

WATER PERMIT NO. 2757-2

Name of Applicant: Henry Hanson

Address: 21195 As Creek Rd, Philip SD 57567

Phone: 605 544-3200

Amount of Water Claimed: 40.5 acre-feet

Total Acres: NA

Source of Water Supply: dry draw runoff

Water to be used for: fish & wildlife propagation and livestock water

County: Haakon

Type of Waste Disposal System:

Location: approximately 30 miles northwest of Philip

PRIORITY

Date Received: 8-22-16

Application/License Fee: \$ 700

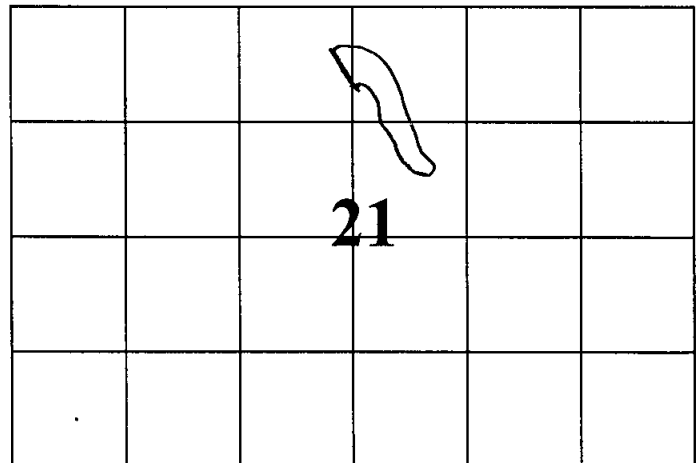
Corrected Application Received:

Period of Annual Use: Jan 1- Dec 31

Remarks:

Diversion Point: between the NE 1/4 NW 1/4 and
NW 1/4 NE 1/4 Sec 21-T5N-R19W

Water Impounded: NE 1/4 NW 1/4, W 1/2 NE 1/4
Sec 21-T5N-R19W



Depth of Well: NA

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 8-23-16

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

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AUG 22 2016

WATER RIGHTS
PROGRAM

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>2757-2</u> (office use only) Hydrologic Unit <u>10120112</u>
	Basin <u>Lower Cheyenne</u>
	Newspaper <u>Pioneer Review - Philip</u> <u>605-859-2516</u>
	<u>Rapid City Journal</u> <u>605-394-8300</u>

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

Check use(s) of water:

☐ Municipal	☐ Water Distribution System	☐ Recreational	☐ Institutional
☐ Rural Water System	☐ Commercial	☒ Fish & Wildlife	☐ Geothermal
☐ Domestic (over 18 gpm)	☐ Industrial	☒ Other Livestock	

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 to Appear on Water Permit Henry Hanson
Mailing Address 21195 Ash Creek Road Philip SD 57567
(Address) (City) (State) (Zip Code)
Phone 605-544-3200 Mobile None Email None
- Amount of water claimed _____ *CFS or _____ **GPM and 40.5 ***AF or _____ Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use)
- Source of water supply Dry Draw Runoff
- Location of point of diversion Dam located in the NW1/4NE1/4 Section 21-T5N-R19E County Haakon
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ No
If "Yes," where will water be used? _____
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Haakon
- Annual period during which water is to be used 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)
The project will repair a dam that does not have an original location notice filed. The repaired dam will create a 7.9 surface acre pond that will store 40.53 ac./ft. at the principal spillway. A fence to exclude livestock will be constructed around the created wetland. A water pipeline will be installed under the dam. The pipeline will supply water to a tank located 300' downstream from the dam which will serve livestock use. Engineering plans and specs prepared by the Natural Resources Conservation Service - Philip, SD are included with this application.

I, Henry Hanson Henry Hanson, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

SOUTH DAKOTA
WATER PERMIT NO. 2757-2

Date of first receipt of application August 22, 2016.

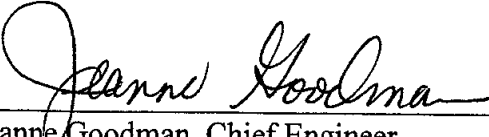
The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2757-2 to Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567 authorizing the construction of the storage dam and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 2757-2 authorizes impoundment 40.5 acre-feet of water from dry draw runoff by reconstructing a dam located between the NE 1/4 NW 1/4 and the NW 1/4 NE 1/4 Section 21 with water impounded in the NE 1/4 NW 1/4, W 1/2 NE 1/4 Section 21; all in T5N-R19E. This permit authorizes impoundment of sufficient water annually to maintain water to the outlet elevation.
2. The water appropriated shall be used for the purpose of fish and wildlife propagation and livestock water 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. 2757-2 is October 17, 2016.
5. The date from which applicant may claim right is August 22, 2016.
6. One-fifth of the construction is to be completed on or before April 17, 2019.
7. All construction is to be completed on or before October 17, 2021.
8. Water is to be put to beneficial use on or before October 17, 2025.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

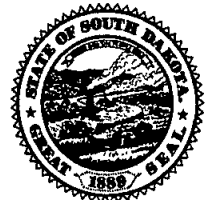
QUALIFICATIONS

1. Water Permit No. 2757-2 authorizes an impoundment with a storage capacity of 40.5 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

By: 
Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

OCT 28 2016
date



Supplemental Information

(type or print)

1. Well Information

(check one or both as applicable) ☐ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many ____ Have test holes been drilled ☐ Yes ☐ No Drilled by ____
(if yes, please provide copies of logs)

b) If existing wells, how many ____ Provide copy of log(s), if available. Drilled by ____

For either Existing or Proposed Wells:

c) Well Depth (required) ____ Depth to Top of Water Bearing Material ____ Depth to Water from Surface ____

d) Distance to nearest domestic well on applicant's property ____ 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:

U.S. Department of Agriculture
Natural Resources Conservation Service
PO Box 130
409 North Wray Ave.
Philip, SD 57567

b) Freeboard 5.0'

c) Crest Width 12.0'

Crest Length 478'

d) Height 21.5'

e) Primary Outlet Capacity 11.23 cfs

If pipe, diameter 12" SDR 26

f) Secondary Spillway Capacity 963.3 cfs

Spillway Width 40'

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

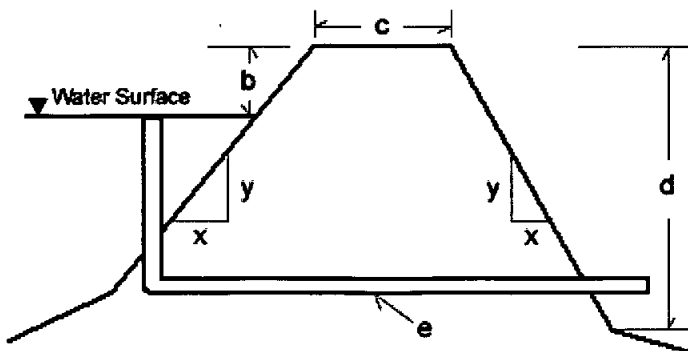
Upstream 3:1

Downstream 3:1

h) Surface Area of Impoundment 7.9 acres

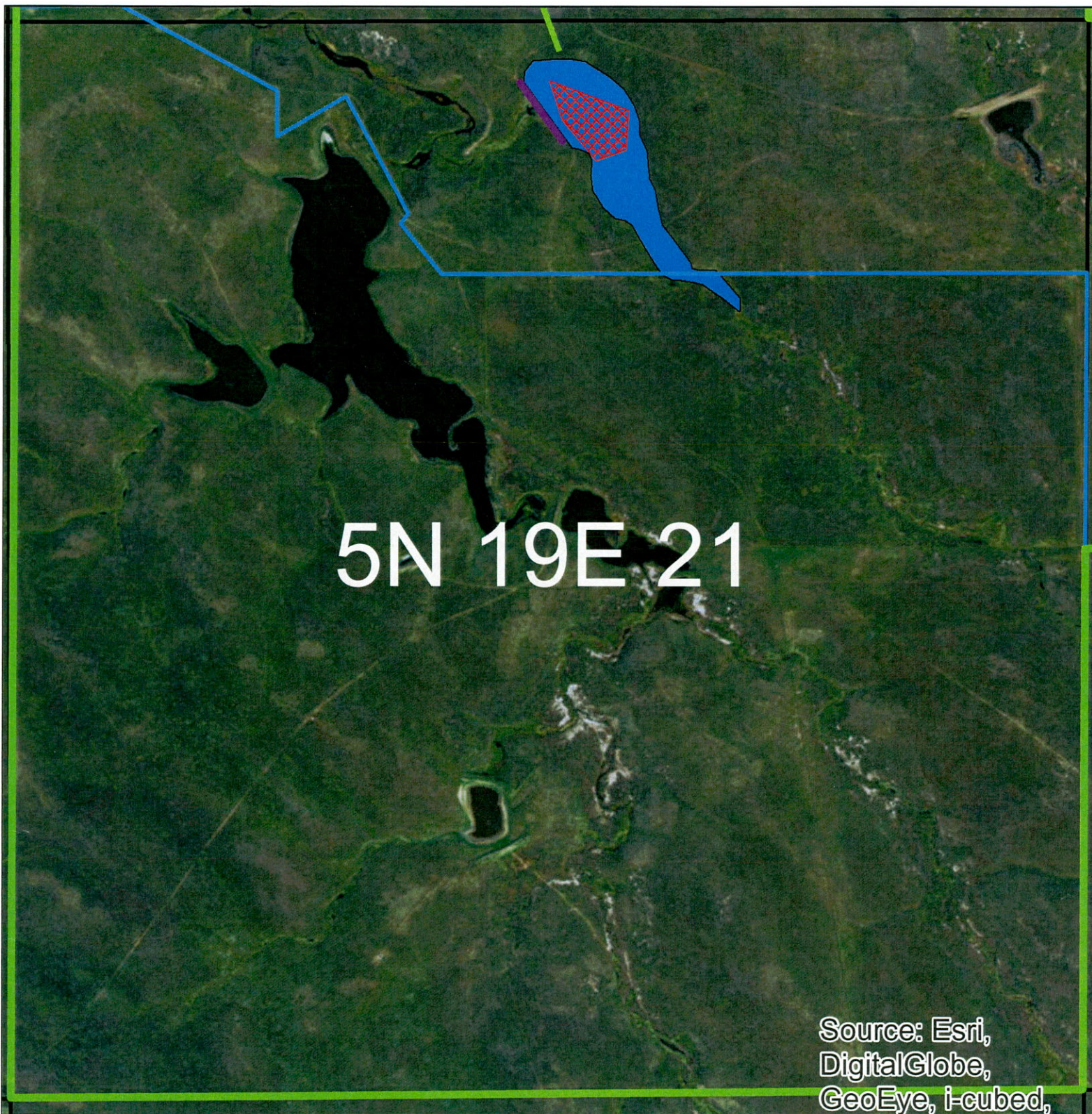
i) Storage 40.5 Acre Feet

j) Drainage Area Above Dam 369.0 Acres



Name: Henry Hanson
Project Type: Dam Repair

County: Haakon



Legend-Wetland Creation

- Project Boundary
- Wetland Created
- Embankment
- Spillway
- Borrow Site

Grazing Cell

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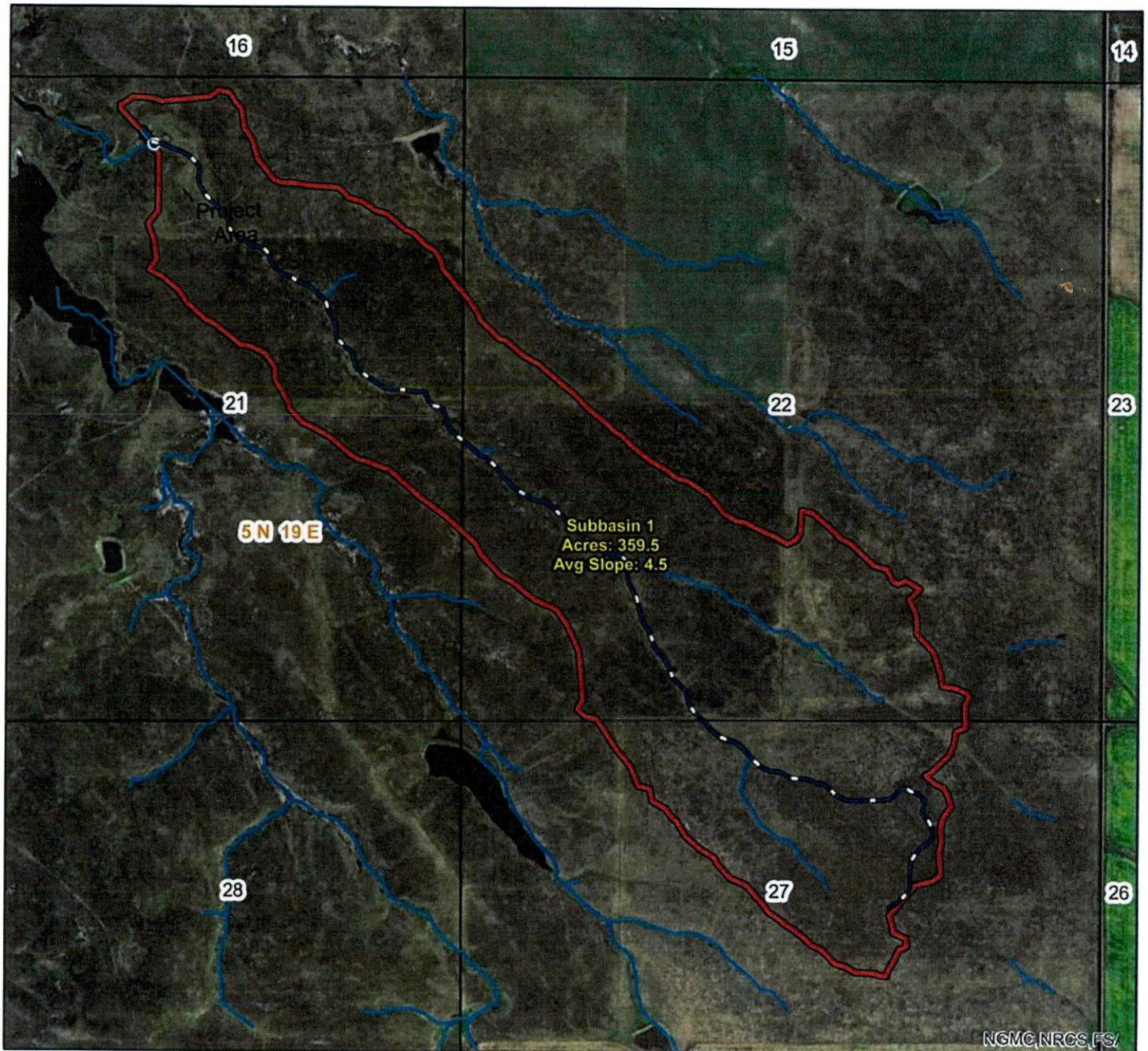
8 inches = 1 mile



Customer(s): HENRY HANSON

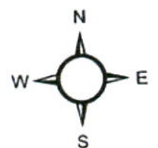
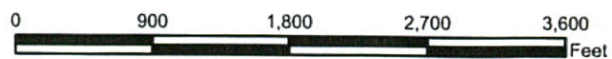
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WATER RIGHTS
PROGRAMField Office: Philip
Agency: USDA-NRCS
Assisted By: M. O'Dea

Legend

- Hanson2_FlowPaths
- Hanson2_outlet
- Hanson_Culverts
- Hanson_Streams
- Hanson2
- Townships
- Sections



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 8/23, 20 16

RECEIVED OF Henry O Hanson 21195 Ash Creek Rd Philip SD 57567

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

Fee for Application for Permit No. <u>2757-2</u> to Appropriate Water, to construct and to put water to beneficial use	500	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>2757-2</u>	200	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	700 00

No. **07857**

By 
Chief Engineer

Client: Henry Hanson
 County: HAAKON MSE 1
 Practice: Grade Stabilization
 Calculated By: MO
 Checked By: _____

State: SD

Date: 7/1/2016

Date: _____

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Drainage Area: 369 Acres (user entered value)
 Curve Number: 76 (user entered value)
 Watershed Length: 10145 Feet
 Watershed Slope: 10.7 Percent
 Time of Concentration: 1.17 Hours (calculated value)
 Rainfall Type: II

Storm Number	1	2	3	4	5	6	7
Frequency (yrs)	1	2	5	10	25	50	100
24-Hr rainfall (in)	1.90	2.20	2.80	3.30	3.90	4.50	5.00
Ia/P Ratio	00.33	00.29	00.23	00.19	00.16	00.14	00.13
Used	00.33	00.29	00.23	00.19	00.16	00.14	00.13
Runoff (in)	.36	.52	.88	1.22	1.66	2.13	2.54
(ac-ft)	11.07	15.99	27.06	37.52	51.05	65.50	78.11
Unit Peak Discharge (cfs/acre/in)	00.386	00.419	00.448	00.464	00.477	00.487	00.494
Peak Discharge (cfs)	52	81	146	209	293	383	462

ISOGRAM #2 RUNOFF 0.42 IN

$$(369 \text{ ACRES}) \times (0.42 \text{ ACRE IN / ACRE}) \div 12 = 12.9 \text{ ACRE FT}$$

.58 SQUARE MILES

$$\text{ERODABILITY AREA } P \rightarrow 0.0035 \times 369 \text{ ACRES} \times 0.33 \times 25 \text{ years} = 10.7 \text{ ACRE FT SEDIMENT}$$

=====
| POND DESIGN |
=====

WinPond 1.7.3684.13166

Project ---- : Hanson GS2

Description :

State ----- : South Dakota

County ----- : Haakon

Landowner -- : Henry Hanson

Township --- : 5 N

Range ----- : 19 E

Section ---- : 21

Tract ----- :

Field ----- :

Designed By : M. O'Dea

Date designed: 7/8/2016

Date printed : 7/8/2016

Approved By : _____

Date : _____

File Name : C:\Users\Michael.ODea\AppData\Local\...\New.prj

PLANNED IN COOPERATION WITH USDA-NRCS

Office Name
Address1
Address2
City

The use of this software is intended for low-hazard dams conforming to Natural Resources Conservation Service, Pond (378) Conservation Practice Standard.

Failure of the dam will not result in loss of life; damage to homes, commercial or industrial buildings, main highways, or railroads; or in interruption of the use or service of public utilities.

NRCS 378 Pond Conservation Practice Standard limits the Effective Height to less than 35 feet and a height x storage value of less than 3,000 acre-feet-ft.

Project --- : Hanson GS2
 Prepared for: Henry Hanson
 Prepared by : M. O'Dea
 Checked by : _____

TWP : 5 N RNG : 19 E
 SEC : 21 FLD :
 Date: _____

***** JOB APPROVAL CLASS *****

Hazard Class	Low	A
Effective Height	Feet	17.3
Effective Storage	Ac-Ft	56.4
Overall Height	Feet	21.5
Total Storage	Ac-Ft	99.1
Storage X Effective Height	Ac-Ft Ft	976
Contributing Drainage Area	Acres	369
Contributing Drainage Area	Square Miles	0.58
Pipe Conduit Capacity	CFS	11.2
Open Channel Spillway Design Flow	CFS	125.0
Peak Inflow Aux Spillway Design Storm	CFS	416.2
Conduit - Inside Diameter	Inches	12
Conduit Material		SDR
Inlet Type		Canopy
Job Approval Class		
INVENTORY SIZE DAM		

***** ELEVATION-STORAGE INPUT DATA *****

ELEV (ft)	POOL AREA (acres)	INT. STORAGE (ac.ft.)	ACCUM. STORAGE (ac.ft.)
77.0	0.07		0.00
78.0	0.26	0.17	0.17
80.0	0.51	0.77	0.94
82.0	0.76	1.27	2.21
84.0	1.36	2.12	4.33
86.0	2.27	3.63	7.96
88.0	3.94	6.21	14.17
90.0	5.60	9.54	23.71
92.0	7.40	13.00	36.71
94.0	9.40	16.80	53.51
97.0	15.60	37.50	91.01

Project --- : Hanson GS2
 Prepared for: Henry Hanson
 Prepared by : M. O'Dea
 Checked by : _____

TWP : 5 N RNG : 19 E
 SEC : 21 FLD :
 Date: _____

***** STORAGE VOLUMES *****

	ELEVATION (ft)	AREA (acres)	STORAGE (ac.ft.)
Inlet (Princ. spillway)	92.5	7.90	40.53
Aux. spillway	94.3	10.02	56.42
Max. water	95.7	12.99	72.98
Settled top of fill	97.5	16.63	99.06
Sediment - above inlet			0.00
- below inlet			10.70
Inlet to Aux.			15.89
Aux. to max. water			16.56

RUNOFF CURVE NUMBER DETERMINATION

Acres & (curve numbers) for
 Hydrologic Soil Group

COVER DESCRIPTION

A B C D

ACCUMULATED: 369.00 Acres

WEIGHTED CURVE NUMBER: 78.0

***** HYDROLOGIC DATA *****

Rainfall distr. type ---- :	I		
Drainage area, acres ---- :	369.0	Watershed slope, % :	10.7
Runoff curve number ---- :	78	Flow length, ft. - :	10145
Time of concentration, hrs :	1.10		
(min.: 65.92)			
	Principal	Spillway	Auxiliary
Design frequency, yrs.:	2		25
24 hr. Rainfall, in. :	2.2		3.9
Runoff, in. ---- :	0.6		1.8
Peak inflow, cfs ---- :	127.51		416.25
Peak outflow, cfs --- :	11.23		125.00 A.S.
			11.79 P.S.

Project --- : Hanson GS2
 Prepared for: Henry Hanson
 Prepared by : M. O'Dea
 Checked by : _____

TWP : 5 N RNG : 19 E
 SEC : 21 FLD :
 Date: _____

***** PRINCIPAL SPILLWAY TRIALS *****

Inlet type: Canopy Inlet Elevation: 92.5

	TRIAL 1	TRIAL 2	TRIAL 3
CONDUIT: Type -----	SDR		
Diameter, in. ---	12.00		
Height, in. ----			
width, in. ----			
Manning's n ----	0.011		
Inlet ext., ft. -	5.0		
Length, ft. ----	112.0		
Entrance Coefficient, Ke	1.000		
Auxiliary elevation -----	94.3		
STORAGE (ac.ft.):			
Temporary (PS-AS) -----	15.89		
Total at Auxiliary ---	56.42		
Effective height, ft. ---	17.3		
Height x storage -----	976		
Drawdown time, days-hrs.	4-7.6		
Trial used -----	--- 1 ---		

CONDUIT TYPES ----- : SDR-26 - PVC SDR-26 Pipe

***** AUXILIARY SPILLWAY DETAILS *****

Discharge determination: Qe values from ASFILE

Auxiliary elev. : 94.3 ^	Retardance ----- :	C
Bottom width, ft. : 40	Level sect. length, ft.:	50
Flow depth, ft. - : 1.44	Side slope ratio, n:1 :	3.00
EXIT CHANNEL -		
Max. Vel., fps - : 5.0	Retardance ----- :	C
Flow, cfs ----- : 125.00	Exit slope, % --- Min.:	4
	Max.:	6
Settled fill elev.: 97.5 ^	Drawdown time, days-hrs:	4-20.3
Flow, cfs ----- : 963.3 (Aux. Spillway Flow at Top of Dam)		
Channel elev. --- : 76.0	Overall height, ft. -- :	21.5
(downstream toe)		

^: Increased by User

Project --- : Hanson GS2
 Prepared for: Henry Hanson
 Prepared by : M. O'Dea
 Checked by : _____

TWP : 5 N RNG : 19 E
 SEC : 21 FLD :
 Date: _____

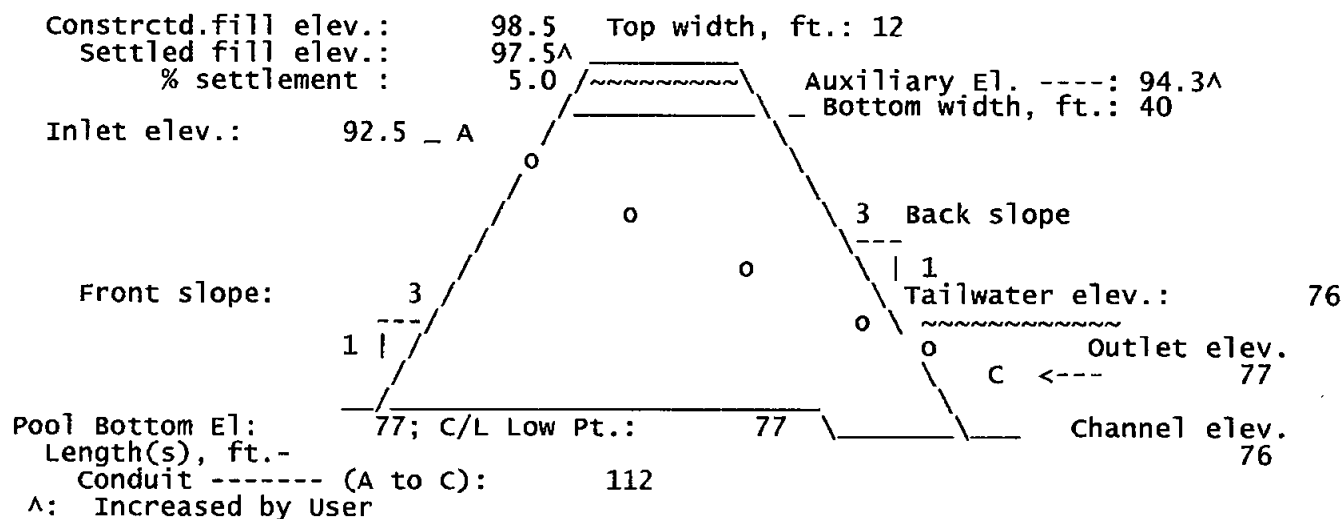
***** CONDUIT DETAIL *****

Inlet Type -----	CANOPY
Conduit Type -----	SDR-26 - PVC SDR-26 Pipe
Diameter, in. -----	12.00
Inlet extension, ft --	5.0
Length, lin. ft. -----	112.0 Extends 5.0 ft. beyond dnstr.toe
Slope, % -----	14.1
Max.fill over pipe, ft.	10.3
Canopy Length -----	9-1/2"
width -----	2-3/8"
Horizontal Distances (ft.)	
Upstrm: edge of top width to inlet end of pipe :	26.0
Dnstrm: edge of top width to toe ----- :	67.6

***** DESIGN ELEVATIONS (at principal spillway) *****

Inlet type: CANOPY

NOT TO SCALE



Project --- : Hanson GS2
 Prepared for: Henry Hanson
 Prepared by : M. O'Dea
 Checked by : _____

TWP : 5 N RNG : 19 E
 SEC : 21 FLD :
 Date: _____

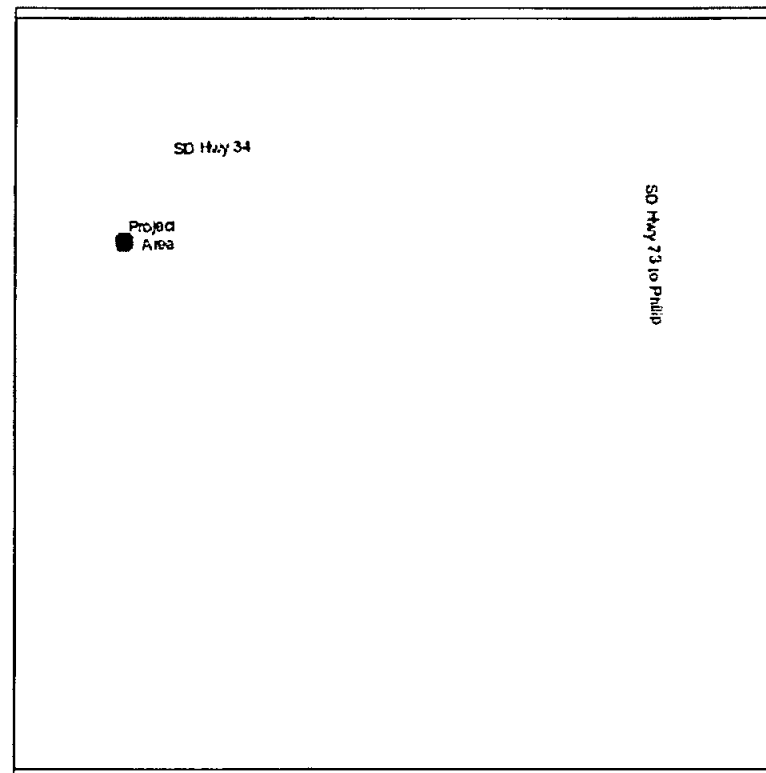
***** SUMMARY *****

Inlet type: CANOPY Inlet Elevation: 92.5

CONDUIT: Type -----	SDR-26 - PVC SDR-26 Pipe
Diameter, in. ---	12
Length, lin. ft. -	112 Extends 5 ft. beyond dnstr.toe
AUX. : Elevation -----	94.3
Bottom width, ft. -	40
Hp, flow depth, ft. -	1.44
Exit slope, % min. -	4
max. -	6
Effective height, ft. -----	17.3 = AS elev. - low pt. on C/L
Height x storage -----	976
Overall height, ft. -----	21.5 = stld. fill elev - chan. elev
NOTE -----	***** INVENTORY SIZE DAM

***** PROJECT DEFAULTS *****

Design based on -----	Constructed slopes
Berms settled -----	False
Auxiliary spillway to Top of Dam: -----	2.0 (ft)
Freeboard -----	1.0 (ft)
Minimum bottom width -----	10.0 (ft)
Maximum bottom width -----	150 (ft)
Feet above inlet (Drawdown) -----	0.0 (ft)
Percent or storage drained (Drawdown) -----	85.0 (ft)
Minimum flow (Drawdown) -----	0.1 (cfs)
Orifice Coefficient -----	0.71 (ft)
Full Pipe Flow Required? -----	Yes
Stage required above Prin. Spwy. Crest: -----	0.5 (ft)
Max. drainage area for required stage: -----	20.0 (acres)
All PS Outflow included in Prin. Routing -----	Yes
All PS Outflow included in Aux. Routing -----	Yes



NE 1/4 Sec 21 T5N R19E
Haakon County, South Dakota

LOCATION MAP

GENERAL NOTES

1. If cultural resources are discovered during construction, discontinue construction and notify the local Natural Resources Conservation Service office.
2. The landowner is responsible for complying with all federal, state, and local laws.

CONSTRUCTION NOTES

1. Clear and grub the entire area within the work limits.
2. All fill material must not contain frozen material, sod, roots, or other perishable material, or rock larger than eight inches in diameter as described in SD Construction Specification SD-75.
3. Any shale, gravel, or sand that is exposed during borrow operations shall be immediately backfilled with 2 feet of clay material.
4. Six inches topsoil will be incorporated into the earthfill to meet the neat lines shown on the typical section.
5. All areas top-dressed with topsoil and disturbed during construction will be seeded according to SD Construction Specification SD-28.
6. _____

NO EXCAVATOR MAY BEGIN ANY EXCAVATION WITHOUT FIRST NOTIFYING THE ONE-CALL NOTIFICATION CENTER OF THE PROPOSED EXCAVATION AT 1-800-781-7474.

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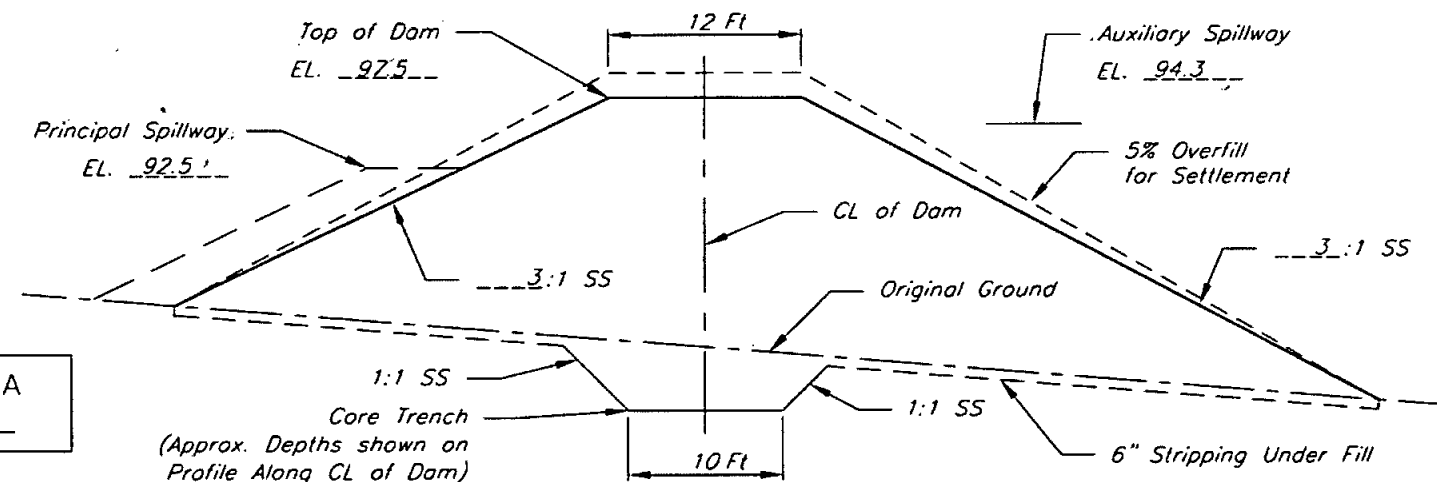
NRCS HAZARD CLASS A
NRCS JOB CLASS II

SD CONSTRUCTION AND MATERIAL SPECIFICATIONS

SD-4 Stripping
SD-5 Excavation
SD-75 Earthfill - Class S
SD-10 Salvaging And Spreading Topsoil
SD-28 Seeding
SD-12B Concrete for Minor Structures
SD-13 Steel Reinforcement
SD-16 Wood Fabrication
SD-20A Plastic Pipeline Stock Water
SD-55 Plastic Pipe
SD-_____
SD-_____
For A Full Text Version See
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/sd/technical/engineering/?cid=nrcs141p2_036575

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY	AS-BUILT
Earthfill Class S - Embankment	Cu. Yd.	5488	
Earthfill Class S - Core Trench	Cu. Yd.	806	
Earthfill Class S - Stripping	Cu. Yd.	856	
Total Earthfill	Cu. Yd.	7150	
Topsoil Auxiliary Spillway	Cu. Yd.	N/A	
Seeding (Earthfill and Auxiliary Spillway)	Acre	0.75	
Principal Spillway Pipe			
12" Dia. SDR 26 PVC Pipe	Lin. Ft.	52	
Canopy Inlet	Each	1	
Rubber Diaphragm Anti-Seep Collar	Each	2	
Timber Pipe Support	Each	1	



TYPICAL CROSS SECTION OF DAM

INDEX OF DRAWINGS

1. Cover Sheet
2. Plan View and Design Data
3. Profile of Dam and Auxiliary Spillway and Cross-Section of Auxiliary Spillway
4. Profile of Principal Spillway
5. 3 Post Canopy Inlet
6. Timber Pipe Support
7. Stock Water System for Earth Dams
8. _____
9. _____
10. _____

STATEMENT OF COMPLIANCE

Construction (was) (was not) completed in accordance with approved construction plans and specifications.

JAA Date

POND WITH PRINCIPAL SPILLWAY PIPE
JOB PLAN 1.0P REV. 4/2016

Date 8-15-16
Designed M. O'Dea
Drawn M. O'Dea
Checked
Approved Michael D. O'Dea 8-15-16

HENRY HANSON
378 POND
COVER SHEET

NE 1/4 Sec 21 T5N R19E

United States
Department of
Agriculture
USDA
Natural Resources
Conservation Service

File No.
Dam_Pipe.dwg

Drawing No.

8/16/16 8:22 AM
Sheet 1 of 7

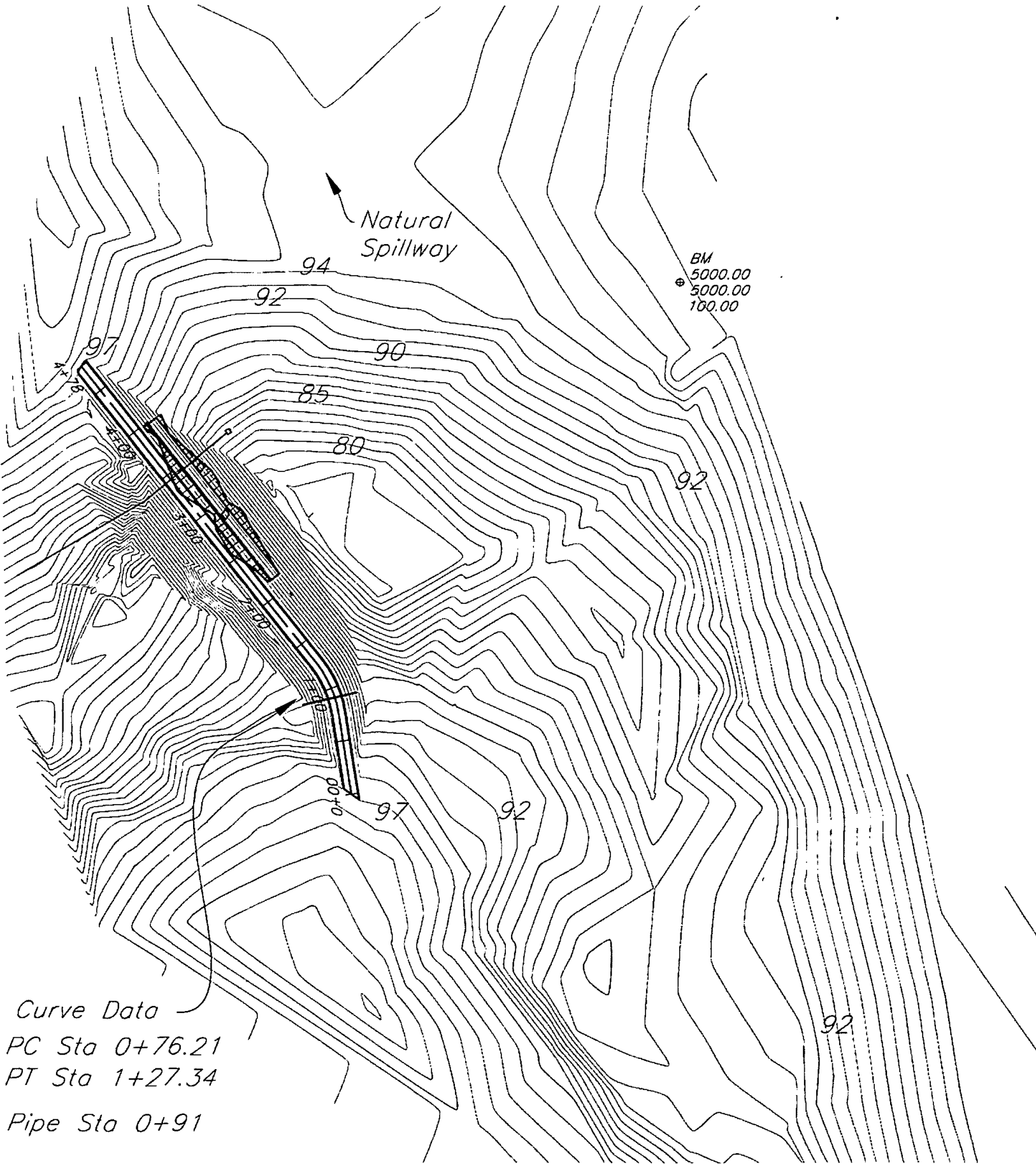
HYDRAULIC DATA		
Drainage Area	369	Acres
Annual Runoff Yield (50% Chance)	12.9	Ac. Ft
Time of Concentration	1.1	Hours
Runoff Curve Number	78	
Principal Spillway, 2 Year - 24 Hour Rainfall	2.2	Inches
Auxiliary Spillway, 25 Year - 24 Hour Rainfall	3.9	Inches
Peak Runoff 2 Year - 24 Hour Rainfall	127.5	CFS
Principal Spillway Discharge	11.2	CFS
Peak Runoff 25 Year - 24 Hour Rainfall	416.3	CFS
Auxiliary Spillway Discharge	125.0	CFS
Auxiliary Spillway Flow Depth	1.400	Feet

STRUCTURE DATA		
Length of Top of Dam	479	Feet
Water Depth to Crest of Principal Spillway	15.5	Feet
Height of Downstream Toe to Top of Dam	21.5	Feet
Effective Height	17.3	Feet
Product of Storage X Effective Height	976	

POOL DATA			
	ELEV.	AREA	STORAGE
Crest of Principal Spillway	92.5	7.9	40.5
Crest of Auxiliary Spillway	94.3	10.0	56.4
Top of Dam	97.5	16.6	99.1

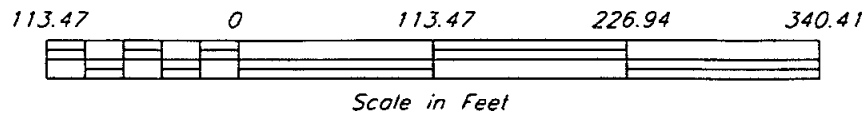
SEDIMENT YIELD					
Erodibility Area	Gross Rate (A.F./Ac./Yr.)	Drainage Area (Acres)	Delivery Rate (%)	Design Period (Years)	Required Sediment Volume (Ac.-Ft.)
P	0.0035	369	33	25	10.700

BENCHMARK POINTS TABLE					
NO.	ID	ELEVATION	NORTHING	EASTING	BENCHMARK DESCRIPTION
1	BM1	100.00	5000.0	5000.0	Brand in concrete @ SW corner of old foundation located +/- 500' to the East of new dam grade.
	BM2				



Curve Data
PC Sta 0+76.21
PT Sta 1+27.34
Pipe Sta 0+91

PLAN VIEW



United States
Department of
Agriculture

USDA

Natural Resources
Conservation Service

File No.
Dam_Pipe.dwg

Drawing No.
-

8/16/16 8:22 AM
Sheet 2 of 7

Henry Hanson
378 Pond
PLAN VIEW AND DESIGN DATA

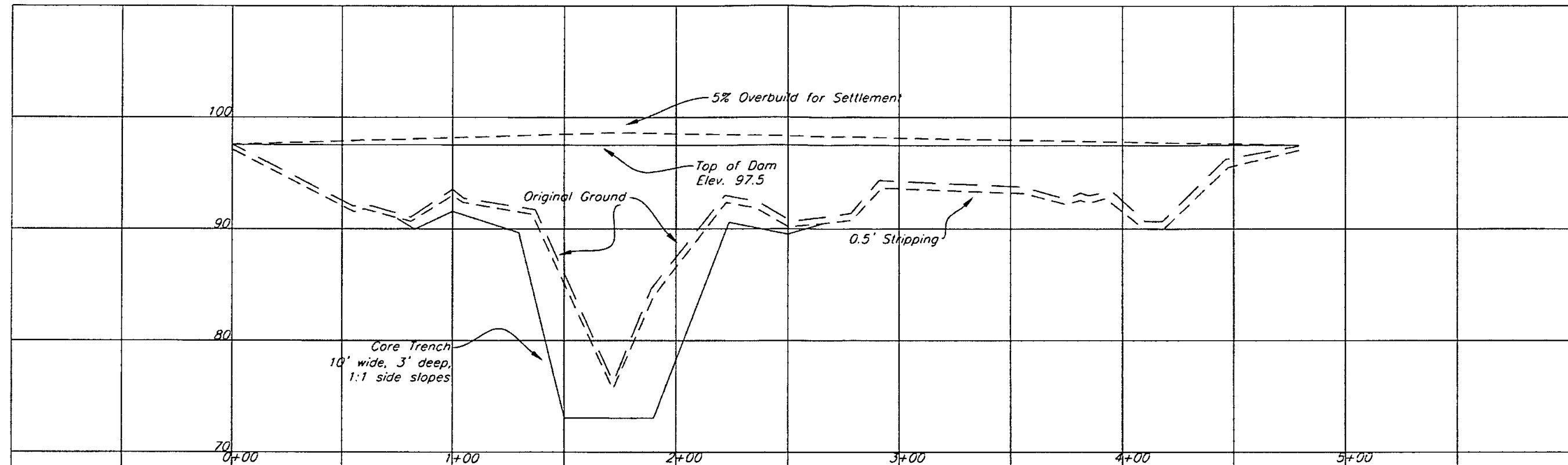
NE 1/4 Sec 21, T5N, R19E
Haskell County, South Dakota

Designed M. O'Dea
8-15-16

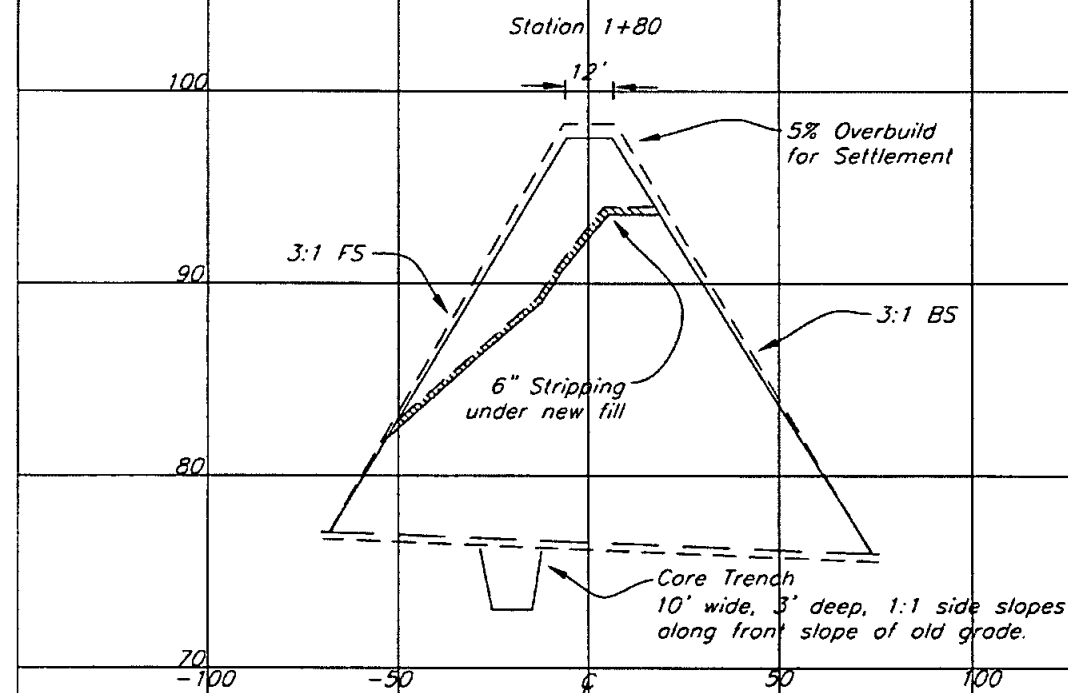
Drawn M. O'Dea
8-15-16

Checked
8-15-16

Approved Michael D. O'Dea
8-15-16



CROSS - SECTION AT CREST OF AUXILIARY SPILLWAY AND PROFILE ALONG CL OF DAM



MAXIMUM CROSS SECTION OF DAM

Natural Spillway
40' wide Crest Elev. 94.3

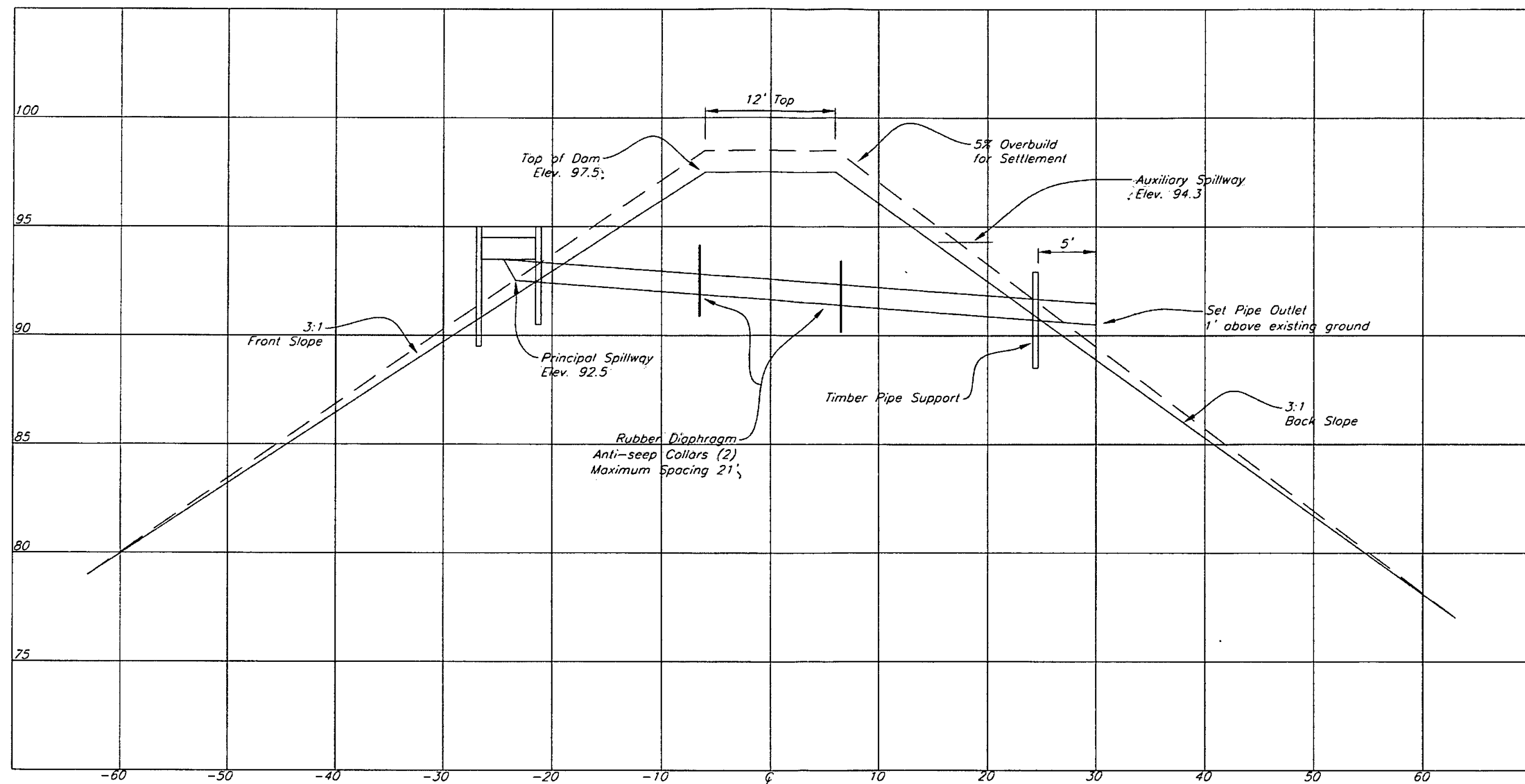
PROFILE ALONG CL OF AUXILIARY SPILLWAY

Date 8-15-16
Designed M. O'Dea
Drawn M. O'Dea
Checked
Approved Michael D. O'Dea

HENRY HANSON
378 POND
PROFILES AND CROSS-SECTIONS OF DAM AND AUXILIARY SPILLWAY
Horton County, South Dakota
NE 1/4 Sec 21 T5N R19E

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Conservation Service

File No.
Dam_Pipe.dwg
Drawing No.
8/15/16 8:22 AM
Sheet 3 of 7



PRINCIPAL SPILLWAY PROFILE AND MAXIMUM CROSS-SECTION OF DAM

TRENCH SAFETY NOTES

1. All trench work shall comply with the Occupational Safety and Health Administration (OSHA) regulations.
2. Any trench over four (4) feet deep shall have a means of egress from the trench by a ladder, ramp, or other means of egress; and
3. Any trench over five (5) feet deep shall be protected from cave-ins by a sloping, benching or shoring protection system. Benches must be constructed so the overall slope meets the slope required by OSHA regulations.

Date 8-15-16
 Designed M. O'Dea
 Drawn M. O'Dea
 Checked Michael D. O'Dea
 Approved 8-15-16

HENRY HANSON
 378 POND
 PROFILE OF PRINCIPAL SPILLWAY

NE 1/4 Sec 21 T5N R19E

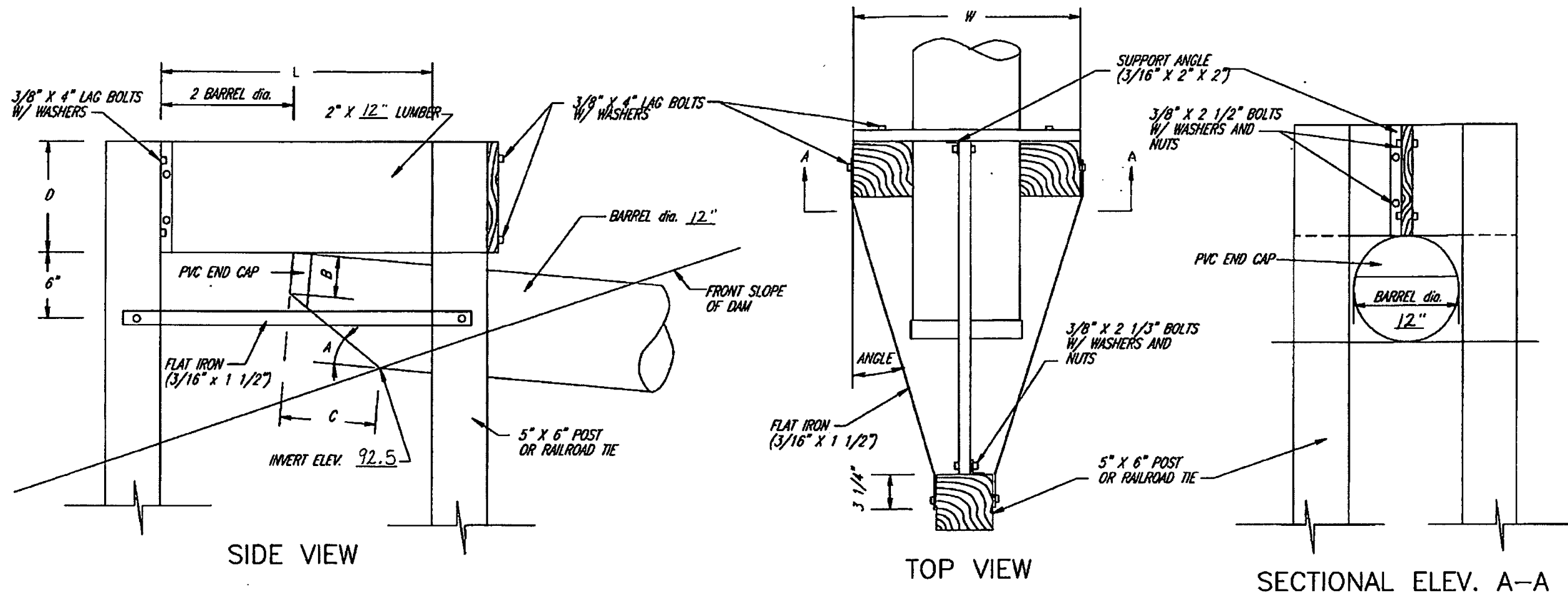
Haskell County, South Dakota

United States
 Department of
 Agriculture
 USDA
 Natural Resources
 Conservation Service

File No. Dam_Pipe.dwg

Drawing No. -

8/16/16 8:22 AM
 Sheet 4 of 7



ANTIVORTEX BAFFLE AND GUARD POST SUPPORT QUANTITIES

BARREL DIA.	D	L LENGTH FT.-IN.	NO. REQ'D	FLAT IRON LENGTH FT.-IN.	NO. REQ'D	3/8" X 4" LAG BOLTS & WASHERS NO. REQ'D	SUPPORT ANGLE LENGTH FT.-IN.	NO. REQ'D	POSTS LENGTH FT.-IN.	NO. REQ'D	W LENGTH FT.-IN.	NO. REQ'D	3/8" X 2 1/2" BOLTS, NUTS & WASHERS EA	ANGLE
10"	9 1/4"	(2" X 10") X 2'-11"	1	3'-2"	2	10	0'-9 1/4"	2	6'-0"	3	(2" X 10") X 1'-10"	1	6 (12 WASHERS)	16 °
12"	11 1/4"	(2" X 12") X 3'-6"	1	3'-9"	2	10	0'-11 1/4"	2	6'-0"	3	(2" X 12") X 2'-0"	1	6 (12 WASHERS)	14 °

NOTE: ALL LUMBER AND POSTS WILL BE PRESSURE TREATED

CONAPY INLET DIMENSIONS

PIPE DIA. IN.	PIPE GRADE %	A DEG	B IN.	C IN.	H FT.	PIPE DIA. IN.	PIPE GRADE %	A DEG	B IN.	C IN.	H FT.
10	0-5	56	1 7/8	5 3/8	1.2	12	0-5	56	2 1/4	6 1/2	1.4
	5.1-15	45	2	8	1.3		5.1-15	45	2 3/8	9 5/8	1.5
	15.1-25	33	2 5/8	11	1.4		15.1-25	33	3 1/4	13 1/4	1.6

PVC CANOPY INLET W/ ANTIVORTEX BAFFLE
AND GUARD POST SUPPORT FOR 10 and 12" PIPE
JOB PLAN No. 5.5A Rev. 12/09

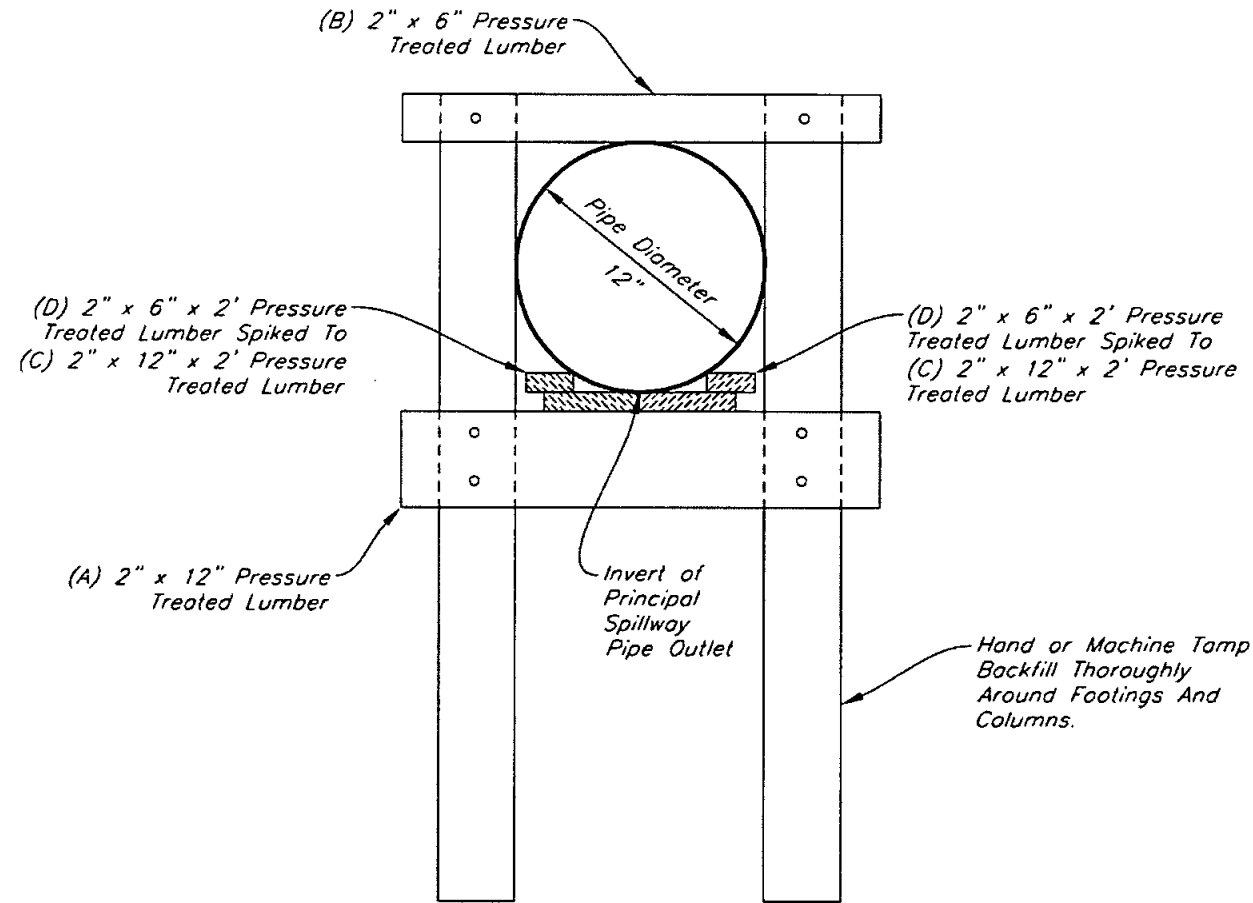
Date: 7-21-16
Designed M. O'DEA
Drawn M. O'DEA
Checked
Approved

PRODUCER HENRY HANSON
NE 1/4, SECT. 21, T. 5N, R. 19E
HASKON COUNTY
HASKON CONSERVATION DISTRICT

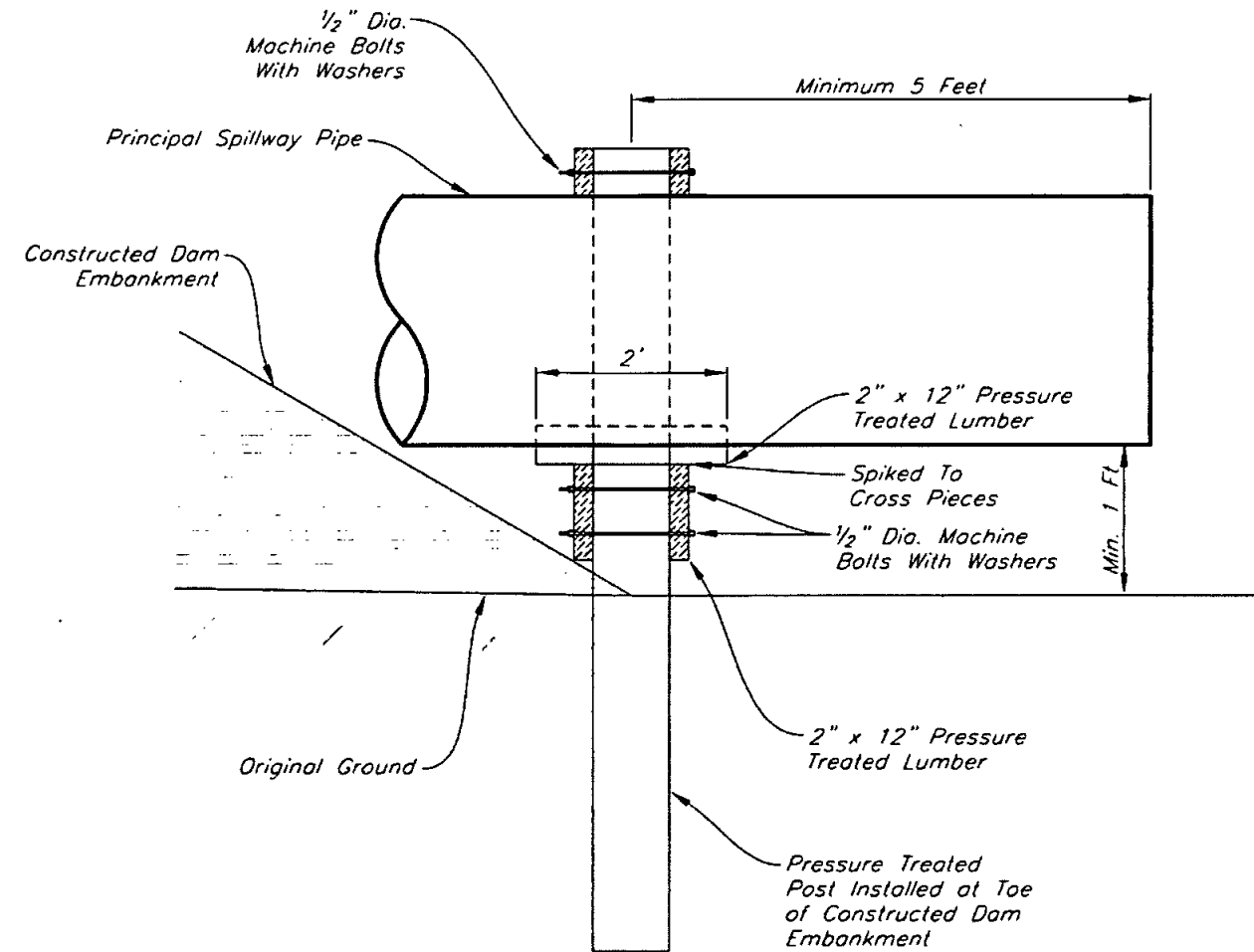
USDA - NRCS
FIELD SUPPORT OFFICE
1530 SAMCO ROAD, SUITE 4
RAPID CITY, SD 57702

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

File Name: Canopy_inlet_PVC10x12.v8
Drawing No.
Sheet 5 of 7



CROSS-SECTION VIEW



PROFILE VIEW

LENGTHS REQUIRED FOR DIFFERENT PIPE DIAMETERS

ITEM	MATERIAL SIZES BASED ON PIPE DIAMETER				UNIT	QUANTITY
	12" TO 18"	21" TO 24"	30" TO 36"	42" TO 48"		
8" Dia. Pressure Treated Post	8 Ft	--	--	--	Each	2
10" Dia. Pressure Treated Post	--	10 Ft	10 Ft	12 Ft		
(A) 2" X 12" Pressure Treated Lumber	4 Ft	4 Ft	5 Ft	6 Ft	Each	2
(B) 2" X 6" Pressure Treated Lumber	4 Ft	4 Ft	5 Ft	6 Ft	Each	2
(C) 2" X 12" Pressure Treated Lumber	2 Ft	2 Ft	2 Ft	2 Ft	Each	2
(D) 2" X 6" Pressure Treated Lumber	2 Ft	2 Ft	2 Ft	2 Ft	Each	2
1/2" Dia. Machine Bolts With Nuts	12 In.	14 In.	14 In.	14 In.	Each	6
1/2" Dia. Washers					Each	12
Spike Nails					Each	20

CONSTRUCTION NOTES

1. All nuts, bolts, and washers shall be galvanized.
2. If PVC pipe is used, protect the portions of pipe that will be permanently exposed to ultraviolet light from sunlight by priming the pipe with PVC solvent and painting with two coats high quality exterior latex paint.
3. Hand or machine tamp backfill thoroughly around footings and columns.

TIMBER PIPE SUPPORT
JOB PLAN NO. 4.0 REV. 1/2012

Date _____
Designed M. O'Dea
Drawn M. O'Dea
Checked _____
Approved Michael R. O'Dea 8-15-16

HENRY HANSON
378 POND
TIMBER PIPE SUPPORT

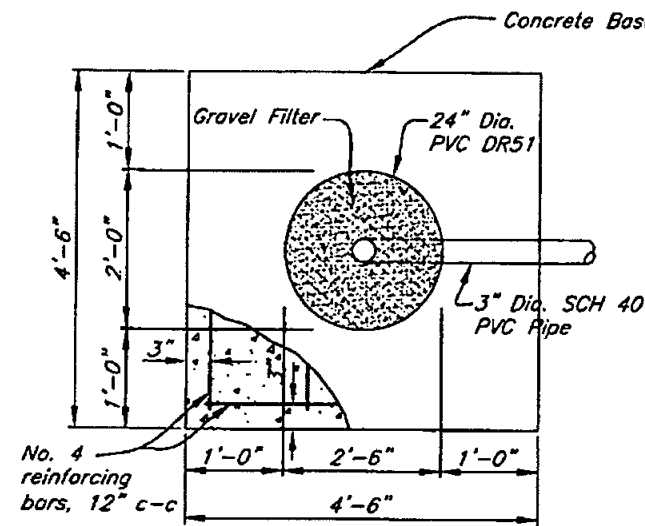
NE 1/4 Sec 21 T5N R19E

United States
Department of
Agriculture
USDA
Natural Resources
Conservation Service

File No.
Dam_Pipe.dwg

Drawing No.
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Sheet 6 of 7

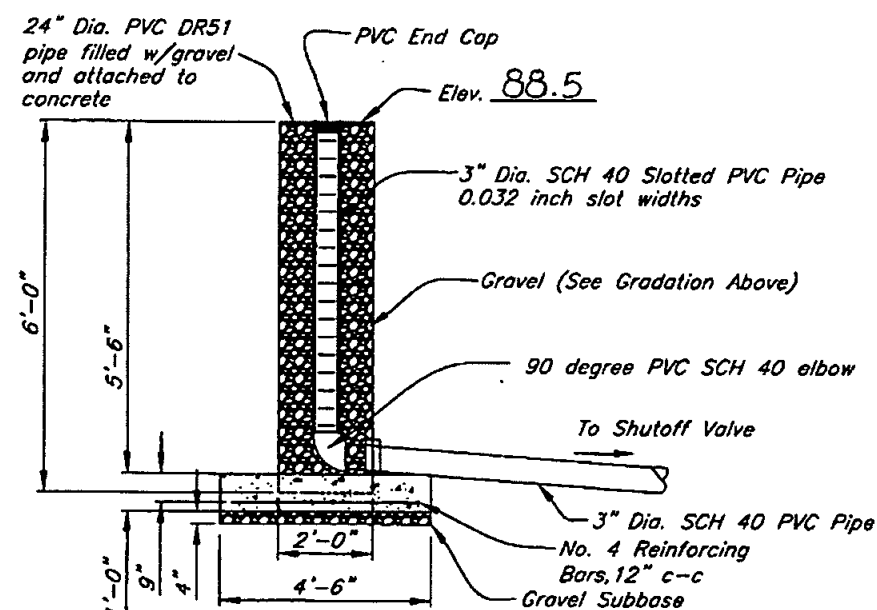


PIPE INLET PLAN VIEW

FILTER GRADATION

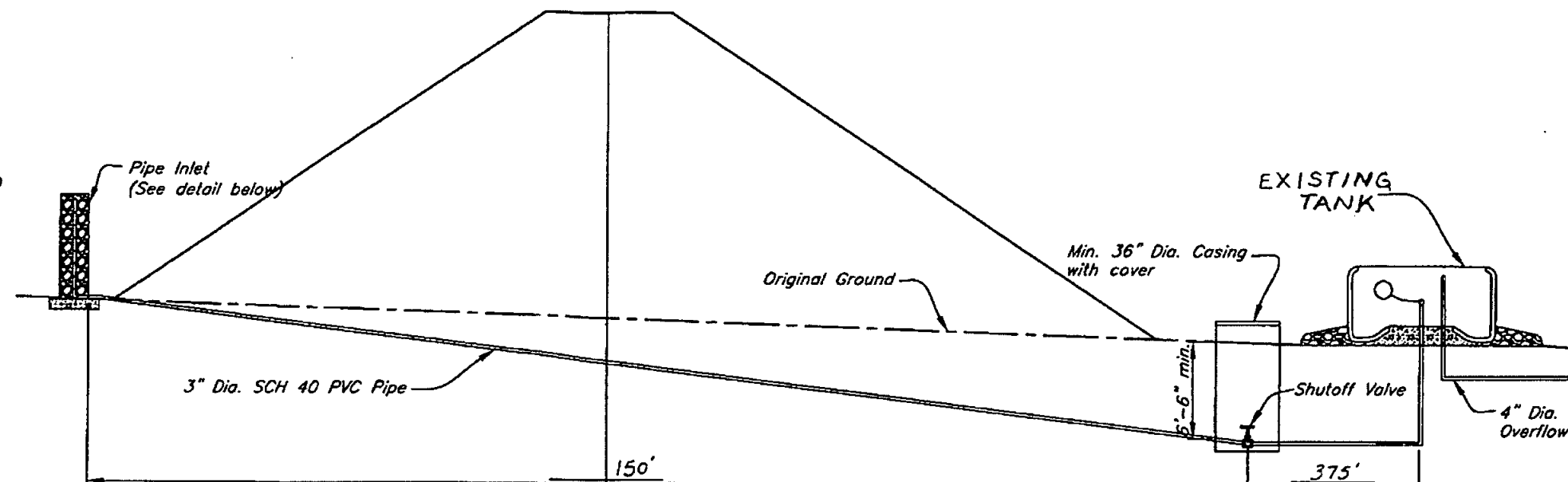
US Standard Sieve Size	Percent Passing or Percent Finer Than
1 1/2"	100
1"	95-100
1/2"	25-60
#4	0-10
#8	0-5

SD DOT Coarse Aggregate for use in Portland Cement Concrete Size #1 meets requirements.



PIPE INLET SECTION VIEW

NOT TO SCALE



PROFILE ALONG SUPPLY PIPE

BILL OF MATERIALS

	Item	No.	Unit
1	Concrete (Class 3000)	0.8	Cu. Yd.
2	Reinforcing Steel (No. 4 Bars -40 Lin.ft)	26.7	LB.
3	Gravel for Inlet Riser	0.9	Cu. Yd.
4	24" Dia. PVC DR51	6	Ft.
5	3" Dia. SCH 40 slotted PVC pipe; 0.032 inch slot width w/ end cap and elbow	5.5	Ft.
6	3" Dia. SCH 40 PVC pipe	150'	Ft.
7	Shutoff Valve and Appurtenances	1	Each
8	Manhole with cover	1	Each
9	1.5" PVC SDR 21 PIPE	375	Ft.

SD CONSTRUCTION AND MATERIAL SPECIFICATIONS

SD-12B Concrete for Minor Structures
SD-13 Steel Reinforcement
SD-16 Wood Fabrication
SD-20A Plastic Pipeline Stock Water
SD-55 Plastic Pipe

SD-
SD-
SD-
For A Full Text Version See

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/sd/technical/engineering/>

CONSTRUCTION NOTES

1. A minimum bury depth of 6.5' feet of pipeline cover shall be maintained throughout the downstream side of the pipeline to prevent freezing.
2. Pipeline installation location will be as shown on the construction plans (Plan View).
3. Install top of riser a minimum of 4 feet below permanent pool elevation.
4. Provide protection around the inlet from livestock or fence the pool area off.
5. Mechanically tamp the pipeline trench backfill.
6. Use compacted clay or bentonite as low permeability backfill for the trench that passes underneath the embankment.
7. Maximum earthfill allowed above the pipe is 30 feet.

GENERAL NOTES

1. If cultural resources are discovered during construction, discontinue construction and notify the local Natural Resources Conservation Service office.
2. The landowner is responsible for complying with all federal, state, and local laws.

NO EXCAVATOR MAY BEGIN ANY EXCAVATION WITHOUT FIRST NOTIFYING THE ONE-CALL NOTIFICATION CENTER OF THE PROPOSED EXCAVATION AT 1-800-781-7474.

Date
Designed M. O'DEA 7-21-16
Drawn M. O'DEA 7-21-16
Checked
Approved Michael D. O'Dea 8-15-16

NAME: HENRY HANSON
516 PIPELINE
STOCK WATER SYSTEM FOR EARTH DAMS
NE 1/4, Sec 21, T 5N, R 19E, HAAKON County, South Dakota

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

File No.
JP22.2.dwg
Drawing No.

Sheet 7 of 7

JOB PLAN 22.2 02/2016

REV	DATE	BY	APP
1	02/2016	JP	JP

Inlater Permit Application No 2757-2

Harry Hanson

Top of Dam Elev - 97.5
 2nd Spillway Elev - 94.3
 P. Spillway Elev - 92.5
 Dis Ents Toe Elev - 76.0

Cat 3 - Low Hazard Dam

Ht. = 21.5 ft

Normal Storage Capacity - 40.5 Ac.-ft.
 Int. Storage Capacity - 56.4
 Max. Storage Capacity - 99.1

Int Capacity x Eff Ht. = $56.4 \times 17.3 = 976 < 3000 \therefore 25 \text{ year}$
Minimum Spillway Design

From USGS WRI 98-4055 "Tech. for Est. Peak Flows ... in SO"
 Region C, $QA = 369 \text{ Ac} = 0.58 \text{ mi}^2$

$$Q_{10} = 207 \text{ CFS}^{.573}$$

$$= 207(0.58)^{.573}$$

$$= 207(.7219)$$

$$= \underline{152 \text{ cfs}}$$

$$Q_{10} = 379 \text{ CFS}^{.566}$$

$$= 379(0.58)^{.566}$$

$$= 379(.7349)$$

$$= \underline{278 \text{ cfs}}$$

Secondary Spillway Capacity

$$Q = CLH^{7/2}$$

$$C = 2.6 \quad L = 40 \quad H = 3.2$$

$$= 2.6(40)(3.2)^{3.5}$$

$$= \underline{585 \text{ cfs}} \quad (\text{NRCS had } 963 \text{ Open Channel})$$

Section 74:02:08:09

1. Topo Map - OK
2. Dam Axis Profile - OK
3. Dam Max X-section - OK
4. Area Capacity - OK
5. Outlet Details - OK
6. Spillway Rating - OK
7. Spillway Details - OK
8. Spec - S&L NRCS - OK
9. EPP N/A cat. 3 - OK

NRCS Annual Yield

$$DA = 369 \quad CA = 76 \quad ISO = 2$$

$$80\% \text{ chance} = 0.15$$

$$0.15 \times 369/12 = \underline{5.0 \text{ Ac.-ft.}}$$

$$50\% \text{ chance} = 0.42$$

$$0.42 \times 369/12 = \underline{13 \text{ Ac.-ft.}}$$

$$10\% \text{ chance} = 1.8$$

$$1.8 \times 369/12 = \underline{55 \text{ Ac.-ft.}}$$



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

September 26, 2016

Henry Hanson
21195 Ash Creek Road
Philip, SD 57567

Dear Mr. Hanson:

We have reviewed the plans and specifications for your dam project located between the NE $\frac{1}{4}$ NW $\frac{1}{4}$ and NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 21-T5N-R19E, in Haakon County. The plans and specifications for the reconstruction of the 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. 2757-2 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 Hanson Dam No. 2 will be classified as a small size Category 3, Low Hazard dam with a dam height of 21.5 feet and a normal storage capacity of 40.5 acre-feet and a maximum storage capacity of 99.1 acre-feet.

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

Sincerely,

Timothy G. Schaal, P.E.
Engineer IV
for Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

c: Michael D. O'Dea, NRCS, Philip



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2757-2, Henry Hanson**

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. 2757-2, Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567.

The Chief Engineer is recommending APPROVAL of Application No. 2757-2 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. 2757-2 authorizes an impoundment with a storage capacity of 40.5 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
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.

for *Eric Goodland*
Jeanne Goodman, Chief Engineer
September 26, 2016

REPORT ON
WATER PERMIT APPLICATION No. 2757-2
Henry Hanson
September 14, 2016

Water Permit Application No. 2757-2 has been filed by Henry Hanson to impound 40.5 acre-feet of water from runoff by reconstructing a dam located between the NE $\frac{1}{4}$ NW $\frac{1}{4}$ and NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 21-T5N-R19E, in Haakon County. The application also requests impoundment of sufficient water to maintain water at the outlet elevation. The water will be used for fish and wildlife propagation and livestock water purposes.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. The dam has been designed by the Natural Resources Conservation Service (NRCS). The plans and specifications have been reviewed and will be approved; however, reconstruction of the dam cannot begin until Water Permit Application No. 2757-2 is approved.

The dam will be 21.5 feet high with a normal storage capacity of 40.5 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 99.1 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.

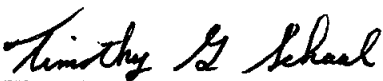
The dam has a drainage area of 369 acres or 0.58 square miles. The dam will have a 12 inch diameter PVC conduit with 5.0 feet of freeboard as the primary spillway; and a 40 foot wide natural earth secondary spillway with 3.2 feet of available freeboard. A 25-year frequency event produces a peak runoff of approximately 152 cfs and a 100-year frequency event produces a peak runoff of approximately 258 cfs. The earthcut secondary spillway will have a capacity of approximately 960 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 5 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 13 acre-feet; the annual yield with a 10 percent chance of occurrence, or 1 out of 10 years, is expected to be 55 acre-feet.

The Hanson Dam No. 2 will be located in the N $\frac{1}{2}$ Section 21-T5N-R19E on an unnamed tributary to Upper Deep Creek (Haxby Draw), about 12 miles upstream of the confluence of Upper Deep Creek (Haxby Draw) and the Cheyenne River. There are no existing Water Rights/Permits filed on Upper Deep Creek (Haxby Draw) between Hanson Dam No. 2 and the Cheyenne River.

Conclusions:

1. Water Permit Application No. 2757-2 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. 2757-2.


Timothy G. Schaal, P.E.
Engineer IV

OCT 27 2016

**WATER RIGHTS
PROGRAM**

PUBLISHER'S AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA }
 }SS
COUNTY OF HAAKON }

I, Selma Thorson of said County and State, being duly sworn on oath says: PIONEER REVIEW is a weekly newspaper of general circulation, published in PHILIP, in said County and State and has been such newspaper during the times thereafter mentioned; that the said PIONEER REVIEW is a legal newspaper and has been in existence for more than one year immediately preceding the first publication herein mentioned; and has more than 200 bona fide subscribers; that I, the undersigned, am Billing Manager of said newspaper, and have personal knowledge of all facts stated in this affidavit; and that the advertisement headed:

Water Rights Program

Notice of Application No. 2757-2 to Appropriate Water

A printed copy of which is hereto attached, was printed and published in said newspaper for 1 successive issues, the first publication being on the 6th day of October, 2016, and the last publication on the 6th day of October, 2016, that \$28.41 benefit of the publishers of the said newspaper; that no arrangement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.

* Delma Thorsen

Subscribed and sworn to me before this 31st day of October 2016.

Jolene Haynes
Notary Public, State of South Dakota

Notary Public, State of South Dakota

MY COMMISSION EXPIRES 04/03/2021

**Notice of Application
No. 2757-2 to
Appropriate Water**

Notice is given that Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567 has filed an application for a water permit to impound 40.5 acre-feet of water from dry draw runoff by reconstructing a dam located between the NE1/4 NW1/4 and the NW1/4 NE1/4 Section 21 with water impounded in the NE1/4 NW1/4, W1/2 NE1/4 Section 21; all in T5N-R19E. This application requests impoundment of sufficient water to maintain water to the outlet elevation. 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. 2757-2 with qualifications 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 with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation 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 October 17, 2016.

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.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

Steven M. Pirner
Secretary
Department of Environment and Natural
Resources

[Published October 6, 2016, at the total approximate cost of \$28.41]

Affidavit of Publication

RECEIVED

OCT 17 2016

WATER RIGHTS
PROGRAM

Oct. 6
L21013321

NOTICE OF APPLICATION

NO. 2757-2 to Appropriate Water

Notice is given that Henry Hanson, 21195 Ash Creek Rd, Phillip SD 57567 has filed an application for a water permit to impound 40.5 acre-feet of water from dry draw runoff by reconstructing a dam located between the NE 1/4 NW 1/4 and the NW 1/4 NE 1/4 Section 21 with water impounded in the NE 1/4 NW 1/4, W 1/2 NE 1/4 Section 21; all in T5N-R19E. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation and livestock water purposes.

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/s/ Steven M. Pirner,
Secretary,
Department of Environment and
Natural Resources.

(Published once at the total approximate cost of \$61.12).

STATE OF SOUTH DAKOTA

County of Pennington

SS:

Carina Tyler being first duly sworn, upon his/her oath says: That he/she is now and was at all time hereinafter mentioned, an employee of the RAPID CITY JOURNAL, a corporation of Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOURNAL, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published in the English language, at and within an office maintained by the owner and publisher thereof, at Rapid City, in said Pennington County, and has been admitted to the United States mail under the second class mailing privilege for at least one year prior to the publication herein mentioned; that the advertisement, a printed copy of which, taken from said Rapid City Journal, the paper in which the same was published, is attached to this sheet and made a part of this affidavit, was published in said paper once each day for 1 successive day, the first publication there of being on the 6 day of Oct. 2016 that the fees charged for the publication there of are 61 dollars and 12 cents.

Subscribed and sworn to before me this 6 day of October, 2016.

Notary public

DUSTIN RICE



My commission expires 7/1/20

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, September 27, 2016 9:04 AM
To: newsdesk@pioneer-review.com
Subject: 2757-2, Henry Hanson
Attachments: 2757-2public.shortnewnov2015.docx; FORM8.FRM.doc

Attached is a notice to be published on October 6, 2016.

Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567 (605 544-3200) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP.

Let me know if you have questions. Please acknowledge receipt of this email.

Karen Schlaak

Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, September 27, 2016 9:04 AM
To: Brandyn Crawford (Brandyn.Crawford@rapidcityjournal.com)
Subject: 2757-2, Henry Hanson
Attachments: 2757-2public.shortnewnov2015.docx; FORM8.FRM.doc

Attached is a notice to be published on October 6, 2016.

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Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

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

September 26, 2016

Henry Hanson
21195 Ash Creek Rd
Philip SD 57567

Dear Mr. Hanson:

Water Permit Application No. 2757-2 for fish, wildlife and livestock use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Pioneer Review printed at Philip SD (Ph # 605-859-2516) and the Rapid City Journal printed at Rapid City SD (Ph # 605-394-8300). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application 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(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. 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 application.

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.

NOTICE OF APPLICATION NO. 2757-2 to Appropriate Water

Notice is given that Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567 has filed an application for a water permit to impound 40.5 acre-feet of water from dry draw runoff by reconstructing a dam located between the NE 1/4 NW 1/4 and the NW 1/4 NE 1/4 Section 21 with water impounded in the NE 1/4 NW 1/4, W 1/2 NE 1/4 Section 21; all in T5N-R19E. This application requests impoundment of sufficient water to maintain water to the outlet elevation. 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. 2757-2 with qualifications 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 with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation 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 October 17, 2016.

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.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. 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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

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OCT 28 2016

Henry Hanson
21195 Ash Creek Rd
Philip SD 57567

Dear Mr. Hanson:

Enclosed is Water Permit No. 2757-2 authorizing construction of the 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,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 2757-2

I have this day, July 9, 2019 made a thorough examination of the water use system constructed by Henry Hanson, 21195 Ash Creek Rd., Phillip, SD 57567 of Permit No. 2757-2, bearing the priority of 8/22/2016 authorizing the diversion and storage of 40.5 acre-feet of runoff water from a dry draw tributary of Haxby Draw and Bridger Creek for fish, wildlife and livestock water purposes in Haakon County.

Inspection contact & relationship to permit holder, if applicable:

Henry Hanson, Owner
605-544-3200

A. Dam Information:

- 1) Height to crest 21.5 feet from downstream toe
- 2) Height to primary spillway 16.5 feet from downstream toe
- 3) Height to secondary spillway 18.3 feet from downstream toe
- 4) Crest width 12 feet
- 5) Crest length 479 feet
- 6) Primary Spillway width 12 inch
- 7) Secondary Spillway width 40 feet
- 8) Approx. storage to primary spillway 40.5 ac-ft
- 9) Approx. storage to crest 99.1 ac-ft

Date constructed: fall 2016

B. Works used to put water to beneficial use:

This is an earth fill embankment utilizing a 12" PVC principal spillway and a 40 foot wide natural vegetated emergency spillway. The water impounded in the reservoir is put to beneficial use in-place for fish and wildlife and piped to a stock tank located at the downstream toe below the embankment for livestock water. The structure pool area is fenced.

C. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: Yes
Low flows as needed for downstream domestic use including livestock and prior water rights must be by-passed. A permanent by-pass structure was not installed. Any by-pass of flows if needed will use temporary means.

Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period. N/A

List any extended period of nonuse: **none**

- 2) Exceptions to compliance are: none

D. Condition and Location:

1. The system is in good condition with the point of diversion located as follows:
2,617' E and 418' S of the NW corner Section 21 T5N R19E (44.38568, -101.830019)

The works are capable of diverting to the place of use and storing 40.5 acre-feet of water which is to be used for **fish, wildlife and livestock use**. Water has been put to beneficial use to the maximum extent and the license should be issued for 40.5 acre-feet storage.

2. All structures, wells and lands on map Yes

E. Comments or other permits associated with the project: none



Steven Quissell
Water Rights Inspector
DENR Water Rights Program

Date report completed: 7/10/2019



Dam embankment and pool (view to south)

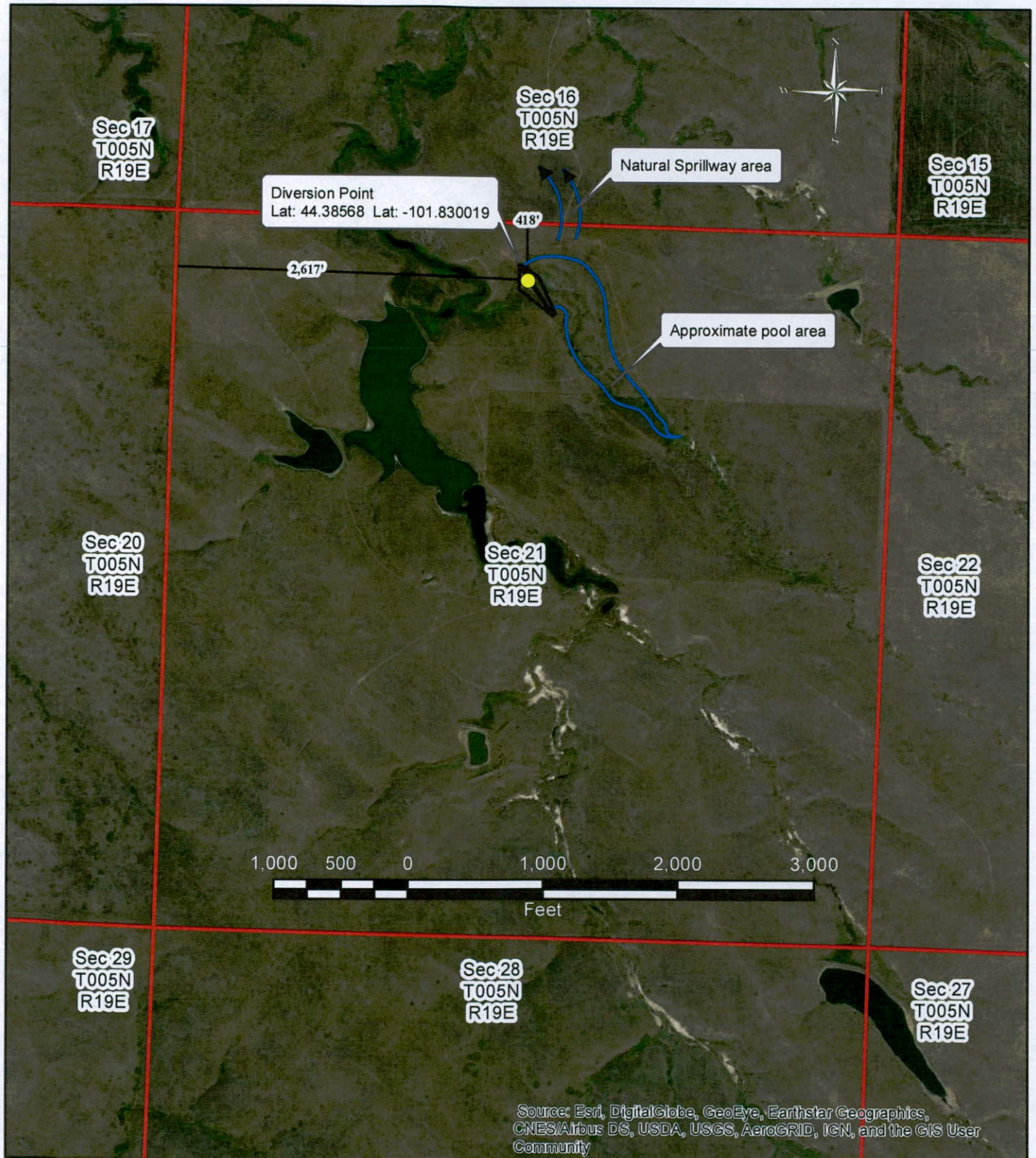


Principal Spillway inlet

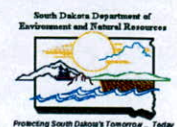


Principal Spillway at outlet

Water Right #2757-2
Henry Hanson
7/9/2019



Steven Quissell
Water Rights Inspector
DENR Water Rights Program





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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PIERRE, SOUTH DAKOTA 57501-3182

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SEP 04 2019

2757-2

Henry Hanson
21195 Ash Creek Rd
Philip SD 57567

Dear Mr. Hanson:

Enclosed is Water License No. 2757-2. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 2757-2

(1) Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567 made Application No. 2757-2, August 22, 2016 for a water permit to impound 40.5 acre feet of runoff water by reconstructing a dam on a tributary of Haxby Draw and Bridger Creek in Haakon County, South Dakota for fish & wildlife propagation and livestock watering purposes. Permit No. 2757-2, with a priority date of August 22, 2016 was approved October 17, 2016 and issued to the applicant for impoundment of water with construction of the described water supply system to be completed on or before October 17, 2021 and for the application to beneficial use of said water on or before October 17, 2025.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to construction of the storage dam and is entitled to impound 40.5 acre feet of water for beneficial use with sufficient water annually to maintain water to the outlet elevation. The location is as follows:

- 2,617'E and 418'S of the NW corner of Section 21, T5N, R19E (N ½ Section 21)
Latitude 44.38568, Longitude -101.830019

Water is impounded in the NE ¼ NW ¼ and W ½ NE ¼ Section 21, T5N, R19E.

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use. The water impounded in the reservoir is put to beneficial use in-place for fish and wildlife purposes and piped to a stock tank located at the downstream toe below the embankment.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Henry Hanson, 21195 Ash Creek Rd, Philip SD 57567 the holder and/or owner of Water Right No. 2757-2 is issued a license to appropriate water, the right to impound 40.5 feet of water from dry draw runoff (tributary of Haxby Draw and Bridger Creek) with a priority date of August 22, 2016 from the location specified in (2) of this license for fish & wildlife propagation and livestock watering purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2757-2 and subject to the following qualifications:

- Water Permit No. 2757-2 authorizes an impoundment with a storage capacity of 40.5 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
- Low flows as needed for downstream domestic use, including livestock water and prior water rights must be bypassed.



Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

SEP 04 2019

date

