

**WATER PERMIT NO. 1907-1**

Name of Applicant: **Lyle Wilcox**

Address: **17875 Pleasantview Rd**

Phone: **605 985-5972**

Amount of Water Claimed: **95 AF**

Total Acres: **NA**

Source of Water Supply: **runoff**

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

County: **Meade**

Type of Waste Disposal System: **NA**

Location: **7 miles west of Enning**

**PRIORITY**

Date Received: **9-4-09**

Application/License Fee: **\$700**

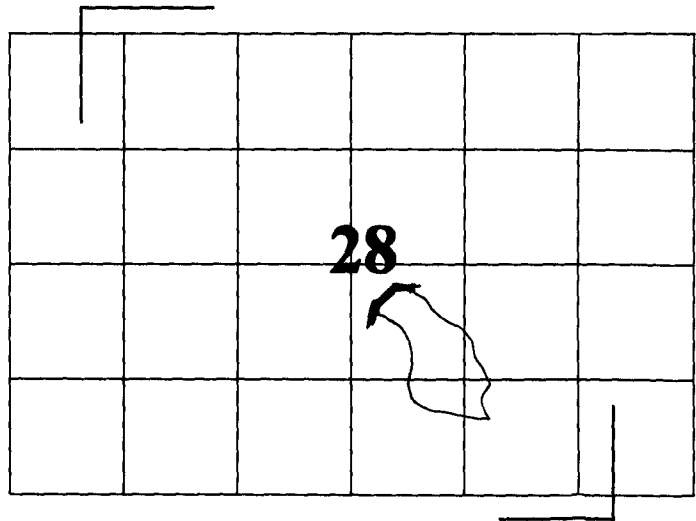
Corrected Application Received:

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

Remarks: **repair existing pond**

Diversion Point: **NW ¼ SE ¼ Section 28-T7N-R11E**

Water Impounded: **SE ¼ Section 28-T7N-R11E**



Depth of Well: **NA**

Well Driller:

Remarks:

Type of Map: **plat**

Prepared by: **Dave Konechne, PE**

Reviewed and the Number Assigned on: **9-8-09**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: \_\_\_\_\_

**SD EForm - 1585 V3**  
**FORM 2: Application for uses other than irrigation**  
(type or print)

Mail to:  
Water Rights Program  
Joe Foss Building  
523 E. Capitol  
Pierre, SD 57501-3181  
(605) 773-3352

(office use only)  
No. 1907-1 Hydrologic Unit 10120202  
Basin Black Forks River  
Newspaper Meade County News 1022 Main St.  
605-347-3503 Staple 5785

**RECEIVED**  
**SEP - 4 2009**  
**WATER RIGHTS**  
**PROGRAM**

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

**Check use(s) of water:**

|                                                            |                                           |                                                     |                                          |
|------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------|------------------------------------------|
| <input type="checkbox"/> Municipal                         | <input type="checkbox"/> Suburban Housing | <input type="checkbox"/> Recreational               | <input type="checkbox"/> Institutional   |
| <input type="checkbox"/> Rural Water System                | <input type="checkbox"/> Commercial       | <input checked="" type="checkbox"/> Fish & Wildlife | <input type="checkbox"/> Geothermal Heat |
| <input checked="" type="checkbox"/> Domestic (over 18 gpm) | <input type="checkbox"/> Industrial       | <input type="checkbox"/> 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 Lyle Wilcox Phone (605) 985-5972  
(check one) ☐ Owner ☐ Tenant/lessee  
Mailing Address 17875 Pleasantview Rd. Redowl State SD 57787  
(Street, RR, or Box and City) (Zip Code)

2. Amount of water claimed \_\_\_\_\_ \*CFS or \_\_\_\_\_ \*\*GPM \_\_\_\_\_ 95 \*\*\*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) County Meade  
NW1/4 Sec. 28 T7N R11E  
well impounded SE 1/4 Sec 28 T 7N R 11E

5. County or counties where water will be used Meade

6. Annual period during which water is to be used 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)

This is a repair of an existing pond in which the principle spillway (CMP) has rusted out and the emergency spillway has experienced a limited amount of headcutting. Please see the attached engineering plans.

**STATE OF SOUTH DAKOTA)**

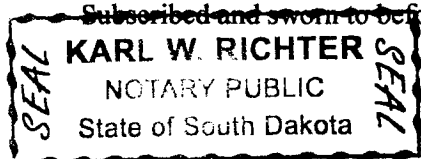
County of Meade SS

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

I, Lyle Wilcox, 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 Lyle Wilcox

Subscribed and sworn to before me this 2 day of Sept 20 09



Karl W. Richter  
Notary Public signature

**SOUTH DAKOTA**  
**WATER PERMIT NO. 1907-1**

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Date of first receipt of application September 4, 2009.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1907-1 to Lyle Wilcox, 17875 Pleasantview Rd, Red Owl SD 57787 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. 1907-1 authorizes impoundment of 95 acre-feet of water from runoff by constructing a dam located in the NW 1/4 SE 1/4 Section 28 with water impounded in the SE 1/4 Section 28; all in T7N-R11E.
2. The water appropriated shall be used for the purpose of fish and wildlife propagation and livestock water and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1907-1 is October 19, 2009.
5. The date from which applicant may claim right is September 4, 2009.
6. One-fifth of the construction is to be completed on or before April 19, 2012.
7. All construction is to be completed on or before October 19, 2014.
8. Water is to be put to beneficial use on or before October 19, 2018.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

**QUALIFICATIONS**

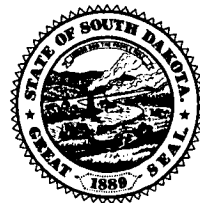
1. Water Permit No. 1907-1 authorizes a dam with a storage capacity of 95 acre feet of water and sufficient water annually to maintain the water level to the outlet elevation.
2. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.

**WATER MANAGEMENT BOARD**

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

JAN 13 2010

date



(type or print in ink)

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**SEP - 4 2009**

**WATER RIGHTS  
PROGRAM**

**1. Well Information - Proposed Construction**

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

**2. Wastewater Disposal System Information**

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

**3. Dugout Information**

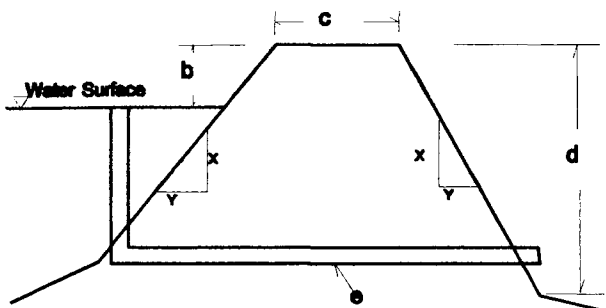
- a) Surface Dimensions \_\_\_\_\_ Depth \_\_\_\_\_
- b) Depth to water (ground surface to water level) \_\_\_\_\_

**4. Water Storage Dams**

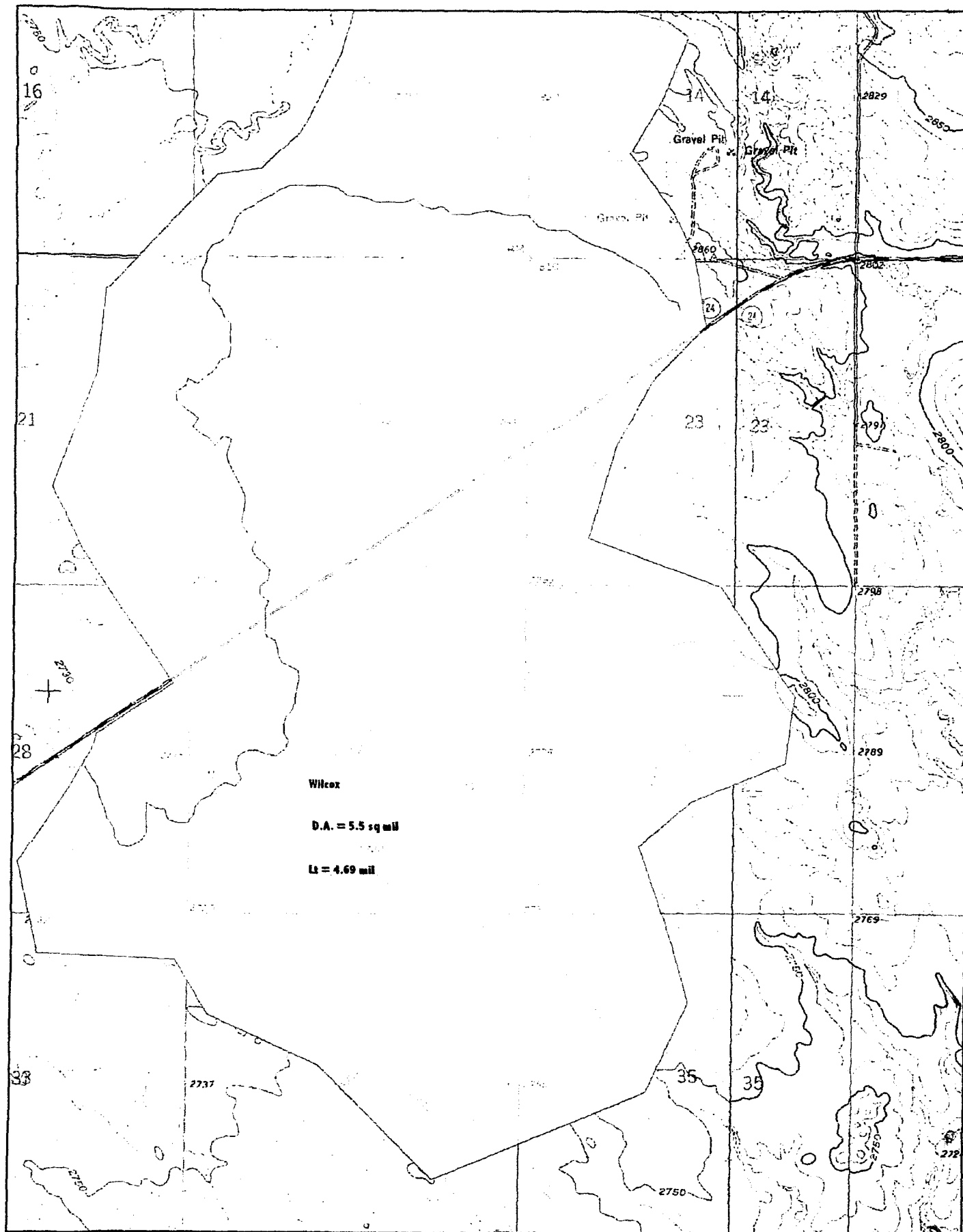
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

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

David F. Konechne  
(see plans)



- b) Freeboard \_\_\_\_\_ 4.1
- c) Crest Width \_\_\_\_\_ 12
- Crest Length \_\_\_\_\_ 435
- d) Height \_\_\_\_\_ 9.6
- e) Primary Outlet Capacity \_\_\_\_\_ 118cfs
- If pipe, diameter \_\_\_\_\_
- f) Secondary Spillway Capacity \_\_\_\_\_ 528cfs
- Spillway Width \_\_\_\_\_
- g) X & Y Slope \_\_\_\_\_
- Upstream \_\_\_\_\_ 3:1
- Downstream \_\_\_\_\_ 3:1
- h) Surface Area of Impoundment \_\_\_\_\_ 35.2
- i) Storage \_\_\_\_\_ 95.0 \_\_\_\_\_ Acre Feet
- j) Drainage Area Above Dam \_\_\_\_\_ 3,520.6 \_\_\_\_\_ Acres

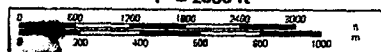


Wilcox

D.A. = 5.5 sq mil

Lt = 4.69 mil

Scale 1 : 25,000  
1" = 2080 ft



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www.delorme.com

# RECEIPT

## WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 9/8, 20 09

RECEIVED OF Lyle Wilcox 17875 Pleasantview Rd Red Owl SD 57787

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

|                                                                                                                         |       |        |
|-------------------------------------------------------------------------------------------------------------------------|-------|--------|
| Fee for Application for Permit No. <u>17875-1</u> to Appropriate Water, to construct and to put water to beneficial use | 500   | 00     |
| Fee for Application for Permit No. _____ to Appropriate Water for Future use                                            |       |        |
| Fee to retain Future Use Permit No. _____ after period of seven years.                                                  |       |        |
| Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>17875-1</u>            | 200   | 00     |
| Fee for Filing Transfer Form _____                                                                                      |       |        |
| Fee for _____                                                                                                           |       |        |
| Fee for Issuing New Well Driller's License No. _____ for C.Y. _____                                                     |       |        |
| Fee for Renewal of Well Driller's License No. _____ for C.Y. _____                                                      |       |        |
| Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____                                                  |       |        |
| Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____                                               |       |        |
| (Any Other Work Provided by Law)                                                                                        | TOTAL | 700 00 |

No. 04-2-6

By [Signature]

Chief Engineer

Water Permit Application No. 1907-1  
Lyle Wilcox

Top of Dam Eten - 90.9  
2nd Spillway Eten - 88.9  
P. Spillway Eten - 86.8  
Dis Emb. Toe Eten - 81.3

Cat. 3 - Low Hazard Dam

Ht. = 9.6 ft

Normal Storage Capacity - 95 A.-Ft  
Int. Storage Capacity - 220 A.-Ft  
Max. Storage Capacity - 442 A.-Ft

Int. Capacity x Eff. Ht. =  $220 \times 6.8 = 1496 \sim 3000 \therefore 25 \text{ yr}$   
Minimum Spillway Design

From USGS WRI 80-80 "Tech. Surv. Est. Flood Peaks ... in 50"  
DA = 3520 A. = 5.50 mi.<sup>2</sup> S = 20 ft/mi S<sub>E</sub> = 1.90

$$Q_{25} = 83.4 A^{.60} S^{.44} S_E^{-.72}$$

$$= 83.4 (5.5)^{.60} (20)^{.44} (1.90)^{-.72}$$

$$= 83.4 (2.7811) (3.7804) (0.6299)$$

Q<sub>25</sub> = 546 cfs

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

$$= 132 (5.5)^{.65} (20)^{.46} (1.90)^{-.67}$$

$$= 132 (3.07) (3.9671) (0.6505)$$

Q<sub>100</sub> = 1032 cfs

Secondary Spillway Capacity

$$Q = CLH^{3/2} \quad C = 2.6$$

$$= 2.6 (100) (2)^{1.5} \quad L = 100$$

$$= 736 \text{ cfs}$$

The NRCS "SITES" program was used and results in a Combined Spillway Capacity for this project of Q<sub>Total</sub> = 2305 cfs

Section 74:02:08:09

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

NRCS Annual Yield

DA = 3520 CN = 82 ISO = 1/2

80% chance = 0.23  
 $0.23 \times 3520/12 = \underline{67 \text{ A.-Ft}}$

50% chance = 0.58  
 $0.58 \times 3520/12 = \underline{170 \text{ A.-Ft}}$

10% chance = 2.3  
 $2.3 \times 3520/12 = \underline{674 \text{ A.-Ft.}}$



L. Wilcox  
Mende Co.

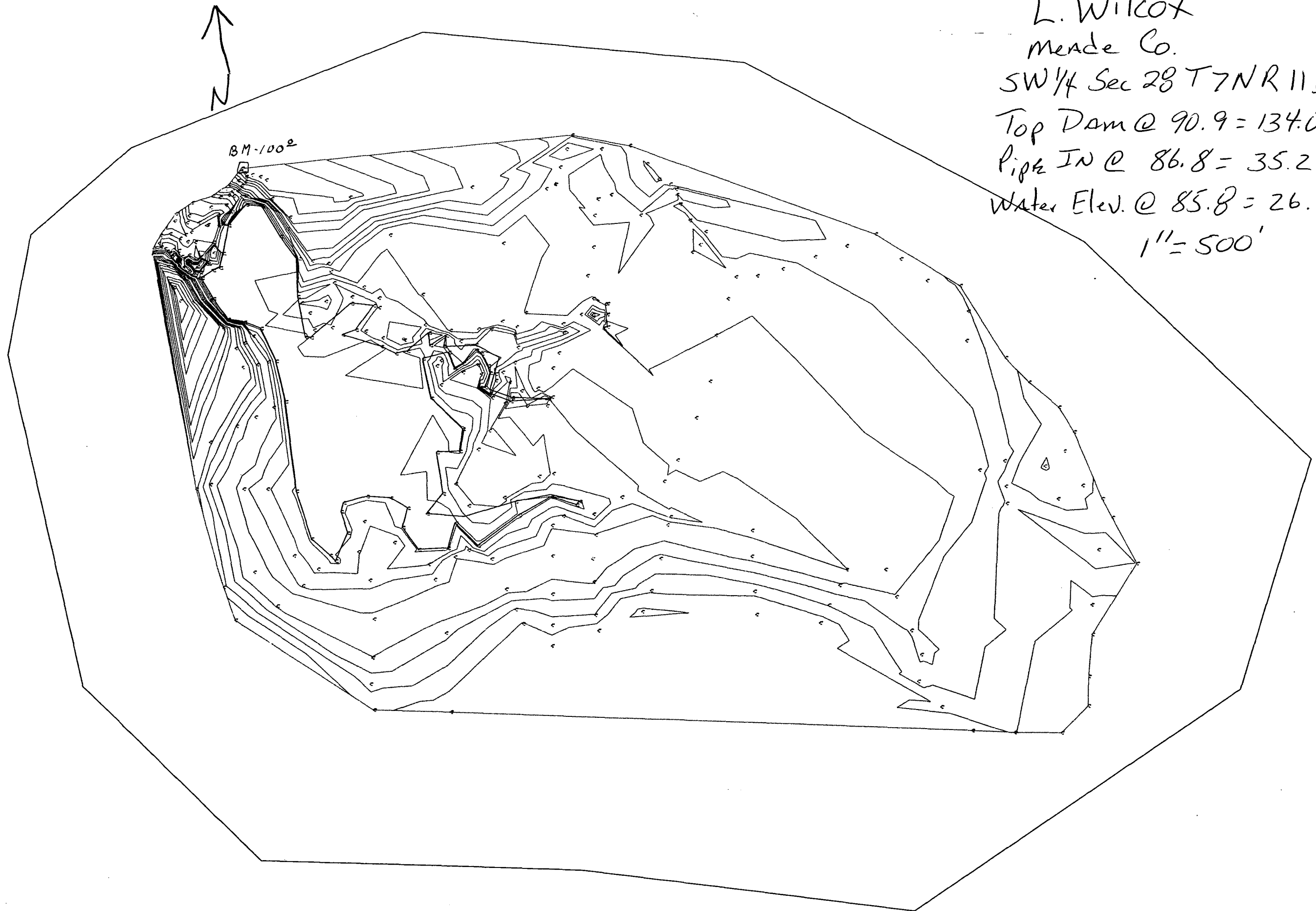
SW 1/4 Sec 28 T7N R11E

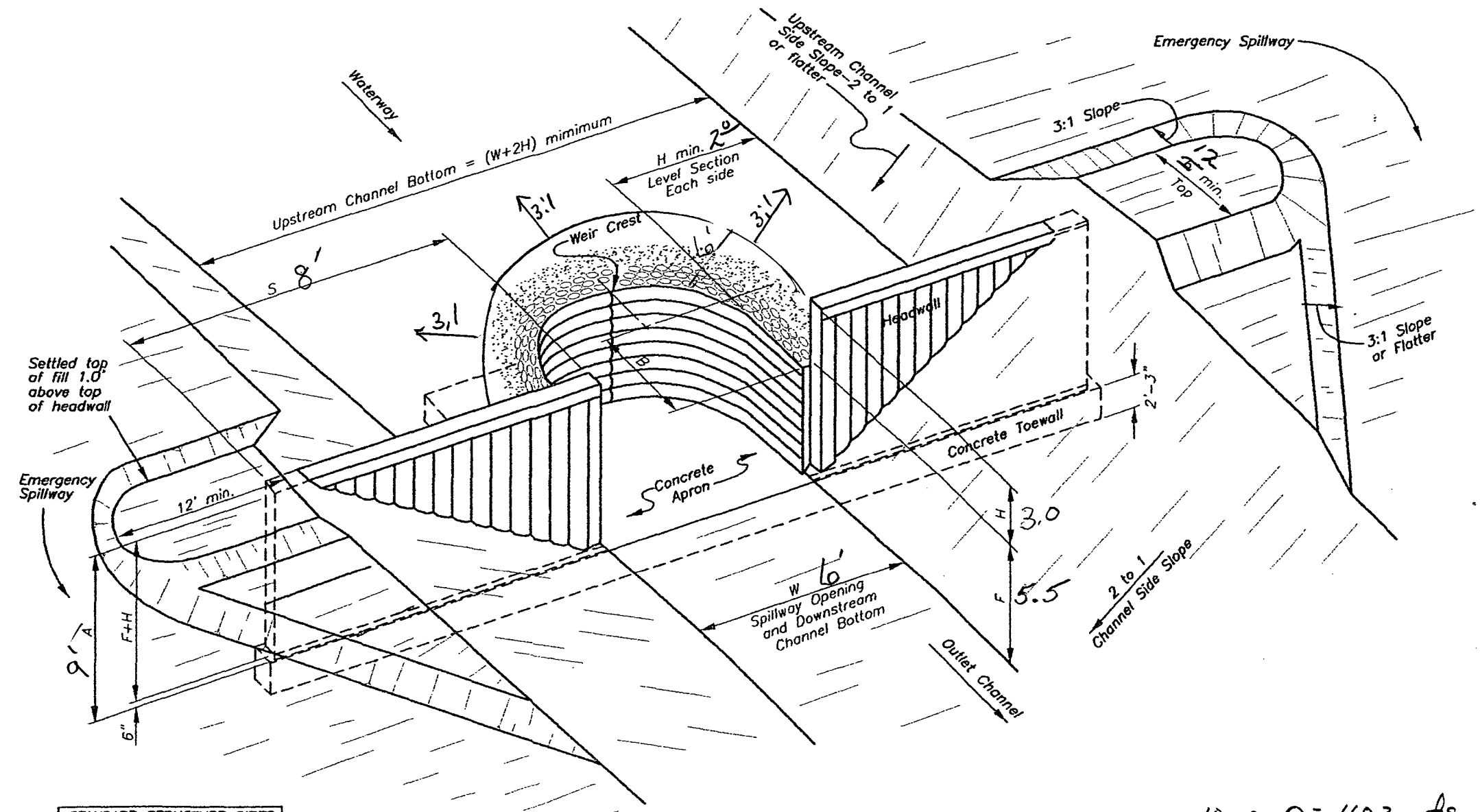
Top Dam @ 90.9 = 134.0 ac

Pipe IN @ 86.8 = 35.2 ac

Water Elev. @ 85.8 = 26.7 ac

1" = 500'





| STANDARD STRUCTURE SIZES |      |       |       |
|--------------------------|------|-------|-------|
| F                        | 1.9' | 3.0'  | 4.0'  |
| H                        | 1.8' | 1.9'  | 2.1'  |
| A                        | 4.2' | 5.4'  | 6.6'  |
| S                        | 8.7' | 11.3' | 13.4' |

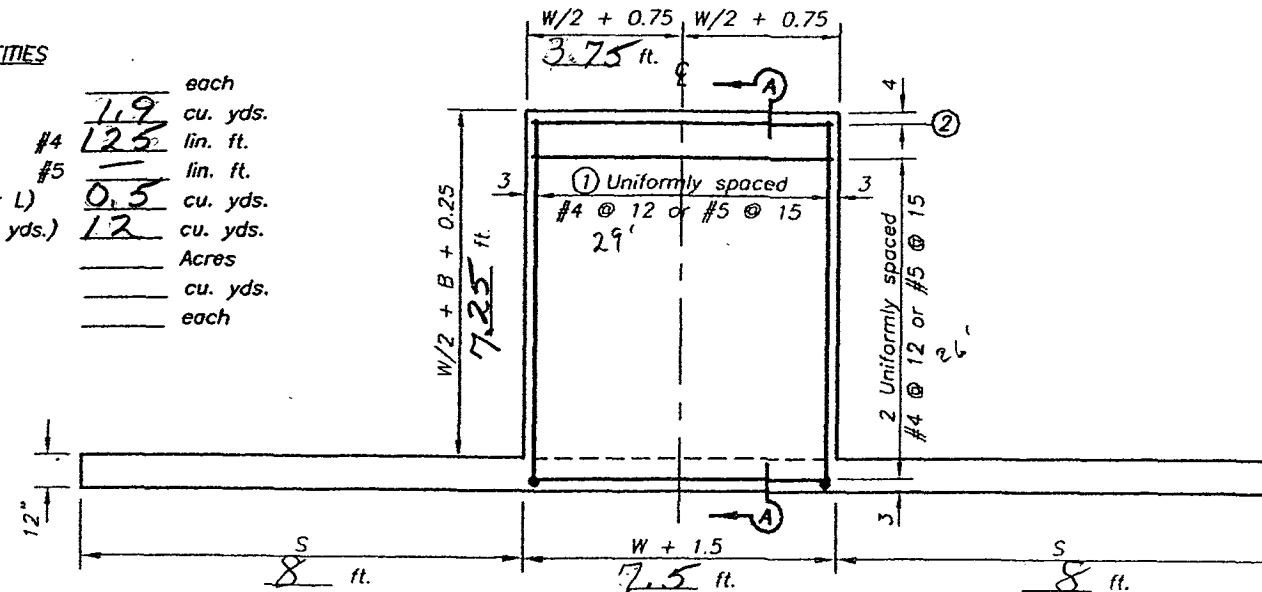
Bench mark 1" x 2" Elevation 100.0

| ELEVATIONS         |      | STRUCTURE DIMENSIONS |     |
|--------------------|------|----------------------|-----|
| Top of Levee       | 90.9 | F                    | 5.5 |
| Top of Headwall    | 89.8 | H                    | 3.0 |
| Emergency Spillway | 88.9 | W                    | 6.0 |
| Weir Crest         | 86.8 | B                    | 4.0 |
| Concrete apron     | 81.3 | L                    | 3.4 |
|                    |      | A                    | 9.0 |
|                    |      | S                    | 8.0 |

10 yr Q = 403 cfs  
weir Q = 118 cfs

Wilcox

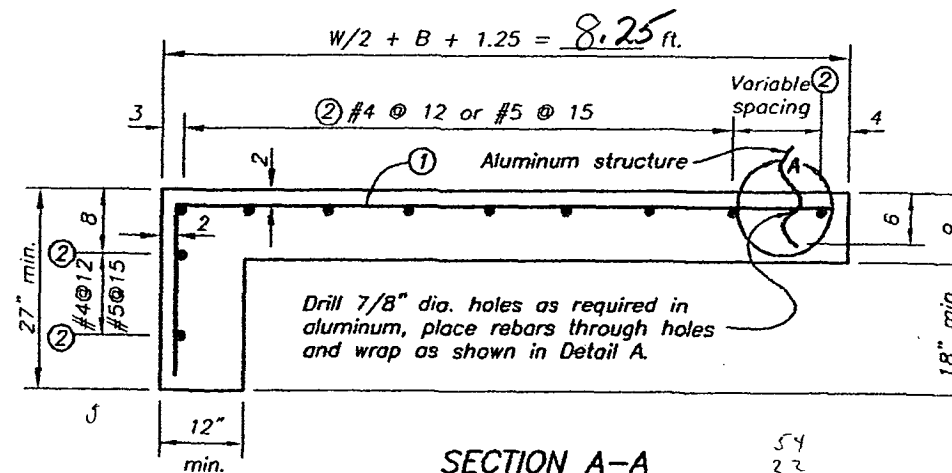
| QUANTITIES                 |         |          |  |
|----------------------------|---------|----------|--|
| Structure                  | 1       | each     |  |
| Concrete (CT + CA)         | 1.9     | cu. yds. |  |
| Reinforcing bars           | #4 12.5 | lin. ft. |  |
|                            | #5 0.5  | lin. ft. |  |
| Drain fill (0.04 x L)      | 0.5     | cu. yds. |  |
| Riprap (0.03 x L cu. yds.) | 1.2     | cu. yds. |  |
| Site preparation           |         | Acres    |  |
| Excavation and Backfill    |         | cu. yds. |  |
| Drain Tile Outlet          |         | each     |  |



TOP VIEW-CONCRETE SLAB ONLY

NOTES:

- For additional details see Missouri Construction Specification 410-A, Grade Stabilization Structure.
- Aluminum sheets shall be structural plate (2.5" x 9.0" corrugations) 0.100" thickness.
- Apply asphalt mastic between aluminum sheets before bolting together.
- Drain fill shall consist of gravel or concrete aggregate mixture with 30 to 60% passing a 1/2 inch sieve, maximum size of 3" and not more than 5% passing a no. 8 sieve. A geotextile shall be wrapped around drainfill to separate gravel from soil material. Geotextile shall be a filter fabric that will provide a filter to prevent migration of soil particles but still permeable as shown in Construction Specification 753, Geotextile.
- Riprap may consist of well-graded rock, D50 size 9 inch, maximum size 15". Or 8" concrete block set with core openings up and filled with soil or gravel.
- Bolts to be 3/4" Ø with nuts and lock washers. Bolts, nuts and lock washers to be aluminum alloy or galvanized steel.
- That portion of aluminum sheets set in concrete shall be given a heavy coat of bituminous mastic or equivalent prior to pouring concrete.



SECTION A-A

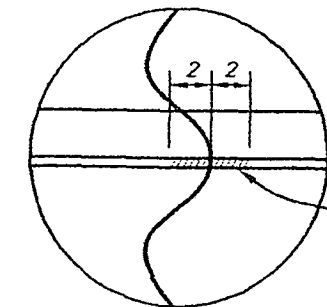
Not to scale

| REINFORCED STEEL SCHEDULE |          |      |            |      |       |
|---------------------------|----------|------|------------|------|-------|
| MARK                      | QUANTITY | SIZE | BAR LENGTH | TYPE | TOTAL |
| 1                         |          |      |            |      |       |
| 2                         |          |      |            |      |       |

\* The use of #5 ① will require some of the 15" spacings to be adjusted up to 1" plus or minus to achieve uniform spacing of rebars.

CONSTRUCTION NOTES:

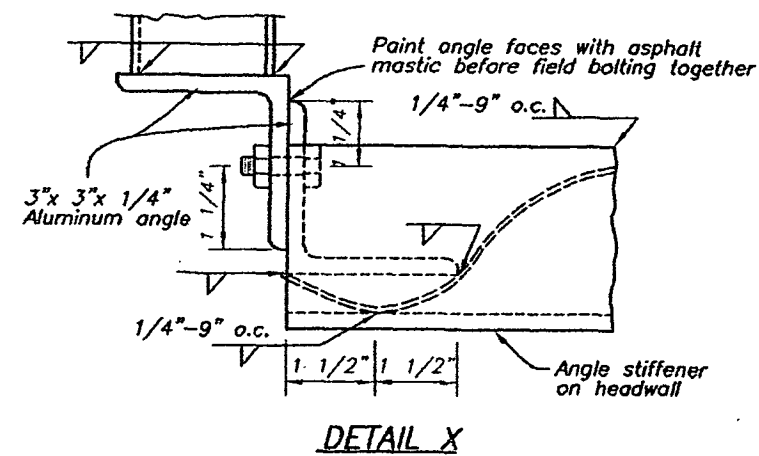
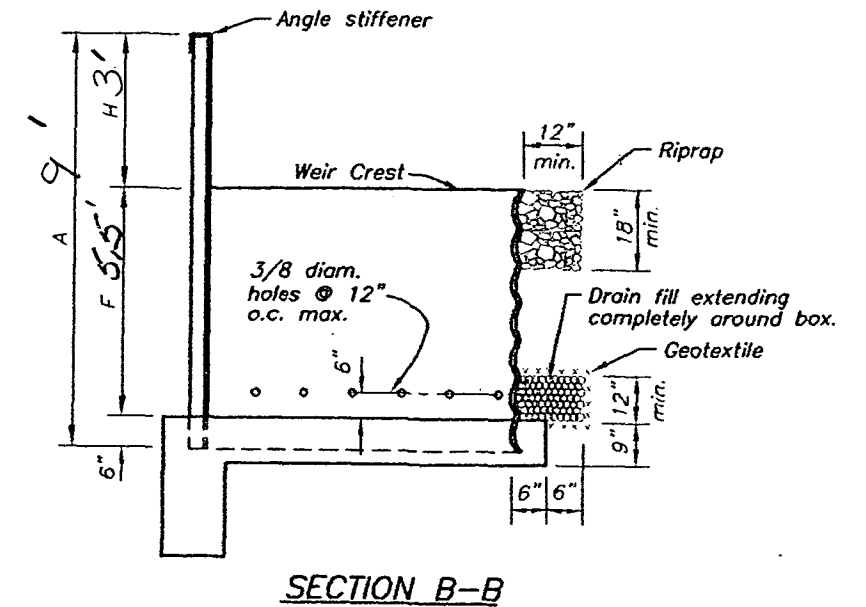
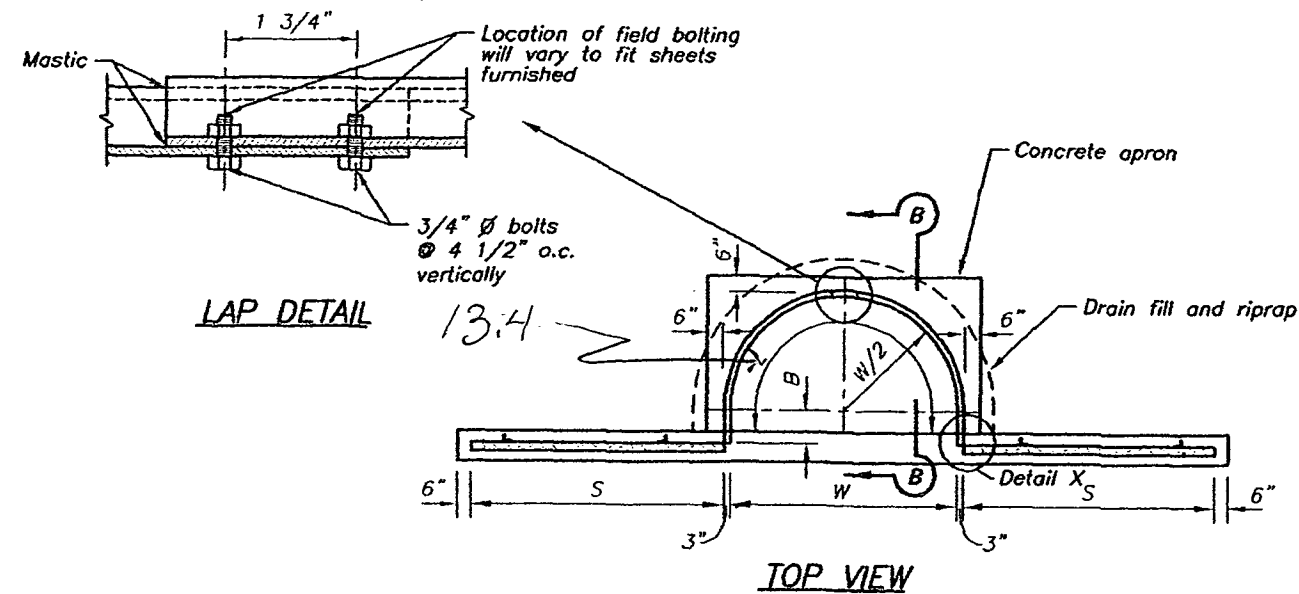
- Excavate for concrete apron and toewall in undisturbed soil. Side slopes above the top of concrete shall be 1:1 or flatter.
- Set aluminum structure to grade and place reinforcing bars before pouring concrete for apron and toewall.
- Minimum steel cover 2" from top and 3" bottom of slab.
- Place drain fill and lay tile to outlet stub.
- Backfill around structure with moist soil. Place backfill in shallow layers and tamp well. Remove dry soil from sides of excavations as backfill is placed so that moist soil is tamped against moist soil. Keep backfill approximately level around all parts of the structure.
- Place riprap and complete shaping and grading.
- Seed all disturbed areas.



Wrap each rebar with electricians tape to prevent contact with aluminum.

DETAIL A

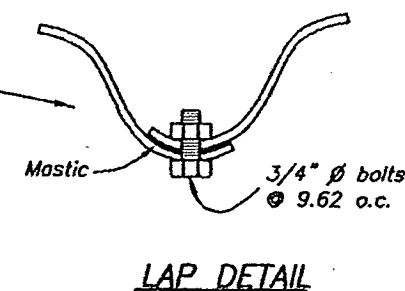
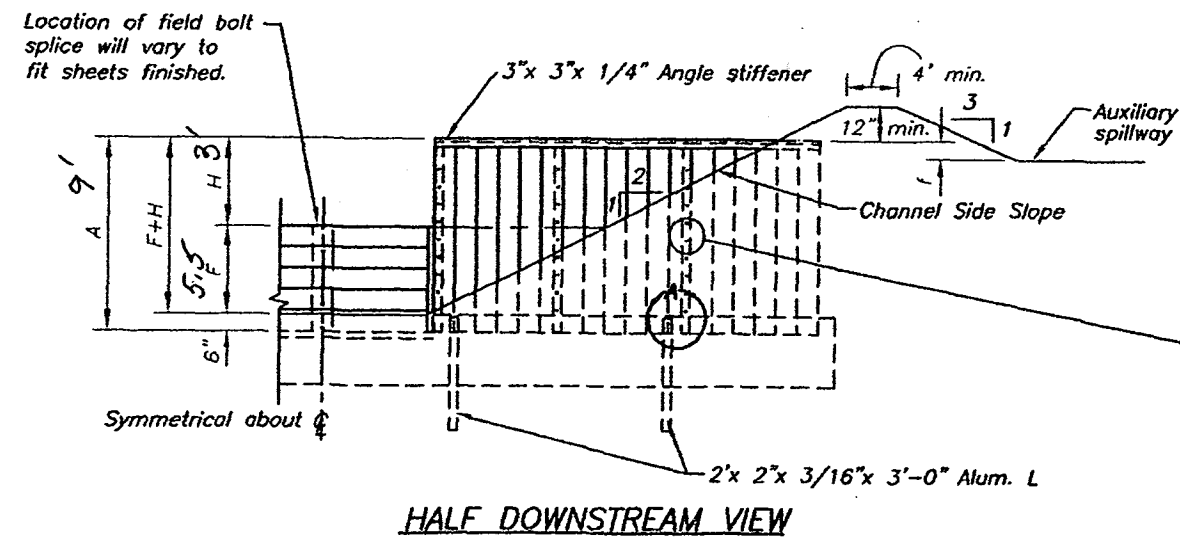
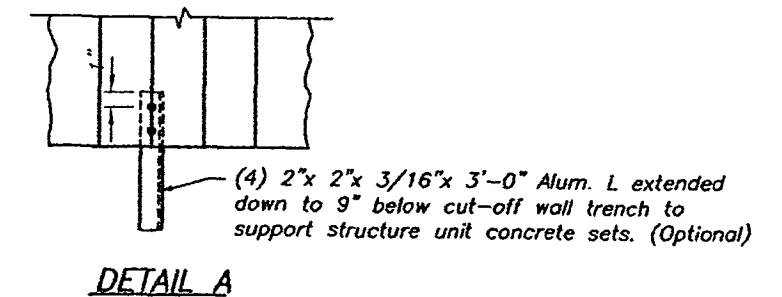
$$\begin{aligned} \text{Concrete} \\ 23.5 \times 1 \times 1.25 &= 1.1 \text{ cy} \\ \hline 27 \\ 7.25 \times 3.75 \times 1.75 &= 0.75 \\ \hline 27 & 1.9 \text{ cy} \end{aligned}$$

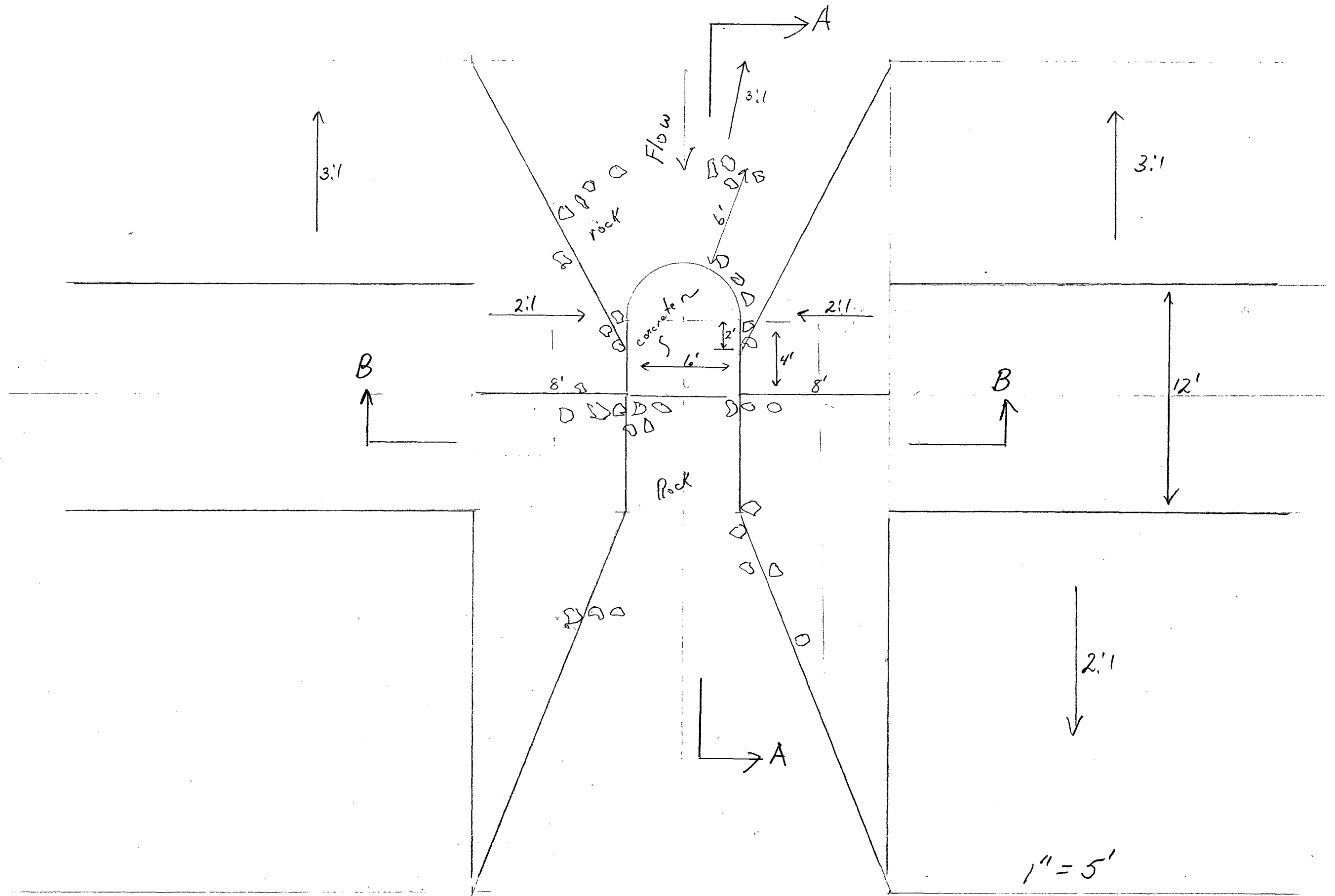


**TILE OUTLET STUB**

Aluminum pipe shall be shop welded to structure for drain tile outlet when specified below:

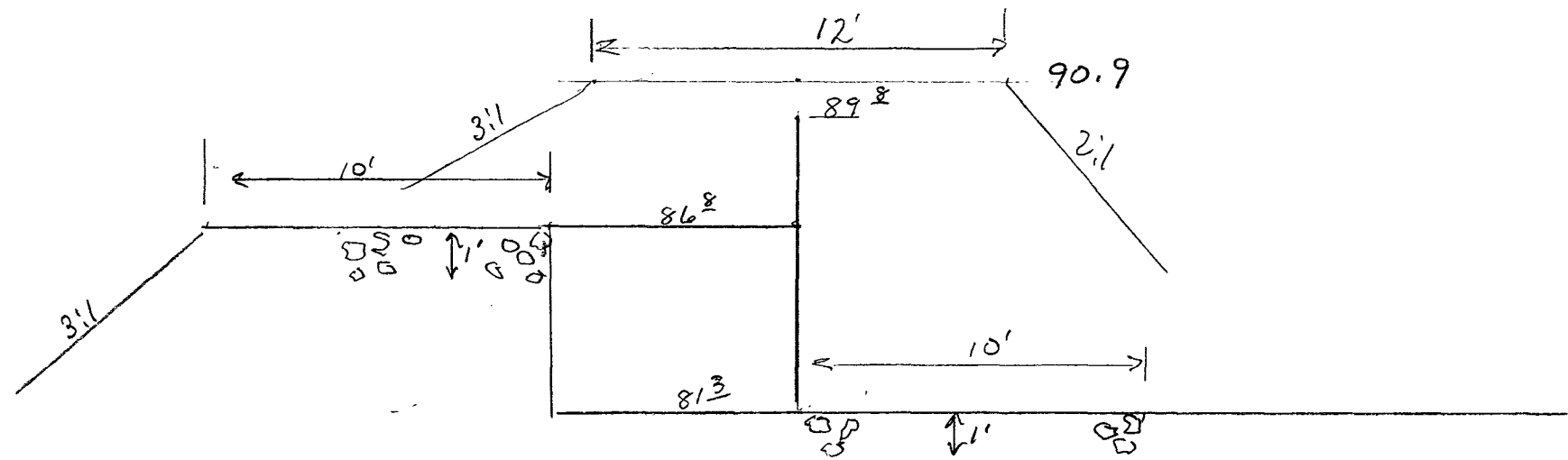
- diam., 2' stub, required at
- o'clock position, facing upstream, Bottom invert
- ft. below weir crest



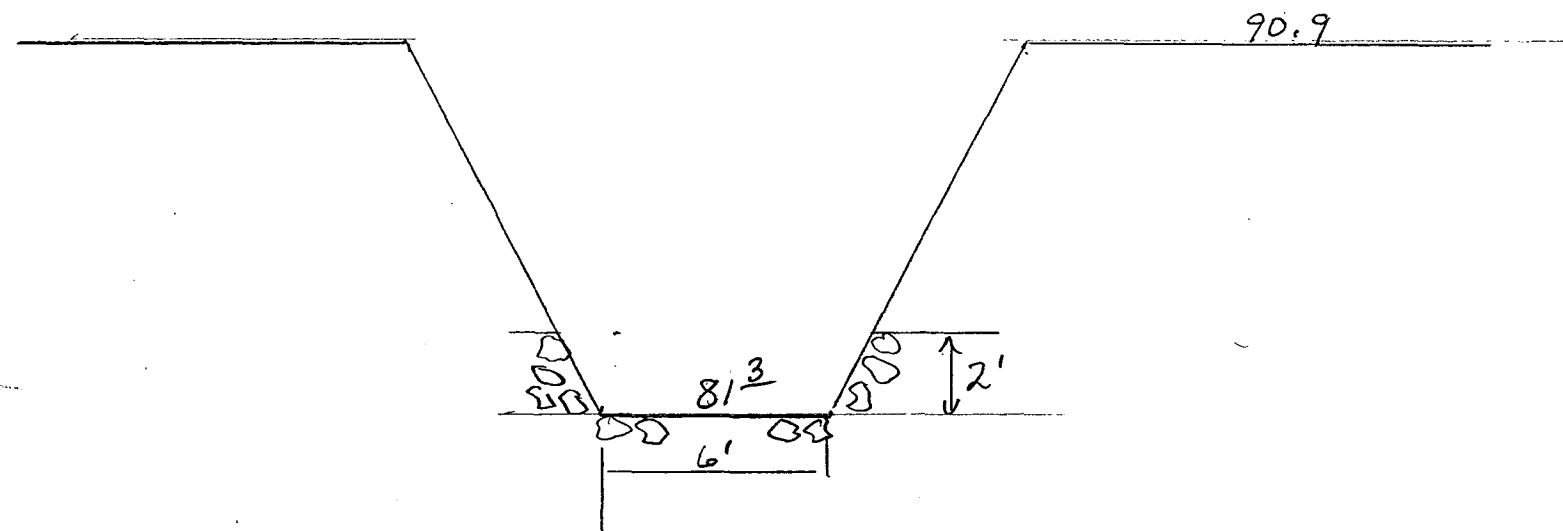


1" = 5'

Wilcox



Section A-A 1"=5'



Section B-B 1"=5'

Wilcox

1\*\*\*\*\*  
 SITES XEQ 07/06/2009 WATER RESOURCE SITE ANALYSIS COMPUTER PROGRAM  
 VER 2000 (USER MANUAL - DATED MAY 2001)  
 TIME 10:54:29

\*\*\*\*\* 80-80 LIST OF INPUT DATA \*\*\*\*\*

SITES 05/01/2000 Wilcox-SW28,T7N,R11E 5.5 H5  
 SAVMOV 0 101  
 SAVMOV 101 1 1  
 STRUCTURE  
 81 0  
 85.8 26.7  
 86.8 35.2  
 90.9 134

ENDTABLE  
 WSDATA 5A1 AC 82 3520 24763 .3  
 PDIRECT 3 .00 3.60  
 POOLDATA ELEV 86.8 86.8 81 81 SC  
 PSINLET 1 120  
 PSDATA 1 50 96 .025 82  
 ASDATA 41 100 175 3 .04 2  
 ASINSURF 41 .03  
 ASINLET 41 0.0 0.0 50 0.0 3  
 75 4

ENDTABLE  
 ASEXSURF 41 .03  
 .65 0  
 3  
 2 0  
 .02

ENDTABLE  
 ASEXIT 41 N 100  
 BTMWIDTH FEET 100  
 GRAPHICS I  
 GO,DESIGN HL TYPE2 24 TYPE2378 24  
 SAVMOV 2 101 1  
 ENDJOB

RECEIVED

SEP - 4 2009

WATER RIGHTS  
 PROGRAM

*The Best Protection Is Early Detection*

DENR

*The routing is to  
 establish a weir length  
 (120 inches needed) for 10-yr  
 storm event.*

*barrell size is meaningless*

\*\*\*\*\*

\*\*\*\*\* MESSAGE - ALTERNATE STRUCTURE ID (S 1) BEING USED  
 SINCE USER DID NOT INPUT AN ID.

\*\*\*\*\* MESSAGE - ALTERNATE SUBWATERSHED ID (A) BEING USED SINCE  
 USER DID NOT INPUT AN ID.

\*\*\*\*\* MESSAGE - DRAINAGE AREA FROM WSDATA CONTROL BEING CONVERTED FROM  
 ACRES TO SQUARE MILES FOR COMPUTATION PURPOSES.

1SITES -----  
 XEQ 07/06/2009 Wilcox-SW28,T7N,R11E WSID=  
 VER 2000 SUBW= A  
 TIME 10:54:29 SITE = S 1 PASS= 1 PART= 1

\*\*\*\*\* BASIC DATA \*\*\*\*\*  
 CLIMATE AREA - NOT DEFINED      DESIGN CLASS A1 = LT 3000.

STORM DISTRIBUTION-PSH 24 HOUR TYPE II RAINFALL DISTRIBUTION

STORM DISTRIBUTION AUX. -24 HOUR TYPE II RAINFALL DISTRIBUTION

PRECIP. - P-PS,1-DAY   P-PS,10-DAY   P-SD   P-FB  
                  3.00       0.00       0.00       3.60

WSDATA -    CN       DA-SM       TC/L       -/H       QRF  
                  82.00       5.50       24763.00       0.30       0.00

SITEDATA- PERM POOL   CREST PS   FP SED   VALLEY FL   378?  
                  86.80       86.80       0.00       81.00       YES

BASEFLOW   INITIAL EL   EXTRA VOL   SITE TYPE  
                  0.00       0.00       0.00       DESIGN

PSDATA - NO. COND   COND L   DIA/W   -/H  
                  1.00       50.00       96.00       0.00

PS N       KE       WEIR L       TW EL  
                  0.025       1.00       120.00       82.00

2ND STG       ORF H       ORF L       START AUX.  
                  0.00       0.00       0.00       0.00

ASCRESTS - AUX.1   AUX.2   AUX.3   AUX.4   AUX.5  
                  0.00       0.00       0.00       0.00       0.00

AUX.DATA - REF.NO.   RETARD. Ci   TIE STATION   INLET LENGTH  
                  41       0.00       100.00       175

AUX.DATA - INLET N   SIDE SLOPE   EXIT N   EXIT SLOPE   ACTUAL AUX?  
                  0.030       3.00       0.030       0.040       NO

BTM WIDTH - BW1   BW2   BW3   BW4   BW5  
                  ft   100.00       0.00       0.00       0.00       0.00

AUXILIARY SPILLWAY RATING DEVELOPED USING WSPVRT.

1SITES-----  
 XEQ 07/06/2009       Wilcox-SW28,T7N,R11E       WSID=  
 VER 2000                               SUBW= A  
 TIME 10:54:29       SITE = S 1       PASS= 1       PART= 2

PERM POOL       86.80 FT       95.0 ACFT       35.20 AC       0.0 CFS

CREST PS       86.80 FT       95.0 ACFT       35.20 AC       0.0 CFS

SED ACCUM 86.80 FT 95.0 ACFT 35.20 AC 0.0 CFS

START ELEV 86.80 FT 95.0 ACFT 35.20 AC 0.0 CFS

NRCS-PSH D= 24.00 HR P= 3.00 IN Q= 1.38 IN DA= 5.50 SM  
TC= 11.82 HR CN= 82.00 VOL= 404.5 ACFT

PEAK = 403.3 CFS, AT 19.7 HRS.

ROUTED RESULT - HYD TYPE EMAX VOL-MAX AMAX QMAX  
NRCS-PSH 87.82 FT 143.6 ACFT 59.81 AC 384.7 CFS

PS STORAGE 48.5 ACFT, BETWEEN AUX. CREST AND SED. ACCUM ELEVATIONS.

DRAWDOWN (DDT) TEST 86.80 FT 95.0 ACFT 0.00 CFS  
CONTROL IS 0.000 DETENTION STORAGE

TIME = 1.64 DAYS, TO 0.0 CFS (LIMIT = 10.00 DAYS)

\*\*\*\*\*  
RATING TABLE DEVELOPED, SITE = S 1:  
BY PROGRAM FOR PS AND AUX. SPILLWAYS  
AUX. RATING USED WSPVRT METHOD.

RATING TABLE NUMBER 1

|                                    | ELEV.<br>FEET | Q-TOTAL<br>CFS | Q-PS<br>CFS | Q-AUX.<br>CFS | VOLUME<br>AC-FT | AREA<br>ACRE |
|------------------------------------|---------------|----------------|-------------|---------------|-----------------|--------------|
| 1                                  | 86.80         | 0.00           | 0.00        | 0.00          | 95.03           | 35.20        |
| 2                                  | 87.17         | 82.03          | 82.03       | 0.00          | 109.48          | 44.00        |
| 3                                  | 87.53         | 232.03         | 232.03      | 0.00          | 127.15          | 52.79        |
| 4                                  | 87.90         | 426.26         | 426.26      | 0.00          | 148.02          | 61.59        |
| FULL CONDUIT FLOW, ELEV = 88.26 FT |               |                |             |               |                 |              |
| 5                                  | 88.26         | 656.27         | 656.27      | 0.00          | 172.11          | 70.38        |
| 6                                  | 88.59         | 673.47         | 673.47      | 0.00          | 196.64          | 78.34        |
| 7                                  | 88.92         | 690.12         | 690.12      | 0.00          | 223.81          | 86.29        |
| 8                                  | 89.25         | 706.38         | 706.38      | 0.00          | 253.59          | 94.24        |
| 9                                  | 89.58         | 722.28         | 722.28      | 0.00          | 286.00          | 102.19       |
| 10                                 | 89.91         | 737.84         | 737.84      | 0.00          | 321.04          | 110.14       |
| 11                                 | 90.24         | 753.07         | 753.07      | 0.00          | 358.70          | 118.10       |
| 12                                 | 90.57         | 768.00         | 768.00      | 0.00          | 398.98          | 126.05       |
| 13                                 | 90.90         | 782.65         | 782.65      | 0.00          | 441.89          | 134.00       |

1SITES  
XEQ 07/06/2009 Wilcox-SW28,T7N,R11E WSID=  
VER 2000 SUBW= A  
TIME 10:54:29 SITE = S 1 PASS= 1 PART= 3

AUX. CREST 87.82 FT 143.6 ACFT 59.81 AC 384.7 CFS

PS STORAGE 48.5 ACFT, BETWEEN AUX. CREST AND SED. ACCUM ELEVATIONS.

START ELEV 86.80 FT 95.0 ACFT 35.20 AC 0.0 CFS

EFFECTIVE HEIGHT(H)= 6.8 FEET, PRODUCT= 979. (H \* STORAGE AT CREST AUX.).

INPUT DESIGN CLASS = A1 = LT 3000. PRODUCT.

NRCS-FBH D= 24.00 HR P= 3.60 IN Q= 1.87 IN DA= 5.50 SM  
TC= 11.82 HR CN= 82.00 VOL= 547.2 ACFT

PEAK = 551.4 CFS, AT 19.7 HRS.

\*\*\*\*\*

RATING TABLE DEVELOPED, SITE = S 1:  
BY PROGRAM FOR PS AND AUX. SPILLWAYS  
AUX. RATING USED WSPVRT METHOD.

RATING TABLE NUMBER 2

|                                    | ELEV.<br>FEET | Q-TOTAL<br>CFS | Q-PS<br>CFS | Q-AUX.<br>CFS | VOLUME<br>AC-FT | AREA<br>ACRE |
|------------------------------------|---------------|----------------|-------------|---------------|-----------------|--------------|
| 1                                  | 86.80         | 0.00           | 0.00        | 0.00          | 95.03           | 35.20        |
| 2                                  | 86.91         | 14.22          | 14.22       | 0.00          | 99.18           | 37.93        |
| 3                                  | 87.03         | 40.23          | 40.23       | 0.00          | 103.64          | 40.67        |
| 4                                  | 87.14         | 73.90          | 73.90       | 0.00          | 108.41          | 43.40        |
| 5                                  | 87.25         | 113.78         | 113.78      | 0.00          | 113.49          | 46.14        |
| 6                                  | 87.37         | 159.01         | 159.01      | 0.00          | 118.88          | 48.87        |
| 7                                  | 87.48         | 209.02         | 209.02      | 0.00          | 124.59          | 51.61        |
| 8                                  | 87.59         | 263.40         | 263.40      | 0.00          | 130.60          | 54.34        |
| 9                                  | 87.71         | 321.81         | 321.81      | 0.00          | 136.92          | 57.08        |
| 10                                 | 87.82         | 384.00         | 384.00      | 0.00          | 143.55          | 59.81        |
| 11                                 | 87.97         | 479.20         | 469.34      | 9.86          | 152.56          | 63.34        |
| 12                                 | 88.11         | 579.72         | 560.20      | 19.52         | 162.07          | 66.86        |
| FULL CONDUIT FLOW, ELEV = 88.26 FT |               |                |             |               |                 |              |
| 13                                 | 88.26         | 702.42         | 656.28      | 46.14         | 172.11          | 70.38        |
| 14                                 | 88.39         | 737.32         | 663.27      | 74.05         | 181.61          | 73.56        |
| 15                                 | 88.52         | 781.79         | 670.09      | 111.71        | 191.53          | 76.75        |
| 16                                 | 88.76         | 875.38         | 682.18      | 193.20        | 210.44          | 82.47        |
| 17                                 | 89.05         | 1009.19        | 696.67      | 312.51        | 235.41          | 89.47        |
| 18                                 | 89.58         | 1310.48        | 722.28      | 588.20        | 286.01          | 102.19       |
| 19                                 | 90.24         | 1765.63        | 753.07      | 1012.56       | 358.70          | 118.10       |
| 20                                 | 90.90         | 2304.73        | 782.65      | 1522.08       | 441.89          | 134.00       |

\*\*\*\*\*

SUMMARY OF AUXILIARY SPILLWAY SURFACE CONDITIONS USED IN COMPUTATIONS BY REACH

| REACH | FROM<br>STA<br>(ft) | TO<br>STA<br>(ft) | SLOPE<br>CURVE<br>INDEX@ | RETARDANCE<br>COVER<br>FACTOR | VEGETAL<br>CODE<br>(ft) | MAINT.<br>DEPTH | ROOTING<br>LOCATION |
|-------|---------------------|-------------------|--------------------------|-------------------------------|-------------------------|-----------------|---------------------|
| 1     | -75.                | 50.               | -16.0                    | 0.030                         | **                      | **              | INLET               |
| 2     | 50.                 | 100.              | 0.0                      | 0.030                         | **                      | **              | CREST               |
| 3     | 100.                | 200.              | 4.0                      | 0.030                         | 0.65                    | 3               | 2.0 EXIT !          |

@ The program interprets retardance curve index entries of less than 1 as Manning's n values.

\* Upper case indicates a reach of constructed spillway channel.

\*\* The program does not use vegetal cover factor, maintenance code, and rooting depth for inlet and crest reaches in computations.

! Reach 3 used in computing exit channel velocities.

\*\*\*\*\*

DRAWDOWN USING FREEBOARD STORM FOLLOWS, STARTING AT ELEVATION 87.82 FT.

DRAWDOWN (DDT) TEST 86.80 FT 95.0 ACFT 0.00 CFS  
CONTROL IS 0.000 DETENTION STORAGE

TIME = 1.76 DAYS, TO 0.0 CFS (LIMIT = 10.00 DAYS)

| ROUTED   | BTM WIDTH | MAX ELEV | VOL-MAX | AREA-MAX | AUX.-HP | VOL-AUX. |
|----------|-----------|----------|---------|----------|---------|----------|
| RESULTS  | FT        | FT       | ACFT    | AC       | FT      | ACFT     |
| NRCS-FBH | 100.0     | 88.04    | 157.2   | 65.1     | 0.22    | 13.7     |

PEAK - CFS Q-PS Q-AUX. Q-TOT.  
DISCHARGE = 513.8 14.6 528.4

CRITICAL CRITICAL CRITICAL 25% OF Q  
DEPTH VELOCITY SLOPE-Sc Sc  
AUXILIARY FT FT/SEC FT/FT FT/FT  
SPILLWAY — 0.09 1.67 0.030 0.040

\*\*\*\*\*

EFFECTIVE STRESS FOR STABILITY ANALYSIS OF AUX. EXIT CHANNEL

(Refer to Ag. Handbook 667, Chapt. 3, for allowable stresses.)

Aux. Discharge = 15. cfs; Bottom Width = 100. ft

REACH FROM TO SLOPE MANNING'S VELOCITY STRESS

| NO. | STA  | STA  | %    | n     | ft/s | lb/ft^2 |
|-----|------|------|------|-------|------|---------|
| 3   | 100. | 200. | 4.00 | 0.030 | 1.83 | 0.121   |

\*\*\*\*\*

AUXILIARY SPILLWAY DURATION FLOW = 7.7 HOURS  
ATTACK, OE/B = 0.1 ACFT/FT

\*\*\*\*\* MESSAGE - NHCP378 CRITERIA USED BUT AUXILIARY SPILLWAY RATING NOT  
BASED ON ASFILE RATINGS.

EXIT CHANNEL FLOW SUPERCRITICAL: MAX VELOCITY= 1.8 FT/SEC  
EXIT SLOPE = 0.040 FT/FT  
FLOW DEPTH = 0.1 FT

>>>>> NHCP378 RUN - MINIMUM FLOW IN AUX. SPILLWAY FROM TR60  
USING FORMULA WITHOUT 200 CFS MINIMUM LIMIT ( 549. CFS).

| ROUTED    | BTM WIDTH | MAX ELEV | VOL-MAX | AREA-MAX | AUX.-HP | VOL-AUX. |
|-----------|-----------|----------|---------|----------|---------|----------|
| RESULTS   | FT        | FT       | ACFT    | AC       | FT      | ACFT     |
| MIN. AUX. | 100.0     | 89.51    | 278.9   | 100.5    | 1.69    | 135.3    |

PEAK - CFS    Q-PS    Q-AUX.    Q-TOT.  
DISCHARGE =    719.    549.    1268.

|              | CRITICAL | CRITICAL | CRITICAL | 25% OF Q |
|--------------|----------|----------|----------|----------|
|              | DEPTH    | VELOCITY | SLOPE-Sc | Sc       |
| AUXILIARY    | FT       | FT/SEC   | FT/FT    | FT/FT    |
| SPILLWAY --- | 0.97     | 5.51     | 0.013    | 0.018    |

>>>>> NHCP378 RUN - MINIMUM DEPTH, CREST AUX. TO TOP OF DAM IS 2.00 FT.  
NEW TOP OF DAM ELEVATION = 89.82.

| ROUTED       | BTM WIDTH | MAX ELEV | VOL-MAX | AREA-MAX | AUX.HP | VOL-AUX. |
|--------------|-----------|----------|---------|----------|--------|----------|
| RESULTS      | FT        | FT       | ACFT    | AC       | FT     | ACFT     |
| MINIMUM AUX. | 100.0     | 89.82    | 312.6   | 108.3    | 2.01   | 169.0    |

PEAK - CFS    Q-PS    Q-AUX.    Q-TOT.  
DISCHARGES =    734.2    742.7    1476.9

|              | CRITICAL | CRITICAL | CRITICAL | 25% OF Q |
|--------------|----------|----------|----------|----------|
|              | DEPTH    | VELOCITY | SLOPE-Sc | Sc       |
| AUXILIARY    | FT       | FT/SEC   | FT/FT    | FT/FT    |
| SPILLWAY --- | 1.18     | 6.07     | 0.013    | 0.017    |

---

INFLOW HYD 1 PSH-PEAK =    384.65 CFS AT 21.45 HRS, LOCATION POINT

INFLOW HYD 1 FBH-PEAK =    528.40 CFS AT 20.85 HRS, LOCATION POINT  
HYDOUT 1

1SITES.....JOB NO. 1 COMPLETE.

---

Wilcox-SW28,T7N,R11E

0 SUBWATERSHED(S) ANALYZED.

1 STRUCTURE(S) ANALYZED.

2 HYDROGRAPHS ROUTED AT LOWEST SITE.

0 TRIALS TO OBTAIN BOTTOM WIDTH FOR SPECIFIED STRESS OR VELOCITY.

\*\*\*\*\*

SITES.....COMPUTATIONS COMPLETE

>>> SITE SUBWS SUBWS DA CURVE TC TOTAL DA TYPE STRUC <<<

| ID  | ID | (SQ MI) | NO. | (HRS) | (SQ MI) | DESIGN | CLASS |
|-----|----|---------|-----|-------|---------|--------|-------|
| S 1 | A  | 5.50    | 82. | 11.82 | 5.50    | 378CR  | A1    |

PASS DIA./ AUX.CREST BTM. MAX. MAX. EMB. INTEGR.\* EXIT\* TYPE  
 NO. WIDTH ELEV WIDTH HP ELEV VOL. DIST. VEL. HYD  
 (IN/FT) (FT) (FT) (FT) (FT) (CY) (FT) (FT/SEC)

---

|   |      |      |       |     |      |    |    |               |
|---|------|------|-------|-----|------|----|----|---------------|
| 1 | 96.0 | 87.8 | 100.0 | 2.0 | 89.8 | 0. | 0. | 1.8 MIN. AUX. |
|---|------|------|-------|-----|------|----|----|---------------|

\* INTEGRITY DIST. AND EXIT VEL. ARE BASED ON THE ROUTED HYDROGRAPH  
 AND WILL NOT RELATE TO THE MAX. ELEV. (TOP OF DAM),  
 WHICH IS SET BY MINIMUM DESIGN CRITERIA.

SITES.....SUMMARY TABLE 1 COMPLETED.

NRCS SITES VERSION 2000 ,05/01/2000  
 FILES

INPUT  
 C:\data\Engineering\wilcox\10ftweir.D2C

OUTPUT - DATED 07/06/2009 10:54:29  
 C:\data\Engineering\wilcox\10ftweir.OUT

GRAPHICS FILES GENERATED

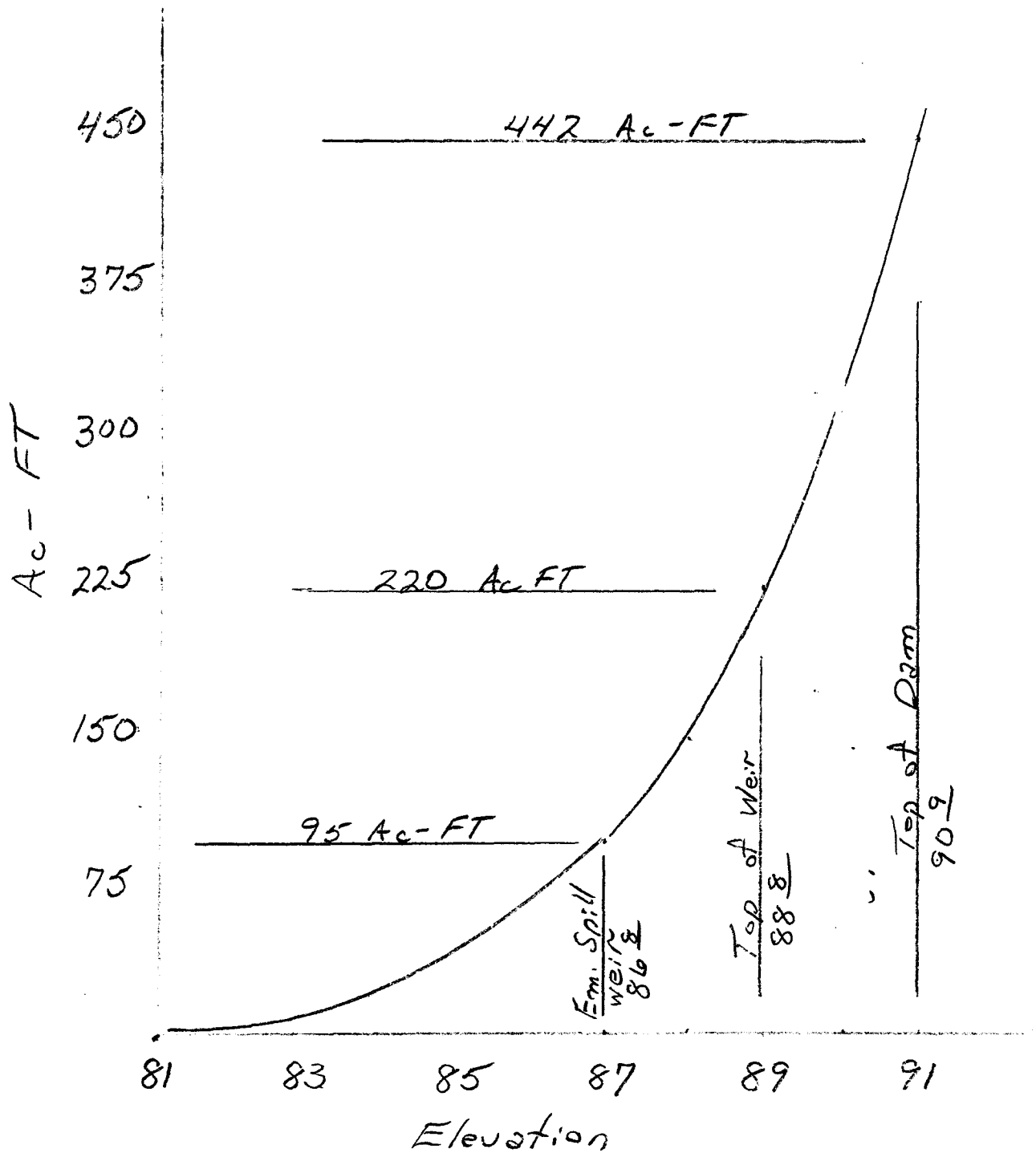
OPTION "L" DATED 07/06/2009 10:54:29  
 C:\data\Engineering\wilcox\10ftweir.DRG

OPTION "P" DATED 07/06/2009 10:54:29  
 C:\data\Engineering\wilcox\10ftweir.DHY

OPTION "E" DATED 07/06/2009 10:54:29  
 C:\data\Engineering\wilcox\10ftweir.DEM

Wilcox - Meade Co.

SE 28, T 7 N, R 11 E





**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

September 18, 2009

Lyle Wilcox  
17875 Pleasantview Rd.  
Red Owl, SD 57787

Dear Mr. Wilcox:

We have reviewed the plans and specifications for your dam project located in the NW ¼ SE ¼ of Sec. 28-T7N-R11E, in Meade 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. 1907-1 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 Wilcox Dam will be classified as a small size Category 3, Low Hazard dam with a dam height of 9.6 feet and a normal storage capacity of 94 acre-feet and a maximum storage capacity of 442 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  
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**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT  
APPLICATION NO. 1907-1, Lyle Wilcox**

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. 1907-1, Lyle Wilcox, 17875 Pleasantview Road, Red Owl SD 57787.

The Chief Engineer is recommending APPROVAL of Application No. 1907-1 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. 1907-1 authorizes a dam with a storage capacity of 95 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  
September 18, 2009

REPORT ON  
WATER PERMIT APPLICATION No. 1907-1  
Lyle Wilcox  
September 15, 2009

Water Permit Application No. 1907-1 has been filed by Lyle Wilcox to impound 95 acre-feet of water from runoff by reconstructing an existing dam located in the NW ¼ SE ¼ of Section 28-T7N-R11E, in Meade 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 livestock water purposes.

Discussion:

The dam will be classified as a small size, Category 3, Low Hazard dam. The dam repair 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. 1907-1 is approved.

The reconstructed dam will be 9.6 feet high with a normal storage capacity of 95 acre-feet with a reservoir level at the primary spillway elevation, and a maximum storage capacity of 442 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 3520 acres or 5.5 square miles. The dam is designed to have a 120 inch CMP weir with 4.1 feet of freeboard as the primary spillway, and a 100 foot wide earthcut secondary spillway with 2.0 feet of freeboard. A 25 year frequency event produces a peak runoff of approximately 546 cfs and a 100 year frequency event produces a peak runoff of approximately 1032 cfs. Konechne Engineering used the Natural Resources Conservation Service SITES model to route the runoff event through the structure, which has a total spillway capacity of 2300 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 67 acre-feet. The annual yield with a 50 percent chance of occurrence, or 1 out of 2 years, is expected to be 170 acre-feet and the annual yield with a 10 percent chance, or 1 out of 10 years, is expected to be 674 acre-feet.

The Wilcox Dam is located in the NW ¼ SE ¼ of Section 28-T7N-R11E on an unnamed tributary to East Elm Creek, about three-quarters of a mile upstream of the confluence of the unnamed tributary and East Elm Creek. There is another existing dam located in the NE 1/4 SW ¼ of Section 28-T7N-R11E, about one-half mile downstream of the Wilcox dam. Both of these dams have been in place for a number of years and when there is runoff, there should be enough for both dams. There are no existing Water Permits/Rights filed on the unnamed tributary between the Wilcox dam and East Elm Creek.

Conclusions:

1. Water Permit Application No. 1907-1 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. 1907-1.



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

RECEIVED

OCT 08 2009

Form 8

WATER RIGHTS  
PROGRAM

**PROOF OF PUBLICATION**

STATE OF SOUTH DAKOTA )  
County of Meade ) SS

I, Pamela Buhler

certify that the attached printed Notice was  
taken

from the Meade County Times  
Tribune

printed and published in Sturgis, SD  
County of Meade and

state of South Dakota. The notice was  
published

in the newspaper on the following two dates:

Sept 30, 2009  
Oct. 7, 2009

Cost of Printing \$40.61

Pamela Buhler  
(Signature)

Office Manager / Legal Notary  
(Title)

Oct. 7, 09  
(Date Signed)

**NOTICE OF APPLICATION  
NO. 1907-1 to Appropriate  
Water**

Notice is given that Lyle Wilcox, 17875 Pleasantview Rd, Red Owl SD 57787 has filed an application for a water permit to impound 95 acre-feet of water from runoff by constructing a dam located in the NW 1/4 SE 1/4 Section 28 with water impounded in the SE 1/4 Section 28; all in T7N-R11E. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1907-1 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 October 19, 2009.

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.

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

Published twice at the total approximate cost of \$40.61.

Published Wed., Sept. 30  
and Wed., Oct 7, 2009  
Meade County Times Tribune



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

September 18, 2009

Meade County Times & Tribune  
1022 Main St  
Sturgis SD 57785

ATTENTION: Legal Public Notice

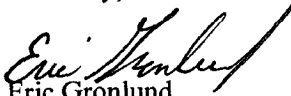
Enclosed is a Notice on Application No. 1907-1 to Appropriate Water to be published twice. Please publish the first notice on September 23, 2009 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

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 Lyle Wilcox, 17875 Pleasantview Rd., Red Owl SD 57787 (Ph # 605-985-5972).

**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. 1907-1

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

Date \_\_\_\_\_

We are in receipt of your letter of September 18, 2009 enclosing Notice to Appropriate Water by Application No. 1907-1 which was first published in our issue of \_\_\_\_\_. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Newspaper



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

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

September 18, 2009

Lyle Wilcox  
17875 Pleasantview Rd  
Red Owl SD 57787

Dear Mr. Wilcox:

Water Permit Application No. 1907-1 for livestock watering 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 Meade County Times & Tribune printed at Sturgis SD (Ph # 605-347-2503). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your 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 applications.

Sincerely,

Eric Gronlund  
Natural Resources Engineer  
(605) 773-3352

enclosures

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

Instruction to Newspaper - Publish first Notice on September 23, 2009 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.

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NOTICE OF APPLICATION NO. 1907-1 to Appropriate Water

Notice is given that Lyle Wilcox, 17875 Pleasantview Rd, Red Owl SD 57787 has filed an application for a water permit to impound 95 acre-feet of water from runoff by constructing a dam located in the NW ¼ SE ¼ Section 28 with water impounded in the SE ¼ Section 28; all in T7N-R11E. This application requests impoundment of sufficient water to maintain water to the outlet elevation. The water is for fish and wildlife propagation and livestock water purposes.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1907-1 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 October 12, 2009.

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 \_\_\_\_\_.



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

JAN 13 2010

Lyle Wilcox  
17875 Pleasantview Rd  
Red Owl SD 57787

Dear Mr. Wilcox:

Enclosed is Water Permit No. 1907-1 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.

Sincerely,

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

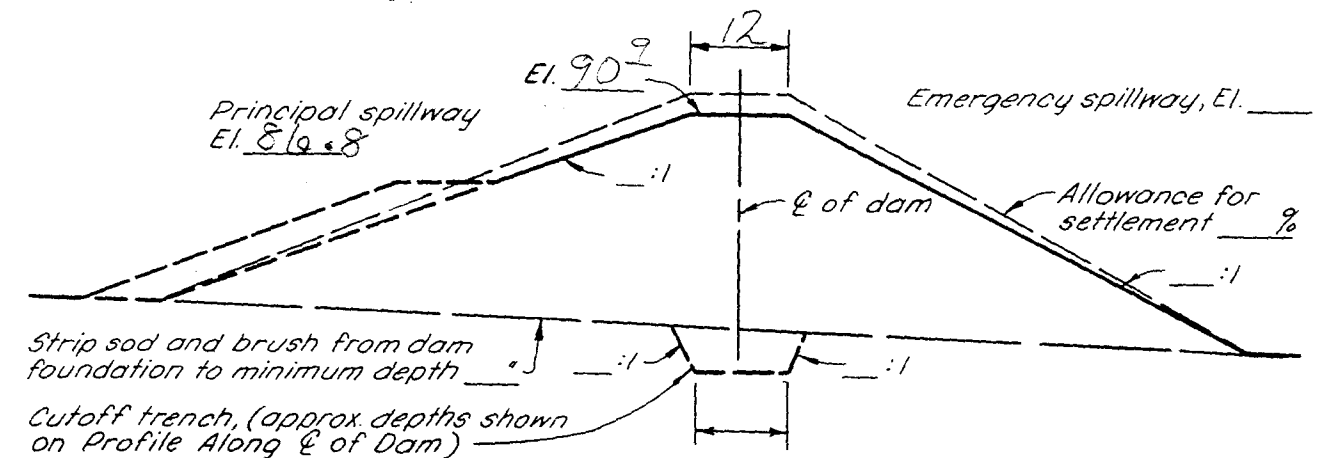
enclosures

1907-1

## TABLE OF QUANTITIES

LOCATION

- Emergency Spillway shall be 0.5 ft below top of existing reservoir.



S.D. CONSTRUCTION AND MATERIAL SPECIFICATIONS:

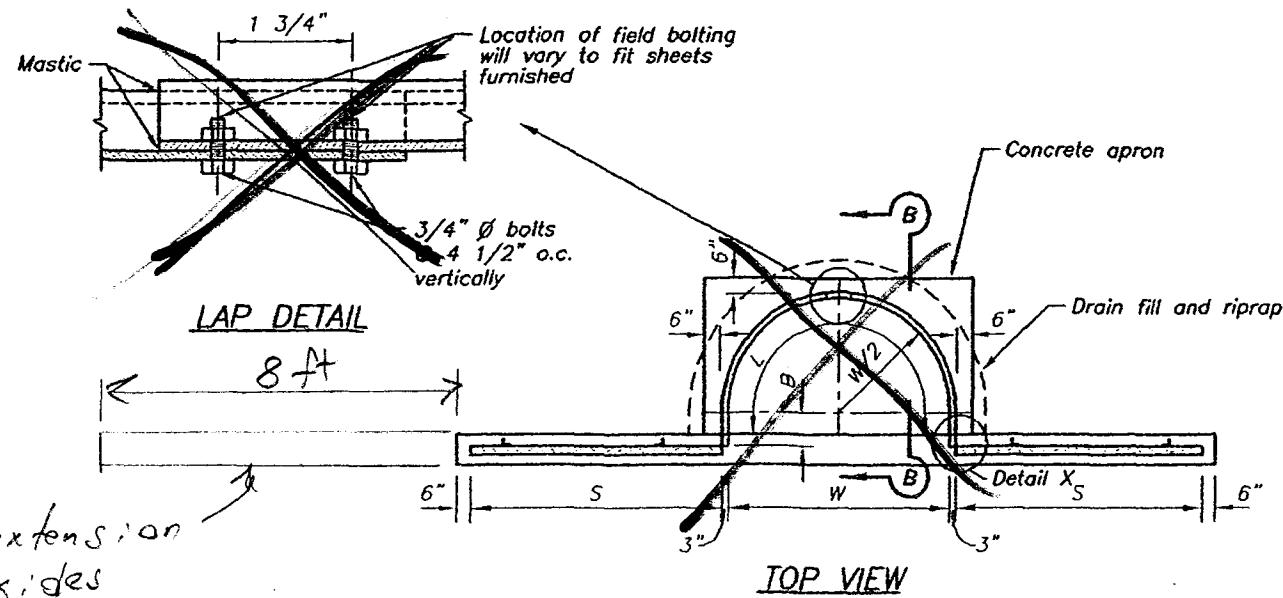
EARTH DAM

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

JOB PLAN NO. 1.0

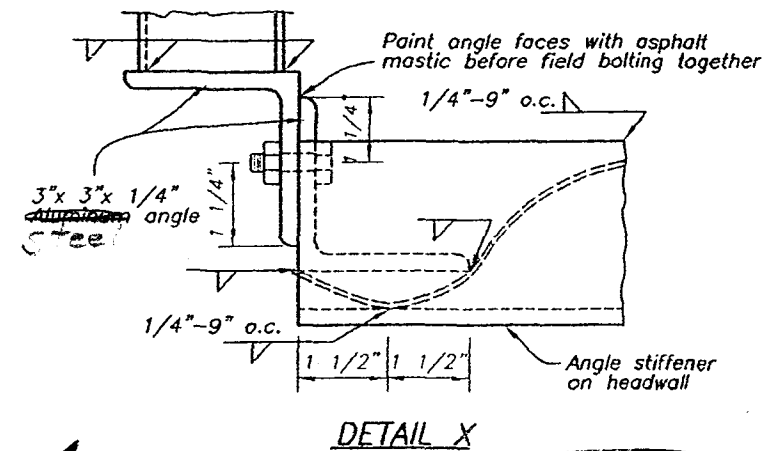
USDA-SCS-LINCOLN, NEAR 1973

(Rev. 4-73) 5, N-29, 073.1a(1.



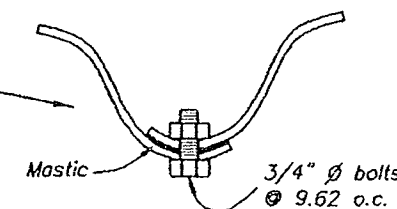
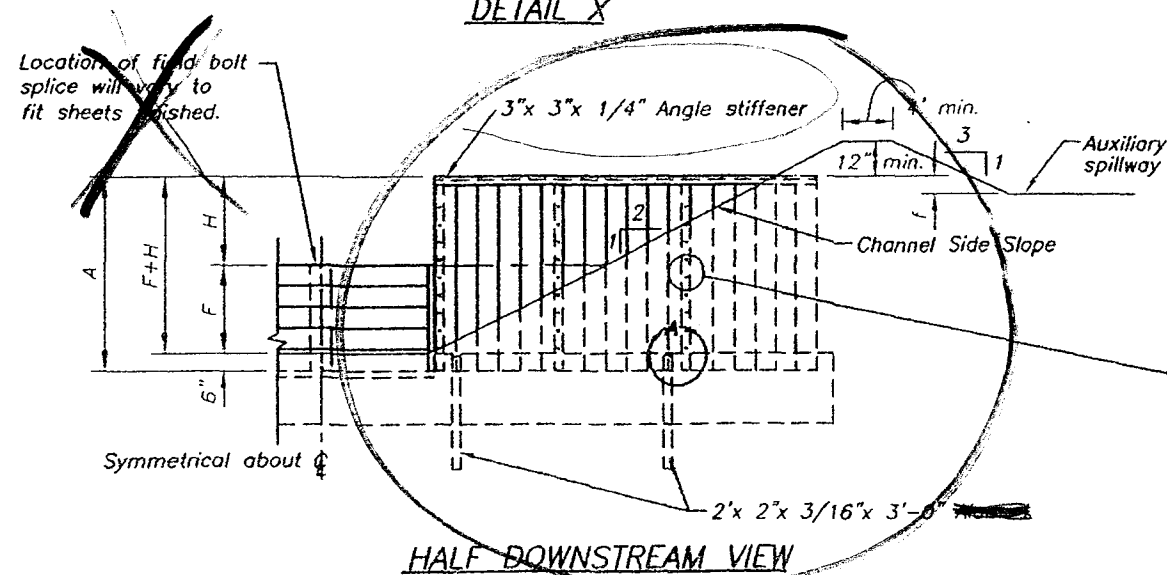
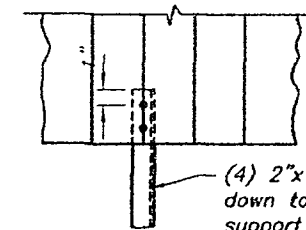
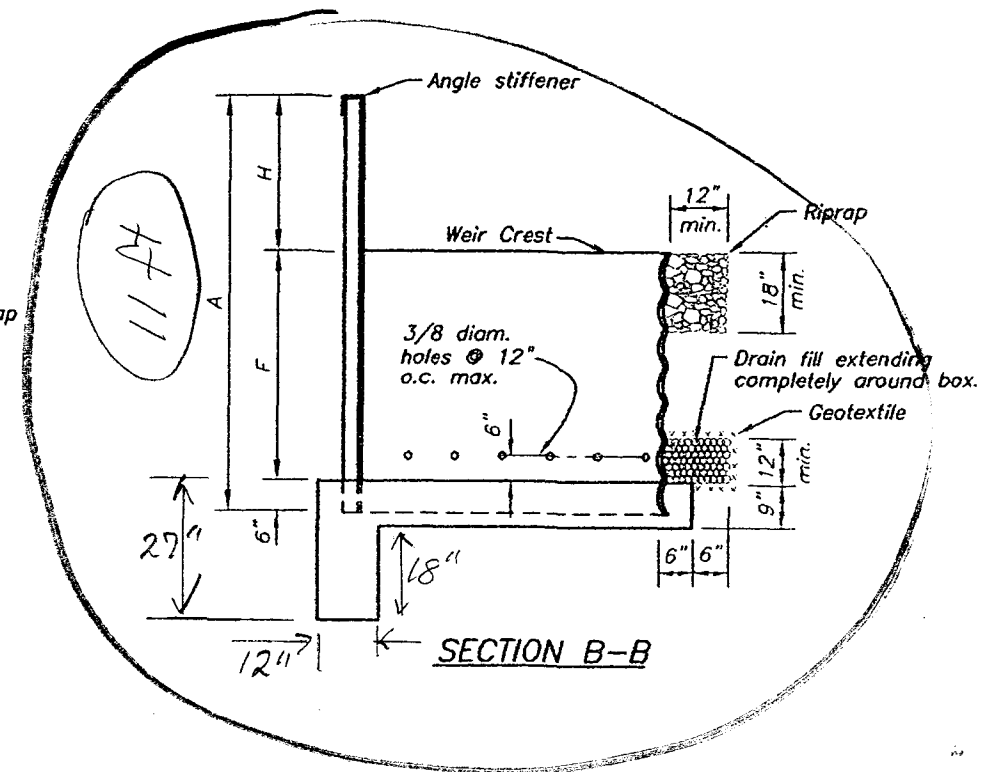
Wingwall extension  
both sides

Furnish two(2)  
8 1/2 ft 3"x3"x1/4" angle  
iron to bolt onto  
existing headwall

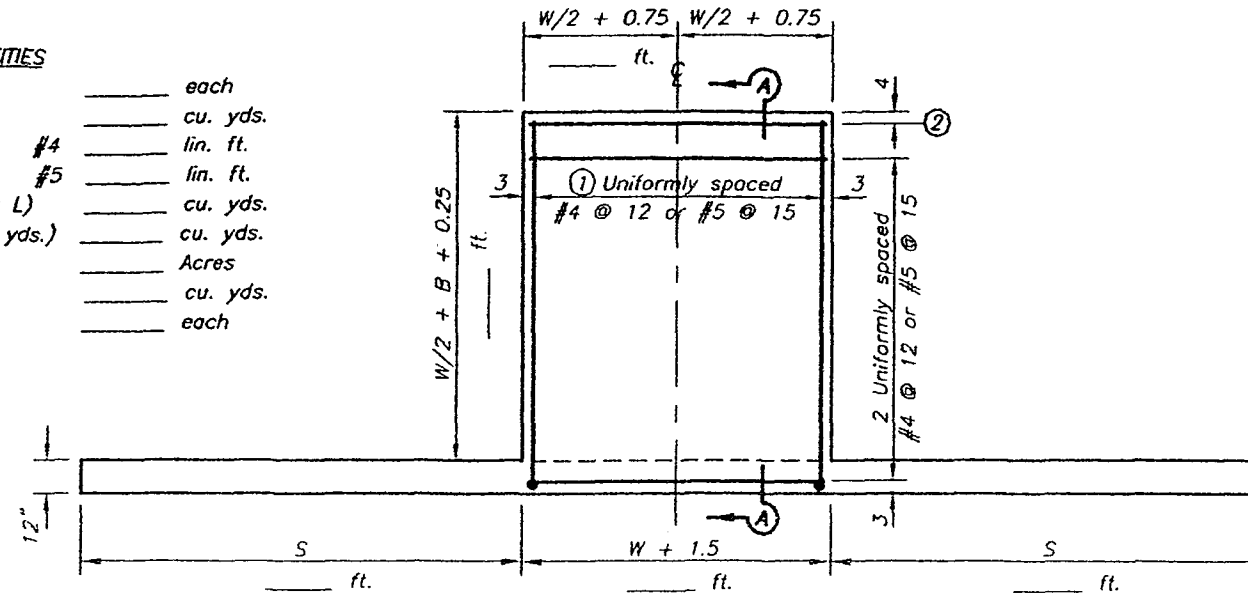


#### TILE OUTLET STUB

Aluminum pipe shall be shop welded  
to structure for drain tile outlet  
when specified below:  
— diam., 2" stub, required at  
— o'clock position, facing upstream,  
Bottom invert  
— ft. below weir crest



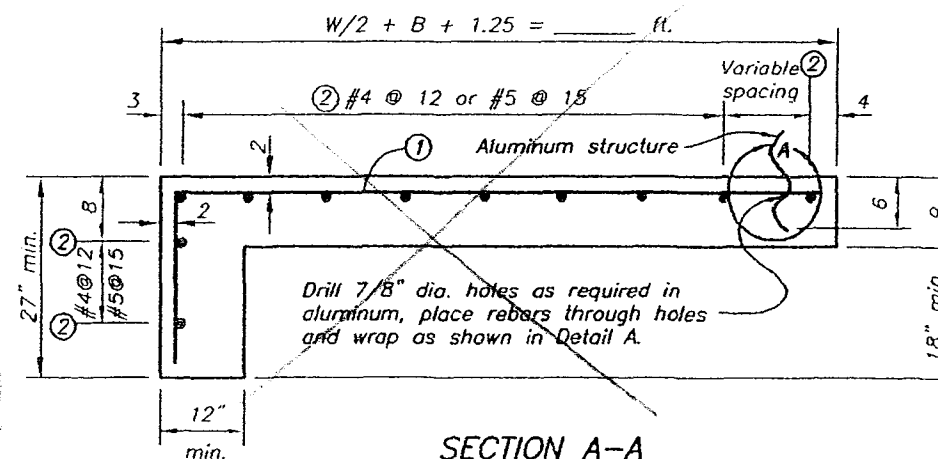
| QUANTITIES                 |    |       |          |
|----------------------------|----|-------|----------|
| Structure                  |    | _____ | each     |
| Concrete (CT + CA)         |    | _____ | cu. yds. |
| Reinforcing bars           | #4 | _____ | lin. ft. |
|                            | #5 | _____ | lin. ft. |
| Drain fill (0.04 x L)      |    | _____ | cu. yds. |
| Riprap (0.03 x L cu. yds.) |    | _____ | cu. yds. |
| Site preparation           |    | _____ | Acres    |
| Excavation and Backfill    |    | _____ | cu. yds. |
| Drain Tile Outlet          |    | _____ | each     |



TOP VIEW-CONCRETE SLAB ONLY

NOTES:

- For additional details see Missouri Construction Specification 410-A, Grade Stabilization Structure.
- Aluminum sheets shall be structural plate (2.5" x 9.0" corrugations) 0.100" thickness.
- Apply asphalt mastic between aluminum sheets before bolting together.
- Drain fill shall consist of gravel or concrete aggregate mixture with 30 to 60% passing a 1/2 inch sieve, maximum size of 3" and not more than 5% passing a no. 8 sieve. A geotextile shall be wrapped around drainfill to separate gravel from soil material. Geotextile shall be a filter fabric that will provide a filter to prevent migration of soil particles but still permeable as shown in Construction Specification 753, Geotextile.
- Riprap may consist of well-graded rock, D<sub>50</sub> size 9 inch, maximum size 15". Or 8" concrete block set with core openings up and filled with soil or gravel.
- Bolts to be 3/4"  $\phi$  with nuts and lock washers. Bolts, nuts and lock washers to be aluminum alloy or galvanized steel.
- That portion of aluminum sheets set in concrete shall be given a heavy coat of bituminous mastic or equivalent prior to pouring concrete.



SECTION A-A

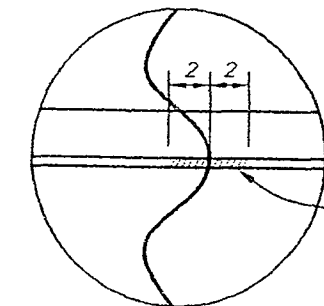
Not to scale

| REINFORCED STEEL SCHEDULE |          |      |            |      |       |
|---------------------------|----------|------|------------|------|-------|
| MARK                      | QUANTITY | SIZE | BAR LENGTH | TYPE | TOTAL |
| 1                         |          |      |            |      |       |
| 2                         |          |      |            |      |       |

\* The use of #5 ①, will require some of the 15" spacings to be adjusted up to 1" plus or minus to achieve uniform spacing of rebars.

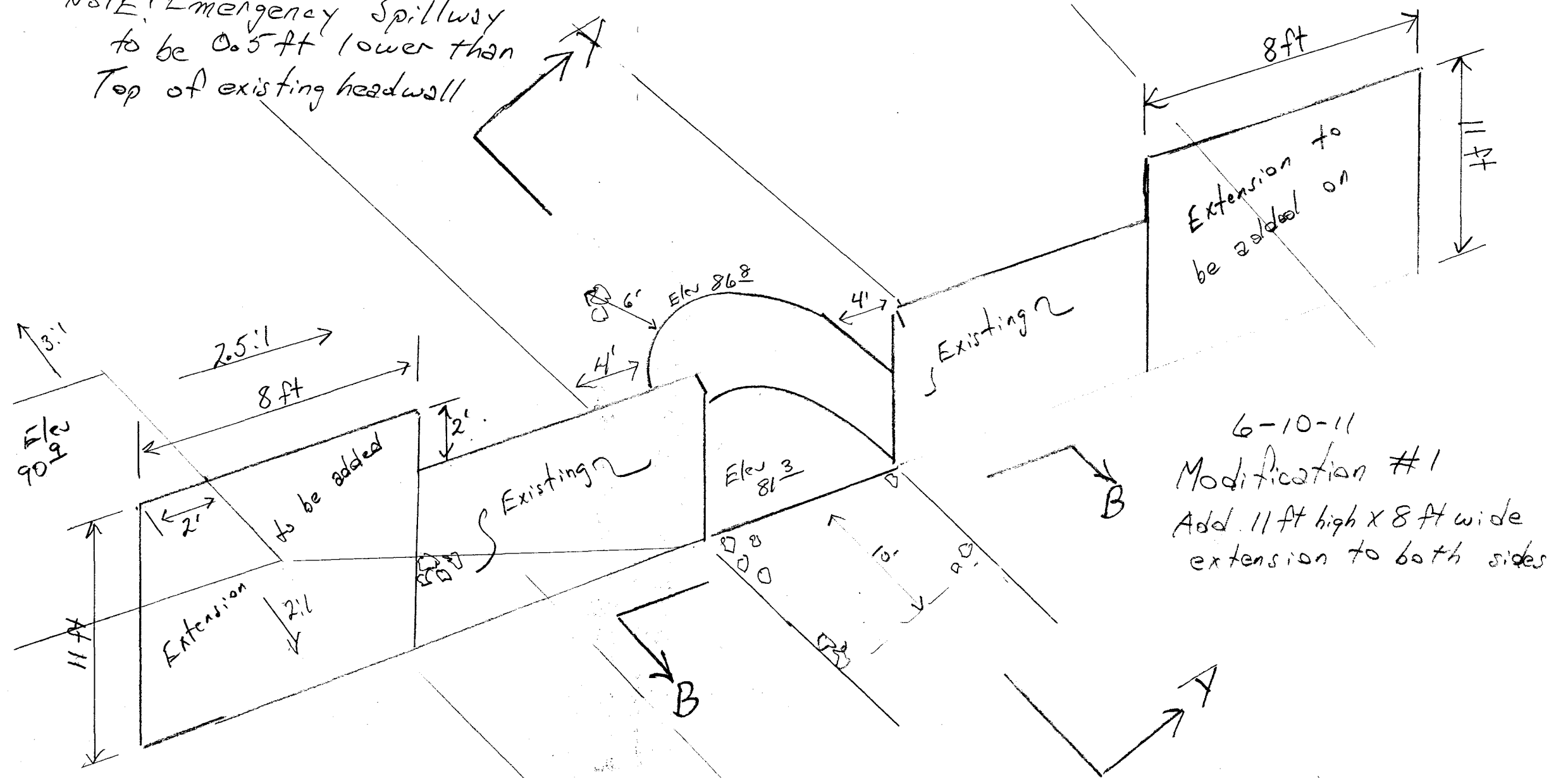
CONSTRUCTION NOTES:

- Excavate for concrete apron and toewall in undisturbed soil. Side slopes above the top of concrete shall be 1:1 or flatter.
- Set aluminum structure to grade and place reinforcing bars before pouring concrete for apron and toewall.
- Minimum steel cover 2" from top and 3" bottom of slab.
- Place drain fill and lay tile to outlet stub.
- Backfill around structure with moist soil. Place backfill in shallow layers and tamp well. Remove dry soil from sides of excavations as backfill is placed so that moist soil is tamped against moist soil. Keep backfill approximately level around all parts of the structure.
- Place riprap and complete shaping and grading.
- Seed all disturbed areas.



DETAIL A

NOTE: Emergency Spillway  
to be 0.5 ft lower than  
Top of existing headwall



Wilcox

**Permit No. 1907-1**  
**Belle Fourche 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, November 14, 2012, made a thorough examination of the water use system for Lyle Wilcox of 17875 Pleasantview Rd., Red Owl, SD 57787 holder of Permit No. 1907-1, bearing the priority of September 4, 2009 authorizing the storage of 95 acre-feet of the waters of runoff for fish & wildlife propagation and livestock water purposes, in Meade County.

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

A. Works used to divert the water:

**A 9.6 ft. high earth dam with a normal storage capacity of 95 ac-ft.**

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

N/A

C. Works used to apply water to beneficial use:

**A 9.6 ft. high earth dam with a normal storage capacity of 95 ac-ft.**

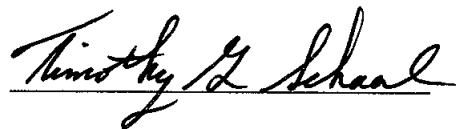
The system is in the following condition good. The point of diversion is located 2300 ft. north & 1800 ft. west of the SE corner of Sec.28-T7N-R11E (NW ¼ SE ¼) (Lat. 44.53833, Long. -102.79040). The works are capable of storing 95 acre-feet of water which is to be used for fish & wildlife propagation and livestock water purposes. Water has been put to beneficial use to the maximum extent as follows:

**A 9.6 ft. high earth dam with a normal storage capacity of 95 ac-ft.**

and the license should be issued for 95 acre-feet of storage.

Applicable permit qualifications have been complied with: Yes X

Exceptions to compliance are: none Date Report Completed: March 21, 2013



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

**REPORT ON INSPECTION OF PERMIT NO. 1907-1**

DATE OF INSPECTION: November 14, 2012

NAME & ADDRESS OF PERMIT HOLDER: Lyle Wilcox, 17875 Pleasantview Rd., Red Owl SD 57787

DIVERSION POINT LEGAL LOCATION: 2300 ft. north and 1800 ft. west of the SE corner of Sec. 28-T7N-R11E (NW ¼ SE ¼) (Lat. 44.53833 & Long. -102.79040).

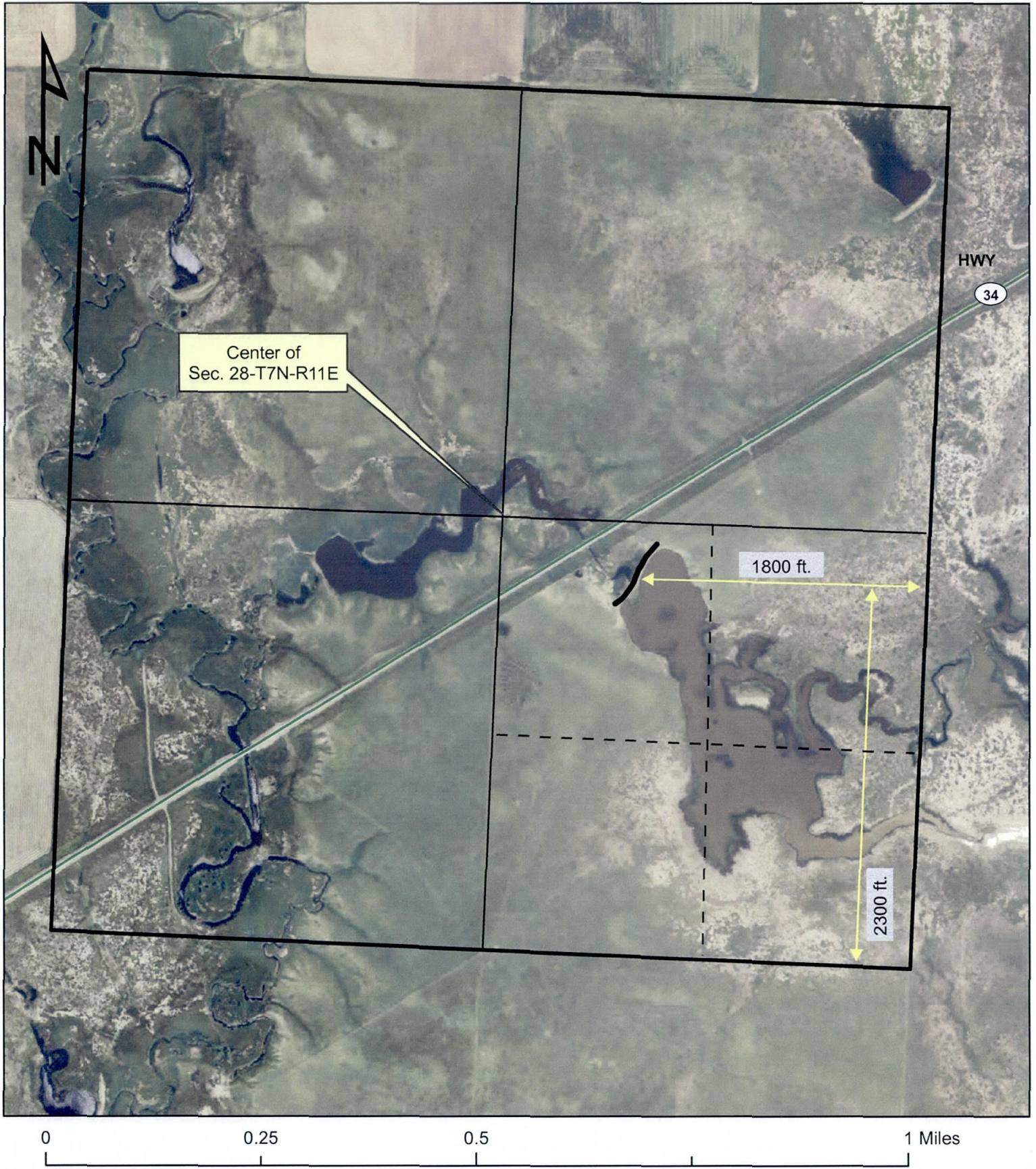
**DAM INFORMATION:**

- 1) Height to crest 9.6 feet
- 2) Height to primary spillway 5.6 feet
- 3) Height to secondary spillway 7.6 feet
- 4) Crest width 12 feet
- 5) Crest length XXX feet
- 6) Spillway length XXX feet
- 7) Spillway width 100 feet
- 8) Approx. storage (Normal) 95.0 acre-feet
- 9) Approx. storage (Maximum) 442 acre-feet
- 10) Date constructed: 2009

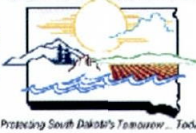
**PERMIT QUALIFICATIONS AND REGULATIONS:**

- 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 No. 1907-1



South Dakota Department of  
Environment and Natural Resources



*Timothy G. Schaal*

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

3/21/13



**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

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

[denr.sd.gov](http://denr.sd.gov)

**APR 12 2013**

1907-1

Lyle Wilcox  
17875 Pleasantview Rd  
Red Owl SD 57787

Dear Mr. Wilcox:

Enclosed is Water License No. 1907-1. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

Sincerely,

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

enclosures

# STATE OF SOUTH DAKOTA

## WATER LICENSE NO. 1907-1

(1) Lyle Wilcox, 17875 Pleasantview Rd, Red Owl SD 57787 made Application No. 1907-1, September 4, 2009 for a water permit to impound 95 acre feet of water from an unnamed tributary to East Elm Creek by constructing a dam located in Meade County, South Dakota for fish & wildlife propagation and domestic livestock water purposes. Permit No. 1907-1, with a priority date of September 4, 2009 was approved October 19, 2009 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before October 19, 2014 and for the application to beneficial use of said water on or before October 19, 2018.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to impound 95 acre feet of water annually for beneficial use.

The location of the storage dam (spillway) is 2,300 feet north and 1,800 feet west of the SE corner of Section 28, T7N, R11E (NW ¼ SE ¼). Water is impounded in the SE ¼ Section 28, T7N, R11E.

(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 Lyle Wilcox, 17875 Pleasantview Rd, Red Owl SD 57787 the holder and/or owner of Water Right No. 1907-1 is issued a license to appropriate water, the right to impound 95 acre feet of water in a dam on an unnamed tributary to East Elm Creek with a priority date of September 4, 2009 from the location specified in (2) of this license for fish & wildlife propagation and domestic livestock water purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 1907-1 and subject to the following qualifications:

- Water Right No. 1907-1 authorizes a dam with a storage capacity of 95 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

APR 12 2013

date

