

WATER PERMIT NO. 1697-1

Name of Applicant: Roger Weiss

Address: HC 71 Box 46, Faith SD 57626

Phone: 605 748-2272

Amount of Water Claimed: 142 AF

Total Acres: NA

Source of Water Supply: runoff

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

County: Meade

Type of Waste Disposal System: NA

Location: about 25 miles west of Faith

PRIORITY

Date Received: 11-1-1999

Fee: \$225.00

Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks:

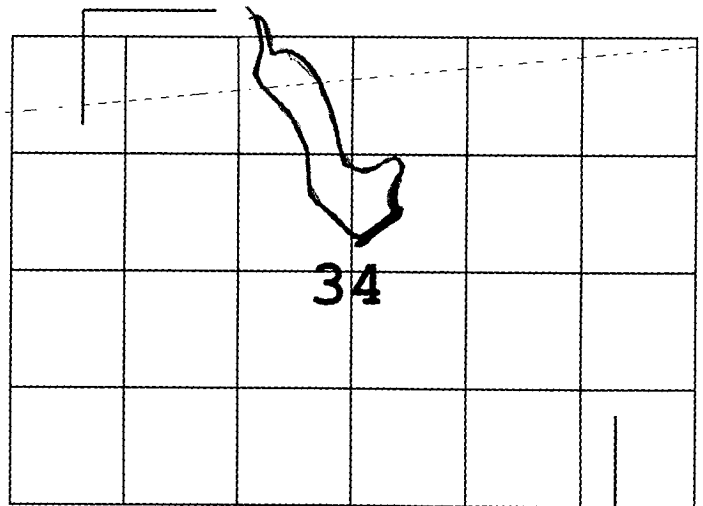
Diversion Point: SW ¼ NE ¼

Sec 34-T12N-R13E

Water Impounded: SW ¼ NW ¼, E ½ NW ¼

Sec 34 and SE ¼ SW ¼ Sec 27; all in T12N-

R13E



Depth of Well: NA

Well Driller:

Remarks:

Type of Map: Topo

Prepared by: Tom VerHelst, NRCS

Reviewed and the Number Assigned on: 11-1-1999

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 1697-1**

Date of first receipt of application November 1, 1999.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1697-1 to Roger Weiss, HC 71 Box 46, Faith SD 57626 authorizing the construction of the dam and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1697-1 authorizes impoundment of 142 acre-feet of water from runoff by repairing an existing dam located in the SW ¼ NE ¼ Section 34 with water impounded in the W ½ NE ¼, E ½ NW ¼ Section 34 and SE ¼ SW ¼ Section 27; all in T12N-R12E. This permit authorizes impoundment of sufficient water to maintain water at the outlet elevation of 2754.5 feet mean sea level.
2. The water appropriated shall be used for the purpose of supplying water to provide habitat for fish and wildlife propagation and livestock watering 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. 1697-1 is December 20, 1999.
5. The date from which applicant may claim right is November 1, 1999.
6. One-fifth of the construction is to be completed on or before June 20, 2001.
7. All construction is to be completed on or before December 20, 2004.
8. Water is to be put to beneficial use on or before December 20, 2008.
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. 1697-1 authorizes a dam with storage capacity of 142 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation of 2754.5 feet mean sea level.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

WATER MANAGEMENT BOARD

By: John Hatch
John Hatch, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

DEC 30 1999

date



FORM 2: Application for uses other than irrigation
(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. 1697-1 Hydrologic Unit 10/20/13
Basin Lower Cheyenne
Newspaper Faith Independent, Faith, SD
(office use only)



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

Check use of water:

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

Type of Application: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ 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 Roger Weiss Phone 748-2272
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address HC 71 Box 46 Faith State SD 57626
(Street, RR, or Box) (City) (Zip Code)

2. Amount of water claimed _____ *CFS or _____ **GPM 142.0 ***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 Runoff

4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) _____
SW⁴ NE⁴ SEC 34, T12N-R12E Water Impounded: N1/2 NE1/4, E1/2 NW1/4,
Sec. 34 & SE1/4 SW1/4 Sec. 27; T12N-R12E County MEADE

5. County or counties where water will be used MEADE

6. Annual period during which water is to be used Jan - 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 involves repairing existing dam that has breached due to excessive corrosion to principal spillway. New principal spillway will be installed and top of dam will be raised about 2.5'. See plans for details

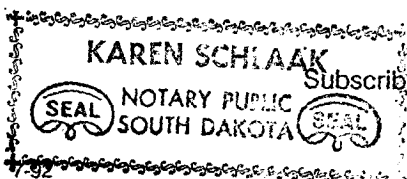
Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of _____)

I, ROGER WEISS, 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.

Signed Roger W. Weiss
Subscribed and sworn to before me this 1st day of November 19 99



KAREN SCHLAAK, Notary Public
My Commission Expires April 1, 2001
Notary Public

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 Thickness _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth to Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
On applicants property _____ On property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ c) Year Constructed _____
- d) 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:

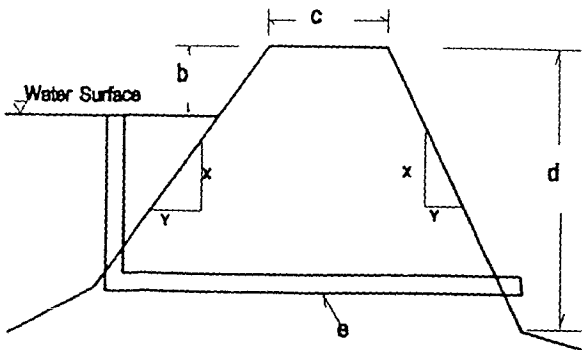
Tom Ver Helst

1845 5th Ave. South

Belle Fourche, SD 57717

892-2782 Ext 3

- b) Freeboard 5.5'
- c) Crest Width 12'
Crest Length 964'
- d) Height 17.5'
- e) Primary Outlet Capacity 122 cfs
If pipe, diameter 36"
- f) Secondary Spillway Capacity 785 cfs
Spillway Width 80'
- g) X & Y Slope
Upstream 3:1
Downstream 2:1
- h) Surface Area of Impoundment 32.5
- i) Storage 142.0 Acre Feet
- j) Drainage Area Above Dam 4293 Acres



RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

N^o 416241

Pierre, November 1, 19 99

RECEIVED OF Roger Weiss, HCR 71, Box 46, Faith, SD 57626
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use _____	225	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. _____	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	275 00

By

Chief Engineer

John Hatch 

Water Permit Application #1697-1
Roger Weiss

Top of Dam Elev. - 100
2nd Spillway Elev. - 97
P. Spillway Elev. - 94.5
Dis Toe Elev. - 82.5

Cat. 3 - Low Hazard Dam

Ht. = 17.5

Normal Storage Capacity - 142 Ac-Ft
Int. Storage Capacity - 250
Max. Storage Capacity - 405

Int. Capacity x Eff. Ht. = $250 \times 14.5 = 3625 > 3000$ i.e. 50 year
Minimum Spillway Design

From USGS WRI 80-80 "Tech. for Est. Flood Peaks ... in SD"

DA = 4293 Ac = 6.71 mi.²

Slope =

SI = 2.50

$$\begin{aligned} Q_{85} &= 83.4 A^{.63} S^{.45} S_i^{-.69} \\ &= 83.4 (6.71)^{.63} (75)^{.45} (2.50)^{-.69} \\ &= 83.4 (3.32) (6.98) (0.53) \\ &= 901.5 \text{ cfs} \end{aligned}$$

$$\begin{aligned} Q_{50} &= 106 A^{.63} S^{.45} S_i^{-.69} \\ &= 106 (6.71)^{.63} (75)^{.45} (2.50)^{-.69} \\ &= 106 (3.32) (6.98) (0.53) \\ &= 1305 \text{ cfs} \end{aligned}$$

$$Q_{100} = 132 A^{.65} S^{.46} S_i^{-.67}$$

$$\begin{aligned} &= 132 (6.71)^{.65} (75)^{.46} (2.50)^{-.67} \\ &= 132 (3.44) (7.29) (0.54) \\ &= 1792 \text{ cfs} \end{aligned}$$

2nd Spillway Flow C = 2.8 L = 80
H = 3

$$\begin{aligned} Q &= C L H^{3/2} \\ &= (2.8)(80)(3)^{1.5} \\ &= 1165 \text{ cfs} \\ &+ 122 \text{ (Primary)} \end{aligned}$$

Total = 1287 cfs OK w/ Routing

Section 74:02:08:09

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

NRCS Annual Yield

DA = 4293 Ac CN = 75 ISO = 1/2

80% chance = 0.09

$$0.09 \times 4293/12 = 32 \text{ Ac-Ft}$$

50% chance = 0.26

$$0.26 \times 4293/12 = 93 \text{ Ac-Ft}$$

10% chance = 1.4

$$1.4 \times 4293/12 = 500 \text{ Ac-Ft}$$

CONSTRUCTION SPECIFICATIONS

for

DAM REPAIR

ROGER WEIS

MEADE CO.

Prepared by:

USDA-NATURAL RESOURCES CONSERVATION SERVICE

Assisting:

TRI-COUNTY

Conservation District

ROGER WEIS 748-2272

DA-4293

T - 35000'
 $T_c - 5.4hr = \frac{35000'}{3600(1.8)}$
 SLOPE - 3.5%

CHANNEL SLOPE - .35%

QUAD	EL	DEPTH	PA	Storage
2746	86	0	0	
2752	92	6	20.4	61.2
2755	95	9	36.5	164.3
2772	111.4	25.5	114	1453.5

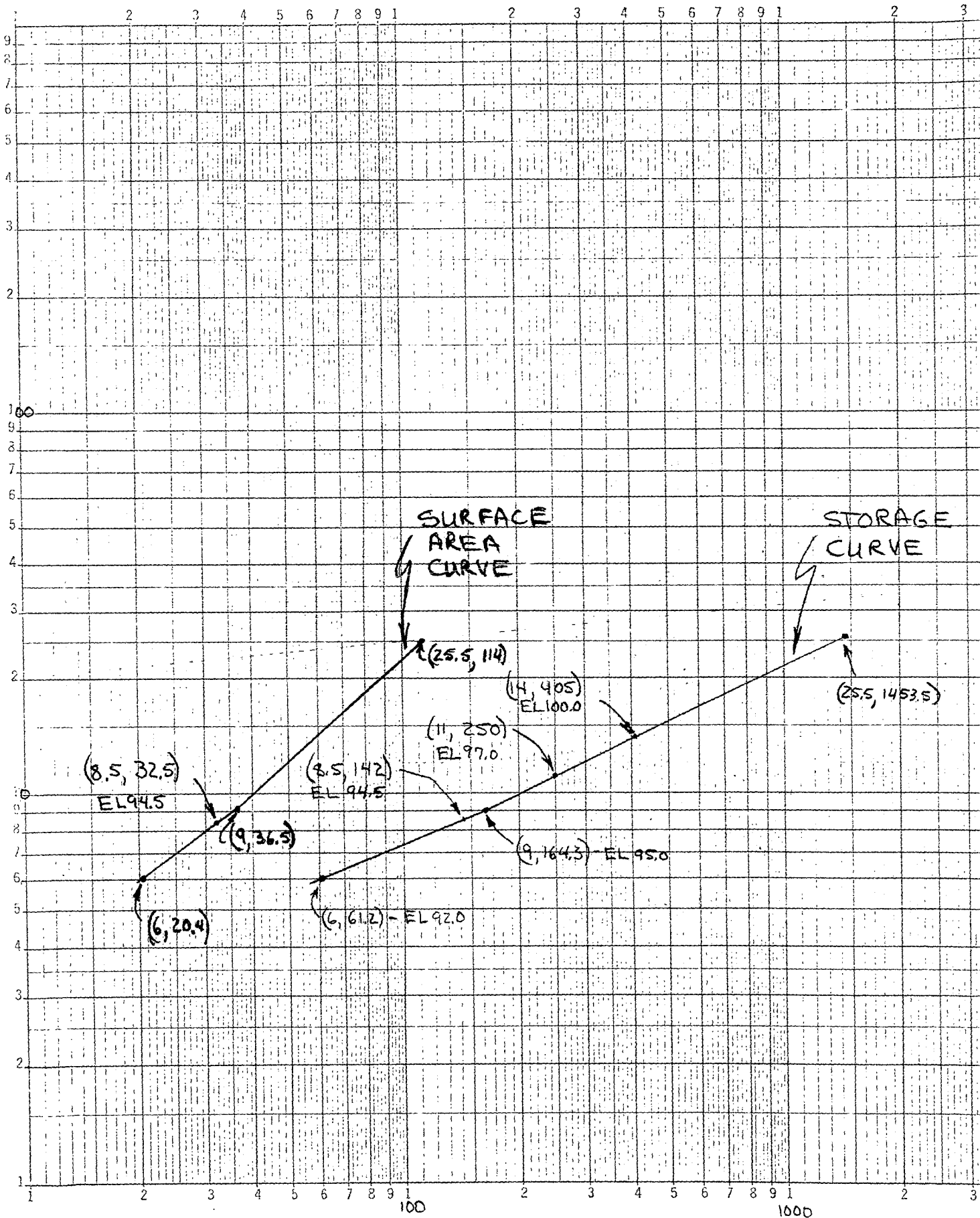
Engallis
Landing Strip

1697-1

ROGER WEIS DAM

LOGARITHMIC
KEUFFEL & ESSER CO. MADE IN U.S.A.
359-125L
1 1/2" x 5" CYCLES

DEPTH (FT)



STORAGE - ($A_c - F_L$)
SURFACE AREA - (A_c)

***** THIS PROGRAM IS IN TEST STATUS *****

DAMS2	01/01/90	ROGER WEIS DAM	MEADE CO. SD.
STRUCTURE WEIS		MULTI-PURPOSE DAM CLASS A	SEC34 T12N-R13E
		86.0	0.0
		92.0	61.2
		95.0	164.3
		111.4	1453.5

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

STORM DISTRIBUTION USED FOR EMERGENCY SPILLWAY IS;
SCS DESIGN STORM RAINFALL DISTRIBUTION. (CHAPTER 21 NEH4 AND SCS TR-60)

PRECIP.-	P-PS1 DAY 2.70	P-PS10 DAY .00	P-ES 3.30	P-FB 3.30
WSDATA-	CN 75.00	DA-SM 6.71	TC/L 5.40	-/H .00
SITEDATA-	PERM POOL 94.50	CREST PS 94.50	FP SED .00	QRF .00
	BASEFLOW .00	INITIAL EL .00	EXTRA VOL. .00	
PSDATA-	NO. COND. 1.00	COND L 65.00	D/W 36.00	-/H .00
	PS N .010	KE 1.00	WEIR L 16.10	TW EL 88.50
	2ND STG .00	ORF H .00	ORF L .00	START ES .00
CRESTS-	ES1 .00	ES2 .00	ES3 .00	ES4 .00
				ES5 .00
EMG DATA-	SIDE SLOPE 3.00	EXIT N .030	EXIT SLOPE .050	
EMG DATA-	ES TYPE 1	ES LENGTH 50	ES ENTRANCE N .025	
BTM WIDTH-	BW1 80.00	BW2 100.00	BW3 .00	BW4 .00
				BW5 .00

***** NOTE - THIS IS ONLY A PRELIMINARY EMG RATING CURVE OF DISCHARGE/FT
OF WIDTH AND DOES NOT INCLUDE SIDESLOPE CORRECTION OR
REVISED RATING USING ACTUAL EMG. CONFIGURATION.

EMG ID CODE	01	ELEVATION INCREMENT (FT)= 1.000	
DISCHARGES-Q1	Q2	Q3	Q4
2.356	7.563	14.547	22.998
Q5	Q6	Q7	Q8
32.652	43.347	55.028	67.592
Q9	Q10	Q11	Q12
80.980	95.163	110.069	125.678

$14.547 \times 80 = 1163.76$
 $Q = C L H^{3/2}$
 $= 2.8(80)(3)^{3/2}$
 $= 1163.94$

1DAMS2 -----
 XEQ 10/14/99 DAM MEADE CO. SD. WSID= ROGER
 WE
 REV 01/01/90 MULTI-PURPOSE DAM CLASS B SEC34 T12N-R13E SUBW= 01
 TIME 16:36:48 SITE = WEIS PASS= 1 PAGE= 2





PERM POOL	94.50 FT	147.1 ACFT	.00 AC	.0 CFS
CREST PS	94.50 FT	147.1 ACFT	.00 AC	.0 CFS
SED ACCUM	94.50 FT	147.1 ACFT	.00 AC	.0 CFS
STARTING E	94.50 FT	147.1 ACFT	.00 AC	.0 CFS
SCS-PSH	D= 24.00 HR TC= 5.40 HR	P= 2.70 IN CN= 75.00	Q= .77 IN VOL= 275.6 ACFT	DA = 6.71 SM

PEAK = 466.9 CFS, AT 15.7 HRS.

ROUTED RESULTS - HYD TYPE	EMAX	VOL-MAX	AMAX	QMAX
SCS-PSH	96.88 FT	312.4 ACFT	.00 AC	108.6 CFS

PS STORAGE 165.3 ACFT BETWEEN ES CREST AND SED ACCUM ELEVATIONS

DRAWDOWN (DDT) TEST 94.50 FT 147.1 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 4.69 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

1DAMS2 -----
XEQ 10/14/99 DAM MEADE CO. SD. WSID= ROGER
WE
REV 01/01/90 MULTI-PURPOSE DAM CLASS B SEC34 T12N-R13E SUBW= 01
TIME 16:36:48 SITE = WEIS PASS= 1 PAGE= 3

ES CREST	96.88 FT	312.4 ACFT	.00 AC	108.6 CFS
PS STORAGE	165.3 ACFT	BETWEEN ES CREST AND SED ACCUM ELEVATIONS		

STARTING E	94.50 FT	147.2 ACFT	.00 AC	.0 CFS
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ELEVATION OF LOW POINT IS ZERO. NO CRITERIA CHECK MADE FOR
STRUCTURE CLASSIFICATION

SCS-ESH	D= 6.00 HR TC= 5.40 HR	P= 3.30 IN CN= 75.00	Q= 1.16 IN VOL= 415.8 ACFT	DA = 6.71 SM
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PEAK = 906.1 CFS, AT 6.7 HRS.

SCS-FBH	D= 6.00 HR TC= 5.40 HR	P= 3.30 IN CN= 75.00	Q= 1.16 IN VOL= 415.8 ACFT	DA = 6.71 SM
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Qis PEAK = 906.1 CFS, AT 6.7 HRS.

***** MESSAGE - EMERGENCY SPILLWAY RATING EXTRAPOLATED ABOVE ELEVATION 107.77

ROUTED RESULTS	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
	FT	FT	ACFT	AC	FT	ACFT
SCS-ESH	80.0	98.07	405.5	.0	1.18	93.1



PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	116.2	297.2	413.4

	CRITICAL	CRITICAL	CRITICAL	25% OF
	DEPTH	VELOCITY	SLOPE-S/C	S/C
EMERGENCY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY----	.75	4.84	.015	.020

	DURATION	ATTACK	SUMMATION
	FLOW	OE/B	VEL**2 DELTA T
EMERGENCY	HRS	ACFT/FT	(FT/SEC)**2 HRS
SPILLWAY----	11.0	1.6	294.3

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 7.04 FT/SEC
EXIT SLOPE = .050 FT/FT
FLOW DEPTH = .517

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 96.88 FT.

DRAWDOWN (DDT) TEST 94.50 FT 147.1 ACFT .00 CFS
CONTROL IS .000 DETENTION STORAGE

TIME = 4.56 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
RESULTS	FT	FT	ACFT	AC	FT	ACFT
SCS-FBH	80.0	98.07	405.5	.0	1.18	93.1

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	116.2	297.2	413.4

	CRITICAL	CRITICAL	CRITICAL	25% OF
	DEPTH	VELOCITY	SLOPE-S/C	S/C
EMERGENCY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY----	.75	4.84	.015	.020

	DURATION	ATTACK	SUMMATION
	FLOW	OE/B	VEL**2 DELTA T
EMERGENCY	HRS	ACFT/FT	(FT/SEC)**2 HRS
SPILLWAY----	11.0	1.6	294.3

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 7.04 FT/SEC
EXIT SLOPE = .050 FT/FT
FLOW DEPTH = .517

***** ES378 RUN - MINIMUM FLOW IN EMG. SPILLWAY FROM TR60
USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT. *****

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	80.0	98.74	458.0	.0	1.85	145.6

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	120.2	605.7	725.9

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	1.19	6.07	.013	.017

***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT
NEW TOP OF DAM ELEVATION = 98.88

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	80.0	98.88	469.6	.0	2.00	157.2

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGES =	121.0	685.4	806.4

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	1.30	6.31	.012	.016

***** ES378 RUN - MINIMUM DEPTH, DESIGN FLOW TO TOP OF DAM, REQUIRED
FOR THIS PASS. NEW TOP OF DAM ELEVATION = 99.07

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
MINIMUM ES	80.0	99.07	484.1	.0	2.18	171.8

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGES =	122.1	785.3	907.4

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	1.42	6.59	.012	.016

***** MESSAGE - EMERGENCY SPILLWAY RATING EXTRAPOLATED ABOVE ELEVATION 107.77

ROUTED RESULTS	BTM WIDTH FT	MAX ELEV FT	VOL-MAX ACFT	AREA-MAX AC	EMG. HP FT	VOL-ES ACFT
SCS-ESH	100.0	97.98	398.7	.0	1.10	86.3

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	115.7	332.0	447.7

	CRITICAL DEPTH FT	CRITICAL VELOCITY FT/SEC	CRITICAL SLOPE-S/C FT/FT	25% OF S/C FT/FT
EMERGENCY SPILLWAY----	.69	4.69	.015	.020





	DURATION	ATTACK	SUMMATION
	FLOW	OE/B	VEL**2 DELTA T
EMERGENCY	HRS	ACFT/FT	(FT/SEC)**2 HRS
SPILLWAY----	10.3	1.4	252.7

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 6.76 FT/SEC
 EXIT SLOPE = .050 FT/FT
 FLOW DEPTH = .484

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 96.88 FT.

DRAWDOWN (DDT) TEST 94.50 FT 147.1 ACFT .00 CFS
 CONTROL IS .000 DETENTION STORAGE

TIME = 4.62 DAYS, TO .0 CFS (LIMIT = 10.00 DAYS)

ROUTED	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
RESULTS	FT	FT	ACFT	AC	FT	ACFT
SCS-FBH	100.0	97.98	398.7	.0	1.10	86.3

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	115.7	332.0	447.7

	CRITICAL	CRITICAL	CRITICAL	25% OF
	DEPTH	VELOCITY	SLOPE-S/C	S/C
EMERGENCY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY----	.69	4.69	.015	.020

	DURATION	ATTACK	SUMMATION
	FLOW	OE/B	VEL**2 DELTA T
EMERGENCY	HRS	ACFT/FT	(FT/SEC)**2 HRS
SPILLWAY----	10.3	1.4	252.7

***** MESSAGE - ES378 CRITERIA USED BUT EMERGENCY SPILLWAY NOT BASED ON RETARDANCE.

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 6.76 FT/SEC
 EXIT SLOPE = .050 FT/FT
 FLOW DEPTH = .484

***** ES378 RUN - MINIMUM FLOW IN EMG. SPILLWAY FROM TR60
 USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT. *****

ROUTED	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
RESULTS	FT	FT	ACFT	AC	FT	ACFT
MINIMUM ES	100.0	98.52	441.0	.0	1.64	128.6

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGE =	118.9	605.7	724.6

	CRITICAL	CRITICAL	CRITICAL	25% OF
	DEPTH	VELOCITY	SLOPE-S/C	S/C

EMERGENCY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY-----	1.03	5.69	.013	.018



***** ES378 RUN - MINIMUM DEPTH, CREST EMG TO TOP OF DAM IS 2.00 FT
 NEW TOP OF DAM ELEVATION = 98.88

ROUTED	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
RESULTS	FT	FT	ACFT	AC	FT	ACFT
MINIMUM ES	100.0	98.88	469.6	.0	2.00	157.2

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGES =	121.0	847.9	969.0

	CRITICAL	CRITICAL	CRITICAL	25% OF
	DEPTH	VELOCITY	SLOPE-S/C	S/C
EMERGENCY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY-----	1.29	6.33	.012	.016

***** ES378 RUN - MINIMUM DEPTH, DESIGN FLOW TO TOP OF DAM, REQUIRED
 FOR THIS PASS. NEW TOP OF DAM ELEVATION = 98.98

ROUTED	BTM WIDTH	MAX ELEV	VOL-MAX	AREA-MAX	EMG. HP	VOL-ES
RESULTS	FT	FT	ACFT	AC	FT	ACFT
MINIMUM ES	100.0	98.98	477.3	.0	2.10	164.9

PEAK - CFS	Q-PS	Q-ES	Q-TOT
DISCHARGES =	121.6	912.8	1034.4

	CRITICAL	CRITICAL	CRITICAL	25% OF
	DEPTH	VELOCITY	SLOPE-S/C	S/C
EMERGENCY	FT	FT/SEC	FT/FT	FT/FT
SPILLWAY-----	1.35	6.48	.012	.016

1DAMS2.....JOB NO. 1 COMPLETE

ROGER WE DAM MEADE CO. SD.

0 SUBWATERSHED(S) ANALYZED

1 STRUCTURE(S) ANALYZED

5 HYDROGRAPHS ROUTED AT LOWEST SITE

0 TRIALS TO OBTAIN BOTTOM WIDTH FOR SPECIFIED VELOCITY(S)

DAMS2.....COMPUTATIONS COMPLETE

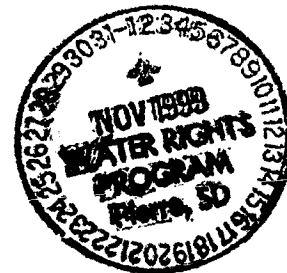
WATERSHED ID	RUN DATE	RUN TIME
-----	-----	-----
ROGER WE	10/14/99	16:36:48

>>>	SITE ID	SUBWS ID	SUBWS DA (SQ MI)	CURVE NO.	TC (HRS)	TOTAL DA (SQ MI)	TYPE DESIGN	STRUC CLASS	<<<
	WEIS	01	6.71	75.	5.40	6.71	378CR	A1	

PASS NO.	DIA/ WIDTH (IN/FT)	ES CREST ELEV (FT)	BTM WIDTH (FT)	MAX HP (FT)	MAX ELEV (FT)	YARDAGE EMB (CY)	OE/B* (AF/FT)	EXIT* VELOCITY (FT/SEC)	TYPE HYD
1	36.0	96.88	80.00	2.18	99.07	0.	1.6	7.04	MINIMUM ES
1	36.0	96.88	100.00	2.10	98.98	0.	1.4	6.76	MINIMUM ES

* OE/B AND EXIT VELOCITY ARE BASED ON THE ROUTED HYDROGRAPH AND WILL NOT RELATE TO THE MAX. ELEV. (TOP OF DAM), WHICH IS SET BY MINIMUM DESIGN CRITERIA.

DAMS2.....SUMMARY TABLE 1 COMPLETED



SCS DAMS2 VERSION 01/01/90
ROGER WE FILES

INPUT = weis
OUTPUT = weis.out

DATED 10/14/99 16:36:48

NOTE:

- Will use principal spillway elev. - Survey 94.5 Sea Level 2754.5
80' emergency spillway - 97.0 2757.0
top of dam elev - 100.0 2760.0
- There is the landowners house located downstream 1200'. The base of the house is at elevation 99.0. The center line of the creek channel is located $\approx$ 200' east of the house and has a wide (150') flood plain at El 79.0. Will not need to run breach hydrograph. Dam is a Class A hazard class.

Sec. IV-Z

SD-0&M-378-1

UNITED STATES DEPARTMENT OF AGRICULTURE - Soil Conservation Service

Assisting Tri-County County Conservation Service

Cooperator Roger Weis

Date 10/25/99

By Tom Ver Helst

Embankment Dam

Legal Location NE⁴ SEC 34, T12N-R13E

OPERATION AND MAINTENANCE GUIDELINES

General:

The above dam has been classified by the Soil Conservation Service as a class (a) hazard dam, which means that in case of failure, damage would be limited to farm buildings, agricultural land, or township and country roads. If additional development occurs downstream of the dam, a potentially more hazardous condition could be created if such development is not properly considered in relation to the dam.

You, as owner (or sponsor), are responsible for the dam. Although dams designed by the Soil Conservation Service are based on the best available technical knowledge, it must be recognized that any dam creates some risk, and therefore needs to be properly operated and maintained including periodic inspection. In addition, total benefits cannot be realized unless the dam is operated and maintained in such a manner that the structure will safely serve the purpose both as to function and time for which it was installed.

Recognizing this the Soil Conservation Service (SCS) has prepared these guidelines, for operating and maintaining your dam. The following lists the anticipated major as well as uncommon items of Operating and Maintenance (O&M) for the above listed structure. The checked items pertain to your dam. If you wish, the SCS will assist you in inspecting your dam to determine the annual or periodic O&M needs.

- 1/ For Class (a) dams of inventory size within Engineering Standard 378.
Ref: Programs Memorandum SD-1. Not for watershed and RC&D structures.

OPERATION, MAINTENANCE, AND SAFETY GUIDELINESEARTHFILL

- ☒ 1. Damage to embankment by waves, rilling, or rodents.
---- Replace eroded material and revegetate or sod where needed. Where wave action is serious, riprap or a berm may have to be added.
- ☒ 2. Sloughing, sliding, or slumping of fill.
---- Contact SCS for remedial recommendations.
- ☒ 3. Seepage at abutments and foundation on downstream side of dam. (A small amount of seepage may be present.)
---- If seepage is excessive or boils exist, contact SCS immediately.
- ☒ 4. Cracking or settlement of fill.
---- Contact SCS for remedial recommendations.
- ☒ 5. Sparse vegetation, bare spots, trails.
---- Reseed, fertilize, and control grazing and motor vehicle travel. Remove all trees growing on the embankment.
- ☒ 6. Fence damage.
---- Repair or replace fence.
- ☐ 7. Riprap damage.
---- Repair damage, replace rocks, or riprap as needed.
- ☐ 8. Other.

EMERGENCY SPILLWAY

- ☒ 1. Rilling or sheet erosion.
---- Replace eroded soils. Seed and fertilize. May need fencing. If problems continues, contact SCS for recommendations.
- ☒ 2. Sloughing, sliding, or slumping of spillway slopes or channel.
---- Contact SCS for remedial recommendations.
- ☒ 3. Condition of vegetation.
---- Reseed, fertilize, and control from grazing and motor vehicle travel.



EMERGENCY SPILLWAY (Con't.)

4. Fence damage.
---- Repair or replace fence.

5. Other.

PRINCIPAL SPILLWAY

- ✓ 1. Trash rack or guard obstruction or damage.
---- Remove all obstructions from vicinity of dam. Repair all damage. Repaint, as needed, all surfaces requiring protection by paint.
- ✓ 2. Obstruction to barrel inlet (horizontal component of principal spillway).
---- Remove all obstructions in riser which impede flow in barrel.
- ✓ 3. Outlet obstruction or damage.
---- Remove obstructions, repair all pipe damage.
- ✓ 4. Seepage along pipe or below structure.
---- Contact SCS.
5. Deterioration of metal pipe (Corrosion, rusting, holes in pipe).
---- Contact SCS.
6. Damage to pipe coating.
---- Repair coating with similar material.
- ✓ 7. Damage to concrete base (cracking, spalling, etc.)
---- Contact SCS.
- ✓ 8. Pipe support damage.
---- Repair or replace support or damaged members. Use only treated lumber.

PRINCIPAL SPILLWAY (Con't.)

- ✓ 9. Plunge basin damage.
---- Excessive scour - may need riprap. Repair eroded areas.
Remove all trees and bushes from plunge basin.
10. Other.
- _____
- _____
- _____

CATHODIC PROTECTION

The purpose of cathodic protection is to protect the steel pipe from corrosion. It is vitally important that this system be functioning. Monitoring with special instruments is necessary. Monitoring should be performed 1 year after installation and at 3-year intervals thereafter. Contact SCS for assistance in monitoring.

1. Monitoring access box.
---- Check for damage, broken wires, exposed wires, etc. and replace or repair.
2. Wires.
---- Continuity wires or connections should be repaired if exposed or broken.

DRAWDOWN WORKS

Drawdown conduits are used to release controlled amounts of water from the reservoir. They may be gated or ungated. They may be conduits through the embankment or may connect to the principal spillway.

1. Trash rack obstruction or damage.
---- Remove all obstructions from trash rack and from face of dam. Maintain trash rack, repaint as needed.
2. Outlet obstruction or damage.
---- Remove obstruction, repair damage to pipe.
3. Seepage along pipe or below structure.
---- Contact SCS.

File No. 1697-1

Water Rights Division -DENR
Conversation or File Documentation

NAME OF PERSON OR FILE: Roger Weiss

ADDRESS: HC 71 Box 46, Faith SD 57626

COUNTY: Meade

DATE: November 15, 1999

TELEPHONE: (605) 748-2272

RE: Location of dam on Water Permit Application No. 1697-1

I checked with Tom Ver Helst from the NRCS today about the location of the dam on Water Permit Application No. 1697-1. The correct location should be Section 34-T12N-R12E. I told him we would make that change on the application and his plans.

A handwritten signature in cursive script, reading "Timothy G. Schaal", is written over a horizontal line.

Timothy G. Schaal, P.E.
Natural Resources Engineer III
Water Rights Program

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1697-1, Roger Weiss**

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. 1697-1, Roger Weiss, HC 71 Box 46, Faith SD 57626.

The Chief Engineer is recommending APPROVAL of Application No. 1697-1 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. 1697-1 authorizes a dam with storage capacity of 142 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation of 2754.5 feet mean sea level.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

See report on application for additional information.



JOHN HATCH, Chief Engineer
November 23, 1999

REPORT ON
WATER PERMIT APPLICATION NO. 1697-1
Roger Weiss
November 15, 1999

Water Permit Application No. 1697-1 has been filed by Roger Weiss to impound 142 acre-feet of water from runoff by reconstructing a dam (SD ID No. 00371) located in the SW ¼ NE ¼ of Section 34-T12N-R12E, in Meade County. The water will be used for fish and wildlife production and livestock watering.

Discussion:

The reconstructed dam will be classified as a Category 3, Low Hazard dam. The repair project has been designed by the Natural Resources Conservation Service (NRCS). The plans and specifications have been reviewed and will be approved; however, construction of the dam can not begin until Water Permit Application No. 1697-1 is approved.

The Weiss Dam will be 17.5 feet high with a normal storage capacity of 142 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 405 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 50 year frequency event.

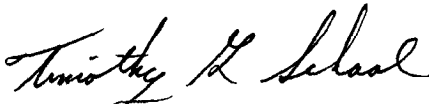
The dam has a drainage area of 6.71 square miles. A 50-year frequency event for this drainage area produces a peak runoff of approximately 1305 cfs. The dam is designed to have a new primary spillway drop inlet structure with a 6 foot wide concrete box inlet and a 36 inch diameter HDPE barrel with 5.5 feet of available freeboard, and the existing 80 foot wide earth cut secondary spillway with 3 feet of available freeboard. The total spillway capacity is approximately 1287 cfs, which will pass the 50-year event when considering the effects of reservoir routing and available freeboard.

The annual yield for this drainage area with an 80 percent chance of occurrence, or 8 out of 10 years, is expected to be 32 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 93 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 500 acre-feet.

The Weiss Dam is located in the SW ¼ NE ¼ of Section 34-T12N-R12E on the West Branch of Pine Creek about three miles upstream of its confluence with Pine Creek. Lyle D. Weiss holds Vested Water Right No. 352-1, which is located about 2 miles downstream and has water spreading dams on the West, East and Middle Branches of Pine Creek. Vested Water Right No. 352-1 appropriates 3.99 cfs with total storage in the three dams of 157.6 acre-feet to irrigate 279.5 acres. The dam on the West Branch, located below Water Permit Application No. 1687-1, irrigates 34.6 acres and stores approximately 84 acre-feet. Approval of Water Permit Application No. 1697-1 should not have any adverse effect on Vested Water Right No. 352-1, since the dam to be repaired has been in existence since 1960 and the downstream irrigation dam will have about 2.5 square miles of additional drainage area.

Conclusions:

1. Our records indicate that this dam has been in existence since 1960.
2. Water Permit Application No. 1697-1 should be approved since unappropriated water is available and approval should not have any adverse effect on existing Water Permits/Rights.
3. If approved, the low flow bypass requirement for downstream domestic use should be a qualification on Water Permit Application No. 1697-1.



Timothy G. Schaal, P.E.
Natural Resources Engineer III

Approved by:



Gale N. Selken, P.E.
Natural Resources Engineer IV



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

November 24, 1999

Roger Weiss
HC 71, Box 46
Faith, SD 57626

Dear Mr. Weiss:

We have reviewed the plans and specifications for the repair of your dam located in the SW ¼ NE ¼ of Section 34-T12N-R12E, in Meade County. The plans and specifications as submitted are approved. Approval of the plans and specifications does not authorize construction of the dam. Construction may not begin until Water Permit Application No. 1697-1 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 Weiss Dam (SD ID No. 00371) will be classified as a small size Category 3, Low Hazard dam with a dam height of 17.5 feet and a normal storage capacity of 142 acre-feet and a maximum storage capacity of 405 acre-feet.

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

Sincerely,

Gale N. Selken, P.E.
Natural Resources Engineer IV
for John Hatch, Chief Engineer
Water Rights Division
(605) 773-3352

c: Tom Ver Helst, NRCS, Belle Fourche



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

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

November 24, 1999

Roger Weiss
HC 71, Box 46
Faith, SD 57626

Dear Mr. Weiss:

Water Permit Application No. 1697-1 for fish and wildlife propagation and livestock use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Faith Independent printed at Faith, SD (Ph # (605) 967-2161). For your information, a copy of the notice, the recommendation of the Chief Engineer and a 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 of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has 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.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

November 24, 1999

Faith Independent
Box 38
Faith, SD 57626-0038

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 1697-1 to Appropriate Water to be published twice. Please publish the first notice on December 1, 1999, with the second publication 7 days later.

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 Roger Weiss, HC 71, Box 46, Faith, SD 57626 (Ph # (605) 748-2272).

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

-----CU T HERE-----

No. 1697-1

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

Date _____

We are in receipt of your letter of November 24, 1999, enclosing Notice of Hearing to Appropriate Water by Application No. 1697-1 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 December 1, 1999, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1697-1 to Appropriate Water

Notice is given that Roger Weiss, HC 71, Box 46, Faith SD 57626 has filed an application for a water permit to impound 142 acre-feet of water from runoff by repairing an existing dam located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 34 with water impounded in the W $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$ Section 34 and SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 27; all in T12N-R12E. This application requests impoundment of sufficient water to maintain water at the outlet elevation of 2754.5 feet mean sea level and is to be used to provide habitat for fish and wildlife propagation and livestock watering.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1697-1 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 the 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 the 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 December 20, 1999.

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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.

PUBLISHER'S AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

)ss

COUNTY OF MEADE



Diane Isaacs

of said

County and State, being duly sworn, on oath says: **THE FAITH INDEPENDENT** is a weekly newspaper of general circulation, printed and published in **FAITH**, in said County and State and has been such newspaper during the times herein-after mentioned; that the said **THE FAITH INDEPENDENT** 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 _____ Legal Advertising Manager _____, of said newspaper, and in charge of the advertising department thereof, and have personal knowledge of all facts stated in this affidavit; and that the advertisement headed _____ Notice of Application to Appropriate Water _____, a printed copy of which is hereto attached, was printed and published in said newspaper for _____ 2 _____ successive issues, the first publication being on the _____ 1st _____ day of _____ December _____, 19 _____ 99 _____, and the last publication on the _____ 8th _____ day of _____ December _____, 19 _____ 99 _____; that \$ _____ 37.94 _____, being the full amount of the fee for publication of the annexed notice insures solely to the 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.

Diane K Isaacs

Subscribed and sworn to before me this _____ 9th _____ day of _____ December _____, 19 _____ 99 _____.

Ardeella Feist

Notary Public, Meade County
My Commission Expires
7/11/01

Notice of Application No.
1697-1 to Appropriate Water

Notice is given that Roger Weiss, HC 71, Box 46, Faith, SD 57626 has filed an application for a water permit to impound 142 acre-feet of water from runoff by repairing an existing dam located in the SW 1/4 NE 1/4 Section 34 with water impounded in the W 1/2 NE 1/4, E 1/2 NW 1/4 Section 34 and SE 1/4 SW 1/4 Section 27; all in T12N-R12E. This application requests impoundment of sufficient water to maintain water at the outlet elevation of 2754.5 feet mean sea level and is to be used to provide habitat for fish and wildlife propagation and livestock watering.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1697-1 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 the 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 the application. Notice of the hearing will be given to the applicant and any person filing a petition.

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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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.

[Publish December 1 & 8, 1999]



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

DEC 30 1999

Roger Weiss
HC 71, Box 46
Faith, SD 57626

Dear Mr. Weiss:

Enclosed is Water Permit No. 1697-1 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

Date Oct 31, 01

TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Roger Weiss
(name)16802 Stoneville Rd
(address)Faith, SD 57626
(city, state, zip)605 748 2272
(phone)

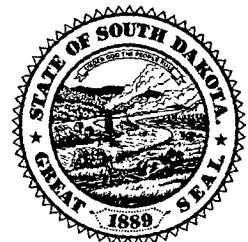
I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 1697-1 states that the water use system is to be constructed by
12/20/04 (date), and water is to be put to beneficial use by 12/20/08 (date).

The water use system was completed on June 15 01 (date).

Applying the water to beneficial use was completed on Aug 5 01 (date).

You may schedule an investigation so that the water license may be issued.

Roger W. Weiss
(signature)

**Permit No. 1697-1
Meade County**

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

Other permit/license(s) associated with project: **None**

Contact Person & Address: **Roger Weiss, HC 71 Box 46, Faith, SD 57626**

Report of Examination Of Works

On **May 29, 2003**, I made a thorough examination of a dam rebuilt by **Roger Weiss, HC 71 Box 46, Faith, SD 57626** holder of Permit No. 1697-1, bearing the priority of **November 1, 1999** authorizing the storage of 142 acre-feet of water for **wildlife propagation and domestic purpose**, in **Meade County**.

The system is in the following condition: **Good**. The dam is located in the **N½ Section 34 T12N R12E 3910 feet East 2190 feet South of the NW corner of Section 34** with a longitude of **W102.6415°** and a latitude of **N44.9601°**. The dam is capable of storing 142 acre-feet of runoff water on the West Branch of Pine Creek drainage for wildlife propagation and domestic stock watering. Water has been put to beneficial use to the maximum extent.

Review of Permit Qualifications and Regulations:

- 1) Special qualifications to permit being abided by: **NA**
- 2) All structures, wells and lands on map: **Dam location on map.**
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: **NA**
- 4) Exceptions to compliance are: **None**

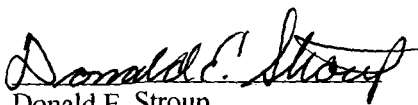
Report on Specifics of the System

Dam Information

- | | |
|---|---|
| 1) Height to crest: 17 feet | 2) Height to primary spillway or outlet: 11 feet |
| 3) Height to secondary spillway: 15 ft | 4) Crest width: 14 feet |
| 5) Crest length: 900 feet | 6) Spillway length: ~250 feet |
| 7) Spillway width: 90 feet | 8) Approx. storage: 142 ac-ft |
| 9) Outlet tube 1: | |
| a) diameter: 36 inches | b) type: Drop Concrete Box Culvert |
| c) valved: No | d) valve type: NA |

COMMENTS:

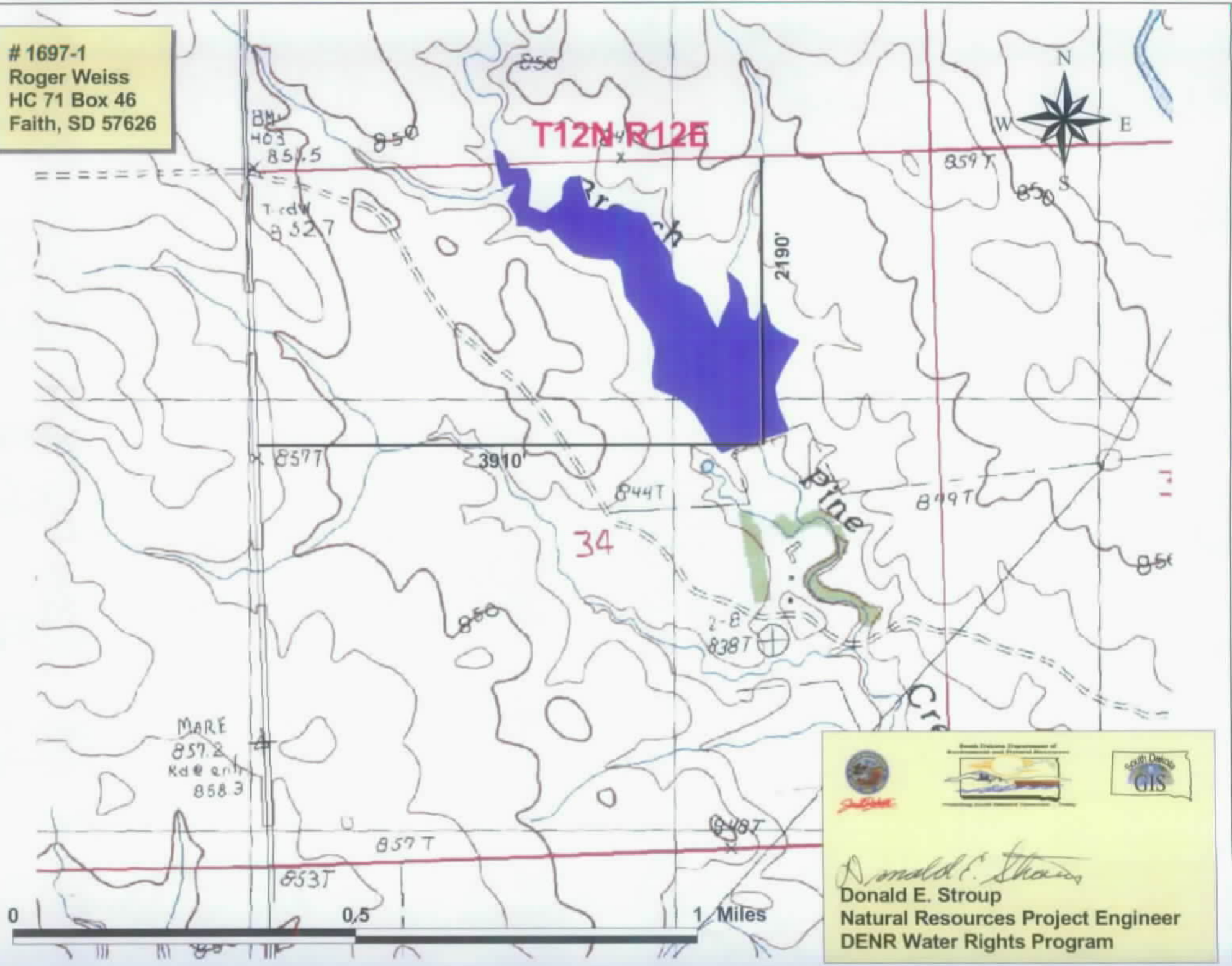
There is some wave erosion on the crest and a small seep at the base of the dam. The wave erosion could be curtailed by the addition of more tires on the inner portion of the dam. The owner should monitor the small seep. The dam is classified as Category 3, Low Hazard. The dam should be licensed for 142 acre-feet of storage for wildlife propagation and domestic stock watering.


Donald E. Stroup

Natural Resources Project Engineer
DENR, Water Rights Program

6/2/03
Date

1697-1
Roger Weiss
HC 71 Box 46
Faith, SD 57626



South Dakota Department of
Natural Resources
GIS

Donald E. Stroup
Donald E. Stroup
Natural Resources Project Engineer
DNR Water Rights Program

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1697-1

(1) Roger Weiss, HC 71 Box 46, Faith SD 57626 made Application No. 1697-1, November 1, 1999 for a water permit to impound 142 acre feet of water from runoff, Meade County, South Dakota for fish and wildlife propagation and livestock watering purposes. Permit No. 1697-1, with a priority date of November 1, 1999 was approved December 20, 1999 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 20, 2004 and for the application to beneficial use of water on or before December 20, 2008.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder and/or owner of Water Right No. 1697-1 is issued a license, bearing a priority date of November 1, 1999, to impound 142 acre feet of water.

The location of the storage dam (spillway) is 3,910 feet east and 2,190 feet south of the northwest corner of Section 34-T12N-R12E (SW ¼ NE ¼).

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 1697-1, including the following now applicable qualifications:

- Water Permit No. 1697-1 authorizes a dam with storage capacity of 142 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation of 2754.5 feet mean sea level.
- Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

Garland Erbele

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

JUN 13 2003

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUN 13 2003

1697-1

Roger Weiss
HC 71 Box 46
Faith SD 57626

Dear Mr. Weiss:

Enclosed is Water License No. 1697-1. This is the final water right document completing your process of obtaining a Water Right.

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.

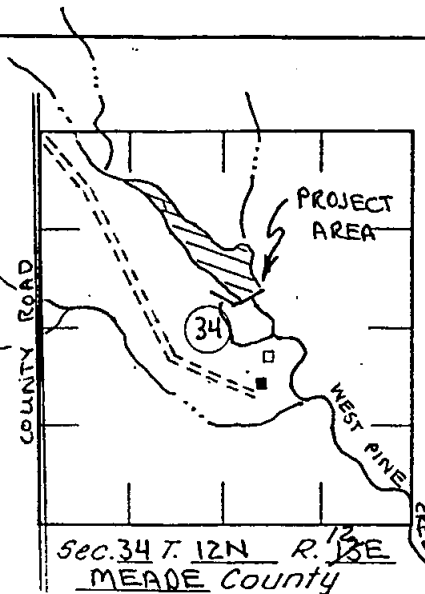
Sincerely,

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

enclosures

STRUCTURE DATA

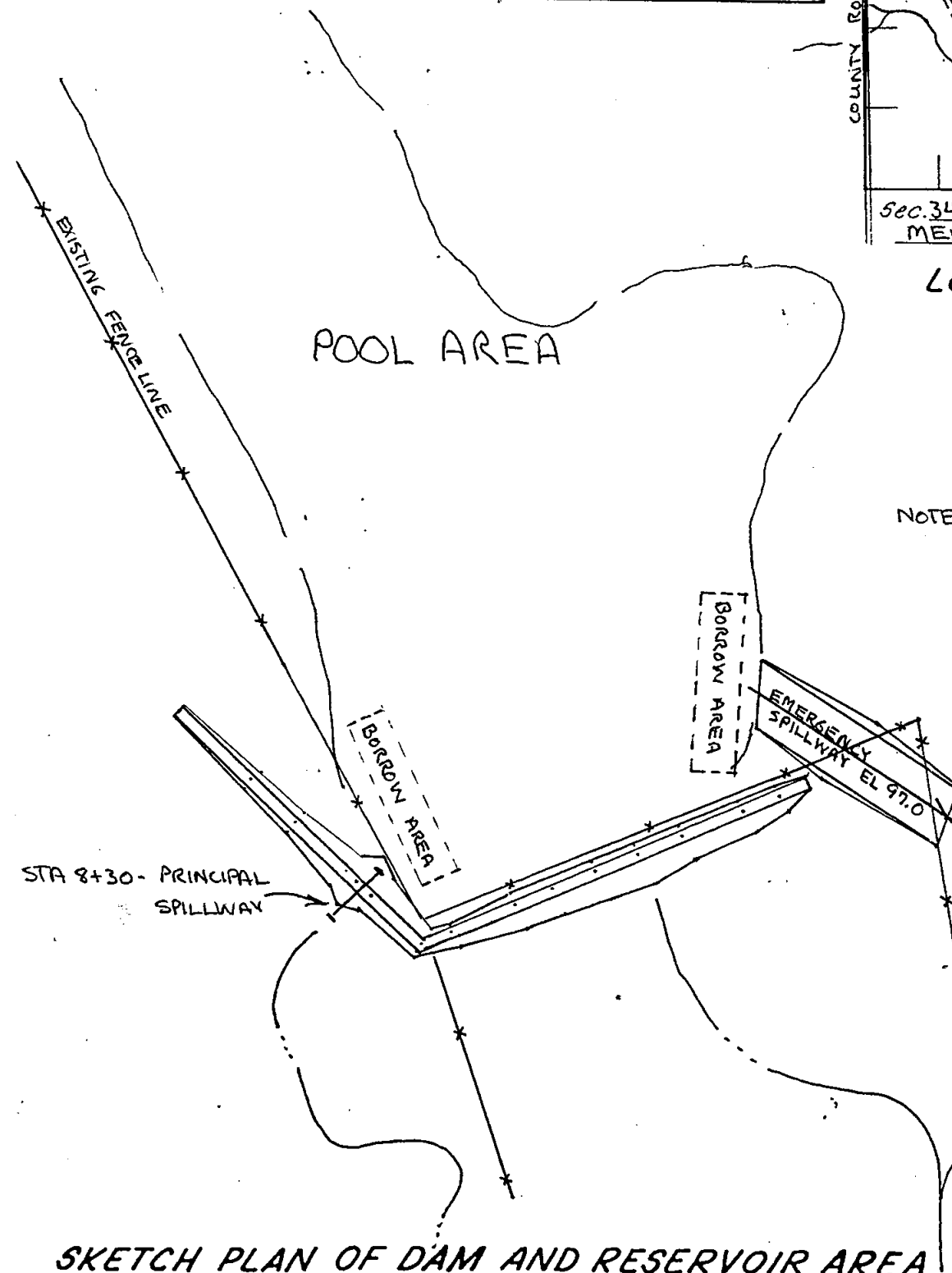
DRAINAGE AREA	ANNUAL YIELD	PEAK RUNOFF	EMERG. SPLWY. CAPACITY	WATER DEPTH	SURFACE AREA	SEDIMENT STORAGE	TOTAL STORAGE
ACRES	AC.FT.	25-YR.	C.F.S.	FEET	ACRES	AC.FT.	AC.FT.
4293	93.0	906	907	8.5	32.5	37.0	142.0



LOCATION

TABLE OF QUANTITIES

ITEM	UNIT	QUANTITY
EARTH FILL - CLASS S	CY	7091
EARTH FILL - CLASS A	CY	112
STRIPPING	CY	708
CORE TRENCH	CY	116
CONCRETE DROP INLET - (PER DETAIL)	EA	1
36" DIA HDPE PIPE	LF	60
SAND ANTISEEP DRAIN - (PER DETAIL)	EA	1
TIMBER PIPE SUPPORT - (PER DETAIL)	EA	1
TOPSOIL	CY	274
SEEDING	Ac.	1.5
FENCING - 50	LF	150

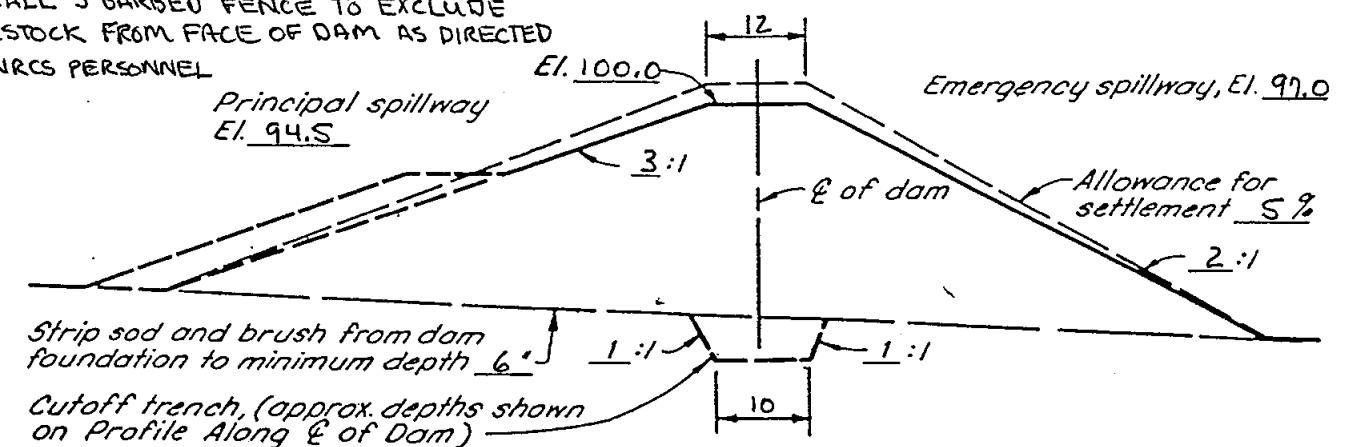


SKETCH PLAN OF DAM AND RESERVOIR AREA

Approximate scale 1" = 200'

REFERENCE: GUIDE PLAN NO. 1.0

NOTE: INSTALL 5 BARBED FENCE TO EXCLUDE LIVESTOCK FROM FACE OF DAM AS DIRECTED BY NRCS PERSONNEL



TYPICAL CROSS SECTION OF DAM

S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

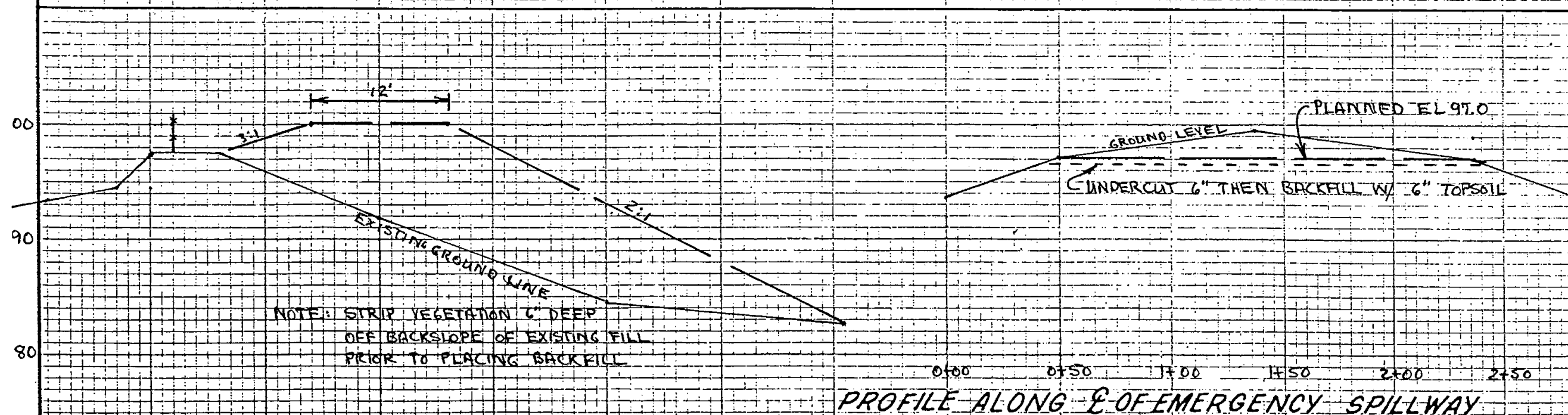
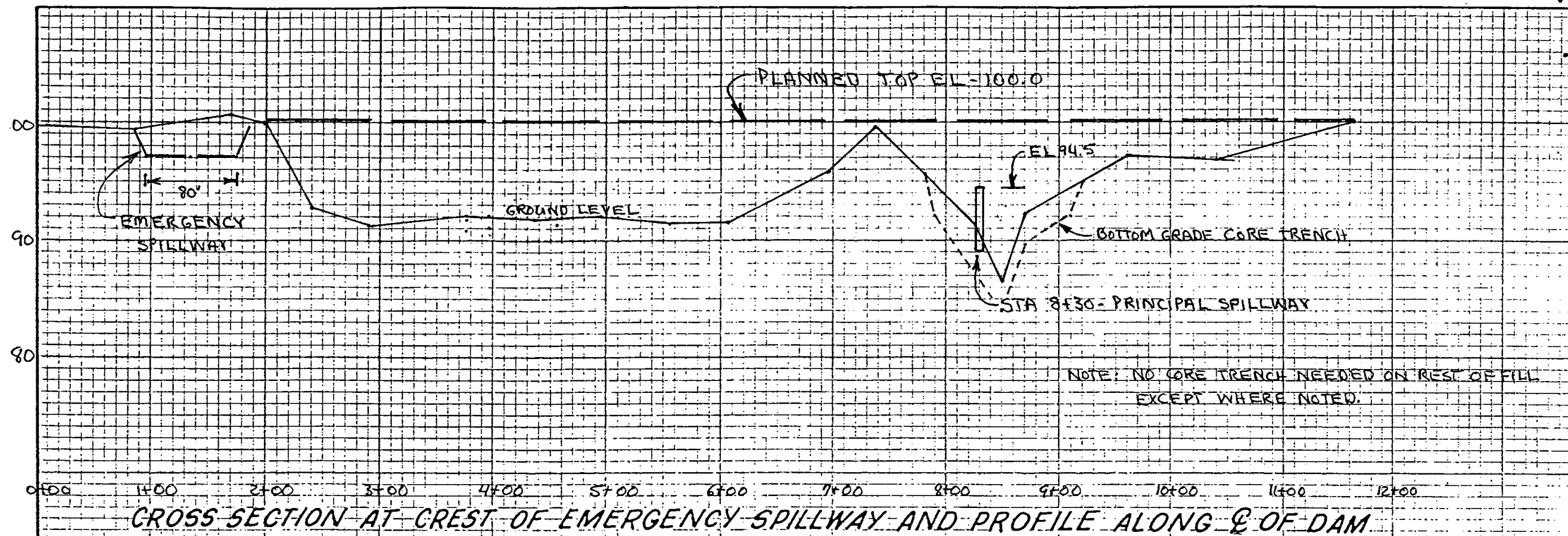
- SD-4 STRIPPING
- SD-7A EARTH FILL - CLASS A
- SD-7S EARTH FILL - CLASS S
- SD-10 SALVAGING & SPREADING TOPSOIL
- SD-12A CONCRETE (CLASS 3500)
- SD-13 STEEL REINFORCEMENT
- SD-16 TIMBER FABRICATION
- SD-28 SEEDING
- SD-55 PLASTIC PIPE

EARTH DAM - CLASS A

OPERATOR: ROGER WEISS
CONSERVATION DISTRICT: TRI-COUNTY

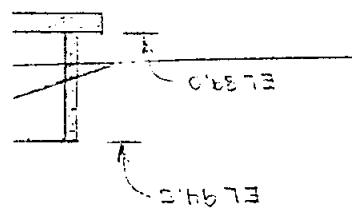
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

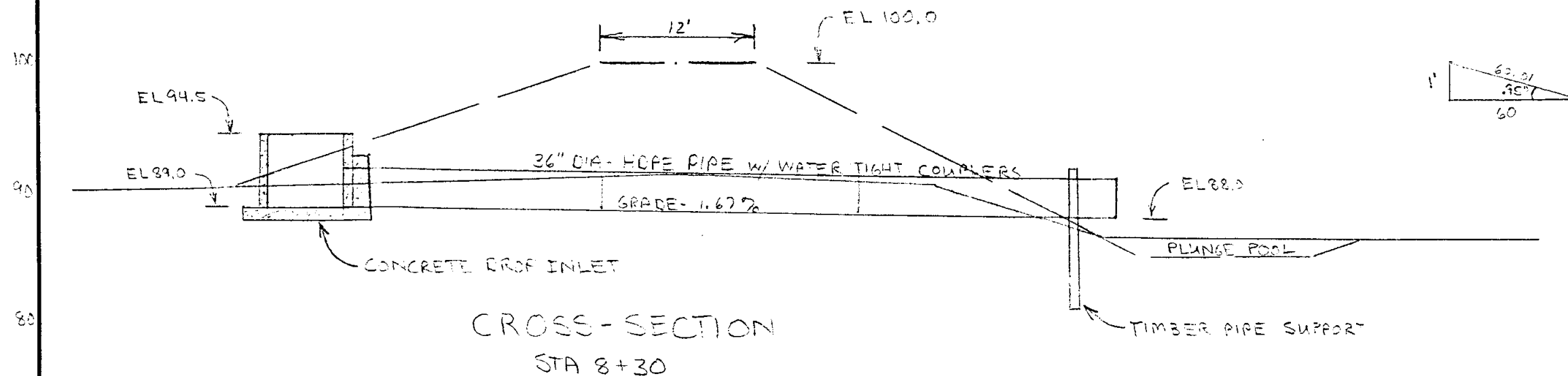
Designed T. VER HELST Date 10/99 Approved by Thomas D. Ver Helst
Drawn T. VER HELST Title Ag. Engineer
Traced Title
Checked No Drawing No.
of



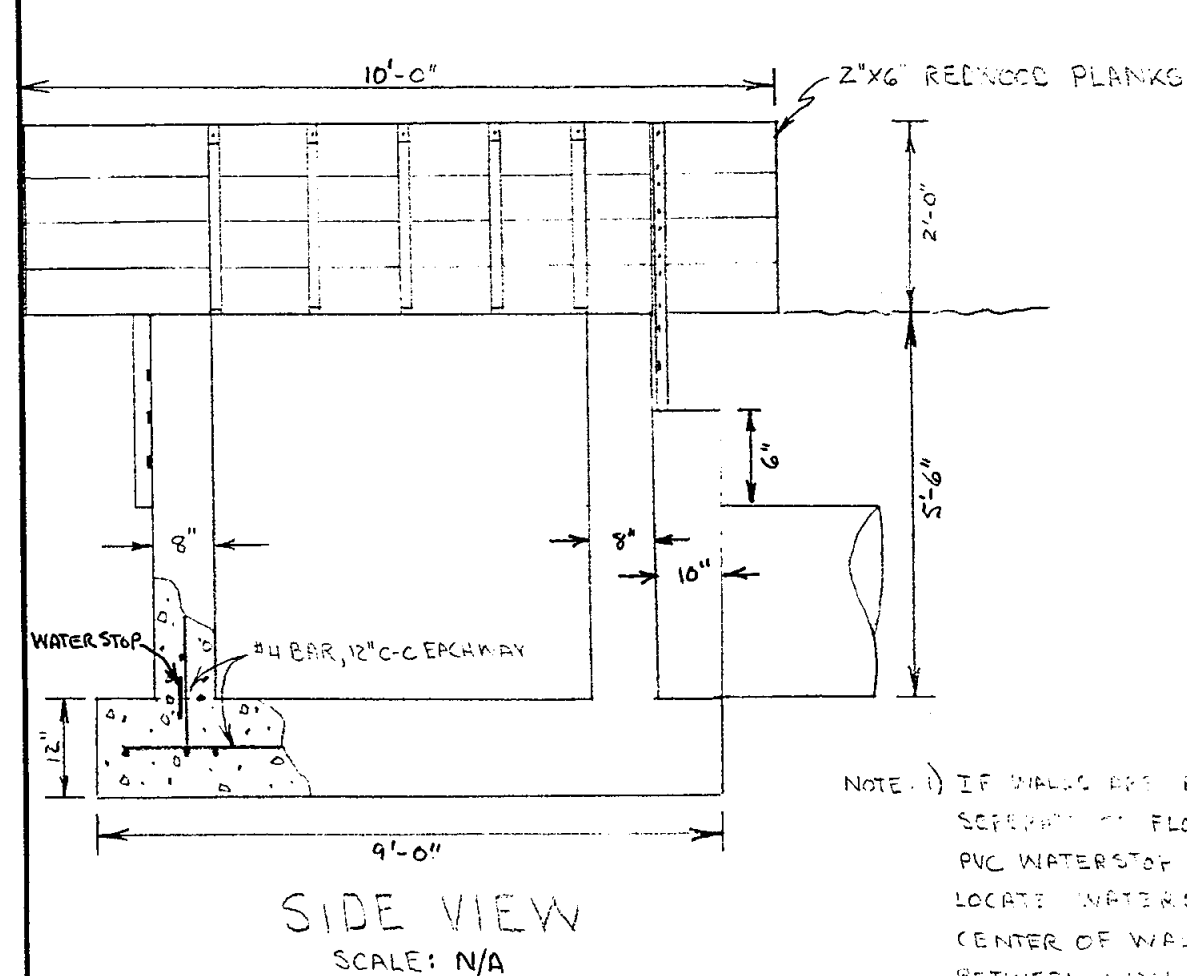
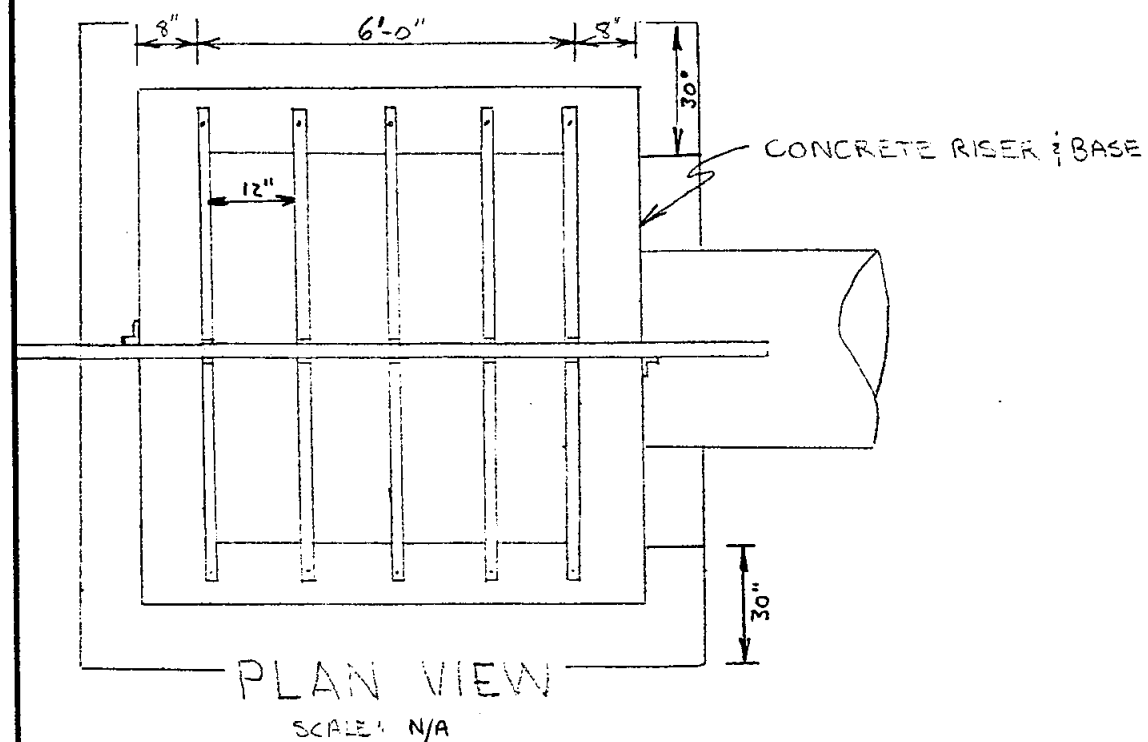
SEDIMENT YIELD

ERODIBILITY AREA ACRES	GROSS RATE A.F./AC./YR.	DRAINAGE AREA ACRES	DELIVERY RATE %	DESIGN PERIOD YEARS	REQ'D. SEDIM VOLUME AC.FT.
4293	.0023	4293	15	25	37.0





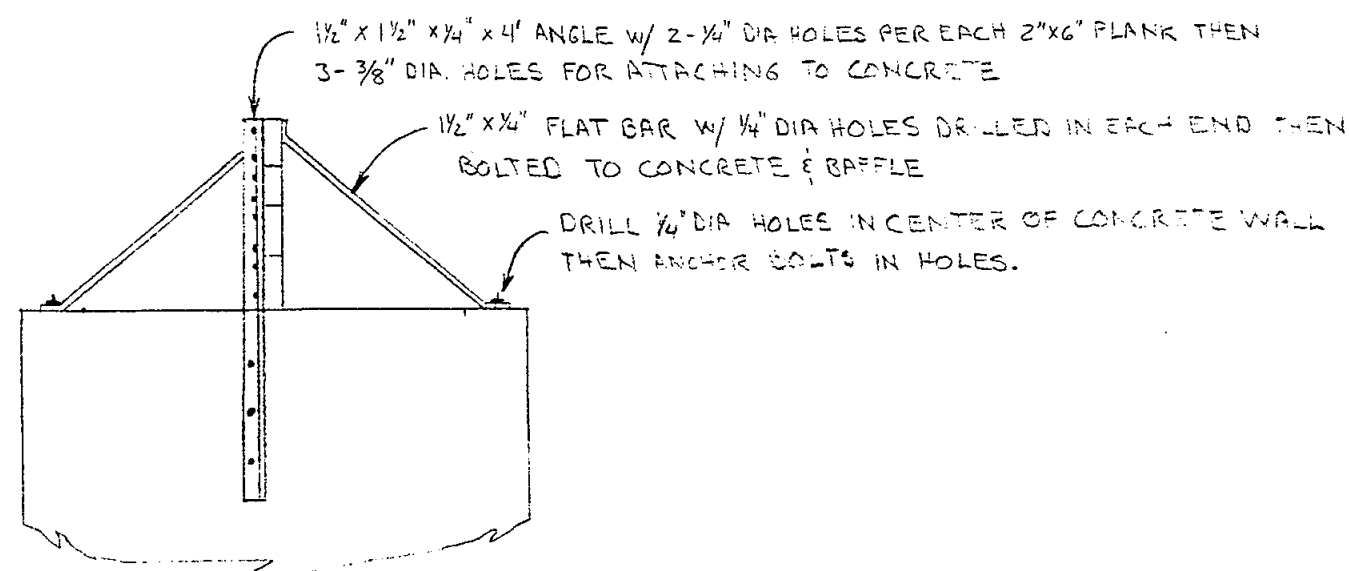
PROJECT: SPILLWAY			
ROGER WEIS			
Designed.....		Date.....	
Drawn.....		Approved by.....	
Traced.....		Title.....	
Checked.....		Title.....	
		Sheet No.....	Drawing No.....
		of.....	



- NOTE: 1) IF WALLS ARE FINISHED SCREEDING ON FLOOR, A 6" WIDE PVC WATERSTOP IS REQUIRED. LOCATE WATERSTOP IN THE CENTER OF WALL AT JOINT BETWEEN WALL & FLOOR.
- 2) 6" WIDE PVC WATERSTOP CAN BE SUBSTITUTED W/ 1/4" THICK STEEL PLATE

TABLE OF QUANTITIES

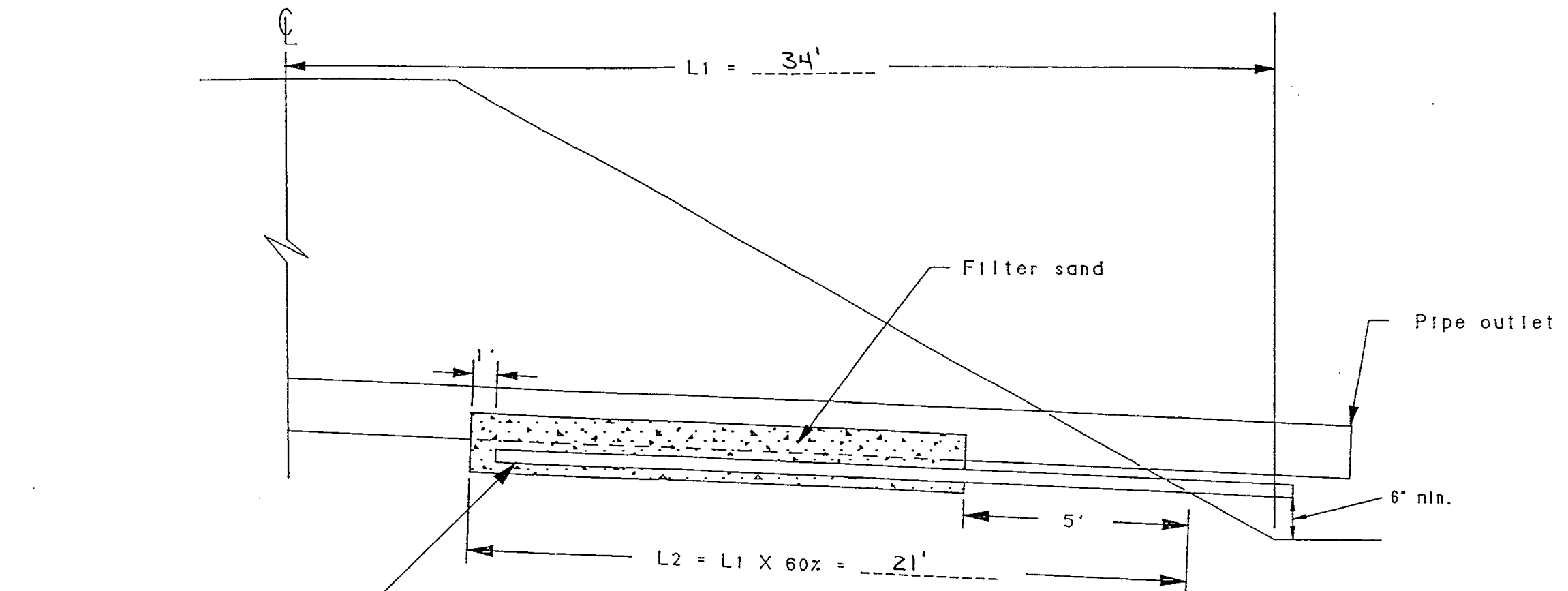
ITEM No	ITEM	UNIT	QUANTITY
1	CONCRETE-REINFORCED	CY	7.1
2	2"x6" REDWOOD PLANK	LF	40
3	1 1/2"x1 1/2"x 1/4" ANGLE	LF	8
4	1 1/2"x 1/4" FLAT BAR	LF	56
5	3/8"x3" BOLT	EA	6
6	1/4"x3" BOLT	EA	14
7	1/4"x2 1/2" BOLT	EA	30

SOUTH DAKOTA CONSTRUCTION
& MATERIAL SPECIFICATIONS

- SD-12 CONCRETE
SD-13 STEEL REINFORCEMENT

RISER & HOOD INLET
COMBINATIONU. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

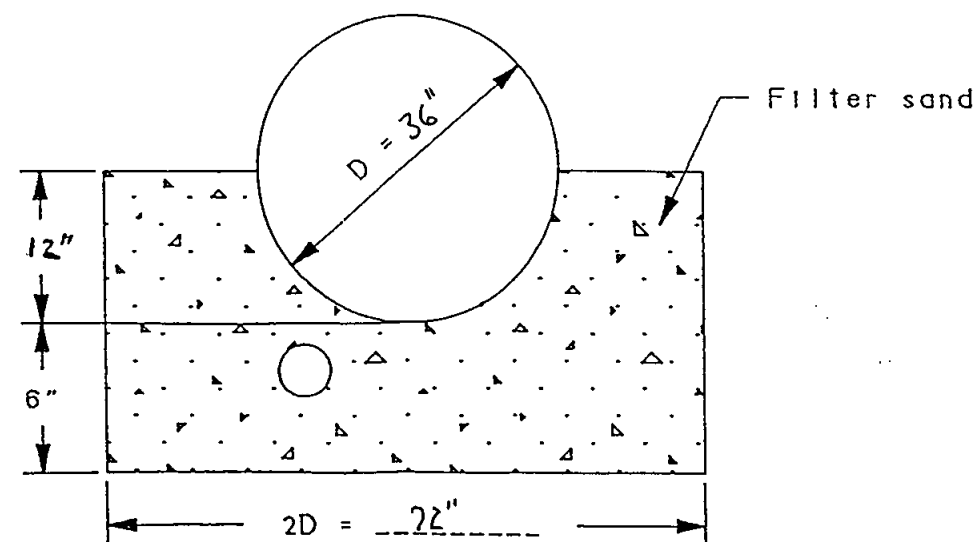
Date		Approved by	
Designed		Title	
Drawn		Title	
Traced		Sheet	Drawing No.
Checked		No	of



SIDE VIEW

FILTER GRADATION

SIEVE SIZE	PERCENT PASSING
3/8"	100
4	95-100
8	80-100
16	50-85
30	25-60
50	10-30
100	2-10



UPSTREAM VIEW

NOTE:

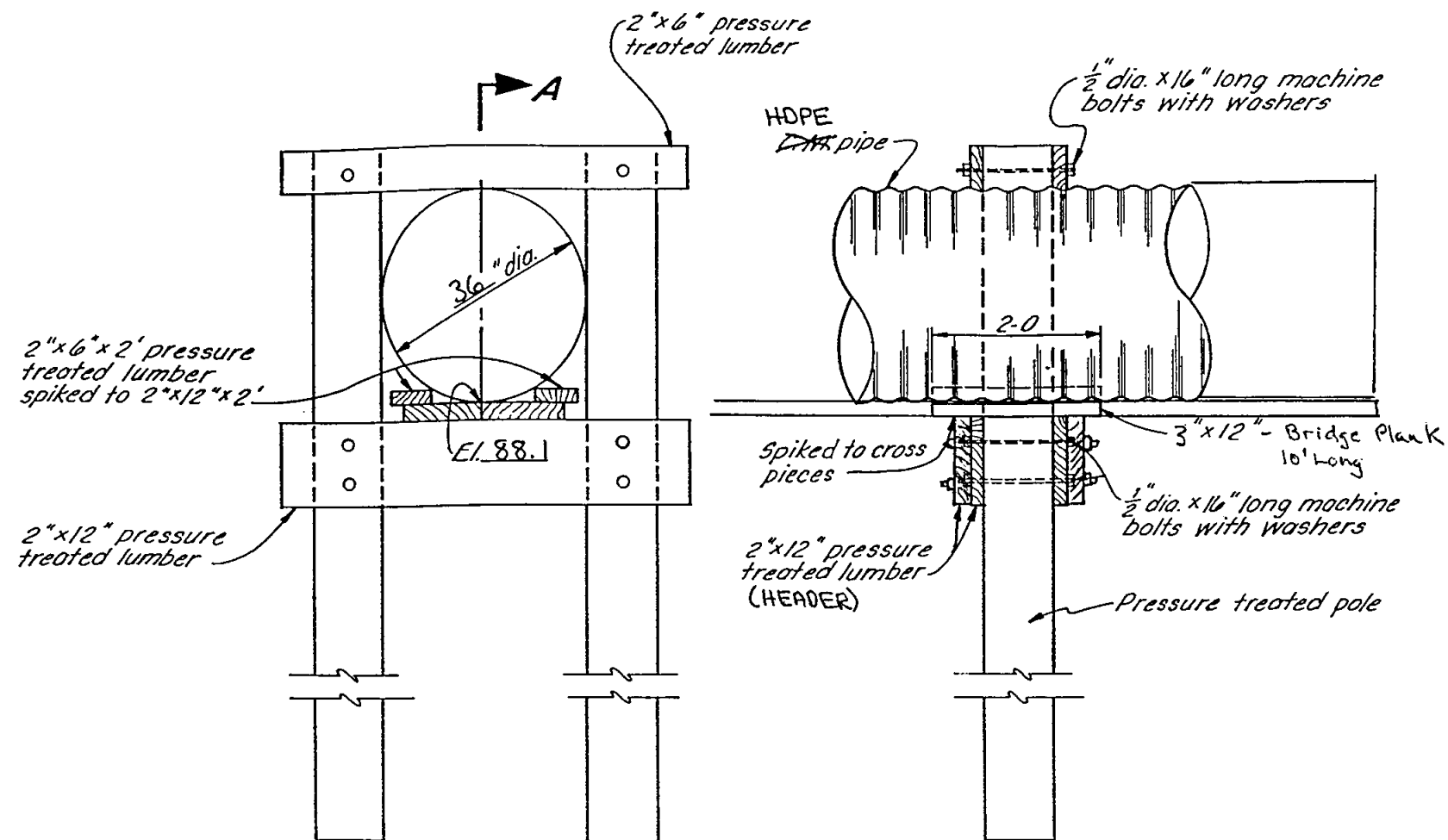
1. THE 4" DIA. PIPE SHALL BE SDR 35 PVC, OR STRONGER
2. PROVIDE AN ANIMAL GUARD ON DRAIN OUTLET PIPE. DRILL 2. 1/2" DIA. HOLES, ON ϕ 6" FROM END OF PIPE AND PLACE A 3/8" DIA., 5 1/2" LONG GALVANIZED STEEL BOLT THRU THEM AND SECURE WITH A NUT (PLACE BOLT HORIZONTAL).
3. FILTER SAND WILL BE CLEAN PEA AGGREGATE OR CONCRETE SAND.

SAND ANTISEEP DRAIN

OPERATOR <u>ROGER WEIS</u>			
CONSERVATION DISTRICT <u>TRI-COUNTY</u>			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE			
Designed _____		Date _____	
Drawn _____		Approved by _____	
Traced _____		Title _____	
Checked _____		Title _____	
		Sheet No. _____	Dwg. No. _____
		of _____	

Rev. 3/96

JOB PLAN NO. 3.8-P




 ELEVATION SECTIONAL ELEVATION A-A

TABLE OF QUANTITIES

ITEM	LENGTH FOR 36" DIA. HOPE PIPE PIPE	UNIT	QUANTITY
PRESSURE TREATED POLE 10" DIA.	10'-0"	EACH	2
3" X 12" Bridge Plank	10'-0"	EACH	2
2" X 6" PRESSURE TREATED LUMBER	5'-0"	EACH	2
2" X 12" PRESSURE TREATED LUMBER	5'-0"	EACH	4
2" X 6" PRESSURE TREATED LUMBER	2'-0"	EACH	2
1/2" DIA. MACHINE BOLTS WITH NUTS	2'-0"	EACH	6
1/2" DIA. WASHERS		EACH	12

REFERENCE: GUIDE PLAN NO. 4.0

JOB PLAN NO. 4.0

NOTES:

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

TIMBER PIPE SUPPORT

OPERATOR: ROGER WEIS

CONSERVATION DISTRICT: TRI-COUNTY

**U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE**

Date _____ Designed _____ Drawn _____ Traced _____ Checked _____	Approved by _____ Title _____ Title _____ Sheet _____ No _____ of _____
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5,N-29,073.4a