

WATER PERMIT NO. 1915-1

Name of Applicant: **SD Dept of Game, Fish & Parks**

Address: **523 E Capitol Ave, Pierre SD 57501** Phone: **605 773-3387**

Amount of Water Claimed: **60 AF** Total Acres: **NA**

Source of Water Supply: **tributary of Firesteel Creek**

Water to be used for: **fish & wildlife propagation & recreation** County: **Dewey**

Type of Waste Disposal System: **NA**

Location: **12 miles west of Timber Lake**

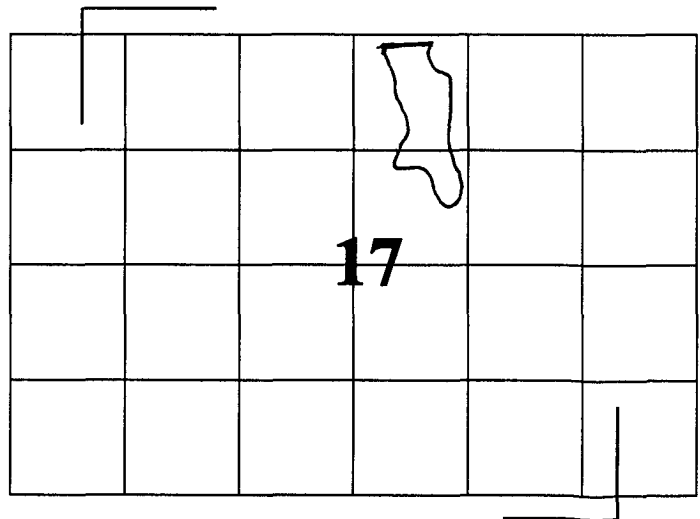
PRIORITY Date Received: **4-19-10** Application/License Fee: **\$700**

Corrected Application Received: Period of Annual Use: **January 1 – December 31**

Remarks: **reconstruction of a partially breached dam**

Diversion Point: **NW ¼ NE ¼ Sec 17-T17N-R23E**

Water Impounded: **W ½ NE ¼ Sec 17-T17N-R23E**



Depth of Well: **NA**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by: **Tim Olson**

Reviewed and the Number Assigned on: **4-21-10**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>1915-1</u> (office use only) Hydrologic Unit <u>10130303</u>
	Basin <u>Grand River</u>
	Newspaper <u>Timber Lake Topic</u>

RECEIVED
APR 19 2010
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.)

1. Name of Applicant SD Dep't of Game, Fish & Parks, Wildlife Division Phone 605-773-3387
 (check one) ☐ Owner ☐ Tenant/lessee

Mailing Address 523 E Capitol Ave Pierre SD 57501
 (Address) (City) (State) (Zip Code)

2. Amount of water claimed _____ *CFS or _____ **GPM _____ 60 ***AF
 (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable

3. Source of water supply Unnamed tributary to Firesteel Creek

4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Dewey
NW1/4NE1/4 Sec. 17 T17N R23E
Water Impounded: W 1/2 NE 1/4 Sec 17 T17N - R23E

5. County or counties where water will be used Dewey

6. Annual period during which water is to be used Year around (Jan 1 - Dec 31)

7. 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)

Project is a reconstruction of an existing partially breached dam. A damaged concrete weir spillway will be replaced with large coated CMP riser and barrel primary spillway structure. A secondary spillway section will also be established.

STATE OF SOUTH DAKOTA)
 County of Stanley) SS

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

I, Tim Olson, 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 Tim Olson

Subscribed and sworn to before me this 19 day of April 20 10

Notary Public signature

My Commission Expires
9-24-2015

Supplemental Information

(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 applicant's 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:
Konechne Engineering
104 Capitol Hill Cr
Pierre, SD 57501

b) Freeboard 8'

c) Crest Width 12'

Crest Length 950'

d) Height 16'

e) Primary Outlet Capacity 280 cfs

If pipe, diameter 72" riser w/ 60" barrel

f) Secondary Spillway Capacity 121cfs

Spillway Width 20'

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

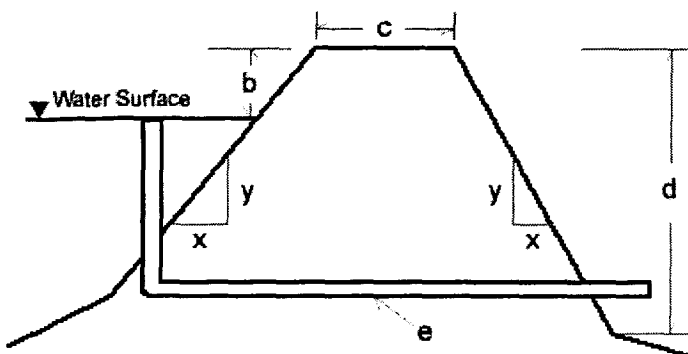
Upstream 3:1

Downstream 3:1

h) Surface Area of Impoundment 17 acres

i) Storage 60.0 Acre Feet

j) Drainage Area Above Dam 1,510.0 Acres



**SOUTH DAKOTA
WATER PERMIT NO. 1915-1**

Date of first receipt of application April 19, 2010.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1915-1 to South Dakota Department of Game, Fish and Parks, 523 E Capitol, Pierre SD 57501 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1915-1 authorizes impoundment of 60 acre-feet of water from a tributary of Firesteel Creek by reconstructing a dam located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 17 with water impounded in the W $\frac{1}{2}$ NE $\frac{1}{4}$ Section 17; all in T17N-R23E.
2. The water appropriated shall be used for the purpose of fish and wildlife propagation and recreational use 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. 1915-1 is June 14, 2010.
5. The date from which applicant may claim right is April 19, 2010.
6. One-fifth of the construction is to be completed on or before December 14, 2012.
7. All construction is to be completed on or before June 14, 2015.
8. Water is to be put to beneficial use on or before June 14, 2019.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

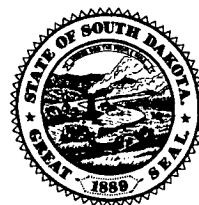
QUALIFICATIONS

1. Water Permit No. 1915-1 authorizes a dam with a storage capacity of 60 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: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUN 24 2010
date



Firesteel Dam (Lake Walton) Restoration
NW1/4NE1/4 Sec 17, T17N R23E
Dewey County

Point of diversion located approximately 2500 feet west of the northeast corner of section 17 T17N R23E

Storage is 60 acre-feet and surface area at fsl is 17 acres



Map prepared by Tim Olson, SD Game, Fish & Parks, Wildlife Division

Tim Olson

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WATER RIGHTS
PROGRAM

State of South Dakota
VOUCHER

Non-Cash Voucher

APPL. AREA 75 APPROVAL NUMBER _____
D A T E 04/19/2010 APPROVAL DATE _____
DOCUMENT ID N200423 D A T A T Y P E 1

FROM: DENR

TO: Game/Fish/Parks

LINE	COMP	ACCOUNT	CENTER	AMOUNT	SIGN
1	3072	4299802	2020000800	500.00	CR
2	3072	4299803	2020000800	200.00	CR
3					
4					
5					
TOTAL			DR	0.00	
TOTAL			CR	700.00	
VOUCHER TOTAL				\$1,400.00	
DESCRIPTION OF SERVICE, PRODUCT, OR TRANSFER					

Application WR Fee \$500.00
Inspection WR Fee \$200.00

I declare and affirm under the penalties of perjury that this claim has been examined by me, and to the best of my knowledge and belief, is in all things true and correct.

Sandy Verhelst

Claimant

Date

Authorization

Date

605-773-5242

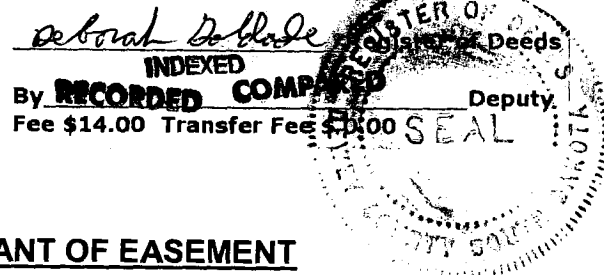
Authorization

Date

OFFICE OF REGISTER OF DEEDS
STATE OF SOUTH DAKOTA } SS.
County of Dewey

Document prepared by:
SD Department of Game, Fish & Parks
523 East Capitol Avenue
Pierre, SD 57501
(605) 773-3630

I hereby certify that the within instrument
was filed in this office on 4/15/2010
at 11:50 AM and was duly recorded in book
#M18 of MISC on Page 485



AGREEMENT AND GRANT OF EASEMENT

This AGREEMENT AND GRANT OF EASEMENT is made this 13th day of November, 2009, by and between Bernard Boysen, HC # Box 33, Firesteel, South Dakota 57633, hereafter referred to as GRANTOR, and the South Dakota Department of Game, Fish and Parks, 523 East Capitol Avenue, Pierre, South Dakota 57501, hereafter referred to as GRANTEE.

DM WHEREAS, GRANTOR is the owner in fee of real property situated in Dewey County, South Dakota, described as: SE ¼ of the NE ¼ Section 17, Township X17 North, Range 23 East, which property is hereafter referred to as PROPERTY; and

DM WHEREAS, due to an approved wetland creation project by the GRANTEE on GRANTEE's downstream property located in the W ½, of the NE ¼ of Section 17, Township X17 North, Range 23 East, GRANTEE has need for additional easements to facilitate said project; and

WHEREAS, GRANTOR will benefit by reason of having an additional source for watering his livestock as a result of the repairs which will be made to the Firesteel GPA dam in conjunction with the wetland creation project, GRANTOR desires to grant and convey to the GRANTEE additional rights and easements on GRANTOR'S PROPERTY as provided herein; NOW, THEREFORE,

In consideration of the mutual benefits to be derived by both parties by virtue of making and entering into this Agreement, the parties agree as follows:

GRANTOR grants 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 an elevation of approximately 2245.0 feet mean seal level (approximately 5.20 surface acres of PROPERTY), which is the same elevation as the top of the Firesteel GPA dam located on GRANTEE's above described property. Elevation of the normal dam pool is at approximately 2236.0 feet mean sea level and will not permanently impound water on GRANTOR'S PROPERTY (PLEASE SEE ATTACHED AERIAL PHOTO WHICH ILLUSTRATES THE NORMAL DAM POOL).

GRANTOR, for the consideration stated herein, for himself or for his heirs, successors, personal representatives 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 wetland creation 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:

Bernard Boysen
Bernard Boysen

GRANTEE:

STATE OF SOUTH DAKOTA,
DEPARTMENT OF GAME, FISH AND
PARKS

BY:

Anthony P. Leif
Anthony P. Leif, Director, Wildlife Division

(END OF AGREEMENT TEXT)

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF DEWEY)

On this the 25th day of Nov., 2009, before me, Steven Laib, the undersigned officer, personally appeared Bernard Boysen, 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)

Steven J. Laib
Notary Public, South Dakota

My Commission Expires: 1-31-2014

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

On this 25th day of November, 2009, before me, Paul Coughlin, the undersigned officer, personally appeared Anthony P. Leif, who acknowledged himself to be the Director of the Wildlife Division of the South Dakota Department of Game, Fish and Parks, and that he, in said capacity and being authorized so to do, executed the foregoing instrument on behalf of the South Dakota Department of Game, Fish and Parks for the purposes therein contained.

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

(NOTARY SEAL)

Paul Coughlin
Notary Public, South Dakota

My Commission Expires: August 24, 2013

=====

POND DESIGN

=====

WinPond 1.5.2405.11111

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WATER RIGHTS
PROGRAM

Project ---- : Firesteel Dam

Description :

State ----- : South Dakota

County ----- : Dewey

Landowner -- : SD GF&P

Township --- : 17N

Range ----- : 23E

Section ---- : 17

Tract ----- :

Field ----- :

Designed By : Dave Konechne

Date designed: 4/17/2010

Date printed : 4/17/2010

Approved By : _____

Date : _____

File Name : C:\Users\Dave\AppData\Local\USDA, NRCS\winPond\New.prj

PLANNED IN COOPERATION WITH USDA-NRCS

Office Name
Address1
Address2
City

Project --- : Firesteel Dam
 Prepared for: SD GF&P
 Prepared by : Dave Konechne
 Checked by : _____

TWP : 17N RNG : 23E
 SEC : 17 FLD :
 Date: _____

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

Hazard Class	Low	A
Effective Height	Feet	12.6
Effective Storage	Ac-Ft	188.9
Overall Height	Feet	16.5
Total Storage	Ac-Ft	281.5
Storage X Effective Height	Ac-Ft Ft	2381
Contributing Drainage Area	Acres	1510
Contributing Drainage Area	Square Miles	2.36
Pipe Conduit Capacity	CFS	280.0
Open Channel Spillway Design Flow	CFS	121.5
Peak Inflow Aux Spillway Design Storm	CFS	1609.7
Conduit - Inside Diameter	Inches	60
Conduit Material		HCMP
Inlet Type		Drop
Job Approval Class		
INVENTORY SIZE DAM		

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

ELEV (ft)	POOL AREA (acres)	INT.STORAGE (ac.ft.)	ACCUM.STORAGE (ac.ft.)
88.0	0.00	0.00	0.00
92.0	10.00	20.00	20.00
96.0	19.20	58.40	78.40
98.0	23.40	42.60	121.00
100.0	27.60	51.00	172.00

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

	ELEVATION (ft)	AREA (acres)	STORAGE (ac.ft.)
Inlet (Princ. spillway)	95.0	16.90	60.35
Aux. spillway	100.6	28.86	188.94
Max. water	102.5	32.83	247.18
Settled top of fill	103.5	34.95	281.46
Sediment - above inlet			0.00
- below inlet			0.00
Inlet to Aux.			128.59
Aux. to max. water			58.24

Project --- : Firesteel Dam
 Prepared for: SD GF&P
 Prepared by : Dave Konechne
 Checked by : _____

TWP : 17N RNG : 23E
 SEC : 17 FLD :
 Date: _____

RUNOFF CURVE NUMBER DETERMINATION

Acres & (curve numbers) for
 Hydrologic Soil Group

COVER DESCRIPTION

A B C D

ACCUMULATED: 1510.00 Acres

WEIGHTED CURVE NUMBER: 82.0

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

Rainfall distr. type ----- :	II		
Drainage area, acres ----- :	1510.0	watershed slope, % :	3.4
Runoff curve number ----- :	82	Flow length, ft. - :	10032
Time of concentration, hrs ----- :	1.70		
(min.: 102.27)			
----- spillway -----			
	Principal	Auxiliary	
Design frequency, yrs.: :	25	100	
24 hr. Rainfall, in. : :	3.9	4.9	
Runoff, in. ----- :	2.1	3.0	
Peak inflow, cfs ---- :	1130.88	1609.73	
Peak outflow, cfs --- :	279.99 ✓	121.50 A.S. ✓	
		312.95 P.S.	

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

Inlet type: Drop

Inlet Elevation: 95.0

	TRIAL 1	TRIAL 2	TRIAL 3
CONDUIT: Type -----	HCMP		
Diameter, in. --	60.00		
Height, in. ----			
Width, in. -----			
Manning's n ----	0.021		
Inlet ext., ft. -	0.0		
Length, ft. ----	95.0		
Entrance Coefficient, Ke	1.000		
RISER : Type -----	HCMP		
Diameter, in. --	72.00		
Length, in. ----			
Width, in. -----			
Weir length, in.	226.19		
Crest radius, in.			
Invert elevation -----	88.70		
Auxiliary elevation -----	100.6		
STORAGE (ac.ft.):			
Temporary (PS-AS) ----	128.59		
Total at Auxiliary ---	188.94		
Effective height, ft. ---	12.6		
Height x storage -----	2381		
Drawdown time, days-hrs.	0-11.1		
Trial used -----	1 --		

CONDUIT TYPES ----- : HCMP - Helical Corrugated Metal Pipe

TWP : 17N RNG : 23E
SEC : 17 FLD :
Date: _____

Auxiliary elev. :	100.6	Retardance ----- :	B
Bottom width, ft. :	20	Level sect. length, ft.:	25
Flow depth, ft. - :	1.89	Side slope ratio, n:1 :	3.00
EXIT CHANNEL -			
Max. Vel.,fps - :	5.0	Retardance ----- :	B

Flow, cfs ----- :	121.50	Exit slope, % --- Min.:	4
		Max.:	5
settled fill elev.:	103.5	Drawdown time, days-hrs:	0-12.3
Channel elev. --- :	87.0	Overall height, ft. -- :	16.5
(downstream toe)			

Inlet Type -----	DROP	
Conduit Type -----	HCMP	- Helical Corrugated Metal Pipe
Diameter, in. -----	60.00	
Inlet extension, ft --	0.0	
Length, lin. ft. ----	95.0	Extends 6.0 ft. beyond dnstr.toe
Slope, % -----	.7	
Max.fill over pipe, ft.	10.9	

Horizontal Distances (ft.)		
Upstrm: edge of top width to inlet end of pipe :		26.5
Dnstrm: edge of top width to toe ----- :		49.5

NOT TO SCALE

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Constructd.fill elev.: 104.3 Top width, ft.: 12
Settled fill elev.: 103.5
% settlement: 5.0
Inlet elev.: 95
Up.berm elev.: 95
width,ft: 10
Front slope: 3
1 |
Pool Bottom El: 88; C/L Low Pt.: 88
Length(s), ft.-
Conduit ----- (A to C): 95
Top width, ft.: 12
Auxiliary El. ----: 100.6
Bottom width, ft.: 20
3 Back slope
1
Invert elev. 88.7
Outlet elev. 88
Channel elev. 87

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Project --- : Firesteel Dam
 Prepared for: SD GF&P
 Prepared by : Dave Konechne
 Checked by : _____

TWP : 17N RNG : 23E
 SEC : 17 FLD :
 Date: _____

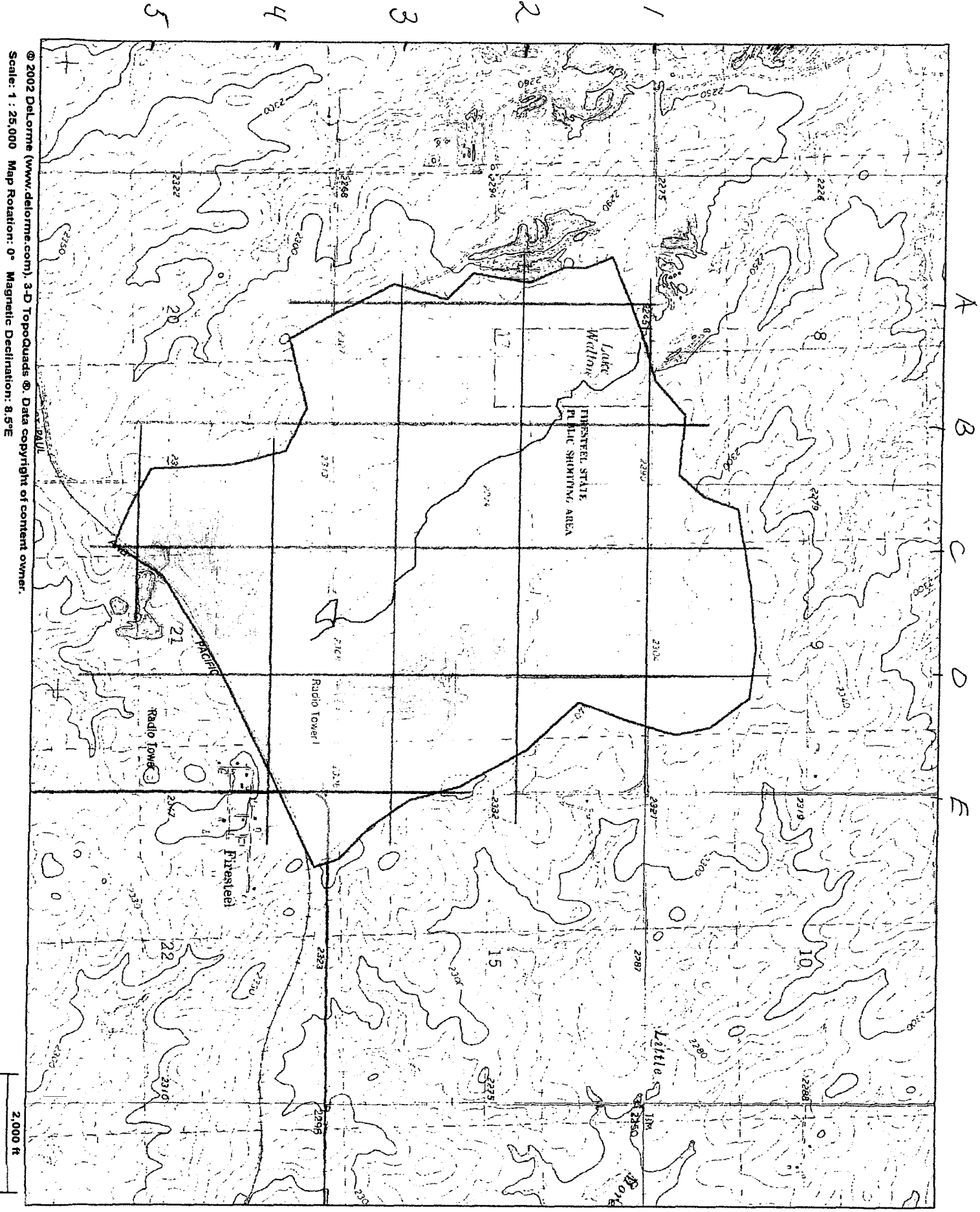
***** SUMMARY *****

Inlet type: DROP Inlet Elevation: 95

CONDUIT: Type -----	HCMP - Helical Corrugated Metal Pipe
Diameter, in. ---	60
Length, lin. ft. -	95 Extends 6 ft. beyond dnstr.toe
RISER : Type -----	HCMP - Helical Corrugated Metal Pipe
Diameter, in. ---	72
Height, ft. -----	6.3 = Inlet elev. - Invert elev.
AUX. : Elevation -----	100.6
Bottom width, ft. -	20
Hp, flow depth, ft. -	1.89
Exit slope, % min.	4
max.	5
Effective height, ft. ----	12.6 = AS elev. - low pt. on C/L
Height x storage -----	2381
Overall height, ft. ----	16.5 = stld. fill elev - chan. elev
NOTE -----	***** INVENTORY SIZE DAM

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

Design based on -----	Settled 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)



© 2002 DeLorme (www.delorme.com), 3-D TopoQuads®. Data copyright of content owner.
Scale: 1 : 25,000 Map Rotation: 0° Magnetic Declination: 8.5°E

Firesteel (Lake Walton)

Sec 17, T17N, R23E

<u>Grid Line</u>	<u>length</u>
1	3.0
2	3.9
3	4.3
4	2.4
5	0.6
A	2.2
B	3.1
C	5.1
D	4.2
E	1.3

$$30.3 \times 2000 \frac{\text{ft}}{\text{in}} = 60,600 \text{ ft}$$

<u>Contour</u>	<u>Grid Crossing</u>
2250	1
2270	9
2290	24
2310	13
2330	16
2350	3
	<u>66</u>

$$S = \frac{1.571(20)(66)}{60,600} = 0.034 \times 100 = 3.4\%$$

$$CN = 82$$

$$\text{1 yr road ft. } \frac{0.5 \times 1510}{12} = 63$$

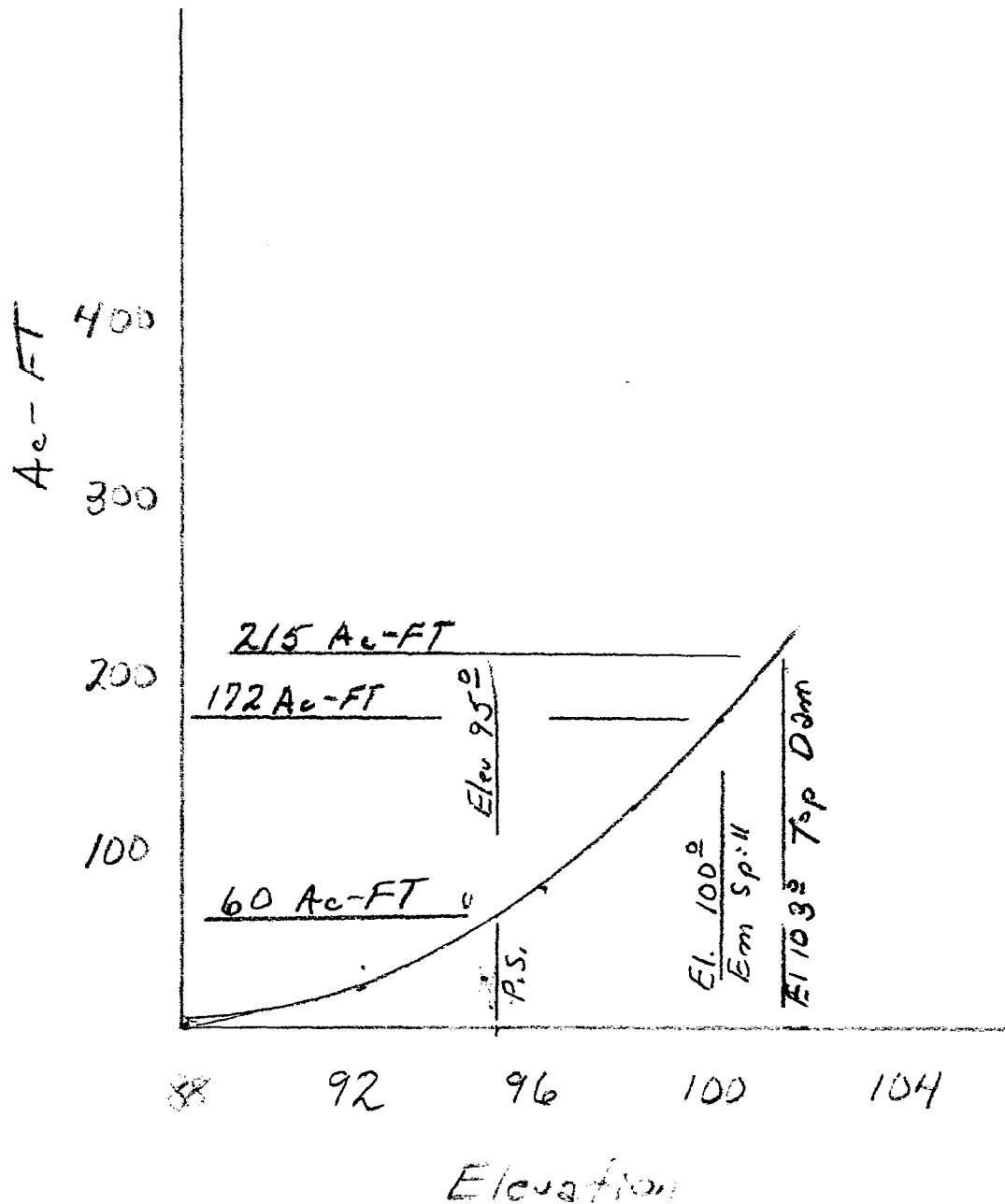
APR 19 2010

WATER RIGHTS
PROGRAM

Firesteel Dam

Sec 15, T17N, R23E Dewey Co

NOTE - 25-yr storm thru Principal Spillway
East end of fill will have 20 ft
wide opening at Elev 100.0



Trash rack and baffle plate
not shown. See job plan
no. 6.4

Top of dam after settlement El: 103⁰

Note: Allowance for settlement 5 %

Emergency spillway El. 100

Principal spillway El. 95⁰

~~Berm, if required _____: 1
slope normal to C of
dam _____~~

3:1 slope normal
to C of dam —

- 72" dia. riser, see
job plan no. 5.3

90°

Antiseep collars, sand seep collar

El. 88-²

3:1 slope normal to C of dam

O_e / % gr.

90' of 60" dia. pipe

Diagram of a prefabricated elbow. The elbow is shown in a 90-degree bend. The label "Prefabricated elbow" is at the top. The bend angle is marked as "90°". The elbow is labeled "El." at two points. The bend is labeled "90° gr.". The diagram shows the elbow's profile and its connection to a pipe.

Hand-drawn sketch of a pipe assembly. The sketch shows a horizontal pipe with an elbow at the left end. Labels include: "Prefabricated elbow" with an arrow pointing to the elbow; "Pipe support, see job plan no. 4.0" with an arrow pointing to a support bracket; "% gr." with an arrow pointing to the main pipe section; "El. 88°" with an arrow pointing to the elbow; "El. 87°" with an arrow pointing to a lower pipe section; and a dimension "60" with arrows indicating a length. The sketch is drawn on lined paper.

Sec. _____, T. _____, R. _____
County _____

CORRUGATED METAL PIPE
DROP INLET PRINCIPAL SPILLWAY

1. ELBOW, IF REQUIRED, MAY BE FABRICATED BY CONTINUOUS WELDING SEPERATE PIPE SECTIONS OR BY FABRICATING A CONTINUOUS WELDED JOINT ON THE UPSTREAM END OF LAST SECTION OF PIPE.
2. PIPE WALL THICKNESS SHALL BE 10 GAGE OR 0.138 INCHES.

All pipe to be vinyl
clad and spiral or
caulked seam and
double riveted.

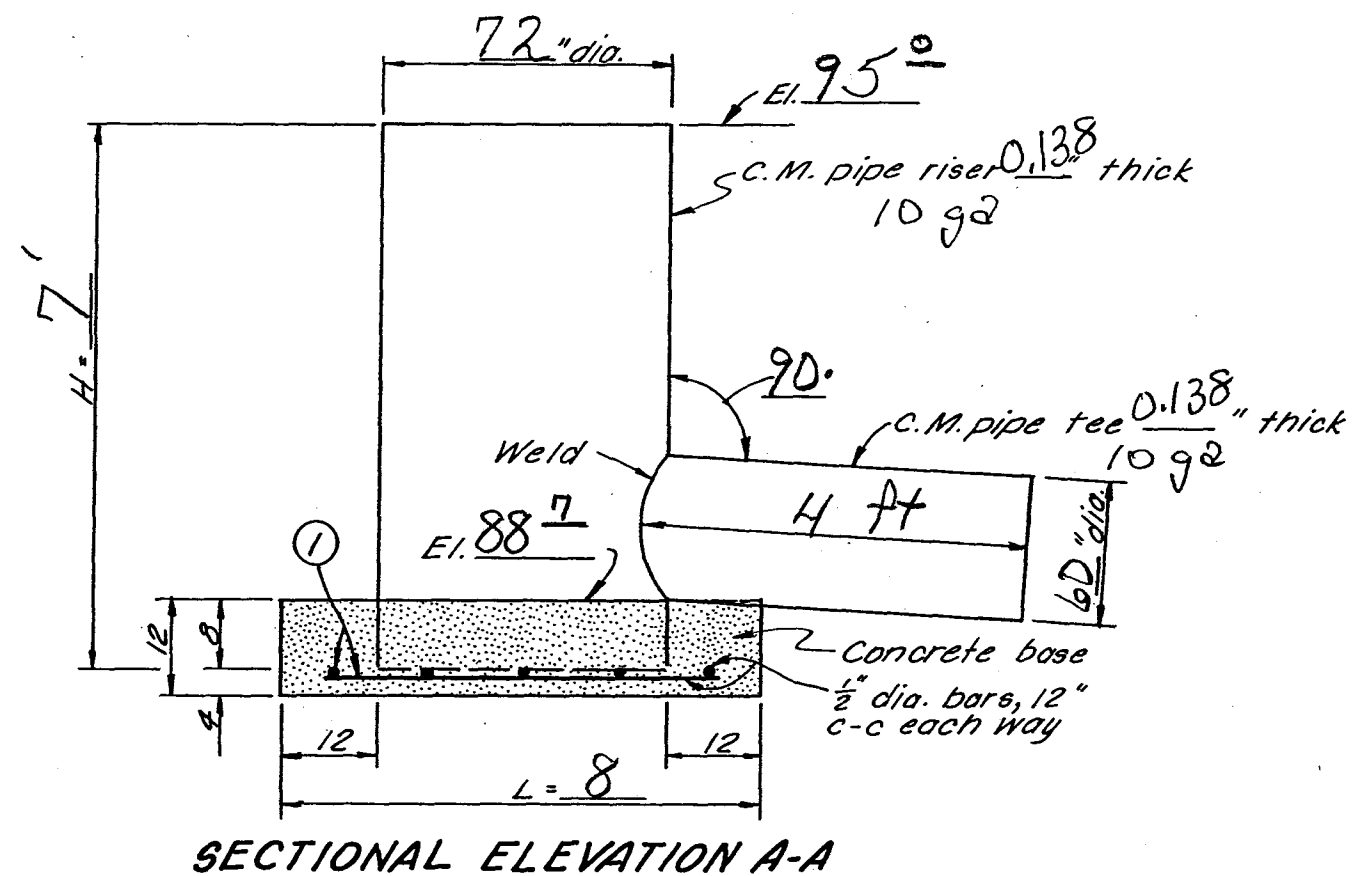
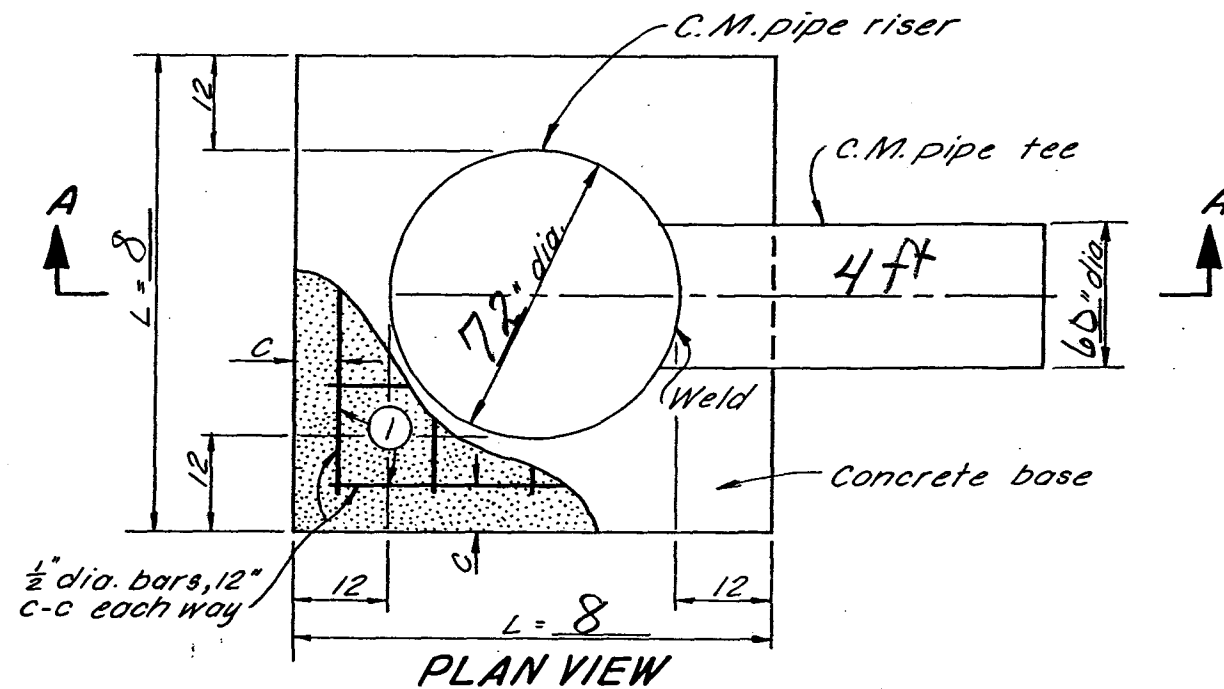
[illegible]

APPLICABLE STANDARD S.C.S. SPECIFICATIONS

Rev. 8/80
JOB PLAN NO. 2.0

REFERENCE: GUIDE PLAN NO. 2.0

OPERATOR <u>Firesteel Dam</u>	
CONSERVATION DISTRICT _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Date _____	Approved by _____
Designed _____	Title _____
Drawn _____	Title _____
Traced _____	Sheet _____
Checked _____	Drawing No. _____
	No. _____
	of _____



STEEL SCHEDULE

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.
72	4	1	STR.	16	7-6	120	80	6	8-0

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
CONCRETE	CU. YD.	2.4
REINFORCING STEEL	LB.	80

NOTE: All CMP to be vinyl clad and spiral or caulked seam and double riveted

C.M. PIPE RISER WITH FABRICATED TEE

OPERATOR: <u>Firesteel Dam</u>	
CONSERVATION DISTRICT: _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Designed _____	Date _____
Drawn _____	Approved by _____
Traced _____	Title _____
Checked _____	Title _____
	Sheet No. _____
	Drawing No. _____

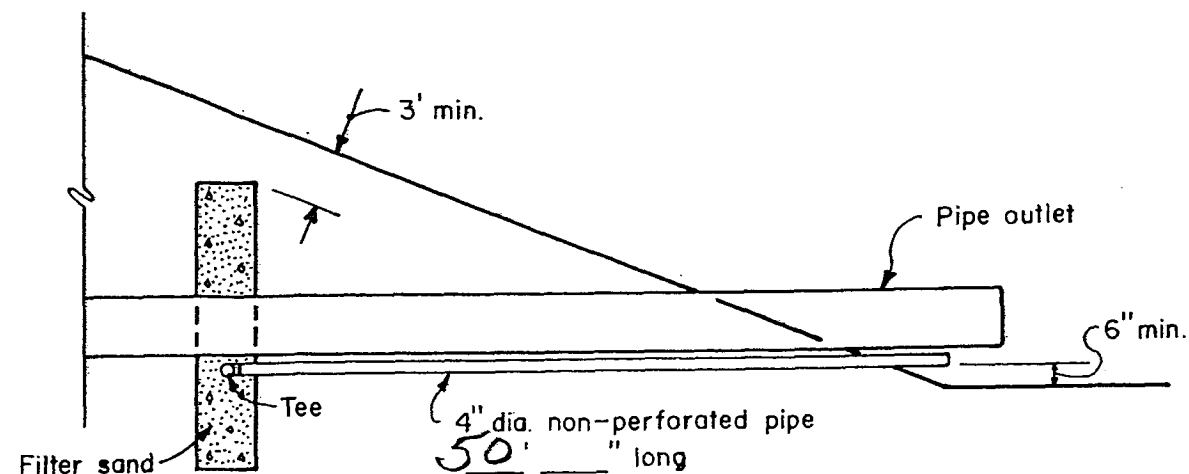
REFERENCE: GUIDE PLAN NO. 5.3

JOB PLAN NO. 5.3

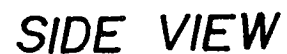
5,N-29,073.5-30



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 $\frac{1}{2}$ 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).



OUTLET DETAIL



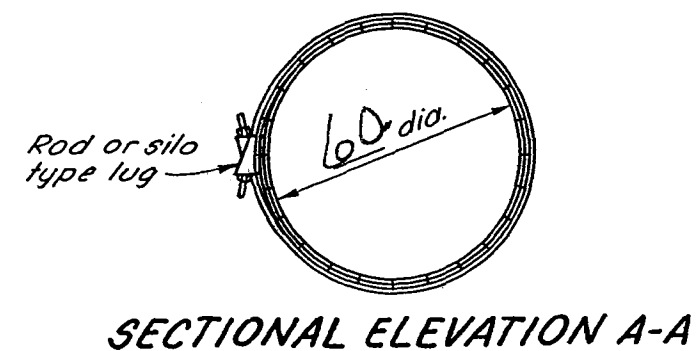
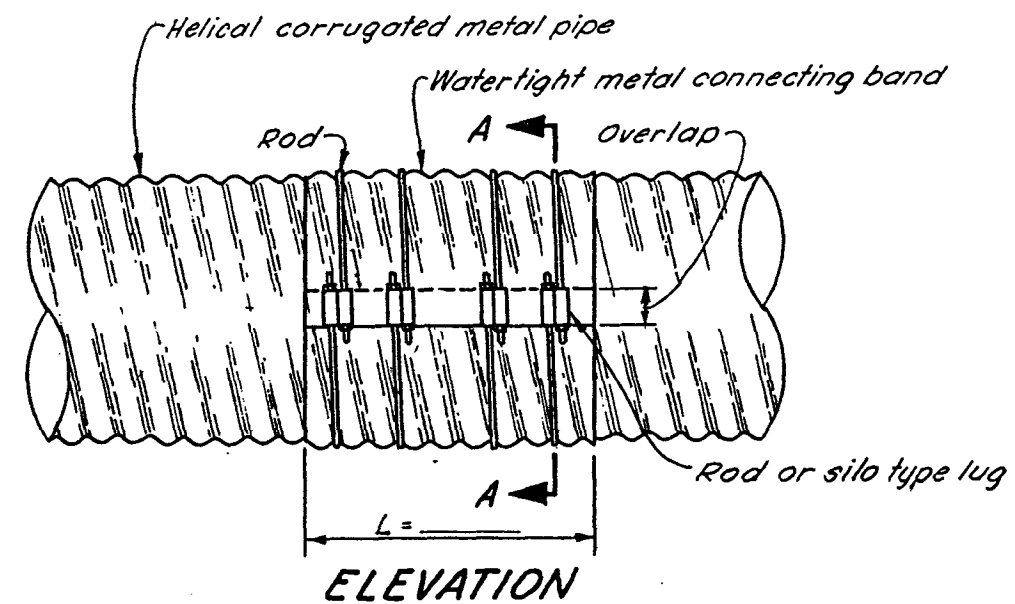
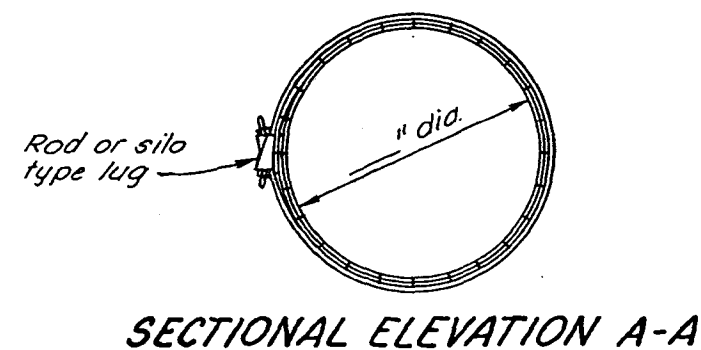
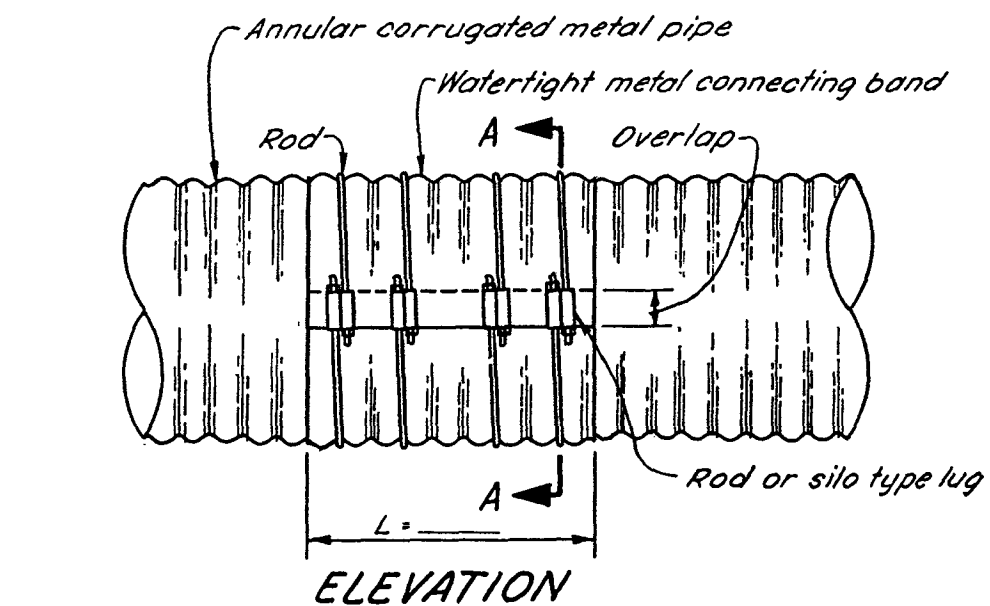
see spec SD-9
21 cy

LOCATION

SAND ANTISEEP COLLAR

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

JOB PLAN NO. 3.8



DIMENSIONS AND QUANTITIES

PIPE DIA. INCHES	MINIMUM "L" INCHES	APPROX. OVERLAP INCHES	NUMBER OF RODS & LUGS	MINIMUM ROD DIA. IN.	NEOPRENE GASKET WIDTH INCHES	ASPHALT MASTIC GAL.
6-18	12	2	2	1/2	12	1/2
21-30	24	3	4	1/2	12	1 1/2
36-48	24	6	4	1/2	12	2

NOTES:

1. WATERTIGHTNESS WILL BE OBTAINED BY USE OF (1) 3/8" THICK NEOPRENE GASKET (WIDTH AS SHOWN) OR (2) ASPHALT MASTIC SEALING MATERIAL TO COVER FULL WIDTH OF BAND.
2. CROSS OUT BAND AND QUANTITIES NOT APPLICABLE.

WATERTIGHT CONNECTING BAND FOR ANNULAR AND HELICAL CORRUGATED METAL PIPE

OPERATOR: Firesteel Dam

CONSERVATION DISTRICT: _____

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed _____ Date _____ Approved by _____
Drawn _____ Title _____

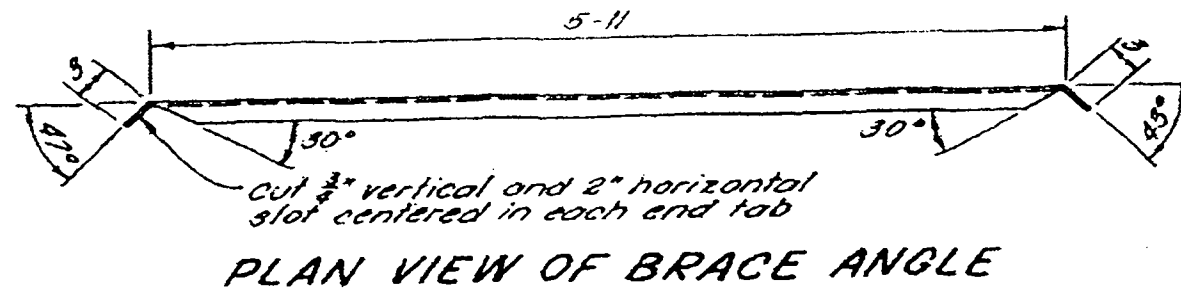
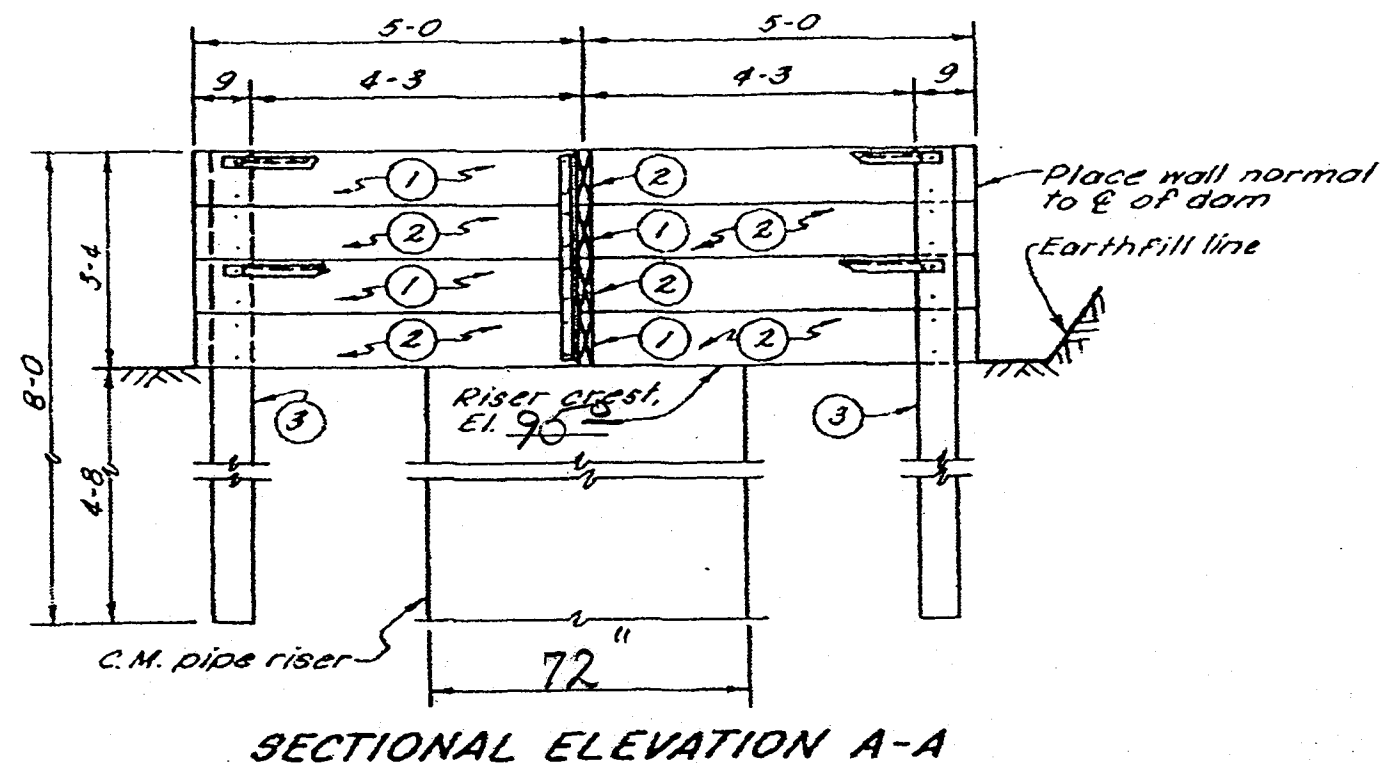
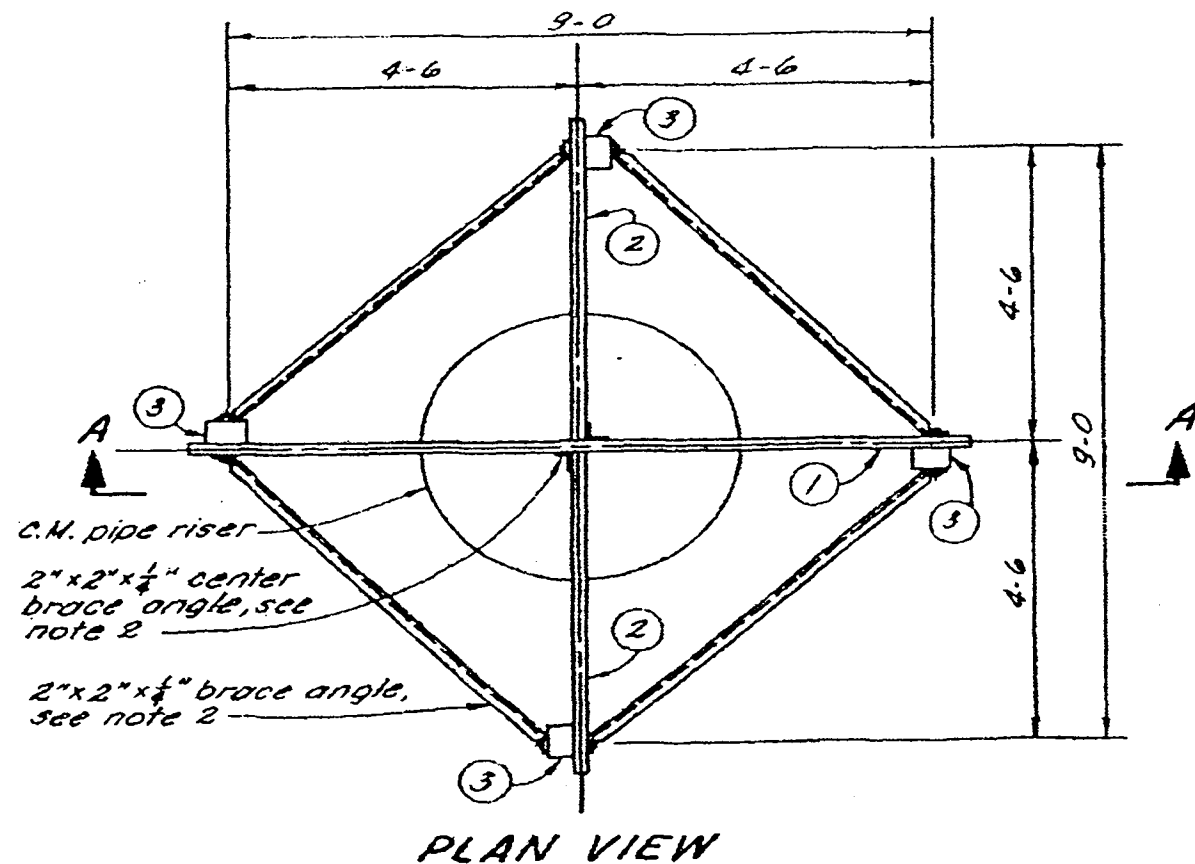


TABLE OF QUANTITIES

ITEM	MARK	NO. REQ'D.	QUANTITY
2" X 10" X 10' PRESSURE TREATED LUMBER	1	4	67 BD. FT.
2" X 10" X 4'-11" PRESSURE TREATED LUMBER	2	8	66 BD. FT.
4" X 6" X 8' PRESSURE TREATED POST	3	4	64 BD. FT.
2" X 2" X 1/4" X 6'-5" STEEL ANGLE		8	164 LB.
2" X 2" X 1/4" X 3'-2" STEEL ANGLE		2	20 LB.
5/8" X 8" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS
1/2" X 3" STEEL BOLTS, NUTS, 2 WASHERS		32	32 SETS

NOTES:

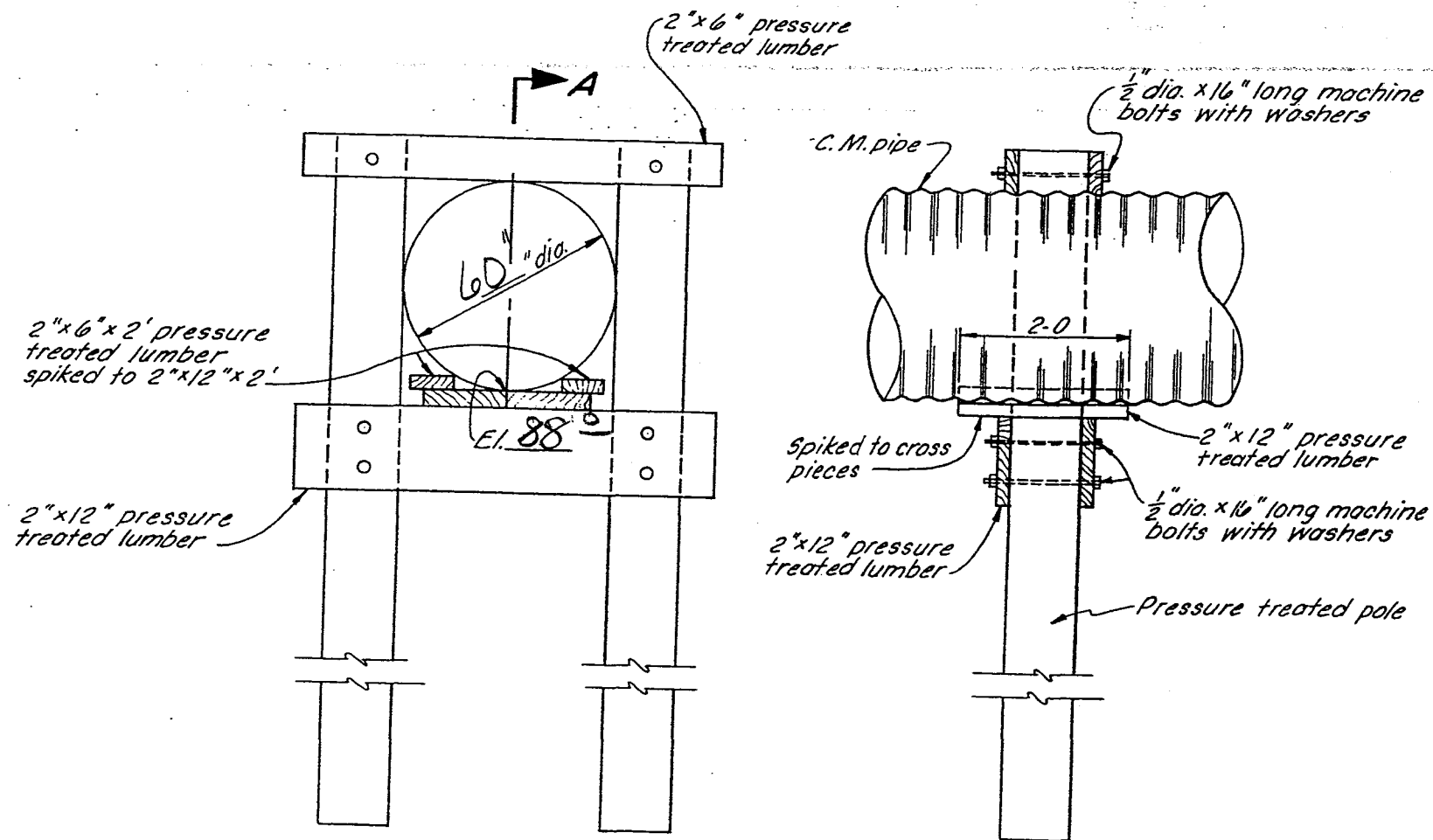
1. TO 4" X 6" POSTS (4 REQUIRED) BOLT 2" X 10" BOARDS USING TWO 5/8" X 8" BOLTS PER 2" X 10" BOARD. DO NOT PLACE BOLTS CLOSER THAN 1 1/2" FROM EDGE OF BOARD.
2. FOR CENTER BRACE ANGLES DRILL 8 - 9/16" HOLES 5/8" FROM OUTER EDGE OF EACH LEG OF EACH ANGLE AND CENTERED 5 1/4" APART ALONG THE LEG.
3. ATTACH BRACE ANGLES TO TOP BOLT ON TOP 2" X 10" BOARD AND TO TOP BOLT ON NEXT TO BOTTOM BOARD.

TRASH RACK AND BAFFLE
FOR RISER DIA. 36" THRU 60"

OPERATOR: <u>Firesteel Dam SDGFP</u>	
CONSERVATION DISTRICT: _____	
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
Designed _____	Date _____
Drawn _____	Approved by _____
Traced _____	Title _____
Checked _____	No. _____
	Sheet _____
	Drawing No. _____

JOB PLAN NO. 6.4

5, N-29, 073.6-40



ELEVATION

SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR 60" DIA. C.M. PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 10" DIA.	12-0	EACH	2
2" X 12" PRESSURE TREATED LUMBER	8-0	EACH	2
2" X 6" PRESSURE TREATED LUMBER	8-0	EACH	2
2" X 12" PRESSURE TREATED LUMBER	2-0	EACH	4
2" X 6" PRESSURE TREATED LUMBER	2-0	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	1-4	EACH	10
1/2" DIA. WASHERS		EACH	20

NOTES:

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

TIMBER PIPE SUPPORT.

OPERATOR: Firesteel Dam

CONSERVATION DISTRICT: _____

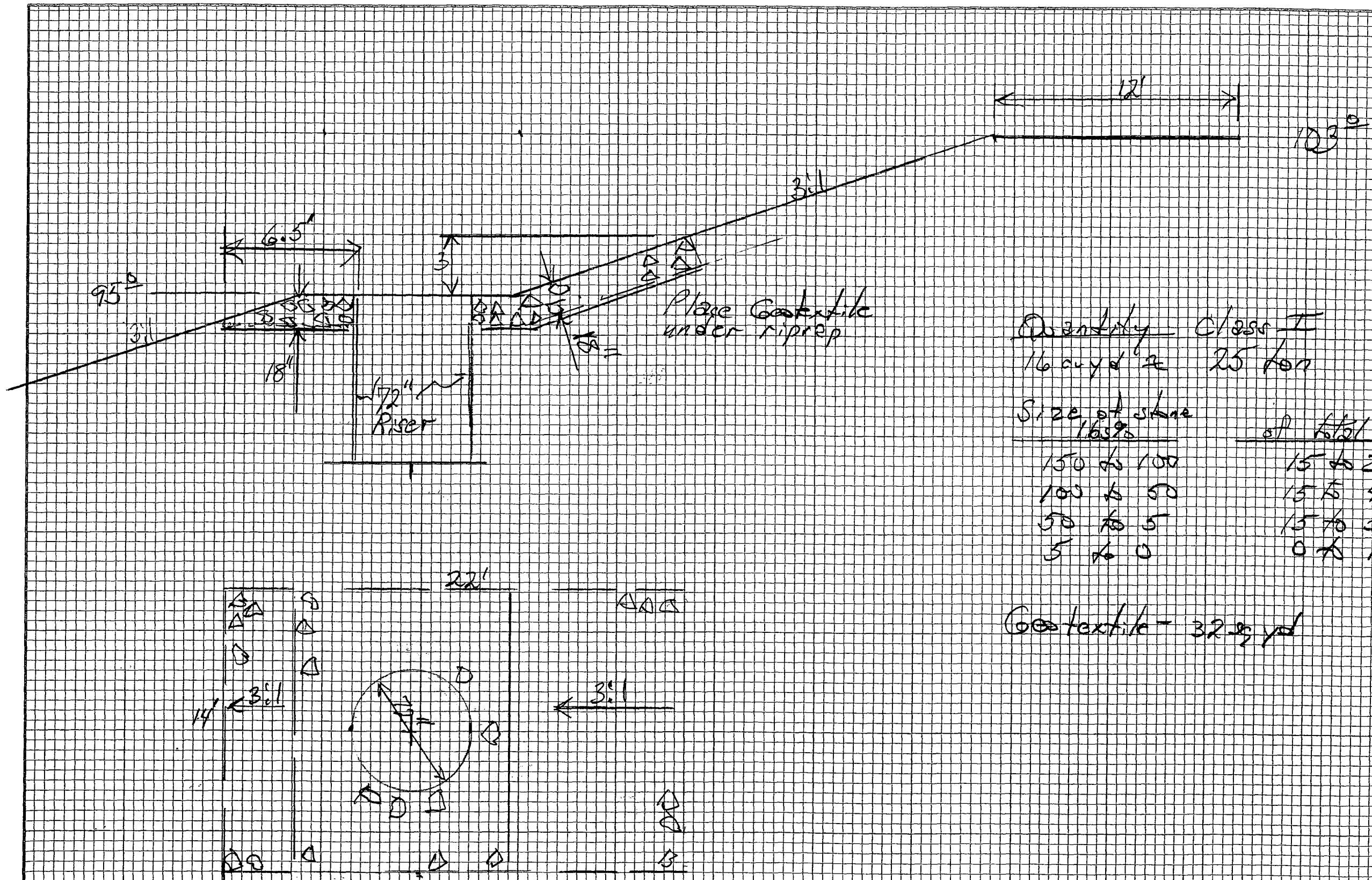
Designed _____	Date _____	Approved by _____
Drawn _____		Title _____
Traced _____		Title _____
Checked _____		Sheet _____
		No _____
		of _____

REFERENCE: GUIDE PLAN NO. 4.0

JOB PLAN NO. 4.0

5 N-20 072 1





Quantity Class I
16 cu yd @ 25 ton

Size of stone	of total wt.
150 to 100	15 to 25
100 to 50	15 to 45
50 to 5	15 to 55
5 to 0	0 to 10

Geotextile - 32 sq yd

Date _____
Designed _____
Drawn _____
Checked _____
Approved _____

Firesteel Dam

Water Permit Application No. 1915-1
SD Dept. GF&P

Top of Dam Elev. - 103
2nd Spillway Elev. - 100
P. Spillway Elev. - 95
D/S Emb. Toe Elev. - 87 } Ht. = 16 ft Cat. 3 - Low Hazard Dam

Normal Storage Capacity - 60 Ac-Ft
Int. Storage Capacity - 172
Max. Storage Capacity - 215

Int. Capacity x Eff. Ht. = $172 \times 12.6 = 2167 < 3000 \therefore 25\text{yr}$
Minimum Spillway Design

From USGS WRI 98-4055 "Tech. for Est. Peak-Flows ... in SD"
Region C DA = 1510 Ac = 2.36 mi²

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

$$= 207 (2.36)^{.573}$$

$$= \underline{339 \text{ cfs}}$$

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

$$= 379 (2.36)^{.566}$$

$$= \underline{616 \text{ cfs}}$$

Spillway Capacity

Primary $Q = CA \sqrt{2gh}$ $H = 19.6$
 $C = .6$
 $u = 11.8$

$$Q = CA \sqrt{2gh}$$

$$= .6 (19.6) \sqrt{2(32.2)(11.8)}$$

$$= \underline{325 \text{ cfs}}$$

Secondary $Q = C L H^{3/2}$ $C = 2.6$
 $L = 20$
 $H = 3$

$$Q = 2.6 (20) (3)^{1.5}$$

$$= \underline{270 \text{ cfs}}$$

Section 74:02:08:09

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

NRCS Annual Yield

DA = 1510 Ac = CN = 82 ISO = 2

80% chance = 0.35
 $0.35 \times 1510/12 = \underline{44 \text{ Ac-Ft}}$

50% chance = 0.50
 $0.50 \times 1510/12 = \underline{63 \text{ Ac-Ft}}$

10% chance = 3.0
 $3.0 \times 1510/12 = \underline{378 \text{ Ac-Ft}}$



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1915-1, SD Department of Game, Fish and Parks**

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. 1915-1, SD Department of Game, Fish and Parks, c/o Tim Olson, 523 E. Capitol Avenue, Pierre SD 57501.

The Chief Engineer is recommending APPROVAL of Application No. 1915-1 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. 1915-1 authorizes a dam with a storage capacity of 60 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.

Garland Erbele, Chief Engineer
May 18, 2010

REPORT ON
WATER PERMIT APPLICATION NO. 1915-1
SD Dept. of Game, Fish & Parks
May 7, 2010

Water Permit Application No. 1915-1 has been filed by the SD Dept. of Game, Fish & Parks to impound 60 acre-feet of water from runoff by reconstructing the Firesteel GPA Dam located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17-T17N-R23E, in Dewey County. The application also requests impoundment of sufficient water to maintain water to the outlet elevation. The water will be used for fish and wildlife production and recreational use purposes.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. The dam has been designed by Konechne Engineering. The plans and specifications have been reviewed and will be approved; however, reconstruction of the dam can not begin until Water Permit Application No. 1915-1 is approved.

The reconstructed dam will be 16 feet high with a normal storage capacity of 60 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 215 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 1510 acres or 2.36 square miles. The dam is designed to have a 72 inch diameter CMP riser with a 60 inch diameter CMP barrel with 8.0 feet of freeboard as the primary spillway, and a 20 foot wide earthcut secondary spillway with 3.0 feet of freeboard. A 25 year frequency event produces a peak runoff of approximately 340 cfs and a 100 year frequency event produces a peak runoff of approximately 600 cfs. The drop inlet primary spillway structure is designed to pass the 25 year frequency event. The earthcut spillway will have a capacity of approximately 325 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 44 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 63 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 378 acre-feet.

The Firesteel GPA Dam (Lake Walton) is located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17-T17N-R23E on an unnamed tributary to Firesteel Creek, about 20 miles upstream of the confluence of Firesteel Creek and the Grand River. There are no existing Water Permits/Rights filed on the unnamed tributary, or Firesteel Creek, between the proposed dam and the Grand River. The Dept. of Game, Fish & Parks has obtained a temporary flood easement on property located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 17-T17N-R23E to temporarily store water on the property during runoff events. No permanent storage will occur on this property.

Page 2
Application No. 1915-1
July 10, 2009

Conclusions:

1. Water Permit Application No. 1915-1 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 domestic use should be a qualification on Water Permit Application No. 1915-1.

A handwritten signature in black ink, appearing to read "Timothy G. Schaal", with a long horizontal flourish extending to the right.

Timothy G. Schaal, P.E.
Natural Resources Engineering Specialist



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

May 19, 2010

Tim Olson
SD Dept. of Game, Fish & Parks
523 E. Capitol Ave.
Pierre, SD 57501

Dear Mr. Olson:

We have reviewed the plans and specifications for the Firesteel GPA Dam project located in the NW ¼ NE ¼ of Sec. 17-T17N-R23E, in Dewey County. The plans and specifications for the project 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. 1915-1 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 Firesteel GPA Dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 16 feet and a normal storage capacity of 60 acre-feet and a maximum storage capacity of 215 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: Dave Konechne, Konechne Engineering



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
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 RIGHT AWAY.

May 19, 2010

SD Dept of Game, Fish & Parks
Tim Olson
523 E Capitol Ave
Pierre SD 57501

Dear Mr.Olson:

Water Permit Application No. 1915-1 for fish & wildlife propagation and recreational 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 Timber Lake Topic printed at Timber Lake SD (Ph # 605-865-3546). You will need to contact the newspaper 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 to authorize publication of your Notice 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 application.

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352
eric.gronlund@state.sd.us

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.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

May 19, 2010

Timber Lake Topic
PO Box 10
Timber Lake SD 57656

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 1915-1 to Appropriate Water to be published twice. Please publish the first notice on May 27, 2010 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 SD Dept. of Game, Fish & Parks, c/o Tim Olson, 523 E Capitol Ave., Pierre SD 57501 (Ph # 605-773-3387).

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. 1915-1

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

Date _____

We are in receipt of your letter of May 19, 2010 enclosing Notice to Appropriate Water by Application No. 1915-1 which was first published in our issue of _____. ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.

Name

Newspaper

Instruction to Newspaper - Publish first Notice on May 27, 2010 with the second publication 7 days later. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 1915-1 to Appropriate Water

Notice is given that the South Dakota Department of Game, Fish and Parks, 523 E Capitol, Pierre SD 57501 has filed an application for a water permit to impound 60 acre-feet of water from a tributary of Firesteel Creek by reconstructing a dam located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 17 with water impounded in the W $\frac{1}{2}$ NE $\frac{1}{4}$ Section 17; all in T17N-R23E. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation and recreational use purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1915-1 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 this application, 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 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 June 14, 2010.

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.

Published twice at the total approximate cost of_____.

RECEIVED

JUN 04 2010

Form 8

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of DeWey) SS
I, James F. Nelson

certify that the attached printed Notice was
taken

from the Timber Lake Topic

printed and published in Timber Lake

County of DeWey and

state of South Dakota. The notice was
published

in the newspaper on the following two dates:

May 27 + June 3, 2010

Cost of Printing \$38.82

James F. Nelson
(Signature)

pub. ltr
(Title)

6-3-10
(Date Signed)

Notice of Application
NO. 1915-1 to Appropriate Water

Notice is given that the South Dakota Department of Game, Fish and Parks, 523 E Capitol, Pierre SD 57501 has filed an application for a water permit to impound 60 acre-feet of water from a tributary of Firesteel Creek by reconstructing a dam located in the NW 1/4 NE 1/4 Section 17 with water impounded in the W 1/2 NE 1/4 Section 17; all in T17N-R23E. This application requests impoundment of sufficient water to maintain water to the outler elevation. The water is for fish and wildlife propagation and recreational use purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1915-1 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 this application, 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 sup-

porting 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 June 14, 2010.

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.

Published twice at the total
approximate cost of \$38.82
in the Timber Lake Topic
May 27 and June 3, 2010



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

JUN 24 2010

South Dakota Department of Game, Fish and Parks
c/o Tim Olson
523 E Capitol
Pierre SD 57501

Dear Mr. Olson:

Enclosed is Water Permit No. 1951-1 authorizing reconstruction of a dam 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. 1915-1
Grand River - Water District

Report Of Examination Of Works And/Or Application of Water To Beneficial Use

TO: Chief Engineer, Water Rights Program, DENR, Foss Bldg., Pierre, SD 57501

I have this day, May 17, 2012, made a thorough examination of the water use system for **SD Department of Game, Fish & Parks** of **523 E. Capitol Ave., Pierre, SD 57501** holder of Permit No. 1915-1, bearing the priority of April 19, 2010 authorizing the storage of 60 acre-feet of the waters of **tributary of Firesteel Creek** for **fish & wildlife propagation and recreation** purposes, in Dewey County.

I have to report on the conditions of the same as follows:

A. Works used to divert the water:

A 16 ft. high earth dam with a normal storage capacity of 60 ac-ft.

B. Works used to transport water to place of use:

N/A

C. Works used to apply water to beneficial use:

A 16 ft. high earth dam with a normal storage capacity of 60 ac-ft.

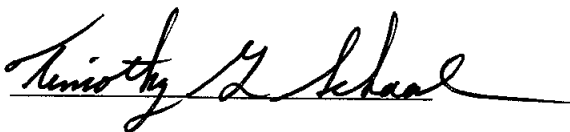
The system is in the following condition good. The point of diversion is located **100 ft. south & 2250 ft. west of the NE corner of Sec.17-T17N-R23E (NW ¼ NE ¼) (Lat. 45.44331, Long. -101.31458)**. The works are capable of storing 60 acre-feet of water which is to be used for **fish & wildlife propagation and recreation use**. Water has been put to beneficial use to the maximum extent as follows:

A 16 ft. high earth dam with a normal storage capacity of 60 ac-ft.

and the license should be issued for 60 acre-feet of storage.

Applicable permit qualifications have been complied with: Yes X

Exceptions to compliance are: none Date Report Completed: February 7, 2013



Timothy G. Schaal, P.E.
Engineer IV
SD DENR, Water Rights Program

REPORT ON INSPECTION OF PERMIT NO. 1915-1

DATE OF INSPECTION: May 17, 2012

NAME & ADDRESS OF PERMIT HOLDER: SD Department of Game, Fish & Parks,
523 E. Capitol Ave., Pierre, SD 57501

DIVERSION POINT LEGAL LOCATION: 100 ft. south and 2250 ft. west of the NE corner of
Sec. 17-T17N-R23E (NW ¼ NE ¼) (Lat. 45.44331 & Long. -101.31458).

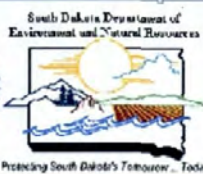
DAM INFORMATION:

- 1) Height to crest 16 feet
- 2) Height to primary spillway 8.0 feet
- 3) Height to secondary spillway 13 feet
- 4) Crest width 12 feet
- 5) Crest length 950 feet
- 6) Spillway length XXX feet
- 7) Spillway width 20 feet
- 8) Approx. storage (Normal) 60.0 acre-feet
- 9) Approx. storage (Maximum) 215 acre-feet
- 10) Date constructed: 2010

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Soil and water permit lands agree with lands being irrigated and lands listed on permit N/A
- 2) Special qualifications to permit being abided by yes
- 3) All structures, wells and lands on map yes
- 4) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period N/A

Water Permit Application 1915-1



Timothy G. Schaal

Timothy G. Schaal, P.E.
Engineer IV
SD DENR, Water Rights Program

2/7/13



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

MAY 17 2013

1915-1

Leslie Murphy
SD Dept of Game, Fish & Parks
523 E Capitol Ave
Pierre SD 57501

Dear Ms. Murphy:

Enclosed is Water License No. 1915-1. This is the final water right document completing the process of obtaining a Water Right. Included with the license is a map prepared by the staff engineer who conducted the field investigation.

As long as the Department utilizes 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. 1915-1

(1) The South Dakota Department of Game, Fish & Parks, 523 E Capitol Ave., Pierre SD 57501 made Application No. 1915-1, April 19, 2010 for a water permit to impound 60 acre feet of water from a tributary of Firesteel Creek by reconstructing a dam located in Dewey County, South Dakota for fish & wildlife propagation and recreational purposes. Permit No. 1915-1, with a priority date of April 19, 2010 was approved June 14, 2010 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before June 14, 2015 and for the application to beneficial use of said water on or before June 14, 2019.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the storage dam and is entitled to impound 60 acre feet of water for beneficial use.

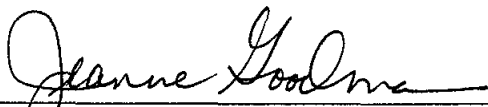
The location of the storage dam (spillway) is 100 feet south and 2,250 feet west of the NE corner of Section 17, T17N, R23E (NW ¼ NE ¼).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the South Dakota Department of Game, Fish & Parks, 523 E Capitol Ave., Pierre SD 57501 the holder and/or owner of Water Right No. 1915-1 is issued a license to appropriate water, the right to impound 60 acre feet of water from a tributary of Firesteel Creek with a priority date of April 19, 2010 from the location specified in (2) of this license for fish & wildlife propagation and recreational purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 1915-1 and subject to the following qualifications:

- Water Permit No. 1915-1 authorizes a dam with a storage capacity of 60 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.



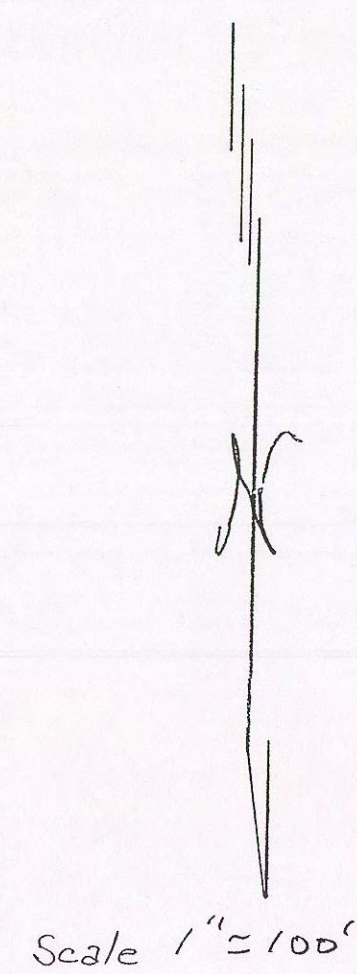
Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAY 17 2013

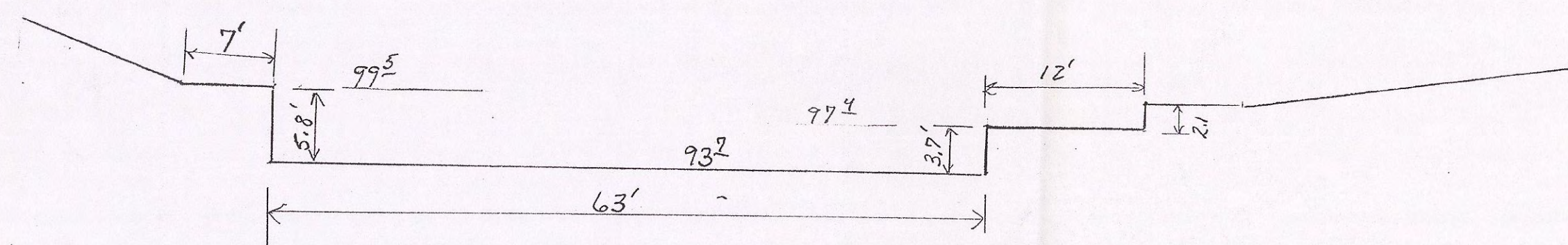
date



Firesteel Dam
Sec 19, T 17 N, R 23 E



RECEIVED
APR 19 2010
WATER RIGHTS
PROGRAM



Concrete Weir
1" = 10'

