SPENCER J. COX
Governor
DEIDRE M. HENDERSON
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

JOEL FERRY
Executive Director
TERESA WILHELMSEN
State Engineer/Division Director

February 21, 2024

Coalville City
10 North Main Street
Coalville UT 84017

RE: RETURNED APPLICATION FOR SEWAGE EFFLUENT REUSE NS063

The Utah Division of Water Rights received the attached Application for Sewage Effluent Reuse on October 31, 2023. The application is incomplete and is being returned due to the omission of the following information that is required under Utah Code Section 73-3c-302:

- Reuse authorization contract with the owner/operator of the POTW
- Reuse authorization contract with the owner(s) of the underlying water right
- Description of the underlying water right
- Evaluation of the underlying water right's diversion, depletion, and return flow requirements
- Location of the POTW
- Place, purpose, and extent of the proposed water reuse
- Evaluation of depletion from the hydrologic system caused by the water reuse
- A water replacement plan that provides an equivalent amount of water to the Great Salt Lake

A refund of the application fee in the amount of $750.00 will be issued from the State of Utah in a separate mailing. **You have 30 days to correct the deficiencies and resubmit a completed application to preserve the original filing date.** If you fail to resubmit the completed application by close of business on March 21, 2024 any subsequent submissions of an Application for Sewage Effluent Reuse will reflect the filing date at the time of resubmission. If you have any further questions regarding this matter, please contact Ryan Hamilton Region Engineer for the Weber Regional office at 801-618-6600 or rhamilton@utah.gov.

Sincerely,

Ryan Hamilton
Region Engineer

Enclosure

APPLICATION FOR SEWAGE EFFLUENT REUSE

STATE OF UTAH

Rec. by CK# 25145

Fee Amt. $ 750.00

DIVISION OF WATER RIGHTS

Receipt # 23-05197

GH

For the purpose of securing approval for the reuse of domestic wastewater as required by Section 73-3c-302, Utah Code, the following application is submitted to the Utah State Engineer.

REUSE NOTICE NUMBER: N5063 FILING DATE: 10/31/2023

(From: dlauriccila@shutah.law - 3197073)

1. APPLICANT INFORMATION:

Name: Coalville City
Address: 10 North Main Street
P.O. Box 188
Coalville UT 84017

2. WATER RIGHTS OF WATER PROPOSED FOR REUSE:

Water Right	Diversion (acre-feet)	Depletion (acre-feet)	Irrigation (acres)	Stock (ELUs)	Domestic (EDUs)	Municipal (acre-feet)	Mining (acre-feet)	Power (acre-feet)	Other (acre-feet)
35-443	72.3980	14.7036		10	2				71.21799806207
35-447	134.6579	134.6579				Unevaluated			
35-2769	56.4694	56.4694				Unevaluated			
35-8657	100.2000	40.5709				100.2			
35-8727	526.3240	526.3240				Unevaluated			
35-11171	32.1000	18.5110	10.7						

3. QUANTITY OF WATER OR FLOW TO BE REUSED:

Quantity of Water: 1.589 cfs AND 32.1 acft

County: Summit

Common Description: Coalville City Treatment Plant

4. POINT(S) OF DISCHARGE:

5. LOCATION OF PUBLICLY OWNED TREATMENT WORKS:

6. PLACE, PURPOSE, AND EXTENT OF THE PROPOSED WATER USE:

See the Coalville City Reuse Project Plan attached hereto.

7. SIGNATURES:

We, the undersigned, hereby represent that we are a Public Agency, and are entitled to make application for the Sewage Effluent Reuse of water. We assert that we have complied with the requirements and supplied the necessary information and documents as required by Section 73-3c of Utah Code Annotated 1953 (as amended).

We, the undersigned, hereby acknowledge that even though we may have been assisted in the preparation of the above-numbered application, through the courtesy of the employees of the Utah Division of Water Rights, all responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s). Therefore, the undersigned, assert that they have read this statement, and assert that, at the time of filing, each and all items contained herein are true to the best of the undersigned's knowledge and belief.

RECEIVED

OCT 31 2023

WATER RIGHTS SALT LAKE

GH

SIGNED GH

Coalville City

Mark R. Mark

Coalville City Mayor
(If a Corporation, give title of officer signing)

October 31, 2023

Danielle Lenz
Utah Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

Subject: Request for Modification of UPDES Permit No. UT0025976) for Coalville City Reuse Project

Dear Ms. Lenz,

Attached please find the Reuse Project Plan for a planned Type I effluent reuse project at the Coalville WWTP for outdoor irrigation use in a future secondary water system. We understand that if the Reuse Project Plan is approved by DWQ and the Division of Water Rights, a modification of Coalville's UPDES Permit No. UT0025976 will be required. With this letter, we request that DWQ proceed with the modification of the UPDES Permit commencing when the Reuse Project construction is permitted by DWQ.

We have not completed the engineering for the Reuse Project, but additional information about the project may be found in the Reuse Project Plan and the Application for Sewage Effluent Reuse, attached, which Coalville is submitting today to the Division of Water Rights.

We understand the permit modification process requires a $115/hour cost recovery fee. Coalville hereby accepts payment of the recovery fee, and request that it be billed to the City at the address on file for our UPDES permit.

We do not anticipate any new or increased discharge as part of the Reuse Project.

This request letter is being signed by the correct authority, as that term is defined in Utah Administrative Code R317-8-3.4.

Please let me know if you have any questions or concerns.

Best Regards,

[Authorized Signature]
[Title] Mayor

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
WATER QUALITY

Division of Water Quality (DWQ)
UPDES Program

UPDES Municipal (POTW) Permit Application

Part IX. Reuse Information

Is wastewater applied to land?

■ YES ☐ NO If YES, complete the below information.

Land Application Site and Discharge Data

Location	Size	Average Daily Volume Applied	How often
50 West 100 North, Coalville, Summit County, Utah	acres	175,000 to 250, ■ gpd	■ Seasonal ☐ Continuous ☐ Intermittent
	acres	gpd	☐ Seasonal ☐ Continuous ☐ Intermittent
	acres	gpd	☐ Seasonal ☐ Continuous ☐ Intermittent

Seasonal land application.

Indicate months of seasonal land application

☐ January	■ April	■ July	■ October
☐ February	■ May	■ August	☐ November
☐ March	■ June	■ September	☐ December

Where is the Reuse water distributed

- ■ Residential irrigation
- ☐ Urban uses
  - ○ Non-residential landscape irrigation
  - ○ Golf course irrigation
  - ○ Toilet flushing
  - ○ Fire protection
- ■ Irrigation of food crops (direct contact with edible part) – spray irrigation
- ■ Irrigation of food crops *(Non direct contact with edible part) – no spray irrigation*
- ■ Irrigation
  - ○ Sod farms
  - ○ Silviculture
  - ○ Limited access highway rights of way
  - ○ Other areas where human access is restrict or unlikely to occur
- ■ Irrigation of animal feed crops other than pasture for milking animals
- ☐ Impoundment of wastewater where direct human contact is not allowed or is unlikely to occur
- ☐ Cooling water
- ☐ Soil compaction or duct control in construction areas
- ☐ Other

■ **Attached an updated Reuse Project Plan**

An updated Reuse Project Plan is required during every permit renewal.

COALVILLE CITY REUSE PROJECT PLAN

UT0025976

LAND APPLICATION

Submitted by Coalville City

To

Division of Water Quality

State of Utah

October 31, 2023

Table of Contents

Part I. General Information 3
A. History of Facility 3
B. History of Reuse at the Facility ..... **Error! Bookmark not defined.**
Part II. Location 3
A. Type II Allowable Uses 3
B. Treatment of Effluent 3
C. Quantity of Treated Effluent 4
D. Storage 4
E. Location of Reuse 5
F. Acres of land application 5
G. Effluent sampling 6
H. Soil Sampling 6
I. Environmental Impacts 6
Part III. Records 6
A. Describe how records are maintained 6
Part IV. Operation and Management Responsibilities 6
A. Maintenance Schedules 6
B. Contingency plan for system failure or upsets. 6
Part V. Public Participation and Notification 7
A. Public Participation and Notification 7
B. Signage 7
Part VI. Reuse Water Rights 7
Part VII. Additional permits 7

Part I. General Information

A. History of Facility

The Coalville City Corporation Wastewater Treatment Plant ("**Facility**") is located at 50 West 100 North, Coalville, Summit County, Utah in 2014. The facility serves the City of Coalville with the outfall located at latitude 40°55'13" and longitude 111°24'09". The Facility has a maximum monthly design flow of 0.58 MGD with an average daily flow rate of 0.32 MGD. was last permitted on February 1, 2019. The facility consists of screening and grit removal, two parallel Modified Luzack-Ettinger (MLE) process trains, two secondary clarifiers and UV disinfection prior to discharge to an unnamed tributary to Chalk Creek in the Upper Weber River watershed. Biosolids are hauled to an offsite facility located at the Three Mile Canyon Landfill.

Part II. Location

A. Type I Allowable Uses

i. The discharge will have the following Type I uses:

Check all that apply

- ☐ Residential irrigation, including landscape irrigation at individual houses.
- ☐ Urban uses, which includes non-residential landscape irrigation, golf course irrigation, toilet flushing, fire protection, and other uses with similar potential for human exposure. Internal building uses of treated effluent will not be allowed in individual, wholly-owned residences; and are only permitted in situations where maintenance access to the building's utilities is strictly controlled and limited only to the services of a professional plumbing entity. Projects involving effluent reuse within a building must be approved by the local building code officials.
- ☐ Irrigation of food crops where the applied reuse water is likely to have direct contact with the edible part. Type I water is required for all spray irrigation of food crops.
- ☐ Irrigation of pasture for milking animals.
- ☐ Impoundment of wastewater where direct human contact is likely to occur.

ii. The discharge will have the following Type II uses:

Check all that apply

- ☐ Irrigate sod farm.
- ☐ Irrigate silviculture.
- ☐ Irrigate limited access highway right of ways.
- ☐ Irrigate other areas where human access is restricted or unlikely to occur.
- ☐ Irrigate food crops where the applied treated effluent is not likely to have direct contact with the edible part, spray irrigation not allowed.
- ☐ Irrigation of animal feed crops other than pasture used for milked animals.
- ☐ Impoundments of wastewater where direct human contact is not allowed or is unlikely to occur.
- ☐ Cooling water.
- ☐ Soil compaction in construction areas.
- ☐ Dust control in construction areas.

B. Treatment of Effluent

iii. Type I Required Treatment

a. Treatment processes that are expected to produce effluent in which both the BOD and total suspended solids concentrations do not exceed secondary quality effluent limits as defined in R317-1-3.2.

b. Disinfection to destroy, inactivate, or remove pathogenic microorganisms by chemical, physical, or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation, or other approved processes. Coalville city is using the UV method currently.

iv. Describe the treatment of the effluent.

The Facility utilizes screening and grit removal, two parallel Modified Luzack-Ettinger (MLE) process trains, or A2O Mode trains, and can be ran in a step feed mode also. Two secondary clarifiers and UV disinfection. The Facility treats effluent to Type 2 quality. Prior to initiating reuse the treatment will be upgraded to include filtering and any other additional treatment to achieve Type 1 standards.

C. Quantity of Treated Effluent

v. Average daily volume applied in gallons per day

Currently, the average daily volume applied in gallons per day is about 175,000 to 250,000 gallons per day. In the past the average daily volume has been up to 213,000 gallons per day.

vi. **How often is the flow applied (seasonal, continuous or intermittent)**

The flow will be applied seasonally until such time as a storage reservoir is created to store treated effluent during the non-Irrigation Season.

D. Storage

i. Requirements

a. An alternative disposal option or diversion to storage must be automatically activated if turbidity exceeds the maximum instantaneous limit for more than 5 minutes, or chlorine residual drops below the instantaneous required value for more than 5 minutes, where chlorine disinfection is used.

b. Any irrigation must be at least 50 feet from any potable water well. Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable water well. The use should not result in a surface runoff and must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.

c. For residential landscape irrigation at individual homes, additional quality control restrictions may be required by the Director. Proposals for such uses should also be submitted to the local health authority to determine any conditions they may require. When secondary residential irrigation systems are planned utilizing treated effluent in new subdivisions, it is recommended that a notification of the type of irrigation system and possible sources of irrigation waters be made on the deed for the property. Such notification could be made during the plat approval process.

ii. Have the above requirements been met? If so, please describe below.

Not Applicable. Currently no storage facility exists or is planned in the immediate future. If plans change in the future to include storage this Plan will be amended.

iii. Describe any storage. Include photographs is available.

Not Applicable. Currently no storage facility exists or is planned in the immediate future. If plans change in the future to include storage this Plan will be amended.

iv. Describe any fencing. Include photographs is available.

Not Applicable. Currently no storage facility exists or is planned in the immediate future. If plans change in the future to include storage this Plan will be amended.

v. Location of potable water wells. ***Include a map of potable water wells verses land application area.***

Not Applicable. Currently no storage facility exists or is planned in the immediate future. If plans change in the future to include storage this Plan will be amended.

E. Location of Reuse

vii. Describe the reuse system

The existing sewer system infrastructure includes a sewer collection system, a wastewater treatment plant (Facility) and a sewer lift station southwest of the City. To reuse the treated effluent the treated effluent will be introduced into the Coalville City Secondary Water System. Customers connected to the Secondary System will use treated effluent, mixed with irrigation water, to irrigate lawns, fields, and pastures.

viii. Describe the reuse location

The location of reuse is the service area of the Coalville City Secondary Water System shown on attached **Exhibit A**.

vi. Attach a MAP of the reuse location

See attached Exhibit A.

F. Acres of land application

ix. How is Reuse water applied to the land

The treated effluent will be applied through sprinkling systems and flood irrigation by customers of the Coalville City Secondary System.

x. Flow Rate onto land

The flow rate onto the land will vary according to availability of treated effluent, its introduction into the Coalville City Secondary System, and use of secondary water by customers connected to the Secondary System.

G. Effluent sampling

xi. Provide two years of sampling data for the following parameters

a. Flow
b. BOD
c. TSS
d. E.coli
e. pH

H. Currently no soil sampling data has been collected.

I. Soil Sampling

xii. Provide any soil sampling that has been performed.

Currently no soil sampling has been performed.

J. Environmental Impacts

xiii. Describe any environmental impacts to the land application site.

Not applicable.

Part III. Records

A. Describe how records are maintained

Records are maintained onsite, collected twice a month, and submitted to EPA every month. Records are maintained in accordance with the DEQ rules looking for BODS, TSS, ammonias, nitrates, etc.

Part IV. Operation and Management Responsibilities

A. Maintenance Schedules

The maintenance schedule is bi-annual, following the normal irrigation schedule checking the system every April (beginning of the irrigation season) and in October (end of the irrigation season).

B. Contingency plan for system failure or upsets.

The contingency plan is to maintain Coalville's UPDES Permit and to continue to discharge into the unnamed tributary of Chalk Creek as permitted rather than the land application. The UPDES permit is attached as **Exhibit B**

The owner of the Facility is Coalville City which is subject to open meetings law and GRAMA requests.

B. Signage

a. **Warning Labels: Describe warning labels and include photographs if possible.**

All pipe with effluent is purple as required by the Department of Environmental Quality. Additionally, all piping is identified using an accepted means of labeling reading "Caution: Treated Wastewater - Do Not Drink."

Part VI. Reuse Water Rights

Include the copy of the water rights from the Division of Water Rights

Coalville City is the owner of the water rights it plans to reuse, the specific water rights are identified in the Water Reuse Application to be filed with Division of Water Rights.

Part VII. Additional permits

Additional permit may be required based on the storage and usage of the reuse water. Please indicate if the following permits have been applied for and if so, have they been obtained.

A. **Ground water discharge permit**

Not applicable.

B. **Underground Injection Control (UIC)**

Not applicable.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Mayor
PRINT Signatory Authority Name

Signature

10/31/2023
Date

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION PROJECT
COALVILLE CITY, UTAH
PHASE 1 - PIPING DISTRIBUTION SYSTEM

SHEET:	INDEX OF DRAWINGS
1	COVER SHEET & DRAWING INDEX
2	LOCATION & VICINITY MAP
3	SYSTEM MAP - PROJECT OVERVIEW
4	PLAN DRAWING INDEX MAP
5 - 22	PIPING PLANS
DS-1	DETAIL & SECTIONS
DS-2	DETAIL & SECTIONS
DS-3	BRIDGE CROSSING DETAIL & SECTIONS

RECORD DRAWINGS

NOVEMBER 2002

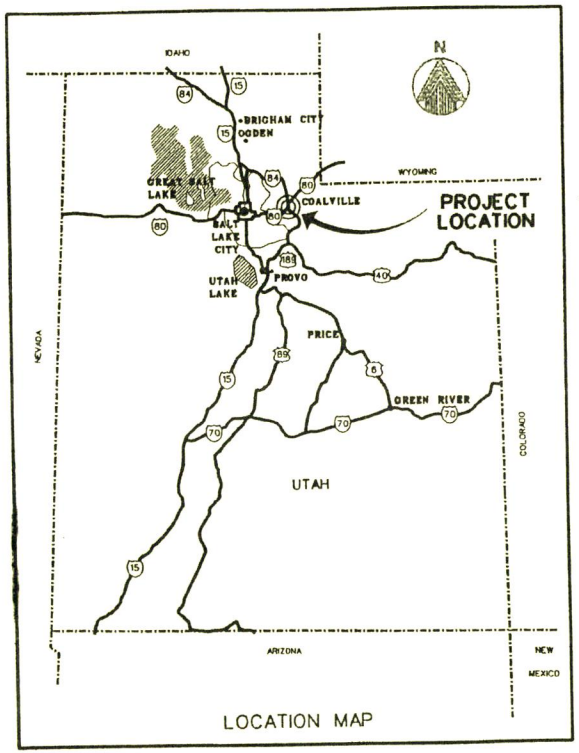
JUB

Engineers Surveyors Planners

PROJECT NO. 53602

SHEET 1 / 25

CAD FILE: 53602CV1.dgn



PROJECT VICINITY MAP

PROJECT LOCATION MAP

N.T.S.

J-U-B

J-U-B ENGINEERS, Inc.

Offices in Utah, Idaho, Washington

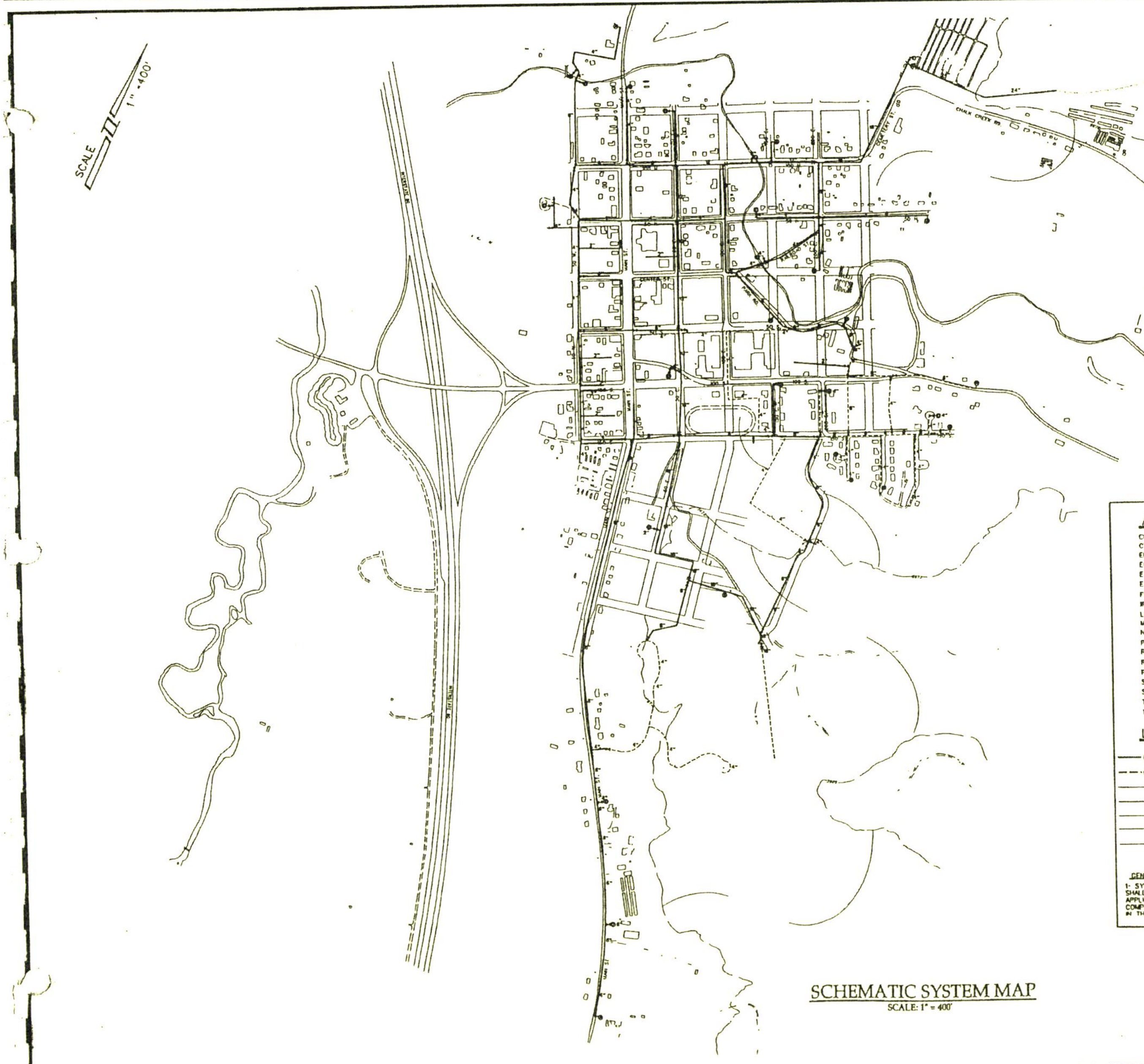
RECORD DRAWING 11-6-02

REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
Phase 1
Location & Vicinity Map

PLOTTED: 11/12/2002
CAD DWG: \53602007.dgn
PLOT SCALE:
0 1 INCH
DATE: FEB 200
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: N/A
VER SCALE: N/A
SHEET 2 OF 25

SCANNED GH



SCHEMATIC SYSTEM MAP

SCALE: 1" = 400'

UTILITY CONTACTS

UTILITY	CONTACT	PHONE NO.
COALVILLE CITY CORPORATION	DOUG MOORE	(435) 336-5981
COALVILLE CITY SEWER PLANT	DENNIS GUNN	(435) 336-2571
NRCS	STEVE ROGERS	(801) 377-5580 EXT. 21
ALLWEST	JACK WALKEN HURST	(435) 783-4938
WILLIAMS COMMUNICATION	MARK JOHNSON	(801) 584-6149
QUESTAR	GRANT PIERCEY	(435) 654-6180
ENRON		(800) 267-7028
FIBER OPTIC (FOR HIGH SCHOOL)	KELLY RICHINS	(435) 336-5656

ABBREVIATIONS:

CMP - CORRIGATED METAL PIPE
CW - CULINARY WATER
ELEC. - ELECTRICAL (UNDERGROUND)
EOA - EDGE OF ASPHALT
ET - ELECTRICAL TRANSFORMER
EXIST. - EXISTING
FH - FIRE HYDRANT
IRR - IRRIGATION LINE (SECONDARY WATER)
LP - LIGHT POLE
MH - MANHOLE
NIC - NOT IN CONTRACT
PP - POWER POLE
RED. - REDUCER
RCP - REINFORCED CONCRETE PIPE
PRV - PRESSURE REDUCING VALVE
SD - STORM DRAIN
SS - SANITARY SEWER
TBC - TOP BACK OF CURB
TEL - TELEPHONE

LINE IDENTIFICATION:

6" IRR — SECONDARY WATER LINE (NEW)
6" IRR (dashed) — SECONDARY WATER LINE (BY OTHERS)
SS — EXISTING SANITARY SEWER LINE
SD — EXISTING STORM DRAIN LINE
LD — EXISTING LAND DRAIN LINE
G — EXISTING NATURAL GAS LINE
¾" — EXISTING NATURAL GAS SERVICES

GENERAL NOTE:

1- SYMBOLS, ABBREVIATIONS & LINE IDENTIFICATION SHOWN SHALL BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS SYMBOLS & COMPONENTS ARE NECESSARILY USED ON ALL THE PLANS IN THE PROJECT.

SYMBOLS:

- TEE
- CROSS
- ELBOW/BEND
- REDUCER
- END CAP
- GATE VALVE 4" - 10"
- BTFLY VALVE 12" - LARGER
- PRESSURE REGULATOR VALVE
- SLOPE - DIRECTION OF DESIGN PIPE SLOPE
- COMBINATION AIR VALVE
- AIR RELEASE
- DRAIN
- STORM DRAIN CATCH BASIN
- MANHOLE
- MANHOLE (NOT SURVEYED)
- LIGHT POLE
- POWER POLE
- FIRE HYDRANT
- SURVEY MONUMENT
- CULINARY WATER METER

J-U-B
Engineers • Surveyors • Planners

J-U-B ENGINEERS, Inc.
Kaysville, UT Office (801) 547-0393
Orem, UT Office (801) 226-0393
Logan, UT Office (435) 713-9514
Pocatello, ID Office (208) 232-1313
Other Offices in Boise, ID, Twin Falls, ID, Nampa, ID, Coeur d'Alene, ID, Kennewick, WA, Spokane, WA

RECORD DRAWING
11-6-02

REUSE OF DRAWINGS
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF J-U-B ENGINEERS, Inc. AND IS NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF J-U-B ENGINEERS, Inc.

REVISION

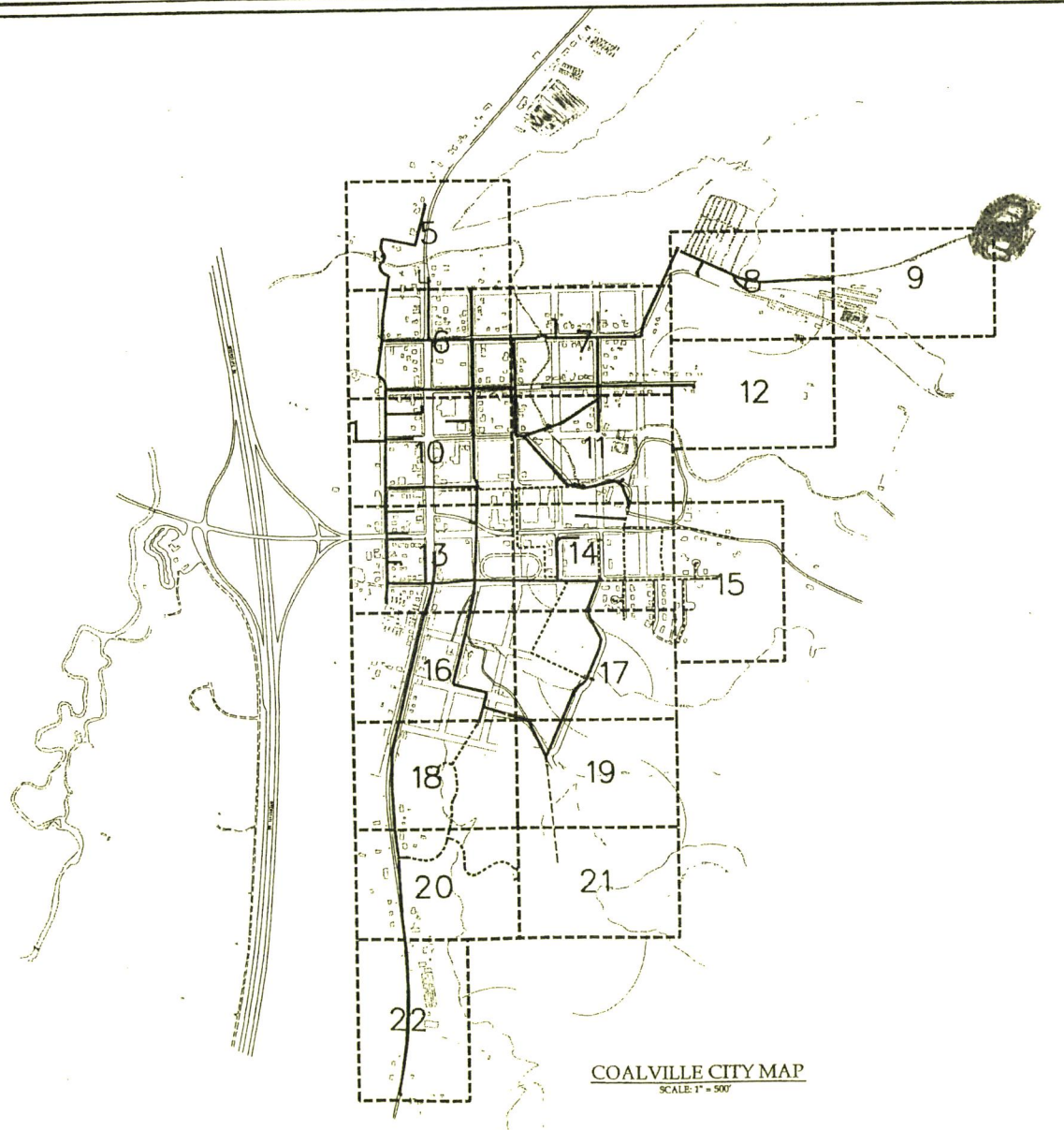
NO.	DESCRIPTION	BY	APR.	DATE

COALVILLE CITY CORPORATION PRESSURE IRRIGATION SYSTEM

PHASE 1
SYSTEM MAP - PROJECT OVERVIEW

PLOTTED:	11/12/2002
CAD DWG:	..\53602003.dgn
PLOT SCALE:	1" = 400'
0	1 INCH
DATE:	FEB 2001
DRAWN BY:	JDM/RDS
DESIGN BY:	RDS
CHECKED BY:	DBS
HOR SCALE:	
VER SCALE:	N/A
SHEET	3 OF 25

SCANNED GH



COALVILLE CITY MAP
SCALE: 1" = 500'

J-U-B

J-U-B ENGINEERS, Inc.

RECORD DRAWING
11-6-02

REUSE OF DRAWINGS

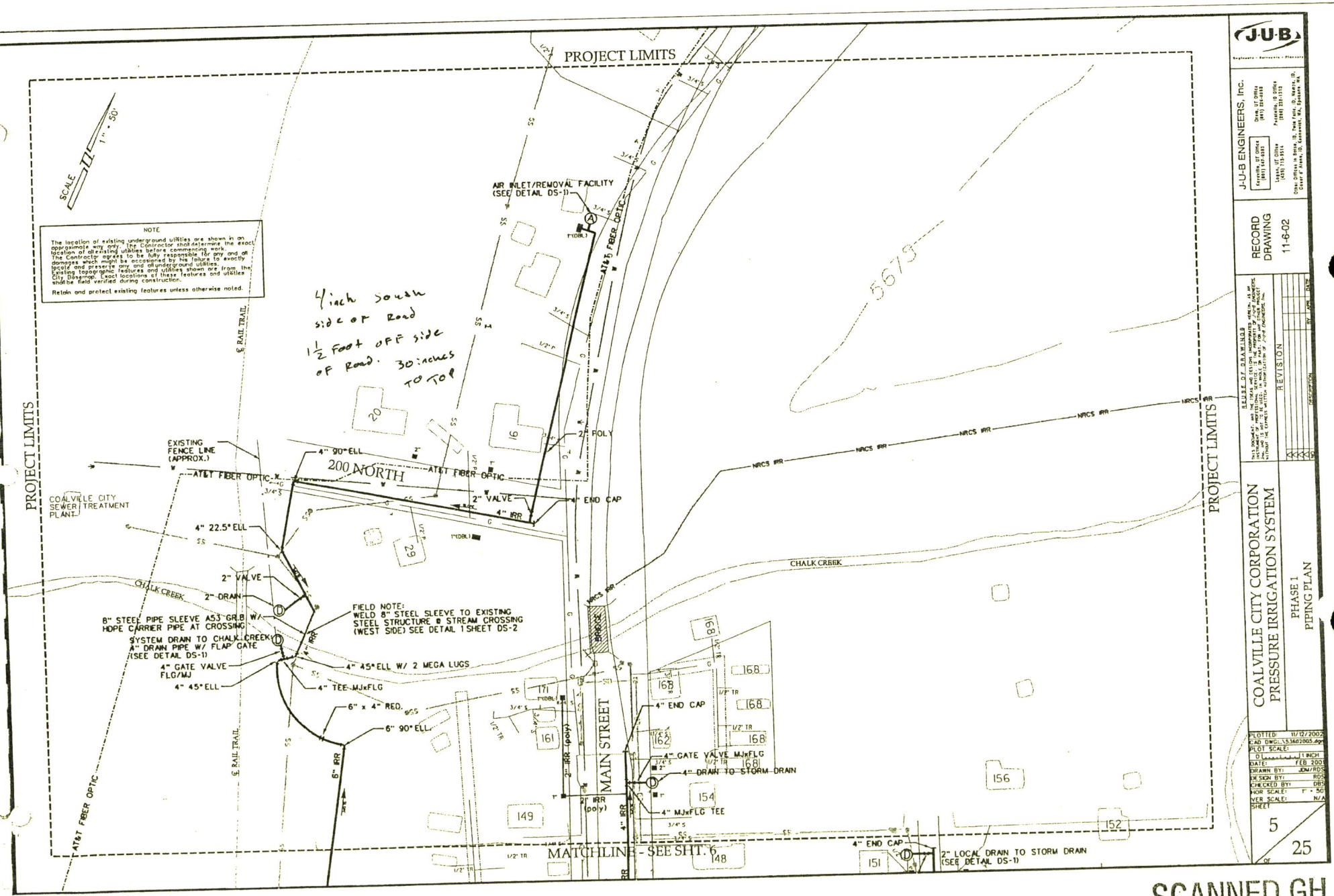
REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PLAN DRAWING INDEX MAP

PLOTTED: 11/12/2002
CAD DWG.\1536\02004.dgn
PLOT SCALE:
0 1 INCH
DATE: FEB 2002
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 500'
VER SCALE: N/A
SHEET
4
OF
25

SCANNED GH



J-U-B ENGINEERS, Inc.

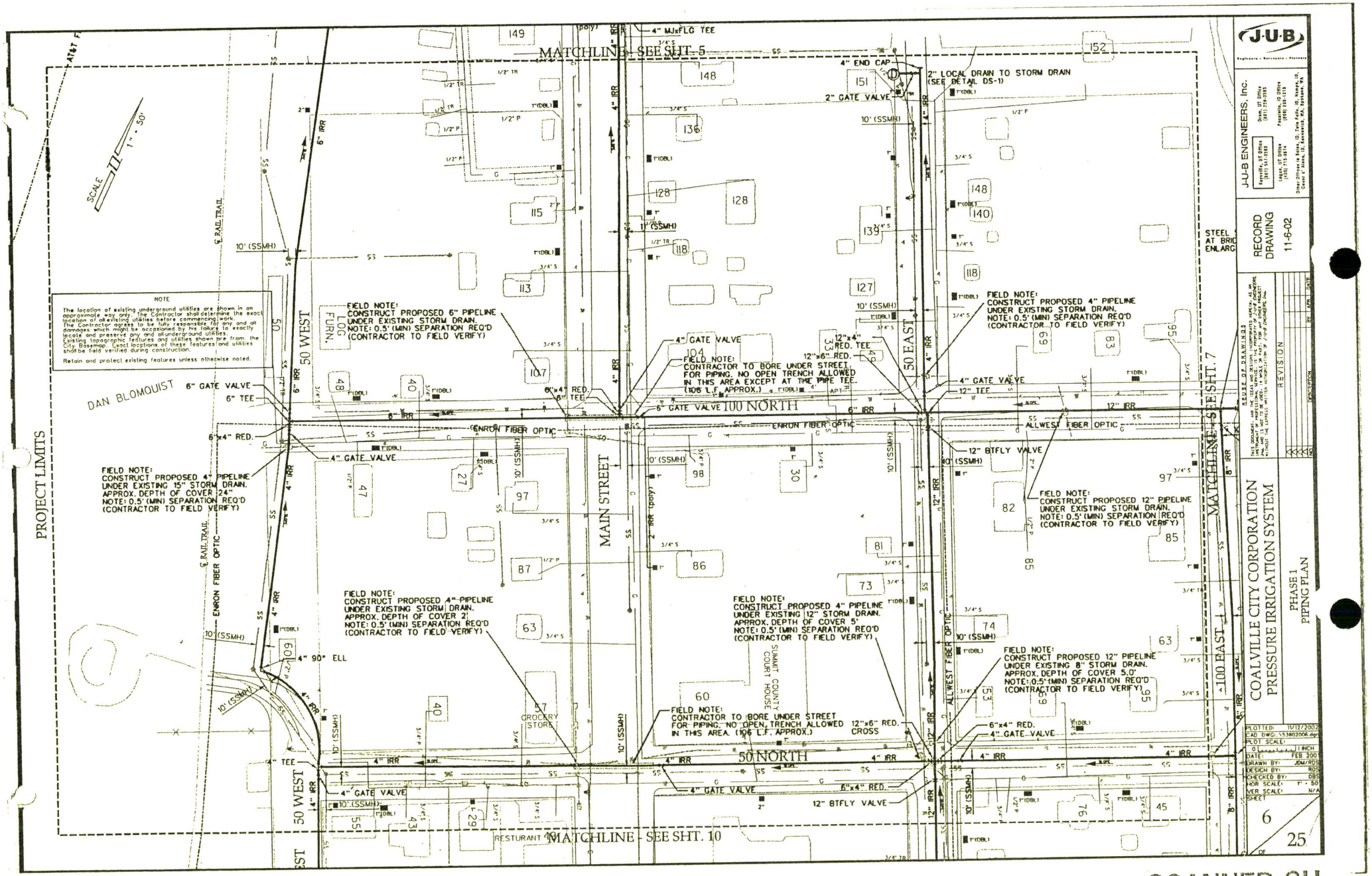
RECORD DRAWING 11-6-02

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

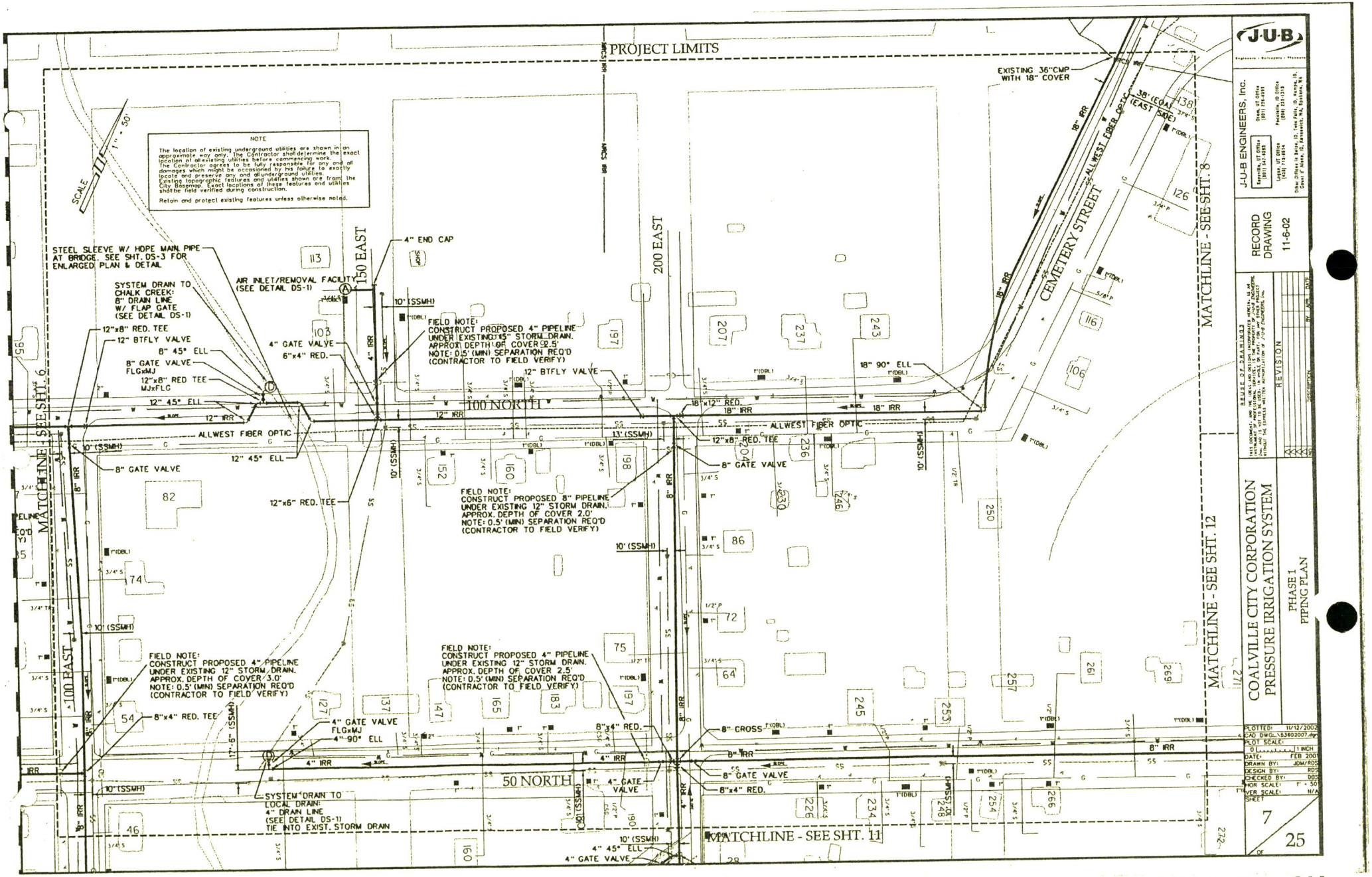
PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG.: L:\3402005.dgn
PLOT SCALE: 1 INCH
DATE: FEB. 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 5 OF 25

SCANNED GH


MATCHLINE - SEE SHT. 5
MATCHLINE - SEE SHT. 7
MATCHLINE - SEE SHT. 10
PROJECT LIMITS
SCALE 1" = 50'
NOTE
The location of existing underground utilities are shown in an approximate way only. The Contractor shall determine the exact location of all existing utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities. Existing topographic features and utilities shown are from the City Basemap. Exact locations of these features and utilities shall be field verified during construction.
Retain and protect existing features unless otherwise noted.
DAN BLOMQUIST
MAIN STREET
50 WEST
50 EAST
100 NORTH
50 NORTH
100 EAST
G. RAIL TRAIL
ENRON FIBER OPTIC
ALLWEST FIBER OPTIC
SUMMIT COUNTY COURT HOUSE
GROCERY STORE
RESTURANT
FIELD NOTE: CONSTRUCT PROPOSED 6" PIPELINE UNDER EXISTING STORM DRAIN. NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONSTRUCT PROPOSED 4" PIPELINE UNDER EXISTING STORM DRAIN. NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONSTRUCT PROPOSED 4" PIPELINE UNDER EXISTING 15" STORM DRAIN. APPROX. DEPTH OF COVER 24" NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONTRACTOR TO BORE UNDER STREET FOR PIPING. NO OPEN TRENCH ALLOWED IN THIS AREA EXCEPT AT TIME PIPE TEE. (106 L.F. APPROX.)
FIELD NOTE: CONSTRUCT PROPOSED 4" PIPELINE UNDER EXISTING STORM DRAIN. APPROX. DEPTH OF COVER 2' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONSTRUCT PROPOSED 4" PIPELINE UNDER EXISTING 12" STORM DRAIN. APPROX. DEPTH OF COVER 5' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONSTRUCT PROPOSED 12" PIPELINE UNDER EXISTING STORM DRAIN. NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONSTRUCT PROPOSED 12" PIPELINE UNDER EXISTING 8" STORM DRAIN. APPROX. DEPTH OF COVER 5.0' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONTRACTOR TO BORE UNDER STREET FOR PIPING. NO OPEN TRENCH ALLOWED IN THIS AREA. (106 L.F. APPROX.)
2" LOCAL DRAIN TO STORM DRAIN (SEE DETAIL DS-1)
4" END CAP
2" GATE VALVE
4" GATE VALVE
6" GATE VALVE
6" TEE
4" TEE
12" TEE
4" 90° ELL
12"x6" RED. TEE
6"x4" RED. TEE
12"x4" RED. TEE
6"x4" RED.
12"x6" RED. CROSS
6"x4" RED. CROSS
12" BTFLY VALVE
4" MJxFLG TEE
10' (SSMH)
J-U-B
J-U-B ENGINEERS, Inc.
RECORD DRAWING 11-6-02
REVISION
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PIPING PLAN
PLOTTED: 11/12/2002
CAD DWG: \53602006.dgn
PLOT SCALE: 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 6 OF 25

SCANNED GH



J-U-B ENGINEERS, Inc.

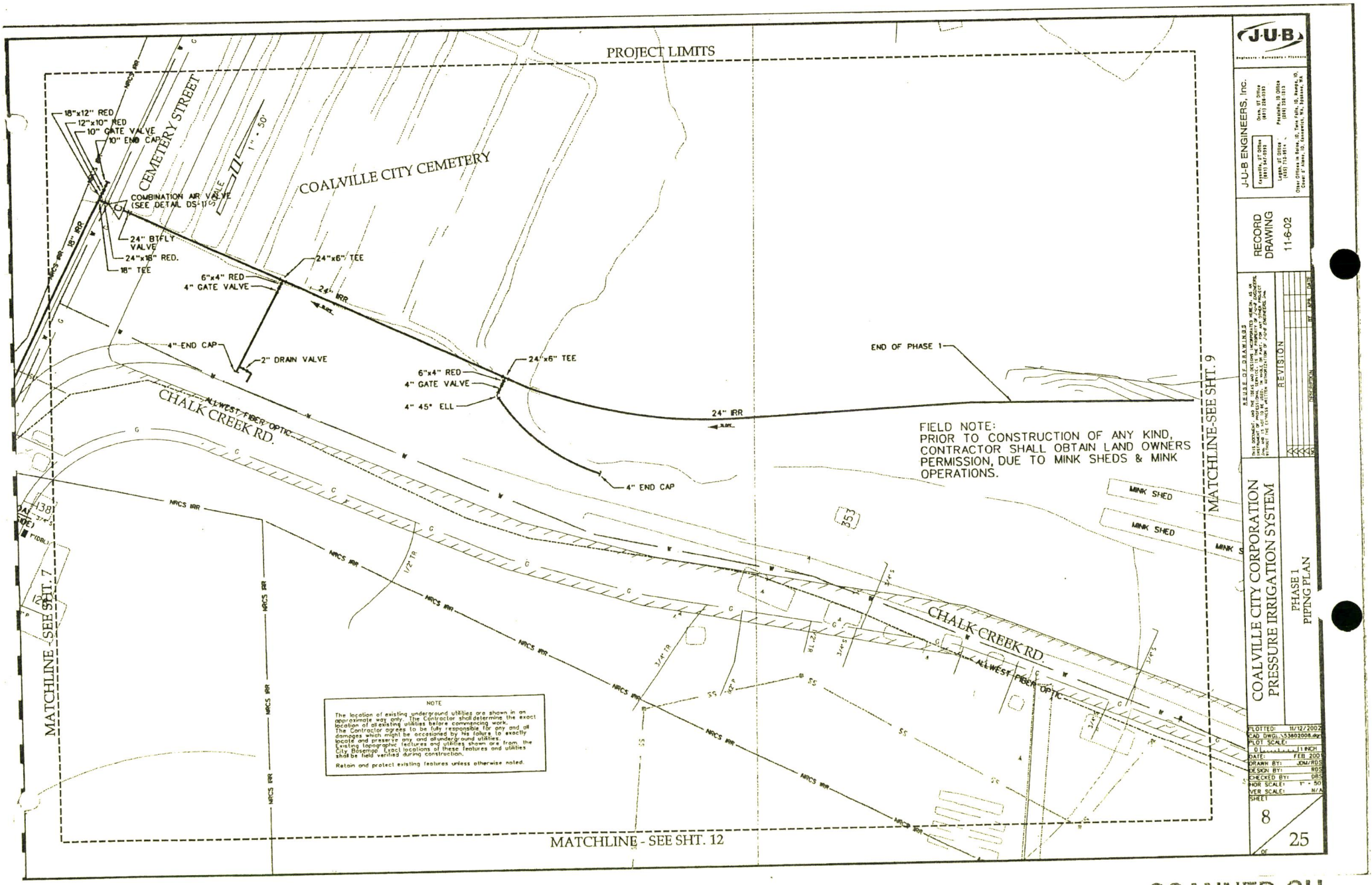
RECORD DRAWING 11-6-02

REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG.: \53802007.dgn
PLOT SCALE: 0 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/ROS
DESIGN BY: ROS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 7 OF 25



J-U-B ENGINEERS, Inc.

RECORD DRAWING 11-6-02

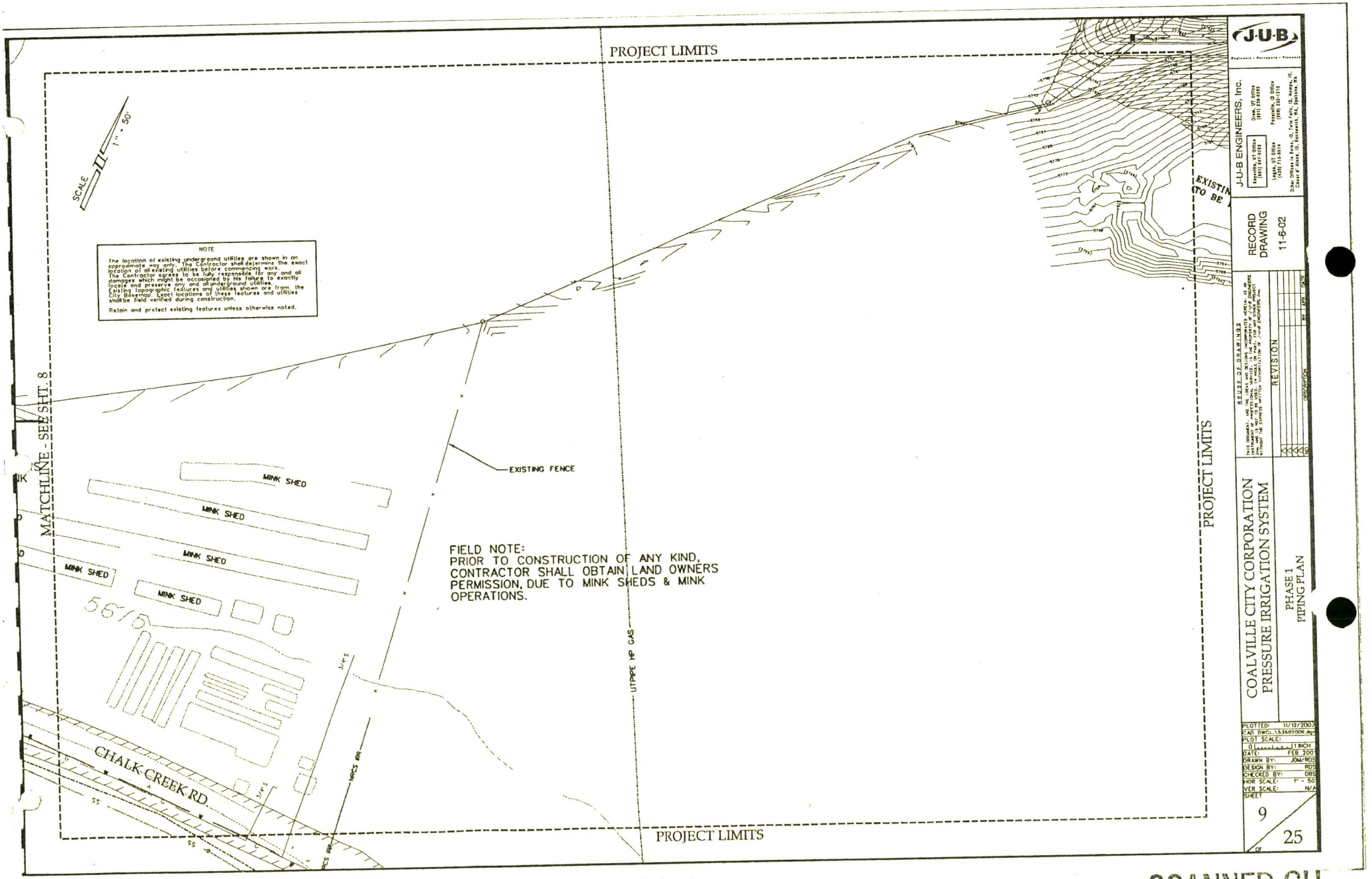
REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

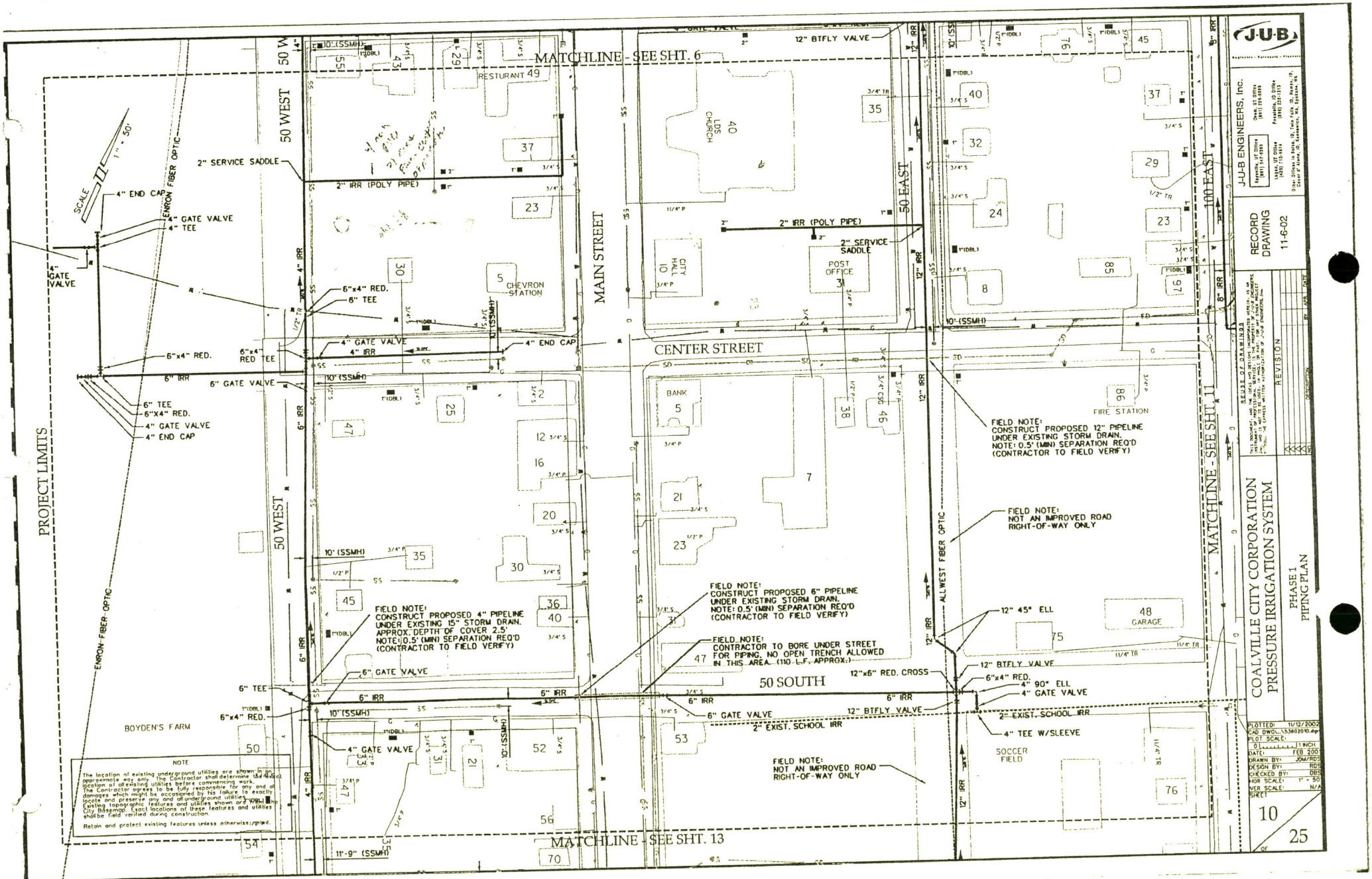
PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG.: \53802008.dgn
PLOT SCALE:
1" = 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DRS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 8 OF 25

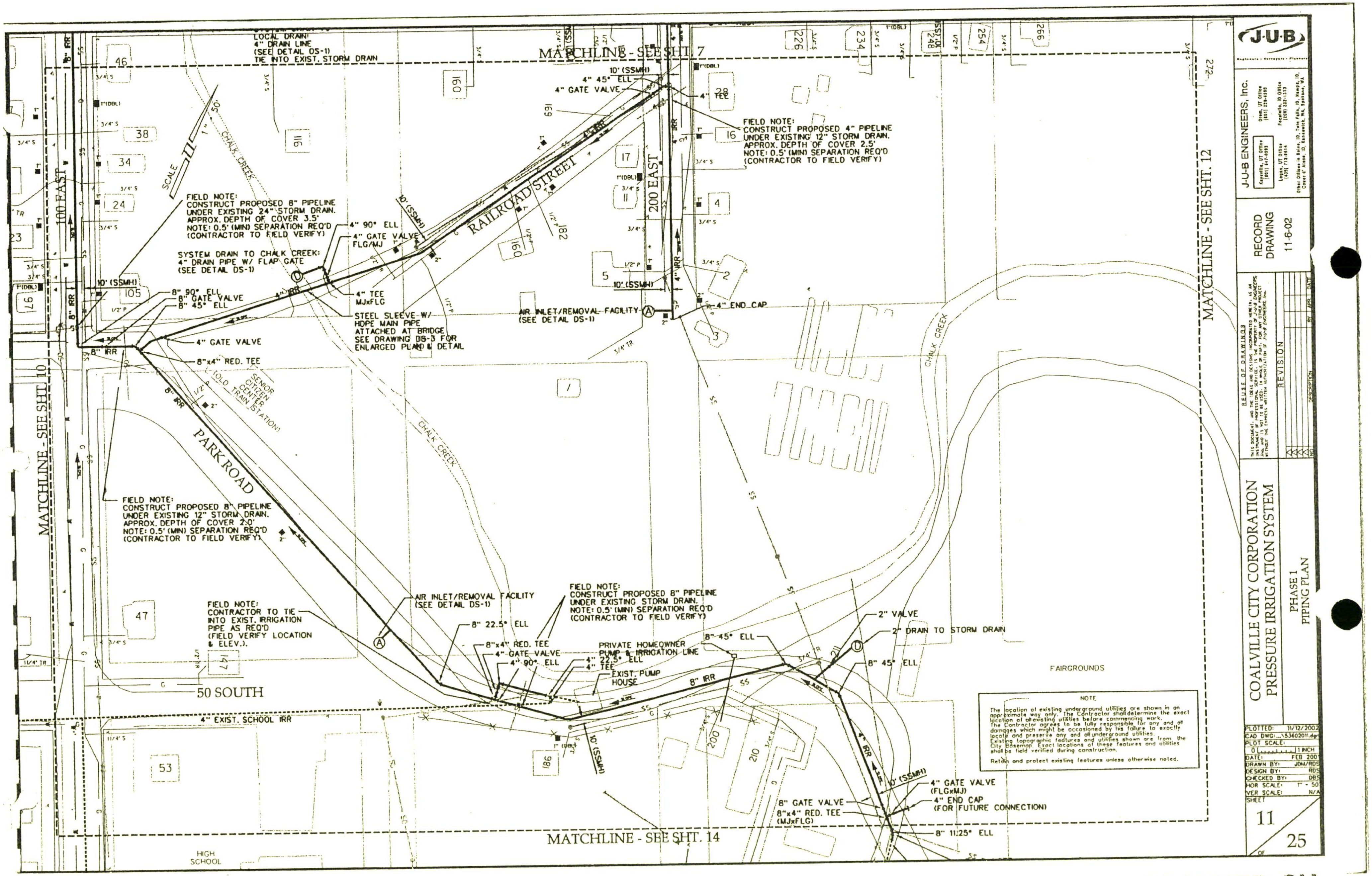
SCANNED GH


PROJECT LIMITS
SCALE 1" = 50'
NOTE
The location of existing underground utilities are shown in an approximate way only. The Contractor shall determine the exact location of all existing utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities. Existing topographic features and utilities shown are from the City Basemap. Exact locations of these features and utilities shall be field verified during construction.
Retain and protect existing features unless otherwise noted.
MATCHLINE - SEE SHT. 8
EXISTING FENCE
MINK SHED
MINK SHED
MINK SHED
MINK SHED
MINK SHED
5616
FIELD NOTE:
PRIOR TO CONSTRUCTION OF ANY KIND, CONTRACTOR SHALL OBTAIN LAND OWNERS PERMISSION, DUE TO MINK SHEDS & MINK OPERATIONS.
UTPIPE HP GAS
CHALK CREEK RD
PROJECT LIMITS
PROJECT LIMITS
J-U-B
J-U-B ENGINEERS, Inc.
RECORD DRAWING
11-6-02
REVISION
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PIPING PLAN
PLOTTED: 11/12/2002
CAD DWG: L:\5360\006.dwg
PLOT SCALE: 1 INCH
DATE: FEB 2001
DRAWN BY: JDW/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 9 OF 25

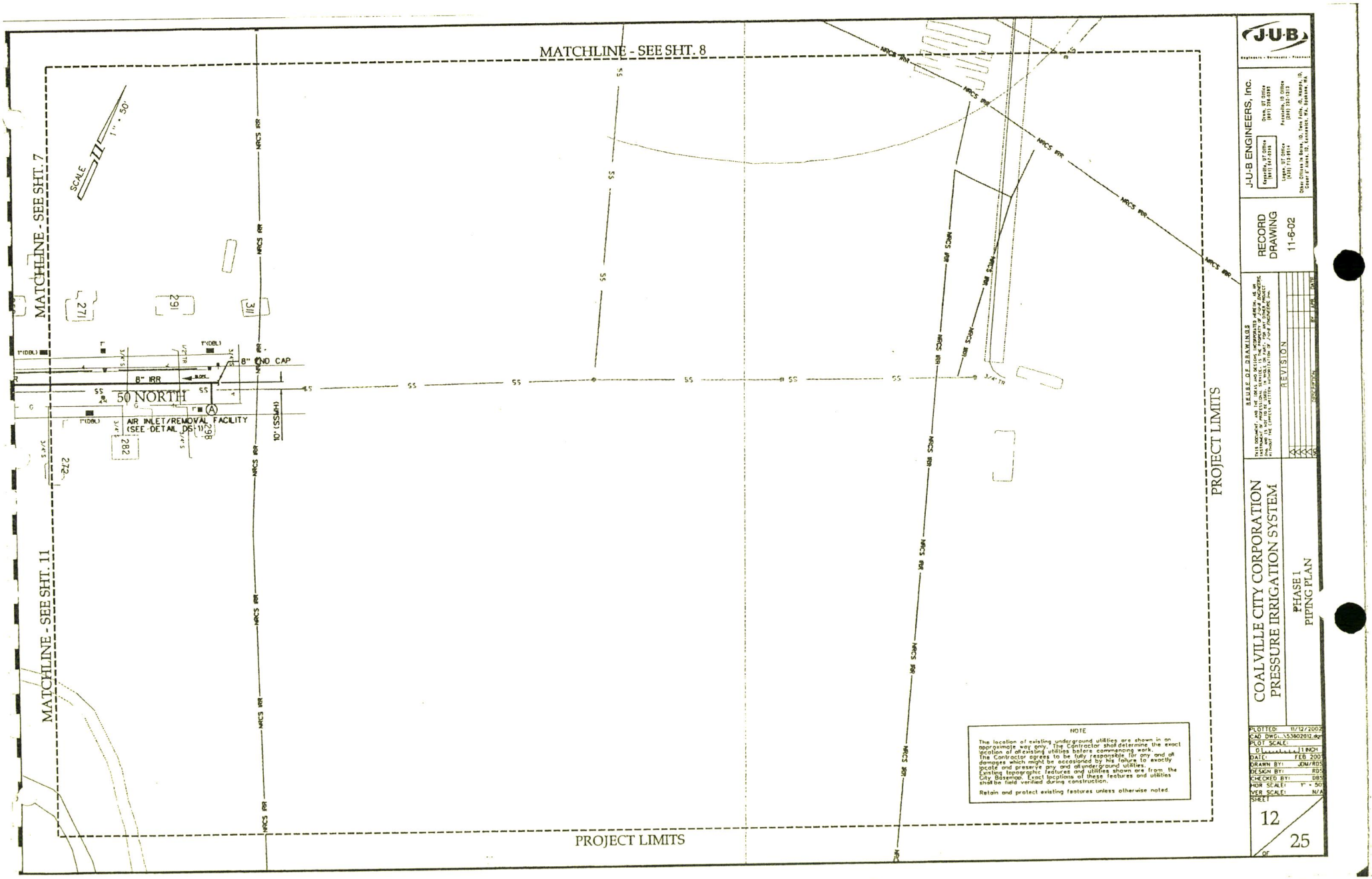
SCANNED GH


MATCHLINE - SEE SHT. 6
MATCHLINE - SEE SHT. 11
MATCHLINE - SEE SHT. 13
PROJECT LIMITS
50 WEST
50 EAST
50 SOUTH
MAIN STREET
CENTER STREET
100 EAST
ENRON FIBER OPTIC
ALLWEST FIBER OPTIC
SCALE 1" = 50'
2" SERVICE SADDLE
2" IRR (POLY PIPE)
4" END CAP
4" GATE VALVE
4" TEE
6"x4" RED.
6" TEE
6" IRR
6" GATE VALVE
6"X4" RED.
4" IRR
12" BTFLY VALVE
12"x6" RED. CROSS
6"x4" RED.
4" 90° ELL
2" EXIST. SCHOOL IRR
4" TEE W/SLEEVE
12" 45° ELL
10' (SSMH)
11'-9" (SSMH)
CHEVRON STATION
CITY HALL
POST OFFICE
LDS CHURCH
RESTURANT
BANK
FIRE STATION
GARAGE
SOCCER FIELD
BOYDEN'S FARM
FIELD NOTE:
CONSTRUCT PROPOSED 4" PIPELINE UNDER EXISTING 15" STORM DRAIN. APPROX. DEPTH OF COVER 2.5' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE:
CONSTRUCT PROPOSED 6" PIPELINE UNDER EXISTING STORM DRAIN. NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE:
CONSTRUCT PROPOSED 12" PIPELINE UNDER EXISTING STORM DRAIN. NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE:
CONTRACTOR TO BORE UNDER STREET FOR PIPING, NO OPEN TRENCH ALLOWED IN THIS AREA. (110 L.F. APPROX.)
FIELD NOTE:
NOT AN IMPROVED ROAD RIGHT-OF-WAY ONLY
FIELD NOTE:
NOT AN IMPROVED ROAD RIGHT-OF-WAY ONLY
NOTE
The location of existing underground utilities are shown in an approximate way only. The Contractor shall determine the actual location of all existing utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities shown or not shown. Existing topographic features and utilities shown are from the City Basemap. Exact locations of these features and utilities shall be field verified during construction.
Retain and protect existing features unless otherwise noted.
J-U-B ENGINEERS, Inc.
RECORD DRAWING 11-6-02
REVISION
DESCRIPTION
BY
APP'D
DATE
REUSE OF DRAWINGS
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PIPING PLAN
PLOTTED: 11/12/2002
CAD DWG: L:\53602010.dwg
PLOT SCALE: 1 INCH
DATE: FEB 200
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 10 OF 25

SCANNED GH


MATCHLINE - SEE SHT. 7
MATCHLINE - SEE SHT. 10
MATCHLINE - SEE SHT. 12
MATCHLINE - SEE SHT. 14
100 EAST
200 EAST
RAILROAD STREET
PARK ROAD
50 SOUTH
CHALK CREEK
SENIOR CITIZEN CENTER (OLD TRAIN STATION)
FAIRGROUNDS
HIGH SCHOOL
SCALE 1" = 50'
LOCAL DRAIN: 4" DRAIN LINE (SEE DETAIL DS-1) TIE INTO EXIST. STORM DRAIN
FIELD NOTE: CONSTRUCT PROPOSED 8" PIPELINE UNDER EXISTING 24" STORM DRAIN. APPROX. DEPTH OF COVER 3.5' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
SYSTEM DRAIN TO CHALK CREEK: 4" DRAIN PIPE W/ FLAP GATE (SEE DETAIL DS-1)
FIELD NOTE: CONSTRUCT PROPOSED 4" PIPELINE UNDER EXISTING 12" STORM DRAIN. APPROX. DEPTH OF COVER 2.5' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
STEEL SLEEVE W/ HDPE MAIN PIPE ATTACHED AT BRIDGE SEE DRAWING DS-3 FOR ENLARGED PLAN & DETAIL
AIR INLET/REMOVAL FACILITY (SEE DETAIL DS-1)
FIELD NOTE: CONSTRUCT PROPOSED 8" PIPELINE UNDER EXISTING 12" STORM DRAIN. APPROX. DEPTH OF COVER 2.0' NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
FIELD NOTE: CONTRACTOR TO TIE INTO EXIST. IRRIGATION PIPE AS REQ'D (FIELD VERIFY LOCATION & ELEV.).
FIELD NOTE: CONSTRUCT PROPOSED 8" PIPELINE UNDER EXISTING STORM DRAIN. NOTE: 0.5' (MIN) SEPARATION REQ'D (CONTRACTOR TO FIELD VERIFY)
PRIVATE HOMEOWNER PUMP & IRRIGATION LINE
EXIST. PUMP HOUSE
4" EXIST. SCHOOL IRR
10' (SSMH)
4" 45° ELL
4" GATE VALVE
4" TEE
4" 90° ELL
4" GATE VALVE FLG/MJ
4" TEE MJxFLG
8" 90° ELL
8" GATE VALVE
8" 45° ELL
8"x4" RED. TEE
4" END CAP
8" 22.5° ELL
4" 90° ELL
4" 22.5° ELL
2" VALVE
2" DRAIN TO STORM DRAIN
8" IRR
4" IRR
4" GATE VALVE (FLGxMJ)
4" END CAP (FOR FUTURE CONNECTION)
8"x4" RED. TEE (MJxFLG)
8" 11.25° ELL
NOTE
The location of existing underground utilities are shown in an approximate way only. The Contractor shall determine the exact location of all existing utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities. Existing topographic features and utilities shown are from the City Basemap. Exact locations of these features and utilities shall be field verified during construction.
Retain and protect existing features unless otherwise noted.
J-U-B ENGINEERS, Inc.
RECORD DRAWING 11-6-02
REVISION
COALVILLE CITY CORPORATION PRESSURE IRRIGATION SYSTEM
PHASE 1 PIPING PLAN
PLOTTED: 11/12/2002
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 11 of 25

SCANNED GH



J-U-B ENGINEERS, Inc.

RECORD DRAWING 11-6-02

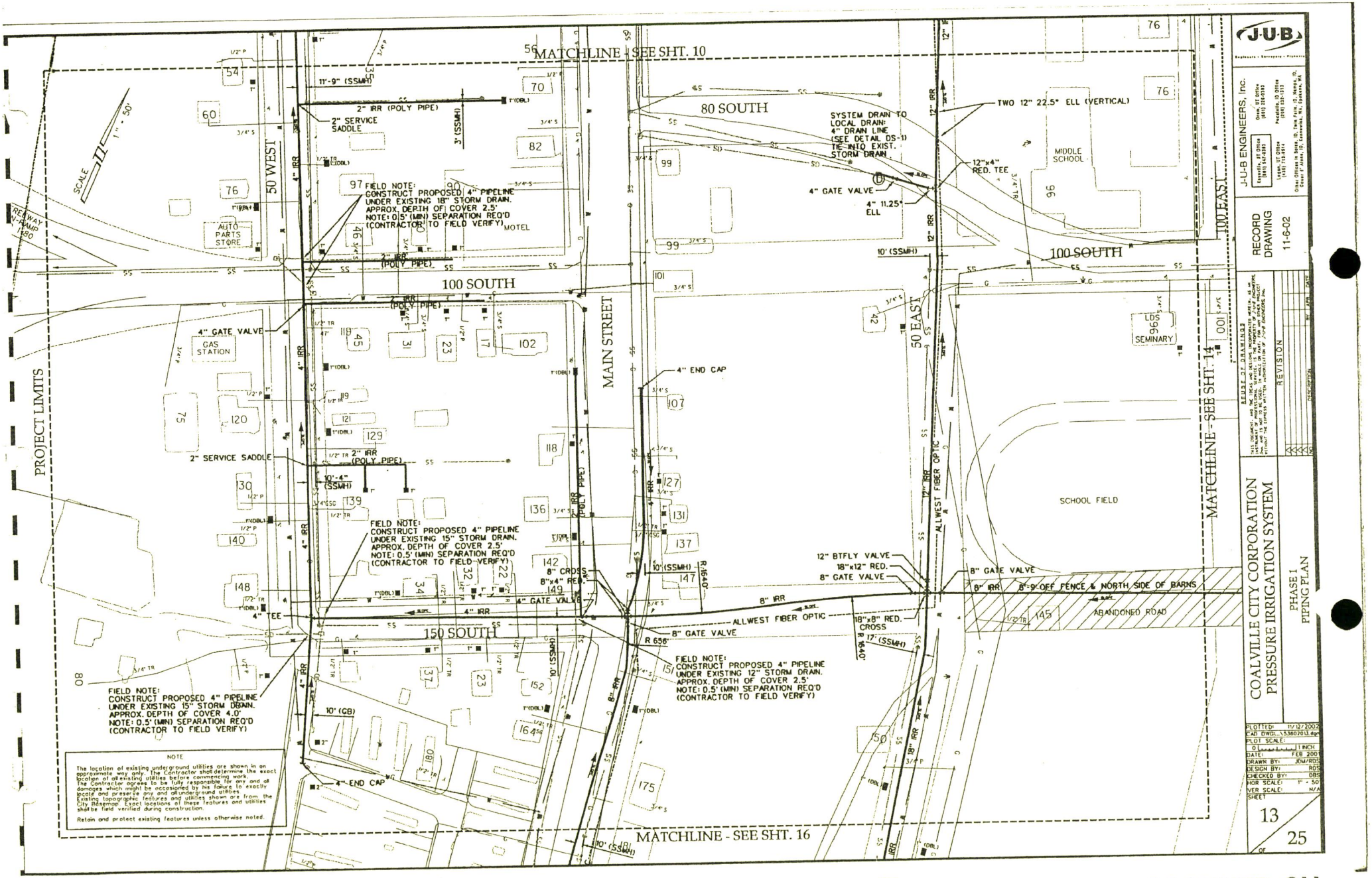
REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG: ...\53602012.dgn
PLOT SCALE:
0 1 INCH
DATE: FEB 2002
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 12 OF 25

SCANNED GH

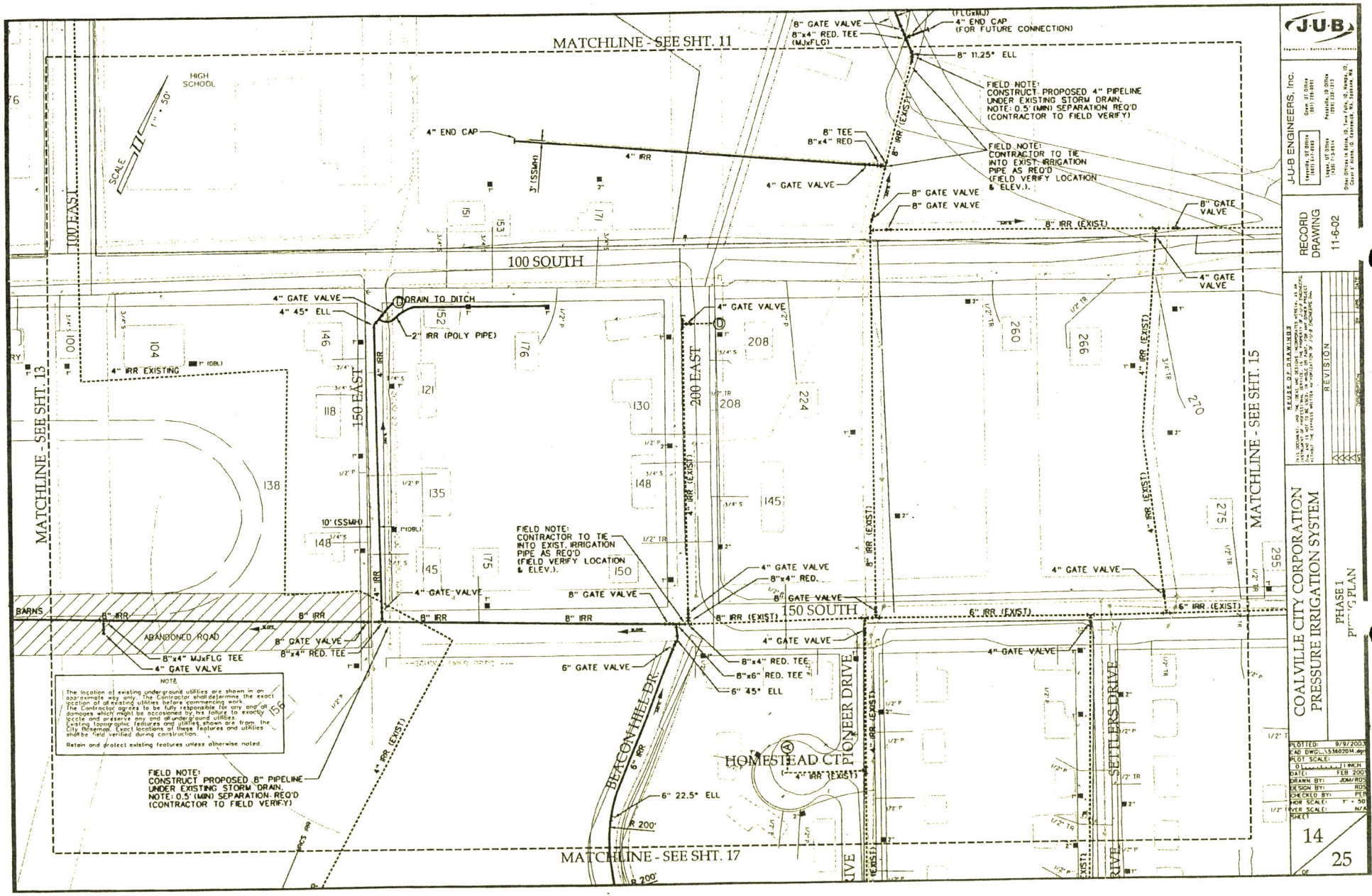


J-U-B ENGINEERS, Inc.

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PIPING PLAN

PLOTTED: 11/27/2002
CAD DWG: ...\53802013.dgn
PLOT SCALE: 1 INCH
DATE: FEB 200
DRAWN BY: JDM/ROS
DESIGN BY: ROS
CHECKED BY: DBS
HOR SCALE: 1" = 50
VER SCALE: N/A
SHEET 13 OF 25

SCANNED GH



J-U-B ENGINEERS, Inc.

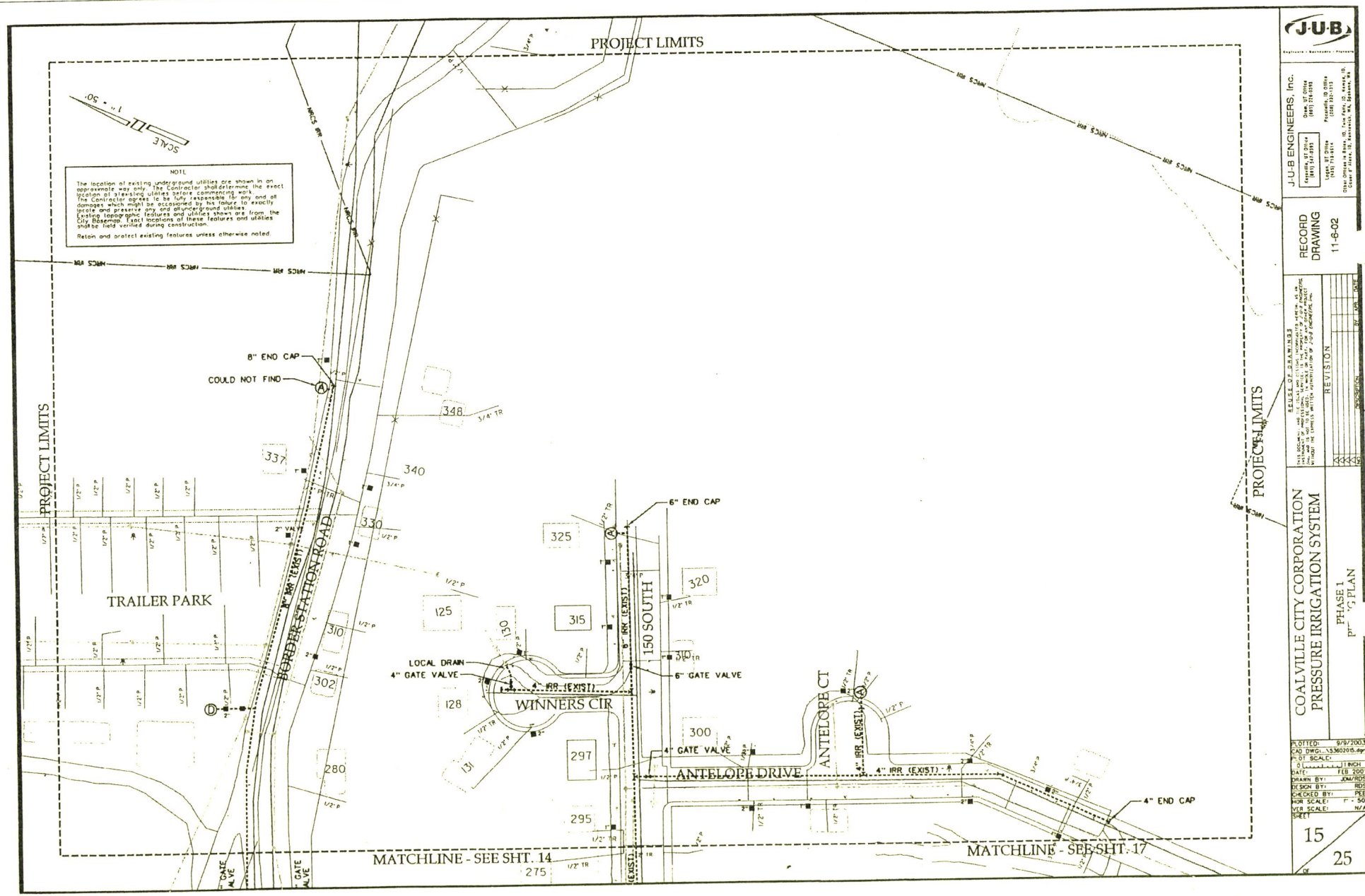
RECORD DRAWING 11-6-02

REVISION

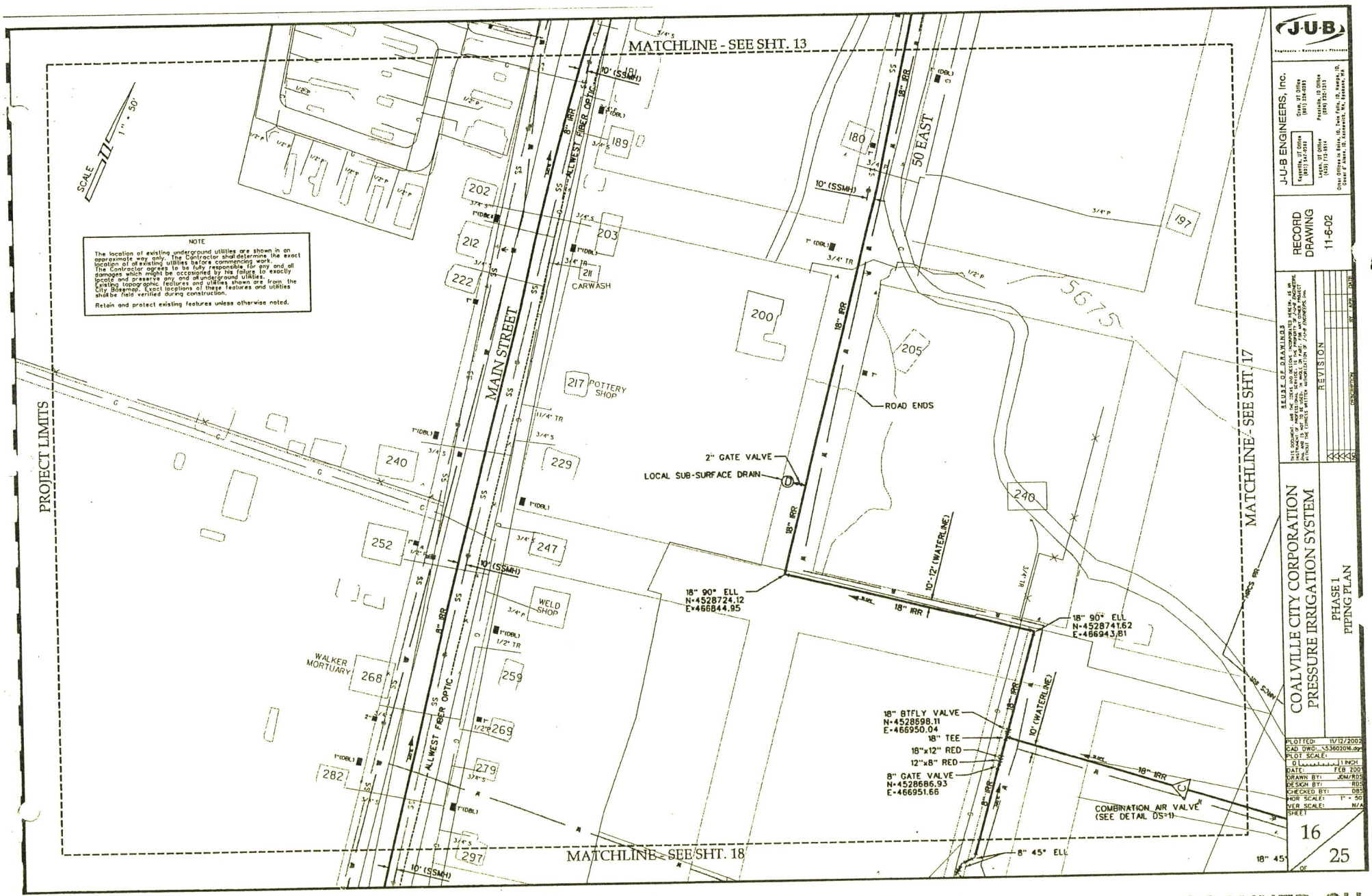
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PLOTTING PLAN

PLOTTED: 9/9/2003
CAD DWG: L:\53602014.dgn
PLOT SCALE: 0 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: PLH
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 14 OF 25

SCANNED GH


PROJECT LIMITS
SCALE 1" = 50'
NOTE
The location of existing underground utilities are shown in an approximate way only. The Contractor shall determine the exact location of all existing utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities. Existing topographic features and utilities shown are from the City Basemap. Exact locations of these features and utilities shall be field verified during construction.
Retain and protect existing features unless otherwise noted.
8" END CAP
COULD NOT FIND
348
337
340
330
325
320
TRAILER PARK
BORDER STATION ROAD
125
315
310
302
130
LOCAL DRAIN
4" GATE VALVE
6" GATE VALVE
150 SOUTH
WINNERS CIR
128
300
297
280
131
ANTELOPE CT
ANTELOPE DRIVE
4" END CAP
295
275
MATCHLINE - SEE SHT. 14
MATCHLINE - SEE SHT. 17
PROJECT LIMITS
J-U-B ENGINEERS, Inc.
RECORD DRAWING
11-6-02
REVISION
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PLOTTED: 9/9/2003
CAD DWG: ...\536021\cad\dgn\536021S.dgn
PLOT SCALE: 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: PEB
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 15 OF 25

SCANNED GH



J-U-B ENGINEERS, Inc.

RECORD DRAWING 11-6-02

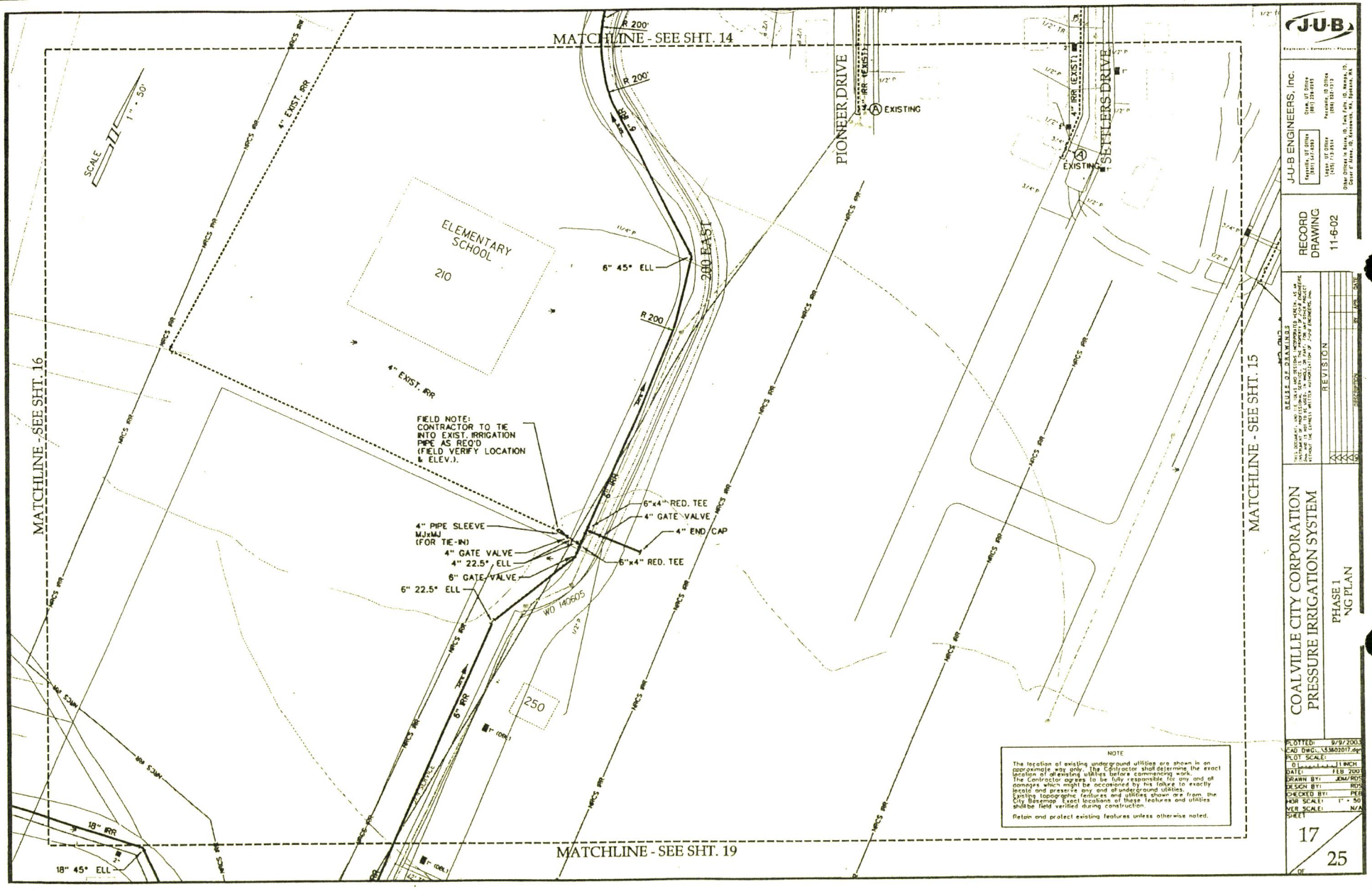
REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG: ...\S3602016.dgn
PLOT SCALE:
1 INCH
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DRB
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 16 OF 25

SCANNED GH



J-U-B ENGINEERS, Inc.

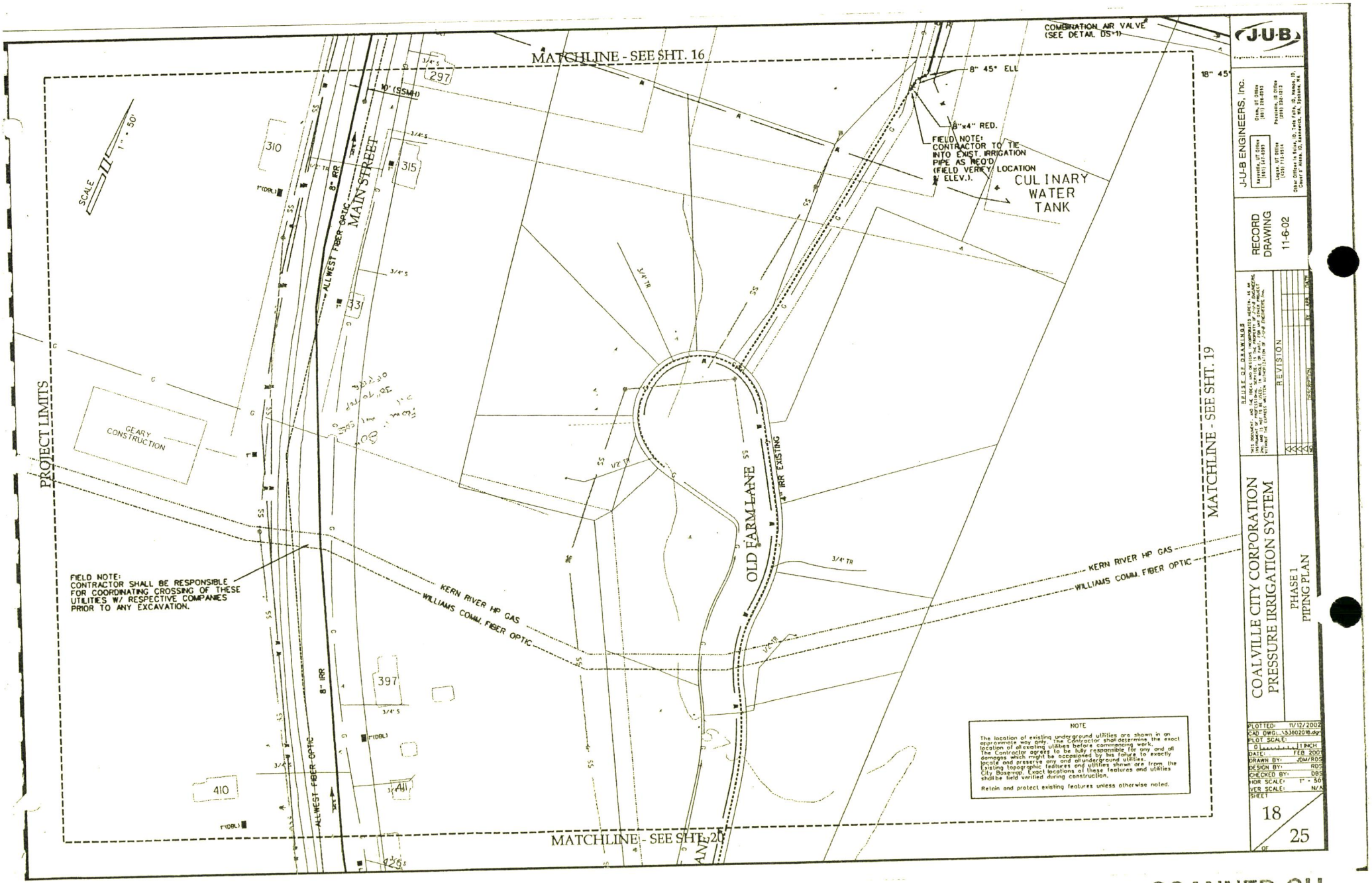
RECORD DRAWING 11-6-02

REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
NG PLAN

PLOTTED: 9/9/2003
CAD DWG.: L:\3602017.dgn
PLOT SCALE: 1 INCH
DATE: FEB 200
DRAWN BY: JDM/ROS
DESIGN BY: ROS
CHECKED BY: PEB
HOR SCALE: 1" = 50
VER SCALE: N/A
SHEET 17 OF 25



J-U-B

J-U-B ENGINEERS, Inc.

RECORD DRAWING 11-6-02

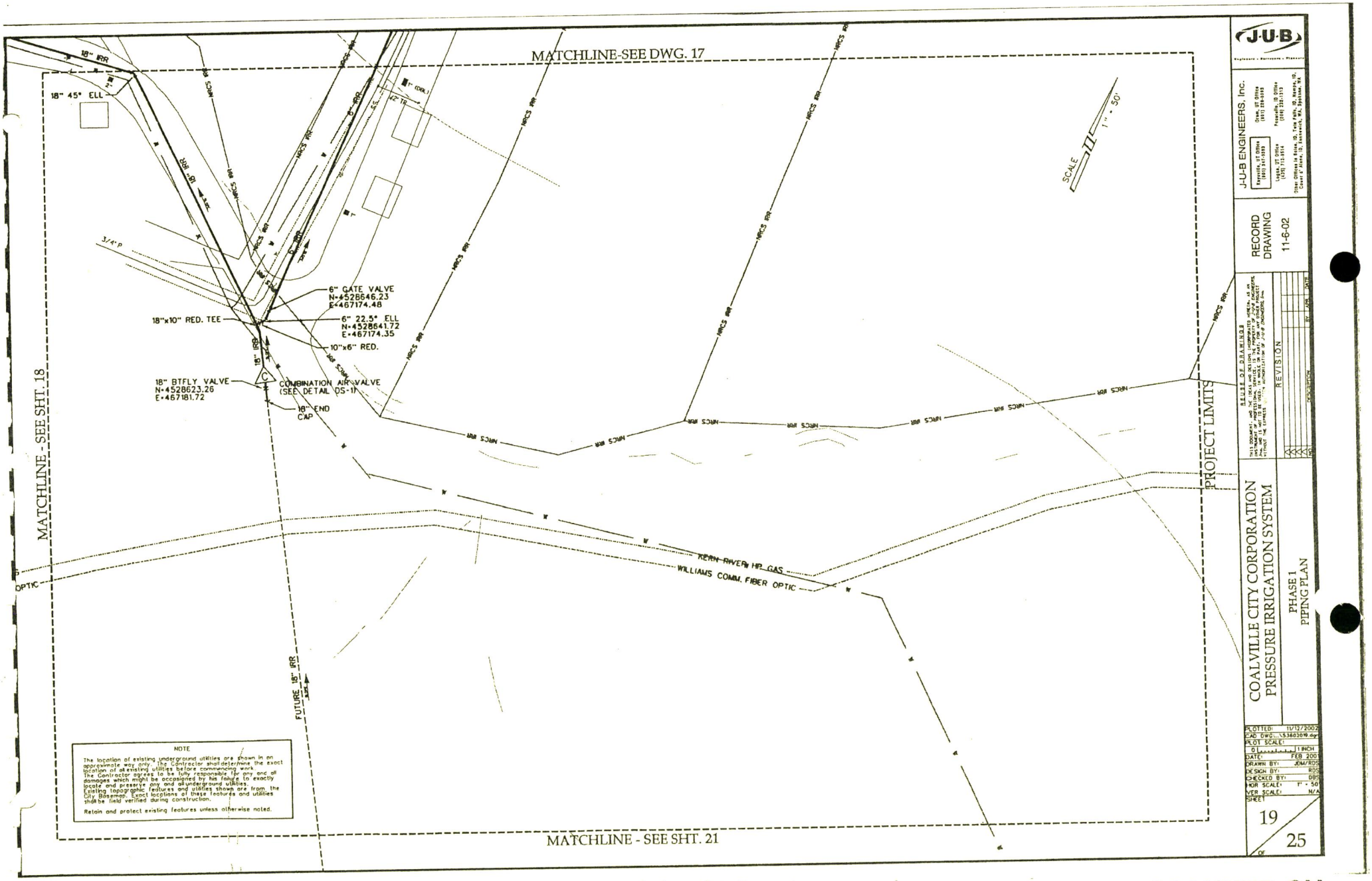
REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG: ...\5380210.dgn
PLOT SCALE: 1 INCH
DATE: FEB 200
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 18 OF 25

SCANNED GH



J-U-B

J-U-B ENGINEERS, Inc.

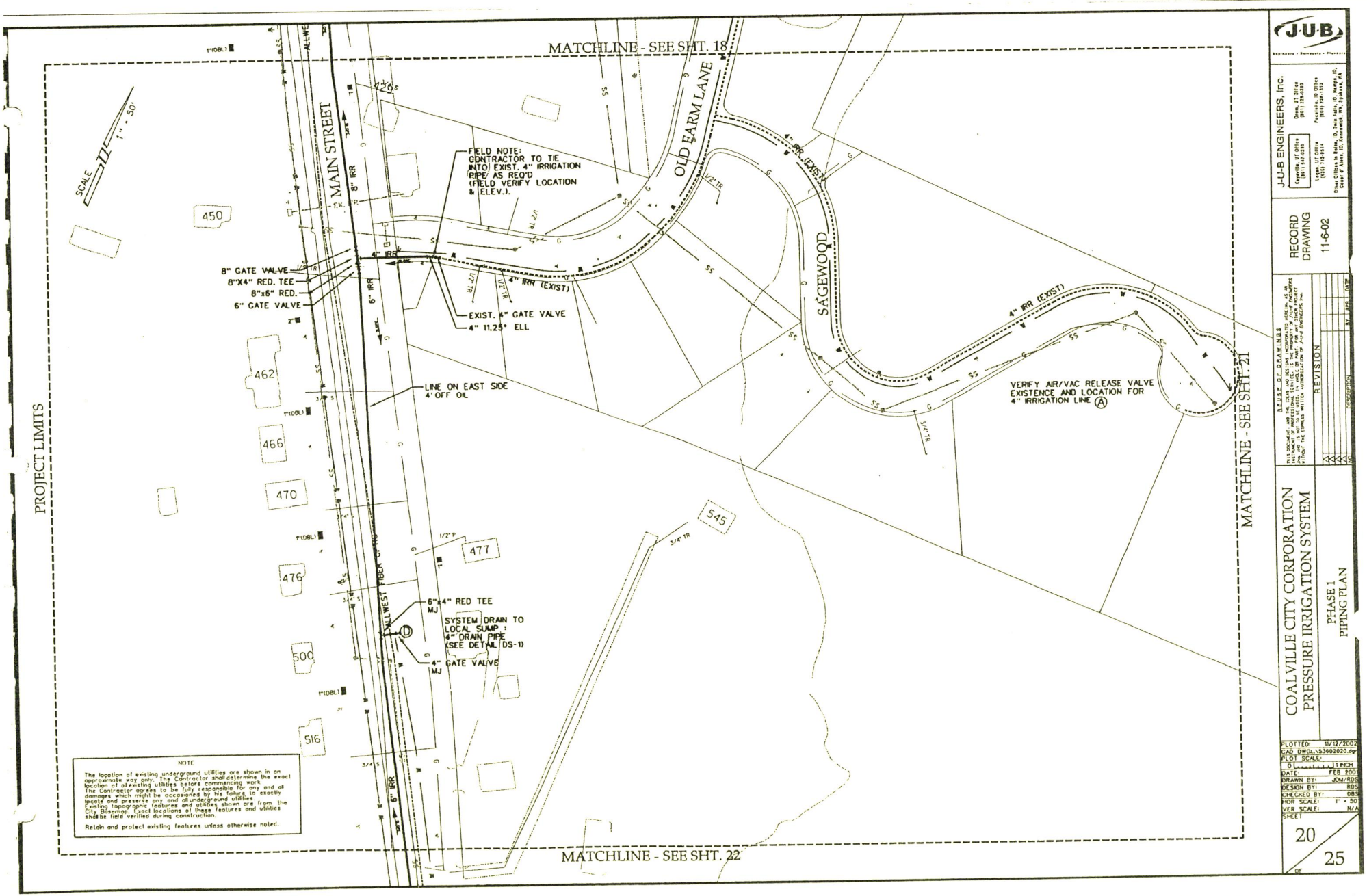
RECORD DRAWING 11-6-02

REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG: S3603019.dgn
PLOT SCALE: 1 INCH
DATE: FEB 200
DRAWN BY: JDM/ROS
DESIGN BY: ROS
CHECKED BY: DBS
HOR SCALE: 1" = 50
VER SCALE: N/A
SHEET 19 OF 25



J-U-B ENGINEERS, Inc.

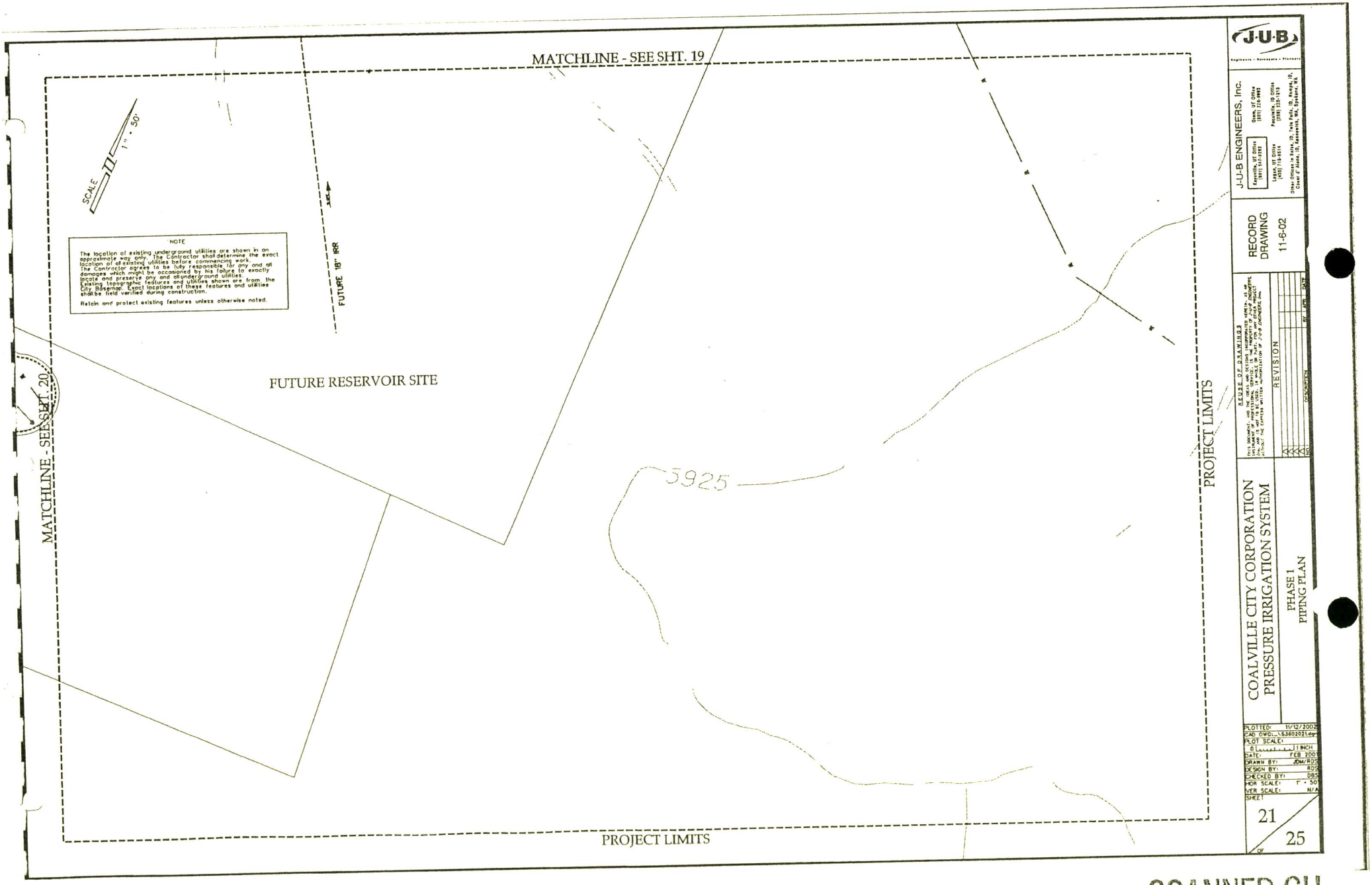
RECORD DRAWING 11-6-02

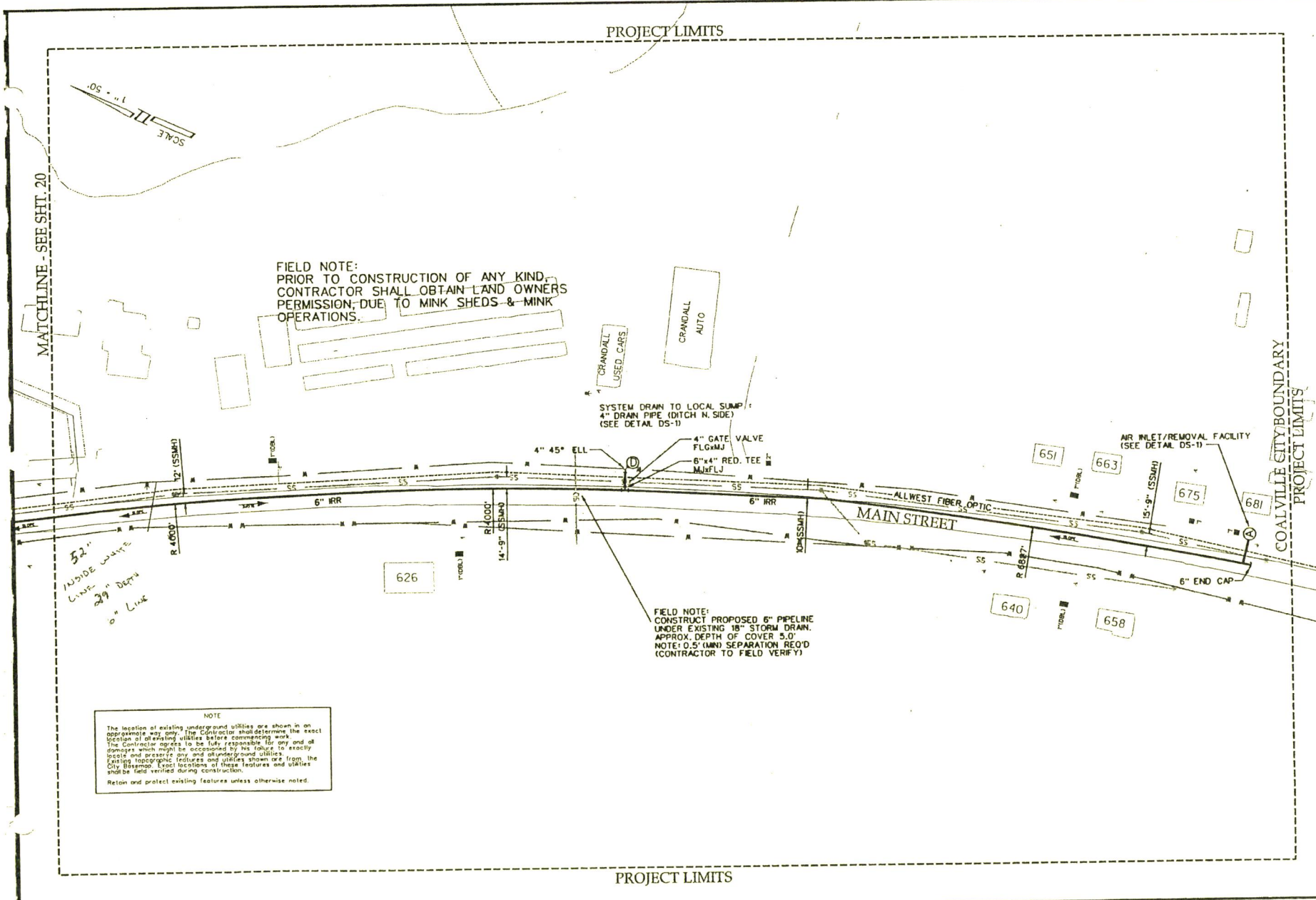
REVISION

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

PLOTTED: 11/12/2002
CAD DWG.: \53602020.dgn
PLOT SCALE: 1 INCH
DATE: FEB 200
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 20 OF 25


MATCHLINE - SEE SHT. 19
SCALE 1" = 50'
NOTE
The location of existing underground utilities are shown in an approximate way only. The Contractor shall determine the exact location of all existing utilities before commencing work. The Contractor agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities. Existing topographic features and utilities shown are from the City Basemap. Exact locations of these features and utilities shall be field verified during construction.
Retain and protect existing features unless otherwise noted.
FUTURE 18" IRR
FUTURE RESERVOIR SITE
MATCHLINE - SEE SHT. 20
5925
PROJECT LIMITS
PROJECT LIMITS
J-U-B
J-U-B ENGINEERS, Inc.
RECORD DRAWING
11-6-02
REVISION
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
PIPING PLAN
PLOTTED: 11/12/2002
CAD DWG: L:\5360202\Dgn
PLOT SCALE: 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50'
VER SCALE: N/A
SHEET 21 OF 25



J-U-B ENGINEERS, Inc.

RECORD DRAWING 11-6-02

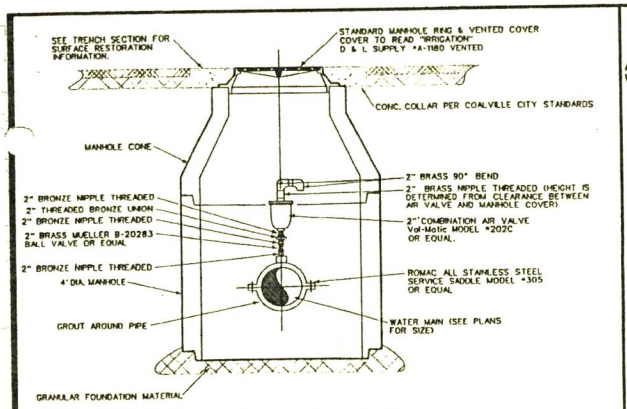
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM

PHASE 1
PIPING PLAN

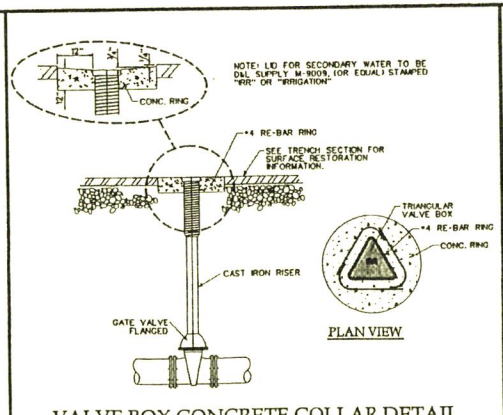
PLOTTED: 11/12/2002
CAD DWG: \53602022.dwg
PLOT SCALE:
0 1 INCH
DATE: FEB 200
DRAWN BY: JDW/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: 1" = 50
VER SCALE: N/A
SHEET 22 OF 25

...\53602\cad\dgn\53602022.dgn 11/12/2002 2:24:3

SCANNED GH



COMBINATION AIR VALVE DETAIL
N.T.S.



VALVE BOX CONCRETE COLLAR DETAIL
N.T.S.

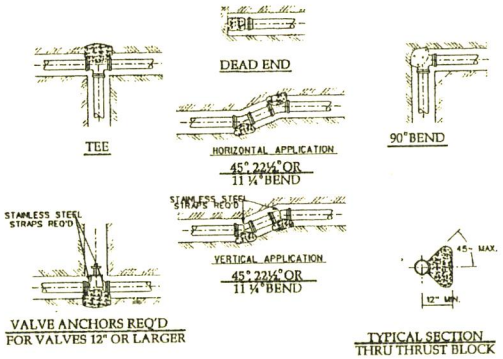
DIMENSION TABLE

THRUST BLOCK BEARING AREA IN SQ. FT. (SEE CONDITIONS BELOW)

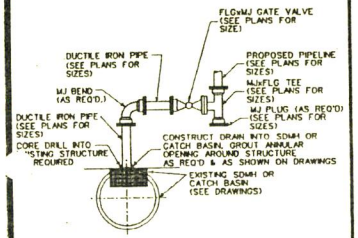
PIPE SIZE	CONDITION 90~ BEND	OTHER BENDS	VALVES, TEES, DEAD ENDS
4	1.8	1.0	1.3
6	4.0	2.2	2.8
8	7.1	3.8	5.0
10	11.1	6.0	7.9
12	16.0	8.7	11.3
14	21.8	11.8	15.4
16	28.4	15.4	20.1
18	36.0	19.5	25.4
20	44.4	24.0	31.4
24	64.0	34.6	45.2
27	81.0	43.8	57.3
30	100.0	54.1	70.7
42	195.9	105.0	138.5
48	255.9	138.5	181.0

CONDITIONS:
LINE PRESSURE - 120 PSI
SOIL BEARING CAPACITY - 1500 PSF

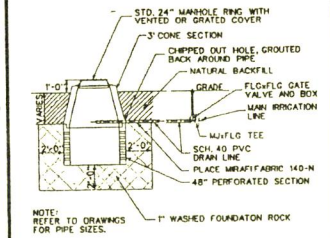
NOTE: ALL FITTINGS SHALL BE WRAPPED WITH 12 MIL POLYETHYLENE PRIOR TO POURING THE CONCRETE THRUST BLOCK.



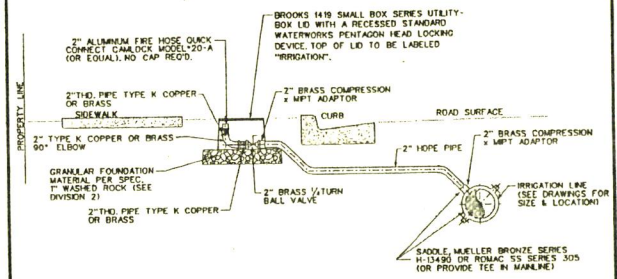
THRUST BLOCKING
N.T.S.



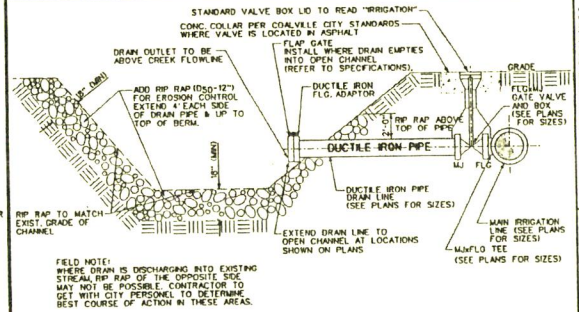
LOCAL DRAIN DETAIL
N.T.S.



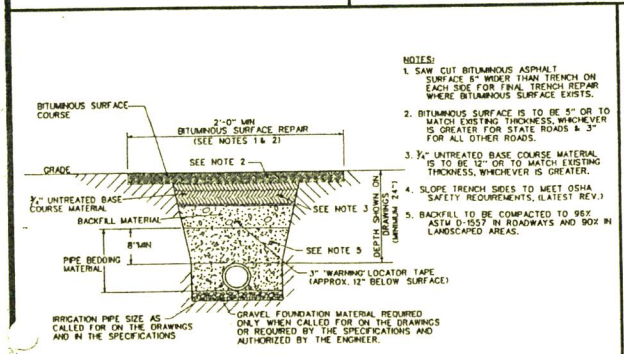
LOCAL DRAIN
W/SUMP DETAIL
N.T.S.



AIR INLET & REMOVAL FACILITY
N.T.S.

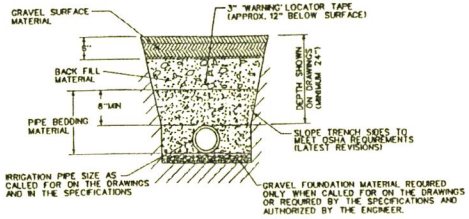


OPEN CHANNEL DRAIN
N.T.S.



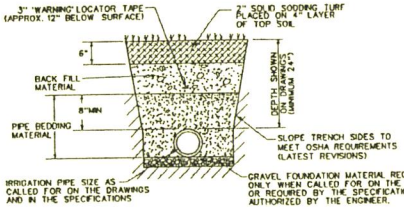
NOTES:
1. SAW CUT BITUMINOUS ASPHALT SURFACE 6" WIDER THAN TRENCH ON EACH SIDE FOR FINAL TRENCH REPAIR WHERE BITUMINOUS SURFACE EXISTS.
2. BITUMINOUS SURFACE IS TO BE 5" OR TO MATCH EXISTING THICKNESS, WHICHEVER IS GREATER FOR STATE ROADS & 3" FOR ALL OTHER ROADS.
3. ¾" UNTREATED BASE COURSE MATERIAL IS TO BE 12" OR TO MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
4. SLOPE TRENCH SIDES TO MEET OSHA SAFETY REQUIREMENTS, (LATEST REV.)
5. BACKFILL TO BE COMPACTED TO 96% ASTM D-1557 IN ROADWAYS AND 90% IN LANDSCAPED AREAS.

BITUMINOUS SURFACE
TRENCH SECTION
N.T.S.



NOTES:
BACKFILL TO BE COMPACTED TO 96% ASTM D-1557 IN ROADWAYS

GRAVEL SURFACE
TRENCH SECTION
N.T.S.



NOTES:
BACKFILL TO BE COMPACTED TO 90% ASTM D-1557 IN LANDSCAPED AREAS

TURF SURFACE
TRENCH SECTION
N.T.S.

J-U-B ENGINEERS, Inc.
Offices - Surveying - Planning
Orem, UT Office (801) 226-8941
Pocatello, ID Office (208) 232-1535
Kaysville, UT Office (801) 447-9393
Logan, UT Office (435) 713-0614
Other Offices in Boise, ID; Twin Falls, ID; Jerome, ID; Coeur d'Alene, ID; Kennewick, WA; Spokane, WA

RECORD DRAWING 11-6-02

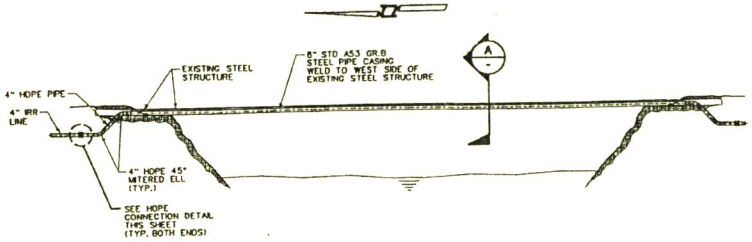
NO.	REVISION	DATE	BY

REUSE OF DRAWINGS
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF J-U-B ENGINEERS, Inc. AND SHALL NOT BE USED IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF J-U-B ENGINEERS, Inc.

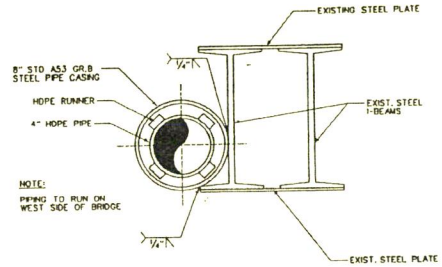
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
DETAILS AND SECTIONS

PLOTTED: 11/12/2002
CAD DWG: ...\53602dsl.dgn
PLOT SCALE: 1 INCH
DATE: FEB 2001
DRAWN BY: JDM/ROS
DESIGN BY: ROS
CHECKED BY: DBS
HOR SCALE: N/A
VER SCALE: N/A
SHEET DS-1
OF 25

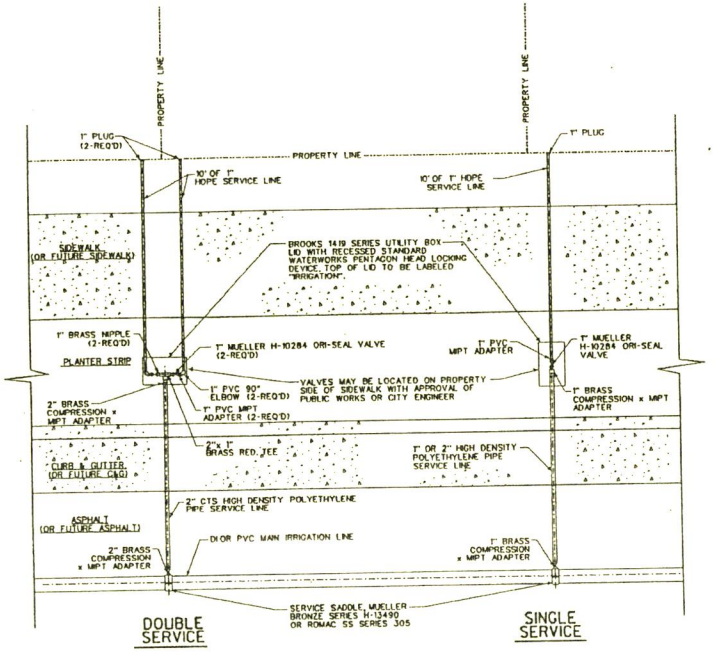
SCANNED GH



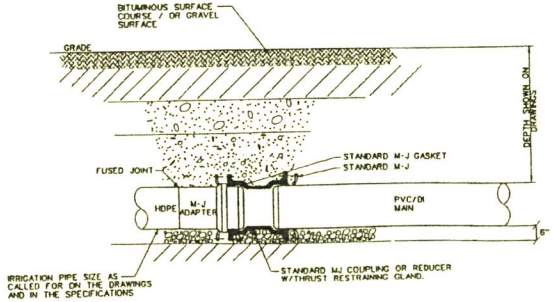
50 WEST
CREEK CROSSING DETAIL (1)
N.T.S.



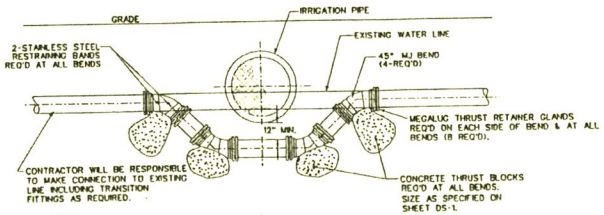
SECTION (A)
N.T.S.



TYPICAL SERVICE CONNECTIONS
N.T.S.



HDPE CONNECTION DETAIL
N.T.S.



NOTES:

BEFORE RELOCATING AN EXISTING WATERLINE THE CONTRACTOR SHALL NOTIFY ALL AFFECTED BUSINESSES AND RESIDENTS 24 HOURS BEFORE CONSTRUCTION. THE CONTRACTOR MUST DEMONSTRATE TO THE CITY THAT ALL OF THE MATERIALS ARE ON HAND THAT MAY BE NEEDED BEFORE RELOCATING ANY WATERLINES. RELOCATION OF WATERLINES WILL NOT BE STARTED AFTER 10:00 A.M. THE CITY SHALL OPERATE ALL MAINLINE WATER VALVES AND THE CONTRACTOR MUST CONTACT THE CITY IF SERVICE IS REQUIRED.

WATER LINE RELOCATION DETAIL
N.T.S.

J-U-B ENGINEERS, Inc.
Offices: Meridian, ID (208) 376-7330; Boise, ID (208) 853-0565; Twin Falls, ID (208) 733-1374; Idaho Falls, ID (208) 522-8069; Logan, UT (435) 755-1720; Pocatello, ID (208) 232-4124; Coeur d'Alene, ID (208) 762-8182; Spokane, WA (509) 893-2617

RECORD DRAWING
11-6-02

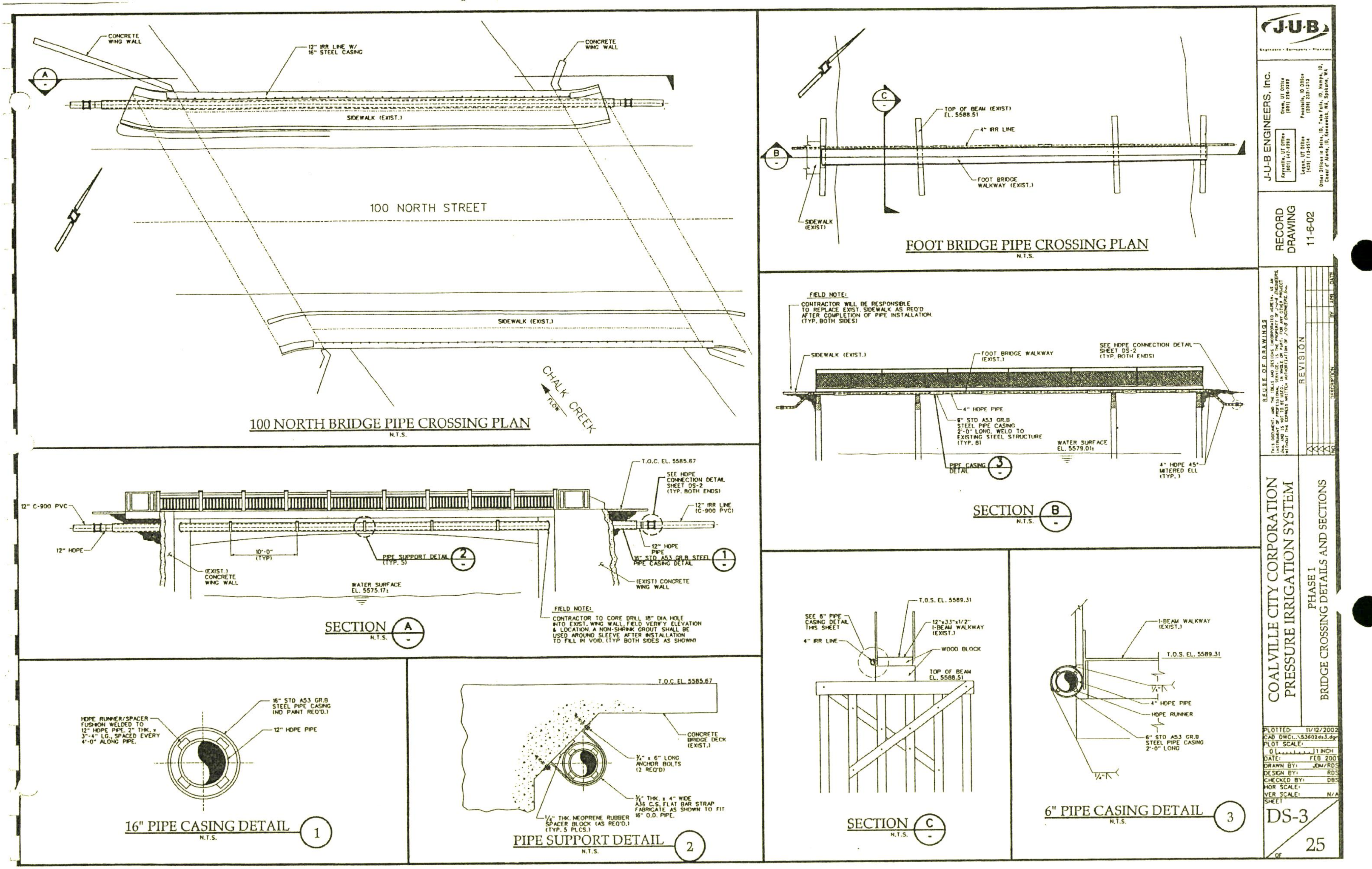
REUSE OF DRAWINGS
THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF J-U-B ENGINEERS, INC. AND IS NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN PERMISSION OF J-U-B ENGINEERS, INC.

NO.	DESCRIPTION	REVISION	DATE	BY

COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
DETAILS AND SECTIONS

PLOTTED: 11/12/2002
CAD DWG: ...\53602ds2.dgn
PLOT SCALE: 0 1 INCH
DATE: FEB. 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE: N/A
VER SCALE: N/A
SHEET DS-2
OF 25

SCANNED GH



CONCRETE WING WALL
12" IRR LINE W/ 16" STEEL CASING
SIDEWALK (EXIST.)
100 NORTH STREET
CHALK CREEK
FLOW
100 NORTH BRIDGE PIPE CROSSING PLAN
N.T.S.
TOP OF BEAM (EXIST) EL. 5588.51
4" IRR LINE
FOOT BRIDGE WALKWAY (EXIST.)
SIDEWALK (EXIST)
FOOT BRIDGE PIPE CROSSING PLAN
FIELD NOTE:
CONTRACTOR WILL BE RESPONSIBLE TO REPLACE EXIST. SIDEWALK AS REQ'D AFTER COMPLETION OF PIPE INSTALLATION. (TYP. BOTH SIDES)
FOOT BRIDGE WALKWAY (EXIST.)
SEE HDPE CONNECTION DETAIL SHEET DS-2 (TYP. BOTH ENDS)
4" HDPE PIPE
6" STD A53 GR.B STEEL PIPE CASING 2'-0" LONG. WELD TO EXISTING STEEL STRUCTURE (TYP. 8)
WATER SURFACE EL. 5579.01±
PIPE CASING DETAIL
4" HDPE 45° MITERED ELL (TYP.)
SECTION B
T.O.C. EL. 5585.67
12" C-900 PVC
12" HDPE
SEE HDPE CONNECTION DETAIL SHEET DS-2 (TYP. BOTH ENDS)
12" IRR LINE (C-900 PVC)
12" HDPE PIPE
16" STD A53 GR.B STEEL PIPE CASING DETAIL
10'-0" (TYP)
PIPE SUPPORT DETAIL (TYP. 5)
(EXIST.) CONCRETE WING WALL
(EXIST) CONCRETE WING WALL
WATER SURFACE EL. 5575.17±
FIELD NOTE:
CONTRACTOR TO CORE DRILL 18" DIA HOLE INTO EXIST. WING WALL. FIELD VERIFY ELEVATION & LOCATION. A NON-SHRINK GROUT SHALL BE USED AROUND SLEEVE AFTER INSTALLATION TO FILL IN VOID. (TYP BOTH SIDES AS SHOWN)
SECTION A
HDPE RUNNER/SPACER FUSHION WELDED TO 12" HDPE PIPE, 2" THK. x 3"-4" LG., SPACED EVERY 4'-0" ALONG PIPE.
16" STD A53 GR.B STEEL PIPE CASING (NO PAINT REQ'D.)
12" HDPE PIPE
16" PIPE CASING DETAIL 1
T.O.C. EL. 5585.67
CONCRETE BRIDGE DECK (EXIST.)
3/4" x 6" LONG ANCHOR BOLTS (2 REQ'D)
3/8" THK. x 4" WIDE A36 C.S. FLAT BAR STRAP FABRICATE AS SHOWN TO FIT 16" O.D. PIPE.
1/4" THK. NEOPRENE RUBBER SPACER BLOCK (AS REQ'D.) (TYP. 5 PLCS.)
PIPE SUPPORT DETAIL 2
SEE 6" PIPE CASING DETAIL THIS SHEET
4" IRR LINE
T.O.S. EL. 5589.31
12"x33"x1/2" I-BEAM WALKWAY (EXIST.)
WOOD BLOCK
TOP OF BEAM EL. 5588.51
SECTION C
I-BEAM WALKWAY (EXIST.)
T.O.S. EL. 5589.31
4" HDPE PIPE
HDPE RUNNER
6" STD A53 GR.B STEEL PIPE CASING 2'-0" LONG
6" PIPE CASING DETAIL 3
J-U-B ENGINEERS, Inc.
RECORD DRAWING 11-6-02
REUSE OF DRAWINGS
REVISION
COALVILLE CITY CORPORATION
PRESSURE IRRIGATION SYSTEM
PHASE 1
BRIDGE CROSSING DETAILS AND SECTIONS
PLOTTED: 11/12/2002
PLOT SCALE:
DATE: FEB 2001
DRAWN BY: JDM/RDS
DESIGN BY: RDS
CHECKED BY: DBS
HOR SCALE:
VER SCALE: N/A
SHEET DS-3
25

SCANNED GH

STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Municipal Permit No. **UT0025976**
Biosolids Permit No. **UTL025976**
Storm Water Permit No. **UTR000000**

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended* (the *"Act"*),

COALVILLE CITY CORPORATION WASTEWATER TREATMENT FACILITY

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named

UNNAMED TRIBUTARY TO CHALK CREEK,

to dispose of biosolids,

and to discharge storm water,

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This permit shall become effective on February 1, 2019

This permit expires at midnight on January 31, 2024

Signed this 29th day of January, 2019.

Erica Brown Gaddis, PhD
Director

DWQ-2018-011831

Table of Contents

Outline — Page Number

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS 1
A. Description of Discharge Points 1
B. Narrative Standard 1
C. Specific Limitations and Self-Monitoring Requirements 4
D. Reporting of Monitoring Results 5
II. PRETREATMENT REQUIREMENTS 5
A. Definitions 5
B. Pretreatment Reporting Requirements. 5
C. Industrial Wastes 6
D. General and Specific Prohibitions 7
E. Significant Industrial Users Discharging to the POTW 7
F. Change of Conditions 7
G. Legal Action 7
H. Local Limits 8
III. BIOSOLIDS REQUIREMENTS 8
A. Biosolids Treatment and Disposal 8
B. Specific Limitations and Monitoring Requirements 11
C. Management Practices of Biosolids 14
D. Special Conditions on Biosolids Storage 14
E. Representative Sampling 14
F. Reporting of Monitoring Results 14
G. Additional Record Keeping Requirements Specific to Biosolids 16
IV. STORM WATER REQUIREMENTS 17
V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS 17
A. Representative Sampling 17
B. Monitoring Procedures 17
C. Penalties for Tampering 17
D. Compliance Schedules 17
E. Additional Monitoring by the Permittee 17
F. Records Contents 17
G. Retention of Records 18
H. Twenty-four Hour Notice of Noncompliance Reporting 18
I. Other Noncompliance Reporting 19
J. Inspection and Entry 20
VI. COMPLIANCE RESPONSIBILITIES 20
A. Duty to Comply 20
B. Penalties for Violations of Permit Conditions 20
C. Need to Halt or Reduce Activity not a Defense 20
D. Duty to Mitigate 20
E. Proper Operation and Maintenance 20
F. Removed Substances 20
G. Bypass of Treatment Facilities 22
H. Upset Conditions 23
VII. GENERAL REQUIREMENTS 23
A. Planned Changes 23
B. Anticipated Noncompliance 23
C. Permit Actions 23
D. Duty to Reapply 23
E. Duty to Provide Information 23

F. Other Information 23
G. Signatory Requirements 23
H. Penalties for Falsification of Reports 24
I. Availability of Reports 24
J. Oil and Hazardous Substance Liability 24
K. Property Rights 24
L. Severability 24
M. Transfers 25
N. State or Federal Laws 25
O. Water Quality - Reopener Provision 25
P. Biosolids – Reopener Provision 25
R. Storm Water-Reopener Provision 25
VIII. DEFINITIONS 27
A. Wastewater 27
B. Biosolids 28

I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Points. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number	Location of Discharge Outfall
001	Located at latitude 40°55'13" and longitude 111°24'09". The 15" PVC pipe discharges to an unnamed tributary of Chalk Creek, immediately above its junction with the Weber River and Echo Reservoir.

B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee in this section.

Parameter	Effluent Limitations [a]						
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum	Annual Max	Summer Max (Apr – Sept)
Total Flow	0.58	--	--	--	--	--	--
BOD_5, mg/L	25	35	--	--	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--	--	--
TSS, mg/L	25	35	--	--	--	--	--
TSS Min. % Removal	85	--	--	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.5	--	--	--
Total Ammonia (as N) mg/L							
Summer (Jul-Sep)	6.7	--	--	--	27.9	--	--
Fall (Oct-Dec)	6.3	--	--	--	18.3	--	--
Winter (Jan-Mar)	5.8	--	--	--	13.2	--	--
Spring (Apr-Jun)	6.2	--	--	--	18.3	--	--
E. coli, No./100mL	126	157	--	--	--	--	--
Oil & Grease, mg/L	--	--	--	--	10.0	--	--
pH, Standard Units	--	--	--	6.5	9	--	--
Total Phosphorus, lbs	--	--	--	--	--	1283	642
Total Nitrogen, lbs	--	--	--	--	--	12829	6413

Self-Monitoring and Reporting Requirements [a]			
Parameter	**Frequency**	**Sample Type**	**Units**
Total Flow [b, c]	Continuous	Recorder	MGD
BOD_5, Influent [d] Effluent	2 X Month	Composite Composite	mg/L mg/L
TSS, Influent [d] Effluent	2 X Month	Composite Composite	mg/L mg/L
E. coli	2 X Month	Grab	No./100mL
pH	2 X Month	Grab	SU
Total Ammonia (as N)	2 X Month	Composite	mg/L
DO	2 X Month	Grab	mg/L
Oil & Grease [e]	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total Influent Effluent	Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent Effluent	Monthly	Composite Composite	mg/L mg/L
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L
Total Phosphorus, lbs	Monthly	Grab	lbs
Total Nitrogen, lbs	Monthly	Grab	lbs
Temperature	Daily	Recorded	°C
Metals [f]	Once, within 6 months of permit issuance	Composite/Grab	mg/L

a See Definitions, *Part VIII*, for definition of terms.

b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report "9" under NODI in NetDMR.

f Metals analyses have not previously been required for this facility. One metals analysis is required with this permit renewal, which shall be conducted within the first 6 months of the permit effective date. Metals to be analyzed include Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, and Zinc.

D. Reporting of Monitoring Results.

1. Reporting of Wastewater Monitoring Results Monitoring results obtained during the previous month shall be summarized for each month and reported by NetDMR, entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G)*, and submitted by NetDMR,

2. Annual Reporting of Wastewater Monitoring Results. Monitoring results obtained during the previous year shall be summarized and included in the Municipal Wastewater Planning Program (MWPP) submitted annually by April 1st. If no reuse occurs during the reporting period, "no reuse" shall be reported for those applicable effluent parameters. Legible copies of these, and all other reports required herein, shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the requirements of Signatory Requirements (see Part VII.G), and submitted to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

II. PRETREATMENT REQUIREMENTS

A. Definitions. For this section the following definitions shall apply:

1. Indirect Discharge means the introduction of pollutants into a POTW from any non-domestic source regulated under section 307 (b), (c) or (d) of the Act.

2. Local Limit is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).

3. Significant industrial user (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (POTW) that satisfies any of the following:

   a. Has a process wastewater flow of 25,000 gallons or more per average work day;

   b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;

   c. Is subject to Categorical Pretreatment Standards, or

   d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

4. User or Industrial User means a source of Indirect Discharge

B. Pretreatment Reporting Requirements. Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit.

C. Industrial Wastes.

1. The "Industrial Waste Survey" as required by *Part II.B*. consists of;

   a. Identifying each industrial user (IU) and determining if the IU is a signification industrial user (SIU),

   b. Determination of the qualitative and quantitative characteristics of each discharge, and

   c. Appropriate production data.

2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Executive Secretary sixty (60) days following a change to the IWS.

3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Director.

4. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource* Conservation and Recovery Act (RCRA).

5. The permittee must notify the Director of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions. The general prohibitions and the specific prohibitions apply to each User introducing pollutants into a POTW whether or not the User is subject to other Pretreatment Standards or any national, State or local Pretreatment Requirements.

1. General prohibition Standards. A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.

2. Specific Prohibited Standards. Developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any User (*40 CFR 403.5*):

   a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste-streams with a closed cup flashpoint of less than 140°F (60°C);

   b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

   c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

   d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;

   e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104°F (40°C);

   f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

   g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,

   h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

   i. Any pollutant that causes pass through or interference at the POTW.

3. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307* of *the Water Quality Act of 1987 as amended (WQA). (See 40 CFR, Subchapter N, Parts 400* through *500*, for specific information).

E. Significant Industrial Users Discharging to the POTW. The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;

1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301* or *306* of the *WQA* if it were directly discharging those pollutants;

2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and

3. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of effluent to be introduced into such treatment works; and,

   b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.

4. Any SIU that must comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA).

F. Change of Conditions. At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Director may, as appropriate, do the following:

1. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;

2. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at *40 CFR 403*; and/or,

3. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste.

4. Require the permittee to develop an approved pretreatment program.

G. Legal Action. The Director retains, at all times, the right to take legal action against the industrial user and/or the treatment works, in those cases where a permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level. If the permittee has failed to properly delineate maximum acceptable industrial contributor levels, the Director will look primarily to the permittee as the responsible party.

H. Local Limits. If local limits are developed per R317-8-8.5(4)(b) to protect the POTW from pass-through or interference, then the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c).

III. BIOSOLIDS REQUIREMENTS

A. Biosolids Treatment and Disposal. The authorization to dispose of biosolids provided under this permit is limited to those biosolids produced from the treatment works owned and operated by the permittee. The treatment methods and disposal practices are designated below.

1. Treatment

   a. Biosolids produced at the CWWT are treated in a Modified Luzack-Ettinger (MLE) process. The biosolids are dewatered by screw press and hauled elsewhere for disposal.

2. Description of Biosolids Disposal Method

   a. Class A biosolids may be sold or given away to the public for lawn and garden use or land application.

   b. Class B biosolids may be land applied for agriculture use or at reclamation sites at agronomic rates.

   c. Biosolids may be disposed of in a landfill or transferred to another facility for treatment/disposal.

3. Changes in Treatment Systems and Disposal Practices.

   a. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Director at least 30 days in advance if the process/method is specified in 40 CFR 503. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

   b. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Director at least 180 days in advance if the process/method is not specified in 40 CFR 503. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

For any biosolids that are land filled, the requirements in *Section 2.12* of the latest version of the *EPA Region VIII Biosolids Management Handbook* must be followed

B. Specific Limitations and Monitoring Requirements. All biosolids generated by this facility to be sold or given away to the public shall meet the requirements of *Part III.B.1, 2, 3* and *4* listed below.

1. Metals Limitations. All biosolids sold or given away in a bag or similar container for application to lawns and home gardens must meet the metals limitations as described below. If these metals limitations are not met, the biosolids must be landfilled.

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR*, (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR†, (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

2. Pathogen Limitations. All biosolids sold or given away in a bag or a similar container for application to lawns and home gardens must meet the pathogen limitations for Class A. Land applied biosolids must meet the pathogen limitations for Class B as described below. If the pathogen limitations are not met, the biosolids must be landfilled.

   a. Class A biosolids shall meet one of the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Further Reduce Pathogens as defined in *40 CFR Part 503.32(a) Sewage Sludge – Class A.*

   b. Class B biosolids shall meet the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Significantly Reduce Pathogens as defined in 40 CFR Part 503.32(b) *Sewage Sludge – Class B.* In addition, the permittee shall comply with all applicable site restrictions listed below *(40 CFR Part 503.32,(b),(5)):*

      (1) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application.

      (2) Food crops with harvested parts below the land surface shall not be harvested for 20 months after application if the biosolids remains on the land surface for four months or more prior to incorporation into the soil.

      (3) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil.

      (4) Food crops, feed crops, and fiber crops shall not be harvested from the land for 30 days after application.

      (5) Animals shall not be allowed to graze on the land for 30 days after application.

* CPLR -- Cumulative Pollutant Loading Rate
† APLR – Annual Pollutant Loading Rate

(6) Turf grown on land where biosolids is applied shall not be harvested for one year after application if the harvested turf is placed on either land with a high potential for public exposure or a lawn.

(7) Public access to land with a high potential for public exposure shall be restricted for one year after application.

(8) Public access to land with a low potential for public exposure shall be restricted for 30 days after application.

(9) The sludge or the application of the sludge shall not cause or contribute to the harm of a threatened or endangered species or result in the destruction or adverse modification of critical habitat of a threatened or endangered species after application.

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN‡ per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	
MPN –Most Probable Number	

3. Vector Attraction Reduction Requirements.

a. The permittee will meet vector attraction reduction through use of one of the methods listed in *40 CFR 503.33*. Facility is meeting the requirements though the following methods.

(1) CWWT dewaters the biosolids then transfers them to a landfill for disposal where CWWT will need to ensure that the solids are covered daily with soil or another approved material. If the solids are not covered daily, the solids cannot be disposed in the landfill.

If the permittee intends to use another one of the alternatives, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public comment.

‡ MPN –Most Probable Number

4. Self-Monitoring Requirements.

a. At a minimum, upon the effective date of this permit, all chemical pollutants, pathogens and applicable vector attraction reduction requirements shall be monitored according to *40 CFR 503.16(1)(a)*.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290[§]	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

b. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CRF 503* and/or other criteria specific to this permit. A metals analysis is to be performed using *Method SW 846* with *Method 3050* used for digestion. For the digestion procedure, an amount of biosolids equivalent to a dry weight of one gram shall be used. The methods are also described in the latest version of the *Region VIII Biosolids Management Handbook*.

c. The Director may request additional monitoring for specific pollutants derived from biosolids if the data shows a potential for concern.

d. After two (2) years of monitoring at the frequency specified, the permittee may request that the Director reduce the sampling frequency for the heavy metals. The frequency cannot be reduced to less than once per year for biosolids that are sold or given away to the public for any parameter. The frequency also cannot be reduced for any of the pathogen or vector attraction reduction requirements listed in this permit.

C. Management Practices of Biosolids.

1. Biosolids Distribution Information

a. For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(1) The name and address of the person who prepared the biosolids for a sale or to be given away.

(2) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

2. Biosolids Application Site Storage

a. For biosolids or material derived from biosolids that are stored in piles for one year or longer, measures shall be taken to ensure that erosion (whether by wind or water) does not occur. However, best management practices should also be used for piles used for biosolids treatment. If a treatment pile is considered to have caused a

[§] On average, CWWT disposes of 70 DMT of biosolids annually; therefore they need to sample at least once a year.

problem, best management practices could be added as a requirement in the next permit renewal.

3. Land Application Practices

a. The permittee shall operate and maintain the land application site operations in accordance with the following requirements:

(1) The permittee shall provide to the Director and the EPA within 90 days of the effective date of this permit a land application plan.

(2) Application of biosolids shall be conducted in a manner that will not contaminate the groundwater or impair the use classification for that water underlying the sites.

(3) Application of biosolids shall be conducted in a manner that will not cause a violation of any receiving water quality standard from discharges of surface runoff from the land application sites. Biosolids shall not be applied to land 10 meters or less from waters of the United States (as defined in 40 CFR 122.2).

(4) No person shall apply biosolids for beneficial use to frozen, ice-covered, or snow-covered land where the slope of such land is greater than three percent and is less than or equal to six percent unless one of the following requirements is met:

(a) there is 80 percent vegetative ground cover; or,

(b) approval has been obtained based upon a plan demonstrating adequate runoff containment measures.

(5) Application of biosolids is prohibited to frozen, ice-covered, or snow covered sites where the slope of the site exceeds six percent.

(6) Agronomic Rate

(a) Application of biosolids shall be conducted in a manner that does not exceed the agronomic rate for available nitrogen of the crops grown on the site. At a minimum, the permittee is required to follow the methods for calculating agronomic rate outlined in the latest version of the *Region VIII Biosolids Management Handbook* (other methods may be approved by the Director). The treatment plant shall provide written notification to the applier of the biosolids of the concentration of total nitrogen (as N on a dry weight basis) in the biosolids. Written permission from the Director is required to exceed the agronomic rate.

(b) The permittee may request the limits of *Part III, C, 6* be modified if different limits would be justified based on local conditions. The limits are required to be developed in cooperation with the local agricultural extension office or university.

(c) Deep soil monitoring for nitrate-nitrogen is required for all land application sites (does not apply to sites where biosolids are applied less than once every five years). A minimum of six samples for each 320 (or less) acre area is to be collected. These samples are to be collected down to

either a 5 foot depth, or the confining layer, whichever is shallower (sample at 1 foot, 2 foot, 3 foot, 4 foot and 5 foot intervals). Each of these one-foot interval samples shall be analyzed for nitrate-nitrogen. In addition to the one-foot interval samples, a composite sample of the 5 foot intervals shall be taken, and analyzed for nitrate-nitrogen as well. Samples are required to be taken once every five years for non-irrigated sites that receive more than 18 inches of precipitation annually or for irrigated sites.

(7) Biosolids shall not be applied to any site area with standing surface water. If the annual high groundwater level is known or suspected to be within five feet of the surface, additional deep soil monitoring for nitrate-nitrogen as described in *Part III.C.(6),(c).* is to be performed. At a minimum, this additional monitoring will involve a collection of more samples in the affected area and possibly more frequent sampling. The exact number of samples to be collected will be outlined in a deep soil monitoring plan to be submitted to the Director and the EPA within 90 days of the effective date of this permit. The plan is subject to approval by the Director.

(8) The specified cover crop shall be planted during the next available planting season. If this does not occur, the permittee shall notify the Director in writing. Additional restrictions may be placed on the application of the biosolids on that site on a case-by-case basis to control nitrate movement. Deep soil monitoring may be increased under the discretion of the Director.

(9) When weather and or soil conditions prevent adherence to the biosolids application procedure, biosolids shall not be applied on the site.

(10) For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(a) The name and address of the person who prepared the biosolids for sale or give away for application to the land.

(b) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

(c) The annual whole biosolids application rate for the biosolids that do not cause the metals loading rates in Tables 1, 2, and 3 (*Part III.B.1.*) to be exceeded.

(11) Biosolids subject to the cumulative pollutant loading rates in Table 2 (*Part III.B.1.*) shall not be applied to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates in Table 2 have been reached.

(12) If the treatment plant applies the biosolids, it shall provide the owner or leaseholder of the land on which the biosolids are applied notice and necessary information to comply with the requirements in this permit.

(13) The permittee shall inspect the application of the biosolids to active sites to prevent malfunctions and deterioration, operator errors and discharges, which may cause or lead to the release of biosolids to the environment or a threat to

human health. The permittee must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment. The permittee shall keep an inspection log or summary including at least the date and time of inspection, the printed name and the handwritten signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action.

D. Special Conditions on Biosolids Storage. Permanent storage of biosolids is prohibited. Biosolids shall not be temporarily stored for more than two (2) years. Written permission to store biosolids for more than two years must be obtained from the Director. Storage of biosolids for more than two years will be allowed only if it is determined that significant treatment is occurring.

E. Representative Sampling. Biosolids samples used to measure compliance with *Part III* of this Permit shall be collected at locations representative of the quality of biosolids generated at the treatment works and immediately prior to land application.

F. Reporting of Monitoring Results.

1. Biosolids. The permittee shall provide the results of all monitoring performed in accordance with *Part III.B*, and information on management practices, biosolids treatment, site restrictions and certifications shall be provided no later than February 19 of each year. Each report is for the previous calendar year. If no biosolids were sold or given away during the reporting period, "no biosolids were sold or given away" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the *Signatory Requirements (see Part VII.G)*, and submitted to the Utah Division of Water Quality by NetDMR** or at the following address:

Original to: Biosolids Coordinator
Utah Division of Water Quality
PO Box 144870
Salt Lake City Utah, 84114-4870

G. Additional Record Keeping Requirements Specific to Biosolids.

1. Unless otherwise required by the Director, **the permittee is not required to keep records** on compost products if the permittee prepared them from biosolids that meet the limits in Table 3 (*Part III.B.1*), the Class A pathogen requirements in *Part III.B.2* and the vector attraction reduction requirements in *Part III.B.3*. The Director may notify the permittee that additional record keeping is required if it is determined to be significant to protecting public health and the environment.

2. **The permittee is required** to keep the following information for at least 5 years:

a. Concentration of each heavy metal in Table 3 (*Part III.B.1*).

b. A description of how the pathogen reduction requirements in *Part III.B.2* were met.

c. A description of how the vector attraction reduction requirements in *Part III.B.3* were met.

** Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Annual Biosolids Reports should also be submitted through this system.

d. A description of how the management practices in *Part III.C* were met (if necessary).

e. The following certification statement:

"I certify under the penalty of law, that the heavy metals requirements in *Part III.B.1*, the pathogen requirements in *Part III.B.2*, the vector attraction requirements in *Part III.B.3*, the management practices in *Part III.C*. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attraction reduction requirements and the management practices have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment."

3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit for the life of the permit. Data collected on site, copies of Biosolids Report forms, and a copy of this UPDES biosolids-only permit must be maintained on site during the duration of activity at the permitted location.

IV. STORM WATER REQUIREMENTS.

The *Utah Administrative Code (UAC) R-317-8-3.9* requires storm water permit provisions to include the development of a storm water pollution prevention plan for waste water treatment facilities if the facility meets one or both of the following criteria.

1. waste water treatment facilities with a design flow of 1.0 MGD or greater, and/or,
2. waste water treatment facilities with an approved pretreatment program as described in *40CFR Part 403,*

CWWT does not meet one of the above criteria; therefore this permit does not include storm water provisions. The permit does however include a storm water re-opener provision.

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.

C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* and *40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

F. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements:
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 231-1769, or 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

   a. Any noncompliance which may endanger health or the environment;

   b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part VI.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H, Upset Conditions.*);

   d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit; or,

   e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times;

   c. The estimated time noncompliance is expected to continue if it has not been corrected;

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,

   e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.

5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.

I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part V.H.3*.

J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,

5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding $25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding $50,000 per day. Except as provided at *Part VI.G, Bypass of Treatment Facilities* and *Part VI.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.

2. Prohibition of Bypass.

   a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

      (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;

      (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

      (3) The permittee submitted notices as required under *section VI.G.3*.

   b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections VI.G.2.a (1), (2) and (3)*.

3. Notice.

   a. *Anticipated bypass*. Except as provided above in *section VI.G.2* and below in *section VI.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:

      (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

      (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

      (3) Description of specific measures to be taken to minimize environmental and public health impacts;

      (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;

      (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,

      (6) Any additional information requested by the Director.

   b. *Emergency Bypass*. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as

soon as it becomes aware of the need to bypass and provide to the Director the information in *section VI.G.3.a.(1) through (6)* to the extent practicable.

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part V.H*, Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under *Part V.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,

   d. The permittee complied with any remedial measures required under *Part VI.D, Duty to Mitigate*.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

VII. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Director, and,

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. Changes to authorization. If an authorization under *paragraph VII.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph VII.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph *2* above.

N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.

3. Revisions to the current CWA § 208 area-wide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state of federal regulations.

Q. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm

water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VIII. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.

2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

3. "Act," means the *Utah Water Quality Act*.

4. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC_{50}").

5. "Bypass," means the diversion of waste streams from any portion of a treatment facility.

6. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

   a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

   b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

   c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

   d. Continuous sample volume, with sample collection rate proportional to flow rate.

7. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

8. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

9. "EPA," means the United States Environmental Protection Agency.

10. "Director," means Director of the Division of Water Quality.

11. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

12. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

13. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

14. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

B. Biosolids

1. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.

2. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).

3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).

4. "Pathogen," means an organism that is capable of producing an infection or disease in a susceptible host.

5. "Pollutant" for the purposes of this permit is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organisms that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the

food-chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

6. "Runoff" is rainwater, leachate, or other liquid that drains over any part of a land surface and runs off the land surface.

7. "Similar Container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

8. "Total Solids" are the materials in the biosolids that remain as a residue if the biosolids are dried at 103° or 105° Celsius.

9. "Treatment Works" are either Federally owned, publicly owned, or privately owned devices or systems used to treat (including recycling and reclamation) either domestic sewage or a combination of domestic sewage and industrial waste or liquid manure.

10. "Vector Attraction" is the characteristic of biosolids that attracts rodents, flies mosquitos or other organisms capable of transporting infectious agents.

11. "Animals" for the purpose of this permit are domestic livestock.

12. "Annual Whole Sludge Application Rate" is the amount of sewage sludge (dry-weight basis) that can be applied to a unit area of land during a cropping cycle.

13. "Agronomic Rate is the whole sludge application rate (dry-weight basis) designed to: (1) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (2) minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

14. "Annual Pollutant Loading Rate" is the maximum amount of a pollutant (dry-weight basis) that can be applied to a unit area of land during a 365-day period.

15. "Application Site or Land Application Site" means all contiguous areas of a users' property intended for sludge application.

16. "Cumulative Pollutant Loading Rate" is the maximum amount of an inorganic pollutant (dry-weight basis) that can be applied to a unit area of land.

17. "Grit and Screenings" are sand, gravel, cinders, other materials with a high specific gravity and relatively large materials such as rags generated during preliminary treatment of domestic sewage at a treatment works and shall be disposed of according to *40 CFR 258*.

18. "High Potential for Public Contact Site" is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

19. "Low Potential for Public Contact Site" is the land with a low potential for contact by the public. This includes, but is not limited to, farms, ranches, reclamation areas, and other lands which are private lands, restricted public lands, or lands which are not generally accessible to or used by the public.

20. "Monthly Average" is the arithmetic mean of all measurements taken during the month.

21. "Volatile Solids" is the amount of the total solids in sewage sludge lost when the sludge is combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.

FACT SHEET AND STATEMENT OF BASIS
COALVILLE CITY
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0025976
UPDES BIOSOLIDS PERMIT NUMBER: UTL025976
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000
MINOR

FACILITY CONTACTS

Person Name:	Zane DeWeese
Position:	Public Works Director
Phone Number:	435-336-5981
Facility Name:	Coalville City Corporation Wastewater Treatment Facility
Mailing Address:	PO Box 188
	Coalville, Utah 84017
Telephone:	435-901-2257 (Plant)
	435-336-5981 (City Office)
Actual Address:	50 West 100 North
	Coalville
	Summit County

DESCRIPTION OF FACILITY

The Coalville City Wastewater Treatment Plant (CWWT) is located at 50 West 100 North, Coalville, Summit County, Utah in 2014. The facility serves the City of Coalville with the outfall located at latitude 40°55'13" and longitude 111°24'09". The facility has a maximum monthly design flow of 0.58 MGD with an average daily flow rate of 0.32 MGD.

The facility consists of screening and grit removal, two parallel Modified Luzack-Ettinger (MLE) process trains, two secondary clarifiers and UV disinfection prior to discharge to an unnamed tributary to Chalk Creek in the Upper Weber River watershed. Biosolids are hauled to an offsite facility located at the Three Mile Canyon Landfill.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after January 1, 2016. A quantitative reasonable potential analysis (RP) was not able to be performed because there was insufficient data. A metals sample will be required to be monitored during this permit cycle.

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

R317-1-3.3, D, 1 Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;

R317-1-3.3, D, 2. Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (an N);

In R317-1-3.3, D, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

DWQ has determined that CWWT meets the conditions for a variance to the TBPEL as found in R317-1-3.3.C. This determination is based on the existing Rockport Reservoir and Echo Reservoir Total Maximum Daily Load.

DISCHARGE

DESCRIPTION OF DISCHARGE

CWWT has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis as required. There have been no significant discharge violations during the past five year permit cycle.

Outfall	Description of Discharge Point
001	Located at latitude 40°55'13" and longitude 111°24'09". The 15" PVC pipe discharges to an unnamed tributary of Chalk Creek, immediately above its junction with the Weber River and Echo Reservoir.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge is to an unnamed tributary of Chalk Creek, which flows into the Weber River just above Echo Reservoir. Chalk Creek and the Weber River are classified as 1C, 2B, 3A and 4 *Utah Administrative Code (UAC) R317-2-13*:

Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

Class 3A -- Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.

Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli*, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease is based on best professional judgment (BPJ). Ammonia limits are based on the Wasteload Analysis and technology-based limits. Nitrogen and phosphorous loading limitations are based on the Rockport Reservoir and Echo Reservoir Total Maximum Daily Load. Attached is a Wasteload Analysis for this discharge into the unnamed irrigation ditch. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required for this facility.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required. A quantitative RP analysis was not able to be performed because there was insufficient data. A metal sample will be required to be monitored during this permit cycle.

The permit limitations are:

Parameter	Effluent Limitations [a]						
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum	Annual Max	Summer Max (Apr – Sept)
Total Flow	0.58	--	--	--	--	--	--
BOD_5, mg/L	25	35	--	--	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--	--	--
TSS, mg/L	25	35	--	--	--	--	--
TSS Min. % Removal	85	--	--	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.5	--	--	--
Total Ammonia (as N) mg/L							
Summer (Jul-Sep)	6.7	--	--	--	27.9	--	--
Fall (Oct-Dec)	6.3	--	--	--	18.3	--	--
Winter (Jan-Mar)	5.8	--	--	--	13.2	--	--
Spring (Apr-Jun)	6.2	--	--	--	18.3	--	--
E. coli, No./100mL	126	157	--	--	--	--	--
Oil & Grease, mg/L	--	--	--	--	10.0	--	--
pH, Standard Units	--	--	--	6.5	9	--	--
Total Phosphorus, lbs	--	--	--	--	--	1283	642
Total Nitrogen, lbs	--	--	--	--	--	12829	6413

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit with the addition of total dissolved solids, nutrient and metals monitoring. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for metals must be attached to the DMRs.

Self-Monitoring and Reporting Requirements [a]			
Parameter	**Frequency**	**Sample Type**	**Units**
Total Flow [b, c]	Continuous	Recorder	MGD
BOD_5, Influent [d] Effluent	2 X Month	Composite Composite	mg/L mg/L
TSS, Influent [d] Effluent	2 X Month	Composite Composite	mg/L mg/L
E. coli	2 X Month	Grab	No./100mL
pH	2 X Month	Grab	SU
Total Ammonia (as N)	2 X Month	Composite	mg/L
Dissolved Oxygen	2 X Month	Grab	mg/L
Oil & Grease [e]	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total Influent Effluent	Monthly	Composite Composite	mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent Effluent	Monthly	Composite Composite	mg/L mg/L
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L
Total Phosphorus, lbs	Monthly	Grab	lbs
Total Nitrogen, lbs	Monthly	Grab	lbs
Temperature	Daily	Recorded	°C
Metals [f]	Once, within 6 months of permit issuance	Composite/Grab	mg/L

a See Definitions, *Part VIII*, for definition of terms.

b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the

discharge.

e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report 9 under NODI in NetDMR.

f Metals analyses have not previously been required for this facility. One metals analysis is required with this permit renewal, which shall be conducted within the first 6 months of the permit effective date. Metals to be analyzed include Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, and Zinc.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

DESCRIPTION OF TREATMENT AND DISPOSAL

CWWT screens the influent to remove the larger pieces of debris and Modified Luzack-Ettinger (MLE) process. After treatment, the biosolids are de-watered by screw press and hauled elsewhere for disposal.

If the biosolids are hauled to another facility to meet land application requirements for sale or giveaway to the public, that facility must have a valid UPDES biosolids permit and will be responsible for meeting all requirements of *40 CFR 503*.

SELF-MONITORING REQUIREMENTS

Under *40 CFR 503.16(a)(1)*, the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

On average, CWWT disposes of 70 DMT of biosolids annually, therefore they need to sample at least once a year.

Landfill Monitoring

Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1)*.

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the

permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

> The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or
>
> The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) Table 3*.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR[1], (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR[2], (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

[1] CPLR -- Cumulative Pollutant Loading Rate
[2] APLR – Annual Pollutant Loading Rate

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit .If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN[3] per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units (CFU) per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. The

CWWT does not intend to give away biosolids for land application on home lawns or gardens, and will therefore not be required to meet PFRP. If the CWWT changes their intentions in the future, they will need to meet a specific PFRP, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). CWWT does not intend to land apply the biosolids and will therefore not be required to meet PSRP. If the CWWT intends to land apply in the future, they will need to meet a specific PSRP, the Director must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice..

Vector Attraction Reduction (VAR)

If the biosolids are land applied CWWT will be required to meet VAR through the use of a method of

[3] MPN –Most Probable Number

listed under *40 CFR 503.33.* CWWT does not intend to land apply the biosolids and will therefore not be required to meet VAR. If the CWWT intends to land apply in the future, they need to meet one of the listed alternatives in 40 CFR 503.33, the Director must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

Landfill Monitoring
Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1).*

Record Keeping
The record keeping requirements from *40 CFR 503.17* are included under *Part III.G.* of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting
CWWT must report annually as required in *40 CFR 503.18.* This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

STORM WATER

STORMWATER REQUIREMENTS

Wastewater treatment facilities are required to comply with storm water permit requirements if they meet one or both of the following criteria:

1) The facility has a design flow of 1.0 MGD of greater, and/or
2) The facility is required to have an approved pretreatment program as described in *40 CFR Part 403*.

CWWT does not meet the above criteria; therefore this permit does not include storm water provisions. A storm water re-opener provision is included in the permit should a storm water permit be needed in the future.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no categorical industries discharging to the treatment facility, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Sarah Leavitt, Discharge,
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lisa Stevens, Storm Water
Dave Wham, Wasteload Analysis
Lonnie Shull, Biomonitoring
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: December 5, 2018
Ended: January 14, 2019

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the Summit County Bee.

No comments were received during the public comment period. Therefore, the permit and FSSOB are the same as the draft document that were public noticed.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

February 1, 2019

DWQ-2018-011830

Industrial Pretreatment Wastewater Survey

Do you periodically experience any of the following treatment works problems:

foam, floaties or unusual colors
plugged collection lines caused by grease, sand, flour, etc.
discharging excessive suspended solids, even in the winter
smells unusually bad
waste treatment facility doesn't seem to be treating the waste right

Perhaps the solution to a problem like one of these may lie in investigating the types and amounts of wastewater entering the sewer system from industrial users.

An industrial user (IU) is defined as a non-domestic user discharging to the waste treatment facility which meets any of the following criteria:

1. **has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)**

   Examples: Food processor, dairy, slaughterhouse, industrial laundry.

2. **is subject to Federal Categorical Pretreatment Standards;**

   Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding, circuit board manufacturing, tanning animal skins, pesticide formulating or packaging, and pharmaceutical manufacturing or packaging,

3. **is a concern to the POTW.**

   Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet cleaner, commercial laundry.

All users of the water treatment facility are **prohibited** from making the following types of discharges:

1. A discharge which creates a fire or explosion hazard in the collection system.
2. A discharge which creates toxic gases, vapor or fumes in the collection system.
3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.
4. An acidic discharge (low pH) which causes corrosive damage to the collection system.
5. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.
6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

When the solution to a sewer system problem may be found by investigating the types and amounts of wastewater entering the sewer system discharged from IUs, it's appropriate to conduct an Industrial Waste Survey.

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

Make a list of all the commercial and industrial sewer connections.

Sources for the list:

business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:

domestic wastewater only--no further information needed
everyone else (IUs)

Step 2: Preliminary Inspection

Go visit each IU identified on the "everybody else" list.

Fill out the **Preliminary Inspection Form** during the site visit.

Step 3: Informing the State

Please fax or send a copy of the Preliminary inspection form (both sides) to:

Jennifer Robinson

Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, UT 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-mail: jenrobinson@utah.gov

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ____ /

Name of Business
Address _____

Person Contacted _____
Phone Number _____

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

_____

Production process is: [ ] Batch [ ] Continuous [ ] Both

Is production subject to seasonal variation? [ ] yes [ ] no
If yes, briefly describe seasonal production cycle.

_____

This facility generates the following types of wastes (check all that apply):

1. [ ] Domestic wastes (Restrooms, employee showers, etc.)
2. [ ] Cooling water, non-contact
3. [ ] Boiler/Tower blowdown
4. [ ] Cooling water, contact
5. [ ] Process
6. [ ] Equipment/Facility wash-down
7. [ ] Air Pollution Control Unit
8. [ ] Storm water runoff to sewer
9. [ ] Other describe

Wastes are discharged to (check all that apply):

[ ] Sanitary sewer
[ ] Storm sewer
[ ] Surface water
[ ] Ground water
[ ] Waste haulers
[ ] Evaporation
[ ] Other (describe)
Name of waste hauler(s), if used

_____

Is a grease trap installed? Yes No
Is it operational? Yes No

Does the business discharge a lot of process wastewater?

- More than 5% of the flow to the waste treatment facility? Yes No
- More than 25,000 gallons per work day? Yes No

Does the business do any of the following:

[ ] Adhesives
[ ] Aluminum Forming
[ ] Battery Manufacturing
[ ] Copper Forming
[ ] Electric & Electronic Components
[ ] Explosives Manufacturing
[ ] Foundries
[ ] Inorganic Chemicals Mfg. or Packaging
[ ] Industrial Porcelain Ceramic Manufacturing
[ ] Iron & Steel
[ ] Metal Finishing, Coating or Cleaning
[ ] Mining
[ ] Nonferrous Metals Manufacturing
[ ] Organic Chemicals Manufacturing or Packaging
[ ] Paint & Ink Manufacturing
[ ] Pesticides Formulating or Packaging
[ ] Petroleum Refining
[ ] Pharmaceuticals Manufacturing or Packaging
[ ] Plastics Manufacturing
[ ] Rubber Manufacturing
[ ] Soaps & Detergents Manufacturing
[ ] Steam Electric Generation
[ ] Tanning Animal Skins
[ ] Textile Mills

[ ] Car Wash
[ ] Carpet Cleaner
[ ] Dairy
[ ] Food Processor
[ ] Hospital
[ ] Laundries
[ ] Photo Lab
[ ] Restaurant & Food Service
[ ] Septage Hauler
[ ] Slaughter House

Are any process changes or expansions planned during the next three years? Yes No
If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

_____
Inspector

_____
Waste Treatment Facility

Please send a copy of the preliminary inspection form (both sides) to:

Jennifer Robinson
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov

	Industrial User	Jurisdiction	SIC Codes	Categorical Standard Number	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review

Date: **October 16, 2018**

Prepared by: **Dave Wham**
Standards and Technical Services

Facility: **Coalville City WWTP**
UPDES No. UT-0025976

Receiving water: **Unnamed Tributary => Chalk Creek (1C, 2B, 3A, 4)**

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge

Outfall 001: Unnamed tributary to Chalk Creek

The mean monthly design discharge is 0.58 MGD (0.90 cfs) for the facility.

Receiving Water
The receiving water for Outfall 001 is an unnamed tributary of Chalk Creek.

Per UAC R317-2-13.4(a), the designated beneficial uses for Weber River and tributaries, from Stoddard diversion to headwaters (includes Chalk Creek) is 1C, 2B, 3A and 4.

- *Class 1C -- Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water*

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*

- *Class 3A - Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.*

- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow data, the 7Q10 flow was estimated by calculating the 20th percentile of available data. Chalk Creek tributary flows were determined from DWQ monitoring station #4926323, Receiving Stream ab New Coalville WWTP Discharge, for the period 2015-2016 (all available data). The receiving water was characterized by samples collected from the same site and time period.

The calculated annual low value is 0.31 cfs.

TMDL

According to DWQ'303(d) Assessment, Chalk Creek and tributaries from confluence with Weber River to South Fork confluence (UT16020101-010_00) is listed as impaired (Class 3A) for OE Bioassessment; Assessment category 5, TMDL required.

Echo Reservoir (UT-L-16020101-001_00), located immediately downstream of the discharge, is listed as impaired (Class 3A use) for temperature, dissolved oxygen, and total phosphorus. Assessment category 5/4A:TMDL required/TMDL approved.

The Rockport Reservoir and Echo Reservoir Total Maximum Daily Load study was approved March 26, 2014. The TMDL limited Coalville WWTP's total phosphorous load to 582 kg annually and 291 kg during the summer (April 1st - September 30th) and total nitrogen to 5,819 kg annually and 2,909 kg during the summer.

Mixing Zone

The maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

As per DEQ's mixing zone policy, the effluent was consider to be totally mixed as the ratio of river flow (7Q10) to discharge flow was 0.35 (<=2). Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

The potential parameters of concerns identified for the discharge/receiving water were ammonia and total phosphorous as determined in consultation with the UPDES Permit Writer.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC_{50} is typically 100% effluent and does not need to be determined by the WLA.

Table 1: WET Limits for IC_{25}

Outfall	Percent Effluent
Outfall 001	74.3%

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in the Wasteload Addendum.

The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

A Level II Antidegradation Review (ADR) is not required for this facility. The proposed permit is a simple renewal, with no increase in flow or concentration over that which was approved in the existing permit.

Documents:

WLA Document: *Coalville_WLADoc_10-16-18.docx*
Wasteload Analysis and Addendum: *Coalville_WLA_10-16-18.xls*

References:

Utah Division of Water Quality. 2012. *Utah Wasteload Analysis Procedures Version 1.0.*

Utah Division of Water Quality. 2014. Echo Reservoir TMDL Water Quality. March 26, 2014.

Lewis, B., J. Saunders, and M. Murphy. 2002. *Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits*. University of Colorado, Center for Limnology.

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility: **Coalville City**
UPDES No: UT-0025976
Design Flow 0.58 MGD

Receiving Water: **Unamed Trib. => Chalk Creek => Echo Reservoir**
Stream Classification: 1C, 2B, 3A, 4

Stream Flows [cfs]:	0.31	Summer (July-Sept)	20th Percentile
	0.31	Fall (Oct-Dec)	20th Percentile
	0.31	Winter (Jan-Mar)	20th Percentile
	0.31	Spring (Apr-June)	20th Percentile
	0.0	Average	
Stream TDS Values:	954.0	Summer (July-Sept)	Average
	692.0	Fall (Oct-Dec)	Average
	558.0	Winter (Jan-Mar)	Average
	1006.0	Spring (Apr-June)	Average

Effluent Limits:			**WQ Standard:**	
Flow, MGD:	0.58	MGD	Design Flow	
BOD, mg/l:	25.0	Summer	5.0	Indicator
Dissolved Oxygen, mg/l	5.5	Summer	6.5	30 Day Average
TNH3, Chronic, mg/l:	6.7	Summer	Varies	Function of pH and Temperature
TDS, mg/l:	1285.0	Summer	1200.0	

Modeling Parameters:
Acute River Width: 50.0%
Chronic River Width: 100.0%

Level 1 Antidegradation Level Completed: Level II Review not required.

Date: 10/15/2018

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

15-Oct-18
4:00 PM

Facilities: Coalville City — **UPDES No: UT-0025976**
Discharging to: Unamed Trib. => Chalk Creek => Echo Reservoir

THIS IS A DRAFT DOCUMENT

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated interms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Unamed Trib. => Chalk Creek => Echo 1C, 2B, 3A, 4
Antidegradation Review: Level I review completed. Level II review not required.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	6.50 mg/l (30 Day Average) 5.00 mg/l (7Day Average) 4.00 mg/l (1 Day Average
Maximum Total Dissolved Solids	1200.0 mg/l

Utah Division of Water Quality
Salt Lake City, Utah

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration		Load*
Aluminum	87.00 ug/l**	0.422 lbs/day	750.00	ug/l	3.634 lbs/day
Arsenic	190.00 ug/l	0.921 lbs/day	340.00	ug/l	1.648 lbs/day
Cadmium	0.74 ug/l	0.004 lbs/day	8.55	ug/l	0.041 lbs/day
Chromium III	263.62 ug/l	1.277 lbs/day	5515.39	ug/l	26.725 lbs/day
ChromiumVI	11.00 ug/l	0.053 lbs/day	16.00	ug/l	0.078 lbs/day
Copper	29.95 ug/l	0.145 lbs/day	50.67	ug/l	0.246 lbs/day
Iron			1000.00	ug/l	4.846 lbs/day
Lead	18.09 ug/l	0.088 lbs/day	464.16	ug/l	2.249 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.012 lbs/day
Nickel	165.55 ug/l	0.802 lbs/day	1489.06	ug/l	7.215 lbs/day
Selenium	4.60 ug/l	0.022 lbs/day	20.00	ug/l	0.097 lbs/day
Silver	N/A ug/l	N/A lbs/day	39.61	ug/l	0.192 lbs/day
Zinc	380.95 ug/l	1.846 lbs/day	380.95	ug/l	1.846 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 391.64 mg/l as CaCO3

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration		Load*
Aldrin			1.500	ug/l	0.007 lbs/day
Chlordane	0.004 ug/l	0.028 lbs/day	1.200	ug/l	0.006 lbs/day
DDT, DDE	0.001 ug/l	0.007 lbs/day	0.550	ug/l	0.003 lbs/day
Dieldrin	0.002 ug/l	0.012 lbs/day	1.250	ug/l	0.006 lbs/day
Endosulfan	0.056 ug/l	0.364 lbs/day	0.110	ug/l	0.001 lbs/day
Endrin	0.002 ug/l	0.015 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.025 lbs/day	0.260	ug/l	0.001 lbs/day
Lindane	0.080 ug/l	0.521 lbs/day	1.000	ug/l	0.005 lbs/day
Methoxychlor			0.030	ug/l	0.000 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.000 lbs/day
PCB's	0.014 ug/l	0.091 lbs/day	2.000	ug/l	0.010 lbs/day
Pentachlorophenol	13.00 ug/l	84.593 lbs/day	20.000	ug/l	0.097 lbs/day
Toxephene	0.0002 ug/l	0.001 lbs/day	0.7300	ug/l	0.004 lbs/day

Utah Division of Water Quality
Salt Lake City, Utah

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	1.82 lbs/day
Cadmium			10.0 ug/l	0.02 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1200.0 mg/l	2.91 tons/day

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
Metals	Concentration	Load*	Concentration	Load*
Arsenic			50.0 ug/l	0.325 lbs/day
Barium			1000.0 ug/l	6.507 lbs/day
Cadmium			10.0 ug/l	0.065 lbs/day
Chromium			50.0 ug/l	0.325 lbs/day
Lead			50.0 ug/l	0.325 lbs/day
Mercury			2.0 ug/l	0.013 lbs/day
Selenium			10.0 ug/l	0.065 lbs/day
Silver			50.0 ug/l	0.325 lbs/day
Fluoride (3)			1.4 ug/l	0.009 lbs/day
to			2.4 ug/l	0.016 lbs/day
Nitrates as N			10.0 ug/l	0.065 lbs/day
Chlorophenoxy Herbicides				
2,4-D			100.0 ug/l	0.651 lbs/day
2,4,5-TP			10.0 ug/l	0.065 lbs/day
Endrin			0.2 ug/l	0.001 lbs/day
ocyclohexane (Lindane)			4.0 ug/l	0.026 lbs/day
Methoxychlor			100.0 ug/l	0.651 lbs/day
Toxaphene			5.0 ug/l	0.033 lbs/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
Toxic Organics	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	1200.00 ug/l	7.81 lbs/day	2700.0 ug/l	17.57 lbs/day
Acrolein	320.00 ug/l	2.08 lbs/day	780.0 ug/l	5.08 lbs/day
Acrylonitrile	0.06 ug/l	0.00 lbs/day	0.7 ug/l	0.00 lbs/day
Benzene	1.20 ug/l	0.01 lbs/day	71.0 ug/l	0.46 lbs/day
Benzidine	0.00012 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	0.25 ug/l	0.00 lbs/day	4.4 ug/l	0.03 lbs/day
Chlorobenzene	680.00 ug/l	4.42 lbs/day	21000.0 ug/l	136.65 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	0.00075 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	0.38 ug/l	0.00 lbs/day	99.0 ug/l	0.64 lbs/day

Utah Division of Water Quality
Salt Lake City, Utah

1,1,1-Trichloroethane				
Hexachloroethane	1.90 ug/l	0.01 lbs/day	8.9 ug/l	0.06 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	0.61 ug/l	0.00 lbs/day	42.0 ug/l	0.27 lbs/day
1,1,2,2-Tetrachloroethai	0.17 ug/l	0.00 lbs/day	11.0 ug/l	0.07 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	0.03 ug/l	0.00 lbs/day	1.4 ug/l	0.01 lbs/day
2-Chloroethyl vinyl ether	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	1700.00 ug/l	11.06 lbs/day	4300.0 ug/l	27.98 lbs/day
2,4,6-Trichlorophenol	2.10 ug/l	0.01 lbs/day	6.5 ug/l	0.04 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	5.70 ug/l	0.04 lbs/day	470.0 ug/l	3.06 lbs/day
2-Chlorophenol	120.00 ug/l	0.78 lbs/day	400.0 ug/l	2.60 lbs/day
1,2-Dichlorobenzene	2700.00 ug/l	17.57 lbs/day	17000.0 ug/l	110.62 lbs/day
1,3-Dichlorobenzene	400.00 ug/l	2.60 lbs/day	2600.0 ug/l	16.92 lbs/day
1,4-Dichlorobenzene	400.00 ug/l	2.60 lbs/day	2600.0 ug/l	16.92 lbs/day
3,3'-Dichlorobenzidine	0.04 ug/l	0.00 lbs/day	0.1 ug/l	0.00 lbs/day
1,1-Dichloroethylene	0.06 ug/l	0.00 lbs/day	3.2 ug/l	0.02 lbs/day
1,2-trans-Dichloroethyle	700.00 ug/l	4.55 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	93.00 ug/l	0.61 lbs/day	790.0 ug/l	5.14 lbs/day
1,2-Dichloropropane	0.52 ug/l	0.00 lbs/day	39.0 ug/l	0.25 lbs/day
1,3-Dichloropropylene	10.00 ug/l	0.07 lbs/day	1700.0 ug/l	11.06 lbs/day
2,4-Dimethylphenol	540.00 ug/l	3.51 lbs/day	2300.0 ug/l	14.97 lbs/day
2,4-Dinitrotoluene	0.11 ug/l	0.00 lbs/day	9.1 ug/l	0.06 lbs/day
2,6-Dinitrotoluene	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	0.04 ug/l	0.00 lbs/day	0.5 ug/l	0.00 lbs/day
Ethylbenzene	3100.00 ug/l	20.17 lbs/day	29000.0 ug/l	188.71 lbs/day
Fluoranthene	300.00 ug/l	1.95 lbs/day	370.0 ug/l	2.41 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) e	1400.00 ug/l	9.11 lbs/day	170000.0 ug/l	1106.21 lbs/day
Bis(2-chloroethoxy) met	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM	4.70 ug/l	0.03 lbs/day	1600.0 ug/l	10.41 lbs/day
Methyl chloride (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	4.30 ug/l	0.03 lbs/day	360.0 ug/l	2.34 lbs/day
Dichlorobromomethane	0.27 ug/l	0.00 lbs/day	22.0 ug/l	0.14 lbs/day
Chlorodibromomethane	0.41 ug/l	0.00 lbs/day	34.0 ug/l	0.22 lbs/day
Hexachlorobutadiene(c)	0.44 ug/l	0.00 lbs/day	50.0 ug/l	0.33 lbs/day
Hexachlorocyclopentadi	240.00 ug/l	1.56 lbs/day	17000.0 ug/l	110.62 lbs/day
Isophorone	8.40 ug/l	0.05 lbs/day	600.0 ug/l	3.90 lbs/day
Naphthalene				
Nitrobenzene	17.00 ug/l	0.11 lbs/day	1900.0 ug/l	12.36 lbs/day
2-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	70.00 ug/l	0.46 lbs/day	14000.0 ug/l	91.10 lbs/day
4,6-Dinitro-o-cresol	13.00 ug/l	0.08 lbs/day	765.0 ug/l	4.98 lbs/day
N-Nitrosodimethylamine	0.00069 ug/l	0.00 lbs/day	8.1 ug/l	0.05 lbs/day
N-Nitrosodiphenylamine	5.00 ug/l	0.03 lbs/day	16.0 ug/l	0.10 lbs/day
N-Nitrosodi-n-propylami	0.01 ug/l	0.00 lbs/day	1.4 ug/l	0.01 lbs/day
Pentachlorophenol	0.28 ug/l	0.00 lbs/day	8.2 ug/l	0.05 lbs/day

Utah Division of Water Quality
Salt Lake City, Utah

Phenol	2.10E+04 ug/l	1.37E+02 lbs/day	4.6E+06 ug/l	2.99E+04 lbs/day
Bis(2-ethylhexyl)phthala	1.80 ug/l	0.01 lbs/day	5.9 ug/l	0.04 lbs/day
Butyl benzyl phthalate	3000.00 ug/l	19.52 lbs/day	5200.0 ug/l	33.84 lbs/day
Di-n-butyl phthalate	2700.00 ug/l	17.57 lbs/day	12000.0 ug/l	78.09 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	23000.00 ug/l	149.66 lbs/day	120000.0 ug/l	780 86 lbs/day
Dimethyl phthlate	3.13E+05 ug/l	2.04E+03 lbs/day	2.9E+06 ug/l	1.89E+04 lbs/day
Benzo(a)anthracene (P/	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(a)pyrene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(b)fluoranthene (F	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (F	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Chrysene (PAH)	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	9600.00 ug/l	62.47 lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1,2,3-cd)pyrene	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	960.00 ug/l	6.25 lbs/day	11000.0 ug/l	71.58 lbs/day
Tetrachloroethylene	0.80 ug/l	0.01 lbs/day	8.9 ug/l	0.06 lbs/day
Toluene	6800.00 ug/l	44.25 lbs/day	200000 ug/l	1301.43 lbs/day
Trichloroethylene	2.70 ug/l	0.02 lbs/day	81.0 ug/l	0.53 lbs/day
Vinyl chloride	2.00 ug/l	0.01 lbs/day	525.0 ug/l	3.42 lbs/day
			0.0	0.00 lbs/day
			0.0	0.00 lbs/day
Pesticides				
Aldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	0.0008 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	0.9300 ug/l	0.01 lbs/day	2.0 ug/l	0.01 lbs/day
beta-Endosulfan	0.9300 ug/l	0.01 lbs/day	2.0 ug/l	0.01 lbs/day
Endosulfan sulfate	0.9300 ug/l	0.01 lbs/day	2.0 ug/l	0.01 lbs/day
Endrin	0.7600 ug/l	0.00 lbs/day	0.8 ug/l	0.01 lbs/day
Endrin aldehyde	0.7600 ug/l	0.00 lbs/day	0.8 ug/l	0.01 lbs/day
Heptachlor	0.0002 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 12/	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 12!	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 12/	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 12:	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 12/	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 12(	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 10'	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	0.000750 ug/l	0.00	0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	1.30E-08 ug/l	0.00 lbs/day	1.40E-08	0.00

Metals				
Antimony	14.0 ug/l	0.09 lbs/day		
Arsenic	50.0 ug/l	0.33 lbs/day	4300.00 ug/l	27.98 lbs/day
Asbestos	7.00E+06 ug/l	4.55E+04 lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	1.30E+03 ug/l	8.46 lbs/day	2.2E+05 ug/l	1431.57 lbs/day
Lead	700.0 ug/l	4.55 lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day
Nickel			4600.00 ug/l	29.93 lbs/day
Selenium	0.1 ug/l	0.00 lbs/day		
Silver	610.0 ug/l	3.97 lbs/day		
Thallium			6.30 ug/l	0.04 lbs/day
Zinc				

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

	Stream Critical Low Flow cfs	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD5 mg/l	DO mg/l	TRC mg/l	TDS mg/l
Summer (Irrig. Season)	0.31	15.3	7.2	0.10	1.00	8.97	0.00	954.0
Fall	0.31	4.4	7.9	0.10	1.00	---	0.00	692.0
Winter	0.31	3.0	7.9	0.10	1.00	---	0.00	558.0
Spring	0.31	10.9	7.9	0.10	1.00	---	0.00	1006.0

Dissolved Metals	Al ug/l	As ug/l	Cd ug/l	CrIII ug/l	CrVI ug/l	Copper ug/l	Fe ug/l	Pb ug/l
All Seasons	2.385*	0.795*	0.0795*	0.795*	3.975*	0.8*	1.25*	0.795*

Dissolved Metals	Hg ug/l	Ni ug/l	Se ug/l	Ag ug/l	Zn ug/l	Boron ug/l
All Seasons	0.0000	0.795*	1.59*	0.15*	0.0795*	1.59*

* ~80% MDL

Projected Discharge Information

Season	Flow, MGD	Temp.
Summer	0.58000	17.9
Fall	0.58000	13.4
Winter	0.58000	8.5
Spring	0.58000	12.9

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

IX. Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	0.580 MGD	0.897 cfs
Fall	0.580 MGD	0.897 cfs
Winter	0.580 MGD	0.897 cfs
Spring	0.580 MGD	0.897 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.58 MGD. If the discharger is allowed to have a flow greater than 0.58 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limititation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segements if the values below are met.

WET Requirements	LC50 >	100.0% Effluent	[Acute]
	IC25 >	74.3% Effluent	[Chronic]

Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	120.9 lbs/day
Fall	25.0 mg/l as BOD5	120.9 lbs/day
Winter	25.0 mg/l as BOD5	120.9 lbs/day
Spring	25.0 mg/l as BOD5	120.9 lbs/day

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	**Concentration**
Summer	5.50
Fall	5.50
Winter	5.50
Spring	5.50

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		**Concentration**	**Load**
Summer	4 Day Avg. - Chronic	6.74 mg/l as N	32.6 lbs/day
	1 Hour Avg. - Acute	27.9 mg/l as N	135.2 lbs/day
Fall	4 Day Avg. - Chronic	6.3 mg/l as N	30.3 lbs/day
	1 Hour Avg. - Acute	18.3 mg/l as N	88.4 lbs/day
Winter	4 Day Avg. - Chronic	5.8 mg/l as N	28.2 lbs/day
	1 Hour Avg. - Acute	13.2 mg/l as N	64.0 lbs/day
Spring	4 Day Avg. - Chronic	6.2 mg/l as N	30.1 lbs/day
	1 Hour Avg. - Acute	18.3 mg/l as N	88.4 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	0.014	mg/l	0.07	lbs/day
	1 Hour Avg. - Acute	0.025	mg/l	0.12	lbs/day
Fall	4 Day Avg. - Chronic	0.014	mg/l	0.07	lbs/day
	1 Hour Avg. - Acute	0.025	mg/l	0.12	lbs/day
Winter	4 Day Avg. - Chronic	0.014	mg/l	0.07	lbs/day
	1 Hour Avg. - Acute	0.025	mg/l	0.12	lbs/day
Spring	4 Day Avg. - Chronic	0.014	mg/l	0.07	lbs/day
	1 Hour Avg. - Acute	0.025	mg/l	0.12	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	1285.0	mg/l	3.11	tons/day
Fall	Maximum, Acute	1375.5	mg/l	3.33	tons/day
Winter	Maximum, Acute	1421.8	mg/l	3.44	tons/day
Spring	Maximum, Acute	1267.0	mg/l	3.06	tons/day

Colorado Salinity Forum Limits — Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 391.64 mg/l):

	4 Day Average Concentration		Load	1 Hour Average Concentration		Load
Aluminum*	N/A		N/A	1,008.3	ug/l	4.9 lbs/day
Arsenic*	255.37	ug/l	0.8 lbs/day	457.2	ug/l	2.2 lbs/day
Cadmium	0.97	ug/l	0.0 lbs/day	11.5	ug/l	0.1 lbs/day
Chromium III	354.42	ug/l	1.1 lbs/day	7,420.7	ug/l	36.0 lbs/day
Chromium VI*	13.43	ug/l	0.0 lbs/day	20.2	ug/l	0.1 lbs/day
Copper	40.03	ug/l	0.1 lbs/day	67.9	ug/l	0.3 lbs/day
Iron*	N/A		N/A	1,206.9	ug/l	5.8 lbs/day
Lead	24.06	ug/l	0.1 lbs/day	624.3	ug/l	3.0 lbs/day
Mercury*	0.02	ug/l	0.0 lbs/day	3.2	ug/l	0.0 lbs/day
Nickel	222.48	ug/l	0.7 lbs/day	2,003.2	ug/l	9.7 lbs/day
Selenium*	5.64	ug/l	0.0 lbs/day	26.4	ug/l	0.1 lbs/day
Silver	N/A	ug/l	N/A lbs/day	53.3	ug/l	0.3 lbs/day

Zinc	512.54 ug/l	1.6 lbs/day	512.5	ug/l	2.5 lbs/day
Cyanide*	7.00 ug/l	0.0 lbs/day	29.6	ug/l	0.1 lbs/day

*Limits for these metals are based on the dissolved standard.

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	18.0 Deg. C.	64.4 Deg. F
Fall	7.1 Deg. C.	44.7 Deg. F
Winter	5.7 Deg. C.	42.2 Deg. F
Spring	13.6 Deg. C.	56.5 Deg. F

Effluent Limitations for Organics [Pesticides] Based upon Water Quality Standards

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

	4 Day Average Concentration	Load	1 Hour Average Concentration		Load
Aldrin			1.5E+00	ug/l	1.12E-02 lbs/day
Chlordane	4.30E-03 ug/l	2.08E-02 lbs/day	1.2E+00	ug/l	9.00E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	4.84E-03 lbs/day	5.5E-01	ug/l	4.12E-03 lbs/day
Dieldrin	1.90E-03 ug/l	9.19E-03 lbs/day	1.3E+00	ug/l	9.37E-03 lbs/day
Endosulfan	5.60E-02 ug/l	2.71E-01 lbs/day	1.1E-01	ug/l	8.25E-04 lbs/day
Endrin	2.30E-03 ug/l	1.11E-02 lbs/day	9.0E-02	ug/l	6.75E-04 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	7.50E-05 lbs/day
Heptachlor	3.80E-03 ug/l	1.84E-02 lbs/day	2.6E-01	ug/l	1.95E-03 lbs/day
Lindane	8.00E-02 ug/l	3.87E-01 lbs/day	1.0E+00	ug/l	7.50E-03 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02	ug/l	2.25E-04 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02	ug/l	7.50E-05 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02	ug/l	3.00E-04 lbs/day
PCB's	1.40E-02 ug/l	6.77E-02 lbs/day	2.0E+00	ug/l	1.50E-02 lbs/day
Pentachlorophenol	1.30E+01 ug/l	6.29E+01 lbs/day	2.0E+01	ug/l	1.50E-01 lbs/day
Toxephene	2.00E-04 ug/l	9.67E-04 lbs/day	7.3E-01	ug/l	5.47E-03 lbs/day

Utah Division of Water Quality
Salt Lake City, Utah

Effluent Targets for Pollution Indicators
Based upon Water Quality Standards

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	24.2 lbs/day
Nitrates as N	4.0 mg/l	19.4 lbs/day
Total Phosphorus as P	0.05 mg/l	0.2 lbs/day
Total Suspended Solids	90.0 mg/l	436.1 lbs/day

Note: Pollution indicator targets are for information purposes only.

Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Maximum Concentration	
	Concentration	Load
Toxic Organics		
Acenaphthene	1.61E+03 ug/l	7.81E+00 lbs/day
Acrolein	4.31E+02 ug/l	2.08E+00 lbs/day
Acrylonitrile	7.94E-02 ug/l	3.84E-04 lbs/day
Benzene	1.61E+00 ug/l	7.81E-03 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	3.36E-01 ug/l	1.63E-03 lbs/day
Chlorobenzene	9.15E+02 ug/l	4.42E+00 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	1.01E-03 ug/l	4.88E-06 lbs/day
1,2-Dichloroethane	5.11E-01 ug/l	2.47E-03 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	2.56E+00 ug/l	1.24E-02 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	8.21E-01 ug/l	3.97E-03 lbs/day
1,1,2,2-Tetrachloroethane	2.29E-01 ug/l	1.11E-03 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	4.17E-02 ug/l	2.02E-04 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	2.29E+03 ug/l	1.11E+01 lbs/day
2,4,6-Trichlorophenol	2.83E+00 ug/l	1.37E-02 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	7.67E+00 ug/l	3.71E-02 lbs/day
2-Chlorophenol	1.61E+02 ug/l	7.81E-01 lbs/day
1,2-Dichlorobenzene	3.63E+03 ug/l	1.76E+01 lbs/day
1,3-Dichlorobenzene	5.38E+02 ug/l	2.60E+00 lbs/day

1,4-Dichlorobenzene	5.38E+02 ug/l	2.60E+00 lbs/day
3,3'-Dichlorobenzidine	5.38E-02 ug/l	2.60E-04 lbs/day
1,1-Dichloroethylene	7.67E-02 ug/l	3.71E-04 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	1.25E+02 ug/l	6.05E-01 lbs/day
1,2-Dichloropropane	7.00E-01 ug/l	3.38E-03 lbs/day
1,3-Dichloropropylene	1.35E+01 ug/l	6.51E-02 lbs/day
2,4-Dimethylphenol	7.27E+02 ug/l	3.51E+00 lbs/day
2,4-Dinitrotoluene	1.48E-01 ug/l	7.16E-04 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	5.38E-02 ug/l	2.60E-04 lbs/day
Ethylbenzene	4.17E+03 ug/l	2.02E+01 lbs/day
Fluoranthene	4.04E+02 ug/l	1.95E+00 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	1.88E+03 ug/l	9.11E+00 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	6.32E+00 ug/l	3.06E-02 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	5.79E+00 ug/l	2.80E-02 lbs/day
Dichlorobromomethane(HM)	3.63E-01 ug/l	1.76E-03 lbs/day
Chlorodibromomethane (HM)	5.52E-01 ug/l	2.67E-03 lbs/day
Hexachlorocyclopentadiene	3.23E+02 ug/l	1.56E+00 lbs/day
Isophorone	1.13E+01 ug/l	5.47E-02 lbs/day
Naphthalene		
Nitrobenzene	2.29E+01 ug/l	1.11E-01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	9.42E+01 ug/l	4.55E-01 lbs/day
4,6-Dinitro-o-cresol	1.75E+01 ug/l	8.46E-02 lbs/day
N-Nitrosodimethylamine	9.28E-04 ug/l	4.49E-06 lbs/day
N-Nitrosodiphenylamine	6.73E+00 ug/l	3.25E-02 lbs/day
N-Nitrosodi-n-propylamine	6.73E-03 ug/l	3.25E-05 lbs/day
Pentachlorophenol	3.77E-01 ug/l	1.82E-03 lbs/day
Phenol	2.83E+04 ug/l	1.37E+02 lbs/day
Bis(2-ethylhexyl)phthalate	2.42E+00 ug/l	1.17E-02 lbs/day
Butyl benzyl phthalate	4.04E+03 ug/l	1.95E+01 lbs/day
Di-n-butyl phthalate	3.63E+03 ug/l	1.76E+01 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	3.09E+04 ug/l	1.50E+02 lbs/day
Dimethyl phthlate	4.21E+05 ug/l	2.04E+03 lbs/day
Benzo(a)anthracene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day
Benzo(a)pyrene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day
Benzo(b)fluoranthene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day
Benzo(k)fluoranthene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day
Chrysene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	3.77E-03 ug/l	1.82E-05 lbs/day

Pyrene (PAH)	1.29E+03 ug/l	6.25E+00 lbs/day
Tetrachloroethylene	1.08E+00 ug/l	5.21E-03 lbs/day
Toluene	9.15E+03 ug/l	4.42E+01 lbs/day
Trichloroethylene	3.63E+00 ug/l	1.76E-02 lbs/day
Vinyl chloride	2.69E+00 ug/l	1.30E-02 lbs/day
Pesticides		
Aldrin	1.75E-04 ug/l	8.46E-07 lbs/day
Dieldrin	1.88E-04 ug/l	9.11E-07 lbs/day
Chlordane	7.67E-04 ug/l	3.71E-06 lbs/day
4,4'-DDT	7.94E-04 ug/l	3.84E-06 lbs/day
4,4'-DDE	7.94E-04 ug/l	3.84E-06 lbs/day
4,4'-DDD	1.12E-03 ug/l	5.40E-06 lbs/day
alpha-Endosulfan	1.25E+00 ug/l	6.05E-03 lbs/day
beta-Endosulfan	1.25E+00 ug/l	6.05E-03 lbs/day
Endosulfan sulfate	1.25E+00 ug/l	6.05E-03 lbs/day
Endrin	1.02E+00 ug/l	4.95E-03 lbs/day
Endrin aldehyde	1.02E+00 ug/l	4.95E-03 lbs/day
Heptachlor	2.83E-04 ug/l	1.37E-06 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	5.92E-05 ug/l	2.86E-07 lbs/day
PCB-1254 (Arochlor 1254)	5.92E-05 ug/l	2.86E-07 lbs/day
PCB-1221 (Arochlor 1221)	5.92E-05 ug/l	2.86E-07 lbs/day
PCB-1232 (Arochlor 1232)	5.92E-05 ug/l	2.86E-07 lbs/day
PCB-1248 (Arochlor 1248)	5.92E-05 ug/l	2.86E-07 lbs/day
PCB-1260 (Arochlor 1260)	5.92E-05 ug/l	2.86E-07 lbs/day
PCB-1016 (Arochlor 1016)	5.92E-05 ug/l	2.86E-07 lbs/day
Pesticide		
Toxaphene	9.82E-04 ug/l	4.75E-06 lbs/day
Metals		
Antimony	18.84 ug/l	0.09 lbs/day
Arsenic	67.00 ug/l	0.32 lbs/day
Asbestos	9.42E+06 ug/l	4.55E+04 lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	1749.15 ug/l	8.46 lbs/day
Cyanide	941.85 ug/l	4.55 lbs/day
Lead	0.00	0.00
Mercury	0.19 ug/l	0.00 lbs/day
Nickel	820.75 ug/l	3.97 lbs/day
Selenium	0.00	0.00
Silver	0.00	0.00
Thallium	2.29 ug/l	0.01 lbs/day
Zinc		

Dioxin

Dioxin (2,3,7,8-TCDD)	1.75E-08 ug/l	8.46E-11 lbs/day

Metals Effluent Limitations for Protection of All Beneficial Uses Based upon Water Quality Standards and Toxics Rule

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		1008.3				1008.3	N/A
Antimony			18.8	5785.6		18.8	
Arsenic	134.5	457.2	67.0			67.0	255.4
Barium					1345.5	1345.5	
Beryllium						0.0	
Cadmium	13.4	11.5				11.5	1.0
Chromium (III)		7420.7				7420.7	354.4
Chromium (VI)	134.3	20.2				20.15	13.43
Copper	268.8	67.9	1749.1			67.9	40.0
Cyanide		29.6	296009.2			29.6	7.0
Iron		1206.9				1206.9	
Lead	134.3	624.3				134.3	24.1
Mercury		3.23	0.2	0.20		0.19	0.016
Nickel		2003.2	820.8	6189.3		820.8	222.5
Selenium	66.7	26.4				26.4	5.6
Silver		53.3				53.3	
Thallium			2.3	8.5		2.3	
Zinc		512.5				512.5	512.5
Boron	1009.1					1009.1	
Sulfate	2691.0					2691.0	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]
[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	1008.3	N/A	
Antimony	18.84		
Arsenic	67.0	255.4	Acute Controls
Asbestos	9.42E+06		
Barium			
Beryllium			
Cadmium	11.5	1.0	
Chromium (III)	7420.7	354	
Chromium (VI)	20.2	13.4	
Copper	67.9	40.0	

Cyanide	29.6	7.0	
Iron	1206.9		
Lead	134.3	24.1	
Mercury	0.188	0.016	
Nickel	820.8	222	
Selenium	26.4	5.6	
Silver	53.3	N/A	
Thallium	2.3		
Zinc	512.5	512.5	
Boron	1009.12		
Sulfate	2691.0		N/A at this Waterbody

Other Effluent Limitations are based upon R317-1.

E. coli	126.0	organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an Antidegradation Level II Review is not required. The proposed permit is a simple renewal, with no increase in flow or concentration over that which was approved in the existing permit.

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.