



June 4, 2026

INVITATION TO BID
BL045-26

The Gwinnett County Board of Commissioners is soliciting competitive sealed bids from qualified suppliers for the **Purchase of Butterfly Valves for the Lanier and Shoal Creek Filter Plants** for the Department of Water Resources.

Bids should be typed or submitted in ink and returned in a sealed container marked on the outside with the BL# and Company Name. Bids will be received until 2:50 P.M. local time on **July 13, 2026**, at the Gwinnett County Financial Services - Purchasing Division – 2nd Floor, 75 Langley Drive, Lawrenceville, Georgia 30046. Any bid received after this date and time will not be accepted. Bids will be publicly opened and read at 3:00 P.M. The bid opening will be virtual ONLY. To access the bid opening virtually, visit the following link:

<https://teams.microsoft.com/meet/283557409726105?p=uZULope6YuQDVUdSIQ> or dial **1-323-676-6170 and enter Conference ID 620 868 566#**. Apparent bid results will be available the following business day on the website www.GwinnettCounty.com.

A virtual pre-bid conference is scheduled for 10:00 A.M. on **June 16, 2026**. To access, visit the following link: <https://teams.microsoft.com/meet/291838294304939?p=UdzORpN6cAGNzrapAC> or dial **1-323-676-6170 and enter conference ID 383 265 458#**. All suppliers are urged to attend. Questions regarding bids should be directed to Anna West, Purchasing Associate II, at Anna.West@GwinnettCounty.com or by calling 770-822-7862, no later than **June 19, 2026**. Bids are legal and binding upon the vendor when submitted. All bids should be submitted in duplicate.

Submit requests to include products of Manufacturer's not listed as approved Manufacturers in Section 40 27 02, Process Valves and Operators, Part 2, Products to Purchasing **no later than the date of the question deadline, June 16, 2026**. Provide all the information required for a substitution including but not limited to technical data sheets, proof of valves performance in wastewater treatment environment, and any other documentation to show equivalence. Gwinnett County Purchasing will issue Addenda as appropriate if any of the proposed substitutions to the Manufacturer's list are accepted or denied. A Bid submitted with manufacturers not included in the manufacturers list, except as modified by Addenda, will be considered nonresponsive.

Gwinnett County does not discriminate on the basis of disability in the admission or access to its programs or activities. Any requests for reasonable accommodations required by individuals to fully participate in any open meeting, program or activity of Gwinnett County Government should be directed to the ADA Coordinator at the Gwinnett County Justice and Administration Center, 770-822-8165.

The written bid documents supersede any verbal or written prior communications between the parties.

Award will be made to the supplier submitting the lowest responsive and responsible bid. Gwinnett County reserves the right to reject any or all bids to waive technicalities and to make an award deemed in its best interest. Bids may be split or awarded in entirety. Gwinnett County reserves the option to negotiate terms, conditions and pricing with the lowest responsive, responsible vendor(s) at its discretion.

Award notification will be posted after award on the County website, www.gwinnettcounty.com and companies submitting a bid will be notified via email.

We look forward to your bid and appreciate your interest in Gwinnett County.

Anna West
Purchasing Associate II

INTENT:

The intent of this scope is to procure replacement butterfly valves for the Clearwells and High Service Pump Station (HSPS) at Lanier Filter Plant (LFP), as well as for the clear wells, Raw Water (RW) Equalization Tanks, and RW Supply Lines at Shoal Creek Filter Plant (SCFP).

BACKGROUND:

Gwinnett County Department of Water Resources (GCDWR) have identified the following butterfly valves as needing replacement:

Lanier Filter Plant (LFP)

- Clearwells No. 3 and No. 4 – Four 108” valves on the influent and effluent pipes.
- HSPS – One 108” valve on the pump suction header.

Shoal Creek Filter Plant (SCFP)

- Clearwells No. 1 and No. 2 – Two 96” valves on the influent pipes and two 108” valves on the effluent pipes.
- RW Equalization Tanks No. 1 and No. 2 – Two 54” valves on the influent pipes and one 96” valve and one 54” valve on the effluent pipes.
- RW Supply Lines – Four 72” valves located on the two RW supply pipes.

The valve locations are shown on the drawings in Attachment 1.

At Clearwells No. 3 and No. 4 the butterfly valves are direct buried on the 108” influent and effluent pipes at each of the Clearwell’s and are intended to allow each Clearwell to be isolated and taken out of service (see Drawing 1 in Attachment 1). The four valves are the original 108” Dezurik AWWA flanged butterfly valves and are approximately 30 years old. These valves have manual gearbox operators located in 4-foot square precast vaults with 3’ x 3’ access hatches. Three of the four operators were replaced in 2011 and 2012 with gearboxes manufactured by EIM. The remaining gearbox on the outlet from Clearwell 4 is the original gearbox installed in 1995.

The HSPS valve is direct buried and is critical for isolating part of the suction header to either the Central or North High Service Pumps. The gearbox was replaced some time ago.

At SCFP, all the isolation butterfly valves are direct buried and are intended to allow the Clearwells and RW tanks to be isolated and taken out of service (as shown on Drawing 7 & Drawing 10 in Attachment 1). The valves at the Clearwells and RW Equalization Tanks have manual gearbox operators, with the Clearwell’s operators located in precast concrete vaults with 3’ x 3’ access hatches and the equalization tanks’ operators located in 7-foot square concrete vaults with access hatches.

The RW supply pipes consist of two 72” force mains; one that supplies RW from the SCFP Raw Water Pump Station (RWPS) and one bi-directional force main that sends/receives water from the diversion structure at LFP. There is a cross connection between the two pipes and the RW from these pipes is sent to the equalization tanks. There are several valves on these pipes, including the four 72” Dezurik AWWA flanged butterfly valves that have been flagged for replacement. The four valves to be replaced have electrical pedestal mounted operators that are located above ground.

The intent is to procure replacements for the existing valves and valve gearboxes while reusing

the existing valve actuators. The procurement of the replacement valves and gearboxes shall be completed by GCDWR under this scope. The valves will be installed by an installation Contractor (yet to be appointed) at a future date.

The location of LFP is 2590 South Water Works Rd, Buford, GA 30518 and the location of SCFP is 1755 Buford Dam Rd, Buford, GA 30518.

SCOPE:

1. The existing valves were manufactured by Dezurik. Replacement valves shall meet the AWWA Standards and design criteria and are able to be installed in the locations of the existing valves after they have been removed with minimal modifications to the existing operators and piping.
2. The following valves, stems, stem supports, and gearboxes are to be procured:
 - a. Four 108" valves on Clearwell's No. 3 and No. 4 at LFP.
 - b. One 108" valve at the HSPS at LFP.
 - c. Two 96" valves and two 108" valves on Clearwell's No. 1 and No. 2 at SCFP.
 - d. One 96" valve and three 54" valves on RW Equalization Tanks No. 1 and No. 2 at SCFP.
 - e. Four 72" motor operated valves on the RW supply pipes at SCFP.
3. The replacement valves shall be double offset butterfly valves operated by the existing manual/electrical operators (with replacement gearboxes).
4. Drawings showing the location of the valves and the installation requirements are provided in Attachment 1.
5. The valve manufacturer shall design the valves to withstand the full water pressure on either side of the valve when only one side is drained.
6. The valve manufacturer shall review and confirm that replacement valves, stems, and gearboxes shall be able to be operated with the existing actuators.
7. Drawings of the existing valves are provided in Attachments 1, 2, and 3 to assist the manufacturer in assessing the design and installation requirements of replacement valves to suit existing conditions.

Bids are requested for the following services:

1. Supply of all information requested on this bid.
2. Complete design of replacement valves, discs, bodies, shafts, and gearboxes.
3. Manufacture and assembly of valves and components.
4. Submission of specified submittals for approval prior to commencing manufacture.
5. Provide a manufacturing and delivery schedule and provide monthly progress updates.
6. Coordination and delivery to LFP, 2590 South Water Works Rd, Buford, GA 30518 and SCFP, 1755 Buford Dam Rd, Buford, GA 30518.
7. Provision of two hard copies and one electronic copy (in searchable PDF format) of Operating and Maintenance instructions for all components, including shop drawings of equipment, spare parts list, preventative maintenance schedule, and troubleshooting information.
8. Supply of specified spare parts and special tools for future maintenance.

Drawings and photographs of the various facilities are provided in the Attachments and the following specifications are applicable:

SPECIFICATIONS:

Equipment shall comply with the following specifications:

Section 01 78 23 – Operation and Maintenance Data

Section 40 27 02 – Process Valves and Operators

ATTACHMENTS:

Attachment 1: Drawings

Attachment 2: Existing Valve Schedule and Drawings

Attachment 3: Photographs

Attachment 4: Original PDF Drawings

The following information sheets shall be submitted with the bid.

1. Make, model, and weight of each valve.
2. Manufacturer's catalog information, descriptive literature, specifications, and materials of construction.
3. Complete description of valves, bodies, shafts, seals and other ancillary items.
4. Plan and section views of the valves, bolt locations and dimensional tolerances required for installation.
5. A complete listing of materials for each valve component.
6. Drawings of each valve size.
7. Confirmation that the design will enable the valves to withstand and seal with water on one side only.
8. Manufacturer Certificate of Compliance with materials specifications shall be submitted prior to shipment of the equipment. The certificate shall certify that materials, manufacture, and final product conforms to or exceeds specified requirements and intent for which the product will be used. Submit supporting reference data, affidavits, and certificates as appropriate. The certificate may reflect recent or previous test results on material or product, acceptable to the Engineer.

FAILURE TO RETURN THIS PAGE AS PART OF YOUR BID DOCUMENT MAY RESULT IN REJECTION
BID SCHEDULE

Delivery will be F.O.B. Destination, freight pre-paid and allowed to: Lanier Filter Plant, 2590 S. Waterworks Road, Buford, GA 30518

ITEM #	DESCRIPTION	QTY	MANUF. & NO	DELIVERY A.R.O	UNIT PRICE	TOTAL PRICE
PART 1 - LFP CLEARWELLS NO. 3 AND NO. 4						
1.1	108" butterfly valves, gearboxes, and accessories.	4 EA			\$	\$
PART 1 TOTAL						\$
PART 2 - LFP HIGH SERVICE PUMP STATION						
2.1	108" butterfly valves, gearboxes, and accessories.	1 EA			\$	\$
PART 2 TOTAL						\$
PART 3 - SCFP CLEARWELLS NO. 1 AND NO. 2						
3.1	108" butterfly valves, gearboxes, and accessories.	2 EA			\$	\$
3.2	96" butterfly valves, gearboxes, and accessories.	2 EA			\$	\$
PART 3 TOTAL						\$
PART 4 - SCFP RAW WATER EQUILIZATION TANKS NO. 1 AND NO. 2						
4.1	96" butterfly valves, gearboxes, and accessories.	1 EA			\$	\$

COMPANY NAME: _____

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BID SCHEDULE

ITEM #	DESCRIPTION	QTY	MANUF. & NO	DELIVERY A.R.O	UNIT PRICE	TOTAL PRICE
4.2	54" butterfly valves, gearboxes, and accessories.	3 EA			\$	\$
PART 4 TOTAL						\$
PART 5 - SCFP RAW WATER SUPPLY LINES						
5.1	72" butterfly valves, gearboxes, and accessories.	4 EA				
PART 5 TOTAL						\$
OVERALL TOTAL (PART 1 + PART 2 + PART 3 + PART 4 + PART 5)						\$

Notes:

1. The unit price **MUST** include ALL charges, including but not limited to delivery.
2. Reminder to include the Manufacturer/Product Number and the Delivery A.R.O (time to receive the product after receiving the purchase order).
3. Gwinnett County reserves the right to award to the lowest responsive and responsible bidder either by line item or the overall low bidder.

The undersigned acknowledges receipt of the following addenda, listed by number and date appearing on each:

Addendum No.	Date	Addendum No.	Date
_____	_____	_____	_____
_____	_____	_____	_____

COMPANY NAME: _____

FAILURE TO RETURN THIS PAGE AS PART OF YOUR BID DOCUMENT MAY RESULT IN REJECTION OF BID.

REFERENCES

Gwinnett County requests a minimum of three (3) references where work of a similar size and scope has been completed.

Note: References should be customized for each project, rather than submitting the same set of references for every project bid. The references listed should be of similar size and scope of the project being bid on. Do not submit a project list in lieu of this form.

1. Company Name _____

Brief Description of Project _____

Completion Date _____

Contract Amount \$_____ Start Dates _____

Contact Person _____ Telephone _____

E-Mail Address _____

2. Company Name _____

Brief Description of Project _____

Completion Date _____

Contract Amount \$_____ Start Date _____

Contact Person _____ Telephone _____

E-Mail Address _____

3. Company Name _____

Brief Description of Project _____

Completion Date _____

Contract Amount \$_____ Start Date _____

Contact Person _____ Telephone _____

E-Mail Address _____

Company Name _____



Solicitation Name & No. BL045-26, Purchase of Butterfly Valves for the Lanier and Shoal Creek Filter Plants

CONTRACTOR AFFIDAVIT AND AGREEMENT
(THIS FORM SHOULD BE FULLY COMPLETED AND RETURNED WITH YOUR SUBMITTAL)

By executing this affidavit, the undersigned contractor verifies its compliance with The Illegal Immigration Reform Enhancements for 2013, stating affirmatively that the individual, firm, or corporation which is contracting with the Gwinnett County Board of Commissioners has registered with and is participating in a federal work authorization program*

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services or the performance of labor pursuant to this contract with the Gwinnett County Board of Commissioners, contractor will secure from such subcontractor(s) similar verification of compliance with the Illegal Immigration Reform and Enforcement Act on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form.

E-Verify * User Identification Number Date Registered

Legal Company Name

Street Address

City/State/Zip Code

BY: Authorized Officer or Agent (Contractor Signature) Date

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE DAY OF, 20

Notary Public My Commission Expires:

For Gwinnett County Use Only:
Document ID #
Issue Date:
Initials:

* As of the effective date of O.C.G.A. 13-10-91, the applicable federal work authorization program is "E-Verify" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).



Bid # & Description BL045-26, Purchase of Butterfly Valves for the Lanier and Shoal Creek Filter Plants

CODE OF ETHICS AFFIDAVIT

PLEASE RETURN THIS FORM COMPLETED WITH YOUR SUBMITTAL. SUBMITTED FORMS ARE REQUIRED PRIOR TO EVALUATION.

In accordance with Section 54-33 of the Gwinnett County Code of Ordinances the undersigned bidder/proposer makes the following full and complete disclosure under oath, to the best of their knowledge, of the name(s) of all elected officials whom it employs or who have a direct or indirect pecuniary interest in or with the vendor, its affiliates or its subcontractors:

1. _____

Company Submitting Bid/Proposal

2. Please select one of the following:

- No information to disclose *(complete only section 4 below)*
- Disclosed information below *(complete section 3 & section 4 below)*

3. If additional space is required, please attach list:

Gwinnett County Elected Official Name

Gwinnett County Elected Official Name

Gwinnett County Elected Official Name

Gwinnett County Elected Official Name

4. BY: _____
Authorized Officer or Agent Signature

Sworn to and subscribed before me this

Printed Name of Authorized Officer or Agent

_____ day of _____, 20____

Title of Authorized Officer or Agent of Contractor

Notary Public

(seal)

Note: See Gwinnett County Code of Ethics Ordinance EO2011, Sec. 54-33. The ordinance will be available to view in its' entirety at **GwinnettCounty.com**

FAILURE TO RETURN THIS PAGE MAY RESULT IN REMOVAL OF YOUR COMPANY FROM COMMODITY LISTING.

BL045-26

Buyer Initials: AW

IF YOU DESIRE TO SUBMIT A "NO BID" IN RESPONSE TO THIS PACKAGE, PLEASE INDICATE BY CHECKING ONE OR MORE OF THE REASONS LISTED BELOW AND EXPLAIN.

- Do not offer this product or service; remove us from your bidder's list for this item only.
- Specifications too "tight"; geared toward one brand or manufacturer only.
- Specifications are unclear.
- Unable to meet specifications
- Unable to meet bond requirements
- Unable to meet insurance requirements
- Our schedule would not permit us to perform.
- Insufficient time to respond.
- Other

COMPANY NAME _____

AUTHORIZED REPRESENTATIVE _____

SIGNATURE



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*****ATTENTION*****

FAILURE TO RETURN THE FOLLOWING DOCUMENTS MAY RESULT IN SUBMITTAL BEING DEEMED NON-RESPONSIVE AND AUTOMATIC REJECTION. THE COUNTY SHALL BE THE SOLE DETERMINANT OF TECHNICALITY VERSUS NON-RESPONSIVE SUBMITTAL:

1. FAILURE TO USE COUNTY FEE SCHEDULE.
2. FAILURE TO RETURN OR ACKNOWLEDGE APPLICABLE COMPLIANCE/SPECIFICATION SHEETS.
3. FAILURE TO RETURN OR ACKNOWLEDGE APPLICABLE ADDENDA.
4. FAILURE TO PROVIDE INFORMATION OR ALTERNATES OR EQUIVALENTS.
5. FAILURE TO PROVIDE BID BOND, WHEN REQUIRED, WILL RESULT IN SUBMITTAL BEING DEEMED NON-RESPONSIVE AND AUTOMATIC REJECTION. BID BONDS ARE NOT REQUIRED ON ALL SOLICITATIONS. BOND REQUIREMENTS ARE CLEARLY STATED ON THE INVITATION PAGE. IF CLARIFICATION IS NEEDED, CONTACT THE PURCHASING ASSOCIATE LISTED IN THE INVITATION. **IF BONDS ARE REQUIRED, FORMS WILL BE PROVIDED IN THIS SOLICITATION DOCUMENT.**
6. FAILURE TO PROVIDE CONTRACTOR AFFIDAVIT AND AGREEMENT, WHEN REQUIRED, MAY RESULT IN SUBMITTAL BEING DEEMED NON-RESPONSIVE AND REJECTED. THE CONTRACTOR AFFIDAVIT AND AGREEMENT IS NOT REQUIRED ON ALL SOLICITATIONS. IF CLARIFICATION IS NEEDED, CONTACT THE PURCHASING ASSOCIATE LISTED IN THE INVITATION.
7. FAILURE TO PROVIDE AN ETHICS AFFIDAVIT WHEN REQUIRED MAY RESULT IN SUBMITTAL BEING DEEMED NON-RESPONSIVE AND REJECTED. THE ETHICS AFFIDAVIT IS REQUIRED ON ALL FORMAL SOLICITATIONS OVER \$100,000.00. IF CLARIFICATION IS NEEDED, CONTACT THE PURCHASING ASSOCIATE LISTED IN THE INVITATION.



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I. PREPARATION OF SUBMITTAL

- A. Each vendor shall examine the drawings, specifications, schedule, and all instructions. Failure to do so will be at the vendor's risk, as the vendor will be held accountable for their submittal.
- B. Each vendor shall furnish all information required by the solicitation form or document. Each vendor shall sign the submittal and print or type his or her name on the fee schedule. The person signing the submittal should initial erasures or other changes. An authorized agent of the vendor must sign the submittal.
- C. Fee schedule pricing should only have two decimal places unless otherwise stated. In the event of a calculation error in total price, the unit pricing prevails.
- D. Except for solicitations for the sale of real property, individuals, firms, and businesses seeking an award of a Gwinnett County contract may not initiate or continue any verbal or written communications regarding a solicitation with any County officer, elected official, employee, or other County representative other than the Purchasing Associate named in the solicitation between the date of the issuance of the solicitation and the date of the final award. The Purchasing Director will review violations. If determined that such communication has compromised the competitive process, the offer submitted by the individual, firm, or business may be disqualified from consideration for award. Solicitations for the sale of real property may allow for verbal or written communications with the appropriate Gwinnett County representative.
- E. Sample contracts (if pertinent) are attached. These do NOT have to be filled out with the submittal but are contained for informational purposes only. If awarded, the successful vendor(s) will be required to execute these documents prior to County execution.
- F. Effective July 1, 2013 and in accordance with the Georgia Illegal Immigration Reform Enhancements for 2013, an original signed, notarized, and fully completed Contractor Affidavit and Agreement should be included with vendor's submittal, if the solicitation is for the physical performance of services for all labor or service contract(s) that exceed \$2,499.99 (except for services performed by an individual who is licensed pursuant to Title 26, Title 43, or the State Bar of Georgia). Failure to provide the Contractor Affidavit and Agreement with your submittal may result in being deemed non-responsive and automatic rejection.

II. DELIVERY

- A. Each vendor should state time of proposed delivery of goods or services.
- B. Words such as "immediate", "as soon as possible," etc. should not be used. The known earliest date or the minimum number of calendar days required after receipt of order (delivery A.R.O.) should be stated. If calendar days are used, include Saturday, Sunday, and holidays in the number.

III. EXPLANATION TO VENDORS

Any explanation desired by a vendor regarding the meaning or interpretation of the solicitation, drawings, specifications, etc. must be requested by the question cutoff deadline stated in the solicitation for a reply to reach all vendors before the deadline of the solicitation. Any information given to a prospective vendor concerning a solicitation will be furnished to all prospective vendors as an addendum to the solicitation if such information is necessary or if the lack of such information would be prejudicial to uninformed vendors. The written solicitation documents supersede any verbal or written communications between the parties. Receipt of addenda should be acknowledged in the



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submittal. **It is the vendor's responsibility to ensure they have all applicable addenda prior to their submittal.** This may be accomplished by contacting the assigned Purchasing Associate prior to the submittal or visiting GwinnettCounty.com.

IV. SUBMISSION OF FORMAL OFFERS/SUBMITTALS

- A. Formal bid and proposal submittals shall be enclosed in a sealed package or envelope, addressed to the Gwinnett County Purchasing Division with the name of the vendor, the date and hour of opening, and the solicitation number on the face of the package or envelope. Facsimile or emailed submittals will not be considered. Any addenda should be enclosed in the sealed envelopes as well.
- B. ADD/DEDUCT: Add or deduct amounts indicated on the outside of the envelope are allowed and will be applied to the lump sum amount. Amount shall be clearly stated and should be initialed by an authorized representative.
- C. Samples of items, when required, must be submitted within the time specified and, unless otherwise specified by the County, at no expense to the County. Unless otherwise specified, samples will be returned at the vendor's request and expense, if items are not destroyed by testing.
- D. Items offered must meet required specifications and must be of a quality that will adequately serve the use and purpose for which intended.
- E. Full identification of each item submitted, including brand name, model, catalog number, etc. must be furnished to identify exactly what the vendor is offering. Manufacturer's literature may be furnished, but vendor should not submit excessive marketing material.
- F. The vendor must certify that items to be furnished are new and that the quality has not deteriorated to impair its usefulness.
- G. Unsigned submittals will not be considered except in cases where it is enclosed with other documents that have been signed. The County will determine acceptability in these cases.
- H. Gwinnett County is exempt from federal excise tax and Georgia sales tax regarding goods and services purchased directly by Gwinnett County. Vendors are responsible for federal excise tax and sales tax, including taxes for materials incorporated in county construction projects. Vendors should contact the State of Georgia Sales Tax Division for additional information. Agreements were there is a cost-plus mark-up, mark-up will not be paid on taxes.
- I. Information submitted by a vendor in the solicitation process shall be subject to disclosure after the public opening in accordance with the Georgia Open Records Act.

V. WITHDRAWAL DUE TO ERRORS

Vendors must give Gwinnett County Purchasing Division written notice within two (2) business days of completion of the opening stating that they wish to withdraw their submittal without penalty for an obvious clerical or calculation error. Submittal may be withdrawn from consideration if the price was substantially lower than the other submittals due solely to a mistake therein, provided pricing was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake and was due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor, or material made directly in the compilation of the submittal. The unintentional arithmetic error or omission can be clearly proven through inspection of the original work papers, documents, and



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materials used in preparing the submittal sought to be withdrawn. The vendor's original work papers shall be the sole acceptable evidence of error and mistake if a vendor elects to withdraw their submittal. If a quote or bid submittal is withdrawn under the authority of this provision, the lowest remaining responsive offer shall be deemed to be low bid. No vendor who is permitted to withdraw their submittal shall, for compensation, supply any material or labor or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid or proposal was submitted.

Vendors who fail to request withdrawal by the required forty-eight (48) hours may automatically forfeit bid bond if a bond was required. Bid may not be withdrawn otherwise.

Withdrawal is not automatically granted and will be allowed solely at Gwinnett County's discretion.

VI. TESTING AND INSPECTION

Since tests may require several days for completion, the County reserves the right to use a portion of any supplies before the results of the tests are determined. Cost of inspections and tests of any item that fails to meet the specifications, shall be borne by the vendor.

VII. F.O.B. POINT

Unless otherwise stated in the request for invitation and any resulting contract, or unless qualified by the vendor, items shall be shipped F.O.B. Destination, Freight Prepaid, and Allowed. The seller shall retain title for the risk of transportation, including the filing for loss or damages. The invoice covering the items is not payable until items are delivered and contract of carriage has been completed. Unless the F.O.B. clause states otherwise, the seller assumes transportation and related charges either by payment or allowance.

VIII. PATENT INDEMNITY

The vendor guarantees to hold the County, its agents, officers, or employees harmless from liability of any nature or kind for use of any copyrighted or uncopyrighted composition, secret process, patented, or unpatented invention, articles, or appliances furnished or used in the performance of the contract, for which the vendor is not the patentee, assignee, or licensee.

IX. BID BONDS AND PAYMENT AND PERFORMANCE BONDS (IF REQUIRED, FORMS WILL BE PROVIDED IN THIS DOCUMENT)

A five percent (5%) bid bond, a one hundred percent (100%) performance bond, and a one hundred percent (100%) payment bond must be furnished to Gwinnett County for any solicitation as required in the solicitation package or document. **Failure to submit a bid bond with the proper rating will result in submittal being deemed non-responsive.** Bonding company must be authorized to do business in Georgia by the Georgia Insurance Commission, listed in the Department of the Treasury's publication of companies holding certificates of authority as acceptable surety on Federal bonds and as acceptable reinsuring companies, and have an A.M. Best rating as stated in the insurance requirement of the solicitation. **The bid bond, payment bond, and performance bond must have the proper A.M. Best rating as stated in the solicitation document.**



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X. DISCOUNTS

- A. Time payment discounts may be considered in arriving at net prices and in award of solicitations. Offers of discounts for payment within ten (10) days following the end of the month are preferred.
- B. In connection with any discount offered, time will be computed from the date of delivery and acceptance at destination, or from the date correct invoice or voucher is received, whichever is the later date. Payment is deemed to be made for the purpose of earning the discount on the date of the County check.

XI. AWARD

- A. Award will be made to either the highest scoring firm (for proposals) or the lowest responsive and responsible vendor (for quotes/bids). The quality of the articles to be supplied, their conformity with the specifications, their suitability to the requirements of the County, and the delivery terms will be taken into consideration in making the award. The County may make such investigations as it deems necessary to determine the ability to the vendor to perform, and the vendor shall furnish to the County all such information and data for this purpose as the County may request. The County reserves the right to reject any submittal if the evidence submitted by, or investigation of such vendor fails to satisfy the County that such vendor is properly qualified to carry out the obligations of the contract.
- B. The County reserves the right to reject or accept any or all offers and to waive technicalities, informalities, and minor irregularities in the submittals received.
- C. The County reserves the right to make an award as deemed in its best interest, which may include awarding to a single vendor or multiple vendors; or to award the whole solicitation agreement, only part of the agreement, or none of the agreement, based on its sole discretion of its best interest.
- D. In the event of proposal scores rounded to the nearest whole number result in a tie score, the award will be based on lowest cost.
- E. If proposal negotiations with the highest ranked firm are unsuccessful, the County may then negotiate with the second ranked firm and so on until a satisfactory agreement has been reached.

XII. DELIVERY FAILURES

Failure of a vendor to deliver within the time specified or within reasonable time as interpreted by the Purchasing Director, or failure to make replacement of rejected articles/services when so requested, immediately or as directed by the Purchasing Director, shall constitute authority for the Purchasing Director to purchase in the open market articles/services of comparable grade to replace the articles/services rejected or not delivered. On all such purchases, the vendor shall reimburse the County within a reasonable time specified by the Purchasing Director for any expense incurred in excess of the contract prices, or the County shall have the right to deduct such amount from monies owed the defaulting vendor. Alternatively, the County may penalize the vendor one percent (1%) per day for a period of up to ten (10) days for each day that delivery or replacement is late. Should public necessity demand it, the County reserves the right to use or consume articles/services delivered which are substandard in quality, subject to an adjustment in price to be determined by the Purchasing Director.



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XIII. COUNTY FURNISHED PROPERTY

No material, labor, or facilities will be furnished by the County unless so provided in the solicitation package.

XIV. REJECTION OF SUBMITTALS

Failure to observe any of the instructions or conditions in this solicitation package may constitute grounds for rejection.

XV. CONTRACT

Each submittal is received with the understanding that the acceptance in writing by the County of the offer to furnish any or all the commodities or services described therein shall constitute a contract between the vendor and the County, which shall bind the vendor on his part to furnish and deliver the articles quoted at the prices stated in accordance with the conditions of said accepted submittal. The County, on its part, may order from such vendor, except for cause beyond reasonable control, and to pay for, at the agreed prices, all articles specified and delivered.

Upon receipt of a solicitation package containing a Gwinnett County "Sample Contract" as part of the requirements, it is understood that the vendor has reviewed the documents with the understanding that Gwinnett County requires that all agreements between the parties must be entered into via this document. If any exceptions are taken to any part, each must be stated in detail and submitted as part of the vendor's submittal. If no exceptions are stated, it is assumed that the vendor fully agrees to the provisions contained in the "Sample Contract" in its entirety.

Any Consultant as defined in O.C.G.A. §36-80-28 that is engaged to develop or draft specifications/requirements or serve in a consultative role during the procurement process for any County procurement method, by entering into such an arrangement or executing a contract, the consultant agrees to abide by the current state law and: 1) Avoid any appearance of impropriety and shall follow all policies and procedures of the County, 2) Disclose to the County any material transaction or relationship pursuant to §36-80-28, that is considered a conflict of interest, any involvement in litigation or other dispute, relationship, or financial interest not disclosed in the ethics affidavit, and 3) Acknowledge that any violation or threatened violation of the agreement may cause irreparable injury to the County, entitling the County to seek injunctive relief in addition to all other legal remedies.

When the vendor has performed in accordance with the provisions of this agreement, Gwinnett County shall pay to the vendor, within thirty (30) days of receipt of any department approved payment request and based upon work completed or service provided pursuant to the contract, the sum so requested, less the retainage stated in this agreement, if any. If Gwinnett County fails to pay the vendor within sixty (60) days of receipt of a pay request based upon work completed or service provided pursuant to the contract, the County shall pay the vendor interest at the rate of ½% per month or pro rata fraction thereof, beginning the sixty-first (61st) day following receipt of pay requests. The vendor's acceptance of progress payments or final payment shall release all claims for interest on said payment.

The parties agree that this Contract shall be governed and construed in accordance with the laws of the State of Georgia.



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XVI. NON-COLLUSION

Vendor declared that the submittal is not made in connection with any other vendor's submittal for the same commodity or commodities, and that the submittal is bona fide and is in all respects fair and without collusion or fraud. An affidavit of non-collusion shall be executed by each vendor. Collusion and fraud in submittal preparation shall be reported to the State of Georgia Attorney General and the United States Justice Department.

XVII. DEFAULT

The contract may be canceled or annulled by the Purchasing Division in whole or in part by written notice of default to the vendor upon non-performance or violation of contract terms. An award may be made to the next low responsive and responsible vendor, or the next highest scoring responsive and responsible vendor, or articles specified may be purchased on the open market similar to those so terminated. In either event, the defaulting vendor (or their surety) shall be liable to the County for costs to the County in excess of the defaulted contract prices; provided, however, that the vendor shall continue the performance of this contract to the extent not terminated under the provisions of this clause. Failure of the vendor to deliver materials or services within the time stipulated on their offer, unless extended in writing by the Purchasing Director, shall constitute contract default.

XVIII. TERMINATION FOR CAUSE

The County may terminate this agreement for cause upon ten (10) days prior written notice to the vendor of the vendor's default in the performance of any term of this agreement. Such termination shall be without prejudice to any of the County's rights or remedies by law.

XIX. TERMINATION FOR CONVENIENCE

The County may terminate this agreement for its convenience at any time upon thirty (30) days written notice to the vendor. In the event of the County's termination of this agreement for convenience, the vendor will be paid for those services actually performed. Partially completed performance of the agreement will be compensated based upon a signed statement of completion to be submitted by the vendor, which shall itemize each element of performance.

XX. SUBSTITUTIONS

Vendors offering substitutions or who are deviating from the attached specifications shall list such deviations on a separate sheet to be submitted with their offer. The absence of such a substitution list shall indicate that the vendor has taken no exception to the specifications contained herein.

XXI. INELIGIBLE VENDORS

The County may choose not to accept the offer by an individual, firm, or business who is in default on the payment of taxes, licenses, or other monies owed to the County. Additionally, vendors or persons placed on an Ineligible Source List for reasons listed in Part 6, Section II of the Gwinnett County Purchasing Ordinance shall not be eligible to provide any commodities or services to the County during the period such person remains on the Ineligible Source List.

XXII. PENDING LITIGATION

An individual, firm, or business that has litigation pending against the County, or anyone representing a firm or business in litigation against the County, not arising out of the procurement process, will be disqualified.



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XXIII. OCCUPATION TAX CERTIFICATE

Each successful vendor must have a valid Gwinnett County occupation tax certificate if the vendor maintains an office within the unincorporated area of Gwinnett County. Incorporated, out of the county, and out of state vendors are required to have any and all certificates necessary to do business in any town, county, or municipality in the State of Georgia, or as otherwise required by the County ordinance or resolution. Vendors may be required to provide evidence of valid certificates. Out of State vendors are required to have a certificate in the Georgia jurisdiction where they receive the most revenue.

XXIV. PURCHASING POLICY AND REVIEW COMMITTEE

The Purchasing Police and Review Committee has been established to review purchasing procedures and make recommendations for changes; resolve problems regarding the purchasing process make recommendations for standardization of commodities, schedule buying, qualified products list, annual contracts, supplier performance (Ineligible Source List), and other problems or requirements related to purchasing. The Purchasing Police and Review Committee has authority to place vendors on the Ineligible Source List for reasons listed in Part 6, Section II of the Gwinnett County Purchasing Ordinance for a period not to exceed three (3) years.

XXV. AMERICANS WITH DISABILITIES ACT

All vendors of Gwinnett County are required to comply with all applicable sections of the Americans with Disabilities Act (ADA) as an equal opportunity employer. In compliance with the Americans with Disabilities Act (ADA), Gwinnett County provides reasonable accommodations to permit a qualified applicant with a disability to enjoy the privileges of employment equal to those employees without disabilities. Disabled individuals must satisfy job requirements for education background, employment experience, and must be able to perform those tasks that are essential to the job with or without reasonable accommodations. Any requests for the reasonable accommodations required by individuals to fully participate in any open meeting, program, or activity of Gwinnett County should be directed to the ADA Coordinator, 75 Langley Drive, Lawrenceville, Georgia 30046, 770.822.8165.

XXVI. ALTERATIONS OF SOLICITATION AND ASSOCIATED DOCUMENTS

Alterations of County documents are strictly prohibited and will result in automatic disqualification of the vendor's solicitation response. If there are "exceptions" or comments to any of the solicitation requirements or other language, then the firm may make notes to those areas, but may not materially alter any document language.

XXVII. TAX LIABILITY

Local and state governmental entities must notify vendors of their use tax liability on public works projects. Under Georgia law, private vendors are responsible for paying a use tax equal to the sales tax rate on material and equipment purchased under a governmental exemption that is incorporated into a government construction project: excluding material and equipment provided for the installation, repair, or expansion of a public water, gas, or sewer system when the property is installed for general distribution purposes. To the extent the tangible personal property maintains its character (for example, the installation of a kitchen stove), it remains tax-exempt. However, if the installation incorporates the tangible personal property into realty (for example, the installation of sheetrock), it becomes taxable to the private vendor. See O.C.G.A. §48-8-3(2) and O.C.G.A. §48-8-63.



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XXVIII. STATE AND FEDERAL LAW REGARDING WORKER VERIFICATION

Effective July 1, 2013 state law requires that all who enter into a contract for the physical performance of services for all labor or service contract(s) that exceed \$2,499.99 (except for services performed by an individual who is licensed pursuant to Title 26, Title 43, or the State Bar of Georgia) and that all who enter into a contract for public works as defined by O.C.G.A. §36-91-2(12) for the County, must satisfy the Illegal Immigration Reform Enhancements for 2013 in conjunction with the Federal Immigration Reform and Control Act (IRCA) of 1986, in all manner, and such are conditions of the contract.

The Purchasing Division Director, with the assistance of the Internal Audit Division, shall be authorized to conduct random audits of a vendor's or subcontractor's compliance with the Illegal Immigration Reform Enhancements for 2013 and the rules and regulations of the Georgia Department of Labor. The vendor and subcontractors shall retain all documents and records of its compliance for a period of five (5) years following completion of the contract or shall abide by the current time requirements at the time of the contract. This requirement shall apply to all contracts for all public works, labor, or service contracts that exceed \$2,499.99, except for services performed by an individual who is licensed pursuant to Title 26, Title 43, or the State Bar of Georgia.

Whenever it appears that a vendor's or subcontractor's records are not sufficient to verify the work eligibility of any individual in the employment of such vendor or subcontractor, the Purchasing Director shall report same to the Department of Homeland Security and may result in termination of the contract if it is determined at any time during the work that the vendor or subcontractor is no longer in compliance with worker verification.

By submitting an offer to the County, vendor agrees that, in the event the vendor employes or contracts with subcontractor(s) in connection with the covered contract, the vendor will secure from the subcontractor(s) such subcontractor(s)' indication of the employee-number category applicable to the subcontractor, as well as attestation(s) from such subcontractor(s) that they follow the Illegal Immigration Reform Enhancements for 2013 in conjunction with all federal requirements. Original signed, notarized Subcontractor Affidavits and Agreements must be maintained by the vendor awarded the contract.

A vendor's or subcontractor's failure to participate in the federal work authorization program as defined above shall be subject to termination of the contract. A vendor's failure to follow Gwinnett County's instruction to terminate a subcontractor that is not participating in the federal work authorization program may be subject to termination of the contract.

XXIX. SOLID WASTE ORDINANCE

No individual, partnership, corporation, or other entity shall engage in solid waste handling in such a manner as to conform to and comply with the current Gwinnett County Solid Waste Ordinance and all other applicable local, state, and federal legislation, rules, regulation, and orders.

XXX. GENERAL CONTRACTORS LICENSE

Effective July 1, 2008: All General Contractors must have a current valid license from the State Licensing Board for Residential and General Contractors, unless specifically exempted from holding such license pursuant to Georgia law (O.C.G.A. §43-41-17).

XXXI. PRODUCTS MANUFACTURED IN GEORGIA

When contracting for or purchasing supplies, materials, equipment, or agricultural products that exceeds \$100,000.00, excluding beverages for immediate consumption, Gwinnett County shall give



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preference as far as may be reasonable and practicable to such suppliers, materials, equipment, and agricultural products as may be manufactured or produced in this state. Such preference shall not sacrifice quality. The Gwinnett County Board of Commissioners shall consider, among other factors, information submitted by the vendor which may include the vendor's estimate of the multiplier effect on gross state domestic product and the effect on public revenues of the state and the effect on public revenues of political subdivisions resulting from acceptance of an offer to sell Georgia manufactured or produced goods as opposed to out-of-state manufactured or produced goods. Any such estimates shall be in writing (O.C.G.A. §36-84-1).

XXXII. INDEMNIFICATION

To the fullest extent permitted by law, the vendor shall, at his sole cost and expense, indemnify, defend, satisfy all judgments, and hold harmless the County, its commissioners, officers, agents, and employees from and against all claims, damages, actions, judgments, costs, penalties, liabilities, losses, and expenses, including, but not limited to, attorney's fees arising out of or resulting from the performance of the work, provided that any such claim, damage, action, judgement, cost, penalty, liability, loss, or expense (1) is attributable to bodily injury, sickness, disease, or death, or injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by the negligent acts, errors by any act or omission of the vendor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless whether such claim is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any of the rights or obligations of indemnity which would otherwise exist as to any party or person described in this agreement. In any and all claims against the County, its commissioners, officers, agents, and employees by any employee of the vendor. Any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation contained herein shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the vendor or any subcontractor under Worker's Compensation Acts, disability benefit acts, or other employee benefit acts.

Vendor shall also indemnify, hold harmless, insure, and defend the County for damages, losses, or expenses to the extent caused by or resulting from the negligence, recklessness, or intentionally wrongful conduct of the vendor or other persons employed or utilized by the vendor in the performance of a contract that utilizes survey services.

XXXIII. CODE OF ETHICS

Vendors shall disclose under oath the name of all elected officials whom it employs or who have a direct or indirect pecuniary interest in the business entity, its affiliates, or its subcontracts (this shall not apply to informal purchases as defined by the Purchasing Ordinance). The vendor shall execute a Code of Ethics affidavit. Failure to submit the affidavit during the procurement process shall render the offer non-responsive.

Any business entity holding a contract with Gwinnett County that, after execution of the contract or issuance of the purchase order, employs, subcontracts with, or transfers a direct or indirect pecuniary interest in the business entity to an elected official shall within five (5) days disclose such fact in writing under oath to the Clerk of the Board of Commissioners. Failure to comply, or vendors submitting false information or omitting material information shall be referred to the Purchasing Policy and Review Committee for action pursuant to the Purchasing Ordinance or to the District



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Attorney for possible criminal prosecution. Note: See Gwinnett County Code of Ethics Ordinance E02011, Section 54-33. The ordinance is available to view in its entirety at GwinnettCounty.com.

XXXIV. ELECTRONIC PAYMENT

Vendors accepting procurements should select one of Gwinnett County's electronic payment options.

- A. A vendor may select ePayables payment process, which allows acceptance of Gwinnett County's virtual credit card as payment for outstanding invoices. The authorized vendor representative must send an email to: VendorElectronicPayment@GwinnettCounty.com and indicate the desire to enroll in Gwinnett County's virtual credit card payment process.
- B. A vendor may select Direct Deposit payment process, and the payment will be deposited directly into an account at their designated financial institution. To securely enroll in Direct Deposit, either access your online [Supplier Login and Registration](#) on the County's website and update the requested information on the Direct Deposit tab or mail a [Direct Deposit Authorization Agreement](#) form.

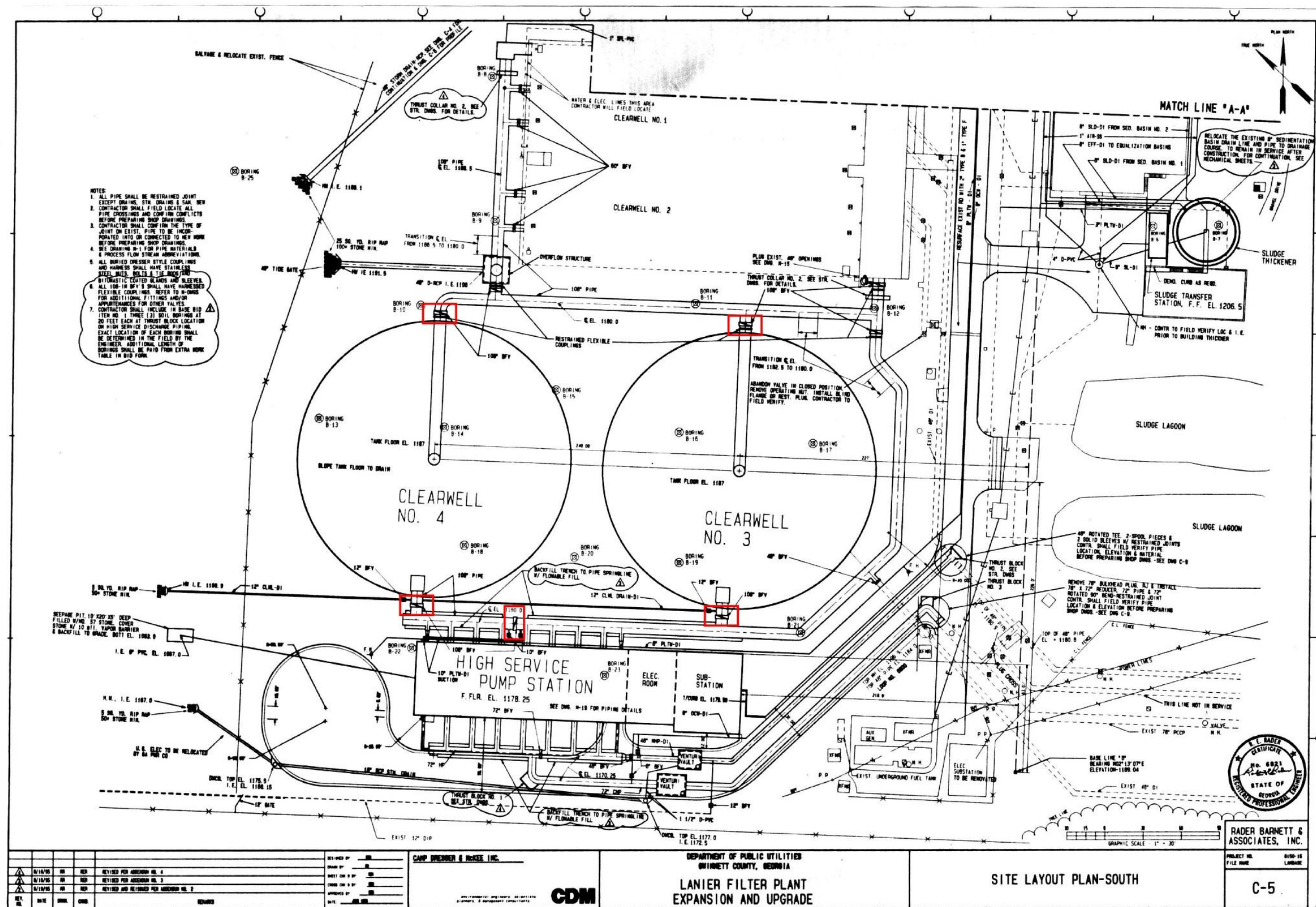
County staff are required to verify receipt of goods and submit proof of delivery of services with invoice before payment is processed. Failure to provide proof of delivery of goods and/or services may result in delayed payment.

The County will send a Payment Advice notification via email for both payment types. For more information about Electronic Payments, please visit the Gwinnett County Treasury page or click here -> [Gwinnett County Electronic Payments](#).

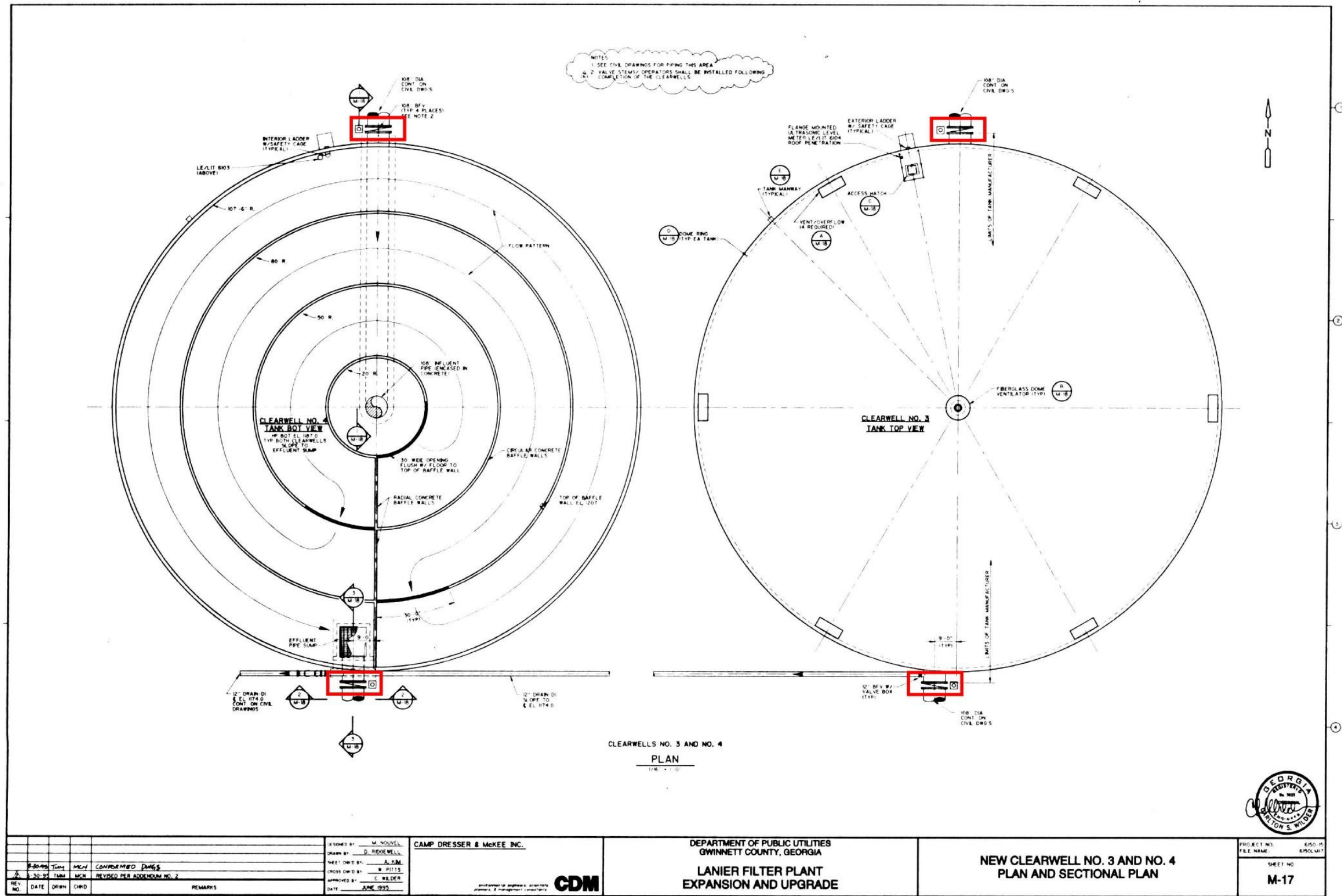
DIRECTIONS TO GJAC BUILDING FROM I-85

Take I-85 to Georgia Highway 316 (Lawrenceville/Athens exit). Exit Highway 120 (Lawrenceville/Duluth exit) and turn right. At the seventh traffic light, turn right onto Langley Drive. Cross Highway 29 through the traffic light and proceed through the roundabout. Visitors can either proceed to the front parking area on the left or to the parking deck behind the building. Click [here](#) for additional information. **The Purchasing Division is located on the second floor of the Gwinnett Justice and Administration Center at 75 Langley Drive, Lawrenceville, Georgia, 30046. WE HAVE MOVED BACK TO OUR PERMANENT LOCATION.**

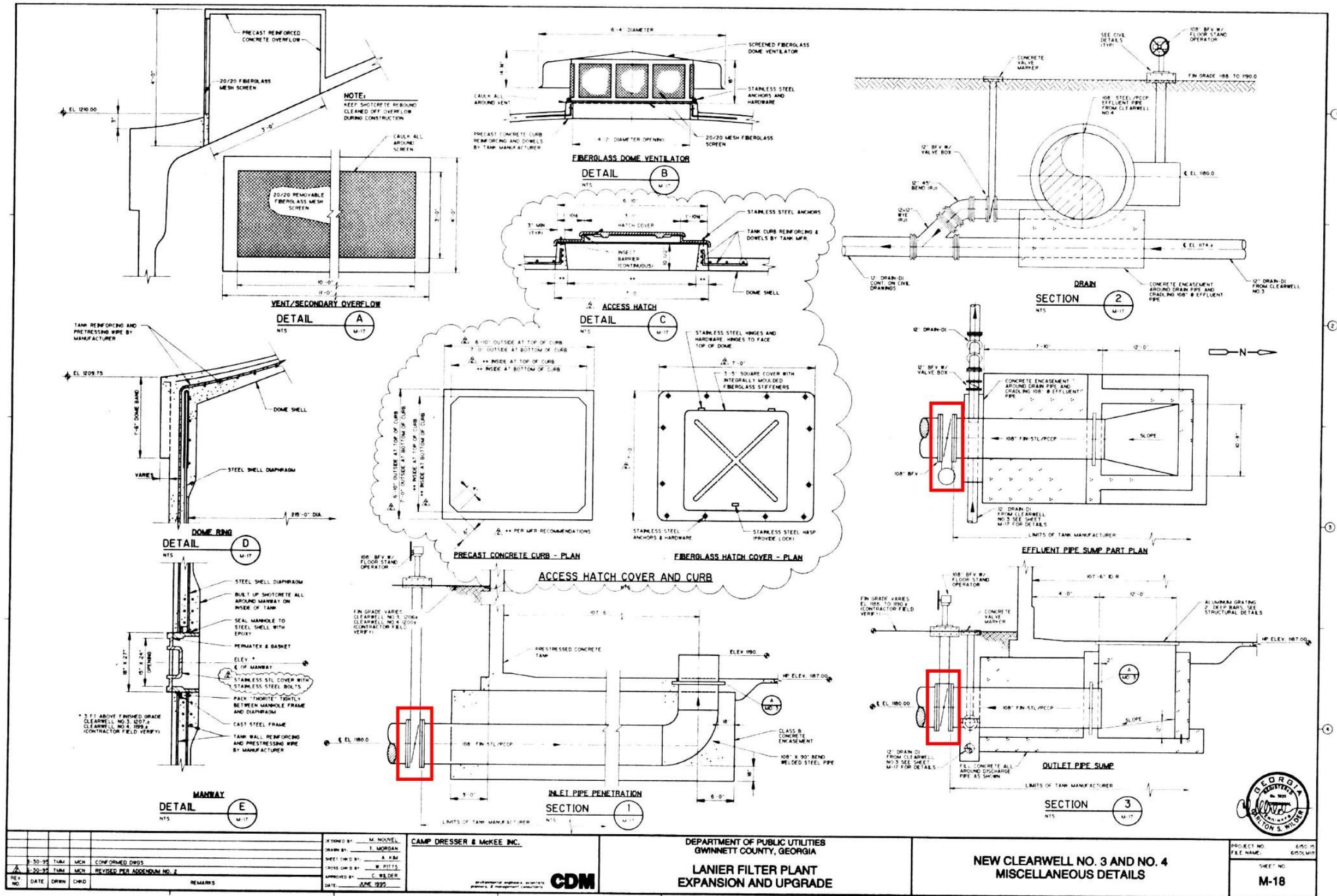
ATTACHMENT 1: Drawings



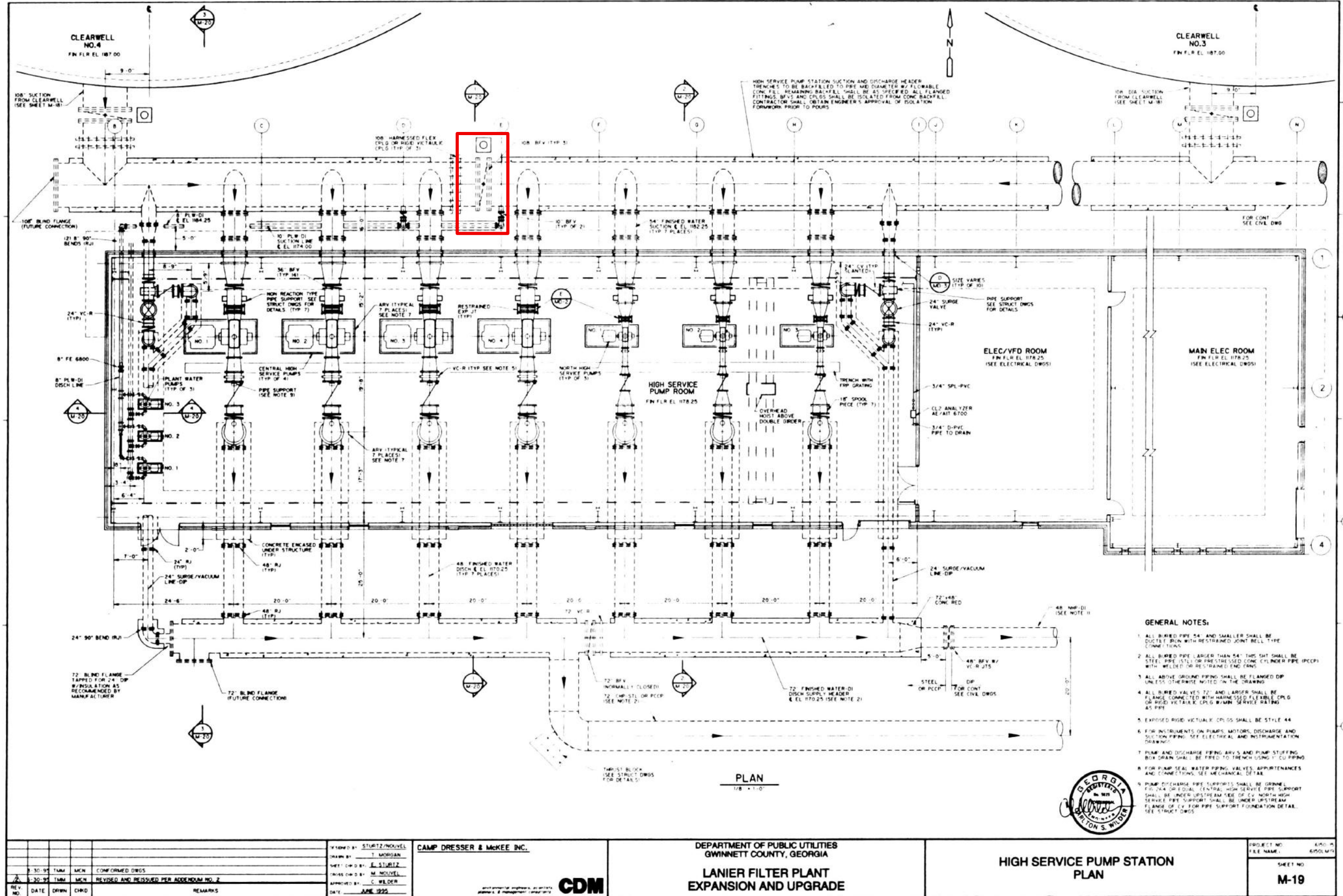
Drawing 1 - (LFP) Clearwell No. 3 and No. 4 Site Layout



Drawing 2 - (LFP) Clearwell's No. 3 and No. 4 Plans and Replacement Valve Locations



Drawing 3 - (LFP) Clearwell's No. 3 & No. 4 Details

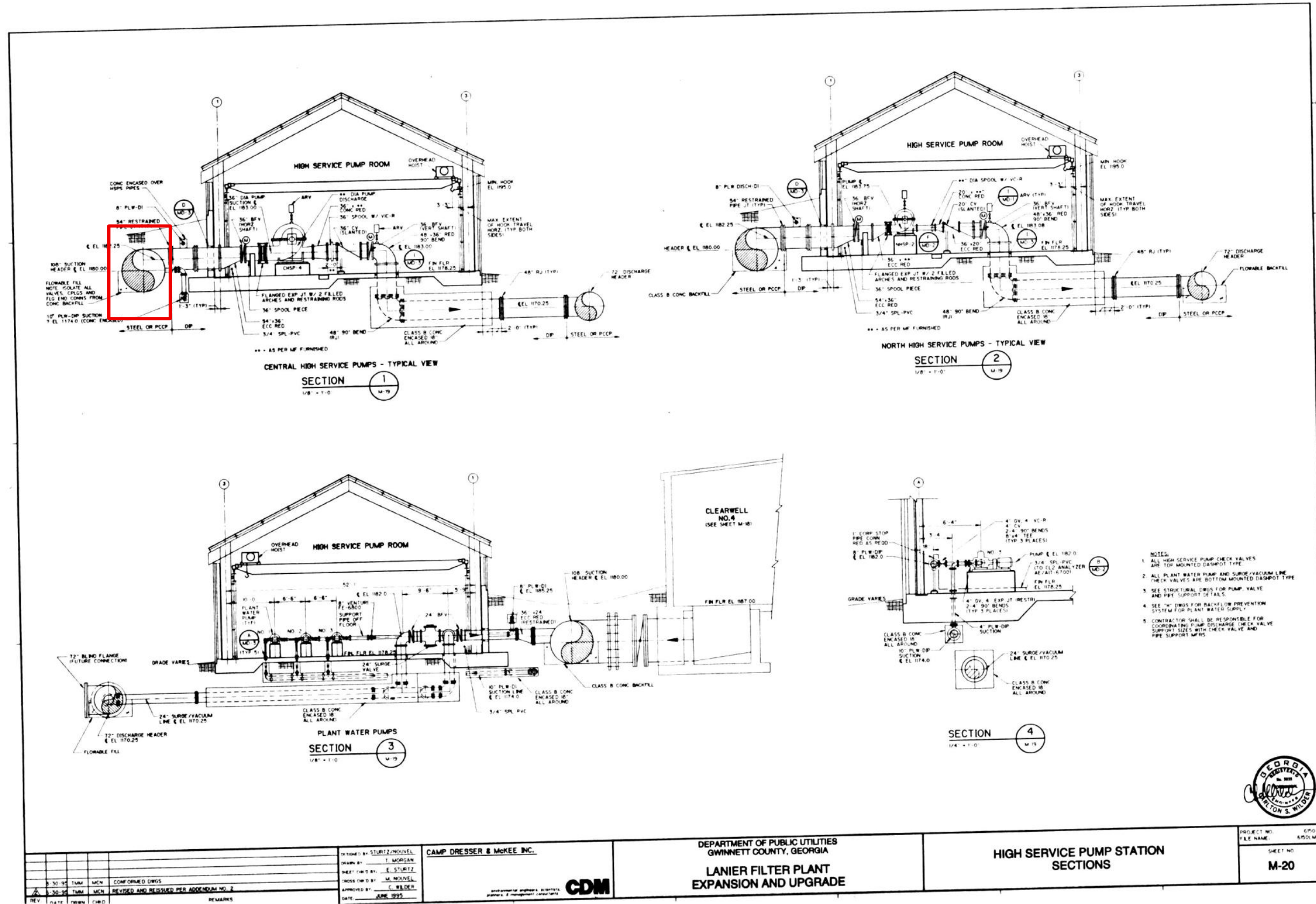


- GENERAL NOTES:**
1. ALL BURIED PIPE 54\"/>



DESIGNED BY: STURTZ/MOUVEL DRAWN BY: T. MORGAN CHECKED BY: E. STURTZ IN CHARGE: M. MOUVEL APPROVED BY: C. WILDER DATE: JUNE 1995		CAMP DRESSER & MCKEE INC. 	DEPARTMENT OF PUBLIC UTILITIES GWINNETT COUNTY, GEORGIA LANIER FILTER PLANT EXPANSION AND UPGRADE	PROJECT NO. 440-A FILE NAME: 6/95/01/5 SHEET NO. M-19
REV. NO.	DATE	DRWN	CHKD	REMARKS
1	3-30-95	TMM	MKN	CONFORMED DWGS
2	5-20-95	TMM	MKN	REVISED AND REISSUED PER ADDENDUM NO. 2

Drawing 4 - (LFP) HSPS Replacement Valve Location



REV	DATE	BY	CHKD	REMARKS
3	30-98	TMM	MEN	CONFORMED DWGS
2	30-98	TMM	MEN	REVISED AND RESUBMITTED PER ADDENDUM NO. 2

DESIGNED BY: STURIZ/MOONDEL
DRAWN BY: T. MORGAN
CHECKED BY: E. STURIZ
TRACED BY: M. MOONDEL
APPROVED BY: C. WELDER
DATE: JUNE 1997

CAMP DRESSER & MCKEE, INC.

CDM

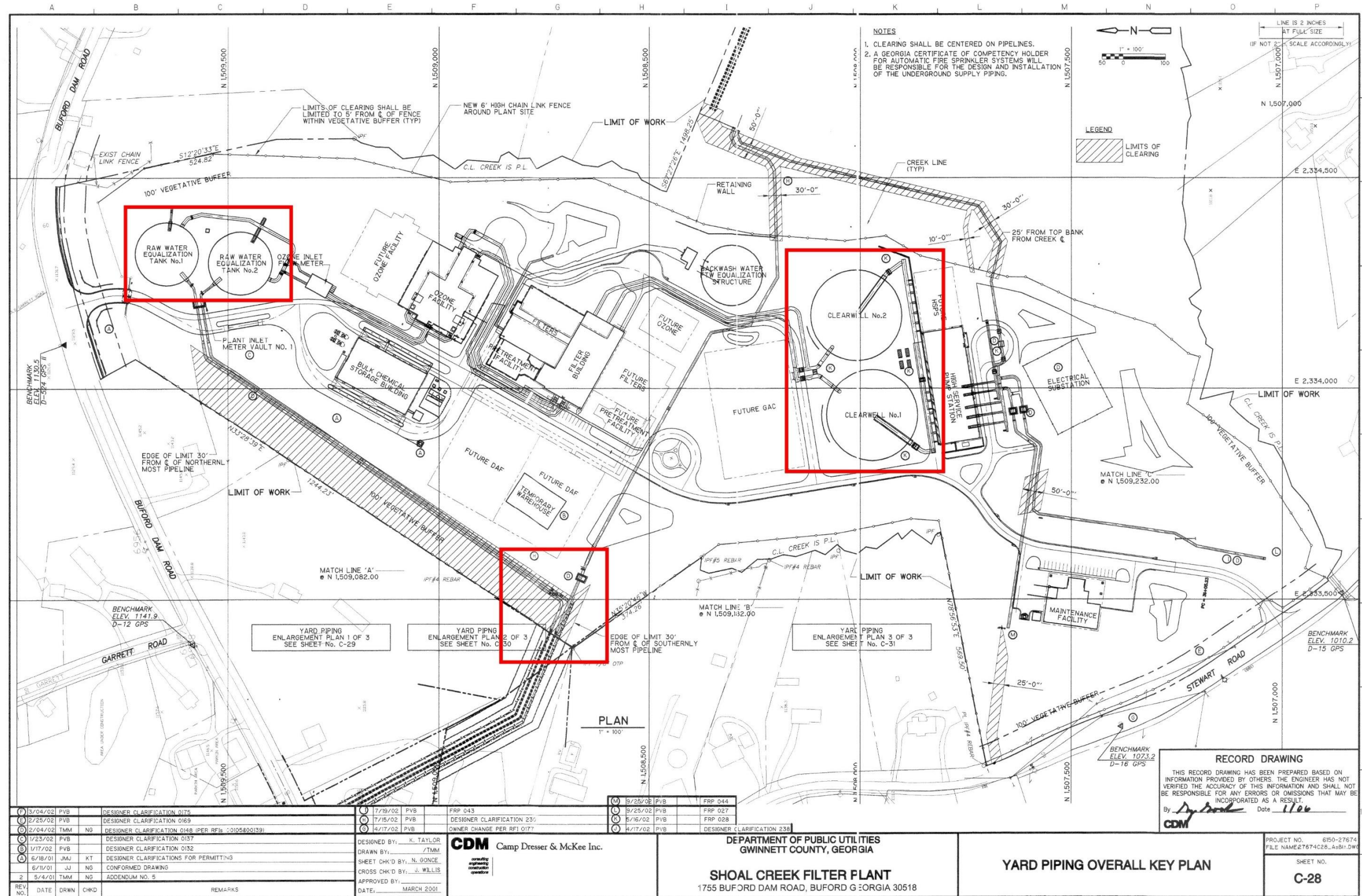
DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA

**LANIER FILTER PLANT
EXPANSION AND UPGRADE**

**HIGH SERVICE PUMP STATION
SECTIONS**

PROJECT NO. 8700-15
FILE NAME: 8700-15
SHEET NO. **M-20**

Drawing 5 - (LFP) HSPS Suction Header Section



F	3/04/02	PVB	DESIGNER CLARIFICATION 0175		
E	2/25/02	PVB	DESIGNER CLARIFICATION 0169		
D	2/04/02	TMM	NO		
C	1/23/02	PVB	DESIGNER CLARIFICATION 0137		
B	1/17/02	PVB	DESIGNER CLARIFICATION 0132		
A	6/18/01	JMJ	KT		
	6/18/01	JJ	NO		
	5/4/01	TMM	NO		
REV	NO.	DATE	DRWN	CHKD	REMARKS

7/19/02	PVB	FRP 043
7/15/02	PVB	DESIGNER CLARIFICATION 230
4/17/02	PVB	OWNER CHANGE PER RFI 0177
9/25/02	PVB	FRP 044
9/25/02	PVB	FRP 027
5/16/02	PVB	FRP 028
4/17/02	PVB	DESIGNER CLARIFICATION 238

DESIGNED BY: K. TAYLOR
DRAWN BY: TMM
SHEET CHK'D BY: N. GONCE
CROSS CHK'D BY: J. WILLIS
APPROVED BY: _____
DATE: MARCH 2001

CDM Camp Dresser & McKee Inc.

DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA

SHOAL CREEK FILTER PLANT
1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

YARD PIPING OVERALL KEY PLAN

RECORD DRAWING

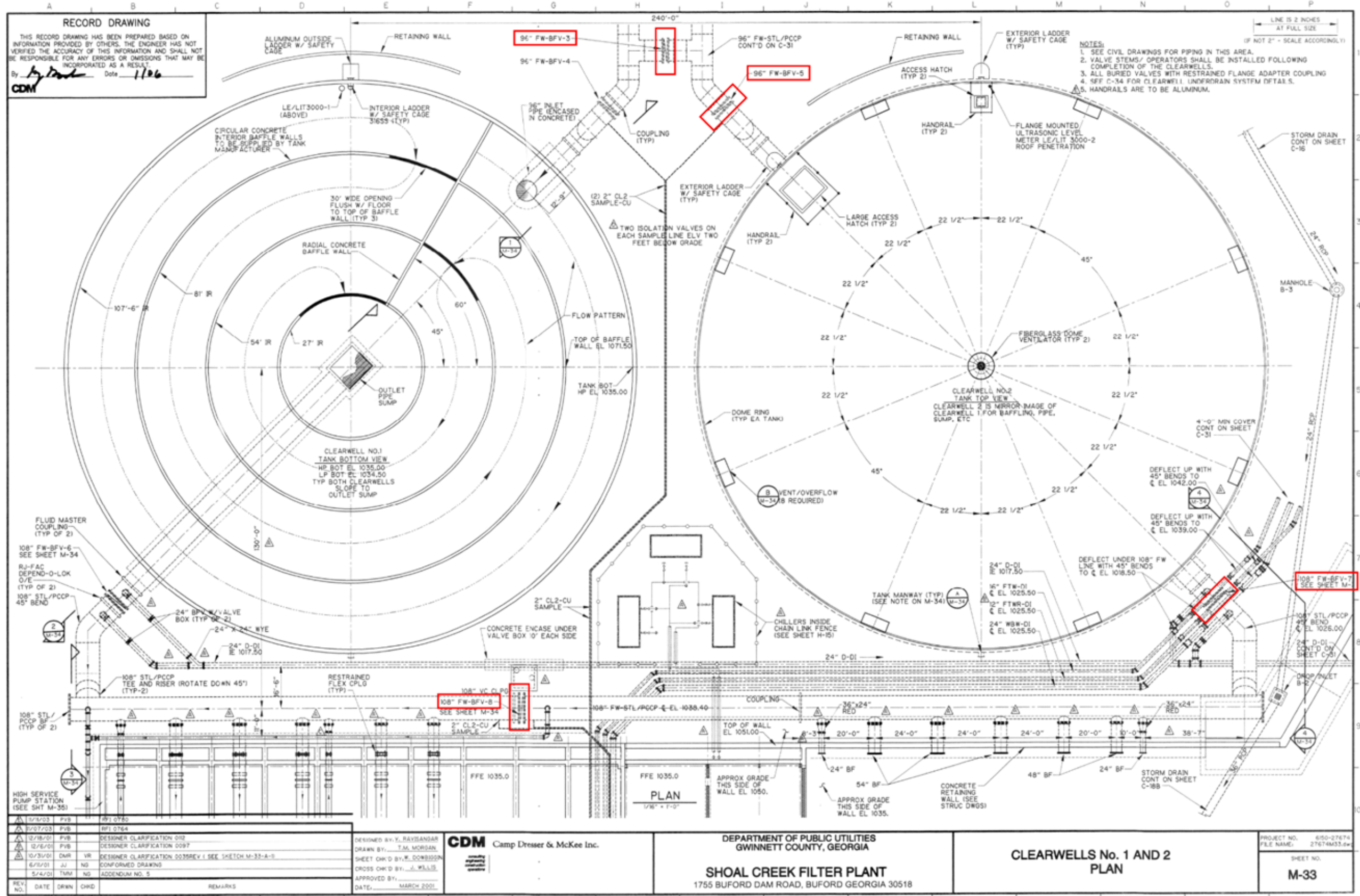
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.

By: *[Signature]* Date: 1/16/02

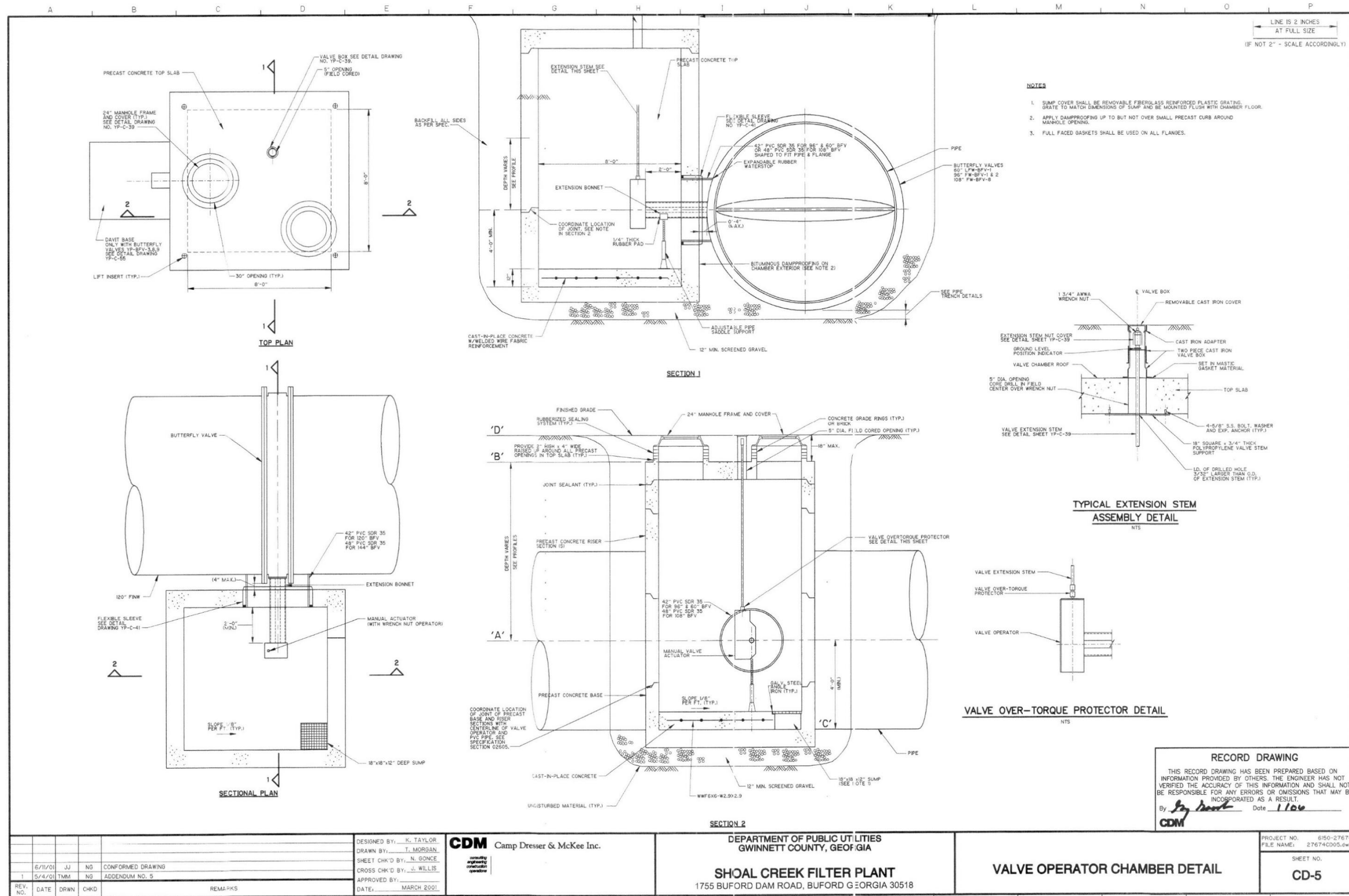
PROJECT NO. 6150-27674
FILE NAME: 27674C28_4381.DWG

SHEET NO. **C-28**

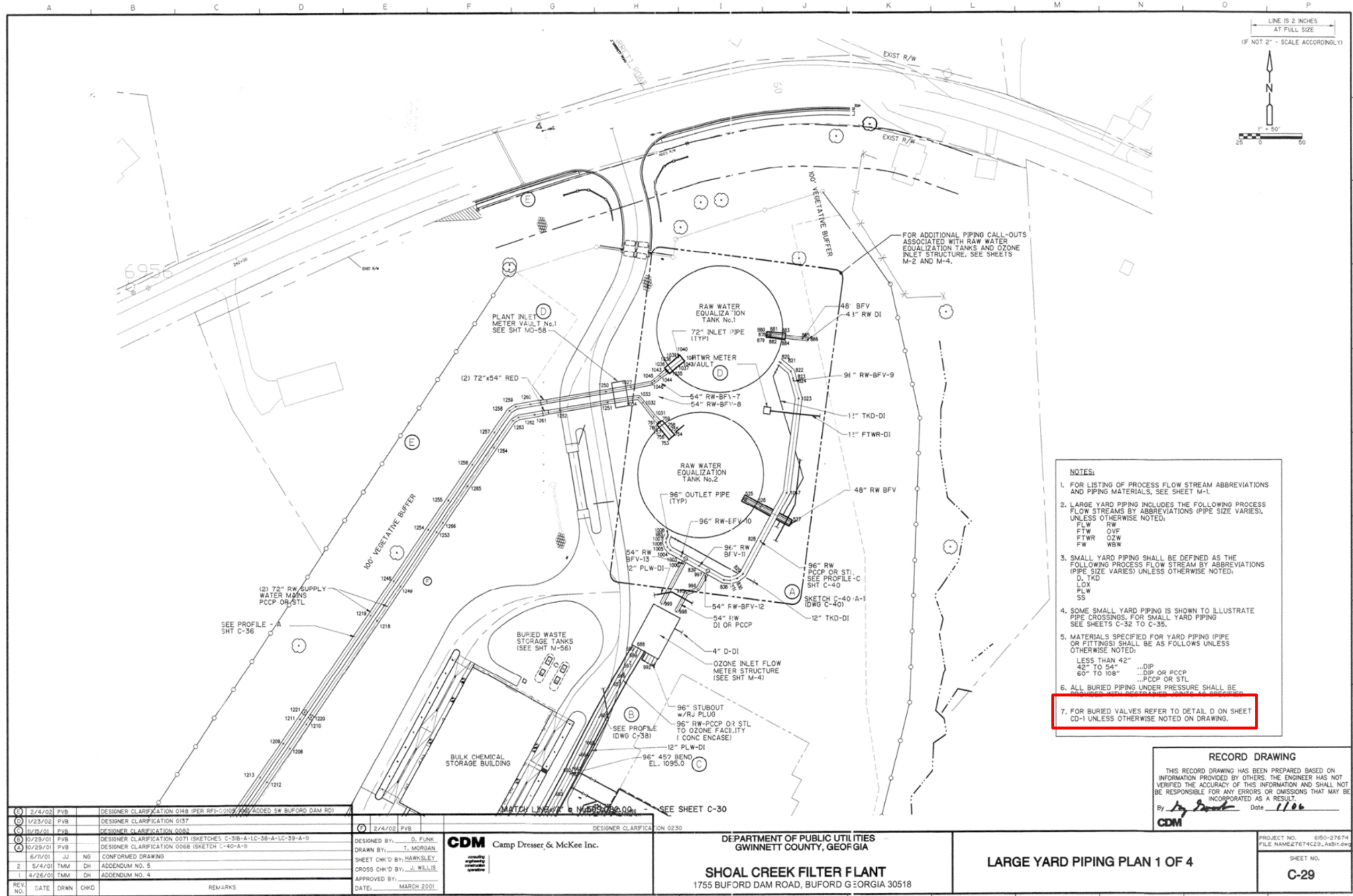
Drawing 6 - (SCFP) Overall Site Plan



Drawing 7 - (SCFP) Clearwell's No. 1 and No. 2 Plan and Replacement Valve Locations



Drawing 8 – (SCFP) Valve Operator Chamber Detail



- NOTES:**
- FOR LISTING OF PROCESS FLOW STREAM ABBREVIATIONS AND PIPING MATERIALS, SEE SHEET M-1.
 - LARGE YARD PIPING INCLUDES THE FOLLOWING PROCESS FLOW STREAMS BY ABBREVIATIONS (PIPE SIZE VARIES), UNLESS OTHERWISE NOTED:
 FLW RW
 FTW OVF
 FTWR OZW
 FW WBW
 - SMALL YARD PIPING SHALL BE DEFINED AS THE FOLLOWING PROCESS FLOW STREAM BY ABBREVIATIONS (PIPE SIZE VARIES) UNLESS OTHERWISE NOTED:
 D, TKD
 LOX
 PLW
 SS
 - SOME SMALL YARD PIPING IS SHOWN TO ILLUSTRATE PIPE CROSSINGS, FOR SMALL YARD PIPING SEE SHEETS C-32 TO C-35.
 - MATERIALS SPECIFIED FOR YARD PIPING (PIPE OR FITTINGS) SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
 LESS THAN 42" ...DIP
 42" TO 54" ...DIP OR PCCP
 60" TO 108" ...PCCP OR STL
 - ALL BURIED PIPING UNDER PRESSURE SHALL BE ...
 - FOR BURIED VALVES REFER TO DETAIL D ON SHEET CD-1 UNLESS OTHERWISE NOTED ON DRAWING.

RECORD DRAWING
 THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.
 By *[Signature]* Date *1/26*
CDM

1	2/4/02	PVB	DESIGNER CLARIFICATION 0148 (PER RFI-0009 AND ADDED SW BUFORD DAM RD)	
2	1/23/02	PVB	DESIGNER CLARIFICATION 0137	
3	11/19/01	PVB	DESIGNER CLARIFICATION 0082	
4	0/29/01	PVB	DESIGNER CLARIFICATION 0071 (SKETCHES C-38-A-1C-38-A-1C-39-A-1)	
5	0/29/01	PVB	DESIGNER CLARIFICATION 0068 (SKETCH C-40-A-1)	
6	6/7/01	UJ	NO CONFORMED DRAWING	
7	5/4/01	TMM	ADDENDUM NO. 5	
8	4/26/01	TMM	ADDENDUM NO. 4	
REV. NO.	DATE	DRWN	CHKD	REMARKS

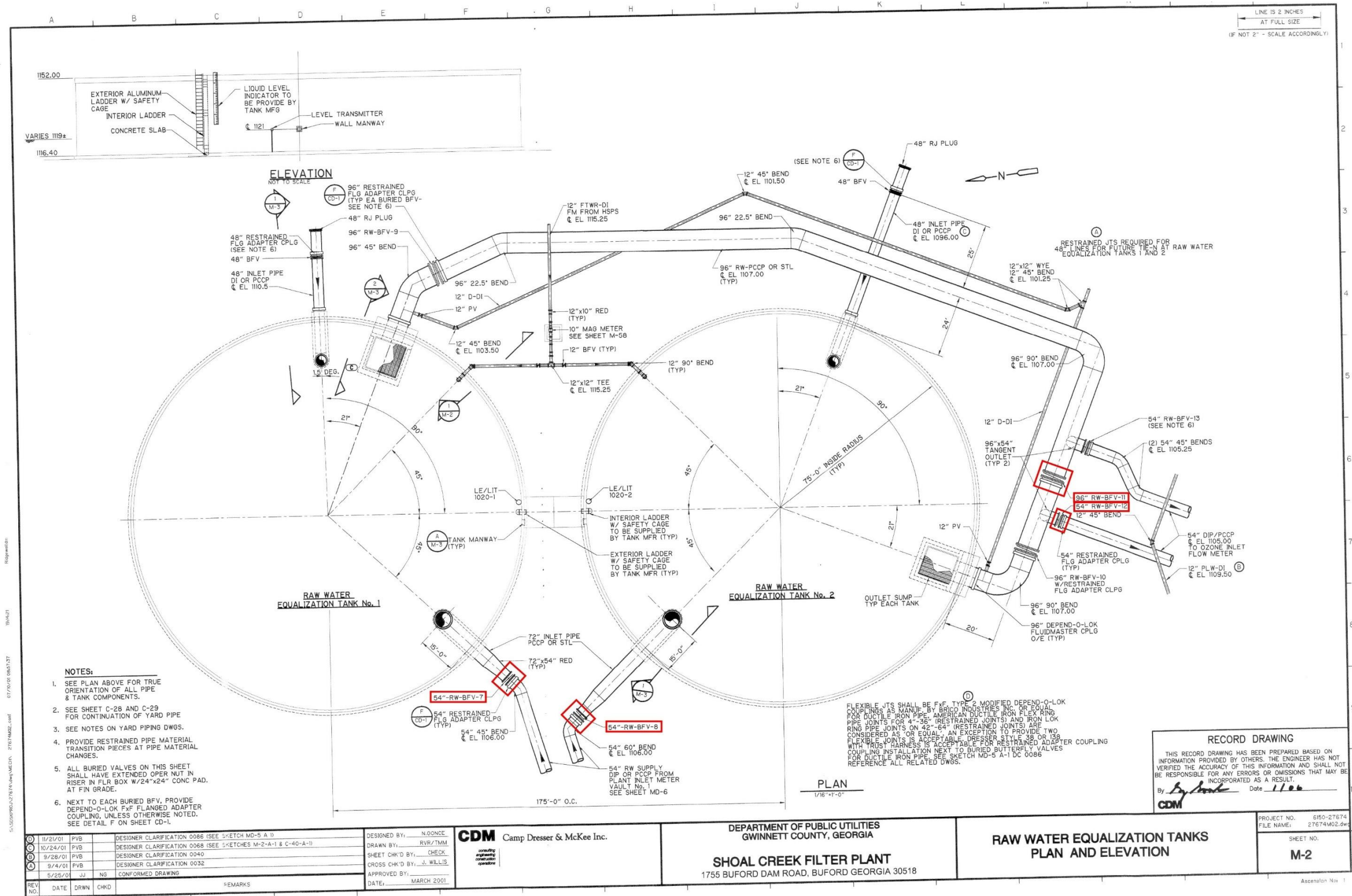
DESIGNED BY: D. FUNK	DESIGNER CLARIFICATION 0230
DRAWN BY: T. MORGAN	
SHEET CHK'D BY: HAWKSLEY	
CROSS CHK'D BY: J. WILLIS	
APPROVED BY:	
DATE: MARCH 2001	

CDM Camp Dresser & McKee Inc.
 DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

LARGE YARD PIPING PLAN 1 OF 4

PROJECT NO. 650-27674
 FILE NAME: 27674C29_Asb1.dwg
 SHEET NO.
C-29

Drawing 9 - (SCFP) RW Supply and Storage Large Yard Piping Site Plan



- NOTES:**
- SEE PLAN ABOVE FOR TRUE ORIENTATION OF ALL PIPE & TANK COMPONENTS.
 - SEE SHEET C-28 AND C-29 FOR CONTINUATION OF YARD PIPE
 - SEE NOTES ON YARD PIPING DWGS.
 - PROVIDE RESTRAINED PIPE MATERIAL TRANSITION PIECES AT PIPE MATERIAL CHANGES.
 - ALL BURIED VALVES ON THIS SHEET SHALL HAVE EXTENDED OPER NUT IN RISER IN FLR BOX W/24"x24" CONC PAD. AT FIN GRADE.
 - NEXT TO EACH BURIED BFV, PROVIDE DEPEND-O-LOK FxF FLANGED ADAPTER COUPLING, UNLESS OTHERWISE NOTED. SEE DETAIL F ON SHEET CD-1.

FLEXIBLE JTS SHALL BE FxF, TYPE 2 MODIFIED DEPEND-O-LOK COUPLINGS AS MANUF. BY BRICO INDUSTRIES INC. OR EQUAL FOR DUCTILE IRON PIPE. AMERICAN DUCTILE IRON FLEX RING PIPE JOINTS FOR 4"-36" (RESTRAINED JOINTS) AND IRON LOK RING PIPE JOINTS ON 42"-54" (RESTRAINED JOINTS) ARE CONSIDERED AS OR EQUAL. AN EXCEPTION TO PROVIDE TWO FLEXIBLE JOINTS IS ACCEPTABLE. DEPRESSOR STYLE 38 OR 158 WITH TRUST HARNESS IS ACCEPTABLE FOR RESTRAINED ADAPTER COUPLING INSTALLATION NEXT TO BURIED BUTTERFLY VALVES FOR DUCTILE IRON PIPE. SEE SKETCH MD-5 A-1 DC 0086 REFERENCE ALL RELATED DWGS.

RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.
By *[Signature]* Date *1/00*
CDM

REV NO.	DATE	DRWN	CHKD	REMARKS
1	11/21/01	PVB		DESIGNER CLARIFICATION 0088 (SEE SKETCH MD-5 A-1)
2	10/24/01	PVB		DESIGNER CLARIFICATION 0068 (SEE SKETCHES M-2-A-1 & C-40-A-1)
3	9/28/01	PVB		DESIGNER CLARIFICATION 0040
4	9/4/01	PVB		DESIGNER CLARIFICATION 0032
5	5/25/01	JJ	NS	CONFORMED DRAWING

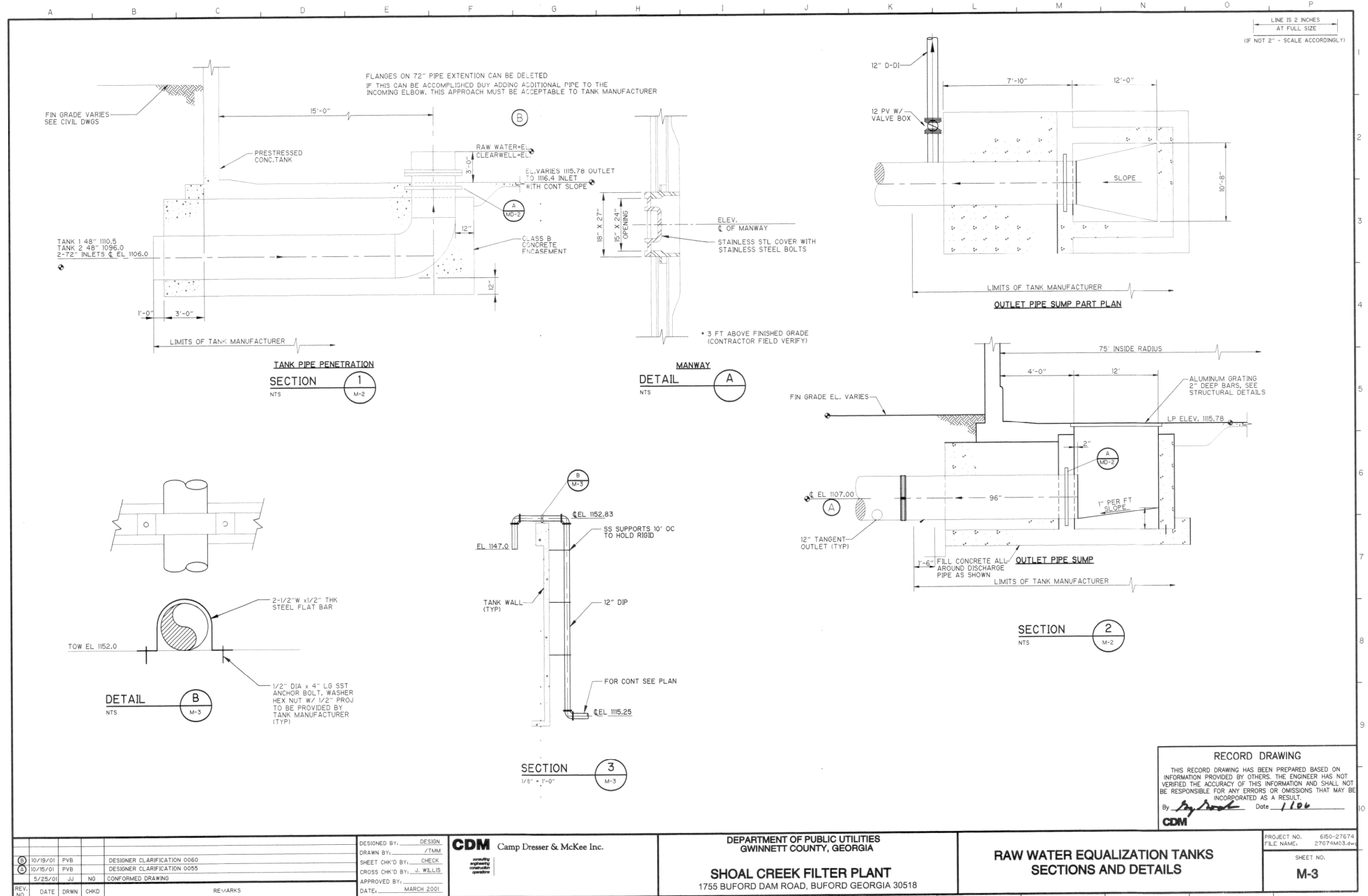
DESIGNED BY: N. GONCE	CDM Camp Dresser & McKee Inc. <small>consulting engineering construction</small>
DRAWN BY: RVR/TMM	
SHEET CHK'D BY: CHECK	
CROSS CHK'D BY: J. WILLIS	
APPROVED BY: _____	
DATE: MARCH 2001	

DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

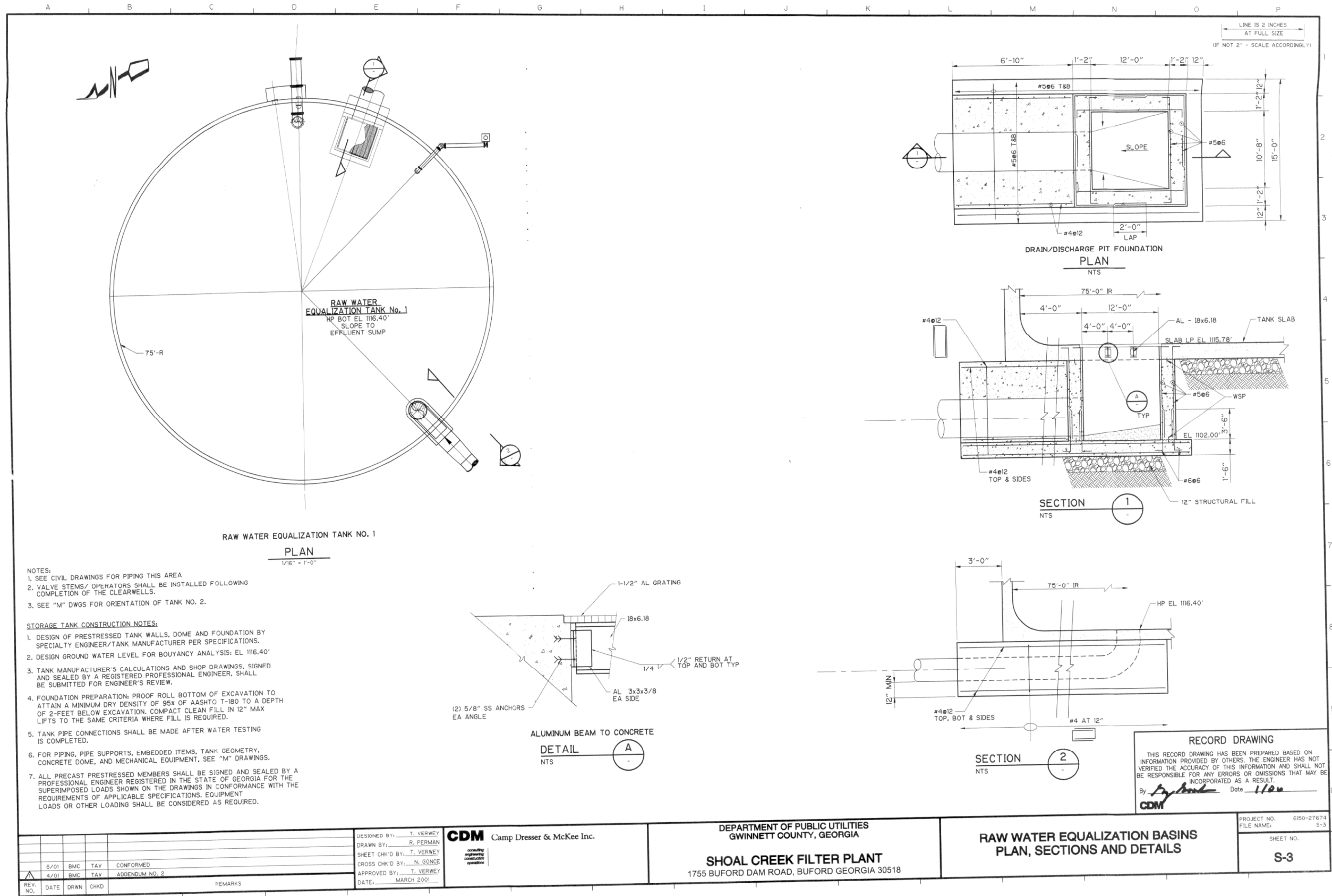
RAW WATER EQUALIZATION TANKS
PLAN AND ELEVATION

PROJECT NO. 6150-27674
FILE NAME: 27674M02.dwg
SHEET NO. M-2

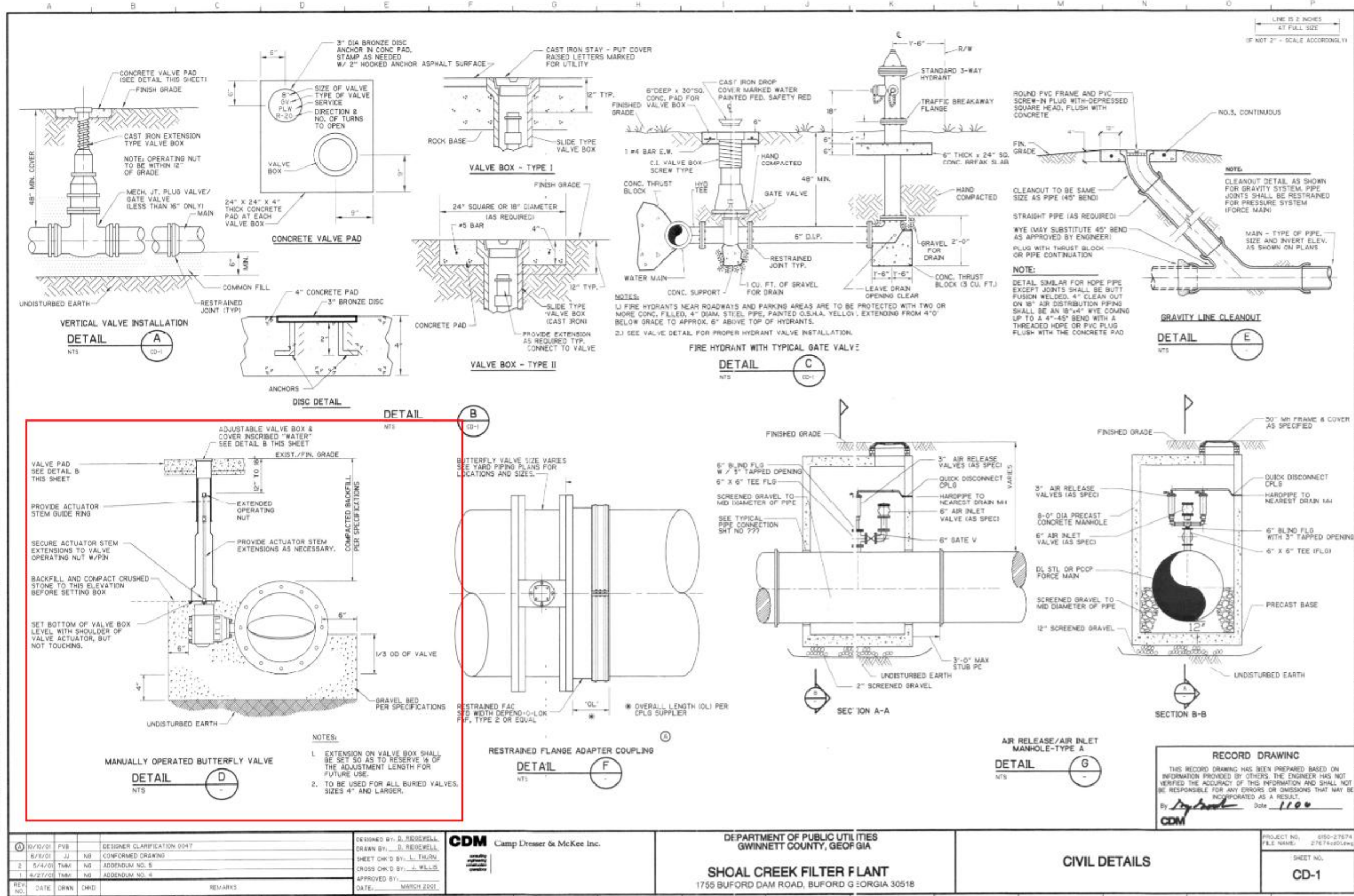
Drawing 10 - (SCFP) RW Equalization Tanks Valves



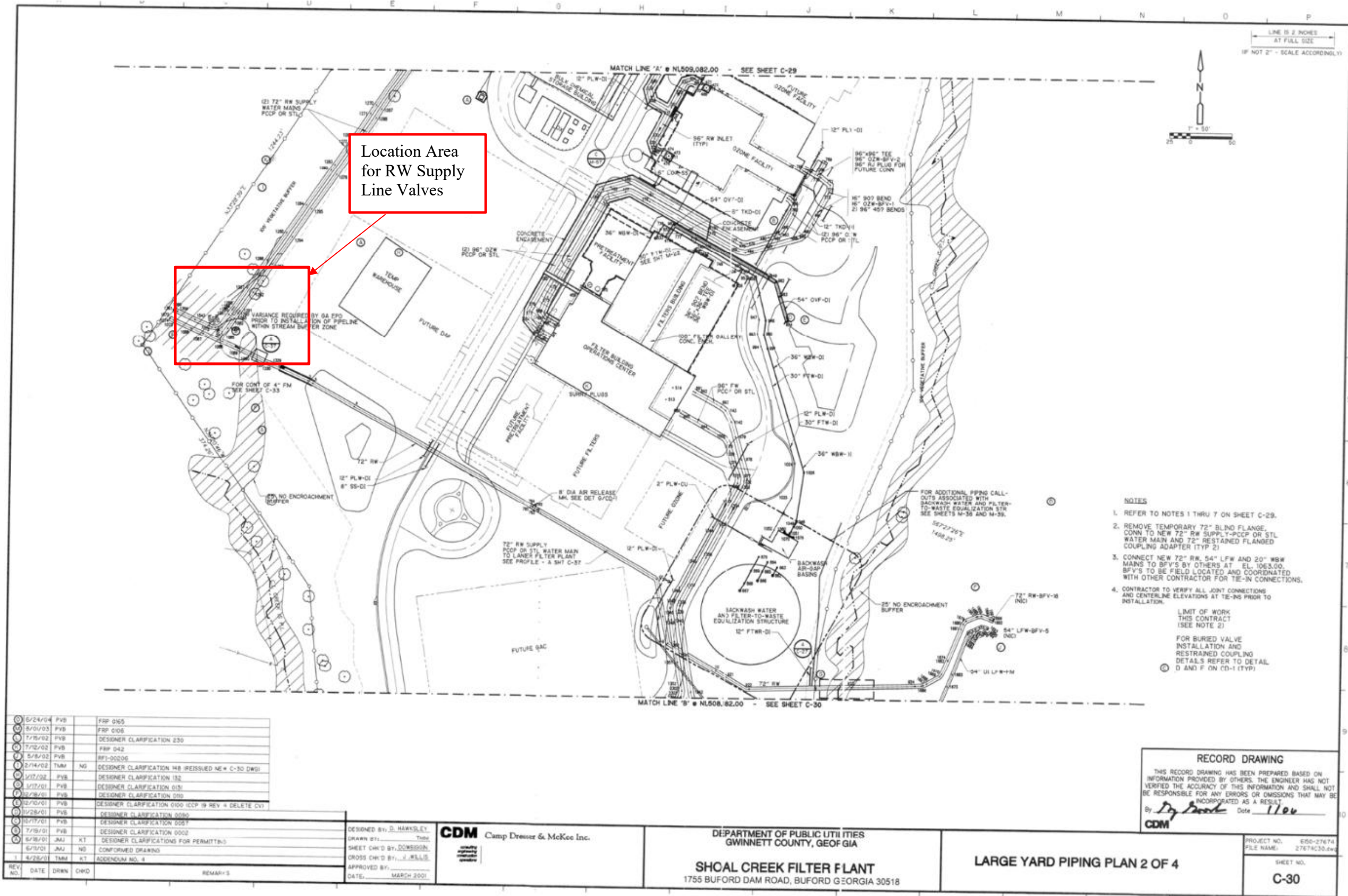
Drawing 11 - (SCFP) RW Equalization Tanks Sections and Details



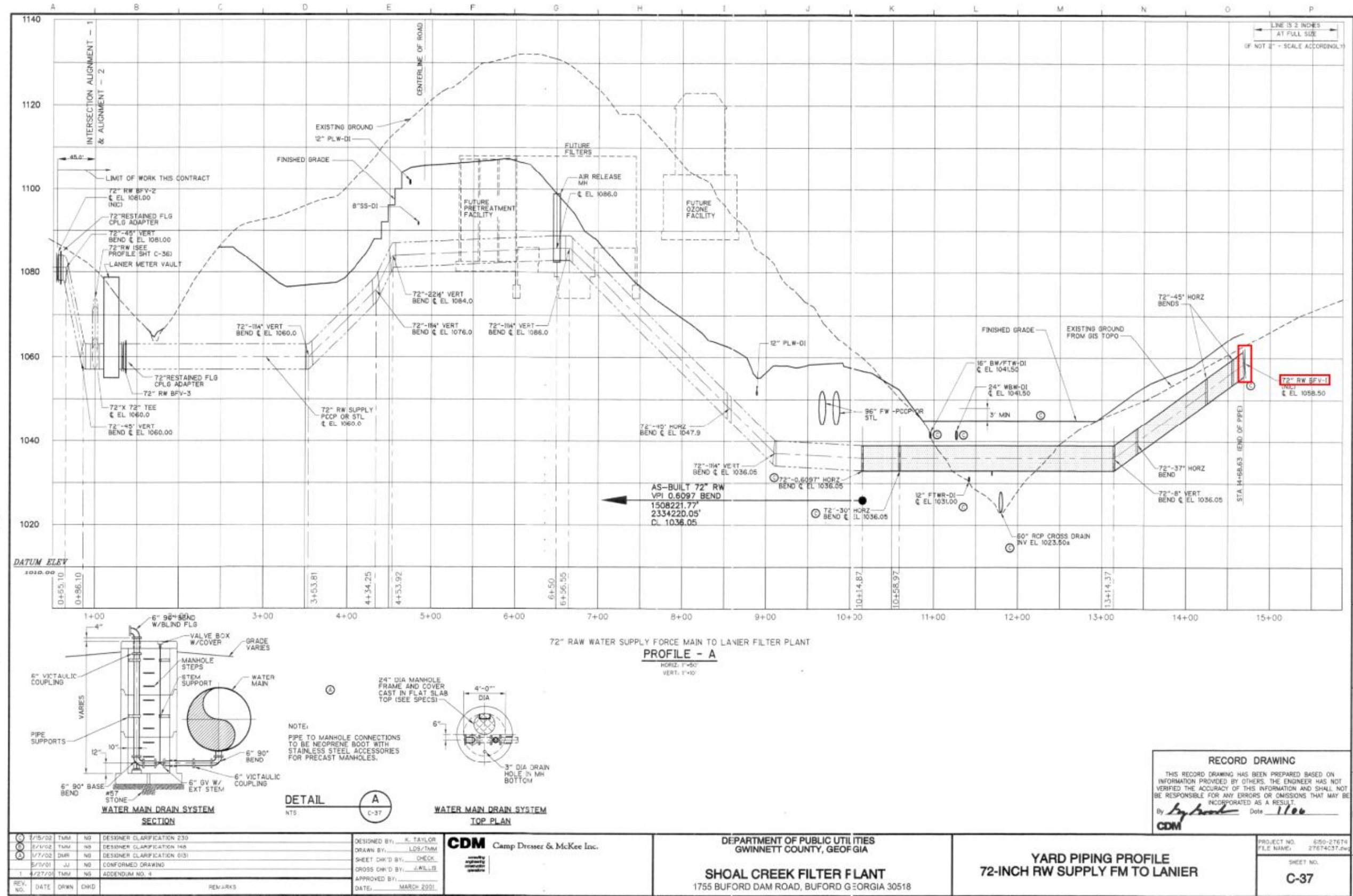
Drawing 12 - (SCFP) RW Equalization Tanks Structural Sections and Details



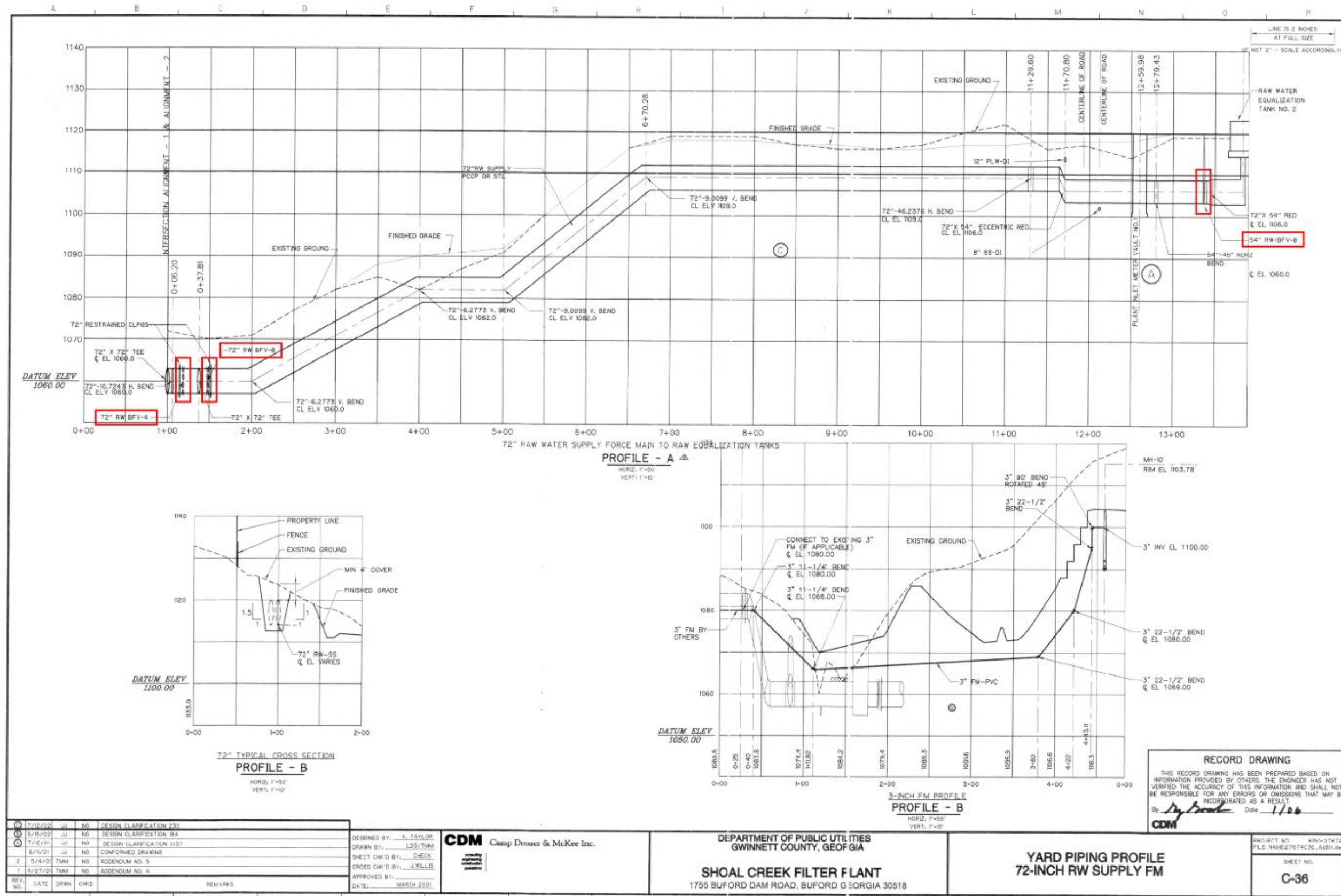
Drawing 13 - (SCFP) Butterfly Valve Detail



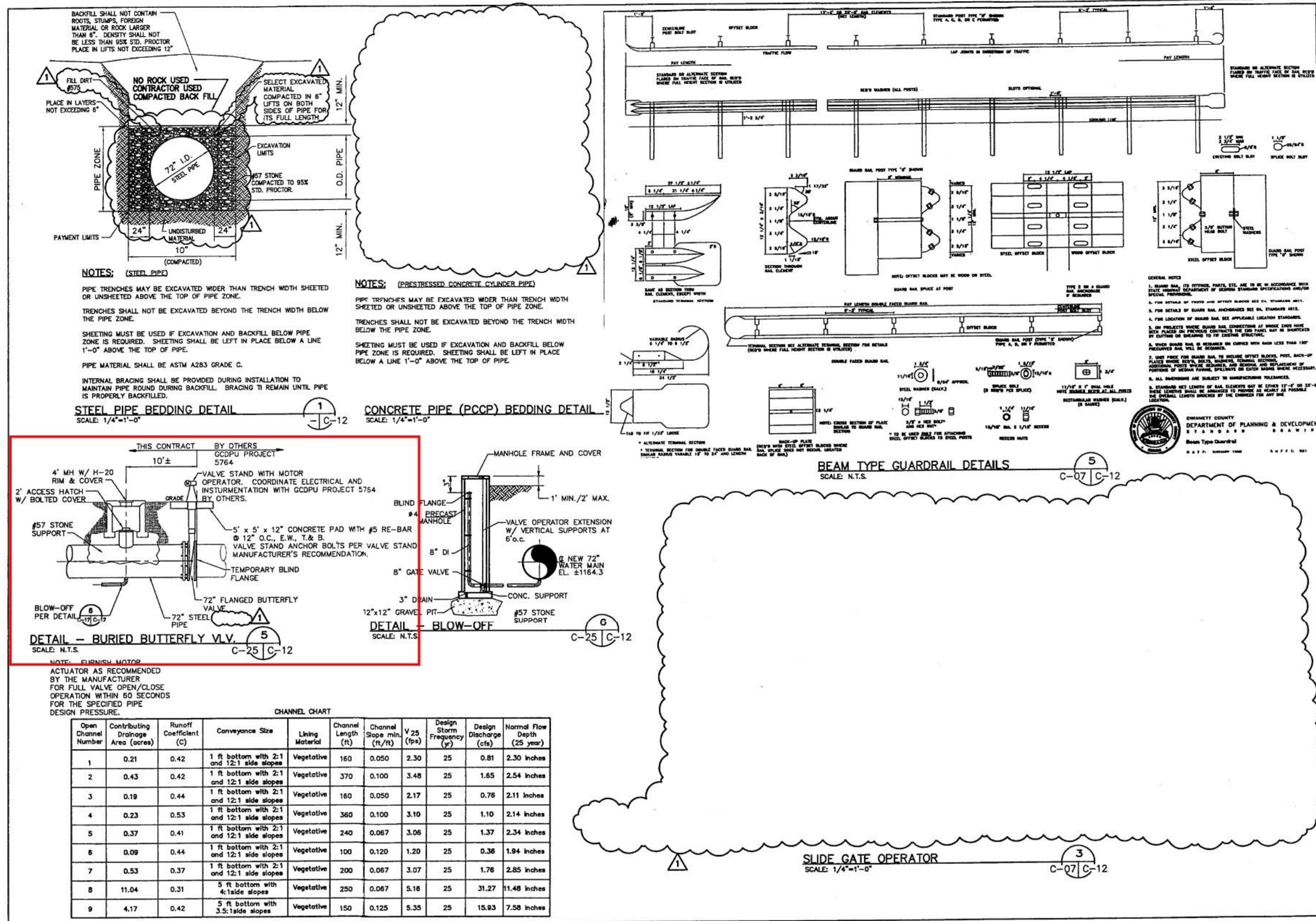
Drawing 14 - (SCFP) RW Supply Large Yard Piping Site Plan



Drawing 15 - (SCFP) RW Supply Pipeline Profile



Drawing 16 - (SCFP) RW Supply Pipeline Profile



Job No. 235736.01

Designed: T.J.C.
Drawn: R.M.S.
Checked: D.S.F.
Reviewed: D.S.F.
Approved: D.S.F.
Reg. No. 12143
Date

Issue Certification

DEPARTMENT OF PUBLIC UTILITIES
WATER SYSTEM IMPROVEMENTS
GWINNETT COUNTY, GEORGIA

PARSONS ENGINEERING SCIENCE, INC.
5390 Triangle Parkway, Suite 100, Norcross, GA 30092, (770) 446-6900

SHOAL CREEK RAW WATER INTAKE, PUMP STATION, AND WATER LINE AT LAKE LANIER

CIVIL DETAILS II

DRAWING NO. C-12
REV. 1

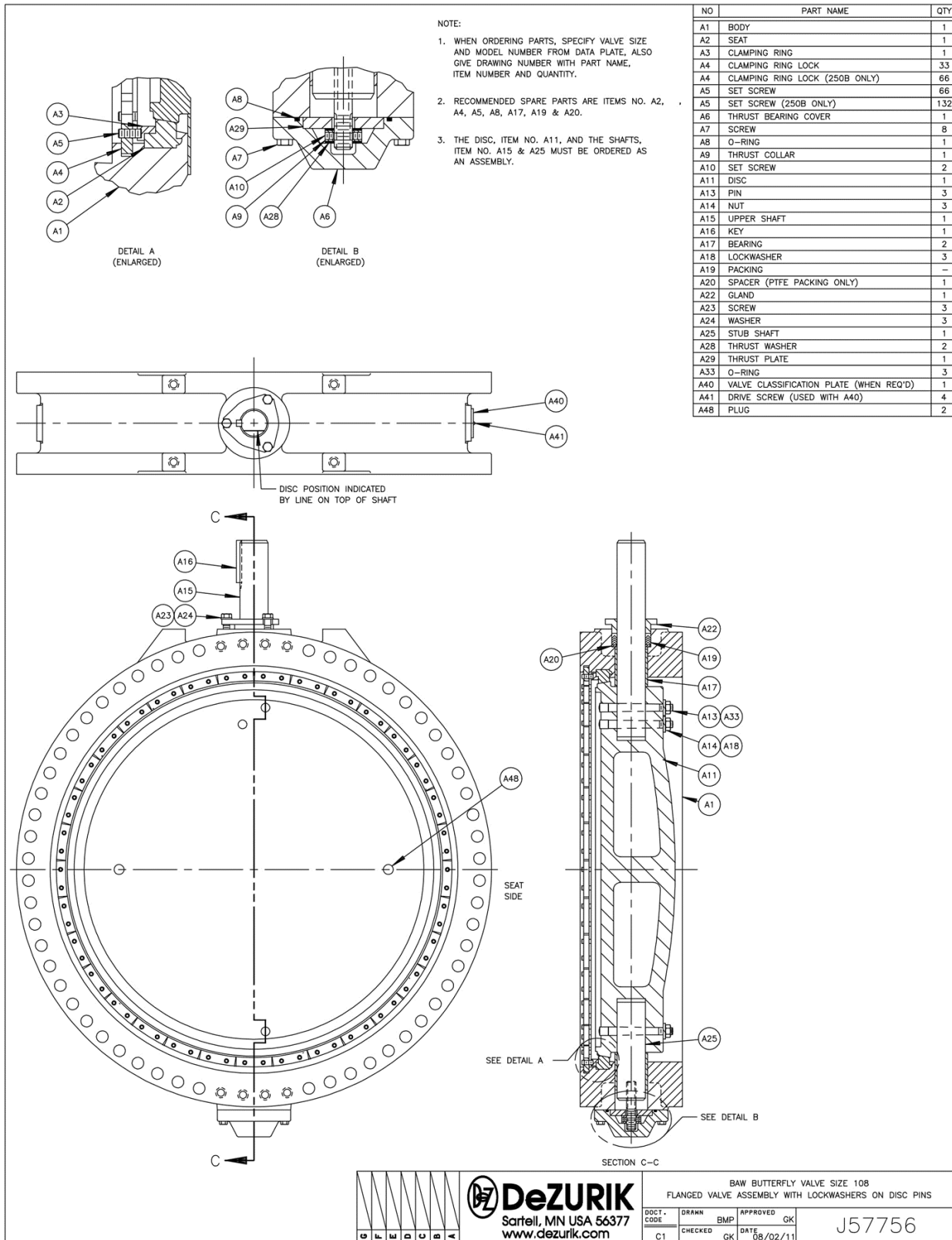
Drawing 17 - (SCFP) RW Supply Pipeline Details

ATTACHMENT 2: Existing Valve Details and Drawings

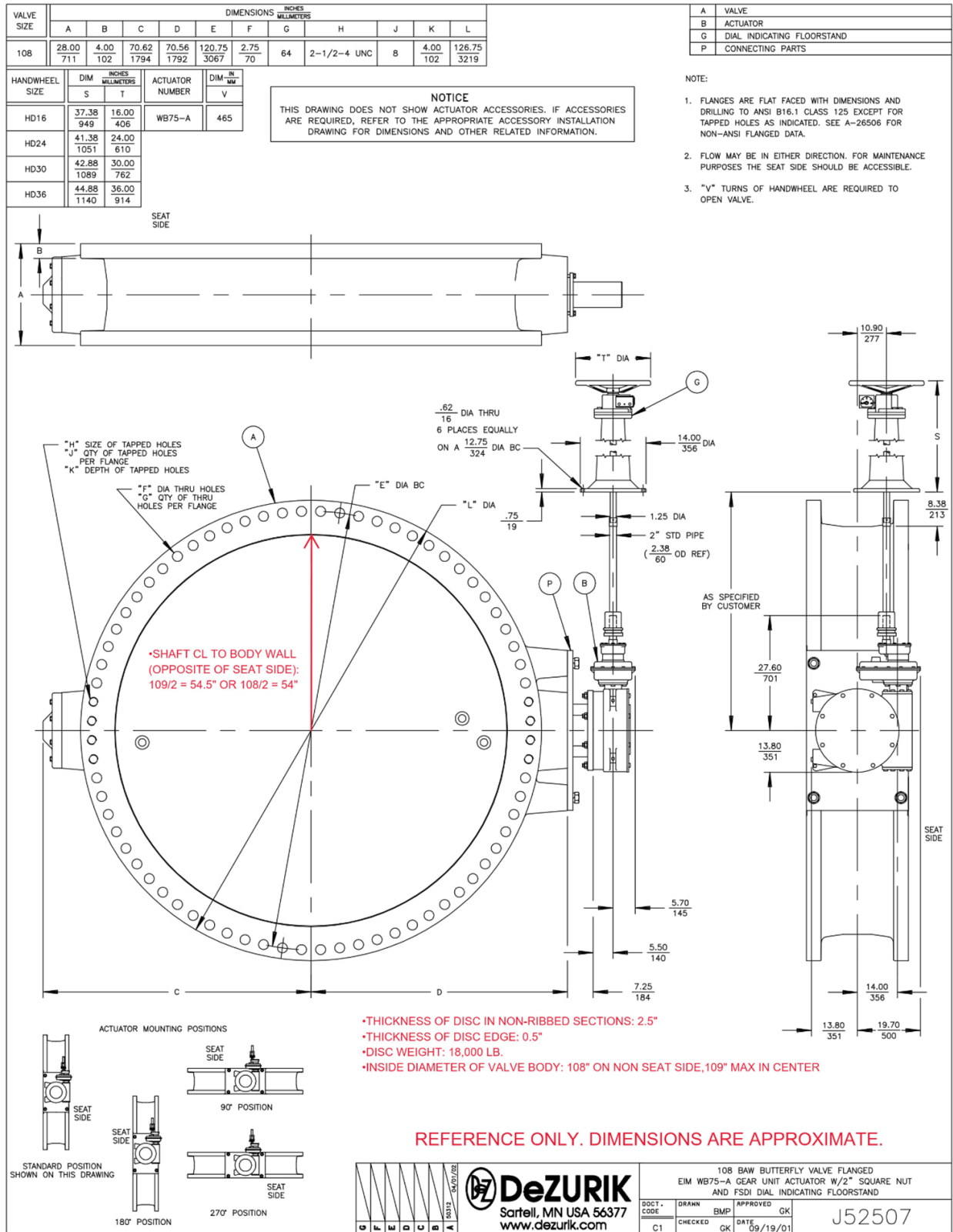
Process Location	No. of Valves	Size	Pressure Class (for New Valves)	Orientation	Description & Location	Operator Type	Drawing Reference	Photo Reference
LFP CLEARWELLS NO. 3 AND NO. 4 VALVE SCHEDULE								
Clearwell No. 3 Inlet	1	108"	75B	Horizontal	Inlet for Clearwell No. 3	Manual	Drawing 18, Drawing 19	Photo 2
Clearwell No. 3 Outlet	1	108"	75B	Horizontal	Outlet for Clearwell No. 3	Manual	Drawing 18, Drawing 19	Photo 3
Clearwell No. 4 Inlet	1	108"	75B	Horizontal	Inlet for Clearwell No. 4	Manual	Drawing 18, Drawing 19	Photo 4
Clearwell No. 4 Outlet	1	108"	75B	Horizontal	Outlet for Clearwell No. 4	Manual	Drawing 18, Drawing 19	Photo 5
LFP HSPS VALVE SCHEDULE								
HSPS	1	108"	75B	Horizontal	Suction Header	Manual	Drawing 18, Drawing 19	Photo 6
SCFP CLEARWELLS NO. 1 AND NO. 2 VALVE SCHEDULE								
Clearwell Inlets	1	96"	75B	Horizontal	Cross-connection on inlet piping for both Clearwell's	Manual	Drawing 20, Drawing 21	Photo 8
Clearwell No. 2 Inlet	1	96"	75B	Horizontal	Inlet for Clearwell No. 2	Manual	Drawing 20, Drawing 21	Photo 9
Clearwell No. 2 Outlet	1	108"	75B	Horizontal	Outlet for Clearwell No. 2	Manual	Drawing 18, Drawing 19	Photo 10
Clearwell Outlets	1	108"	75B	Horizontal	Outlet piping for both Clearwell's	Manual	Drawing 18, Drawing 19	Photo 11
SCFP RW EQUALIZATION TANKS NO. 1 AND NO. 2 VALVE SCHEDULE								
RW Eq. Tank No. 1 Inlet	1	54"	75B	Horizontal	Inlet for Equalization Tank No. 1	Manual	Drawing 23	Photo 20, Photo 21
RW Eq. Tank No. 2 Inlet	1	54"	75B	Horizontal	Inlet for Equalization Tank No. 2	Manual	Drawing 23	Photo 22, Photo 23
RW Eq. Tank Outlets	1	96"	75B	Horizontal	Outlet piping for both Equalization Tanks	Manual	Drawing 20, Drawing 21	Photo 24, Photo 25
RW Eq. Tank Outlets	1	54"	75B	Horizontal	Outlet piping for both Equalization Tanks	Manual	Drawing 23	Photo 26, Photo 27
SCFP RW SUPPLY LINES VALVE SCHEDULE								
RW Supply Lines	1	72"	150B	Vertical	RW supply inlet for SCFP	Electrically Actuated (EIM, Model: MEBY-3)	Drawing 22	Photo 12, Photo 16
RW Supply Lines	1	72"	150B	Vertical	Bidirectional RW supply to LFP	Electrically Actuated (EIM)	Drawing 22	Photo 13, Photo 17

RW Supply Lines	1	72"	150B	Vertical	SCFP RW supply - West	Electrically Actuated (EIM, Model: MEY-3)	Drawing 22	Photo 14, Photo 18
RW Supply Lines	1	72"	150B	Vertical	SCFP RW supply - East	Electrically Actuated (EIM, Model: MEY-3)	Drawing 22	Photo 15, Photo 19

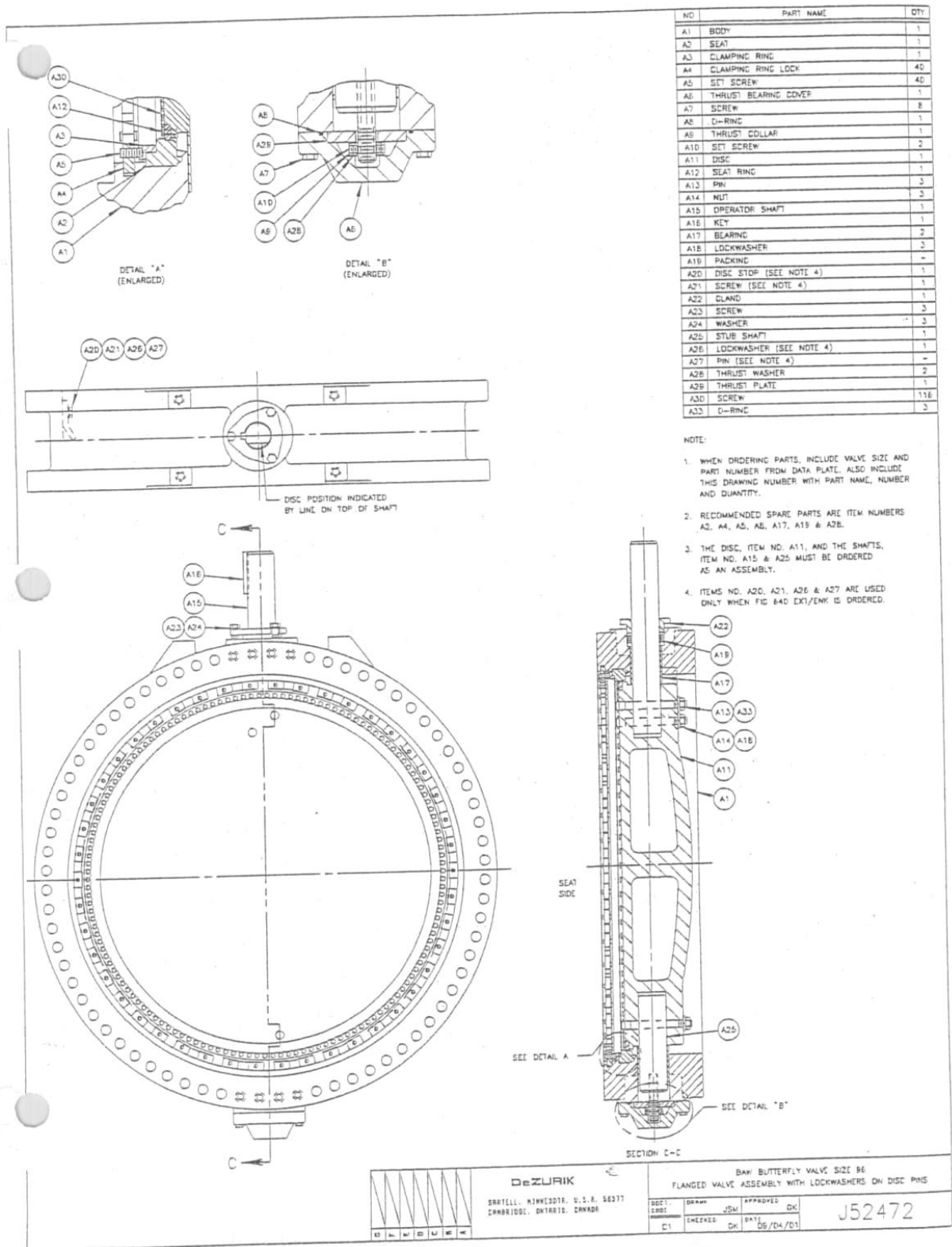
BL045-26
Purchase of Butterfly Valves for LFP and SCFP



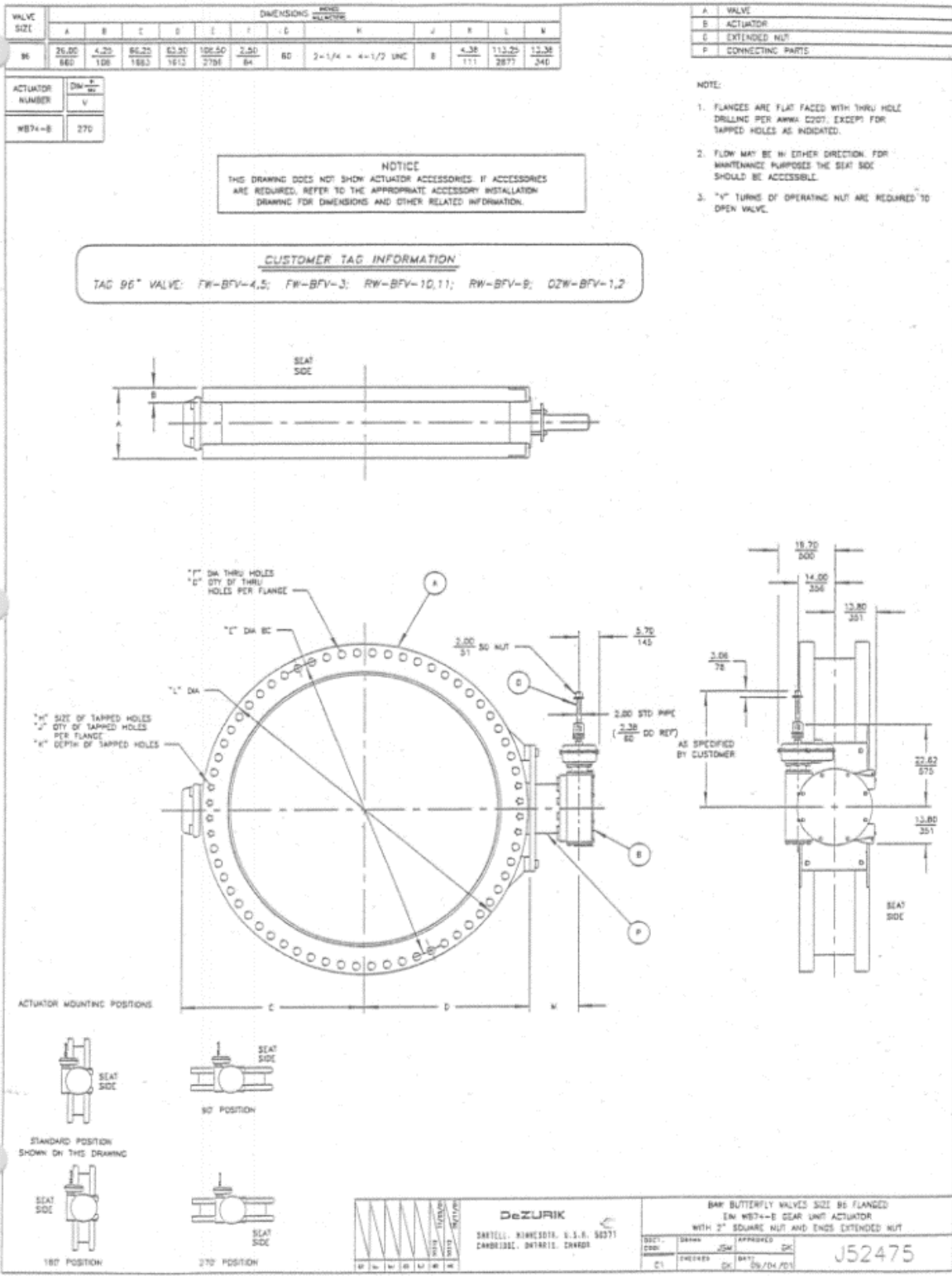
Drawing 18 - 108" Dezurik AWWA Butterfly Valve Drawing



Drawing 19 - 108" Dezurik AWWA Butterfly Valve Drawing with Approximate Dimensions



Drawing 20 - 96" Dezurik AWWA Butterfly Valve

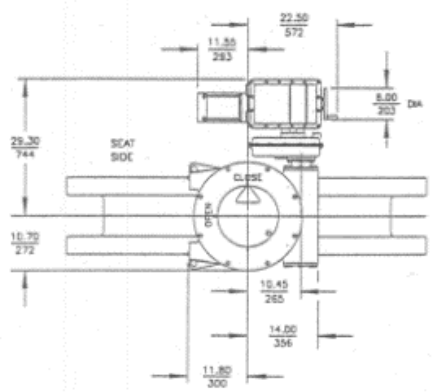


- NOTE:**
1. FLANGES ARE FLAT FACED WITH THRU HOLE DRILLING PER AWWA C207, EXCEPT FOR TAPPED HOLES AS INDICATED.
 2. FLOW MAY BE IN EITHER DIRECTION FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.
 3. "V" TURNS OF OPERATING NUT ARE REQUIRED TO OPEN VALVE.

Drawing 21 - 96" Dezurik AWWA Butterfly Valve

VALVE SIZE	CLASS	DIMENSIONS										
		A	B	C	D	E	F	G	H	J	K	L
72	75 B	18.00 457	3.62 92	50.98 1292	45.75 1162	82.50 2096	2.00 51	52	1-3/4-5 UNC	B	3.50 89	86.50 2187

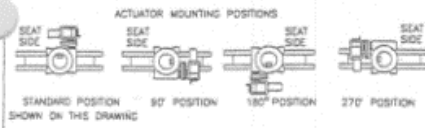
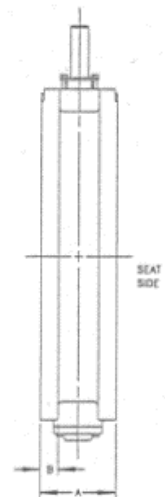
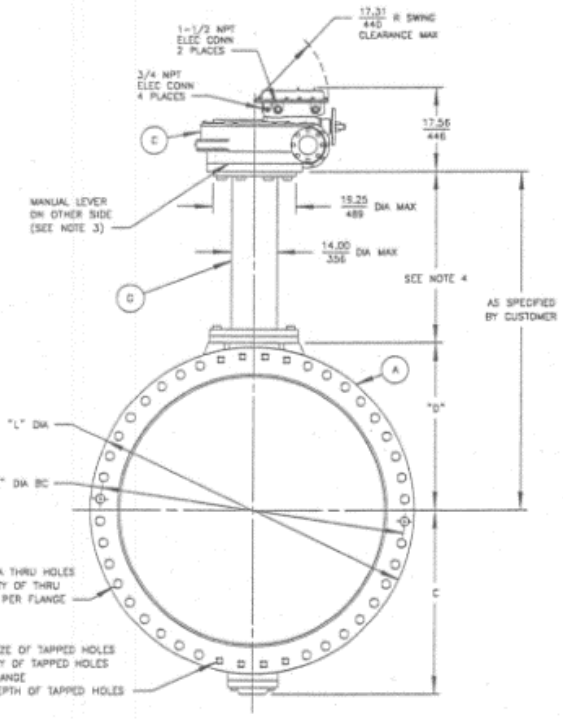
CUSTOMER TAG INFORMATION
 TAG 72" VALVE: RW-BFV-4,5,6



A	VALVE
C	MOTOR & GEAR UNIT
G	NECK EXTENSION

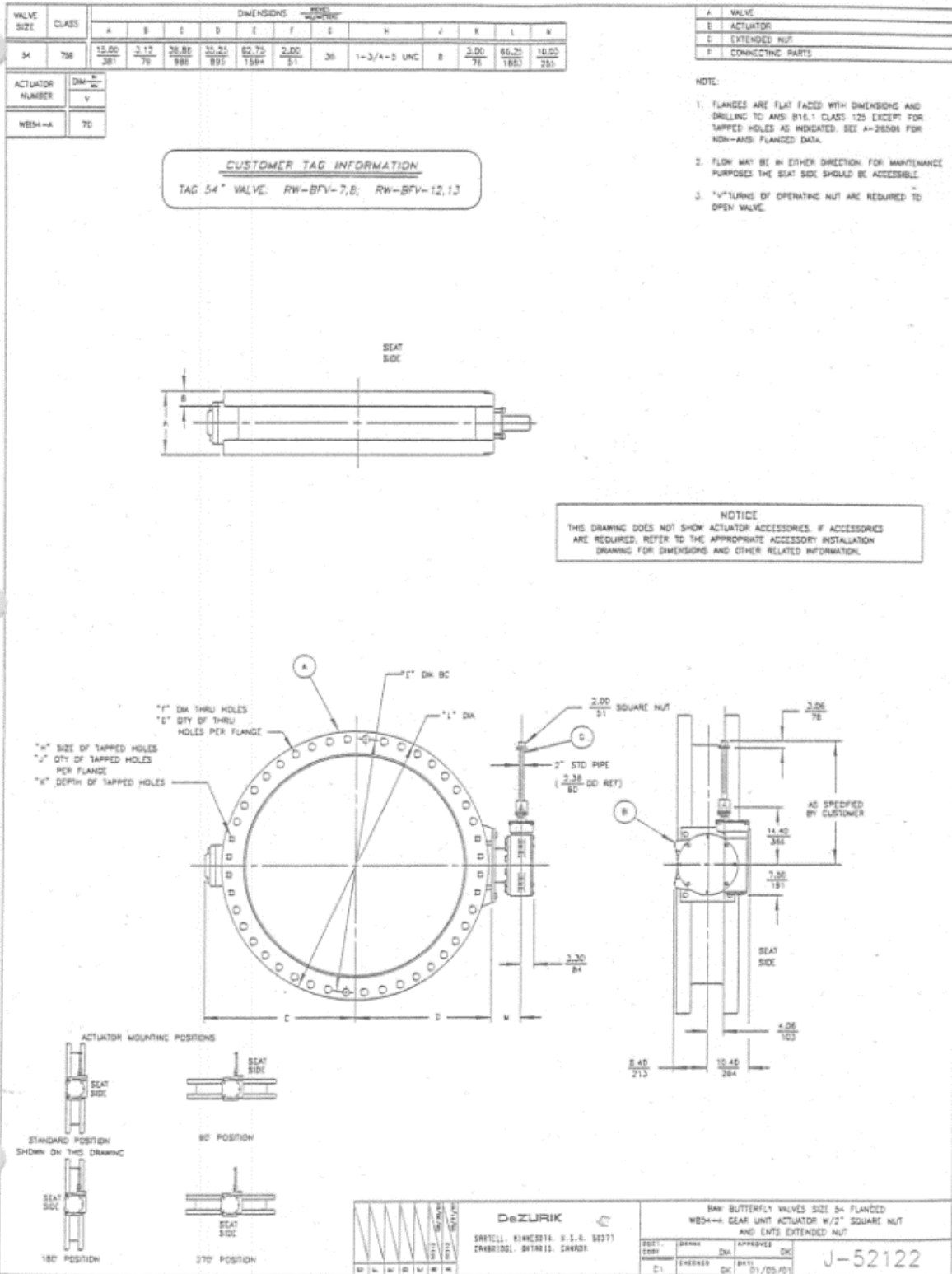
- NOTE:
1. FLANGES ARE FLAT FACED WITH DIMENSIONS AND DRILLING TO ANSI B16.1 CLASS 125 EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A-26506 FOR NON-ANSI FLANGED DATA.
 2. FLOW MAY BE IN EITHER DIRECTION. FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.
 3. FOR MANUAL OPERATION PUSH LEVER IN DIRECTION OF ARROW ONLY. UNIT REMAINS IN HAND OPERATION UNTIL MOTOR IS ENERGIZED.
 4. SUPPORT REQUIRED BY CUSTOMER WHEN EXTENSION IS MOUNTED OTHER THAN VERTICAL OR VERTICAL EXTENSIONS OVER 36.00 (914)

NOTICE
 THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.



		AWWA BUTTERFLY VALVES SIZE 72 FLANGED EM M-SAD1/40G MOTOR ACTUATED WITH ENK NECK EXTENSION	
DESIGN	DRAWN	APPROVED	CHK
DATE	CHECKED	DATE	CHK
C1		07/12/01	J52363

Drawing 22 - 72" Dezurik AWWA Butterfly Valve Drawing



Drawing 23 - 54" Dezurik AWWA Butterfly Valve Drawing

ATTACHMENT 3: Photographs of Existing Installation

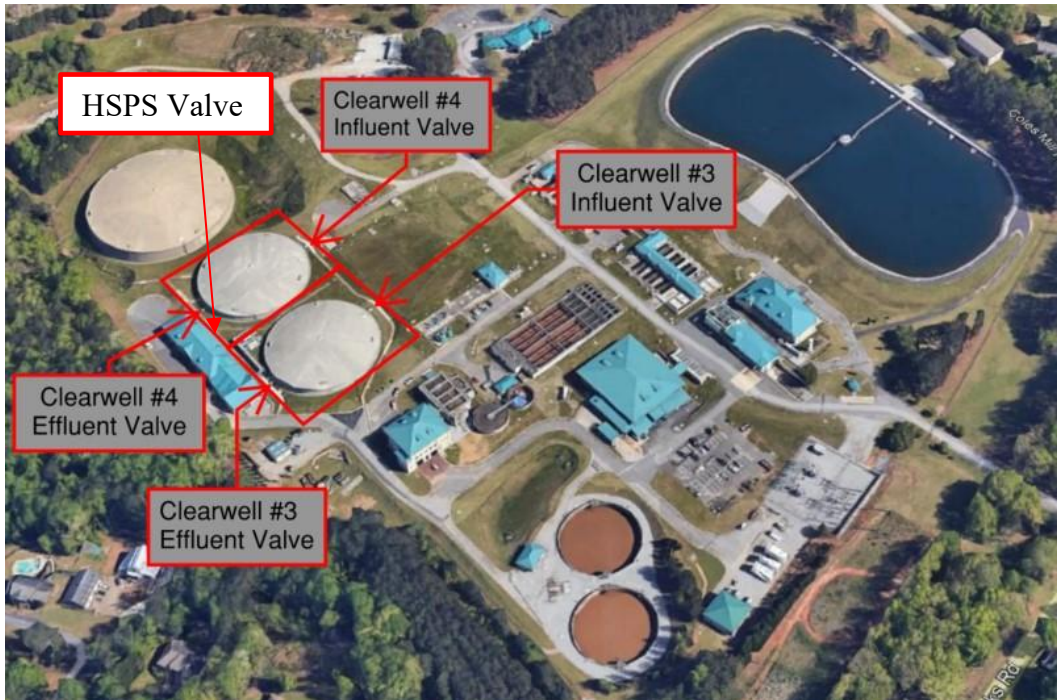


Photo 1 – (LFP) Clearwell’s No. 3 and No. 4 and HSPS Valve Locations



Photo 2 - (LFP) 108" Influent Valve Operator Vault Clearwell No. 3



Photo 3 - (LFP) 108" Effluent Valve Operator Vault on Clearwell No. 3



Photo 4 - (LFP) 108" Influent Valve Operator Vault on Clearwell No. 4



Photo 5 - (LFP) 108" Effluent Valve Operator Vault on Clearwell No. 4



Photo 6 – (LFP) HSPS 108" Valve Actuator Location

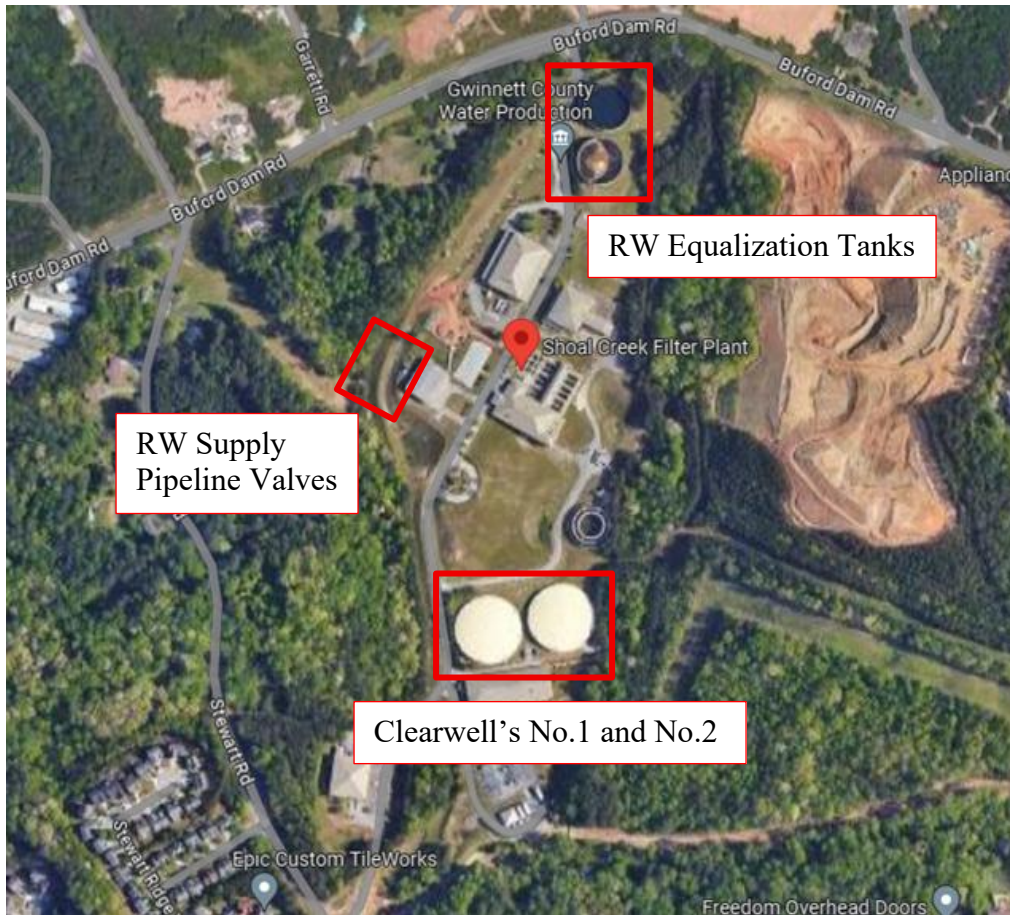


Photo 7 – (SCFP) Clearwell's and Equalization Tank Locations



Photo 8 - (SCFP) 96" FW-BFV-3 Operator Vault & Surrounding Area



Photo 9 - (SCFP) 96" FW-BFV-5 Clearwell No. 2 Inlet Operator Vault & Surrounding Area



Photo 10 - (SCFP) 108" FW-BFV-7 Clearwell No. 2 Outlet Valve Operator Vault & Surrounding Area



Photo 11 - (SCFP) 108" FW-BFV-8 Clearwell Outlet Crossover Valve Operator Vault & Surrounding Area



Photo 12 - (SCFP) 72" Electrically Actuated Valve (RW-BFV-1)



Photo 13 - (SCFP) 72" Electrically Actuated Valve (RW-BFV-4)



Photo 14 - (SCFP) 72" Electrically Actuated Valve (RW-BFV-5, RW Supply Valve - West)



Photo 15 - (SCFP) 72" Electrically Actuated Valve (RW-BFV-6, RW Supply Valve - East)



Photo 16 – (SCFP) 72” Motor Operator Nameplate Data (RW-BFV-1)



Photo 17 - (SCFP) 72” Motor Operator Nameplate Data (RW-BFV-4)

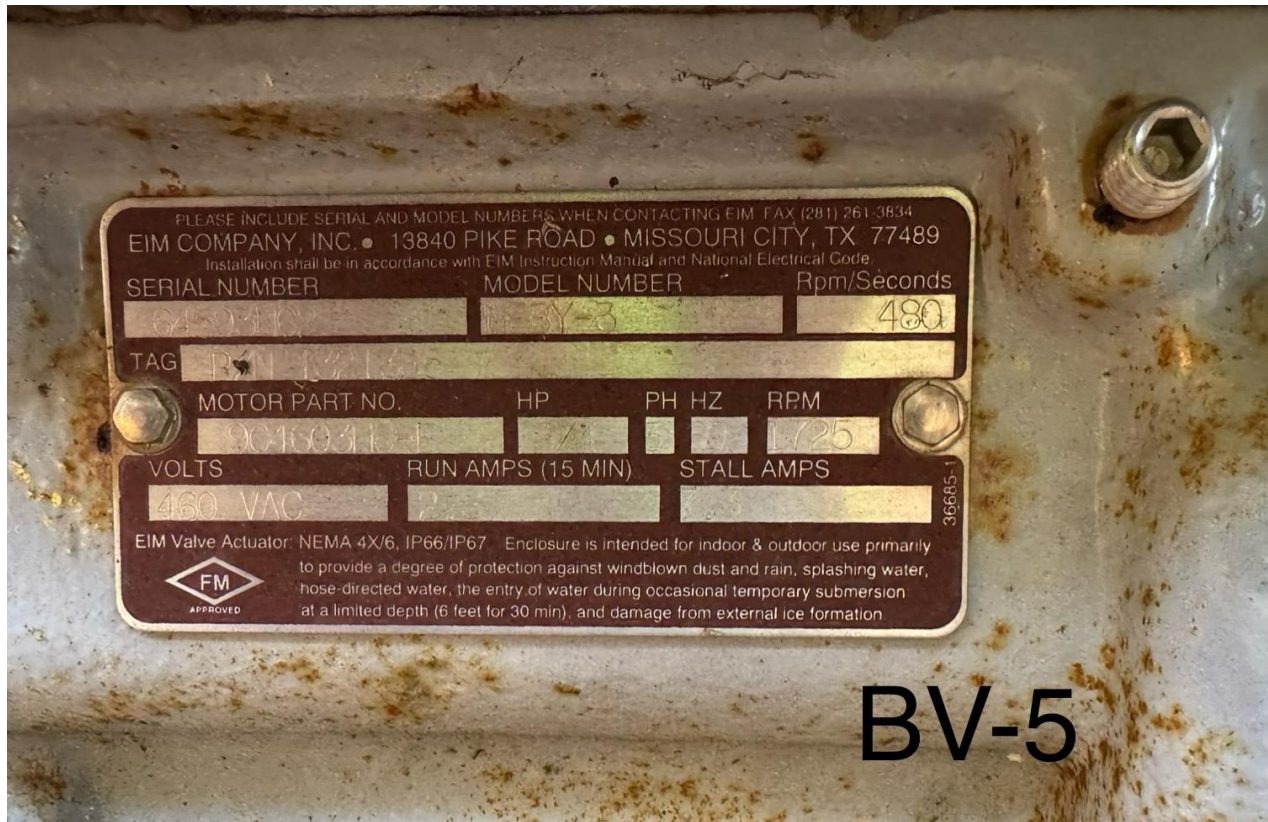


Photo 18 – (SCFP) 72” Motor Operator Nameplate Data (RW-BFV-5)



Photo 19 - (SCFP) 72” Motor Operator Nameplate Data (RW-BFV-6)



Photo 20 - (SCFP) 54" Valve Operator Vault for RW Equalization Tank No. 1 Inlet (RW-BFV-7)



Photo 21 - (SCFP) 54" Valve Operator Vault Interior for RW Equalization Tank No. 1 Inlet (RW-BFV-7)



Photo 22 - (SCFP) 54" Valve Operator Vault for RW Equalization Tank No. 2 Inlet (RW-BFV-8)



Photo 23 - (SCFP) 54" Valve Operator Vault Interior for RW Equalization Tank No. 2 Inlet (RW-BFV-8)



Photo 24 - (SCFP) 96" Valve Operator Vault for RW Equalization Tank Outlet (RW-BFV-11)



Photo 25 - (SCFP) 96" Valve Operator Vault Interior for RW Equalization Tank Outlet (RW-BFV-11)



Photo 26 - (SCFP) 54" Valve Operator Vault for RW Equalization Tank No. 1 Outlet (RW-BFV-13)



Photo 27 - (SCFP) 54" Valve Operator Vault Interior for RW Equalization Tank No. 1 Outlet (RW-BFV-13)

SPECIFICATIONS:

Section 01 78 23 – Operation and Maintenance Data

Section 40 27 02 – Process Valves and Operators

SECTION 01 78 23
OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Detailed information for the preparation, submission, and Engineer's review of Operations and Maintenance (O&M) Data, as required by individual Specification sections.

1.02 DEFINITIONS

- A. Preliminary Data: Initial and subsequent submissions for Engineer's review.
- B. Final Data: Engineer-accepted data, submitted as specified herein.
- C. Maintenance Operation: As used on Maintenance Summary Form is defined to mean any routine operation required to ensure satisfactory performance and longevity of equipment. Examples of typical maintenance operations are lubrication, belt tensioning, adjustment of pump packing glands, and routine adjustments.

1.03 SEQUENCING AND SCHEDULING

- A. Equipment and System Data:
 - 1. Preliminary Data:
 - a. Do not submit until Shop Drawing for equipment or system has been reviewed and approved by Engineer.
 - b. Submit prior to shipment date.
 - 2. Final Data: Submit Instructional Manual Formatted data not less than 30 days prior to equipment or system field functional testing. Submit Compilation Formatted and Electronic Media Formatted data prior to Substantial Completion of Project.
- B. Materials and Finishes Data:
 - 1. Preliminary Data: Submit at least 15 days prior to request for final inspection.
 - 2. Final Data: Submit within 10 days after final inspection.

1.04 DATA FORMAT

- A. Prepare preliminary and final data in the form of an instructional manual. Prepare final data in data compilation format and on electronic media.

PURCHASE OF BUTTERFLY VALVES FOR LFP AND SCFP

B. Instructional Manual Format:

1. Binder: Commercial quality, permanent, three-ring or three-post binders with durable plastic cover.
2. Size: 8-1/2 inches by 11 inches, minimum.
3. Cover: Identify manual with typed or printed title "OPERATION AND MAINTENANCE DATA" and list:
 - a. Project title.
 - b. Designate applicable system, equipment, material, or finish.
 - c. Identity of separate structure as applicable.
 - d. Identify volume number if more than one volume.
 - e. Identity of equipment number and Specification section.
4. Spine:
 - a. Project title.
 - b. Identify volume number if more than one volume.
5. Title Page:
 - a. Contractor name, address, and telephone number.
 - b. Subcontractor, Supplier, installer, or maintenance contractor's name, address, and telephone number, as appropriate.
 - 1) Identify area of responsibility of each.
 - 2) Provide name and telephone number of local source of supply for parts and replacement.
6. Table of Contents:
 - a. Neatly typewritten and arranged in systematic order with consecutive page numbers.
 - b. Identify each product by product name and other identifying numbers or symbols as set forth in Contract Documents.
7. Paper: 20-pound minimum, white for typed pages.
8. Text: Manufacturer's printed data, or neatly typewritten.
9. Three-hole punch data for binding and composition; arrange printing so that punched holes do not obliterate data.
10. Material shall be suitable for reproduction, with quality equal to original. Photocopying of material will be acceptable, except for material containing photographs.

C. Data Compilation Format:

1. Compile all Engineer-accepted preliminary O&M data into a hard-copy, hard-bound set.
2. Each set shall consist of the following:
 - a. Binder: Commercial quality, permanent, three-ring or three-post binders with durable plastic cover.
 - b. Cover: Identify each volume with typed or printed title "OPERATION AND MAINTENANCE DATA, VOLUME NO. ___ OF ___", and list:
 - 1) Project title.

PURCHASE OF BUTTERFLY VALVES FOR LFP AND SCFP

- 2) Contractor's name, address, and telephone number.
- 3) If entire volume covers equipment or system provided by one Supplier include the following:
 - a) Identity of general subject matter covered in manual.
 - b) Identity of equipment number and Specification section.
- c. Provide each volume with title page and typed table of contents with consecutive page numbers. Place contents of entire set, identified by volume number, in each binder.
- d. Table of contents neatly typewritten, arranged in a systematic order:
 - 1) Include list of each product, indexed to content of each volume.
 - 2) Designate system or equipment for which it is intended.
 - 3) Identify each product by product name and other identifying numbers or symbols as set forth in Contract Documents.
- e. Section Dividers:
 - 1) Heavy, 80 pound cover weight, tabbed with numbered plastic index tabs.
 - 2) Fly-Leaf:
 - a) For each separate product, or each piece of operating equipment, with typed description of product and major component parts of equipment.
 - b) List with Each Product:
 - (1) Name, address, and telephone number of Subcontractor, Supplier, installer, and maintenance contractor, as appropriate.
 - (2) Identify area of responsibility of each.
 - (3) Provide local source of supply for parts and replacement.
 - c) Identity of separate structure as applicable.
- f. Assemble and bind material, as much as possible, in same order as specified in the Contract Documents.

D. Electronic Media Format:

1. Portable Document Format (PDF):
 - a. After all preliminary data has been found to be acceptable to Engineer, submit Operation and Maintenance data in PDF format on CD.
 - b. Files to be exact duplicates of Engineer-accepted preliminary data. Arrange by specification number and name.
 - c. Files to be fully functional and viewable in most recent version of Adobe Acrobat.

1.05 SUBMITTALS

A. Informational:

1. Data Outline: Submit two copies of a detailed outline of proposed organization and contents of Final Data prior to preparation of Preliminary Data.
2. Preliminary Data:
 - a. Submit two copies for Engineer's review.
 - b. If data meets conditions of the Contract:
 - 1) One copy will be returned to Contractor.
 - 2) One copy will be forwarded to Resident Project Representative.
 - c. If data does not meet conditions of the Contract:
 - 1) All copies will be returned to Contractor with Engineer's comments (on separate document) for revision.
 - 2) Engineer's comments will be retained in Engineer's file.
 - 3) Resubmit two copies revised in accordance with Engineer's comments.
3. Final Data: Submit two copies in format specified herein.

1.06 DATA FOR EQUIPMENT AND SYSTEMS

A. Content For Each Unit (or Common Units) and System:

1. Product Data:
 - a. Include only those sheets that are pertinent to specific product.
 - b. Clearly annotate each sheet to:
 - 1) Identify specific product or part installed.
 - 2) Identify data applicable to installation.
 - 3) Delete references to inapplicable information.
 - c. Function, normal operating characteristics, and limiting conditions.
 - d. Performance curves, engineering data, nameplate data, and tests.
 - e. Complete nomenclature and commercial number of replaceable parts.
 - f. Original manufacturer's parts list, illustrations, detailed assembly drawings showing each part with part numbers and sequentially numbered parts list, and diagrams required for maintenance.
 - g. Spare parts ordering instructions.
 - h. Where applicable, identify installed spares and other provisions for future work (for example, reserved panel space, unused components, wiring, terminals).
2. As-installed, color-coded piping diagrams.
3. Charts of valve tag numbers, with the location and function of each valve.

PURCHASE OF BUTTERFLY VALVES FOR LFP AND SCFP

4. Drawings: Supplement product data with Drawings as necessary to clearly illustrate:
 - a. Format:
 - 1) Provide reinforced, punched, binder tab; bind in with text.
 - 2) Reduced to 8-1/2 inches by 11 inches, or 11 inches by 17 inches folded to 8-1/2 inches by 11 inches.
 - 3) Where reduction is impractical, fold and place in 8-1/2-inch by 11-inch envelopes bound in text.
 - 4) Identify Specification section and product on Drawings and envelopes.
 - b. Relations of component parts of equipment and systems.
 - c. Control and flow diagrams.
 - d. Coordinate drawings with Project record documents to assure correct illustration of completed installation.
5. Instructions and Procedures: Within text, as required to supplement product data.
 - a. Format:
 - 1) Organize in consistent format under separate heading for each different procedure.
 - 2) Provide logical sequence of instructions for each procedure.
 - 3) Provide information sheet for Owner's personnel, including:
 - a) Proper procedures in event of failure.
 - b) Instances that might affect validity of guarantee or Bond.
 - b. Installation Instructions: Including alignment, adjusting, calibrating, and checking.
 - c. Operating Procedures:
 - 1) Startup, break-in, routine, and normal operating instructions.
 - 2) Test procedures and results of factory tests where required.
 - 3) Regulation, control, stopping, and emergency instructions.
 - 4) Description of operation sequence by control manufacturer.
 - 5) Shutdown instructions for both short and extended duration.
 - 6) Summer and winter operating instructions, as applicable.
 - 7) Safety precautions.
 - 8) Special operating instructions.
 - d. Maintenance and Overhaul Procedures:
 - 1) Routine maintenance.
 - 2) Guide to troubleshooting.
 - 3) Disassembly, removal, repair, reinstallation, and re-assembly.

B. Maintenance Summary:

1. Compile individual Maintenance Summary for each applicable equipment item, respective unit or system, and for components or sub-units.

PURCHASE OF BUTTERFLY VALVES FOR LFP AND SCFP

2. Format:
 - a. Use Maintenance Summary Form bound with this section or electronic facsimile of such.
 - b. Each Maintenance Summary may take as many pages as required.
 - c. Use only 8-1/2-inch by 11-inch size paper.
 - d. Complete using PDF editor. Hand-written forms will not be accepted.
3. Include detailed lubrication instructions and diagrams showing points to be greased or oiled; recommend type, grade, and temperature range of lubricants and frequency of lubrication.
4. Recommended Spare Parts:
 - a. Data to be consistent with manufacturer's Bill of Materials/Parts List furnished in O&M manuals.
 - b. "Unit" is the unit of measure for ordering the part.
 - c. "Quantity" is the number of units recommended.
 - d. "Unit Cost" is the current purchase price.

1.07 SUPPLEMENTS

- A. The supplements listed below, following "End of Section", are part of this Specification.

1. Forms: Maintenance Summary Form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

MAINTENANCE SUMMARY FORM

PROJECT: _____ CONTRACT NO.: _____

1. EQUIPMENT ITEM _____

2. MANUFACTURER _____

3. EQUIPMENT/TAG NUMBER(S) _____

4. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS) _____

5. NAMEPLATE DATA (hp, voltage, speed, etc.) _____

6. MANUFACTURER'S LOCAL REPRESENTATIVE _____

a. Name _____ Telephone No. _____

b. Address _____

7. MAINTENANCE REQUIREMENTS

Maintenance Operation Comments	Frequency	Lubricant (If Applicable)
List briefly each maintenance operation required and refer to specific information in manufacturer's standard maintenance manual, if applicable. (Reference to manufacturer's catalog or sales literature is not acceptable.)	List required frequency of each maintenance operation.	Refer by symbol to lubricant required.

SECTION 40 27 02
PROCESS VALVES AND OPERATORS

PART 1 GENERAL

1.01 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. American Gas Association (AGA): 3, Orifice Metering of Natural Gas and Other Related Hydrocarbon Fluids.
 2. American National Standards Institute (ANSI): Z21.15, Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves.
 3. American Society of Mechanical Engineers (ASME):
 - a. B16.1, Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 - b. B16.44, Manually Operated Metallic Gas Valves for Use in Above Ground Piping Systems up to 5 psi.
 4. American Society of Sanitary Engineers (ASSE): 1011, Performance Requirements for Hose Connection Vacuum Breakers.
 5. American Water Works Association (AWWA):
 - a. C111/A21.11, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
 - b. C207, Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).
 - c. C500, Metal-Seated Gate Valves for Water Supply Service.
 - d. C504, Rubber-Seated Butterfly Valves, 3 In. (75 mm) Through 72 In. (1,800 mm).
 - e. C508, Swing-Check Valves for Waterworks Service, 2-In. Through 24-In. (50-mm Through 600-mm) NPS.
 - f. C509, Resilient-Seated Gate Valves for Water Supply Service.
 - g. C510, Double Check Valve Backflow Prevention Assembly.
 - h. C511, Reduced-Pressure Principle Backflow Prevention Assembly.
 - i. C512, Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
 - j. C515, Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service.
 - k. C516, Large-Diameter Rubber-Seated Butterfly Valves, Sizes 78 In. (2,000 mm) and Larger.
 - l. C541, Hydraulic and Pneumatic Cylinder and Vane-Type Actuators for Valves and Slide Gates.
 - m. C542, Electric Motor Actuators for Valves and Slide Gates.
 - n. C550, Protective Interior Coatings for Valves and Hydrants.

PURCHASE OF BUTTERFLY VALVES FOR THE LFP AND SCFP

- o. C606, Grooved and Shouldered Joints.
- p. C800, Underground Service Line Valves and Fittings.
- 6. ASTM International (ASTM):
 - a. A276, Standard Specification for Stainless Steel Bars and Shapes.
 - b. A351/A351M, Standard Specification for Castings, Austenitic, for Pressure-Containing Parts.
 - c. A380, Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems.
 - d. A564/A564M, Standard Specification for Hot-Rolled and Cold-Finished Age-Hardening Stainless Steel Bars and Shapes.
 - e. B61, Standard Specification for Steam or Valve Bronze Castings.
 - f. B62, Standard Specification for Composition Bronze or Ounce Metal Castings.
 - g. B98/B98M, Standard Specification for Copper-Silicon Alloy Rod, Bar, and Shapes.
 - h. B127, Standard Specification for Nickel-Copper Alloy (UNS N04400) Plate, Sheet, and Strip.
 - i. B139/B139M, Standard Specification for Phosphor Bronze Rod, Bar and Shapes.
 - j. B164, Standard Specification for Nickel-Copper Alloy Rod, Bar, and Wire.
 - k. B194, Standard Specification for Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar.
 - l. B584, Standard Specification for Copper Alloy Sand Castings for General Applications.
 - m. D429, Standard Test Methods for Rubber Property—Adhesion to Rigid Substrates.
 - n. D1784, Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
- 7. Canadian Standards Association, Inc. (CSA): 9.1, Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves.
- 8. Chlorine Institute (CI): Pamphlet 6, Piping Systems for Dry Chlorine.
- 9. FM Global (FM).
- 10. Food and Drug Administration (FDA).
- 11. International Association of Plumbing and Mechanical Officials (IAPMO).
- 12. National Electrical Manufacturers Association (NEMA): 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
- 13. NSF International (NSF):
 - a. NSF/ANSI 61, Drinking Water System Components – Health Effects.
 - b. NSF/ANSI 372, Drinking Water System Components – Lead Content.
- 14. UL.
- 15. USC Foundation for Cross-Connection Control and Hydraulic Research.

1.02 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:
 - a. Product data sheets for each make and model. Indicate valve Type Number, applicable Tag Number, and facility name/number or service where used.
 - b. Complete catalog information, descriptive literature, specifications, and identification of materials of construction.
 - c. Certification for compliance to NSF 61 for valves used for drinking water service.
 - d. Sizing calculations for open-close/throttle and modulating valves.

B. Informational Submittals:

1. Tests and inspection data.
2. Operation and Maintenance Data as specified in Section 01 78 23, Operation and Maintenance Data.

PART 2 PRODUCTS

2.01 GENERAL

- A. Valve to be suitable for intended service. Renewable parts not to be of a lower quality than specified.
- B. Valve same size as adjoining pipe, unless otherwise called out on the Drawings or in Supplements.
- C. Valve ends to suit adjacent piping.
- D. All valves shall have no leakage (drip-tight) in either direction at valve rated design pressure, unless otherwise allowed for in this section or in stated valve standard.
- E. Provide information on size operators and actuators to operate valve for full range of pressures and velocities to be checked against existing operators and actuators.
- F. Valve to open by turning counterclockwise, unless otherwise specified.
- G. Components and Materials in Contact with Water for Human Consumption: Comply with the requirements of the Safe Drinking Water Act and other applicable federal, state, and local requirements. Provide certification by manufacturer or an accredited certification organization recognized by the Authority Having Jurisdiction that components and materials comply with the

PURCHASE OF BUTTERFLY VALVES FOR THE LFP AND SCFP

maximum lead content standard in accordance with NSF/ANSI 61 and NSF/ANSI 372.

1. Use or reuse of components and materials without a traceable certification is prohibited.

2.02 MATERIALS

A. Bronze and brass valve components and accessories that have surfaces in contact with water to be alloys containing less than 16 percent zinc and 2 percent aluminum.

1. Approved alloys are of the following ASTM designations: B61, B62, B98/B98M (Alloy UNS No. C65100, C65500, or C66100), B139/B139M (Alloy UNS No. C51000), B584 (Alloy UNS No. C90300 or C94700), B164, B194, and B127.
2. Stainless steel Alloy 18-8 may be substituted for bronze.

B. Valve materials in contact with or intended for drinking water service to meet the following requirements:

1. Materials to comply with requirements of the Safe Drinking Water Act and other applicable federal, state, and local requirements.
2. Materials to comply with requirements of 2011 Reduction of Lead in Drinking Water Act.
3. Coatings materials to be formulated from materials deemed acceptable to NSF 61.
4. Supply certification product is certified as suitable for contact with drinking water by an accredited certification organization in accordance with NSF 61. Provide certification for each valve type used for drinking water service.

2.03 FACTORY FINISHING

A. General:

1. Interior coatings for valves shall be in accordance with AWWA C550, unless otherwise specified.
2. Exterior coating for valves shall be in accordance with manufacturer's standard coating for buried service.
3. Material in contact with potable water shall conform to NSF/ANSI 61.

2.04 VALVES

A. Butterfly Valves:

PURCHASE OF BUTTERFLY VALVES FOR THE LFP AND SCFP

1. General:
 - a. In full compliance with AWWA C504 and C516 and following requirements:
 - 1) Suitable for throttling operations and infrequent operation after periods of inactivity.
 - 2) The butterfly valve shall be of the double offset design whereby the elastomeric seat is not in compression at any degree of opening except at full closure.
 - 3) All valves unless noted otherwise, shall be sized for bi-directional water service, full rated pressure and rated for a maximum velocity of 16 feet per second in the upstream pipe.
 - 4) Valves shall be zero leakage across closed valve during shop test at the rated pressure in each direction.
 - 5) Self-adjusting V-type or O-ring shaft seals.
 - 6) Isolate metal-to-metal thrust bearing surfaces from flowstream.
 - 7) Provide linings and coatings per AWWA, unless otherwise indicated on the Drawings or specified herein.
 - 8) Valves to be in full compliance with NSF/ANSI 61.
2. Type V514 Double-offset Butterfly Valve for Water Works Service:
 - a. Compliant with AWWA C504/C516, pressure class and valve orientation as shown on valve schedule, AWWA short body design, with AWWA Class D flanges conforming to AWWA C207 drilling pattern.
 - b. Elastomeric Seal: Provide EPDM valve seat as one continuous 360-degree ring mounted on valve disc with Type 316 stainless steel fasteners that do not penetrate EPDM. Alternatively, the EPDM seal is to be mounted in a dovetail groove in the valve body.
 - c. Body: Ductile iron per ASTM A536 65-45-12 or ASTM A536 60-40-18. Shear-stress-vulnerable cast iron is not allowed. Valve body shall have stainless steel stamped or engraved tag indicating manufacturer and build data. Valve build data shall be made available upon request by the Owner and shall be retained by the manufacturer for no less than 2 times the expected valve life.
 - d. Disc: Ductile iron, ASTM A536 65-45-12 or ASTM A536 60-40-18 for valves 24 inches and larger.
 - e. For disc mounted EPDM seals, the disc elastomeric seal retainer shall be Type 316 stainless steel.
 - f. The disc shall be attached to the valve shaft with taper or tangential stainless steel shaft pins, Type 316 or ASTM A276, UNS 31803 (Alloy 2205) duplex stainless steel. Mechanically retain disc pins which extend completely through valve.
 - g. Shaft: Valve shafts shall be vertically/horizontally oriented as shown on the drawings, constructed of ASTM A276 Type 316 stainless steel or ASTM A276, UNS 31803 (Alloy 2205) duplex stainless steel. Shaft material shall be suitable for application pressure and velocity.

PURCHASE OF BUTTERFLY VALVES FOR THE LFP AND SCFP

- h. **Metallic Seat:** Stainless steel alloy valve seat shall be located in valve body. There shall be no gap between the valve body and metallic body seat and consequently no potential for corrosion or lifting of seat. Attach seat by high alloy weld overlay process.
- i. **Shaft Seals:** Provide multi O-ring seals or an adjustable v-ring to protect both inside and outside of shaft. Seals shall not need periodic manual adjustment. Seals shall prevent pressurized water from entering uncoated valve disc hub and valve body shaft bore. Seals shall keep valve shaft un-wetted and unpressurized so actuator may be removed without dewatering the pipeline. Seals shall prevent debris and pressurized water from entering uncoated valve body shaft bore and prevent valve exterior water or contaminations from entering via valve if the pipe experiences a vacuum event. Seal shall prevent an ingress breach if external hydrostatic forces exceed pipe internal pressure. Manual pulldown packing glands or braided packing are not allowed. Outer shaft seals shall be replaceable cartridge type, bolted to valve body and shall not be held in place with an adapter plate or by valve actuator.
- j. **Shaft Bearings:** Shaft bearings shall be corrosion resistant, self-lubricating sleeve type made of bronze, stainless steel or stainless steel backed PTFE. Bearing choice and bearing friction shall be correctly added to valve input torque requirements.
- k. **Strength:** The proportion and dimensions of all parts of the valve and actuator shall be designed to withstand, without failure, the stresses occurring under the testing and operating conditions. The maximum allowable stress in any material shall not exceed 1/5 of the ultimate tensile strength or 1/3 of the minimum yield strength. Valves shall be capable of withstanding a one-time pressure test at rated pressure (75/150 psi) applied to one side of the disc with zero pressure applied to the other side of the disc while in the closed position, without damage or permanent deformation to any part of the valve, seat, disc or shaft. The valve shall be capable of withstanding such pressures in both directions.
- l. **Hardware:** All fasteners and hardware shall be Type 316 stainless steel.
- m. **Paint and Coatings:**
 - 1) **Valves Larger than 42 Inches:** All external and internal surfaces shall be coated with a minimum of 10 mils of an NSF61 approved two-part liquid epoxy. All sharp edges to be coated shall be beveled/radiused to assure consistent coating thickness. The coating inspection report will include inspection of at least six locations where the edges are most sharp and through the complete circumference of the disc edge to assure proper coating and compliance. Compliance of proper beveling of all sharp edges with proper coating of carbon steel valves will be

strictly enforced as a condition of providing a proper continuous water service valve.

- n. Manufacturer and Product:
 - 1) Dezurik, BAW AWWA Butterfly Valve with Double Offset Disc.
 - 2) AV-Tek, Av-Tek.
 - 3) VAG, EKN Butterfly Valves.
 - 4) Or approved equal.

2.05 OPERATORS AND ACTUATORS

- A. Valves shall be provided with new gearboxes compliant with AWWA C504/C516 and suitable for double offset butterfly valves. Gearboxes shall be mounted in the same location and orientation relative to the valves and operators/actuators as currently installed in the existing system. New valves and gearboxes shall be compatible for operation with existing operators/actuators.
- B. New stainless-steel stems, and mountings are to be provided.

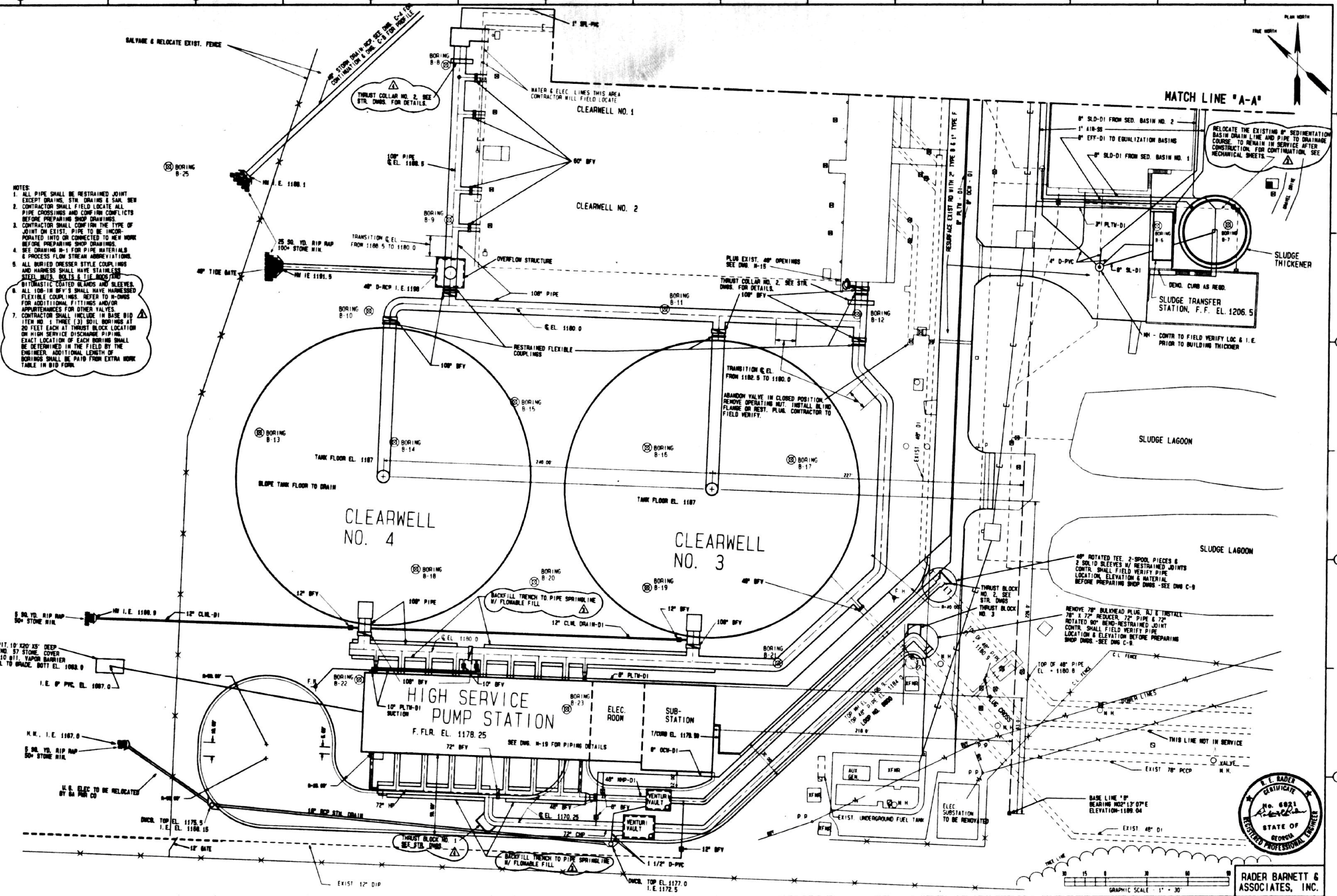
PART 3 EXECUTION

3.01 INSTALLATION, TEST AND INSPECTION, MANUFACTURER'S SERVICES

- A. Specification is for procurement only. Installation, field testing and inspection, and manufacturer's field services are not included.

END OF SECTION

- NOTES:
1. ALL PIPE SHALL BE RESTRAINED JOINT EXCEPT DRAINS, STN. DRAINS & S&L. SEE CONTRACTOR SHALL FIELD LOCATE ALL PIPE CROSSINGS AND CONFIRM CONFLICTS BEFORE PREPARING SHOP DRAWINGS.
 2. CONTRACTOR SHALL CONFIRM THE TYPE OF JOINT ON EXIST. PIPE TO BE INCORPORATED INTO OR CONNECTED TO NEW WORK BEFORE PREPARING SHOP DRAWINGS.
 3. SEE DRAWING N-1 FOR PIPE MATERIALS & PROCESS FLOW STREAM ABBREVIATIONS.
 4. ALL BURIED DRESSER STYLE COUPLINGS AND HARNESS SHALL HAVE STAINLESS STEEL UNITS, BOLTS & TIE RODS AND AUTOMATIC COATED GLANDS AND SLEEVES.
 5. ALL 100-IN. DIPS SHALL HAVE HARNESSED FLEXIBLE COUPLINGS. REFER TO N-DMS FOR ADDITIONAL FITTINGS AND/OR APPURTENANCES FOR OTHER VALVES.
 6. CONTRACTOR SHALL INCLUDE IN BASE BID ITEM NO. 1 THREE (3) SOIL BORINGS AT 20 FEET EACH AT THRUST BLOCK LOCATION ON HIGH SERVICE DISCHARGE PIPING. EXACT LOCATION OF EACH BORING SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. ADDITIONAL LENGTH OF BORINGS SHALL BE PAID FROM EXTRA WORK TABLE IN BID FORM.



REV.	DATE	BY	CHKD.	REMARKS
1	6/16/95	NR	NR	REVISED PER ADDENDUM NO. 4
2	6/16/95	NR	NR	REVISED PER ADDENDUM NO. 3
3	6/16/95	NR	NR	REVISED AND REVISIONS PER ADDENDUM NO. 2

DESIGNED BY	NR
DRAWN BY	NR
CHECKED BY	NR
APPROVED BY	NR
DATE	6/16/95

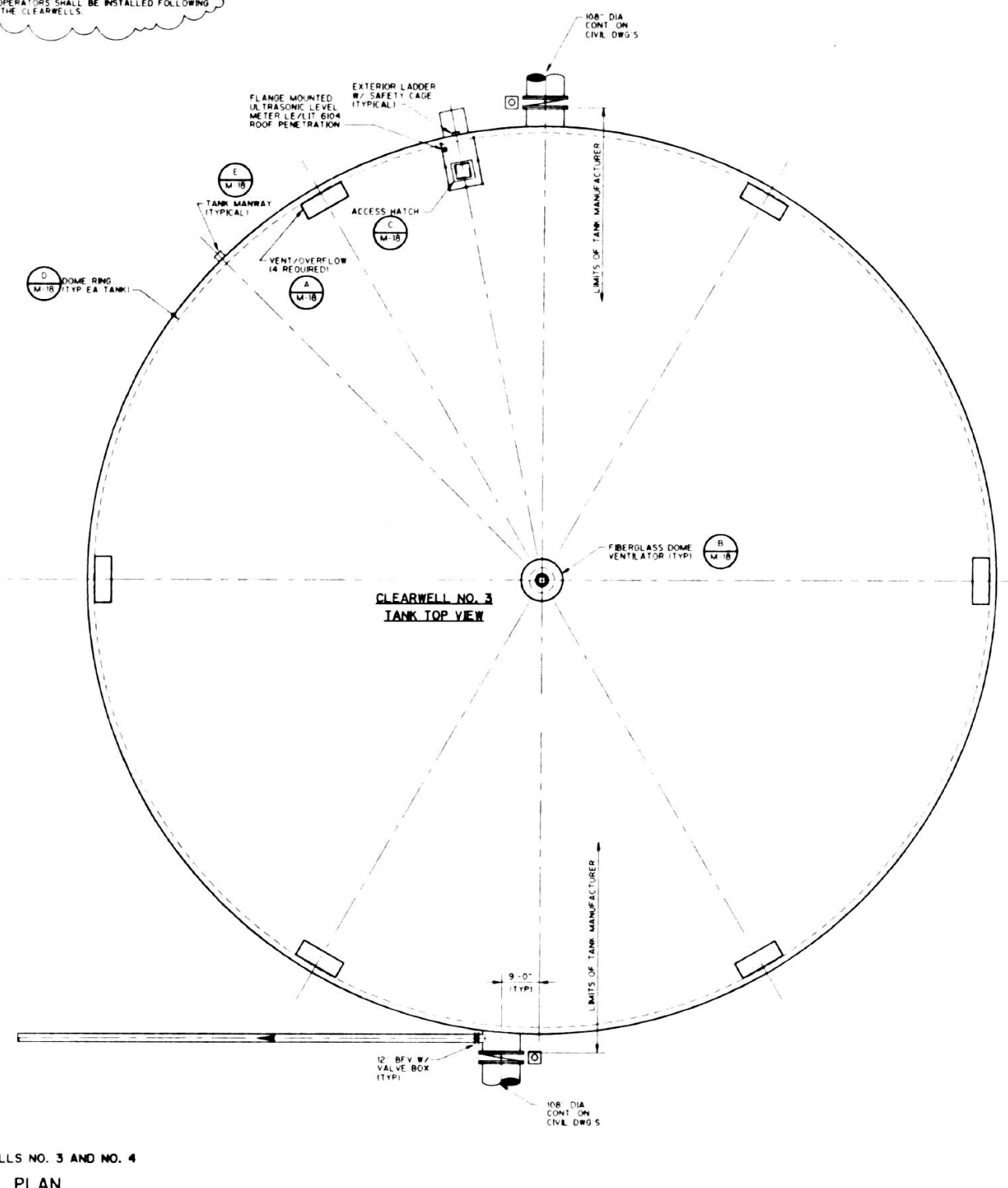
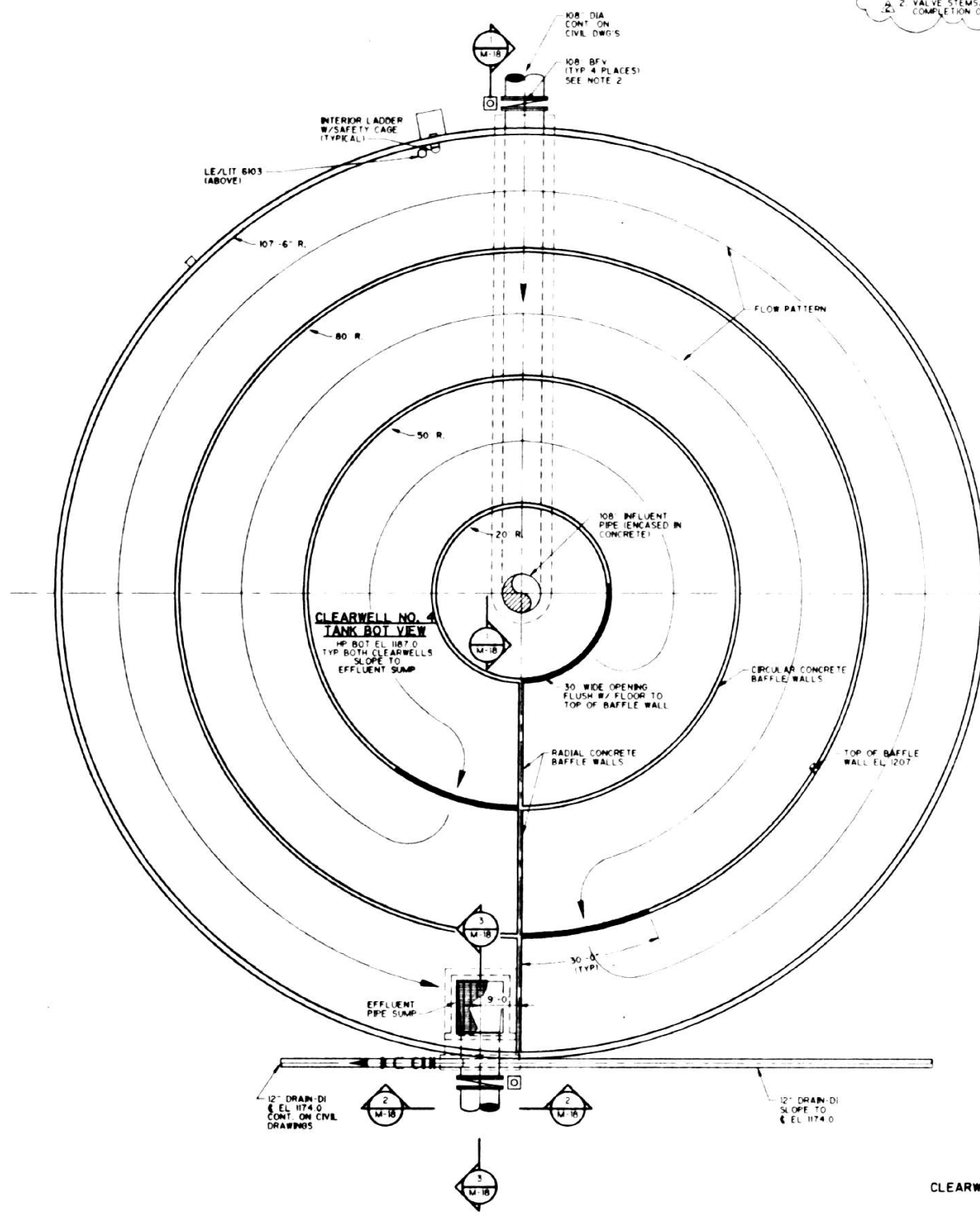
CAMP DRESSER & KEESE, INC.

DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA
**LANIER FILTER PLANT
 EXPANSION AND UPGRADE**

SITE LAYOUT PLAN-SOUTH

PROJECT NO.	0150-15
FILE NAME	LANIER
C-5	

NOTES
 1. SEE CIVIL DRAWINGS FOR PIPING THIS AREA
 2. VALVE STEAMS/ OPERATORS SHALL BE INSTALLED FOLLOWING COMPLETION OF THE CLEARWELLS



CLEARWELLS NO. 3 AND NO. 4
 PLAN
 1/8" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	8-20-95	TMM	MCN	CONFIRMED DWGS
2	8-30-95	TMM	MCN	REVISED PER ADDENDUM NO. 2

DESIGNED BY: M. NOUVEL
 DRAWN BY: D. ROSEWELL
 CHECKED BY: A. JIM
 CROSS CHECKED BY: W. PITTS
 APPROVED BY: C. WILDER
 DATE: JUNE 1995

CAMP DRESSER & MCKEE INC.

DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA

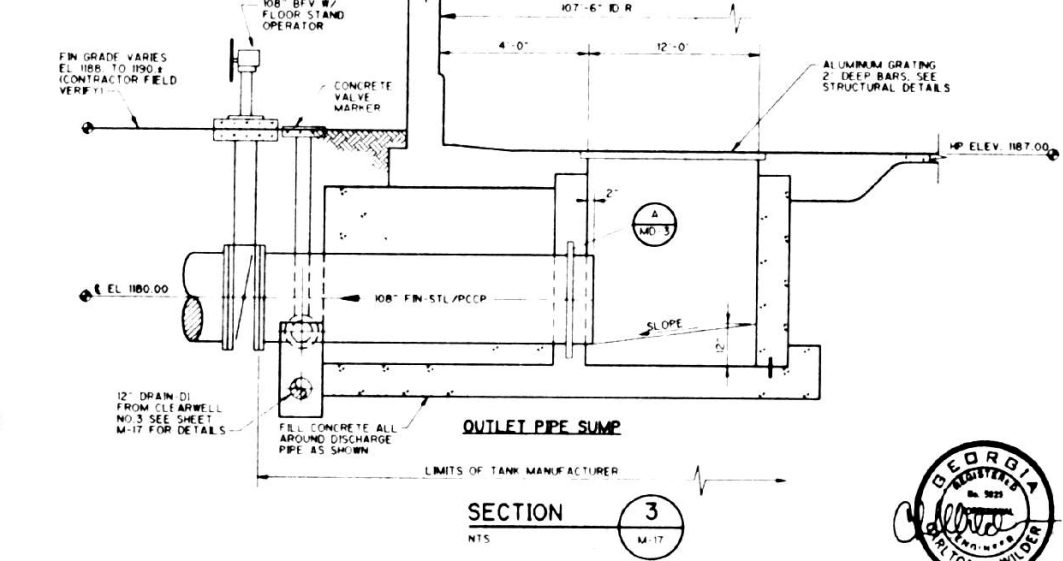
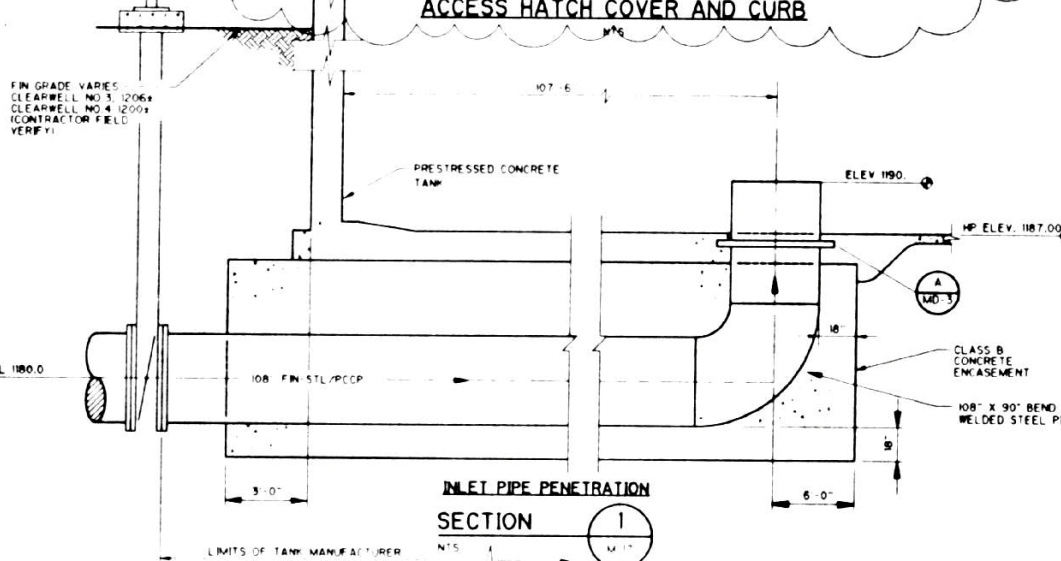
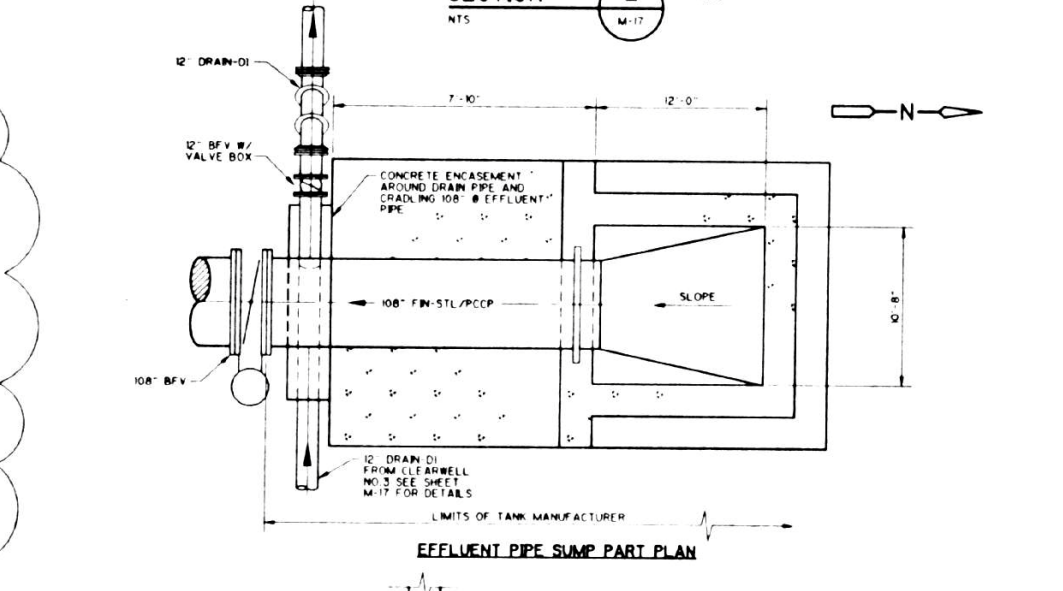
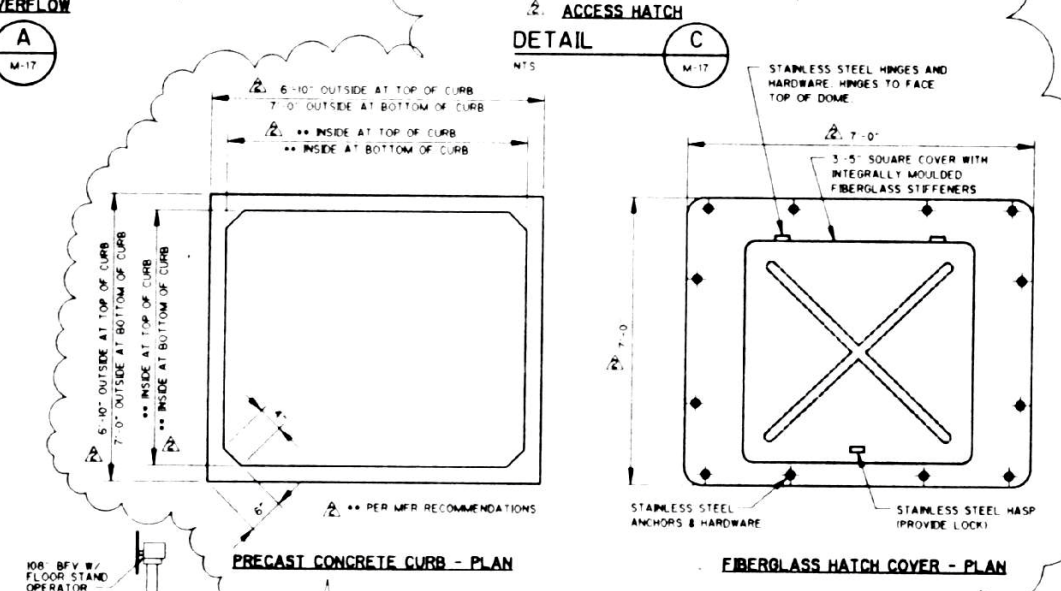
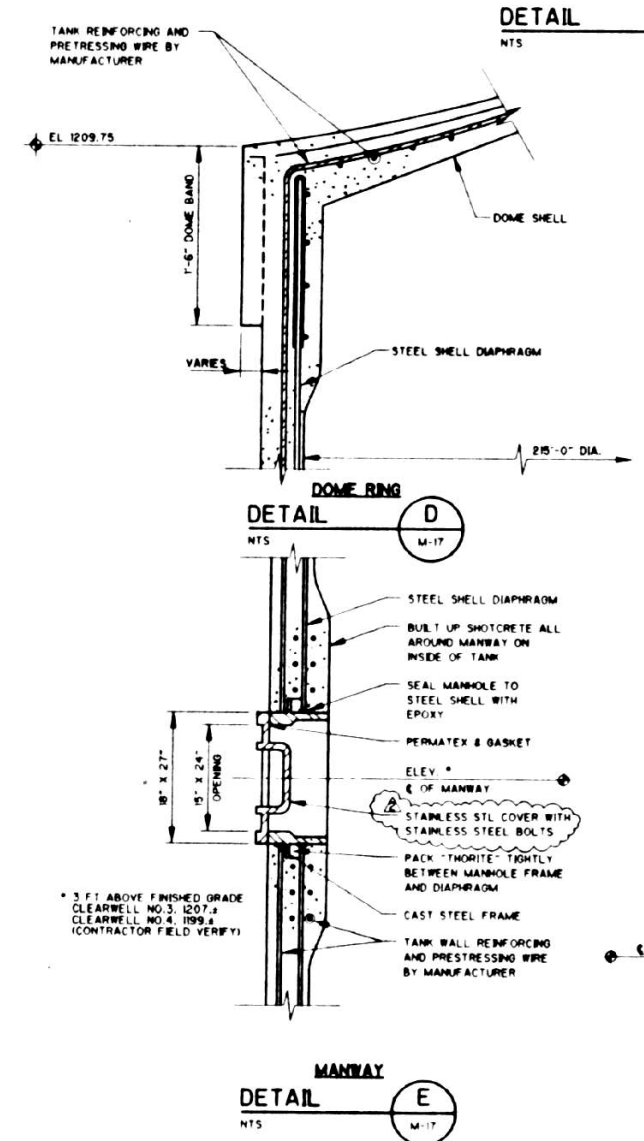
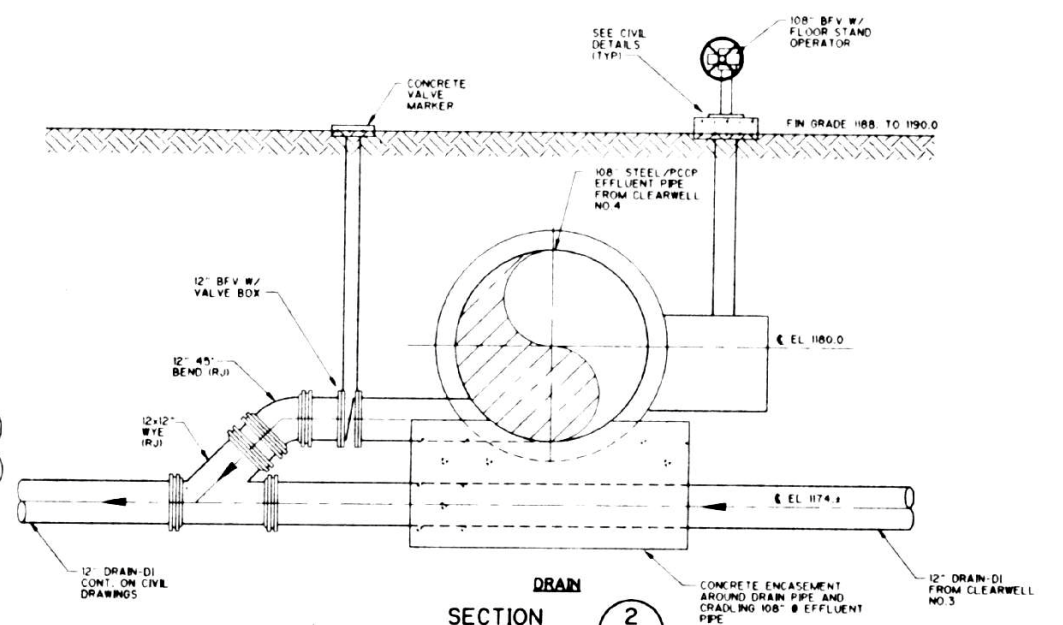
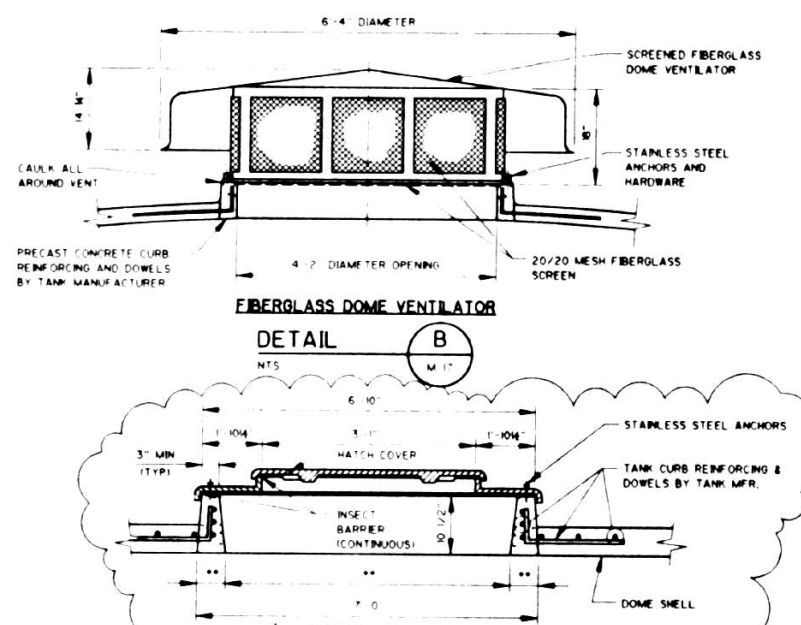
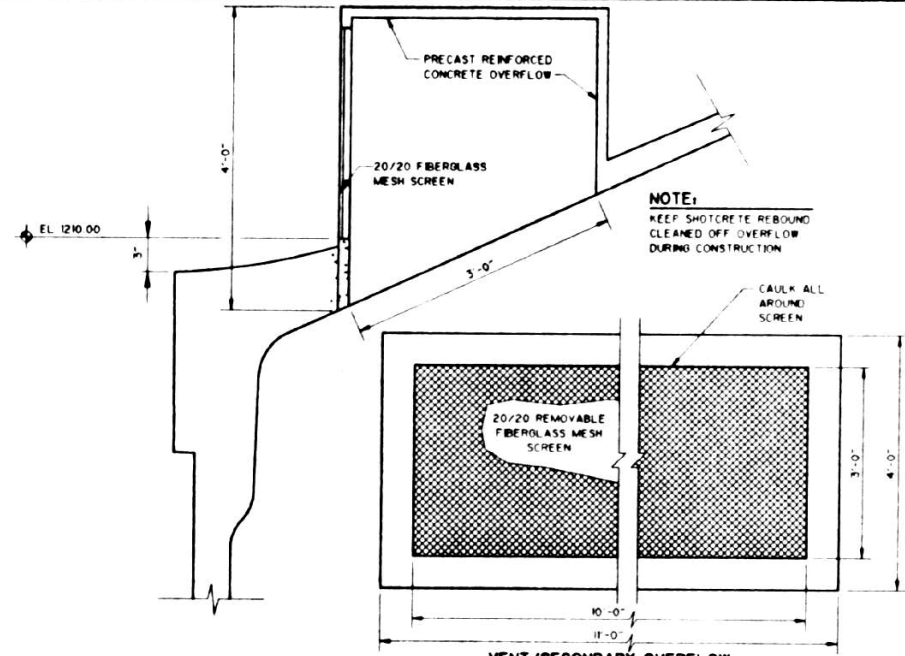
LANIER FILTER PLANT
 EXPANSION AND UPGRADE

NEW CLEARWELL NO. 3 AND NO. 4
 PLAN AND SECTIONAL PLAN

PROJECT NO. 6150-15
 FILE NAME: 6150L117

SHEET NO. M-17

3/26/95 10:00 AM CH-CLARELLS 47 3/26/95 10:00 AM 3/26/95



REV. NO.	DATE	DRWN	CHRD	REMARKS
3-30-94	TMM	MCN		CONFORMED DWGS
4-30-94	TMM	MCN		REVISED PER ADDENDUM NO. 2

DESIGNED BY: M. NOUVEL
DRAWN BY: T. MORGAN
SHEET CHD BY: A. KIM
CROSS CHD BY: W. PITTS
APPROVED BY: C. WILDER
DATE: JUNE 1992

CAMP DRESSER & McKEE INC.

environmental engineers, scientists
planners & management consultants

CDM

DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA

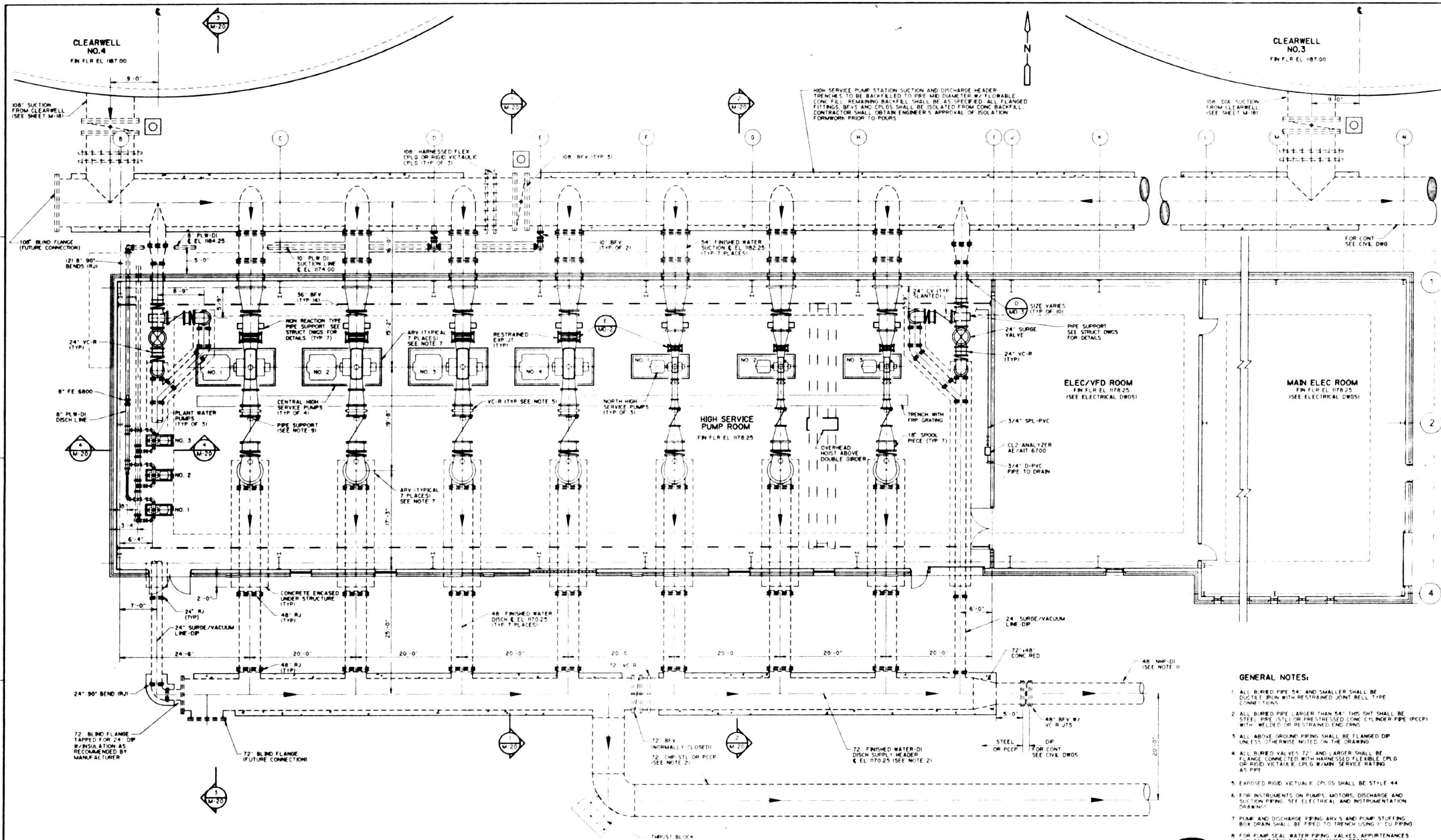
**LANIER FILTER PLANT
EXPANSION AND UPGRADE**

**NEW CLEARWELL NO. 3 AND NO. 4
MISCELLANEOUS DETAILS**

PROJECT NO: 6150-15
FILE NAME: 6150LMB

SHEET NO:
M-18





PLAN
1/8" = 1'-0"

- GENERAL NOTES:**
1. ALL BURIED PIPE 54" AND SMALLER SHALL BE DUCTILE IRON WITH RESTRAINED JOINT BELL TYPE CONNECTIONS.
 2. ALL BURIED PIPE LARGER THAN 54" THIS SHD. SHALL BE STEEL PIPE (STL) OR PRESTRESSED CONCRETE CYLINDER PIPE (PCCP) WITH WELDED OR RESTRAINED END CRWS.
 3. ALL ABOVE GROUND PIPING SHALL BE FLANGED DIP UNLESS OTHERWISE NOTED ON THE DRAWING.
 4. ALL BURIED VALVES 72" AND LARGER SHALL BE FLANGE CONNECTED WITH HARNESSSED FLEXIBLE CPLG OR RIGID VICTALIX CPLG W/MIN. SERVICE RATING AS PIPE.
 5. EXPOSED RIGID VICTALIX CPLGS SHALL BE STYLE 44.
 6. FOR INSTRUMENTS ON PUMPS, MOTORS, DISCHARGE AND SUCTION PIPING. SEE ELECTRICAL AND INSTRUMENTATION DRAWINGS.
 7. PUMP AND DISCHARGE PIPING ARV'S AND PUMP STUFFING BOX DRAIN SHALL BE PIPED TO TRENCH USING 1" CU PIPING.
 8. FOR PUMP SEAL WATER PIPING, VALVES, APPURTENANCES AND CONNECTIONS. SEE MECHANICAL DETAIL.
 9. PUMP DISCHARGE PIPE SUPPORTS SHALL BE GRINNEL FOR 24" OR EQUAL CENTRAL HIGH SERVICE PIPE SUPPORT SHALL BE UNDER UPSTREAM SIDE OF CV. NORTH HIGH SERVICE PIPE SUPPORT SHALL BE UNDER UPSTREAM FLANGE OF CV FOR PIPE SUPPORT FOUNDATION DETAIL. SEE STRUCT. DWGS.



REV. NO.	DATE	DRWN	CHD	REMARKS
1	3-30-95	TMM	MCN	CONFORMED DWGS
2	3-30-95	TMM	MCN	REVISED AND REISSUED PER ADDENDUM NO. 2

DESIGNED BY: STURIZ/NOUVEL
 DRAWN BY: T. MORGAN
 SHEET CHD BY: E. STURIZ
 CROSS CHD BY: M. NOUVEL
 APPROVED BY: C. WILDER
 DATE: APR 1995

CAMP DRESSER & MCKEE INC.

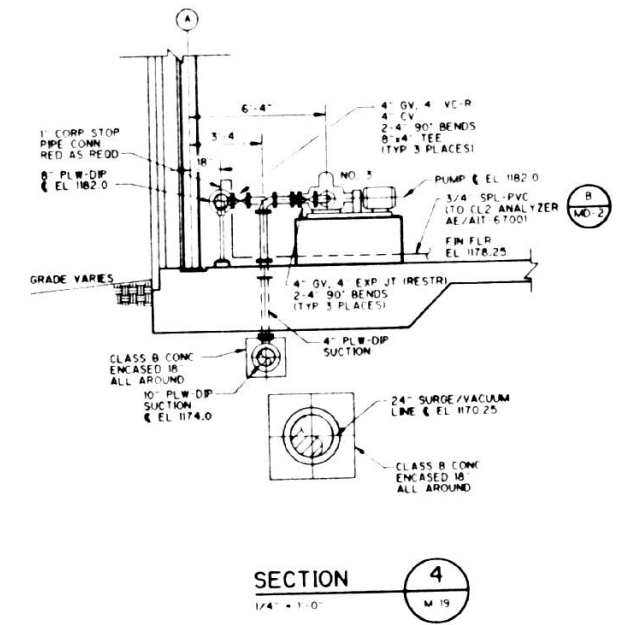
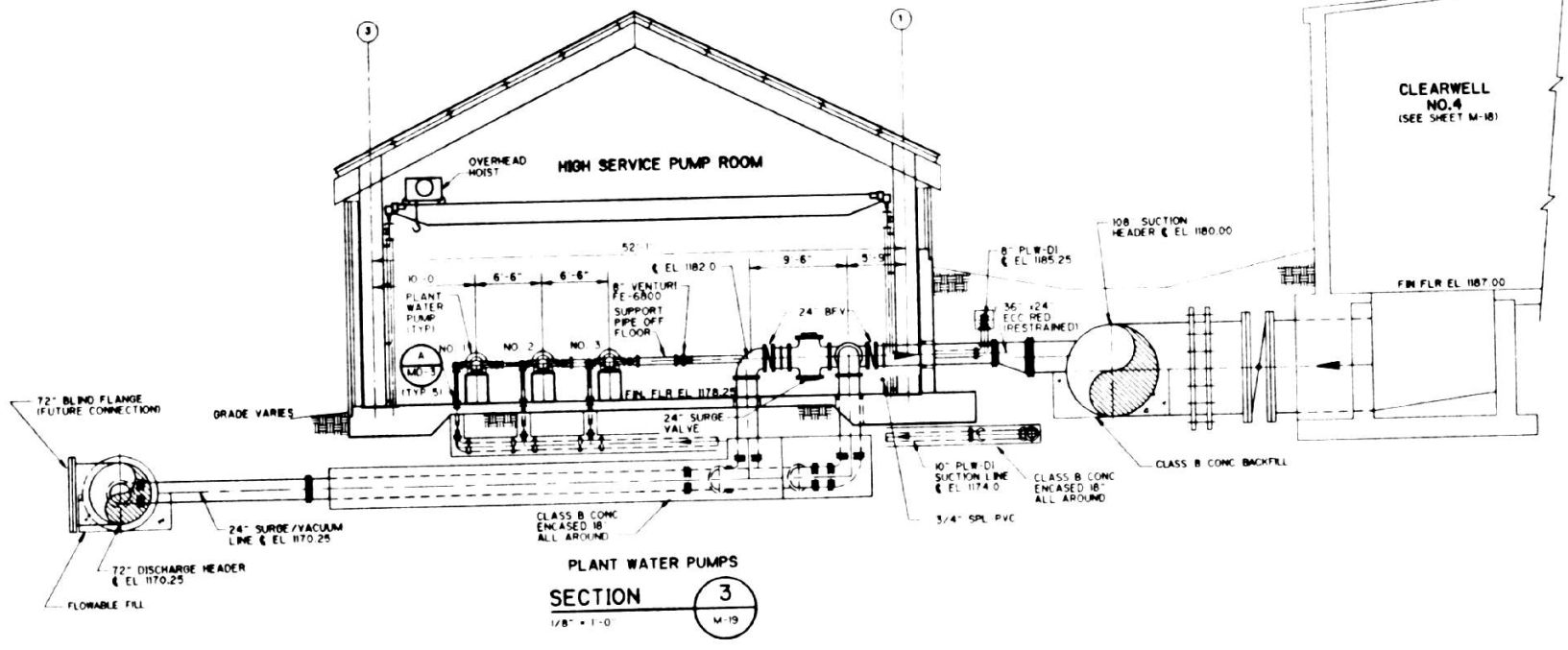
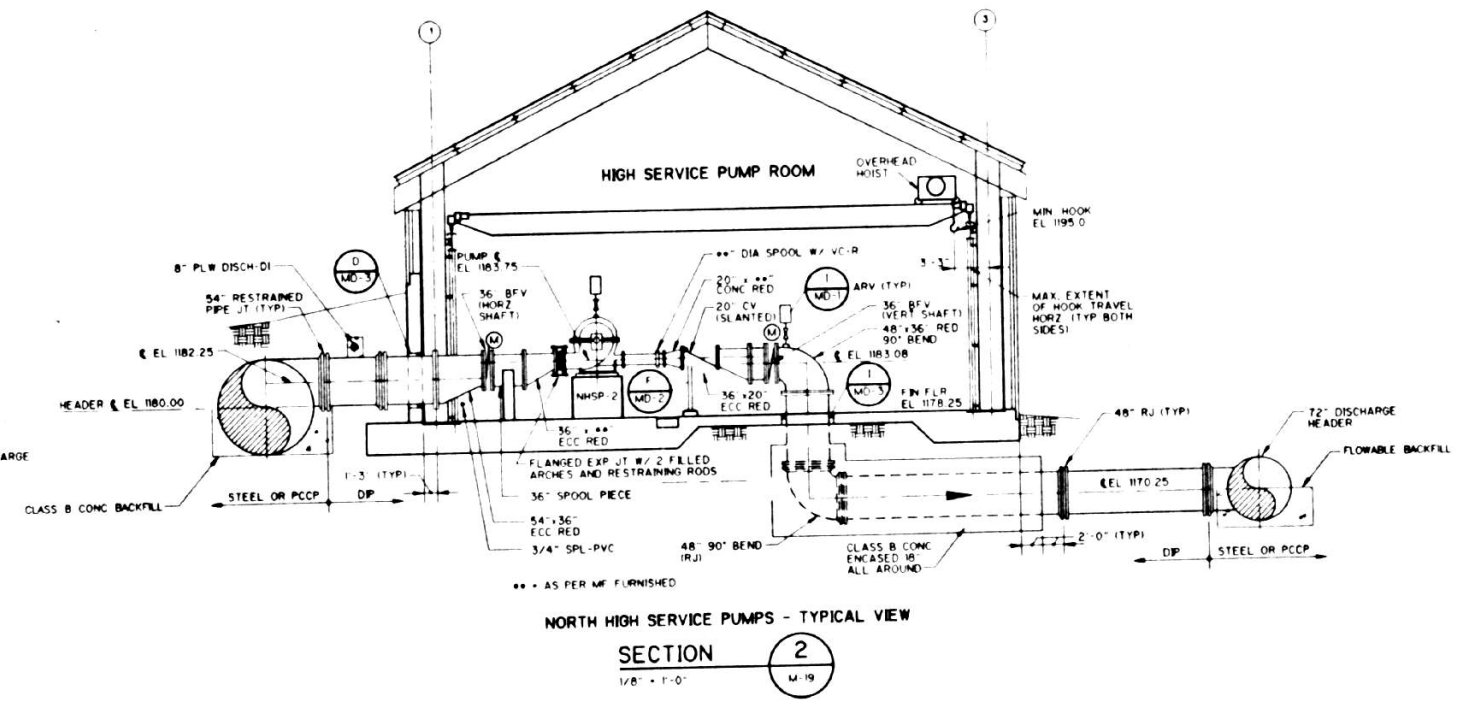
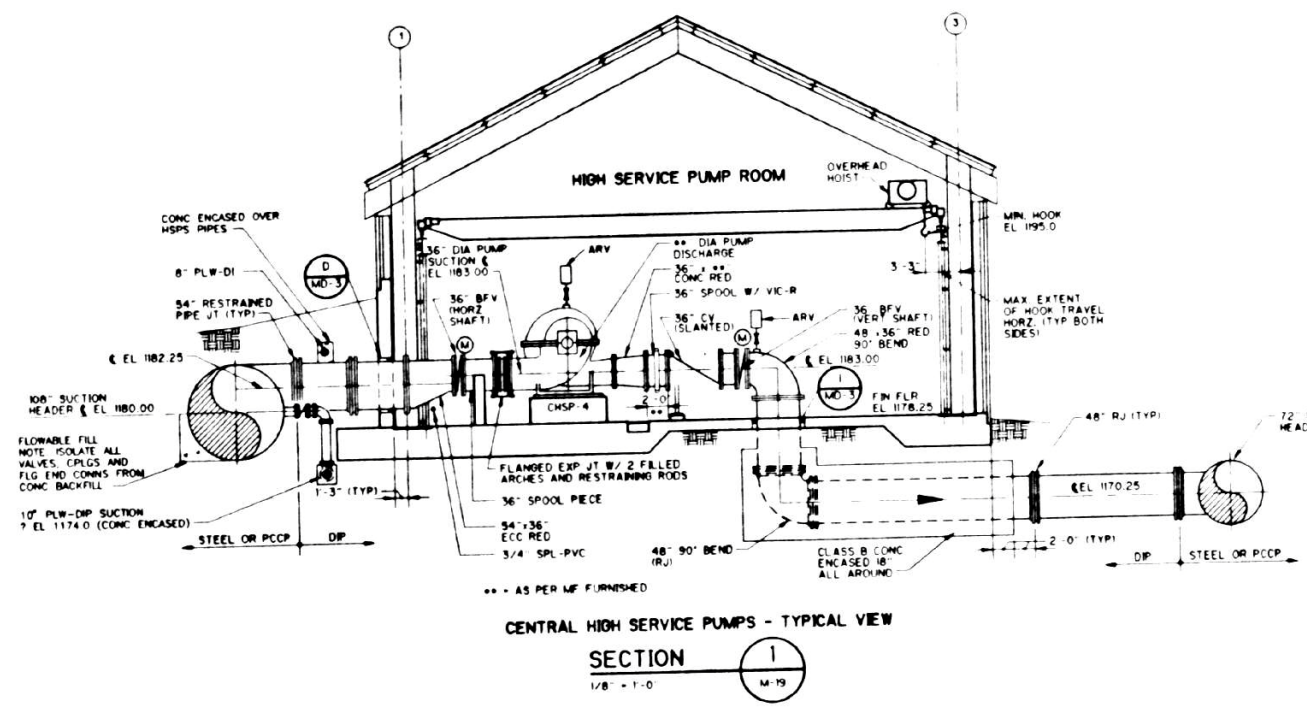
DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA

**LANIER FILTER PLANT
 EXPANSION AND UPGRADE**

**HIGH SERVICE PUMP STATION
 PLAN**

PROJECT NO. 6150-15
 FILE NAME: 6150L119
 SHEET NO. **M-19**

07/03/95 09:00AM
 4429.37
 07/03/95 09:00AM
 4429.37
 07/03/95 09:00AM
 4429.37



- NOTES:
1. ALL HIGH SERVICE PUMP CHECK VALVES ARE TOP MOUNTED DASHPOT TYPE.
 2. ALL PLANT WATER PUMP AND SURGE/VACUUM LINE CHECK VALVES ARE BOTTOM MOUNTED DASHPOT TYPE.
 3. SEE STRUCTURAL DWGS FOR PUMP, VALVE AND PIPE SUPPORT DETAILS.
 4. SEE 'N' DWGS FOR BACKFLOW PREVENTION SYSTEM FOR PLANT WATER SUPPLY.
 5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PUMP DISCHARGE CHECK VALVE SUPPORT SIZES WITH CHECK VALVE AND PIPE SUPPORT MFRS.

REV	DATE	BY	CHKD	REMARKS
3-30-95	TMM	MCH		CONFORMED DWGS
5-30-95	TMM	MCH		REVISED AND REISSUED PER ADDENDUM NO. 2

DESIGNED BY: STURIZ/NOUVEL
 DRAWN BY: T. MORGAN
 SHEET CHECKED BY: E. STURIZ
 CROSS CHECKED BY: M. NOUVEL
 APPROVED BY: C. WILDER
 DATE: JUNE 1995

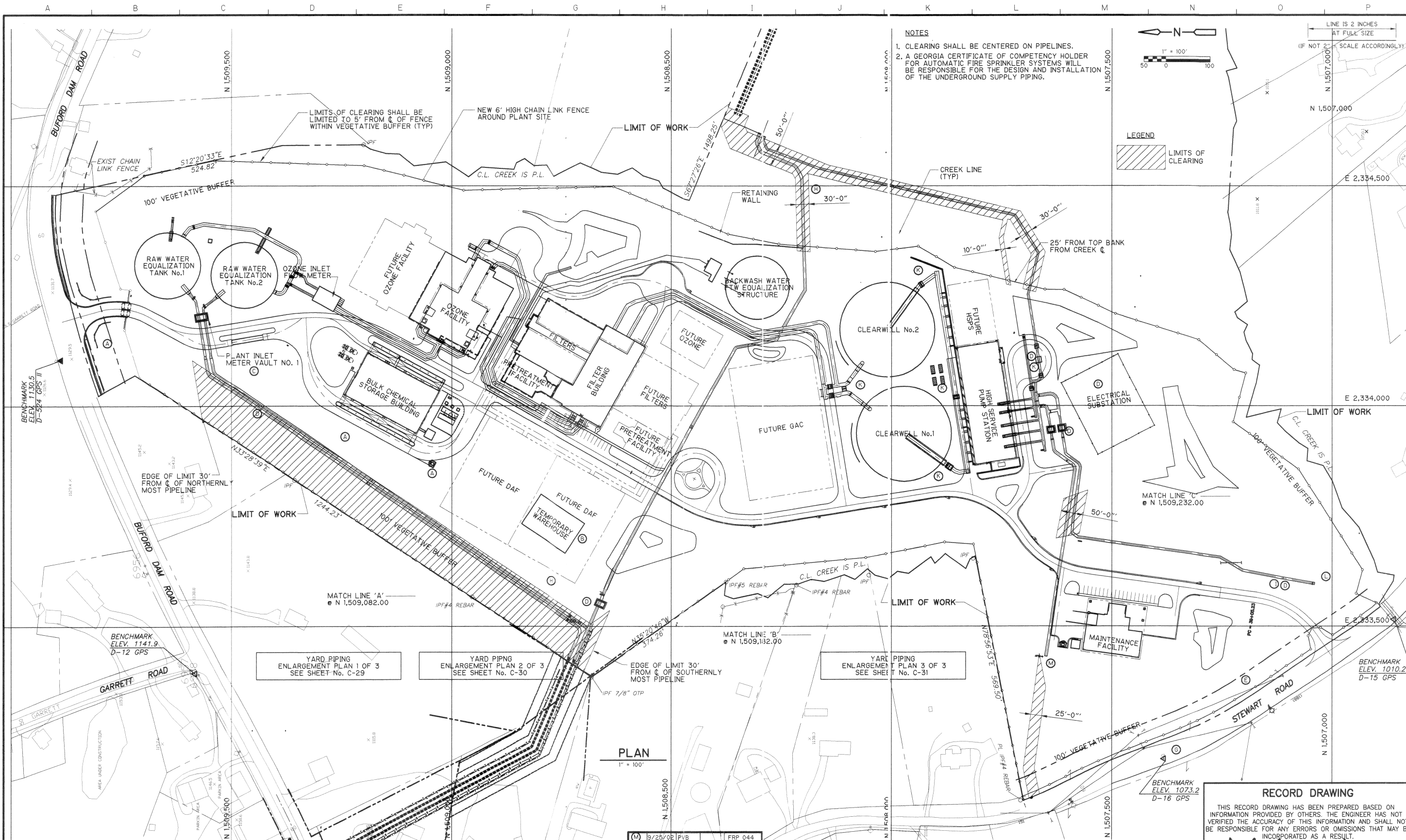
CAMP DRESSER & MCKEE, INC.
 environmental engineers, scientists,
 planners & management consultants
CDM

DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA
**LANIER FILTER PLANT
 EXPANSION AND UPGRADE**

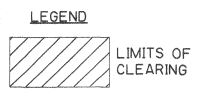
**HIGH SERVICE PUMP STATION
 SECTIONS**

PROJECT NO. 6501-15
 FILE NAME: 6501M20
 SHEET NO. **M-20**





NOTES
 1. CLEARING SHALL BE CENTERED ON PIPELINES.
 2. A GEORGIA CERTIFICATE OF COMPETENCY HOLDER FOR AUTOMATIC FIRE SPRINKLER SYSTEMS WILL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE UNDERGROUND SUPPLY PIPING.



PLAN
 1" = 100'

F	13/04/02	PVB	DESIGNER CLARIFICATION 0175	
E	12/25/02	PVB	DESIGNER CLARIFICATION 0169	
D	2/04/02	TMM	DESIGNER CLARIFICATION 0148 (PER RFI#s 00105&00139)	
C	1/23/02	PVB	DESIGNER CLARIFICATION 0137	
B	1/17/02	PVB	DESIGNER CLARIFICATION 0132	
A	6/18/01	JMJ	KT DESIGNER CLARIFICATIONS FOR PERMITTING	
	6/11/01	JJ	NG CONFORMED DRAWING	
2	5/4/01	TMM	NG ADDENDUM NO. 5	
REV. NO.	DATE	DRWN	CHKD	REMARKS

J	7/19/02	PVB	FRP 043
H	7/15/02	PVB	DESIGNER CLARIFICATION 230
G	4/17/02	PVB	OWNER CHANGE PER RFI 0177
M	9/25/02	PVB	FRP 044
K	9/25/02	PVB	FRP 027
J	5/16/02	PVB	FRP 028
I	4/17/02	PVB	DESIGNER CLARIFICATION 238

DESIGNED BY: K. TAYLOR
 DRAWN BY: /TMM
 SHEET CHK'D BY: N. GONCE
 CROSS CHK'D BY: J. WILLIS
 APPROVED BY:
 DATE: MARCH 2001

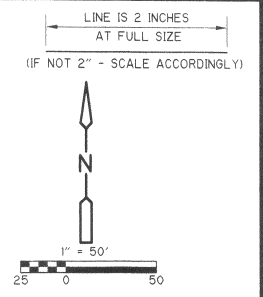
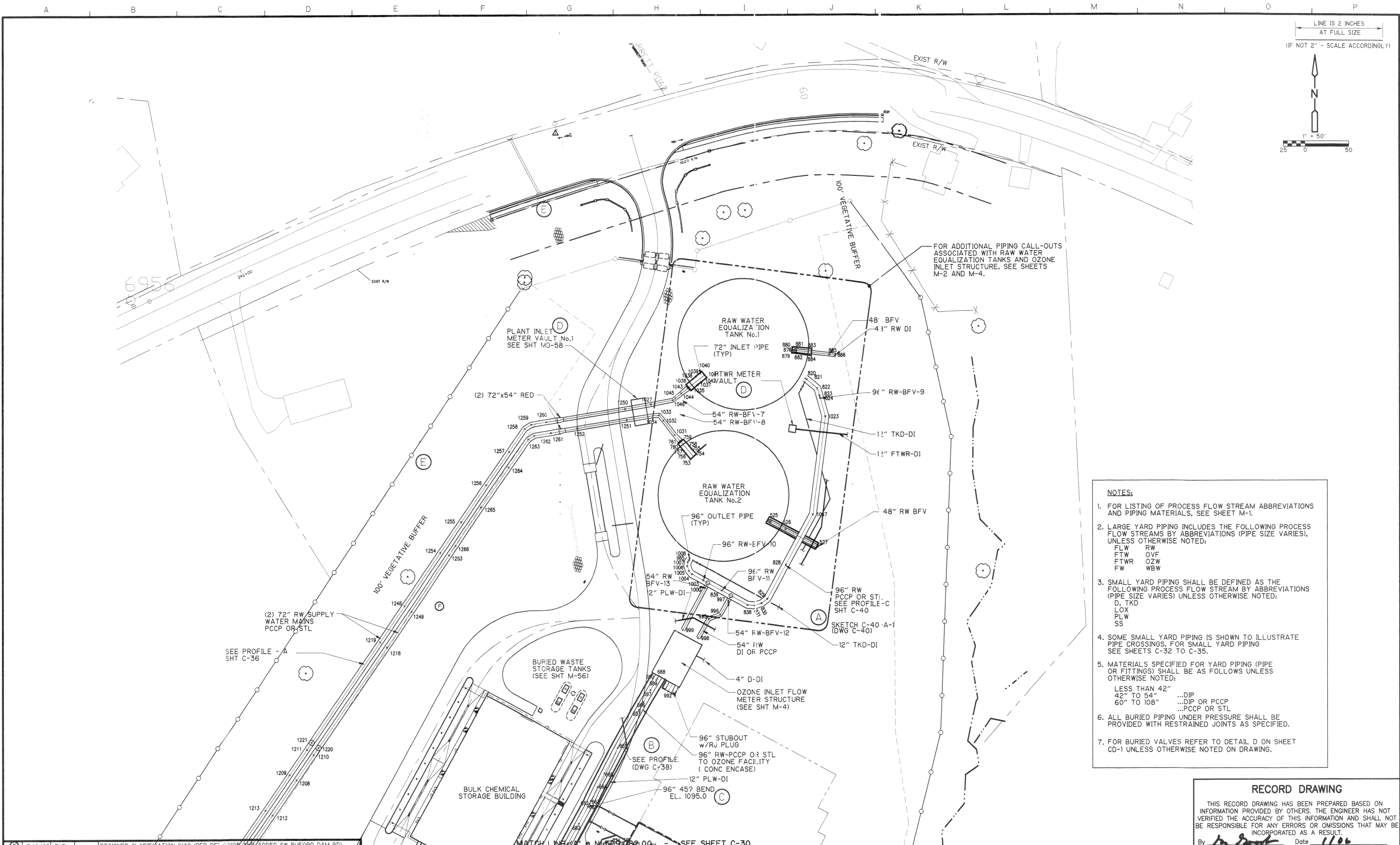
CDM Camp Dresser & McKee Inc.
consulting
 engineering
 construction
 operations

DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

YARD PIPING OVERALL KEY PLAN

RECORD DRAWING
 THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.
 By: *[Signature]* Date: 1/06
CDM

PROJECT NO. 6150-27674
 FILE NAME 27674C28_A381.DWG
 SHEET NO.
C-28



- NOTES:**
- FOR LISTING OF PROCESS FLOW STREAM ABBREVIATIONS AND PIPING MATERIALS, SEE SHEET M-1.
 - LARGE YARD PIPING INCLUDES THE FOLLOWING PROCESS FLOW STREAMS BY ABBREVIATIONS (PIPE SIZE VARIES), UNLESS OTHERWISE NOTED:
 FLW RW
 FTW OVF
 FTWR OZW
 FW WBW
 - SMALL YARD PIPING SHALL BE DEFINED AS THE FOLLOWING PROCESS FLOW STREAM BY ABBREVIATIONS (PIPE SIZE VARIES) UNLESS OTHERWISE NOTED:
 D, TKD
 LOX
 PLW
 SS
 - SOME SMALL YARD PIPING IS SHOWN TO ILLUSTRATE PIPE CROSSINGS. FOR SMALL YARD PIPING SEE SHEETS C-32 TO C-35.
 - MATERIALS SPECIFIED FOR YARD PIPING (PIPE OR FITTINGS) SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
 LESS THAN 42" ...DIP
 42" TO 54" ...DIP OR PCCP
 60" TO 108" ...PCCP OR STL
 - ALL BURIED PIPING UNDER PRESSURE SHALL BE PROVIDED WITH RESTRAINED JOINTS AS SPECIFIED.
 - FOR BURIED VALVES REFER TO DETAIL D ON SHEET CD-1 UNLESS OTHERWISE NOTED ON DRAWING.

RECORD DRAWING

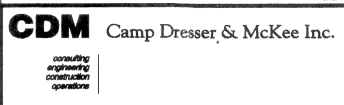
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.

By *[Signature]* Date 1/10/06

CDM

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	4/26/01	TMM	DH	ADDENDUM NO. 4
2	5/4/01	TMM	DH	ADDENDUM NO. 5
3	6/11/01	JJ	NG	CONFORMED DRAWING
4	10/29/01	PVB		DESIGNER CLARIFICATION 0068 (SKETCH C-40-A-1)
5	0/29/01	PVB		DESIGNER CLARIFICATION 0071 (SKETCHES C-31B-A-1, C-38-A-1, C-39-A-1)
6	11/15/01	PVB		DESIGNER CLARIFICATION 0082
7	1/23/02	PVB		DESIGNER CLARIFICATION 0137
8	2/4/02	PVB		DESIGNER CLARIFICATION 0148 (PER RFI-00109 AND ADDED SW BUFORD DAM RD.)

DESIGNED BY: <u>D. FUNK</u>	DESIGNED BY: <u>D. FUNK</u>
DRAWN BY: <u>T. MORGAN</u>	DRAWN BY: <u>T. MORGAN</u>
SHEET CHK'D BY: <u>HAWKSLEY</u>	SHEET CHK'D BY: <u>HAWKSLEY</u>
CROSS CHK'D BY: <u>J. WILLIS</u>	CROSS CHK'D BY: <u>J. WILLIS</u>
APPROVED BY: _____	APPROVED BY: _____
DATE: <u>MARCH 2001</u>	DATE: <u>MARCH 2001</u>

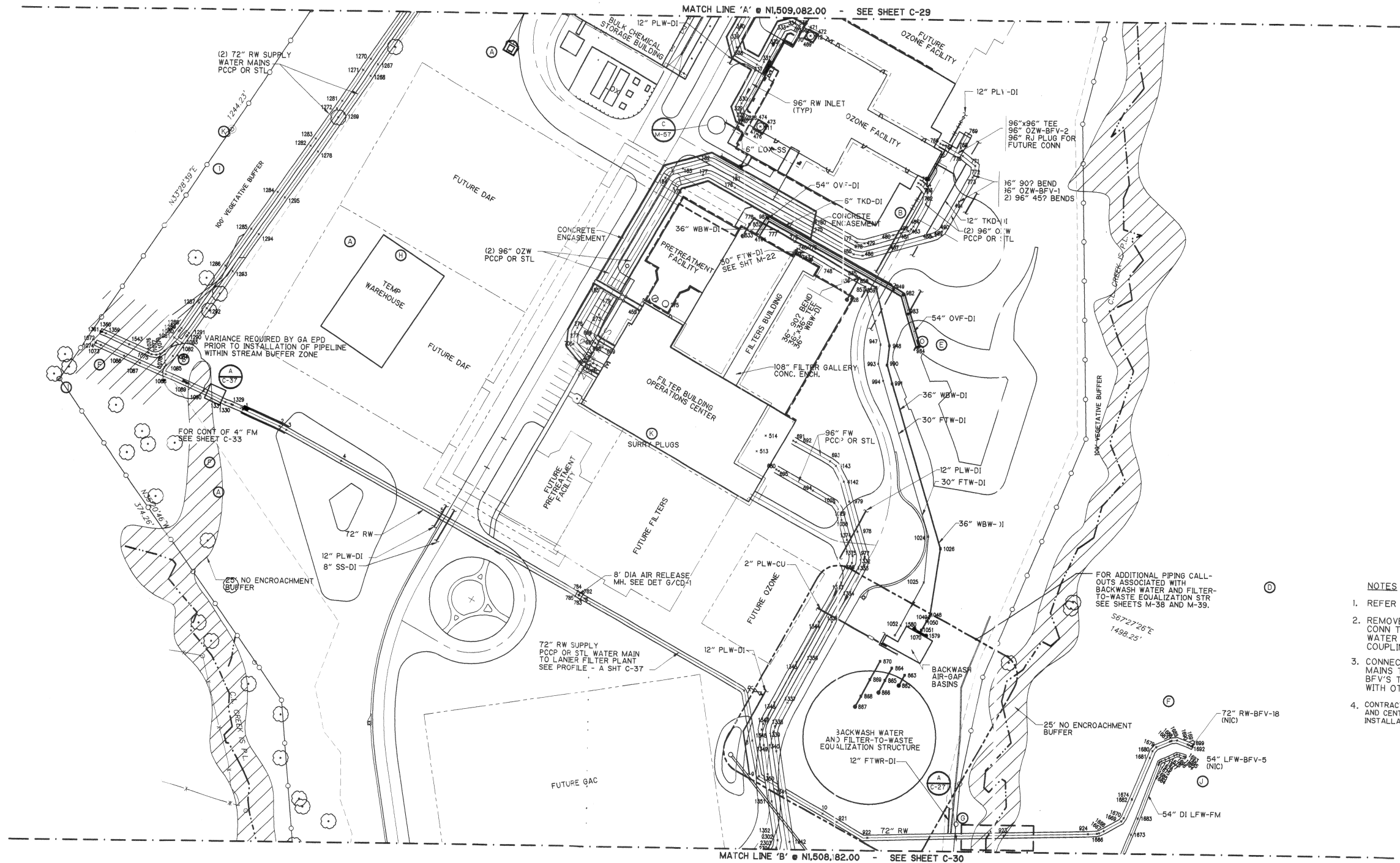
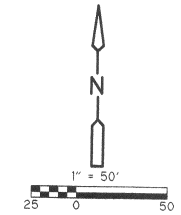


DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

LARGE YARD PIPING PLAN 1 OF 4
C-29

PROJECT NO. 6150-27674
 FILE NAME: 27674C29_AsB1.dwg
 SHEET NO. **C-29**

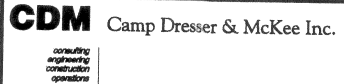
LINE IS 2 INCHES
AT FULL SIZE
(IF NOT 2" - SCALE ACCORDINGLY)



- NOTES**
- REFER TO NOTES 1 THRU 7 ON SHEET C-29.
 - REMOVE TEMPORARY 72" BLIND FLANGE, CONN TO NEW 72" RW SUPPLY-PCCP OR STL WATER MAIN AND 72" RESTRAINED FLANGED COUPLING ADAPTER (TYP 2)
 - CONNECT NEW 72" RW, 54" LFW AND 20" WBW MAINS TO BFV'S BY OTHERS AT EL. 1063.00. BFV'S TO BE FIELD LOCATED AND COORDINATED WITH OTHER CONTRACTOR FOR TIE-IN CONNECTIONS.
 - CONTRACTOR TO VERIFY ALL JOINT CONNECTIONS AND CENTERLINE ELEVATIONS AT TIE-INS PRIOR TO INSTALLATION.
- LIMIT OF WORK THIS CONTRACT (SEE NOTE 2)
- FOR BURIED VALVE INSTALLATION AND RESTRAINED COUPLING DETAILS REFER TO DETAIL C AND F ON CD-1 (TYP)

REV. NO.	DATE	DRWN	CHKD	REMARKS
6/24/04		PVB		FRP 0165
8/01/03		PVB		FRP 0106
7/15/02		PVB		DESIGNER CLARIFICATION 230
7/12/02		PVB		FRP 042
5/8/02		PVB		RFI-00206
2/14/02		TMM	NG	DESIGNER CLARIFICATION 148 (REISSUED NEW C-30 DWG)
1/17/02		PVB		DESIGNER CLARIFICATION 132
1/17/01		PVB		DESIGNER CLARIFICATION 0131
12/18/01		PVB		DESIGNER CLARIFICATION 0110
12/10/01		PVB		DESIGNER CLARIFICATION 0100 (CCP 19 REV 4 DELETE CV)
11/28/01		PVB		DESIGNER CLARIFICATION 0090
10/17/01		PVB		DESIGNER CLARIFICATION 0067
7/19/01		PVB		DESIGNER CLARIFICATION 0002
6/18/01		JMJ	KT	DESIGNER CLARIFICATIONS FOR PERMITTING
6/11/01		JMJ	NG	CONFORMED DRAWING
4/26/01		TMM	KT	ADDENDUM NO. 4

DESIGNED BY: D. HAWKSLEY
 DRAWN BY: TMM
 SHEET CHK'D BY: DOWBIGGIN
 CROSS CHK'D BY: J. WILLIS
 APPROVED BY: _____
 DATE: MARCH 2001

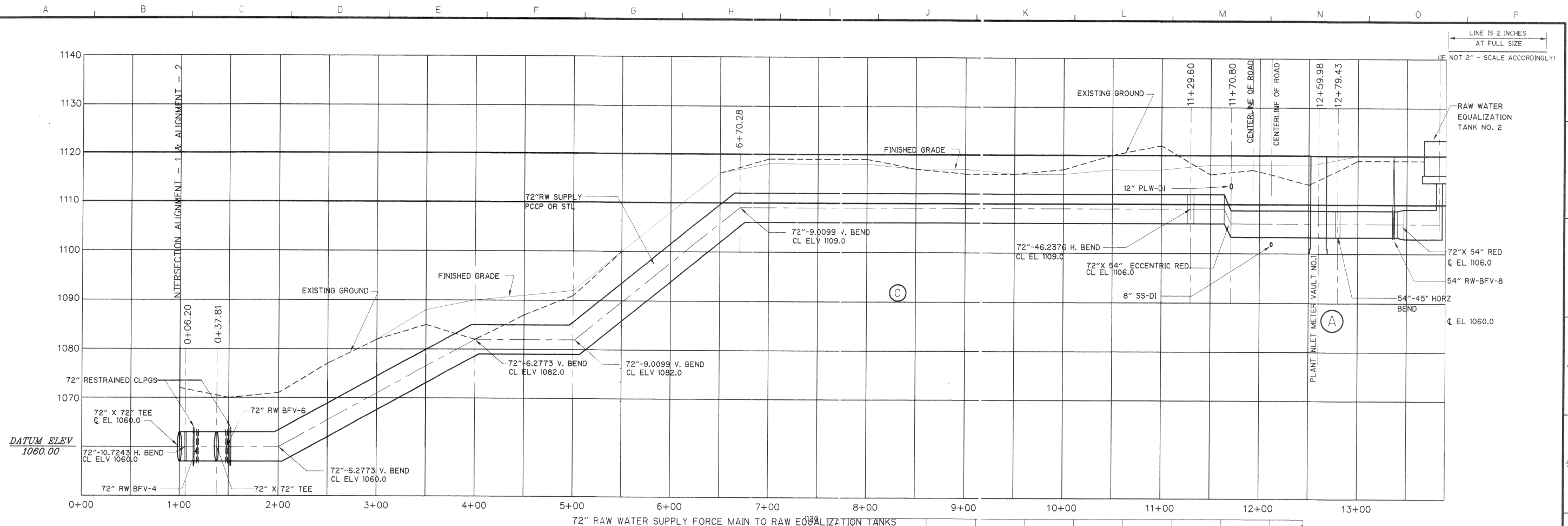


DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

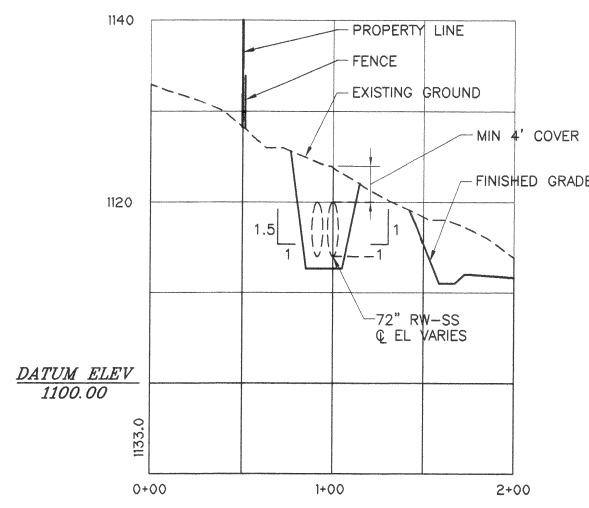
LARGE YARD PIPING PLAN 2 OF 4

RECORD DRAWING
 THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.
 By: *[Signature]* Date: 1/10/01
 CDM

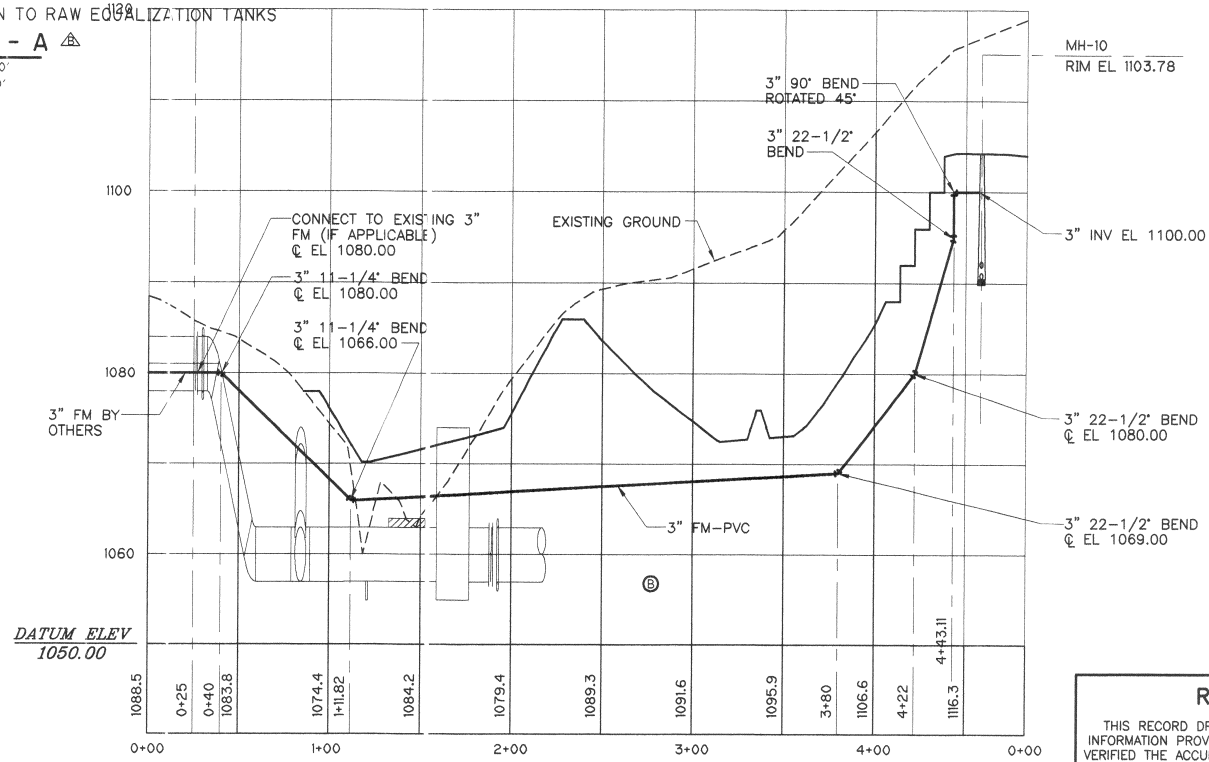
PROJECT NO. 6150-27674
 FILE NAME: 27674C30.dwg
 SHEET NO.
C-30



PROFILE - A
 HORIZ: 1"=50'
 VERT: 1"=10'



**72" TYPICAL CROSS SECTION
 PROFILE - B**
 HORIZ: 1"=50'
 VERT: 1"=10'



**3-INCH FM PROFILE
 PROFILE - B**
 HORIZ: 1"=50'
 VERT: 1"=10'

RECORD DRAWING
 THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.
 By *[Signature]* Date 1/06
CDM

7/12/02	JJ	NG	DESIGN CLARIFICATION 230
3/15/02	JJ	NG	DESIGN CLARIFICATION 184
7/12/01	JJ	NG	DESIGN CLARIFICATION 0137
6/11/01	JJ	NG	CONFORMED DRAWING
2	5/4/01	TMM	ADDENDUM NO. 5
1	4/27/01	TMM	ADDENDUM NO. 4
REV. NO.	DATE	DRWN	CHKD
			REMARKS

DESIGNED BY: K. TAYLOR
 DRAWN BY: LDS/TMM
 SHEET CHK'D BY: CHECK
 CROSS CHK'D BY: J. WILLIS
 APPROVED BY:
 DATE: MARCH 2001

CDM Camp Dresser & McKee Inc.

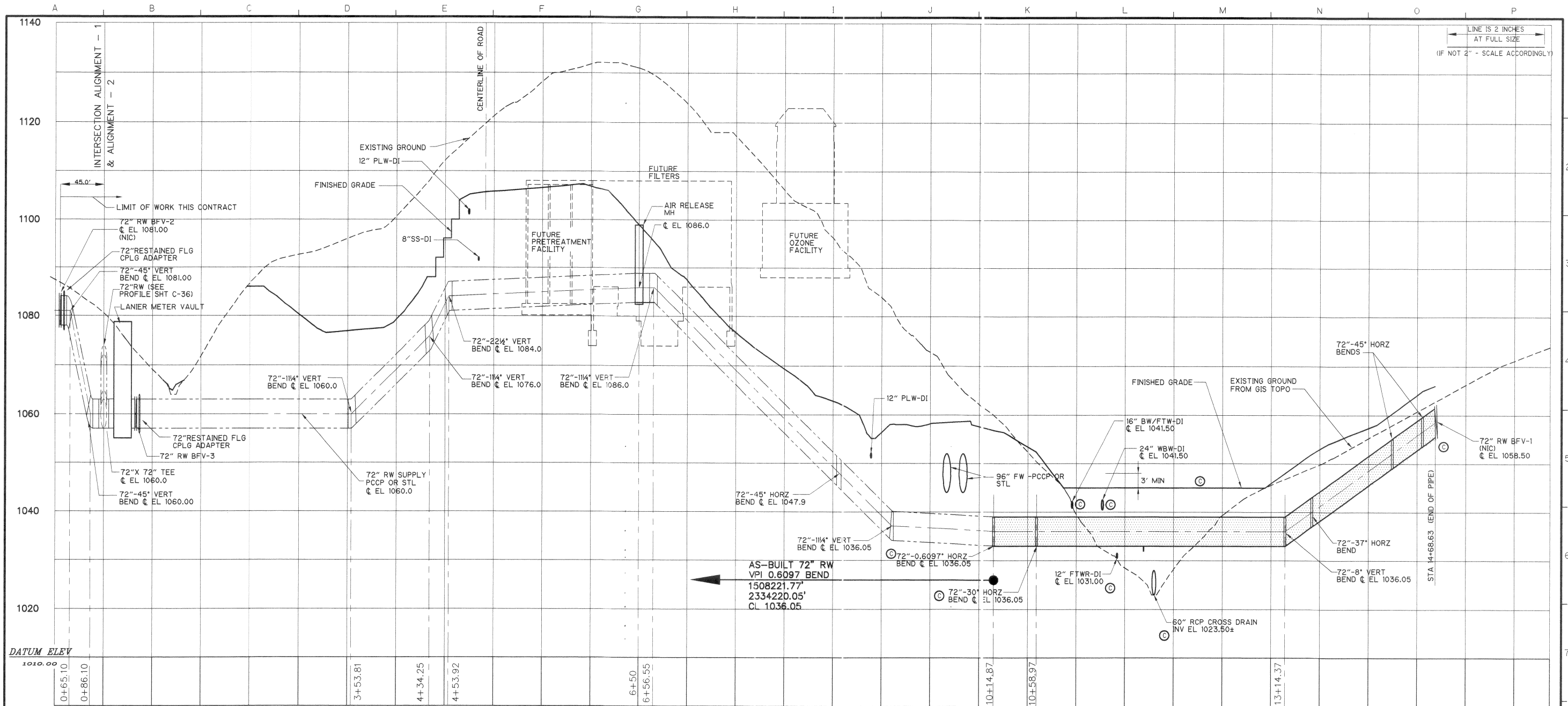
DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA

SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

**YARD PIPING PROFILE
 72-INCH RW SUPPLY FM**

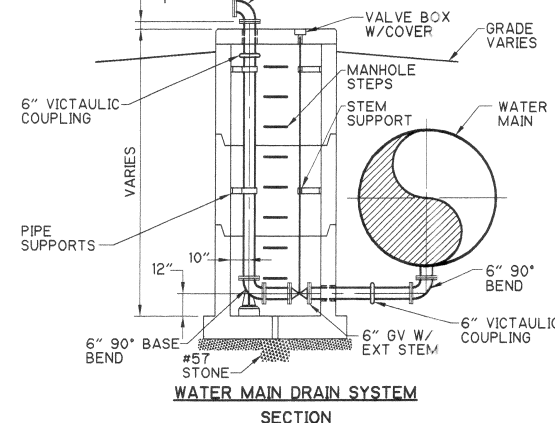
PROJECT NO. 6150-27674
 FILE NAME 27674C36_AsBlt.dwg

SHEET NO.
C-36

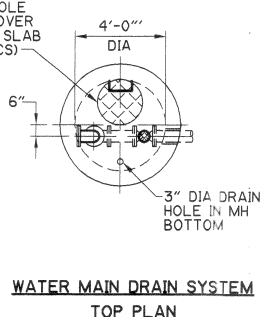


DATE: 04/20/05 13:55:19
 230107
 27874C37_ABR
 S:\SDBKPROJ\6150\33411\AS-BUILT\Civil

72" RAW WATER SUPPLY FORCE MAIN TO LANIER FILTER PLANT
PROFILE - A
 HORIZ: 1"=50'
 VERT: 1"=10'



DETAIL A
 NTS
 C-37

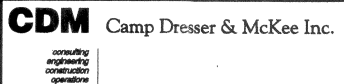


WATER MAIN DRAIN SYSTEM TOP PLAN

RECORD DRAWING
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 By *Hyland* Date 1/06
CDM

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/27/01	TMM	NG	ADDENDUM NO. 4
2	5/11/01	JJ	NG	CONFORMED DRAWING
3	1/7/02	DMR	NG	DESIGNER CLARIFICATION 0131
4	2/1/02	TMM	NG	DESIGNER CLARIFICATION 148
5	7/15/02	TMM	NG	DESIGNER CLARIFICATION 230

DESIGNED BY: K. TAYLOR
 DRAWN BY: LDS/TMM
 SHEET CHK'D BY: CHECK
 CROSS CHK'D BY: J. WILLIS
 APPROVED BY:
 DATE: MARCH 2001

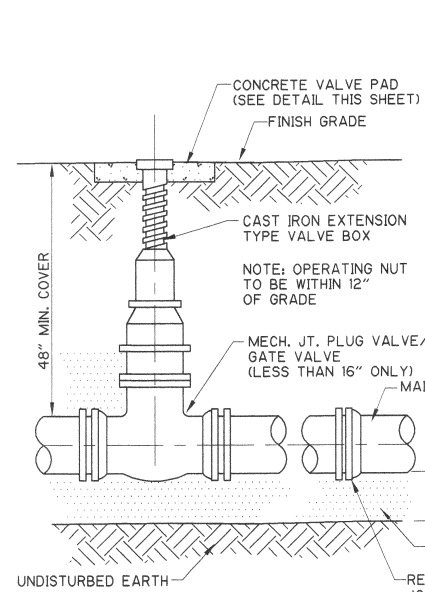


DEPARTMENT OF PUBLIC UTILITIES
 GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

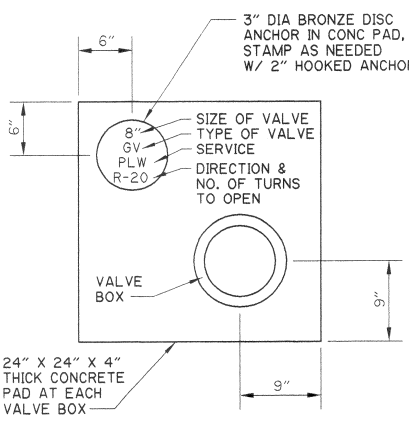
YARD PIPING PROFILE
72-INCH RW SUPPLY FM TO LANIER

PROJECT NO. 6150-27674
 FILE NAME: 27874C37.dwg
 SHEET NO.
C-37

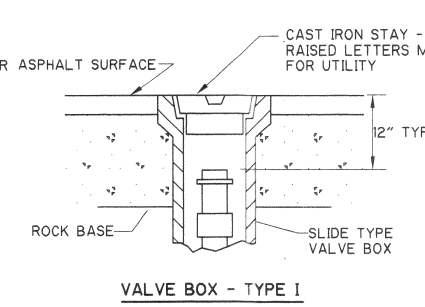
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)



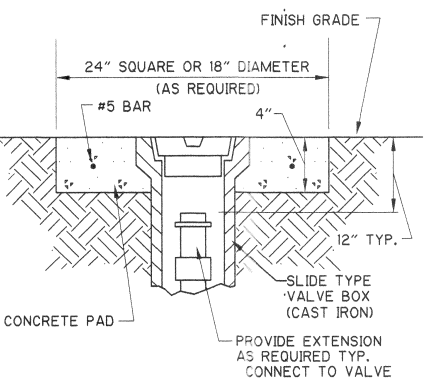
VERTICAL VALVE INSTALLATION
DETAIL A
NTS CD-1



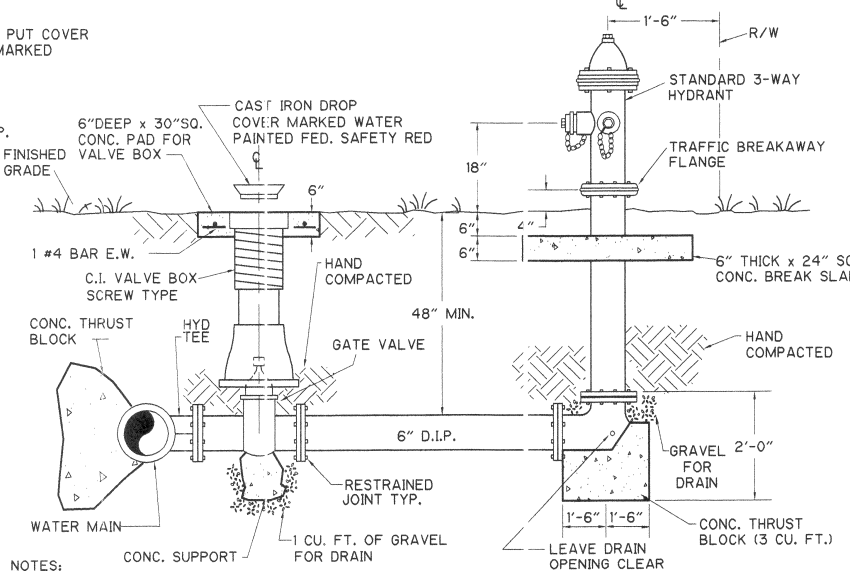
CONCRETE VALVE PAD
DETAIL B
NTS CD-1



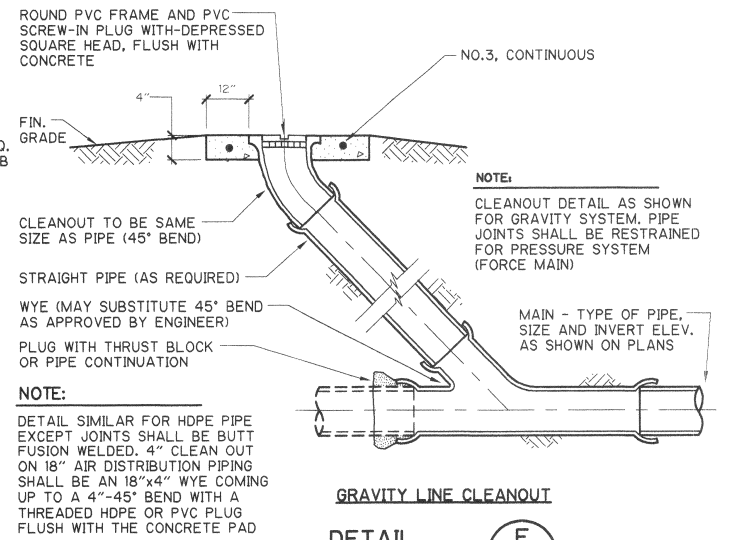
VALVE BOX - TYPE I
DETAIL C
NTS CD-1



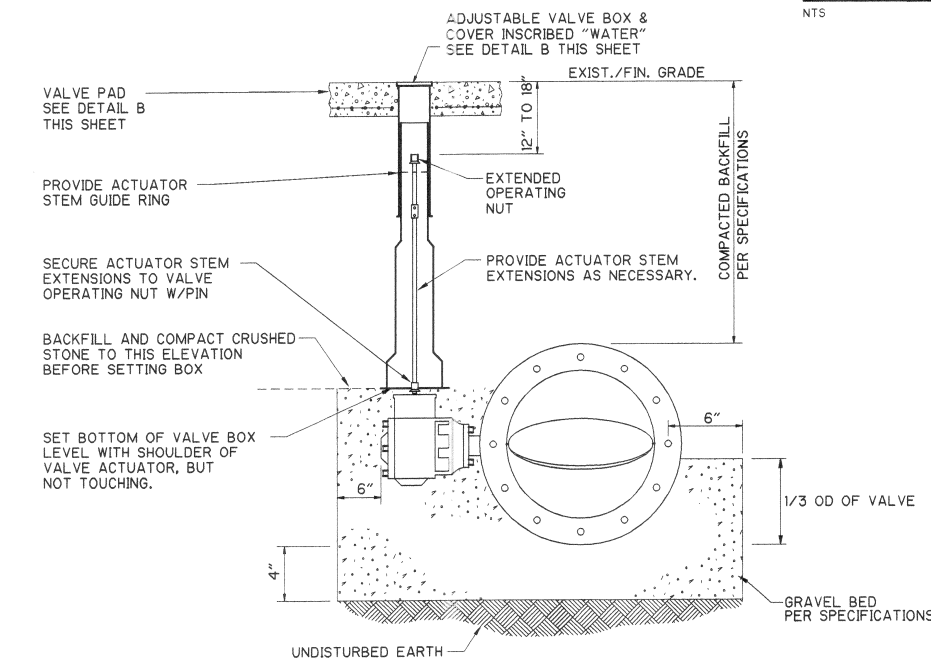
VALVE BOX - TYPE II
DETAIL D
NTS CD-1



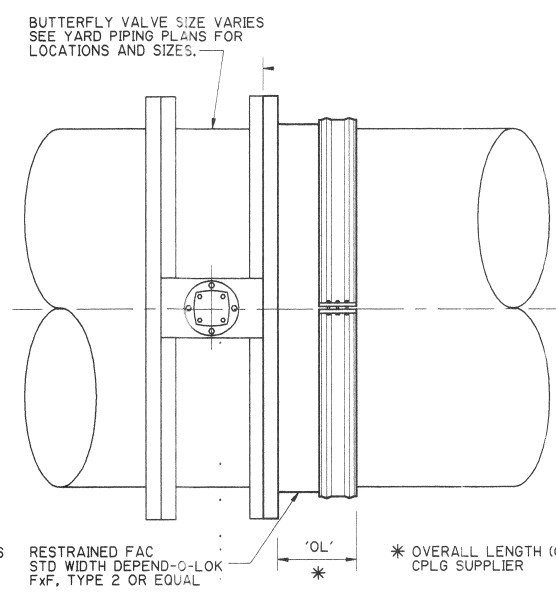
FIRE HYDRANT WITH TYPICAL GATE VALVE
DETAIL E
NTS CD-1



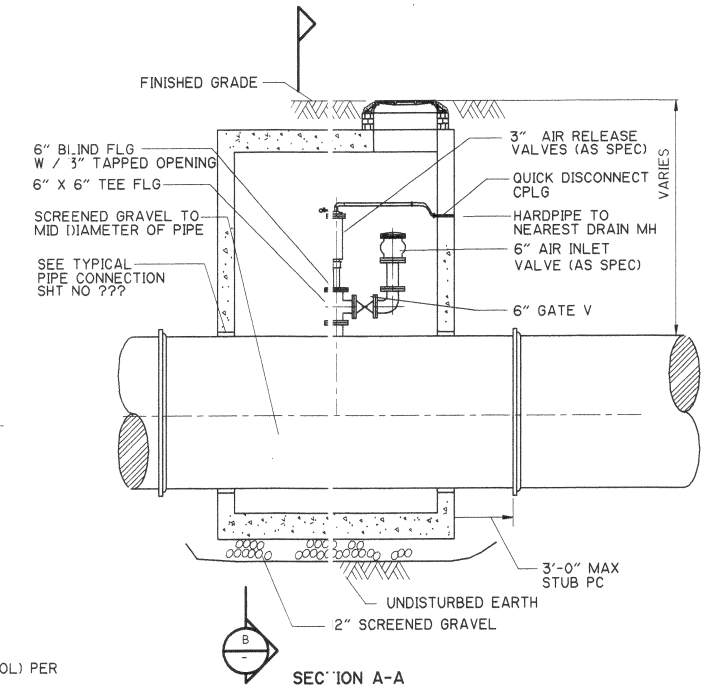
GRAVITY LINE CLEANOUT
DETAIL F
NTS CD-1



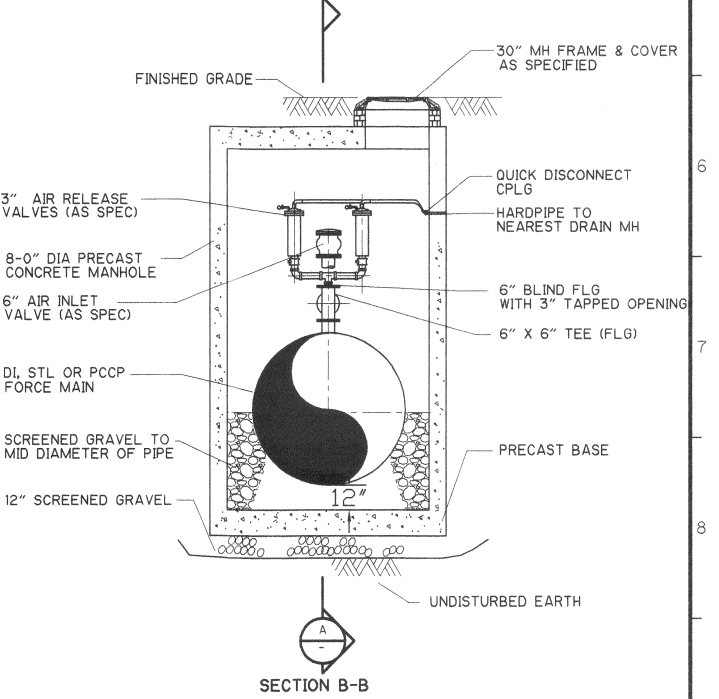
MANUALLY OPERATED BUTTERFLY VALVE
DETAIL G
NTS CD-1



RESTRAINED FLANGE ADAPTER COUPLING
DETAIL H
NTS CD-1



AIR RELEASE/AIR INLET MANHOLE - TYPE A
DETAIL I
NTS CD-1



SECTION B-B

- NOTES:**
- EXTENSION ON VALVE BOX SHALL BE SET SO AS TO RESERVE 1/2 OF THE ADJUSTMENT LENGTH FOR FUTURE USE.
 - TO BE USED FOR ALL BURIED VALVES, SIZES 4" AND LARGER.

RECORD DRAWING

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By *[Signature]* Date 1100

CDM

S:\SOSKPROJ\6150\3341\AS_BUILT\CDW 27674CD01.dwg 04/21/09 11:22:18 15.27214 jordanjm

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	4/27/01	TMM	NG	ADDENDUM NO. 4
2	5/4/01	TMM	NG	ADDENDUM NO. 5
6/11/01	JJ	NG		CONFORMED DRAWING
10/10/01	PVB			DESIGNER CLARIFICATION 0047

DESIGNED BY: D. RIDGEWELL
DRAWN BY: D. RIDGEWELL
SHEET CHK'D BY: L. THURN
CROSS CHK'D BY: J. WILLIS
APPROVED BY: _____
DATE: MARCH 2001

CDM Camp Dresser & McKee Inc.

consulting engineering construction operations

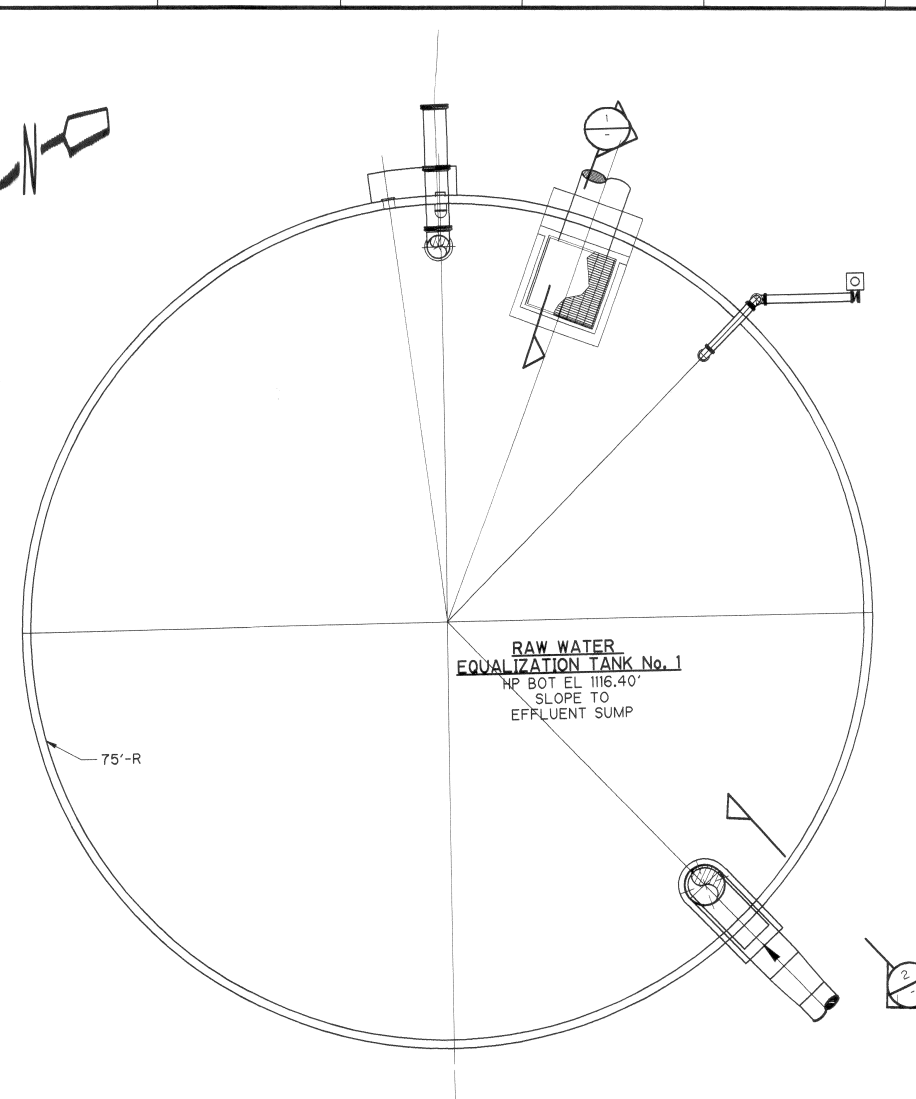
DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA

SHOAL CREEK FILTER PLANT
1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

CIVIL DETAILS

SHEET NO. **CD-1**

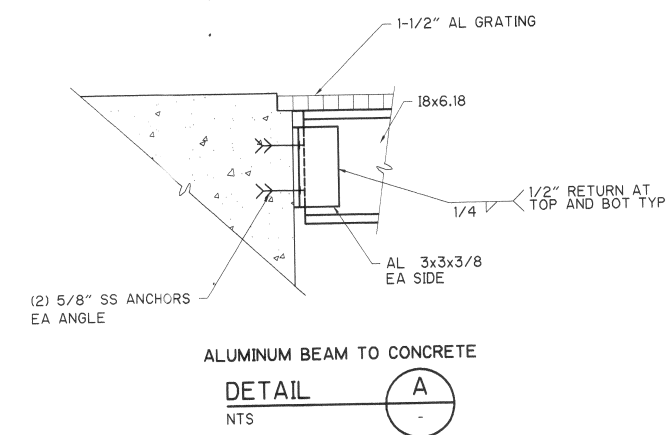
PROJECT NO. 6150-27674
FILE NAME: 27674cd01.dwg



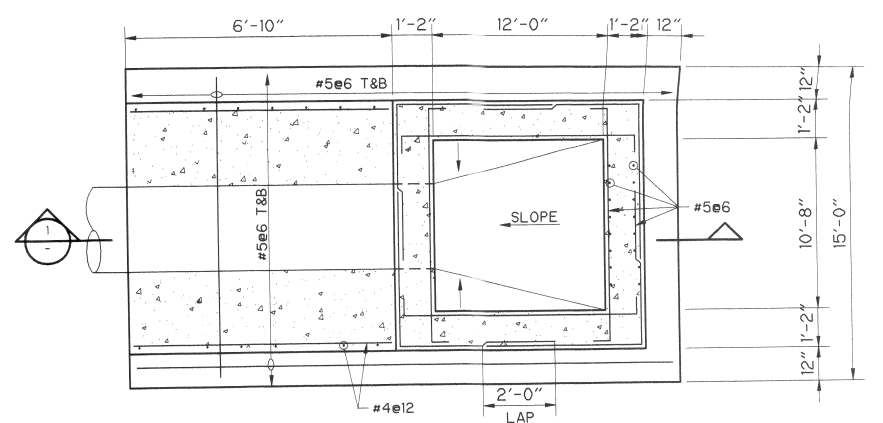
RAW WATER EQUALIZATION TANK NO. 1
PLAN
1/16" = 1'-0"

- NOTES:
- SEE CIVIL DRAWINGS FOR PIPING THIS AREA
 - VALVE STEMS/ OPERATORS SHALL BE INSTALLED FOLLOWING COMPLETION OF THE CLEARWELLS.
 - SEE "M" DWGS FOR ORIENTATION OF TANK NO. 2.

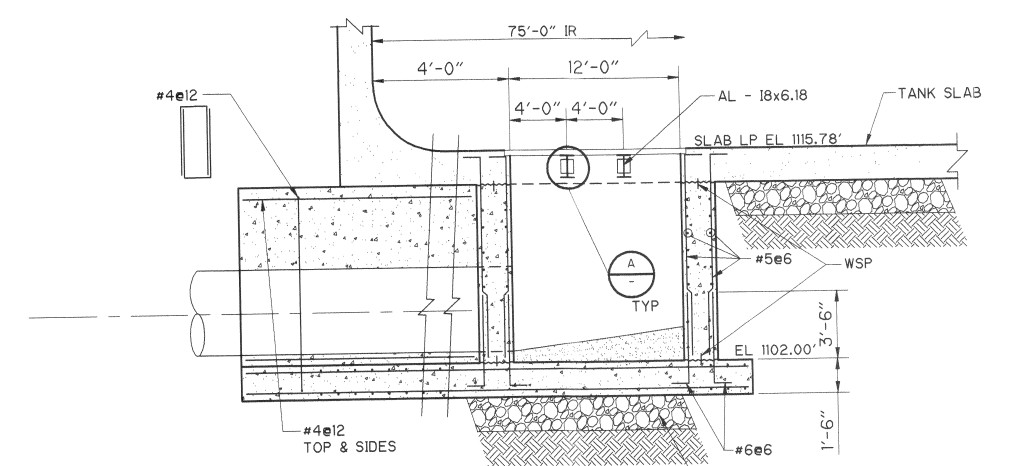
- STORAGE TANK CONSTRUCTION NOTES:
- DESIGN OF PRESTRESSED TANK WALLS, DOME AND FOUNDATION BY SPECIALTY ENGINEER/TANK MANUFACTURER PER SPECIFICATIONS.
 - DESIGN GROUND WATER LEVEL FOR BOUYANCY ANALYSIS: EL 1116.40'
 - TANK MANUFACTURER'S CALCULATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED FOR ENGINEER'S REVIEW.
 - FOUNDATION PREPARATION: PROOF ROLL BOTTOM OF EXCAVATION TO ATTAIN A MINIMUM DRY DENSITY OF 95% OF AASHTO T-180 TO A DEPTH OF 2-FEET BELOW EXCAVATION. COMPACT CLEAN FILL IN 12" MAX LIFTS TO THE SAME CRITERIA WHERE FILL IS REQUIRED.
 - TANK PIPE CONNECTIONS SHALL BE MADE AFTER WATER TESTING IS COMPLETED.
 - FOR PIPING, PIPE SUPPORTS, EMBEDDED ITEMS, TANK GEOMETRY, CONCRETE DOME, AND MECHANICAL EQUIPMENT, SEE "M" DRAWINGS.
 - ALL PRECAST PRESTRESSED MEMBERS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF GEORGIA FOR THE SUPERIMPOSED LOADS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF APPLICABLE SPECIFICATIONS. EQUIPMENT LOADS OR OTHER LOADING SHALL BE CONSIDERED AS REQUIRED.



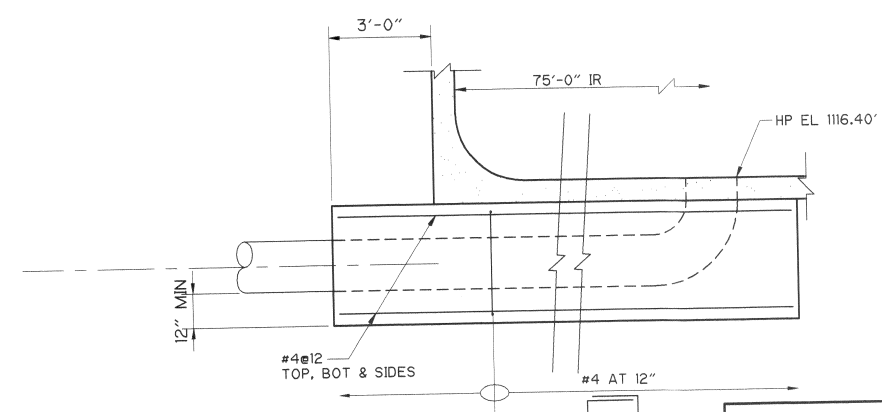
ALUMINUM BEAM TO CONCRETE
DETAIL A
NTS



DRAIN/DISCHARGE PIT FOUNDATION
PLAN
NTS



SECTION 1
NTS



SECTION 2
NTS

RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.
By: *[Signature]* Date: 1/10/00
CDM

REV. NO.	DATE	DRWN	CHKD	REMARKS
6/01	BMC	TAV		CONFORMED
4/01	BMC	TAV		ADDENDUM NO. 2

DESIGNED BY: T. VERWEY
DRAWN BY: R. PERMAN
SHEET CHK'D BY: T. VERWEY
CROSS CHK'D BY: N. GONCE
APPROVED BY: T. VERWEY
DATE: MARCH 2001

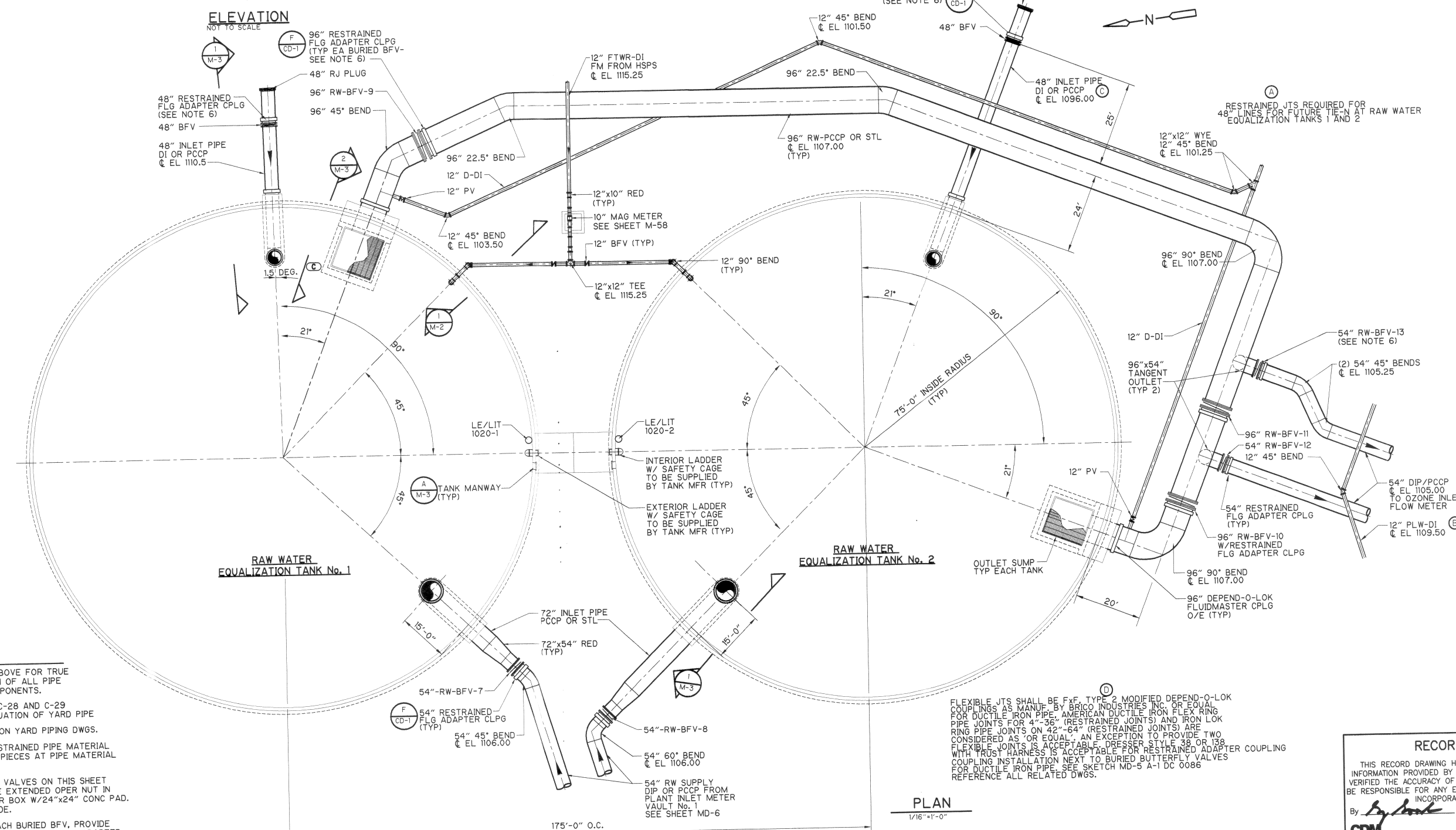
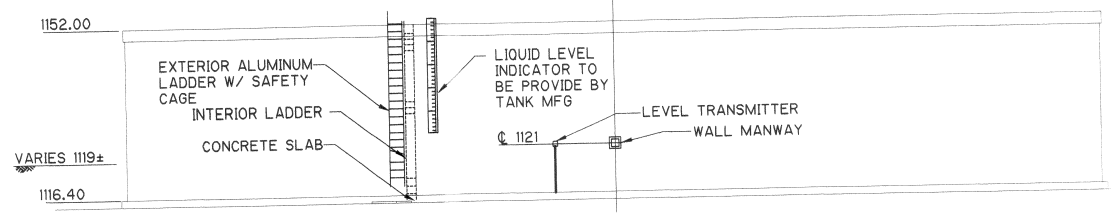
CDM Camp Dresser & McKee Inc.
consulting
engineering
construction
operations

DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA
SHOAL CREEK FILTER PLANT
1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

RAW WATER EQUALIZATION BASINS
PLAN, SECTIONS AND DETAILS

PROJECT NO. 6150-27674
FILE NAME: S-3
SHEET NO. **S-3**

LINE IS 2 INCHES
AT FULL SIZE
(IF NOT 2" - SCALE ACCORDINGLY)



RESTRAINED JTS REQUIRED FOR 48" LINES FOR FUTURE TIE-IN AT RAW WATER EQUALIZATION TANKS 1 AND 2

FLEXIBLE JTS SHALL BE F-V, TYPE 2 MODIFIED DEPEND-O-LOK COUPLINGS AS MANUF. BY BRICO INDUSTRIES INC. OR EQUAL FOR DUCTILE IRON PIPE, AMERICAN DUCTILE IRON FLEX RING PIPE JOINTS FOR 4"-36" (RESTRAINED JOINTS) AND IRON LOK RING PIPE JOINTS ON 42"-64" (RESTRAINED JOINTS) ARE CONSIDERED AS "OR EQUAL". AN EXCEPTION TO PROVIDE TWO FLEXIBLE JOINTS IS ACCEPTABLE FOR RESTRAINED ADAPTER COUPLING WITH TRUST HARNESS IS ACCEPTABLE FOR RESTRAINED ADAPTER COUPLING INSTALLATION NEXT TO BURIED BUTTERFLY VALVES FOR DUCTILE IRON PIPE. SEE SKETCH MD-5 A-1 DC 0086 REFERENCE ALL RELATED DWGS.

NOTES:

- SEE PLAN ABOVE FOR TRUE ORIENTATION OF ALL PIPE & TANK COMPONENTS.
- SEE SHEET C-28 AND C-29 FOR CONTINUATION OF YARD PIPE
- SEE NOTES ON YARD PIPING DWGS.
- PROVIDE RESTRAINED PIPE MATERIAL TRANSITION PIECES AT PIPE MATERIAL CHANGES.
- ALL BURIED VALVES ON THIS SHEET SHALL HAVE EXTENDED OPER NUT IN RISER IN FLR BOX W/24"x24" CONC PAD. AT FIN GRADE.
- NEXT TO EACH BURIED BFV, PROVIDE DEPEND-O-LOK FxFLANGED ADAPTER COUPLING, UNLESS OTHERWISE NOTED. SEE DETAIL F ON SHEET CD-1.

PLAN
1/16"=1'-0"

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.

By *[Signature]* Date *1/06*

CDM

11/21/01	PVB	DESIGNER CLARIFICATION 0086 (SEE SKETCH MD-5 A 1)		
10/24/01	PVB	DESIGNER CLARIFICATION 0068 (SEE SKETCHES M-2-A-1 & C-40-A-1)		
9/28/01	PVB	DESIGNER CLARIFICATION 0040		
9/4/01	PVB	DESIGNER CLARIFICATION 0032		
5/25/01	JJ NG	CONFORMED DRAWING		
REV NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: N.GONCE
DRAWN BY: RVR/TMM
SHEET CHK'D BY: CHECK
CROSS CHK'D BY: J. WILLIS
APPROVED BY:
DATE: MARCH 2001

CDM Camp Dresser & McKee Inc.
consulting
engineering
construction
operations

DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA

SHOAL CREEK FILTER PLANT
1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

**RAW WATER EQUALIZATION TANKS
PLAN AND ELEVATION**

PROJECT NO. 6150-27674
FILE NAME: 27674M02.dwg

SHEET NO.
M-2

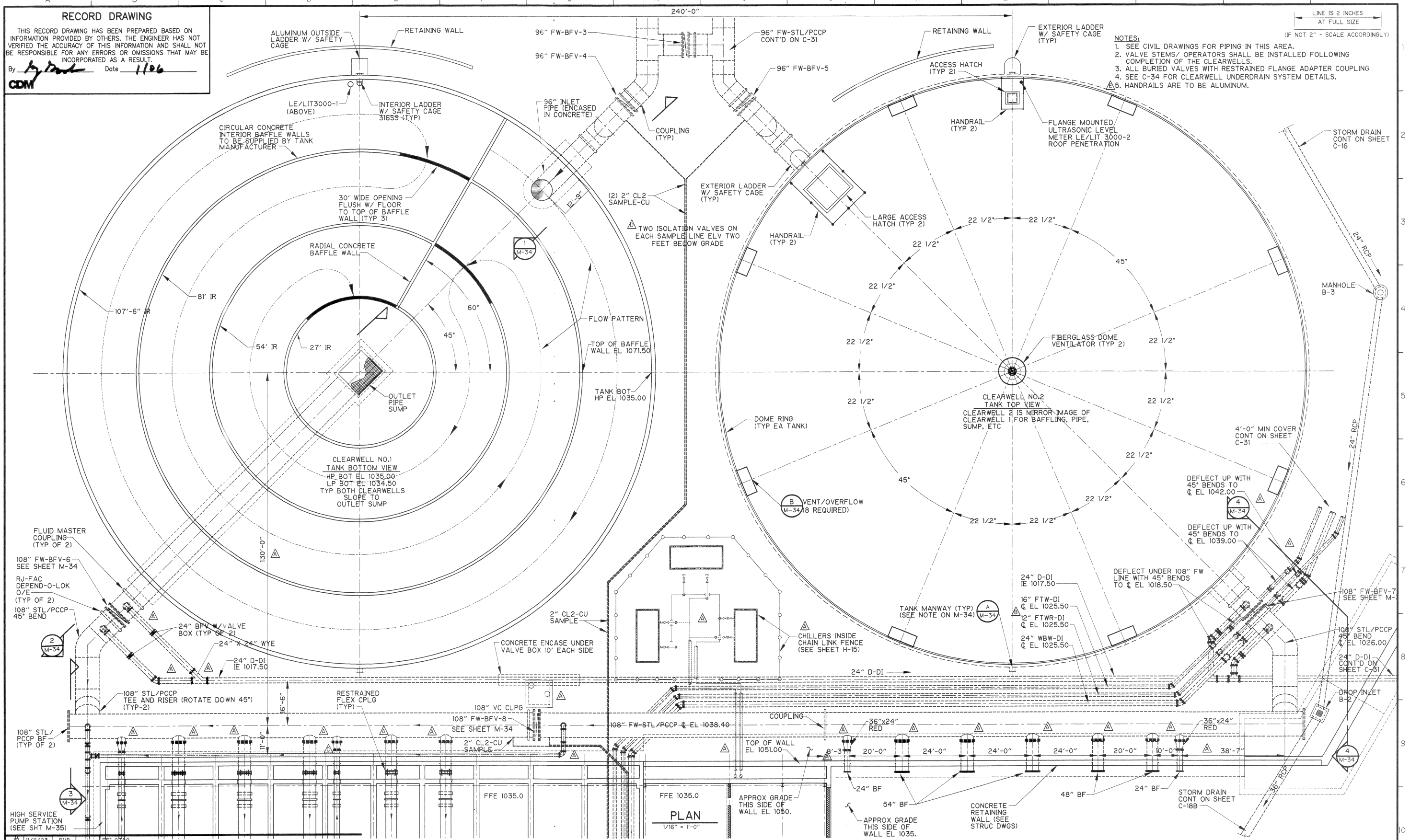
RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.

By *[Signature]* Date *1/06*
CDM

LINE IS 2 INCHES AT FULL SIZE
 (IF NOT 2" - SCALE ACCORDINGLY)

- NOTES:**
1. SEE CIVIL DRAWINGS FOR PIPING IN THIS AREA.
 2. VALVE STEMS / OPERATORS SHALL BE INSTALLED FOLLOWING COMPLETION OF THE CLEARWELLS.
 3. ALL BURIED VALVES WITH RESTRAINED FLANGE ADAPTER COUPLING
 4. SEE C-34 FOR CLEARWELL UNDERDRAIN SYSTEM DETAILS.
 5. HANDRAILS ARE TO BE ALUMINUM.



PLAN
 1/16" = 1'-0"

11/12/03	PVB	RFI 0780		
11/07/03	PVB	RFI 0764		
12/18/01	PVB	DESIGNER CLARIFICATION 0112		
12/6/01	PVB	DESIGNER CLARIFICATION 0097		
10/31/01	DMR	DESIGNER CLARIFICATION 0035REV (SEE SKETCH M-33-A-1)		
6/11/01	JJ	NG CONFORMED DRAWING		
5/4/01	TMM	NG ADDENDUM NO. 5		
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: **V. RAVISANGAR**
 DRAWN BY: **T.M. MORGAN**
 SHEET CHK'D BY: **W. DOWBIGGIN**
 CROSS CHK'D BY: **J. WILLIS**
 APPROVED BY: _____
 DATE: **MARCH 2001**

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations

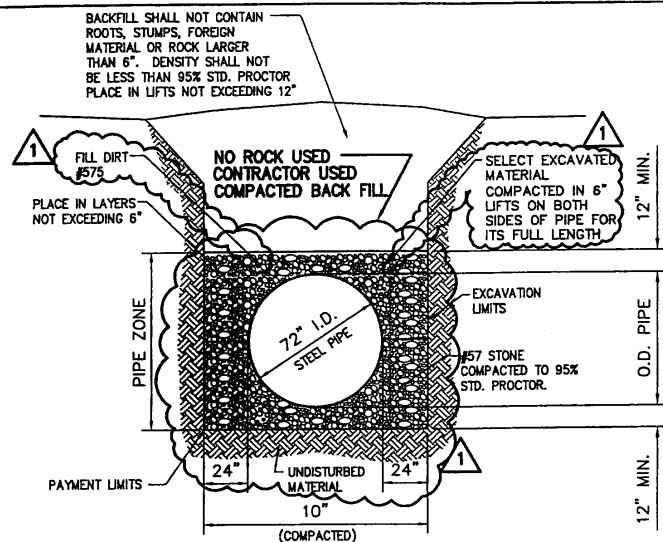
DEPARTMENT OF PUBLIC UTILITIES
GWINNETT COUNTY, GEORGIA

SHOAL CREEK FILTER PLANT
 1755 BUFORD DAM ROAD, BUFORD GEORGIA 30518

CLEARWELLS No. 1 AND 2
PLAN

PROJECT NO. 6150-27674
 FILE NAME: 27674M33.dwg

SHEET NO.
M-33



NOTES: (STEEL PIPE)

PIPE TRENCHES MAY BE EXCAVATED WIDER THAN TRENCH WIDTH SHEETED OR UNSHEETED ABOVE THE TOP OF PIPE ZONE.

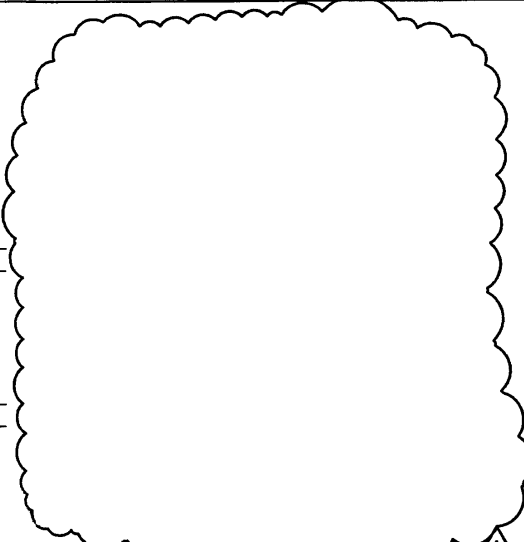
TRENCHES SHALL NOT BE EXCAVATED BEYOND THE TRENCH WIDTH BELOW THE PIPE ZONE.

SHEETING MUST BE USED IF EXCAVATION AND BACKFILL BELOW PIPE ZONE IS REQUIRED. SHEETING SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF PIPE.

PIPE MATERIAL SHALL BE ASTM A283 GRADE C.

INTERNAL BRACING SHALL BE PROVIDED DURING INSTALLATION TO MAINTAIN PIPE ROUND DURING BACKFILL. BRACING TO REMAIN UNTIL PIPE IS PROPERLY BACKFILLED.

STEEL PIPE BEDDING DETAIL
SCALE: 1/4"=1'-0"



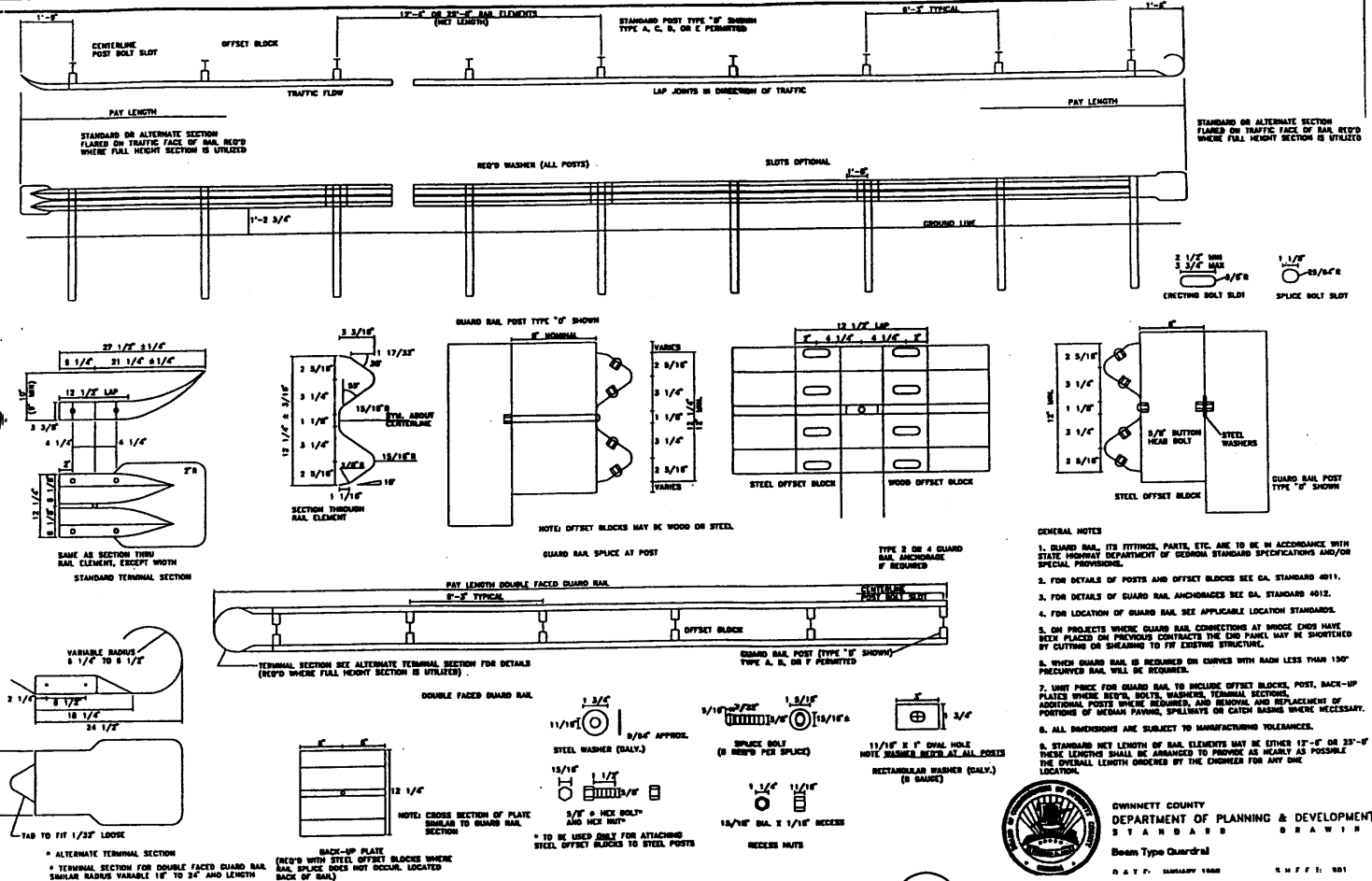
NOTES: (PRESTRESSED CONCRETE CYLINDER PIPE)

PIPE TRENCHES MAY BE EXCAVATED WIDER THAN TRENCH WIDTH SHEETED OR UNSHEETED ABOVE THE TOP OF PIPE ZONE.

TRENCHES SHALL NOT BE EXCAVATED BEYOND THE TRENCH WIDTH BELOW THE PIPE ZONE.

SHEETING MUST BE USED IF EXCAVATION AND BACKFILL BELOW PIPE ZONE IS REQUIRED. SHEETING SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF PIPE.

CONCRETE PIPE (PCCP) BEDDING DETAIL
SCALE: 1/4"=1'-0"

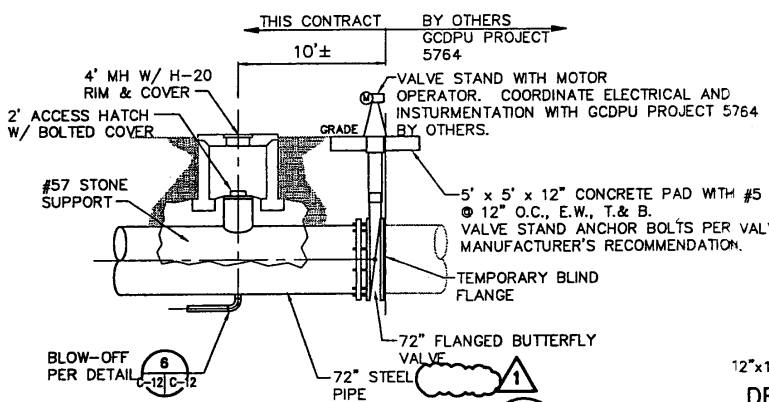


BEAM TYPE GUARDRAIL DETAILS
SCALE: N.T.S.

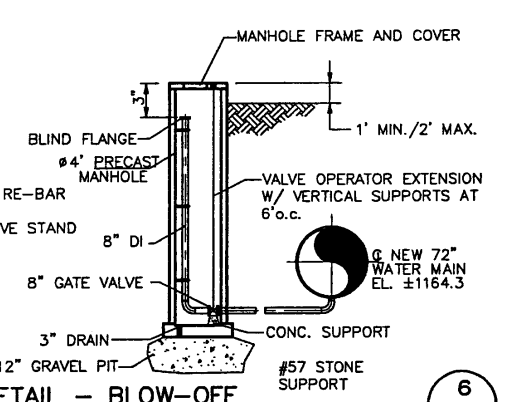
GENERAL NOTES

- GUARD RAIL, ITS FITTINGS, PARTS, ETC. ARE TO BE IN ACCORDANCE WITH STATE HIGHWAY DEPARTMENT OF GEORGIA STANDARD SPECIFICATIONS AND/OR SPECIAL PROVISIONS.
- FOR DETAILS OF POSTS AND OFFSET BLOCKS SEE GA. STANDARD 401.1.
- FOR DETAILS OF GUARD RAIL ANCHORAGE SEE GA. STANDARD 401.2.
- FOR LOCATION OF GUARD RAIL SEE APPLICABLE LOCATION STANDARDS.
- ON PROJECTS WHERE GUARD RAIL CONNECTIONS TO EXISTING STRUCTURES ARE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND APPROVALS FROM THE APPLICABLE AGENCIES.
- WHEN GUARD RAIL IS REQUIRED ON CURVES WITH RADIUS LESS THAN 150' PRECURVED RAIL WILL BE REQUIRED.
- NOTE: FINISH FOR GUARD RAIL TO INCLUDE OFFSET BLOCKS, POST, BACK-UP PLATES WHERE NECESSARY, BOLTS, WASHERS, TERMINAL SECTIONS, ADDITIONAL POSTS WHERE NECESSARY, AND REMOVAL AND REPLACEMENT OF PORTIONS OF MEDIAN FURNISH, SPILLWAYS OR CATCH BASINS WHERE NECESSARY.
- ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
- STANDARD NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 17'-0" OR 25'-0" THESE LENGTHS SHALL BE ARRANGED TO PROVIDE AS NEARLY AS POSSIBLE THE OVERALL LENGTH ORDERED BY THE OWNER FOR ANY ONE LOCATION.

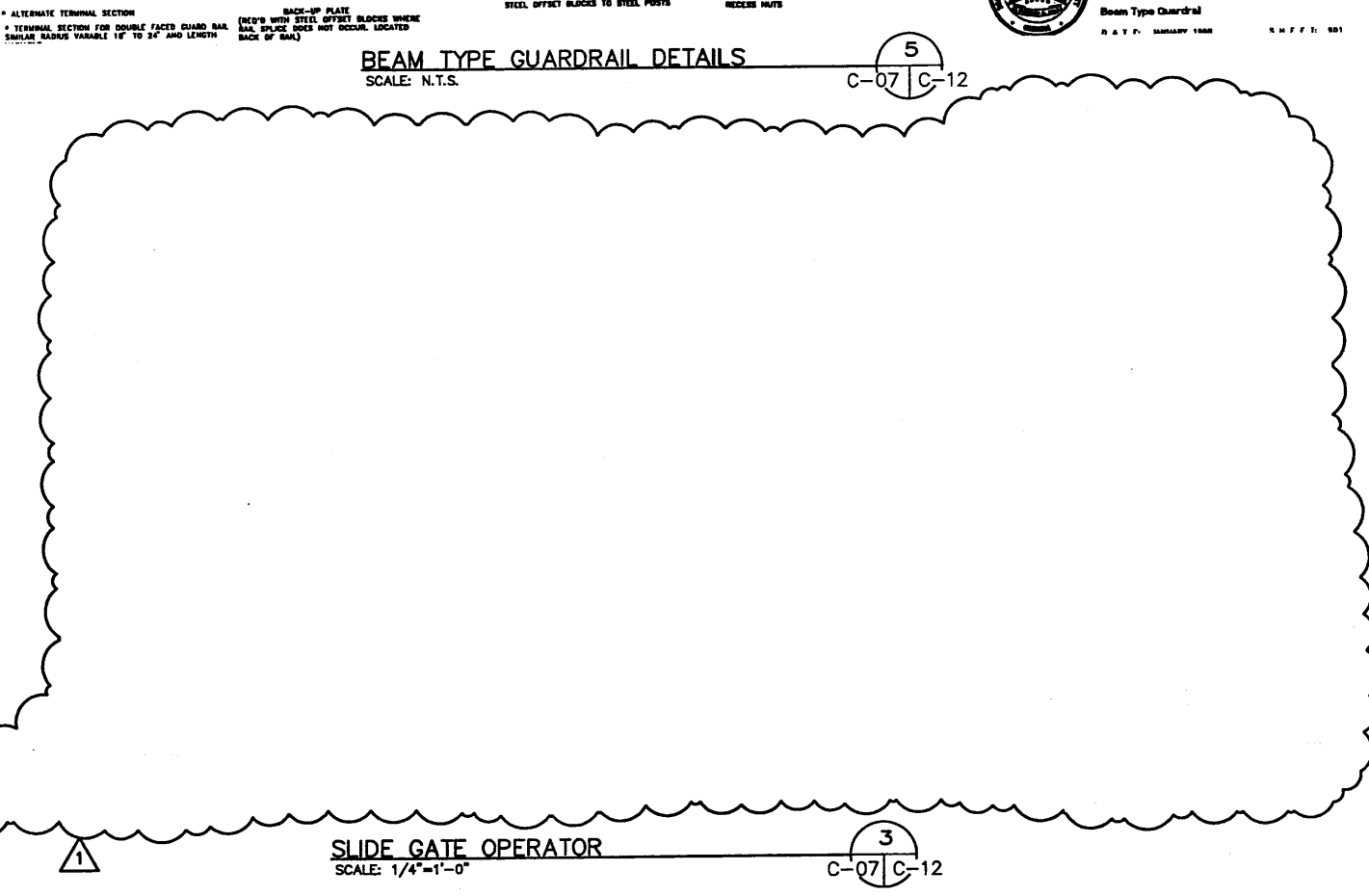
GWINNETT COUNTY
DEPARTMENT OF PLANNING & DEVELOPMENT
STANDARDS DRAWING
Beam Type Guardrail
DATE: JANUARY 1988
SCALE: 1/4"=1'-0"



DETAIL - BURIED BUTTERFLY VLV.
SCALE: N.T.S.



DETAIL - BLOW-OFF
SCALE: N.T.S.



SLIDE GATE OPERATOR
SCALE: 1/4"=1'-0"

CHANNEL CHART

Open Channel Number	Contributing Drainage Area (acres)	Runoff Coefficient (C)	Conveyance Size	Lining Material	Channel Length (ft)	Channel Slope min. (ft/ft)	V ₂₅ (fps)	Design Storm Frequency (yr)	Design Discharge (cfs)	Normal Flow Depth (25 year)
1	0.21	0.42	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	160	0.050	2.30	25	0.81	2.30 inches
2	0.43	0.42	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	370	0.100	3.48	25	1.65	2.54 inches
3	0.19	0.44	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	160	0.050	2.17	25	0.76	2.11 inches
4	0.23	0.53	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	360	0.100	3.10	25	1.10	2.14 inches
5	0.37	0.41	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	240	0.067	3.06	25	1.37	2.34 inches
6	0.09	0.44	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	100	0.120	1.20	25	0.36	1.94 inches
7	0.53	0.37	1 ft bottom with 2:1 and 12:1 side slopes	Vegetative	200	0.067	3.07	25	1.76	2.85 inches
8	11.04	0.31	5 ft bottom with 4:1 side slopes	Vegetative	250	0.067	5.16	25	31.27	11.48 inches
9	4.17	0.42	5 ft bottom with 3.5:1 side slopes	Vegetative	150	0.125	5.35	25	15.93	7.58 inches

Job No. 735736.01
Designed: J.J.G.
Drawn: J.J.G.
Checked: BAC
Reviewed: DSF
Approved: DSF
Reg. No. 12143
Date

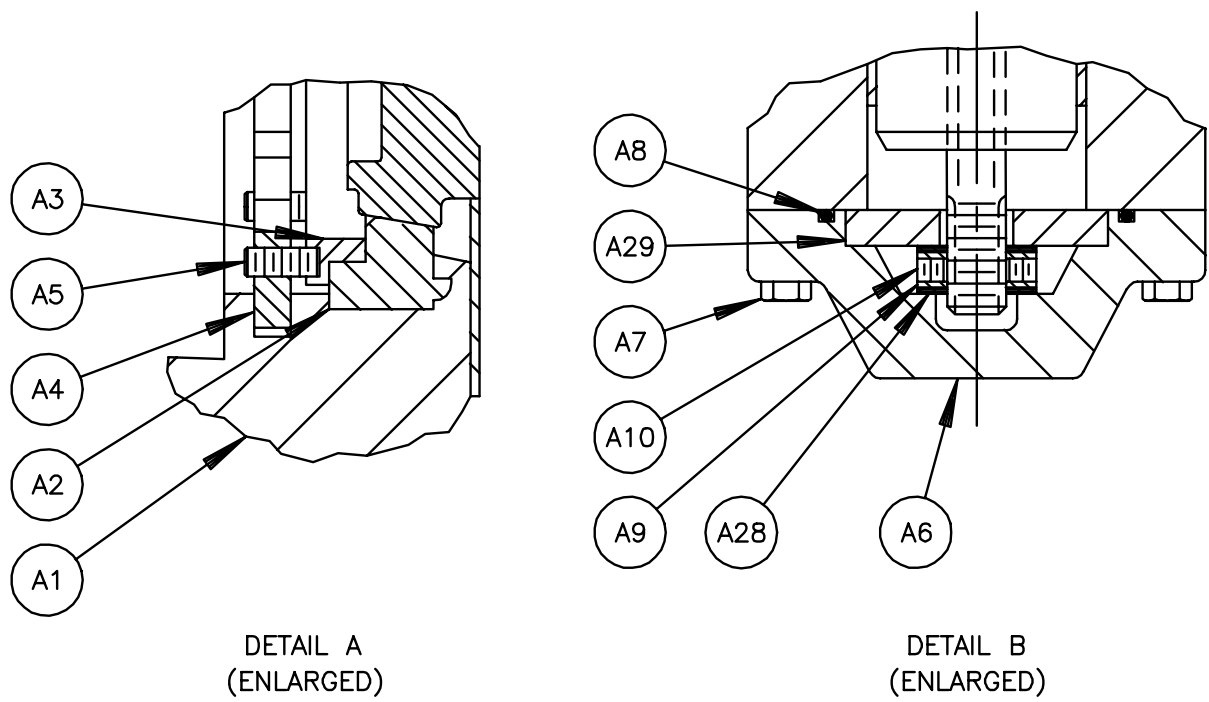
Issue Certification
Department of Public Utilities
Water System Improvements
Gwinnett County, Georgia

PARSONS ENGINEERING SCIENCE, INC.
5390 Triangle Parkway, Suite 100, Norcross, GA 30092, (770) 446-4900

SHOAL CREEK RAW WATER INTAKE, PUMP STATION, AND WATER LINE AT LAKE LANIER
CIVIL DETAILS II

DRAWING NO. C-12
REV. 1

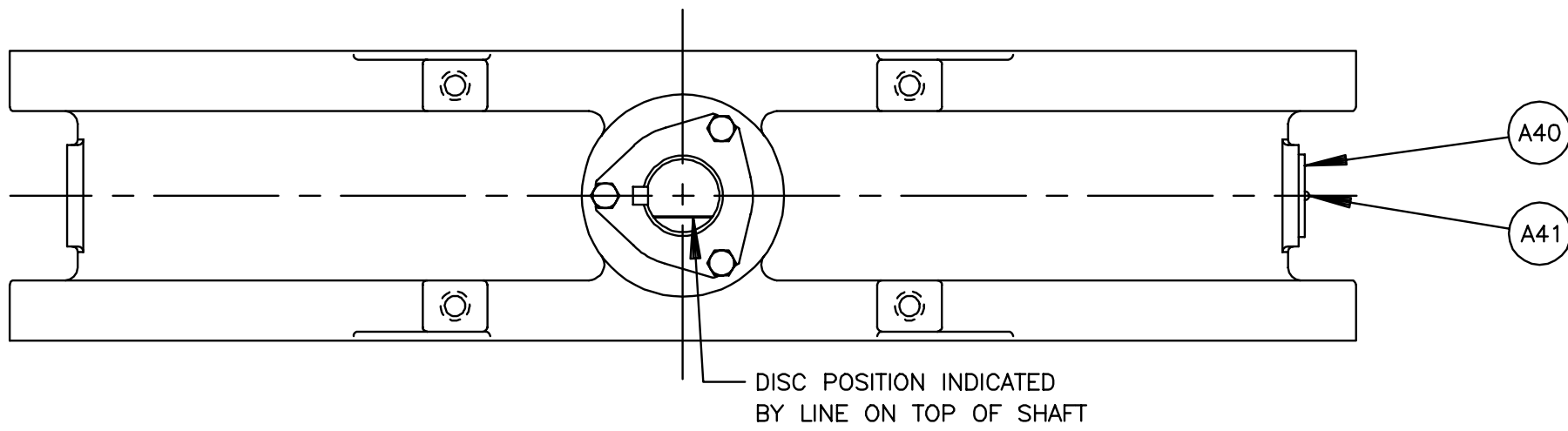
J:\735736\ASBUILTS\6-C12.dwg, Layout1, 12/06/2004 02:33:57 PM, p0078801, 1:2



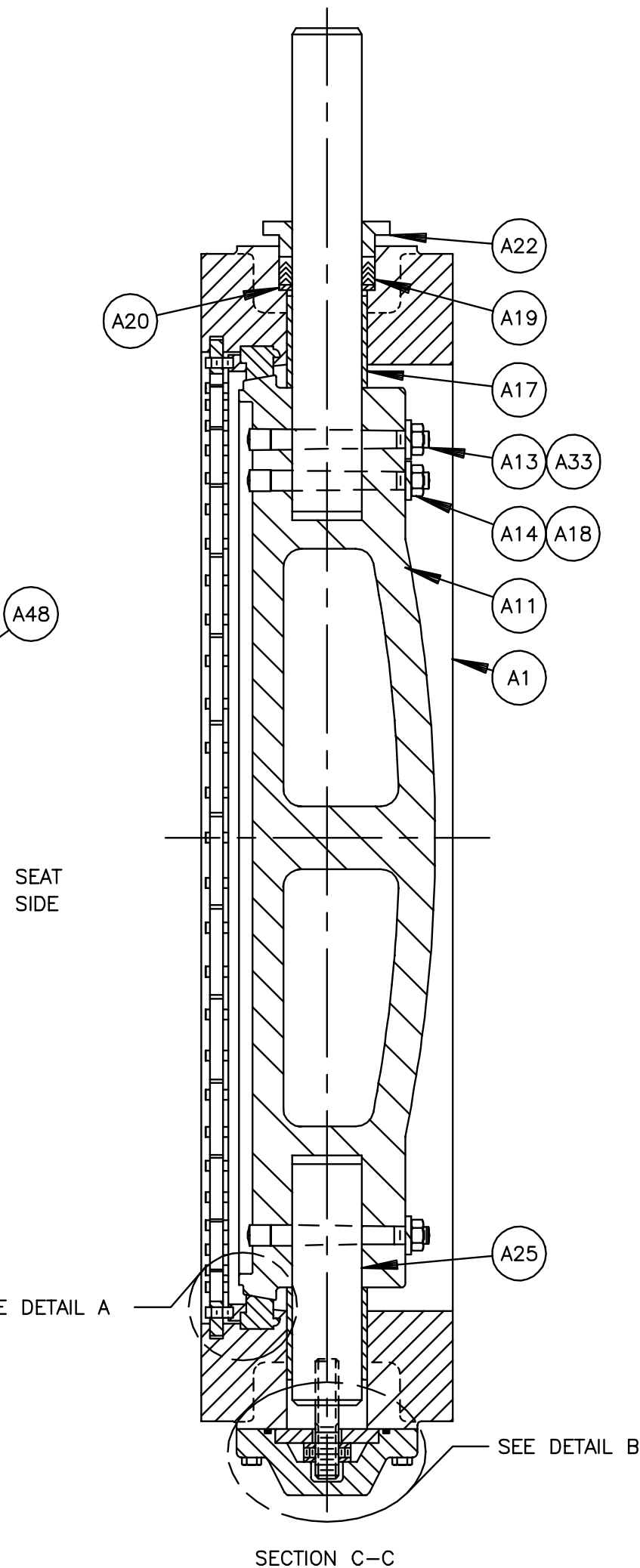
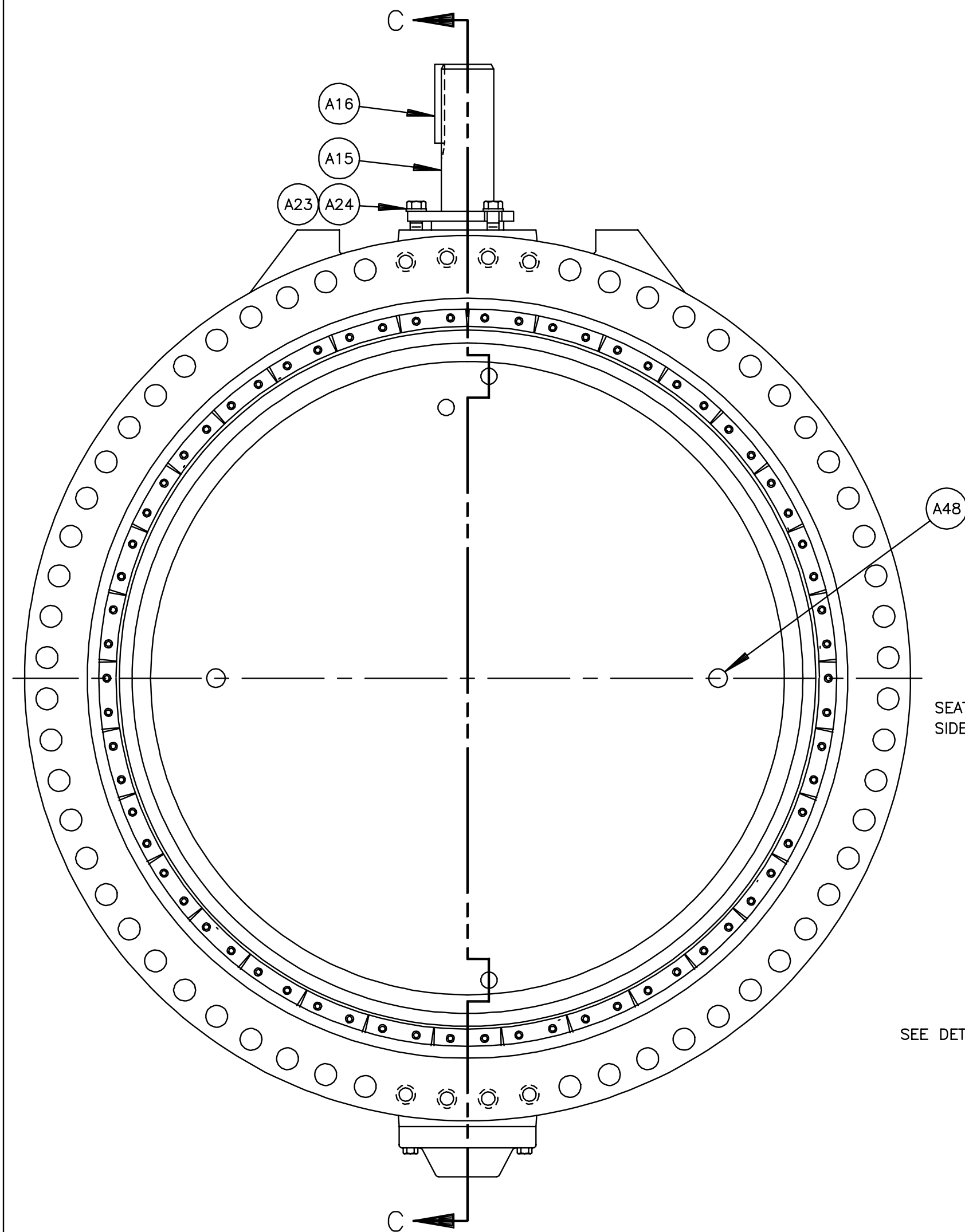
NOTE:

1. WHEN ORDERING PARTS, SPECIFY VALVE SIZE AND MODEL NUMBER FROM DATA PLATE, ALSO GIVE DRAWING NUMBER WITH PART NAME, ITEM NUMBER AND QUANTITY.
2. RECOMMENDED SPARE PARTS ARE ITEMS NO. A2, A4, A5, A8, A17, A19 & A20.
3. THE DISC, ITEM NO. A11, AND THE SHAFTS, ITEM NO. A15 & A25 MUST BE ORDERED AS AN ASSEMBLY.

NO	PART NAME	QTY
A1	BODY	1
A2	SEAT	1
A3	CLAMPING RING	1
A4	CLAMPING RING LOCK	33
A4	CLAMPING RING LOCK (250B ONLY)	66
A5	SET SCREW	66
A5	SET SCREW (250B ONLY)	132
A6	THRUST BEARING COVER	1
A7	SCREW	8
A8	O-RING	1
A9	THRUST COLLAR	1
A10	SET SCREW	2
A11	DISC	1
A13	PIN	3
A14	NUT	3
A15	UPPER SHAFT	1
A16	KEY	1
A17	BEARING	2
A18	LOCKWASHER	3
A19	PACKING	-
A20	SPACER (PTFE PACKING ONLY)	1
A22	GLAND	1
A23	SCREW	3
A24	WASHER	3
A25	STUB SHAFT	1
A28	THRUST WASHER	2
A29	THRUST PLATE	1
A33	O-RING	3
A40	VALVE CLASSIFICATION PLATE (WHEN REQ'D)	1
A41	DRIVE SCREW (USED WITH A40)	4
A48	PLUG	2



DISC POSITION INDICATED BY LINE ON TOP OF SHAFT



G	F	E	D	C	B	A

DeZURIK
Sartell, MN USA 56377
www.dezurik.com

BAW BUTTERFLY VALVE SIZE 108 FLANGED VALVE ASSEMBLY WITH LOCKWASHERS ON DISC PINS			
DOCT. CODE	DRAWN	BMP	APPROVED
C1	CHECKED	GK	GK
		DATE	08/02/11
			J57756

VALVE SIZE	DIMENSIONS										
	INCHES MILLIMETERS										
	A	B	C	D	E	F	G	H	J	K	L
108	28.00 711	4.00 102	70.62 1794	70.56 1792	120.75 3067	2.75 70	64	2-1/2-4 UNC	8	4.00 102	126.75 3219

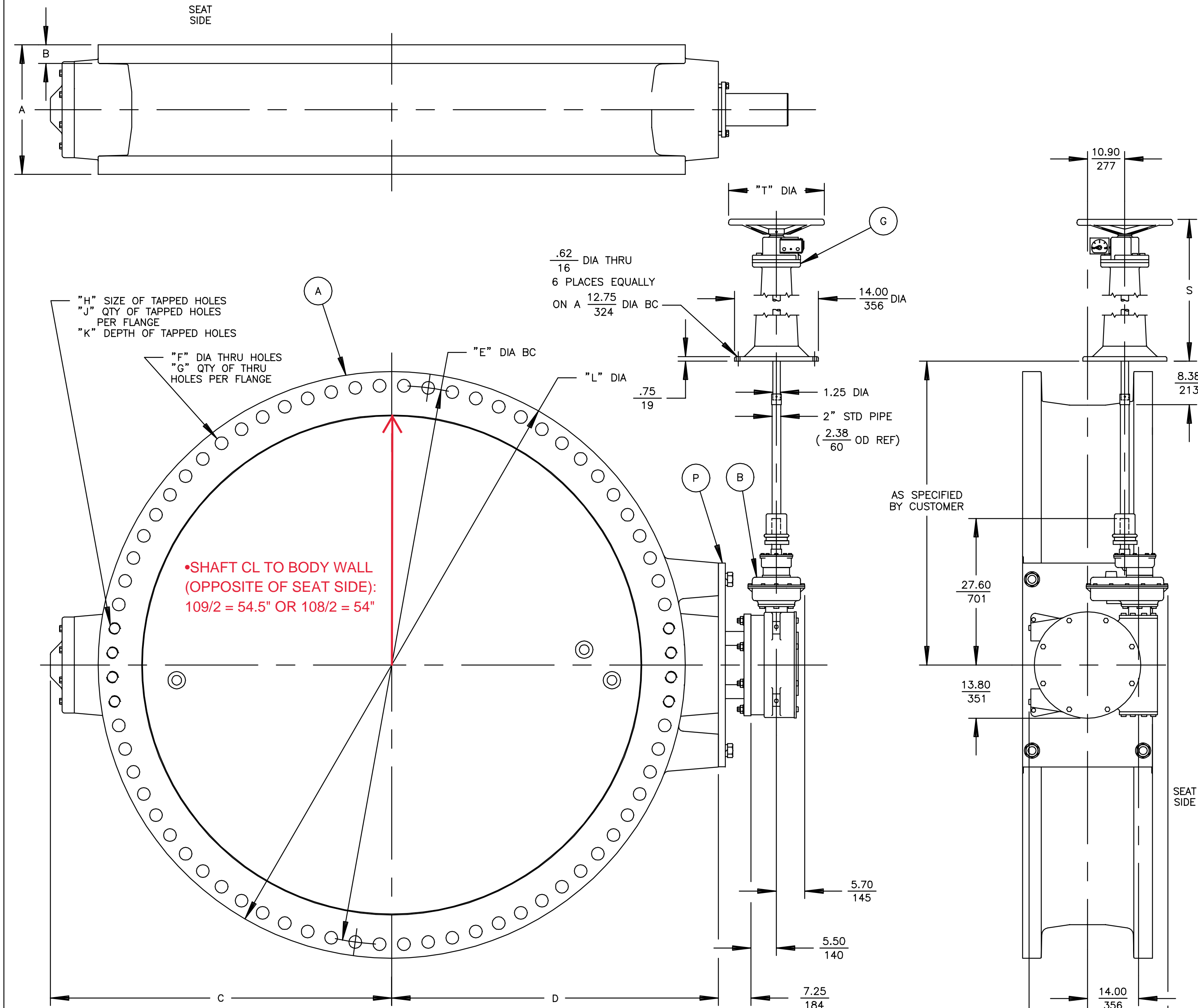
HANDWHEEL SIZE	DIM INCHES MILLIMETERS		ACTUATOR NUMBER	DIM IN MM V
	S	T		
HD16	37.38 949	16.00 406	WB75-A	465
HD24	41.38 1051	24.00 610		
HD30	42.88 1089	30.00 762		
HD36	44.88 1140	36.00 914		

NOTICE
THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.

A	VALVE
B	ACTUATOR
G	DIAL INDICATING FLOORSTAND
P	CONNECTING PARTS

NOTE:

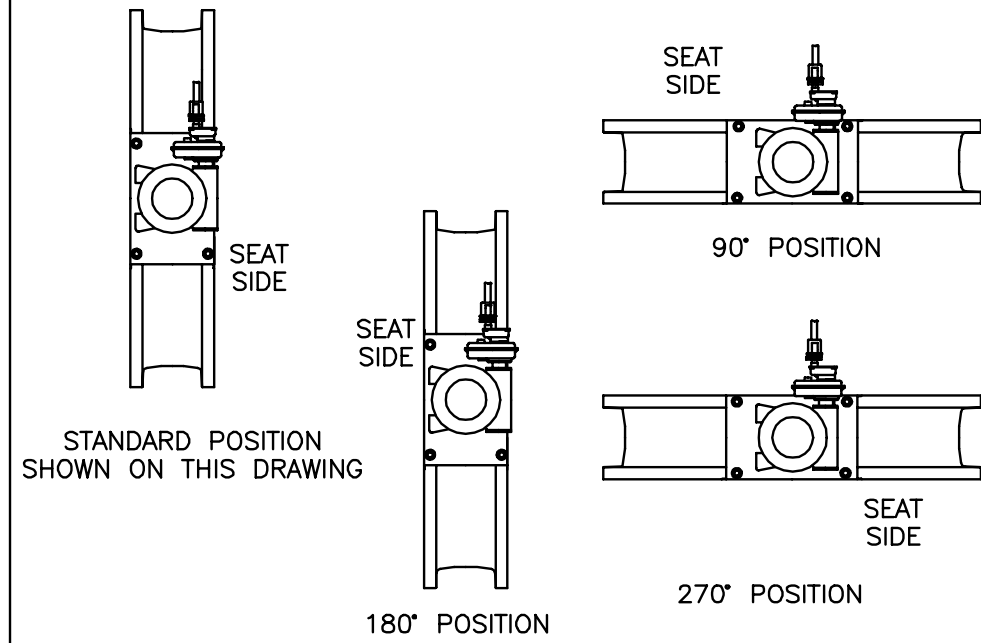
1. FLANGES ARE FLAT FACED WITH DIMENSIONS AND DRILLING TO ANSI B16.1 CLASS 125 EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A-26506 FOR NON-ANSI FLANGED DATA.
2. FLOW MAY BE IN EITHER DIRECTION. FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.
3. "V" TURNS OF HANDWHEEL ARE REQUIRED TO OPEN VALVE.



•SHAFT CL TO BODY WALL
(OPPOSITE OF SEAT SIDE):
109/2 = 54.5" OR 108/2 = 54"

- THICKNESS OF DISC IN NON-RIBBED SECTIONS: 2.5"
- THICKNESS OF DISC EDGE: 0.5"
- DISC WEIGHT: 18,000 LB.
- INSIDE DIAMETER OF VALVE BODY: 108" ON NON SEAT SIDE, 109" MAX IN CENTER

ACTUATOR MOUNTING POSITIONS



REFERENCE ONLY. DIMENSIONS ARE APPROXIMATE.

50312	04/01/02
A	
B	
C	
D	
E	
F	
G	

DeZURIK
Sartell, MN USA 56377
www.dezurik.com

108 BAW BUTTERFLY VALVE FLANGED EIM WB75-A GEAR UNIT ACTUATOR W/2" SQUARE NUT AND FSDI DIAL INDICATING FLOORSTAND			
DOCT. CODE	DRAWN	APPROVED	
C1	BMP	GK	
CHECKED	DATE		
GK	09/19/01		
			J52507

VALVE SIZE	CLASS	DIMENSIONS											
		INCHES MILLIMETERS											
A	B	C	D	E	F	G	H	J	K	L	M		
54	75B	15.00 381	3.12 79	36.86 938	35.25 895	62.75 1594	2.00 51	36	1-3/4-5 UNC	B	3.00 76	66.25 1683	10.00 255

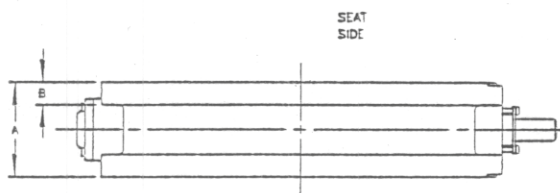
ACTUATOR NUMBER	DIM IN MM
WB54-A	V
	70

A	VALVE
B	ACTUATOR
C	EXTENDED NUT
F	CONNECTING PARTS

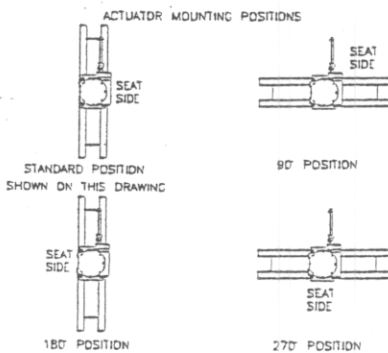
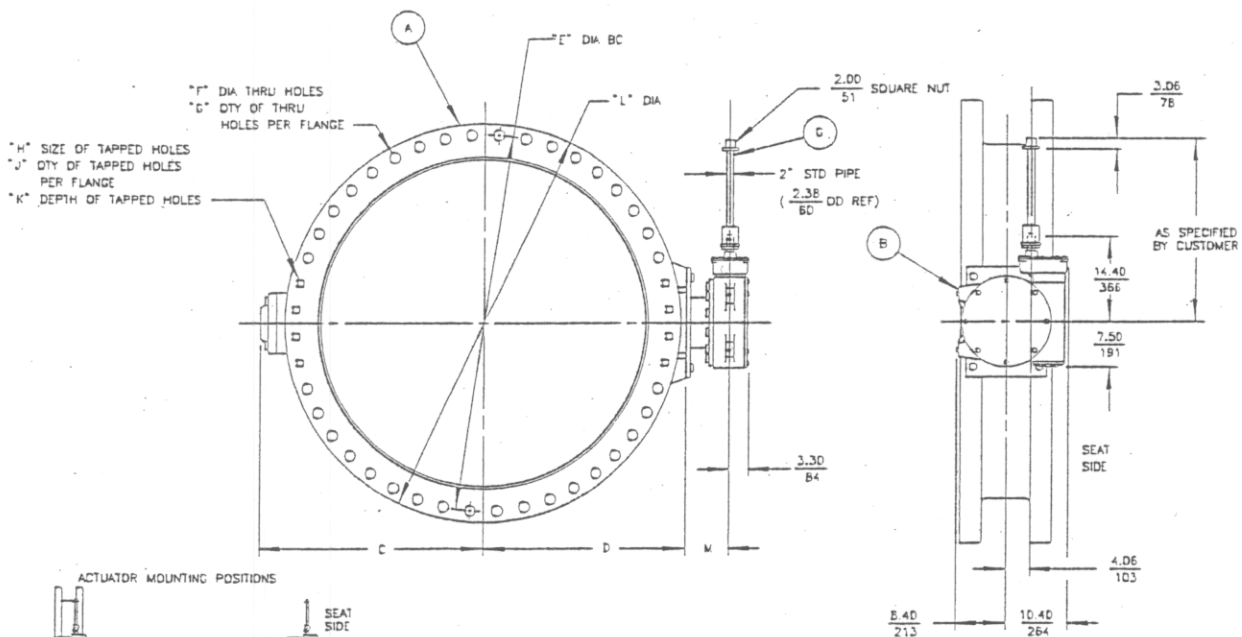
CUSTOMER TAG INFORMATION
TAG 54" VALVE: RW-BFV-7,B; RW-BFV-12,13

NOTE:

1. FLANGES ARE FLAT FACED WITH DIMENSIONS AND DRILLING TO ANSI B16.1 CLASS 125 EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A-26506 FOR NON-ANSI FLANGED DATA.
2. FLOW MAY BE IN EITHER DIRECTION. FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.
3. "V" TURNS OF OPERATING NUT ARE REQUIRED TO OPEN VALVE.



NOTICE
THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.



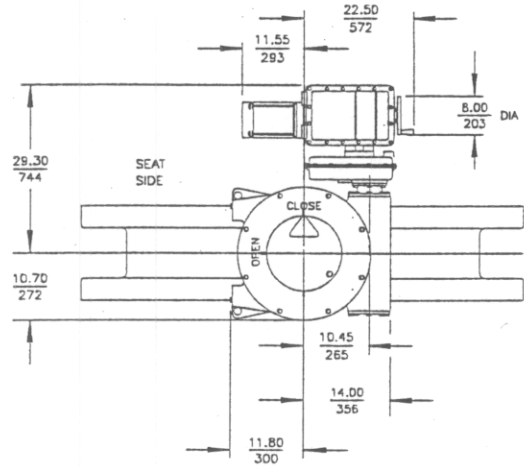
		BAW BUTTERFLY VALVES SIZE 54 FLANGED WB54-A GEAR UNIT ACTUATOR W/2" SQUARE NUT AND ENDS EXTENDED NUT	
SARTELL, MINNESOTA, U.S.A. 56377 CAMBRIDGE, ONTARIO, CANADA		APPROVED DATE 01/05/01	
DDC1 CODE C1	DRAWN DIA CHECKED GK	APPROVED CK	J-52122

VALVE SIZE	CLASS	DIMENSIONS										
		INCHES MILLIMETERS										
A	B	C	D	E	F	G	H	J	K	L		
72	75 B	18.00 457	3.62 92	50.06 1272	45.75 1162	82.50 2096	2.00 51	52	1-3/4-5 UNC	B	3.50 89	86.50 2197

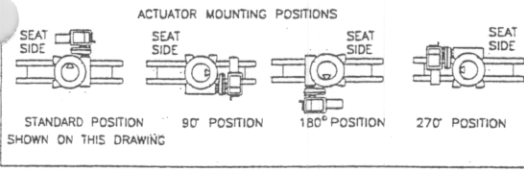
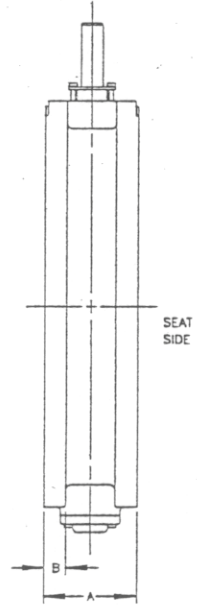
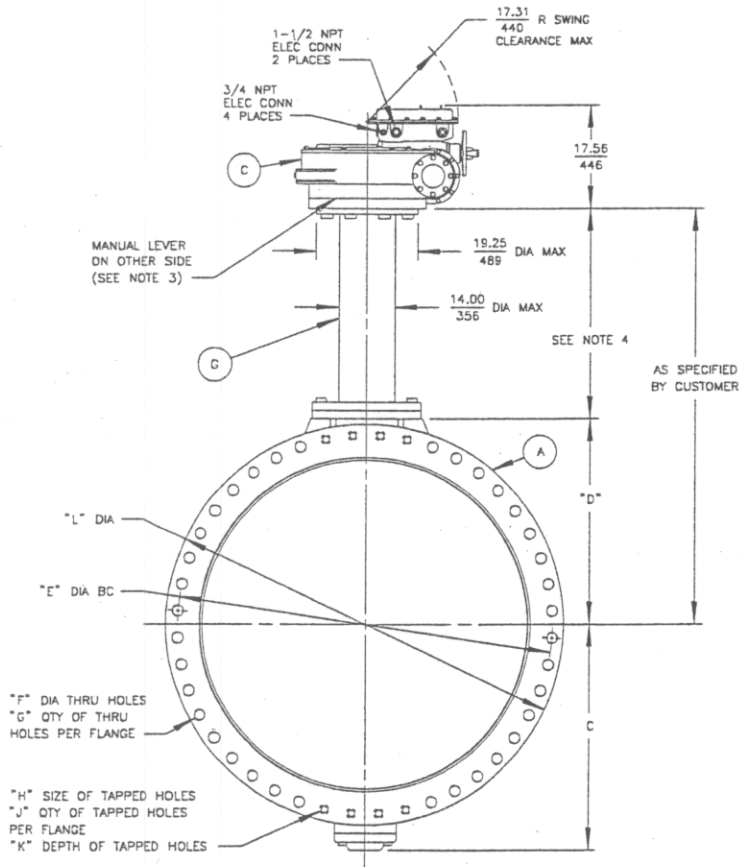
A	VALVE
C	MOTOR & GEAR UNIT
G	NECK EXTENSION

CUSTOMER TAG INFORMATION
TAG 72" VALVE: RW-BFV-4,5,6

- NOTE:
- FLANGES ARE FLAT FACED WITH DIMENSIONS AND DRILLING TO ANSI B16.1 CLASS 125 EXCEPT FOR TAPPED HOLES AS INDICATED. SEE A-26506 FOR NON-ANSI FLANGED DATA.
 - FLOW MAY BE IN EITHER DIRECTION. FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.
 - FOR MANUAL OPERATION PUSH LEVER IN DIRECTION OF ARROW ONLY. UNIT REMAINS IN HAND OPERATION UNTIL MOTOR IS ENERGIZED.
 - SUPPORT REQUIRED BY CUSTOMER WHEN EXTENSION IS MOUNTED OTHER THAN VERTICAL OR VERTICAL EXTENSIONS OVER $\frac{36.00}{914}$



NOTICE
THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.



SPX VALVES & CONTROLS
SARTELL, MN, U.S.A. 56377

DDCT. CODE	DRAWN	MOC	APPROVED
C1	CHECKED	GK	DATE
			07/12/01

AWWA BUTTERFLY VALVES SIZE 72 FLANGED
EIM M-5A01/40G MOTOR ACTUATED WITH ENK NECK EXTENSION

J52363

VALVE SIZE	DIMENSIONS											
	INCHES MILLIMETERS											
	A	B	C	D	E	F	G	H	J	K	L	M
96	26.00 660	4.25 108	66.25 1683	63.50 1612	102.50 2756	2.50 64	60	2-1/4 - 4-1/2 UNC	B	4.38 111	113.25 2877	13.38 340

ACTUATOR NUMBER	DIM. #
WB74-B	270

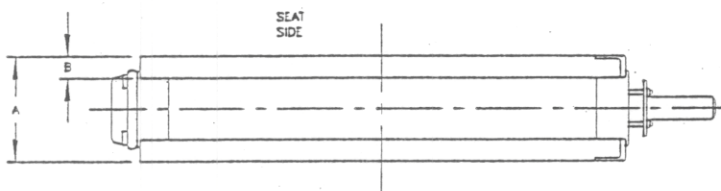
A	VALVE
B	ACTUATOR
C	EXTENDED NUT
P	CONNECTING PARTS

NOTE:

1. FLANGES ARE FLAT FACED WITH THRU HOLE DRILLING PER AWWA C207, EXCEPT FOR TAPPED HOLES AS INDICATED.
2. FLOW MAY BE IN EITHER DIRECTION. FOR MAINTENANCE PURPOSES THE SEAT SIDE SHOULD BE ACCESSIBLE.
3. "V" TURNS OF OPERATING NUT ARE REQUIRED TO OPEN VALVE.

NOTICE
THIS DRAWING DOES NOT SHOW ACTUATOR ACCESSORIES. IF ACCESSORIES ARE REQUIRED, REFER TO THE APPROPRIATE ACCESSORY INSTALLATION DRAWING FOR DIMENSIONS AND OTHER RELATED INFORMATION.

CUSTOMER TAG INFORMATION
TAG 96" VALVE: FW-BFV-4,5; FW-BFV-3; RW-BFV-10,11; RW-BFV-9; OZW-BFV-1,2

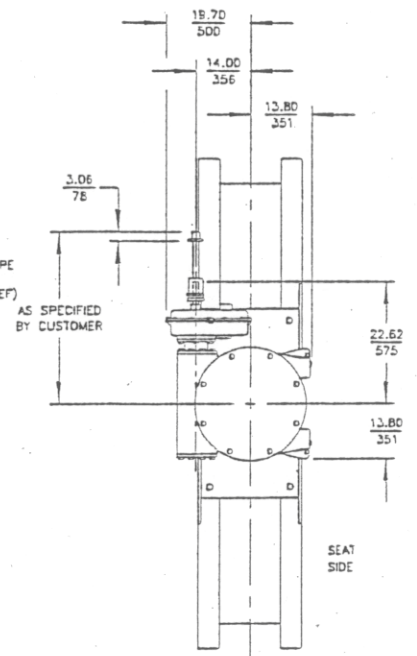
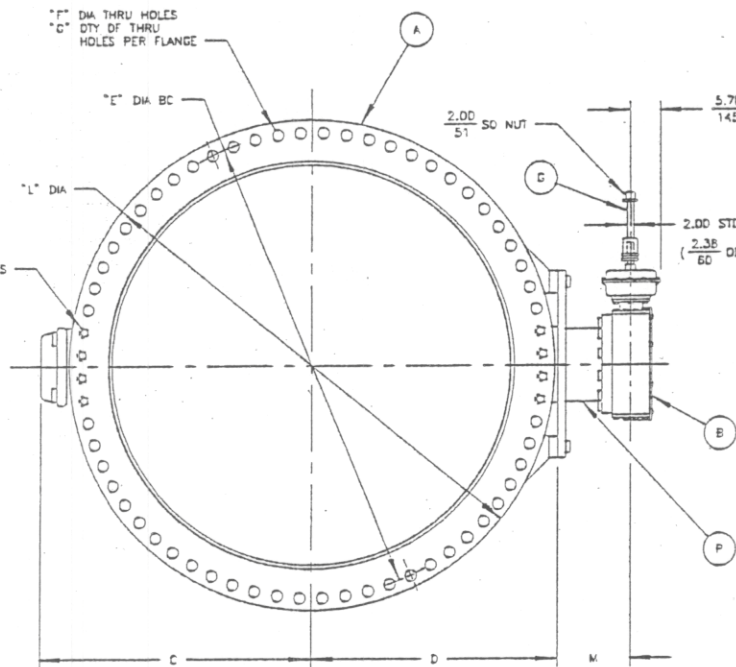


"F" DIA THRU HOLES
"C" QTY OF THRU HOLES PER FLANGE

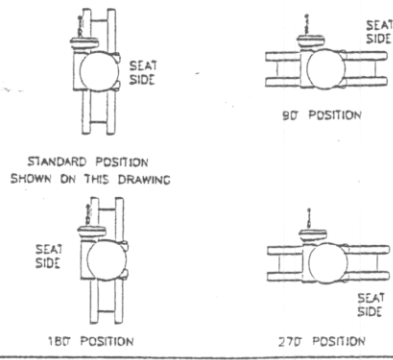
"E" DIA BC

"L" DIA

"H" SIZE OF TAPPED HOLES
"J" QTY OF TAPPED HOLES PER FLANGE
"K" DEPTH OF TAPPED HOLES



ACTUATOR MOUNTING POSITIONS

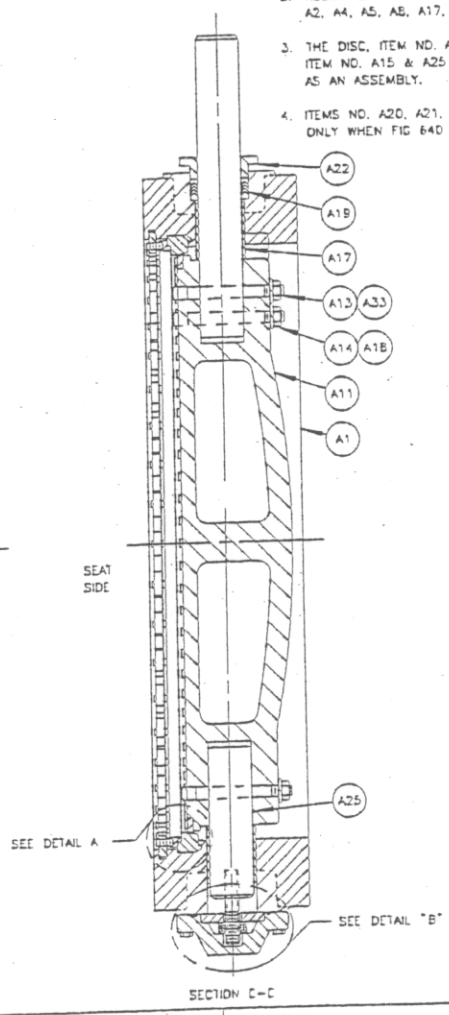
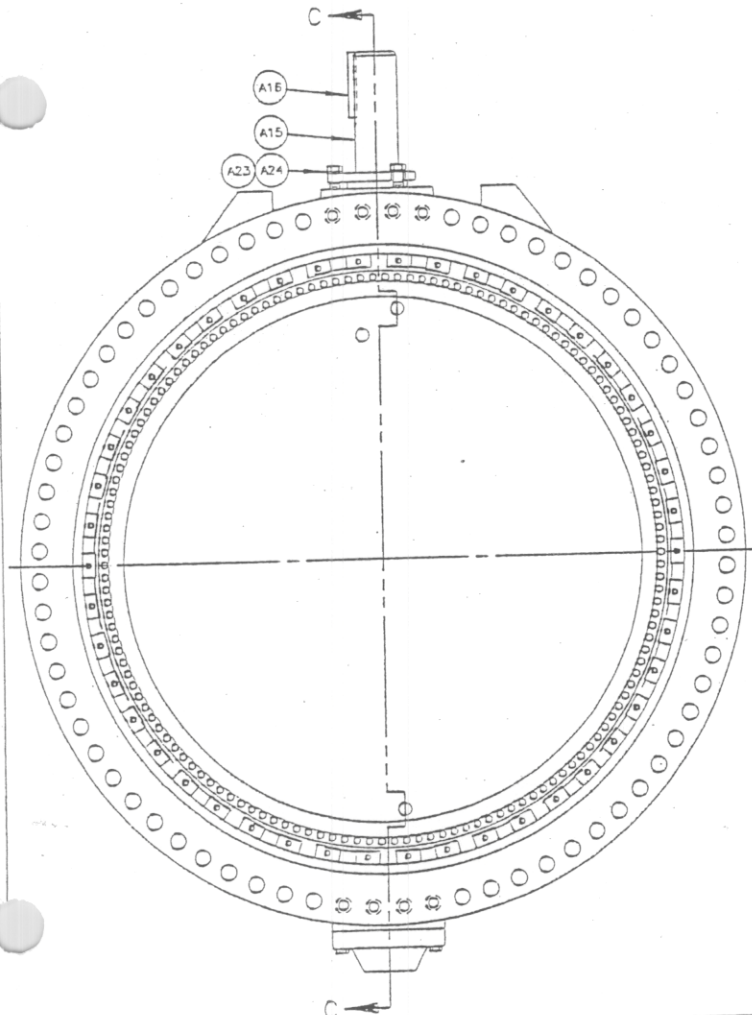
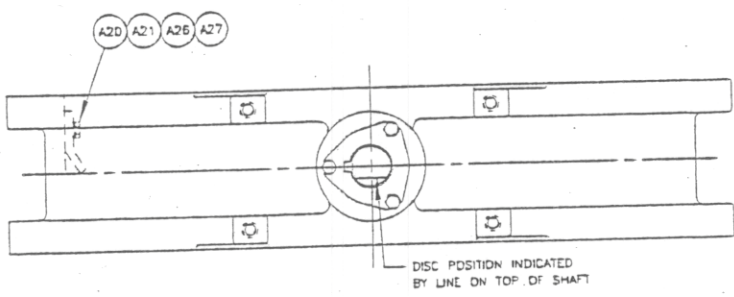
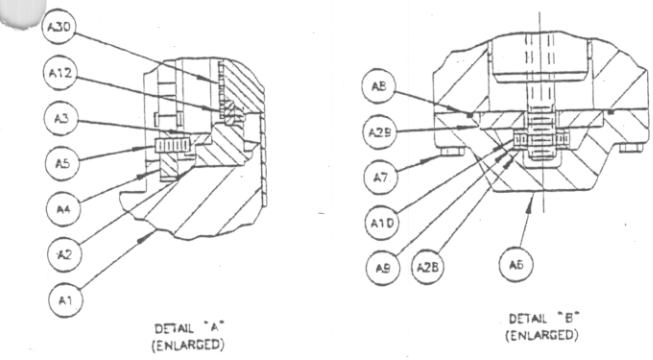


		BAW BUTTERFLY VALVES SIZE 96 FLANGED EIM WB74-B GEAR UNIT ACTUATOR WITH 2" SQUARE NUT AND ENDS EXTENDED NUT	
SRIEL, MINNESOTA, U.S.A. 55371 CAMBRIDGE, ONTARIO, CANADA	DDCT. CDDI.	DRAWN JSM CHECKED GK	APPROVED GK DATE 05/04/01
J52475			

NO	PART NAME	QTY
A1	BODY	1
A2	SEAT	1
A3	CLAMPING RING	1
A4	CLAMPING RING LOCK	40
A5	SET SCREW	40
A6	THRUST BEARING COVER	1
A7	SCREW	8
A8	O-RING	1
A9	THRUST COLLAR	1
A10	SET SCREW	2
A11	DISC	1
A12	SEAT RING	1
A13	PIN	3
A14	NUT	3
A15	OPERATOR SHAFT	1
A16	KEY	1
A17	BEARING	2
A18	LOCKWASHER	3
A19	PACKING	-
A20	DISC STOP (SEE NOTE 4)	1
A21	SCREW (SEE NOTE 4)	1
A22	GLAND	1
A23	SCREW	3
A24	WASHER	3
A25	STUB SHAFT	1
A26	LOCKWASHER (SEE NOTE 4)	1
A27	PIN (SEE NOTE 4)	-
A28	THRUST WASHER	2
A29	THRUST PLATE	1
A30	SCREW	116
A33	O-RING	3

NOTE:

1. WHEN ORDERING PARTS, INCLUDE VALVE SIZE AND PART NUMBER FROM DATA PLATE. ALSO INCLUDE THIS DRAWING NUMBER WITH PART NAME, NUMBER AND QUANTITY.
2. RECOMMENDED SPARE PARTS ARE ITEM NUMBERS A2, A4, A5, A6, A17, A19 & A26.
3. THE DISC, ITEM NO. A11, AND THE SHAFTS, ITEM NO. A15 & A25 MUST BE ORDERED AS AN ASSEMBLY.
4. ITEMS NO. A20, A21, A26 & A27 ARE USED ONLY WHEN FIG 640 EXT/ENK IS ORDERED.



		BAW BUTTERFLY VALVE SIZE 96 FLANGED VALVE ASSEMBLY WITH LOCKWASHERS ON DISC PINS	
		DDC1 CDD1 C1	DRAWN JSM CHECKED GK

DeZURIK
 BRATTLE, MINNESOTA, U.S.A. 56377
 CAMBRIDGE, ONTARIO, CANADA