2900 (fmsl). At this elevation, 0.6 acres will be inundated in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 14-T38N-R35W and 0.1 acres will be inundated in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 13-T38N-R35W. The Huddleston dam will have a surface area of 46.3 acres when water is temporarily impounded at the top of dam elevation of 2906 fmsl, with 3.7 acres located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 13, and 10.4 acres in NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 13. Flood easements for these upstream properties have been obtain and submitted with Water Permit Application No. 2611-2.

page 2

Water Permit Application No. 2611-2

March 9, 2007

Conclusions:

1. Water Permit Application No. 2611-2 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
2. If approved, the low flow bypass requirement for downstream domestic use should be a qualification on Water Permit Application No. 2611-2.
3. The necessary flood easements/agreements are included with the application.

A handwritten signature in black ink, reading "Timothy G. Schaal". The signature is written in a cursive, flowing style.

Timothy G. Schaal, P.E.

Natural Resources Engineering Specialist

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APR - 5 2007

WATER RIGHTS
PROGRAM

Affidavit of Publication

State of South Dakota }
County of Bennett } ss.

Mandy K. Scherer

being duly sworn, says: the Bennett County Booster II is, and during all the times herinafter mentioned was, a weekly legal newspaper as defined in SDCL 17-2-2, as amended published at Martin, Bennett County, South Dakota; that affiant is and during all of said times was, an employee of the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement, a printed copy of which is attached, was

published in said newspaper for 2 successive issues, bearing the following dates:

March 28, 2007

April 4, 2007

20

20

20

20

that the full amount of the fee charged for publishing

the same, to-wit, the sum of \$ 43.80, inures solely to the benefit of the publisher of said newspaper; that no agreement or understanding for the division of the fee has been made with any person, and that no part of the fee has been agreed to be paid to any other person.

Mandy K. Scherer

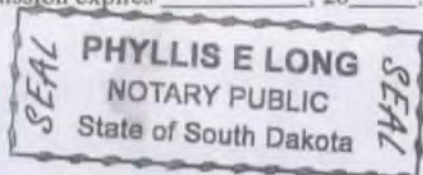
Subscribed and sworn to before me this 4th day

of April, 2007.

Phyllis E. Long

Notary Public
County of Bennett, South Dakota

My commission expires , 20 .



My Commission Expires
August 30, 2012

Notice of Application

NO. 2611-2 to Appropriate Water

Notice is given that Robbie Huddleston, 23055 284th St, Martin, SD 57551 has filed an application for a water permit to impound 45.20 acre-feet of water from Pass Creek by reconstructing a dam located in the N 1/2 NE 1/4 Section 14 with water impounded in the NE 1/4 Section 14, all in T38N-R35W. This application requests impoundment of sufficient water to maintain water to the outlet elevation of 2,900.00 feet mean sea level. The water is for fish and wildlife propagation and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2611-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by April 16, 2007.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. 2tc-4/4

Huddleston



March 19, 2007

BENNETT COUNTY BOOSTER II
PO BOX 610
MARTIN SD 57551

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2611-2 to Appropriate Water to be published twice. Please publish the first notice on with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Robbie Huddleston, 23055 284th St, Martin SD 57551 (Ph # 605-685-6379).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

No. 2611-2

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of March 19, 2007 enclosing Notice to Appropriate Water by Application No. 2611-2 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.

March 19, 2007

ROBBIE HUDDLESTON
23055 284TH ST
MARTIN SD 57551

Dear Mr. Martin

Water Permit Application No. 2611-2 for Fish and Wildlife use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Bennett County Booster II printed at Martin SD (Ph # 605-685-6866). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notices and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the applications.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish first Notice on March 28, 2007 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 2611-2 to Appropriate Water

Notice is given that Robbie Huddleston, 23055 284th St, Martin, SD 57551 has filed an application for a water permit to impound 45.20 acre-feet of water from Pass Creek by reconstructing a dam located in the N ½ NE ¼ Section 14 with water impounded in the NE ¼ Section 14; all in T38N-R35W. This application requests impoundment of sufficient water to maintain water to the outlet elevation of 2,900.00 feet mean sea level. The water is for fish and wildlife propagation and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2611.2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by April 16, 2007.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

23055 284th St
Martin, IL 51551
4-4-07

Eric Gronlund
Water Rights Program
Joe Jass Building
Pierre, IL 51501-3181

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APR - 5 2007

WATER RIGHTS
PROGRAM

Dear Eric;

Enclosed please find the
Affidavit of Publication I received
from the Bennett County Booster
Newspaper. This is relative to
the reconstruction of my dam.
project located in the NE⁴ 14-38-35.

If there is any other information
you need please contact me

Yours truly,

Rottie Haddleton

4/11/07

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APR 13 2007

WATER RIGHTS
PROGRAM

Robbie Huddleston
23055 ~~284th~~ ST
Martin, SD ~~57551~~

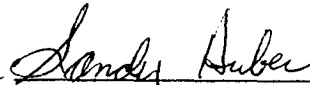
Dear Robbie,

This letter will serve notice as to our opposition to the proposed dam located on ground owned and operated by Robbie Huddleston. We own the property located immediately to the north of the dam site. This property currently has a large dam already located on it known locally as the Scharman Dam. This Dam was built and has been maintained for 45 years and was recently renovated by adding a new trickle tube and dirt work to the face of the dam. The only run off this dam has received in the recent dry years is from springs that will be shut off by the Huddleston dam project. This water flow has not been enough to keep the Scharman Dam full, but enough to keep it from going dry. We STRONGLY believe the Huddleston project will eventually cause major damage to the Scharman Dam, especially if the drought continues, as the Huddleston project will receive the water from these springs, keeping water in it, but not enough water to run thru to the creek and Scharman Dam below. The Scharman Dam currently supports a large variety of wildlife including waterfowl like ducks, geese, pelicans, coots, Tundra Swans, and many others. The Game, Fish, and Parks have been stocking fish in Scharman Dam for over 40 years, creating a favorite fishing hole for many of the locals.

In 2002 we gave the Huddleston family an easement to run a pipeline thru our property so they could water their livestock grazing in the pasture where the proposed dam would be. We also know that they received Federal cost shares dollars thru the local FSA to complete this project. So as a livestock watering system is the dam necessary?

For the above reasons we believe that this project would not provide any additional benefits to the wildlife of the area, and are concerned it would cause harm to the Scharman Dam located directly below it.

Thank you for your consideration of this matter.

Vera Scharman
23475 284th ST
Martin, SD 57551

Sandy Huber
Box 188
Martin, SD 57551



Scott Huber
Box 188
Martin, SD 57551

CC: Water Rights Program

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APR 16 2007

WATER RIGHTS
PROGRAM

4-14-07

Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

RE: Notice of Application
No. 2611-2 to Appropriate
water

Dear Chief Engineer's;

This letter will serve notice that we strongly support the proposed water project located on the N $\frac{1}{2}$ NE $\frac{1}{4}$ 14-38-35 on land owned by Robbie Huddleston.

Through years of aging to this dam renovation needs to be done, as this dam has and still is supporting wildlife in the area.

The Chief Engineer's have spent considerably amount of time and effort in surveying this water project. They are well qualified in developing projects like this one and that land owner's on either side fo the water project would not be impaired.

We feel very strongly this water project would improve and provide a great benefit to the wildlife in the area including: ducks, geese, pelican, tundra swan, plus livestock and others.

Thank you for your consideration on this matter and hoping this water project will be approved.

Robert Huddleston
Robert Huddleston
23034 284th ST.
Martin, SD 57551

Delora Huddleston
Delora Huddleston
23034 284th ST.
Martin, SD 57551

Rocky Huddleston
Rocky Huddleston
23070 284th ST.
Martin, SD 57551

CC; Robbie Huddleston

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APR 16 2007

WATER RIGHTS
PROGRAM

4-15-07

Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

RE: Notice of Application
No. 2611-2 to Appropriate
Water

Dear Chief Engineer's,

This letter will serve notice that I am supporting this proposed water project for a dam renovation located on the N1/2 NE1/4 of 14-38-35 which is land owned by me Robbie Huddleston.

The above-mentioned dam has been there for approximately 60 years. Through years of aging and weathering and large amounts of water runoff this dam renovation needs to be done. Therefore needing a new grade, emergency spillway, and primary spillway. This dam has and still is supporting wildlife in the area.

This water project would not cause damage to the Scharman dam as they have several springs in and around their dam with a large watershed that will maintain the water level. Once this water project is completed the excess run off will still end up in the Scharman dam, plus the Huddleston dam has the ability to be raised and lowered with a stoplog structure.

The Chief Engineer's have already been at the site. They have been assessing and developing this projects for two years. Considerably amount of money has been spent on this water project already. The engineer's know what they are doing and would not impair the water supply to the Scharman dam. For a drought situation in this area all water levels are affected.

This water project has been in joint efforts with Ducks Unlimited Inc., South Dakota Game, Fish and Parks, and U. S. Fish and Wildlife Service's Partners for Fish & Wildlife Program

I feel very strongly the Huddleston water project would add a great benefit to the wildlife in the area including the geese, trumpeter swans, ducks, pelicans, livestock and others.

Thank you for your consideration on this matter and hoping this water project can be built.



Robbie Huddleston
23055 284th ST.
Martin, SD 57551

4-15-07

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APR 16 2007

WATER RIGHTS
PROGRAM

Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Dear Chief Engineer's;

RE: Notice of Application
No. 2611-2 to
Appropriate Water

This letter will serve notice for support for the
proposed water project for a dam renovation on land
owned by Robbie Huddleston located on N1/2NE1/4 14-38-35.

The Chief engineer's have spent considerably amount of
time in surveying this water project. They have stated
that unappropriated water is available and existing rights
will not be unlawfully impaired. Plus it is a beneficial
use of water and in the public interest.

This water project would be a great benefit for the wild-
life in our area especially for ducks, geese, pelicans,
swans, livestock and others.

Thank you for your consideration on this matter and hoping
this water project is approved.


Bee Huddleston
28258 237th AVE.
Martin, SD 57551


Keith Huddleston
28258 237th AVE.
Martin, SD 57551

CC; Robbie Huddleston

4-15-07

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APR 16 WATER RIGHTS
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WATER RIGHTS
PROGRAM

Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Dear Engineer's;

I am supporting the proposed water project for
a dam renovation on land owned by Robbie Huddleston.

This water project would be a big benefit for wild-
life in this area.

Thank you. for your consideration on this water
project and hoping it will be approved.


Wayne Bond
28623 234th Ave.
Tuthill, SD 57574

CC: Robbie Huddleston

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4-15-07

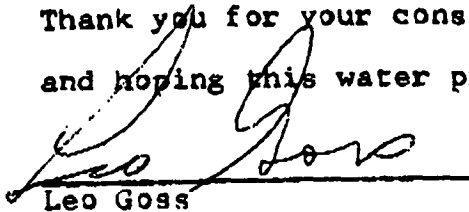
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Dear Chief Engineer's;

This letter will serve notice that I am supporting
the proposed water project for a dam renovation on
the place owned by Robbie Huddleston located on
N½NE¼ 14-38-35.

This dam here in the above location still has wild-
life using this today. Improving this dam with
this water project would be a great benefit for
more wildlife. Wildlife using this dam now are
pelicans, geese, ducks, deer, swans and others.

Thank you for your consideration on this matter
and hoping this water project is approved.


Leo Goss
23420 284th ST.
Martin, SD 57551

CC; Robbie Huddleston

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APR 16 2007
WATER RIGHTS
PROGRAM

4-15-07

Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

Dear Engineer's:

I am supporting the proposed water project for a dam renovation on land owned by Robbie Huddleston.

This project would be a big benefit for wildlife and add to many other advantages in this area.

Thank you for your consideration on this water project and hope it will be approved.

Carl W. Allard

Carl Allard
28459 233 Av.
Martin, SD 57551



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

April 17, 2007

NOTICE

TO: Robbie Huddleston
23055 284th Street
Martin SD 57551
And Parties of Record (see attached list)

FROM: Garland Erbele, Chief Engineer
Water Rights Program *Garland Erbele*

SUBJECT: Notice of Hearing on Water Permit Application No. 2611-2, Robbie Huddleston

Petitions have been filed in support and opposition to issuance of Water Permit Application No. 2611-2 filed by Robbie Huddleston. The petitions were filed in response to the Notice of Application to appropriate water published in the Bennett County Booster II printed in Martin SD. This notice schedules a hearing before the Water Management Board to consider this application.

As specified in the publication notice, Application No. 2611-2 proposes to impound 45.20 acre-feet of water from Pass Creek by reconstructing a dam located in the N 1/2 NE 1/4 Section 14 with water impounded in the NE 1/4 Section 14; all in T38N-R35W. This application requests impoundment of sufficient water to maintain water to the outlet elevation of 2,900.00 feet mean sea level. The water is for fish and wildlife propagation and livestock water purposes.

The Water Management Board will conduct a hearing to consider Application No. 2611-2 at 3:00 PM (Central Daylight Time), on May 9, 2007, in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. Pursuant to SDCL 46-2-9, 46-2-11, and 46-2A-23, the Board has legal authority and jurisdiction to conduct this hearing. The hearing time is an estimate and may be delayed due to prior agenda items. Notice will be provided to all parties of record of any change in the hearing time or date.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2611-2 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the evidence presented at the public hearing.

The May 9, 2007, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any party who timely filed a petition opposing the application. The request for an automatic delay must be filed by April 30, 2007.

This hearing may be an adversarial proceeding. Any party of record and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Enclosed is a copy of the report, recommendation and petition in the matter of Water Permit Application No. 2611-2. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. The enclosed material is the same information being sent to the Board members in advance of the hearing.

Notice is further given to individual with disabilities that this hearing is being held in a physically accessible facility. Please notify Eric Gronlund at (605) 773-3352 by April 30, 2007, if you have any questions about the hearing process or have special needs for which the department will make arrangements.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-23; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

c: Diane Best, Assistant Attorney General

enclosures

NOTE: Since this matter does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case need not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by April 30, 2007.

Parties of Record

Water Permit Application No. 2611-2, Robbie Huddleston

Applicant

Robbie Huddleston
23055 284th Street
Martin SD 57551

Petitioners

Scott and Sandy Huber
Box 188
Martin SD 57551

Vera Scharman
23475 284th Street
Martin SD 57551

Robert and Delora Huddleston
23034 284th Street
Martin SD 57551

Rocky Huddleston
23070 284th Street
Martin SD 57551

Keith and Bee Huddleston
28258 237th Avenue
Martin SD 57551

Wayne Bond
28623 234th Avenue
Tuthill SD 57574

Leo Goss
23420 284th Street
Martin SD 57551

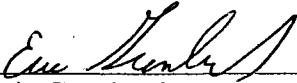
Carl Allard
28459 233rd Avenue
Martin SD 57551

CERTIFICATION

I hereby certify that on April 17, 2007, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated April 17, 2007, regarding scheduling of hearing for Water Right Permit Application No. 2611-2, Robbie Huddleston, addressed as stated on the Parties of Record for Water Permit Application No. 2611-2, Robbie Huddleston

A copy of the above described Notice was sent Inter-office to:

Diane Best, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



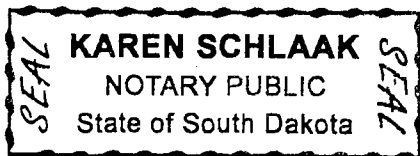
Eric Gronlund
Natural Resources Engineer
Water Right Program

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 17th day of April, 2007.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



RECEIVED

APR 26 2007

WATER RIGHTS
PROGRAM

4/20/2007

RECEIVED

APR 26 2007

WATER RIGHTS
PROGRAM

Robbie Huddleston
23055 284th ST
Martin, SD 57551

Dear Robbie,

We would like to withdraw our opposition to your proposed dam site. The mutual agreement we reached to manage both dams in a way that will benefit the Scharman Dam and the Huddleston Dam project will work well for all the parties involved. Thank you for your cooperation in working out our concerns.

Vera Scharman 4-20-07
Vera Scharman Date
23475 284th St.
Martin, SD 57551

Sandy Huber 4-20-07
Sandy Huber Date
Box 188
Martin, SD 57551

Scott Huber 4/20/07
Scott Huber Date
Box 188
Martin, SD 57551

CC: Water Rights Program



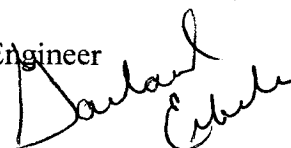
**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

April 30, 2007

NOTICE

TO: Robbie Huddleston
23055 284th Street
Martin SD 57551
And Parties of Record (see attached list)

FROM: Garland Erbele, Chief Engineer
Water Rights Program 

SUBJECT: Withdrawal of Petition in Opposition to Water Permit Application No. 2611-2, Robbie Huddleston

The petition in opposition to Water Permit Application No. 2611-2 has been withdrawn. The water permit will be issued as per the Chief Engineer's recommendation. The Water Management Board hearing set for May 9th is cancelled.

If you have any questions, please contact Eric Gronlund at (605) 773-3352.

c: Diane Best, Assistant Attorney General

Parties of Record

Water Permit Application No. 2611-2, Robbie Huddleston

Applicant

Robbie Huddleston
23055 284th Street
Martin SD 57551

Petitioners

Scott and Sandy Huber
Box 188
Martin SD 57551

Vera Scharman
23475 284th Street
Martin SD 57551

Robert and Delora Huddleston
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28258 237th Avenue
Martin SD 57551

Wayne Bond
28623 234th Avenue
Tuthill SD 57574

Leo Goss
23420 284th Street
Martin SD 57551

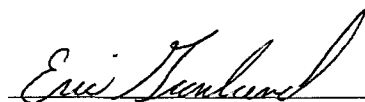
Carl Allard
28459 233rd Avenue
Martin SD 57551

CERTIFICATION

I hereby certify that on April 30, 2007, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated April 30, 2007, regarding withdrawal of opposition to Water Right Permit Application No. 2611-2, Robbie Huddleston, addressed as stated on the Parties of Record for Water Permit Application No. 2611-2, Robbie Huddleston

A copy of the above described Notice was sent Inter-office to:

Diane Best, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



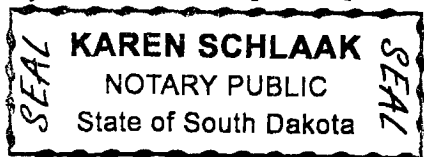
Eric Gronlund
Natural Resources Engineer
Water Right Program

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 30th day of April, 2007.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

MAY 09 2007

ROBBIE HUDDLESTON
23055 284TH ST
MARTIN SD 57551

Dear Mr. Huddleston:

Enclosed is Water Permit No. 2611-2 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

Permit No. 2611-2
White River - Water District

Other permit/license(s) associated with project: none

Contact Person & Address: Robbie Huddleston, 23055 284th Street, Martin SD 57551

Report Of Examination Of Works

On, September 21, 2010, I made a thorough examination of the water use system constructed by Robbie Huddleston of 23055 284th Street, Martin SD 57551 holder of Permit No. 2611-2, bearing the priority of February 27, 2007 authorizing the storage of 45.2 acre-feet of the waters on Pass Creek for fish and wildlife propagation and livestock watering purposes, in Bennett County.

The system is in the following condition good. The point of diversion is located in the N ½ NE ¼ Section 14, T38N, R35W with the primary outlet structure along the dam face at longitude of -100.4203 and a latitude of 43.2723 (285 feet south and 1,475 west of the NE corner Section 14, T38N, R35W). The works are capable of storing 45.2 acre-feet of water which is to be used for fish and wildlife propagation and livestock watering. Water has been put to beneficial use to the maximum extent and should be licensed as follows:

An approximate 680 foot dam with a top of dam height of 12 feet capable across Pass Creek. A sheet pile weir with a stop log structure to allow for low flow or drawdown of the water. The permanent storage at the primary outlet is approximately 45.2 acre-feet of water.

Review of Permit Qualifications And Regulations:

- 1) Special qualifications to permit being abided by yes
- 2) All structures, wells and lands on map yes
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period not applicable
- 4) Exceptions to compliance are: none

Dam Information:

- | | |
|---|---|
| 1) Height to crest <u>12</u> feet | 2) Height to primary spillway or outlet <u>6</u> feet |
| 3) Height to secondary spillway approx. <u>9</u> ft | 4) Crest width <u>12</u> feet |
| 5) Crest length <u>680</u> feet | 6) Spillway length <u>approx. 400</u> feet |
| 7) Spillway width <u>100</u> feet | 8) Approx. storage <u>45.2</u> ac-ft |
| 9) Outlet tubes: | |
| a) diameter <u>not applicable</u> inches | b) type <u>sheet pile</u> |
| c) valved <u>stop log structure</u> | d) valve type |

COMMENTS: Low level drawdown structure in place. Mr. Huddleston indicated that the dam has filled and spilled every years since constructed.

Eric Gronlund

Eric Gronlund PE
Natural Resources Engineer
DENR, Water Rights Program

October 15 2016

Date



Sheet pile weir primary outlet of Huddleston dam – Permit No. 2611-2. Picture taken looking south.



Picture of stop log structure in sheet pile weir of Huddleston dam



Picture looking in a westerly direction of the grade for Huddleston dam on Pass Creek

Water Permit No. 2611-2, Robbie Huddleston



Dam located in the N 1/2 NE 1/4 Section 14, T38N, R35W
Water impounded in portion of NE 1/4 Section 14, T38N, R35W
Primary outlet GPS coordinates
Latitude 43.2723
Longitude -101.4203



Eric Gronlund
Eric Gronlund
Water Rights Program, DENR
Licensing Investigation - Sept. 21, 2010

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 2611-2

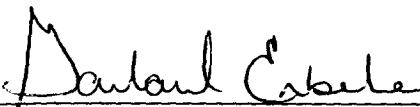
(1) Robbie Huddleston, 23055 284th St, Martin SD 57551 made Application No. 2611-2, February 27, 2007 for a water permit to impound 45.2 acre feet of water from Pass Creek, Bennett County, South Dakota for fish and wildlife propagation and livestock watering purposes. Permit No. 2611-2, with a priority date of February 27, 2007 was approved April 16, 2007 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 16, 2012 and for the application to beneficial use of water on or before April 16, 2016.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder and/or owner of Water Right No. 2611-2 is issued a license, bearing a priority date of February 27, 2007, to impound 45.2 acre feet of water for fish and wildlife propagation and livestock watering purposes.

The location of the storage dam (spillway) is 285 feet south and 1,475 feet west of the northeast corner of Section 14-T38N-R35W (N ½ NE ¼).

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 2611-2, including the following now applicable qualifications:

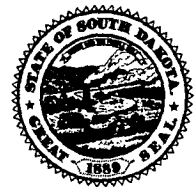
- Water Permit No. 2611-2 authorizes a dam with a storage capacity of 45.2 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation of 2,900 feet mean sea level.
- Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.



Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

SEP 01 2011

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/dennr

SEP 01 2011

2611-2

Robbie Huddleston
23055 284th St
Martin SD 5751

Dear Mr. Huddleston:

Enclosed is Water License No. 2611-2. This is the final water right document completing your process of obtaining a Water Right. Also, included with your license is a map prepared by the staff engineer who conducted the investigation.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

DUCKS UNLIMITED

PROJECT

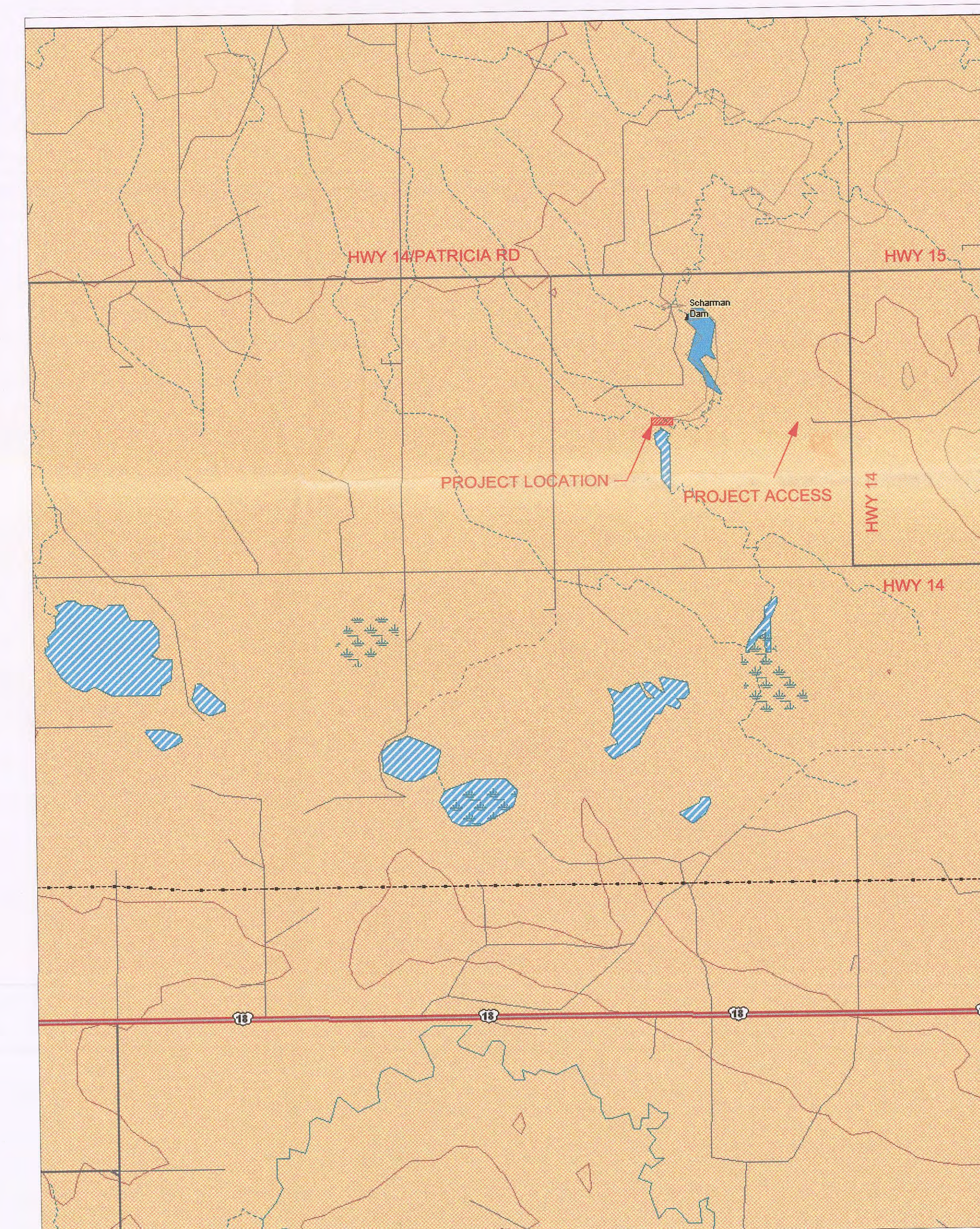
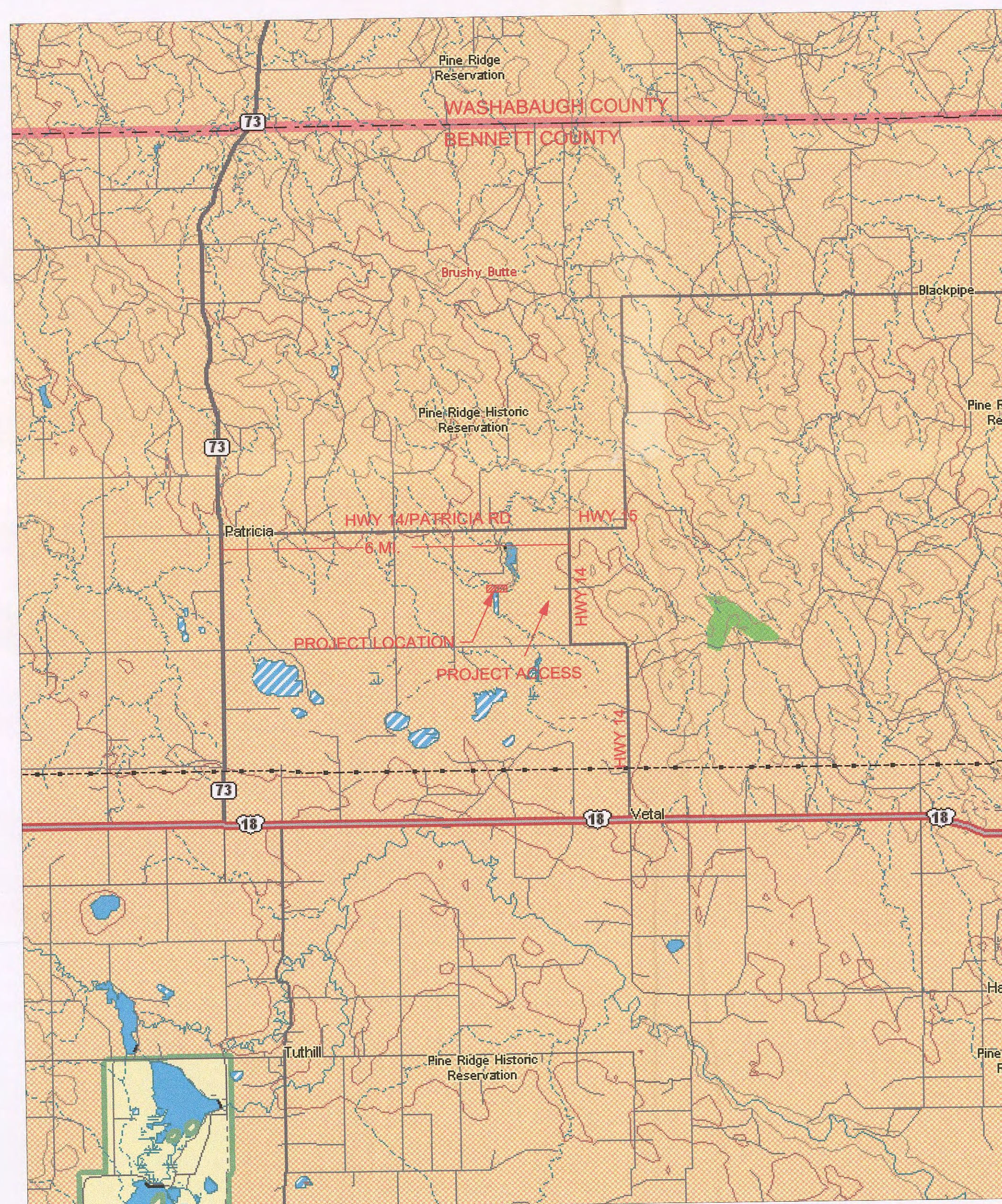
A map of North Dakota showing its county boundaries and names. The state is bordered by Montana to the west, Wyoming to the southwest, Nebraska to the south, and South Dakota to the southeast. Minnesota is partially visible to the east. The counties are labeled as follows:
North to South:
HARRIS, FOSBERG, CORSON, DAWWELL, HOPKINSON, BROWN, MARSHALL, KESWICK
Second row: BUTTE, PIERCE, SIOUX, VALLEY, EMMONS, DAY, GRANT
Third row: ZIEGLER, ARMSTRONG, POTTER, FAULK, SPINK, CLARK, COSSIDON, BEVEL
Fourth row: LAURENS, STANLEY, SULLY, HYDE, HAND, DEARLE, KINGSBURY, BROCKTON
Fifth row: FENDRICH, HASKIN, HIGGS, BUFFALO, JESSUP, HENNING, FOSTER, LAKE, HOOD
Sixth row: CUSTER, JOHNS, LITWIN, BURLI, AUBURN, DAVIDSON, WARD, HAZEN, HORNBAUGH
Seventh row: FALL RIVER, SHANNON, VASHBAUGH, BELLEVILLE, TOLP, BEAULAC, HUTCHINSON, TURNER, LINCOLN
Eighth row: BONNETT, TODD, GREGORY, CHARLES LAKE, BEN FORD, YANKTON, CLAY, UNDERWOOD
The county of BONNETT is circled in red, and a red arrow points from it down towards the text "PROJECT LOCATION".
At the bottom of the map, the text "SOUTH DAKOTA" is written in large blue letters.
On the left side, oriented vertically, are the labels "MONTANA" and "WYOMING".
On the right side, oriented vertically, is the label "MINNESOTA".
Below the map, centered, is the word "NEBRASKA".
At the very bottom, centered, is the text "PROJECT LOCATION" in red, with a red arrow pointing up to the circled Bonnett county.

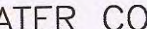
101	GENERAL CONDITIONS
102	SUPPLEMENTAL CONDITIONS
201	MOBILIZATION
202	SITE PREPARATION
203	EXCAVATION
204	EMBANKMENT CONSTRUCTION
205	WATER
209	ROCK RIPRAP PLACEMENT
214	SHEET PILE MATERIAL
215	SHEET PILE INSTALLATION
216	STRUCTURAL STEEL
510	GABION MATERIAL AND PLACEMENT

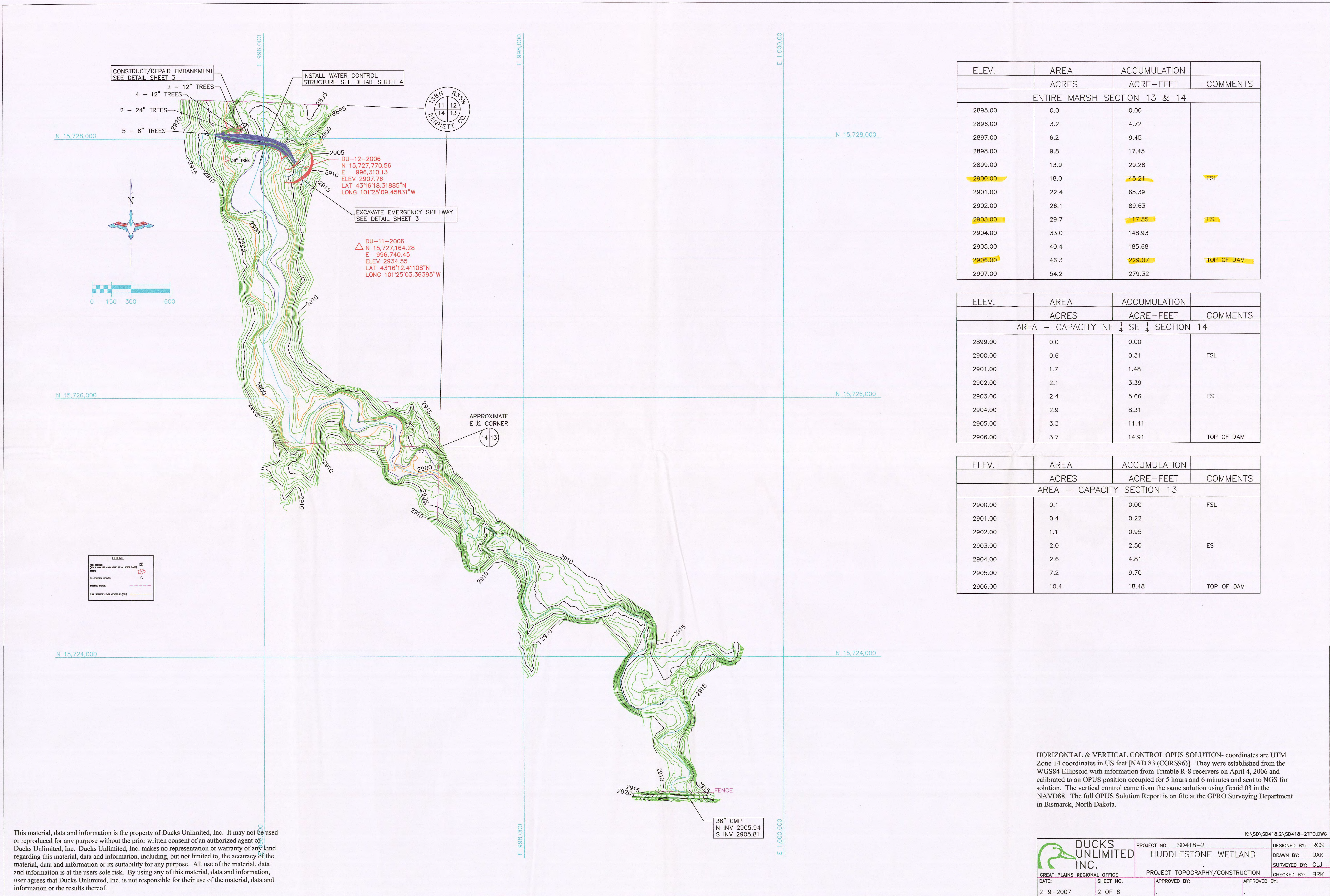
1 PROJECT LOCATION MAPS
2 PROJECT TOPOGRAPHY, CONSTRUCTION PLAN
3 EMBANKMENT PLAN & PROFILE
4 WATER CONTROL STRUCTURE PLAN AND PROFILE
5 WATER CONTROL STRUCTURE DETAILS
6 SOIL INFORMATION (WHEN AVAILABLE)

MOBILIZATION	1	L.S.
SITE PREPARATION	683	C.Y.-P
EXCAVATION		
EXISTING DAM EXCAVATION	1740	C.Y.-INC.*
EMERGENCY SPILLWAY EXCAVATION	3591	C.Y.-INC.*
EMBANKMENT CONSTRUCTION	7290	C.Y.-S**
WATER	150	M-GAL.***
RIPRAP PLACEMENT (CLASS II)	76	C.Y.-P
SHEET PILE MATERIAL	1746	S.F.-P
SHEET PILE INSTALLATION	1746	S.F.-P
STRUCTURAL STEEL	1	L.S.
GABION MATTRESSES	45	C.Y.-P

THE UNIT (CY-P) CUBIC YARDS-PLAN MEANS PAYMENT WILL BE BASED ON THE PLAN QUANTITY LISTED ABOVE.



 DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE DATE: 02/08/2007	PROJECT NO. SD-418-2 HUDDLESTON DAM WATER CONTROL STRUCTURE LOCATION & VICINITY MAPS	DESIGNED BY: RCR DRAWN BY: DRO SURVEYED BY: GL CHECKED BY: BR
	SHEET NO. 1 OF 6 APPROVED BY: 	APPROVED BY:



ELEV.	AREA	ACCUMULATION	
	ACRES	ACRE-FOOT	COMMENTS
ENTIRE MARSH SECTION 13 & 14			
2895.00	0.0	0.00	
2896.00	3.2	4.72	
2897.00	6.2	9.45	
2898.00	9.8	17.45	
2899.00	13.9	29.28	
2900.00	18.0	45.21	FSL
2901.00	22.4	65.39	
2902.00	26.1	89.63	
2903.00	29.7	117.55	ES
2904.00	33.0	148.93	
2905.00	40.4	185.68	
2906.00	46.3	229.07	TOP OF DAM
2907.00	54.2	279.32	

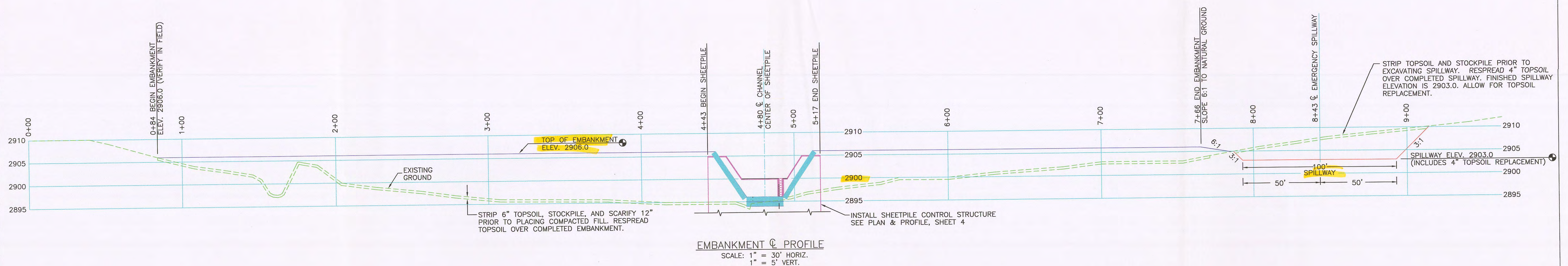
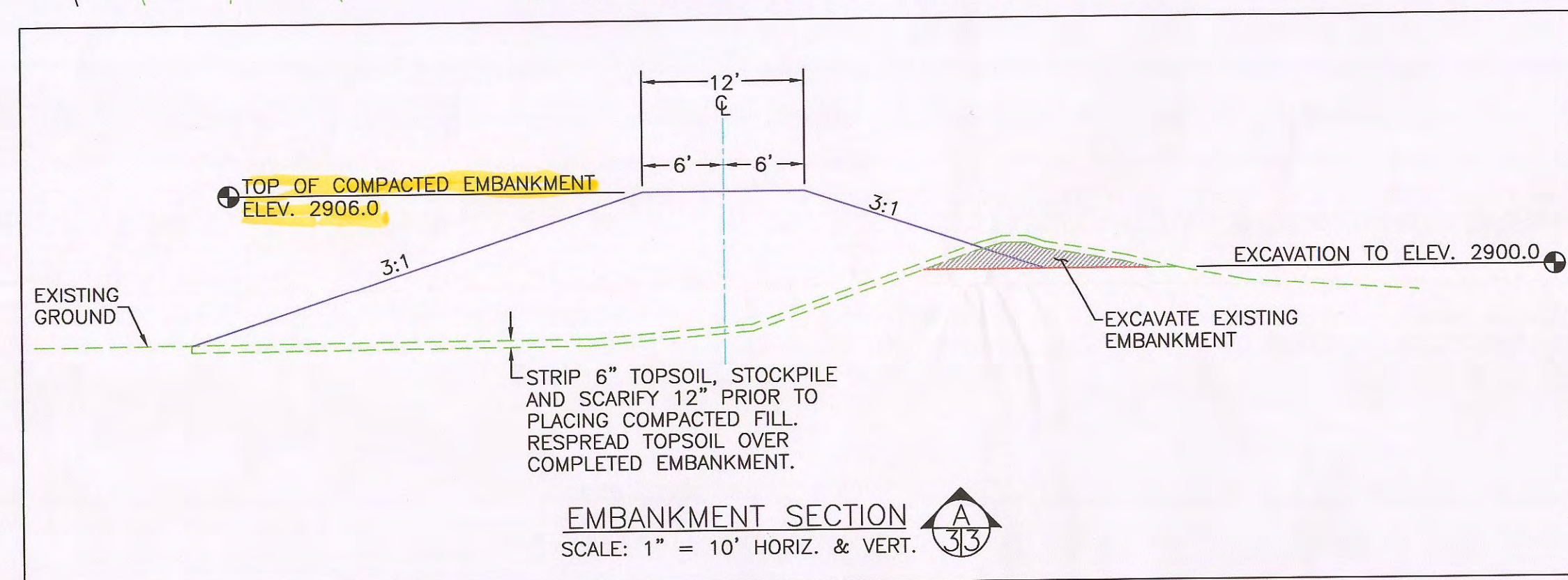
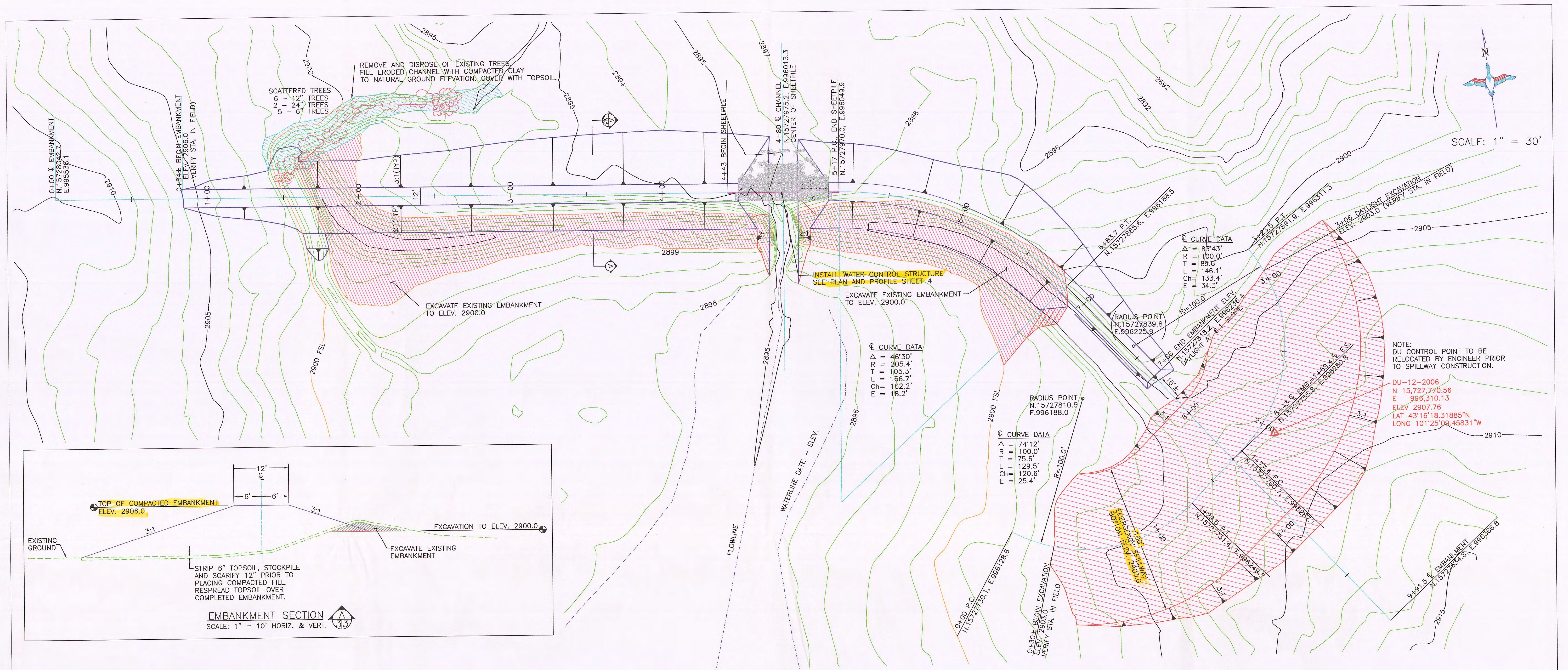
ELEV.	AREA	ACCUMULATION	
	ACRES	ACRE-FOOT	COMMENTS
AREA - CAPACITY NE 1/4 SE 1/4 SECTION 14			
2899.00	0.0	0.00	
2900.00	0.6	0.31	FSL
2901.00	1.7	1.48	
2902.00	2.1	3.39	
2903.00	2.4	5.66	ES
2904.00	2.9	8.31	
2905.00	3.3	11.41	
2906.00	3.7	14.91	TOP OF DAM

ELEV.	AREA	ACCUMULATION	
	ACRES	ACRE-FOOT	COMMENTS
AREA - CAPACITY SECTION 13			
2900.00	0.1	0.00	FSL
2901.00	0.4	0.22	
2902.00	1.1	0.95	
2903.00	2.0	2.50	ES
2904.00	2.6	4.81	
2905.00	7.2	9.70	
2906.00	10.4	18.48	TOP OF DAM

HORIZONTAL & VERTICAL CONTROL OPUS SOLUTION- coordinates are UTM Zone 14 coordinates in US feet [NAD 83 (CORS96)]. They were established from the WGS84 Ellipsoid with information from Trimble R-8 receivers on April 4, 2006 and calibrated to an OPUS position occupied for 5 hours and 6 minutes and sent to NGS for solution. The vertical control came from the same solution using Geoid 03 in the NAVD83. The full OPUS Solution Report is on file at the GPRO Surveying Department in Bismarck, North Dakota.

		PROJECT NO. SD418-2		DESIGNED BY: RCS	
GREAT PLAINS REGIONAL OFFICE		HUDDLESTONE WETLAND		DRAWN BY: DAK	
DATE: 2-9-2007		SHEET NO. 2 OF 6		SURVEYED BY: GLJ	
		APPROVED BY:		CHECKED BY: BRK	

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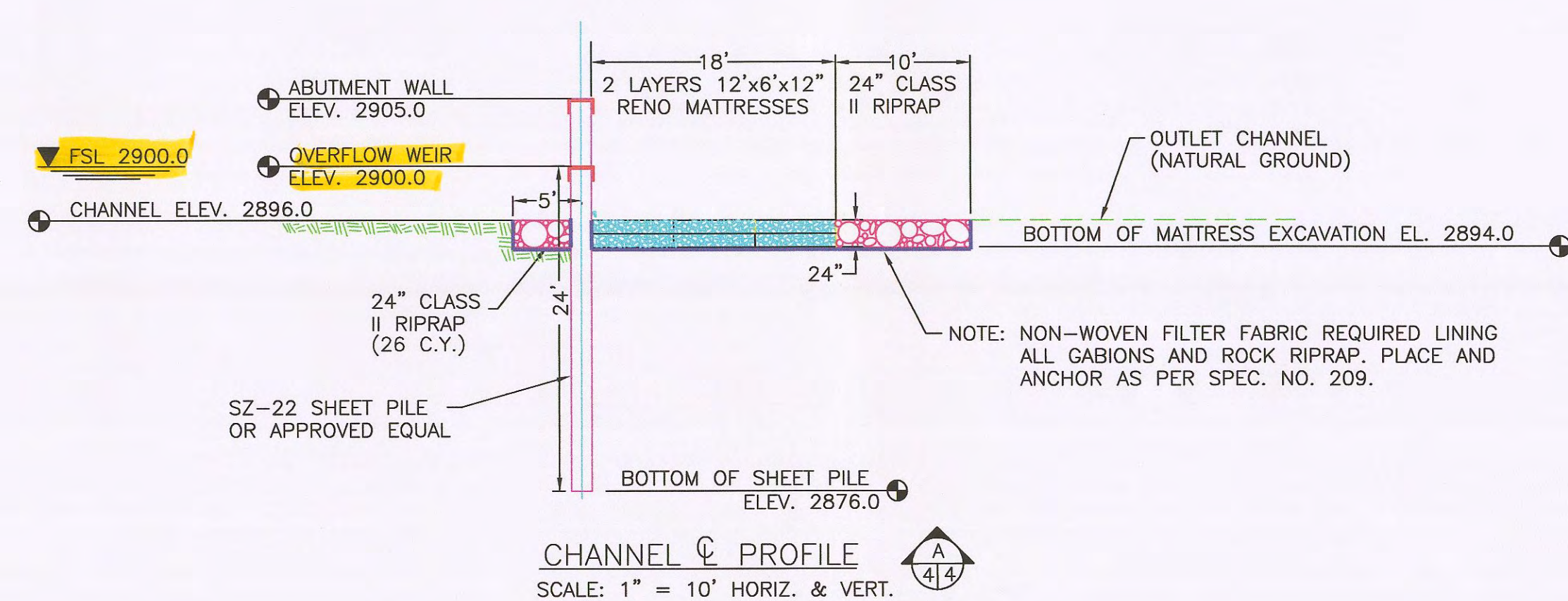
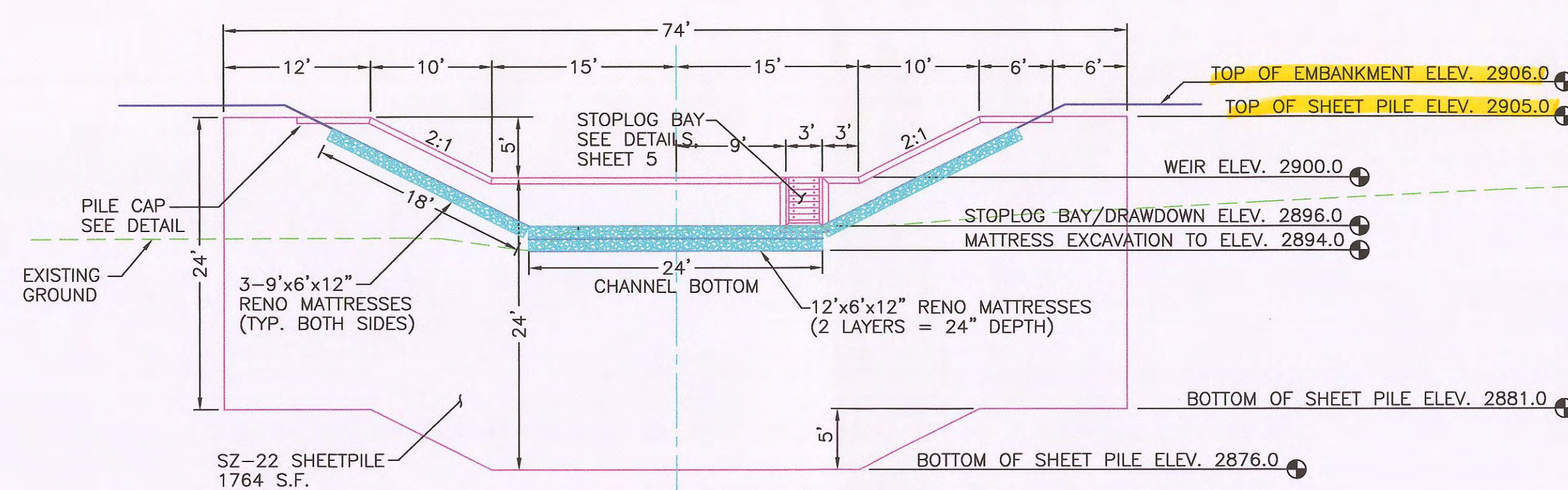
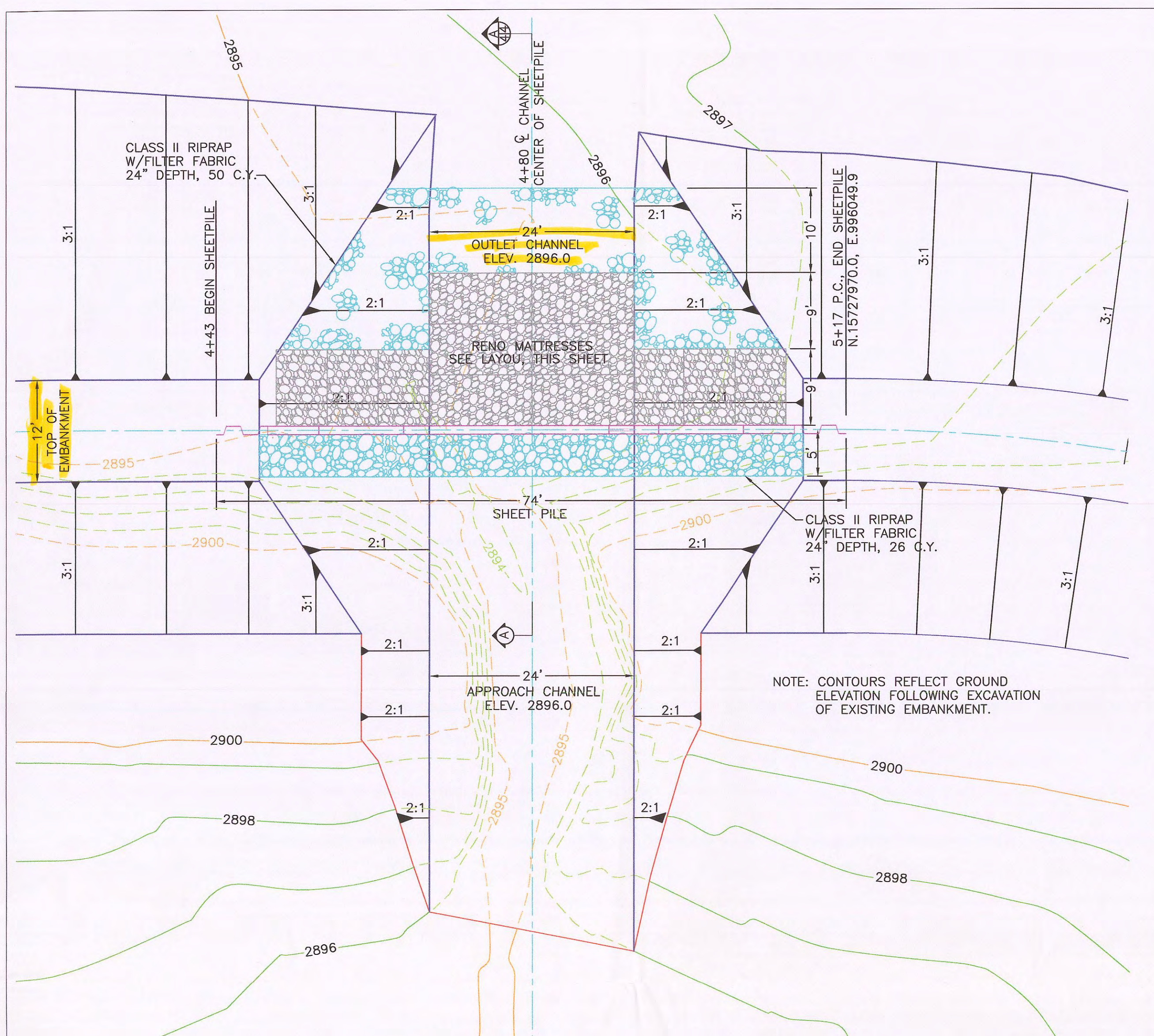


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DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE
DATE: 2-09-2007
SHEET NO. 3 OF 5

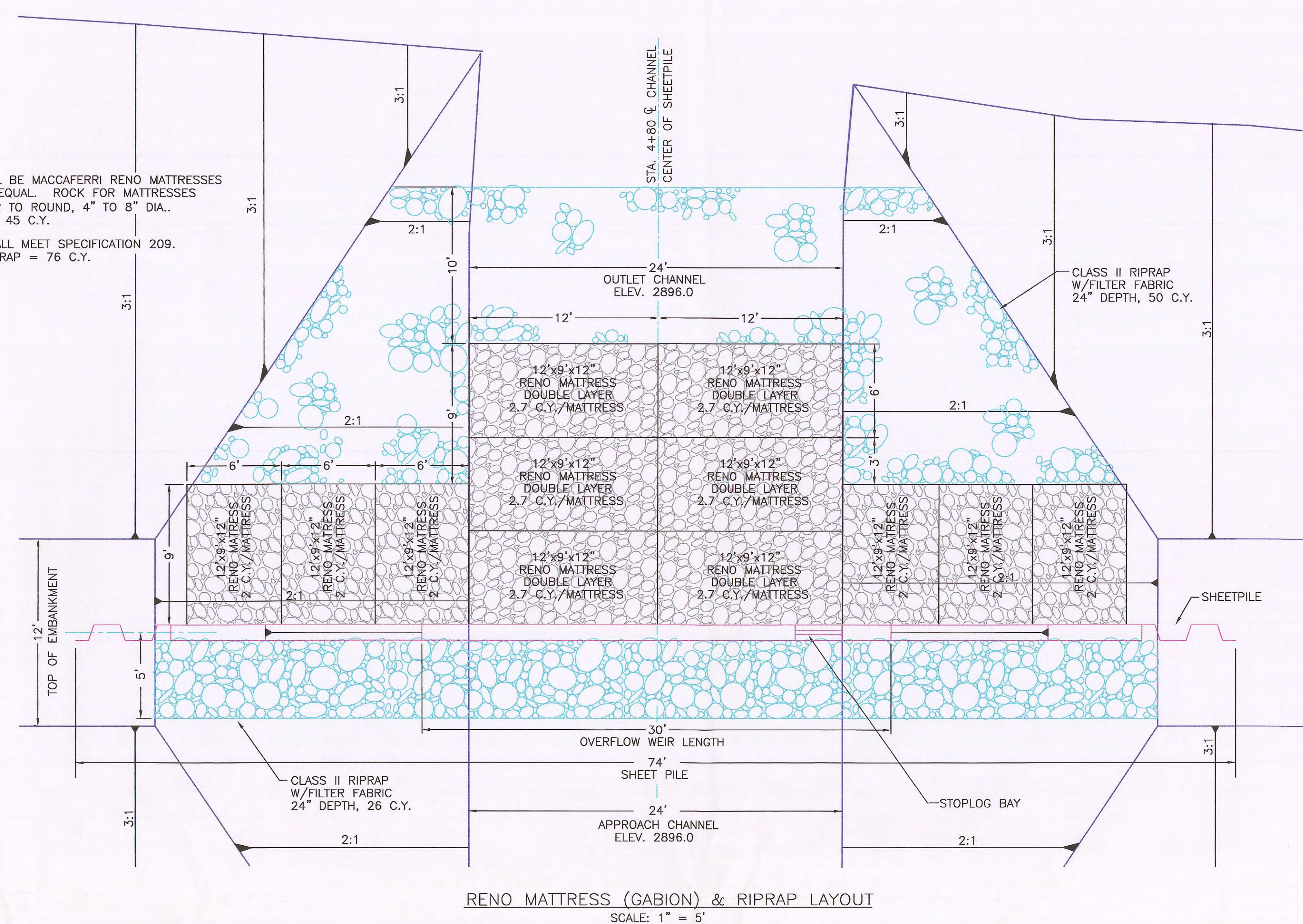
PROJECT NO. SD-0418-002
HUDDLESTON
EMBANKMENT PLAN & PROFILE
DESIGNED BY: RCS
DRAWN BY: TSP
SURVEYED BY: GLW
CHECKED BY: BRK
APPROVED BY: [Signature]
APPROVED BY: [Signature]

K:\SD\SD418-2_Huddleston\Sheet3.dwg

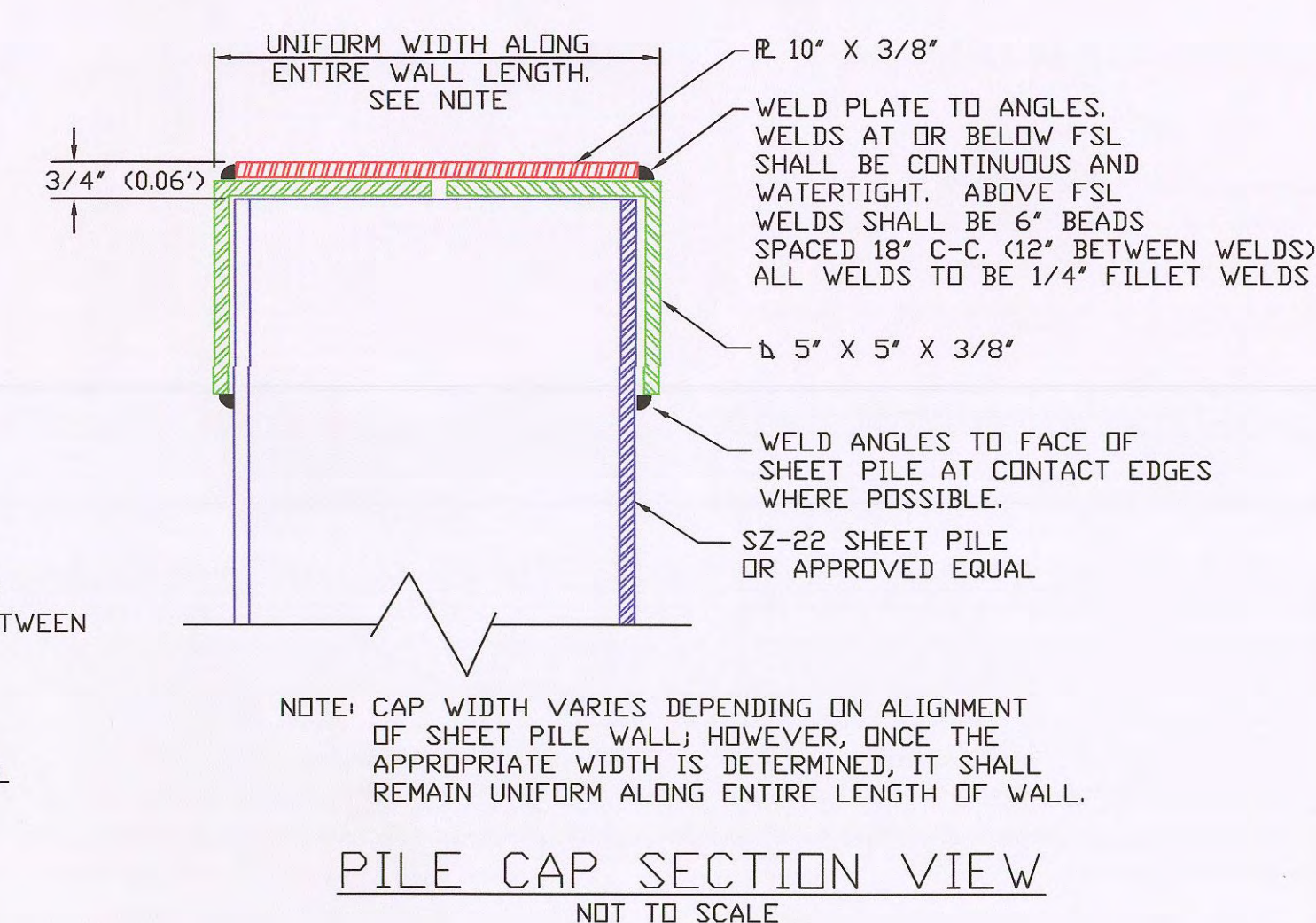
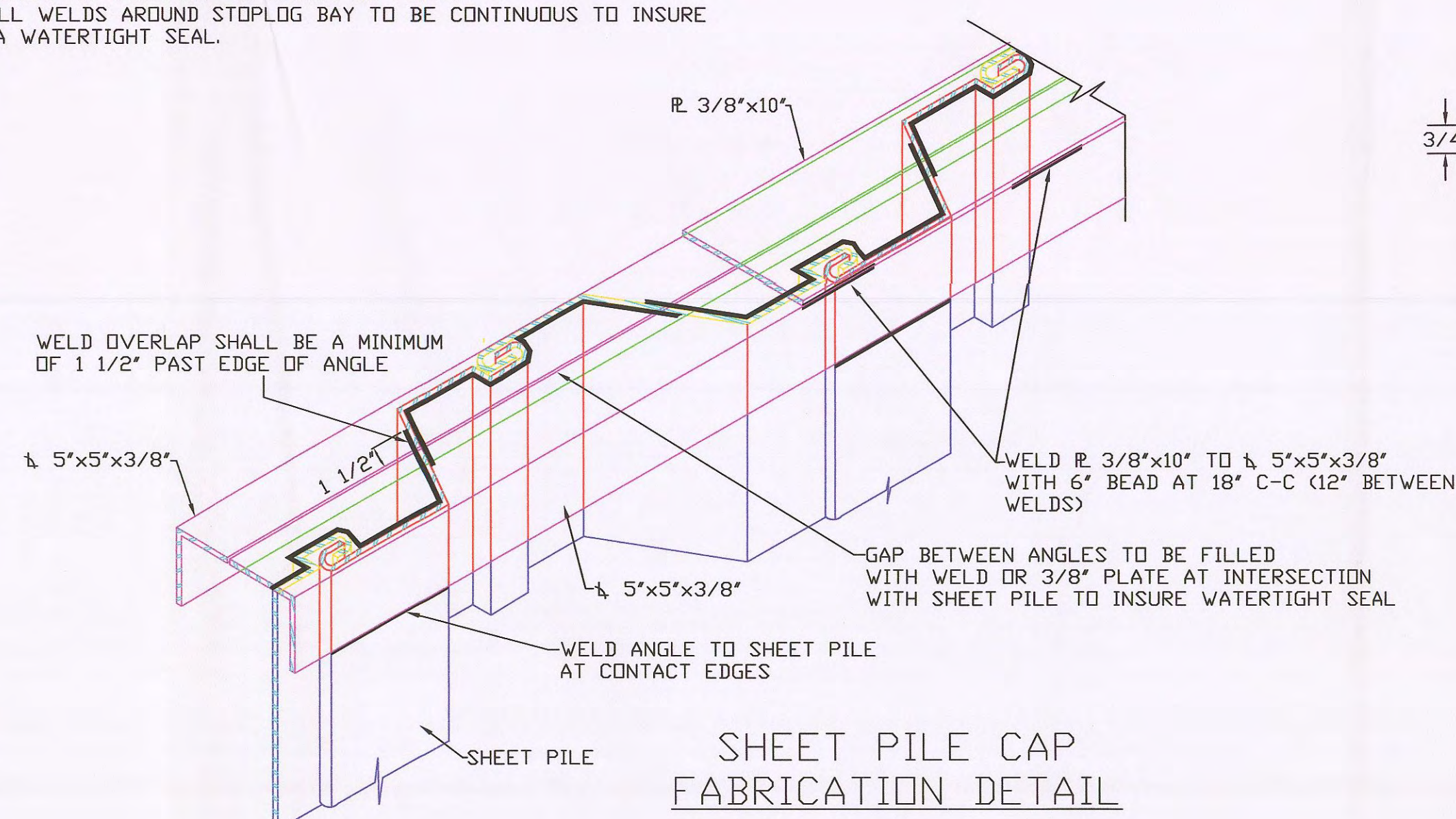


NOTE: ROCK CAGES SHALL BE MACCAFERRI RENO MATTRESSES
OR ENGINEER APPROVED EQUAL. ROCK FOR MATTRESSES
SHALL BE HARD, ANGULAR TO ROUND, 4" TO 8" DIA..
TOTAL MATTRESS ROCK = 45 C.Y.

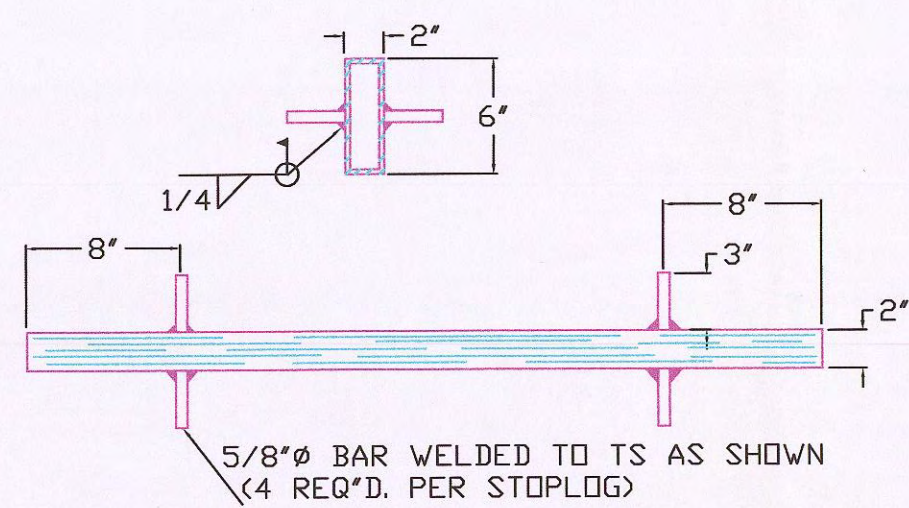
D.U. CLASS II RIPRAP SHALL MEET SPECIFICATION 209.
TOTAL CLASS II ROCK RIPRAP = 76 C.Y.



- NOTES:
1. ALL WELDS TO BE 1/4" FILLET WELDS
 2. ALL WELDS WILL BE SUBJECT TO LAMPING, ANY AREAS FAILING TO BE REVEALED BY THE METHOD OF PROJECT
 3. TOP OF SHEET PILE SHALL BE TRIMMED TO GRADES INDICATED ON PLANS TO REMOVE ANY DAMAGE CAUSED BY DRIVING. ANY TRIMMING OVER 3" SHALL BE CONSIDERED CUT-OFF AND WILL BE DEDUCTED FROM THE QOS OF "SHEET PILE INSTALLATION"
 4. ABOVE F.S.L. PILE CAP NEED NOT BE WATERTIGHT, WELDS SHALL CONSIST OF A 6" BEAD AT 18" C-C (12" BETWEEN WELDS).
 5. LENGTH OF PILE CAP AS SHOWN ON PLANS.
 6. ALL WELDS AROUND STOPLOG BAY TO BE CONTINUOUS TO INSURE A WATERTIGHT SEAL.

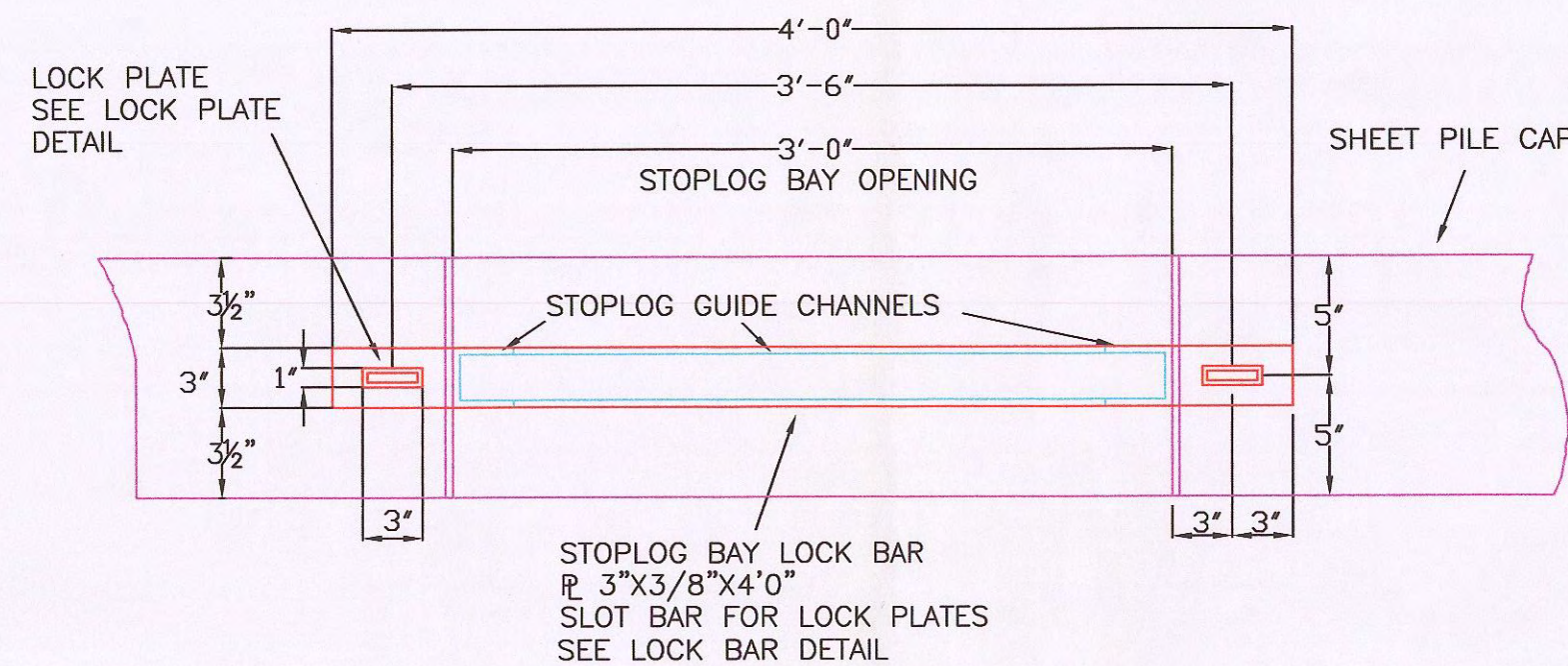


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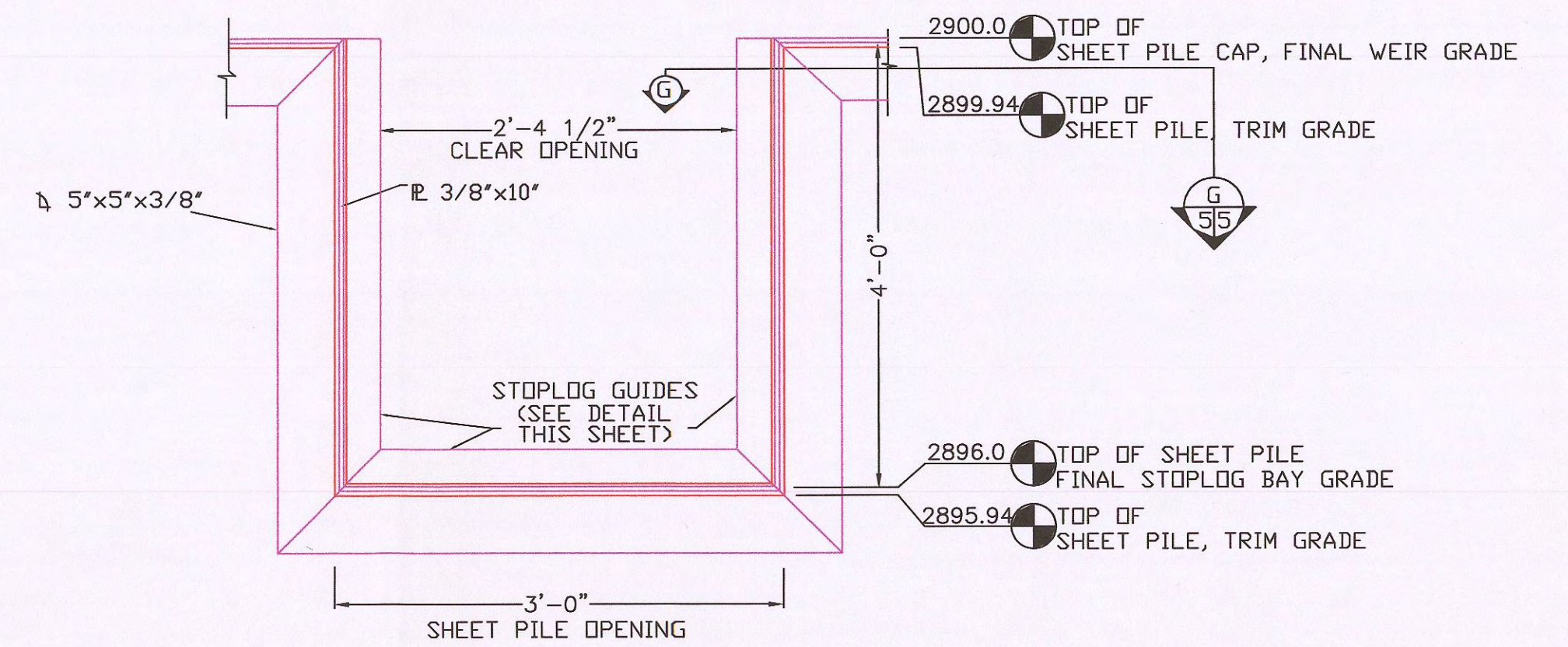


NOTE: STEEL STOPLOGS, EXCEPT BOTTOM ONE, FURNISHED BY DUCKS UNLIMITED. CONTRACTOR SHALL SUPPLY & WELD ON 5/8"Ø BARS & DELIVER LOGS TO PROJECT SITE.

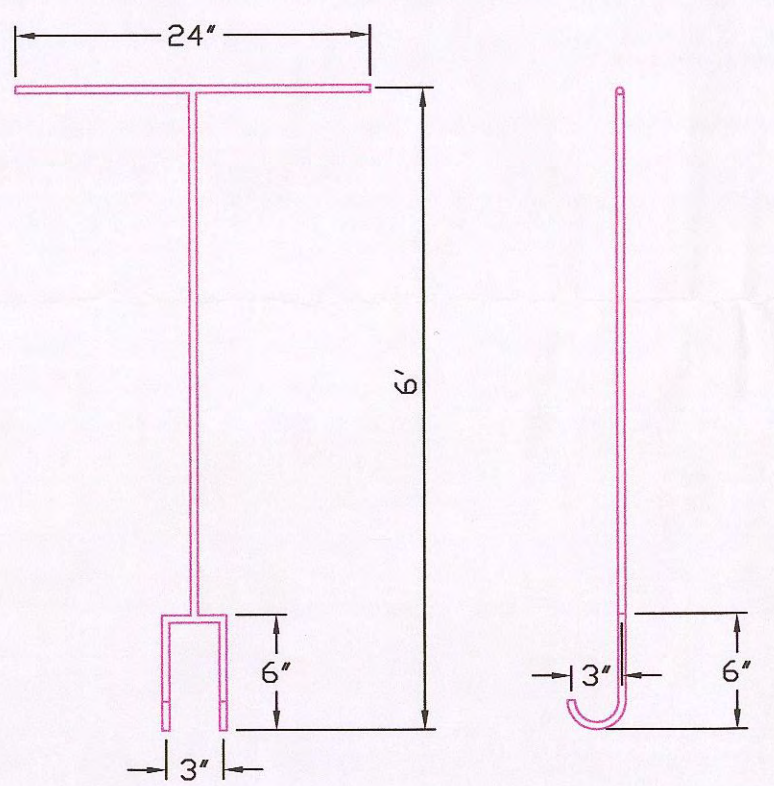
STEEL STOPLOG DETAIL
NOT TO SCALE



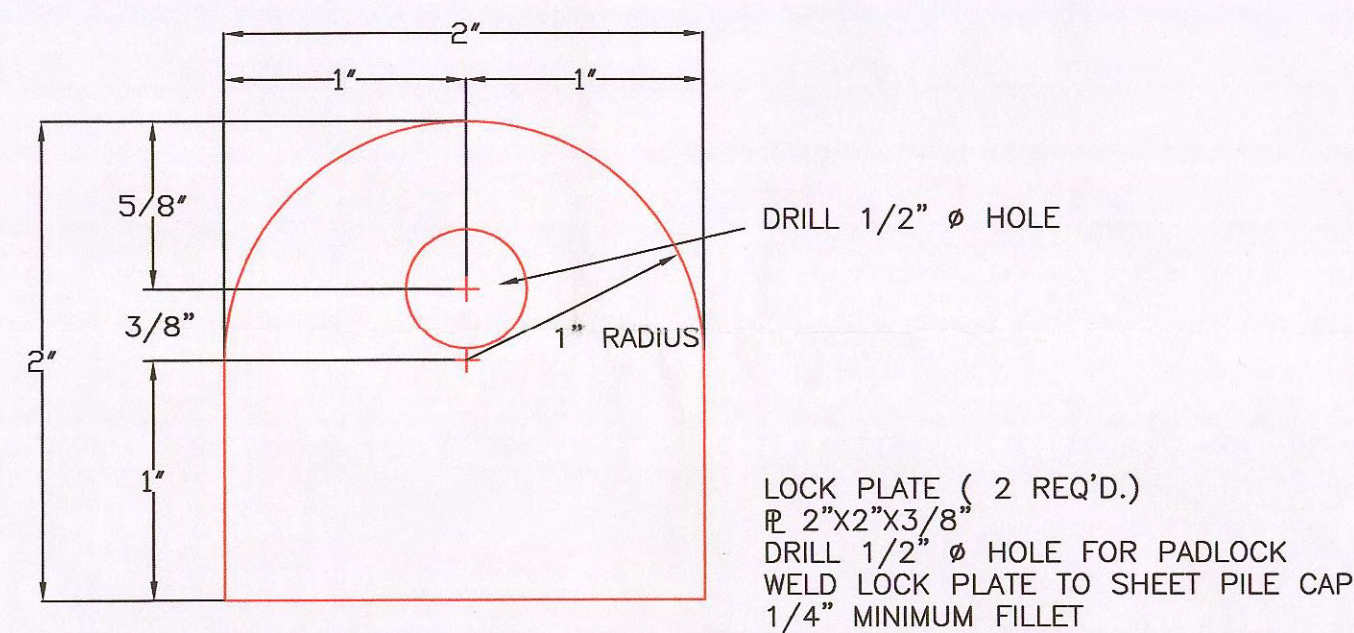
STOPLOG BAY DETAIL
NOT TO SCALE



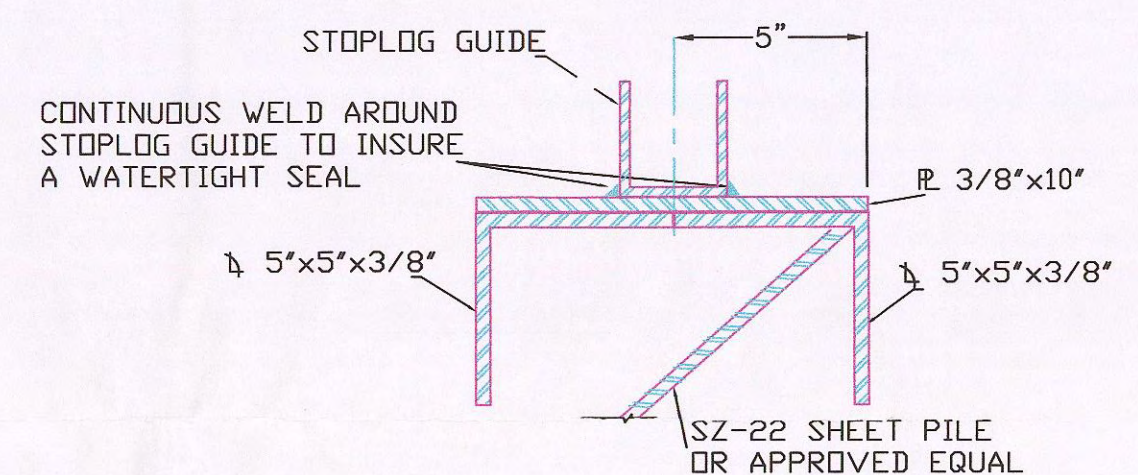
STOPLOG BAY DETAIL
NOT TO SCALE



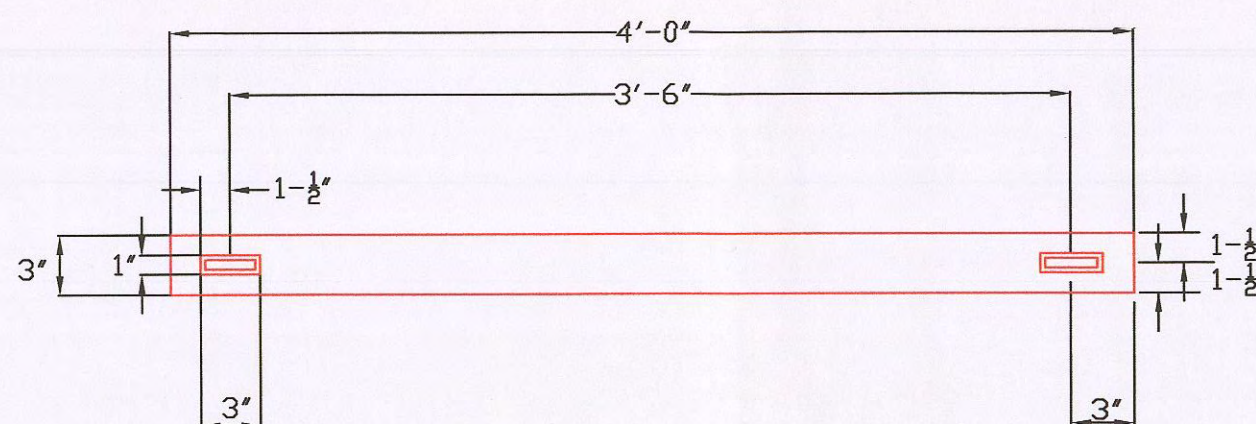
STOPLOG LIFTING HOOK DETAIL
NOT TO SCALE



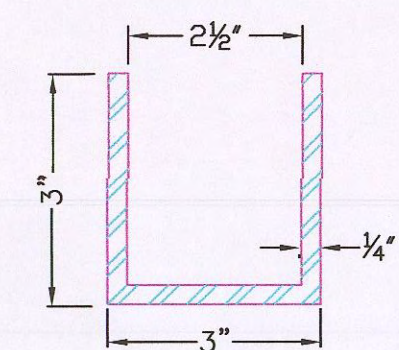
LOCK PLATE DETAIL
NOT TO SCALE



SECTION STOPLOG GUIDE DETAIL
NOT TO SCALE



LOCK BAR PLATE DETAIL
NOT TO SCALE



STOPLOG GUIDE DETAIL
NOT TO SCALE

NOTE: 3" x 6" x 1/4" TS MAY BE SPLIT FOR STOPLOG GUIDE CHANNELS.

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	PROJECT NO. SD-0418-002		DESIGNED BY: RCS	
	HUDDLESTON		DRAWN BY: TSP	
	WATER CONTROL STRUCTURE		SURVEYED BY: GLJ	
	DETAILS		CHECKED BY: BRK	
GREAT PLAINS REGIONAL OFFICE		APPROVED BY:		APPROVED BY:
DATE: 2-07-2007		SHEET NO. 5 OF 5		

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