



Steven L. Beshear
Governor

Leonard K. Peters
Secretary
Energy and Environment Cabinet

Commonwealth of Kentucky
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Kentucky 40602-0615
Telephone: (502) 564-3940
Fax: (502) 564-3460
psc.ky.gov

David L. Armstrong
Chairman

James W. Gardner
Vice Chairman

February 28, 2012

W. Randall Jones, Esq.
Rubin & Hays
Kentucky Home Trust Building
450 South Third Street
Louisville, Kentucky 40202

Re: Case No. 2011-00519
Bracken County Water District

Dear Mr. Jones:

The enclosed documents have been filed in the record of the above-referenced case. In addition to a paper copy of these documents, an electronic copy of the Division of Water files on CD-ROM has been filed in the case record. Any objections to this action should be submitted to the Commission within five days of receipt of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Derouen".

Jeff Derouen
Executive Director

gw
Enclosures

DOCUMENT FILING DATED 28 FEBRUARY 2012

Doc No	Document Description	Pages
1	E-Mail Message from Gerald Wuetcher to DOW Open Records Section (13 January 2012 1604)	000001-000002
2	E-Mail Message from Gerald Wuetcher to DOW Open Records Section (12 January 2012 2034)	000003
3	Letter from Solitha Dharman, DOW Water Infrastructure Branch, to Michael Brothers, Bracken County Water District (5 May 2011) – Approval Letter	000004
4	Letter from Jeff Reynolds, P.E., HMB Professional Engineers, Inc. to Solitha Dharman, DOW Water Infrastructure Branch (18 April 2011)	000005
5	Letter from Michael Brothers, Bracken County Water District, to Solitha Dharman, DOW Water Infrastructure Branch (14 April 2011)	000006
6	Construction Application for Drinking Water Distribution	000007-000011
7	Project Plans	000012- 000053
8	Hydraulic Study Results	000054-000096

From: [Wuetcher, Jerry \(PSC\)](#)
To: [DOWOpenRecords \(EEC\)](#)
Subject: RE: Request for Documents
Date: Friday, January 13, 2012 4:04:00 PM

Mike,

I received them. Thanks for the quick work. I greatly appreciate it.

Gerald E. Wuetcher
Executive Advisor
Public Service Commission of Kentucky
(502) 564-3940, Extension 259
(502) 229-6500 (cell)
gerald.wuetcher@ky.gov

-----Original Message-----

From: DOWOpenRecords (EEC)
Sent: Friday, January 13, 2012 2:27 PM
To: Wuetcher, Jerry (PSC)
Subject: RE: Request for Documents

Mr. Wuetcher,

I have pulled the files requested below. They are too large to send over email so I will put them on CD for you and have someone bring them to you this afternoon. If you have any questions or need additional information please let me know. Thanks.

Sincerely,

Mike Reed
Division of Water

-----Original Message-----

From: Wuetcher, Jerry (PSC)
Sent: Thursday, January 12, 2012 8:34 PM
To: DOWOpenRecords (EEC)
Subject: FW: Request for Documents

TO WHOM IT MAY CONCERN:

In my earlier message, I failed to attached the DOW approval letter. It is attached to this message.

Gerald E. Wuetcher
Executive Advisor
Public Service Commission of Kentucky
(502) 564-3940, Extension 259
(502) 229-6500 (cell)
gerald.wuetcher@ky.gov

-----Original Message-----

From: Wuetcher, Jerry (PSC)
Sent: Thu 1/12/2012 8:20 PM
To: DOWOpenRecords (EEC)
Cc: Roney, Julie (EEC)
Subject: Request for Documents

TO WHOM IT MAY CONCERN:

Currently pending before the Public Service Commission is a request from Bracken County Water District for a Certificate of Public Convenience and Necessity to construct certain water mains (PSC Case No. 2011-00519). The Division of Water has previously reviewed and approved the plans and specifications for this construction. On behalf of the Public Service Commission, I respectfully request an electronic copy of all documents related to the Division of Water's review and approval. The pertinent info that appears on the DOW approval letter is as follows:

Bracken County Water District
AI # 33805, APE20110001
PWSID # 0120039-11-001
Short Road Water Project
Bracken County, KY

A copy of the approval letter is attached. Please e-mail the electronic copy to me at this e-mail address.

It is my understanding that DOW has agreed to provide the Public Service Commission at no cost an electronic copy of official documents that are intended to be filed in the PSC's official files. If this request does not fall within that agreement, please contact me.

Thank you for your attention to this request. Please contact me if you have any questions.

Respectfully,

Gerald E. Wuetcher
Executive Advisor
Public Service Commission of Kentucky
(502) 564-3940, Extension 259
(502) 229-6500 (cell)
gerald.wuetcher@ky.gov

000002

From: [Wuetcher, Jerry \(PSC\)](#)
To: [DOWOpenRecords \(EEC\)](#)
Cc: [Roney, Julie \(EEC\)](#)
Subject: Request for Documents
Date: Thursday, January 12, 2012 8:20:08 PM

TO WHOM IT MAY CONCERN:

Currently pending before the Public Service Commission is a request from Bracken County Water District for a Certificate of Public Convenience and Necessity to construct certain water mains (PSC Case No. 2011-00519). The Division of Water has previously reviewed and approved the plans and specifications for this construction. On behalf of the Public Service Commission, I respectfully request an electronic copy of all documents related to the Division of Water's review and approval. The pertinent info that appears on the DOW approval letter is as follows:

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Thank you for your attention to this request. Please contact me if you have any questions.

Respectfully,

Gerald E. Wuetcher
Executive Advisor
Public Service Commission of Kentucky
(502) 564-3940, Extension 259
(502) 229-6500 (cell)
gerald.wuetcher@ky.gov



STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

May 5, 2011

Mr. Michael Brothers
Bracken County Water District
P.O. Box 201
Brooksville, KY 41004

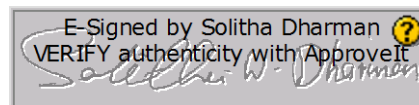
RE: Bracken County Water District
AI # 33805, APE20110001
PWSID # 0120039-11-001
Short Road Water Project
Bracken County, KY

Dear Mr. Brothers:

We have reviewed the plans and specifications for the above referenced project. The plans include construction of approximately 10,000 feet of 12-inch DI, 27,700 feet of 4-inch PVC, 600 feet of 3-inch PVC and 500 feet 2-inch PVC water line. For the purpose of review, DOW will not approve lines less than 3-inches for distribution. When 2-inch lines are proposed for distribution they are approved on a case-by-case basis with the stipulations that such cannot be extended. In areas where lines may be extended in the future, DOW reserve the right to approve 3-inch waterlines as a minimum diameter. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Mr. Farhoud Sarabi at 502-564-3410 extension 4825.

Sincerely,



Solitha Dharman, PE
Supervisor, Engineering Section
Water Infrastructure Branch
Division of Water

DSM:FS

Enclosures

C: HMB Professional Engineers, Inc.
Bracken County Health Department.
Public Service Commission.

April 18, 2011

Solitha Dharman, P.E.
Division of Water
200 Fair Oaks
Frankfort, Ky 40601

Re: Short Roads Water Project
Bracken County Water District
Bracken County, Kentucky
HMB #4162.00

Dear Mr. Dharman:

The Bracken Water District is proposes to construct the above referenced water project, which consists of approximately 38,800 l.f. of water line extensions and upgrades. Therefore, we are requesting Division of Water approval of construction.

Please find the attached items:

- Division of Water Checklist
- Letter from Owner
- Plans (4 Sets)
- Technical Specifications (4 Sets)
- Hydraulic Calculations:

If you have any questions or need additional information, please call

Sincerely,

HMB Professional Engineers, Inc.



Jeff Reynolds, P.E.

- Highway Engineering
- Structural Engineering
- Water & Wastewater
- Site Development
- Right-of-Way
- Master Planning
- Environmental Planning
- Surveying
- Project Management
- Cost Estimation
- Construction Inspection
- Aviation Services
- Environmental Remediation
- Landscape Architecture

BRACKEN COUNTY WATER DISTRICT
PO BOX 201
BROOKSVILLE, KENTUCKY 41004
606-735-3513

DOCUMENT 5

April 14, 2011

Mr. Solitha Dharman, P.E.
Division of Water
200 Fair Oaks Ln
Frankfort KY 40601

RE: Short Roads Water Project
Bracken County Water District
Bracken County, Kentucky

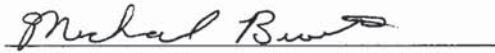
Dear Mr. Dharman:

The Bracken County Water District has reviewed and approved the plans and specifications for the above referenced project and agrees to serve the proposed project upon completion. Therefore, we are requesting Division of Water approval for construction.

The District will provide the local health department a list of new customers as they sign up for water services.

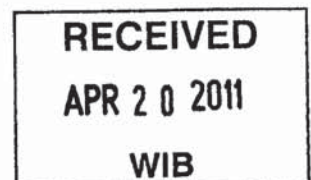
Should there be any questions, you may call me at (606)735-3513.

Sincerely,

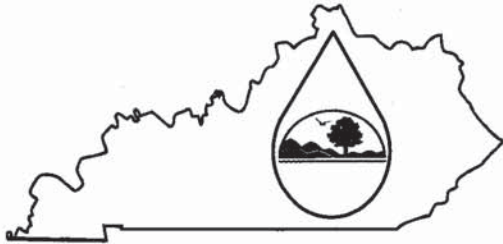

Michael Brothers, Maint. Admin.
Bracken County Water District

MB/dm

0120039-11-001



33805APE2010001



Commonwealth of Kentucky
 Energy and Environment Cabinet
Division of Water

**Construction Checklist
 For Drinking Water Distribution**

See the instructions for more information about selected portions of this checklist.

Questions on completing this checklist? Contact the Water Infrastructure Branch at 502/564-3410 or visit our website at <http://www.water.ky.gov/dw> for more information.

I. Construction Project Information

Project Name: Short Road Water Project – Bracken County Water District

Project County: Bracken Estimated Project Cost: \$ 500,000

Project Latitude/Longitude (DMS): Office: Lat. 38-40-11 Long. 84-2-28

11 Digit Hydrologic Unit Code (HUC): _____

Is this a federally funded project:

DWSRF

SPAP

Other: _____

If yes, has an Environmental Information Document been reviewed and approved? _____

If the project has been submitted to the State Clearinghouse for review, provide the SAI number: KY2010006-1615 & KY20110107-0027

Identify all other funding sources: KIA

Does the project contain any of the following:

Booster Pump Stations

Water Storage Tanks

Waterlines

Waterline Material	Waterline Size	Linear Feet
PVC	2-inch	500'
PVC	3-inch	600'
PVC	4-inch	27,700'
DI Pipe	12-inch	10,000'

Provide a brief description of the work to be performed for waterlines less than 10,000 linear feet. All other distribution projects should be accompanied by a DETAILED project description. See attached

Identify how the wastewater produced as a result of this project will be handled: N/A (No new customers)

- Sanitary Sewer WWTP: _____
 Septic Tank
 Other: _____

II. Utility Information

Utility Name: Bracken County Water District PWSID: 0120039 AI #33805
Street Address: P.O. Box 201 County: Bracken
City, State, Zip: Brooksville, KY 41004
Phone: (606) 735-3513 Fax: _____ Email: _____

If another utility will serve any portion of the proposed project, provide the name and PWSID No.

Utility Name: _____ PWSID No. _____

If the utility serving the project purchases water from another utility, provide the name and PWSID No. and purchase contract amount.

Utility Name: _____ PWSID No. _____ Purchase Contract Amount: _____

Utility Name: _____ PWSID No. _____ Purchase Contract Amount: _____

Utility Name: _____ PWSID No. _____ Purchase Contract Amount: _____

Is the system currently under any type of waterline or sewer sanctions? No

If yes, submit an exception request and attach supporting documentation to justify its approval.

III. Design Considerations

A. Plans and Specifications

Provide at least 3 sets of detailed plans and specifications (**no larger than 24" X 36"**) which must comply with **401 KAR 8:100** and **"Recommended Standards for Water Works" (Ten States' Standards)**. All plans must contain a P.E. seal, signature and date of signature with at least one set having an original seal and signature. The Division of Water requests that one copy of the specifications be submitted unbound or in electronic format (PDF) and to have an additional copy of the plans submitted in electronic format (PDF) on CD when possible.

B. Design Engineer

Name: Jeff Reynolds, P.E. Firm: HMB Professional Engineers, Inc.
Street Address: 3 HMB Circle
City, State, Zip: Frankfort, KY 40601
Phone #: (502)695-9800 Fax #: (502)695-9810 Email: jdreynolds@hmbpe.com

C. Design Capacities

Identify the number of new connections and the projected average daily demand: 10 (1,667 gpd)

Identify the number of existing residents, and their projected water demand, that may get served as a result of this project:
10 customers @ 5,000 gallons per month

Identify the number of connections in the service area: 10

D. Other Information to be Submitted with Project

- 1. Provide a copy of the U.S.G.S. 7 1/2 minute topographic map with the location(s) of the proposed project.
- 2. If the project includes a new or upgraded pump station(s), provide the pump sizing calculations and the proposed pump's characteristics curve along with the efficiency, horsepower and NPSHR data. Also, identify each pump station's locations coordinates (DMS).
- 3. If the project proposes the addition of storage tanks, provide engineering calculations which demonstrates a complete fill and drain cycle every 72 hours. Also, identify each storage tank's location coordinates (DMS).
- 4. Provide engineering calculations or an electronic model demonstrating the availability of 30 psig at the discharge side of each proposed connection under peak demand conditions.
- 5. Provide engineering calculations or an electronic model that demonstrates the ability to flush the lines using a velocity of 2.5 ft/sec.
- 6. Provide a signed letter of acceptance from the utility, which states that the utility has reviewed and approved the plans and specifications and agrees to serve the proposed project upon completion. If another utility will own, operate and maintain any portion of this project provide an acceptance letter from that utility as well.
- 7. If the utility is a purchaser and the project demand is over 10,000 gallons per day or the utility has exceeded 85% of its purchase contract, provide a valid acceptance letter from the seller.
- 8. If the project will provide water service to existing residences, provide the names and addresses of all existing residences to be served by the project. **(See Attached Letter)**
- 9. If the project is funded by a State Revolving Fund Loan (SRF) or EPA Special Appropriations Grant (SPAP), provide a completed SRF/SPAP Plans and Specifications Checklist along with 3 complete copies of project specifications.

IV. Environmental Benefits

Identify the environmental benefit(s) of the project by checking all that apply.

- Construction of new waterlines serving existing residences previously without public water.
- Modifies/upgrades existing waterlines:
 - Inadequately sized waterlines.
 - Leaks, breaks, restrictive flow.
 - Replaces lead, copper or asbestos cement waterlines.
 - Other: _____
- Provides fire protection.
- Replaces tanks/pumps due to age/condition.
- Installation of high efficiency/energy saving pumps.
- Other. Provide a brief description in the space below. _____

V. Fees

Check or money order must be made payable to "Kentucky State Treasurer" for the total amount. Fees do not apply to projects FUNDED by a municipality, water district, or other publicly owned utility.

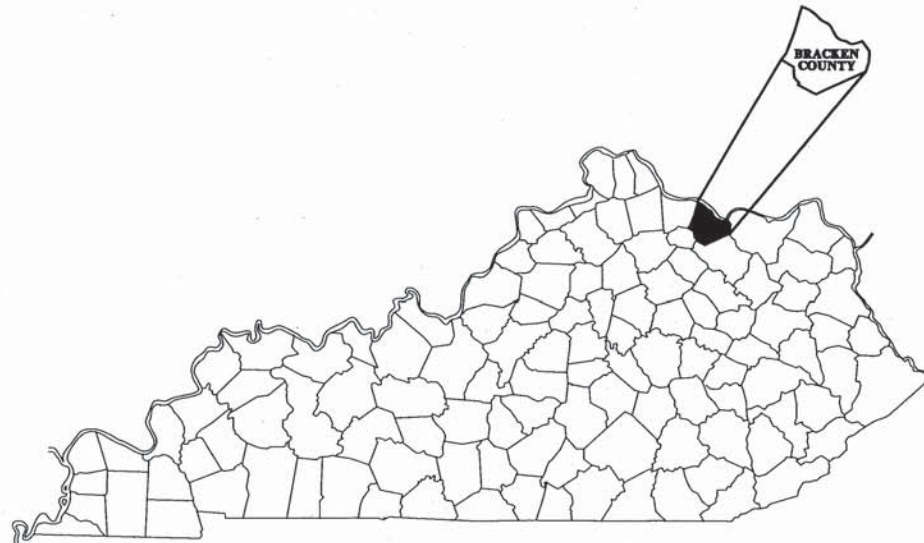
Project Category: _____ Total Amount: \$ _____

Detailed Project Description

The Bracken County Water District proposes to upgrade approximately 10,900 l.f. water line to provide better service to its existing customers. The District also proposes to construct approximately 17,900 l.f. of water line to provide water service to approximately 10 new customers.

The 12-inch water main coming from the District's main pump station is responsible for serving all of the District's system. The District has experienced numerous line breaks along this main. Therefore, the District proposes to replace the 12-inch PVC water line with a 12-inch ductile iron water line.

SHORT ROADS PROJECT BRACKEN COUNTY WATER DISTRICT BRACKEN COUNTY, KENTUCKY



INDEX OF SHEETS

1 - 7	OLD PEA RIDGE ROAD
8 - 11	AUGUSTA-BERLIN ROAD
12 - 10	AUGUSTA-BERLIN ROAD (12" D.I.)
20 - 22	BADGER ROAD
23 - 25	CASE RIDGE ROAD
26 - 29	KY 1011
30 - 32	KY 1011 @ KY 1159
33 - 36	MINI FARM ROAD

0120039-11-001

RECEIVED
APR 20 2011
WIB

33805APE2011001

Plans Prepared By:



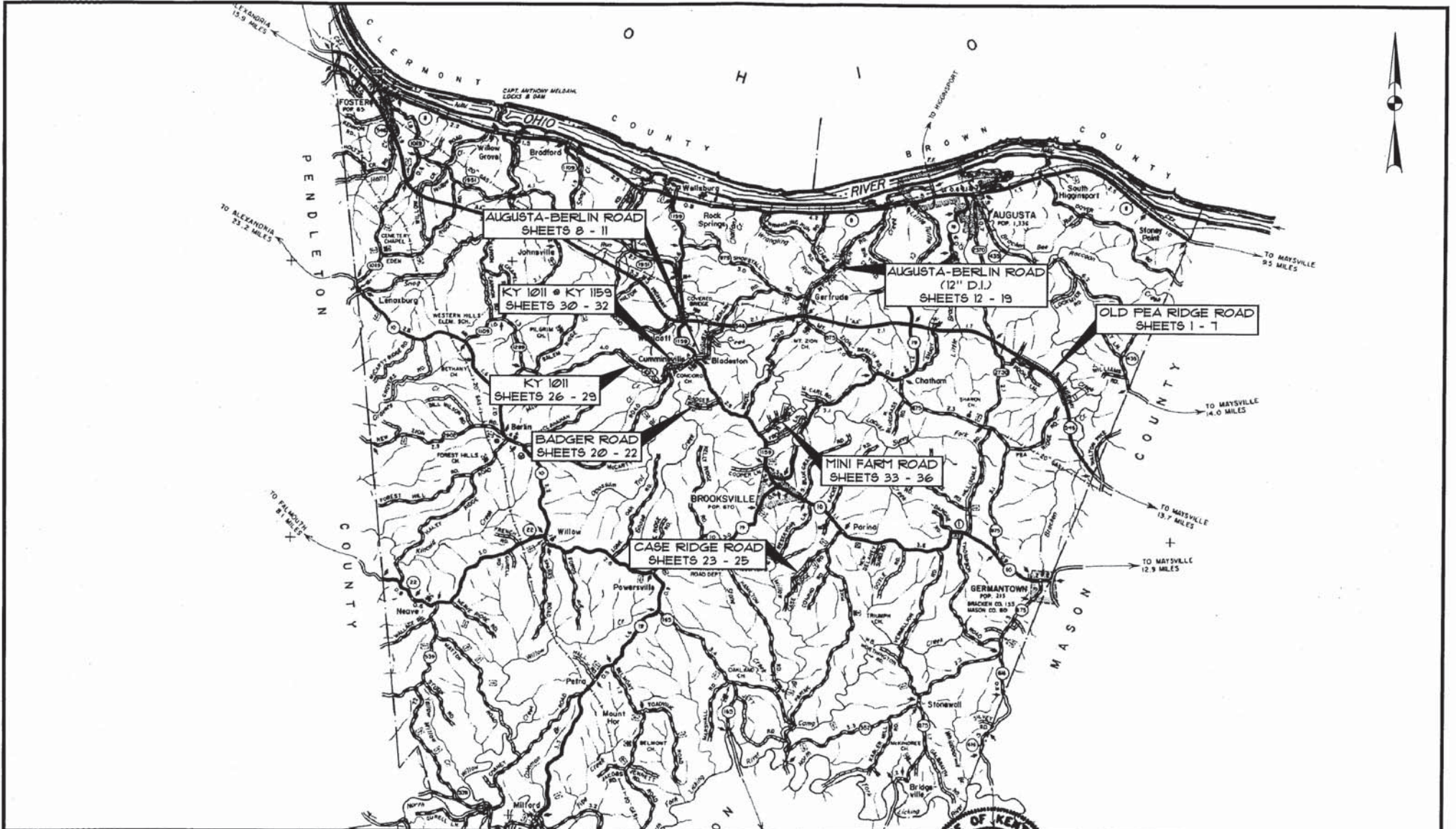
3 HMB Circle
Frankfort, Kentucky (502)695-9800
Fax (502)695-9810

APRIL 2011



JEFF D. REYNOLDS, P.E.
KENTUCKY REGISTRATION NO. 20,469

[Signature] 4/18/11



NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 416200 DATE: APRIL 2011		
SCALE: N.T.S.		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUGS		



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9800
(502) 695-9810 FAX



**WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY**

PROJECT LOCATION MAP

SHEET
1

GENERAL NOTES

UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INVOLVED, BUT NOT LIMITED TO, TEES, BENDS, PLUGS, REDUCERS, SADDLES, CROSSES, COUPLINGS, ETC. CONTRACTOR SHALL INCLUDE THE COST OF THESE ITEMS IN THE UNIT PRICE FOR THE PIPE.

NO SEPARATE PAY ITEM HAS BEEN ESTABLISHED FOR CONNECTION TO EXISTING LINES. THE COST FOR CONNECTING TO EXISTING LINES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PIPE.

NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS UNIT PRICE WHEN THE WATER PIPE CROSSES UNDER AN EXISTING UTILITY, CULVERT OR DRAINAGE DITCH.

FINAL LOCATION OF SERVICES, GATE VALVES AND OTHER APPURTENANCES ARE TO BE FIELD LOCATED DURING CONSTRUCTION AND APPROVED BY THE ENGINEER.

EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED, THEREFORE, DUCTILE IRON PIPE, FITTINGS GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF THESE LINES WITH CATHODIC PROTECTION SHALL MEET THE REQUIREMENTS OF AWWA C-105, LATEST REVISION. A SEPARATE PAY ITEM HAS NOT BEEN ESTABLISHED. ALL COSTS FOR LABOR AND MATERIALS MUST BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.

ALL DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITY TO THE AREA WITHIN THE EXISTING EASEMENTS AND CONSTRUCTION LIMITS, UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.

THE CONTRACTOR WILL BE SOLELY LIABLE FOR ANY WORK HE PERFORMS OUTSIDE OF LEGAL EASEMENTS OR CONSTRUCTION LIMITS.

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ASCERTAIN THE LOCATIONS OF ANY AND ALL UTILITIES ENCOUNTERED BY THE FINAL ALIGNMENT OF WATERLINE. THE CONTRACTOR SHALL USE CAUTION WHEN EXCAVATING AND SHALL TAKE THE NECESSARY MEASURES TO PROTECT THE EXISTING UTILITIES TO KEEP THEM IN SERVICE. IF UTILITIES ARE SHOWN, THE INFORMATION IS GENERAL IN NATURE AND NOT TO BE TAKEN AS AS-BUILTS. CONTRACTOR SHALL CONTACT REPRESENTATIVES OF LOCAL UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING WORK ON THE PROJECT.

ALL WATER MAINS SHALL BE PVC CLASS 200 SDR 21 UNLESS OTHERWISE NOTED ON THE PLANS.

AT THE CONTRACTORS OPTION, CLASS 350 DUCTILE IRON PIPE MAY BE SUBSTITUTED FOR ANY PIPE PARTICULARLY SPECIFIED, BUT AT NO ADDITIONAL COST TO THE OWNER.

PROVIDE 40' MINIMUM COVER FOR ALL WATER MAINS PLACED WITHIN UNPAVED COUNTY ROADS OR IN DITCH LINES.

THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS PRIOR TO PERFORMING DRIVEWAY CUTS IN ORDER TO PROVIDE PROPERTY OWNER ACCESS TO THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL INSTALL THESE DRIVEWAY CROSSINGS WITH EXPEDIENCE AND SHALL RESTORE THE DRIVEWAY AS SOON AS POSSIBLE.

ALL PAVED AND CONCRETE SURFACES, INCLUDING DRIVEWAYS, CROSSED BY THE PROPOSED WATER MAINS SHALL BE BORED AND JACKED (UNCASED).

ALL TEES AND BENDS SHALL BE THRUST BLOCKED AS DETAILED ON THE THRUST BLOCK DETAIL SHEET. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE.

ALL EXISTING WATER LINES THAT ARE TO BE ABANDONED SHALL BE PLUGGED WITH CONCRETE. ALL COSTS INCLUDING LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR PLUGGING EXISTING WATER LINES.

SEPTIC SYSTEMS NOTED WHERE PROPERTY OWNER NOTIFIED US. ALL MAY NOT BE SHOWN. CONTRACTOR TO USE CAUTION IN THESE AREAS. WATER MAIN TO BE ENCASED IN CONCRETE WHEN LAID WITHIN 10' OF DRAIN LINES OR FIELD. SEE DETAIL AND NOTE ON STANDARD DETAIL SHEET.

UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR CONNECTIONS TO EXISTING SYSTEM. CONTRACTOR SHALL INCLUDE COST OF CONNECTIONS TO EXISTING SYSTEM IN THE UNIT PRICE FOR THE PIPE.

THE CONTRACTOR SHALL BE REQUIRED TO CLEAN IMMEDIATELY AFTER INSTALLING WATER LINE WHERE MAIN IS TO BE LAID ON STATE RIGHT-OF-WAY.

THE FOLLOWING GENERAL NOTES ARE REQUIREMENTS OF THE COMMONWEALTH OF KENTUCKY TRANSPORTATION CABINET PERMIT ENGINEERS. THESE NOTES APPLY WHEN LAYING WATER LINE IN STATE RIGHT-OF-WAY:

ALL WATER LINES BEING PLACED ABOVE CROSS DRAINS NEED TO HAVE AT LEAST ONE (1) FOOT OF SOIL MATERIAL AS A CUSHION BETWEEN LINE AND THE CROSS DRAIN CULVERT. SEE UTILITY CROSSING DETAIL.

ALL PROPOSED WATER LINES TO BE PLACED BEHIND ALL PRIVATE AND COMMERCIAL ENTRANCE CULVERTS.

ALL PROPOSED WATER LINES TO BE PLACED AT BACK OF DITCH LINE IN TIGHT AREAS.

LEGEND

PROPOSED WATERLINE	
EXISTING WATERLINE	
PROPOSED BUTTERFLY VALVE	
EXISTING GATE OR BUTTERFLY VALVE	
AUTOMATIC AIR RELEASE VALVE	
FIRE HYDRANT	
PROPERTY LINE	
BLOWOFF ASSEMBLY	
STREAM	
EXISTING SANITARY SEWER	
EXISTING GAS LINE	
PLUG	
FENCE	
PVA MAP - PARCEL NUMBER	
POWER POLE	

PROJECT: 4162100	DATE: APRIL 2011	
SCALE: N.T.S.		
DESIGNED BY	NAME	DATE
DRAWN BY	JDR	
CHECKED BY	SAB	
RECORD DWG.	JDR	



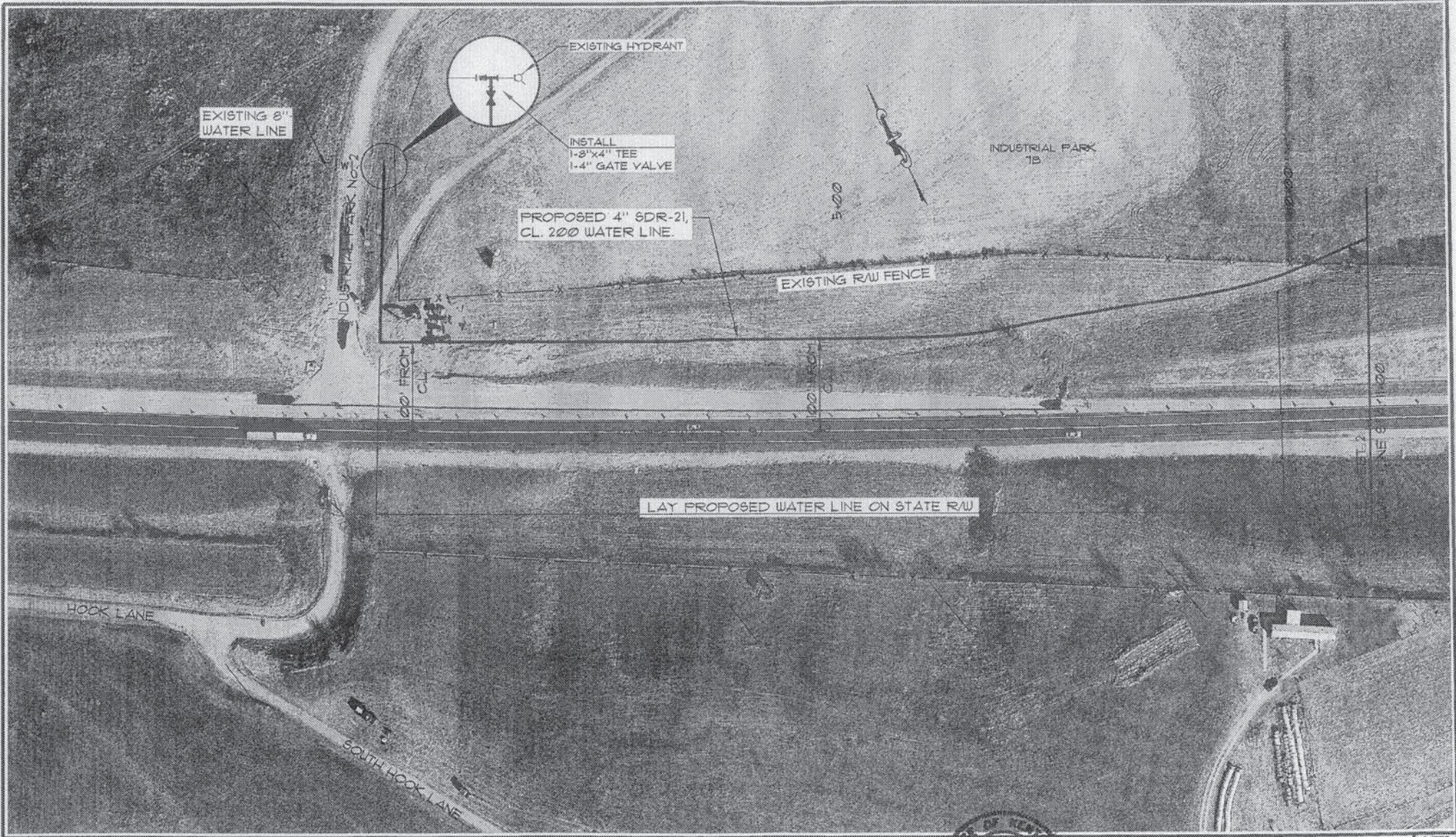
3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 635-9800
(502) 635-9810 FAX



**WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY**

STANDARD DETAILS

SHEET
II



NO.	DATE	REVISIONS	CHK'D	APP'D	DATE

PROJECT: 486200	DATE: DEC 2010	
SCALE: 1"=100'		
DESIGNED BY: JDR	NAME: JDR	DATE:
DRAWN BY: GAB	NAME: GAB	DATE:
CHECKED BY: JDR	NAME: JDR	DATE:
RECORD DUGS:	NAME:	DATE:

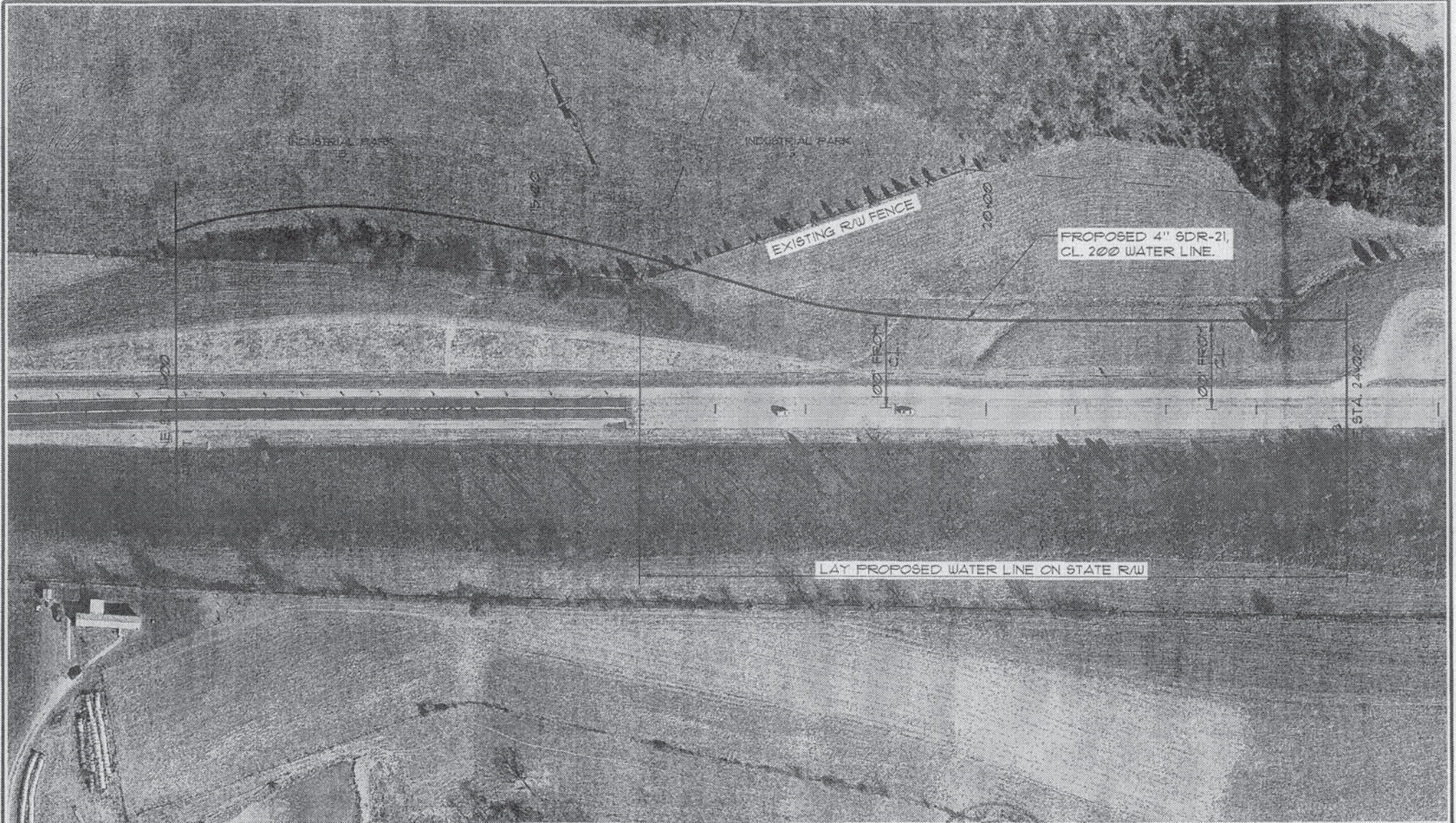


3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 625-9800
(502) 625-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY
OLD PEA RIDGE ROAD - STA. 0+00 TO STA. 11+00

SHEET
1
OF
36



NO.	DATE	REVISIONS

PROJECT: 446720	DATE: DEC. 2010	
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAIN BY	JCR	
CHECKED BY	SAB	
RECORD DWSA	JDR	

CHKD	APPRD	DATE

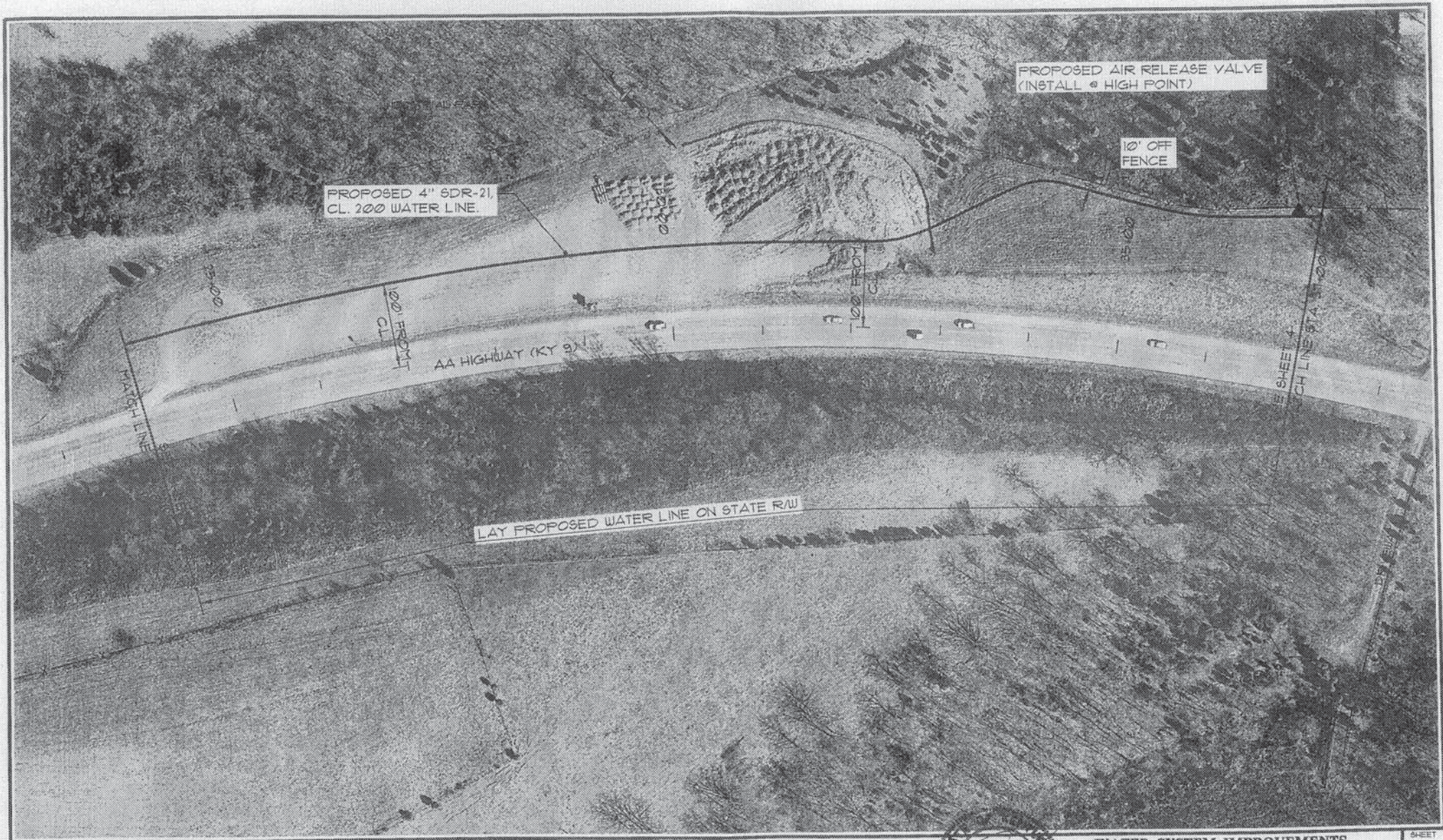
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX
 PROFESSIONAL ENGINEERS, INC.



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

OLD PEA RIDGE ROAD - STA. 11+00 TO STA. 24+00

SHEET
 2
 OF
 36



PROPOSED 4" 8DR-21,
CL. 200 WATER LINE.

PROPOSED AIR RELEASE VALVE
(INSTALL @ HIGH POINT)

10' OFF
FENCE

100' FRONT
CL.

AA HIGHWAY (KY 9)

100' FRONT
CL.

LAY PROPOSED WATER LINE ON STATE R/W

E SHEET 4
RCH LINE STA 37+00

NO.	DATE	REVISIONS	CHKD	APPD	DATE

PROJECT: 481200		DATE: DEC 2010	
SCALE: 1"=100'			
DESIGNED BY	JDR	NAME	DATE
DRAWN BY	SAB		
CHECKED BY	JDR		
RECORD DWSG.			

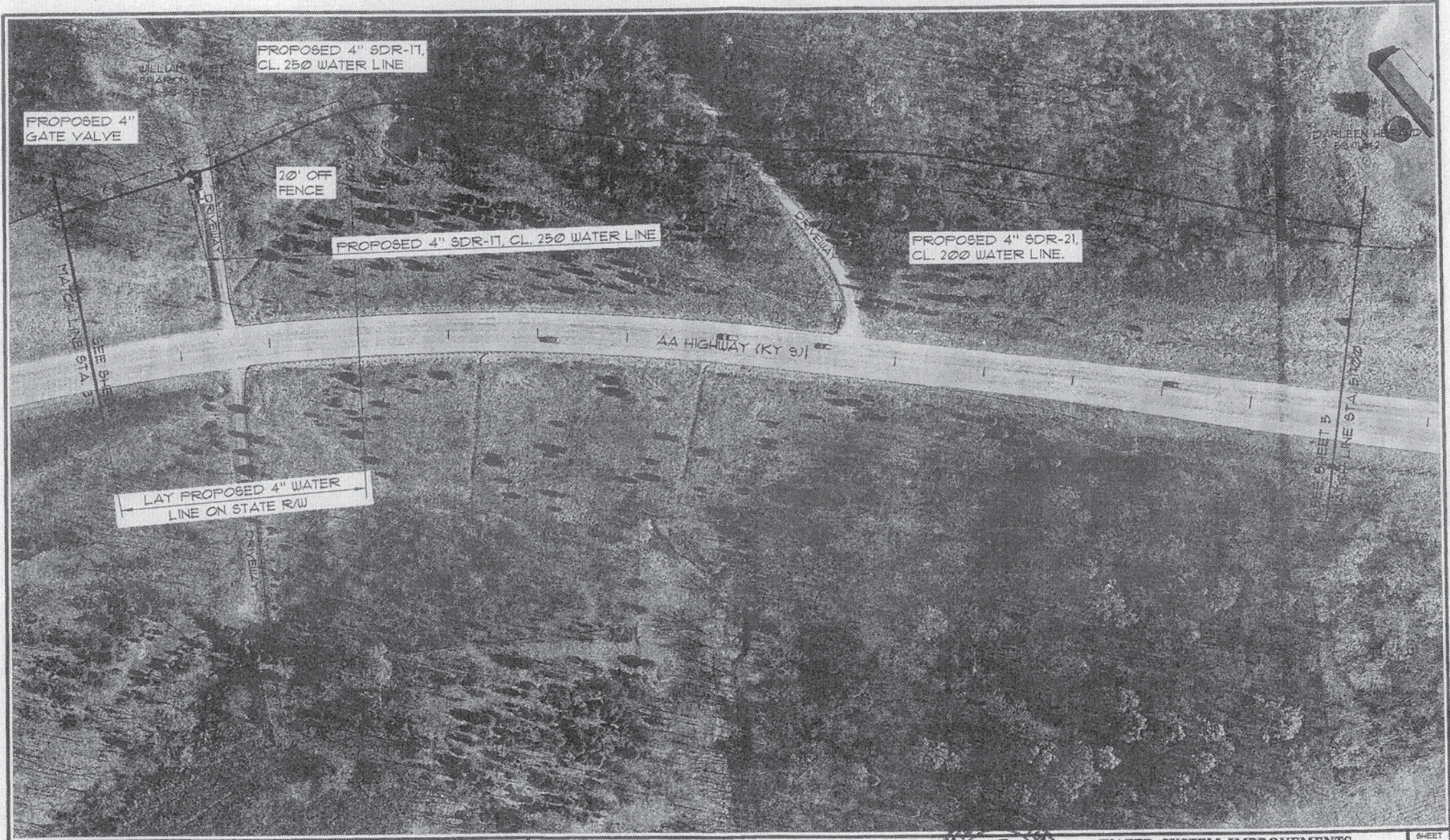


3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-5800
(502) 695-5810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY
OLD PEA RIDGE ROAD - STA. 24+00 TO STA. 37+00

SHEET
3
OF
36



NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 463200 DATE: DEC 2010
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JOR	JOR	
DRAWN BY	SAB	
CHECKED BY	JOR	
RECORD DUSA		



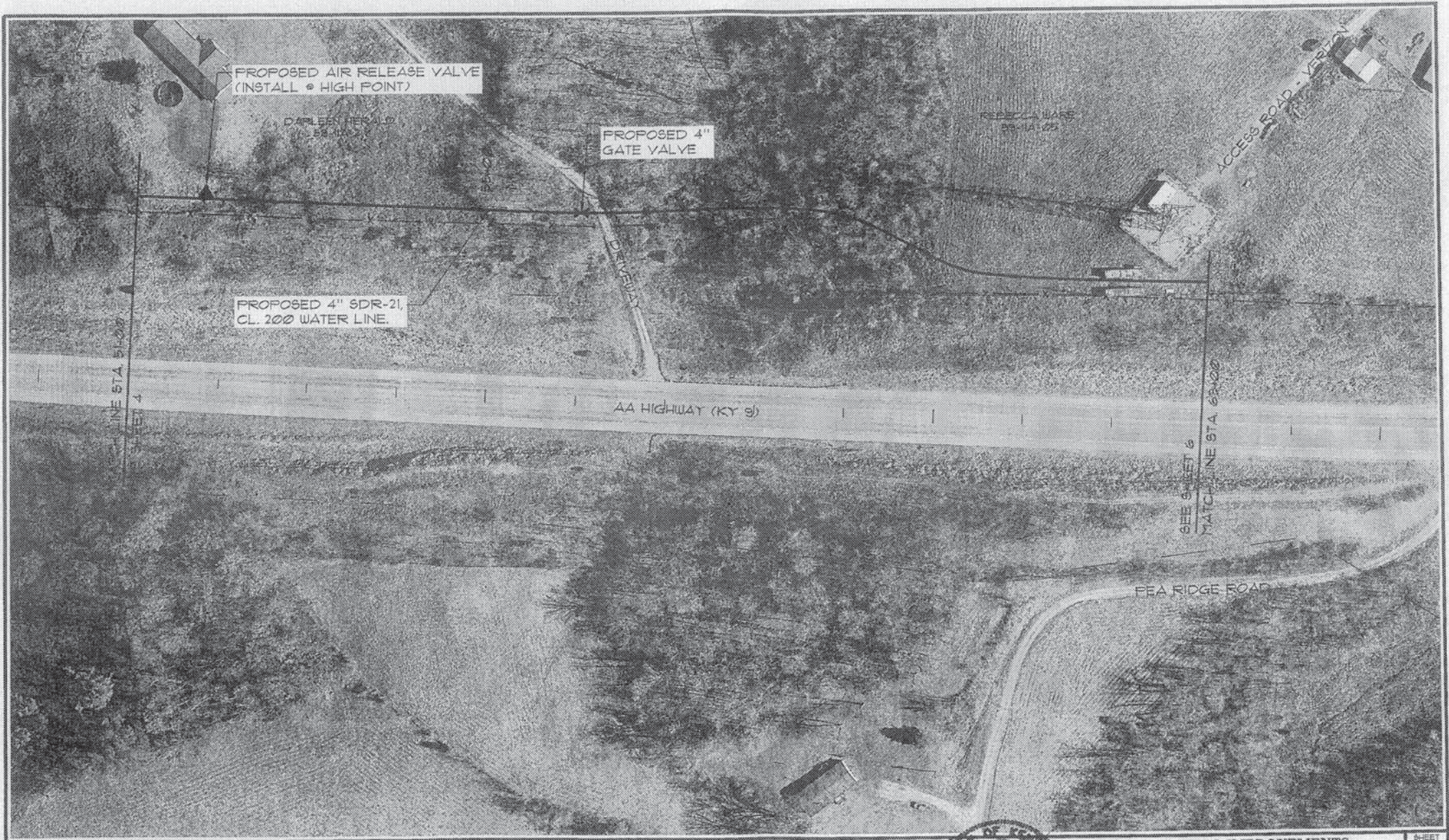
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-3800
 (502) 695-3810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

OLD PEA RIDGE ROAD - STA. 37+00 TO STA. 51+00

SHEET 4 OF 36



PROJECT: 46258 DATE: DEC. 2010
 SCALE: 1"=100'

DESIGNED BY	DATE
JDR	
DRAWN BY	DATE
SAB	
CHECKED BY	DATE
JDR	
RECORD DWG.	DATE



3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-3800
 (502) 695-9810 FAX

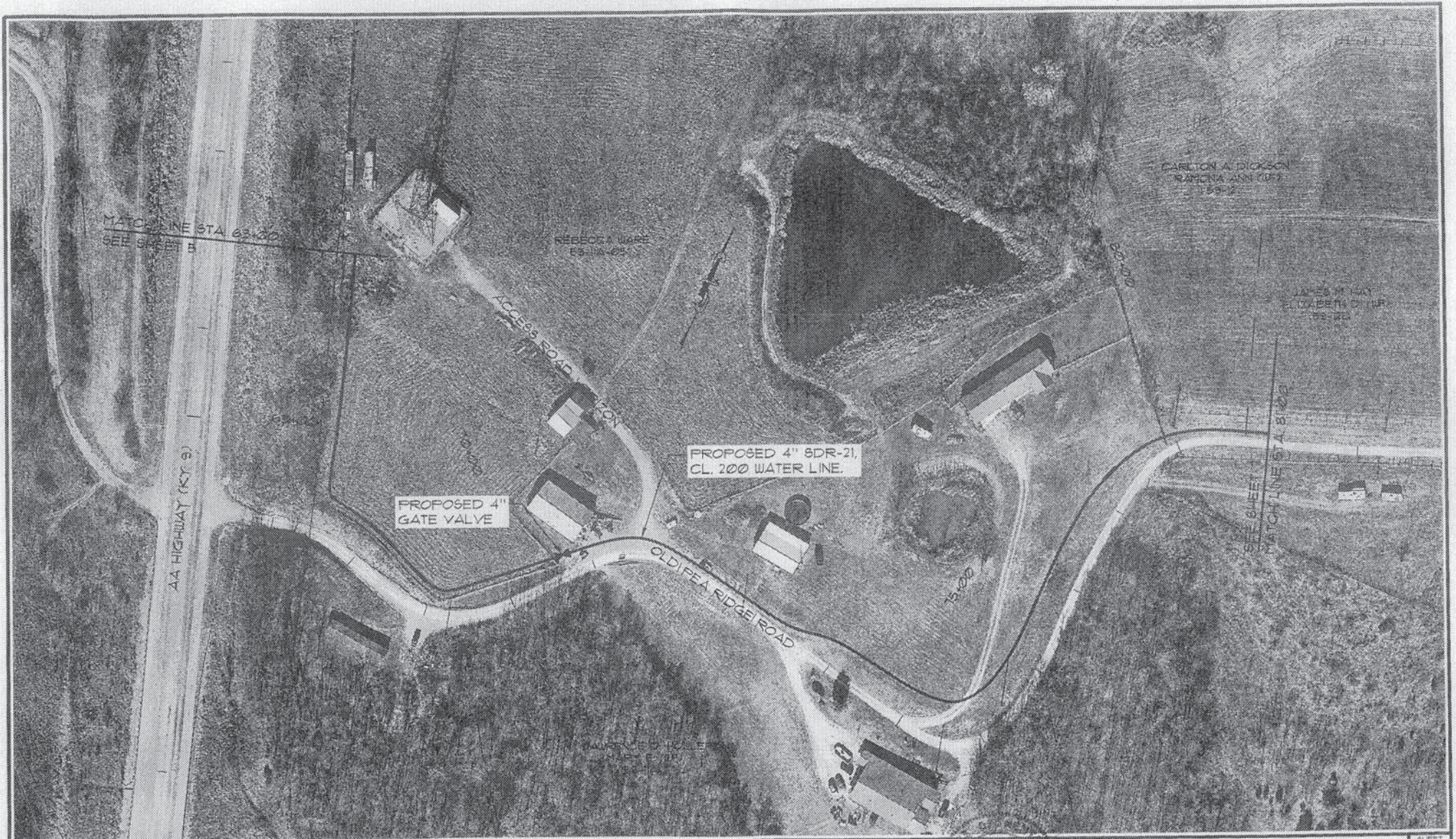


WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY

OLD PEA RIDGE ROAD - STA. 51+00 TO STA. 63+00

NO.	DATE	REVISIONS	CHKD	APPRD	DATE

SHEET
 5
 OF
 36



MATCH LINE STA 63+00
SEE SHEET B

ACCESS ROAD

REBECCA WARE
E3-11A-05

CARLTON A. DICKSON
RACHA ANN 0057
E3-11A-05

JAMES M. HAY
ELIZABETH D. HAY
02-02-01

PROPOSED 4" GATE VALVE

PROPOSED 4" SDR-21,
CL. 200 WATER LINE.

OLD PEA RIDGE ROAD

SEE SHEET C
MATCH LINE STA 81+00

AA HIGHWAY (KY 9)

NO.	DATE	REVISIONS	CHKD	APP'D	DATE

PROJECT: 49250 DATE: DEC. 2010		
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	JOR	
CHECKED BY	SAB	
RECORD DWG.	JOR	

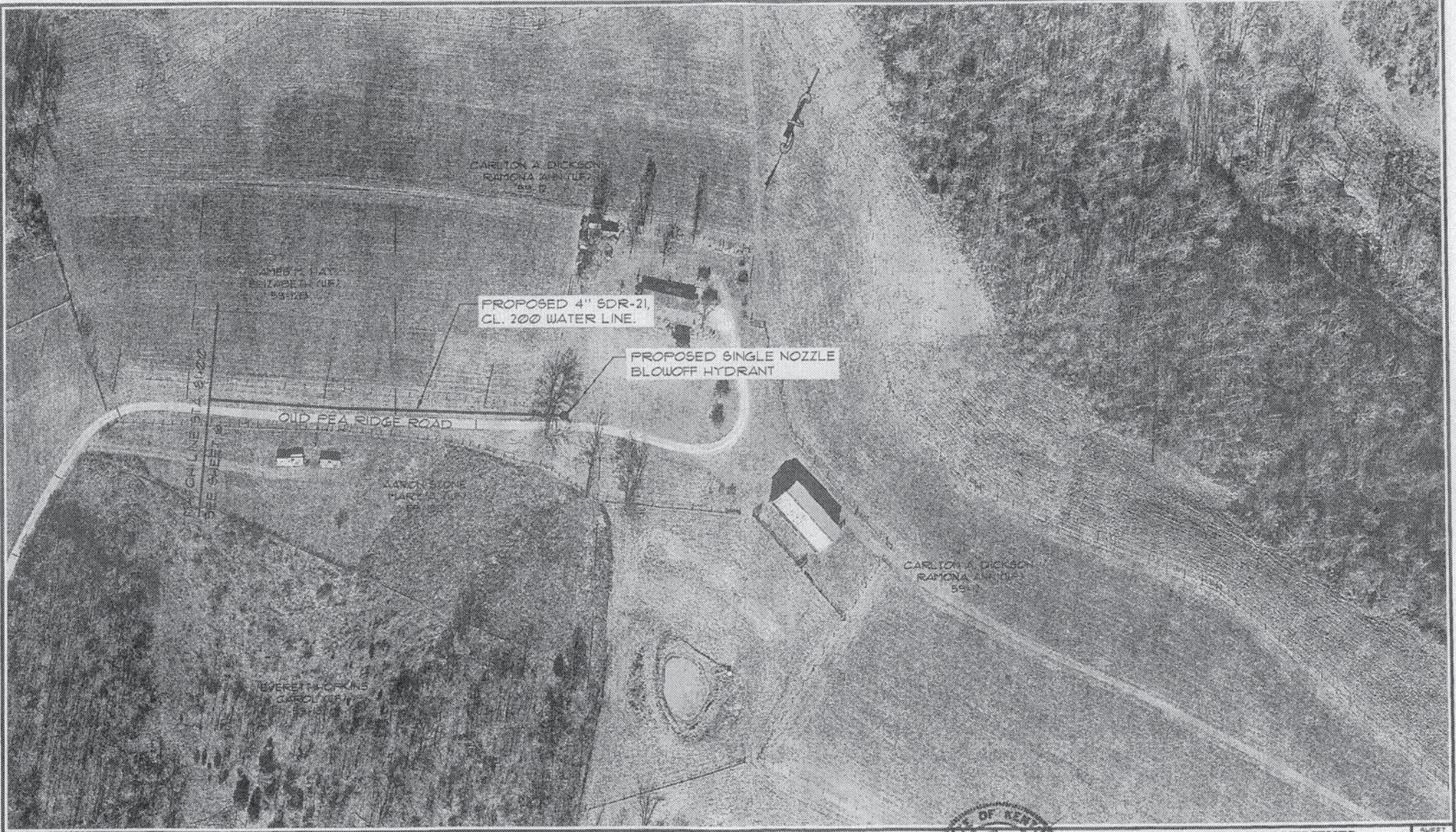


3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-3800
(502) 695-3810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY
OLD PEA RIDGE ROAD - STA. 63+00 TO STA. 81+00

SHEET
6
OF
36



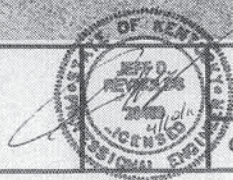
NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 46200 DATE: DEC. 2010
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JDR	JDR	
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DWG.		

HMB
 PROFESSIONAL ENGINEERS, INC.

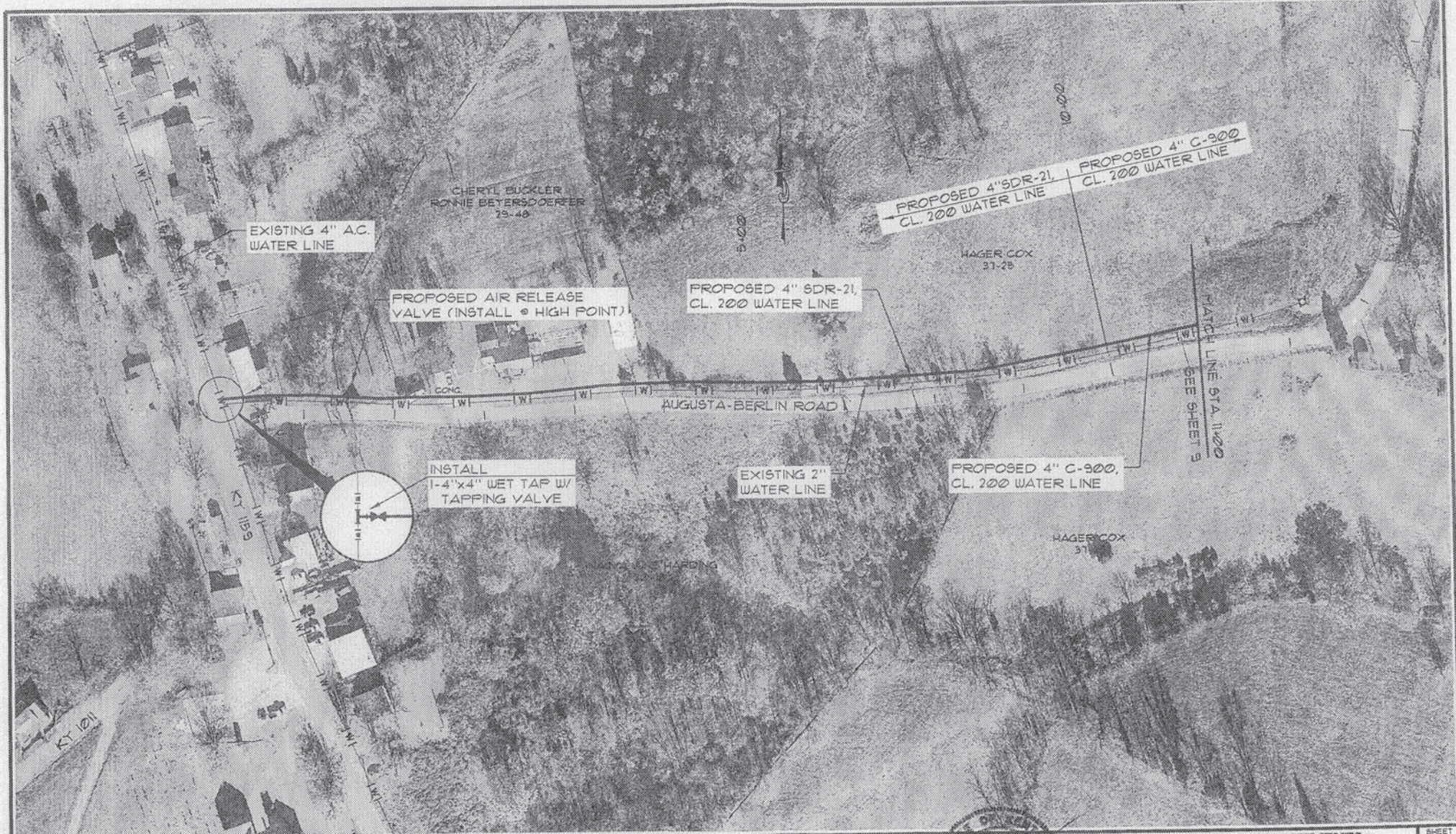
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-2800
 (502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

OLD PEA RIDGE ROAD - STA. 81+00 TO STA. 86+12

SHEET
 1
 OF
 36



PROJECT: 416200 DATE: DEC. 2010
SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JCR		
DRAWN BY	NAME	DATE
SAB		
CHECKED BY	NAME	DATE
JCR		
RECORD DUGS.	NAME	DATE



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 635-3800
(502) 635-9810 FAX

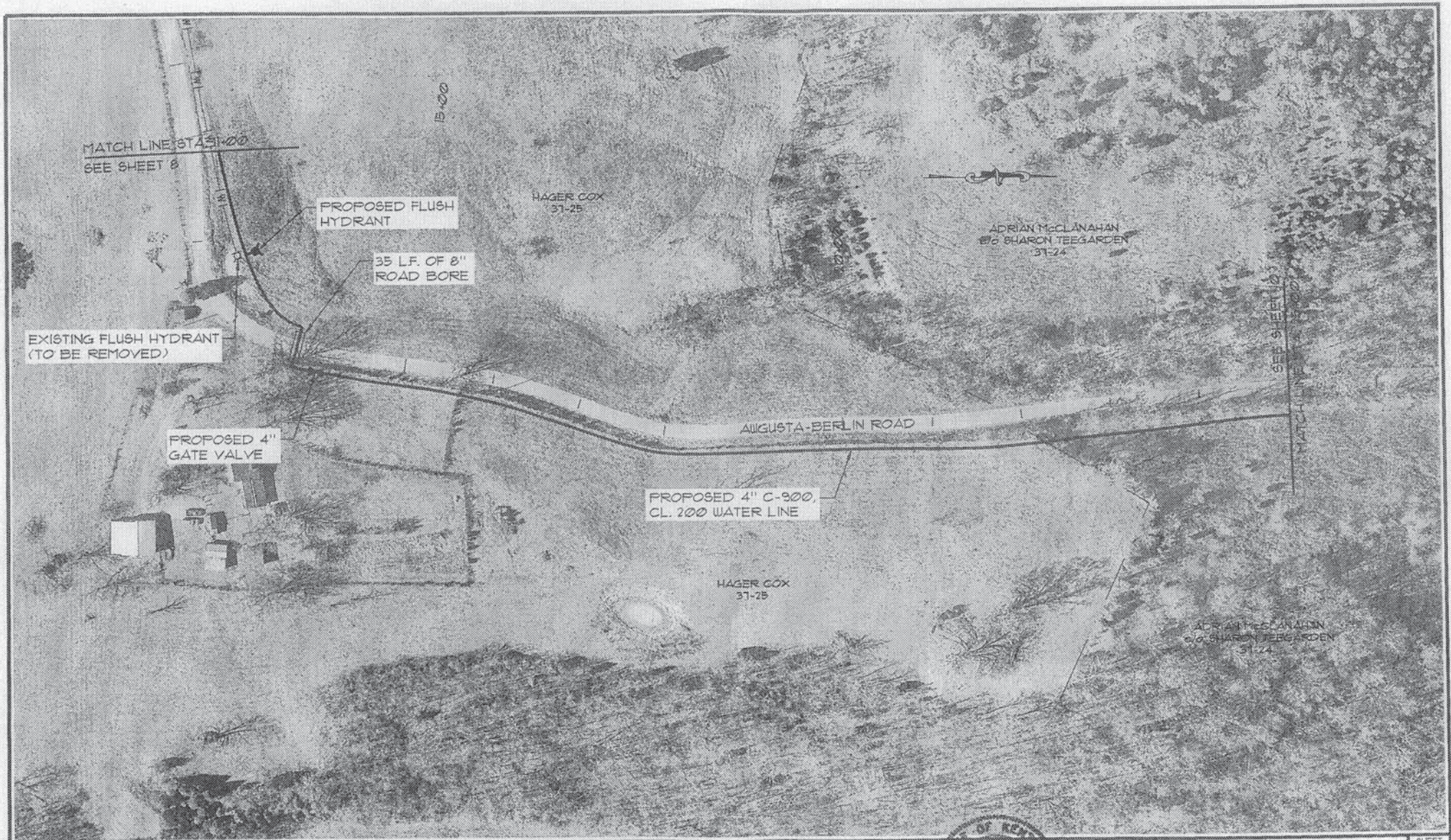


**WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY**

AUGUSTA-BERLIN ROAD - STA. 0+00 TO STA. 11+00

NO.	DATE	REVISIONS	CHKD	APPRD	DATE

SHEET
8
OF
36



NO.	DATE	REVISIONS	CHK'D	APP'D	DATE

PROJECT: 462200		DATE: DEC. 2010	
SCALE: 1"=100'			
DESIGNED BY	JDR	NAME	DATE
DRAWN BY	SAB		
CHECKED BY	JDR		
RECORD DUGS			



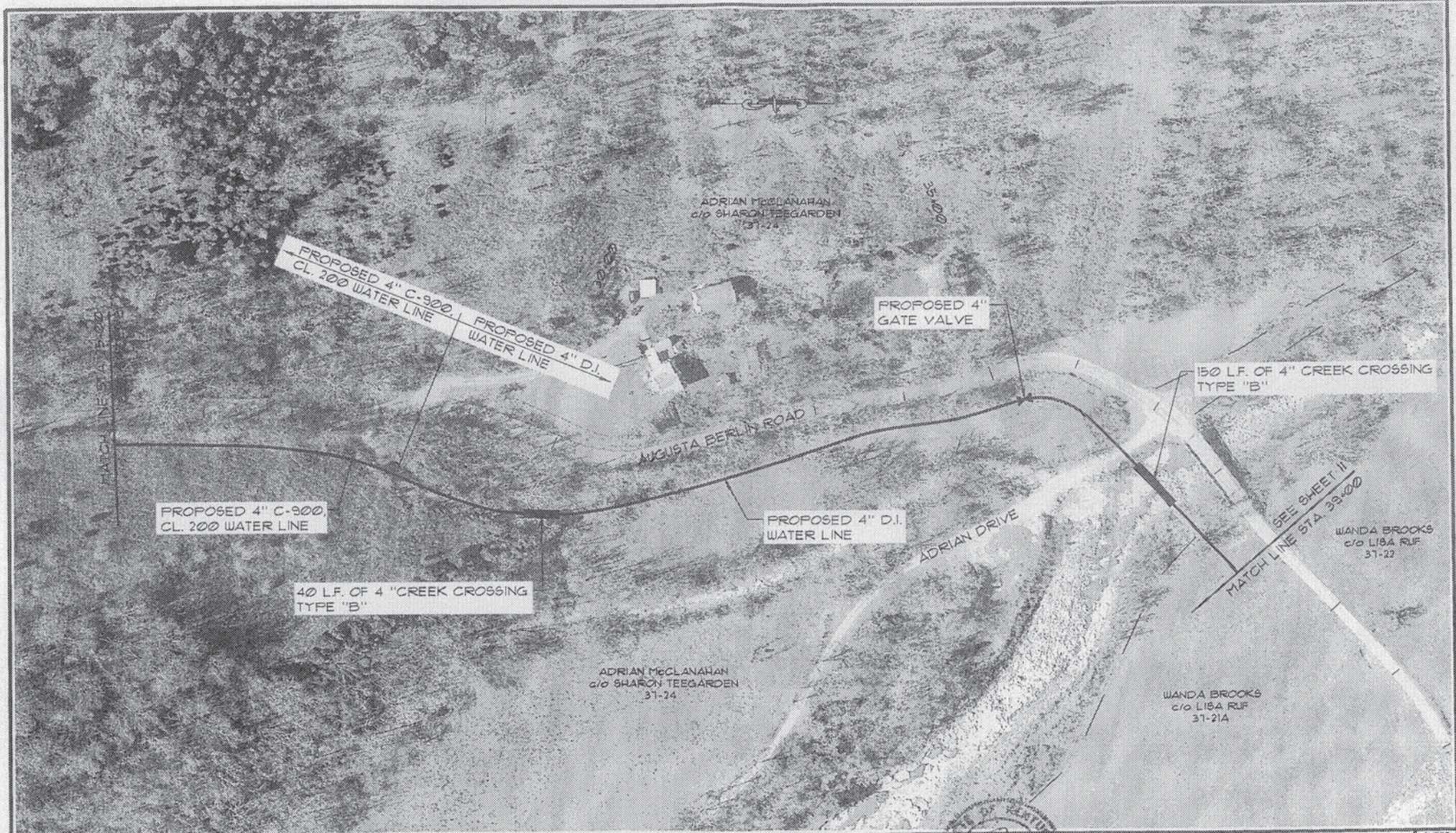
3414 E. CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9300
(502) 695-9310 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

AUGUSTA-BERLIN ROAD - STA. 11+00 TO STA. 25+00

SHEET
9
OF
36



NO.	DATE	REVISIONS	CHKD	APPR'D	DATE

PROJECT: 491200		DATE: DEC 2010
SCALE: 1"=100'		
DESIGNED BY:	NAME:	DATE:
DRAWN BY:	JDR	
CHECKED BY:	SAB	
RECORD DUG:	JDR	



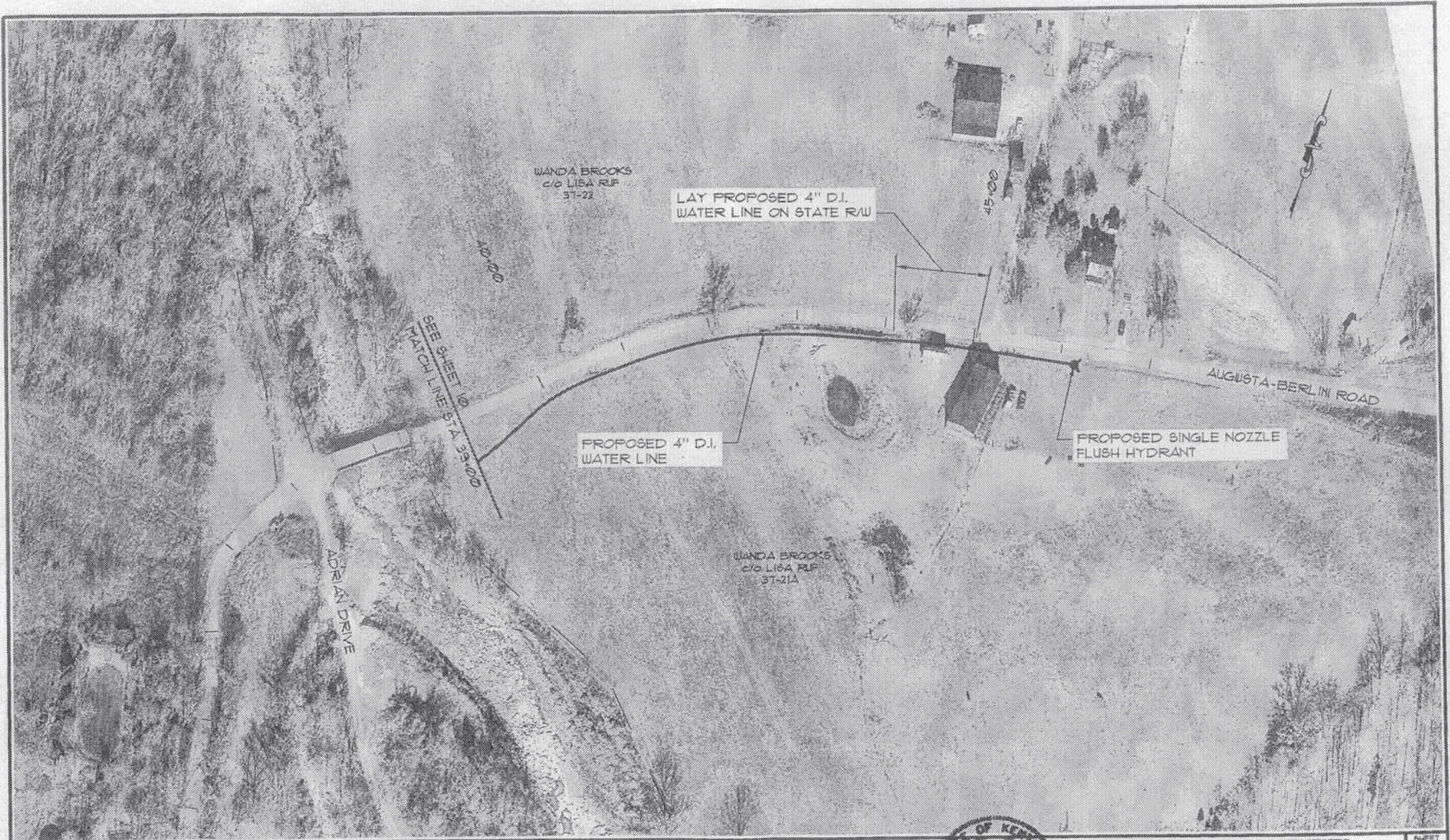
3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 635-9800
(502) 635-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

AUGUSTA-BERLIN ROAD - STA. 25+00 TO STA. 39+00

SHEET
10
OF
36



NO.	DATE	REVISIONS	CHKD.	APP'D.	DATE

PROJECT: 46200	DATE: DEC 2010	
SCALE: 1"=100'		
DESIGNED BY:	NAME	DATE
DRAWN BY:	JDR	
CHECKED BY:	SAB	
RECORD DUSA:	JDR	



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9800
(502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

AUGUSTA-BERLIN ROAD - STA. 39+00 TO STA. 46+15

SHEET
11
OF
36

INSTALL
 12"X12" TEE
 1-12" GATE VALVE
 1-AIR RELEASE VALVE
 CUT & CAP EXISTING WATER LINE
 ONCE NEW WATER LINE IS IN SERVICE

EXISTING AIR
 RELEASE VALVE

ROBERT T. JONES
 KAREN S. (W/P)
 43-16A

EXISTING 12" PVC
 WATER LINE

EXISTING AIR
 RELEASE VALVE

PROPOSED 12" D.I.
 WATER LINE

EXISTING 12" D.I. WATER LINE

EXISTING 12" PVC WATER LINE

STANFORD BOSTER TRUST
 43-16

STANFORD BOSTER TRUST
 43-08

NOTE :
 PROPOSED 12" WATER LINE SHALL BE
 LAID IN THE EXISTING EASEMENT WHEN LAID
 PARALLEL TO THE EXISTING WATER LINE.

MATCHLINE STA. 13+00
 SEE SHEET 13

NO.	DATE	REVISIONS	CHKD.	APP'D.	DATE

PROJECT: 43-16-00		DATE: MARCH 2011	
SCALE: 1"=100'			
DESIGNED BY:	JDR	NAME	DATE
DRAWN BY:	SAB		
CHECKED BY:	JDR		
RECORD DSG.			



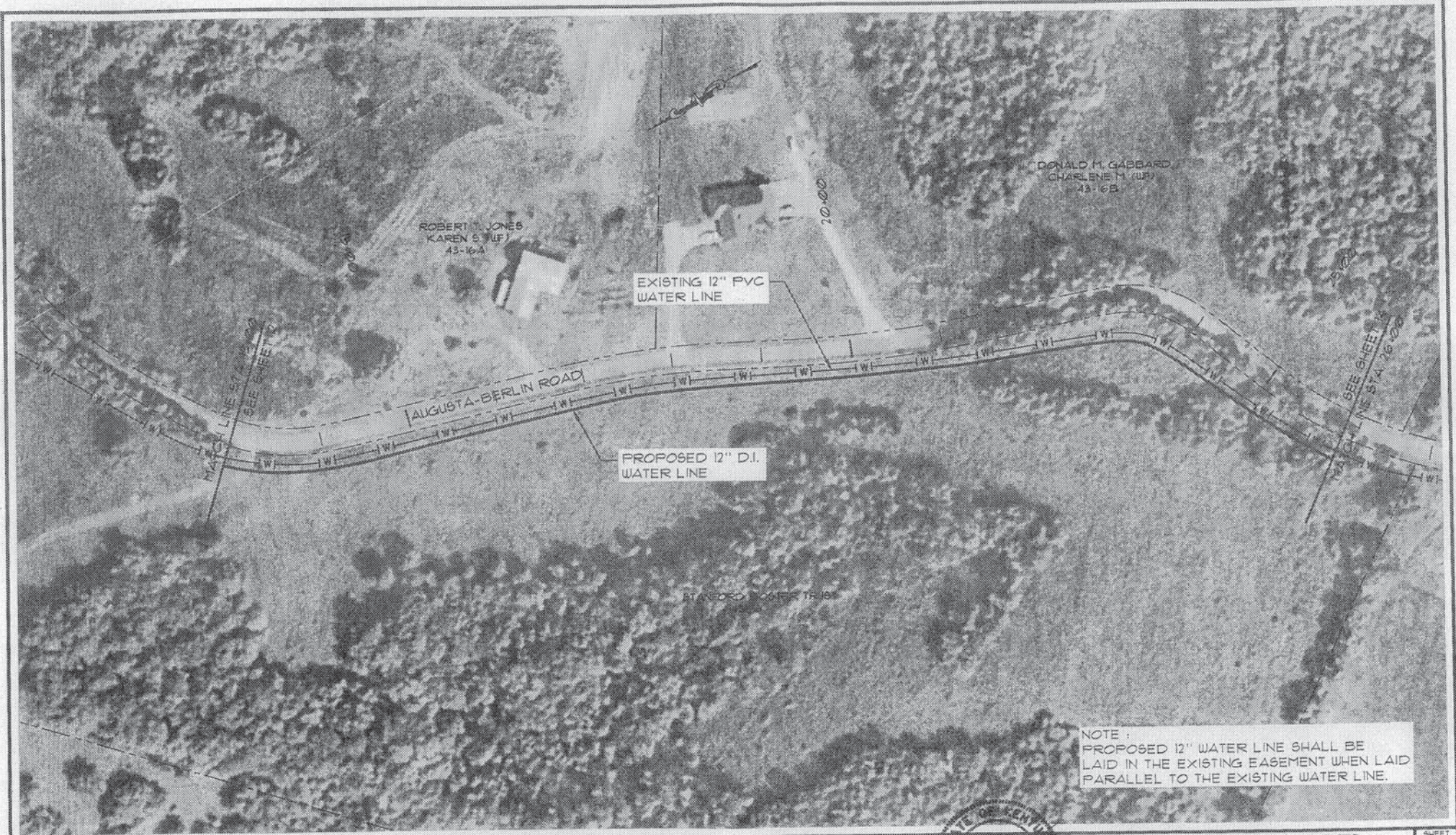
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY

GAUGUSTA-BERLIN ROAD (12" D.I.) - STA. 0+00 TO STA. 13+00

SHEET
 12
 OF
 36



NOTE:
 PROPOSED 12" WATER LINE SHALL BE LAID IN THE EXISTING EASEMENT WHEN LAID PARALLEL TO THE EXISTING WATER LINE.

NO.	DATE	REVISIONS	CHKD.	APP'D.	DATE

PROJECT: 467.00	DATE: MARCH 2011
SCALE: 1"=100'	
DESIGNED BY: JOR	NAME: JOR
DRAIN BY: SAB	DATE: JOR
CHECKED BY: JOR	
RECORD DUGS:	



3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



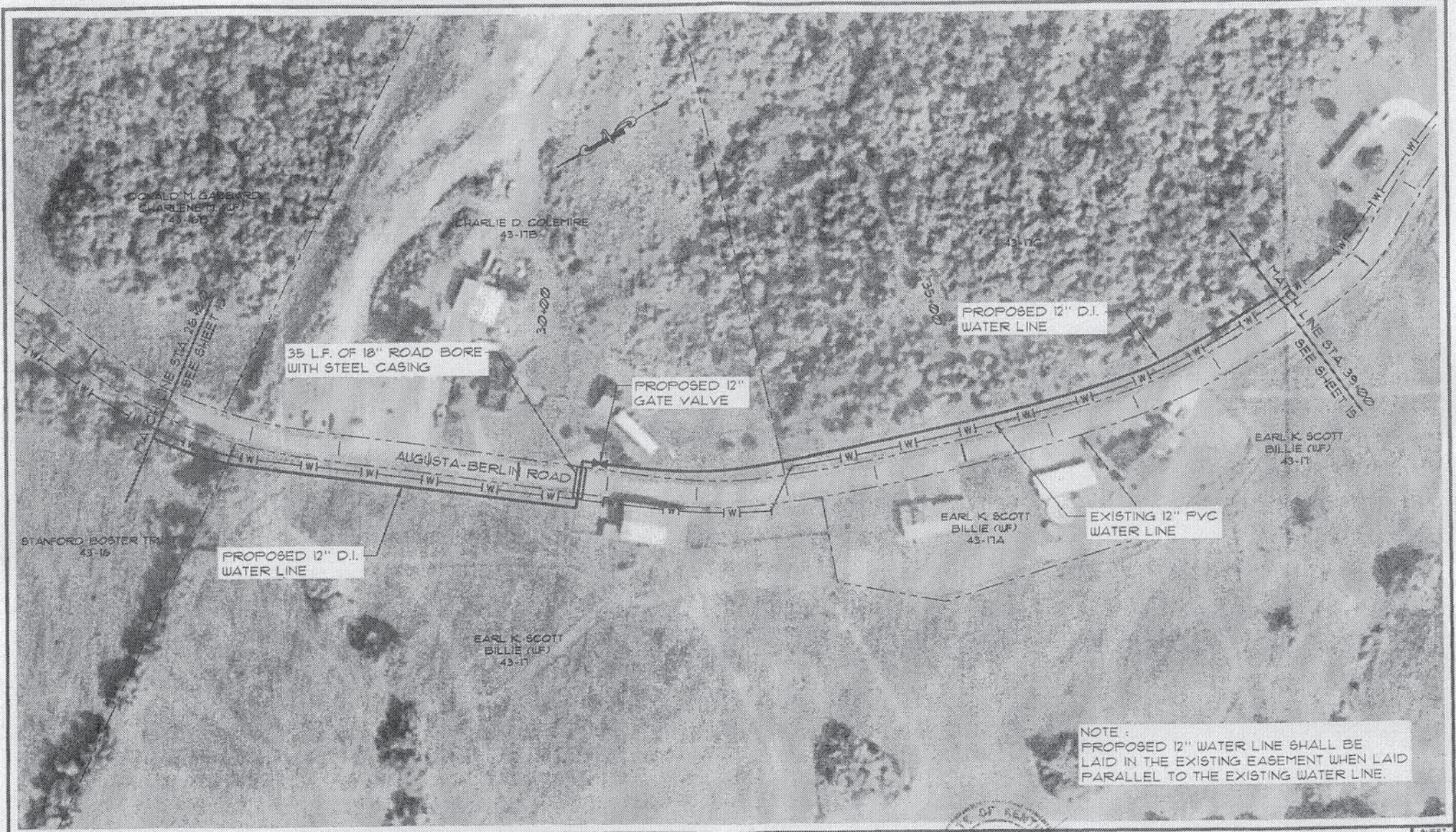
**WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY**

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 13+00 TO STA. 26+00

SHEET
 13
 OF
 36

j:\eng\4162\CD\AUGUSTA-BERLIN ROAD-12" D.I..dwg, 4/14/2011 11:27:44 AM, EW, PLOT

000027



NO.	DATE	REVISIONS	CHK'D	APPROV'D	DATE

PROJECT: 416200		DATE: MARCH 2011	
SCALE: 1"=100'			
DESIGNED BY	JDR	NAME	DATE
DRAWN BY	SAB		
CHECKED BY	JDR		
RECORD DUGS			



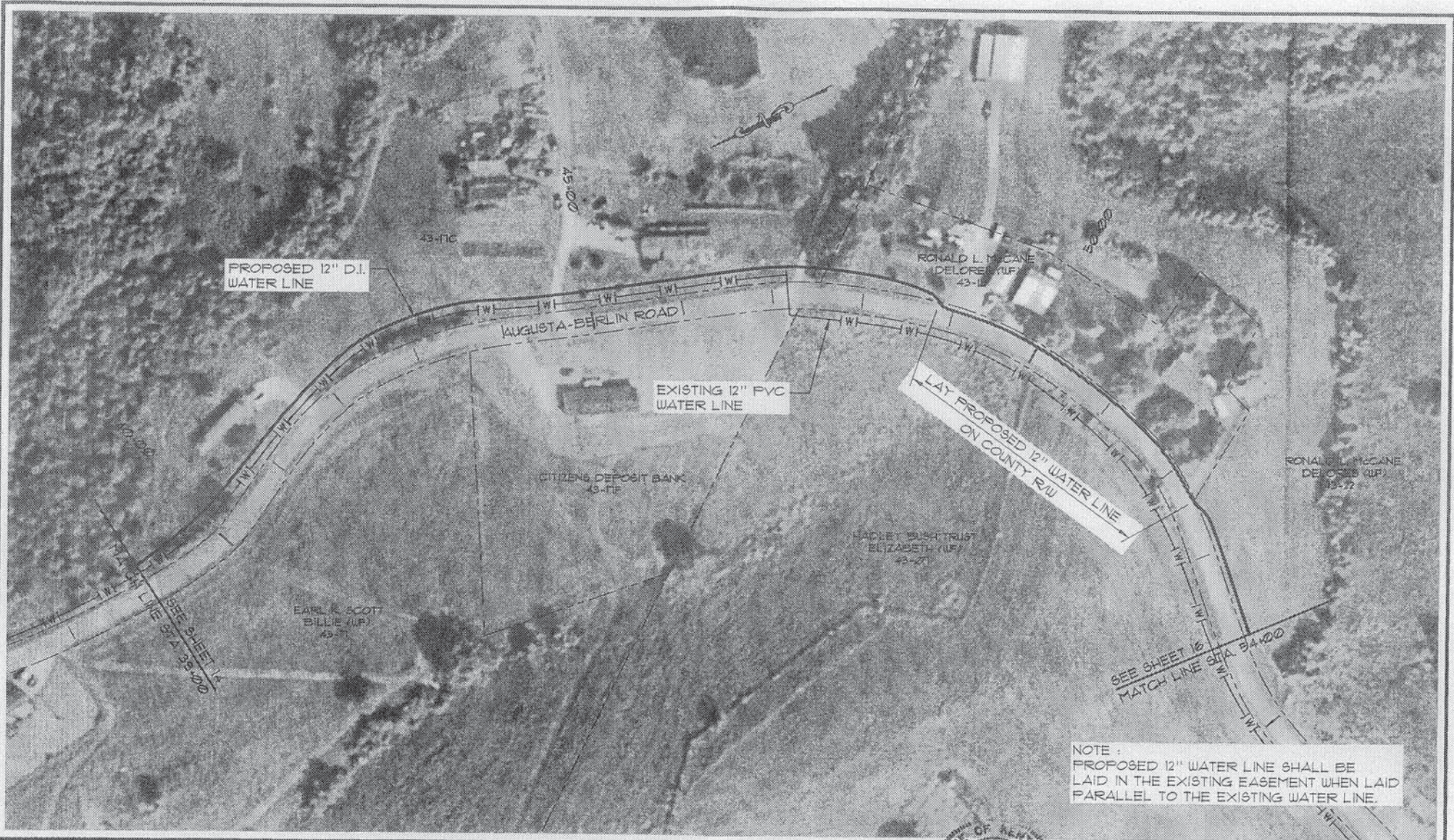
3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9800
(502) 695-9810 FAX



**WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY**

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 26+00 TO STA. 39+00

SHEET
14
OF
36



NOTE :
 PROPOSED 12" WATER LINE SHALL BE LAID IN THE EXISTING EASEMENT WHEN LAID PARALLEL TO THE EXISTING WATER LINE.

NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 462260 DATE: MARCH 2011
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JDR	JDR	
DRAWN BY	NAME	DATE
SAB	SAB	
CHECKED BY	NAME	DATE
JDR	JDR	
RECORD DWSA	NAME	DATE



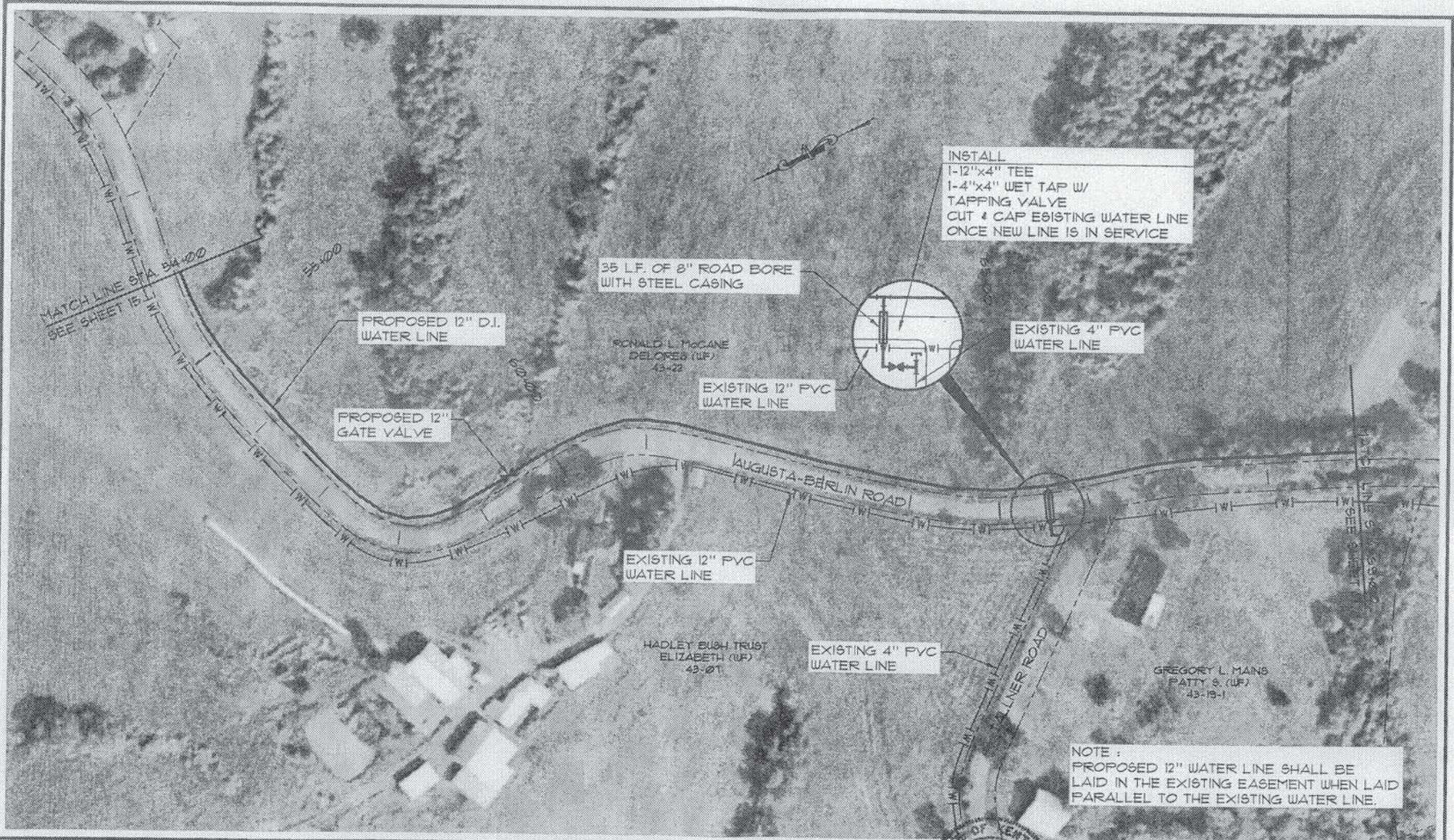
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 635-3600
 (502) 635-2810 FAX



**WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY**

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 39+00 TO STA. 54+00

SHEET 15
 OF 36



INSTALL
 1-12"x4" TEE
 1-4"x4" WET TAP W/
 TAPPING VALVE
 CUT & CAP EXISTING WATER LINE
 ONCE NEW LINE IS IN SERVICE

35 LF. OF 8" ROAD BORE
 WITH STEEL CASING

RONALD L. McCANE
 DELORES (UF)
 43-22

EXISTING 4" PVC
 WATER LINE

EXISTING 12" PVC
 WATER LINE

EXISTING 12" PVC
 WATER LINE

HADLEY BUSH TRUST
 ELIZABETH (UF)
 43-01

EXISTING 4" PVC
 WATER LINE

GREGORY L. MAINS
 PATTY S. (UF)
 43-19-1

NOTE :
 PROPOSED 12" WATER LINE SHALL BE
 LAID IN THE EXISTING EASEMENT WHEN LAID
 PARALLEL TO THE EXISTING WATER LINE.

NO.	DATE	REVISIONS	CHKD.	APPRD.	DATE

PROJECT: 46250 DATE: MARCH 2011
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JDR	JDR	
DRAWN BY	NAME	DATE
SAB	SAB	
CHECKED BY	NAME	DATE
JDR	JDR	
RECORD DUGS	NAME	DATE



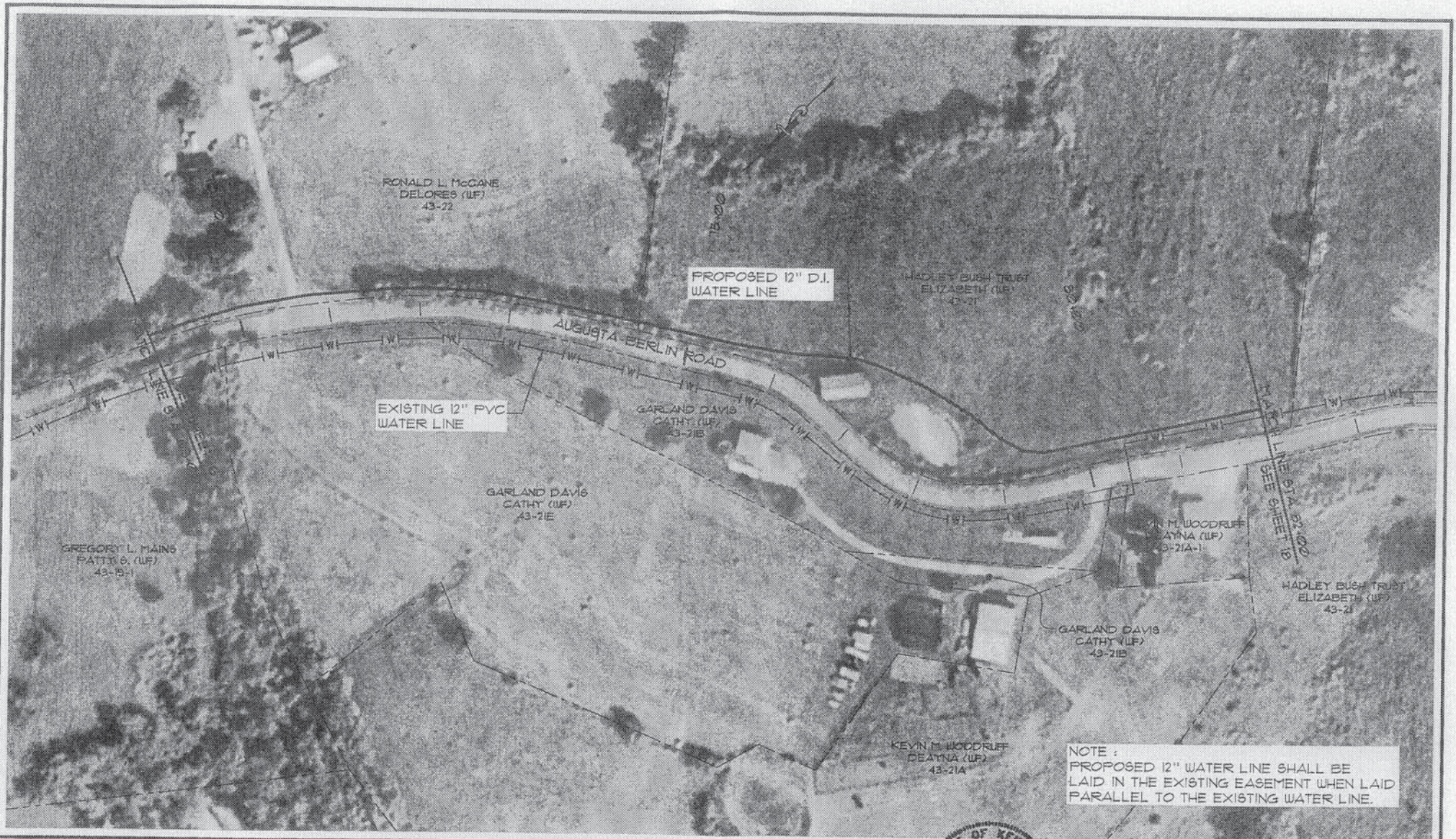
3147B CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-3800
 (502) 695-9910 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 54+00 TO STA. 69+00

SHEET
 16
 OF
 36



NOTE :
 PROPOSED 12" WATER LINE SHALL BE
 LAID IN THE EXISTING EASEMENT WHEN LAID
 PARALLEL TO THE EXISTING WATER LINE.

NO.	DATE	REVISIONS	CHKD.	APPRD.	DATE

PROJECT: 418200		DATE: MARCH 2011	
SCALE: 1"=100'			
DESIGNED BY	JDR	NAME	DATE
DRAWN BY	SAB		
CHECKED BY	JDR		
RECORD DWSG.			



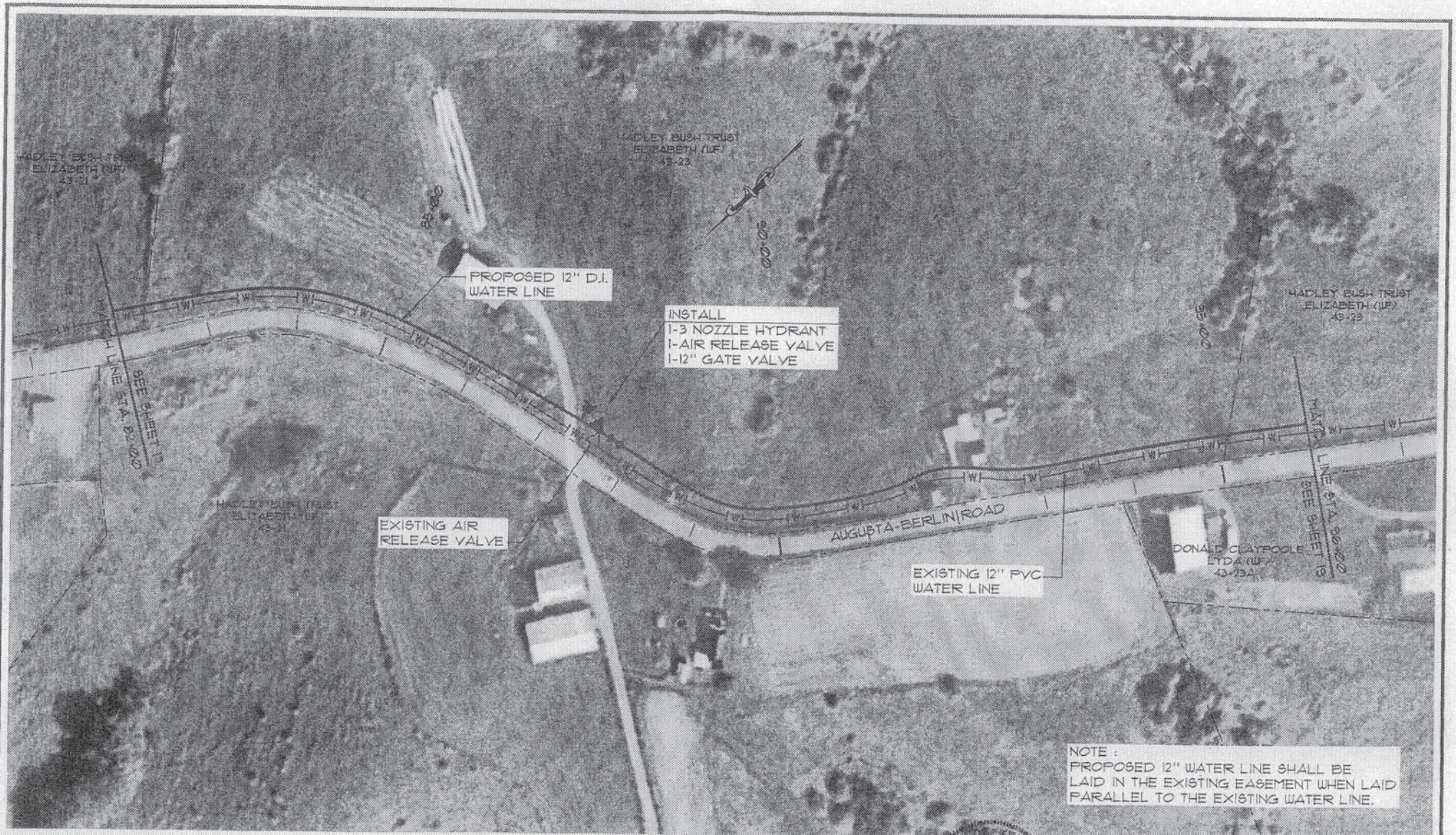
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 635-5800
 (502) 635-9810 FAX



**WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY**

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 69+00 TO STA. 82+00

SHEET	17
OF	36



NOTE :
 PROPOSED 12" WATER LINE SHALL BE
 LAID IN THE EXISTING EASEMENT WHEN LAID
 PARALLEL TO THE EXISTING WATER LINE.

NO.	DATE	REVISIONS	CHKD	APP'D	DATE

PROJECT: 410200	DATE: MARCH 2011	
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JDK	
RECORD DWG.		



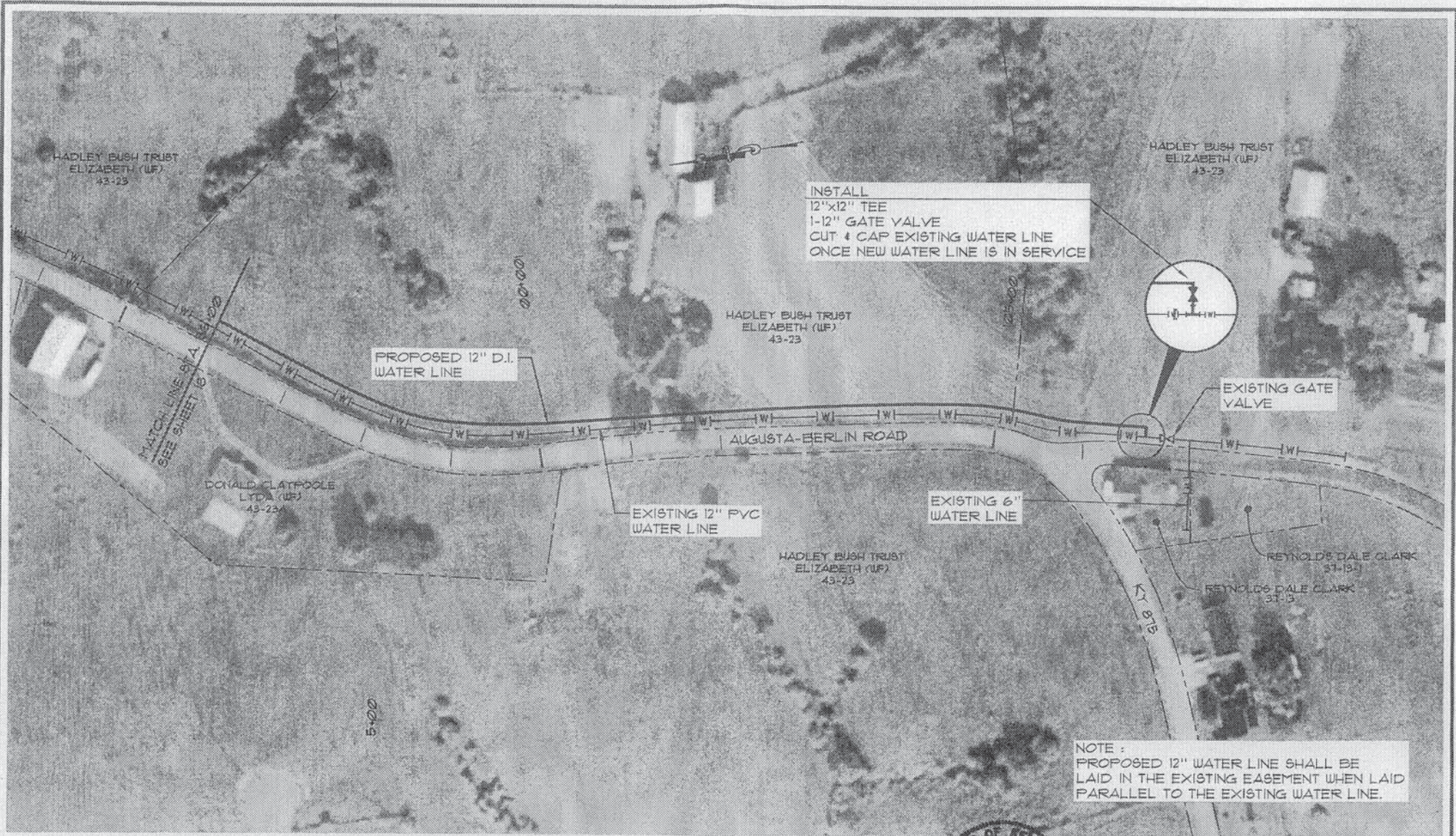
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



**WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY**

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 82+00 TO STA. 96+00

SHEET
 18
 OF
 36



INSTALL
 12"x12" TEE
 1-12" GATE VALVE
 CUT & CAP EXISTING WATER LINE
 ONCE NEW WATER LINE IS IN SERVICE

PROPOSED 12" D.I.
 WATER LINE

EXISTING 12" PVC
 WATER LINE

EXISTING 6"
 WATER LINE

EXISTING GATE
 VALVE

NOTE:
 PROPOSED 12" WATER LINE SHALL BE
 LAID IN THE EXISTING EASEMENT WHEN LAID
 PARALLEL TO THE EXISTING WATER LINE.

NO.	DATE	REVISIONS	CHKD	APPVD	DATE

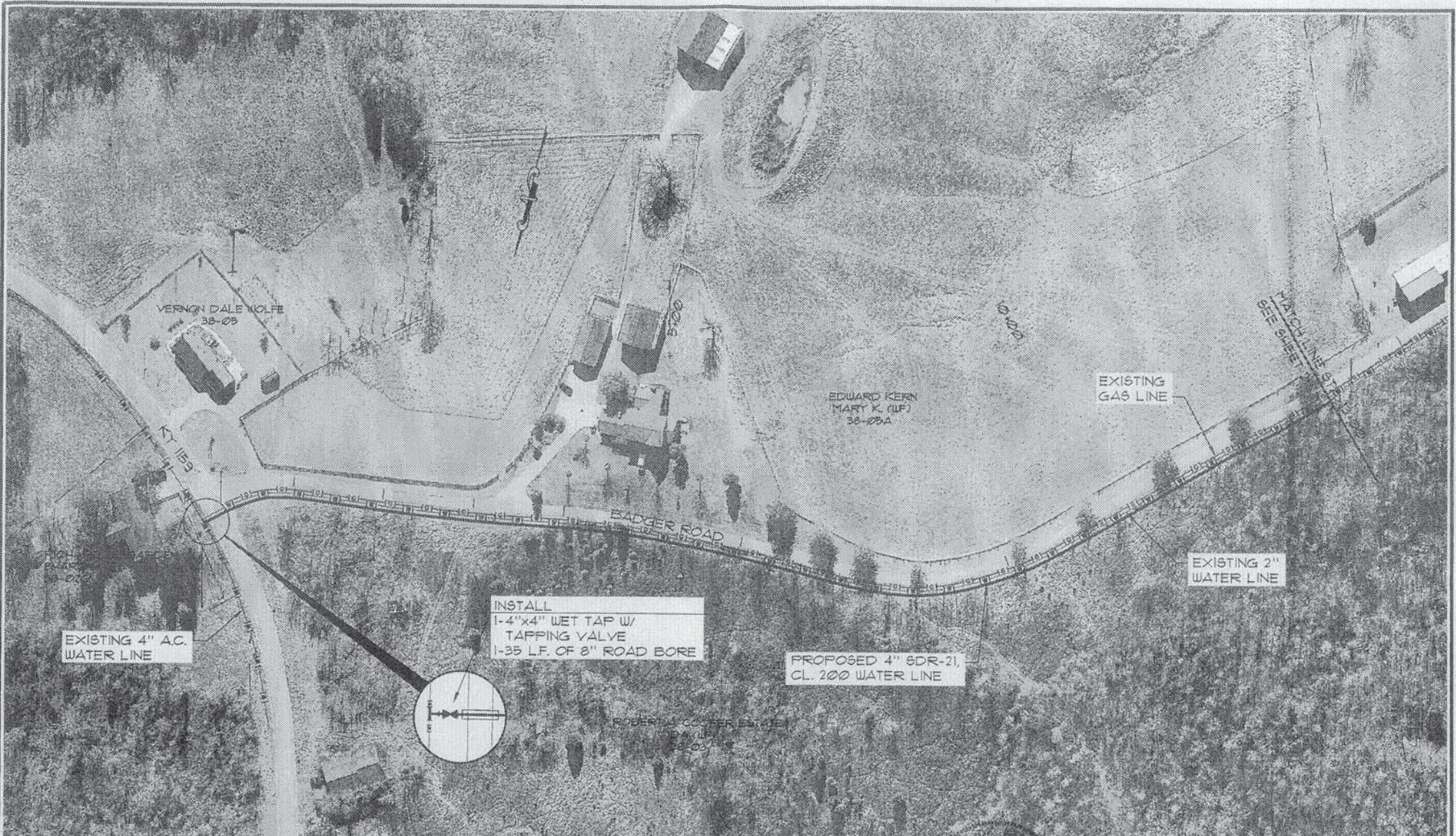
PROJECT: 4162.00	DATE: MARCH 2008	
SCALE: 1"=100'		
DESIGNED BY: JOR	NAME: JOR	DATE:
DRAWN BY: SJB	NAME: SJB	
CHECKED BY: JOR	NAME: JOR	
RECORD DSGS:		



WATER SYSTEM IMPROVEMENTS
 BRACKEN COUNTY WATER DISTRICT
 BRACKEN COUNTY, KENTUCKY

AUGUSTA-BERLIN ROAD (12" D.I.) - STA. 96+00 TO STA. 196+70

SHEET
 19
 OF
 36



EXISTING 4" AC. WATER LINE

INSTALL
 1-4"x4" WET TAP W/
 TAPPING VALVE
 1-35 LF. OF 8" ROAD BORE

PROPOSED 4" SDR-21,
 CL. 200 WATER LINE

EXISTING GAS LINE

EXISTING 2" WATER LINE

NO.	DATE	REVISIONS	CHKD	APPRD	DATE

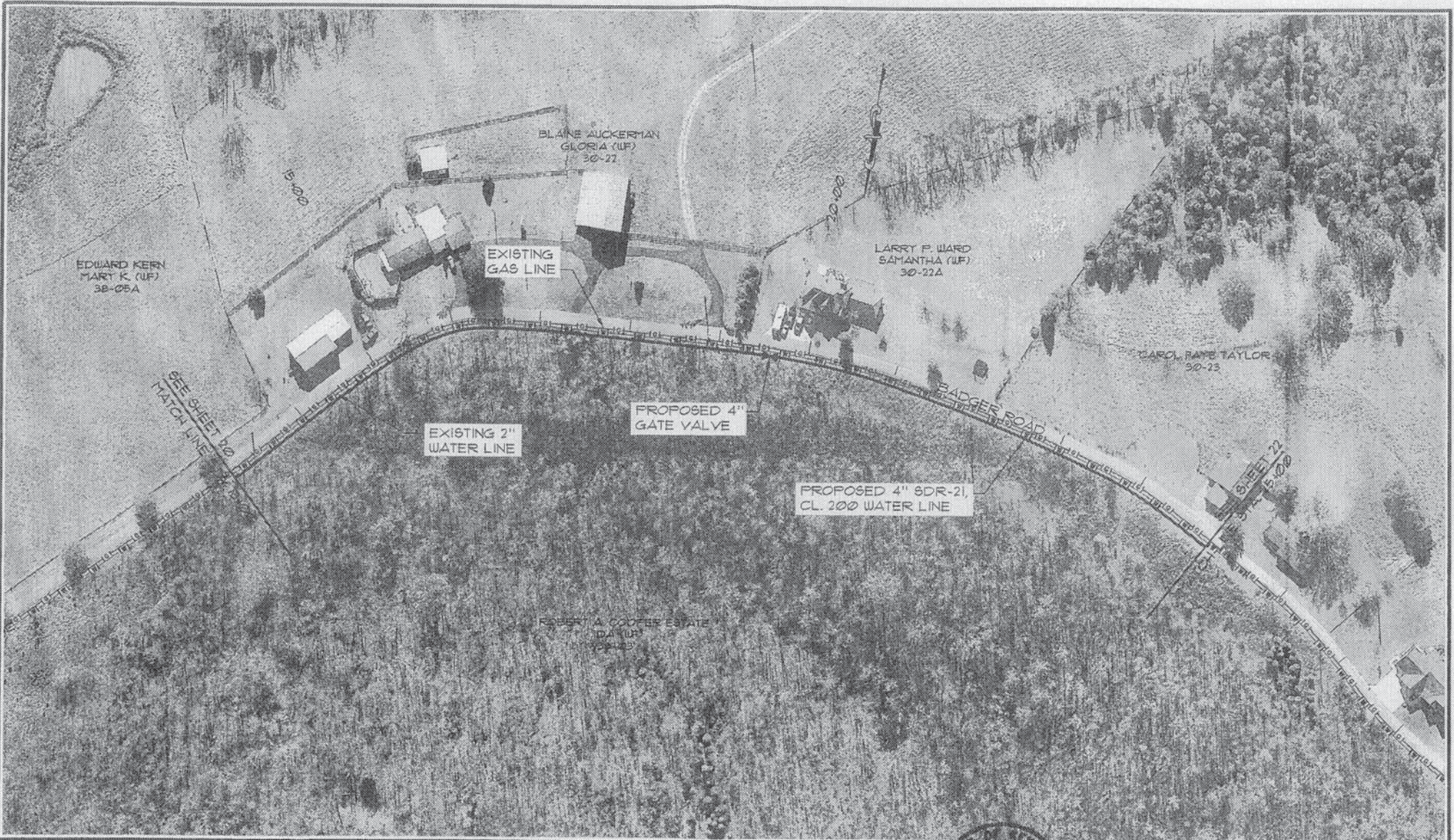
PROJECT: 462.00		DATE: DEC. 2010	
SCALE: 1"=100'			
DESIGNED BY:	NAME	DATE	
DRAWN BY:	JCR		
CHECKED BY:	SAS		
RECORD DUSA:	JCR		

HMB
 PROFESSIONAL ENGINEERS, INC.
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 638-3300
 (502) 638-3810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY
 BADGER ROAD - STA. 0+00 TO STA. 13+00

SHEET
 20
 OF
 36



NO.	DATE	REVISIONS	CHKD	APP'D	DATE

PROJECT: 416260 DATE: DEC. 2010
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JCR	JCR	
DRAWN BY	SAB	
CHECKED BY	JCR	
RECORD DWSA		

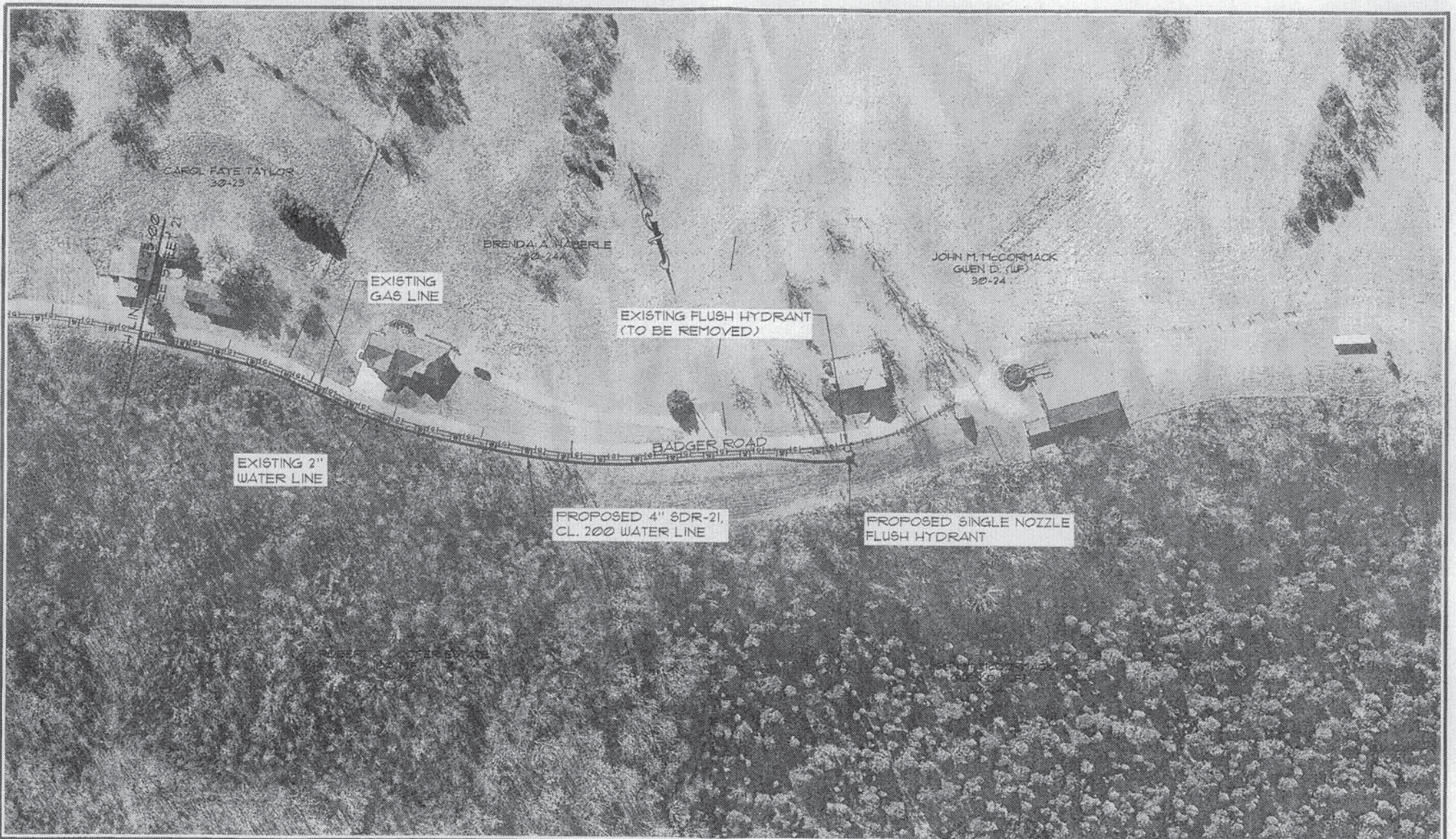
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

BADGER ROAD - STA. 13+00 TO STA. 25+00

SHEET
 21
 OF
 36



NO.	DATE	REVISIONS	CHKD.	APP'D.	DATE

PROJECT: 46200 DATE: DEC. 2010		
SCALE: 1"=100'		
DESIGNED BY:	NAME:	DATE:
DRAWN BY:	EAB	
CHECKED BY:	JCR	
RECORD DSGN:		



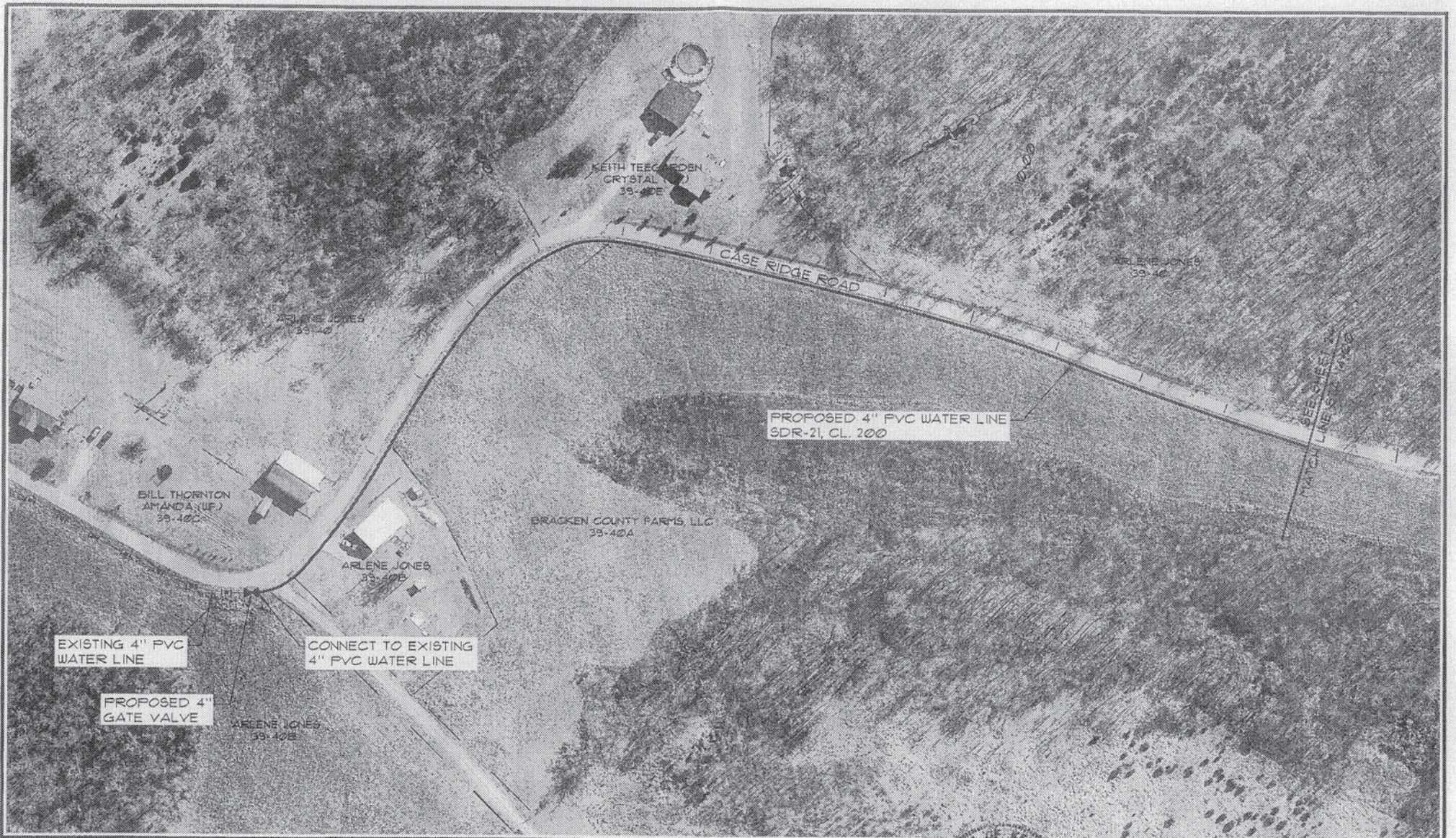
3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9000
(502) 695-9910 FAX



**WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY**

BADGER ROAD - STA. 25+00 TO STA. 33+00

SHEET
22
OF
36



P:\PROJECTS\1212\CAD\CASE RIDGE ROAD.dwg, 4/15/2011, 4:00:00 PM, BVL_PST-PT

NO.	DATE	REVISIONS	CHKD	APP'D	DATE

PROJECT: 4162.00	DATE: DEC. 2010	
SCALE: 1"=100'		
DESIGNED BY:	NAME	DATE
DRAWN BY:	JOR	
CHECKED BY:	SAB	
RECORD DSGN:	JOR	



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 635-3800
(502) 635-9810 FAX

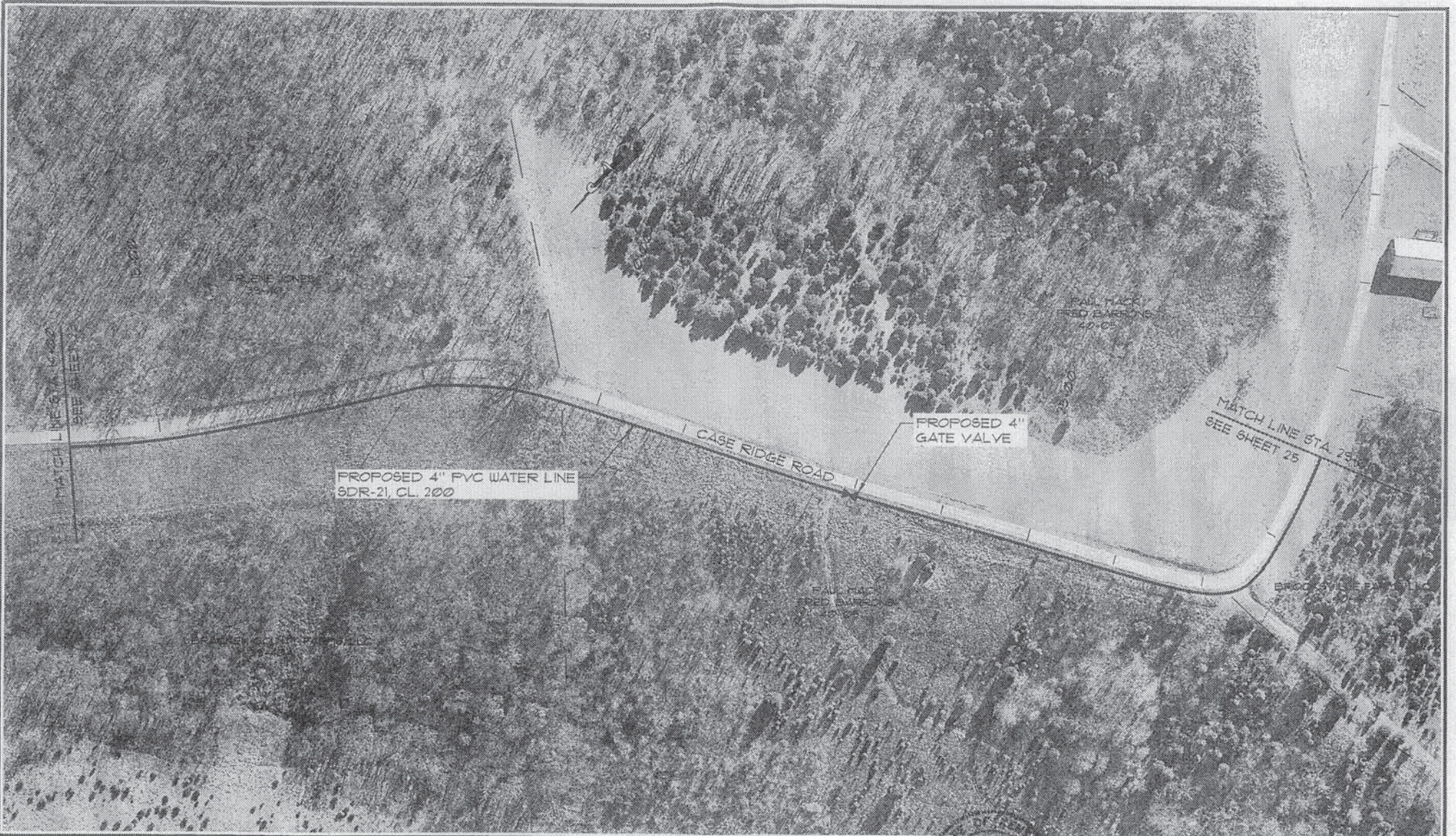


WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

CASE RIDGE ROAD - STA. 0+00 TO STA. 14+00

SHEET
23
OF
36

000037



NO.	DATE	REVISIONS	CHKD	APP'D	DATE

PROJECT: 462200	DATE: DEC 2010	
SCALE: 1"=100'		
DESIGNED BY: JDR	NAME: JDR	DATE:
DRAWN BY: SAE	NAME: SAE	DATE:
CHECKED BY: JDR	NAME: JDR	DATE:
RECORD DUSA		

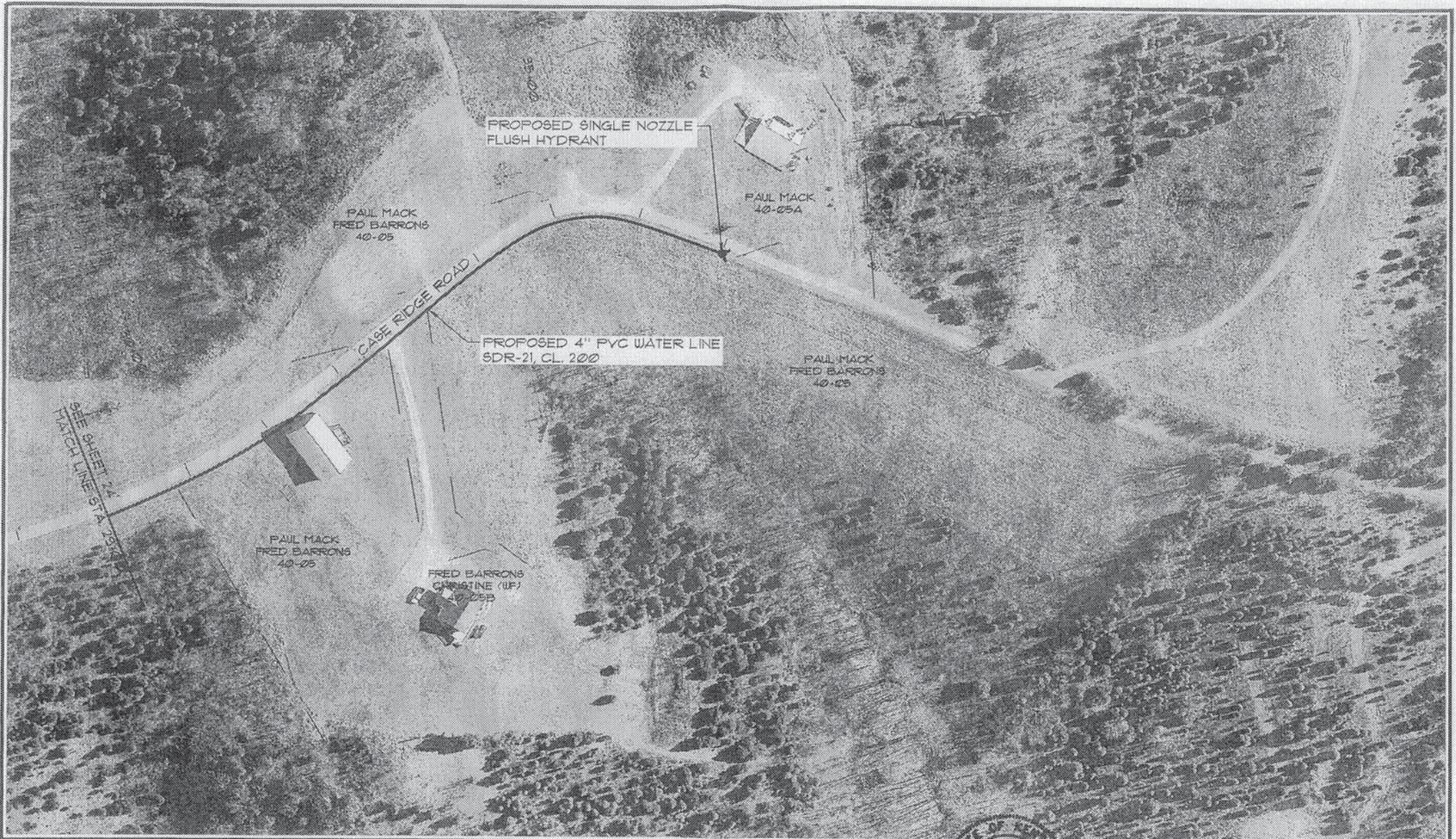
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

CASE RIDGE ROAD - STA. 14+00 TO STA. 29+00

SHEET 24
 OF 36



NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 46200		DATE: DEC 2010
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	JJR	
CHECKED BY	SAB	
RECORD DWG	JJR	



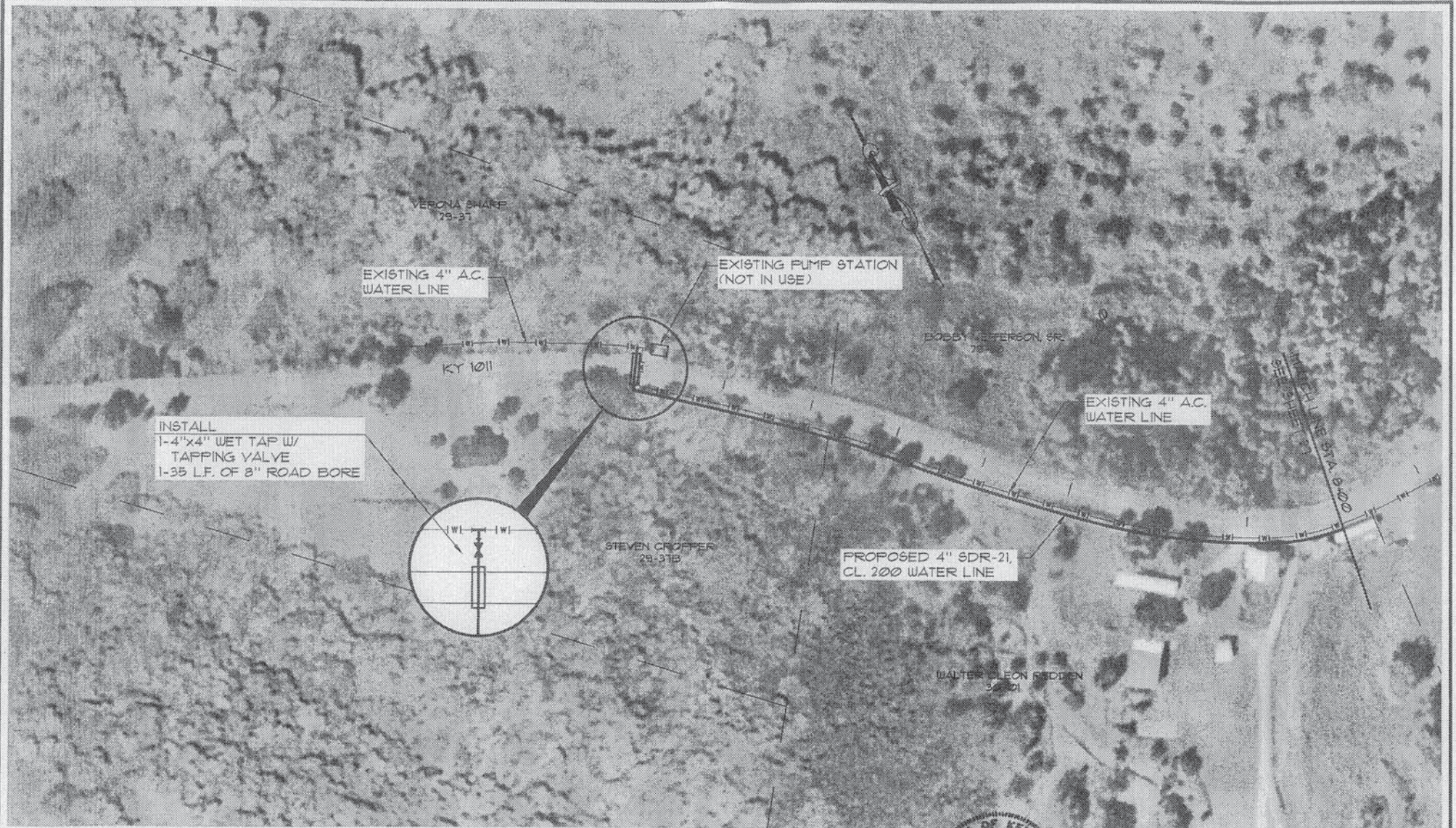
3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-2800
(502) 695-2810 FAX



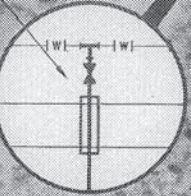
WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

CASE RIDGE ROAD - STA. 29+00 TO STA. 37+00

SHEET
25
OF
36



INSTALL
 1-4"x4" WET TAP W/
 TAPPING VALVE
 1-35 L.F. OF 8" ROAD BORE

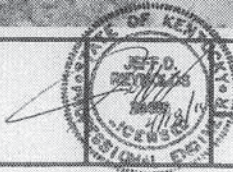


NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 48220	DATE: FEB. 2011	
SCALE: 1"=100'		
DESIGNED BY: JOR	NAME: JOR	DATE:
DRAWN BY: SAB	NAME: SAB	DATE:
CHECKED BY: JOR	NAME: JOR	DATE:
RECORD DWG:	NAME:	DATE:



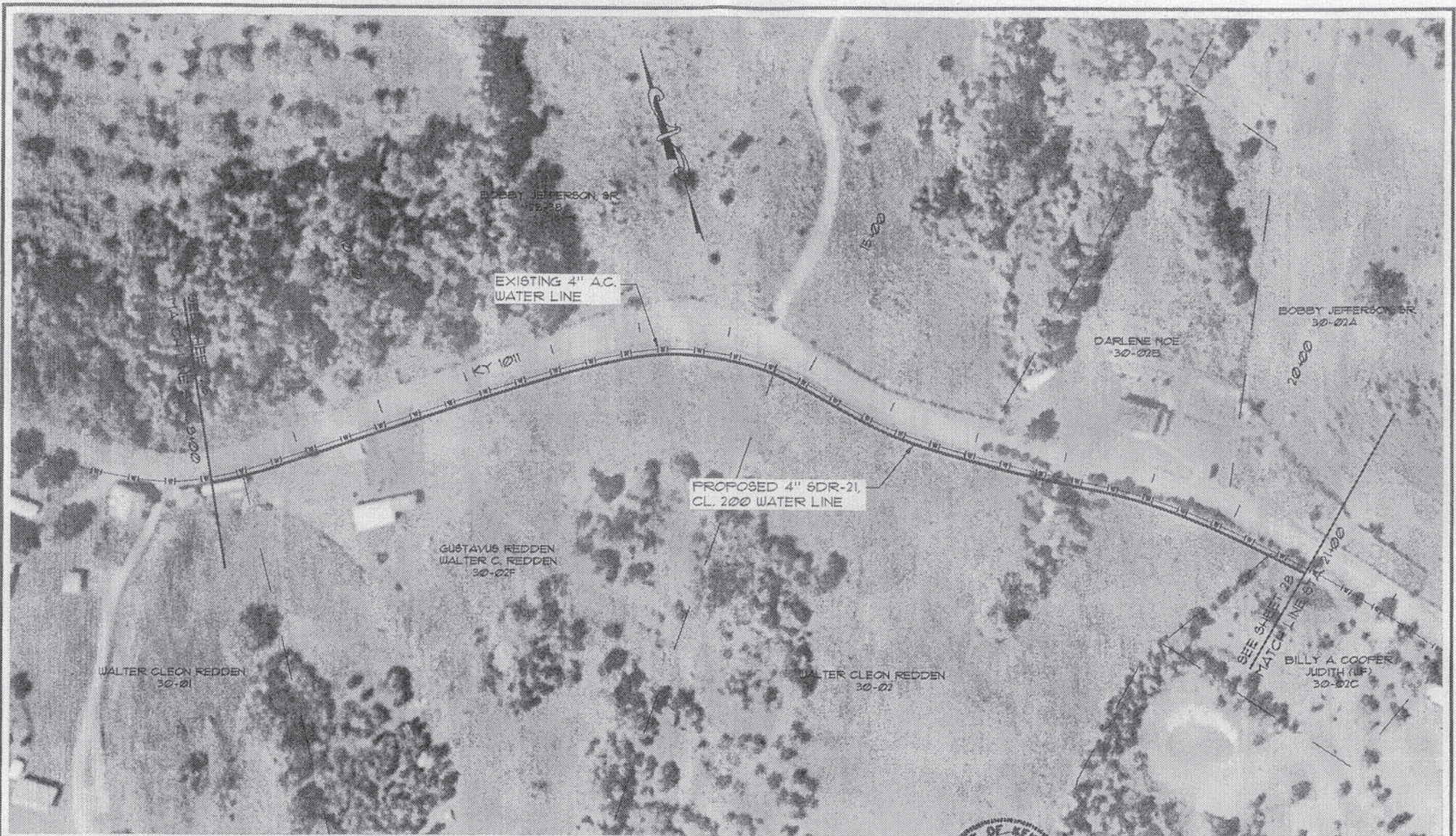
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 655-2800
 (502) 655-5810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 - STA. 0+00 TO STA. 8+00

SHEET
 26
 OF
 36



NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 46200 DATE: FEB. 2011
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JCR	JCR	
DRAWN BY	SAS	
CHECKED BY	JCR	
RECORD DSGN		



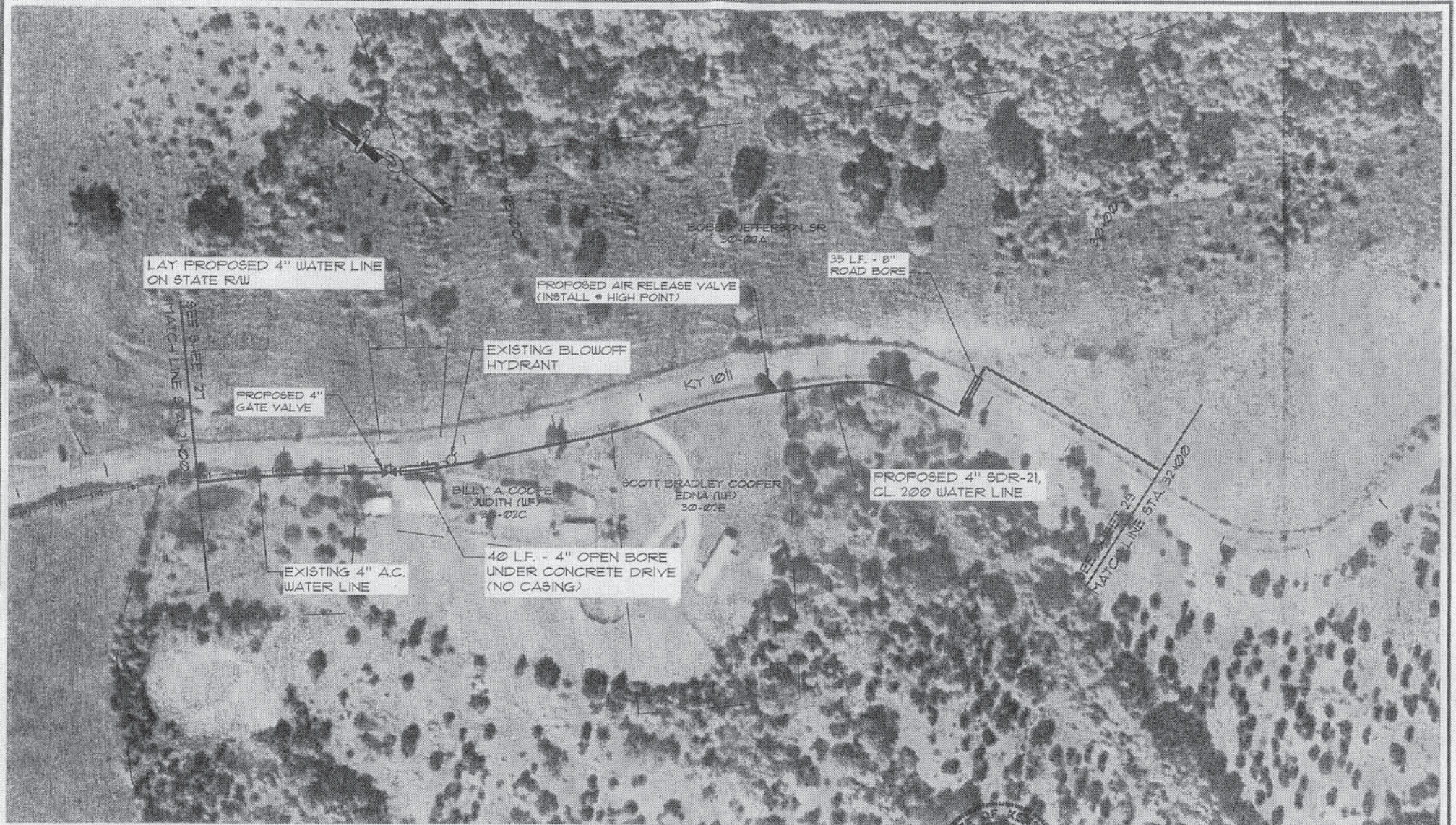
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9900
 (502) 695-9910 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 - STA. 8+00 TO STA. 21+00

SHEET 27
 OF 36



LAY PROPOSED 4" WATER LINE ON STATE R/W

PROPOSED AIR RELEASE VALVE (INSTALL @ HIGH POINT)

35 L.F. - 8" ROAD BORE

SEE SHEET 27
MATCH LINE STA. 21+00

PROPOSED 4" GATE VALVE

EXISTING BLOWOFF HYDRANT

KY 1011

BILLY A. COOPER AURITH (11F) 30-02C

SCOTT BRADLEY COOPER EDNA (11F) 30-02E

PROPOSED 4" SDR-21, CL. 200 WATER LINE

SEE SHEET 29
MATCH LINE STA. 32+00

EXISTING 4" A.C. WATER LINE

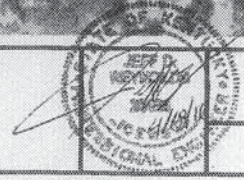
40 L.F. - 4" OPEN BORE UNDER CONCRETE DRIVE (NO CASING)

NO.	DATE	REVISIONS	GKD	APP'D	DATE

PROJECT: 446100	DATE: FEB. 2011	
SCALE: 1"=100'		
DESIGNED BY:	NAME: JDR	DATE:
DRAWN BY:	SAB	
CHECKED BY:	JDR	
RECORD DUSA:		



3 N.W. 1/4 CIRCLE
FRANKFORT, KENTUCKY
(502) 695-5800
(502) 695-2810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 - STA. 21+00 TO STA. 32+00

SHEET 28
OF 36



NO.	DATE	REVISIONS	CKD	APPD	DATE

PROJECT: 416200 DATE: FEB. 2011
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JDR		
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUSA		



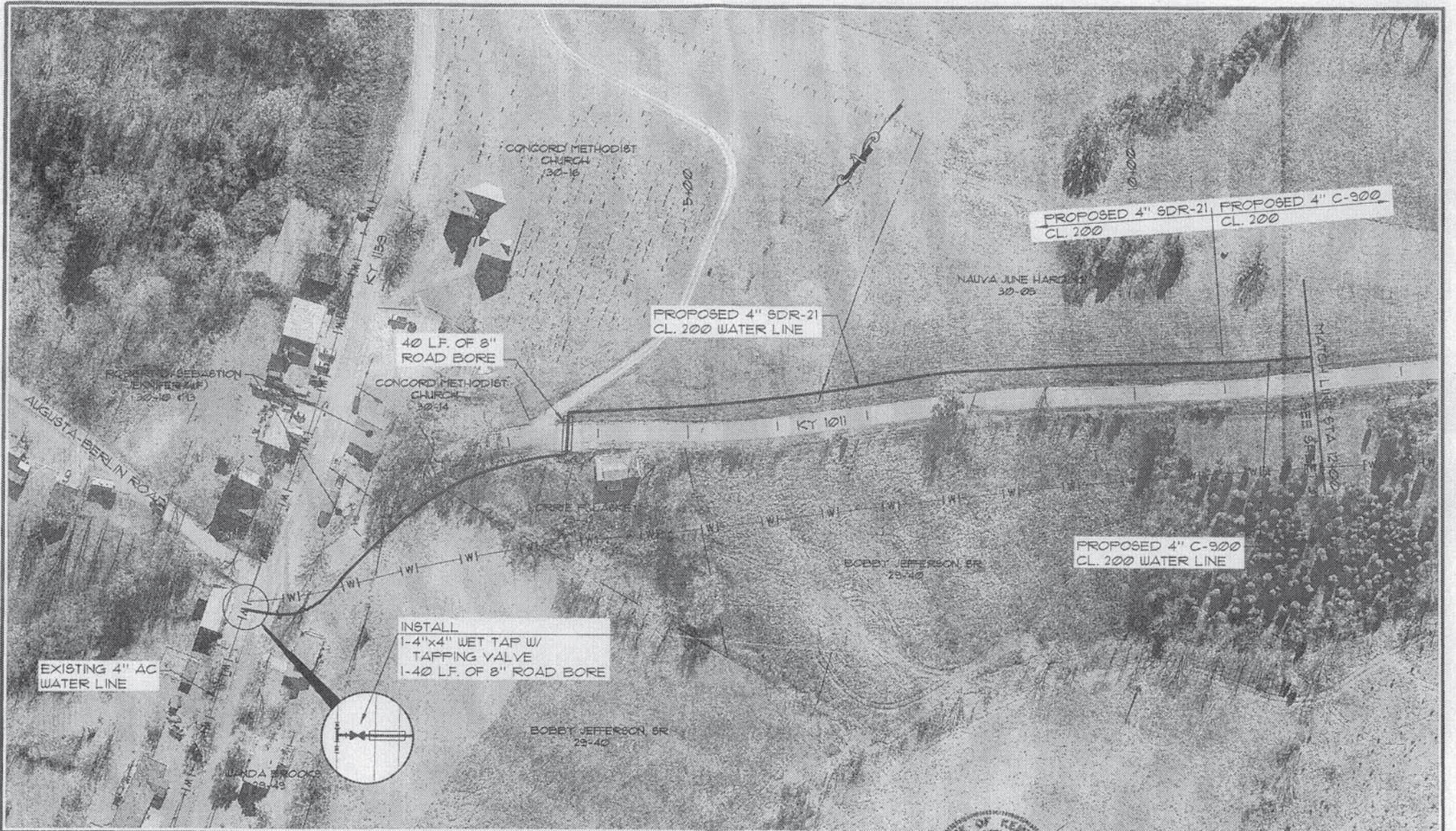
3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-2810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 - STA. 32+00 TO STA. 45+70

SHEET 29
 OF 36



NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 462200 DATE: DEC. 2010
 SCALE: 1"=50'

DESIGNED BY	NAME	DATE

RECORD DUSA

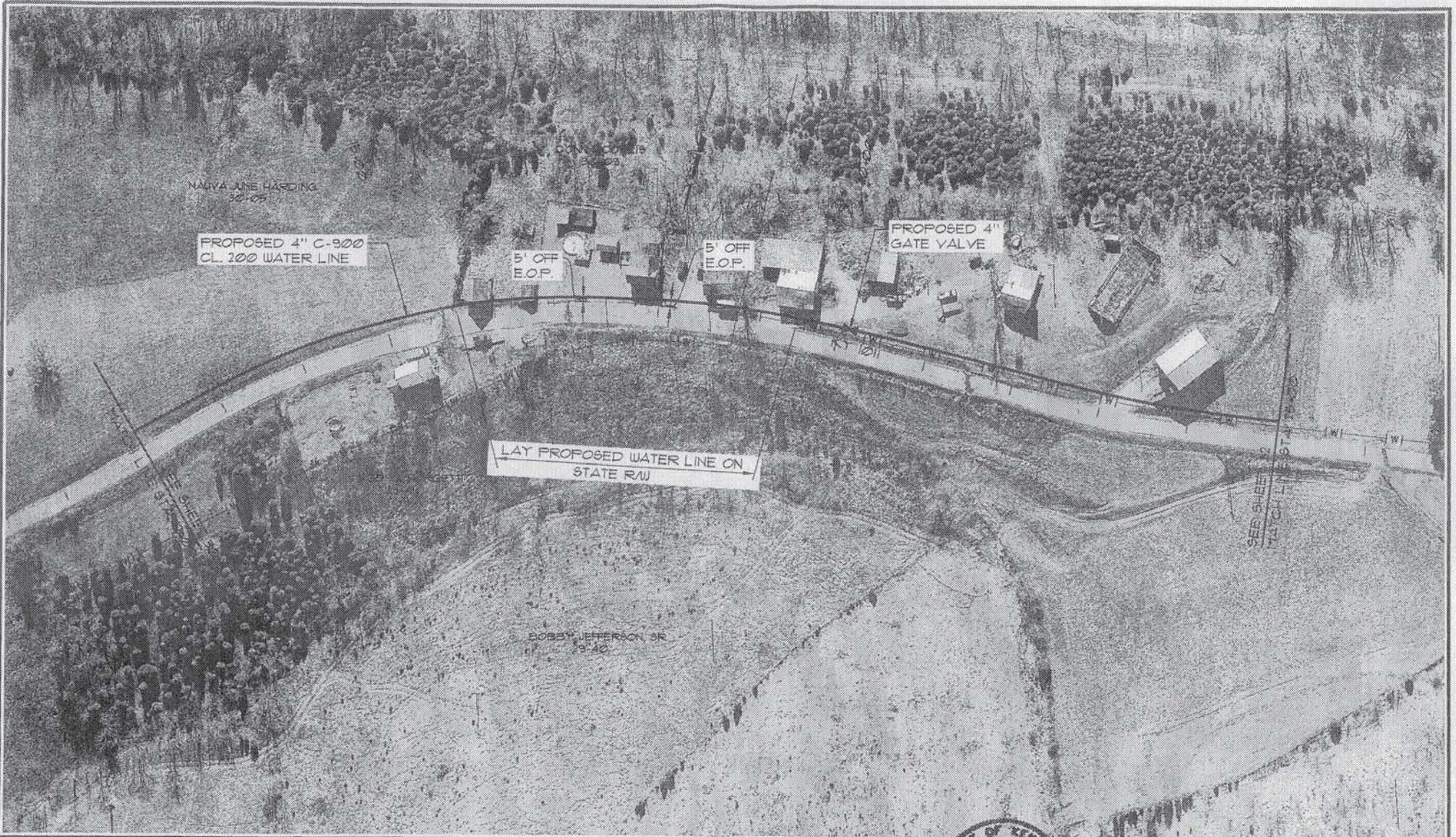
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-2800
 (502) 695-2810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 @ KY 1159 - STA. 0+00 TO STA. 12+00

SHEET
 30
 OF
 36



NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 4662.00 DATE: DEC. 2010		
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JCR	
RECORD DSGN		

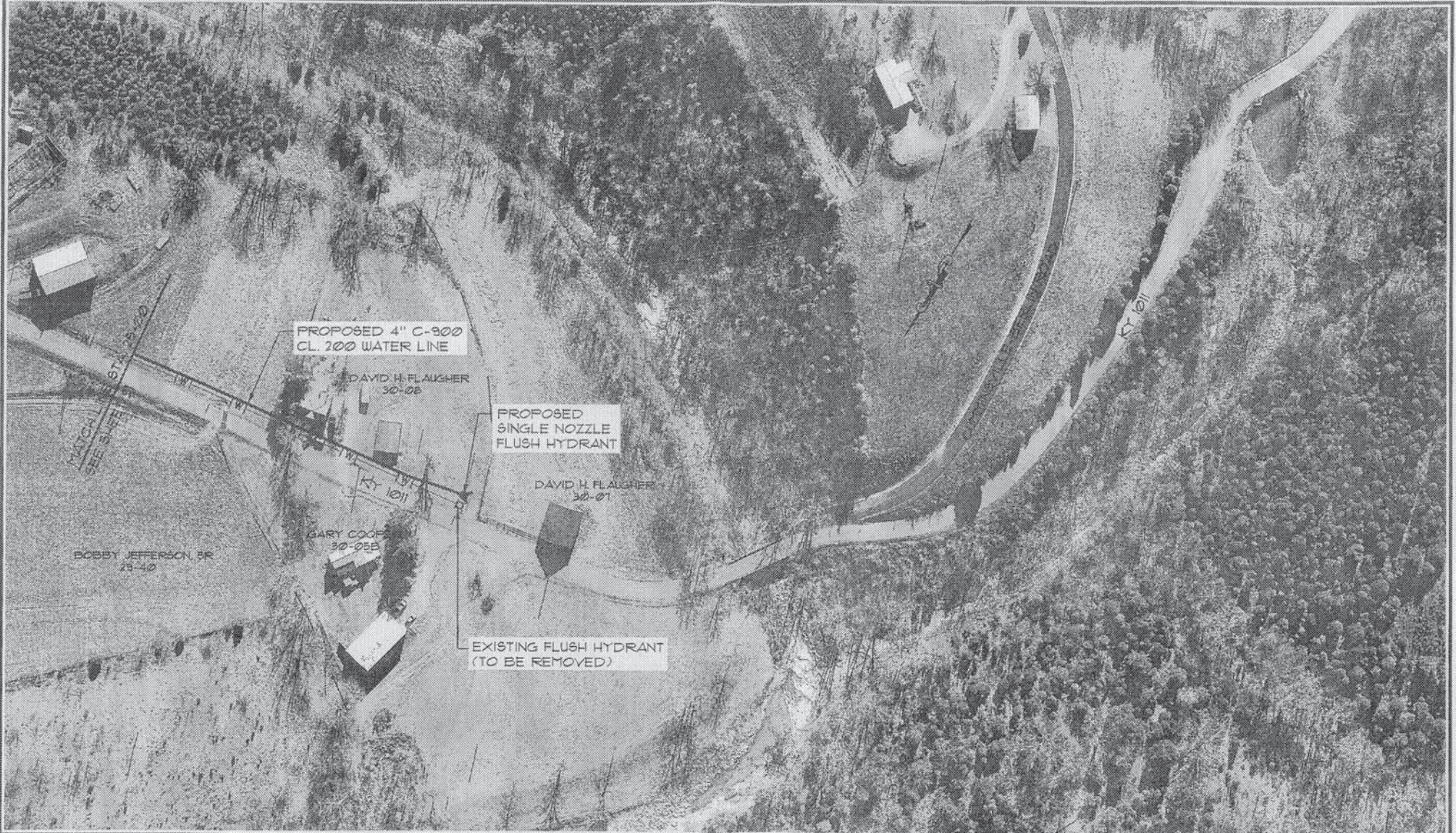

HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 635-5800
 (502) 635-2510 FAX
 PROFESSIONAL ENGINEERS, INC.



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 @ KY 1159 - STA. 12+00 TO STA. 25+00

SHEET
 31
 OF
 36



PROPOSED 4" C-900
CL. 200 WATER LINE

DAVID H. FLAUGHER
30-08

PROPOSED
SINGLE NOZZLE
FLUSH HYDRANT

DAVID H. FLAUGHER
30-01

GARY COOP
30-05B

BOBBY JEFFERSON, SR
29-40

EXISTING FLUSH HYDRANT
(TO BE REMOVED)

MAYCANTON ST. STA. 28+20
SEE SHEET 31

Ky 1011

PROJECT 4161200 DATE DEC 2010
SCALE 1"=100'

DESIGNED BY	NAME	DATE
JCR	JCR	
DRAWN BY	NAME	DATE
GAB	GAB	
CHECKED BY	NAME	DATE
JCR	JCR	
RECORD DWG.	DATE	



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 625-9000
(502) 625-9010 FAX

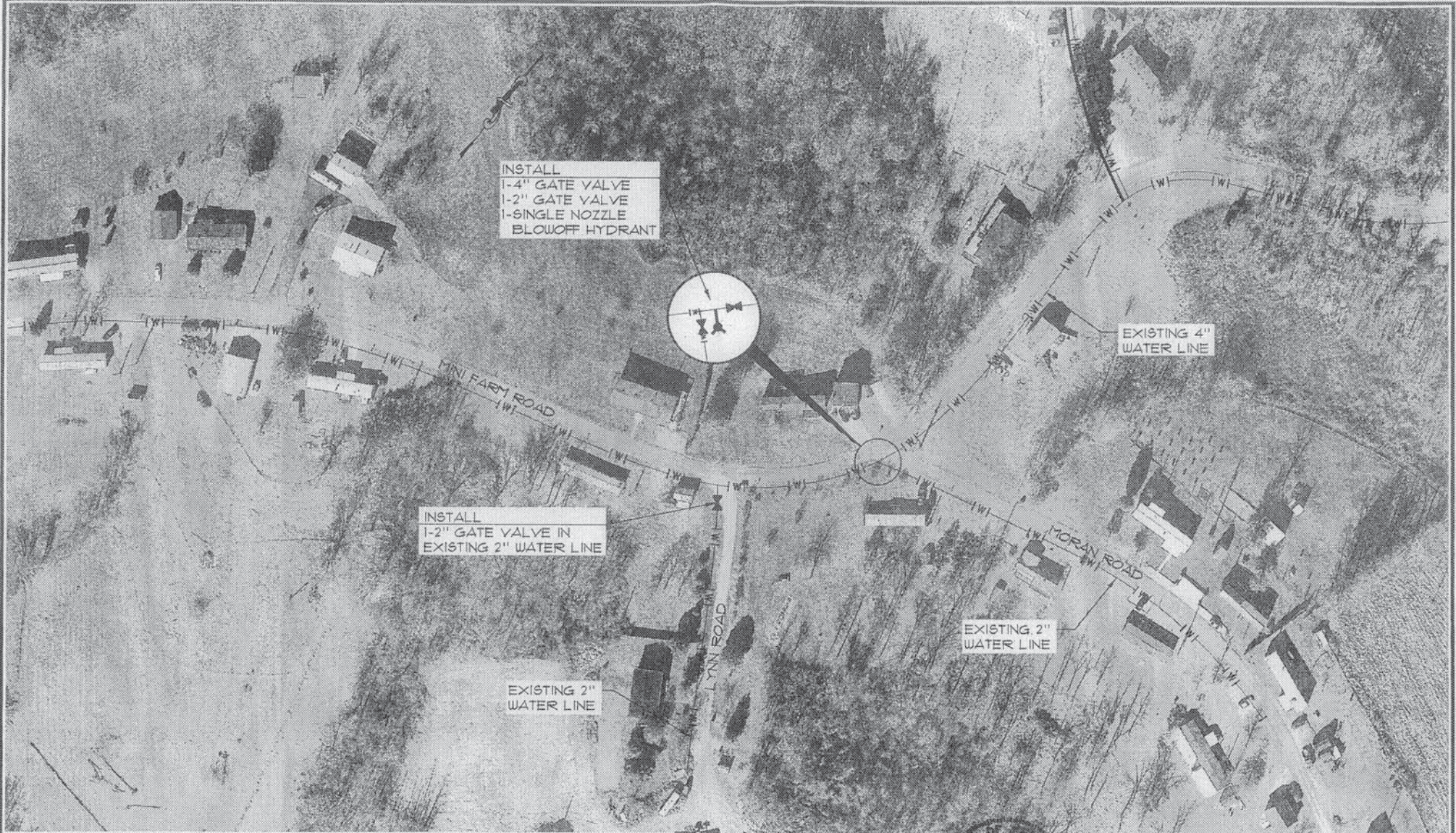


WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

KY 1011 @ KY 1159 - STA. 25+00 TO STA. 29+00

NO.	DATE	REVISIONS	CHKD.	APP'D.	DATE

SHEET
32
OF
36



NO.	DATE	REVISIONS	CHKD.	APPRD.	DATE

PROJECT: 46100 DATE: DEC 2010
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JDR	JDR	
DRAWN BY	NAME	DATE
SAS	SAS	
CHECKED BY	NAME	DATE
JDR	JDR	
RECORD DUGS	NAME	DATE

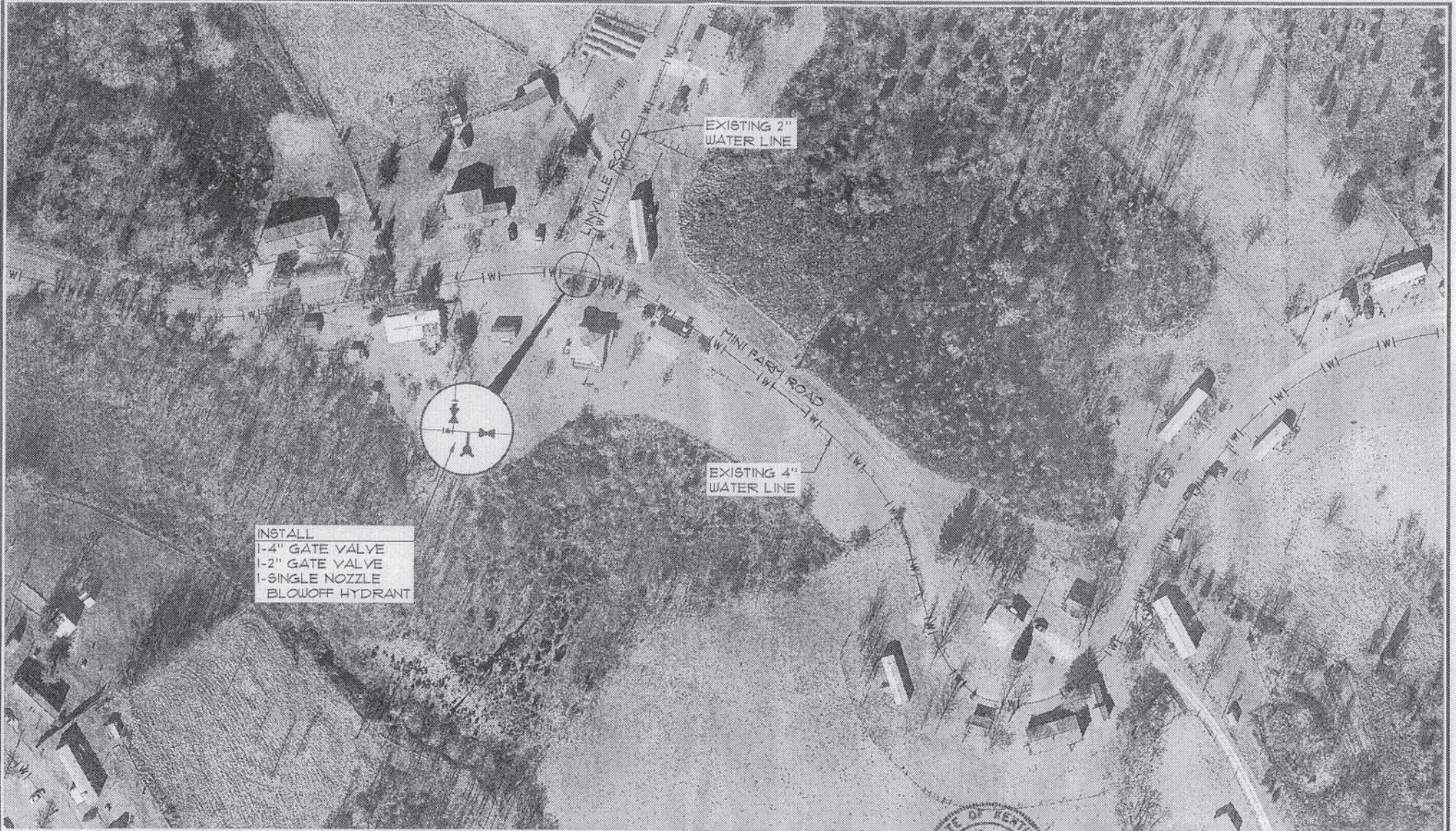


3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 635-9800
 (502) 635-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY
 MINI FARM ROAD @ LYNN ROAD
 MINI FARM ROAD @ MORAN ROAD

SHEET
 33
 OF
 36



INSTALL
 1-4" GATE VALVE
 1-2" GATE VALVE
 1-SINGLE NOZZLE
 BLOWOFF HYDRANT

EXISTING 2"
 WATER LINE

EXISTING 4"
 WATER LINE

LINVILLE ROAD

MINI FARM ROAD

NO.	DATE	REVISIONS	CHK'D	APPRO'D	DATE

PROJECT: 46200 DATE: DEC. 2010		
SCALE: 1"=100'		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JCR	
RECORD DWG.		

HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY
 MINI FARM ROAD @ LINVILLE ROAD

SHEET 34
 OF 36

PROPOSED 2" GATE VALVE ON TONI MAC

EXISTING 4"x2" REDUCER

EXISTING 2" WATER LINE

INSTALL 1-4"x3" WET TAP W/ TAPPING VALVE

EXISTING 2" WATER LINE

PROPOSED 3" SDR-21 WATER LINE

RECONNECT 3 EXISTING WATER METERS TO PROPOSED WATER LINE

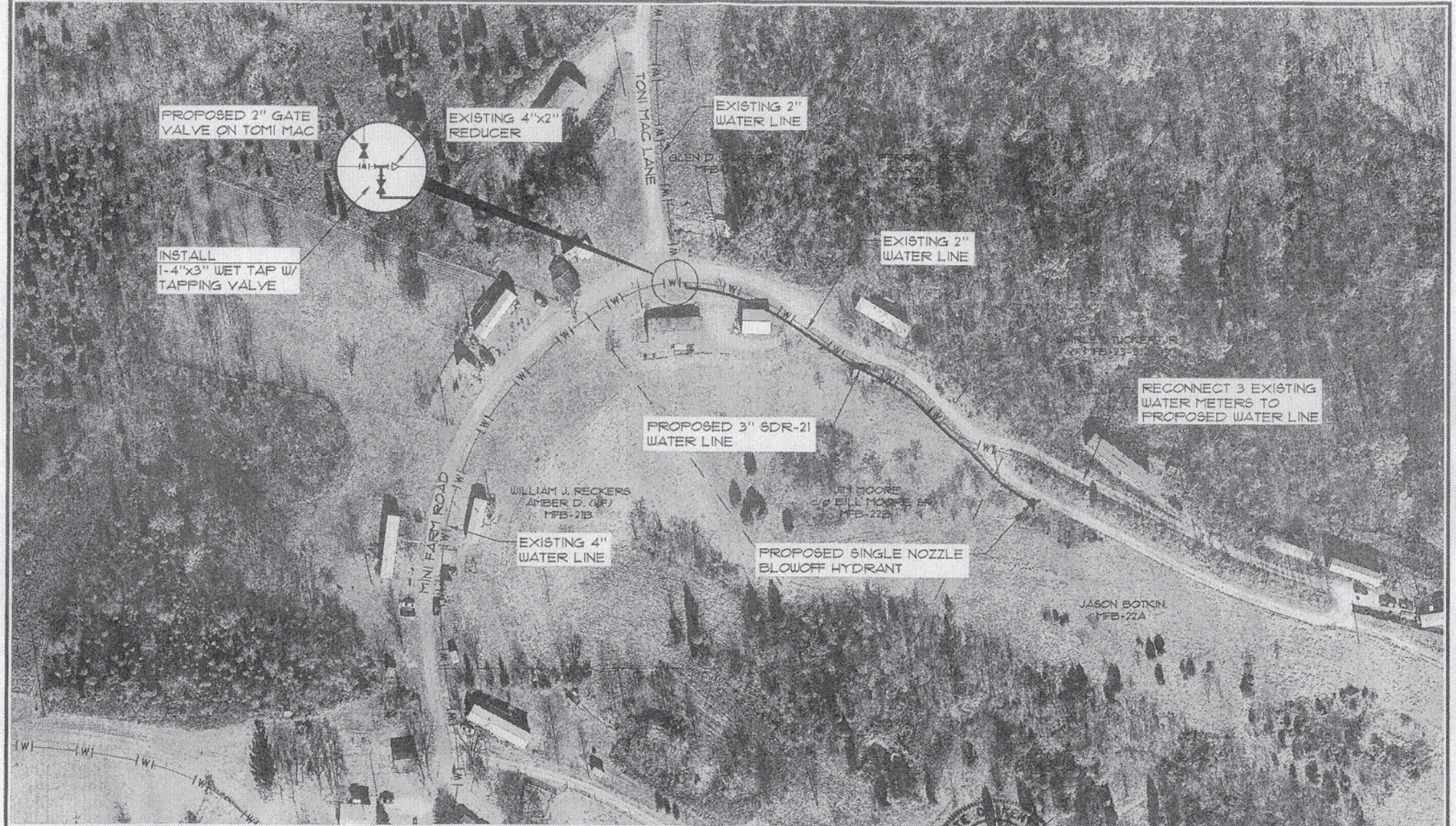
WILLIAM J. RECKERS
AMBER D. GUF
MFB-21B

JIM MOORE
C/O BILL MOORE SR.
MFB-22B

EXISTING 4" WATER LINE

PROPOSED SINGLE NOZZLE BLOWOFF HYDRANT

JASON BOTKIN
MFB-22A



NO.	DATE	REVISIONS	CHKD	APPRD	DATE

PROJECT: 462260 DATE: DEC. 2010		
SCALE: 1"=100'		
DESIGNED BY:	NAME	DATE
DRAWN BY:	SAB	
CHECKED BY:	JDR	
RECORD DWSA		

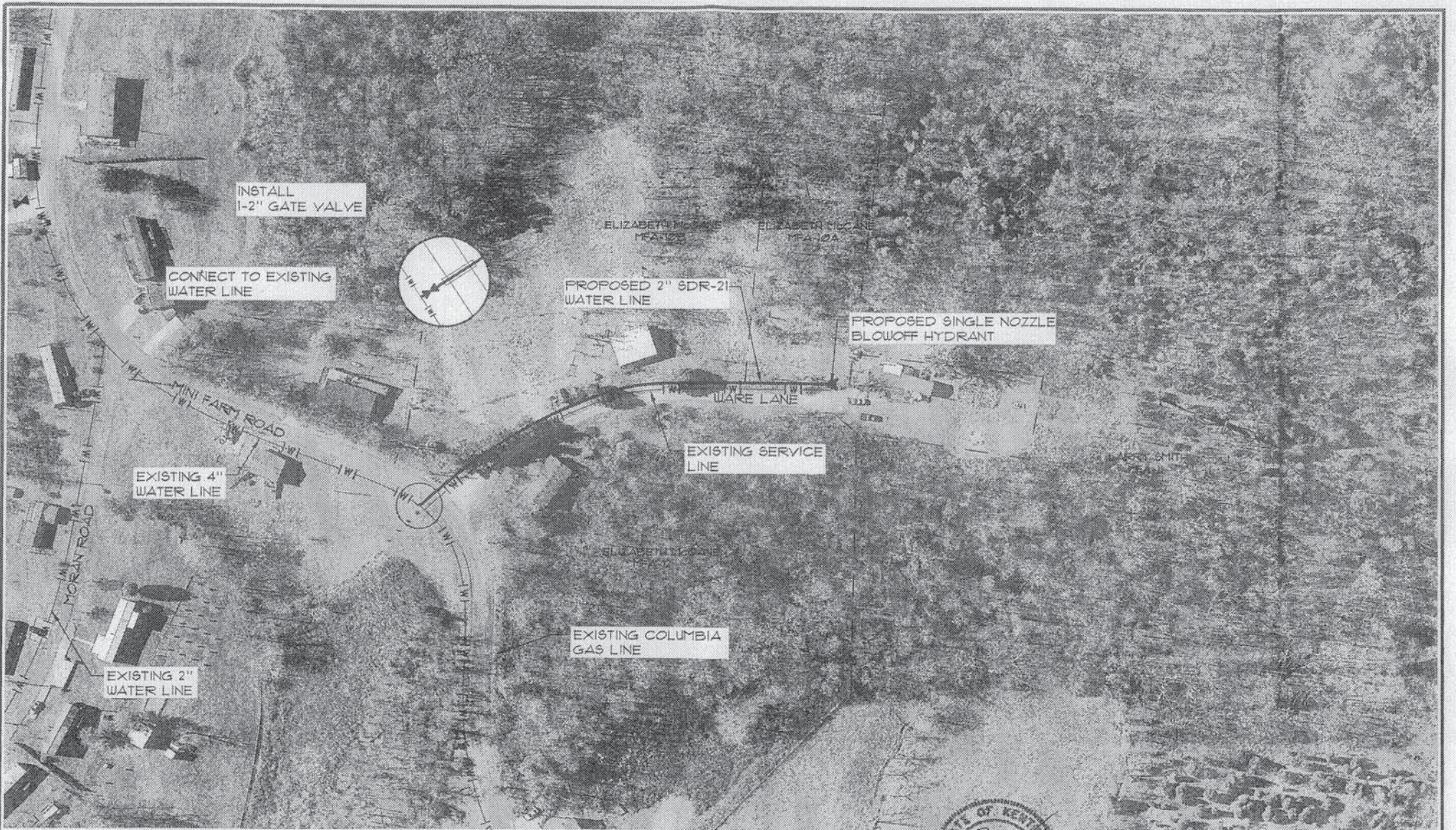
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 695-9800
 (502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

MINI FARM ROAD @ TONI MAC LANE

SHEET
35
OF
36



NO.	DATE	REVISIONS	CHKD	APPVD	DATE

PROJECT: 442100 DATE: DEC. 2019
 SCALE: 1"=100'

DESIGNED BY	NAME	DATE
JCR	JCR	
DRAWN BY	SAS	
CHECKED BY	JCR	
RECORD DUG.		

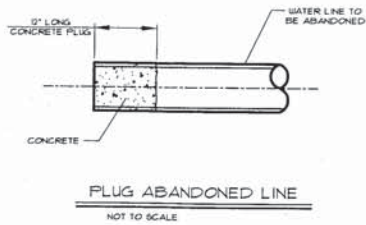
HMB
 3 HMB CIRCLE
 FRANKFORT, KENTUCKY
 (502) 635-9600
 (502) 635-9810 FAX
 PROFESSIONAL ENGINEERS, INC.



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

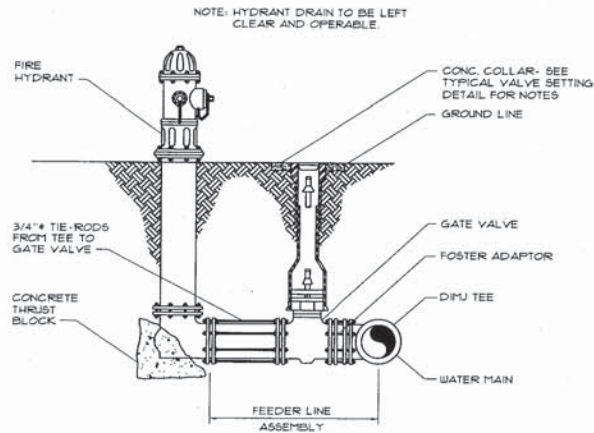
MINI FARM ROAD @ WARE LANE

SHEET 36
 OF 36



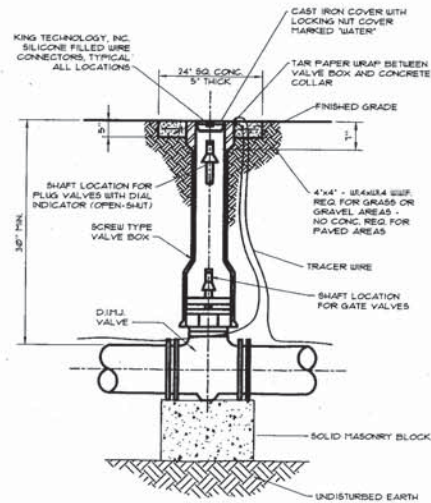
NOTE:
ALL EXISTING WATER LINES THAT ARE TO BE ABANDONED SHALL BE PLUGGED WITH CONCRETE. ALL COSTS INCLUDING LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR PLUGGING EXISTING WATER LINES.

SEE PROJECT REQUIREMENTS
IN SPECIAL CONDITIONS OF
SPECIFICATIONS



FIRE HYDRANT (3 NOZZLE) OR
SINGLE NOZZLE BLOW-OFF
HYDRANT (1 NOZZLE)

NOT TO SCALE



VALVE & VALVE BOX

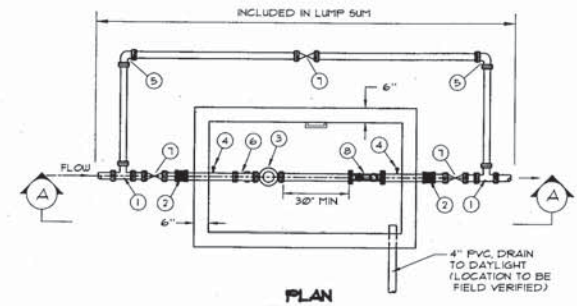
NOT TO SCALE

LEGEND

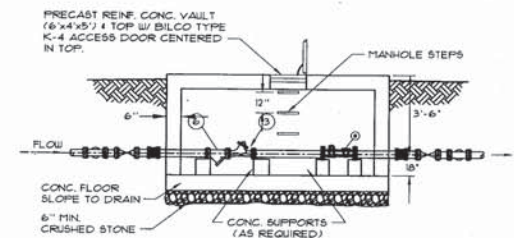
- ① 2 - 4"x4" M.J. TEE
- ② 4" DIPx48" (FLGxPE.)
- ③ 1 - 4" BERTHAD FRV MODEL 170-01-FB-UP-DABP-WIKINS-31R (SEE NOTES)
- ④ 2 PRESSURE GAUGES ASHCROFT 4 1/2" DURA-GAUGE W/ 0-300 PSI RANGE
- ⑤ 2 - 90° M.J. BENDS
- ⑥ 4" Y STRAINER
- ⑦ 3 - 4" M.J. GATE VALVES
- ⑧ 4" BADGER METER (RECORD ALL TURBO 1000 METER W/ INTEGRAL STRAINER) (TYP.)

NOTES:

SNAG CREEK FRV INLET 245 PSI OUTLET 85 PSI
WILLOW CREEK FRV INLET 221 PSI OUTLET 100 PSI
HOLTS CREEK FRV INLET 236 PSI OUTLET 141 PSI



PLAN



SECTION A-A

PRESSURE REDUCING STATION

NOT TO SCALE

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 4167200	DATE: APRIL 2011	
SCALE: N.T.S.		
DESIGNED BY	NAME	DATE
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DUGS.		



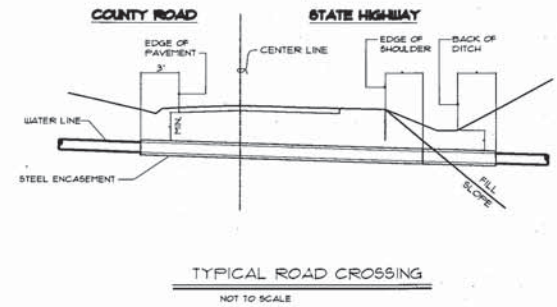
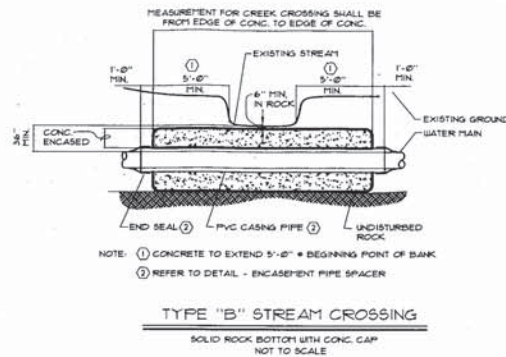
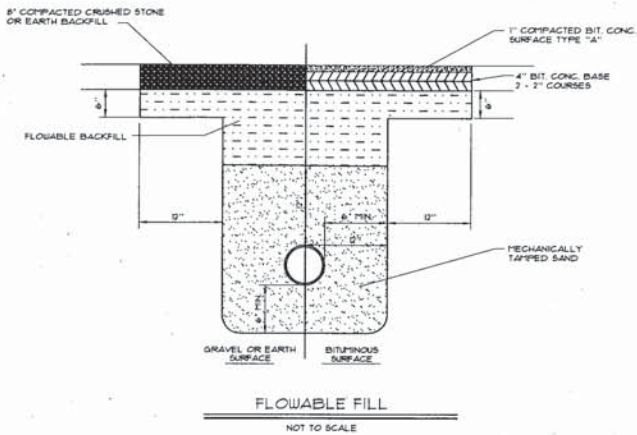
3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9800
(502) 695-9810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

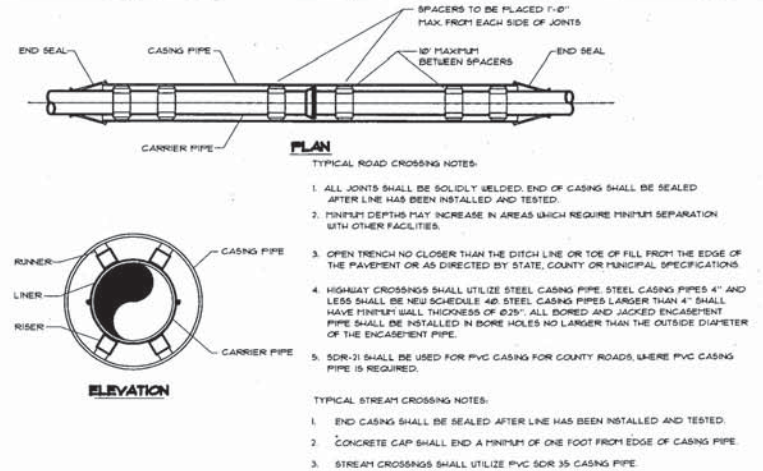
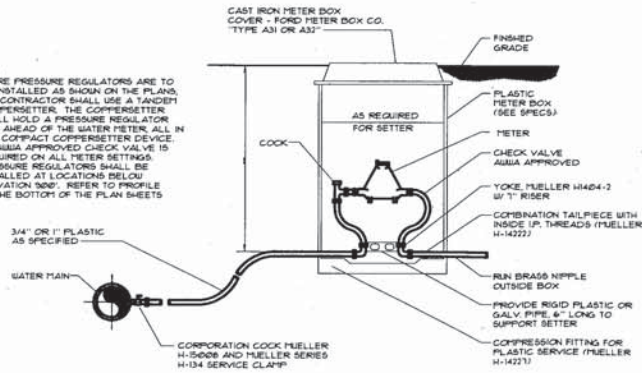
STANDARD DETAILS

SHEET
SD1
OF
SD3



NOTES:

- WHERE PRESSURE REGULATORS ARE TO BE INSTALLED AS SHOWN ON THE PLANS, THE CONTRACTOR SHALL USE A TANDDEM COPPERSETTER. THE COPPERSETTER SHALL HOLD A PRESSURE REGULATOR JUST AHEAD OF THE WATER METER. ALL IN ONE COMPACT COPPERSETTER DEVICE.
- AN AWWA APPROVED CHECK VALVE IS REQUIRED ON ALL METER SETTINGS.
- PRESSURE REGULATORS SHALL BE INSTALLED AT LOCATIONS BELOW ELEVATION 100'. REFER TO PROFILE AT THE BOTTOM OF THE PLAN SHEETS



PROJECT: 462.00 DATE: APRIL 2011
SCALE: N.T.A.

DESIGNED BY	NAME	DATE
JOR	JOR	
DRAWN BY	SAB	
CHECKED BY	JOR	
RECORD DUGS		



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 635-3800
(502) 635-3810 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

STANDARD DETAILS

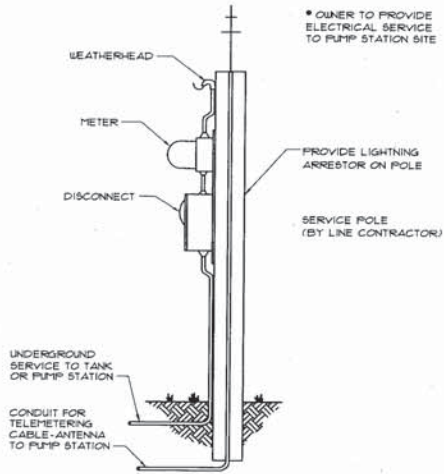
SHEET
SD2
OF
SD3

000052

NOTES:

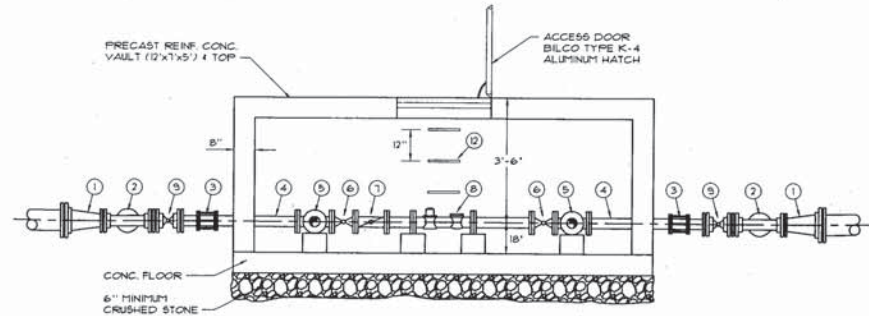
* METER BASE, DISCONNECT, CONDUIT AND WEATHERHEAD BY CONTRACTOR PER UTILITY REQUIREMENTS AND NATIONAL ELECTRIC CODE.

* OWNER TO PROVIDE ELECTRICAL SERVICE TO PUMP STATION SITE

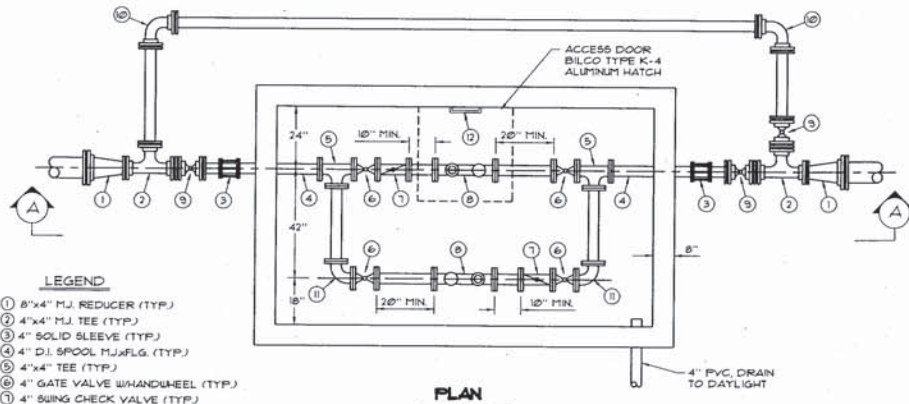


POWER POLE

NOT TO SCALE



SECTION A-A



PLAN

MASTER METER VAULT

NOT TO SCALE

LEGEND

- ① 8"x4" M.J. REDUCER (TYP.)
- ② 4"x4" M.J. TEE (TYP.)
- ③ 4" SOLID SLEEVE (TYP.)
- ④ D.I. SPOOL M.J. FLG. (TYP.)
- ⑤ 4"x4" TEE (TYP.)
- ⑥ 4" GATE VALVE W/HANDWHEEL (TYP.)
- ⑦ 4" SWING CHECK VALVE (TYP.)
- ⑧ 4" BADGER METER (RECORDALL TURBO 1000 METER W/ INTEGRAL STRAINER) (TYP.)
- ⑨ 4" GATE VALVE M.J. (TYP.)
- ⑩ 4" 90° BEND M.J. (TYP.)
- ⑪ 4" 90° BEND FLG. (TYP.)
- ⑫ MANHOLE STEP (TYP.)

NOTES:

- 1. ALL PIPING INSIDE VAULT SHALL BE 4" FLANGED D.I. PIPE.
- 2. INSTALL CONCRETE SUPPORTS AS REQUIRED.
- 3. GRIP RING RESTRAINTS SHALL BE INSTALLED ON ALL M.J. FITTINGS.

NO.	DATE	REVISIONS	CHK'D	APPR'D	DATE

PROJECT: 46200 DATE: APRIL 2011
SCALE: N.T.S.

DESIGNED BY	NAME	DATE
JDR	JDR	
DRAWN BY	SAB	
CHECKED BY	JDR	
RECORD DWSG.		



3 HMB CIRCLE
FRANKFORT, KENTUCKY
(502) 695-9000
(502) 695-9010 FAX



WATER SYSTEM IMPROVEMENTS
BRACKEN COUNTY WATER DISTRICT
BRACKEN COUNTY, KENTUCKY

STANDARD DETAILS

SHEET
SD3
OF
SD3

Short Roads Water Project
Bracken County Water District

 SUMMARY OF ORIGINAL DATA

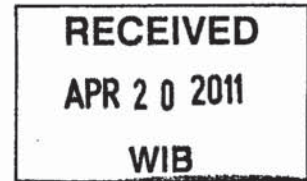
U N I T S S P E C I F I E D

FLOWRATE = gallons/minute
 HEAD (HGL) = feet
 PRESSURE = psig

R E G U L A T I N G V A L V E D A T A

VALVE LABEL	VALVE TYPE	VALVE SETTING (ft or gpm)
RV-1	PRV-1	747.69
RV-2	PRV-1	811.92
RV-3	PRV-2	746.92
RV-4	PRV-1	736.15
RV-5	PRV-1	899.23
RV-6	PRV-1	810.77
RV-7	PRV-1	728.62
RV-8	PRV-1	769.23
RV-9	PRV-1	769.23
RV-10	PRV-1	776.23
RV-11	PRV-1	842.23
RV-12	PRV-1	646.15
RV-13	PRV-1	869.23

0120039-11-001



33805APE20110001

P I P E L I N E D A T A

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E NAME	N O D E N A M E S		L E N G T H (ft)	D I A M E T E R (in)	R O U G H N E S S COEFF.	M I N O R LOSS COEFF.
	#1	#2				
P-1-CV	J-162	J-128	100.00	4.00	80.0000	0.00
P-2	J-1	J-272	1000.00	6.00	130.0000	0.00
P-3	J-1	I-RV-12	3100.00	6.00	130.0000	0.00
P-4	J-5	J-298	1500.00	3.00	120.0000	0.00
P-5	J-5	J-6	700.00	3.00	120.0000	0.00
P-6	J-6	J-7	1800.00	3.00	120.0000	0.00
P-7	J-7	J-8	2842.48	3.00	120.0000	0.00
P-8	J-8	J-11	1500.00	6.00	130.0000	0.00
P-9	J-4	J-14	2800.00	3.00	120.0000	0.00
P-10	J-10	J-4	2400.00	3.00	120.0000	0.00
P-11	J-11	J-10	4500.00	3.00	120.0000	0.00
P-12	J-12	J-16	4500.00	8.00	130.0000	0.00
P-13	J-13	J-12	1500.00	4.00	120.0000	0.00
P-14	J-14	J-13	700.00	3.00	120.0000	0.00
P-15	J-14	J-15	1000.00	6.00	120.0000	0.00
P-16	J-9	J-17	4000.00	8.00	130.0000	0.00
P-17	J-16	J-9	2000.00	8.00	130.0000	0.00
P-18	J-17	J-18	1200.00	8.00	130.0000	0.00
P-19	J-12	J-22	3700.00	8.00	130.0000	0.00
P-20	J-20	J-19	400.00	6.00	120.0000	0.00
P-21	J-20	J-21	1000.00	2.00	120.0000	0.00
P-22	J-22	J-20	1500.00	6.00	120.0000	0.00
P-23	J-22	J-308	1000.00	4.00	130.0000	0.00

P-24	T-2	J-19	50.00	6.00	120.0000	0.00
P-25	J-19	J-24	1600.00	2.00	120.0000	0.00
P-26	J-20	J-26	7000.00	8.00	130.0000	0.00
P-27	J-26	J-27	6800.00	8.00	130.0000	0.00
P-28	J-27	J-296	4000.00	6.00	130.0000	0.00
P-29	J-27	J-38	200.00	8.00	130.0000	0.00
P-30	J-25	J-32	2000.00	6.00	130.0000	0.00
P-31	J-29	J-277	2600.00	6.00	130.0000	0.00
P-32	J-29	J-31	2000.00	4.00	130.0000	0.00
P-33	J-32	J-36	1000.00	6.00	130.0000	0.00
P-34	J-32	J-33	1000.00	3.00	120.0000	0.00
P-35	J-34	J-290	1000.00	6.00	130.0000	0.00
P-36	J-35	J-34	1000.00	6.00	130.0000	0.00
P-37	J-36	J-35	5000.00	6.00	130.0000	0.00
P-38	J-37	J-501	4200.00	4.00	120.0000	0.00
P-39	J-38	J-37	7500.00	8.00	130.0000	0.00
P-40	J-39	J-43	2000.00	6.00	120.0000	0.00
P-41	J-39	J-500	10.00	6.00	120.0000	0.00
P-42	J-39	J-40	1000.00	4.00	120.0000	0.00
P-43	J-40	J-41	1000.00	4.00	130.0000	0.00
P-44	J-207	J-42	1555.81	8.00	130.0000	0.00
P-45	J-43	J-28	1500.00	4.00	120.0000	0.00
P-46	J-42	J-44	6700.00	4.00	130.0000	0.00
P-47	J-37	J-48	3000.00	8.00	130.0000	0.00
P-48	J-199	J-45	900.00	8.00	120.0000	0.00
P-49	J-199	J-47	10000.00	3.00	120.0000	0.00
P-50	J-48	J-50	1300.00	8.00	130.0000	0.00
P-51	J-48	J-49	3000.00	6.00	130.0000	0.00
P-52	J-50	J-46	1000.00	8.00	130.0000	0.00
P-53-CV	J-50	J-51	3300.00	8.00	130.0000	0.00
P-54	J-51	J-210	3000.00	8.00	120.0000	0.00
P-55	J-51	J-53	2500.00	2.00	120.0000	0.00
P-56	J-45	J-54	900.00	8.00	120.0000	0.00
P-57-XX	J-46	J-199	800.00	8.00	120.0000	0.00
P-58	J-54	J-60	8000.00	6.00	120.0000	0.00
P-59	J-54	J-57	8965.91	8.00	120.0000	0.00
P-60	J-57	J-208	6000.00	8.00	120.0000	0.00
P-61	J-57	J-58	7800.00	4.00	130.0000	0.00
P-62	J-58	J-59	800.00	4.00	130.0000	0.00
P-63	J-60	J-316	700.00	6.00	130.0000	0.00
P-64	J-60	J-65	8400.00	6.00	120.0000	0.00
P-65	J-61	J-318	2000.00	8.00	130.0000	0.00
P-66	J-61	J-64	5000.00	8.00	120.0000	0.00
P-67	J-64	J-63	2000.00	2.50	120.0000	0.00
P-68	J-65	J-61	6500.00	4.00	120.0000	0.00
P-69	J-66	J-71	2000.00	3.00	120.0000	0.00
P-70	J-66	J-74	7100.00	4.00	120.0000	0.00
P-71	J-68	J-202	2400.00	4.00	120.0000	0.00
P-72	J-68	J-69	6000.00	4.00	130.0000	0.00
P-73-XX	J-70	J-66	4000.00	4.00	120.0000	0.00
P-74	J-67	J-52	6300.00	4.00	120.0000	0.00
P-75-XX	J-67	J-82	16500.00	4.00	120.0000	0.00
P-76	J-74	J-67	2500.00	4.00	120.0000	0.00
P-77	J-72	J-231	8000.00	3.00	120.0000	0.00
P-78-XX	J-72	J-75	11410.95	4.00	120.0000	0.00
P-79	J-72	J-66	5300.00	6.00	120.0000	0.00
P-80	J-75	J-77	6500.00	4.00	120.0000	0.00
P-81	J-75	J-80	700.00	4.00	120.0000	0.00
P-82	J-78	J-79	4000.00	4.00	120.0000	0.00
P-83	J-78	J-81	1700.00	4.00	120.0000	0.00
P-84	J-80	J-78	1500.00	4.00	120.0000	0.00
P-85	J-80	J-250	2400.00	4.00	120.0000	0.00
P-86	J-82	J-73	4400.00	4.00	120.0000	0.00
P-87	J-73	J-312	2000.00	4.00	120.0000	0.00
P-88	J-73	J-85	114000.00	4.00	120.0000	0.00
P-89	J-85	J-89	7400.00	6.00	120.0000	0.00
P-90	J-85	J-86	6100.00	6.00	120.0000	0.00
P-91	J-87	J-84	2700.00	6.00	120.0000	0.00
P-92	J-87	J-173	3200.00	4.00	120.0000	0.00
P-93	J-89	J-87	2200.00	6.00	120.0000	0.00

P-94	J-89	J-90	4500.00	4.00	120.0000	0.00
P-95	J-86	J-93	4600.00	6.00	120.0000	0.00
P-96	J-86	J-106	13000.00	4.00	120.0000	0.00
P-97	J-93	J-104	10400.00	4.00	120.0000	0.00
P-98	J-93	J-94	1000.00	6.00	120.0000	0.00
P-99	J-94	J-95	3500.00	4.00	120.0000	0.00
P-100	J-95	J-96	12700.00	4.00	120.0000	0.00
P-101	J-95	J-97	5300.00	4.00	120.0000	0.00
P-102	J-97	J-83	5500.00	4.00	120.0000	0.00
P-103	J-97	J-98	1300.00	4.00	120.0000	0.00
P-104	J-97	J-99	800.00	4.00	120.0000	0.00
P-105	J-94	J-101	5000.00	4.00	120.0000	0.00
P-106	J-101	J-100	900.00	4.00	120.0000	0.00
P-107	J-101	J-102	4800.00	4.00	120.0000	0.00
P-108	J-103	J-91	3000.00	4.00	120.0000	0.00
P-109	J-103	J-105	8700.00	4.00	120.0000	0.00
P-110	J-104	J-103	8000.00	4.00	120.0000	0.00
P-111	J-92	J-121	3000.00	8.00	130.0000	0.00
P-112	J-92	J-107	6000.00	4.00	130.0000	0.00
P-113	J-106	J-320	3300.00	8.00	130.0000	0.00
P-114	J-92	J-108	4400.00	4.00	130.0000	0.00
P-115	J-106	J-266	2800.00	8.00	130.0000	0.00
P-116	J-84	J-109	2500.00	8.00	130.0000	0.00
P-117	J-109	J-112	2200.00	8.00	130.0000	0.00
P-118	J-109	J-113	9800.00	3.00	120.0000	0.00
P-119	J-112	J-116	1000.00	8.00	130.0000	0.00
P-120	J-112	J-114	3800.00	6.00	120.0000	0.00
P-121	J-112	J-115	1000.00	4.00	120.0000	0.00
P-122	R-1	I-Pump-3	10.00	12.00	120.0000	0.00
P-123	J-116	J-201	1400.00	8.00	120.0000	0.00
P-124	J-201	J-137	1200.00	6.00	120.0000	0.00
P-125	J-117	J-118	2800.00	6.00	120.0000	0.00
P-126	J-117	J-119	2200.00	6.00	120.0000	0.00
P-127	J-120	I-Pump-4	1830.07	8.00	130.0000	0.00
P-128	J-118	J-258	3700.00	8.00	130.0000	0.00
P-129	J-121	J-84	4400.00	8.00	130.0000	0.00
P-130	J-121	J-123	3200.00	3.00	120.0000	0.00
P-131	J-124	J-110	4000.00	6.00	130.0000	0.00
P-132	J-124	J-125	4400.00	3.00	120.0000	0.00
P-133	J-125	J-266	5500.00	4.00	120.0000	0.00
P-134	J-125	J-134	3300.00	4.00	120.0000	0.00
P-135	J-266	J-124	4700.00	6.00	130.0000	0.00
P-136	O-Pump-4	J-118	869.93	8.00	130.0000	0.00
P-137	J-266	J-129	5600.00	4.00	130.0000	0.00
P-138	J-130	J-135	2955.81	4.00	120.0000	0.00
P-139	J-130	J-132	3700.00	4.00	120.0000	0.00
P-140-XX	J-132	J-204	10.00	6.00	120.0000	0.00
P-141	J-132	J-122	2600.00	4.00	120.0000	0.00
P-142	J-132	J-133	5700.00	2.00	120.0000	0.00
P-143	J-134	J-130	4500.00	4.00	120.0000	0.00
P-144	J-135	J-127	4500.00	4.00	120.0000	0.00
P-145	J-120	J-161	200.00	8.00	120.0000	0.00
P-146	J-137	J-117	11500.00	6.00	120.0000	0.00
P-147	J-154	J-120	2000.00	6.00	120.0000	0.00
P-148	J-139	J-138	2300.00	4.00	120.0000	0.00
P-149	J-139	J-140	3200.00	6.00	120.0000	0.00
P-150	J-140	J-141	2000.00	4.00	120.0000	0.00
P-151	J-139	J-142	4000.00	6.00	130.0000	0.00
P-152	J-143	J-139	4900.00	6.00	120.0000	0.00
P-153	J-143	J-144	1700.00	2.00	120.0000	0.00
P-154	J-145	J-143	5500.00	6.00	120.0000	0.00
P-155	J-145	J-146	1200.00	4.00	120.0000	0.00
P-156	J-131	J-176	10000.00	10.00	120.0000	0.00
P-157	J-131	J-147	2500.00	10.00	120.0000	0.00
P-158	J-147	J-148	4000.00	10.00	120.0000	0.00
P-159	J-147	J-150	3800.00	6.00	120.0000	0.00
P-160	J-149	I-RV-1	8000.00	6.00	120.0000	0.00
P-161	J-149	J-151	2000.00	6.00	120.0000	0.00
P-162	J-151	J-140	2000.00	6.00	120.0000	0.00
P-163	J-151	J-152	1000.00	4.00	120.0000	0.00

P-164	J-149	J-154	10000.00	6.00	120.0000	0.00
P-165	J-154	J-504	200.00	3.00	120.0000	0.00
P-166	J-148	J-323	5572.67	10.00	120.0000	0.00
P-167	J-128	J-56	6500.00	8.00	120.0000	0.00
P-168	J-148	J-153	2700.00	4.00	120.0000	0.00
P-169	J-150	J-245	8600.00	4.00	120.0000	0.00
P-170	J-156	I-RV-2	2318.36	6.00	120.0000	0.00
P-171	J-156	J-158	1600.00	4.00	120.0000	0.00
P-172	J-157	J-159	6300.00	3.00	120.0000	0.00
P-173	J-150	J-160	7100.00	4.00	120.0000	0.00
P-174	J-161	J-300	3500.00	8.00	120.0000	0.00
P-175	J-200	J-205	9600.00	6.00	130.0000	0.00
P-176	J-56	O-Pump-2	6200.00	8.00	120.0000	0.00
P-177	J-162	J-165	1400.00	6.00	120.0000	0.00
P-178	J-162	J-164	3500.00	4.00	120.0000	0.00
P-179	J-165	J-163	2000.00	6.00	120.0000	0.00
P-180	J-165	J-166	3500.00	3.00	120.0000	0.00
P-181-CV	J-163	J-167	1000.00	6.00	120.0000	0.00
P-182	J-163	J-168	1000.00	3.00	120.0000	0.00
P-183	J-169	J-162	2800.00	10.00	120.0000	0.00
P-184	J-169	J-177	800.00	4.00	120.0000	0.00
P-185	J-170	J-172	5500.00	4.00	120.0000	0.00
P-186	J-170	J-325	3300.00	4.00	120.0000	0.00
P-187	J-172	J-171	2000.00	4.00	120.0000	0.00
P-188	J-172	J-174	1120.62	4.00	120.0000	0.00
P-189	J-172	J-175	3000.00	4.00	120.0000	0.00
P-190	J-176	J-169	3700.00	10.00	120.0000	0.00
P-191	J-177	J-170	3000.00	4.00	120.0000	0.00
P-192	J-177	J-178	1000.00	3.00	120.0000	0.00
P-193	J-44	J-330	2000.00	4.00	130.0000	0.00
P-194	J-56	J-200	100.00	6.00	120.0000	0.00
P-195	I-Pump-2	J-162	300.00	8.00	120.0000	0.00
P-196	J-76	J-179	7000.00	3.00	120.0000	0.00
P-197	J-76	J-180	1500.00	3.00	120.0000	0.00
P-198	J-186	J-184	200.00	6.00	80.0000	0.00
P-199	J-185	J-193	200.00	6.00	80.0000	0.00
P-200	J-111	J-189	1000.00	4.00	80.0000	0.00
P-201	J-190	J-182	1800.00	4.00	80.0000	0.00
P-202-CV	J-181	J-52	1700.00	6.00	80.0000	0.00
P-203	J-183	J-181	500.00	4.00	80.0000	0.00
P-204	J-184	J-185	500.00	6.00	80.0000	0.00
P-205	J-183	J-186	800.00	6.00	80.0000	0.00
P-206	J-185	J-190	400.00	6.00	80.0000	0.00
P-207	J-186	J-187	800.00	6.00	80.0000	0.00
P-208	J-187	J-188	1000.00	4.00	80.0000	0.00
P-209	J-189	J-184	800.00	4.00	80.0000	0.00
P-210	J-187	J-189	400.00	4.00	80.0000	0.00
P-211	J-187	J-195	1000.00	8.00	80.0000	0.00
P-212	J-190	J-167	2000.00	8.00	120.0000	0.00
P-213	J-190	J-192	2000.00	2.00	80.0000	0.00
P-214	J-190	J-191	400.00	6.00	80.0000	0.00
P-215	T-6	J-193	100.00	6.00	80.0000	0.00
P-216	J-191	J-193	400.00	6.00	80.0000	0.00
P-217	J-191	J-194	600.00	6.00	80.0000	0.00
P-218	J-195	J-111	100.00	6.00	80.0000	0.00
P-219	J-116	J-195	1000.00	8.00	80.0000	0.00
P-220	J-255	I-RV-6	100.00	4.00	130.0000	0.00
P-221	O-Pump-3	J-196	10.00	12.00	120.0000	0.00
P-222	O-RV-12	J-3	800.00	6.00	130.0000	0.00
P-223	T-3	J-199	200.00	6.00	120.0000	0.00
P-224	J-227	J-197	6000.00	4.00	130.0000	0.00
P-225	T-4	J-201	50.00	6.00	120.0000	0.00
P-226	J-202	J-70	4500.00	4.00	120.0000	0.00
P-227	O-RV-1	J-136	3000.00	6.00	120.0000	0.00
P-228	O-RV-2	J-157	3281.64	6.00	120.0000	0.00
P-229	J-501	J-40	300.00	4.00	120.0000	0.00
P-230	J-28 z w	J-203	1500.00	4.00	120.0000	0.00
P-231	J-502	J-145	300.00	6.00	120.0000	0.00
P-232	J-503	J-502	4100.00	6.00	120.0000	0.00

P-233	J-204	J-503	3100.00	6.00	120.0000	0.00
P-234	J-504	J-155	4000.00	3.00	120.0000	0.00
P-235	J-205	J-74	1000.00	6.00	130.0000	0.00
P-236	J-145	J-207	1200.00	8.00	130.0000	0.00
P-237	J-207	T-7	2500.00	8.00	130.0000	0.00
P-238-XX	T-3	T-8	50.00	2.50	120.0000	0.00
P-239	T-8	J-46	800.00	8.00	130.0000	0.00
P-240	J-161	J-206	190.00	8.00	120.0000	0.00
P-241	J-208	J-56	5000.00	8.00	120.0000	0.00
P-242	J-206	T-9	10.00	8.00	120.0000	0.00
P-243	J-208	J-209	11800.00	6.00	130.0000	0.00
P-244	J-209	J-70	2000.00	6.00	130.0000	0.00
P-245	J-210	J-55	4000.00	8.00	130.0000	0.00
P-246	J-55	J-212	7000.00	8.00	130.0000	0.00
P-247	J-211	J-64	3000.00	8.00	130.0000	0.00
P-248	J-212	J-211	3000.00	8.00	130.0000	0.00
P-249	J-210	J-213	4000.00	6.00	130.0000	0.00
P-250	J-213	J-214	4000.00	4.00	130.0000	0.00
P-251	J-214	J-215	3000.00	4.00	130.0000	0.00
P-252	J-62	J-243	3800.00	8.00	130.0000	0.00
P-253	J-217	J-220	6000.00	8.00	130.0000	0.00
P-254	J-219	J-218	5000.00	6.00	130.0000	0.00
P-255	J-220	J-242	5000.00	8.00	130.0000	0.00
P-256	J-216	J-217	1500.00	8.00	130.0000	0.00
P-257	J-217	J-221	6400.00	6.00	130.0000	0.00
P-258	J-216	J-222	5800.00	4.00	130.0000	0.00
P-259	J-49	J-252	3000.00	6.00	130.0000	0.00
P-260	J-223	J-224	8000.00	4.00	130.0000	0.00
P-261	J-43	J-225	7000.00	6.00	130.0000	0.00
P-262	J-225	J-226	3000.00	6.00	130.0000	0.00
P-263	J-226	J-227	3700.00	4.00	130.0000	0.00
P-264	J-34	J-228	3000.00	4.00	120.0000	0.00
P-265	J-228	J-229	5500.00	4.00	120.0000	0.00
P-266	J-49	J-230	3100.00	4.00	130.0000	0.00
P-267	J-231	J-76	5000.00	3.00	120.0000	0.00
P-268	J-231	J-232	6000.00	6.00	130.0000	0.00
P-269	J-232	J-234	7000.00	6.00	130.0000	0.00
P-270	J-234	J-236	5000.00	6.00	130.0000	0.00
P-271	J-234	J-235	3700.00	4.00	130.0000	0.00
P-272	J-236	J-233	6500.00	6.00	130.0000	0.00
P-273	J-62	J-237	8000.00	4.00	130.0000	0.00
P-274	J-237	J-238	2500.00	4.00	130.0000	0.00
P-275	J-218	J-239	4000.00	6.00	130.0000	0.00
P-276	J-239	J-240	4000.00	6.00	130.0000	0.00
P-277	J-240	J-76	10000.00	6.00	130.0000	0.00
P-278	J-241	J-223	1000.00	6.00	130.0000	0.00
P-279	J-242	J-219	4000.00	6.00	130.0000	0.00
P-280	J-243	J-216	1700.00	8.00	130.0000	0.00
P-281	J-243	J-244	3000.00	4.00	130.0000	0.00
P-282	J-245	J-156	1600.00	4.00	120.0000	0.00
P-283	J-245	I-RV-3	1500.00	4.00	120.0000	0.00
P-284	O-RV-3	J-247	2000.00	4.00	120.0000	0.00
P-285	J-247	J-246	4700.00	4.00	120.0000	0.00
P-286	J-247	J-249	7500.00	4.00	120.0000	0.00
P-287	J-249	J-248	6400.00	4.00	120.0000	0.00
P-288	J-250	J-82	2000.00	4.00	120.0000	0.00
P-289	J-250	J-251	1000.00	4.00	130.0000	0.00
P-290	J-252	J-241	5000.00	6.00	130.0000	0.00
P-291	J-252	J-253	2600.00	4.00	130.0000	0.00
P-292	J-18	J-254	4200.00	8.00	130.0000	0.00
P-293	J-254	J-255	2700.00	6.00	130.0000	0.00
P-294	J-254	J-256	7000.00	6.00	130.0000	0.00
P-295	J-256	I-RV-4	100.00	4.00	130.0000	0.00
P-296	J-256	J-30	8500.00	6.00	130.0000	0.00
P-297	O-RV-4	J-257	8400.00	4.00	130.0000	0.00
P-298	J-255	J-8	3500.00	6.00	130.0000	0.00
P-299	J-258	J-122	3000.00	6.00	120.0000	0.00
P-300	J-258	J-259	5000.00	8.00	130.0000	0.00
P-301	J-259	J-260	2600.00	8.00	130.0000	0.00
P-302	J-260	J-262	1300.00	8.00	130.0000	0.00

P-303	J-260	J-261	1589.78	6.00	130.0000	0.00
P-304	J-262	J-264	4300.00	8.00	130.0000	0.00
P-305	J-262	J-263	3371.68	6.00	130.0000	0.00
P-306	J-264	J-265	2300.00	8.00	130.0000	0.00
P-307	J-265	J-266	3800.00	8.00	130.0000	0.00
P-308	J-84	T-5	300.00	8.00	130.0000	0.00
P-309	J-11	I-RV-5	2239.85	6.00	130.0000	0.00
P-310	J-267	J-274	1000.00	6.00	130.0000	0.00
P-311	J-126	J-268	1400.00	4.00	130.0000	0.00
P-312	J-126	J-269	1200.00	4.00	130.0000	0.00
P-313	J-270	J-1	2000.00	6.00	130.0000	0.00
P-314	J-270	J-271	900.00	4.00	130.0000	0.00
P-315	J-272	J-273	4300.00	6.00	130.0000	0.00
P-316	J-273	J-267	3100.00	6.00	130.0000	0.00
P-317	J-274	J-126	900.00	4.00	130.0000	0.00
P-318	O-RV-5	J-270	460.15	6.00	130.0000	0.00
P-319	O-RV-6	J-275	8000.00	4.00	130.0000	0.00
P-320	J-226	J-276	8400.00	4.00	130.0000	0.00
P-321	J-59	J-203	1800.00	4.00	130.0000	0.00
P-322	J-174	J-326	3446.30	4.00	120.0000	0.00
P-323	J-277	J-25	2900.00	6.00	130.0000	0.00
P-324	J-277	J-278	4000.00	4.00	130.0000	0.00
P-325	J-278	J-279	3500.00	4.00	130.0000	0.00
P-326	J-142	J-282	1000.00	6.00	130.0000	0.00
P-327	O-RV-7	J-286	6000.00	4.00	130.0000	0.00
P-328	J-284	J-294	6200.00	6.00	130.0000	0.00
P-329	J-282	I-RV-7	706.14	4.00	130.0000	0.00
P-330	J-282	J-284	4000.00	6.00	130.0000	0.00
P-331	J-294	J-287	2200.00	4.00	130.0000	0.00
P-332	J-284	I-RV-10	435.90	4.00	130.0000	0.00
P-333	J-283	I-RV-8	1500.00	4.00	130.0000	0.00
P-334	J-283	J-294	4300.00	4.00	130.0000	0.00
P-335	J-281	J-288	6000.00	4.00	130.0000	0.00
P-336	J-281	J-289	4000.00	4.00	130.0000	0.00
P-337	O-RV-8	J-281	2300.00	4.00	130.0000	0.00
P-338	J-290	J-30	2800.00	6.00	130.0000	0.00
P-339	J-290	I-RV-9	100.00	4.00	130.0000	0.00
P-340	O-RV-9	J-291	10000.00	4.00	130.0000	0.00
P-341	J-291	J-293	5500.00	4.00	130.0000	0.00
P-342	J-129	J-292	6200.00	4.00	130.0000	0.00
P-343	O-RV-10	J-280	3000.00	4.00	130.0000	0.00
P-344	J-280	J-285	4500.00	4.00	130.0000	0.00
P-345	J-278	J-295	2800.00	4.00	130.0000	0.00
P-346	J-296	J-29	1000.00	6.00	130.0000	0.00
P-347	J-295	J-296	7000.00	4.00	130.0000	0.00
P-348	J-153	I-RV-11	838.51	4.00	130.0000	0.00
P-349	O-RV-11	J-297	3861.49	4.00	130.0000	0.00
P-350	J-298	J-198	1600.00	3.00	120.0000	0.00
P-351	J-298	J-299	900.00	3.00	130.0000	0.00
P-352	J-300	J-131	11000.00	8.00	120.0000	0.00
P-353	J-166	J-301	1500.00	4.00	130.0000	0.00
P-354	J-301	J-302	5700.00	4.00	130.0000	0.00
P-355	J-302	J-300	5000.00	4.00	130.0000	0.00
P-356	J-295	J-303	4600.00	4.00	130.0000	0.00
P-357	J-303	J-305	9000.00	4.00	130.0000	0.00
P-358	J-304	J-19	4000.00	4.00	130.0000	0.00
P-359	J-26	J-306	1000.00	4.00	130.0000	0.00
P-360	J-304	J-305	5000.00	4.00	130.0000	0.00
P-361	J-306	J-307	5000.00	4.00	130.0000	0.00
P-362	J-306	J-309	11000.00	4.00	130.0000	0.00
P-363	J-308	J-23	2800.00	4.00	130.0000	0.00
P-364	J-308	J-310	3500.00	4.00	130.0000	0.00
P-365	J-224	J-311	3800.00	4.00	130.0000	0.00
P-366	J-81	J-315	3200.00	4.00	130.0000	0.00
P-367	J-312	J-96	1200.00	4.00	120.0000	0.00
P-368	J-313	J-314	2200.00	4.00	130.0000	0.00
P-369	J-314	J-312	2600.00	4.00	130.0000	0.00
P-370	J-315	J-313	1100.00	4.00	130.0000	0.00
P-371	J-69	J-317	3400.00	4.00	130.0000	0.00
P-372	J-316	J-68	2300.00	6.00	130.0000	0.00

P-373	J-316	J-319	13011.02	6.00	130.0000	0.00
P-374	J-318	J-62	2500.00	8.00	130.0000	0.00
P-375	J-318	J-321	7200.00	4.00	130.0000	0.00
P-376	J-31	J-41	4800.00	4.00	130.0000	0.00
P-377	J-100	J-2	5600.00	4.00	130.0000	0.00
P-378	J-320	J-92	500.00	8.00	130.0000	0.00
P-379	J-320	J-322	1200.00	4.00	130.0000	0.00
P-380	J-323	J-196	1927.33	10.00	120.0000	0.00
P-381	J-323	I-RV-13	10.00	4.00	130.0000	0.00
P-382	O-RV-13	J-324	10000.00	4.00	130.0000	0.00
P-383	J-88	J-327	1000.00	4.00	120.0000	0.00
P-384	J-173	J-88	2700.00	4.00	120.0000	0.00
P-385	J-328	J-329	4500.00	4.00	120.0000	0.00
P-386	J-39	J-329	12000.00	4.00	120.0000	0.00
P-387-XX	J-171	J-329	5598.69	4.00	120.0000	0.00

N O D E D A T A

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	JUNCTION ELEVATION (ft)	EXTERNAL GRADE (ft)
J-1		0.00	500.00	
J-2		0.12	740.00	
J-3		2.50	540.00	
J-4		0.61	880.00	
J-5		0.49	840.00	
J-6		0.49	820.00	
J-7		0.49	845.00	
J-8		0.49	871.00	
J-9		0.69	880.00	
J-10		0.26	875.00	
J-11		0.26	840.00	
J-12		1.07	924.00	
J-13		0.00	900.00	
J-14		0.00	900.00	
J-15		0.37	880.00	
J-16		0.76	895.00	
J-17		0.00	880.00	
J-18		0.94	875.00	
J-19		0.00	925.00	
J-20		2.31	913.00	
J-21		0.23	900.00	
J-22		0.75	900.00	
J-23		1.48	905.00	
J-24		0.71	830.00	
J-25		1.77	890.00	
J-26		1.78	900.00	
J-27		2.50	933.00	
J-28		0.00	915.00	
J-29		0.84	895.00	
J-30		1.70	848.00	
J-31		4.63	740.00	
J-32		0.16	890.00	
J-33		0.50	800.00	
J-34		0.56	870.00	
J-35		3.16	870.00	
J-36		0.46	879.00	
J-37		1.48	949.00	
J-38		3.47	920.00	
J-39		0.73	923.00	
J-40		1.08	930.00	
J-41		0.39	920.00	
J-42		0.00	0.00	
J-43		0.09	924.00	
J-44		0.00	900.00	
J-45		0.63	960.00	
J-46		1.27	960.00	
J-47		0.53	925.00	

J-48	0.25	950.00
J-49	0.54	949.00
J-50	1.58	960.00
J-51	0.65	978.00
J-52	0.00	937.00
J-53	0.67	950.00
J-54	2.40	975.00
J-55	0.00	930.00
J-56	0.00	885.00
J-57	0.00	927.00
J-58	0.19	900.00
J-59	1.30	800.00
J-60	3.48	975.00
J-61	2.81	950.00
J-62	0.70	940.00
J-63	0.81	940.00
J-64	1.39	930.00
J-65	2.17	950.00
J-66	2.50	965.00
J-67	0.00	946.00
J-68	7.26	967.00
J-69	1.32	928.00
J-70	1.46	960.00
J-71	0.58	925.00
J-72	0.61	953.00
J-73	0.65	640.00
J-74	2.66	955.00
J-75	3.75	860.00
J-76	1.78	907.00
J-77	0.35	780.00
J-78	0.00	860.00
J-79	0.32	620.00
J-80	0.50	870.00
J-81	0.22	820.00
J-82	2.06	800.00
J-83	0.79	705.00
J-84	0.65	962.00
J-85	0.89	900.00
J-86	1.06	898.00
J-87	0.14	958.00
J-88	0.15	906.00
J-89	0.47	935.00
J-90	0.47	890.00
J-91	0.49	900.00
J-92	1.44	960.00
J-93	0.54	921.00
J-94	1.26	920.00
J-95	0.64	905.00
J-96	1.18	722.00
J-97	0.42	880.00
J-98	0.09	846.00
J-99	0.25	800.00
J-100	0.31	800.00
J-101	0.35	900.00
J-102	0.76	653.00
J-103	0.47	922.00
J-104	0.00	966.00
J-105	0.85	670.00
J-106	0.00	949.00
J-107	0.54	870.00
J-108	0.96	840.00
J-109	0.93	959.00
J-110	3.46	950.00
J-111	3.24	905.00
J-112	1.04	945.00
J-113	5.67	900.00
J-114	0.35	930.00
J-115	1.65	925.00
J-116	0.84	942.00
J-117	1.90	910.00

J-118	0.57	912.00	
J-119	1.16	920.00	
J-120	5.62	939.00	
J-121	3.05	950.00	
J-122	4.98	925.00	
J-123	2.20	750.00	
J-124	0.19	950.00	
J-125	0.98	960.00	
J-126	0.00	540.00	
J-127	2.33	920.00	
J-128	0.00	930.00	
J-129	1.76	940.00	
J-130	1.99	950.00	
J-131	0.69	904.00	
J-132	0.00	937.00	
J-133	1.49	890.00	
J-134	0.89	950.00	
J-135	1.87	960.00	
J-136	2.00	500.00	
J-137	1.88	940.00	
J-138	0.77	760.00	
J-139	6.88	850.00	
J-140	1.50	865.00	
J-141	2.31	720.00	
J-142	1.27	860.00	
J-143	5.74	900.00	
J-144	0.30	885.00	
J-145	1.06	916.00	
J-146	0.22	920.00	
J-147	0.81	917.00	
J-148	3.41	912.00	
J-149	4.18	872.00	
J-150	0.69	908.00	
J-151	0.00	890.00	
J-152	0.83	875.00	
J-153	0.65	773.00	
J-154	1.77	921.00	
J-155	3.83	890.00	
J-156	1.46	678.00	
J-157	1.35	525.00	
J-158	0.63	745.00	
J-159	0.65	500.00	
J-160	1.63	770.00	
J-161	0.00	921.00	
J-162	1.68	930.00	
J-163	1.00	935.00	
J-164	4.38	925.00	
J-165	0.60	930.00	
J-166	0.27	860.00	
J-167	5.65	940.00	
J-168	0.43	900.00	
J-169	2.22	909.00	
J-170	0.13	909.00	
J-171	0.86	820.00	
J-172	3.88	862.00	
J-173	0.00	933.00	
J-174	0.14	750.00	
J-175	KY 1011	0.55	670.00
J-176	3.79	880.00	
J-177	0.00	900.00	
J-178	0.83	840.00	
J-179	2.72	866.00	
J-180	1.06	920.00	
J-181	3.24	945.00	
J-182	3.24	930.00	
J-183	3.24	948.00	
J-184	3.24	945.00	
J-185	3.24	940.00	
J-186	3.24	950.00	
J-187	3.24	950.00	

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J-188		3.24	935.00
J-189		3.24	935.00
J-190		3.24	925.00
J-191		3.24	920.00
J-192		0.93	820.00
J-193		3.24	930.00
J-194		3.24	870.00
J-195		3.24	910.00
J-196		0.00	800.00
J-197		0.36	740.00
J-198		2.00	700.00
J-199	Berlin Stand	0.00	990.00
J-200		0.12	885.00
J-201	Bluegrass St	0.00	965.00
J-202		0.00	985.00
J-203		0.00	671.00
J-204		0.00	937.00
J-205		1.04	950.00
J-206		0.00	931.80
J-207		0.00	920.00
J-208		0.00	881.00
J-209		0.60	940.00
J-210		0.00	966.00
J-211		0.00	760.00
J-212		0.00	923.00
J-213		0.54	960.00
J-214		0.54	940.00
J-215		0.54	920.00
J-216		0.70	920.00
J-217		0.70	917.00
J-218		0.70	660.00
J-219		0.70	588.00
J-220		0.70	876.00
J-221		4.27	911.00
J-222		0.60	880.00
J-223		1.27	938.00
J-224		1.27	880.00
J-225		0.60	896.00
J-226		0.60	885.00
J-227		0.70	860.00
J-228		0.63	860.00
J-229		0.63	600.00
J-230		0.10	920.00
J-231		0.00	939.00
J-232		0.43	912.00
J-233		0.43	621.00
J-234		0.43	884.00
J-235		0.70	820.00
J-236		0.43	860.00
J-237		0.23	897.00
J-238		0.23	880.00
J-239		1.27	820.00
J-240		1.27	840.00
J-241		0.00	920.00
J-242		0.00	800.00
J-243		0.00	910.00
J-244		0.00	910.00
J-245		0.83	820.00
J-246		0.42	560.00
J-247		0.00	521.00
J-248		0.83	560.00
J-249		0.52	600.00
J-250		0.00	760.00
J-251		1.27	760.00
J-252		0.00	930.00
J-253		0.23	930.00
J-254		0.00	775.00
J-255		0.00	580.00
J-256		0.37	540.00
J-257		1.20	500.00

J-258		0.00	934.00
J-259		0.28	920.00
J-260		0.28	930.00
J-261		0.09	920.00
J-262		0.00	942.00
J-263		0.28	920.00
J-264		0.00	950.00
J-265		0.93	970.00
J-266		0.00	950.00
J-267		1.40	781.00
J-268		0.19	540.00
J-269		0.65	600.00
J-270		0.00	560.00
J-271		0.74	580.00
J-272		0.20	540.00
J-273		0.37	540.00
J-274		0.00	660.00
J-275		1.16	500.00
J-276		1.16	580.00
J-277		0.00	920.00
J-278		0.46	860.00
J-279		0.23	850.00
J-280		0.00	580.00
J-281		0.00	520.00
J-282		0.00	544.00
J-283		0.59	807.00
J-284		0.69	557.00
J-285		2.00	640.00
J-286		2.00	520.00
J-287		0.59	840.00
J-288		0.59	600.00
J-289		0.59	540.00
J-290		0.00	819.00
J-291		1.18	498.00
J-292		1.76	940.00
J-293		0.59	540.00
J-294		0.00	738.00
J-295		0.69	681.00
J-296		0.00	905.00
J-297		2.00	500.00
J-298		0.00	820.00
J-299		0.23	720.00
J-300		0.00	921.00
J-301		0.35	720.00
J-302		0.46	760.00
J-303		0.81	617.00
J-304		0.00	740.00
J-305		0.69	680.00
J-306		0.00	920.00
J-307		0.69	900.00
J-308		0.00	900.00
J-309		0.59	700.00
J-310		0.58	900.00
J-311		0.69	880.00
J-312		0.00	680.00
J-313		0.00	0.00
J-314		0.35	640.00
J-315		0.23	740.00
J-316		0.00	940.00
J-317		0.69	920.00
J-318		0.00	943.00
J-319		1.16	880.00
J-320		0.00	950.00
J-321		0.58	920.00
J-322		0.60	950.00
J-323		0.00	800.00
J-324		0.93	700.00
J-325	Badger	0.70	880.00
J-326	Augusta- Ber	0.35	640.00
J-327	Case Ridge	0.35	860.00

J-328	KY 1011	1.16	700.00
J-329		2.87	880.00
J-330	Pea Ridge	0.81	900.00
J-500		0.00	945.00
J-501		0.00	935.00
J-502		0.00	930.00
J-503		0.00	940.00
J-504		0.00	921.00

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Average Demand

Case: 0

PIPELINE RESULTS

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NUMBERS		FLOWRATE (gpm)	HEAD LOSS (ft)	MINOR LOSS (ft)	LINE VELO. (ft/s)	HL+ML/ 1000 (ft/ft)	HL/ 1000 (ft/ft)
	#1	#2						
P-1-XXCV	J-162	J-128						
P-2	J-1	J-272	2.81	0.00	0.00	0.03	0.00	0.00
P-3	J-1	I-RV-12	2.50	0.00	0.00	0.03	0.00	0.00
P-4	J-5	J-298	2.23	0.05	0.00	0.10	0.03	0.03
P-5	J-6	J-5	2.72	0.03	0.00	0.12	0.04	0.04
P-6	J-7	J-6	3.21	0.11	0.00	0.15	0.06	0.06
P-7	J-8	J-7	3.70	0.22	0.00	0.17	0.08	0.08
P-8	J-8	J-11	5.19	0.01	0.00	0.06	0.00	0.00
P-9	J-14	J-4	1.99	0.07	0.00	0.09	0.03	0.03
P-10	J-4	J-10	1.38	0.03	0.00	0.06	0.01	0.01
P-11	J-10	J-11	1.12	0.04	0.00	0.05	0.01	0.01
P-12	J-12	J-16	13.23	0.03	0.00	0.08	0.01	0.01
P-13	J-12	J-13	2.36	0.01	0.00	0.06	0.01	0.01
P-14	J-13	J-14	2.36	0.02	0.00	0.11	0.03	0.03
P-15	J-14	J-15	0.37	0.00	0.00	0.00	0.00	0.00
P-16	J-9	J-17	11.78	0.02	0.00	0.08	0.00	0.00
P-17	J-16	J-9	12.47	0.01	0.00	0.08	0.01	0.01
P-18	J-17	J-18	11.78	0.01	0.00	0.08	0.00	0.00
P-19	J-22	J-12	16.67	0.03	0.00	0.11	0.01	0.01
P-20	J-20	J-19	1.15	0.00	0.00	0.01	0.00	0.00
P-21	J-20	J-21	0.23	0.00	0.00	0.02	0.00	0.00
P-22	J-20	J-22	19.48	0.09	0.00	0.22	0.06	0.06
P-23	J-22	J-308	2.06	0.01	0.00	0.05	0.01	0.01
P-24	T-2	J-19	0.00	0.00	0.00	0.00	0.00	0.00
P-25	J-19	J-24	0.71	0.04	0.00	0.07	0.03	0.03
P-26	J-26	J-20	23.16	0.12	0.00	0.15	0.02	0.02
P-27	J-27	J-26	26.22	0.15	0.00	0.17	0.02	0.02
P-28	J-27	J-296	18.42	0.18	0.00	0.21	0.05	0.05
P-29	J-38	J-27	47.14	0.01	0.00	0.30	0.06	0.06
P-30	J-25	J-32	10.83	0.03	0.00	0.12	0.02	0.02
P-31	J-29	J-277	12.06	0.05	0.00	0.14	0.02	0.02
P-32	J-29	J-31	2.53	0.02	0.00	0.06	0.01	0.01
P-33	J-32	J-36	10.17	0.02	0.00	0.12	0.02	0.02
P-34	J-32	J-33	0.50	0.00	0.00	0.02	0.00	0.00
P-35	J-34	J-290	4.73	0.00	0.00	0.05	0.00	0.00
P-36	J-35	J-34	6.55	0.01	0.00	0.07	0.01	0.01
P-37	J-36	J-35	9.71	0.07	0.00	0.11	0.01	0.01
P-38	J-37	J-501	11.84	0.70	0.00	0.30	0.17	0.17
P-39	J-37	J-38	50.61	0.55	0.00	0.32	0.07	0.07
P-40	J-39	J-43	3.51	0.00	0.00	0.04	0.00	0.00
P-41	J-39	J-500	0.00	0.00	0.00	0.00	0.00	0.00
P-42	J-40	J-39	8.27	0.09	0.00	0.21	0.09	0.09
P-43	J-40	J-41	2.49	0.01	0.00	0.06	0.01	0.01
P-44	J-207	J-42	0.81	0.00	0.00	0.01	0.00	0.00
P-45	J-43	J-28	0.00	0.00	0.00	0.00	0.00	0.00

P-46	J-42	J-44	0.81	0.01	0.00	0.02	0.00	0.00
P-47	J-48	J-37	63.93	0.34	0.00	0.41	0.11	0.11
P-48	J-45	J-199	163.76	0.67	0.00	1.05	0.74	0.74
P-49	J-199	J-47	0.53	0.02	0.00	0.02	0.00	0.00
P-50	J-50	J-48	68.28	0.16	0.00	0.44	0.13	0.13
P-51	J-48	J-49	4.10	0.01	0.00	0.05	0.00	0.00
P-52	J-46	J-50	69.86	0.13	0.00	0.45	0.13	0.13
P-53-XXCV	J-50	J-51						
P-54	J-210	J-51	1.32	0.00	0.00	0.01	0.00	0.00
P-55	J-51	J-53	0.67	0.06	0.00	0.07	0.02	0.02
P-56	J-54	J-45	164.39	0.67	0.00	1.05	0.75	0.75
P-57-XX	J-46	J-199						
P-58	J-60	J-54	5.63	0.05	0.00	0.06	0.01	0.01
P-59	J-57	J-54	161.17	6.46	0.00	1.03	0.72	0.72
P-60	J-208	J-57	162.66	4.40	0.00	1.04	0.73	0.73
P-61	J-57	J-58	1.49	0.02	0.00	0.04	0.00	0.00
P-62	J-58	J-59	1.30	0.00	0.00	0.03	0.00	0.00
P-63	J-316	J-60	24.04	0.05	0.00	0.27	0.07	0.07
P-64	J-60	J-65	14.93	0.30	0.00	0.17	0.04	0.04
P-65	J-61	J-318	4.81	0.00	0.00	0.03	0.00	0.00
P-66	J-61	J-64	5.14	0.01	0.00	0.03	0.00	0.00
P-67	J-64	J-63	0.81	0.02	0.00	0.05	0.01	0.01
P-68	J-65	J-61	12.76	1.25	0.00	0.33	0.19	0.19
P-69	J-66	J-71	0.58	0.01	0.00	0.03	0.00	0.00
P-70	J-74	J-66	19.51	3.00	0.00	0.50	0.42	0.42
P-71	J-202	J-68	34.47	2.91	0.00	0.88	1.21	1.21
P-72	J-68	J-69	2.01	0.03	0.00	0.05	0.01	0.01
P-73-XX	J-70	J-66						
P-74	J-67	J-52	0.00	0.00	0.00	0.00	0.00	0.00
P-75-XX	J-67	J-82						
P-76	J-74	J-67	0.00	0.00	0.00	0.00	0.00	0.00
P-77	J-72	J-231	15.82	9.30	0.00	0.72	1.16	1.16
P-78-XX	J-72	J-75						
P-79	J-66	J-72	16.43	0.23	0.00	0.19	0.04	0.04
P-80	J-75	J-77	0.35	0.00	0.00	0.01	0.00	0.00
P-81	J-80	J-75	4.10	0.02	0.00	0.10	0.02	0.02
P-82	J-78	J-79	0.32	0.00	0.00	0.01	0.00	0.00
P-83	J-81	J-78	3.28	0.03	0.00	0.08	0.02	0.02
P-84	J-78	J-80	2.96	0.02	0.00	0.08	0.01	0.01
P-85	J-250	J-80	1.64	0.01	0.00	0.04	0.00	0.00
P-86	J-73	J-82	4.97	0.15	0.00	0.13	0.03	0.03
P-87	J-312	J-73	2.50	0.02	0.00	0.06	0.01	0.01
P-88	J-85	J-73	3.12	1.62	0.00	0.08	0.01	0.01
P-89	J-85	J-89	3.38	0.02	0.00	0.04	0.00	0.00
P-90	J-86	J-85	7.39	0.06	0.00	0.08	0.01	0.01
P-91	J-87	J-84	1.80	0.00	0.00	0.02	0.00	0.00
P-92	J-87	J-173	0.50	0.00	0.00	0.01	0.00	0.00
P-93	J-89	J-87	2.44	0.00	0.00	0.03	0.00	0.00
P-94	J-89	J-90	0.47	0.00	0.00	0.01	0.00	0.00
P-95	J-86	J-93	15.10	0.17	0.00	0.17	0.04	0.04
P-96	J-106	J-86	23.55	7.78	0.00	0.60	0.60	0.60
P-97	J-93	J-104	1.81	0.05	0.00	0.05	0.01	0.01
P-98	J-93	J-94	12.75	0.03	0.00	0.14	0.03	0.03
P-99	J-94	J-95	9.95	0.42	0.00	0.25	0.12	0.12
P-100	J-95	J-96	7.76	0.97	0.00	0.20	0.08	0.08
P-101	J-95	J-97	1.55	0.02	0.00	0.04	0.00	0.00
P-102	J-97	J-83	0.79	0.01	0.00	0.02	0.00	0.00
P-103	J-97	J-98	0.09	0.00	0.00	0.00	0.00	0.00
P-104	J-97	J-99	0.25	0.00	0.00	0.01	0.00	0.00
P-105	J-94	J-101	1.54	0.02	0.00	0.04	0.00	0.00
P-106	J-101	J-100	0.43	0.00	0.00	0.01	0.00	0.00
P-107	J-101	J-102	0.76	0.00	0.00	0.02	0.00	0.00
P-108	J-103	J-91	0.49	0.00	0.00	0.01	0.00	0.00
P-109	J-103	J-105	0.85	0.01	0.00	0.02	0.00	0.00
P-110	J-104	J-103	1.81	0.04	0.00	0.05	0.01	0.01
P-111	J-92	J-121	172.91	2.12	0.00	1.10	0.71	0.71
P-112	J-92	J-107	0.54	0.00	0.00	0.01	0.00	0.00
P-113	J-106	J-320	176.45	2.43	0.00	1.13	0.74	0.74
P-114	J-92	J-108	0.96	0.01	0.00	0.02	0.00	0.00
P-115	J-266	J-106	199.99	2.60	0.00	1.28	0.93	0.93

P-116	J-109	J-84	57.91	0.23	0.00	0.37	0.09	0.09
P-117	J-112	J-109	64.51	0.25	0.00	0.41	0.11	0.11
P-118	J-109	J-113	5.67	1.70	0.00	0.26	0.17	0.17
P-119	J-116	J-112	67.55	0.12	0.00	0.43	0.12	0.12
P-120	J-112	J-114	0.35	0.00	0.00	0.00	0.00	0.00
P-121	J-112	J-115	1.65	0.00	0.00	0.04	0.00	0.00
P-122	R-1	I-Pump-3	0.00	0.00	0.00	0.00	0.00	0.00
P-123	J-201	J-116	123.57	0.62	0.00	0.79	0.44	0.44
P-124	J-137	J-201	123.57	2.15	0.00	1.40	1.79	1.79
P-125	J-118	J-117	128.51	5.39	0.00	1.46	1.92	1.92
P-126	J-117	J-119	1.16	0.00	0.00	0.01	0.00	0.00
P-127	J-120	I-Pump-4	352.63	4.85	0.00	2.25	2.65	2.65
P-128	J-118	J-258	223.55	4.22	0.00	1.43	1.14	1.14
P-129	J-121	J-84	167.66	2.94	0.00	1.07	0.67	0.67
P-130	J-121	J-123	2.20	0.10	0.00	0.10	0.03	0.03
P-131	J-124	J-110	3.46	0.01	0.00	0.04	0.00	0.00
P-132	J-125	J-124	8.55	1.64	0.00	0.39	0.37	0.37
P-133	J-125	J-266	16.24	1.65	0.00	0.41	0.30	0.30
P-134	J-134	J-125	25.77	2.33	0.00	0.66	0.71	0.71
P-135	J-124	J-266	4.90	0.02	0.00	0.06	0.00	0.00
P-136	O-Pump-4	J-118	352.63	2.31	0.00	2.25	2.65	2.65
P-137	J-266	J-129	3.52	0.09	0.00	0.09	0.02	0.02
P-138	J-130	J-135	4.20	0.07	0.00	0.11	0.02	0.02
P-139	J-132	J-130	32.85	4.10	0.00	0.84	1.11	1.11
P-140-XX	J-132	J-204						
P-141	J-122	J-132	34.34	3.13	0.00	0.88	1.20	1.20
P-142	J-132	J-133	1.49	0.60	0.00	0.15	0.11	0.11
P-143	J-130	J-134	26.66	3.39	0.00	0.68	0.75	0.75
P-144	J-135	J-127	2.33	0.04	0.00	0.06	0.01	0.01
P-145	J-161	J-120	384.81	0.72	0.00	2.46	3.61	3.61
P-146	J-117	J-137	125.45	21.16	0.00	1.42	1.84	1.84
P-147	J-120	J-154	26.56	0.21	0.00	0.30	0.10	0.10
P-148	J-139	J-138	0.77	0.00	0.00	0.02	0.00	0.00
P-149	J-140	J-139	10.14	0.06	0.00	0.12	0.02	0.02
P-150	J-140	J-141	2.31	0.02	0.00	0.06	0.01	0.01
P-151	J-139	J-142	8.32	0.04	0.00	0.09	0.01	0.01
P-152	J-143	J-139	5.83	0.03	0.00	0.07	0.01	0.01
P-153	J-143	J-144	0.30	0.01	0.00	0.03	0.01	0.01
P-154	J-145	J-143	11.87	0.13	0.00	0.13	0.02	0.02
P-155	J-145	J-146	0.22	0.00	0.00	0.01	0.00	0.00
P-156	J-131	J-176	215.09	4.15	0.00	0.88	0.42	0.42
P-157	J-131	J-147	16.81	0.01	0.00	0.07	0.00	0.00
P-158	J-147	J-148	6.99	0.00	0.00	0.03	0.00	0.00
P-159	J-147	J-150	9.01	0.05	0.00	0.10	0.01	0.01
P-160	J-149	I-RV-1	2.00	0.01	0.00	0.02	0.00	0.00
P-161	J-149	J-151	14.78	0.07	0.00	0.17	0.04	0.04
P-162	J-151	J-140	13.95	0.06	0.00	0.16	0.03	0.03
P-163	J-151	J-152	0.83	0.00	0.00	0.02	0.00	0.00
P-164	J-154	J-149	20.96	0.67	0.00	0.24	0.07	0.07
P-165	J-154	J-504	3.83	0.02	0.00	0.17	0.08	0.08
P-166	J-148	J-323	0.93	0.00	0.00	0.00	0.00	0.00
P-167	J-128	J-56	0.00	0.00	0.00	0.00	0.00	0.00
P-168	J-148	J-153	2.65	0.03	0.00	0.07	0.01	0.01
P-169	J-150	J-245	6.69	0.50	0.00	0.17	0.06	0.06
P-170	J-156	I-RV-2	2.00	0.00	0.00	0.02	0.00	0.00
P-171	J-156	J-158	0.63	0.00	0.00	0.02	0.00	0.00
P-172	J-157	J-159	0.65	0.02	0.00	0.03	0.00	0.00
P-173	J-150	J-160	1.63	0.03	0.00	0.04	0.00	0.00
P-174	J-161	J-300	262.63	6.23	0.00	1.68	1.78	1.78
P-175	J-200	J-205	23.21	0.67	0.00	0.26	0.07	0.07
P-176	O-Pump-2	J-56	222.51	8.12	0.00	1.42	1.31	1.31
P-177	J-165	J-162	26.93	0.15	0.00	0.31	0.11	0.11
P-178	J-162	J-164	4.38	0.09	0.00	0.11	0.03	0.03
P-179	J-165	J-163	1.43	0.00	0.00	0.02	0.00	0.00
P-180	J-166	J-165	28.96	12.47	0.00	1.31	3.56	3.56
P-181-XXCV	J-163	J-167						
P-182	J-163	J-168	0.43	0.00	0.00	0.02	0.00	0.00
P-183	J-169	J-162	201.64	1.03	0.00	0.82	0.37	0.37
P-184	J-169	J-177	7.44	0.06	0.00	0.19	0.07	0.07
P-185	J-170	J-172	5.78	0.24	0.00	0.15	0.04	0.04

P-186	J-170	J-325	0.70	0.00	0.00	0.02	0.00	0.00
P-187	J-172	J-171	0.86	0.00	0.00	0.02	0.00	0.00
P-188	J-172	J-174	0.49	0.00	0.00	0.01	0.00	0.00
P-189	J-172	J-175	0.55	0.00	0.00	0.01	0.00	0.00
P-190	J-176	J-169	211.30	1.49	0.00	0.86	0.40	0.40
P-191	J-177	J-170	6.61	0.17	0.00	0.17	0.06	0.06
P-192	J-177	J-178	0.83	0.00	0.00	0.04	0.00	0.00
P-193	J-44	J-330	0.81	0.00	0.00	0.02	0.00	0.00
P-194	J-56	J-200	23.33	0.01	0.00	0.26	0.08	0.08
P-195	J-162	I-Pump-2	222.51	0.39	0.00	1.42	1.31	1.31
P-196	J-76	J-179	2.72	0.31	0.00	0.12	0.04	0.04
P-197	J-76	J-180	1.06	0.01	0.00	0.05	0.01	0.01
P-198	J-186	J-184	19.47	0.02	0.00	0.22	0.12	0.12
P-199	J-185	J-193	11.22	0.01	0.00	0.13	0.04	0.04
P-200	J-111	J-189	7.51	0.15	0.00	0.19	0.15	0.15
P-201	J-190	J-182	3.24	0.06	0.00	0.08	0.03	0.03
P-202-XXCV	J-181	J-52						
P-203	J-183	J-181	3.24	0.02	0.00	0.08	0.03	0.03
P-204	J-184	J-185	26.02	0.11	0.00	0.30	0.21	0.21
P-205	J-186	J-183	6.48	0.01	0.00	0.07	0.02	0.02
P-206	J-185	J-190	11.56	0.02	0.00	0.13	0.05	0.05
P-207	J-187	J-186	29.19	0.21	0.00	0.33	0.26	0.26
P-208	J-187	J-188	3.24	0.03	0.00	0.08	0.03	0.03
P-209	J-189	J-184	9.79	0.20	0.00	0.25	0.25	0.25
P-210	J-187	J-189	5.52	0.03	0.00	0.14	0.09	0.09
P-211	J-195	J-187	41.19	0.12	0.00	0.26	0.12	0.12
P-212	J-190	J-167	5.65	0.00	0.00	0.04	0.00	0.00
P-213	J-190	J-192	0.93	0.19	0.00	0.09	0.09	0.09
P-214	J-191	J-190	1.50	0.00	0.00	0.02	0.00	0.00
P-215	T-6	J-193	0.00	0.00	0.00	0.00	0.00	0.00
P-216	J-193	J-191	7.98	0.01	0.00	0.09	0.02	0.02
P-217	J-191	J-194	3.24	0.00	0.00	0.04	0.00	0.00
P-218	J-195	J-111	10.75	0.00	0.00	0.12	0.04	0.04
P-219	J-116	J-195	55.18	0.21	0.00	0.35	0.21	0.21
P-220	J-255	I-RV-6	1.16	0.00	0.00	0.03	0.00	0.00
P-221	O-Pump-3	J-196	0.00	0.00	0.00	0.00	0.00	0.00
P-222	O-RV-12	J-3	2.50	0.00	0.00	0.03	0.00	0.00
P-223	J-199	T-3	163.23	0.60	0.00	1.85	3.00	3.00
P-224	J-227	J-197	0.36	0.00	0.00	0.01	0.00	0.00
P-225	T-4	J-201	0.00	0.00	0.00	0.00	0.00	0.00
P-226	J-70	J-202	34.47	5.45	0.00	0.88	1.21	1.21
P-227	O-RV-1	J-136	2.00	0.00	0.00	0.02	0.00	0.00
P-228	O-RV-2	J-157	2.00	0.00	0.00	0.02	0.00	0.00
P-229	J-501	J-40	11.84	0.05	0.00	0.30	0.17	0.17
P-230	J-28 z w	J-203	0.00	0.00	0.00	0.00	0.00	0.00
P-231	J-502	J-145	0.00	0.00	0.00	0.00	0.00	0.00
P-232	J-503	J-502	0.00	0.00	0.00	0.00	0.00	0.00
P-233	J-204	J-503	0.00	0.00	0.00	0.00	0.00	0.00
P-234	J-504	J-155	3.83	0.34	0.00	0.17	0.08	0.08
P-235	J-205	J-74	22.17	0.06	0.00	0.25	0.06	0.06
P-236	J-207	J-145	13.15	0.01	0.00	0.08	0.01	0.01
P-237	T-7	J-207	13.96	0.02	0.00	0.09	0.01	0.01
P-238-XX	T-3	T-8						
P-239	T-8	J-46	71.13	0.11	0.00	0.45	0.14	0.14
P-240	J-206	J-161	647.44	1.80	0.00	4.13	9.47	9.47
P-241	J-56	J-208	199.18	5.34	0.00	1.27	1.07	1.07
P-242	T-9	J-206	647.44	0.09	0.00	4.13	9.47	9.47
P-243	J-208	J-209	36.53	1.91	0.00	0.41	0.16	0.16
P-244	J-209	J-70	35.93	0.31	0.00	0.41	0.16	0.16
P-245	J-55	J-210	2.94	0.00	0.00	0.02	0.00	0.00
P-246	J-212	J-55	2.94	0.00	0.00	0.02	0.00	0.00
P-247	J-64	J-211	2.94	0.00	0.00	0.02	0.00	0.00
P-248	J-211	J-212	2.94	0.00	0.00	0.02	0.00	0.00
P-249	J-210	J-213	1.62	0.00	0.00	0.02	0.00	0.00
P-250	J-213	J-214	1.08	0.01	0.00	0.03	0.00	0.00
P-251	J-214	J-215	0.54	0.00	0.00	0.01	0.00	0.00
P-252	J-62	J-243	3.07	0.00	0.00	0.02	0.00	0.00
P-253	J-220	J-217	3.20	0.00	0.00	0.02	0.00	0.00
P-254	J-218	J-219	4.60	0.02	0.00	0.05	0.00	0.00
P-255	J-242	J-220	3.90	0.00	0.00	0.02	0.00	0.00

P-256	J-216	J-217	1.77	0.00	0.00	0.01	0.00	0.00
P-257	J-217	J-221	4.27	0.02	0.00	0.05	0.00	0.00
P-258	J-216	J-222	0.60	0.00	0.00	0.02	0.00	0.00
P-259	J-49	J-252	3.46	0.01	0.00	0.04	0.00	0.00
P-260	J-223	J-224	1.96	0.04	0.00	0.05	0.01	0.01
P-261	J-43	J-225	3.42	0.01	0.00	0.04	0.00	0.00
P-262	J-225	J-226	2.82	0.00	0.00	0.03	0.00	0.00
P-263	J-226	J-227	1.06	0.01	0.00	0.03	0.00	0.00
P-264	J-34	J-228	1.26	0.01	0.00	0.03	0.00	0.00
P-265	J-228	J-229	0.63	0.00	0.00	0.02	0.00	0.00
P-266	J-49	J-230	0.10	0.00	0.00	0.00	0.00	0.00
P-267	J-231	J-76	13.40	4.27	0.00	0.61	0.85	0.85
P-268	J-231	J-232	2.42	0.01	0.00	0.03	0.00	0.00
P-269	J-232	J-234	1.99	0.01	0.00	0.02	0.00	0.00
P-270	J-234	J-236	0.86	0.00	0.00	0.01	0.00	0.00
P-271	J-234	J-235	0.70	0.00	0.00	0.02	0.00	0.00
P-272	J-236	J-233	0.43	0.00	0.00	0.00	0.00	0.00
P-273	J-62	J-237	0.46	0.00	0.00	0.01	0.00	0.00
P-274	J-237	J-238	0.23	0.00	0.00	0.01	0.00	0.00
P-275	J-239	J-218	5.30	0.02	0.00	0.06	0.00	0.00
P-276	J-240	J-239	6.57	0.03	0.00	0.07	0.01	0.01
P-277	J-76	J-240	7.84	0.09	0.00	0.09	0.01	0.01
P-278	J-241	J-223	3.23	0.00	0.00	0.04	0.00	0.00
P-279	J-219	J-242	3.90	0.01	0.00	0.04	0.00	0.00
P-280	J-243	J-216	3.07	0.00	0.00	0.02	0.00	0.00
P-281	J-243	J-244	0.00	0.00	0.00	0.00	0.00	0.00
P-282	J-245	J-156	4.09	0.04	0.00	0.10	0.02	0.02
P-283	J-245	I-RV-3	1.77	0.01	0.00	0.05	0.00	0.00
P-284	O-RV-3	J-247	1.77	0.01	0.00	0.05	0.00	0.00
P-285	J-247	J-246	0.42	0.00	0.00	0.01	0.00	0.00
P-286	J-247	J-249	1.35	0.02	0.00	0.03	0.00	0.00
P-287	J-249	J-248	0.83	0.01	0.00	0.02	0.00	0.00
P-288	J-82	J-250	2.91	0.02	0.00	0.07	0.01	0.01
P-289	J-250	J-251	1.27	0.00	0.00	0.03	0.00	0.00
P-290	J-252	J-241	3.23	0.01	0.00	0.04	0.00	0.00
P-291	J-252	J-253	0.23	0.00	0.00	0.01	0.00	0.00
P-292	J-18	J-254	10.84	0.02	0.00	0.07	0.00	0.00
P-293	J-254	J-255	10.54	0.04	0.00	0.12	0.02	0.02
P-294	J-254	J-256	0.31	0.00	0.00	0.00	0.00	0.00
P-295	J-256	I-RV-4	1.20	0.00	0.00	0.03	0.00	0.00
P-296	J-30	J-256	1.26	0.00	0.00	0.01	0.00	0.00
P-297	O-RV-4	J-257	1.20	0.02	0.00	0.03	0.00	0.00
P-298	J-255	J-8	9.38	0.05	0.00	0.11	0.01	0.01
P-299	J-258	J-122	39.32	0.64	0.00	0.45	0.21	0.21
P-300	J-258	J-259	184.23	3.98	0.00	1.18	0.80	0.80
P-301	J-259	J-260	183.95	2.06	0.00	1.17	0.79	0.79
P-302	J-260	J-262	183.58	1.03	0.00	1.17	0.79	0.79
P-303	J-260	J-261	0.09	0.00	0.00	0.00	0.00	0.00
P-304	J-262	J-264	183.30	3.39	0.00	1.17	0.79	0.79
P-305	J-262	J-263	0.28	0.00	0.00	0.00	0.00	0.00
P-306	J-264	J-265	183.30	1.81	0.00	1.17	0.79	0.79
P-307	J-265	J-266	182.37	2.97	0.00	1.16	0.78	0.78
P-308	J-84	T-5	226.71	0.35	0.00	1.45	1.17	1.17
P-309	J-11	I-RV-5	6.05	0.01	0.00	0.07	0.01	0.01
P-310	J-267	J-274	0.84	0.00	0.00	0.01	0.00	0.00
P-311	J-126	J-268	0.19	0.00	0.00	0.00	0.00	0.00
P-312	J-126	J-269	0.65	0.00	0.00	0.02	0.00	0.00
P-313	J-270	J-1	5.31	0.01	0.00	0.06	0.00	0.00
P-314	J-270	J-271	0.74	0.00	0.00	0.02	0.00	0.00
P-315	J-272	J-273	2.61	0.01	0.00	0.03	0.00	0.00
P-316	J-273	J-267	2.24	0.00	0.00	0.03	0.00	0.00
P-317	J-274	J-126	0.84	0.00	0.00	0.02	0.00	0.00
P-318	O-RV-5	J-270	6.05	0.00	0.00	0.07	0.01	0.01
P-319	O-RV-6	J-275	1.16	0.02	0.00	0.03	0.00	0.00
P-320	J-226	J-276	1.16	0.02	0.00	0.03	0.00	0.00
P-321	J-59	J-203	0.00	0.00	0.00	0.00	0.00	0.00
P-322	J-174	J-326	0.35	0.00	0.00	0.01	0.00	0.00
P-323	J-277	J-25	12.60	0.07	0.00	0.14	0.02	0.02
P-324	J-278	J-277	0.54	0.00	0.00	0.01	0.00	0.00
P-325	J-278	J-279	0.23	0.00	0.00	0.01	0.00	0.00

P-326	J-142	J-282	7.05	0.01	0.00	0.08	0.01	0.01
P-327	O-RV-7	J-286	2.00	0.03	0.00	0.05	0.01	0.01
P-328	J-284	J-294	2.36	0.01	0.00	0.03	0.00	0.00
P-329	J-282	I-RV-7	2.00	0.00	0.00	0.05	0.01	0.01
P-330	J-282	J-284	5.05	0.02	0.00	0.06	0.00	0.00
P-331	J-294	J-287	0.59	0.00	0.00	0.02	0.00	0.00
P-332	J-284	I-RV-10	2.00	0.00	0.00	0.05	0.01	0.01
P-333	J-283	I-RV-8	1.18	0.00	0.00	0.03	0.00	0.00
P-334	J-294	J-283	1.77	0.02	0.00	0.05	0.00	0.00
P-335	J-281	J-288	0.59	0.00	0.00	0.02	0.00	0.00
P-336	J-281	J-289	0.59	0.00	0.00	0.02	0.00	0.00
P-337	O-RV-8	J-281	1.18	0.00	0.00	0.03	0.00	0.00
P-338	J-290	J-30	2.96	0.00	0.00	0.03	0.00	0.00
P-339	J-290	I-RV-9	1.77	0.00	0.00	0.05	0.00	0.00
P-340	O-RV-9	J-291	1.77	0.04	0.00	0.05	0.00	0.00
P-341	J-291	J-293	0.59	0.00	0.00	0.02	0.00	0.00
P-342	J-129	J-292	1.76	0.03	0.00	0.04	0.00	0.00
P-343	O-RV-10	J-280	2.00	0.02	0.00	0.05	0.01	0.01
P-344	J-280	J-285	2.00	0.02	0.00	0.05	0.01	0.01
P-345	J-295	J-278	1.23	0.01	0.00	0.03	0.00	0.00
P-346	J-296	J-29	15.43	0.03	0.00	0.18	0.03	0.03
P-347	J-296	J-295	2.98	0.08	0.00	0.08	0.01	0.01
P-348	J-153	I-RV-11	2.00	0.00	0.00	0.05	0.01	0.01
P-349	O-RV-11	J-297	2.00	0.02	0.00	0.05	0.01	0.01
P-350	J-298	J-198	2.00	0.04	0.00	0.09	0.03	0.03
P-351	J-298	J-299	0.23	0.00	0.00	0.01	0.00	0.00
P-352	J-300	J-131	232.59	15.65	0.00	1.48	1.42	1.42
P-353	J-301	J-166	29.23	1.16	0.00	0.75	0.77	0.77
P-354	J-302	J-301	29.58	4.49	0.00	0.76	0.79	0.79
P-355	J-300	J-302	30.04	4.05	0.00	0.77	0.81	0.81
P-356	J-295	J-303	1.06	0.01	0.00	0.03	0.00	0.00
P-357	J-303	J-305	0.25	0.00	0.00	0.01	0.00	0.00
P-358	J-19	J-304	0.44	0.00	0.00	0.01	0.00	0.00
P-359	J-26	J-306	1.28	0.00	0.00	0.03	0.00	0.00
P-360	J-304	J-305	0.44	0.00	0.00	0.01	0.00	0.00
P-361	J-306	J-307	0.69	0.00	0.00	0.02	0.00	0.00
P-362	J-306	J-309	0.59	0.01	0.00	0.02	0.00	0.00
P-363	J-308	J-23	1.48	0.01	0.00	0.04	0.00	0.00
P-364	J-308	J-310	0.58	0.00	0.00	0.01	0.00	0.00
P-365	J-224	J-311	0.69	0.00	0.00	0.02	0.00	0.00
P-366	J-315	J-81	3.50	0.05	0.00	0.09	0.02	0.02
P-367	J-96	J-312	6.58	0.07	0.00	0.17	0.06	0.06
P-368	J-314	J-313	3.73	0.04	0.00	0.10	0.02	0.02
P-369	J-312	J-314	4.08	0.05	0.00	0.10	0.02	0.02
P-370	J-313	J-315	3.73	0.02	0.00	0.10	0.02	0.02
P-371	J-69	J-317	0.69	0.00	0.00	0.02	0.00	0.00
P-372	J-68	J-316	25.20	0.19	0.00	0.29	0.08	0.08
P-373	J-316	J-319	1.16	0.00	0.00	0.01	0.00	0.00
P-374	J-318	J-62	4.23	0.00	0.00	0.03	0.00	0.00
P-375	J-318	J-321	0.58	0.00	0.00	0.01	0.00	0.00
P-376	J-41	J-31	2.10	0.03	0.00	0.05	0.01	0.01
P-377	J-100	J-2	0.12	0.00	0.00	0.00	0.00	0.00
P-378	J-320	J-92	175.85	0.37	0.00	1.12	0.73	0.73
P-379	J-320	J-322	0.60	0.00	0.00	0.02	0.00	0.00
P-380	J-323	J-196	0.00	0.00	0.00	0.00	0.00	0.00
P-381	J-323	I-RV-13	0.93	0.00	0.00	0.02	0.00	0.00
P-382	O-RV-13	J-324	0.93	0.01	0.00	0.02	0.00	0.00
P-383	J-88	J-327	0.35	0.00	0.00	0.01	0.00	0.00
P-384	J-173	J-88	0.50	0.00	0.00	0.01	0.00	0.00
P-385	J-329	J-328	1.16	0.01	0.00	0.03	0.00	0.00
P-386	J-39	J-329	4.03	0.27	0.00	0.10	0.02	0.02
P-387-XX	J-171	J-329						

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	NODE ELEVATION (ft)	PRESSURE HEAD (ft)	NODE PRESSURE (psi)
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000070

J-1	0.00	899.22	500.00	399.22	172.99
J-2	0.12	1096.22	740.00	356.22	154.36
J-3	2.50	646.15	540.00	106.15	46.00
J-4	0.61	1076.20	880.00	196.20	85.02
J-5	0.49	1075.78	840.00	235.78	102.17
J-6	0.49	1075.81	820.00	255.81	110.85
J-7	0.49	1075.92	845.00	230.92	100.06
J-8	0.49	1076.14	871.00	205.14	88.89
J-9	0.69	1076.27	880.00	196.27	85.05
J-10	0.26	1076.17	875.00	201.17	87.17
J-11	0.26	1076.13	840.00	236.13	102.32
J-12	1.07	1076.31	924.00	152.31	66.00
J-13	0.00	1076.30	900.00	176.30	76.40
J-14	0.00	1076.27	900.00	176.27	76.39
J-15	0.37	1076.27	880.00	196.27	85.05
J-16	0.76	1076.28	895.00	181.28	78.56
J-17	0.00	1076.25	880.00	196.25	85.04
J-18	0.94	1076.25	875.00	201.25	87.21
J-19	0.00	1076.43	925.00	151.43	65.62
J-20	2.31	1076.43	913.00	163.43	70.82
J-21	0.23	1076.43	900.00	176.43	76.45
J-22	0.75	1076.34	900.00	176.34	76.42
J-23	1.48	1076.33	905.00	171.33	74.24
J-24	0.71	1076.39	830.00	246.39	106.77
J-25	1.77	1076.37	890.00	186.37	80.76
J-26	1.78	1076.55	900.00	176.55	76.51
J-27	2.50	1076.70	933.00	143.70	62.27
J-28	0.00	1076.41	915.00	161.41	69.95
J-29	0.84	1076.48	895.00	181.48	78.64
J-30	1.70	1076.23	848.00	228.23	98.90
J-31	4.63	1076.47	740.00	336.47	145.80
J-32	0.16	1076.33	890.00	186.33	80.74
J-33	0.50	1076.33	800.00	276.33	119.74
J-34	0.56	1076.24	870.00	206.24	89.37
J-35	3.16	1076.25	870.00	206.25	89.37
J-36	0.46	1076.32	879.00	197.32	85.50
J-37	1.48	1077.26	949.00	128.26	55.58
J-38	3.47	1076.71	920.00	156.71	67.91
J-39	0.73	1076.42	923.00	153.42	66.48
J-40	1.08	1076.50	930.00	146.50	63.48
J-41	0.39	1076.50	920.00	156.50	67.81
J-42	0.00	1051.98			
J-43	0.09	1076.41	924.00	152.41	66.05
J-44	0.00	1051.98	900.00	151.98	65.86
J-45	0.63	1099.27	960.00	139.27	60.35
J-46	1.27	1077.89	960.00	117.89	51.09
J-47	0.53	1098.58	925.00	173.58	75.22
J-48	0.25	1077.59	950.00	127.59	55.29
J-49	0.54	1077.59	949.00	128.59	55.72
J-50	1.58	1077.76	960.00	117.76	51.03
J-51	0.65	1098.42	978.00	120.42	52.18
J-52	0.00	1115.40	937.00	178.40	77.31
J-53	0.67	1098.36	950.00	148.36	64.29
J-54	2.40	1099.94	975.00	124.94	54.14
J-55	0.00	1098.43	930.00	168.43	72.98
J-56	0.00	1116.14	885.00	231.14	100.16
J-57	0.00	1106.41	927.00	179.41	77.74
J-58	0.19	1106.38	900.00	206.38	89.43
J-59	1.30	1106.38	800.00	306.38	132.76
J-60	3.48	1099.99	975.00	124.99	54.16
J-61	2.81	1098.44	950.00	148.44	64.32
J-62	0.70	1098.43	940.00	158.43	68.65
J-63	0.81	1098.41	940.00	158.41	68.64
J-64	1.39	1098.43	930.00	168.43	72.99
J-65	2.17	1099.69	950.00	149.69	64.86
J-66	2.50	1112.40	965.00	147.40	63.87
J-67	0.00	1115.40	946.00	169.40	73.41
J-68	7.26	1100.23	967.00	133.23	57.73
J-69	1.32	1100.19	928.00	172.19	74.62

J-70	1.46	1108.59	960.00	148.59	64.39
J-71	0.58	1112.40	925.00	187.40	81.21
J-72	0.61	1112.18	953.00	159.18	68.98
J-73	0.65	1094.75	640.00	454.75	197.06
J-74	2.66	1115.40	955.00	160.40	69.51
J-75	3.75	1094.55	860.00	234.55	101.64
J-76	1.78	1098.60	907.00	191.60	83.03
J-77	0.35	1094.55	780.00	314.55	136.31
J-78	0.00	1094.59	860.00	234.59	101.66
J-79	0.32	1094.59	620.00	474.59	205.66
J-80	0.50	1094.57	870.00	224.57	97.31
J-81	0.22	1094.62	820.00	274.62	119.00
J-82	2.06	1094.61	800.00	294.61	127.66
J-83	0.79	1095.79	705.00	390.79	169.34
J-84	0.65	1096.35	962.00	134.35	58.22
J-85	0.89	1096.37	900.00	196.37	85.09
J-86	1.06	1096.43	898.00	198.43	85.99
J-87	0.14	1096.35	958.00	138.35	59.95
J-88	0.15	1096.35	906.00	190.35	82.48
J-89	0.47	1096.36	935.00	161.36	69.92
J-90	0.47	1096.35	890.00	206.35	89.42
J-91	0.49	1096.17	900.00	196.17	85.01
J-92	1.44	1101.42	960.00	141.42	61.28
J-93	0.54	1096.26	921.00	175.26	75.95
J-94	1.26	1096.24	920.00	176.24	76.37
J-95	0.64	1095.81	905.00	190.81	82.69
J-96	1.18	1094.84	722.00	372.84	161.56
J-97	0.42	1095.79	880.00	215.79	93.51
J-98	0.09	1095.79	846.00	249.79	108.24
J-99	0.25	1095.79	800.00	295.79	128.18
J-100	0.31	1096.22	800.00	296.22	128.36
J-101	0.35	1096.22	900.00	196.22	85.03
J-102	0.76	1096.21	653.00	443.21	192.06
J-103	0.47	1096.17	922.00	174.17	75.47
J-104	0.00	1096.21	966.00	130.21	56.42
J-105	0.85	1096.16	670.00	426.16	184.67
J-106	0.00	1104.21	949.00	155.21	67.26
J-107	0.54	1101.42	870.00	231.42	100.28
J-108	0.96	1101.41	840.00	261.41	113.28
J-109	0.93	1096.58	959.00	137.58	59.62
J-110	3.46	1106.82	950.00	156.82	67.95
J-111	3.24	1096.75	905.00	191.75	83.09
J-112	1.04	1096.84	945.00	151.84	65.80
J-113	5.67	1094.88	900.00	194.88	84.45
J-114	0.35	1096.84	930.00	166.84	72.30
J-115	1.65	1096.83	925.00	171.83	74.46
J-116	0.84	1096.96	942.00	154.96	67.15
J-117	1.90	1120.89	910.00	210.89	91.38
J-118	0.57	1126.28	912.00	214.28	92.85
J-119	1.16	1120.89	920.00	200.89	87.05
J-120	5.62	1052.88	939.00	113.88	49.35
J-121	3.05	1099.29	950.00	149.29	64.69
J-122	4.98	1121.41	925.00	196.41	85.11
J-123	2.20	1099.20	750.00	349.20	151.32
J-124	0.19	1106.82	950.00	156.82	67.96
J-125	0.98	1108.46	960.00	148.46	64.33
J-126	0.00	899.21	540.00	359.21	155.66
J-127	2.33	1114.07	920.00	194.07	84.10
J-128	0.00	1116.14	930.00	186.14	80.66
J-129	1.76	1106.72	940.00	166.72	72.25
J-130	1.99	1114.18	950.00	164.18	71.15
J-131	0.69	1031.73	904.00	127.73	55.35
J-132	0.00	1118.29	937.00	181.29	78.56
J-133	1.49	1117.68	890.00	227.68	98.66
J-134	0.89	1110.79	950.00	160.79	69.68
J-135	1.87	1114.11	960.00	154.11	66.78
J-136	2.00	747.69	500.00	247.69	107.33
J-137	1.88	1099.72	940.00	159.72	69.21
J-138	0.77	1051.81	760.00	291.81	126.45
J-139	6.88	1051.82	850.00	201.82	87.45

J-140		1.50	1051.87	865.00	186.87	80.98
J-141		2.31	1051.86	720.00	331.86	143.80
J-142		1.27	1051.78	860.00	191.78	83.10
J-143		5.74	1051.85	900.00	151.85	65.80
J-144		0.30	1051.84	885.00	166.84	72.30
J-145		1.06	1051.98	916.00	135.98	58.92
J-146		0.22	1051.98	920.00	131.98	57.19
J-147		0.81	1031.72	917.00	114.72	49.71
J-148		3.41	1031.71	912.00	119.71	51.88
J-149		4.18	1052.01	872.00	180.01	78.00
J-150		0.69	1031.66	908.00	123.66	53.59
J-151		0.00	1051.94	890.00	161.94	70.17
J-152		0.83	1051.93	875.00	176.93	76.67
J-153		0.65	1031.69	773.00	258.69	112.10
J-154		1.77	1052.68	921.00	131.68	57.06
J-155		3.83	1052.32	890.00	162.32	70.34
J-156		1.46	1031.13	678.00	353.13	153.02
J-157		1.35	811.92	525.00	286.92	124.33
J-158		0.63	1031.12	745.00	286.12	123.99
J-159		0.65	811.90	500.00	311.90	135.16
J-160		1.63	1031.63	770.00	261.63	113.37
J-161		0.00	1053.61	921.00	132.61	57.46
J-162		1.68	1025.06	930.00	95.06	41.19
J-163		1.00	1025.21	935.00	90.21	39.09
J-164		4.38	1024.96	925.00	99.96	43.32
J-165		0.60	1025.21	930.00	95.21	41.26
J-166		0.27	1037.68	860.00	177.68	76.99
J-167		5.65	1096.27	940.00	156.27	67.72
J-168		0.43	1025.20	900.00	125.20	54.26
J-169		2.22	1026.09	909.00	117.09	50.74
J-170		0.13	1025.86	909.00	116.86	50.64
J-171		0.86	1025.61	820.00	205.61	89.10
J-172		3.88	1025.62	862.00	163.62	70.90
J-173		0.00	1096.35	933.00	163.35	70.79
J-174		0.14	1025.62	750.00	275.62	119.43
J-175	KY 1011	0.55	1025.62	670.00	355.62	154.10
J-176		3.79	1027.58	880.00	147.58	63.95
J-177		0.00	1026.03	900.00	126.03	54.61
J-178		0.83	1026.03	840.00	186.03	80.61
J-179		2.72	1098.29	866.00	232.29	100.66
J-180		1.06	1098.59	920.00	178.59	77.39
J-181		3.24	1096.39	945.00	151.39	65.60
J-182		3.24	1096.21	930.00	166.21	72.02
J-183		3.24	1096.40	948.00	148.40	64.31
J-184		3.24	1096.39	945.00	151.39	65.60
J-185		3.24	1096.29	940.00	156.29	67.72
J-186		3.24	1096.42	950.00	146.42	63.45
J-187		3.24	1096.63	950.00	146.63	63.54
J-188		3.24	1096.60	935.00	161.60	70.02
J-189		3.24	1096.59	935.00	161.59	70.02
J-190		3.24	1096.27	925.00	171.27	74.22
J-191		3.24	1096.27	920.00	176.27	76.38
J-192		0.93	1096.08	820.00	276.08	119.64
J-193		3.24	1096.28	930.00	166.28	72.05
J-194		3.24	1096.27	870.00	226.27	98.05
J-195		3.24	1096.75	910.00	186.75	80.92
J-196		0.00	1031.71	800.00	231.71	100.41
J-197		0.36	1076.39	740.00	336.39	145.77
J-198		2.00	1075.69	700.00	375.69	162.80
J-199	Berlin Stand	0.00	1098.60	990.00	108.60	47.06
J-200		0.12	1116.13	885.00	231.13	100.16
J-201	Bluegrass St	0.00	1097.58	965.00	132.58	57.45
J-202		0.00	1103.13	985.00	118.13	51.19
J-203		0.00	1106.38	671.00	435.38	188.66
J-204		0.00	1051.98	937.00	114.98	49.82
J-205		1.04	1115.47	950.00	165.47	71.70
J-206		0.00	1055.41	931.80	123.61	53.56
J-207		0.00	1051.98	920.00	131.98	57.19
J-208		0.00	1110.81	881.00	229.81	99.58
J-209		0.60	1108.90	940.00	168.90	73.19

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J-210	0.00	1098.42	966.00	132.42	57.38
J-211	0.00	1098.43	760.00	338.43	146.65
J-212	0.00	1098.43	923.00	175.43	76.02
J-213	0.54	1098.42	960.00	138.42	59.98
J-214	0.54	1098.42	940.00	158.42	68.65
J-215	0.54	1098.41	920.00	178.41	77.31
J-216	0.70	1098.43	920.00	178.43	77.32
J-217	0.70	1098.43	917.00	181.43	78.62
J-218	0.70	1098.46	660.00	438.46	190.00
J-219	0.70	1098.45	588.00	510.45	221.19
J-220	0.70	1098.43	876.00	222.43	96.39
J-221	4.27	1098.41	911.00	187.41	81.21
J-222	0.60	1098.43	880.00	218.43	94.65
J-223	1.27	1077.57	938.00	139.57	60.48
J-224	1.27	1077.53	880.00	197.53	85.60
J-225	0.60	1076.40	896.00	180.40	78.17
J-226	0.60	1076.39	885.00	191.39	82.94
J-227	0.70	1076.39	860.00	216.39	93.77
J-228	0.63	1076.23	860.00	216.23	93.70
J-229	0.63	1076.23	600.00	476.23	206.37
J-230	0.10	1077.59	920.00	157.59	68.29
J-231	0.00	1102.88	939.00	163.88	71.01
J-232	0.43	1102.87	912.00	190.87	82.71
J-233	0.43	1102.86	621.00	481.86	208.81
J-234	0.43	1102.87	884.00	218.87	94.84
J-235	0.70	1102.86	820.00	282.86	122.57
J-236	0.43	1102.86	860.00	242.86	105.24
J-237	0.23	1098.43	897.00	201.43	87.29
J-238	0.23	1098.43	880.00	218.43	94.65
J-239	1.27	1098.48	820.00	278.48	120.68
J-240	1.27	1098.51	840.00	258.51	112.02
J-241	0.00	1077.57	920.00	157.57	68.28
J-242	0.00	1098.44	800.00	298.44	129.32
J-243	0.00	1098.43	910.00	188.43	81.65
J-244	0.00	1098.43	910.00	188.43	81.65
J-245	0.83	1031.16	820.00	211.16	91.50
J-246	0.42	746.91	560.00	186.91	81.00
J-247	0.00	746.91	521.00	225.91	97.90
J-248	0.83	746.88	560.00	186.88	80.98
J-249	0.52	746.89	600.00	146.89	63.65
J-250	0.00	1094.58	760.00	334.58	144.99
J-251	1.27	1094.58	760.00	334.58	144.98
J-252	0.00	1077.58	930.00	147.58	63.95
J-253	0.23	1077.58	930.00	147.58	63.95
J-254	0.00	1076.23	775.00	301.23	130.53
J-255	0.00	1076.19	580.00	496.19	215.01
J-256	0.37	1076.23	540.00	536.23	232.37
J-257	1.20	736.14	500.00	236.14	102.33
J-258	0.00	1122.06	934.00	188.06	81.49
J-259	0.28	1118.08	920.00	198.08	85.83
J-260	0.28	1116.01	930.00	186.01	80.61
J-261	0.09	1116.01	920.00	196.01	84.94
J-262	0.00	1114.98	942.00	172.98	74.96
J-263	0.28	1114.98	920.00	194.98	84.49
J-264	0.00	1111.59	950.00	161.59	70.02
J-265	0.93	1109.78	970.00	139.78	60.57
J-266	0.00	1106.81	950.00	156.81	67.95
J-267	1.40	899.21	781.00	118.21	51.22
J-268	0.19	899.21	540.00	359.21	155.66
J-269	0.65	899.21	600.00	299.21	129.66
J-270	0.00	899.23	560.00	339.23	147.00
J-271	0.74	899.23	580.00	319.23	138.33
J-272	0.20	899.22	540.00	359.22	155.66
J-273	0.37	899.21	540.00	359.21	155.66
J-274	0.00	899.21	660.00	239.21	103.66
J-275	1.16	810.75	500.00	310.75	134.66
J-276	1.16	1076.38	580.00	496.38	215.10
J-277	0.00	1076.43	920.00	156.43	67.79
J-278	0.46	1076.43	860.00	216.43	93.79
J-279	0.23	1076.43	850.00	226.43	98.12

J-280		0.00	776.21	580.00	196.21	85.03
J-281		0.00	769.23	520.00	249.23	108.00
J-282		0.00	1051.77	544.00	507.77	220.03
J-283		0.59	1051.73	807.00	244.73	106.05
J-284		0.69	1051.75	557.00	494.75	214.39
J-285		2.00	776.19	640.00	136.19	59.02
J-286		2.00	728.58	520.00	208.58	90.39
J-287		0.59	1051.74	840.00	211.74	91.76
J-288		0.59	769.22	600.00	169.22	73.33
J-289		0.59	769.22	540.00	229.22	99.33
J-290		0.00	1076.24	819.00	257.24	111.47
J-291		1.18	769.19	498.00	271.19	117.51
J-292		1.76	1106.69	940.00	166.69	72.23
J-293		0.59	769.18	540.00	229.18	99.31
J-294		0.00	1051.74	738.00	313.74	135.96
J-295		0.69	1076.44	681.00	395.44	171.36
J-296		0.00	1076.52	905.00	171.52	74.32
J-297		2.00	842.21	500.00	342.21	148.29
J-298		0.00	1075.73	820.00	255.73	110.82
J-299		0.23	1075.73	720.00	355.73	154.15
J-300		0.00	1047.37	921.00	126.37	54.76
J-301		0.35	1038.83	720.00	318.83	138.16
J-302		0.46	1043.32	760.00	283.32	122.77
J-303		0.81	1076.43	617.00	459.43	199.09
J-304		0.00	1076.43	740.00	336.43	145.79
J-305		0.69	1076.43	680.00	396.43	171.79
J-306		0.00	1076.55	920.00	156.55	67.84
J-307		0.69	1076.55	900.00	176.55	76.50
J-308		0.00	1076.34	900.00	176.34	76.41
J-309		0.59	1076.54	700.00	376.54	163.17
J-310		0.58	1076.34	900.00	176.34	76.41
J-311		0.69	1077.52	880.00	197.52	85.59
J-312		0.00	1094.77	680.00	414.77	179.74
J-313		0.00	1094.68			
J-314		0.35	1094.72	640.00	454.72	197.05
J-315		0.23	1094.67	740.00	354.67	153.69
J-316		0.00	1100.04	940.00	160.04	69.35
J-317		0.69	1100.19	920.00	180.19	78.08
J-318		0.00	1098.44	943.00	155.44	67.36
J-319		1.16	1100.04	880.00	220.04	95.35
J-320		0.00	1101.78	950.00	151.78	65.77
J-321		0.58	1098.43	920.00	178.43	77.32
J-322		0.60	1101.78	950.00	151.78	65.77
J-323		0.00	1031.71	800.00	231.71	100.41
J-324		0.93	869.22	700.00	169.22	73.33
J-325	Badger	0.70	1025.86	880.00	145.86	63.21
J-326	Augusta- Ber	0.35	1025.62	640.00	385.62	167.10
J-327	Case Ridge	0.35	1096.35	860.00	236.35	102.42
J-328	KY 1011	1.16	1076.13	700.00	376.13	162.99
J-329		2.87	1076.14	880.00	196.14	85.00
J-330	Pea Ridge	0.81	1051.97	900.00	151.97	65.86
J-500		0.00	1076.42	945.00	131.42	56.95
J-501		0.00	1076.55	935.00	141.55	61.34
J-502		0.00	1051.98	930.00	121.98	52.86
J-503		0.00	1051.98	940.00	111.98	48.52
J-504		0.00	1052.66	921.00	131.66	57.05
I-Pump-2		0.00	1024.66	935.00	89.66	38.85
I-Pump-3		0.00	723.00	718.00	5.00	2.17
I-Pump-4		0.00	1048.03	940.00	108.03	46.81
R-1	Clearwell	----	723.00	718.00	5.00	2.17
O-RV-1		----	747.69	600.00	147.69	64.00
O-RV-2		----	811.92	715.00	96.92	42.00
I-RV-3		0.00	1031.16	620.00	411.16	178.17
I-RV-4		0.00	1076.23	540.00	536.23	232.37
I-RV-5		0.00	1076.12	560.00	516.12	223.65
O-RV-6		----	810.77	580.00	230.77	100.00
I-RV-7		0.00	1051.76	544.00	507.76	220.03
I-RV-8		0.00	1051.72	700.00	351.72	152.41
O-RV-9		----	769.23	700.00	69.23	30.00
I-RV-10		0.00	1051.75	557.00	494.75	214.39

O-RV-11	----	842.23	773.00	69.23	30.00	
I-RV-12	0.00	899.22	540.00	359.22	155.66	
O-RV-13	----	869.23	800.00	69.23	30.00	
T-2	Lenoxburg Ta	----	1076.43	910.00	166.43	72.12
T-3	Elev. Berlin	----	1098.00	990.00	108.00	46.80
T-4		----	1097.58	965.00	132.58	57.45
T-5	New Tank	----	1096.00	970.00	126.00	54.60
T-6	Brooksville	----	1096.28	945.00	151.28	65.55
T-7	INDUSTRIAL P	----	1052.00	921.00	131.00	56.77
T-8	BERLIN	----	1078.00	990.00	88.00	38.13
T-9	CHATAM	----	1055.50	932.00	123.50	53.52
z w J-203	0.00	1076.41	900.00	176.41	76.45	
I-RV-1	0.00	1052.00	600.00	452.00	195.87	
I-RV-2	0.00	1031.12	715.00	316.12	136.99	
I-RV-6	0.00	1076.19	580.00	496.19	215.01	
I-RV-9	0.00	1076.24	700.00	376.24	163.04	
I-RV-11	0.00	1031.68	773.00	258.68	112.10	
I-RV-13	0.00	1031.71	800.00	231.71	100.41	
O-Pump-4	0.00	1128.58	940.00	188.58	81.72	
O-Pump-2	0.00	1124.27	935.00	189.27	82.02	
O-Pump-3	0.00	1031.71	718.00	313.71	135.94	
O-RV-12	----	646.15	540.00	106.15	46.00	
O-RV-3	----	746.92	620.00	126.92	55.00	
O-RV-4	----	736.15	540.00	196.15	85.00	
O-RV-5	----	899.23	560.00	339.23	147.00	
O-RV-7	----	728.62	544.00	184.62	80.00	
O-RV-8	----	769.23	700.00	69.23	30.00	
O-RV-10	----	776.23	557.00	219.23	95.00	

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	232.37	I-Pump-3	2.17
I-RV-4	232.37	R-1	2.17
I-RV-5	223.65	O-RV-9	30.00
J-219	221.19	O-RV-11	30.00
J-282	220.03	O-RV-13	30.00
I-RV-7	220.03	O-RV-8	30.00
J-276	215.10	T-8	38.13
J-255	215.01	I-Pump-2	38.85
I-RV-6	215.01	J-163	39.09
J-284	214.39	J-162	41.19

HL / 1000

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
P-240	9.47	P-303	0.00
P-242	9.47	P-166	0.00
P-145	3.61	P-305	0.00
P-180	3.56	P-103	0.00
P-223	3.00	P-266	0.00

SUMMARY OF INFLOWS AND OUTFLOWS

- (+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
- (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-163.23	Elev. Berlin
T-5	-226.71	New Tank
T-7	13.96	INDUSTRIAL P
T-8	71.13	BERLIN
T-9	647.44	CHATAM

NET SYSTEM INFLOW = 732.53
NET SYSTEM OUTFLOW = -389.94
NET SYSTEM DEMAND = 342.59

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Peak Demand

Case: 1

CHANGES FOR NEXT SIMULATION (Change Number = 1)

JUNCTION DEMANDS CHANGED - PLEASE SEE RESULTS TABLE

RESULTS OBTAINED AFTER 9 TRIALS: ACCURACY = 0.00000

PIPELINE RESULTS

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE #1	NODE #2	FLOWRATE (gpm)	HEAD LOSS (ft)	MINOR LOSS (ft)	LINE VELO. (ft/s)	HL+ML/1000 (ft/ft)	HL/1000 (ft/ft)
P-1-XXCV	J-162	J-128						
P-2	J-1	J-272	11.24	0.02	0.00	0.13	0.02	0.02
P-3	J-1	I-RV-12	10.00	0.05	0.00	0.11	0.01	0.01
P-4	J-5	J-298	8.92	0.60	0.00	0.40	0.40	0.40
P-5	J-6	J-5	10.88	0.41	0.00	0.49	0.58	0.58
P-6	J-7	J-6	12.84	1.42	0.00	0.58	0.79	0.79
P-7	J-8	J-7	14.80	2.92	0.00	0.67	1.03	1.03
P-8	J-8	J-11	20.73	0.08	0.00	0.24	0.06	0.06
P-9	J-14	J-4	7.99	0.92	0.00	0.36	0.33	0.33
P-10	J-4	J-10	5.55	0.40	0.00	0.25	0.17	0.17
P-11	J-10	J-11	4.51	0.51	0.00	0.20	0.11	0.11
P-12	J-12	J-16	53.05	0.36	0.00	0.34	0.08	0.08
P-13	J-12	J-13	9.47	0.17	0.00	0.24	0.11	0.11
P-14	J-13	J-14	9.47	0.31	0.00	0.43	0.45	0.45
P-15	J-14	J-15	1.48	0.00	0.00	0.02	0.00	0.00
P-16	J-9	J-17	47.25	0.26	0.00	0.30	0.06	0.06
P-17	J-16	J-9	50.01	0.14	0.00	0.32	0.07	0.07
P-18	J-17	J-18	47.25	0.08	0.00	0.30	0.06	0.06
P-19	J-22	J-12	66.79	0.45	0.00	0.43	0.12	0.12
P-20	J-20	J-19	4.76	0.00	0.00	0.05	0.00	0.00
P-21	J-20	J-21	0.92	0.04	0.00	0.09	0.04	0.04
P-22	J-20	J-22	78.03	1.15	0.00	0.89	0.76	0.76
P-23	J-22	J-308	8.24	0.07	0.00	0.21	0.07	0.07
P-24	T-2	J-19	0.00	0.00	0.00	0.00	0.00	0.00
P-25	J-19	J-24	2.84	0.56	0.00	0.29	0.35	0.35
P-26	J-26	J-20	92.96	1.57	0.00	0.59	0.22	0.22
P-27	J-27	J-26	105.20	1.92	0.00	0.67	0.28	0.28
P-28	J-27	J-296	74.42	2.41	0.00	0.84	0.60	0.60
P-29	J-38	J-27	189.61	0.17	0.00	1.21	0.84	0.84
P-30	J-25	J-32	43.21	0.44	0.00	0.49	0.22	0.22

P-31	J-29	J-277	47.98	0.70	0.00	0.54	0.27	0.27
P-32	J-29	J-31	11.17	0.26	0.00	0.29	0.13	0.13
P-33	J-32	J-36	40.57	0.20	0.00	0.46	0.20	0.20
P-34	J-32	J-33	2.00	0.03	0.00	0.09	0.03	0.03
P-35	J-34	J-290	18.81	0.05	0.00	0.21	0.05	0.05
P-36	J-35	J-34	26.09	0.09	0.00	0.30	0.09	0.09
P-37	J-36	J-35	38.73	0.90	0.00	0.44	0.18	0.18
P-38	J-37	J-501	46.31	8.79	0.00	1.18	2.09	2.09
P-39	J-37	J-38	193.08	6.52	0.00	1.23	0.87	0.87
P-40	J-39	J-43	14.04	0.06	0.00	0.16	0.03	0.03
P-41	J-39	J-500	0.00	0.00	0.00	0.00	0.00	0.00
P-42	J-40	J-39	33.08	1.12	0.00	0.84	1.12	1.12
P-43	J-40	J-41	8.91	0.09	0.00	0.23	0.09	0.09
P-44	J-207	J-42	3.24	0.00	0.00	0.02	0.00	0.00
P-45	J-43	J-28	0.00	0.00	0.00	0.00	0.00	0.00
P-46	J-42	J-44	3.24	0.09	0.00	0.08	0.01	0.01
P-47	J-48	J-37	245.31	4.06	0.00	1.57	1.35	1.35
P-48	J-45	J-199	10.84	0.00	0.00	0.07	0.00	0.00
P-49	J-199	J-47	2.12	0.28	0.00	0.10	0.03	0.03
P-50	J-50	J-48	262.71	2.00	0.00	1.68	1.54	1.54
P-51	J-48	J-49	16.40	0.11	0.00	0.19	0.04	0.04
P-52	J-46	J-50	312.29	2.12	0.00	1.99	2.12	2.12
P-53-CV	J-50	J-51	43.26	0.18	0.00	0.28	0.05	0.05
P-54	J-51	J-210	37.98	0.15	0.00	0.24	0.05	0.05
P-55	J-51	J-53	2.68	0.78	0.00	0.27	0.31	0.31
P-56	J-54	J-45	13.36	0.01	0.00	0.09	0.01	0.01
P-57-XX	J-46	J-199						
P-58	J-54	J-60	78.93	6.24	0.00	0.90	0.78	0.78
P-59	J-57	J-54	101.90	2.77	0.00	0.65	0.31	0.31
P-60	J-208	J-57	107.86	2.06	0.00	0.69	0.34	0.34
P-61	J-57	J-58	5.96	0.32	0.00	0.15	0.04	0.04
P-62	J-58	J-59	5.20	0.03	0.00	0.13	0.03	0.03
P-63	J-60	J-316	7.63	0.01	0.00	0.09	0.01	0.01
P-64	J-60	J-65	57.38	3.63	0.00	0.65	0.43	0.43
P-65	J-61	J-318	60.16	0.20	0.00	0.38	0.10	0.10
P-66	J-64	J-61	22.70	0.10	0.00	0.14	0.02	0.02
P-67	J-64	J-63	3.24	0.30	0.00	0.21	0.15	0.15
P-68	J-65	J-61	48.70	14.94	0.00	1.24	2.30	2.30
P-69	J-66	J-71	2.32	0.07	0.00	0.11	0.03	0.03
P-70	J-74	J-66	37.12	9.87	0.00	0.95	1.39	1.39
P-71	J-202	J-68	34.09	2.85	0.00	0.87	1.19	1.19
P-72	J-68	J-69	8.04	0.42	0.00	0.21	0.07	0.07
P-73-XX	J-70	J-66						
P-74	J-67	J-52	0.00	0.00	0.00	0.00	0.00	0.00
P-75-XX	J-67	J-82						
P-76	J-74	J-67	0.00	0.00	0.00	0.00	0.00	0.00
P-77	J-72	J-231	22.36	17.65	0.00	1.01	2.21	2.21
P-78-XX	J-72	J-75						
P-79	J-66	J-72	24.80	0.48	0.00	0.28	0.09	0.09
P-80	J-75	J-77	1.40	0.02	0.00	0.04	0.00	0.00
P-81	J-80	J-75	16.40	0.21	0.00	0.42	0.31	0.31
P-82	J-78	J-79	1.28	0.01	0.00	0.03	0.00	0.00
P-83	J-81	J-78	13.07	0.34	0.00	0.33	0.20	0.20
P-84	J-78	J-80	11.79	0.25	0.00	0.30	0.17	0.17
P-85	J-250	J-80	6.61	0.14	0.00	0.17	0.06	0.06
P-86	J-73	J-82	19.93	1.93	0.00	0.51	0.44	0.44
P-87	J-312	J-73	9.57	0.23	0.00	0.24	0.11	0.11
P-88	J-85	J-73	12.95	22.54	0.00	0.33	0.20	0.20
P-89	J-89	J-85	54.53	2.91	0.00	0.62	0.39	0.39
P-90	J-85	J-86	38.02	1.23	0.00	0.43	0.20	0.20
P-91	J-84	J-87	60.85	1.30	0.00	0.69	0.48	0.48
P-92	J-87	J-173	2.00	0.02	0.00	0.05	0.01	0.01
P-93	J-87	J-89	58.29	0.98	0.00	0.66	0.45	0.45
P-94	J-89	J-90	1.88	0.02	0.00	0.05	0.01	0.01
P-95	J-86	J-93	59.93	2.16	0.00	0.68	0.47	0.47
P-96	J-106	J-86	26.15	9.45	0.00	0.67	0.73	0.73
P-97	J-93	J-104	7.24	0.70	0.00	0.18	0.07	0.07
P-98	J-93	J-94	50.53	0.34	0.00	0.57	0.34	0.34
P-99	J-94	J-95	39.33	5.41	0.00	1.00	1.55	1.55
P-100	J-95	J-96	30.57	12.32	0.00	0.78	0.97	0.97

P-101	J-95	J-97	6.20	0.27	0.00	0.16	0.05	0.05
P-102	J-97	J-83	3.16	0.08	0.00	0.08	0.01	0.01
P-103	J-97	J-98	0.36	0.00	0.00	0.01	0.00	0.00
P-104	J-97	J-99	1.00	0.00	0.00	0.03	0.00	0.00
P-105	J-94	J-101	6.16	0.25	0.00	0.16	0.05	0.05
P-106	J-101	J-100	1.72	0.00	0.00	0.04	0.00	0.00
P-107	J-101	J-102	3.04	0.06	0.00	0.08	0.01	0.01
P-108	J-103	J-91	1.96	0.02	0.00	0.05	0.01	0.01
P-109	J-103	J-105	3.40	0.14	0.00	0.09	0.02	0.02
P-110	J-104	J-103	7.24	0.54	0.00	0.18	0.07	0.07
P-111	J-92	J-121	105.34	0.85	0.00	0.67	0.28	0.28
P-112	J-92	J-107	2.16	0.04	0.00	0.06	0.01	0.01
P-113	J-106	J-320	119.50	1.18	0.00	0.76	0.36	0.36
P-114	J-92	J-108	3.84	0.08	0.00	0.10	0.02	0.02
P-115	J-266	J-106	145.65	1.44	0.00	0.93	0.52	0.52
P-116	J-84	J-109	154.85	1.44	0.00	0.99	0.58	0.58
P-117	J-109	J-112	128.45	0.90	0.00	0.82	0.41	0.41
P-118	J-109	J-113	22.68	22.20	0.00	1.03	2.27	2.27
P-119	J-112	J-116	116.29	0.34	0.00	0.74	0.34	0.34
P-120	J-112	J-114	1.40	0.00	0.00	0.02	0.00	0.00
P-121	J-112	J-115	6.60	0.06	0.00	0.17	0.06	0.06
P-122	R-1	I-Pump-3	0.00	0.00	0.00	0.00	0.00	0.00
P-123	J-201	J-116	107.79	0.48	0.00	0.69	0.34	0.34
P-124	J-137	J-201	107.79	1.67	0.00	1.22	1.39	1.39
P-125	J-118	J-117	127.55	5.31	0.00	1.45	1.90	1.90
P-126	J-117	J-119	4.64	0.01	0.00	0.05	0.00	0.00
P-127	J-120	I-Pump-4	369.72	5.29	0.00	2.36	2.89	2.89
P-128	J-118	J-258	239.89	4.80	0.00	1.53	1.30	1.30
P-129	J-121	J-84	84.34	0.82	0.00	0.54	0.19	0.19
P-130	J-121	J-123	8.80	1.26	0.00	0.40	0.39	0.39
P-131	J-124	J-110	13.84	0.11	0.00	0.16	0.03	0.03
P-132	J-125	J-124	2.69	0.19	0.00	0.12	0.04	0.04
P-133	J-125	J-266	3.50	0.10	0.00	0.09	0.02	0.02
P-134	J-134	J-125	10.11	0.41	0.00	0.26	0.13	0.13
P-135	J-266	J-124	11.91	0.10	0.00	0.14	0.02	0.02
P-136	O-Pump-4	J-118	369.72	2.52	0.00	2.36	2.89	2.89
P-137	J-266	J-129	14.08	1.11	0.00	0.36	0.20	0.20
P-138	J-130	J-135	16.80	0.95	0.00	0.43	0.32	0.32
P-139	J-132	J-130	38.43	5.48	0.00	0.98	1.48	1.48
P-140-XX	J-132	J-204						
P-141	J-122	J-132	44.39	5.03	0.00	1.13	1.94	1.94
P-142	J-132	J-133	5.96	7.83	0.00	0.61	1.37	1.37
P-143	J-130	J-134	13.67	0.98	0.00	0.35	0.22	0.22
P-144	J-135	J-127	9.32	0.48	0.00	0.24	0.11	0.11
P-145	J-161	J-120	469.29	1.04	0.00	3.00	5.22	5.22
P-146	J-117	J-137	115.31	18.11	0.00	1.31	1.57	1.57
P-147	J-120	J-154	77.08	1.49	0.00	0.87	0.75	0.75
P-148	J-139	J-138	3.08	0.03	0.00	0.08	0.01	0.01
P-149	J-140	J-139	11.40	0.07	0.00	0.13	0.02	0.02
P-150	J-140	J-141	9.24	0.21	0.00	0.24	0.11	0.11
P-151	J-139	J-142	33.28	0.54	0.00	0.38	0.14	0.14
P-152	J-143	J-139	52.48	1.80	0.00	0.60	0.37	0.37
P-153	J-143	J-144	1.20	0.12	0.00	0.12	0.07	0.07
P-154	J-145	J-143	76.64	4.06	0.00	0.87	0.74	0.74
P-155	J-145	J-146	0.88	0.00	0.00	0.02	0.00	0.00
P-156	J-131	J-176	251.61	5.55	0.00	1.03	0.55	0.55
P-157	J-131	J-147	67.24	0.12	0.00	0.27	0.05	0.05
P-158	J-147	J-148	27.96	0.04	0.00	0.11	0.01	0.01
P-159	J-147	J-150	36.04	0.69	0.00	0.41	0.18	0.18
P-160	J-149	I-RV-1	8.00	0.09	0.00	0.09	0.01	0.01
P-161	J-149	J-151	29.96	0.26	0.00	0.34	0.13	0.13
P-162	J-151	J-140	26.64	0.21	0.00	0.30	0.10	0.10
P-163	J-151	J-152	3.32	0.02	0.00	0.08	0.02	0.02
P-164	J-154	J-149	54.68	3.95	0.00	0.62	0.40	0.40
P-165	J-154	J-504	15.32	0.22	0.00	0.70	1.10	1.10
P-166	J-148	J-323	3.72	0.00	0.00	0.02	0.00	0.00
P-167	J-128	J-56	0.00	0.00	0.00	0.00	0.00	0.00
P-168	J-148	J-153	10.60	0.37	0.00	0.27	0.14	0.14
P-169	J-150	J-245	26.76	6.52	0.00	0.68	0.76	0.76
P-170	J-156	I-RV-2	8.00	0.03	0.00	0.09	0.01	0.01

P-171	J-156	J-158	2.52	0.02	0.00	0.06	0.01	0.01
P-172	J-157	J-159	2.60	0.26	0.00	0.12	0.04	0.04
P-173	J-150	J-160	6.52	0.39	0.00	0.17	0.06	0.06
P-174	J-161	J-300	363.06	11.36	0.00	2.32	3.24	3.24
P-175	J-200	J-205	51.92	2.97	0.00	0.59	0.31	0.31
P-176	O-Pump-2	J-56	202.58	6.83	0.00	1.29	1.10	1.10
P-177	J-165	J-162	29.01	0.17	0.00	0.33	0.12	0.12
P-178	J-162	J-164	17.52	1.21	0.00	0.45	0.35	0.35
P-179	J-165	J-163	5.72	0.01	0.00	0.06	0.01	0.01
P-180	J-166	J-165	37.13	19.76	0.00	1.69	5.65	5.65
P-181-XXCV	J-163	J-167						
P-182	J-163	J-168	1.72	0.02	0.00	0.08	0.02	0.02
P-183	J-169	J-162	197.81	1.00	0.00	0.81	0.36	0.36
P-184	J-169	J-177	29.76	0.74	0.00	0.76	0.92	0.92
P-185	J-170	J-172	23.12	3.18	0.00	0.59	0.58	0.58
P-186	J-170	J-325	2.80	0.04	0.00	0.07	0.01	0.01
P-187	J-172	J-171	3.44	0.03	0.00	0.09	0.02	0.02
P-188	J-172	J-174	1.96	0.01	0.00	0.05	0.01	0.01
P-189	J-172	J-175	2.20	0.02	0.00	0.06	0.01	0.01
P-190	J-176	J-169	236.45	1.83	0.00	0.97	0.49	0.49
P-191	J-177	J-170	26.44	2.22	0.00	0.67	0.74	0.74
P-192	J-177	J-178	3.32	0.06	0.00	0.15	0.06	0.06
P-193	J-44	J-330	3.24	0.03	0.00	0.08	0.01	0.01
P-194	J-56	J-200	52.40	0.04	0.00	0.59	0.37	0.37
P-195	J-162	I-Pump-2	202.58	0.33	0.00	1.29	1.10	1.10
P-196	J-76	J-179	10.88	4.07	0.00	0.49	0.58	0.58
P-197	J-76	J-180	4.24	0.15	0.00	0.19	0.10	0.10
P-198	J-186	J-184	77.87	0.32	0.00	0.88	1.61	1.61
P-199	J-185	J-193	44.89	0.12	0.00	0.51	0.58	0.58
P-200	J-111	J-189	30.03	1.99	0.00	0.77	1.99	1.99
P-201	J-190	J-182	12.96	0.76	0.00	0.33	0.42	0.42
P-202-XXCV	J-181	J-52						
P-203	J-183	J-181	12.96	0.21	0.00	0.33	0.42	0.42
P-204	J-184	J-185	104.08	1.38	0.00	1.18	2.76	2.76
P-205	J-186	J-183	25.92	0.17	0.00	0.29	0.21	0.21
P-206	J-185	J-190	46.23	0.25	0.00	0.52	0.61	0.61
P-207	J-187	J-186	116.75	2.73	0.00	1.32	3.41	3.41
P-208	J-187	J-188	12.96	0.42	0.00	0.33	0.42	0.42
P-209	J-189	J-184	39.17	2.60	0.00	1.00	3.25	3.25
P-210	J-187	J-189	22.10	0.45	0.00	0.56	1.13	1.13
P-211	J-195	J-187	164.77	1.59	0.00	1.05	1.59	1.59
P-212	J-190	J-167	22.60	0.04	0.00	0.14	0.02	0.02
P-213	J-190	J-192	3.72	2.43	0.00	0.38	1.22	1.22
P-214	J-191	J-190	6.01	0.01	0.00	0.07	0.01	0.01
P-215	T-6	J-193	0.00	0.00	0.00	0.00	0.00	0.00
P-216	J-193	J-191	31.93	0.12	0.00	0.36	0.31	0.31
P-217	J-191	J-194	12.96	0.03	0.00	0.15	0.06	0.06
P-218	J-195	J-111	42.99	0.05	0.00	0.49	0.54	0.54
P-219	J-116	J-195	220.72	2.74	0.00	1.41	2.74	2.74
P-220	J-255	I-RV-6	4.64	0.00	0.00	0.12	0.03	0.03
P-221	O-Pump-3	J-196	0.00	0.00	0.00	0.00	0.00	0.00
P-222	O-RV-12	J-3	10.00	0.01	0.00	0.11	0.01	0.01
P-223	J-199	T-3	8.72	0.00	0.00	0.10	0.01	0.01
P-224	J-227	J-197	1.44	0.02	0.00	0.04	0.00	0.00
P-225	T-4	J-201	0.00	0.00	0.00	0.00	0.00	0.00
P-226	J-70	J-202	34.09	5.34	0.00	0.87	1.19	1.19
P-227	O-RV-1	J-136	8.00	0.03	0.00	0.09	0.01	0.01
P-228	O-RV-2	J-157	8.00	0.04	0.00	0.09	0.01	0.01
P-229	J-501	J-40	46.31	0.63	0.00	1.18	2.09	2.09
P-230	J-28 z w	J-203	0.00	0.00	0.00	0.00	0.00	0.00
P-231	J-502	J-145	0.00	0.00	0.00	0.00	0.00	0.00
P-232	J-503	J-502	0.00	0.00	0.00	0.00	0.00	0.00
P-233	J-204	J-503	0.00	0.00	0.00	0.00	0.00	0.00
P-234	J-504	J-155	15.32	4.38	0.00	0.70	1.10	1.10
P-235	J-205	J-74	47.76	0.27	0.00	0.54	0.27	0.27
P-236	J-207	J-145	81.76	0.21	0.00	0.52	0.18	0.18
P-237	T-7	J-207	85.00	0.48	0.00	0.54	0.19	0.19
P-238-XX	T-3	T-8						
P-239	T-8	J-46	317.37	1.74	0.00	2.03	2.18	2.18
P-240	J-206	J-161	832.35	2.87	0.00	5.31	15.08	15.08

P-241	J-56	J-208	150.18	3.16	0.00	0.96	0.63	0.63
P-242	T-9	J-206	832.35	0.15	0.00	5.31	15.08	15.08
P-243	J-208	J-209	42.33	2.50	0.00	0.48	0.21	0.21
P-244	J-209	J-70	39.93	0.38	0.00	0.45	0.19	0.19
P-245	J-210	J-55	31.50	0.12	0.00	0.20	0.03	0.03
P-246	J-55	J-212	31.50	0.21	0.00	0.20	0.03	0.03
P-247	J-211	J-64	31.50	0.09	0.00	0.20	0.03	0.03
P-248	J-212	J-211	31.50	0.09	0.00	0.20	0.03	0.03
P-249	J-210	J-213	6.48	0.03	0.00	0.07	0.01	0.01
P-250	J-213	J-214	4.32	0.09	0.00	0.11	0.02	0.02
P-251	J-214	J-215	2.16	0.02	0.00	0.06	0.01	0.01
P-252	J-62	J-243	53.20	0.30	0.00	0.34	0.08	0.08
P-253	J-217	J-220	28.12	0.15	0.00	0.18	0.02	0.02
P-254	J-219	J-218	22.52	0.33	0.00	0.26	0.07	0.07
P-255	J-220	J-242	25.32	0.10	0.00	0.16	0.02	0.02
P-256	J-216	J-217	48.00	0.10	0.00	0.31	0.07	0.07
P-257	J-217	J-221	17.08	0.25	0.00	0.19	0.04	0.04
P-258	J-216	J-222	2.40	0.04	0.00	0.06	0.01	0.01
P-259	J-49	J-252	13.84	0.08	0.00	0.16	0.03	0.03
P-260	J-223	J-224	7.84	0.54	0.00	0.20	0.07	0.07
P-261	J-43	J-225	13.68	0.18	0.00	0.16	0.03	0.03
P-262	J-225	J-226	11.28	0.05	0.00	0.13	0.02	0.02
P-263	J-226	J-227	4.24	0.08	0.00	0.11	0.02	0.02
P-264	J-34	J-228	5.04	0.10	0.00	0.13	0.03	0.03
P-265	J-228	J-229	2.52	0.05	0.00	0.06	0.01	0.01
P-266	J-49	J-230	0.40	0.00	0.00	0.01	0.00	0.00
P-267	J-231	J-76	12.68	3.86	0.00	0.58	0.77	0.77
P-268	J-231	J-232	9.68	0.08	0.00	0.11	0.01	0.01
P-269	J-232	J-234	7.96	0.07	0.00	0.09	0.01	0.01
P-270	J-234	J-236	3.44	0.01	0.00	0.04	0.00	0.00
P-271	J-234	J-235	2.80	0.04	0.00	0.07	0.01	0.01
P-272	J-236	J-233	1.72	0.00	0.00	0.02	0.00	0.00
P-273	J-62	J-237	1.84	0.04	0.00	0.05	0.00	0.00
P-274	J-237	J-238	0.92	0.00	0.00	0.02	0.00	0.00
P-275	J-218	J-239	19.72	0.21	0.00	0.22	0.05	0.05
P-276	J-239	J-240	14.64	0.12	0.00	0.17	0.03	0.03
P-277	J-240	J-76	9.56	0.13	0.00	0.11	0.01	0.01
P-278	J-241	J-223	12.92	0.02	0.00	0.15	0.02	0.02
P-279	J-242	J-219	25.32	0.33	0.00	0.29	0.08	0.08
P-280	J-243	J-216	53.20	0.14	0.00	0.34	0.08	0.08
P-281	J-243	J-244	0.00	0.00	0.00	0.00	0.00	0.00
P-282	J-245	J-156	16.36	0.49	0.00	0.42	0.30	0.30
P-283	J-245	I-RV-3	7.08	0.10	0.00	0.18	0.06	0.06
P-284	O-RV-3	J-247	7.08	0.13	0.00	0.18	0.06	0.06
P-285	J-247	J-246	1.68	0.02	0.00	0.04	0.00	0.00
P-286	J-247	J-249	5.40	0.29	0.00	0.14	0.04	0.04
P-287	J-249	J-248	3.32	0.10	0.00	0.08	0.02	0.02
P-288	J-82	J-250	11.69	0.33	0.00	0.30	0.16	0.16
P-289	J-250	J-251	5.08	0.03	0.00	0.13	0.03	0.03
P-290	J-252	J-241	12.92	0.12	0.00	0.15	0.02	0.02
P-291	J-252	J-253	0.92	0.00	0.00	0.02	0.00	0.00
P-292	J-18	J-254	43.49	0.23	0.00	0.28	0.05	0.05
P-293	J-254	J-255	42.13	0.57	0.00	0.48	0.21	0.21
P-294	J-254	J-256	1.35	0.00	0.00	0.02	0.00	0.00
P-295	J-256	I-RV-4	4.80	0.00	0.00	0.12	0.03	0.03
P-296	J-30	J-256	4.93	0.03	0.00	0.06	0.00	0.00
P-297	O-RV-4	J-257	4.80	0.23	0.00	0.12	0.03	0.03
P-298	J-255	J-8	37.49	0.59	0.00	0.43	0.17	0.17
P-299	J-258	J-122	64.31	1.60	0.00	0.73	0.53	0.53
P-300	J-258	J-259	175.58	3.64	0.00	1.12	0.73	0.73
P-301	J-259	J-260	174.46	1.87	0.00	1.11	0.72	0.72
P-302	J-260	J-262	172.98	0.92	0.00	1.10	0.71	0.71
P-303	J-260	J-261	0.36	0.00	0.00	0.00	0.00	0.00
P-304	J-262	J-264	171.86	3.01	0.00	1.10	0.70	0.70
P-305	J-262	J-263	1.12	0.00	0.00	0.01	0.00	0.00
P-306	J-264	J-265	171.86	1.61	0.00	1.10	0.70	0.70
P-307	J-265	J-266	168.14	2.56	0.00	1.07	0.67	0.67
P-308	T-5	J-84	133.96	0.13	0.00	0.85	0.44	0.44
P-309	J-11	I-RV-5	24.20	0.17	0.00	0.27	0.08	0.08
P-310	J-267	J-274	3.36	0.00	0.00	0.04	0.00	0.00

P-311	J-126	J-268	0.76	0.00	0.00	0.02	0.00	0.00
P-312	J-126	J-269	2.60	0.01	0.00	0.07	0.01	0.01
P-313	J-270	J-1	21.24	0.12	0.00	0.24	0.06	0.06
P-314	J-270	J-271	2.96	0.01	0.00	0.08	0.01	0.01
P-315	J-272	J-273	10.44	0.07	0.00	0.12	0.02	0.02
P-316	J-273	J-267	8.96	0.04	0.00	0.10	0.01	0.01
P-317	J-274	J-126	3.36	0.01	0.00	0.09	0.01	0.01
P-318	O-RV-5	J-270	24.20	0.03	0.00	0.27	0.08	0.08
P-319	O-RV-6	J-275	4.64	0.20	0.00	0.12	0.03	0.03
P-320	J-226	J-276	4.64	0.21	0.00	0.12	0.03	0.03
P-321	J-59	J-203	0.00	0.00	0.00	0.00	0.00	0.00
P-322	J-174	J-326	1.40	0.01	0.00	0.04	0.00	0.00
P-323	J-277	J-25	50.29	0.85	0.00	0.57	0.29	0.29
P-324	J-278	J-277	2.31	0.03	0.00	0.06	0.01	0.01
P-325	J-278	J-279	0.92	0.00	0.00	0.02	0.00	0.00
P-326	J-142	J-282	28.20	0.10	0.00	0.32	0.10	0.10
P-327	O-RV-7	J-286	8.00	0.42	0.00	0.20	0.07	0.07
P-328	J-284	J-294	9.44	0.08	0.00	0.11	0.01	0.01
P-329	J-282	I-RV-7	8.00	0.05	0.00	0.20	0.07	0.07
P-330	J-282	J-284	20.20	0.22	0.00	0.23	0.05	0.05
P-331	J-294	J-287	2.36	0.02	0.00	0.06	0.01	0.01
P-332	J-284	I-RV-10	8.00	0.03	0.00	0.20	0.07	0.07
P-333	J-283	I-RV-8	4.72	0.04	0.00	0.12	0.03	0.03
P-334	J-294	J-283	7.08	0.24	0.00	0.18	0.06	0.06
P-335	J-281	J-288	2.36	0.04	0.00	0.06	0.01	0.01
P-336	J-281	J-289	2.36	0.03	0.00	0.06	0.01	0.01
P-337	O-RV-8	J-281	4.72	0.06	0.00	0.12	0.03	0.03
P-338	J-290	J-30	11.73	0.06	0.00	0.13	0.02	0.02
P-339	J-290	I-RV-9	7.08	0.01	0.00	0.18	0.06	0.06
P-340	O-RV-9	J-291	7.08	0.56	0.00	0.18	0.06	0.06
P-341	J-291	J-293	2.36	0.04	0.00	0.06	0.01	0.01
P-342	J-129	J-292	7.04	0.34	0.00	0.18	0.06	0.06
P-343	O-RV-10	J-280	8.00	0.21	0.00	0.20	0.07	0.07
P-344	J-280	J-285	8.00	0.31	0.00	0.20	0.07	0.07
P-345	J-295	J-278	5.07	0.08	0.00	0.13	0.03	0.03
P-346	J-296	J-29	62.51	0.44	0.00	0.71	0.44	0.44
P-347	J-296	J-295	11.90	1.02	0.00	0.30	0.15	0.15
P-348	J-153	I-RV-11	8.00	0.06	0.00	0.20	0.07	0.07
P-349	O-RV-11	J-297	8.00	0.27	0.00	0.20	0.07	0.07
P-350	J-298	J-198	8.00	0.53	0.00	0.36	0.33	0.33
P-351	J-298	J-299	0.92	0.00	0.00	0.04	0.01	0.01
P-352	J-300	J-131	321.61	28.51	0.00	2.05	2.59	2.59
P-353	J-301	J-166	38.21	1.90	0.00	0.98	1.26	1.26
P-354	J-302	J-301	39.61	7.71	0.00	1.01	1.35	1.35
P-355	J-300	J-302	41.45	7.35	0.00	1.06	1.47	1.47
P-356	J-295	J-303	4.08	0.09	0.00	0.10	0.02	0.02
P-357	J-303	J-305	0.84	0.01	0.00	0.02	0.00	0.00
P-358	J-19	J-304	1.92	0.02	0.00	0.05	0.00	0.00
P-359	J-26	J-306	5.12	0.03	0.00	0.13	0.03	0.03
P-360	J-304	J-305	1.92	0.02	0.00	0.05	0.00	0.00
P-361	J-306	J-307	2.76	0.05	0.00	0.07	0.01	0.01
P-362	J-306	J-309	2.36	0.08	0.00	0.06	0.01	0.01
P-363	J-308	J-23	5.92	0.11	0.00	0.15	0.04	0.04
P-364	J-308	J-310	2.32	0.02	0.00	0.06	0.01	0.01
P-365	J-224	J-311	2.76	0.04	0.00	0.07	0.01	0.01
P-366	J-315	J-81	13.95	0.63	0.00	0.36	0.20	0.20
P-367	J-96	J-312	25.85	0.85	0.00	0.66	0.71	0.71
P-368	J-314	J-313	14.87	0.48	0.00	0.38	0.22	0.22
P-369	J-312	J-314	16.27	0.68	0.00	0.42	0.26	0.26
P-370	J-313	J-315	14.87	0.24	0.00	0.38	0.22	0.22
P-371	J-69	J-317	2.76	0.03	0.00	0.07	0.01	0.01
P-372	J-316	J-68	2.99	0.00	0.00	0.03	0.00	0.00
P-373	J-316	J-319	4.64	0.05	0.00	0.05	0.00	0.00
P-374	J-318	J-62	57.84	0.23	0.00	0.37	0.09	0.09
P-375	J-318	J-321	2.32	0.05	0.00	0.06	0.01	0.01
P-376	J-41	J-31	7.35	0.29	0.00	0.19	0.06	0.06
P-377	J-100	J-2	0.48	0.00	0.00	0.01	0.00	0.00
P-378	J-320	J-92	117.10	0.17	0.00	0.75	0.34	0.34
P-379	J-320	J-322	2.40	0.01	0.00	0.06	0.01	0.01
P-380	J-323	J-196	0.00	0.00	0.00	0.00	0.00	0.00

P-381	J-323	I-RV-13	3.72	0.00	0.00	0.09	0.02	0.02
P-382	O-RV-13	J-324	3.72	0.17	0.00	0.09	0.02	0.02
P-383	J-88	J-327	1.40	0.00	0.00	0.04	0.00	0.00
P-384	J-173	J-88	2.00	0.02	0.00	0.05	0.01	0.01
P-385	J-329	J-328	4.64	0.13	0.00	0.12	0.03	0.03
P-386	J-39	J-329	16.12	3.56	0.00	0.41	0.30	0.30
P-387-XX	J-171	J-329						

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	NODE ELEVATION (ft)	PRESSURE HEAD (ft)	NODE PRESSURE (psi)
J-1		0.00	899.08	500.00	399.08	172.93
J-2		0.48(4.00)	1086.69	740.00	346.69	150.23
J-3		10.00(4.00)	646.14	540.00	106.14	45.99
J-4		2.44(4.00)	1054.91	880.00	174.91	75.80
J-5		1.96(4.00)	1049.34	840.00	209.34	90.71
J-6		1.96(4.00)	1049.74	820.00	229.74	99.56
J-7		1.96(4.00)	1051.17	845.00	206.17	89.34
J-8		1.96(4.00)	1054.09	871.00	183.09	79.34
J-9		2.76(4.00)	1055.81	880.00	175.81	76.19
J-10		1.04(4.00)	1054.51	875.00	179.51	77.79
J-11		1.04(4.00)	1054.00	840.00	214.00	92.73
J-12		4.28(4.00)	1056.31	924.00	132.31	57.34
J-13		0.00	1056.15	900.00	156.15	67.66
J-14		0.00	1055.83	900.00	155.83	67.53
J-15		1.48(4.00)	1055.83	880.00	175.83	76.19
J-16		3.04(4.00)	1055.96	895.00	160.96	69.75
J-17		0.00	1055.56	880.00	175.56	76.07
J-18		3.76(4.00)	1055.48	875.00	180.48	78.21
J-19		0.00	1057.91	925.00	132.91	57.59
J-20		9.24(4.00)	1057.91	913.00	144.91	62.79
J-21		0.92(4.00)	1057.87	900.00	157.87	68.41
J-22		3.00(4.00)	1056.76	900.00	156.76	67.93
J-23		5.92(4.00)	1056.58	905.00	151.58	65.68
J-24		2.84(4.00)	1057.35	830.00	227.35	98.52
J-25		7.08(4.00)	1057.01	890.00	167.01	72.37
J-26		7.12(4.00)	1059.48	900.00	159.48	69.11
J-27		10.00(4.00)	1061.40	933.00	128.40	55.64
J-28		0.00	1057.47	915.00	142.47	61.74
J-29		3.36(4.00)	1058.55	895.00	163.55	70.87
J-30		6.80(4.00)	1055.28	848.00	207.28	89.82
J-31		18.52(4.00)	1058.29	740.00	318.29	137.92
J-32		0.64(4.00)	1056.56	890.00	166.56	72.18
J-33		2.00(4.00)	1056.54	800.00	256.54	111.17
J-34		2.24(4.00)	1055.38	870.00	185.38	80.33
J-35		12.64(4.00)	1055.47	870.00	185.47	80.37
J-36		1.84(4.00)	1056.37	879.00	177.37	76.86
J-37		5.92(4.00)	1068.08	949.00	119.08	51.60
J-38		3.47	1061.57	920.00	141.57	61.34
J-39		2.92(4.00)	1057.54	923.00	134.54	58.30
J-40		4.32(4.00)	1058.66	930.00	128.66	55.75
J-41		1.56(4.00)	1058.57	920.00	138.57	60.05
J-42		0.00	1051.52			
J-43		0.36(4.00)	1057.47	924.00	133.47	57.84
J-44		0.00	1051.44	900.00	151.44	65.62
J-45		2.52(4.00)	1098.01	960.00	138.01	59.80
J-46		5.08(4.00)	1076.26	960.00	116.26	50.38
J-47		2.12(4.00)	1097.72	925.00	172.72	74.85
J-48		1.00(4.00)	1072.14	950.00	122.14	52.93
J-49		2.16(4.00)	1072.03	949.00	123.03	53.31
J-50		6.32(4.00)	1074.14	960.00	114.14	49.46
J-51		2.60(4.00)	1073.96	978.00	95.96	41.58
J-52		0.00	1102.72	937.00	165.72	71.81
J-53		2.68(4.00)	1073.18	950.00	123.18	53.38
J-54		9.60(4.00)	1098.01	975.00	123.01	53.31
J-55		0.00	1073.69	930.00	143.69	62.27
J-56		0.00	1106.00	885.00	221.00	95.77

J-57	0.00	1100.78	927.00	173.78	75.30
J-58	0.76(4.00)	1100.46	900.00	200.46	86.87
J-59	5.20(4.00)	1100.44	800.00	300.44	130.19
J-60	13.92(4.00)	1091.77	975.00	116.77	50.60
J-61	11.24(4.00)	1073.20	950.00	123.20	53.39
J-62	2.80(4.00)	1072.77	940.00	132.77	57.53
J-63	3.24(4.00)	1073.00	940.00	133.00	57.63
J-64	5.56(4.00)	1073.30	930.00	143.30	62.10
J-65	8.68(4.00)	1088.14	950.00	138.14	59.86
J-66	10.00(4.00)	1092.86	965.00	127.86	55.40
J-67	0.00	1102.72	946.00	156.72	67.91
J-68	29.04(4.00)	1091.76	967.00	124.76	54.06
J-69	5.28(4.00)	1091.34	928.00	163.34	70.78
J-70	5.84(4.00)	1099.95	960.00	139.95	60.65
J-71	2.32(4.00)	1092.79	925.00	167.79	72.71
J-72	2.44(4.00)	1092.37	953.00	139.37	60.39
J-73	2.60(4.00)	1068.14	640.00	428.14	185.53
J-74	10.64(4.00)	1102.72	955.00	147.72	64.01
J-75	15.00(4.00)	1065.53	860.00	205.53	89.06
J-76	7.12(4.00)	1070.86	907.00	163.86	71.01
J-77	1.40(4.00)	1065.50	780.00	285.50	123.72
J-78	0.00	1065.99	860.00	205.99	89.26
J-79	1.28(4.00)	1065.98	620.00	445.98	193.26
J-80	2.00(4.00)	1065.74	870.00	195.74	84.82
J-81	0.88(4.00)	1066.33	820.00	246.33	106.74
J-82	8.24(4.00)	1066.20	800.00	266.20	115.35
J-83	3.16(4.00)	1081.19	705.00	376.19	163.01
J-84	2.60(4.00)	1095.87	962.00	133.87	58.01
J-85	3.56(4.00)	1090.68	900.00	190.68	82.63
J-86	4.24(4.00)	1089.45	898.00	191.45	82.96
J-87	0.56(4.00)	1094.57	958.00	136.57	59.18
J-88	0.60(4.00)	1094.53	906.00	188.53	81.70
J-89	1.88(4.00)	1093.59	935.00	158.59	68.72
J-90	1.88(4.00)	1093.56	890.00	203.56	88.21
J-91	1.96(4.00)	1086.03	900.00	186.03	80.61
J-92	5.76(4.00)	1097.54	960.00	137.54	59.60
J-93	2.16(4.00)	1087.29	921.00	166.29	72.06
J-94	5.04(4.00)	1086.95	920.00	166.95	72.34
J-95	2.56(4.00)	1081.54	905.00	176.54	76.50
J-96	4.72(4.00)	1069.21	722.00	347.21	150.46
J-97	1.68(4.00)	1081.27	880.00	201.27	87.22
J-98	0.36(4.00)	1081.27	846.00	235.27	101.95
J-99	1.00(4.00)	1081.27	800.00	281.27	121.88
J-100	1.24(4.00)	1086.70	800.00	286.70	124.23
J-101	1.40(4.00)	1086.70	900.00	186.70	80.90
J-102	3.04(4.00)	1086.64	653.00	433.64	187.91
J-103	1.88(4.00)	1086.05	922.00	164.05	71.09
J-104	0.00	1086.59	966.00	120.59	52.26
J-105	3.40(4.00)	1085.91	670.00	415.91	180.23
J-106	0.00	1098.89	949.00	149.89	64.95
J-107	2.16(4.00)	1097.50	870.00	227.50	98.58
J-108	3.84(4.00)	1097.46	840.00	257.46	111.57
J-109	3.72(4.00)	1094.42	959.00	135.42	58.68
J-110	13.84(4.00)	1100.13	950.00	150.13	65.06
J-111	12.96(4.00)	1090.40	905.00	185.40	80.34
J-112	4.16(4.00)	1093.53	945.00	148.53	64.36
J-113	22.68(4.00)	1072.22	900.00	172.22	74.63
J-114	1.40(4.00)	1093.52	930.00	163.52	70.86
J-115	6.60(4.00)	1093.47	925.00	168.47	73.00
J-116	3.36(4.00)	1093.19	942.00	151.19	65.51
J-117	7.60(4.00)	1113.44	910.00	203.44	88.16
J-118	2.28(4.00)	1118.75	912.00	206.75	89.59
J-119	4.64(4.00)	1113.43	920.00	193.43	83.82
J-120	22.48(4.00)	1051.44	939.00	112.44	48.72
J-121	12.20(4.00)	1096.69	950.00	146.69	63.57
J-122	19.92(4.00)	1112.35	925.00	187.35	81.18
J-123	8.80(4.00)	1095.44	750.00	345.44	149.69
J-124	0.76(4.00)	1100.24	950.00	150.24	65.10
J-125	3.92(4.00)	1100.43	960.00	140.43	60.85
J-126	0.00	898.94	540.00	358.94	155.54

J-127	9.32(4.00)	1100.40	920.00	180.40	78.17
J-128	0.00	1106.00	930.00	176.00	76.27
J-129	7.04(4.00)	1099.22	940.00	159.22	69.00
J-130	7.96(4.00)	1101.83	950.00	151.83	65.79
J-131	2.76(4.00)	1012.62	904.00	108.62	47.07
J-132	0.00	1107.31	937.00	170.31	73.80
J-133	5.96(4.00)	1099.48	890.00	209.48	90.78
J-134	3.56(4.00)	1100.84	950.00	150.84	65.37
J-135	7.48(4.00)	1100.88	960.00	140.88	61.05
J-136	8.00(4.00)	747.66	500.00	247.66	107.32
J-137	7.52(4.00)	1095.33	940.00	155.33	67.31
J-138	3.08(4.00)	1045.42	760.00	285.42	123.68
J-139	27.52(4.00)	1045.45	850.00	195.45	84.70
J-140	6.00(4.00)	1045.52	865.00	180.52	78.23
J-141	9.24(4.00)	1045.31	720.00	325.31	140.97
J-142	5.08(4.00)	1044.91	860.00	184.91	80.13
J-143	22.96(4.00)	1047.25	900.00	147.25	63.81
J-144	1.20(4.00)	1047.13	885.00	162.13	70.26
J-145	4.24(4.00)	1051.31	916.00	135.31	58.64
J-146	0.88(4.00)	1051.31	920.00	131.31	56.90
J-147	3.24(4.00)	1012.49	917.00	95.49	41.38
J-148	13.64(4.00)	1012.46	912.00	100.46	43.53
J-149	16.72(4.00)	1045.99	872.00	173.99	75.40
J-150	2.76(4.00)	1011.80	908.00	103.80	44.98
J-151	0.00	1045.73	890.00	155.73	67.48
J-152	3.32(4.00)	1045.72	875.00	170.72	73.98
J-153	2.60(4.00)	1012.09	773.00	239.09	103.60
J-154	7.08(4.00)	1049.95	921.00	128.95	55.88
J-155	15.32(4.00)	1045.34	890.00	155.34	67.32
J-156	5.84(4.00)	1004.79	678.00	326.79	141.61
J-157	5.40(4.00)	811.89	525.00	286.89	124.32
J-158	2.52(4.00)	1004.78	745.00	259.78	112.57
J-159	2.60(4.00)	811.63	500.00	311.63	135.04
J-160	6.52(4.00)	1011.41	770.00	241.41	104.61
J-161	0.00	1052.48	921.00	131.48	56.98
J-162	6.72(4.00)	1004.24	930.00	74.24	32.17
J-163	4.00(4.00)	1004.40	935.00	69.40	30.07
J-164	17.52(4.00)	1003.03	925.00	78.03	33.81
J-165	2.40(4.00)	1004.41	930.00	74.41	32.24
J-166	1.08(4.00)	1024.17	860.00	164.17	71.14
J-167	22.60(4.00)	1084.14	940.00	144.14	62.46
J-168	1.72(4.00)	1004.38	900.00	104.38	45.23
J-169	8.88(4.00)	1005.24	909.00	96.24	41.70
J-170	0.52(4.00)	1002.27	909.00	93.27	40.42
J-171	3.44(4.00)	999.06	820.00	179.06	77.59
J-172	15.52(4.00)	999.09	862.00	137.09	59.41
J-173	0.00	1094.55	933.00	161.55	70.00
J-174	0.56(4.00)	999.08	750.00	249.08	107.94
J-175	2.20(4.00)	999.07	670.00	329.07	142.60
J-176	15.16(4.00)	1007.07	880.00	127.07	55.06
J-177	0.00	1004.50	900.00	104.50	45.28
J-178	3.32(4.00)	1004.43	840.00	164.43	71.25
J-179	10.88(4.00)	1066.80	866.00	200.80	87.01
J-180	4.24(4.00)	1070.71	920.00	150.71	65.31
J-181	12.96(4.00)	1085.75	945.00	140.75	60.99
J-182	12.96(4.00)	1083.43	930.00	153.43	66.48
J-183	12.96(4.00)	1085.96	948.00	137.96	59.78
J-184	12.96(4.00)	1085.81	945.00	140.81	61.02
J-185	12.96(4.00)	1084.43	940.00	144.43	62.58
J-186	12.96(4.00)	1086.13	950.00	136.13	58.99
J-187	12.96(4.00)	1088.86	950.00	138.86	60.17
J-188	12.96(4.00)	1088.44	935.00	153.44	66.49
J-189	12.96(4.00)	1088.41	935.00	153.41	66.48
J-190	12.96(4.00)	1084.18	925.00	159.18	68.98
J-191	12.96(4.00)	1084.19	920.00	164.19	71.15
J-192	3.72(4.00)	1081.75	820.00	261.75	113.42
J-193	12.96(4.00)	1084.31	930.00	154.31	66.87
J-194	12.96(4.00)	1084.15	870.00	214.15	92.80
J-195	12.96(4.00)	1090.45	910.00	180.45	78.20
J-196	0.00	1012.46	800.00	212.46	92.06

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J-197		1.44(4.00)	1057.14	740.00	317.14	137.43
J-198		8.00(4.00)	1048.21	700.00	348.21	150.89
J-199	Berlin Stand	0.00	1098.00	990.00	108.00	46.80
J-200		0.48(4.00)	1105.96	885.00	220.96	95.75
J-201	Bluegrass St	0.00	1093.67	965.00	128.67	55.76
J-202		0.00	1094.61	985.00	109.61	47.50
J-203		0.00	1100.44	671.00	429.44	186.09
J-204		0.00	1051.31	937.00	114.31	49.54
J-205		4.16(4.00)	1102.99	950.00	152.99	66.30
J-206		0.00	1055.35	931.80	123.55	53.54
J-207		0.00	1051.52	920.00	131.52	56.99
J-208		0.00	1102.84	881.00	221.84	96.13
J-209		2.40(4.00)	1100.33	940.00	160.33	69.48
J-210		0.00	1073.81	966.00	107.81	46.72
J-211		0.00	1073.39	760.00	313.39	135.80
J-212		0.00	1073.48	923.00	150.48	65.21
J-213		2.16(4.00)	1073.78	960.00	113.78	49.31
J-214		2.16(4.00)	1073.69	940.00	133.69	57.93
J-215		2.16(4.00)	1073.68	920.00	153.68	66.59
J-216		2.80(4.00)	1072.33	920.00	152.33	66.01
J-217		2.80(4.00)	1072.23	917.00	155.23	67.27
J-218		2.80(4.00)	1071.32	660.00	411.32	178.24
J-219		2.80(4.00)	1071.65	588.00	483.65	209.58
J-220		2.80(4.00)	1072.08	876.00	196.08	84.97
J-221		17.08(4.00)	1071.98	911.00	160.98	69.76
J-222		2.40(4.00)	1072.28	880.00	192.28	83.32
J-223		5.08(4.00)	1071.81	938.00	133.81	57.98
J-224		5.08(4.00)	1071.27	880.00	191.27	82.88
J-225		2.40(4.00)	1057.29	896.00	161.29	69.89
J-226		2.40(4.00)	1057.24	885.00	172.24	74.64
J-227		2.80(4.00)	1057.16	860.00	197.16	85.43
J-228		2.52(4.00)	1055.28	860.00	195.28	84.62
J-229		2.52(4.00)	1055.23	600.00	455.23	197.26
J-230		0.40(4.00)	1072.03	920.00	152.03	65.88
J-231		0.00	1074.72	939.00	135.72	58.81
J-232		1.72(4.00)	1074.64	912.00	162.64	70.48
J-233		1.72(4.00)	1074.56	621.00	453.56	196.54
J-234		1.72(4.00)	1074.57	884.00	190.57	82.58
J-235		2.80(4.00)	1074.53	820.00	254.53	110.30
J-236		1.72(4.00)	1074.56	860.00	214.56	92.98
J-237		0.92(4.00)	1072.73	897.00	175.73	76.15
J-238		0.92(4.00)	1072.73	880.00	192.73	83.52
J-239		5.08(4.00)	1071.12	820.00	251.12	108.82
J-240		5.08(4.00)	1071.00	840.00	231.00	100.10
J-241		0.00	1071.83	920.00	151.83	65.79
J-242		0.00	1071.98	800.00	271.98	117.86
J-243		0.00	1072.46	910.00	162.46	70.40
J-244		0.00	1072.46	910.00	162.46	70.40
J-245		3.32(4.00)	1005.28	820.00	185.28	80.29
J-246		1.68(4.00)	746.77	560.00	186.77	80.93
J-247		0.00	746.79	521.00	225.79	97.84
J-248		3.32(4.00)	746.40	560.00	186.40	80.77
J-249		2.08(4.00)	746.50	600.00	146.50	63.48
J-250		0.00	1065.88	760.00	305.88	132.55
J-251		5.08(4.00)	1065.85	760.00	305.85	132.53
J-252		0.00	1071.95	930.00	141.95	61.51
J-253		0.92(4.00)	1071.95	930.00	141.95	61.51
J-254		0.00	1055.25	775.00	280.25	121.44
J-255		0.00	1054.68	580.00	474.68	205.70
J-256		1.48(4.00)	1055.25	540.00	515.25	223.27
J-257		4.80(4.00)	735.93	500.00	235.93	102.23
J-258		0.00	1113.95	934.00	179.95	77.98
J-259		1.12(4.00)	1110.30	920.00	190.30	82.47
J-260		1.12(4.00)	1108.43	930.00	178.43	77.32
J-261		0.36(4.00)	1108.43	920.00	188.43	81.65
J-262		0.00	1107.51	942.00	165.51	71.72
J-263		1.12(4.00)	1107.51	920.00	187.51	81.25
J-264		0.00	1104.50	950.00	154.50	66.95
J-265		3.72(4.00)	1102.89	970.00	132.89	57.59
J-266		0.00	1100.33	950.00	150.33	65.14

J-267		5.60(4.00)	898.95	781.00	117.95	51.11
J-268		0.76(4.00)	898.94	540.00	358.94	155.54
J-269		2.60(4.00)	898.93	600.00	298.93	129.54
J-270		0.00	899.20	560.00	339.20	146.98
J-271		2.96(4.00)	899.19	580.00	319.19	138.31
J-272		0.80(4.00)	899.06	540.00	359.06	155.59
J-273		1.48(4.00)	898.99	540.00	358.99	155.56
J-274		0.00	898.95	660.00	238.95	103.55
J-275		4.64(4.00)	810.57	500.00	310.57	134.58
J-276		4.64(4.00)	1057.02	580.00	477.02	206.71
J-277		0.00	1057.85	920.00	137.85	59.74
J-278		1.84(4.00)	1057.88	860.00	197.88	85.75
J-279		0.92(4.00)	1057.88	850.00	207.88	90.08
J-280		0.00	776.02	580.00	196.02	84.94
J-281		0.00	769.17	520.00	249.17	107.97
J-282		0.00	1044.81	544.00	500.81	217.02
J-283		2.36(4.00)	1044.27	807.00	237.27	102.82
J-284		2.76(4.00)	1044.60	557.00	487.60	211.29
J-285		8.00(4.00)	775.71	640.00	135.71	58.81
J-286		8.00(4.00)	728.20	520.00	208.20	90.22
J-287		2.36(4.00)	1044.50	840.00	204.50	88.62
J-288		2.36(4.00)	769.13	600.00	169.13	73.29
J-289		2.36(4.00)	769.14	540.00	229.14	99.29
J-290		0.00	1055.34	819.00	236.34	102.41
J-291		4.72(4.00)	768.67	498.00	270.67	117.29
J-292		7.04(4.00)	1098.88	940.00	158.88	68.85
J-293		2.36(4.00)	768.63	540.00	228.63	99.07
J-294		0.00	1044.51	738.00	306.51	132.82
J-295		2.76(4.00)	1057.96	681.00	376.96	163.35
J-296		0.00	1058.98	905.00	153.98	66.73
J-297		8.00(4.00)	841.96	500.00	341.96	148.18
J-298		0.00	1048.73	820.00	228.73	99.12
J-299		0.92(4.00)	1048.73	720.00	328.73	142.45
J-300		0.00	1041.13	921.00	120.13	52.06
J-301		1.40(4.00)	1026.07	720.00	306.07	132.63
J-302		1.84(4.00)	1033.78	760.00	273.78	118.64
J-303		3.24(4.00)	1057.87	617.00	440.87	191.04
J-304		0.00	1057.89	740.00	317.89	137.75
J-305		2.76(4.00)	1057.86	680.00	377.86	163.74
J-306		0.00	1059.45	920.00	139.45	60.43
J-307		2.76(4.00)	1059.40	900.00	159.40	69.07
J-308		0.00	1056.69	900.00	156.69	67.90
J-309		2.36(4.00)	1059.37	700.00	359.37	155.73
J-310		2.32(4.00)	1056.66	900.00	156.66	67.89
J-311		2.76(4.00)	1071.23	880.00	191.23	82.87
J-312		0.00	1068.36	680.00	388.36	168.29
J-313		0.00	1067.20			
J-314		1.40(4.00)	1067.68	640.00	427.68	185.33
J-315		0.92(4.00)	1066.96	740.00	326.96	141.68
J-316		0.00	1091.76	940.00	151.76	65.76
J-317		2.76(4.00)	1091.31	920.00	171.31	74.23
J-318		0.00	1073.00	943.00	130.00	56.33
J-319		4.64(4.00)	1091.72	880.00	211.72	91.74
J-320		0.00	1097.71	950.00	147.71	64.01
J-321		2.32(4.00)	1072.95	920.00	152.95	66.28
J-322		2.40(4.00)	1097.70	950.00	147.70	64.00
J-323		0.00	1012.46	800.00	212.46	92.06
J-324		3.72(4.00)	869.06	700.00	169.06	73.26
J-325	Badger	2.80(4.00)	1002.23	880.00	122.23	52.97
J-326	Augusta- Ber	1.40(4.00)	999.07	640.00	359.07	155.60
J-327	Case Ridge	1.40(4.00)	1094.53	860.00	234.53	101.63
J-328	KY 1011	4.64(4.00)	1053.85	700.00	353.85	153.33
J-329		11.48(4.00)	1053.98	880.00	173.98	75.39
J-330	Pea Ridge	3.24(4.00)	1051.41	900.00	151.41	65.61
J-500		0.00	1057.54	945.00	112.54	48.77
J-501		0.00	1059.29	935.00	124.29	53.86
J-502		0.00	1051.31	930.00	121.31	52.57
J-503		0.00	1051.31	940.00	111.31	48.24
J-504		0.00	1049.73	921.00	128.73	55.78
I-Pump-2		0.00	1003.91	935.00	68.91	29.86

I-Pump-3		0.00	723.00	718.00	5.00	2.17
I-Pump-4		0.00	1046.14	940.00	106.14	46.00
R-1	Clearwell	----	723.00	718.00	5.00	2.17
O-RV-1		----	747.69	600.00	147.69	64.00
O-RV-2		----	811.92	715.00	96.92	42.00
I-RV-3		0.00	1005.18	620.00	385.18	166.91
I-RV-4		0.00	1055.24	540.00	515.24	223.27
I-RV-5		0.00	1053.83	560.00	493.83	213.99
O-RV-6		----	810.77	580.00	230.77	100.00
I-RV-7		0.00	1044.76	544.00	500.76	217.00
I-RV-8		0.00	1044.23	700.00	344.23	149.17
O-RV-9		----	769.23	700.00	69.23	30.00
I-RV-10		0.00	1044.56	557.00	487.56	211.28
O-RV-11		----	842.23	773.00	69.23	30.00
I-RV-12		0.00	899.03	540.00	359.03	155.58
O-RV-13		----	869.23	800.00	69.23	30.00
T-2	Lenoxburg Ta	----	1057.91	910.00	147.91	64.09
T-3	Elev. Berlin	----	1098.00	990.00	108.00	46.80
T-4		----	1093.67	965.00	128.67	55.76
T-5	New Tank	----	1096.00	970.00	126.00	54.60
T-6	Brooksville	----	1084.31	945.00	139.31	60.37
T-7	INDUSTRIAL P	----	1052.00	921.00	131.00	56.77
T-8	BERLIN	----	1078.00	990.00	88.00	38.13
T-9	CHATAM	----	1055.50	932.00	123.50	53.52
z w J-203		0.00	1057.47	900.00	157.47	68.24
I-RV-1		0.00	1045.90	600.00	445.90	193.22
I-RV-2		0.00	1004.77	715.00	289.77	125.57
I-RV-6		0.00	1054.68	580.00	474.68	205.69
I-RV-9		0.00	1055.33	700.00	355.33	153.98
I-RV-11		0.00	1012.03	773.00	239.03	103.58
I-RV-13		0.00	1012.46	800.00	212.46	92.06
O-Pump-4		0.00	1121.27	940.00	181.27	78.55
O-Pump-2		0.00	1112.83	935.00	177.83	77.06
O-Pump-3		0.00	1012.46	718.00	294.46	127.60
O-RV-12		----	646.15	540.00	106.15	46.00
O-RV-3		----	746.92	620.00	126.92	55.00
O-RV-4		----	736.15	540.00	196.15	85.00
O-RV-5		----	899.23	560.00	339.23	147.00
O-RV-7		----	728.62	544.00	184.62	80.00
O-RV-8		----	769.23	700.00	69.23	30.00
O-RV-10		----	776.23	557.00	219.23	95.00

MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	223.27	I-Pump-3	2.17
I-RV-4	223.27	R-1	2.17
J-282	217.02	I-Pump-2	29.86
I-RV-7	217.00	O-RV-9	30.00
I-RV-5	213.99	O-RV-11	30.00
J-284	211.29	O-RV-13	30.00
I-RV-10	211.28	O-RV-8	30.00
J-219	209.58	J-163	30.07
J-276	206.71	J-162	32.17
J-255	205.70	J-165	32.24

HL / 1000

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
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000088

P-240	15.08	P-303	0.00
P-242	15.08	P-166	0.00
P-180	5.65	P-305	0.00
P-145	5.22	P-103	0.00
P-207	3.41	P-266	0.00

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
 (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-8.72	Elev. Berlin
T-5	133.96	New Tank
T-7	85.00	INDUSTRIAL P
T-8	317.37	BERLIN
T-9	832.35	CHATAM

NET SYSTEM INFLOW = 1368.67
 NET SYSTEM OUTFLOW = -8.72
 NET SYSTEM DEMAND = 1359.95

Flushing Demand @ J-175 (KY 1011)

Case: 2

C H A N G E S F O R N E X T S I M U L A T I O N (Change Number = 2)

JUNCTION DEMANDS CHANGED - PLEASE SEE RESULTS TABLE

RESULTS OBTAINED AFTER 8 TRIALS: ACCURACY = 0.00000

P I P E L I N E R E S U L T S

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E NAME	N O D E N U M B E R S		F L O W R A T E (gpm)	H E A D L O S S (ft)	M I N O R L O S S (ft)	L I N E V E L O . (ft/s)	H L + M L / 1000 (ft/ft)	H L / 1000 (ft/ft)
	#1	#2						
P-189	J-172	J-175	100.00	26.13	0.00	2.55	8.71	8.71

N O D E R E S U L T S

N O D E NAME	N O D E TITLE	E X T E R N A L DEMAND (gpm)	H Y D R A U L I C GRADE (ft)	N O D E E L E V A T I O N (ft)	P R E S S U R E HEAD (ft)	N O D E P R E S S U R E (psi)
J-175	KY 1011	100.00 (**)	893.19	670.00	223.19	96.71

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION MAXIMUM JUNCTION MINIMUM

NUMBER	PRESSURES (psi)	NUMBER	PRESSURES (psi)
J-256	232.37	I-Pump-3	2.17
I-RV-4	232.37	R-1	2.17
I-RV-5	223.65	J-172	24.84
J-219	220.80	J-170	27.29
J-282	219.98	O-RV-9	30.00
I-RV-7	219.98	O-RV-11	30.00
J-276	215.10	O-RV-13	30.00
J-255	215.01	O-RV-8	30.00
I-RV-6	215.01	I-Pump-2	31.61
J-284	214.34	J-163	31.85

H L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
P-240	11.49	P-303	0.00
P-242	11.49	P-58	0.00
P-184	9.86	P-166	0.00
P-191	9.71	P-305	0.00
P-185	9.57	P-103	0.00

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
 (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-138.59	Elev. Berlin
T-5	-225.95	New Tank
T-7	16.93	INDUSTRIAL P
T-8	71.13	BERLIN
T-9	718.52	CHATAM

NET SYSTEM INFLOW = 806.58
 NET SYSTEM OUTFLOW = -364.54
 NET SYSTEM DEMAND = 442.04

Flushing Demand @ J-326 (Augusta-Berlin)

Case: 3

C H A N G E S F O R N E X T S I M U L A T I O N (Change Number = 3)

P I P E L I N E R E S U L T S

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NUMBERS #1 #2	FLOWRATE (gpm)	HEAD LOSS (ft)	MINOR LOSS (ft)	LINE VELO. (ft/s)	HL+ML/ 1000 (ft/ft)	HL/ 1000 (ft/ft)
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P-188	J-172 J-174	100.14	9.79	0.00	2.56	8.73	8.73	000090
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P-322	J-174	J-326	100.00	30.02	0.00	2.55	8.71	8.71
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N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	NODE ELEVATION (ft)	PRESSURE HEAD (ft)	NODE PRESSURE (psi)
J-326	Augusta- Ber	100.00(**)	879.16	640.00	239.16	103.64

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	232.37	I-Pump-3	2.17
I-RV-4	232.37	R-1	2.17
I-RV-5	223.65	J-172	24.69
J-219	220.80	J-170	27.22
J-282	219.98	O-RV-9	30.00
I-RV-7	219.98	O-RV-11	30.00
J-276	215.10	O-RV-13	30.00
J-255	215.01	O-RV-8	30.00
I-RV-6	215.01	I-Pump-2	31.59
J-284	214.34	J-163	31.84

H L + M L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL+ML/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL+ML/1000 (ft/ft)
P-240	11.49	P-303	0.00
P-242	11.49	P-58	0.00
P-184	9.89	P-166	0.00
P-191	9.75	P-305	0.00
P-185	9.61	P-103	0.00

H L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)
P-240	11.49	P-303	0.00
P-242	11.49	P-58	0.00
P-184	9.89	P-166	0.00
P-191	9.75	P-305	0.00
P-185	9.61	P-103	0.00

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

- (+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
- (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-138.53	Elev. Berlin
T-5	-225.95	New Tank
T-7	16.94	INDUSTRIAL P
T-8	71.13	BERLIN

T-9 718.66 CHATAM

NET SYSTEM INFLOW = 806.72
 NET SYSTEM OUTFLOW = -364.48
 NET SYSTEM DEMAND = 442.24

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Flushing Demand @ J-325 (Badger Road)

Case: 4

C H A N G E S F O R N E X T S I M U L A T I O N (Change Number = 4)

JUNCTION DEMANDS CHANGED - PLEASE SEE RESULTS TABLE

RESULTS OBTAINED AFTER 6 TRIALS: ACCURACY = 0.00000

P I P E L I N E R E S U L T S

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E N A M E	N O D E N U M B E R S		F L O W R A T E (gpm)	H E A D L O S S (ft)	M I N O R L O S S (ft)	L I N E V E L O . (ft/s)	H L + M L / 1 0 0 0 (ft/ft)	H L / 1 0 0 0 (ft/ft)
	#1	#2						
P-186	J-170	J-325	100.00	28.75	0.00	2.55	8.71	8.71

N O D E R E S U L T S

N O D E N A M E	N O D E T I T L E	E X T E R N A L D E M A N D (gpm)	H Y D R A U L I C G R A D E (ft)	N O D E E L E V A T I O N (ft)	P R E S S U R E H E A D (ft)	N O D E P R E S S U R E (psi)
J-325	Badger	100.00 (**)	943.35	880.00	63.35	27.45

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	232.37	I-Pump-3	2.17
I-RV-4	232.37	R-1	2.17
I-RV-5	223.65	J-170	27.34
J-219	220.80	J-325	27.45
J-282	219.98	O-RV-9	30.00
I-RV-7	219.98	O-RV-11	30.00
J-276	215.10	O-RV-13	30.00
J-255	215.01	O-RV-8	30.00
I-RV-6	215.01	I-Pump-2	31.62
J-284	214.34	J-163	31.86

H L / 1 0 0 0

PIPE NUMBER	MAXIMUM HL/1000 (ft/ft)	PIPE NUMBER	MINIMUM HL/1000 (ft/ft)

P-240	11.48	P-303	0.00
P-242	11.48	P-58	0.00
P-184	9.83	P-166	0.00
P-191	9.69	P-305	0.00
P-186	8.71	P-103	0.00

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
 (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-138.63	Elev. Berlin
T-5	-225.95	New Tank
T-7	16.93	INDUSTRIAL P
T-8	71.13	BERLIN
T-9	718.42	CHATAM

NET SYSTEM INFLOW = 806.48
 NET SYSTEM OUTFLOW = -364.58
 NET SYSTEM DEMAND = 441.89

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Flushing Demand @ J-328 (KY 1011)

Case: 5

C H A N G E S F O R N E X T S I M U L A T I O N (Change Number = 5)

JUNCTION DEMANDS CHANGED - PLEASE SEE RESULTS TABLE

RESULTS OBTAINED AFTER 6 TRIALS: ACCURACY = 0.00000

P I P E L I N E R E S U L T S

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E N A M E	NODE NUMBERS #1 #2	FLOWRATE (gpm)	HEAD LOSS (ft)	MINOR LOSS (ft)	LINE VELO. (ft/s)	HL+ML/ 1000 (ft/ft)	HL/ 1000 (ft/ft)
P-385	J-329 J-328	100.00	39.20	0.00	2.55	8.71	8.71
P-386	J-39 J-329	102.87	110.16	0.00	2.63	9.18	9.18

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	NODE ELEVATION (ft)	PRESSURE HEAD (ft)	NODE PRESSURE (psi)
J-328	KY 1011	100.00 (**)	897.64	700.00	197.64	85.64

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	230.03	I-Pump-3	2.17
I-RV-4	230.03	R-1	2.17
I-RV-5	221.38	J-329	24.63
J-219	221.19	O-RV-9	30.00
J-282	220.03	O-RV-11	30.00
I-RV-7	220.03	O-RV-13	30.00
J-284	214.39	O-RV-8	30.00
I-RV-10	214.39	T-8	38.13
J-255	212.73	I-Pump-2	38.85
I-RV-6	212.73	J-163	39.09

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

- (+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
- (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-163.24	Elev. Berlin
T-5	-226.71	New Tank
T-7	13.96	INDUSTRIAL P
T-8	169.97	BERLIN
T-9	647.44	CHATAM

NET SYSTEM INFLOW = 831.37
 NET SYSTEM OUTFLOW = -389.95
 NET SYSTEM DEMAND = 441.43

Flushing Demand @ J-327 (Case Ridge)

Case: 6

C H A N G E S F O R N E X T S I M U L A T I O N (Change Number = 6)

JUNCTION DEMANDS CHANGED - PLEASE SEE RESULTS TABLE

RESULTS OBTAINED AFTER 6 TRIALS: ACCURACY = 0.00000

P I P E L I N E R E S U L T S

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

P I P E NAME	NODE NUMBERS		FLOWRATE (gpm)	HEAD LOSS (ft)	MINOR LOSS (ft)	LINE VELO. (ft/s)	HL+ML/ 1000 (ft/ft)	HL/ 1000 (ft/ft)
	#1	#2						
P-383	J-88	J-327	100.00	8.71	0.00	2.55	8.71	8.71
P-384	J-173	J-88	100.15	23.59	0.00	2.56	8.74	8.74

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	NODE ELEVATION (ft)	PRESSURE HEAD (ft)	NODE PRESSURE (psi)
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J-327	Case Ridge	100.00 (**)	1032.96	860.00	172.96	74.95
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MAXIMUM AND MINIMUM VALUES

PRESSURES

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	232.37	I-Pump-3	2.17
I-RV-4	232.37	R-1	2.17
I-RV-5	223.65	O-RV-9	30.00
J-219	221.19	O-RV-11	30.00
J-282	220.03	O-RV-13	30.00
I-RV-7	220.03	O-RV-8	30.00
J-276	215.10	T-8	38.13
J-255	215.01	I-Pump-2	38.85
I-RV-6	215.01	J-163	39.09
J-284	214.39	J-162	41.19

SUMMARY OF INFLOWS AND OUTFLOWS

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
 (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-163.23	Elev. Berlin
T-5	-127.88	New Tank
T-7	14.01	INDUSTRIAL P
T-8	71.13	BERLIN
T-9	648.21	CHATAM

NET SYSTEM INFLOW = 733.35
 NET SYSTEM OUTFLOW = -291.11
 NET SYSTEM DEMAND = 442.24

Flushing Demand @ J-330 (Pea Ridge)

Case: 7

CHANGES FOR NEXT SIMULATION (Change Number = 7)

JUNCTION DEMANDS CHANGED - PLEASE SEE RESULTS TABLE

RESULTS OBTAINED AFTER 6 TRIALS: ACCURACY = 0.00000

PIPELINE RESULTS

000095

STATUS CODE: XX -CLOSED PIPE CV -CHECK VALVE

PIPE NAME	NODE NUMBERS		FLOWRATE (gpm)	HEAD LOSS (ft)	MINOR LOSS (ft)	LINE VELO. (ft/s)	HL+ML/ 1000 (ft/ft)	HL/ 1000 (ft/ft)
	#1	#2						
P-46	J-42	J-44	100.00	50.33	0.00	2.55	7.51	7.51
P-193	J-44	J-330	100.00	15.02	0.00	2.55	7.51	7.51

N O D E R E S U L T S

NODE NAME	NODE TITLE	EXTERNAL DEMAND (gpm)	HYDRAULIC GRADE (ft)	NODE ELEVATION (ft)	PRESSURE HEAD (ft)	NODE PRESSURE (psi)
J-330	Pea Ridge	100.00(**)	985.51	900.00	85.51	37.05

M A X I M U M A N D M I N I M U M V A L U E S

P R E S S U R E S

JUNCTION NUMBER	MAXIMUM PRESSURES (psi)	JUNCTION NUMBER	MINIMUM PRESSURES (psi)
J-256	232.37	I-Pump-3	2.17
I-RV-4	232.37	R-1	2.17
I-RV-5	223.65	O-RV-9	30.00
J-219	221.19	O-RV-11	30.00
J-282	219.77	O-RV-13	30.00
I-RV-7	219.77	O-RV-8	30.00
J-276	215.10	J-330	37.05
J-255	215.01	T-8	38.13
I-RV-6	215.01	I-Pump-2	38.85
J-284	214.13	J-163	39.08

S U M M A R Y O F I N F L O W S A N D O U T F L O W S

(+) INFLOWS INTO THE SYSTEM FROM SUPPLY NODES
 (-) OUTFLOWS FROM THE SYSTEM INTO SUPPLY NODES

NODE NAME	FLOWRATE (gpm)	NODE TITLE
R-1	0.00	Clearwell
T-3	-163.20	Elev. Berlin
T-5	-226.63	New Tank
T-7	108.13	INDUSTRIAL P
T-8	71.13	BERLIN
T-9	652.35	CHATAM

NET SYSTEM INFLOW = 831.61
 NET SYSTEM OUTFLOW = -389.83
 NET SYSTEM DEMAND = 441.78

***** HYDRAULIC ANALYSIS COMPLETED *****