FAYETTE County
Create Your Story!

Purchasing Department
140 Stonewall Avenue West, Ste 204
Fayetteville, GA 30214
Phone: 770-305-5420
www.fayettecountyga.gov

August 6, 2026

Subject: ITB 26150-B: FCWS – Crosstown WTP Chemical System Upgrades
Addendum #1

Gentlemen/Ladies:

Below, please find responses to questions, clarification, or additional information for the above referenced Invitation to Bids. You will need to consider this information when preparing your quote.

1. **Is there a preferred integrator?**
   No, See section 40 60 05 1.1 B 1 a.

2. **What is the floor topping – it will need to be resistant to corrosion anywhere there is containment.**
   Refer to Structural sheets for location and refer to Section 09 62 53 2.2 A 6 for materials.

3. **Does all electrical equipment need to be explosion-proof?**
   Not all, refer to Section 26 05 05 1.1.D, 40 60 05 2.2 C 3 a. and 40 60 05 2.3 C 2 e.

4. **Are additional site visits possible? (Note: if done, this would need to be for observation, measuring, etc. Bidders should not ask staff any questions. Questions should come to the Purchasing Department via email by the due date and time of 4:30 p.m., July 29, 2026.)**
   Yes.

5. **Should we dispose of any chemicals from demolition?**
   See Specification Modifications below.

6. **Is there a list of items of equipment the Water System wants to keep?**
   See Specification Modifications below.

7. **We would like to propose Blue-White Industries as a candidate manufacturer for specification section 46 33 44 – Skid Mounted Peristaltic Metering Pumps and Appurtenances. The metering pumps come with a 5-year standard warranty, and their chemical feed skids have a 3-year warranty.**
   Refer to Section 00 21 13, Article 10
   "The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and contract award process..."

8. **I would like to request the attached to be reviewed for acceptance on section 09 91 00. I have updated the table to include Sherwin-Williams products.**
   See spec modifications via. Attachment 3

9. **Also, for section 09 62 53, I have included an alternate system to consider. Typically, vinyl esters perform well under aggressive acids (low pH). Novolac epoxies are often recommended for caustic products such as the Sodium Hydroxide and Sodium Hypochlorite. We are recommending a urethane cement as a base coat under the novolac to provide similar total film thickness.**
   Refer to Section 00 21 13, Article 10
   "The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and contract award process..."

10. **Could you confirm what the current PLC platform is for the CBSP panel?**
    Refer to instrumentation sheet I-04 for existing panels and designated PLC Platforms.

11. **Please confirm whether the prime bidder must hold both a Georgia Commercial General Contractor license and a Georgia Utility Contractor Company license, or whether a licensed Commercial General Contractor may serve as the prime contractor and subcontract all regulated utility work to a Georgia-licensed Utility Contractor.**
    Prime bidder must hold a Georgia Commercial General Contractor license. Contractor performing utility work must hold a Georgia Utility Contractor License.

12. **Is a Georgia Utility Contractor Company License required only for underground yard piping and buried utility piping installed under Division 33?**
    Contractor performing underground yard piping and buried utility piping work must hold the appropriate Georgia Utility Contractor License.

13. **Is a Georgia Utility Contractor Company License required only for above-ground and exposed process piping installed under Division 40?**
    Contractor performing above-ground and exposed process piping work must hold the appropriate Georgia Utility Contractor License.

14. **Please identify the portions of the work for which a certified Utility Manager or Utility Foreman must be present at the project site.**
    A certified Utility Manger or Utility Foreman shall be present as required by Georgia law while utility work is being performed.

15. **Confirm whether the demolition, abandonment, extension, and replacement of floor drains and below-grade drainage piping shown on Sheets M-05 and M-09 are to be performed under Division 22 by a properly licensed plumbing contractor.**
    Yes, refer to Section 02 41 00 1.2 A 2 and Section 02 41 00 1.3 A 3 b.

16. **Confirm the maximum allowable shutdown duration for each plant-water, hot-water, fluoride, and sodium-hypochlorite tie-in, or confirm that each duration will be proposed by the Contractor through the shutdown-planning submittal.**
See Specification Modifications below.

17. **Clarify the required temporary bypass for the proposed water-softening system. Is the Contractor required to provide temporary piping around the system only, or must the Contractor provide temporary water-treatment equipment capable of maintaining softened-water service?**
See Specification Modifications below.

18. **Confirm whether the Owner has completed an asbestos-containing-material or lead-based-paint survey for the areas affected by demolition and roofing work. If available, please provide the applicable reports.**
No, not conducted.

19. **Section 01 14 16, Paragraph 1.2.B.1.b states that the shutdown-planning submittal is due "not less than seven 10 working days" before the proposed shutdown. Please confirm whether the required notice is seven or ten working days.**
See Specification Modifications below.

20. **Please confirm who the preferred Integrator for this project is. Is BAR Environmental approved for that scope?**
Refer to question 1.

21. **Please clarify the extent of demolition and area where there is to be a new roof.**
See sheet M-18.

22. **Is there a preferred or owner-selected integrator for the instrumentation scope?**
Refer to question 1.

23. **With reference to Drawing M-18, please confirm that a new TPO roofing system is required over the entire loading dock area, as shown on the Roofing Level Plan (approximately 836 SF).**
Confirmed, see sheet M-18 for scale.

24. **Please clarify the contractor's responsibilities for disposing of existing chemicals and provide the expected quantities, if applicable.**
Refer to question 5.

25. **Please provide the as-built drawings for the structures and buildings that may be affected by the construction of the HFSA Bulk Tank Pad, as referenced in Note 8 on Drawing S-06.**
See Attachment 1 and 2.

26. **Per Notes 8 and 9 on Sheet S-06, the Contractor is required to provide a PE-sealed shoring design and Geotechnical Engineer supervision for the HFSA Bulk Tank Pad. Given the relatively shallow depth of the mat foundation, please provide any**

additional guidance regarding the excavation support requirements, and the Engineer's expectations for this scope.
See Specification Modifications below.

27. **Structural Note F-1 on Drawing sheet S-01, as well as the Supplementary Condition SC-5.03, refer to a 'Report of Subsurface Exploration' by Oasis Consulting Services (Project No. P25044) dated June 20, 2025 . Please provide a copy of this report, as it does not appear to be included in the bid set.**
See Attachment 4.

28. **Will any planned facility or process shutdowns be required during construction? If so, please provide anticipated durations and constraints.**
Yes, refer to Drawings M-02 Note 1 and M-17 Notes 1-3.
See Specification Modifications below.

29. **Can the Owner identify the contractors currently performing work on-site or under separate contracts that may impact project coordination?**
See Specification Modifications below.

Specification Modifications:

Question #	Sheet	Comment
17	01 11 13 1.6 A. 2 h.	Add text: "Temporary Bypass does not require softening."
19	01 13 13 1.2 B. 1. b.	Delete text: "seven"
16, 28	01 13 13 1.2 B. 1. b.	Add Text: c. Shut down for each system (fluoride, chlorine, plant water and hot water) is limited to 1 hour. If additional time is required, contractor shall submit plan for temporary system to prevent disruption to operations.
5	02 41 00 3.4 A.	Add Text: a. Chemical removal shall be the sole responsibility of the CONTRACTOR. Coordinate with OWNER to consume as much chemicals as possible prior to removal.
6	02 41 00 3.4	Add text: E. Mechanical Removal List a. The Following items and all associated electrical, instrumentation, plumbing or miscellaneous appurtenances are to become the sole property of the CONTRACTOR. Contractor to coordinate with OWNER prior to demolition to verify removal. i. Fluoride Feeder, hopper and Mix Tank ii. Fluoride Flow Recorded iii. Fluoride Control Panel iv. Permanganate Feeder, hopper, control panel, and mix tank v. Shelving units in proposed fluoride room. vi. Chlorinator Feed Equipment vii. Chlorinator Bulk Chlorine Equipment viii. Hot water heater

Question #	Sheet	Comment
26	02 41 00 3.1 B.	Add Text: 5. Due to the proximity of existing structures and facilities, consideration shall be given to potential settlement, vibration, soil disturbance or undermining and other construction-related impacts. The Contractor shall evaluate site conditions and determine whether temporary shoring, excavation support, underpinning, monitoring, or other protective measures are necessary based on their means and methods and the actual field conditions encountered. Any excavation support system deemed necessary by the Contractor shall be designed by a Professional Engineer and implemented under appropriate geotechnical oversight in accordance with the contract documents. The Contractor remains responsible for protection of adjacent structures and facilities during all phases of construction.
29	01 31 13 1.1 B.	Add text: 4. Parallel Projects a. Generator Replacement i. Contractor: Georgia Power ii. Expected Completion Date: December 31, 2026

Attachments:

- Attachment 1 – Water System Improvements for Fayette County, Contract 1, 4.0 MGD Water Treatment Plant (Mallet & Associates, 1985)
- Attachment 2 - 2015-02-05_FayetteChemical-Conformed-22x34 - Sheets 1 – 31
- Attachment 3 - Sherwin-Williams Products Crosstown WTP Chemical System Upgrades Section 900000
- Attachment 4 - Oasis Consulting services report (2025)

Received by (Name): _____ Company_____

Note: If this addendum is not returned to the Fayette County Purchasing Department or if it is returned not signed, responding individuals, companies or other organizations will still be responsible for the requirements of this addendum and the specifications or changes herein.

The opening date for this ITB has not changed. **The opening time and date are 3:00 p.m., Wednesday, August 12, 2026.** Bids must be received by the Purchasing Department at the address above, Suite 204, before the opening date and time.

The deadline for inquiries has passed, so the Purchasing Department will not be able to accept any additional questions after this time.

For administrative matters or questions about the procurement process, please contact (Colette Cobb & Contract Administrator) at (770) 305-5115 or email at ccobb@fayettecountyga.gov.

Sincerely,

Ted L. Burgess
Chief Procurement Officer

WATER SYSTEM IMPROVEMENTS
FOR
FAYETTE COUNTY, GEORGIA

CONTRACT I
4.0 M.G.D. WATER TREATMENT PLANT

REVISED JAN. 24, 1985

AS-BUILTS

REV. NO.	DATE	DESCRIPTION	BY	APPD.
1	5/8/87	AS-BUILTS	DWJ	JEM

P-1

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
4.0 M.G.D. WATER TREATMENT PL
COVER SHEET

DESIGN N/A
DRAWN LEW
LAND LOT
DISTRICT
COUNTY
STATE

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Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

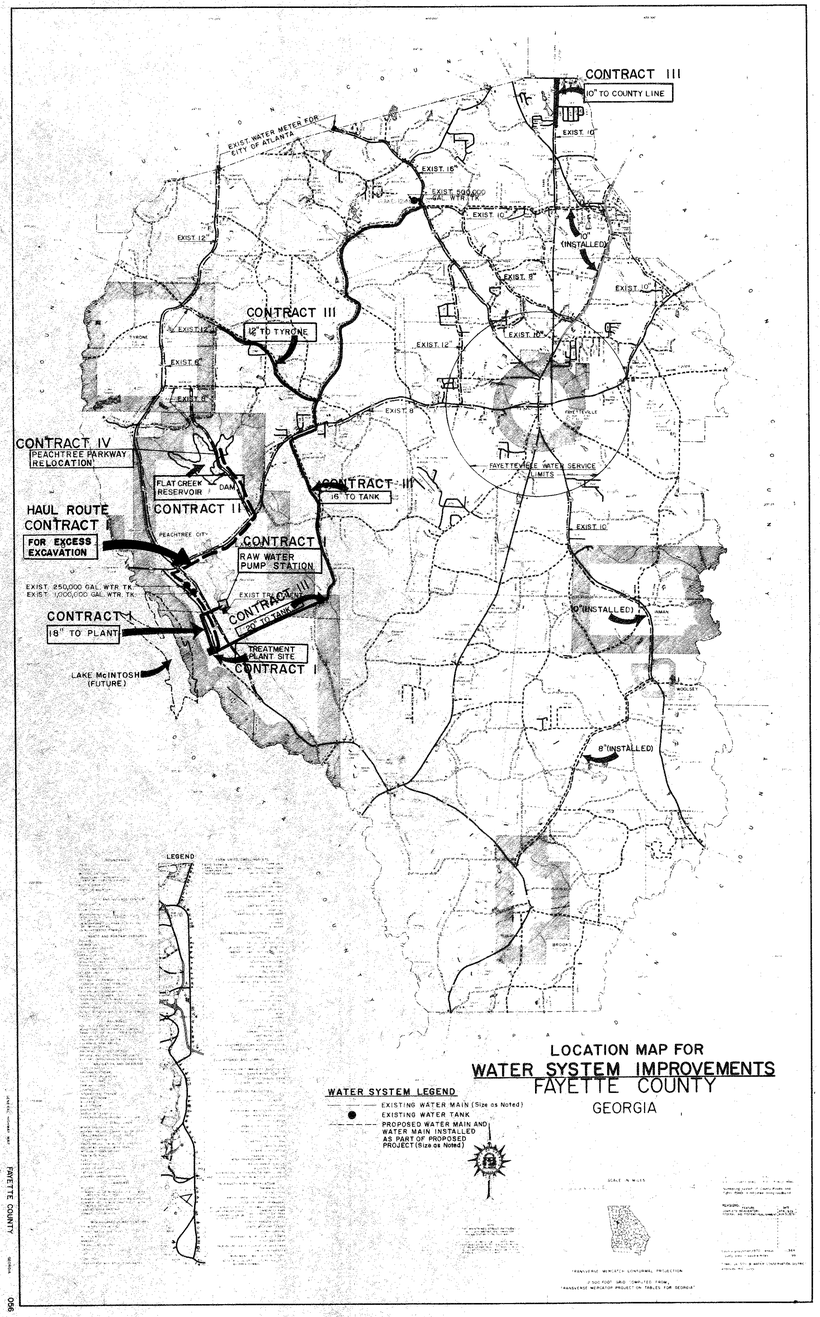
P-2

INDEX TO DRAWINGS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN MAI	SCALE NONE
DRAWN LED	DATE 6/18/84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 2 OF 105



LOCATION MAP FOR
WATER SYSTEM IMPROVEMENTS
FAYETTE COUNTY
GEORGIA

SUMMARY OF PROJECT

CONTRACT I ◀ THIS CONTRACT

1. 4.0 M.G.D. WATER TREATMENT PLANT
2. RAW WATER PUMP STATION

CONTRACT II

1. DAM, SPILLWAY, & RESERVOIR

CONTRACT III

1. WATER DISTRIBUTION SYSTEM
   a. 20" & 16" DIA. LINES FROM PLANT TO TANK a HWY 92
   b. 12" DIA. LINE FROM FLAT CREEK ROAD TO TYRONE
   c. 10" DIA. LINE ALONG HWY 314 TO COUNTY LINE

CONTRACT IV

1. PEACHTREE PARKWAY RELOCATION

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-3

LOCATION MAP

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN —
DRAWN LED
CHECK MFL
APPROVED JEM

SCALE *AS SHOWN
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 3 OF 105

RAW WATER VENTURI & CHEMICAL DOSAGE

PRE FLASH MIX

FLOCCULATION BASINS

SETTLING BASINS

FILTERS

POST FLASH MIX

FINISHED WATER STORAGE AND FINISHED WATER PUMP

870

860

850

840

830

820

810

W.S. EL. 861.05'

W.S. EL. 860.97

W.S. EL. 860.96'

T.W. EL. 863.50'

WEIR, BOTTOM OF "V" EL. = 860.83'

EL. 855.58'

T.W. 856.17'

MAX. W.S. EL. 854.50'

EL. = 853.50'

EL. 851.00'

RAW WATER INTAKE FROM LAKE PEACHTREE NORMAL POOL EL = 785 ±

18"Ø

24" Ø

24" Ø

EL. = 846.50'

℄ EL. = 849.00

EL. = 847.00

℄ EL. 846.08'

30" Ø

Lowered in 1991 project.

T.W. 848.25'

W.S. EL. = 845.58'

EL. 840.00

BOTTOM OF FILTER FLOOR EL. 842.50'

BOTTOM OF MANIFOLD EL 839.50'

30" Ø

EL. 835.25'

30" ϕ

℄ 833.75'

℄ EL 843.61

℄ 20"ϕ EL 838.00

TOP EL. = 842.00'

MAX W.S. EL 839.5

EL=826.00

EL = 823.00

SLUDGE THICKENER

T.W. EL. 840.00'

W.S. EL. 838.00'

FILTER BUILDING

℄ EL. 837.83'

EL. 835.50'

WASHWATER DRAIN

24" Ø

EL. 831.00'

SWD. 823.00'

℄ EL. 828.00'

30" Ø

30" Ø THICKENED SLUDGE LINE

TOP OF LEVEE 817.00'

MAX W.S. EL. 815.00'

BOTTOM OF LAGOON EL. 810.00'

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

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HYDRAULIC PROFILE

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP
DRAWN LED
CHECK MFL
APPROVED JEM

SCALE NONE
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 5 OF 105

KF 33506A

TELEMETERING TRANSMITTER & RECEIVER

3 RAW WATER PUMPS

5 HIGH SERVICE PUMP CONTROL SWITCHES WITH RUN LIGHTS

EQUIPMENT RUN LIGHTS

FIQR 101

FC 101

CONTROL STATION & LIGHT - SEE CONTROL PANEL LAYOUT

AIR 110 (NOTE 1)

FIQR 105

FC 105

STOP HIGH SERVICE PUMPS ON HIGH SYSTEM PRESSURE

HIGH SYSTEM PRESSURE ALARM ON ANNUNCIATOR

LIR 113

DUAL SET POINT STATION FOR HIGH & LOW BACKWASH FLOW

LIR 106

FIQR 107

PIR 108

SELECTOR SWITCHES & INDICATING LIGHTS

LIR 112

TELEMETERING TRANSMITTER & RECEIVER

AUTOMATIC START-STOP

LIR 111

HIGH SERVICE PUMPS

TO OTHER CONSOLES

TYPICAL FOR 4 FILTERS

TO OTHER CONSOLES

BACKWASH CONTROL STATION - 2 PUMPS

(NOTE 1)

FILTER NO. 1 CONSOLE

FI 105

PDI 103

FI 104

FC 104

115 V.

VALVE CONTROL STATION

SURFACE WASH CONTROL STATION

TO OTHER CONSOLES

THREE POSITION SELECTOR SWITCH "OFF - LOW - HIGH"

SAMPLE PUMPS

PULL TO START PUSH TO STOP PUSH BUTTONS IN LAB

RELOCATED EXISTING TELEMETERING PANEL #2

RELOCATED EXISTING TELEMETERING PANEL #1

PEACHTREE CITY ELEVATED TANKS

EXIST.

LT 111

HIGHWAY 74 VALVE

SYSTEM VALVE NO. 1

TELEMETERING TRANSMITTER & RECEIVER

EXIST.

HIGHWAY 92 ELEVATED TANK

PRE FLASH MIXER

FLOCCULATORS

FCV 101

FT 101

M

FE 101

TELEPHONE LINE

SLUDGE COLLECTOR

115V

LT 102

SETTLED WATER SAMPLE PUMP

W.S.

EV

ZS

TO OTHER FILTERS

FLOCCULATION

SEDIMENTATION

E MIX

RAW WATER SAMPLE PUMP

DOSED WATER SAMPLE PUMP

TELEMETERING TRANSMITTER & RECEIVER

LT 112

SYSTEM VALVE NO. 2.

115 V

PDT 103 (NOTE 1)

FILTER NO. 1

TYPICAL FOR 4 FILTERS

AT 110

FCV 104

115 V (NOTE 1)

FT 104

(NOTE 1)

DRAIN

FE 104

W.S.

POST FLASH MIXER

SURFACE WASH PUMP

FIQ 109

LT 106

FT 107

PT 108

FE 107

HIGH SERVICE PUMPS

BROOKS ELEVATED TANK

EXISTING TELEMETERING TRANSMITTER & RECEIVER

LT 113

EXISTING

BOOSTER PUMP STATION

FCV 105

FT 105

FE 105

FILTERED WATER SAMPLE PUMP

CLEARWELL

BACKWASH PUMPS

TELEMETERING TRANSMITTER & RECEIVER

3 PUMPS

THICKENER

LAGOON

LAGOON RECYCLE PUMP

LAKE PEACHTREE

EXIST. TEL. TRANSMITTER & RECEIVER

CITY OF FAYETTEVILLE

EXIST. TEL. TRANSMITTER & RECEIVER

HIGHWAY 54

EXIST. TEL. TRANSMITTER & RECEIVER

PEACHTREE PARKWAY

COUNTY LINE

NOTES

1. INSTRUMENTS SHOWN FOR FILTER NO. 1 ARE TYPICAL FOR FOUR FILTERS. THE CORRESPONDING INSTRUMENTS FOR OTHER FILTERS WILL HAVE IDENTIFICATION NUMBER STARTING WITH THAT FILTER NUMBER, e.g. FILTER NO. 2, NO.3, NO.4 EFFLUENT FLOW TRANSMITTERS WILL HAVE TAG NUMBERS FT-204, FT-304 AND FT-404 RESPECTIVELY.

2. REFER TO CONTROL PANEL DRAWING P-7 FOR PANEL MOUNTED INSTRUMENT AND CONTROL DEVICES.

INSTRUMENT IDENTIFICATION LETTERS

FIRST LETTER	SECOND & SUBSEQUENT LETTERS
A - ANALYSIS	A - ALARM
C - CONDUCTIVITY	C - CONTROL
E - ELECTRIC	D - DIFFERENCE
F - FLOW	E - ELEMENT
H - HAND	G - GAUGE
P - PRESSURE	H - HIGH
S - SPEED	I - INDICATOR
W - TORQUE	L - LOW
Z - POSITION	Q - QUANTITY
L - LEVEL	R - RECORDER
	S - SWITCH
	T - TRANSMITTER
	V - VALVE

LEGEND

- M — MOTOR
- TO RUN LIGHT ON MAIN CONTROL PANEL
- TO RUN LIGHT AND CONTROL SWITCHES ON MAIN CONTROL PANEL
- ---- ELECTRICAL WIRING
- LOCAL MOUNTED INSTRUMENT
- PANEL MOUNTED INSTRUMENT
- INTERFACE

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

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404/432-5634

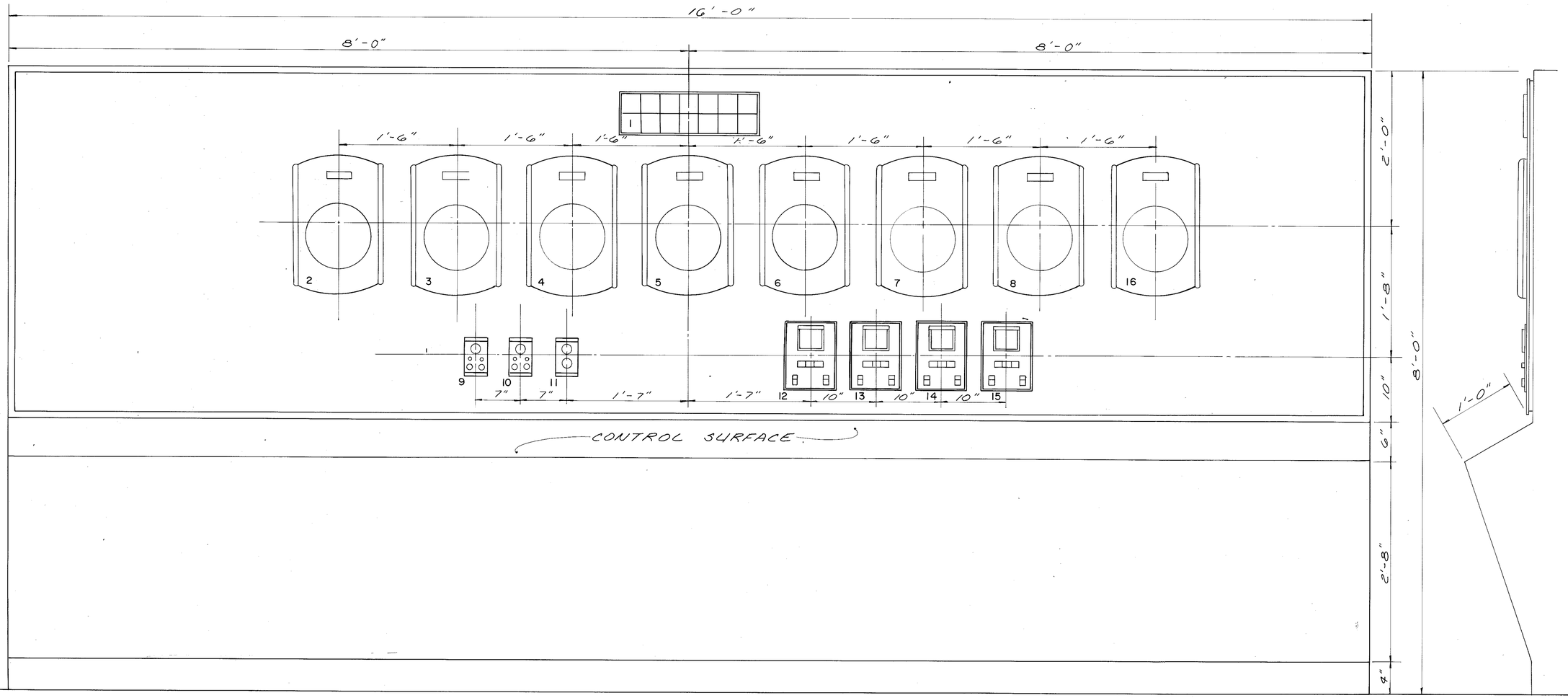
WATER SYSTEM IMPROVEMENTS for FAYETTE COUNTY, GEORGIA

P-6

INSTRUMENTATION P & I

	DESIGN D P	SCALE NONE
LAND LOT-	DRAWN LED	DATE 6/18/84
DISTRICT-	CHECK MFL	FILE NO. 83175-1
COUNTY-	APPROVED JEM	SHEET NO. 6 OF 105
STATE-		

XF 33506A



LEGEND

1. ANNUNCIATOR
2. RAW WATER FLOW (FIQR 101)
3. BACKWASH WATER FLOW (FIQR 105)
4. HIGH SERVICE FLOW (FIQR 107)
5. SYSTEM PRESSURE (PIR 108)
6. CLEARWELL LEVEL (LIR 106)
7. PEACHTREE CITY TANK (LIR 111)
8. HWY 92 TANK (LIR 112)
9. RAW WATER FLOW CONTROL (FC 101)
10. BACKWASH WATER FLOW CONTROL (FC 105)
11. BACKWASH DUAL RATE SET
12. FILTER NO. 1 TURBIDITY (AIR 110)
13. FILTER NO. 2 TURBIDITY (AIR 210)
14. FILTER NO. 3 TURBIDITY (AIR 310)
15. FILTER NO. 4 TURBIDITY (AIR 410)
16. BROOKS ELEVATED TANK (LIR 113)

CONTROL SURFACE ITEMS

1. ON/OFF SELECTOR SWITCH WITH RUN LIGHT RAW WATER PUMP NO. 1
2. ON/OFF SELECTOR SWITCH WITH RUN LIGHT RAW WATER PUMP NO. 2
3. ON/OFF SELECTOR SWITCH WITH RUN LIGHT RAW WATER PUMP NO. 3
4. H-O-A SWITCH WITH RUN LIGHT HIGH SERVICE PUMP NO. 1
5. H-O-A SWITCH WITH RUN LIGHT HIGH SERVICE PUMP NO. 2
6. H-O-A SWITCH WITH RUN LIGHT HIGH SERVICE PUMP NO. 3
7. H-O-A SELECTOR SWITCH WITH IND. LIGHT SYSTEM-VALVE NO. 1
8. H-O-A SELECTOR SWITCH WITH IND. LIGHT SYSTEM-VALVE NO. 2
9. START/STOP PUSHBUTTONS WITH RUN LIGHT - PREFLASH MIXER
10. START/STOP PUSHBUTTONS WITH RUN LIGHT - POSTFLASH MIXER
11. FLOCCULATOR NO. 1 RUN LIGHT
12. FLOCCULATOR NO. 2 RUN LIGHT
13. FLOCCULATOR NO. 3 RUN LIGHT
14. FLOCCULATOR NO. 4 RUN LIGHT
15. START/STOP PUSHBUTTONS WITH RUN LIGHT - SLUDGE COLLECTOR NO. 1
16. START/STOP PUSHBUTTONS WITH RUN LIGHT - SLUDGE COLLECTOR NO. 2
17. START/STOP PUSHBUTTONS WITH RUN LIGHT - SLUDGE THICKENER
18. H-O-A SWITCH WITH RUN LIGHT SLUDGE RECYCLE PUMP
19. H-O-A SWITCH WITH RUN LIGHT LAGOON RECYCLE PUMP
20. ALARM ACKNOWLEDGE PUSHBUTTON
21. ALARM TEST PUSHBUTTON
22. OPEN-CLOSE SELECTOR SWITCH WITH IND. LIGHT-HIGHWAY 74 VALVE
23. OPEN CLOSE SELECTOR SWITCH WITH IND. LIGHT-HIGHWAY 54 VALVE
24. OPEN-CLOSE SELECTOR SWITCH WITH IND. LIGHT-PEACHTREE PARKWAY VALVE
25. OPEN-CLOSE SELECTOR SWITCH WITH IND. LIGHT-COUNTY LINE VALVE
26. H-O-A SELECTOR SWITCH WITH IND. LIGHT-CITY OF FAYETTEVILLE VALVE
27. H-O-A SELECTOR SWITCH WITH RUN IND. LIGHT-BROOKS BOOSTER PUMP STATION
28. LEAD-LAG SELECTOR SWITCH - H.S. PUMP NO. 2 / NO. 3

ANNUNICATOR LEGEND

WINDOW NO.	INSCRIPTION
1-1	CLEARWELL HIGH LEVEL
1-2	SLUDGE COLLECTOR NO. 1 OVERLOAD
1-3	BLANK
1-4	SLUDGE THICKENER OVERLOAD
1-5	FILTER READY FOR BACKWASH
1-6	CHLORINE LEAK DETECTION
1-7	BLANK
2-1	SYSTEM HIGH PRESSURE
2-2	SLUDGE COLLECTOR NO. 2 OVERLOAD
2-3	BLANK
2-4	BLANK
2-5	BLANK
2-6	BLANK
2-7	HIGH SERVICE PUMP MALFUNCTION

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-7

MAIN PLANT CONTROL PANEL

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN BK
DRAWN LED
CHECK MFL
APPROVED JEM
SCALE NONE
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 7 OF 105

Af 8318

N 47°48'43" E — 1485.10'

391.70' | 584.15' | 183.75' | 146.50' | 244.00'

N 42°11'17" W — 880.00'

S 42°11'17" E — 880.00'

453.30' | 426.70'

163.30'

391.70'

205.00'

165.00'

280.00'

250.00'

SLUDGE LAGOON

12' GRAVEL DRIVE

141.86'

69.26'

146.32'

2 & 3
Δ = 45°
R = 83.60'
T = 34.63'
A = 65.66'

1
Δ = 90°
RR = 40.92'
R/s = 46.92'
R/s = 34.92'
T = 40.92'
A = 64.28'

EC

EC

100.00'

152.00'

12'

173.00'

TYPE 2

126.00'

37.00'

32.00'

10' R

2

TYPE I

92.17'

368.34'

132.17'

24'

146.75'

CHEM. & FILTRATION BLDG.

FILTERS

62.04'

62.375'

146.42'

POST FLASH MIXER

7.5'

11'

20'

22.25'

*BACKWASH METER PIT

10.0'

8.0'

40.00'

69.01'

23.33'

CLEARWELL

102.00'

202.00'

62.67'

FINISHED WATER PUMP STATION

18.67'

5.0'

10.0'

8.33'

FINISHED WATER METER PIT *

50' R

18' R TYP.

16.0'

50.00'

40.00'

54.75'

185.67'

17.27'

60.00'

64.40'

SLUDGE THICKNER

RAW WATER VENTURI PIT

16.5'

21.50'

50.00'

63.25'

SEDIMENTATION BASIN

130.50'

104.50'

LAGOON PUMP STATION

23.4'

165.00'

205.00'

280.00'

250.00'

SLUDGE LAGOON

LAGOON BOTTOM

205.00'

℄ LEVEES

280.00'

250.00'

280.00'

℄ LEVEES

135.70'

391.70'

1093.40'

S 47°48'43" W - 1485.10'

* SEE SHEET NO. 29 FOR LOCATION OF BACKWASH & FINISHED WATER METER PITS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	6/5/85	LAGOON LOCATIONS	SB	JEM
1	1/24/85	GENERAL	SB	JEM

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-8

LAYOUT PLAN

CITY — PEACHTREE CITY
LAND LOT- 53 & 54
DISTRICT- 6th
COUNTY- FAYETTE
STATE- GEORGIA

DESIGN	SCALE
MAI	1" = 50'
DRAWN	DATE
M.	6-18-84
CHECK	FILE NO.
MFL	83175
APPROVED	SHEET NO.
JEM	8 of 105

AF 8318

(PROPOSED) CROSSTOWN ROAD (80' R/W)

R/W

R/W

N 47° 48' 43" E — 1485.10'

FUTURE

80 L.F. 18" C.M.P. @ 1% (N.I.C.)

SEE SHEET NO. 10 FOR CONSTRUCTION ACCESS ROAD (N.I.C.)

240' TO R/W DIVIDEND DRIVE

H.W. I.E. = 843.50

H.W. I.E. = 844.30

120 L.F. - 18" CMP @ 1%

DOT 1033-E C.B. I.E. = 832.30

T.W. = 863.50

BOTTOM SLAB ELEVATION = 847.00'

SEDIMENTATION BASINS

FUTURE

FUTURE

FUTURE

FUTURE

CHEMICAL & FILTRATION BUILDING

FF = 835.50

FILTERS

FF = 844.17

LIME STORAGE TANK

ALUM STORAGE TANK

RET. WALL

SLUDGE LAGOON

BOTTOM ELEVATION 820.00

CLEARWELL

TOP CLEARWELL EL. = 842.00

SLUDGE THICKENER

AIRPORT RUNWAY CLEAR ZONE LIMITS

LIMITS OF CLEARING & GRUBBING (TYP.)

STAGING & STORAGE AREA

THIS AREA TO BE USED FOR STOCKPILING EXCESS EXCAVATION

N 42° 11' 17" W — 880.00'

S 42° 11' 17" E — 880.00'

S 47° 48' 43" W — 1485.10'

6" CRUSHED STONE (TYP.)

12' TYP.

EL = 827.00

EL = 820.00

2 MAX.

1

2

SECTION A-A

NTS

NOTES:

1. The following items shown on sheets 9 & 10 are to be provided by others and are not a part of this contract.
   a. Construction of the Plant Access Road (Future Cross Town Road) in its entirety.
   b. All clearing and grubbing.
   c. Excavation, backfill, grassing of, and crushed stone drives around the sludge lagoons.
   d. Site grading (excluding structural excavation) to within 0.1' of final grades.
   e. Stockpiling of top soil on the site.
   f. Erosion control facilities shown on sheet 9.
2. Excess structural excavation required for construction of permanent facilities under this contract are to be stockpiled in the area shown on the plans. Stockpiled areas are to be sloped to drain and grassed in accordance with the specifications.
3. Contractor is responsible for maintenance of the construction access road during the construction period and for any final remedial measures required prior to acceptance by the Owner.

EXISTING RUNWAY

NOTES:

1. BOUNDARY SURVEY PREPARED BY OTHERS. MALLETT & ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ACCURACY THEREOF.

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	6/5/85	LAGOON RELOCATION	SB	JEM
1	1/24/85	GENERAL	SB	JEM

CITY - PEACHTREE CITY
LAND LOT - 53 & 54
DISTRICT - 6th DISTRICT
COUNTY - FAYETTE
STATE - GEORGIA

DESIGN	MAI
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	1" = 50'
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	9 OF 105

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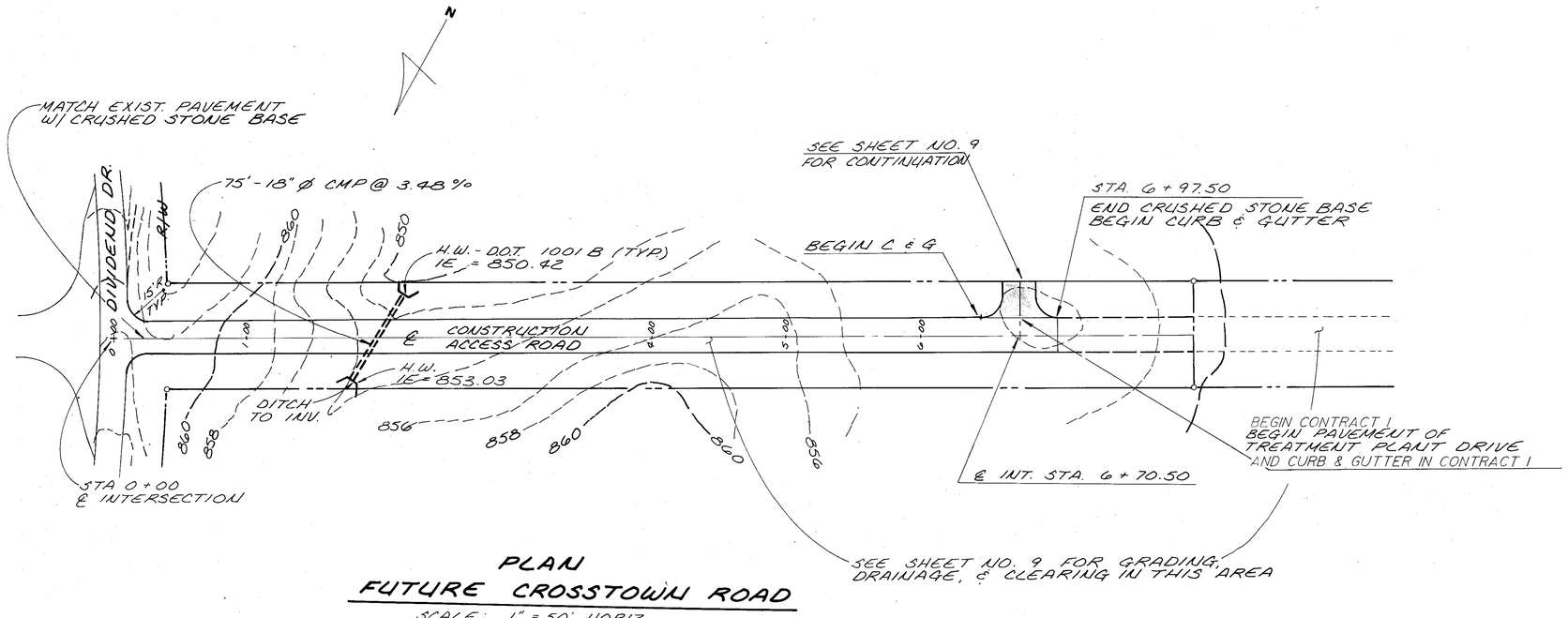
WATER SYSTEM IMPROVEMENTS - FAYETTE CO., GEORGIA
4.0 M.G.D. WATER TREATMENT PLANT
GRADING AND DRAINAGE PLAN

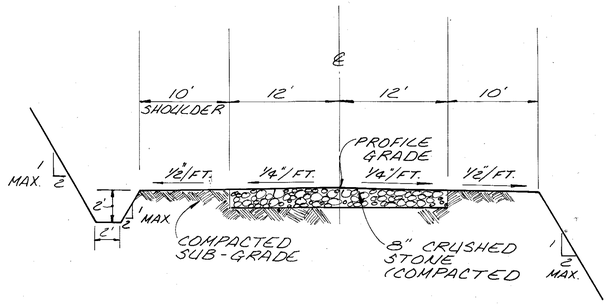
P-9

AF 3350EB



PLAN
FUTURE CROSSTOWN ROAD

SCALE: 1" = 50' HORIZ.
1" = 10' VERT.



TYPICAL SECTION
NOT TO SCALE

NOTE: ACCESS ROAD NOT IN CONTRACT I. ACCESS ROAD TO BE PROVIDED BY OTHERS AND SHOWN HERE FOR REFERENCE ONLY.

P-10

DESIGN	JEM	SCALE	AS NOTED
DRAWN	LED	DATE	6/18/84
CHECK	MFL	FILE NO.	831751
APPROVED	JEM	SHEET NO.	10 OF 105

REV. NO.	DATE	DESCRIPTION	BY
1	1/24/85	GENERAL	SB

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CONSTRUCTION ACCESS ROAD
PLAN & PROFILE

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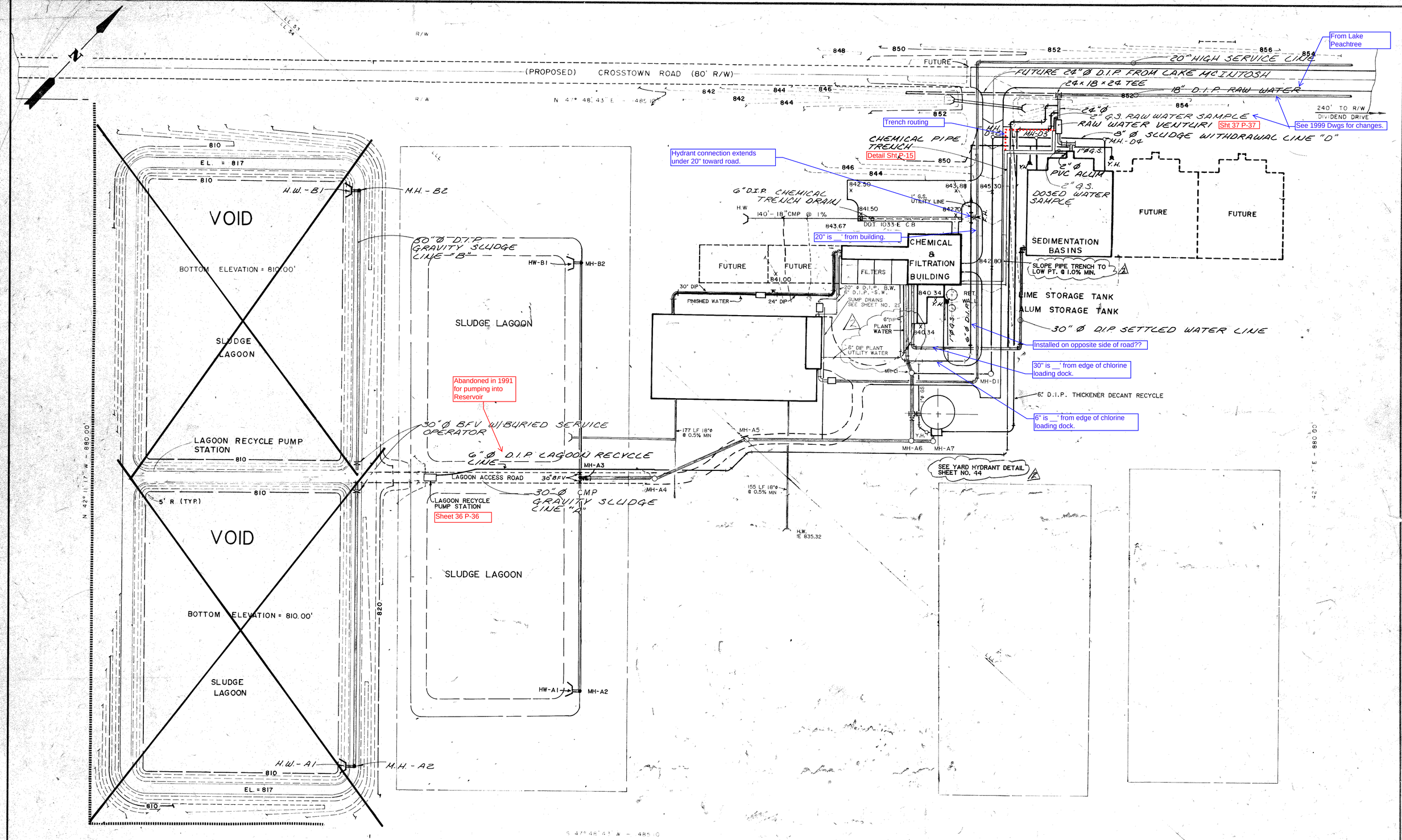
404/432-5634



NOTES:

1. BOUNDARY SURVEY PREPARED BY OTHERS. MALLETT & ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ACCURACY THEREOF.

REV NO.	DATE	DESCRIPTION	BY	APP'D BY
3	6/5/85	LAGOON LOCATIONS	SDB	JEM
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

CITY - PEACHTREE CITY
LAND LOT - 53 & 54
DISTRICT - 6th DISTRICT
COUNTY - FAYETTE
STATE - GEORGIA

DESIGN MAI
DRAWN LED
CHECK MFL
APPROVED JEM
SCALE 1" = 50'
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 11 OF 105

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WATER SYSTEM IMPROVEMENTS - FAYETTE CO., GEORGIA
40 M.G.D. WATER TREATMENT PLANT
OUTSIDE PIPING PLAN

P-11

AF 8318

PRE-FILTER CHLORINE LINE

BULK CHLORINE FEED ROOM

CHLORINATOR ROOM

10'-6"

9'-0"

10'-0"

SEAL WALL PENETRATIONS W/LINK SEAL

9'-0"

A 12 15

LOCATE LIME/CL2 DISTRIBUTORS ON THIS WALL

½" H2O

CHEMICAL PIPE TRENCH - SEE SHEET NO. 15

4" DRA

New Phosphate Room feeding into exst lime room combined with lime/CL.

SODIUM CHLORITE

1½" H2O

FLUORIDE FEEDER CONTROL PANEL

2" H2O

1½" H2O

FLUORIDE FEED ROOM

KMNO4 FEED ROOM

B 12 15

LIME/ALUM ROOM

1½" H2O

1½" H2O

3/4" Ø ALUM FEED

2" H2O

2½" H2O

1½" H2O

2" PVC - CLO2
2" Ø PVC - LIME/CL2
2" Ø PVC - LIME/CL2
2" Ø PVC - ALUM
PVC - ALUM
2" Ø RAW WATER SAMPLE
2" Ø DOSED WATER SAMPLE

1½" Ø CHEMICAL FEED LINES - LIME/CL2 LIME/CL2 FLUORIDE

MAINTAINENCE AREA

CARBON FEED ROOM

3" H2O

TO SETTLED WATER LINE BELOW

1½" H2O

DRAIN (TYP.)

TO PRE-FLASH MIXER
2 RAW WATER
DOSAGE POINT

14'-8"

C 12 61

5'-10 1/2" NTS

14'-0"

6'-0"

2'-6"

MENS LOCKER ROOM 16'-4"

H 12 52

SHOP

FOYER

12'-8"

6'-8"

G 12 52

4'-0"

3'-0"

2'-0"

14'-0"

8" (TYP.)

HALL

ELECTRICAL ROOM

11'-9"

LOBBY

15'-8 1/2"

UP

STORAGE

9'-10"

15'-8 1/2"

7'-4"

16'-4"

21'-0"

16'-0"

3'-6½"

HALL

FIRST FLOOR - PLAN VIEW

SCALE: ¼" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

FIRST FLOOR - PARTIAL PLAN

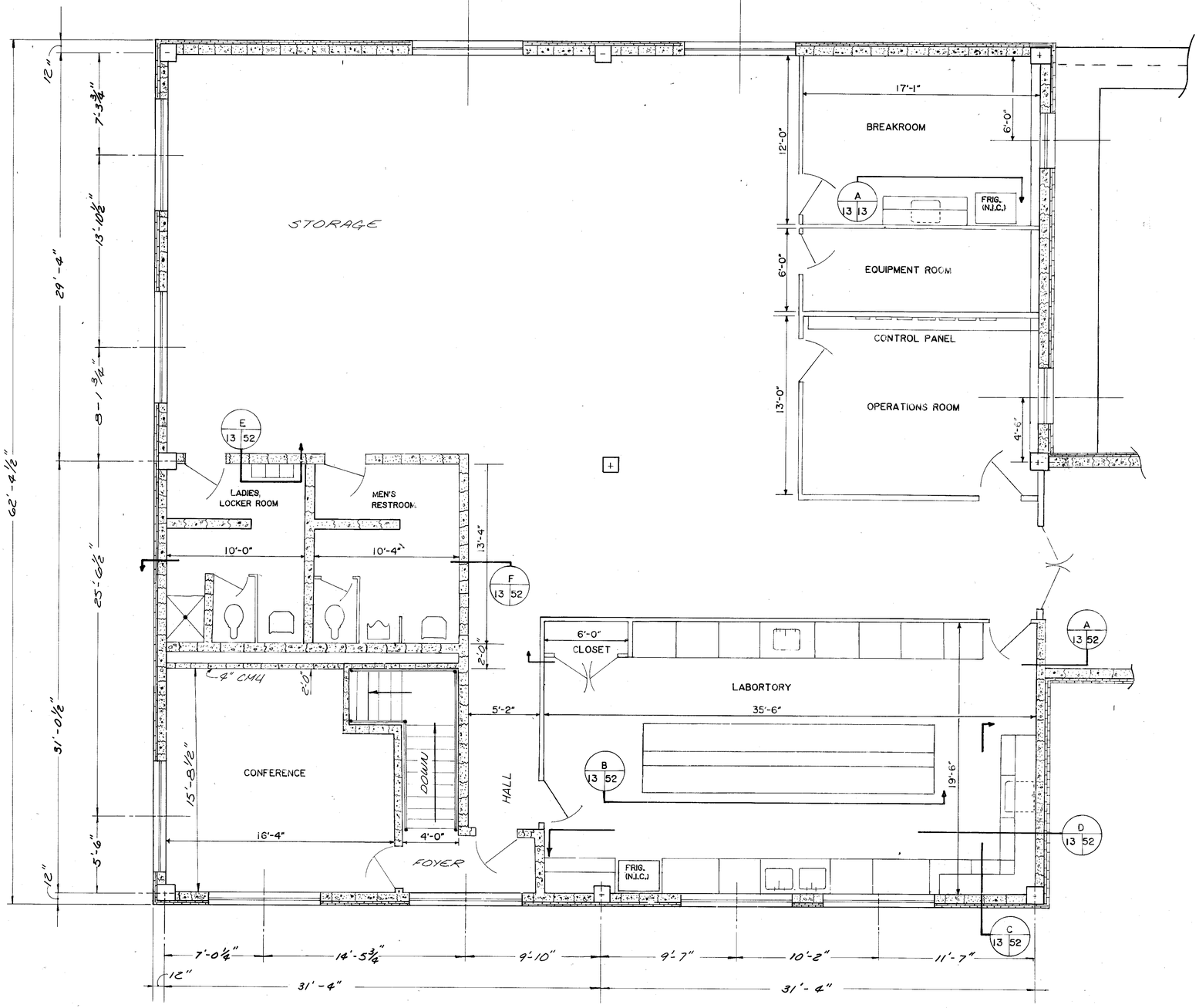
P-12

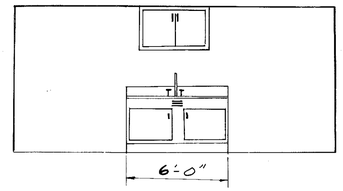
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	12 OF 105

AF 8318





ELEVATION A 13 13

SECOND FLOOR - PARTIAL PLAN VIEW

SCALE: 1/4" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-13

CHEMICAL AND FILTRATION BUILDING
SECOND FLOOR - PARTIAL PLAN VIEW

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

DESIGN: DP	SCALE: AS NOTED
DRAWN: LED	DATE: 6/18/84
LAND LOT-	
DISTRICT-	
CHECK: MFL	FILE NO.: 83175-1
COUNTY-	
APPROVED: JEM	SHEET NO.: 13 OF 105
STATE-	

AF 8318

CHEMICAL FEED LEGEND

1	LIQUID ALUM DAY TANK
2	ALUM METERING FEED PUMPS (TWO)
3	2000 ML CALIBRATION CHAMBER
4	ROTAMETER
5	PRE LIME FEEDER
6	POST LIME FEEDER
7	SODIUM CHLORITE DAY TANK
8	METERING PUMP
9	CHLORINE DIOXIDE GENERATOR
10	CARBON FEEDER W/DUST COLLECTOR
11	FLUORIDE FEEDER W/SCALES
12	POTASSIUM PERMANGANATE FEEDER
13	CHLORINATOR - LIME/CHLORINE FEED
14	CHLORINATOR - CHLORINE DIOXIDE FEED/ STANDBY
15	REMOTE CHLORINE INJECTOR
16	PRESSURE RELIEF VALVE

VALVE LEGEND

	PVC BALL VALVE
	PVC BALL CHECK VALVE
	VALVE
	CHECK VALVE - BRONZE
	EJECTOR
	NEEDLE VALVE
	PRESSURE GAUGE W/NEEDLE VALVE
	REDUCER
	3/4" WATER METER

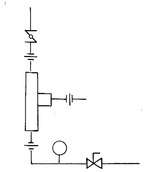
ALL LINES TO RAW WATER METER PIT EXCEPT ALUM TO PRE-FLASH MIX

Are they still using lime-Cl2 combo, and do they need Cl2 to make it?

NOTE:

1. ALL PVC PIPE SHALL BE SCHEDULE 80 UNLESS OTHERWISE NOTED
2. ALL PIPING USED TO TRANSFER ALUM FROM THE OUTSIDE STORAGE TANK TO THE CHEMICAL/FILTRATION BUILDING SHALL BE HEAT TRACED AS REQ'D. TO PREVENT FREEZING.

EJECTOR DETAILS (TYPICAL)



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WATER SYSTEM IMPROVEMENTS for FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

CHEMICAL PIPING ISOMETRIC

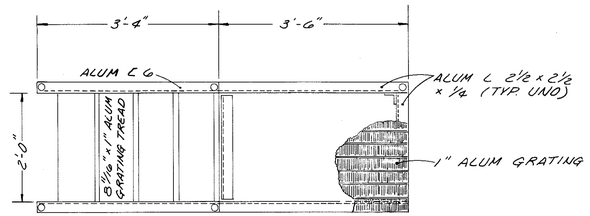
P-14

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT- DISTRICT- COUNTY- STATE-

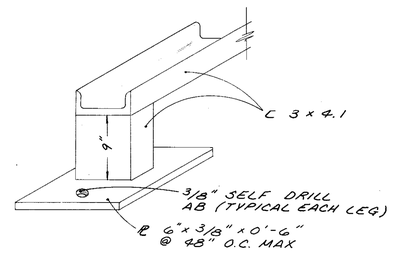
DESIGN DP | SCALE AS NOTED
DRAWN LED | DATE 6/18/84
CHECK MFL | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 14 OF 105

AF 8318



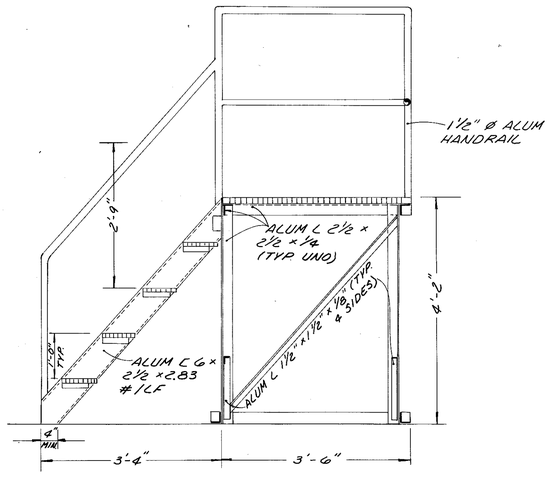
LOADING PLATFORM - PLAN

SCALE: 3/4" = 1'-0"



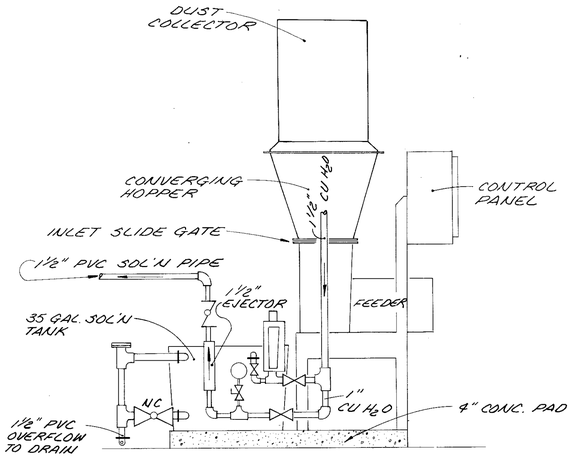
CHLORINE TUBING TROUGH

NOT TO SCALE



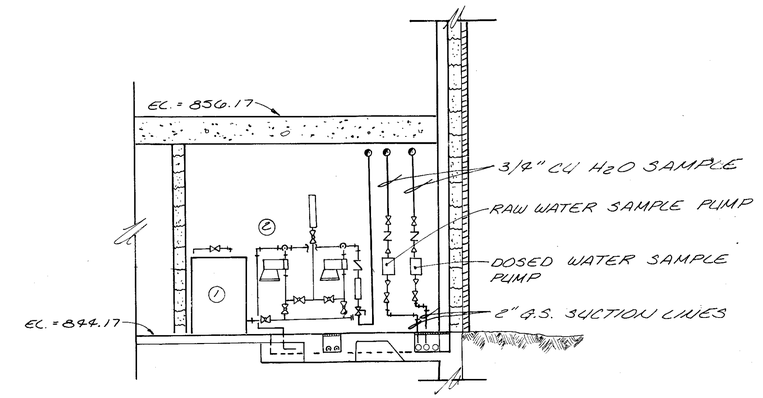
LOADING PLATFORM - SECTION

SCALE: 3/4" = 1'-0"



CARBON FEEDER DETAIL

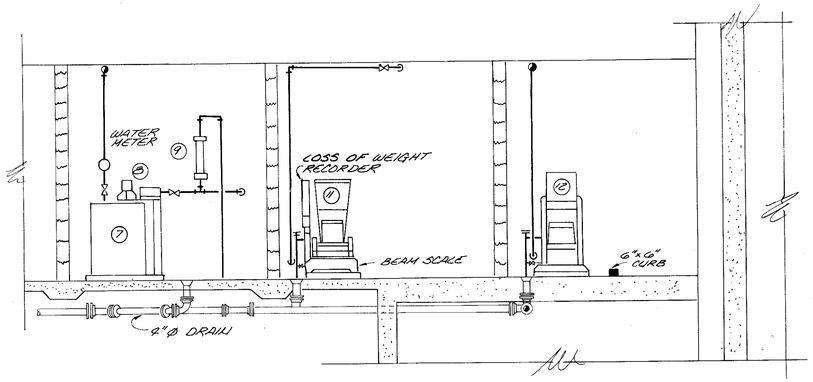
SCALE: 3/4" = 1'-0"



SECTION A

SCALE: 1/4" = 1'-0"

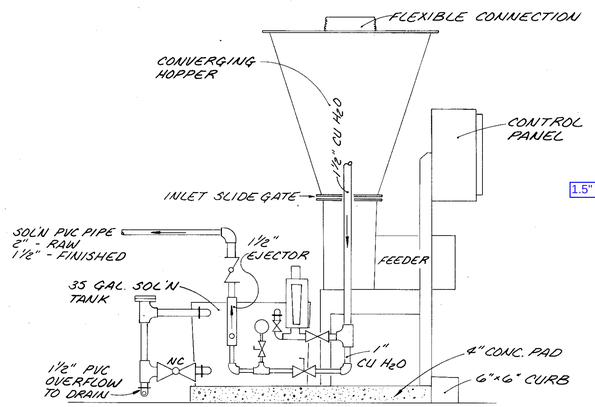
12 | 15



SECTION B

SCALE: 1/4" = 1'-0"

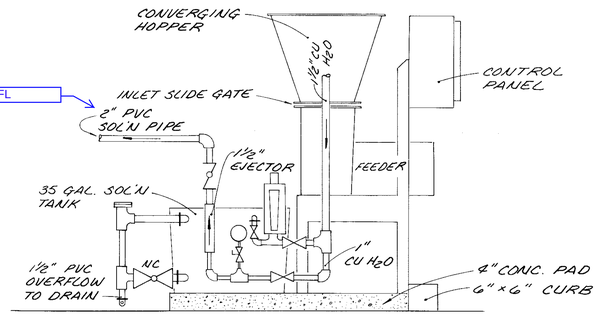
12 | 15



LIME FEEDER DETAIL (TYPICAL)

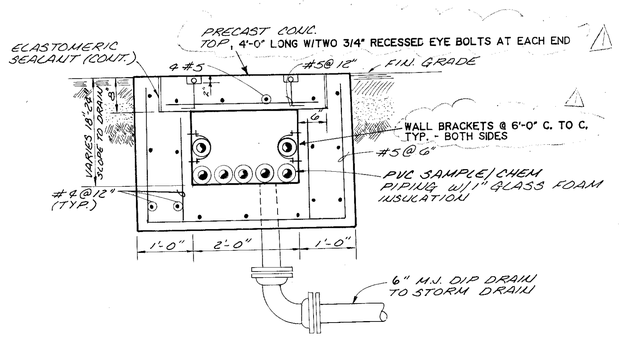
SCALE: 3/4" = 1'-0"

1.5" for FL



POTASSIUM PERMANGANATE FEEDER DETAIL

SCALE: 3/4" = 1'-0"



TYP. PIPE TRENCH

SCALE: 3/4" = 1'-0"

NOTE:

FLUORIDE FEEDER IS SIMILAR TO THAT SHOWN FOR KMNO4 EXCEPT:

- CONTROL PANEL IS WALL MOUNTED
- FEEDER IS MOUNTED ON BEAM SCALE
- LOSS OF WEIGHT RECORDER IS PROVIDED

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING
SECTIONS & DETAILS

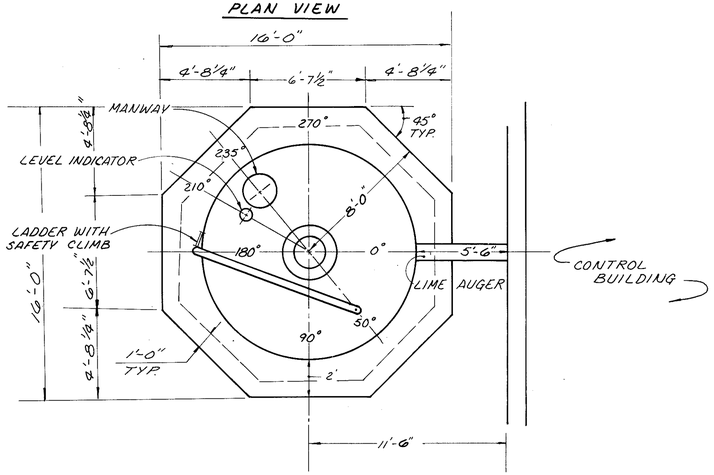
P-15

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM

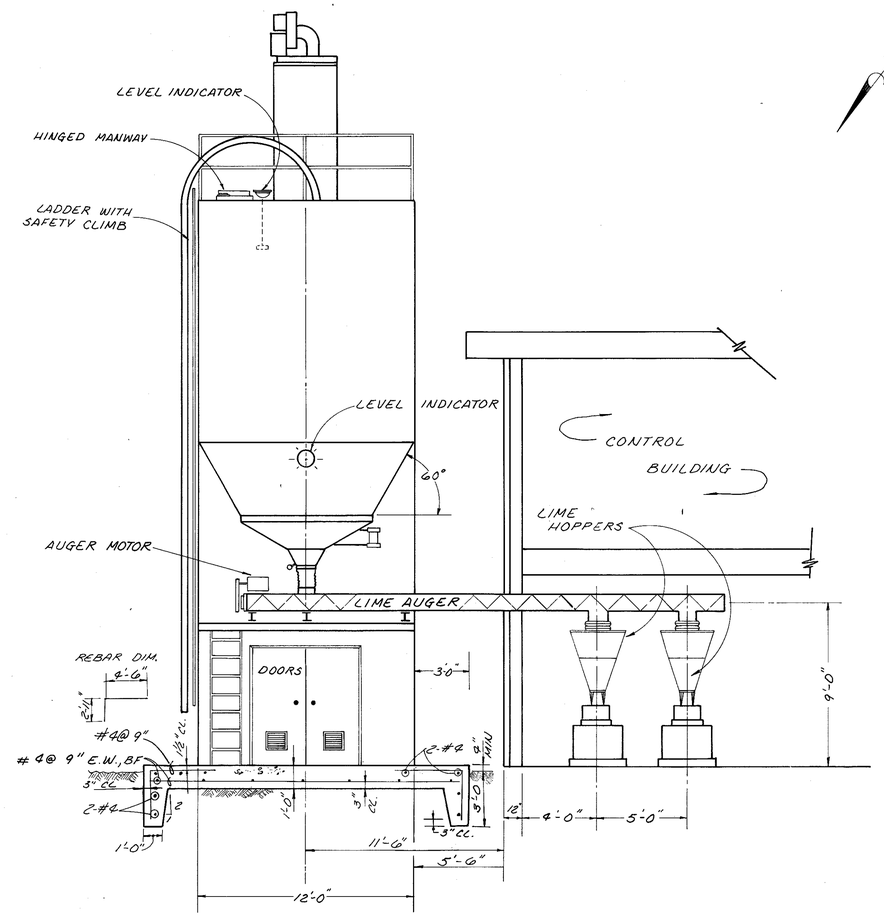
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	15 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

AF 8318

PLAN VIEW



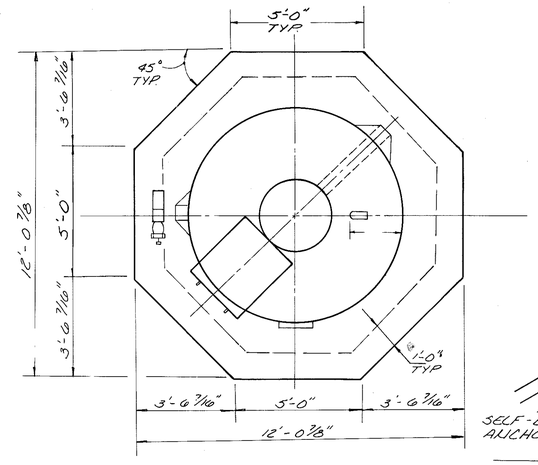
ELEVATION



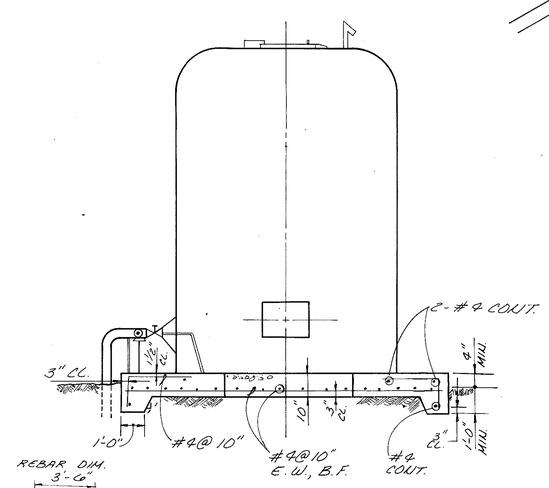
LIME BIN DETAILS

SCALE: 1/4" = 1'-0"

PLAN VIEW



ELEVATION



ALUM TANK FOUNDATION

SCALE: 3/8" = 1'-0"

NOTES

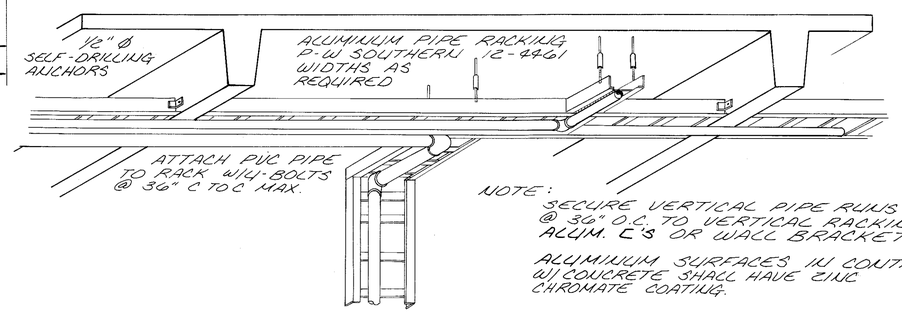
I. FOUNDATIONS
- A. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF.
- B. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE REQUIRED BEARING CAPACITY IS AVAILABLE. IF ANY PORTION OF THE FOOTING IS FOUND TO OCCUR IN AN UNSUITABLE OR UNSTABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.

II. MATERIALS
- A. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 3,000 psi.
- B. ALL BAR REINFORCING STEEL IN CONCRETE SHALL CONFORM TO ASTM A615, GRADE 60.

III. CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND NUMBER OF OPENINGS, SLEEVES, PIPES, CONDUITS, EMBEDDED ITEMS, ETC., BEFORE POURING CONCRETE.

IV. CHAMFER ALL EXPOSED EDGES OF CONCRETE 1/2 INCH.

HANGER RODS @ MIDSPANS, RACK INTERSECTIONS, AND AS REQ'D.



NOTE:
SECURE VERTICAL PIPE RUNS @ 30" O.C. TO VERTICAL RACKING ALUM. C'S OR WALL BRACKETS

ALUMINUM SURFACES IN CONTACT W/ CONCRETE SHALL HAVE ZINC CHROMATE COATING.

PVC PIPING SUPPORT DETAIL

NOT TO SCALE

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
LIME BIN & ALUM TANK DETAILS

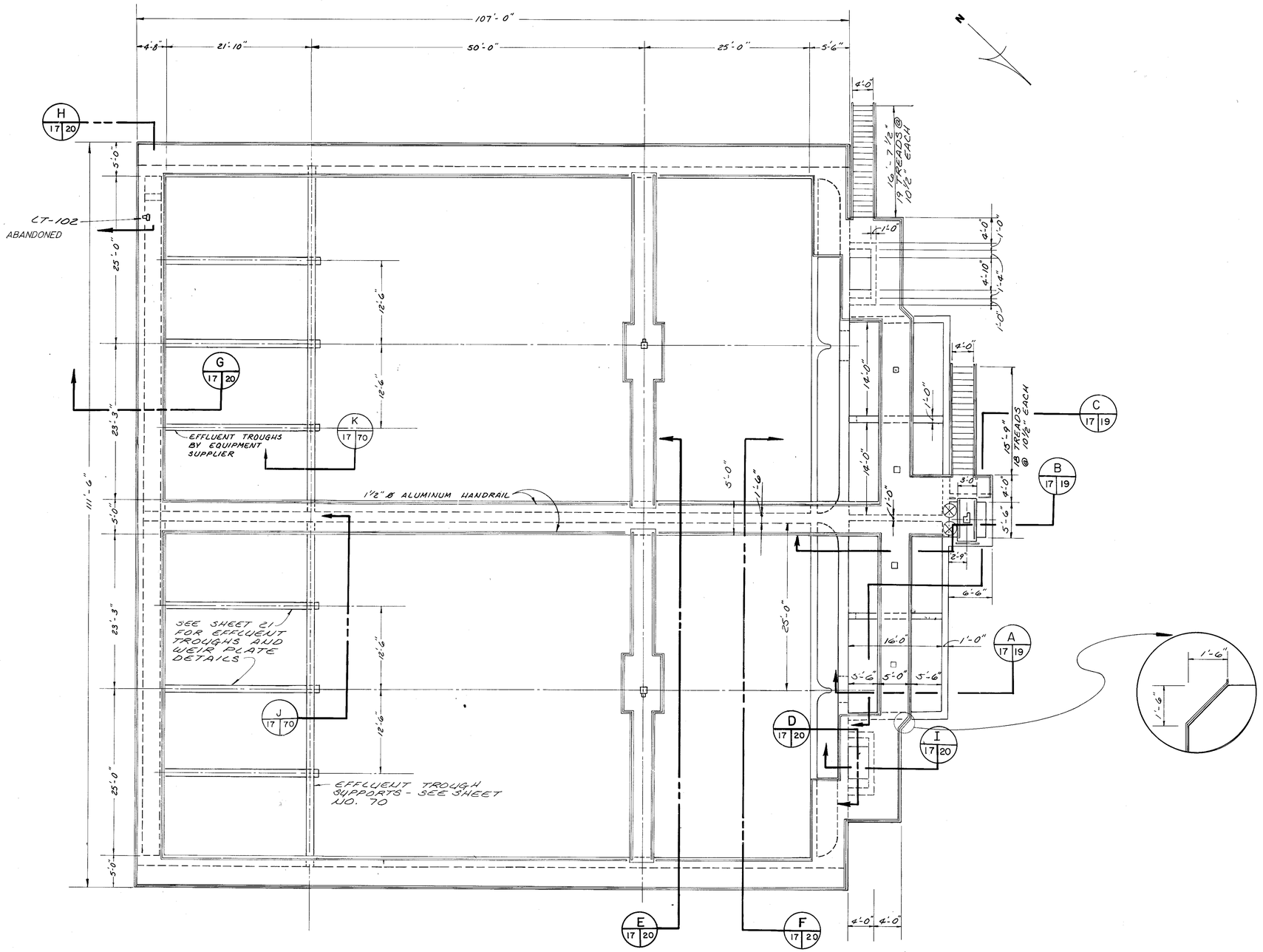
P-16

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	SCALE: AS NOTED
DRAWN: LED	DATE: 6/18/84
CHECK: MFL	FILE NO.: 83175-1
APPROVED: JEM	SHEET NO.: 16 OF 105

AF 8318



RAPID MIX, FLOCCULATION AND SEDIMENTATION BASINS

TOP PLAN

SCALE : 1/8" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
RAPID MIX, FLOCCULATION & SEDIMENTATION
BASINS — TOP PLAN

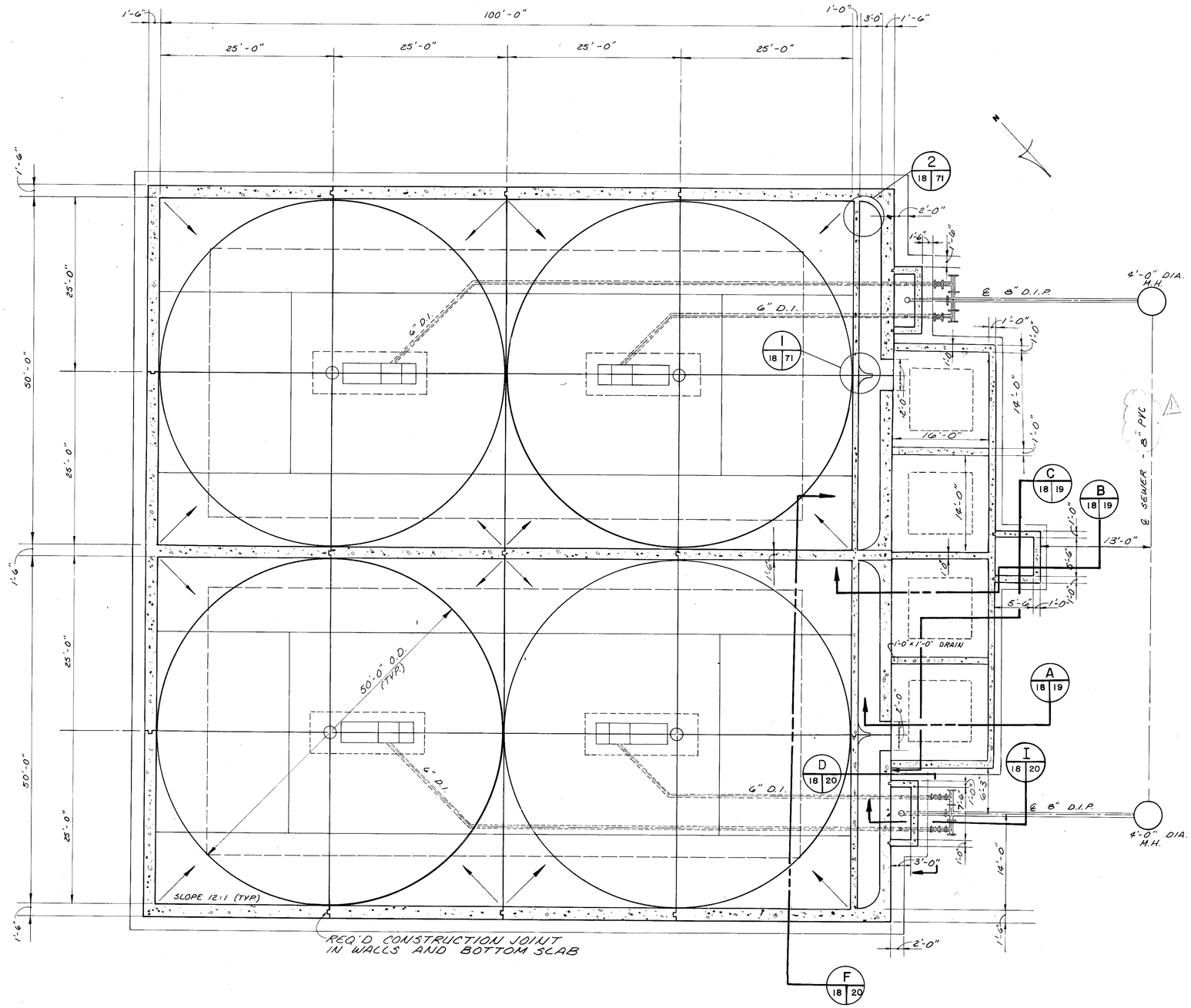
P-17

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	17 OF 105

AF 8318

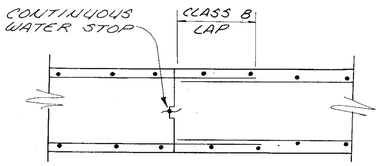


NOTE:

SLUDGE COLLECTION MECHANISMS ARE TO BE INSTALLED IN THE FRONT PORTION OF EACH SEDIMENTATION BASIN. THE AFT SECTION OF EACH BASIN SHALL BE CONSTRUCTED SO AS TO ACCEPT THE INSTALLATION OF FUTURE SLUDGE COLLECTORS AT A LATER DATE. CONTRACTOR SHALL FORM THE TWO REAR BASINS AS REQUIRED BUT SHALL NOT SWEEP IN THE FINAL GROUT COAT.

NOTE:

STAIRS NOT SHOWN FOR CLARITY - SEE SHEET #17



CONSTRUCTION JOINT IN WALLS AND BOTTOM SLAB

RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS

BOTTOM PLAN

SCALE: 1/8" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

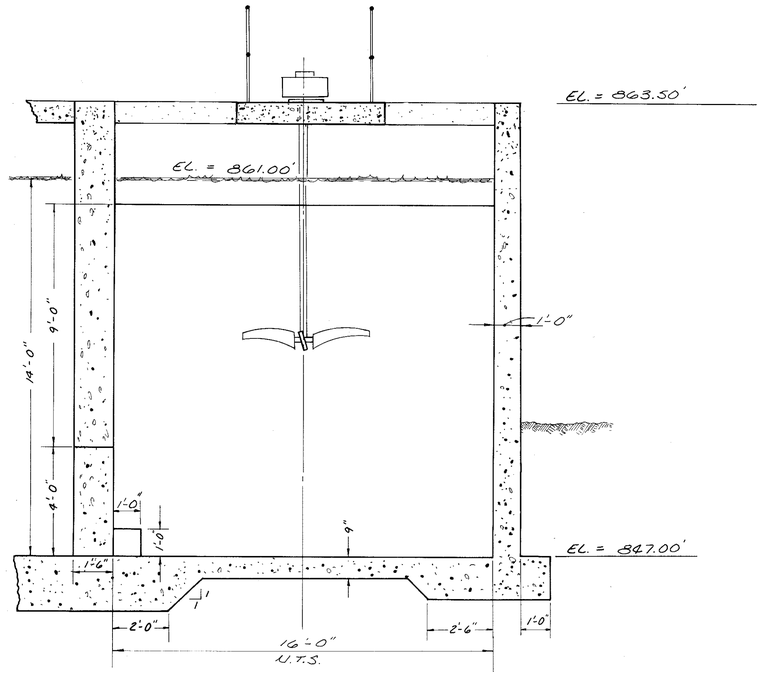
P-18

RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS — BOTTOM PLAN

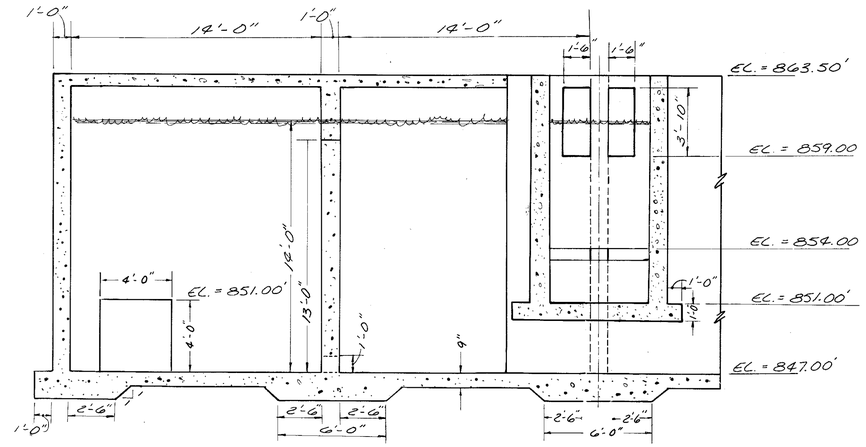
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	2/26/85	AS PER D.N.R. REQUEST	DWJ	JEM

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	18 OF 105

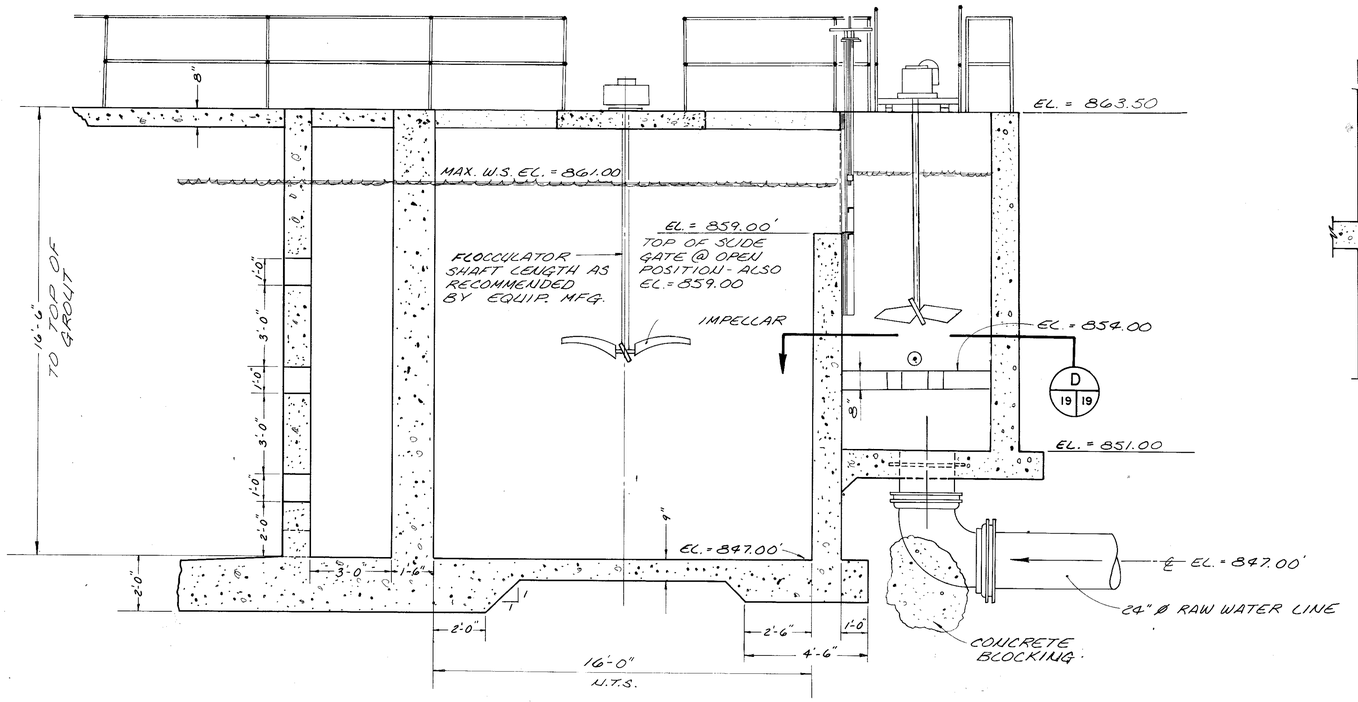
AF 8318



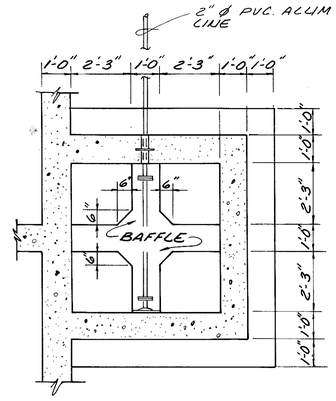
SECTION (A 17|18|19)
SCALE: 3/8" = 1'-0"



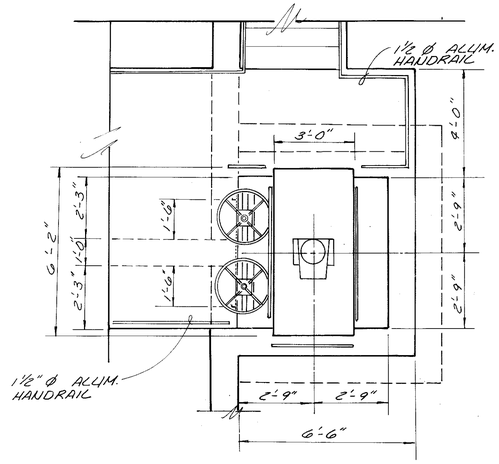
SECTION (C 17|18|19)
SCALE: 1/4" = 1'-0"



SECTION (B 17|18|19)
SCALE: 3/8" = 1'-0"



SECTION (D 19|19)
SCALE: 3/8" = 1'-0"



PLAN - FLASH MIXER
SCALE: 3/8" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

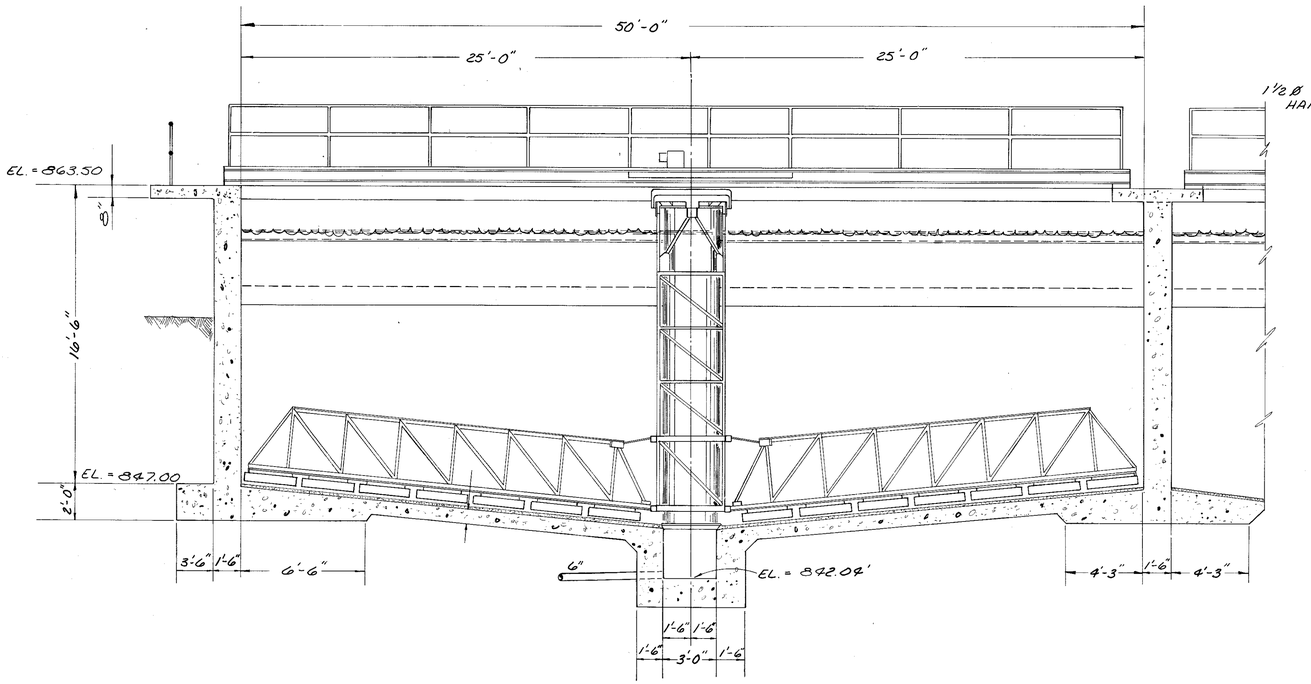
P-19 RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS
SECTIONS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

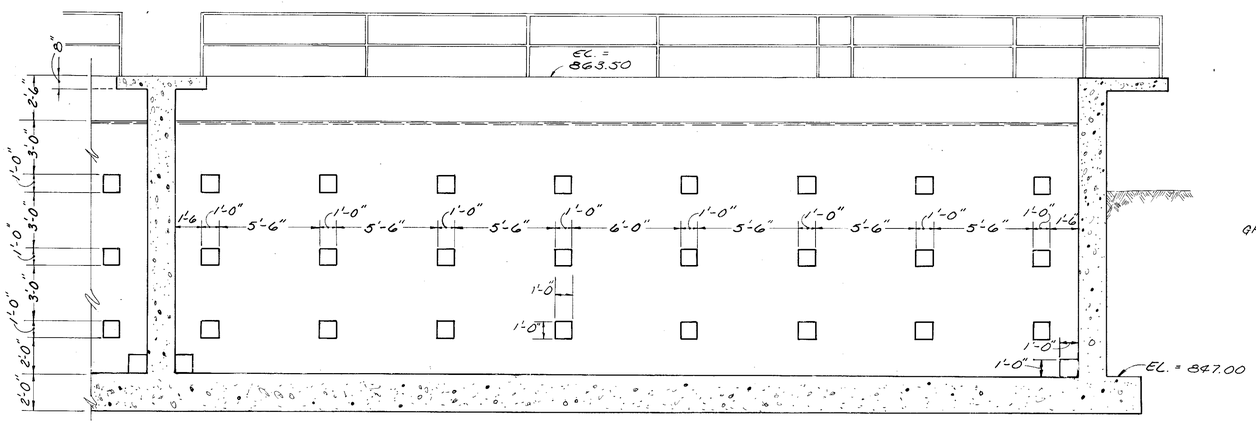
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	19 OF 105

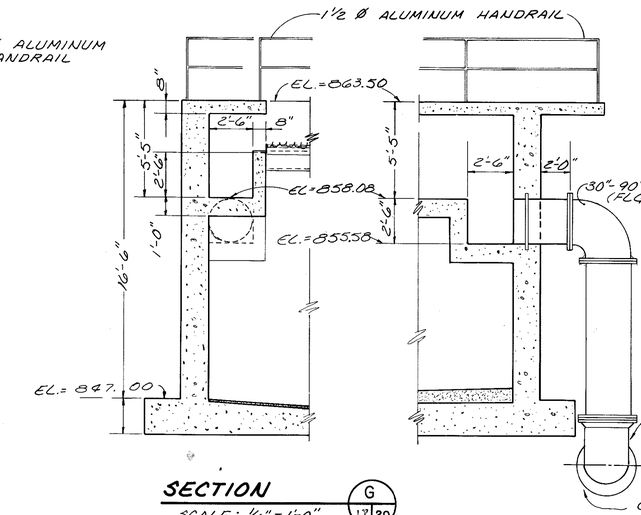
AF 8318



SECTION E
SCALE: ¼"=1'-0"
(TYPICAL EACH BASIN)

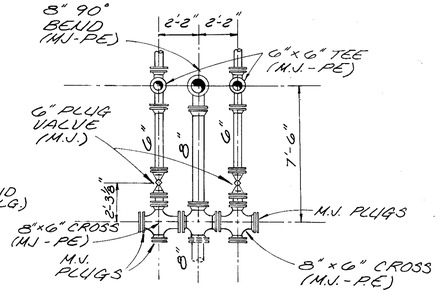


SECTION F
SCALE: ¼"=1'-0"
(TYPICAL EACH BASIN)

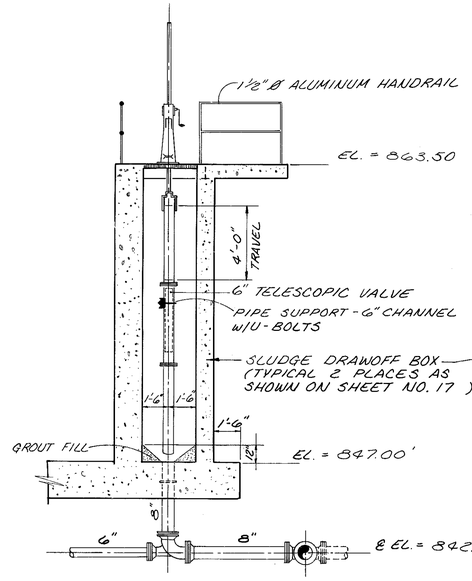


SECTION G
SCALE: ¼"=1'-0"
(17 | 20)

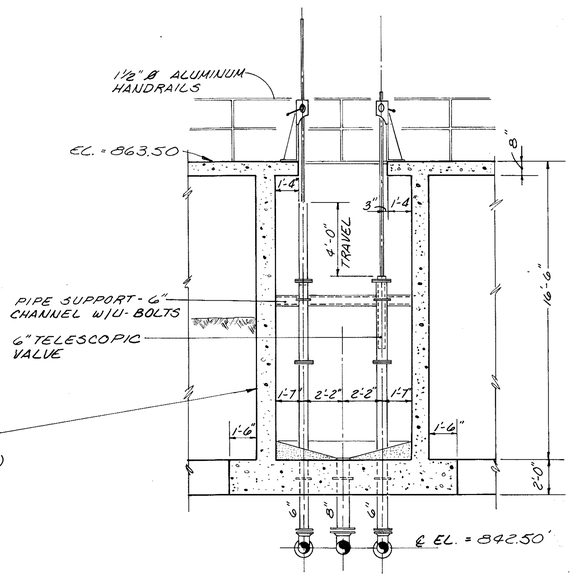
SECTION H
SCALE: ¼"=1'-0"
(17 | 20)



SLUDGE DRAWOFF PIPING - PLAN VIEW
SCALE: ¼" = 1'-0"



SECTION I
SCALE: ¼"=1'-0"
(17 | 18 | 20)



SECTION D
SCALE: ¼"=1'-0"
(17 | 18 | 20)

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

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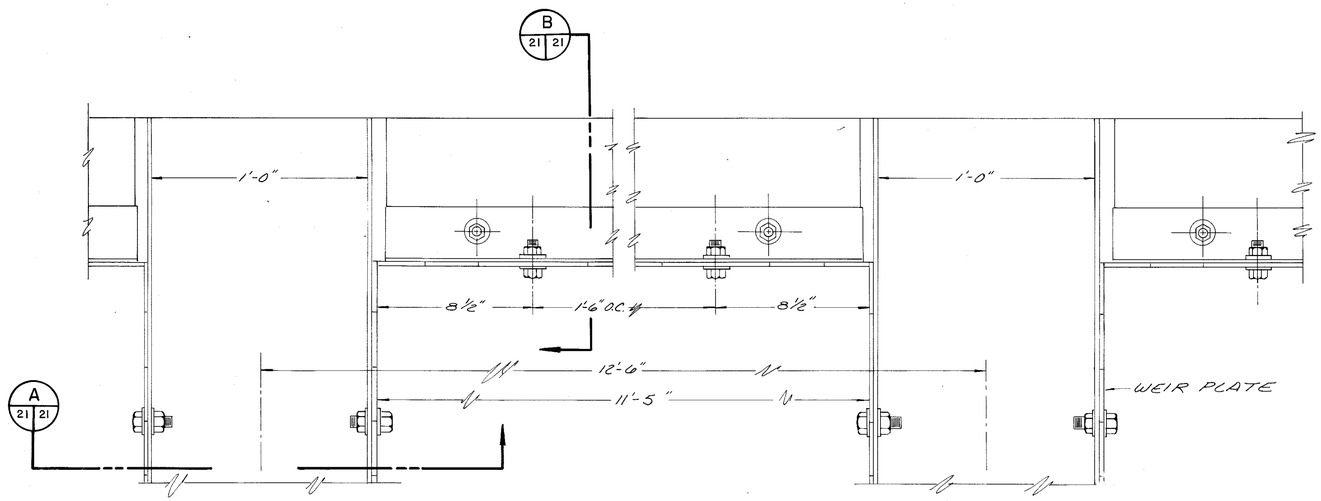
RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS
DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

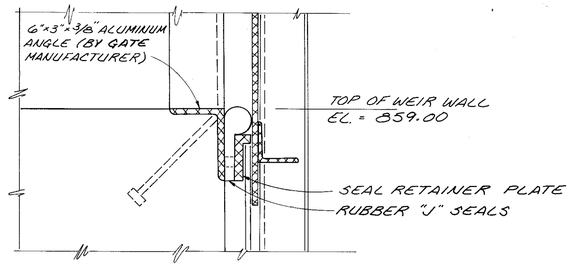
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	20 OF 105

AF 8318



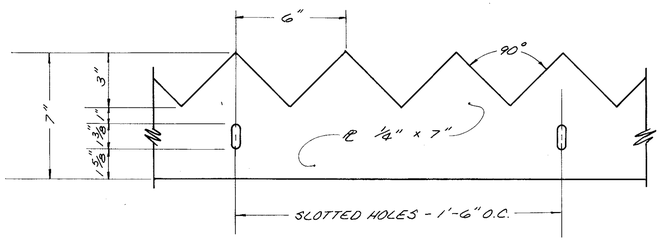
PLAN VIEW - WEIR DETAIL

SCALE: 3" = 1'-0"



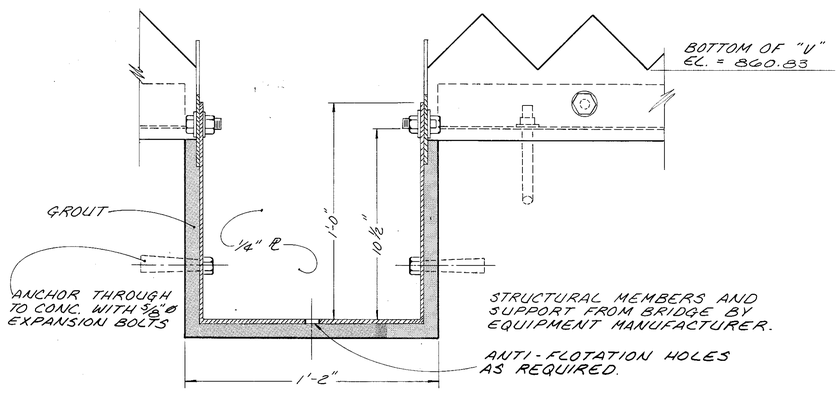
INVERT

NOTE: ALL BOLTS, ANGLES AND WEIR PLATES TO BE HOT DIP GALVANIZED AFTER FABRICATION.



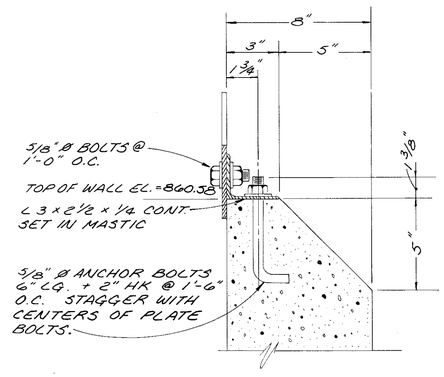
ELEVATION - WEIR PLATE

SCALE: 3" = 1'-0"



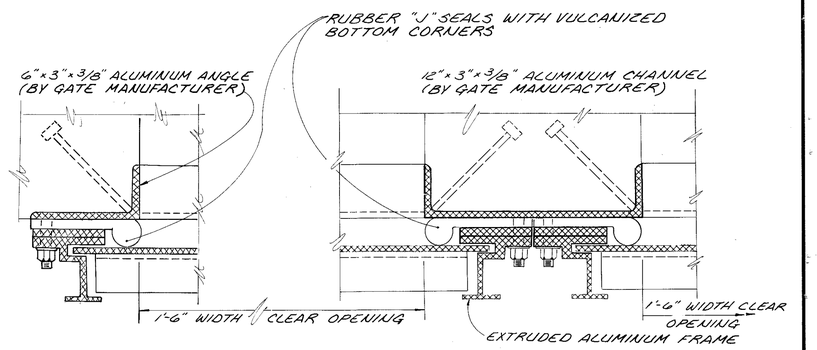
SECTION A (21 | 21)

SCALE: 3" = 1'-0"



SECTION B (21 | 21)

SCALE: 3" = 1'-0"



END JAMB

MIDDLE JAMB

WEIR GATE DETAILS

SCALE: 3" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-21

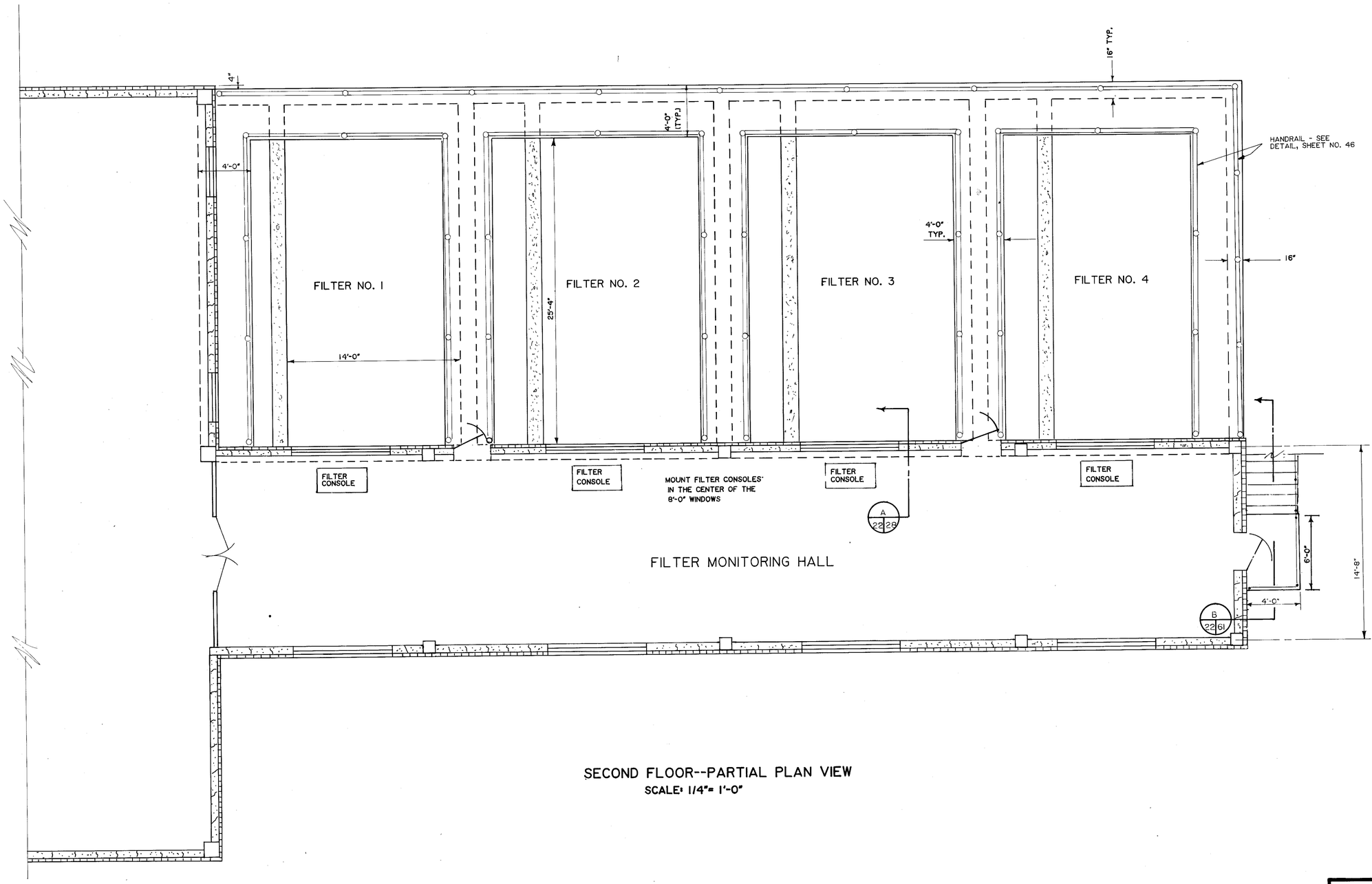
RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS
DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	21 OF 105

K.F. 33506A



SECOND FLOOR--PARTIAL PLAN VIEW

SCALE: 1/4"= 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

SECOND FLOOR-FILTERS-PLAN VIEW

P-22

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN: DP	SCALE: 1/4"=1'-0"
DRAWN: DWJ	DATE: 6/18/84
CHECK: MFL	FILE NO.: 83175-1
APPROVED: JEM	SHEET NO.: 22 OF 105

AF 8318

From FPWS 1

3" PRV STA #2

See Sht 79 M2

See Sht ____

3" PRV STA #1

Cu line splits supply to exterior wall hydrants and filter control panels. See Sht 79.

30

24

12'-0"

9'-6"

6" GATE VALVE

6" PLANT UTIL. WATER LINE

6" WATER TO YARD HYDRANTS-SEE SHT. II

6"x6" TEE

9'-3"

6"x4" REDUCER

4'-0"

4" PLANT UTILITY LINE

1" CU SETTLED H2O

SETTLED WATER SAMPLE PUMP

30" O.D.

30" I.D.

1½" PVC CARBON

20'-6"

20'-6"

20'-6"

18'-7"

15"

4'-0"

15"

14'-0"

16"

FILTER NO. 1

FILTER NO. 2

FILTER NO. 3

FILTER NO. 4

1'-5"

WASHWATER DRAIN

FILTER INFLUENT

SUBSURFACE WASH

6'-0"

3'-0"

SLOPE PIPE GALLERY 1/8" PER FOOT TOWARD DRAIN AS INDICATED BY ARROWS.(TYP.)

3/4" CU. SETTLED H_2O SAMPLE TO LAB SINK

30" BACKWASH (BELOW)

24" EFFLUENT (BELOW)

SUBSURFACE WASH

J 23|23

A 23|25

G 23|28

F 23|26

D 23|26

C 23|26

E 23|26

B 23|25

H 23|6I

PIPE GALLERY VALVE LEGEND

SYMBOL	SIZE	FUNCTION	TYPE	OPERATOR
1	12"	FILTER INFLUENT	B/F	HYDRAULIC
2	24"	WASTE	B/F	HYDRAULIC
3	20"	BACKWASH	B/F	HYDRAULIC
4	8"	FILTER TO WASTE	B/F	HYDRAULIC
5	6"	SUBSURFACE WASH	B/F	HYDRAULIC
6	24"	ISOLATION	B/F	HANDWHEEL

PLAN
PIPE GALLERY UPPER LEVEL

SCALE : ¼" = 1'-0"

6" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (WATTS MODEL #909 OR APPROVED EQUAL). PIPE HANGERS AS REQ'D. PVC PIPE TO FLOOR DRAIN.

F.F. EL = 844.17

EL = 835.50

K 23|23

SECTION - BACKFLOW PREVENTER J 23|23

1/4" = 1'-0"

6" GATE VALVE W/HANDWHEEL TYP. X 2

6" WATER TO YARD HYDRANTS-SEE SHT. II

30" ø

EL 835.50

SECTION K 23|23

1/2" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

PLAN - PIPE GALLERY-UPPER LEVEL

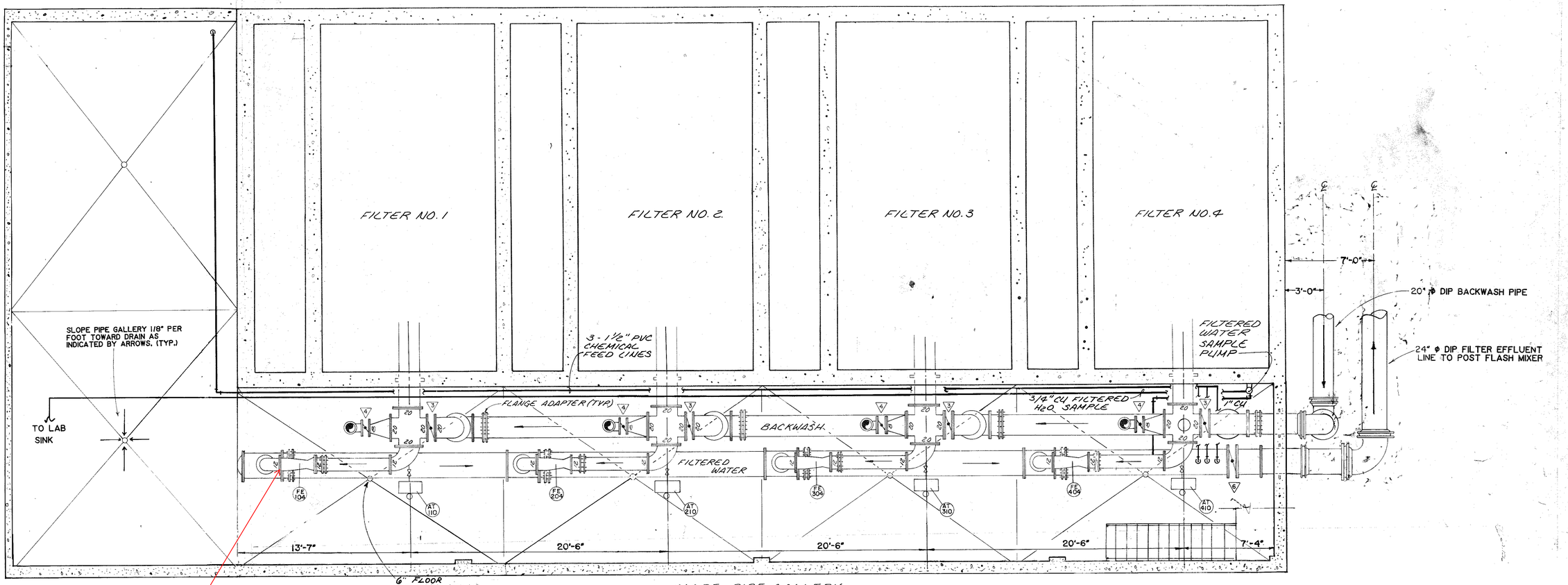
P-23

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP | SCALE 1/4"=1'-0"
DRAWN LED | DATE 6/18/84
CHECK MFL | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 23 OF 105

AF 8318



NOTE: FOR AS-BUILTS OF PIPE GALLERY SEE AMERICAN CAST IRON SHOP DRAWINGS.

PLAN

PIPE GALLERY LOWER LEVEL

SCALE: 1/4" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
PLAN - PIPE GALLERY-LOWER LEVEL

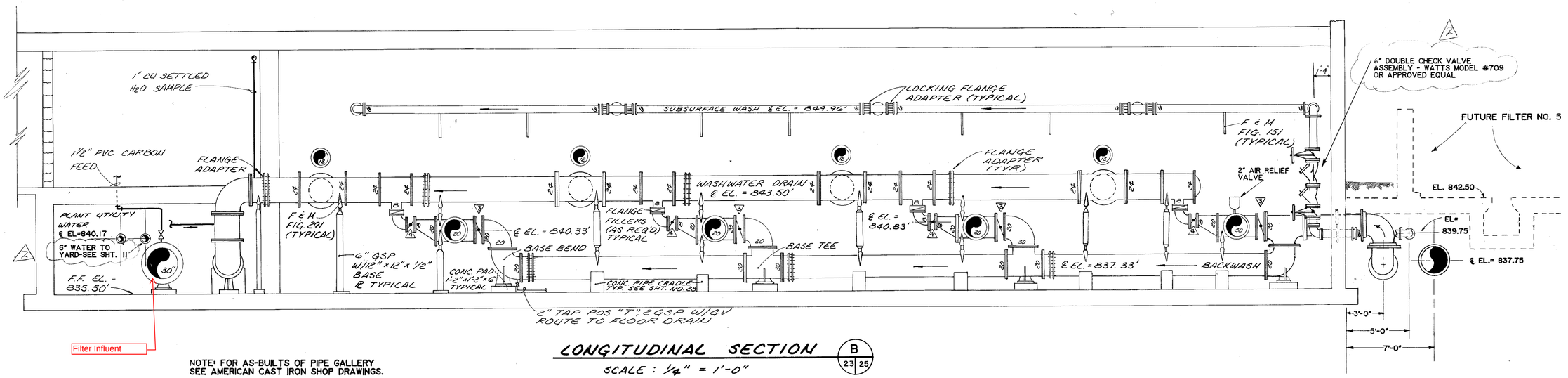
P-24

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	1/4" = 1'-0"
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	24 OF 105

AF 8316

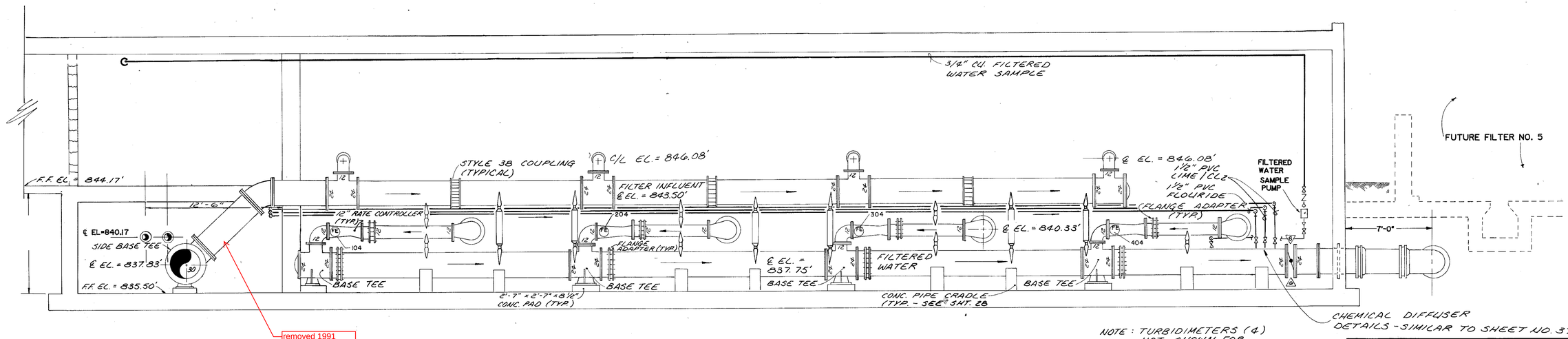


NOTE: FOR AS-BUILTS OF PIPE GALLERY SEE AMERICAN CAST IRON SHOP DRAWINGS.

LONGITUDINAL SECTION

B 23 25

SCALE : ¼" = 1'-0"



NOTE: TURBIDIMETERS (4) NOT SHOWN FOR CLARITY. SEE SHEET NO. 28

LONGITUDINAL SECTION

A 23 25

SCALE : ¼" = 1'-0"

(INSIDE PIPES NOT SHOWN FOR CLARITY - SEE SECTION B - THIS SHEET)

NOTE: FOR AS-BUILTS OF PIPE GALLERY SEE AMERICAN CAST IRON SHOP DRAWINGS.

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING
PIPE GALLERY SECTIONS

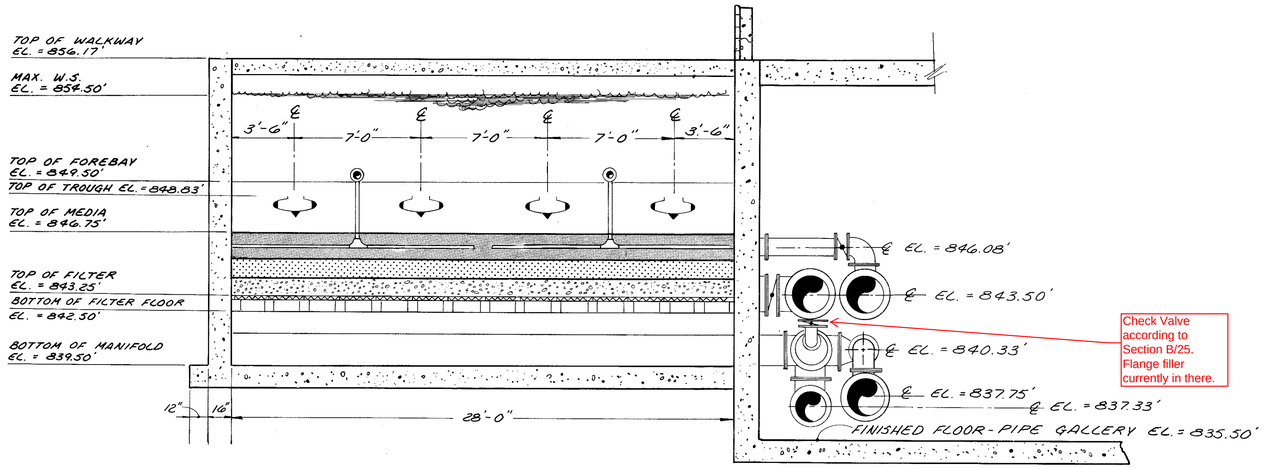
P-25

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	25 OF 105

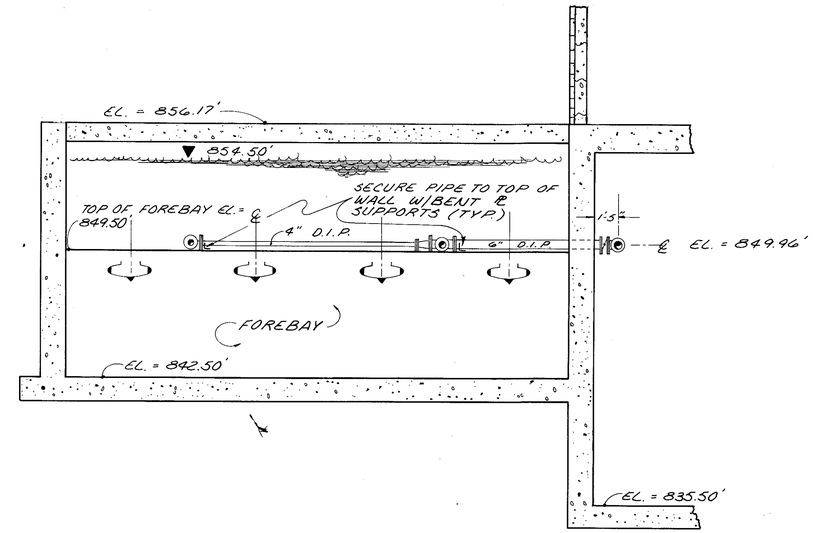
AF 8318



TRANSVERSE SECTION

SCALE : 1/4" = 1'-0"

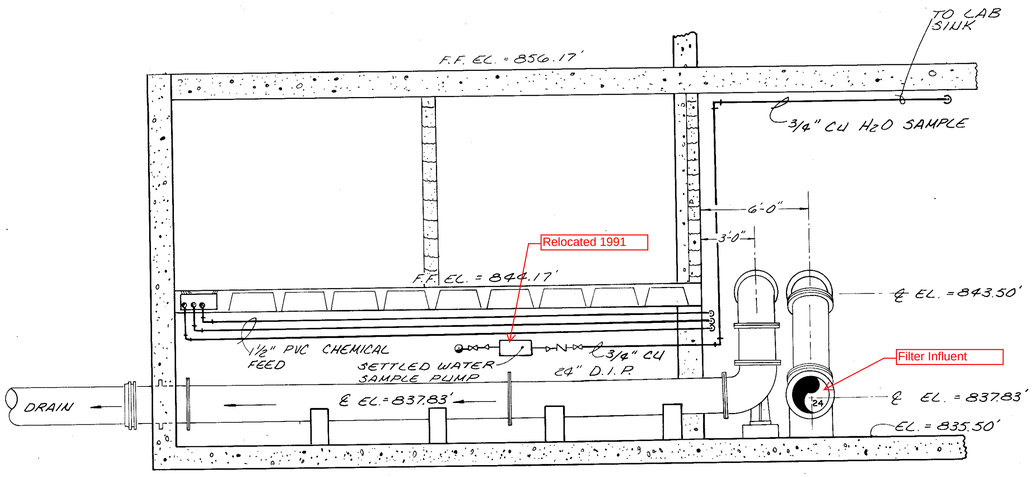
D 23 26



FILTER SECTION

SCALE : 1/4" = 1'-0"

C 23 26

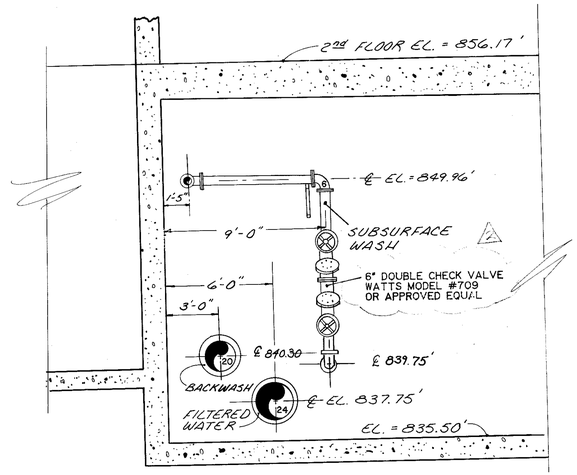


SECTION F 23 26

NORTH EAST END OF PIPE GALLERY

UPPER LEVEL OF PIPES SHOWN

SCALE : 1/4" = 1'-0"



SECTION E 23 26

SOUTHWEST WALL OF PIPE GALLERY

SCALE : 1/4" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

PIPE GALLERY SECTIONS

P-26

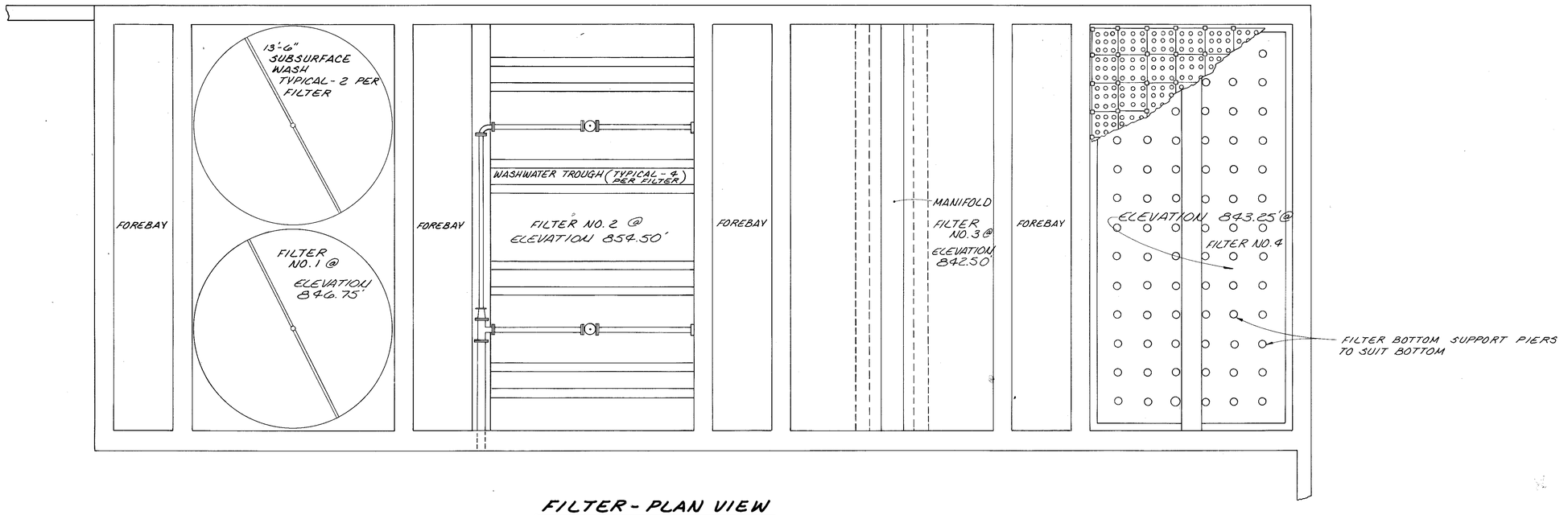
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP
DRAWN LED
CHECK MFL
APPROVED JEM

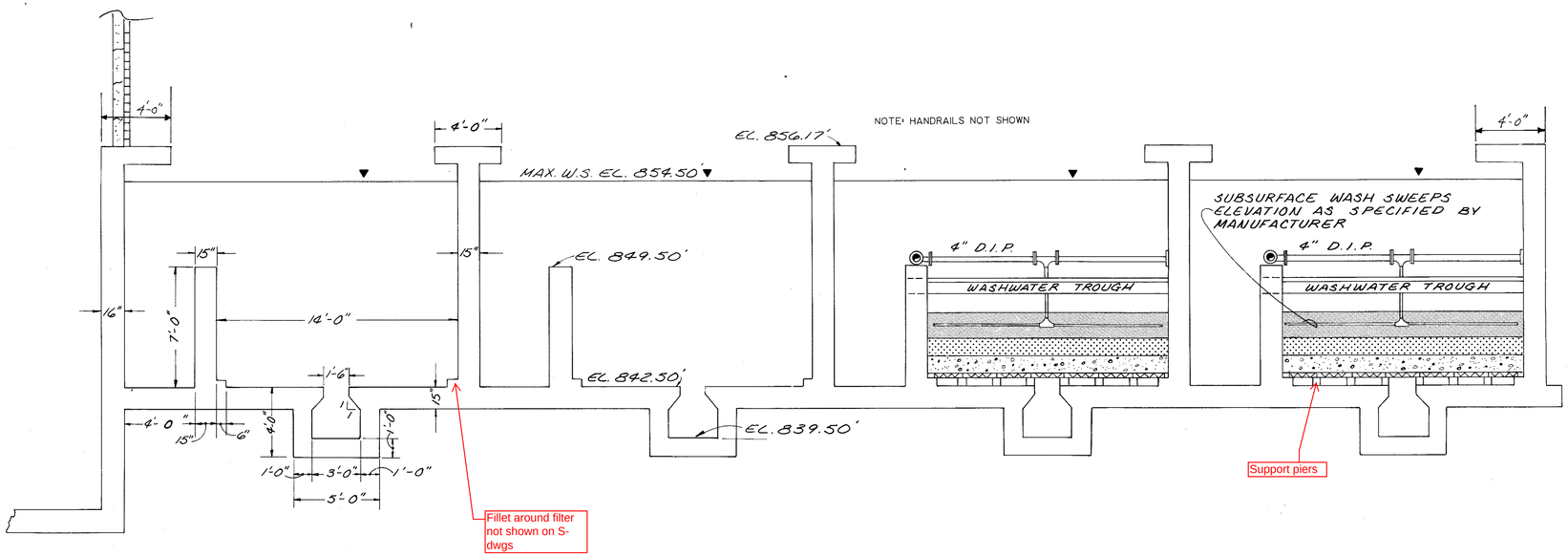
SCALE AS NOTED
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 26 OF 105

AF 8318



FILTER - PLAN VIEW

SCALE : 1/4" = 1'-0"
SHOWING VARIOUS ELEVATIONS THRU FILTERS



FILTER - SECTION VIEW

SCALE : 1/4" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING

FILTERS – PLAN VIEW AND SECTION

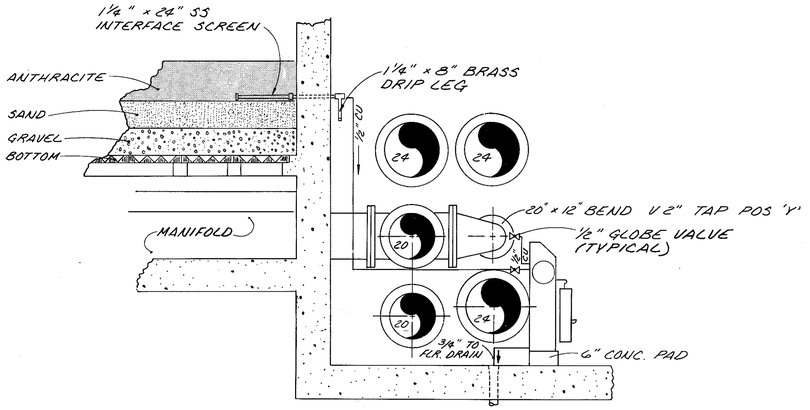
P-27

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

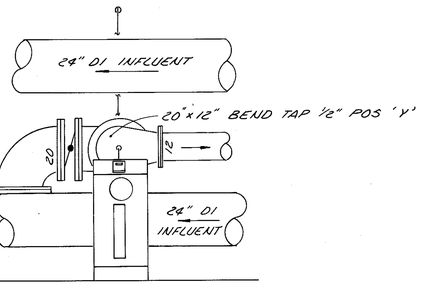
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	27 OF 105

AF 8318



TURBIDIMETER DETAIL

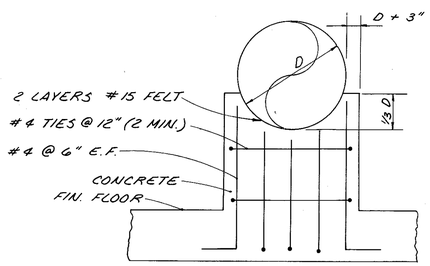
SCALE: 3/8" = 1'-0"



TURBIDIMETER ELEVATION

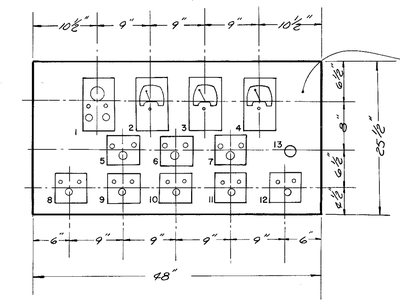
(TYPICAL x 4)

SCALE: 3/8" = 1'-0"



CONCRETE PIPE CRADLE DETAIL

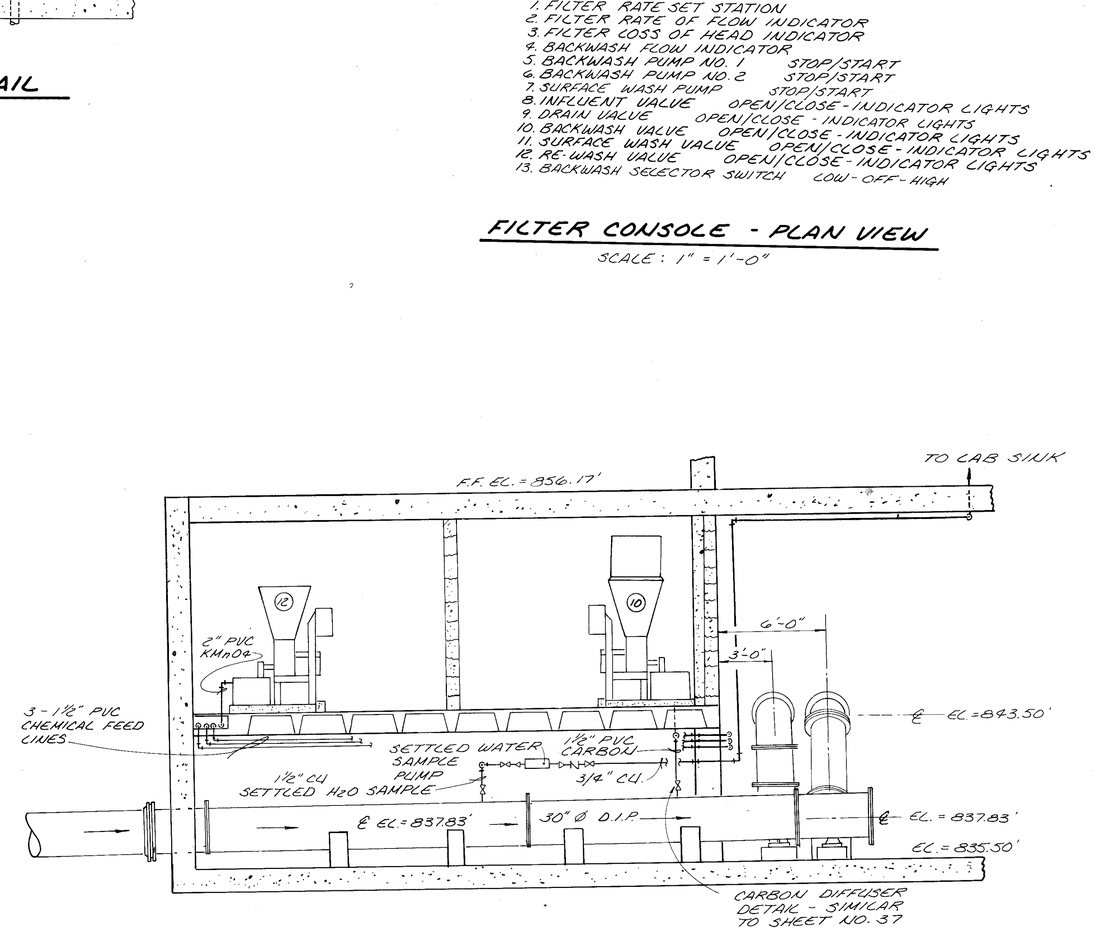
NOT TO SCALE



1. FILTER RATE SET STATION
2. FILTER RATE OF FLOW INDICATOR
3. FILTER LOSS OF HEAD INDICATOR
4. BACKWASH FLOW INDICATOR
5. BACKWASH PUMP NO. 1 STOP/START
6. BACKWASH PUMP NO. 2 STOP/START
7. SURFACE WASH PUMP STOP/START
8. INFLUENT VALVE OPEN/CLOSE - INDICATOR LIGHTS
9. DRAIN VALVE OPEN/CLOSE - INDICATOR LIGHTS
10. BACKWASH VALVE OPEN/CLOSE - INDICATOR LIGHTS
11. SURFACE WASH VALVE OPEN/CLOSE - INDICATOR LIGHTS
12. RE-WASH VALVE OPEN/CLOSE - INDICATOR LIGHTS
13. BACKWASH SELECTOR SWITCH COM - OFF - HIGH

FILTER CONSOLE - PLAN VIEW

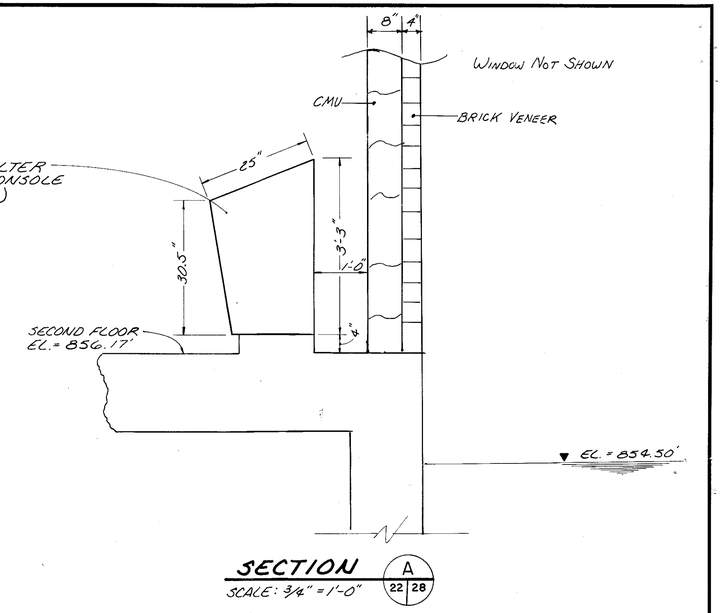
SCALE: 1" = 1'-0"



SECTION

SCALE: 1/4" = 1'-0"

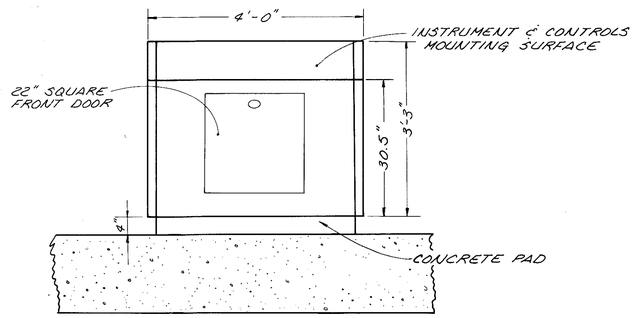
G
23 | 28



SECTION

SCALE: 3/4" = 1'-0"

A
22 | 28



FILTER CONSOLE FRONT ELEVATION

SCALE: 3/4" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-28

CHEMICAL AND FILTRATION BUILDING

FILTERS & PIPE GALLERY - SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN: DP
DRAWN: LED
CHECK: MFL
APPROVED: JEM
SCALE: AS NOTED
DATE: 6/18/84
FILE NO.: 83175-1
SHEET NO.: 28 OF 105

KF 33506A

10/12/2015 Tee centerline is 6' from post mix w/ 5' cover.

℄ EFFLUENT LINE FROM FOUR FUTURE FILTERS

FOUR FUTURE FILTERS (BLDG. LINE)

FILTER NO. 4

℄ 24" Φ DIP

℄ 6" Φ DIP

℄ 20" Φ DIP

10'-3"

11'-0"

7'-8"

85'-0"

24"×30" Φ INCREASER MJ-PE

24" Φ DIP-EFFLUENT LINE FROM FILTERS-MJ

14'

4'

6'

40'-0"

20" DIP BACKWASH PIPE

CONC. BLOCKING (TYP.)

30" Φ DIP FILTERED WATER PIPE

19'-3"

24" Φ MJ TEE W/PLUG

POST FLASH MIXER SEE SHEET NO. 37

BACKWASH METER PIT- SEE SHEET NO. 37

8'

10'

CLEAN-OUT IE 833.00'

4" DIP

6"DIP SUBSURFACE WASH PIPE

26'-0"

30"Φ DI WALL PIPE - PE/MJ ℄ EL. 833.75'

6'

23.33' NTS

5'-0"

4" PVC FROM ELEC. MH

2'-10"

3'-0"

IE 832.01'

4" DIP

SUMP DRAINS

24'-10"

6'

8'

62'-8"

FINISH WATER PUMP STATION SEE SHEET NO. 32

26'-0"

B 29 31

102'-0"

2 MG CLEARWELL

6"Φ PVC @ 5.52% SLOPE

18'-8"

6×6×4 DI TEE - TYP(4 REQ.)

IE 830.13'

4" DIP

SLOPE @ 1% FROM PUMP HOUSE

4" DIP DRAIN

FITTINGS TO BE DIP

6×6×4 TEE DIP

6" HDR (PVC)

DETAIL - PUMPHOUSE DRAIN

(2 REQ'D)

METER PIT DRAINS SIMILAR

5'

2'-0"

13'-4"

IE 828.31

8'-0"

CONC. BLOCKING

FINISH WATER METER PIT- SEE SHEET NO. 33

4" DIP

20" Φ DIP HIGH SERVICE LINE

11'-0"

10'-0"

SLOPE TO 30" Φ CMP SLUDGE LINE "A"

22'-0"

A 29 31

202'-0"

PLAN

SCALE: 1/8"= 1'

22'-0" TYP. × 2

NTS

12" D.I. VENT TYP. ×2

18"Φ PVC

CONC. HEADWALL

CLEARWELL OVERFLOW W/FLAP VALVE (TYP. × 2)

18"Φ D.I. FLAP VALVE-TYP.

INSECT SCREEN BETWEEN FLANGES

△ NOTE: ALL INSECT SCREEN TO BE NON-RUST, NON-CORROSIVE .011 GAUGE WIRE 18 × 16 MESH.

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

2.0 MG CLEARWELL
PLAN

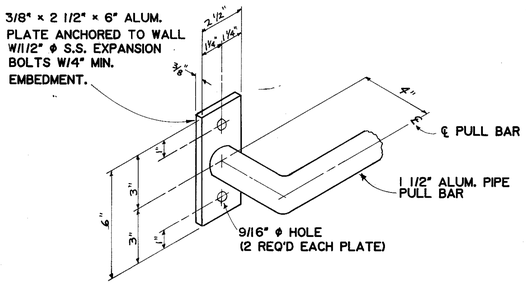
P-29

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

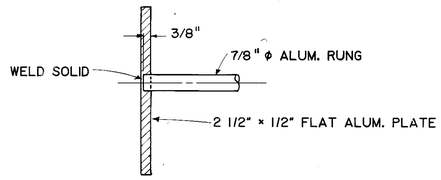
DESIGN	DP
DRAWN	SDB
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6-18-84
FILE NO.	83175-1
SHEET NO.	29 OF 105

AF 33506A



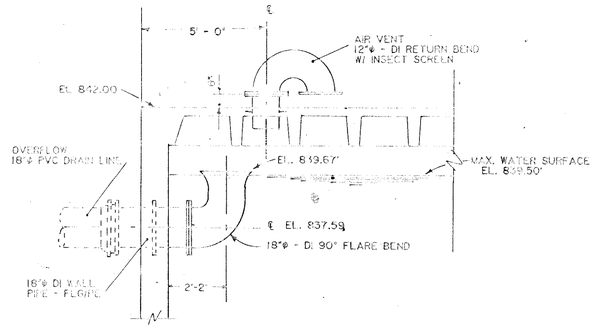
PULL BAR ANCHOR DETAIL

SCALE: 3"=1'-0"



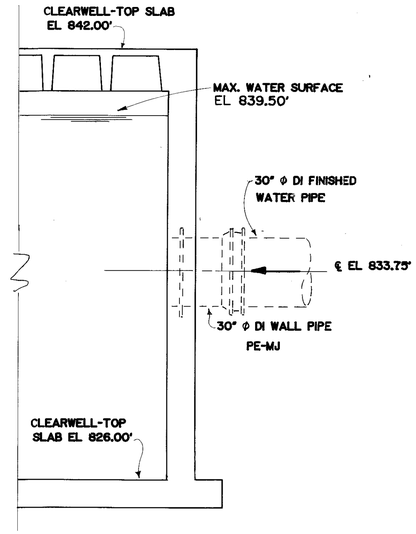
RUNG FASTENING DETAIL

SCALE: 3"=1'-0"



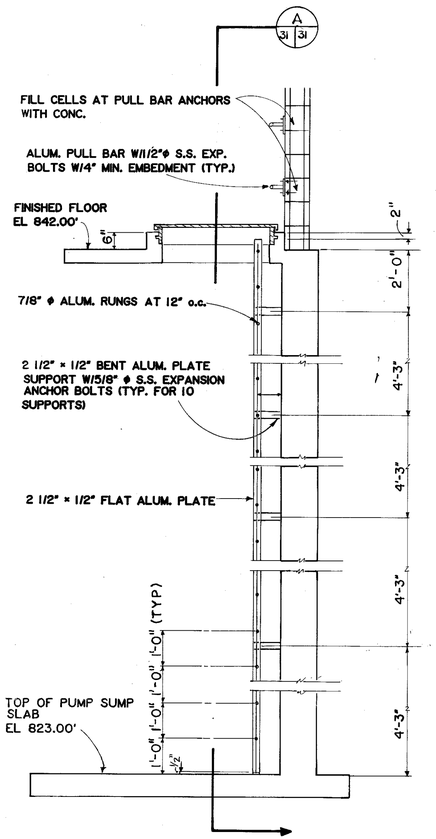
SECTION A (29|31) TYP. X 2

SCALE: 3/8"=1'-0"



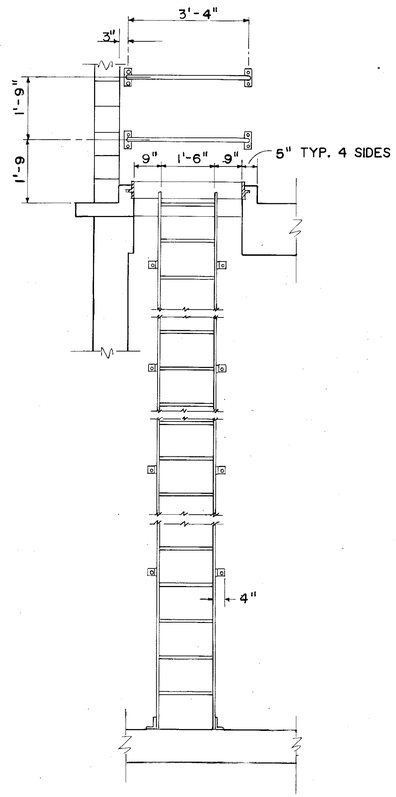
SECTION B (29|31)

SCALE: 3/8"=1'-0"



SECTION H (32|31)

SCALE: 1/2"=1'-0"



SECTION A (31|31)

SCALE: 1/2"=1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CLEARWELL DETAILS

P-31

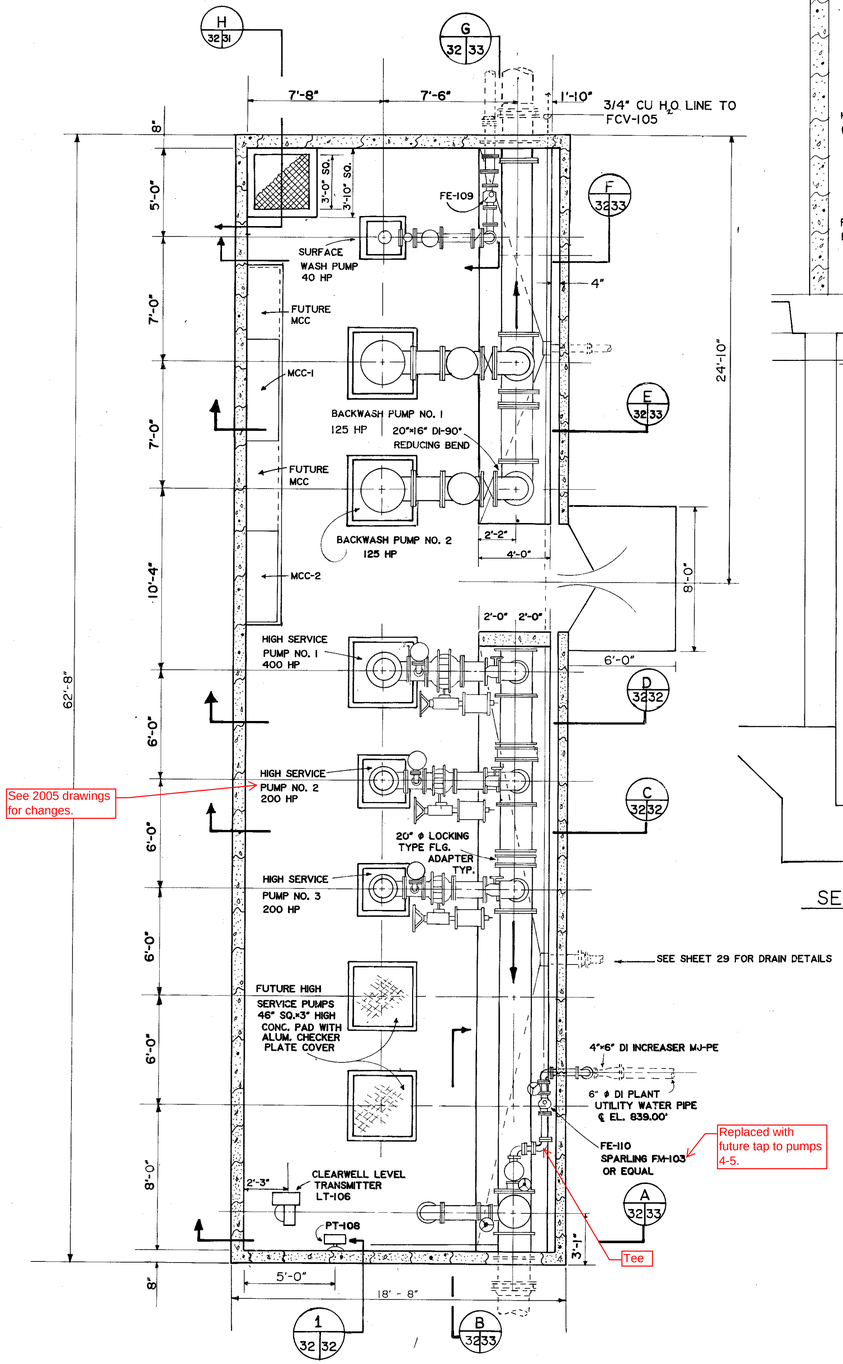
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN
DRAWN SDB
CHECK DWJ
APPROVED JEM

SCALE AS NOTED
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 31 OF 105

KF 33506A

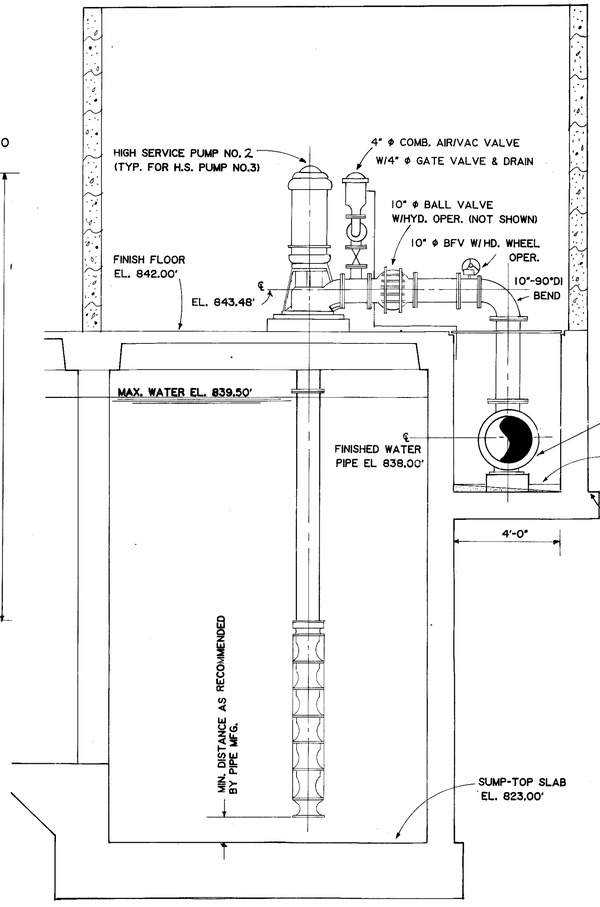


See 2005 drawings for changes.

Replaced with future tap to pumps 4-5.

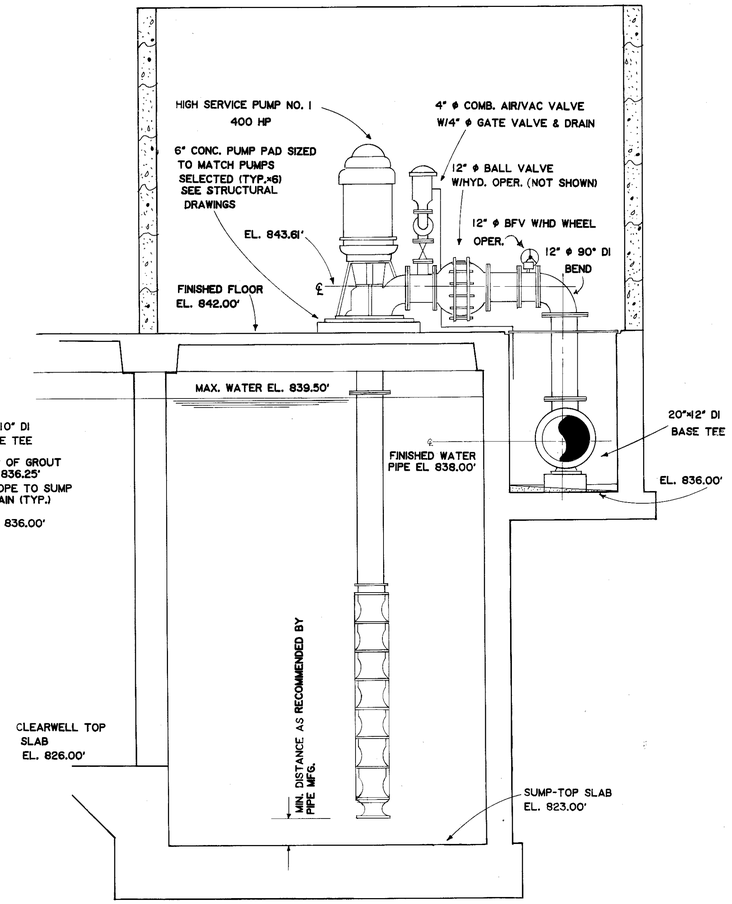
PLAN-FINISHED WATER PUMP STATION

SCALE: 1/4"=1'-0"



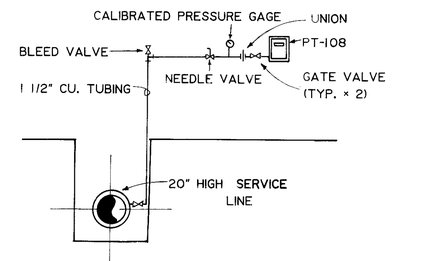
SECTION C 32 32

SCALE: 3/8"=1'-0"



SECTION D 32 32

SCALE: 3/8"=1'-0"



DETAIL-PIPING SCHEMATIC FOR PT-108 1 32 32

NOTE: ALL FLANGES ON DISCHARGE SIDE OF HIGH SERVICE PUMPS INCLUDING PIPE AND VALVES SHALL BE 250 LB. HEAVY DUTY. THIS SHALL INCLUDE THE HIGH SERVICE LINE, SUPPR RELIEF LINE, AND PLANT UTILITY WATER LINE THRU THE PRESSURE REDUCING VALVE. ALL OTHER FLANGES SHALL BE 125 LB STANDARD.

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404/432-5634

WATER SYSTEMS IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-32

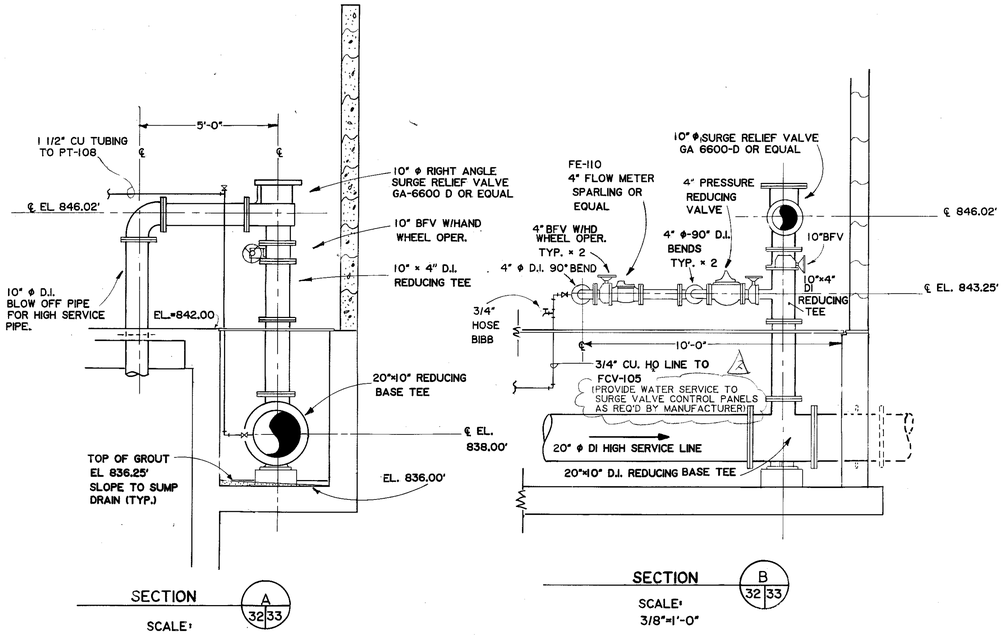
FINISHED WATER PUMP STATION
PLAN, SECTIONS AND DETAILS

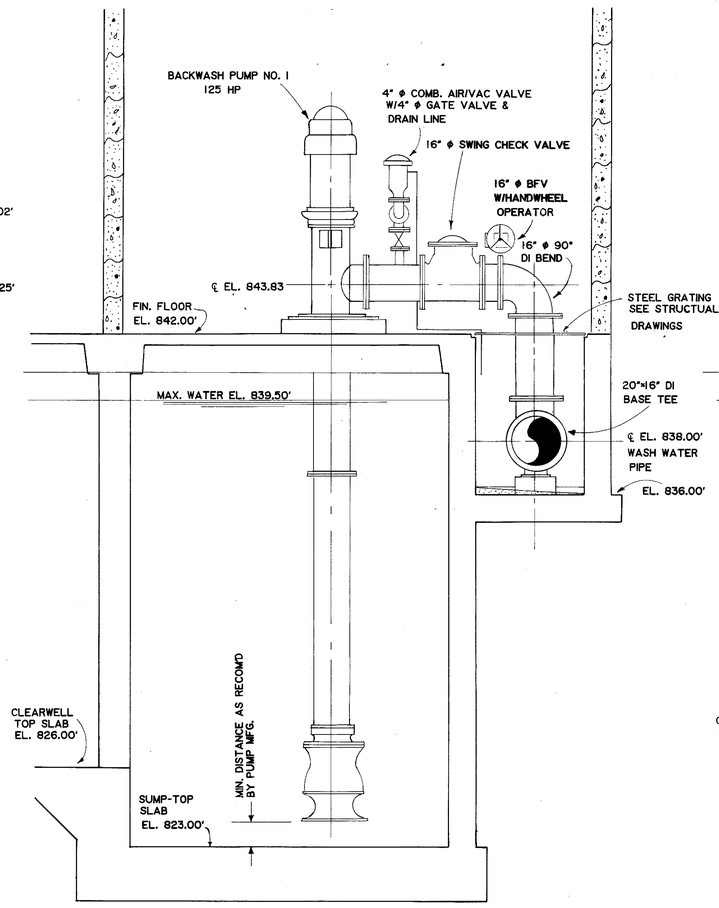
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

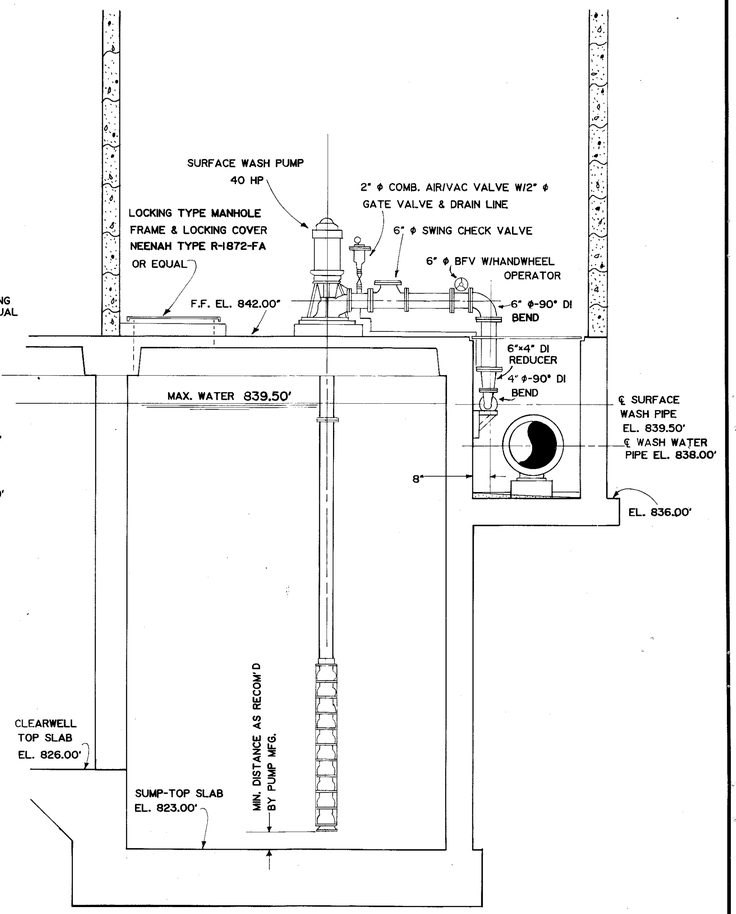
LAND LOT-
DISTRICT-
COUNTY-
STATE-

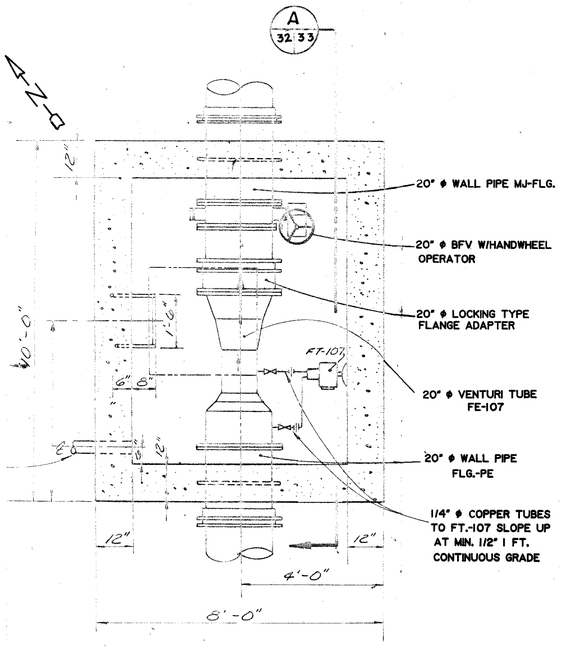
DESIGN	DP
DRAWN	SDB
CHECK	DWJ
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	32 OF 105

AF 33506A

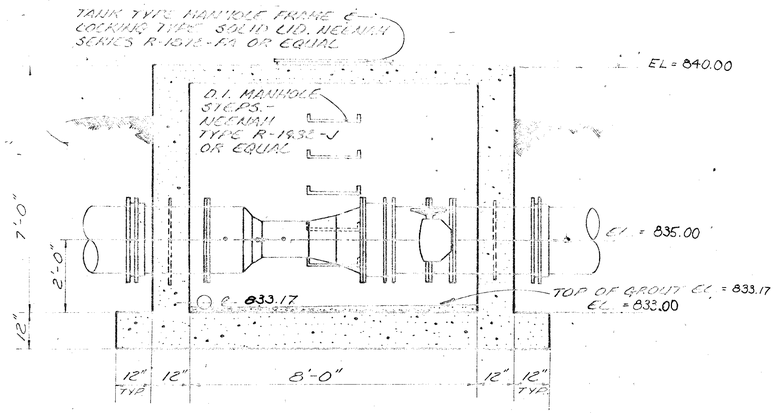




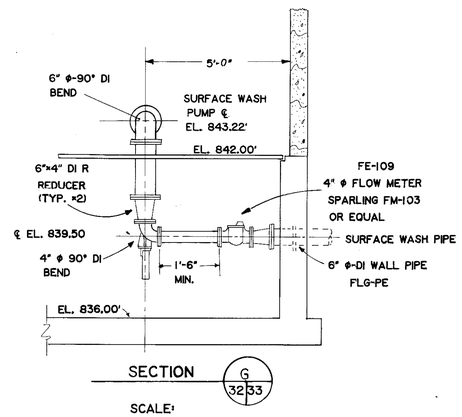




PLAN VIEW
FINISHED WATER METER PIT
SCALE: 1/2"=1'-0"



SECTION A 33|33
SCALE: 1/2" = 1'-0"



SECTION G 32|33
SCALE: 3/8"=1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-33

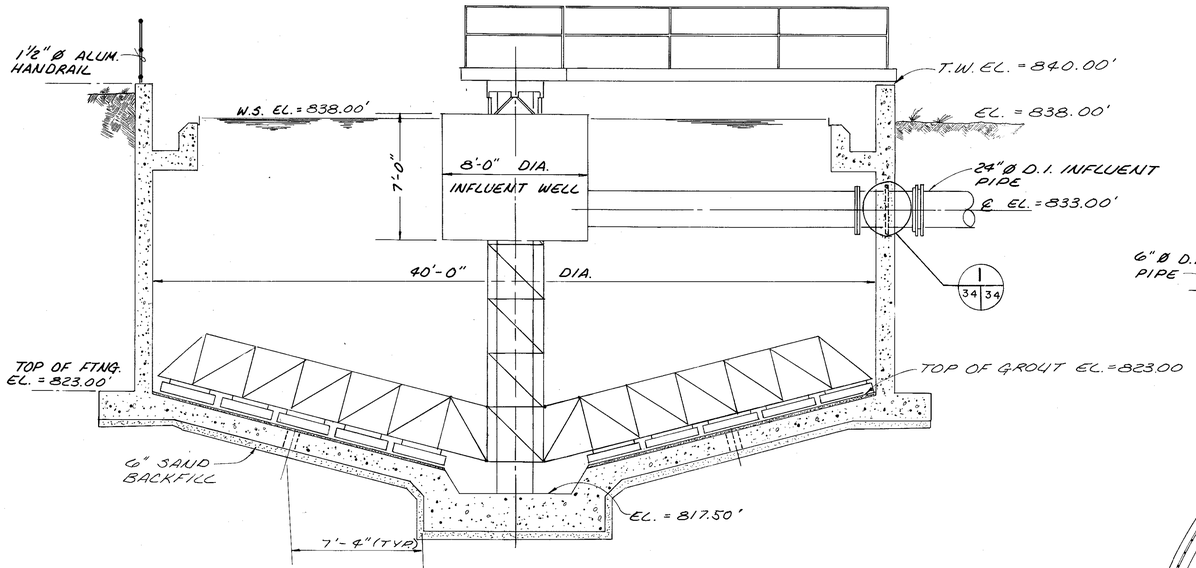
FINISHED WATER PUMP STATION & METER PIT
SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

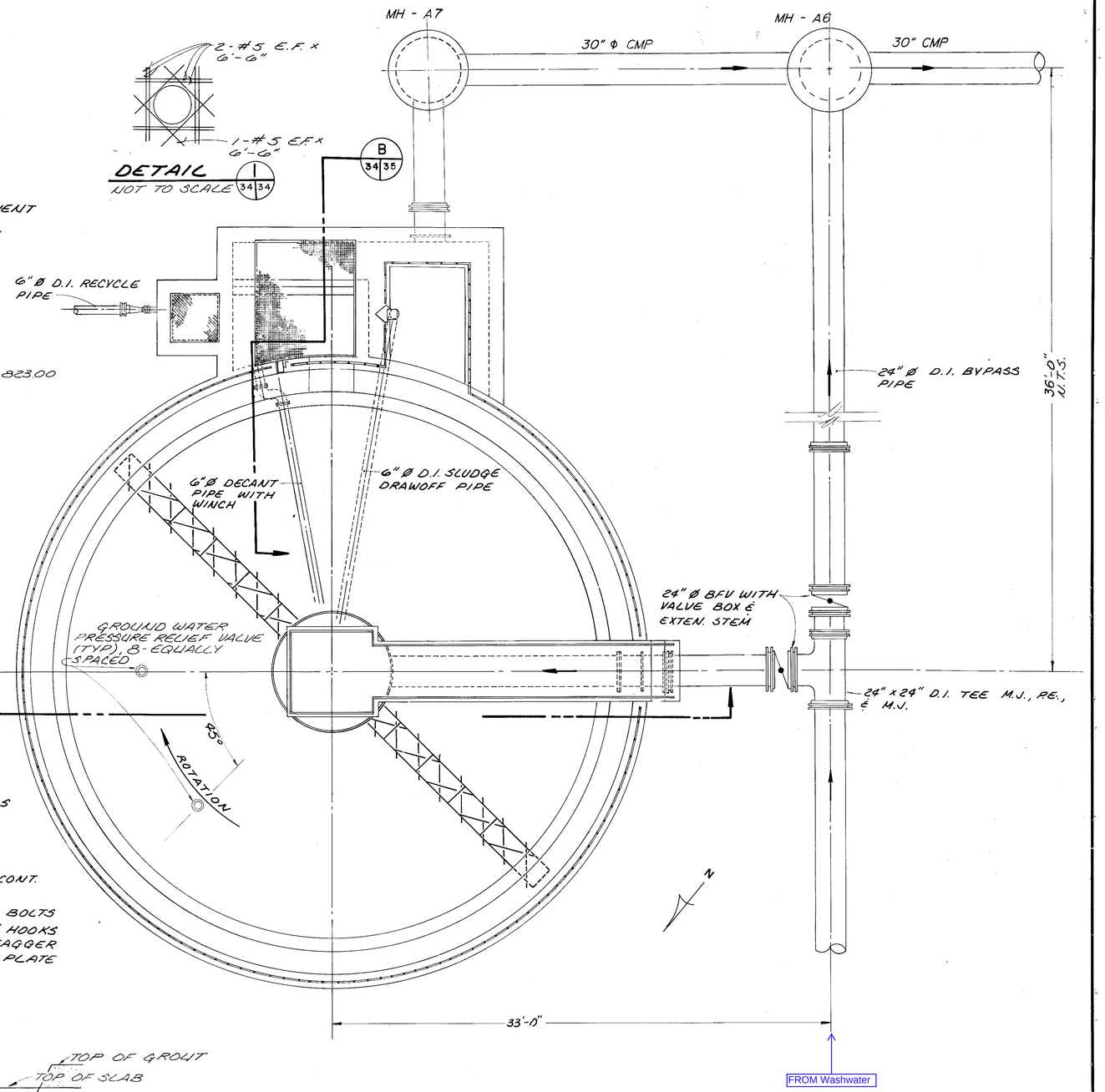
DESIGN: DP	SCALE: AS NOTED
DRAWN: SDB	DATE: 6/18/84
CHECK: DWJ	FILE NO.: 83175-1
APPROVED: JEM	SHEET NO.: 33 OF 105

AF 8318

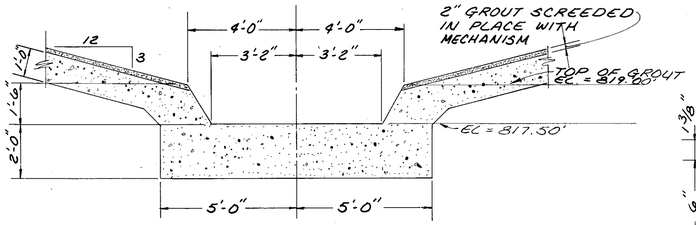


SECTION
SCALE: 1/4" = 1'-0"
A 34 34

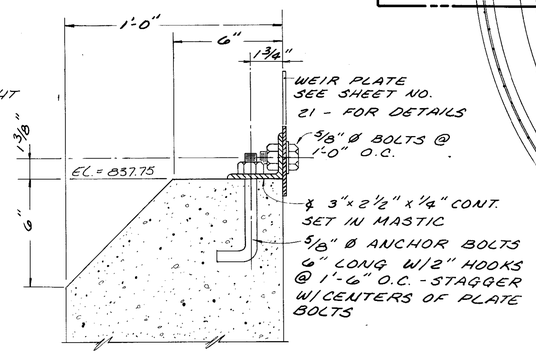
DETAIL
NOT TO SCALE
I 34 34



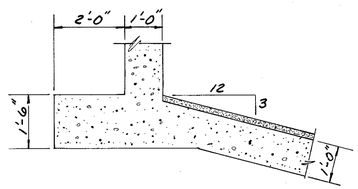
PLAN VIEW OF SLUDGE THICKENER
SCALE: 1/4" = 1'-0"



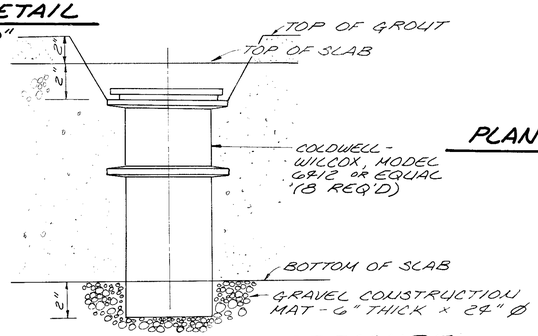
SLUDGE HOPPER DETAIL
SCALE: 3/8" = 1'-0"



WEIR WALL DETAIL
SCALE: 3" = 1'-0"



FOOTING DETAIL
SCALE: 1/2" = 1'-0"



GROUND WATER PRESSURE RELIEF VALVE DETAIL
SCALE: 3" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

SLUDGE THICKENER

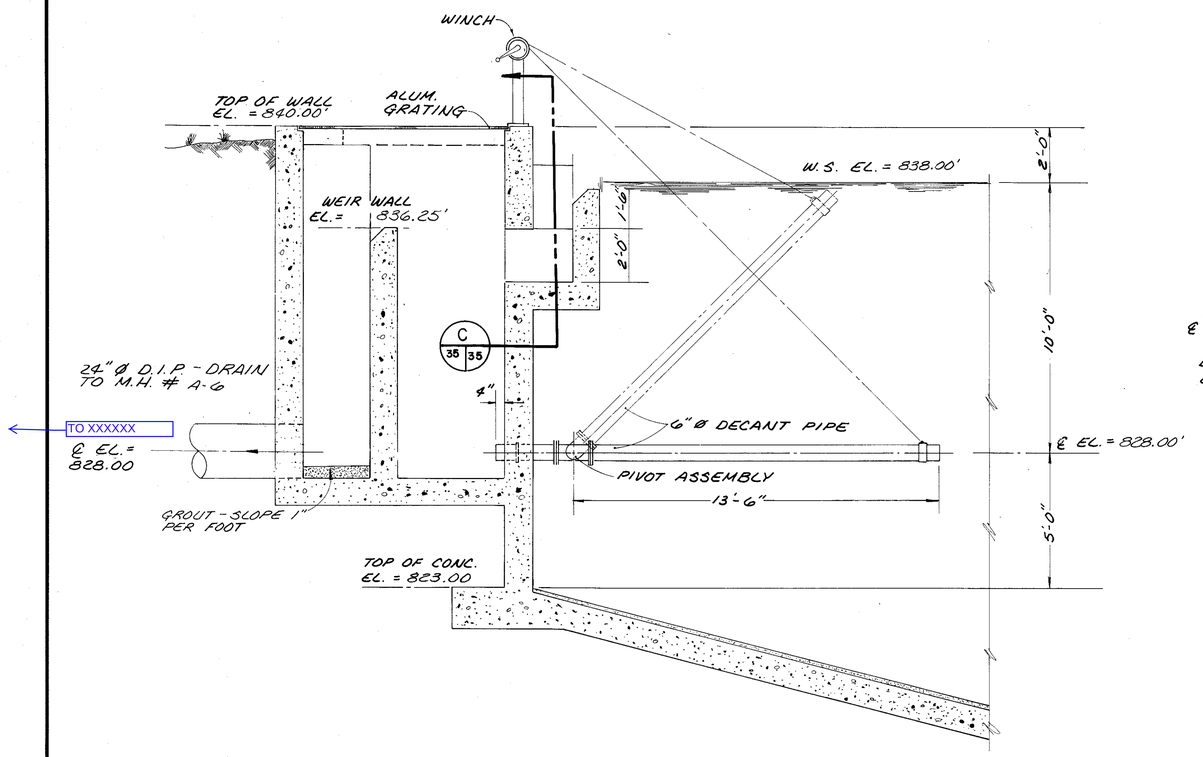
PLAN, SECTIONS & DETAILS

P-34

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	34 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

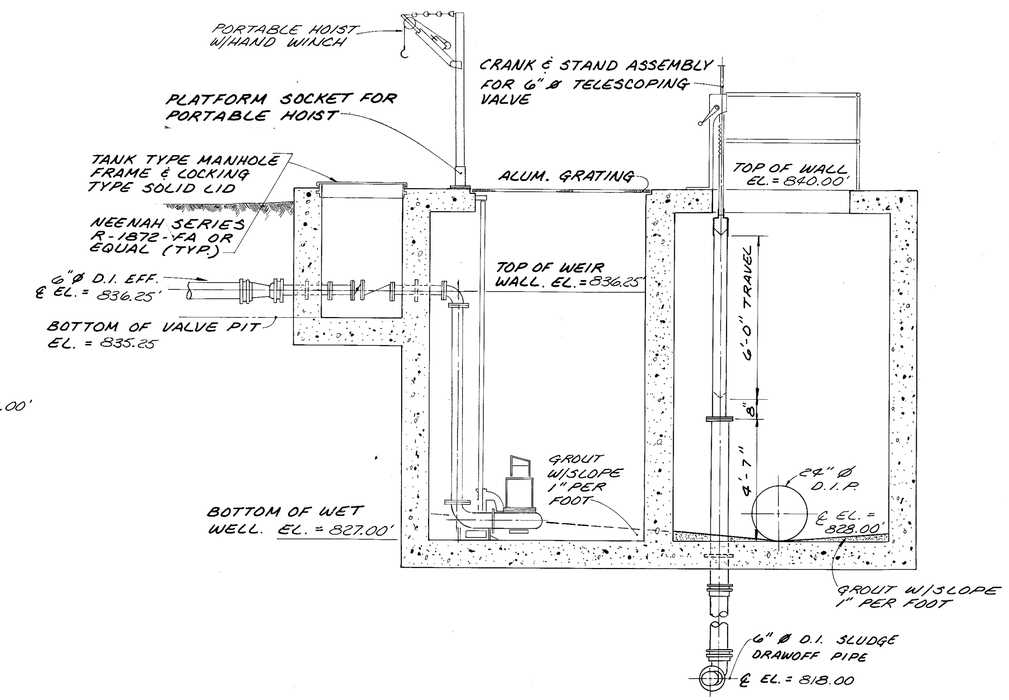
AF 8318



SECTION

SCALE: 3/8" = 1'-0"

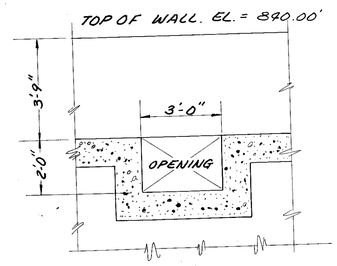
B 34 35



SECTION

SCALE: 3/8" = 1'-0"

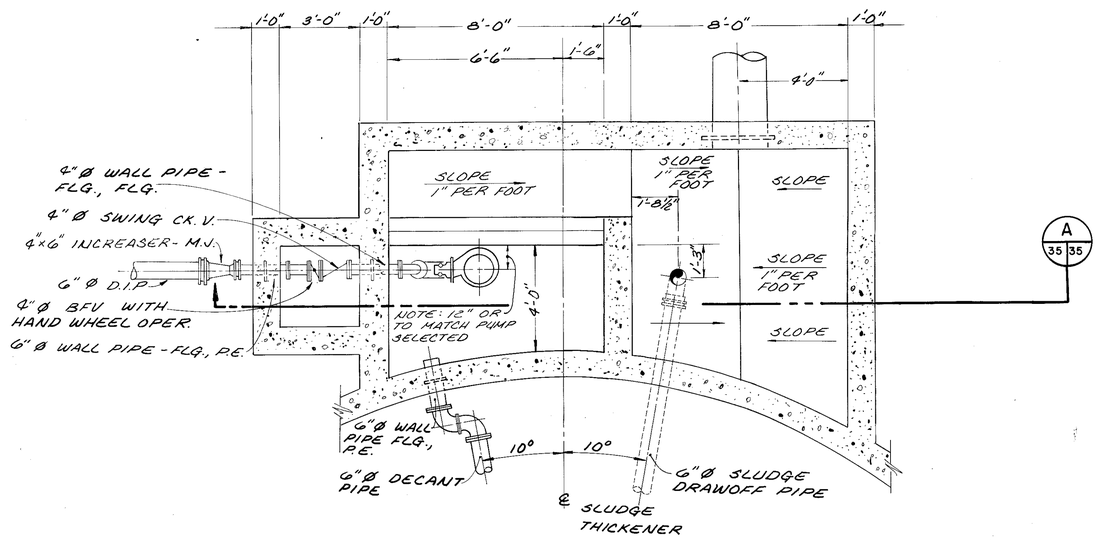
A 35 35



SECTION

SCALE: 3/8" = 1'-0"

C 35 35



PLAN VIEW OF SLUDGE DRAWOFF AND EFFLUENT RECYCLE PITS

SCALE: 3/8" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

SLUDGE THICKENER

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SLUDGE DRAWOFF & EFFLUENT RECYCLE PIT

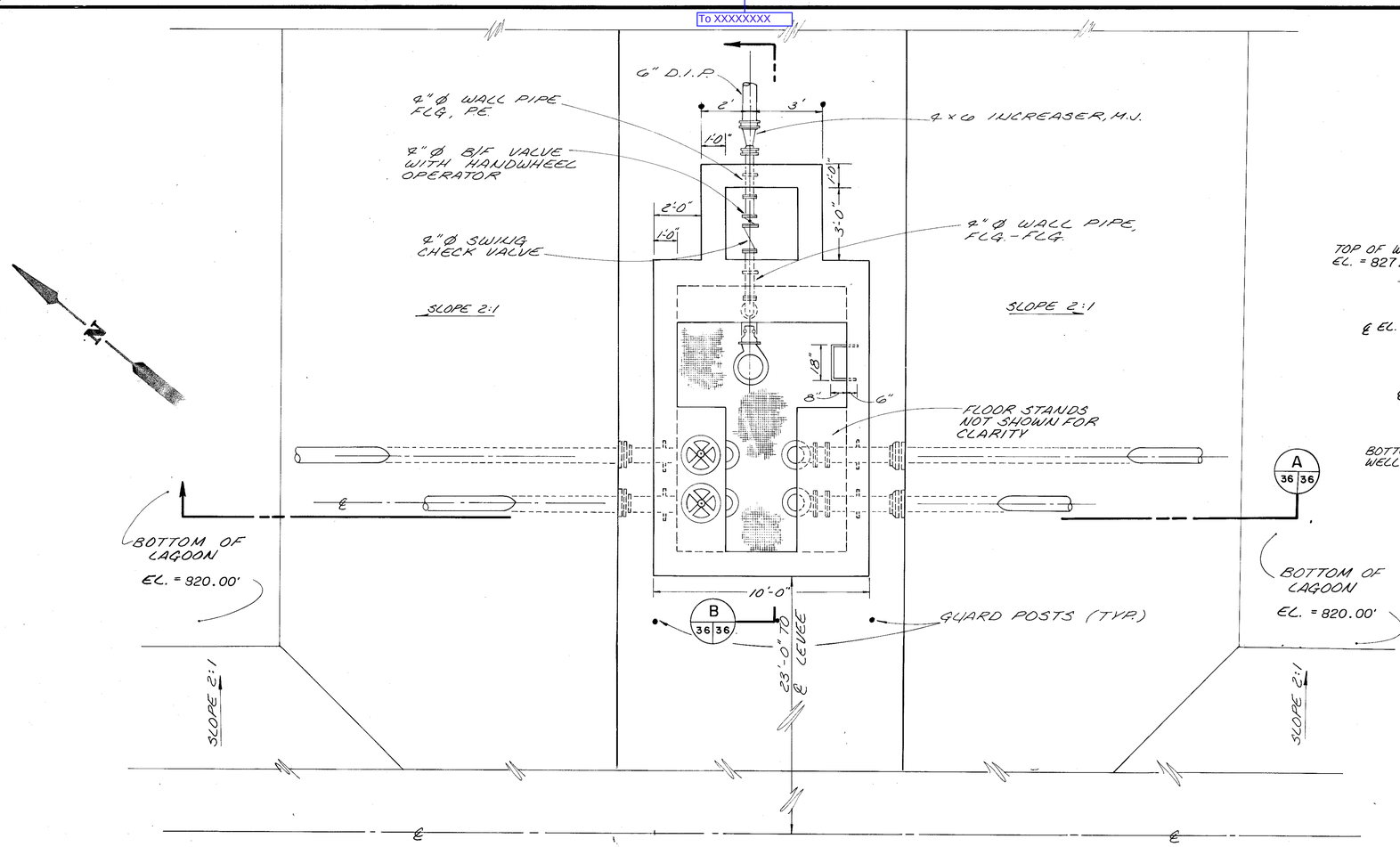
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	35 OF 105

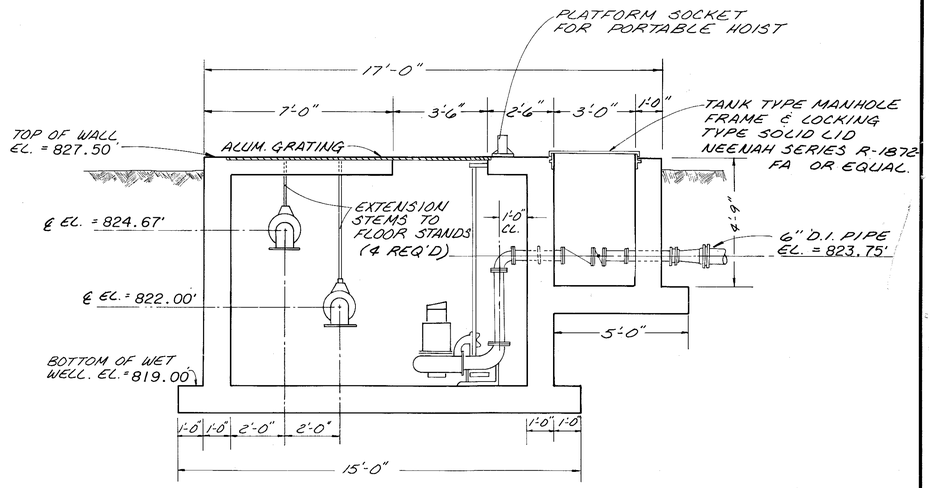
AF 8318

To XXXXXXXX



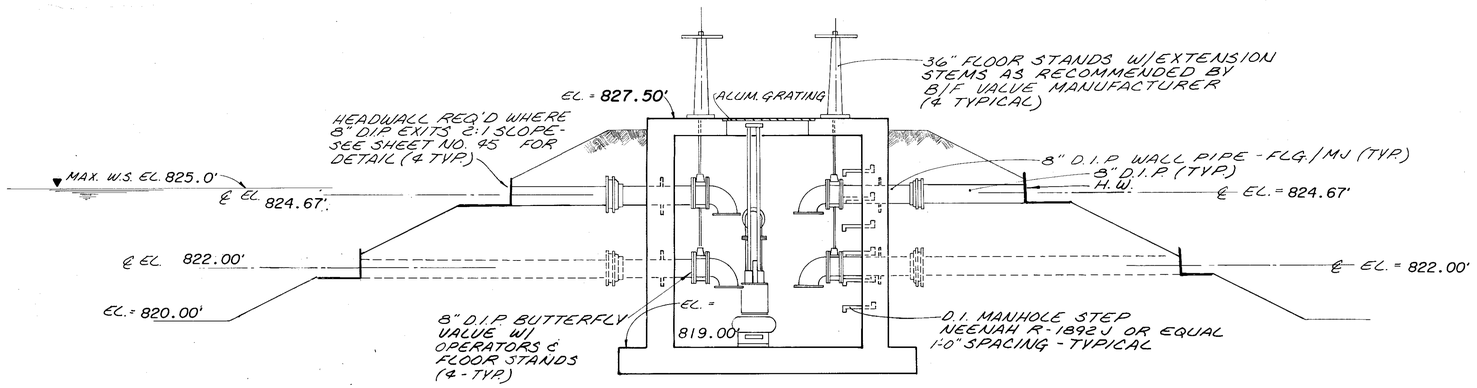
PLAN VIEW - LAGOON PUMP STATION

SCALE : 3/8" = 1'-0"



SECTION B

SCALE: 3/8" = 1'-0"



SECTION A

SCALE: 3/8" = 1'-0"

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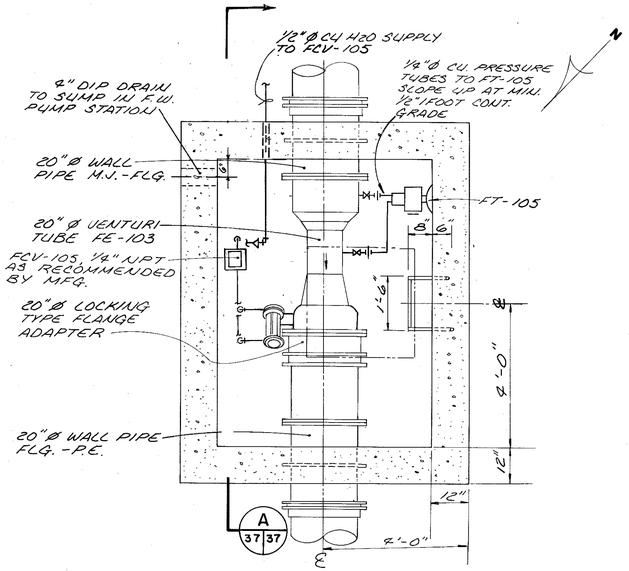
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-36

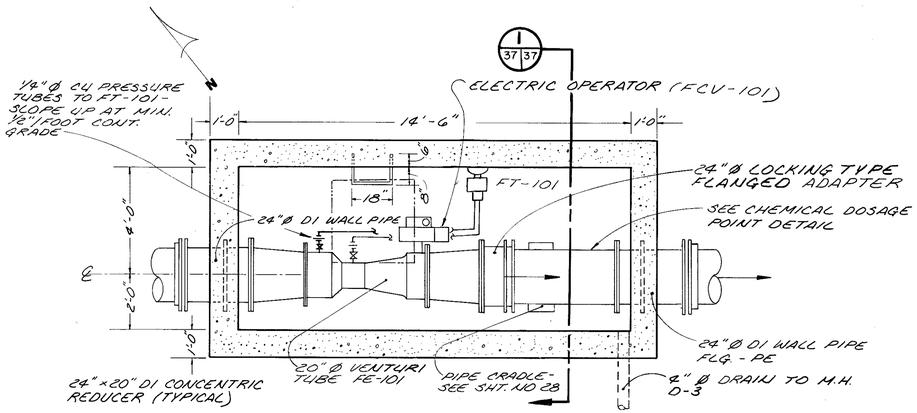
LAGOON PUMP STATION
PLAN VIEW & SECTIONS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	6/5/85	REVISED ELEVATIONS	SB	JEM

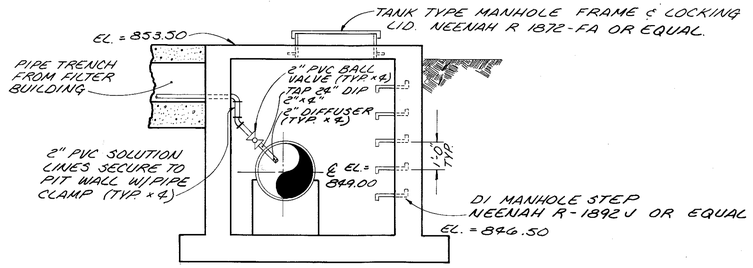
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	36 OF 105



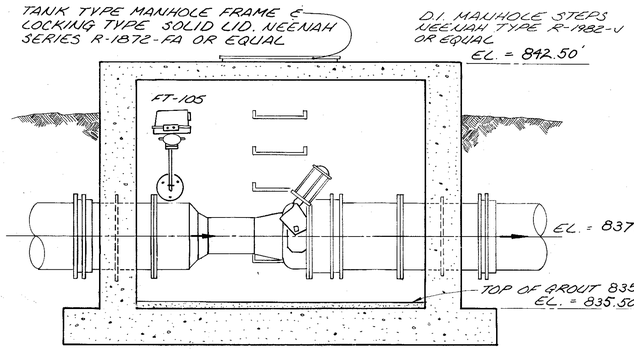
PLAN VIEW
BACKWASH METER PIT
SCALE : 1/2" = 1'-0"



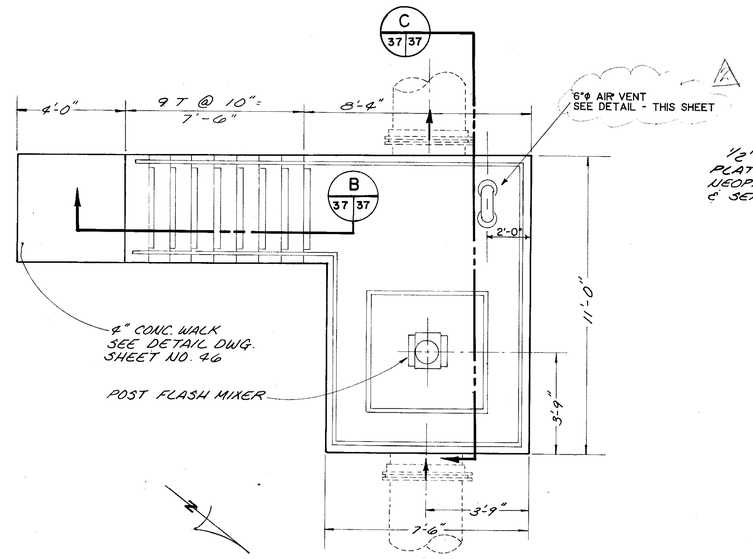
PLAN - RAW WATER VENTURI AND CHEMICAL DOSAGE POINT
SCALE : 3/8" = 1'-0"



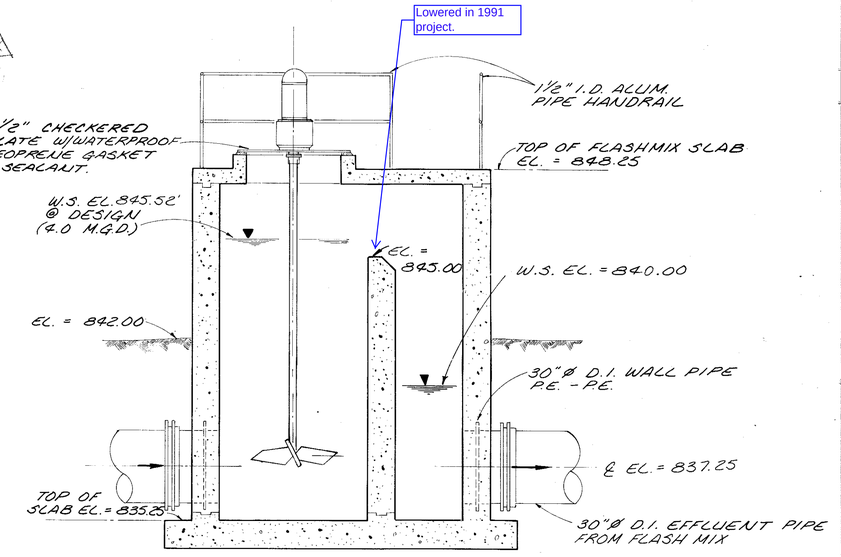
DETAIL - RAW WATER CHEMICAL DOSAGE POINT
SCALE : 3/8" = 1'-0"
I 37 37



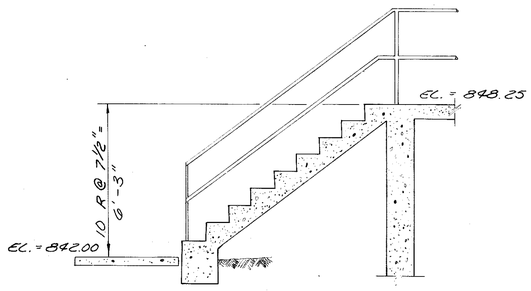
SECTION
SCALE : 1/2" = 1'-0"
A 37 37



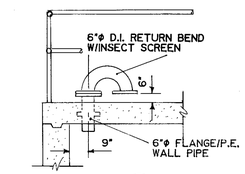
PLAN VIEW OF FLASH MIX STRUCTURE
SCALE : 3/8" = 1'-0"



SECTION
SCALE: 3/8" = 1'-0"
C 37 37



SECTION
SCALE : 3/8" = 1'-0"
B 37 37



AIR VENT DETAIL
3/8" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

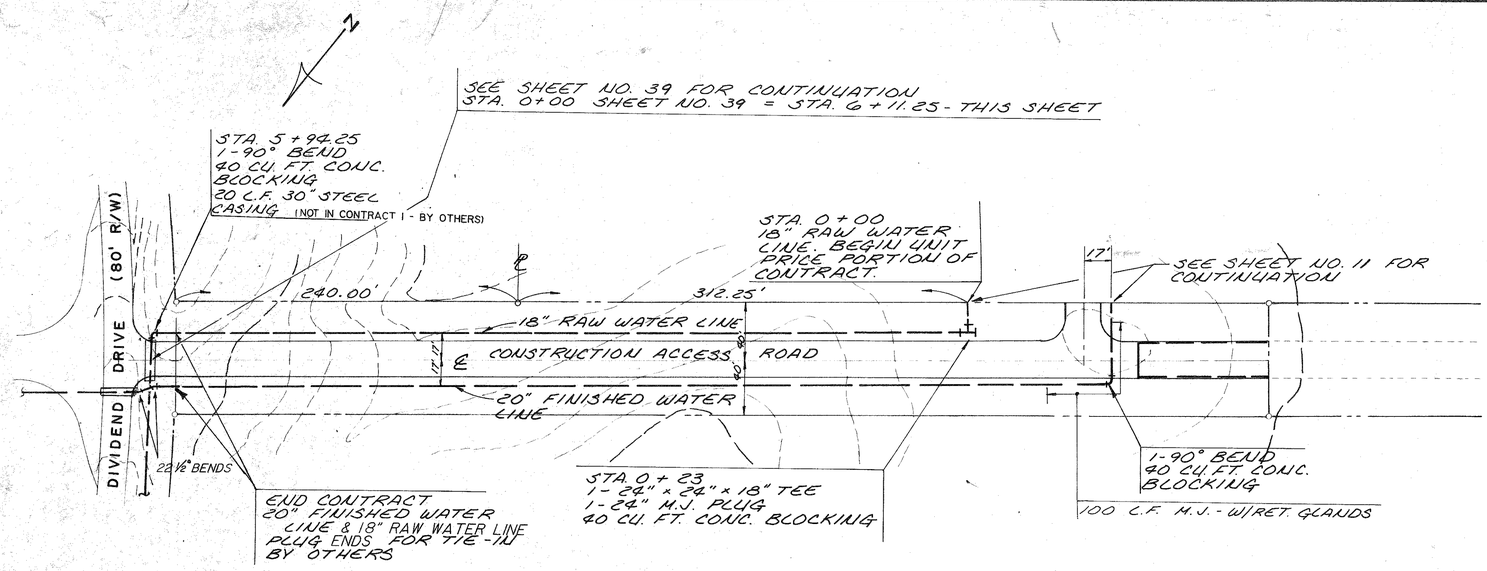
P-37

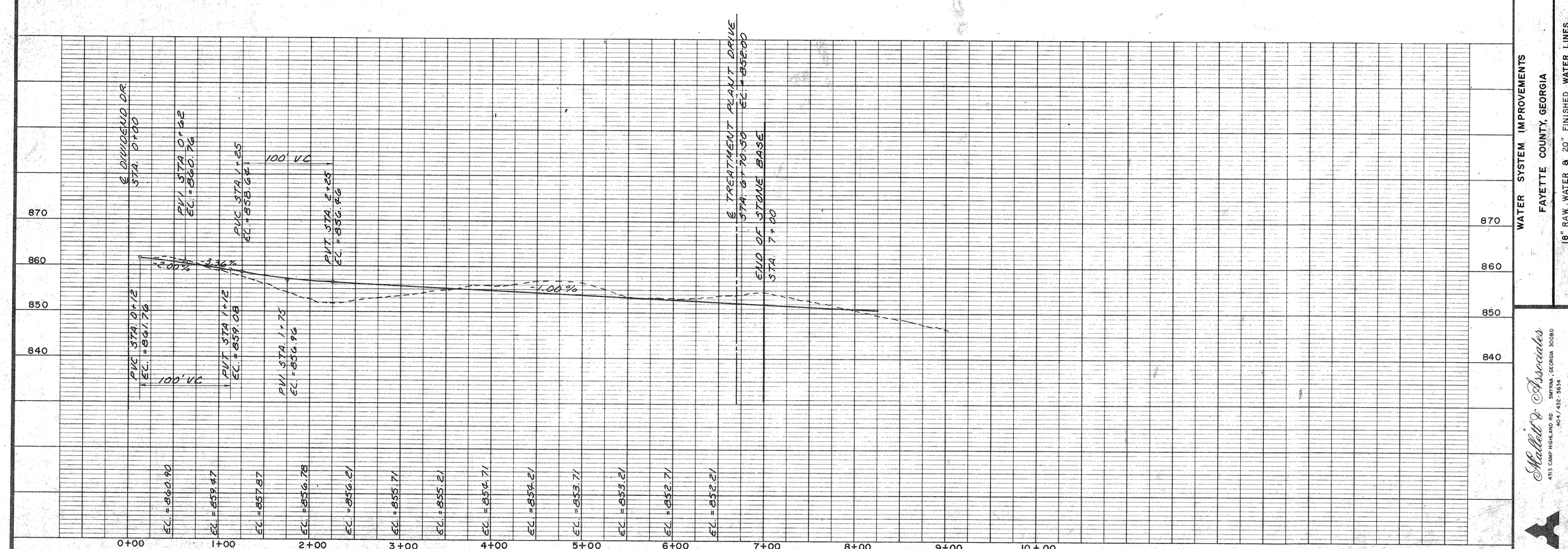
FLASH MIX, BACKWASH METER PIT & MISCELLANEOUS DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

DESIGN DP | SCALE AS NOTED
DRAWN LED | DATE 6/18/84
CHECK MFL | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 37 OF 105





DESIGN	DJ	SCALE	H: 1" = 50' V: 1" = 10'
DRAWN	LED	DATE	6/18/84
CHECK	MFL	FILE NO.	83175-I
APPROVED	JEM	SHEET NO.	38 OF 105

REV. NO.	DATE	DESCRIPTION	BY
1	1/24/85	GENERAL	SB

WATER SYSTEM IMPROVEMENTS

FAYETTE COUNTY, GEORGIA

18" RAW WATER & 20" FINISHED WATER LINES

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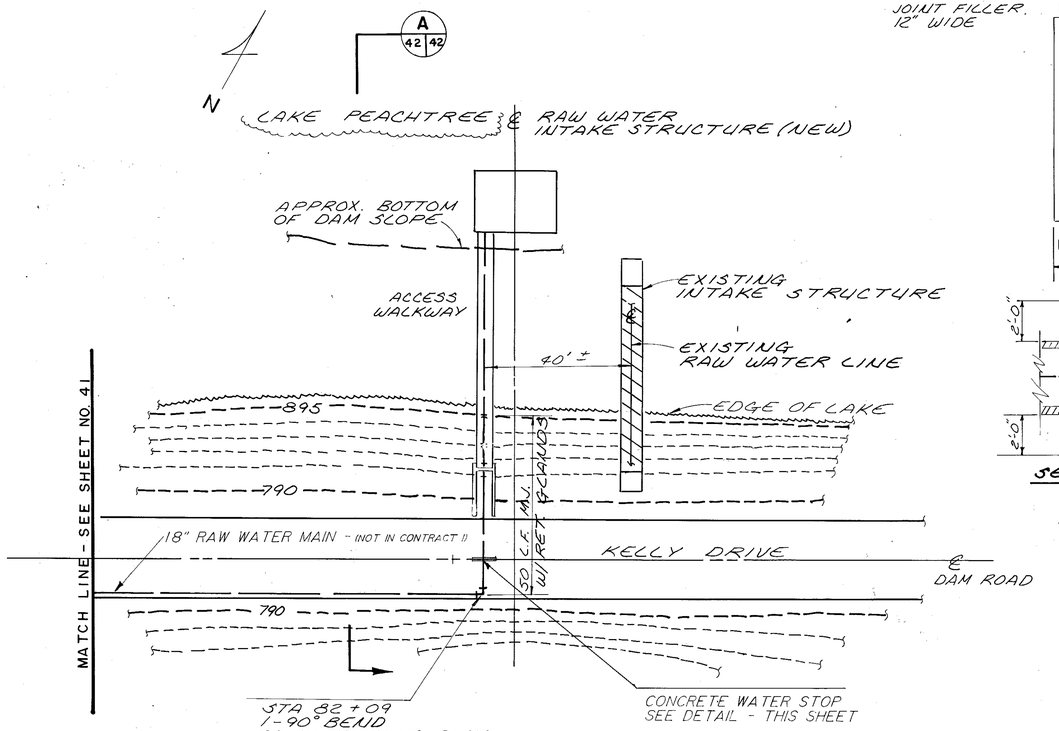
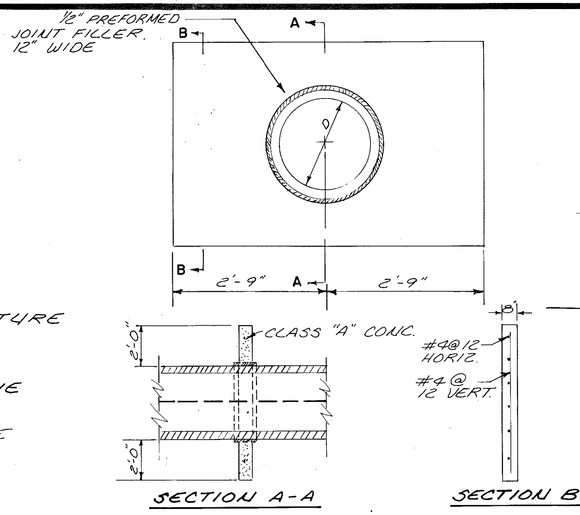
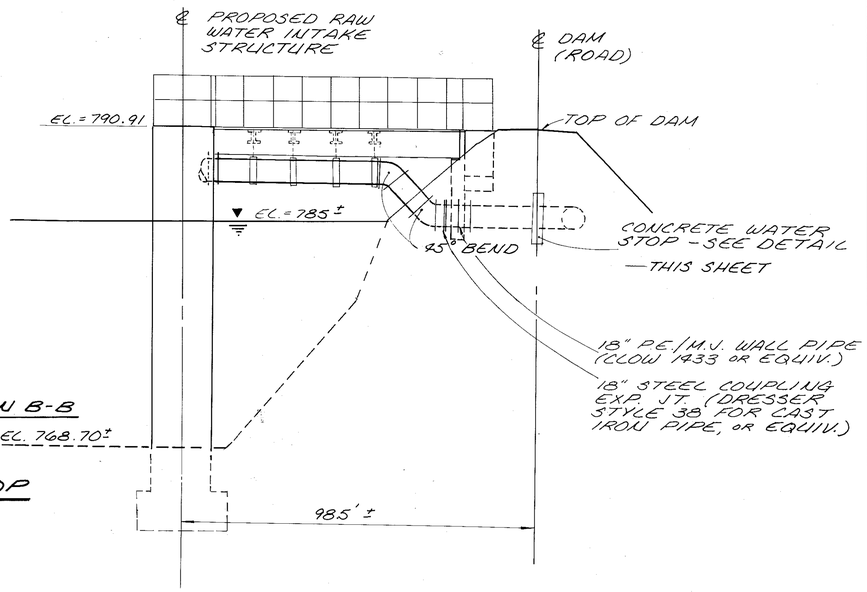
4513 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634



KELLEY DRIVE - 18" RAW WATER LINE TO BE 10' OFF ℄ ROAD



DETAIL
CONCRETE WATER STOP
NOT TO SCALE



SECTION (A 42/42)
SCALE: H: 1" = 20'
V: 1" = 5'

MATCH LINE - SEE SHEET NO. 41

790
780
770
760

SCALE	AS NOTED
DESIGN	DWJ
DRAWN	LED
CHECK	MFL
APPROVED	JEM
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	42 OF 105

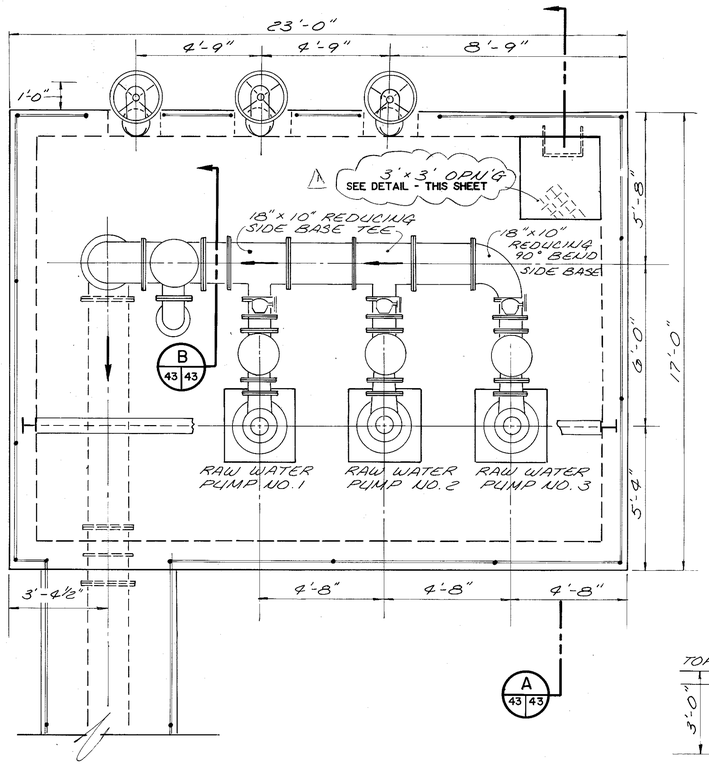
REV. NO.	DATE	DESCRIPTION	BY
1	1/24/85	GENERAL	SB

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

18" RAW WATER LINE

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

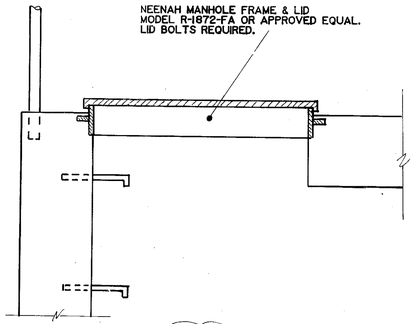
KF 33506A



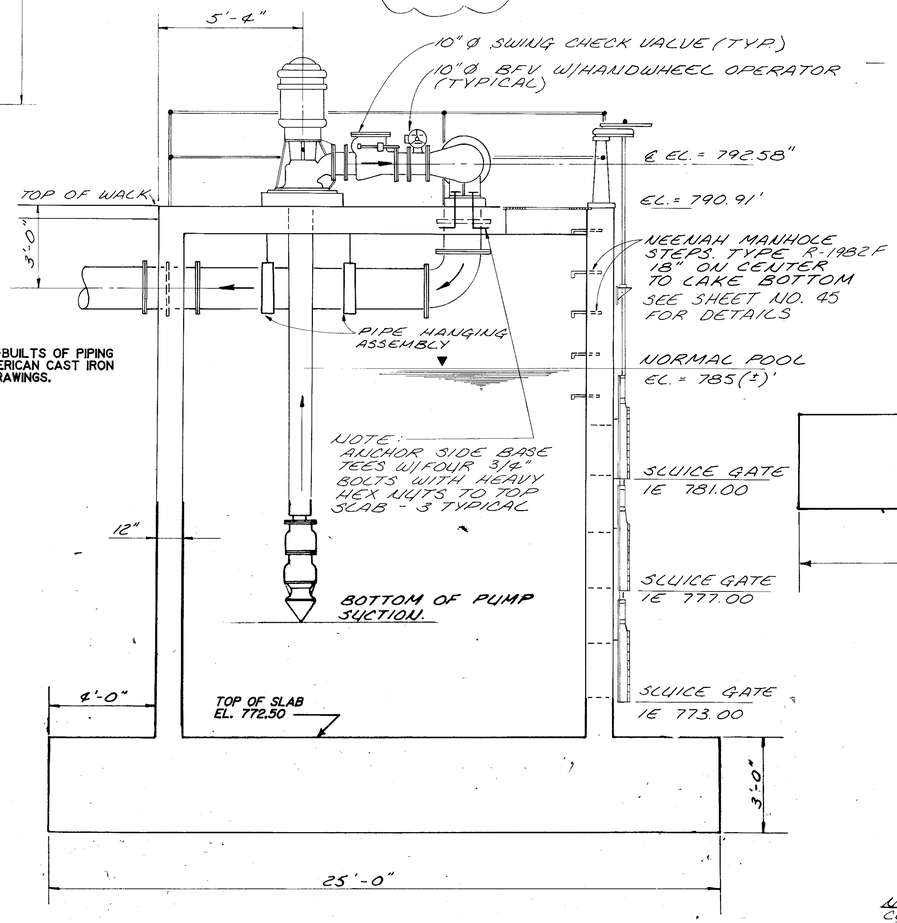
PLAN - RAW WATER INTAKE

SCALE: 3/8" = 1'-0"

FOR AS-BUILTS OF PIPING SEE AMERICAN CAST IRON SHOP DRAWINGS.

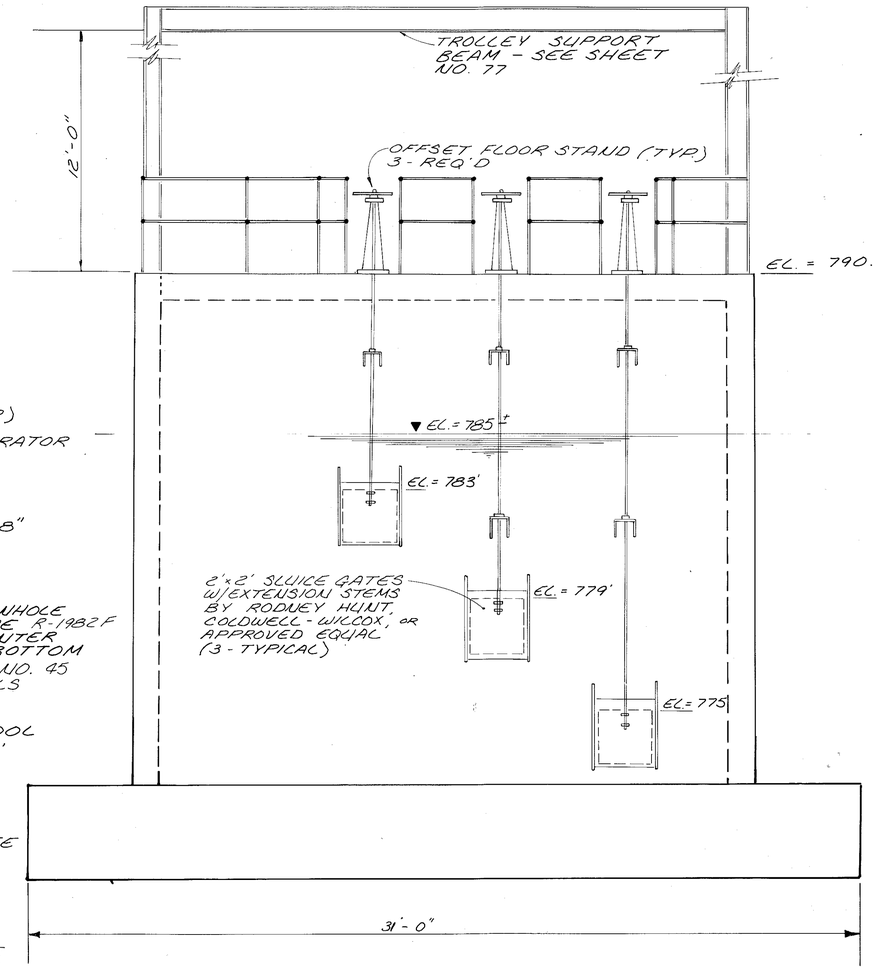


HATCH DETAIL
1" = 1'-0"



SECTION (A 43 43)

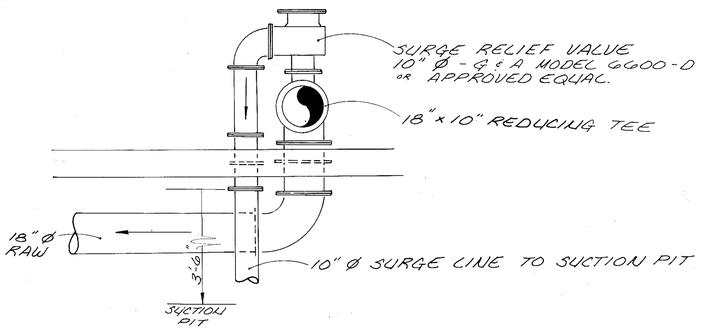
SCALE: 3/8" = 1'-0"



FRONT ELEVATION - SHOWING PORTALS & SLUICE GATES

SCALE: 3/8" = 1'-0"

NOTE:
CONTRACTOR SHALL FABRICATE & INSTALL TRASH SCREENS OVER SLUICE GATES WITH MAXIMUM ONE INCH OPNGS. SHOP DWG'S SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 01340 OF THE SPECIFICATIONS FOR APPROVAL BY THE ENGINEER.



SECTION (B 43 43) SHOWING SURGE RELIEF VALVE

SCALE: 3/8" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

RAW WATER PUMPING STATION

PLAN VIEW AND SECTIONS

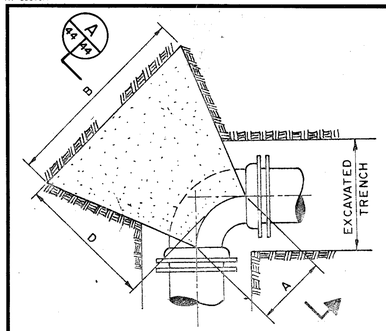
P-43

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM

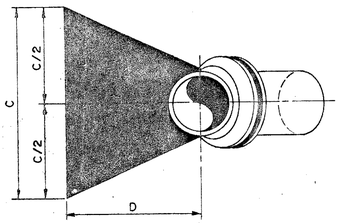
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	43 OF 105

KF 33506A

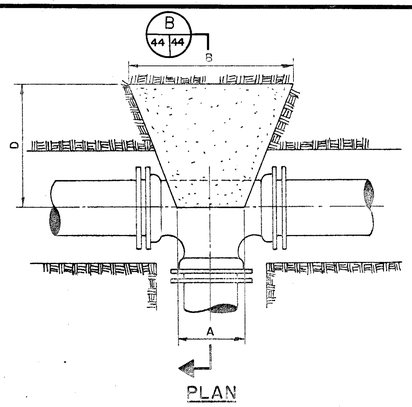


PLAN

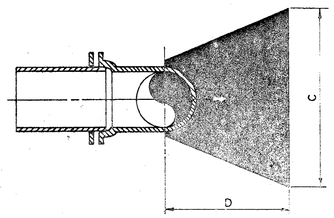


SECTION A 44 | 44

THRUST BLOCKING—BENDS

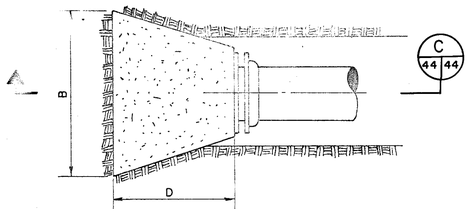


PLAN

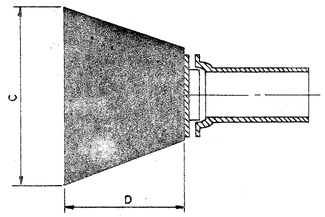


SECTION B 44 | 44

THRUST BLOCKING—TEES



PLAN



SECTION C 44 | 44

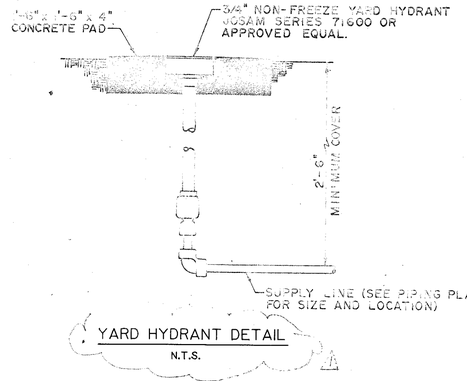
THRUST BLOCKING—PLUGS

MINIMUM THRUST BLOCK DIMENSIONS

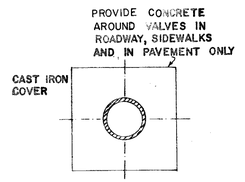
PIPE SIZE	90° BEND				45° BEND				22½° BEND				11¼° BEND				TEE OR PLUG			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
36"	3'-0"	10'-6"	10'-4"	6'-6"	2'-0"	7'-8"	7'-8"	5'-0"	3'-7"	5'-0"	6'-0"	2'-9"	3'-7"	4'-0"	3'-9"	2'-6"	3'-0"	8'-9"	8'-9"	5'-0"
30"	2'-9"	9'-0"	9'-3"	5'-9"	1'-6"	6'-9"	6'-9"	3'-9"	1'-10"	4'-9"	5'-0"	2'-6"	1'-11"	3'-6"	3'-6"	2'-6"	2'-9"	7'-6"	7'-9"	4'-9"
24"	2'-7"	7'-3"	7'-3"	4'-6"	1'-3"	5'-3"	5'-6"	3'-3"	1'-8"	3'-9"	4'-0"	2'-0"	1'-9"	2'-9"	2'-9"	2'-3"	2'-6"	6'-0"	6'-3"	3'-9"
20"	2'-1"	6'-0"	6'-3"	3'-9"	1'-0"	4'-6"	4'-6"	2'-6"	1'-5"	3'-3"	3'-3"	1'-6"	1'-6"	2'-3"	2'-6"	2'-0"	2'-4"	5'-0"	5'-3"	3'-3"
18"	1'-11"	5'-6"	5'-6"	3'-6"	1'-0"	4'-0"	4'-3"	2'-6"	1'-3"	2'-9"	3'-0"	1'-6"	1'-4"	2'-0"	2'-3"	1'-9"	1'-2"	4'-6"	4'-9"	3'-0"
16"	1'-9"	5'-0"	5'-0"	3'-3"	0'-11"	3'-6"	3'-9"	2'-3"	1'-2"	2'-6"	2'-9"	1'-3"	1'-3"	1'-9"	2'-0"	1'-6"	1'-6"	4'-0"	4'-6"	3'-0"
14"	1'-7"	4'-3"	4'-3"	2'-8"	0'-10"	3'-0"	2'-6"	2'-0"	1'-1"	2'-3"	2'-6"	1'-3"	1'-2"	1'-6"	1'-9"	1'-3"	1'-6"	3'-6"	3'-9"	2'-6"
12"	1'-4"	3'-6"	3'-9"	2'-6"	0'-10"	2'-6"	3'-0"	2'-0"	1'-1"	2'-0"	2'-0"	1'-0"	1'-2"	1'-6"	1'-6"	1'-3"	1'-3"	3'-0"	3'-3"	2'-3"
10"	1'-3"	3'-0"	3'-3"	2'-3"	0'-9"	2'-3"	2'-6"	1'-6"	1'-0"	1'-9"	1'-9"	1'-0"	1'-0"	1'-3"	1'-3"	1'-0"	1'-3"	2'-6"	2'-9"	2'-0"
8"	1'-0"	2'-6"	2'-6"	1'-9"	0'-7"	1'-9"	2'-0"	1'-3"	0'-10"	1'-3"	1'-6"	1'-0"	0'-10"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-3"	1'-6"
6"	0'-11"	1'-9"	2'-0"	1'-6"	0'-7"	1'-6"	1'-6"	1'-0"	0'-9"	1'-3"	1'-3"	0'-9"	0'-9"	0'-6"	0'-6"	0'-9"	0'-11"	1'-6"	1'-9"	1'-3"
4"	0'-9"	1'-3"	1'-6"	1'-3"	0'-5"	1'-6"	1'-0"	0'-9"	0'-7"	1'-0"	1'-0"	0'-9"	0'-7"	0'-6"	0'-6"	0'-9"	0'-10"	1'-0"	1'-3"	1'-0"

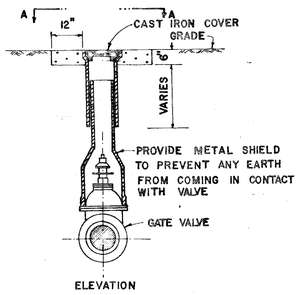
NOTES

1. THRUST BLOCKING TO BE 4000 PSI CONCRETE.
2. DIMENSIONS CALCULATED USING A SOIL LOAD BEARING CAPACITY OF 2000 PSF. IF SOIL BEARING CAPACITY IS FOUND TO BE LESS THAN 2000 PSF, THE ENGINEER CAN INCREASE THESE DIMENSIONS.
3. THRUST BLOCKING SHALL BEAR AGAINST UNDISTURBED SOIL.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE BLOCKING OF ALL PRESSURE LINES AS REQUIRED BY ACTUAL CONDITIONS. ABOVE **REQUIREMENTS ARE MINIMUM.**
   1. **BLOCKING SHALL BE FURNISHED** AS REQUIRED AT NO ADDITIONAL COST



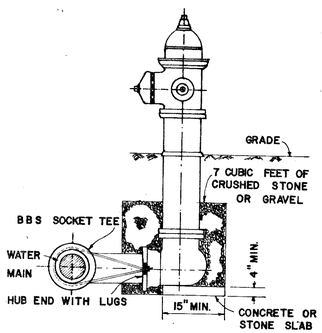
YARD HYDRANT DETAIL
N.T.S.

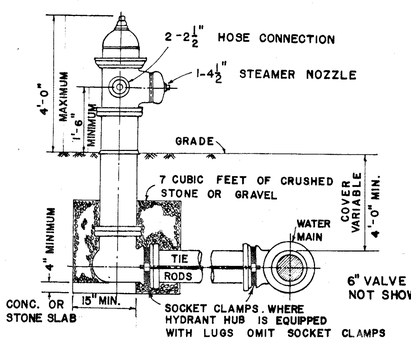




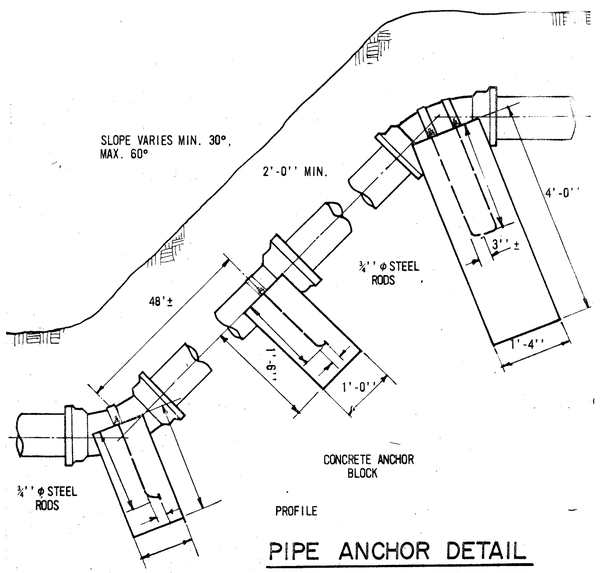
ELEVATION

STANDARD CAST IRON VALVE BOX INSTALLATION DETAILS
NOT TO SCALE



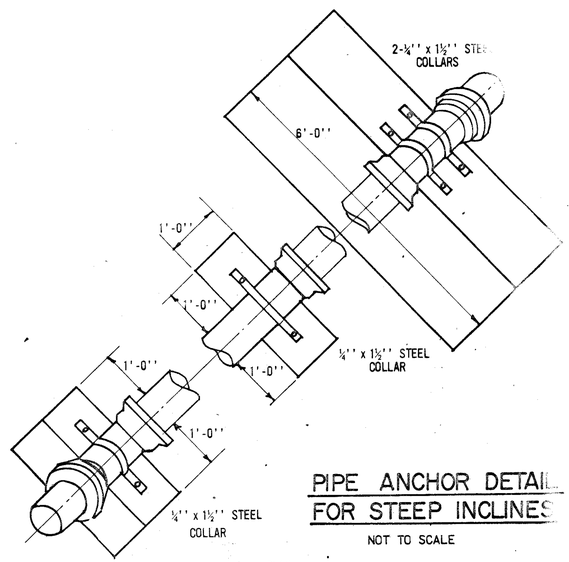


FIRE HYDRANT SETTING DETAILS
NOT TO SCALE



PROFILE

PIPE ANCHOR DETAIL FOR STEEP INCLINES
NOT TO SCALE



PLAN

PIPE ANCHOR DETAIL FOR STEEP INCLINES
NOT TO SCALE

Mallett & Associates
4315 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

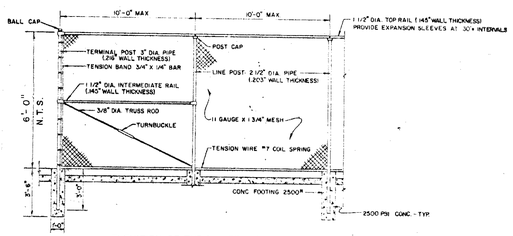
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-44 | WATER LINE DETAILS

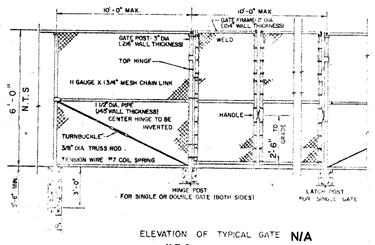
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN MAI	SCALE AS NOTED
DRAWN LED	DATE 6/18/84
CHECK DWJ	FILE NO. 83175-
APPROVED JEM	SHEET NO. 44 OF 105

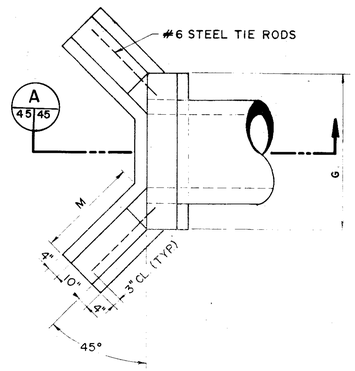


ELEVATION OF TYPICAL FENCE N/A
N.T.S.

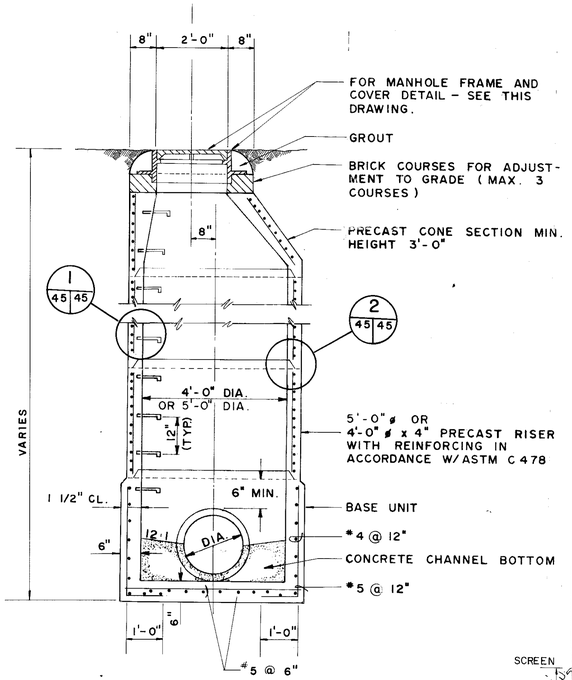


ELEVATION OF TYPICAL GATE N/A
N.T.S.

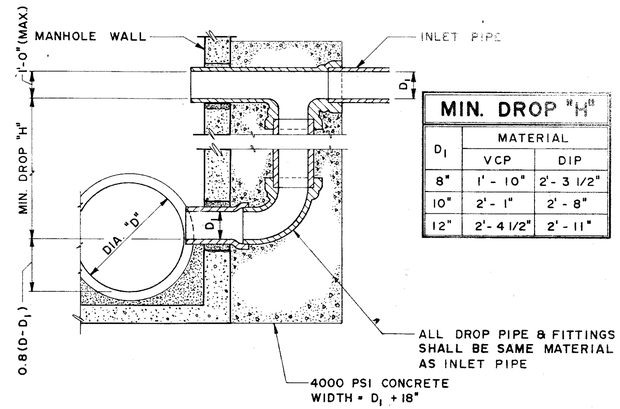
GATE DETAILS N/A



PLAN



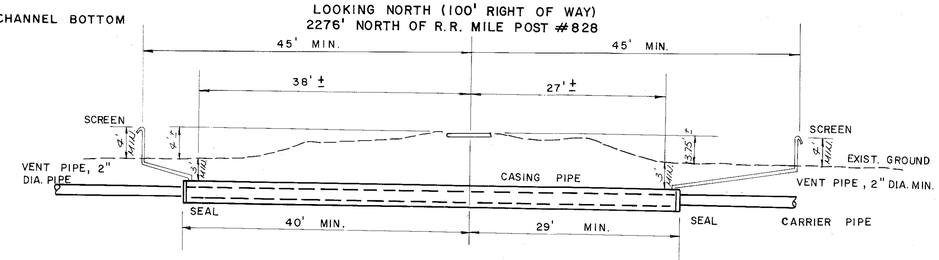
PRECAST MANHOLE
N.T.S.



MIN. DROP "H"		
D_1	MATERIAL	
	VCP	DIP
8"	1'-10"	2'-3 1/2"
10"	2'-1"	2'-8"
12"	2'-4 1/2"	2'-11"

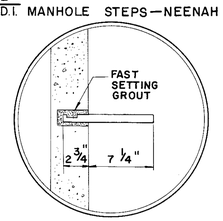
DROP MANHOLE DETAIL
N.T.S.

LOOKING NORTH (100' RIGHT OF WAY)
2276' NORTH OF R.R. MILE POST #828

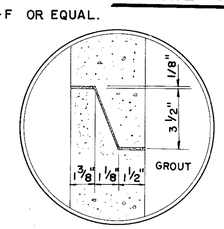


DETAIL - SEABOARD COASTLINE RAILROAD CROSSING (18" RAW WATER LINE)
N.T.S

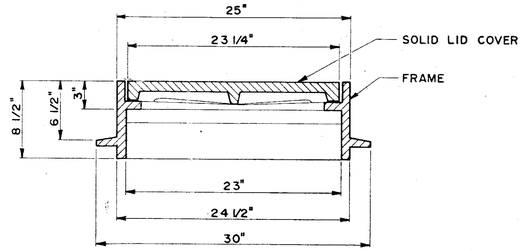
NOTE:
D.I. MANHOLE STEPS - NEENAH TYPE R-1982-F OR EQUAL.



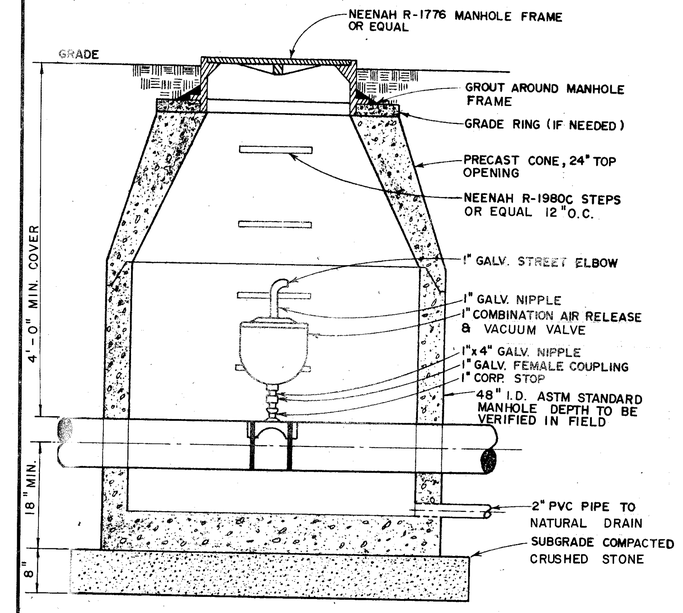
DETAIL 1
SCALE: 1 1/2"=1'-0" 1 45 45



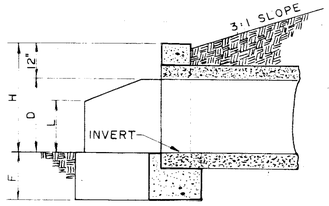
DETAIL 2
SCALE: 3"=1'-0" 2 45 45



MANHOLE FRAME AND COVER DETAIL
N.T.S.



1" AIR RELEASE & VACUUM VALVE & MANHOLE ASSEMBLY
NOT TO SCALE

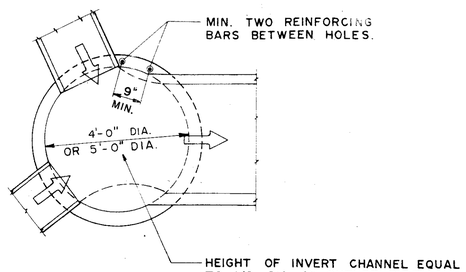


SECTION A 45 45

DIMENSIONS (3:1 SLOPE)						
OPENING		WALL			FOOTING	
D	AREA SQ. FT.	H	G	L	M	F
18"	1.8	2'-6"	3'-6"	1'-3"	2'-4"	1'-3"
24"	3.1	3'-0"	4'-4"	1'-5"	2'-10"	1'-4"
30"	4.9	3'-6"	4'-10"	1'-9"	3'-6"	1'-6"

HEADWALL DETAILS
N.T.S.

NOTE: H.W. FOR 8" Ø PIPE - SIMILAR



PIPE PLACEMENT DETAIL
N.T.S.

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-45

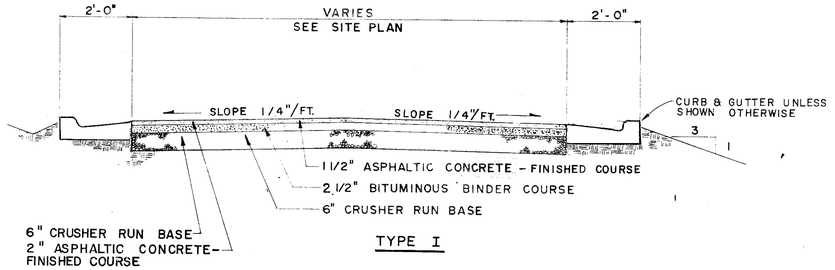
TYPICAL DETAIL SHEET

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	35 OF 105

AF 831B

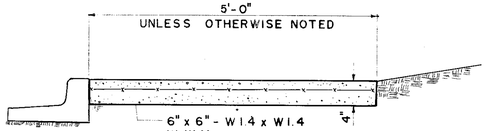


TYPICAL PAVING DETAIL

N.T.S.

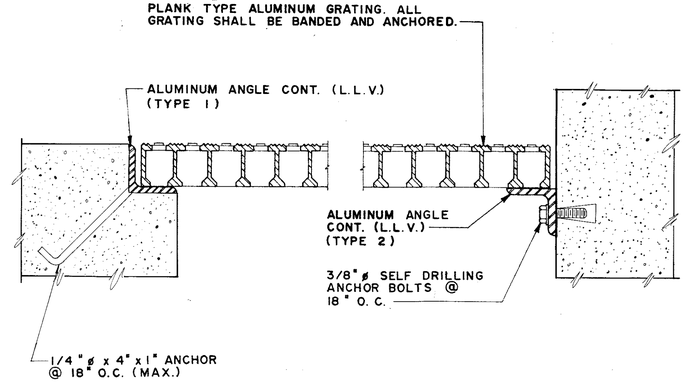
NOTE

ALL WALKWAYS SHALL HAVE EXPANSION JOINTS SPACED 30'-0" O.C. (MAX.) AND CONTRACTION JOINTS SPACED 6'-0" O.C. (MAX.).



CONCRETE WALKWAY DETAIL

SCALE: 1" = 1'-0"

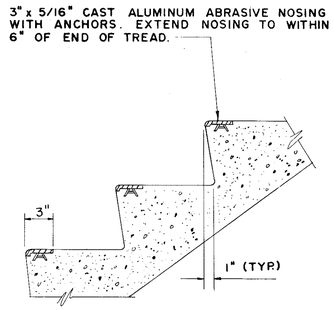


NOTE

OPENINGS IN GRATING SHALL BE SHOP CUT AND BANDED. NO FIELD CUTTING WILL BE ALLOWED.

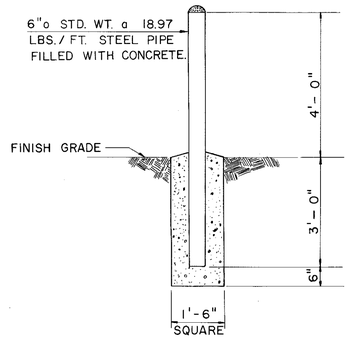
TYPICAL GRATING DETAILS

N.T.S.



NOSING DETAIL

N.T.S.



TYPICAL GUARD POST DETAIL

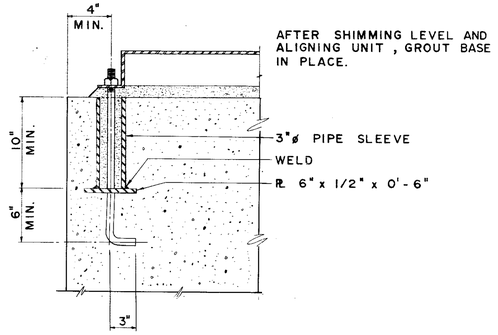
SCALE: 1/2" = 1'-0"

GRATING SIZES		
SPAN	* GRATING DEPTH	SUPPORT ANGLE
0" TO 4'-0"	*40 - 1 1/4"	∠ 1 1/2 x 1 1/2 x 1/4
4'-1" TO 6'-0"	*60 - 1 3/4"	∠ 2 x 1 1/2 x 1/4
6'-1" TO 8'-0"	*80 - 2 1/4"	∠ 2 1/2 x 1 1/2 x 1/4

* DESIGNATION IS AS MANUFACTURED BY WASHINGTON ALUMINUM COMPANY FOR DESCRIPTIVE PURPOSES ONLY.

NOTE

NUMBER, SIZE, PROJECTION, AND SPACING OF BOLTS SHALL BE AS INDICATED ON EQUIPMENT SHOP DRAWINGS APPROVED BY ENGINEERS.

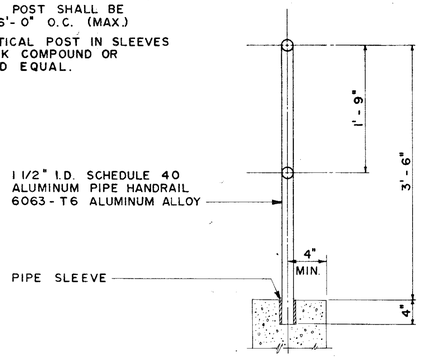


TYPICAL ANCHOR BOLT DETAIL

N.T.S.

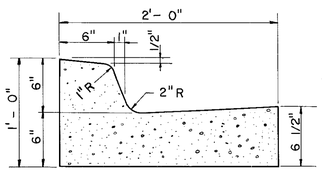
NOTES:

1. VERTICAL POST SHALL BE SPACED 6'-0" O.C. (MAX.)
2. SET VERTICAL POST IN SLEEVES WITH G-K COMPOUND OR APPROVED EQUAL.



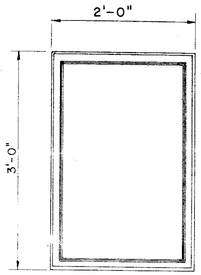
TYPICAL HANDRAIL DETAIL

SCALE: 1" = 1'-0"



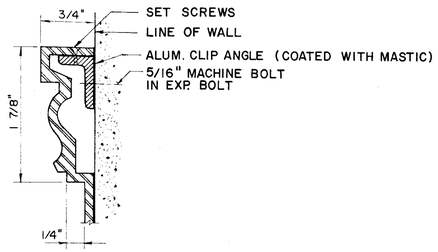
TYPICAL CURB DETAIL

SCALE: 1 1/2" = 1'-0



BRONZE PLAQUE

SCALE: 1" = 1'-0"



BORDER SECTION

SCALE: FULL

NOTES:

1. PLAQUE SHALL BE CAST BRONZE WITH "O.G." BORDER DESIGN. BACKGROUND SHALL BE PEBBLE TEXTURE WITH RAISED MODERN BLOCK STYLE LETTERS.
2. NAMES, TITLES AND DATES WILL BE FURNISHED LATER.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL. RUBBING OF FINAL DESIGN SHALL BE SUBMITTED PRIOR TO CASTING.
4. SEE SHEETS NO. 39 AND 40 FOR LOCATION OF PLAQUE.

Mallett & Associa
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 404/4

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-46

TYPICAL DETAIL SHEET

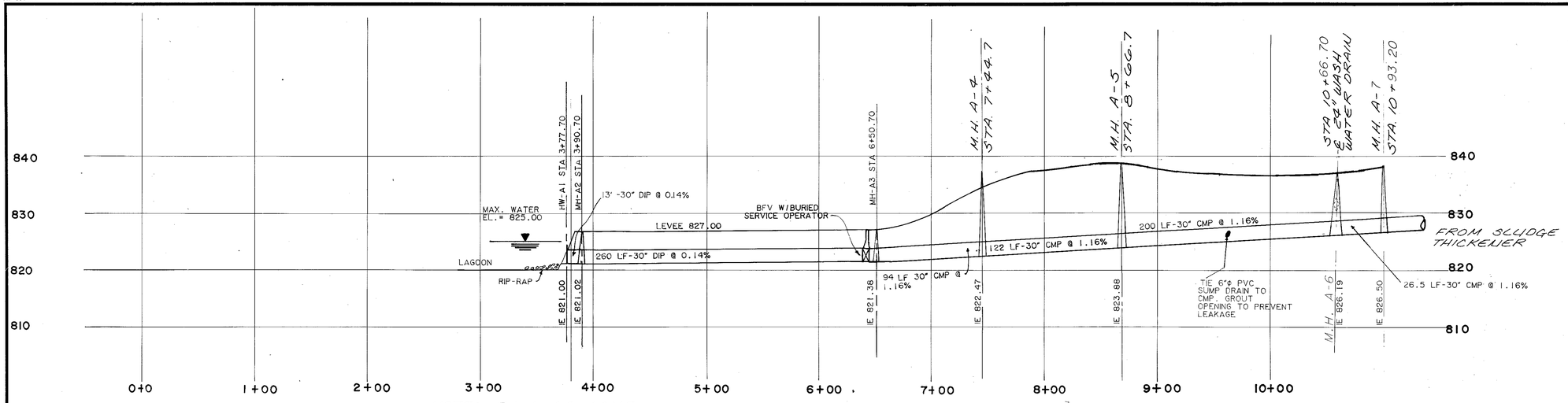
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP
DRAWN LED
CHECK MFL
APPROVED JEM

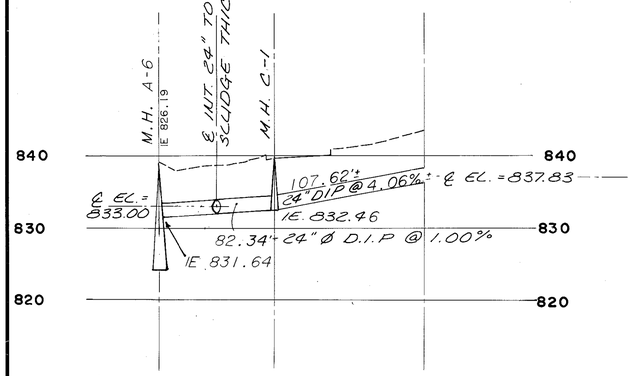
SCA
DAT
FILE NO
SHEET 4

KF 33506A

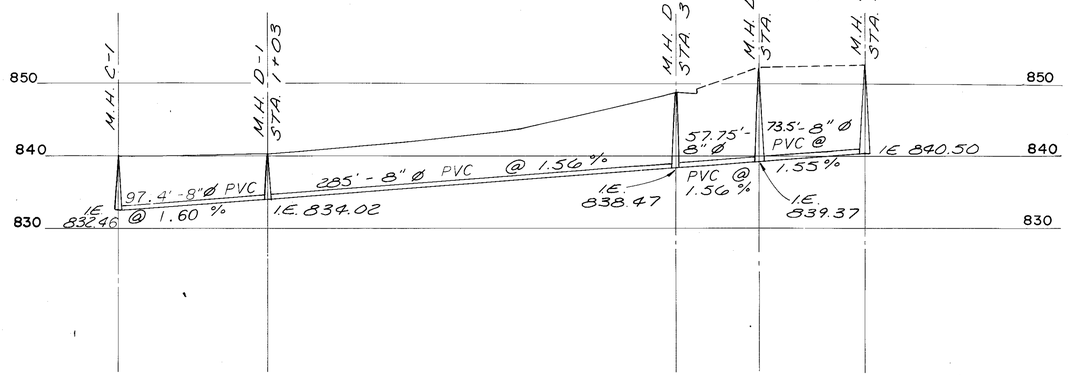


NOTE: B-1 to A-3 SAME AS SHOWN FOR A-1 to A-3

LINES A + B



LINE C



LINE D

NOTE: ALL CMP TO BE FULLY ASPHALT COATED 16 GAUGE, IN ACCORDANCE WITH GA. D.O.T. STANDARD SPECIFICATION SECTION 844

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

P-47

PROFILES

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	6/5/85	LINES A & B	SB	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN JEM
DRAWN LED
CHECK MFL
APPROVED JEM
SCALE V: 1" = 10' H: 1" = 50'
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 47 OF 105

AF 8318

FINISH SCHEDULE

FIRST FLOOR

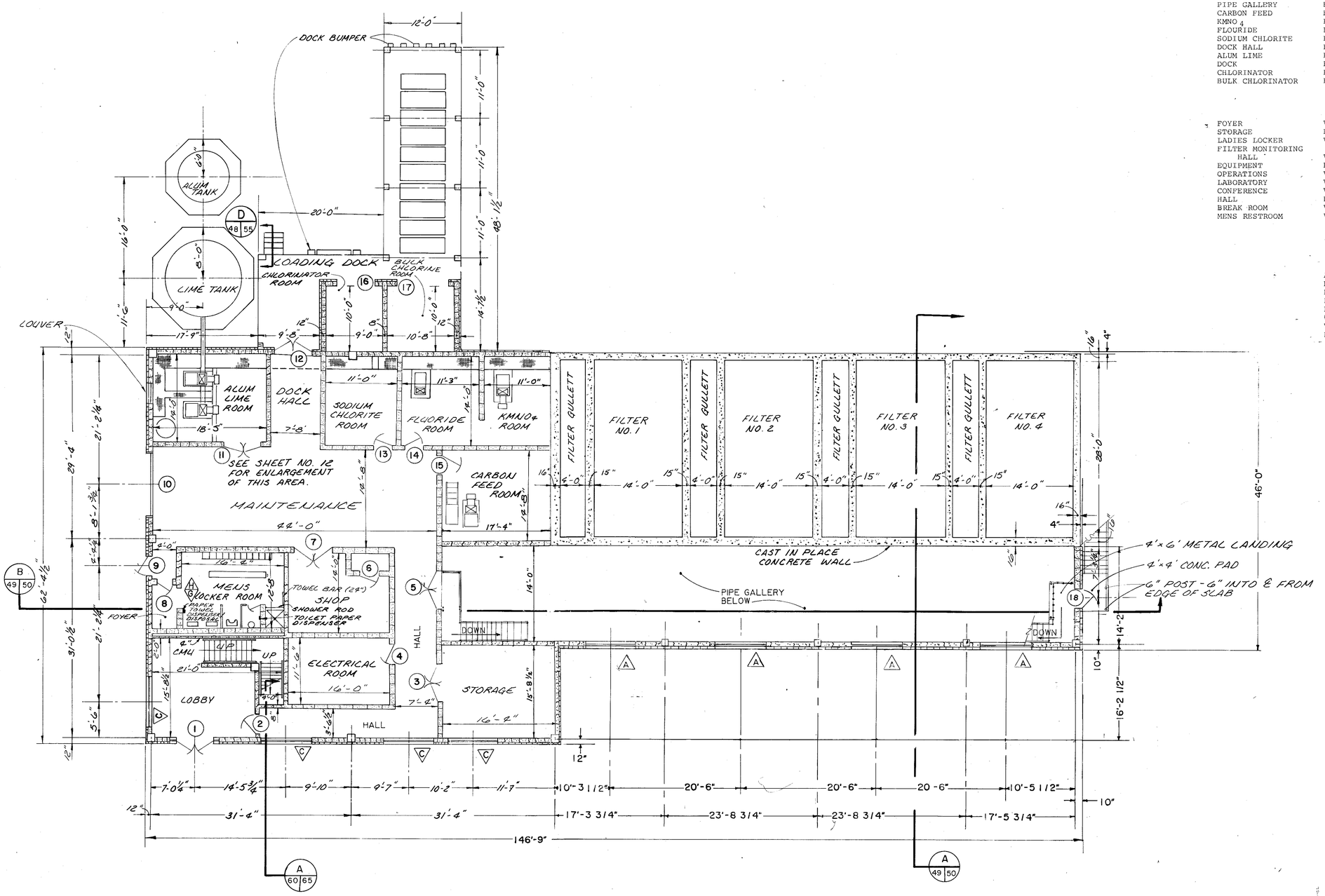
ROOM	FLOOR	BASE	WALLS	CEILINGS/HEIGHT
LOBBY	VCT	B	Psg	ACT/8'-0"
HALL	E		E	UNF
MAINTENANCE	E		E	UNF
ELECTRICAL	BF		E	UNF
STORAGE	BF		E	UNF
SHOP	BF		E	UNF
MENS LOCKER	VCT	B	E	ACT/8'-0"
PIPE GALLERY	H		E	UNF
CARBON FEED	E		E	UNF
$KMnO_4$	E		E	UNF
FLOURIDE	E		E	UNF
SODIUM CHLORITE	E		E	UNF
DOCK HALL	E		E	UNF
ALUM LIME	E		E	UNF
DOCK	BF		UNF	UNF
CHLORINATOR	E		E	UNF
BULK CHLORINATOR	E		E	UNF

SECOND FLOOR

FOYER	VCT	B	Psg	ACT/8'-0"
STORAGE	BF		Psg	UNF
LADIES LOCKER	VCT	B	E	ACT/8'-0"
FILTER MONITORING HALL	VCT	B	Psg	ACT/8'-0"
EQUIPMENT	BF		Psg	ACT/8'-0"
OPERATIONS	VCT	B	Psg	ACT/8'-0"
LABORATORY	VCT	B	Psg	ACT/8'-0"
CONFERENCE	VCT	B	Psg	ACT/8'-0"
HALL	BF		Psg	UNF
BREAK ROOM	VCT	B	Psg	ACT/8'-0"
MENS RESTROOM	VCT	B	E	ACT/8'-0"

LEGEND

ACT	ACOUSTICAL TILE
BF	BROOM FINISH
E	EPOXY COATING
H	HARDENER
Psg	SEMI-GLOSS PAINT
UNF	UNFINISHED OR EXPOSED
VCT	VINYL COMPOSITION TILE
B	4" VINYL BASE



FIRST FLOOR - PLAN VIEW

SCALE: 1/8" = 1'-0"

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404/432-5634

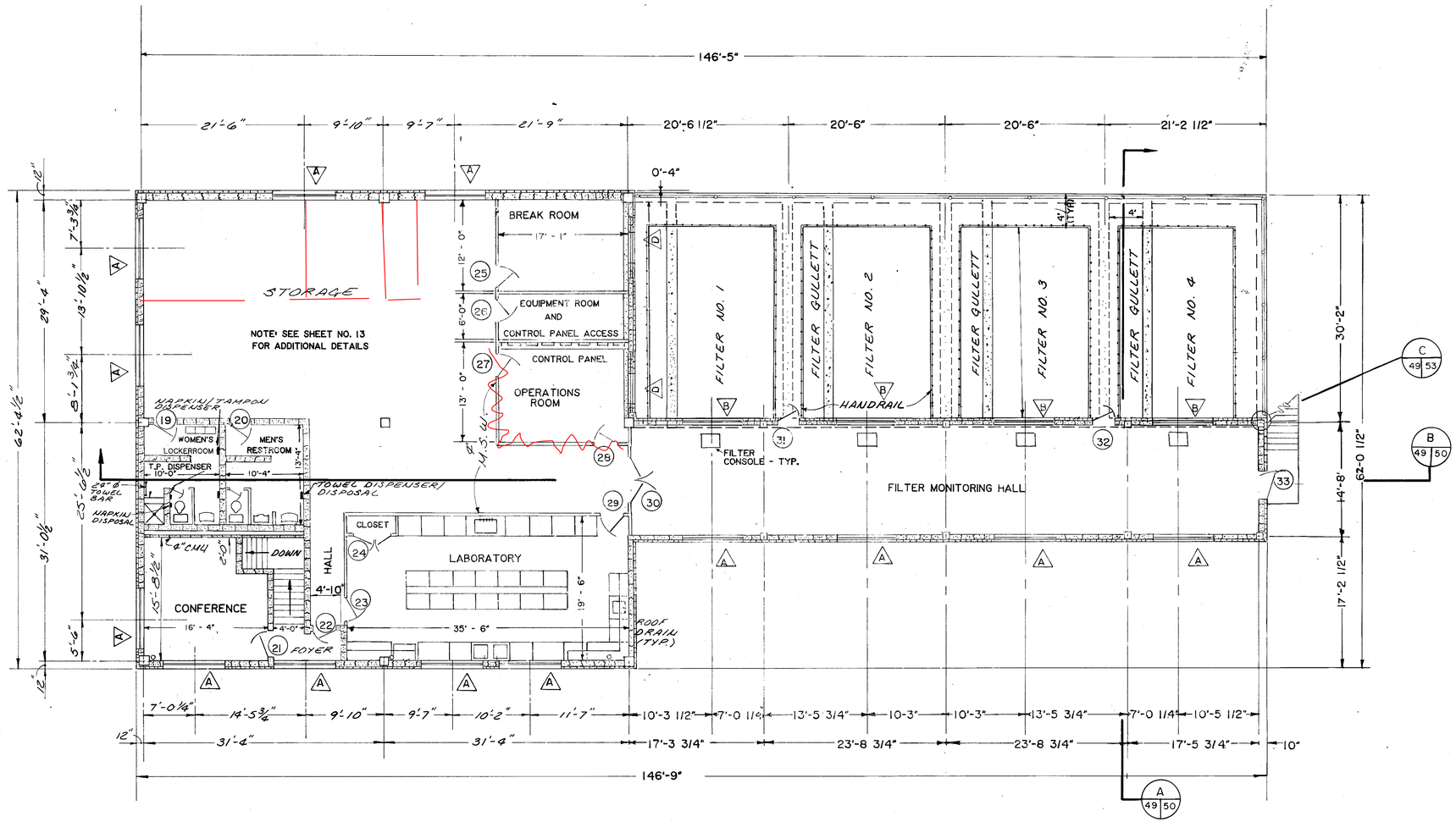
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
PLAN VIEW - FIRST FLOOR

A-1

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	48 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

AF 8318



SECOND FLOOR - PLAN VIEW

SCALE: 1/8" = 1'-0"

NOTE: SEE SHEET NO. 53 FOR ADDITIONAL WINDOW & DOOR SPACINGS

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
PLAN VIEW – SECOND FLOOR

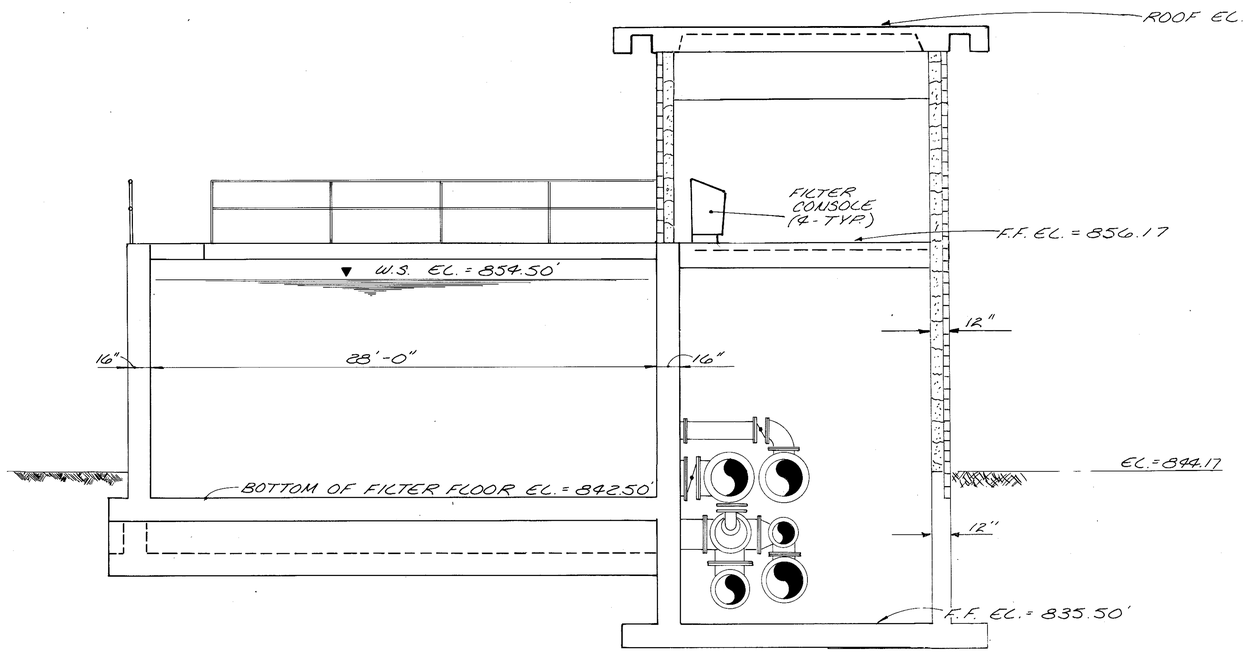
A-2

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	49 OF 105

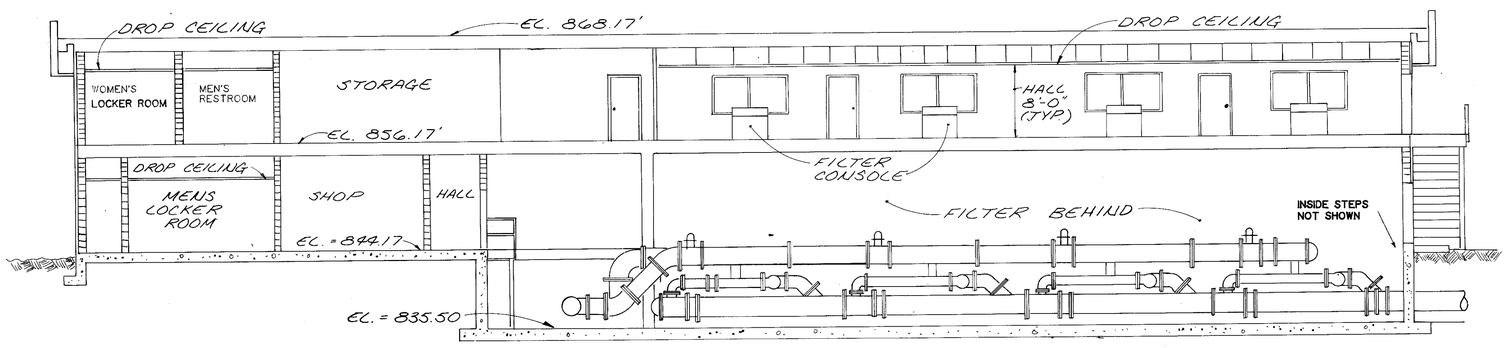
XF 33506A



TRANSVERSE SECTION OF
CHEMICAL AND FILTRATION BUILDING

SCALE: 1/4" = 1'-0"

A
49 | 50



LONGITUDINAL SECTION OF
CHEMICAL AND FILTRATION BUILDING

SCALE: 1/8" = 1'-0"

B
49 | 50

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404/432-5634

WATER SYSTEM IMPROVEMENTS

FAYETTE COUNTY, GEORGIA

A-3

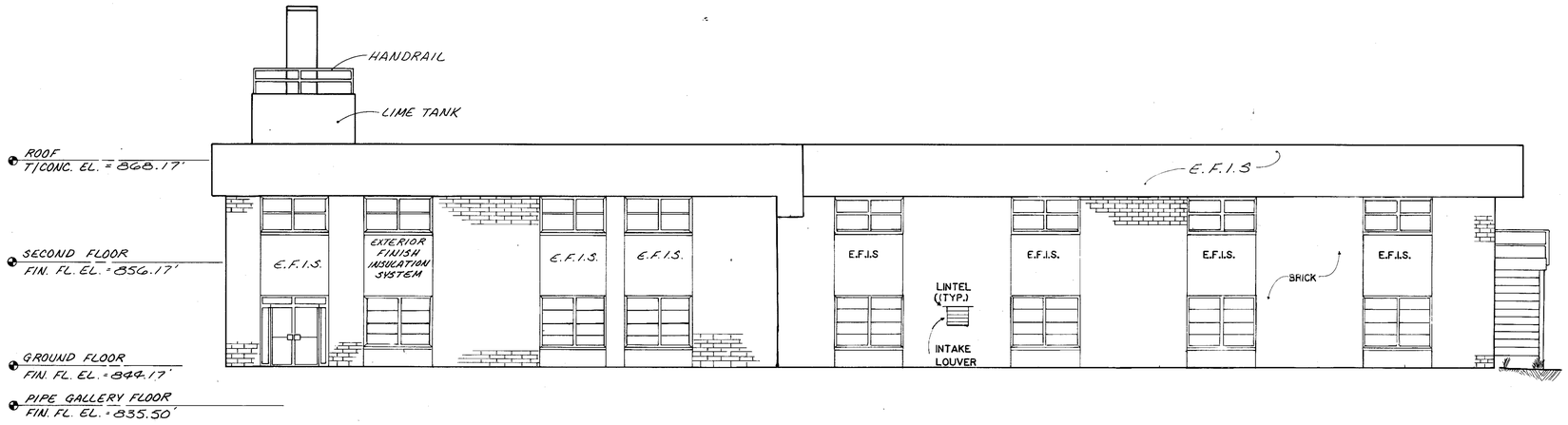
CHEMICAL AND FILTRATION BUILDING
CROSS SECTIONS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

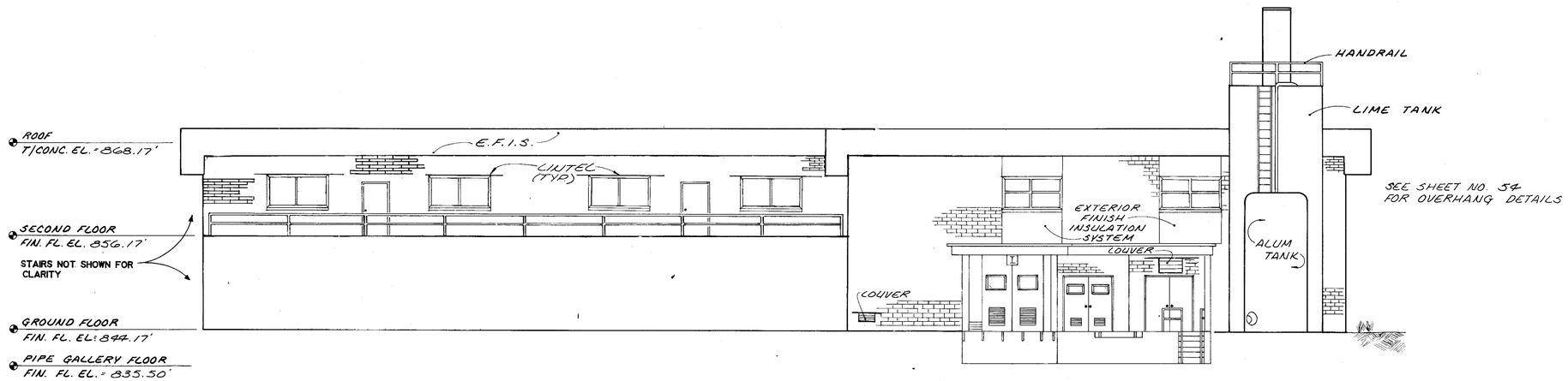
DESIGN MFL	SCALE AS NOTED
DRAWN LED	DATE 6/18/84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 50 OF 105

AF 8318



FRONT ELEVATION

SCALE: 1/8" = 1'-0"



REAR ELEVATION

SCALE: 1/8" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
FRONT AND REAR ELEVATIONS

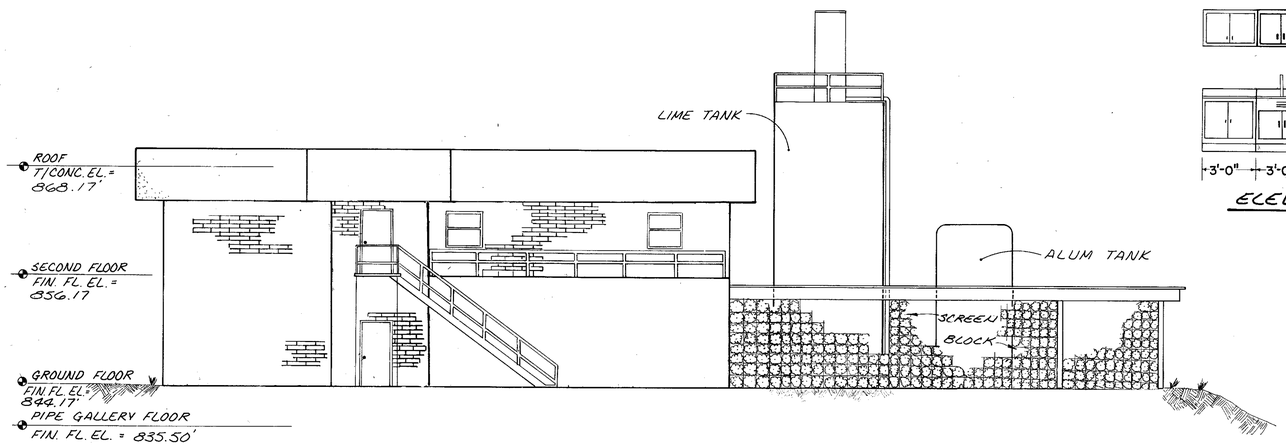
A-4

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

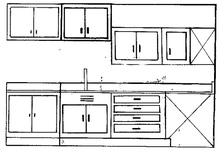
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	51 OF 105

AF 8318

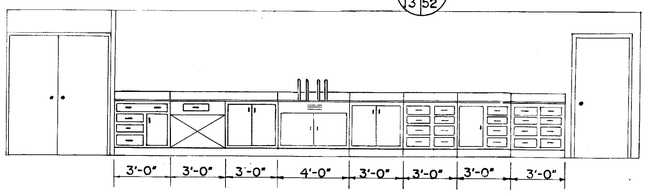


RIGHT ELEVATION

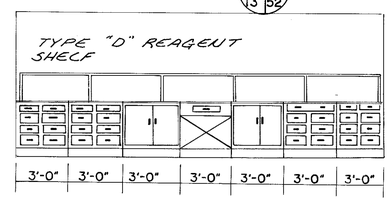
SCALE: 1/8" = 1'-0"



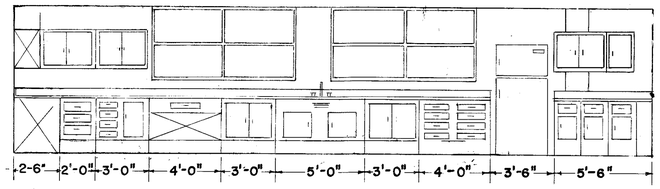
ELEVATION C (13/52)



ELEVATION A (13/52)



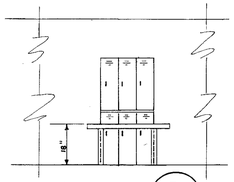
ELEVATION B (13/52)



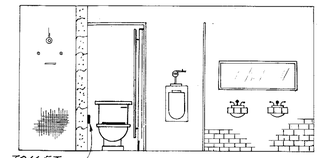
ELEVATION D (13/52)

LABORATORY

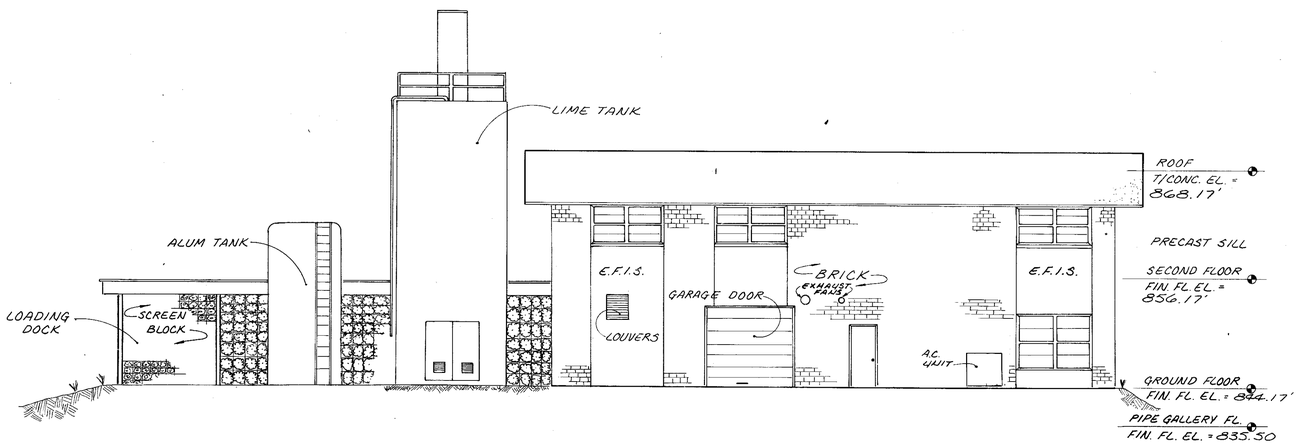
SCALE: 1/4" = 1'-0"



ELEVATION E (13/52)

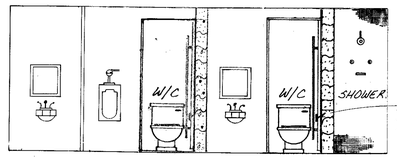


ELEVATION G (12/52)



LEFT ELEVATION

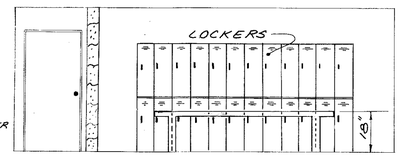
SCALE: 1/8" = 1'-0"



ELEVATION F (13/52)

SECOND FLOOR RESTROOM

SCALE: 1/4" = 1'-0"



ELEVATION H (12/52)

LOCKER ROOM

SCALE: 1/4" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
ELEVATIONS

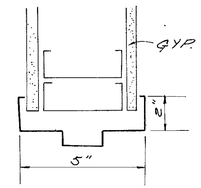
A-5

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

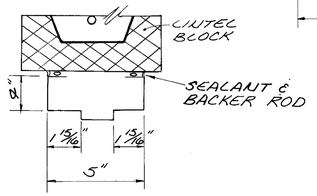
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP | SCALE AS NOTED
DRAWN LED | DATE 6/18/84
CHECK MFL | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 52 OF 105

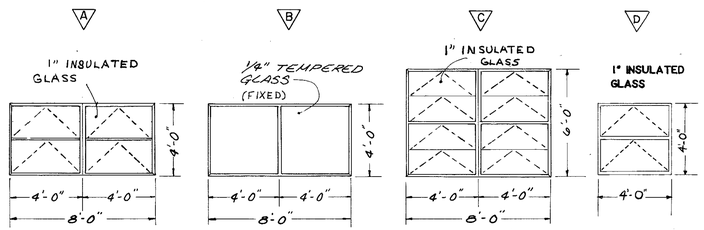
AF 8318



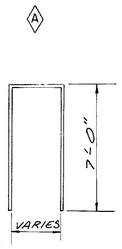
DETAIL #3

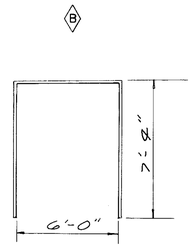


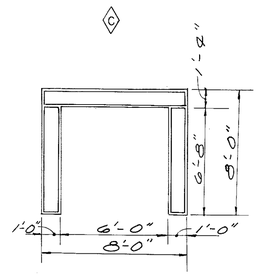
HEAD & JAMB DOOR DETAILS
DETAIL #1



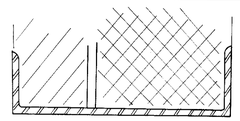
WINDOW SCHEDULE
SCALE: 1/4" = 1'-0"



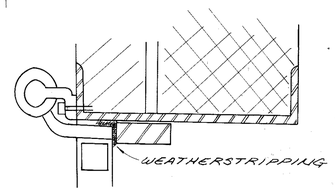




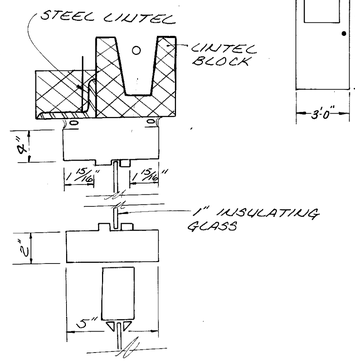
FRAME ELEVATIONS



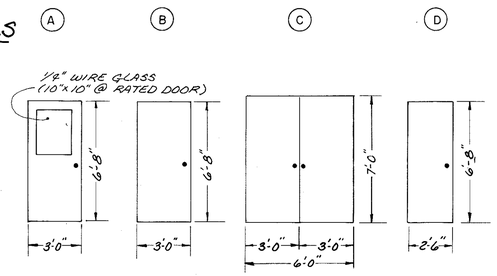
HEAD & JAMB DETAIL #5



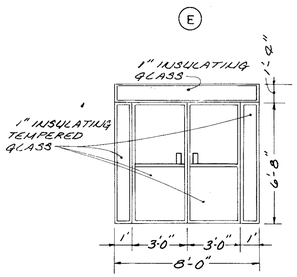
JAMB HEAD SIM. DETAIL #6

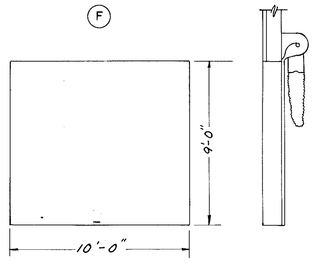


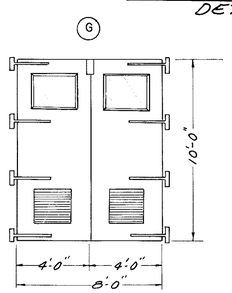
HEAD DETAIL & JAMB DETAIL SIM.
DETAIL #2

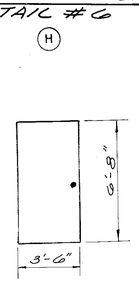


NOTE: WINDOWS & LOUVERS FOR DOOR NO. 16 NOT SHOWN. (PROVIDE SIMILAR TO DOOR 9)

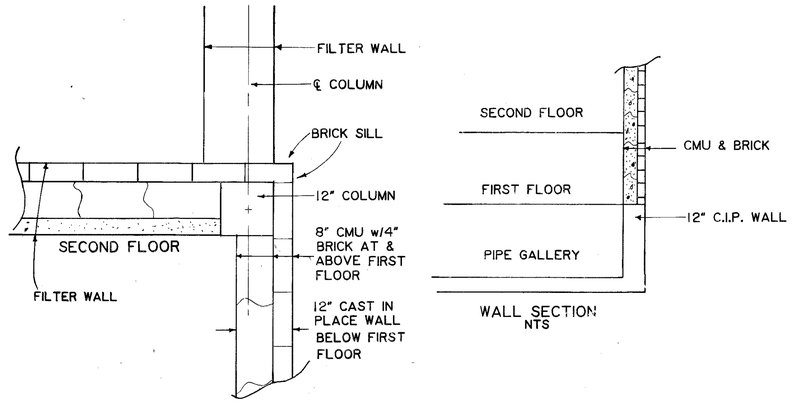




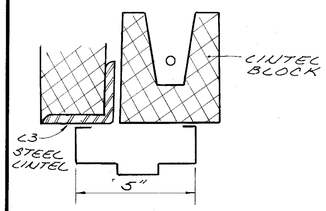




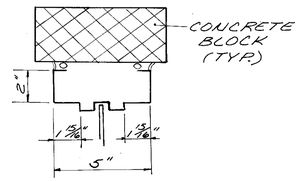
DOOR ELEVATIONS
SCALE: 1/4" = 1'-0"



BRICK & COLUMN DETAIL
C
49 | 53
SCALE: 3/4"=1'-0"



HEAD & JAMB DETAIL
DETAIL # 4



TYPICAL INTERIOR WINDOW FRAME DETAILS

DOOR SCHEDULE

NO.	DOOR TYPE	THICKNESS	MAT.	FRAME TYPE	HEAD DTL	JAMB	RATING
1	E	1 3/4"	ALUM.	C	2	2	
2	A	1 3/4"	HM	A	1	1	B
3	C	1 3/4"	HM	B	1	1	
4	B	1 3/4"	HM	A	1	1	
5	C	1 3/4"	HM	B	1	1	
6	B	1 3/4"	HM	A	1	1	
7	C	1 3/4"	HM	B	1	1	
8	D	1 3/4"	HM	A	1	1	
9	B	1 3/4"	HM	A	4	4	
10	F	1 3/4"			5	5	
11	C	1 3/4"	HM	B	1	1	
12	C	1 3/4"	HM	B	4	4	
13	H	1 3/4"	HM	A	4	4	
14	H	1 3/4"	HM	A	1	1	
15	H	1 3/4"	HM	A	1	1	
16	C	1 3/4"	HM	B	1	1	
17	G	1 3/4"			6	6	
18	B	1 3/4"	HM	A	4	4	
19	D	1 3/4"	HM	A	1	1	
20	D	1 3/4"	HM	A	1	1	
21	A	1 3/4"	HM	A	1	1	B
22	A	1 3/4"	HM	A	1	1	B
23	A	1 3/4"	HM	A	3	3	
24	C	1 3/4"	HM	B	3	3	
25	A	1 3/4"	HM	A	3	3	
26	B	1 3/4"	HM	A	3	3	
27	A	1 3/4"	HM	A	3	3	
28	A	1 3/4"	HM	A	3	3	
29	A	1 3/4"	HM	A	3	3	
30	C	1 3/4"	HM	B	3	3	
31	B	1 3/4"	HM	A	1	1	
32	B	1 3/4"	HM	A	1	1	
33	B	1 3/4"	HM	A	1	1	
34	C	1 3/4"	HM	B	1	1	

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404/432-5634

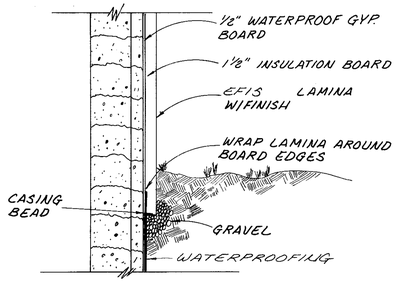
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
A-6
PARTIAL SECOND FLOOR PLAN, DOOR AND WINDOW SCHEDULES

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

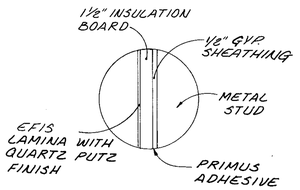
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	53 OF 105

AF 8318



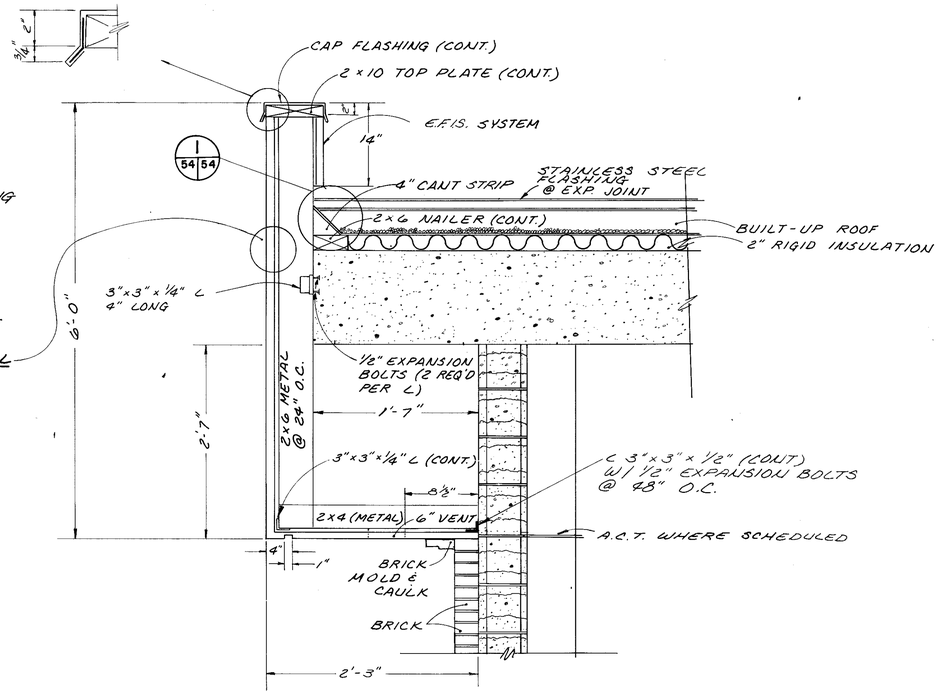
E.F.I.S. BELOW GRADE

N.T.S.



EFIS SYSTEM DETAIL

N.T.S.

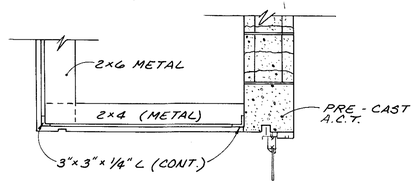


OVERHANG DETAILS
TYPICAL FOR FRONT & SIDES

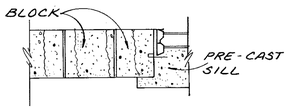
SCALE: 1" = 1'-0"

NOTE:

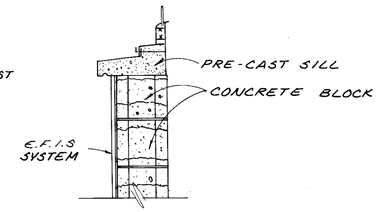
REAR WINDOWS ARE THE SAME JAMB, HEAD, & SILL; EXCEPT NO E.F.I.S PANELS BELOW WINDOWS.



HEAD



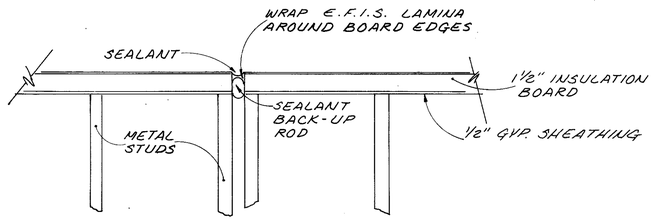
JAMB



SILL

TYPICAL EXTERIOR WINDOW DETAILS

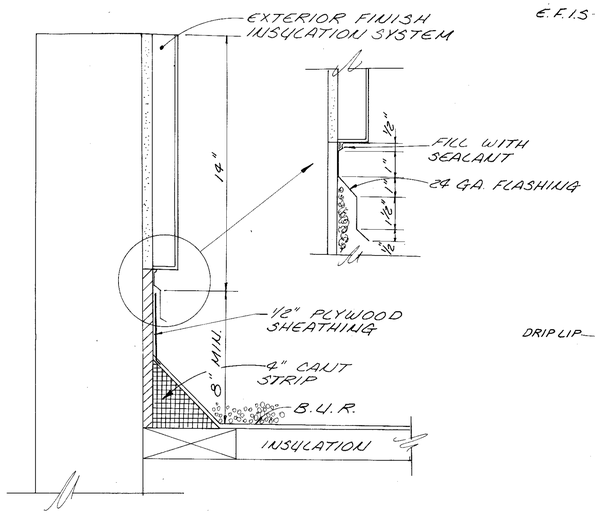
N.T.S.



EXTERIOR FINISH INSULATION SYSTEM TREATMENT AT EXPANSION JOINT

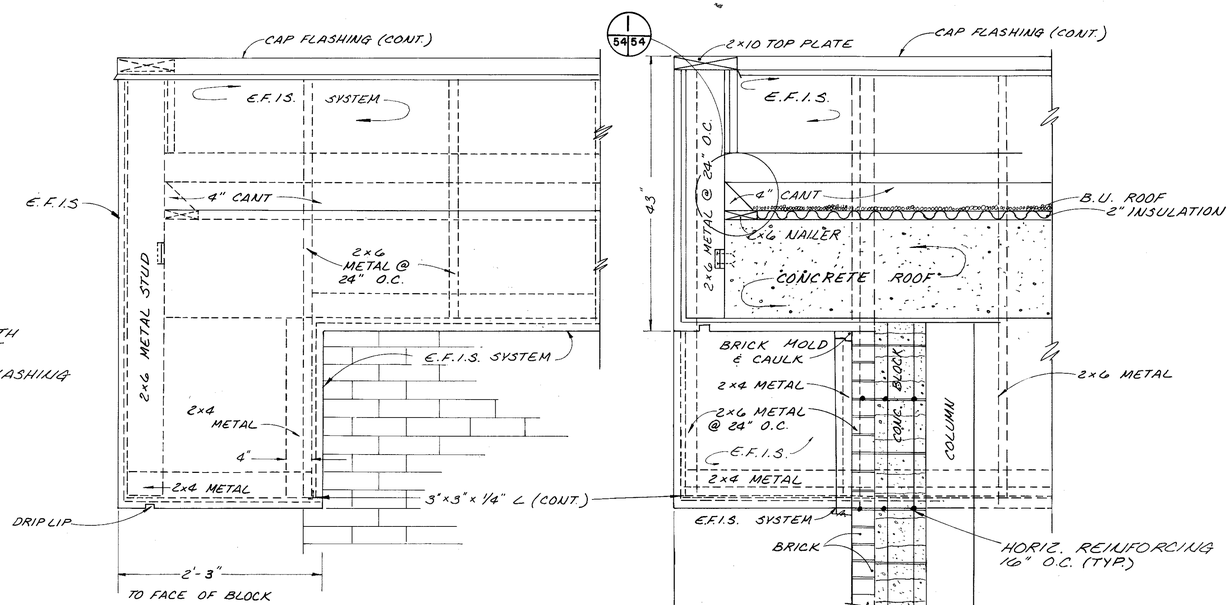
N.T.S.

(BRICK SIMILAR)



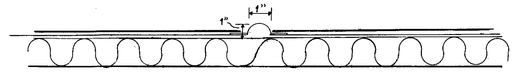
DETAIL 1/54 54

NOT TO SCALE



REAR OVERHANG DETAILS

SCALE: 1" = 1'-0"



ROOFING CONTROL JOINT

NTS

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

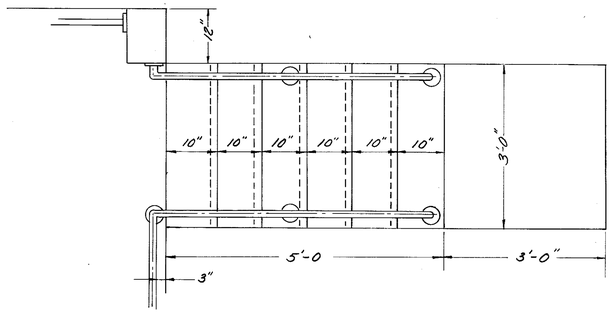
A-7 EXTERIOR WINDOW DETAILS - FRONT, REAR & SIDE OVERHANG DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

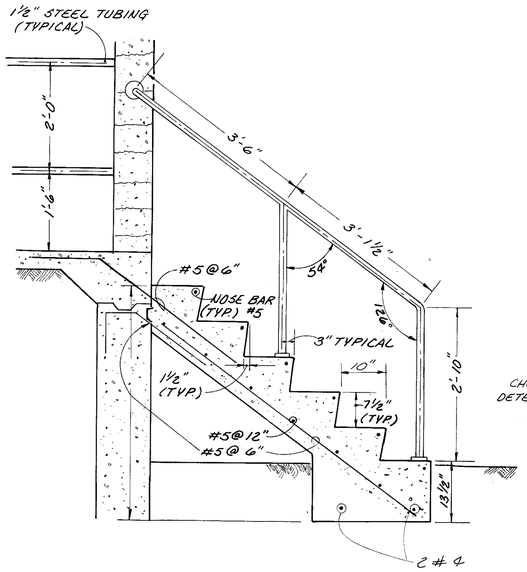
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	54 OF 105

LAND LOT-
DISTRICT-
COUNTY-
STATE-

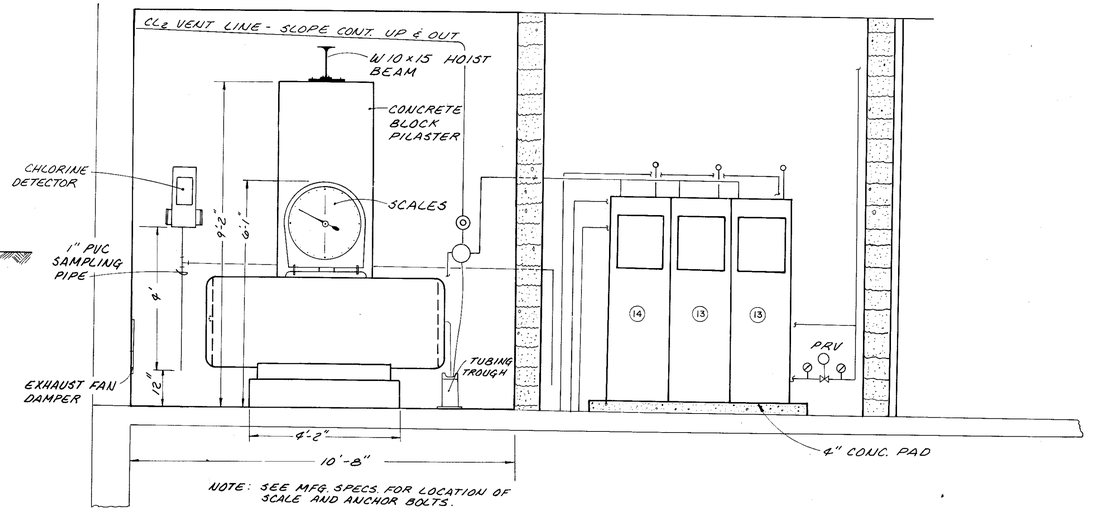
AF 8318



STAIR PLAN
SCALE: 3/4" = 1'-0"

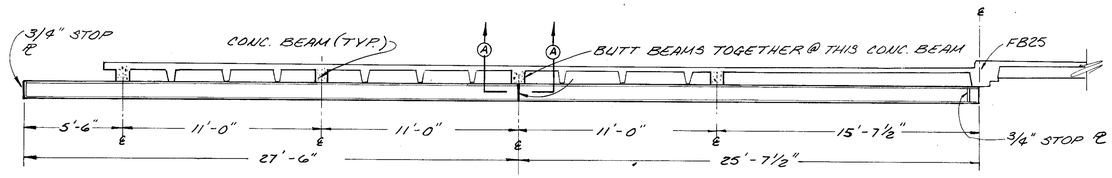


STAIR SECTION (D 48|55)
SCALE: 3/4" = 1'-0"

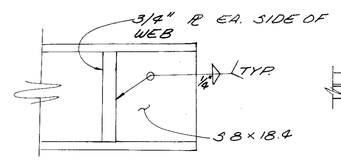


NOTE: SEE MFG. SPECS. FOR LOCATION OF SCALE AND ANCHOR BOLTS.

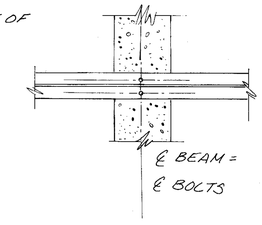
CHLORINE STORAGE ROOM
SCALE: 1/2" = 1'-0"



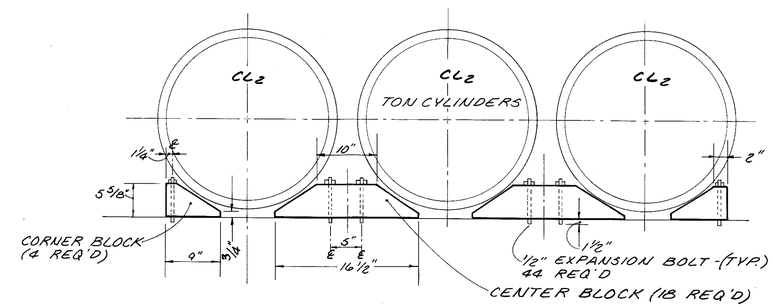
HOIST BEAM DETAILS
SCALE: 1/4" = 1'-0"



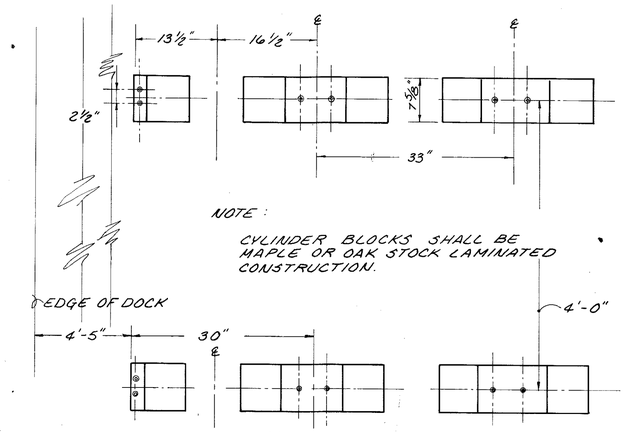
STOP PLATE DETAIL
N.T.S.



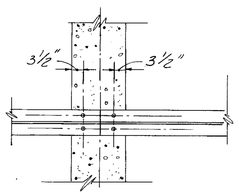
ELEVATION



PLAN VIEW



CHLORINE CYLINDER BLOCK DETAILS
SCALE: 1" = 1'-0"



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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING

A-8

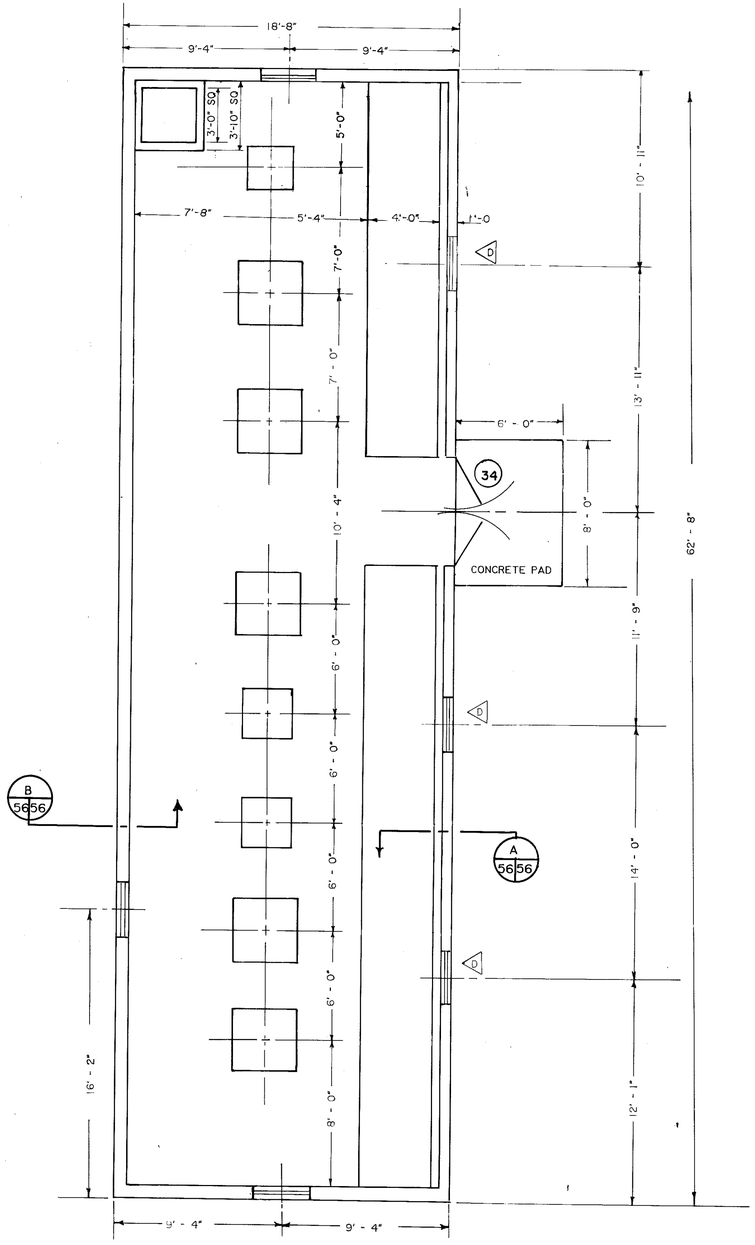
CHLORINE STORAGE ROOM DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

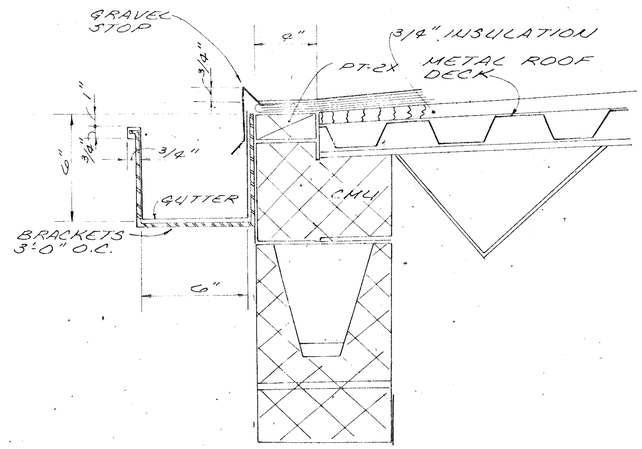
DESIGN	DP
DRAWN	LED
CHECK	MFL.
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	55 OF 105

KF 33506A

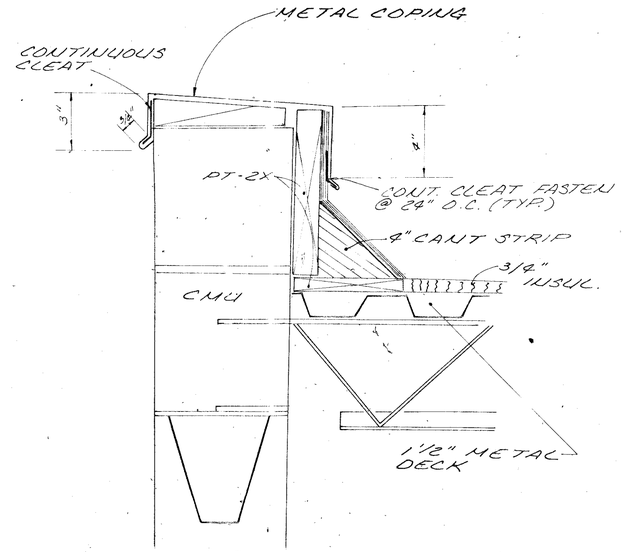


PLAN VIEW - FINISHED WATER PUMP STATION

1/4" = 1'-0"



SECTION A 5656
N.T.S.



SECTION B 5656
N.T.S.

NOTE: HEAD & DOOR JAMB DETAILS ARE SIMILAR AS SHOWN ON SHEET NO. 53, EXCEPT BRICK VENEER NOT USED.

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WATER SYSTEMS IMPROVEMENTS
FAYETTE COUNTY, GEORGIA

A - 9

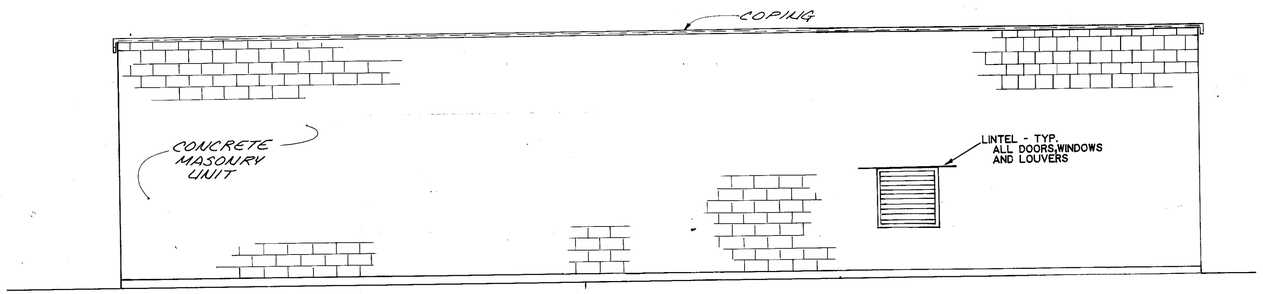
FINISHED WATER PUMP STATION
PLAN VIEW, SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

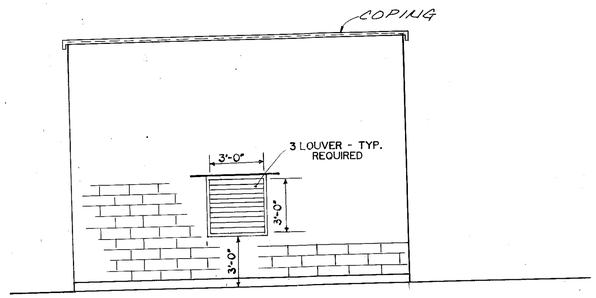
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP	SCALE AS NOTED
DRAWN DWJ	DATE 6-18-84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 56 OF 105

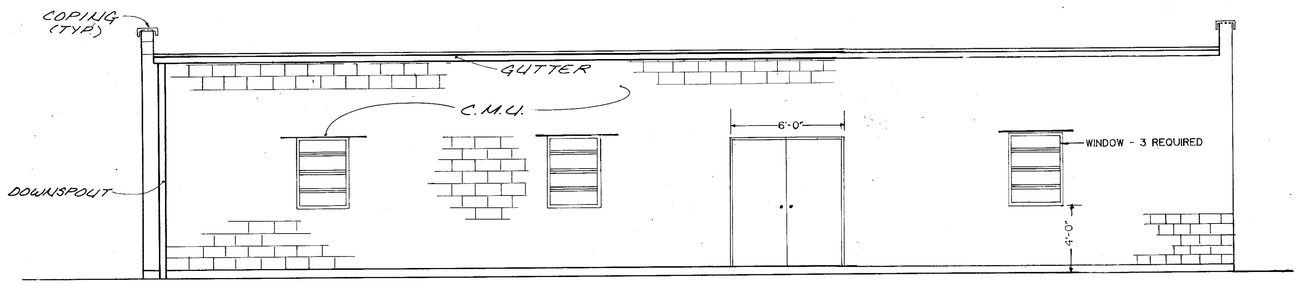
RF 33506A



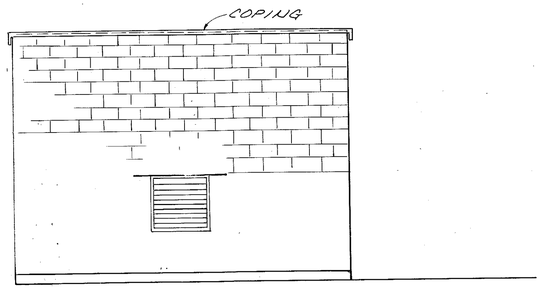
REAR ELEVATION
SCALE: 1/4" = 1'-0"



LEFT ELEVATION
SCALE: 1/4" = 1'-0"



FRONT ELEVATION
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
FAYETTE COUNTY, GEORGIA

FINISHED WATER PUMP STATION
ELEVATIONS

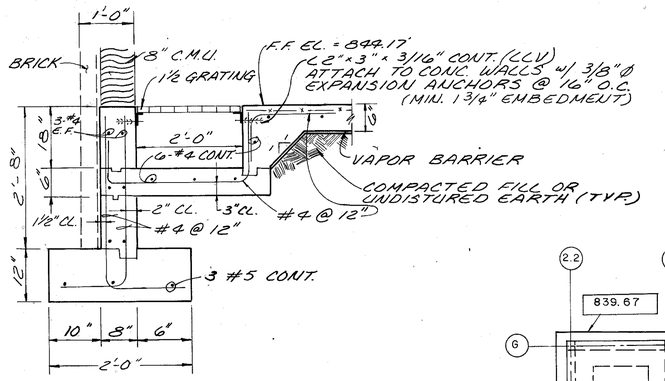
A-10

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

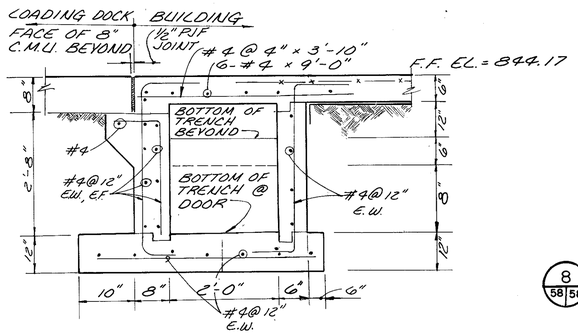
DESIGN MFL	SCALE AS NOTED
DRAWN LED	DATE 6/18/84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 57 OF 105

AF 8318



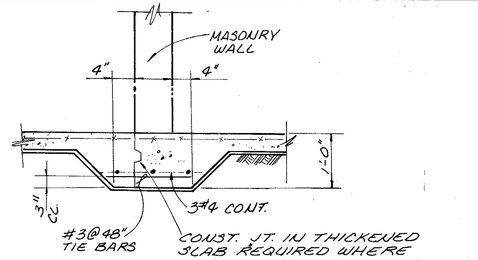
SECTION THRU TRENCH

SCALE: 3/4" = 1'-0"

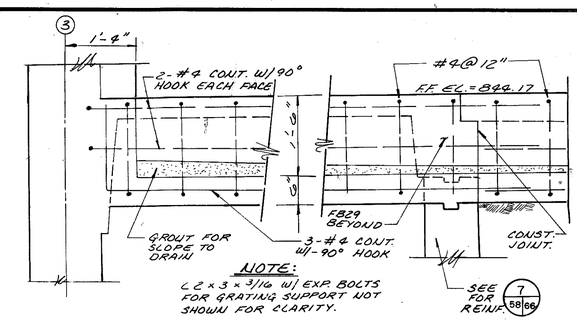


SECTION @ DOOR THRU TRENCH

SCALE: 3/4" = 1'-0"

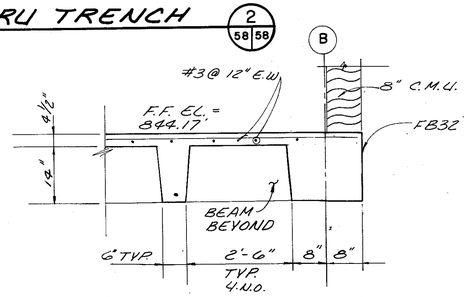


8 THICKENED SLAB DETAIL



SECTION THRU ELEVATED TRENCH 3 58/56

SCALE: 3/4" = 1'-0"



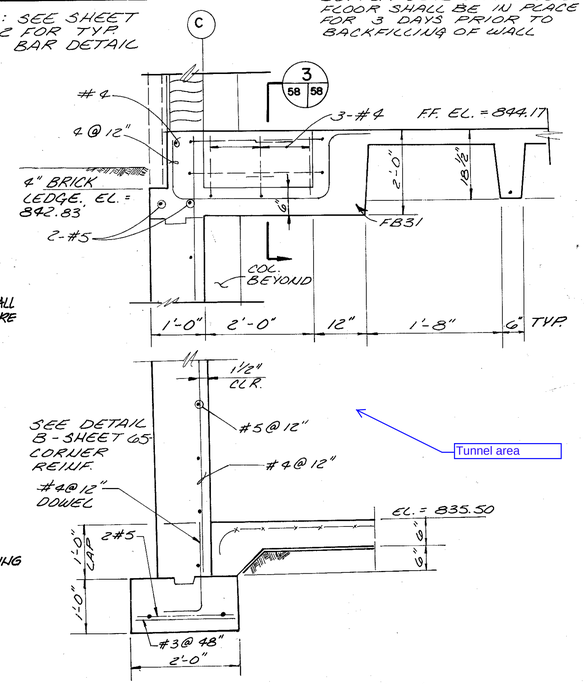
SECTION 5 58/58

SCALE: 3/4" = 1'-0"

JOIST SCHEDULE	
MARK	RIB. REINF.
FJ7	2-#5 x 16'-8

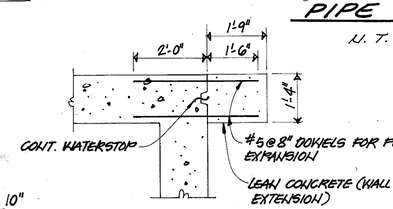
NOTE: SEE SHEET NO. G2 FOR TYP. JOIST BAR DETAIL

NOTE:
BOTTOM SLAB & PAN JOIST FLOOR SHALL BE IN PLACE FOR 3 DAYS PRIOR TO BACKFILLING OF WALL



SECTION THRU TRENCH PIPE GALLERY 4 58/58

N. T. S.



- FOR REINF. DOWELS IN BOTT. SLAB SEE SECTION 7 - SHT. G6.

FUTURE EXPANSION DETAIL A 58/58

½" = 1'-0"

SLAB AND FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

= T/FTG. ELEVATION

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

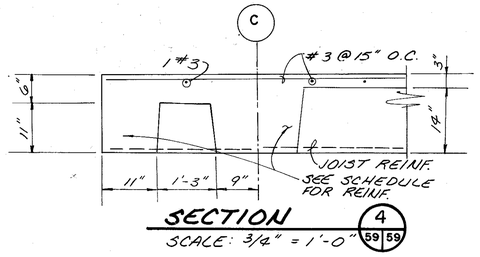
SLAB AND FOUNDATION PLAN & SECTIONS

S-1

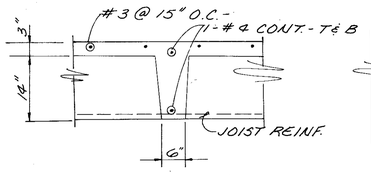
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

DESIGN	CL
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	58 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

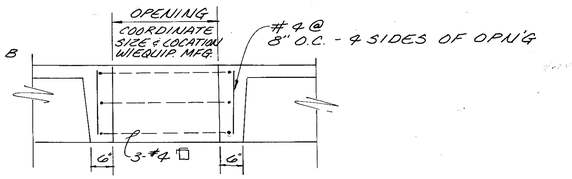
AF 8318



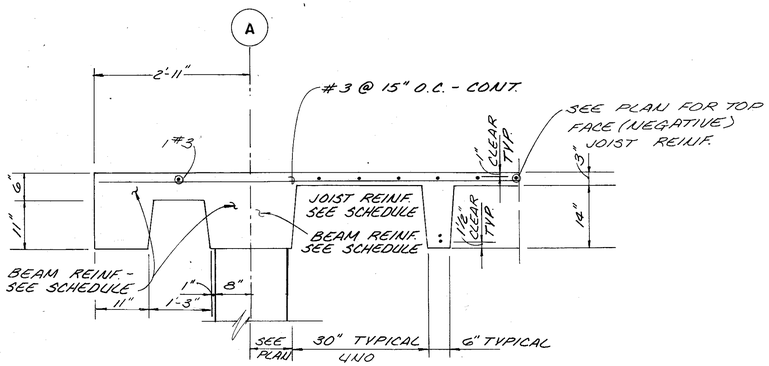
SECTION
SCALE: 3/4" = 1'-0"
4 | 59 | 59



SECTION
SCALE: 3/4" = 1'-0"
5 | 59 | 59



SECTION THRU OPENING
SCALE: 3/4" = 1'-0"
6 | 59 | 59



SECTION
SCALE: 3/4" = 1'-0"
1 | 59 | 59

GENERAL NOTES - CHEMICAL AND FILTRATION BUILDING

I. DESIGN
- A. "STANDARD BUILDING CODE", 1982 EDITION.
- B. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-77).
- C. "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (AISC; NOV. 1, 1978) WITH CURRENT COMMENTARY.

II. DESIGN LOADS
- A. LIVE LOAD
  1. FLOOR . . . . . .50 PSF; WITH 10 PSF PARTITION ALLOWANCE
  2. ROOF. . . . . .20 PSF; WITH REDUCTION FOR TRIBUTARY LOADED AREA, IF APPLICABLE.
- B. WIND LOAD (BASIC WIND SPEED = 100MPH). . 20 PSF

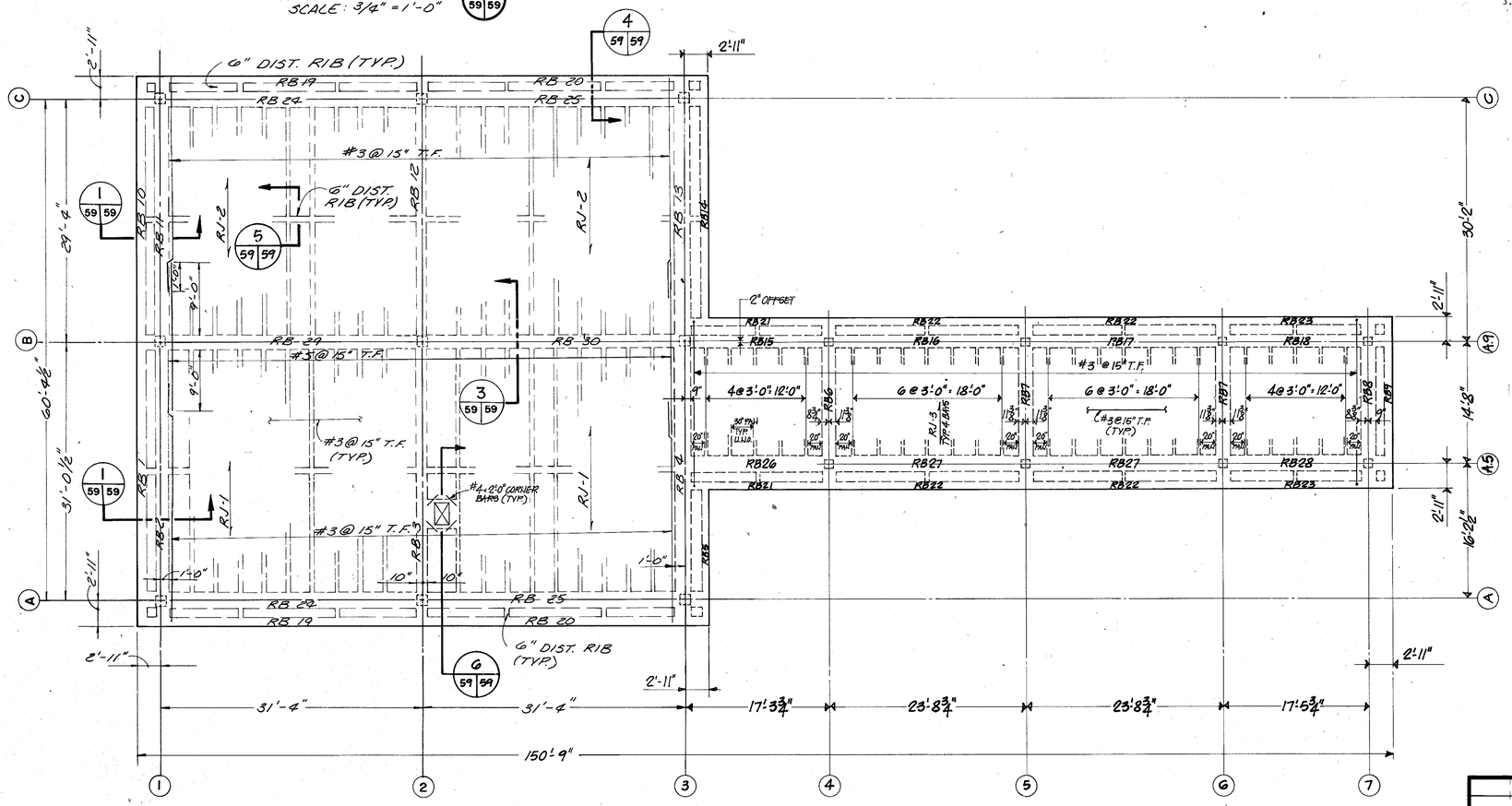
III. FOUNDATIONS
- A. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 3,000 P.S.F.
- B. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE REQUIRED BEARING CAPACITY IS AVAILABLE. IF ANY PORTION OF THE FOOTING IS FOUND TO OCCUR IN AN UNSUITABLE OR UNSTABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.

IV. MATERIALS
- A. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 4,000 psi.
- B. CONCRETE FOR FOOTINGS SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 3,000 psi.
- C. BAR REINFORCING STEEL
  1. ALL BAR REINFORCING STEEL IN CONCRETE SHALL CONFORM TO ASTM A615, GRADE 60.
- D. STRUCTURAL STEEL
  1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
  2. ALL WELDING SHALL BE AS PER AWS SPECIFICATIONS, UTILIZING E70XX ELECTRODES.
  3. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A307.
- E. MASONRY
  1. HOLLOW UNITS . . . . . .f'm = 1,350 psi.
  2. SOLID UNITS . . . . . .f'm = 1,500 psi
  3. MORTAR . . . . . .TYPE S

V. MISCELLANEOUS
- A. ALL LAP SPLICE LENGTHS NOT SHOWN ON THE PLANS SHALL BE CLASS 'B' IN CONFORMANCE WITH ACI 318-77.
- B. CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND NUMBER OF OPENINGS, SLEEVES, PIPES, CONDUITS, EMBEDDED ITEMS, ETC., BEFORE POURING CONCRETE.
- C. UNLESS OTHERWISE SHOWN ON THE PLANS, MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

  FOOTINGS (CAST AGAINST EARTH). . . . . 3"
  WALLS. . . . . 2"

- D. THE STRUCTURAL DESIGN OF THE BUILDING IS BASED UPON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISION MADE FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THEREFORE, THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING DURING CONSTRUCTION.
- E. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF MECHANICAL UNITS, ELECTRICAL FIXTURES, MECHANICAL DUCTS, CEILING HANGER ASSEMBLIES, PLUMBING EQUIPMENT, ETC., WITH ALL TRADES AFFECTED AND EQUIPMENT PURCHASED BEFORE PROCEEDING WITH STRUCTURAL WORK. THE CONTRACTOR SHALL DESIGN, FURNISH AND INSTALL SUBFRAMING FOR EQUIPMENT SUPPORTS WITHOUT EXTRA COST TO THE OWNER. MODIFICATIONS OR CHANGES AS A RESULT OF THIS COORDINATION SHALL BE CLEARLY DETAILED, NOTED AND SUBMITTED ON SHOP DRAWINGS.

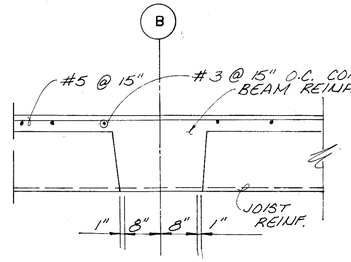


ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

ROOF JOIST SCHEDULE

MARK	SIZE WIDTH	SIZE DEPTH	RIB (POSITIVE) REINFORCING
RJ-1	6"	17"	1-#5 x 26'-10" 1-#4 x 31'-0"
RJ-2	6"	17"	1-#5 x 25'-9" 1-#4 x 29'-10"
RJ-3	6"	17"	1-#5 x 14'-8" 1-#4 x 14'-8"

NOTES:
- SEE ROOF FRAMING PLANS FOR TOP FACE (NEGATIVE) REINF.
- SEE SHEET G2 FOR TYP. JOIST BAR DETAIL.
- ALL JOIST ARE 14" RIB + 3" SLAB = 17" TOTAL DEPTH.



SECTION
SCALE: 3/4" = 1'-0"
3 | 59 | 59

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

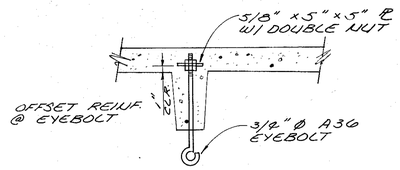
ROOF FRAMING PLAN & SECTIONS

S-2

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

DESIGN	CL
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	59 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

AF 8318

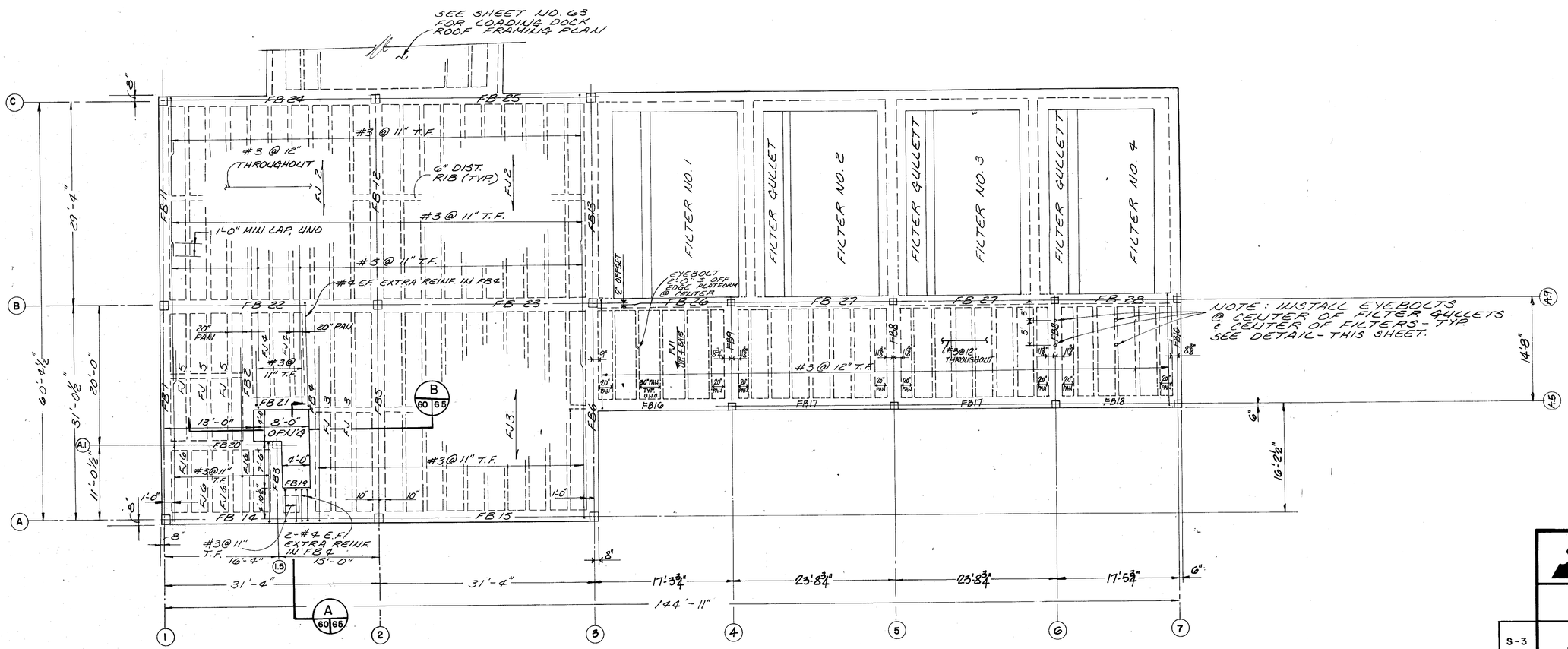


DETAIL - EYEBOLT AT PIPE GALLERY

SCALE: 3/4" = 1'-0"

FLOOR JOIST SCHEDULE			
MARK	SIZE WIDTH	SIZE DEPTH	RIB (POSITIVE) REINFORCING
FJ1	6"	18 1/2"	2-#5 x 14'-8"
FJ2	6"	18 1/2"	1-#5 x 30'-4" 1-#5 x 25'-0"
FJ3	6"	18 1/2"	1-#5 x 32'-0" 1-#5 x 26'-6"
FJ4	6"	18 1/2"	1-#5 x 14'-9"
FJ5	6"	18 1/2"	1-#5 x 20'-0"
FJ6	6"	18 1/2"	1-#5 x 11'-0"

NOTES:
1. 14" RIB + 4 1/2" TOP SLAB = 18 1/2" TOTAL DEPTH
2. SEE SHEET 62 FOR TYPICAL JOIST BAR DETAIL.



SECOND FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

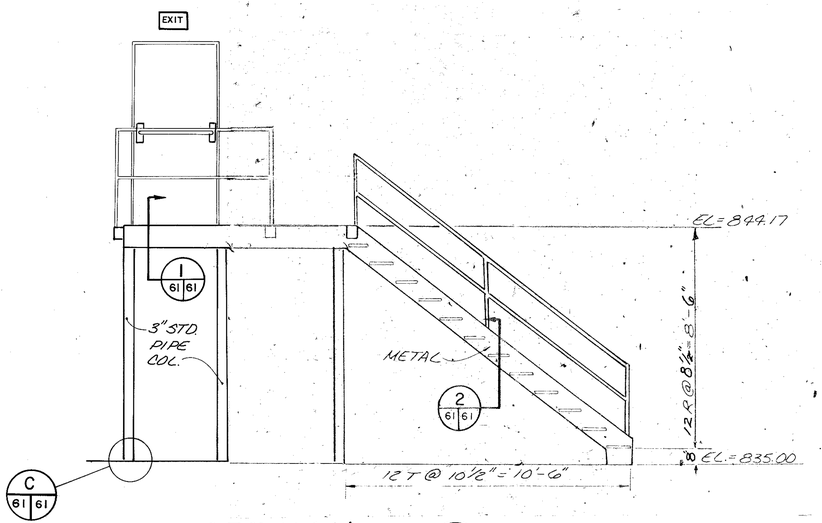
S-3

SECOND FLOOR FRAMING PLAN - SECTIONS & DETAILS

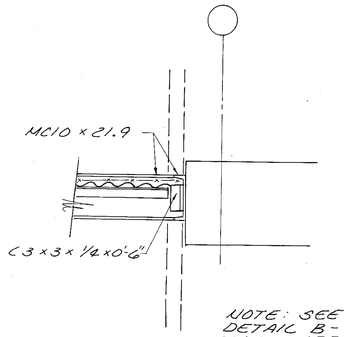
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
DESIGN	CL
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	60 OF 105

KF 33506A

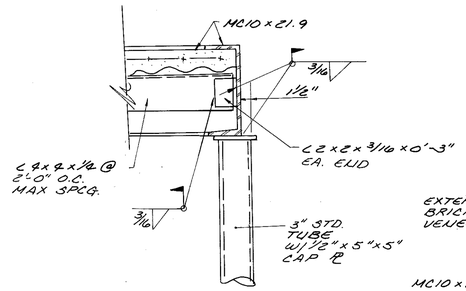


SECTION
SCALE: 3/8" = 1'-0" (H 23|61)

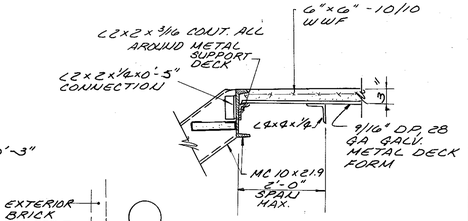


NOTE: SEE DETAIL B - THIS SHEET FOR INFO.

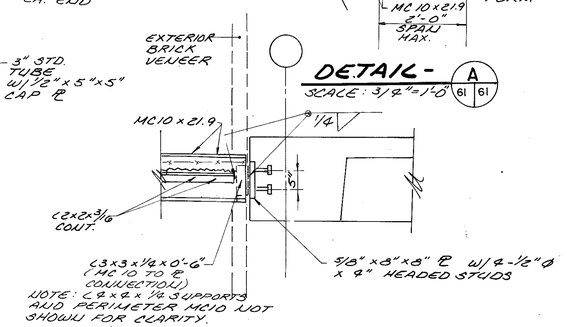
DETAIL
SCALE: 1½" = 1'-0" (F 61|61)



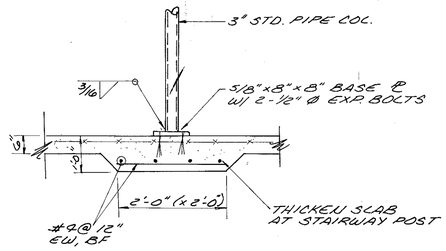
SECTION
SCALE: 1½" = 1'-0" (I 61|61)



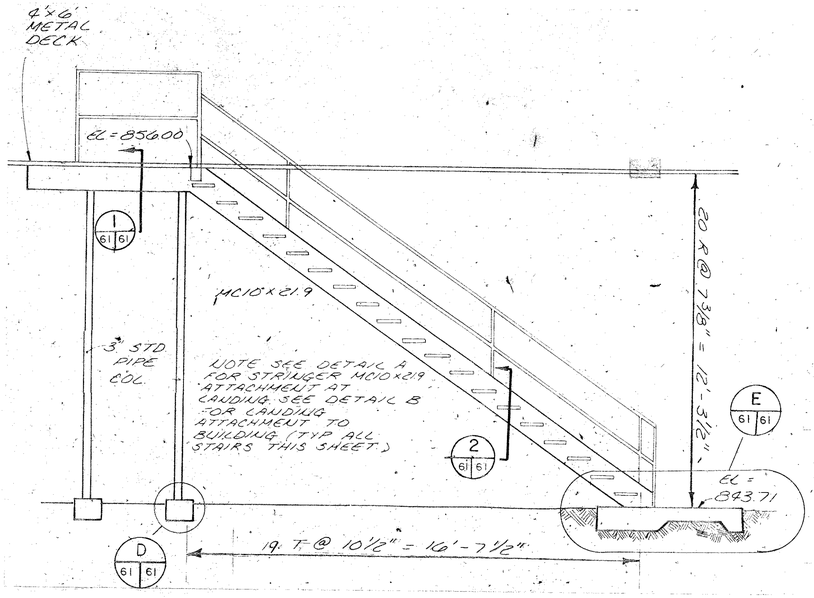
DETAIL - SCALE: 3/4" = 1'-0" (A 61|61)



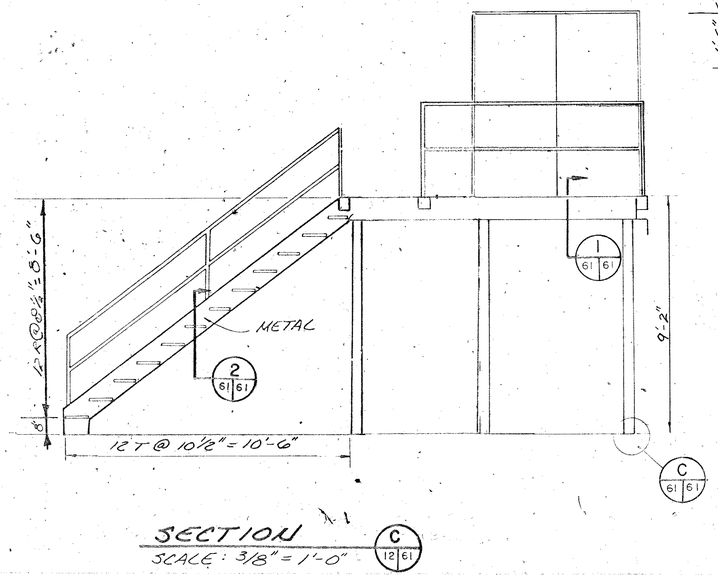
DETAIL
SCALE: 3/4" = 1'-0" (B 61|61)



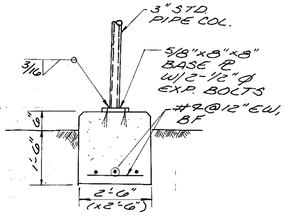
DETAIL
SCALE: ½" = 1'-0" (C 61|61)



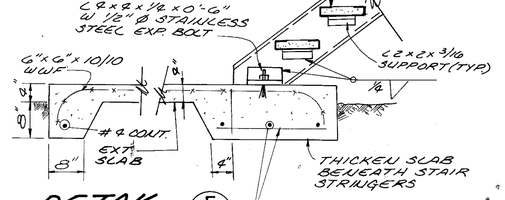
SECTION
SCALE: 3/8" = 1'-0" (B 22|61)



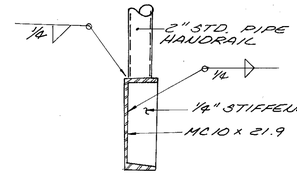
SECTION
SCALE: 3/8" = 1'-0" (C 12|61)



DETAIL
SCALE: ½" = 1'-0" (D 61|61)



DETAIL
SCALE: 3/4" = 1'-0" (E 61|61)



NOTE: ATTACHMENT OF STAIR STRINGERS AT INTERIOR SLAB ON GRADE SIMILAR

SECTION
SCALE: 1½" = 1'-0" (2 61|61)

NOTE:
ALL DETAILS ARE TYPICAL FOR ALL STAIRS - THIS SHEET

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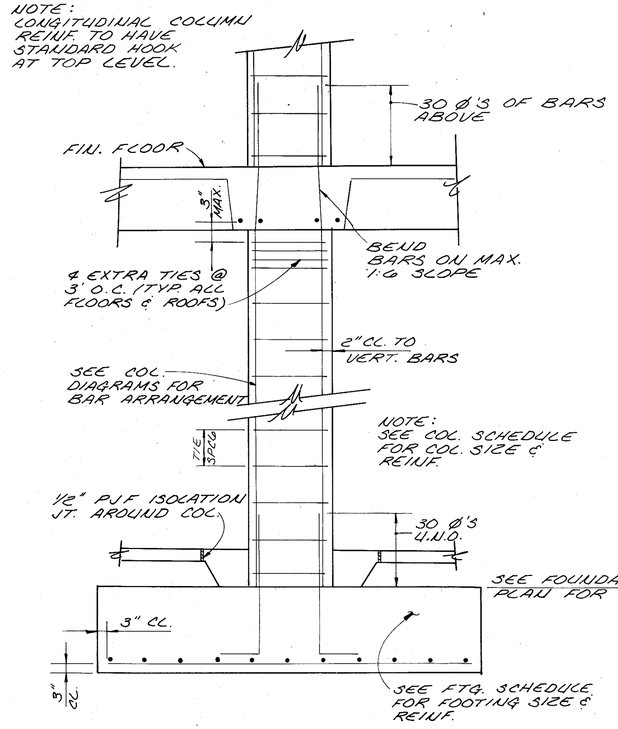
404/432-5634

WATER SYSTEM IMPROVEMENTS
FAYETTE COUNTY, GEORGIA
S-4
CHEMICAL AND FILTRATION BUILDING
STAIR SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

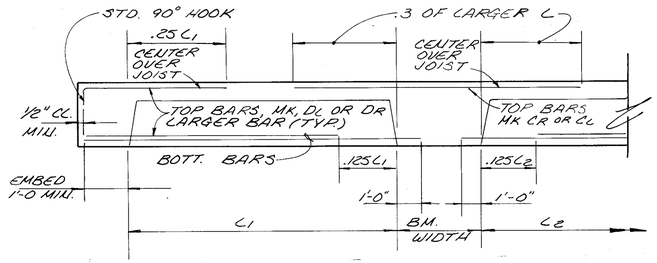
DESIGN: CL
DRAWN: LED
CHECK: MFL
APPROVED: JEM
SCALE: AS NOTED
DATE: 6/18/84
FILE NO.: 83175-1
SHEET NO.: 61 OF 105
LAND LOT-
DISTRICT-
COUNTY-
STATE-

KF 33506A



TYPICAL COLUMN & FOOTING DETAIL

NOT TO SCALE



NOTE: BAR LENGTH SHALL BE DETERMINED AS SHOWN ABOVE UNLESS NOTED OR SHOWN OTHERWISE. CENTER 'C_L' OR 'C_R' OVER SUPPORT UNLESS NOTED OR SHOWN OTHERWISE. BARS SHOWN WITH SUFFIX 'L' OR 'R' (D_L, C_R, D_L, D_R) INDICATE BARS AT THE LEFT SUPPORT OR RIGHT SUPPORT AS FRAMING PLAN IS FACED FROM BOTTOM SIDE OR RIGHT SIDE OF SHEET. JOISTS ON OPPOSITE SIDES OF BEAMS SHALL ALIGN, UNLESS OTHERWISE NOTED OR SHOWN. NO SLEEVES, HOLES, JUNCTION BOXES ETC., SHALL BE PLACED IN JOIST EXCEPT AS NOTED ON STRUCTURAL ENG. DWGS.

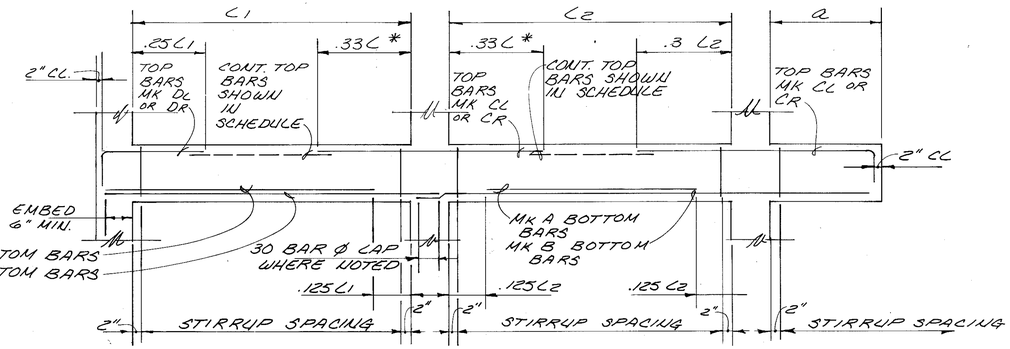
TYPICAL JOIST BAR DETAIL

NOT TO SCALE

NOTE:
BAR LENGTHS SHALL BE DETERMINED AS SHOWN ABOVE UNLESS NOTED OTHERWISE IN SCHEDULE.

BARS SHOWN IN 2 LAYERS FOR CLARITY ONLY.

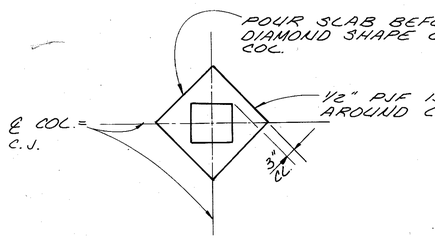
BARS SHOWN WITH SUFFIX "L" & "R" (CL,CR,DL,DR) INDICATE BARS AT THE LEFT SUPPORT AND RIGHT SUPPORT AS FRAMING PLAN IS FACED FROM "BOTTOM SIDE OF SHEET" OR RIGHT SIDE OF SHEET. WHERE CONT. TOP BARS ARE CALLED FOR IN SCHEDULE LAP 24 ø'S WITH "C" OR "D" BARS EACH END. WHERE NO "C" OR "D" BARS OCCUR, LAP 24ø'S AT ℄ OF SPAN.



* C = C1 OR C2 WHICHEVER IS GREATER

TYPICAL BEAM DIAGRAM

NOT TO SCALE



TYPICAL CONTROL JOINT AT COLUMN

NOT TO SCALE

STIRRUP TYPES

(SEE BEAM REINF. SCHEDULE - SHEET 64)

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404/432-5634

WATER SYSTEM IMPROVEMENTS

FAYETTE COUNTY, GEORGIA

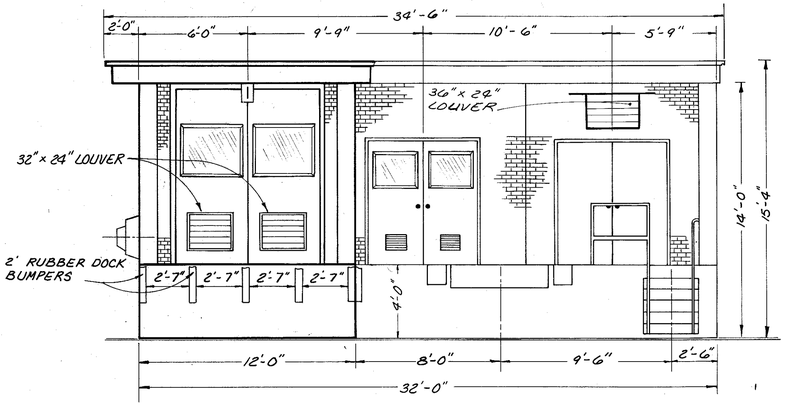
S-5 CHEMICAL AND FILTRATION BUILDING DETAIL SHEET

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

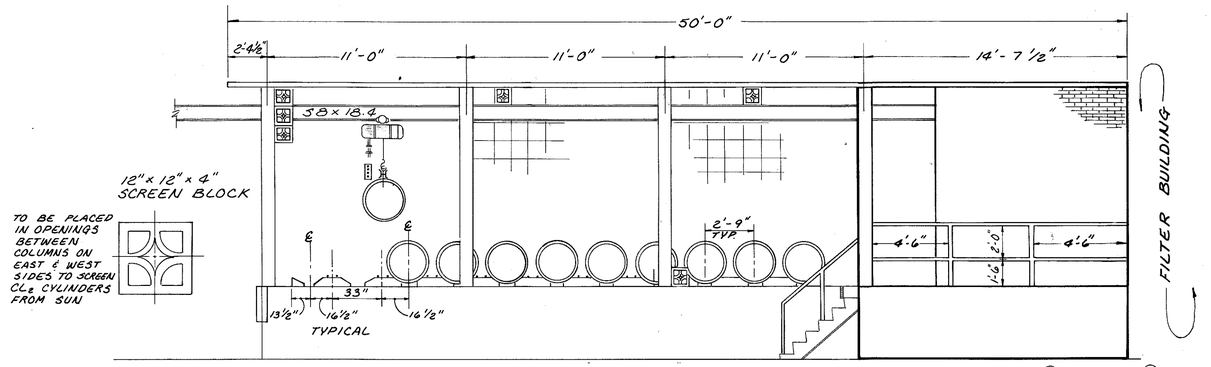
DESIGN	CL
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	NONE
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	62 OF 105

AF 8318



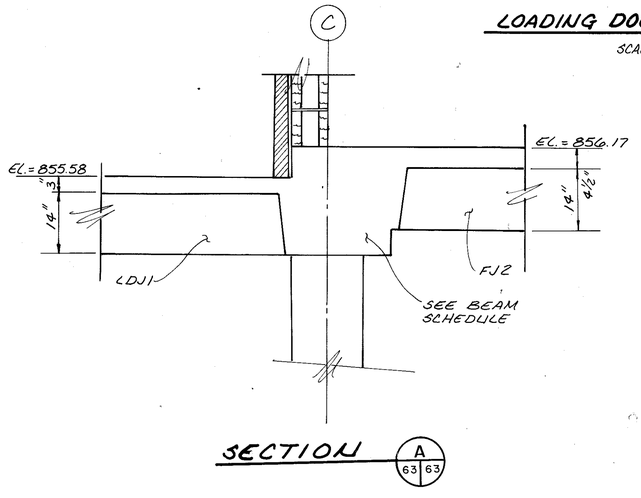
LOADING DOCK - SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



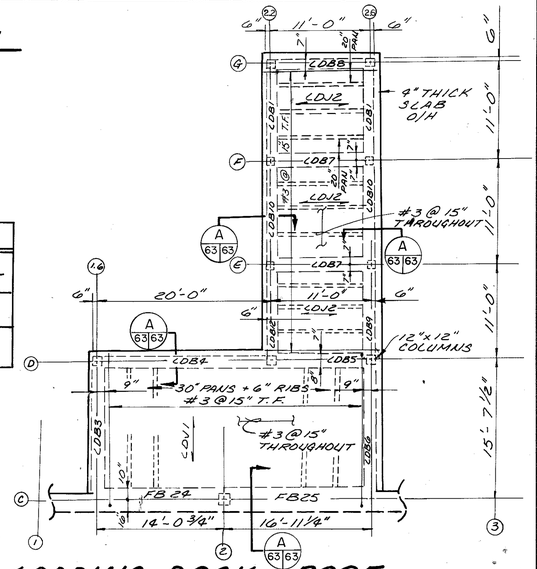
LOADING DOCK - EAST ELEVATION

SCALE: 1/4" = 1'-0"



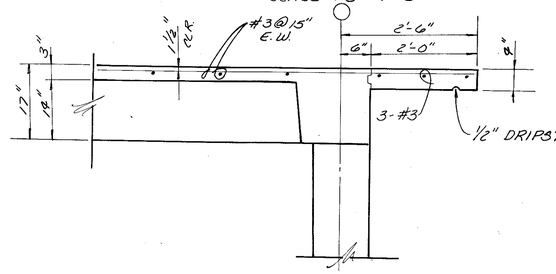
SECTION A (63|63)

LOADING DOCK JOISTS	
MARK	RIB REINFORCEMENT
LDJ1	1-#5 x 15'-8"
LDJ2	1-#5 x 11'-8"



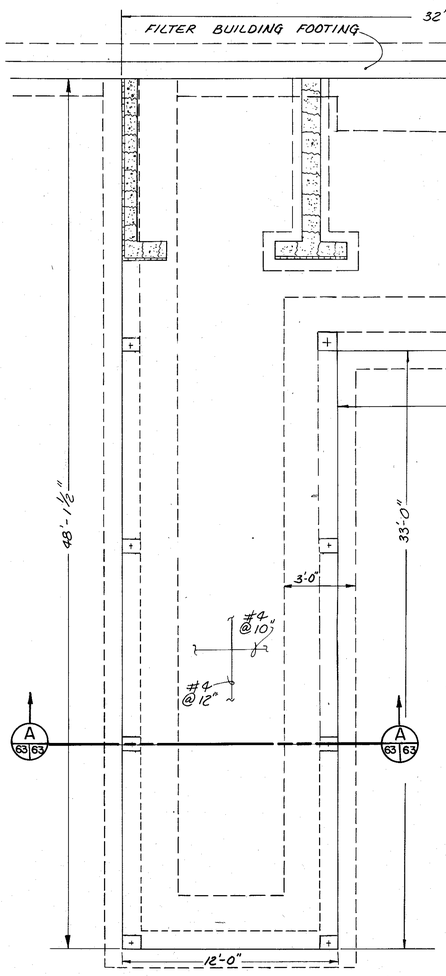
LOADING DOCK - ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



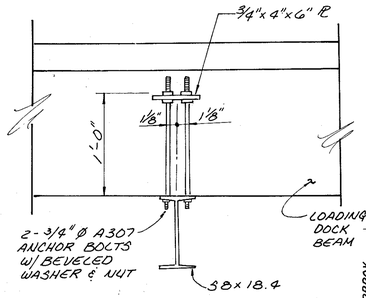
STEEL DETAIL

SCALE: 1" = 1'-0"

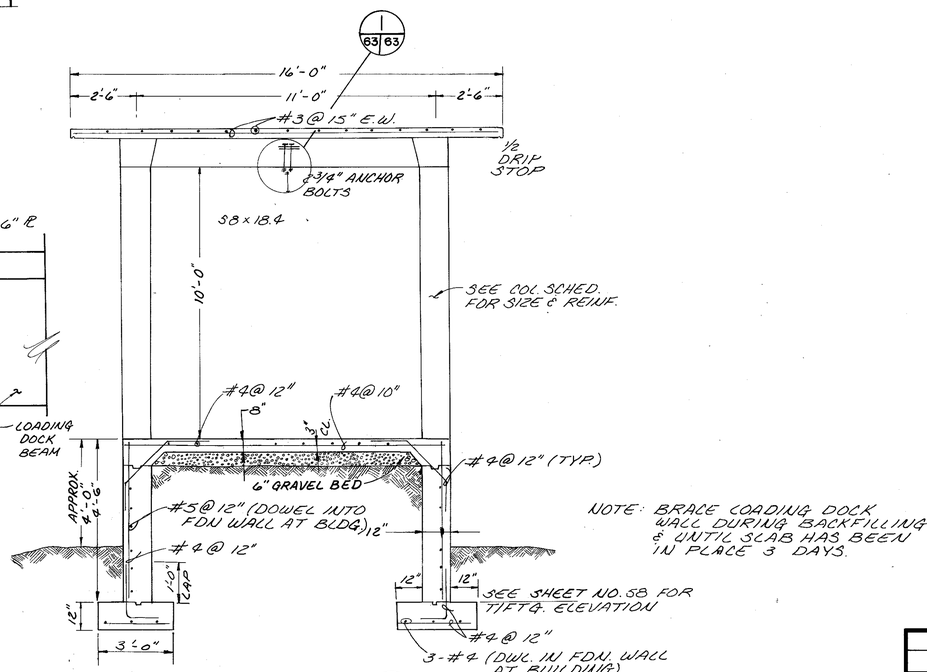


LOADING DOCK - FOUNDATION PLAN

SCALE: 1/4" = 1'-0"



DETAIL 1 (63|63) N.T.S.



SECTION A (63|63)

SCALE: 3/8" = 1'-0"

RB-1

NOTE: BRACE LOADING DOCK WALL DURING BACKFILLING & UNTIL SLAB HAS BEEN IN PLACE 3 DAYS.

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

LOADING DOCK - ROOF FRAMING PLAN
ELEVATIONS & DETAILS

S-6

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
DESIGN: DP	SCALE: AS NOTED
DRAWN: LED	DATE: 6/18/84
CHECK: MFL	FILE NO.: 83175-1
APPROVED: JEM	SHEET NO.: 63 OF 105

XF 33506A

BEAM SCHEDULE

GIRDER MARK	WIDTH x DEPTH	MK A & MK B	MK DL OR MK DR	MK CL OR MK CR	CONT. TOP BARS	STIRRUPS NUMBER, SIZE, SPACING (TYPE)	REMARKS
RB1	11"x17"	2-#5B	——	——	2-#4	FROM CT - 3-#3@ 12" (2S) FROM RT - 3-#3@ 12" (2S)	HOOK CONT. TOP BARS AT F.S. RB19
RB2	21"x17"	2-#5B	——	2#5CL	2-#4	FROM RT @ CANT 4-#3@ 7" (2S) FROM CT-3-#3@ 12" (2S) FROM RT - 3-#3@12" (2S)	
RB3	20"x17"		——	2#5CL	2-#4	"	
RB4	21"x17"	2-#7A 2-#7B	——	2#5CL	2-#4	FROM RT. @ CANT. 4-#3@7" (2C) FROM LT. - 5-#3@ 7" (2S) FROM RT. - 06-#3@ 7" (2S)	HOOK CL AT F.S. B20
RB5	11"x17"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BARS AT F.S. RB20 & RB21
RB6	20⅛"x17"	2-#5B	——	2#5CR 2#5CL	2-#4	FROM F/COL. @ EA. CANT. - 4-#3@7" (2S) FROM LT. - 3-#3@12" (2S) FROM RT. - 3-#3@12" (2S)	
RB7	22¾"x17"	2-#5B	——	2#5CR 2#5CL	2-#4	"	
RB8	17⅞"x17"	2-#5B	——	2#5CR 2#5CL	2-#4	"	
RB9	11"x17"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BARS AT F.S. RB23
RB10	11"x17"	2-#5B	——	2#6CL	2-#4	FROM CT - 3-#3@ 12" (2S) FROM RT - 3-#3@ 12" (2S)	HOOK CONT. TOP BARS AT F.S. RB19
RB11	21"x17"	2-#5B	——	2-#6CL 2-#5CR	2-#4	FROM CT @ CANT - 4-#3 @ 7" (2S) FROM CT - 3 #3 @ 12" (2S) FROM RT - 3 #3@ 12" (2S)	
RB12	20"x17"	2-#5B	——	2-#6CL 2-#5CR	2-#4	"	
RB13	21"x17"	2-#6B	——	4-#6CL 2-#5CR	2-#6	FROM LT. @ CANT. - 4-#3@7" (2S) FROM LT. - 5-#3@7" FROM RT. - 3-#3@12"(2S)	HOOK CR AT F.S. RB23
RB14	11"x17"	2-#5B	2-#5DL 2-#5CR	——	2-#4	FROM LT. - 3-#3@12"(2S) FROM RT. - 3-#3@12"(2S)	HOOK CR AT F.S. RB20
RB15	18"x17"	2-#7B	——	——	——	FROM LT. - 13-#3@7" (2C) FROM RT. - 5-#3@7"(2C)	SEE RB16 & RB30 FOR CL
RB16	18"x17"	2-#7B	——	3-#7CL	2-#5	FROM LT. - 5-#3@7" (2C) FROM RT. - 11-#3@7"(2C)	EXTEND CL TO LAP 30" WITH CR FROM RB30 @ MIDSPAN OF RB16
RB17	18"x17"	2-#7B	——	3-#7CL	2-#5	FROM CT - 9-#3@ 7" FROM RT - 9-#3@ 7"	
RB18	18"x17"	2-#7B	——	3-#7CL 2-#5CR	2-#5	FROM CT - 5-#3@ 7" (2C) FROM RT - 3-#3@ 12" (2C)	HOOK CR AT FS. B9, NO STIRRUPS REQ'D. AT CANT.
RB19	11"x17"	2-#5B	——	——	2-#4	FROM CT - 3-#3@ 12" (2S) FROM RT - 3-#3@ 12" (2S)	HOOK CONT. TOP BARS AT F.S. RB1 OR RB10
RB20	11"x17"	2-#5B	——	2-#6CL	2-#4	FROM CT - 3-#3@ 12" (2S) FROM RT - 3-#3@ 12" (2S)	HOOK CONT. TOP BARS AT F.S. RB5 OR RB14
RB21	11"x17"	2-#4B	——	2-#4DL	2-#4	FROM CT - 6-#3@ 7" (2S) FROM RT - 3-#3@ 12" (2S)	
RB22	11"x17"	2-#4B	——	2-#4CL	2-#4	FROM CT - 3-#3@12" (2S) FROM RT - 3-#3@ 12" (2S)	
RB23	11"x17"	2-#4B	——	2-#4DR	2-#4	FROM CT - 3-#3@ 12" (2S) FROM RT - 3-#3@ 12" (2S)	HOOK CR AT F.S. RB9
RB24	18"x17"	2-#8A 2-#8B	——	4-#8CL	2-#4	FROM CT - 18-#3@ 7" (2C) FROM RT - 22-#3@ 7" (2C)	STIRRUPS NOT REQ'D. AT CANTILEVER
RB25	18"x17"	2-#8A 2-#8B	——	4-#8CR 4-#10CL	2-#4	FROM CT - 22-#3@ 7" (2C) FROM RT - 18-#3@ 7" (2C)	STIRRUPS NOT REQ'D. AT CANTILEVER
RB26	18"x17"	2-#6B	2-#5DL	——	2-#4	FROM CT - 3-#3@ 12" (2C) FROM RT - 5-#3@ 7" (2C)	
RB27	18"x17"	2-#6B	——	3-#6CL	2-#4	FROM CT - 10-#3@ 7" (2C) FROM RT - 10-#3@ 7" (2C)	
RB28	18"x17"	2-#6B	——	3-#6CL 2-#5CR	2-#4	FROM CT - 5-#3@ 7" (2C) FROM RT - 3-#3@ 12" (2C)	STIRRUPS NOT REQ'D AT CANTILEVER, HOOK CR AT F.S. B9
RB29	30"x17"	3-#9A 2-#10B	——	6-#8CL	4-#4	FROM CT - 22-#3@ 7" (2S); FROM RT - 7-#3@ 7" (2S); 19-#3@ 7" (2S)	
RB30	30"x17"	3-#9A 2-#10B	——	6-#11CL 4-#9CR	4-#4	FROM CT - 7-#3@ 7" (2S); 19-#3@ 7" (2S) FROM RT - 22-#3@ 7" (2S)	PLACE CR TO EXTEND INTO RB15
FB1	20"x18½"	2-#9A 2-#9B	2-#6DL	——	2-#4	FROM CT. - 17#3@8" (2S) FROM RT - 25#3@8" (2S)	
FB2	16"x18½"	1-#5A 2-#6B	——	——	2-#4	FROM CT. - 7-#3@8" (2S) FROM RT. - 2-#3@8" (2S)	HOOK CONT. TOP BARS @ F.S OF FB20 & FB22
FB3	18"x18½"	2-#5B	——	——	2-#4	——	HOOK CONT TOP BARS @ F.S OF FB14 & COL.
FB4	30"/12"/16 x 18½"	1-#9A 2-#11B	——	——	2-#4	FROM CT - 5#3@8" (4S) 16-#3@8" (2S) FROM RT 17#3@8" (2S)	HOOK CONT. TOP BARS @ F.S. OF FB22 & FB19
FB5	20"x18½"	2-#6B	2-#6DL	——	2-#4	FROM CT - 2-#3@8" (2S) FROM RT - 5-#3@8" (2S)	
FB6	20"/21" x18½"	2-#7A 2-#7B	4-#6DL	5-#9CR	2-#4	FROM CT - 7-#3@8" (2S) FROM RT - 21-#3@8" (2S)	EMBED CR 4'-6" INTO FB13
FB7	—	—	—	—	—	NOT USED	
FB8	22¾"x18½"	2-#6B	——	——	2-#4	——	HOOK CONT. TOP BARS AT F.S. OF SUPPORTS.
FB9	20⅛"x18½"	2-#6B	——	——	2-#4	——	HOOK CONT. TOP BARS AT F.S. OF SUPPORTS

BEAM SCHEDULE

GIRDER MARK	WIDTH x DEPTH	MK A & MK B	MK DL OR MK DR	MK CL OR MK CR	CONT TOP BARS	STIRRUPS NUMBER, SIZE, SPACING (TYPE)	REMARKS
FB10	14⅞"x18½"	2-#6B	——	——	2-#4	——	HOOK CONT. TOP BARS AT F.S. OF SUPPORT
FB11	20"x18½"	1-#6A 2-#6B	2-#5DR	3-#10CL	2-#4	FROM CT - 15-#3@8" (2S) FROM RT - 3-#3@8" (2S)	——
FB12	20"x18½"	2-#6B	2-#6DR	3-#7CL	2-#4	FROM CT - 5-#3@8" (2S) FROM RT. - 2-#3@8" (2S)	——
FB13	20"x18½"	2-#5B	——	——	2-#5	——	VERTICAL REINF. IN WALLS OF FILTERS TO EXTEND INTO FB13
FB14	24"x18½"	2-#9A 2-#10B	5-#8DL	——	4-#4	FROM CT - 19-#3@8" (2C) FROM RT - 8-#3@6" (2C) 20-#3@8" (2C)	——
FB15	24"x18½"	2-#9A 2-#10B	5-#8DR	5-#11CL	4-#4	FROM CT - 8-#3@6" (2C) FROM RT - 20-#3@8" (2C) 19-#3@8" (2C)	——
FB16	14"x18½"	2-#6B	2-#5DL	——	2-#4	FROM CT - 5-#3@8" (2C) FROM RT - 11-#3@8" (2C)	——
FB17	14"x18½"	2-#7B	——	3-#7CL	2-#4	FROM CT - 12-#3@8" (2C) FROM RT - 12-#3@8" (2C)	——
FB18	14"x18½"	2-#6B	2-#5DR	3-#7CL	2-#4	FROM CT - 11-#3@8" (2C) FROM RT - 5-#3@8" (2C)	——
FB19	12"x18½"	2-#4	——	——	2-#4	——	HOOK CONT. TOP BARS @ F.S. OF FB3 & FB9
FB20	12"x18½"	1-#8A 2-#7B	——	——	2-#4	FROM CT - 11-#3@8" (2S) FROM RT - 5-#3@8" (2S)	HOOK CONT. TOP BARS @ F.S OF FB1 & COL.
FB21	12"x18½"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BARS @ F.S. OF FB2 & FB9
FB22	36"x18½"	2-#9A 3-#11B	8-#8DL	——	4-#6	FROM CT - 4-#3@8" (4S); 14-#3@8" (2S) FROM RT - 15-#3@8" (2S) 8-#3@8" (2S)	——
FB23	36"x18½"	2-#9A 3-#11B	——	8-#11CL 6-#10CR	4-#6	FROM CT - 10-#3@8" (4S 13-#3@8" (2S) FROM RT - 6-#3@8" (2S) 14-#3@8" (2S)	CL BARS IN TWO LAYERS. EMBED CR 6'-0" INTO FILTER WALL
FB24	24"/26" x 24"	2-#10A 3-#11B	4-#8DL	——	4-#4	FROM CT - 16-#3@10" (2C) FROM RT - 16-#3@10" (2C)	——
FB25	24"/26" x 24"	2-#11A 3-#11B	4-#8DR	6-#11CL	4-#4	FROM CT - 18-#3@8" (2C) FROM RT - 17-#3@10" (2C)	——
FB26	18"x18½"	2-#5B	——	——	2-#5	——	VERTICAL REINFORCEMENT IN WALLS OF FILTERS TO EXTEND INTO FB26, FB27, AND FB28.
FB27	18"x18½"	2-#5B	——	——	2-#5	——	
FB28	18"x18½"	2-#5B	——	——	2-#5	——	
FB29	14"x18½"	2-#5B	——	——	2-#5	——	VERT. REINF IN WALL BELOW TO EXTEND INTO FB29
FB30	18"/24" x 35"	#5@8" E.F., HORIZONTAL SEE SECTION 7/SHEET 66				——	VERT. REINF. IN WALL BELOW TO EXTEND INTO FB30
FB31	12"x24"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BARS @ F.S. FB29 & FB30
FB32	16"x18½"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BARS AT F.S. FB29 & THROUGH FILTER WALL
COB1	15"x17"	2-#5B	——	2-#5CL	2-#4	——	HOOK CONT. TOP BARS @ F.S. OF COL.
COB2	15"x17"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BARS @ F.S. OF COL.
COB3	15"x17"	2-#5B	——	——	2-#4	——	HOOK CONT. TOP BAR F.S. COB1 & COL.
COB4	14"x17"	2-#5B	——	——	2-#4	FROM CT - 3-#3@8" (2C) FROM RT -8-#3@8" (2C)	HOOK CONT. TOP BARS @ F.S. OF COL.
COB5	15"x17"	2-#5B	——	2-#6CL	2-#4	FROM CT - 3-#3@8" (2S) FROM RT - NONE	HOOK CONT. TOP BARS @ F.S. OF COL.
COB6	15"x17"	2-#5B	——	——	2-#4	FROM CT - NONE FROM RT - 3-#3@8" (2S)	HOOK CONT. TOP BARS F.S. CO B2
COB7	14"x17"	2-#5B	——	——	2-#4	——	EXTEND CONT. TOP BARS INTO OVERHANG
COB8	13"x17"	2-#5B	——	——	2-#4	——	EXTEND CONT. TOP BARS INTO OVERHANG
COB9	15¼"x17"	2-#5B	——	2-#5CL	2-#4	——	——
COB10	15"x17"	2-#5B	——	2-#5CL	2-#4	——	——

NOTE:
SEE SHEET NO. 62 FOR TYPICAL BEAM DIAGRAM AND STIRRUP TYPES.

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
BEAM SCHEDULE

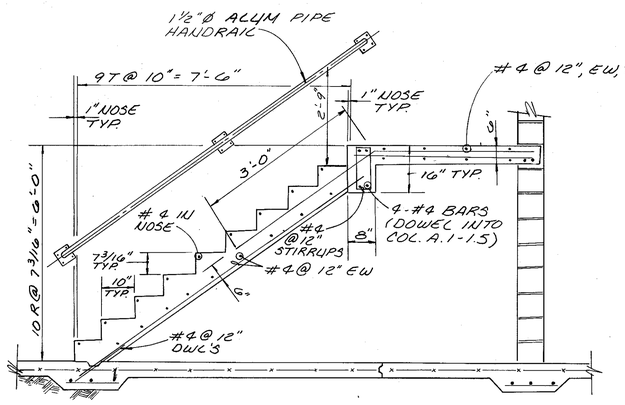
S-7

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

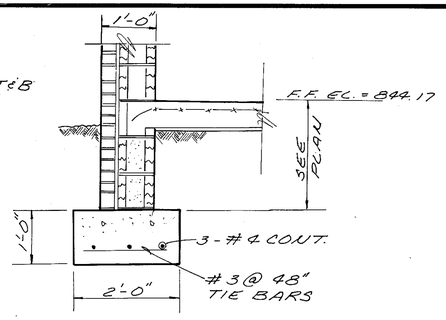
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN: CL
DRAWN: LED
CHECK: MFL
APPROVED: JEM
SCALE: NONE
DATE: 6/18/84
FILE NO.: 83175-1
SHEET NO.: 64 OF 105

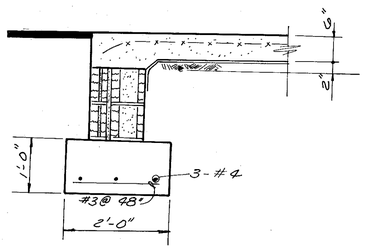
KF 33506A



SECTION (B) 60/65
SCALE: ½" = 1'-0"



SECTION (9) 58/65
SCALE: 3/4" = 1'-0"

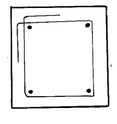


SECTION (10) 58/65
SCALE: 3/4" = 1'-0"

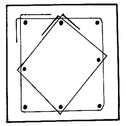
COLUMN AND FOOTING SCHEDULE

MARK	DIMENSION	COLUMN REINFORCING	FOOTING SIZE AND REINFORCING
A-1	16" x 16"	8-#8 LONG. w/#3 @ 16" TIES	6'-0" x 6'-0" x 1'-2" w/ 7-#5 E.W., BF
A-2	16" x 16"	4-#8 LONG. w/#3 @ 16" TIES	8'-0" x 8'-0" x 1'-7" w/ 6-#7 E.W, BF
A-3	16" x 16"	8-#8 LONG. w/#3 @ 16" TIES	6'-6" x 6'-6" x 1'-4" w/ 8-#5 E.W., B.F.
A-4 A-5 A-6 A-7	12" x 12"	4-#7 LONG. w/#3 @ 12" TIES	PROVIDE TOP FACE REINF. IN FTG. AS PER SECTION @ SHT. 66 PIPE GALLERY WALL 8'-6" x 8'-6" x 1'-4" w/10-#8 EW, BF
A.1-1.5	16" x 16"	4-#8 LONG. w/#3 @ 16" TIES	3'-6" x 3'-6" x 1'-0" w/ 4-#5 EW, BF
B-1	16" x 16"	8-#8 LONG. w/#3 @ 16" TIES	8'-0" x 8'-0" x 1'-7" w/ 6-#7 EW, BF
B-2	20" x 20"	8-#10 LONG. w/#3 @ 18" TIES	10'-0" x 10'-0" x 2'-0" w/ 9-#7 EW, BF
B-3	16" x 16"	8-#8 LONG. w/#3 @ 16" TIES	SEE SECTION 7/SHEET 66
B4 B5 B6 B7	12" x 12"	4-#7 LONG. w/#3 @ 12" TIES	SEE SECTION AT PERIMETER OF FILTER TANKS
C-1	16" x 16"	8-#8 LONG. w/#3 @ 16" TIES	6'-0" x 6'-0" x 1'-2" w/ 7-#5 EW, BF
C-2	16" x 16"	4-#8 LONG. w/#3 @ 16" TIES	8'-6" x 8'-6" x 1'-10" w/ 7-#7 EW, BF
C-3	16" x 16"	8-#8 LONG. w/#3 @ 16" TIES	SEE SECTION 7/SHEET 66
D-1.6 D-2.2 D-2.6 E-2.2 E-2.6 F-2.2 F-2.6 G-2.2 G-2.6	12" x 12"	4-#6 LONG. w/#3 @ 12" TIES	SEE SECTION AT STRIP FOOTING AT LOADING DOCK PERIMETER

NOTE: SEE SHEET 62 FOR TYPICAL COLUMN AND FOOTING DETAIL

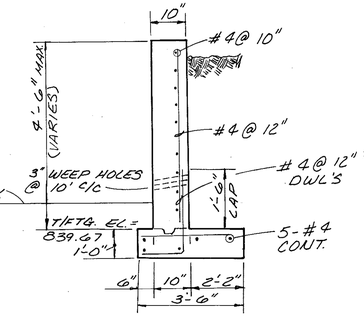


4 BARS

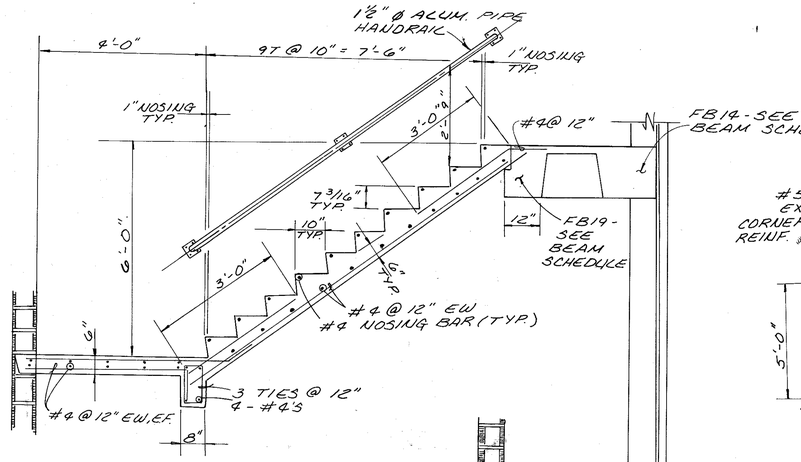


8 BARS

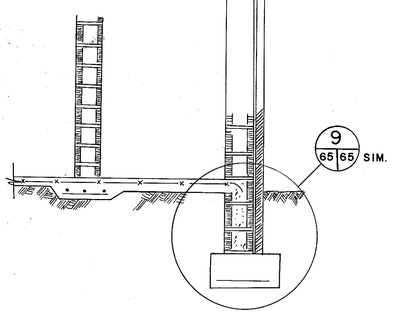
TYPICAL COLUMN DIAGRAM
N.T.S.

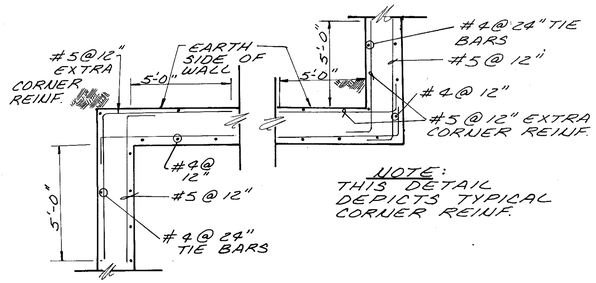


SECTION (B) 9/58/65
SCALE: ½" = 1'-0"

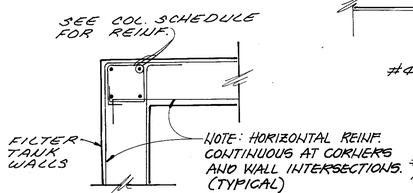


SECTION (A) 60/65
SCALE: ½" = 1'-0"



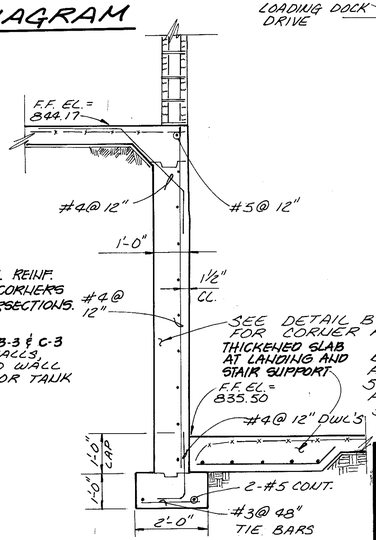


NOTE:
THIS DETAIL DEPICTS TYPICAL CORNER REINF.



NOTE: WHERE BUILDING COLUMNS B-3 & C-3 BEAR UPON FILTER TANK WALLS, CONTINUE COL. REINF. INTO WALL & DOWEL INTO FOOTING OR TANK BTM SLAB BELOW.

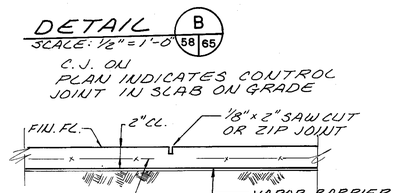
DETAIL (A) 58/65
SCALE: ½" = 1'-0"



NOTE:
BRACE WALL DURING BACKFILLING. HAND TAMP BACKFILL SOIL WITHIN 5 FT. OF WALL. BRACING TO BE PROVIDED UNTIL TOP & BOTTOM SLABS HAVE BEEN IN PLACE FOR 3 DAYS.

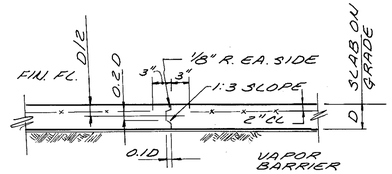
SECTION (B) 9/58/65
SCALE: ½" = 1'-0"

DETAIL (B) 58/65
SCALE: ½" = 1'-0"



TYPICAL CONTROL JOINT DETAIL

NOTE: CONSTRUCTION JOINTS MAY BE PROVIDED IN LIEU OF CONTROL JOINT



TYPICAL CONSTRUCTION JOINT DETAIL

NOTE:
D = 6"

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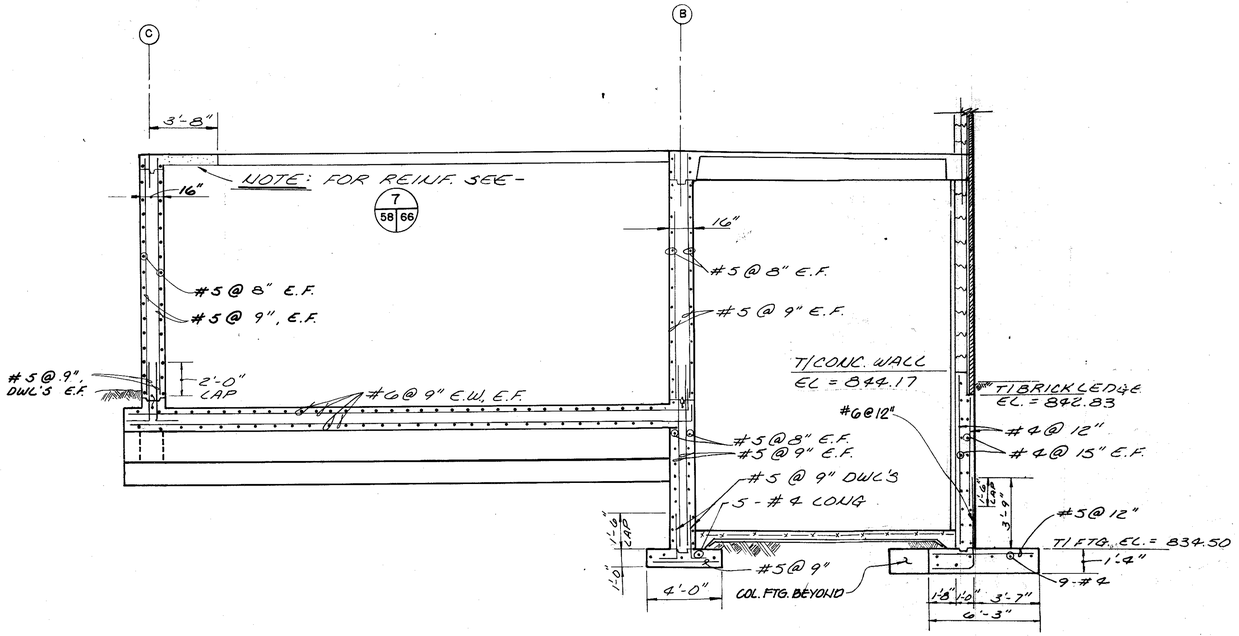
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
COLUMN & FOOTING SCHEDULE,
DETAILS AND SECTIONS

S-8

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

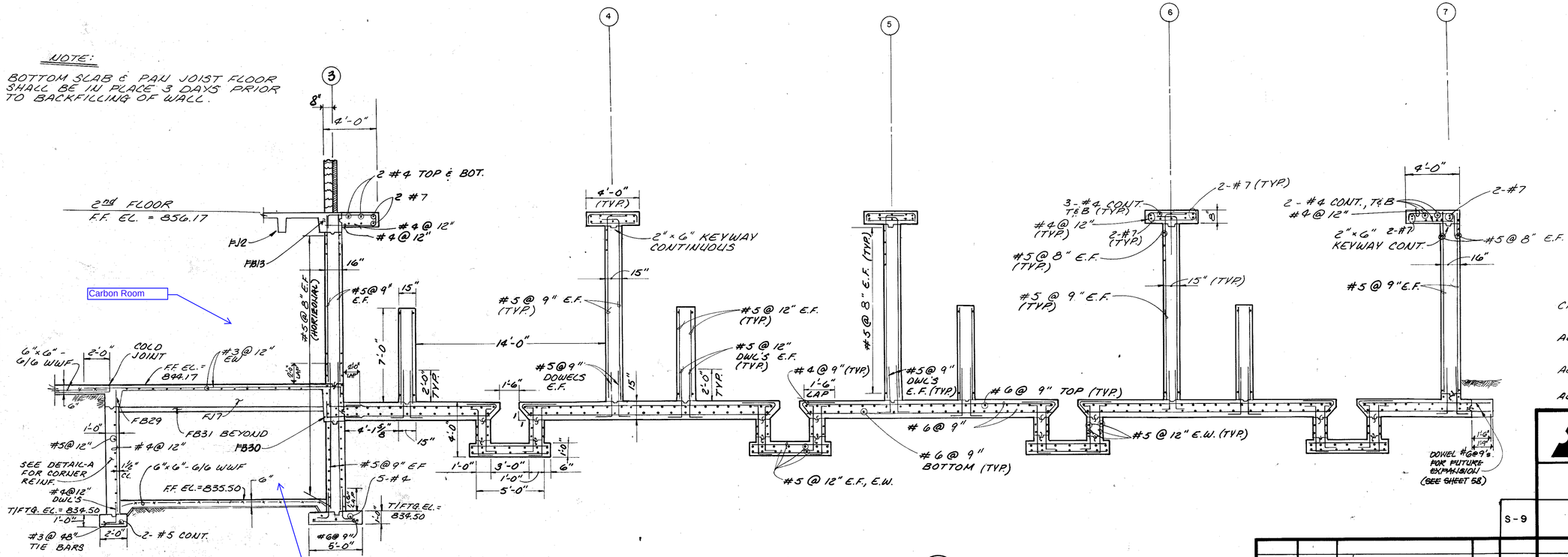
	DESIGN CL	SCALE AS NOTED
	DRAWN LED	DATE 6/18/84
LAND LOT-	CHECK MFL	FILE NO. 83175-1
DISTRICT-	APPROVED JEM	SHEET NO. 65 OF 105
COUNTY-		
STATE-		

AF 8318



FILTER SECTION 6 (58 66)

SCALE : 1/4" = 1'-0"



FILTER SECTION 7 (58 66)

SCALE : 1/4" = 1'-0"

NOTE:
BTM. SLAB & PAN JOIST FLOOR TO BE IN PLACE 3 DAYS PRIOR TO BACKFILLING OF WALL.

NOTE:
CHAMFER ALL EXPOSED EDGES - 1/2" TYPICAL

ALL REINF. 2" CLEAR ON INSIDE FACE OF FILTER

ALL REINF. 1½" CLEAR ON OUTSIDE FACE OF FILTER

ALL REINF. 3" CLEAR ON BOTTOM OF SLAB

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
FILTER SECTIONS

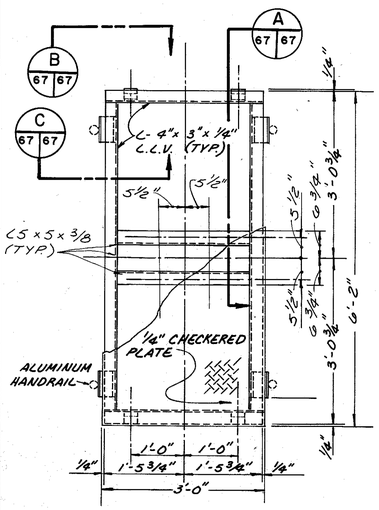
S-9

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

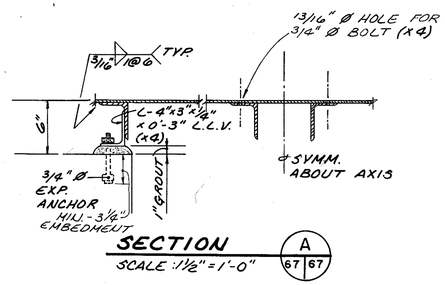
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	66 OF 105

AF 8318



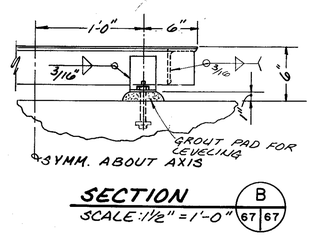
PLATFORM PLAN

SCALE : 3/4"=1'-0"



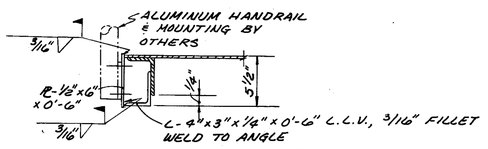
SECTION (A 67 67)

SCALE: 1½"=1'-0"



SECTION (B 67 67)

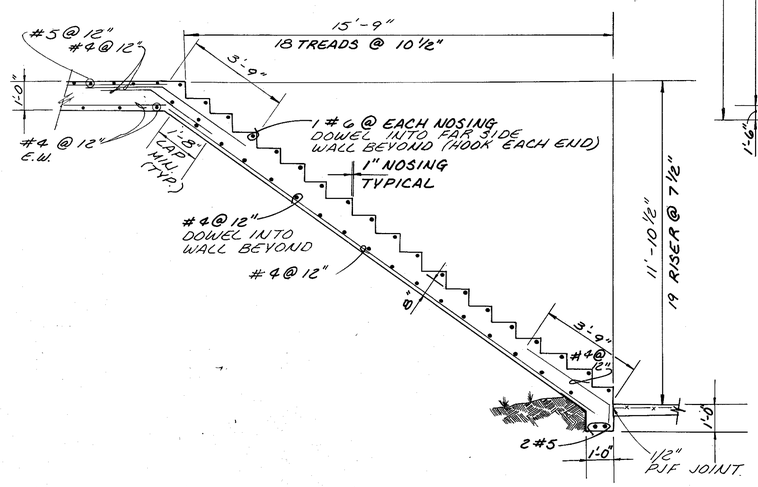
SCALE: 1½"=1'-0"



SECTION (C 67 67)

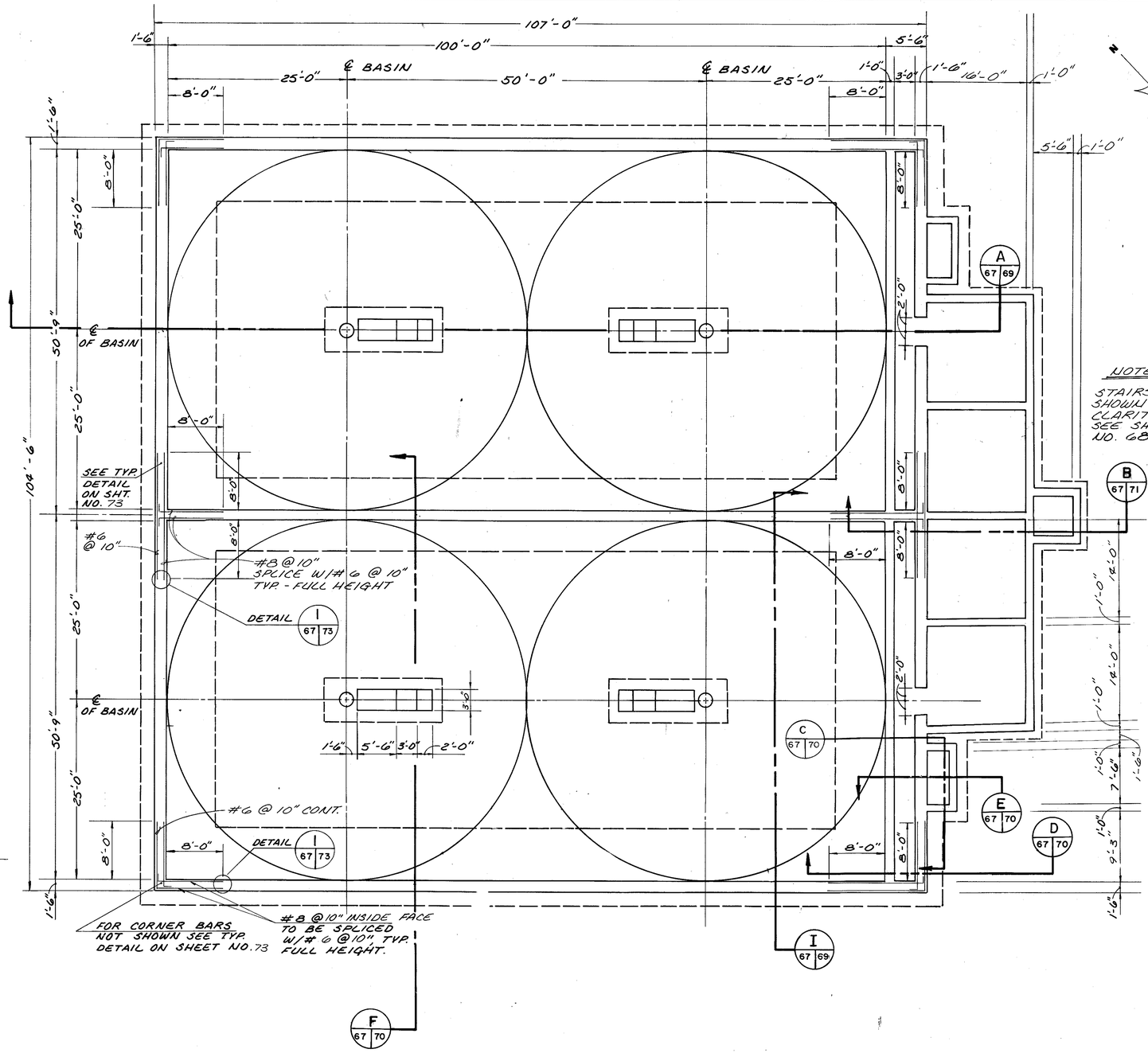
SCALE: 1½"=1'-0"

FLASH MIXER SUPPORT PLATFORM DETAILS



SECTION (G 68 67)

SCALE: 3/8"=1'-0"



FOUNDATION PLAN

SCALE : 1/8" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS

FOUNDATION PLAN & SECTIONS

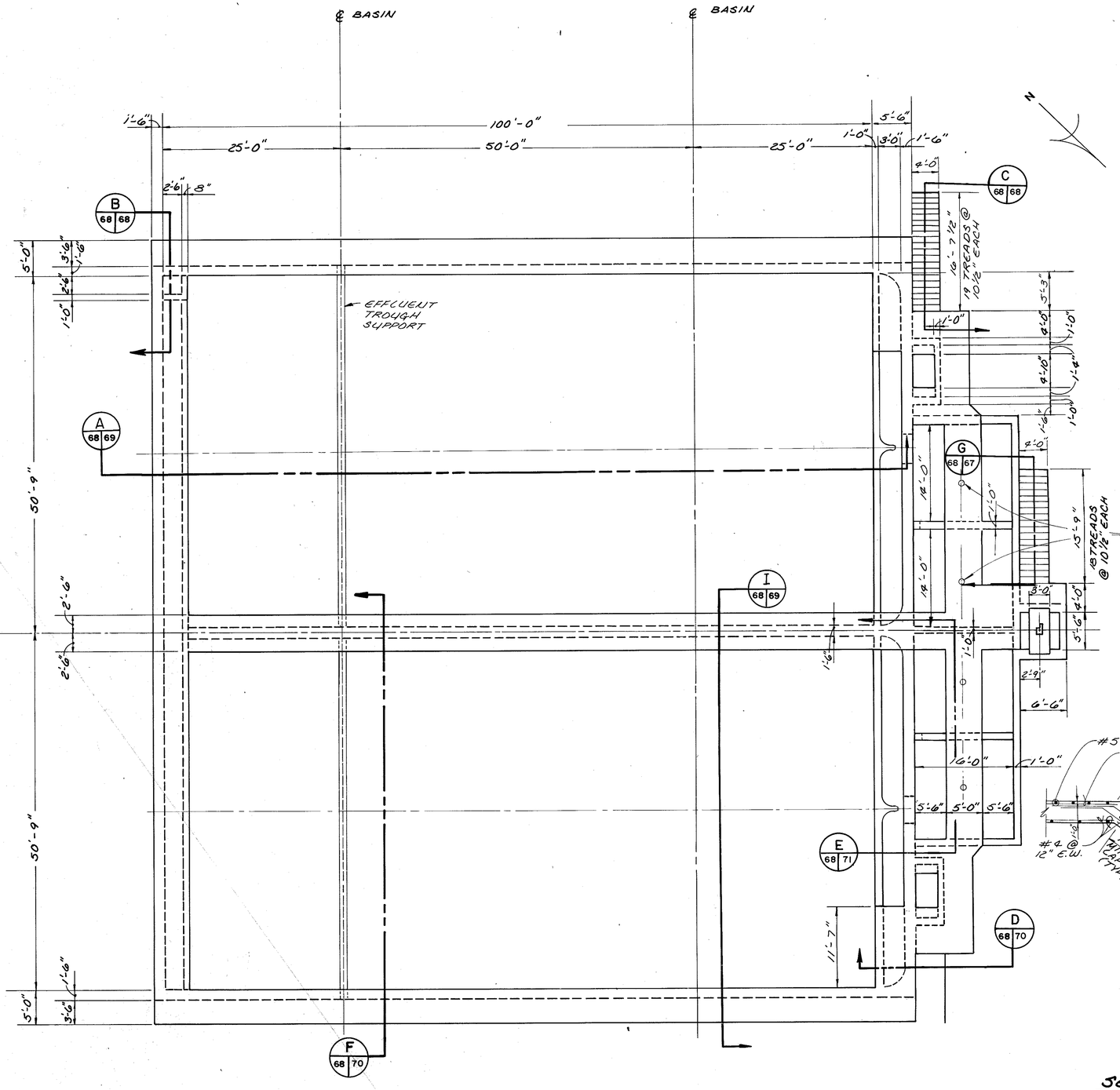
S-10

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	67 OF 105

AF 8316



PLAN VIEW AT TOP OF BASIN

SCALE: 1/8" = 1'-0"

COORDINATE HOLE SIZE FOR FLOCCULATOR SHAFTS W/ MANUFACTURER.

GENERAL NOTES FOR SLUDGE THICKENER AND SEDIMENTATION BASIN

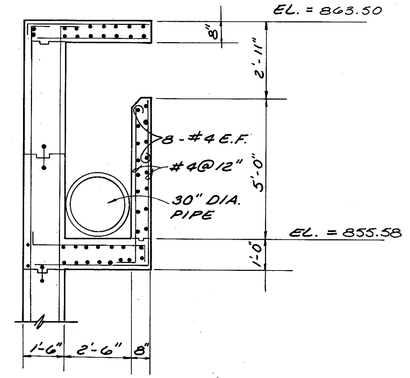
I. LIVE LOAD . . . . . ,100 PSF

II. FOUNDATIONS
- A. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 3000 PSF.
- B. FOOTING EXCAVATIONS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE REQUIRED BEARING PRESSURE IS AVAILABLE. IF ANY PORTION OF THE FOOTING IS FOUND TO OCCUR IN AN UNSTABLE OR UNSUITABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.

III. MATERIALS
- A. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 4000 PSI.
- B. ALL BAR REINFORCING STEEL IN CONCRETE SHALL BE GRADE 40, MINIMUM.
- C. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
- D. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS SPECIFICATIONS UTILIZING E70XX ELECTRODES.
- E. ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

IV. MISCELLANEOUS
- A. ALL LAP SPLICE LENGTHS NOT SHOWN ON THE PLANS SHALL BE CLASS "C", IN CONFORMANCE WITH ACI 318-77.
- B. CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND NUMBER OF OPENINGS, SLEEVES, CONDUITS, EMBEDDED ITEMS, PIPES, ETC., BEFORE POURING CONCRETE OR STARTING WALL CONSTRUCTION.
- C. UNLESS SHOWN ON THE PLANS, THE LOCATION OF CONSTRUCTION JOINTS ARE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.

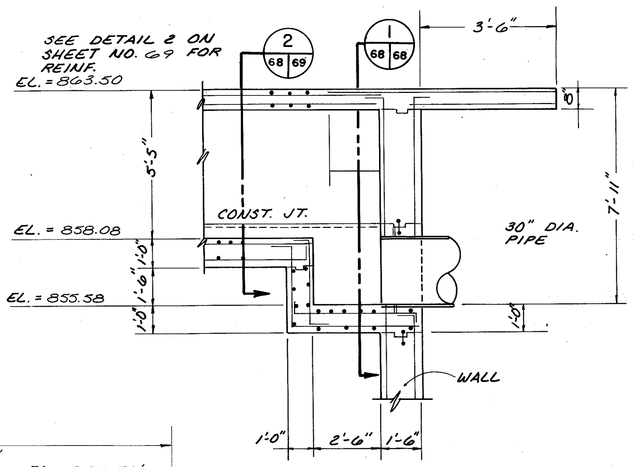
NOTE: FOR REINF. SHOWN BUT NOT CALLED OUT, SEE DETAIL 2 ON SHEET NO. 69.



DETAIL

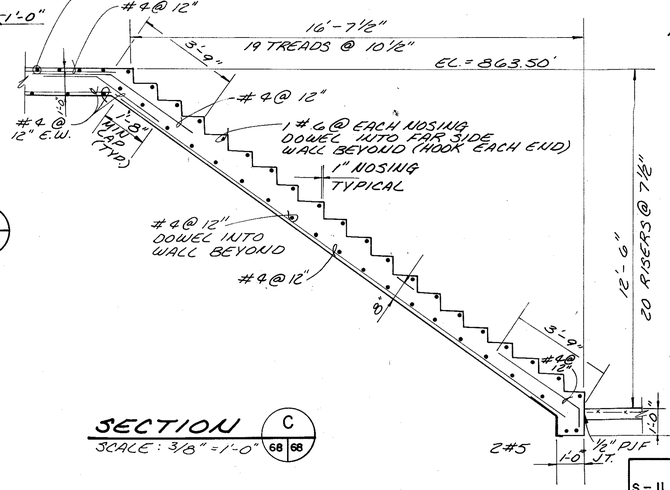
SCALE: 3/8" = 1'-0" — I 68|68

SEE DETAIL 2 ON SHEET NO. 69 FOR REINF.



SECTION

SCALE: 3/8" = 1'-0" — B 68|68



SECTION

SCALE: 3/8" = 1'-0" — C 68|68

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS

TOP PLAN & SECTIONS

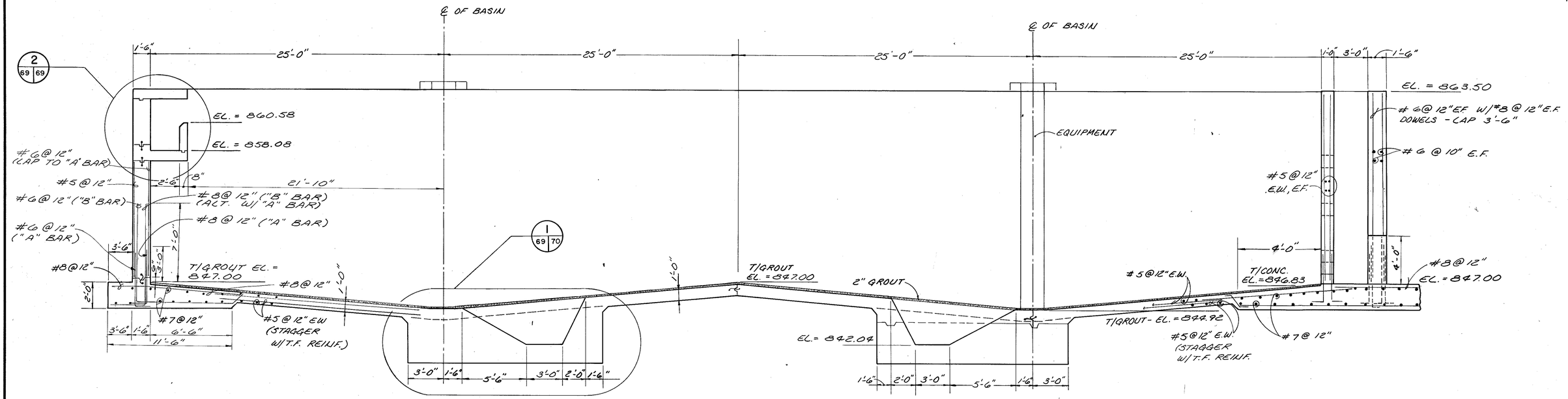
S-11

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	68 OF 105

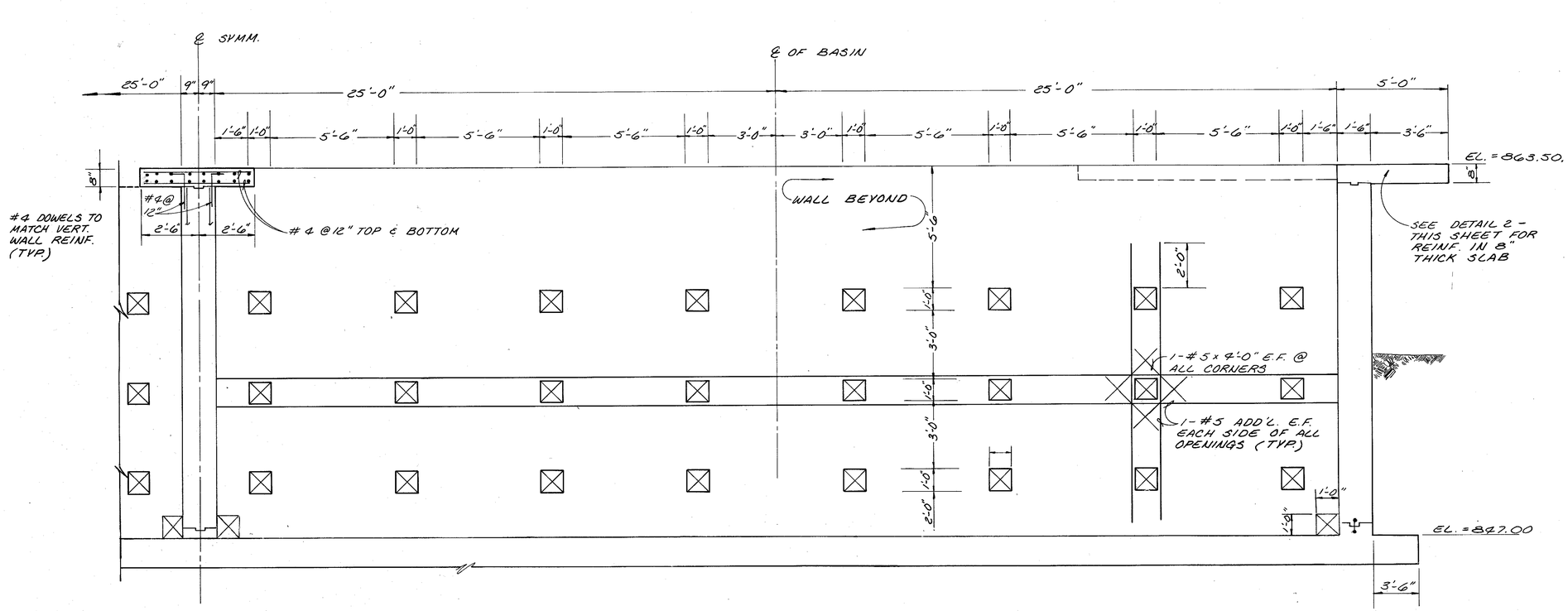
AF 8318



SECTION

SCALE: 1/4" = 1'-0"

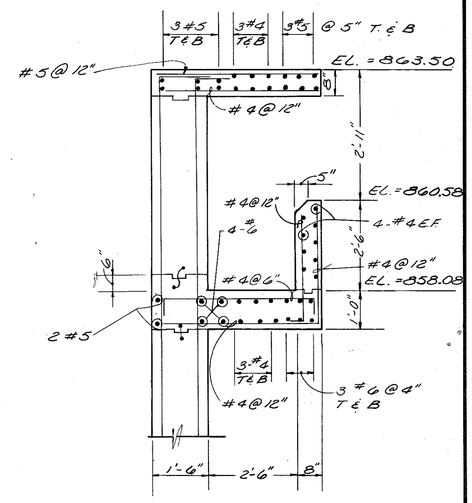
A 67 68 69



ELEVATION — BAFFLE WALL

SCALE: 3/8" = 1'-0"

I 67 68 69



DETAIL

SCALE: 1/2" = 1'-0"

2 68 69 69

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS
ELEVATIONS & SECTIONS

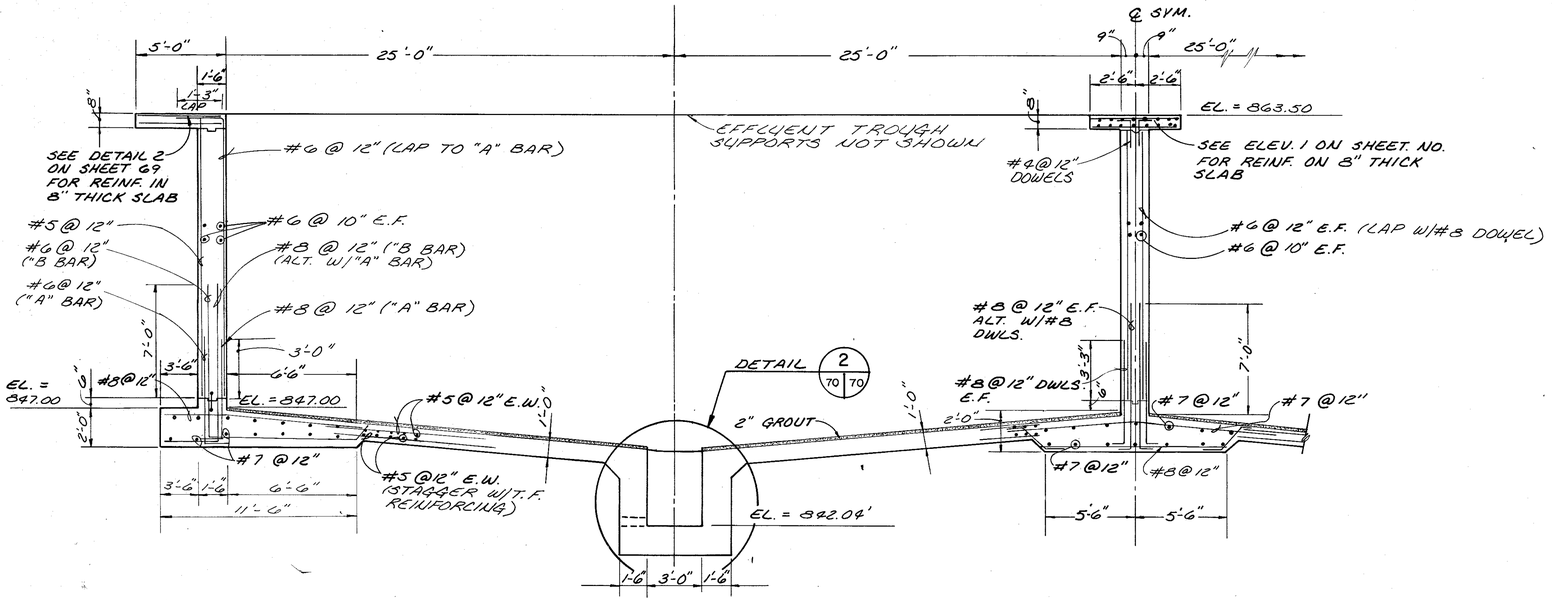
S-12

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

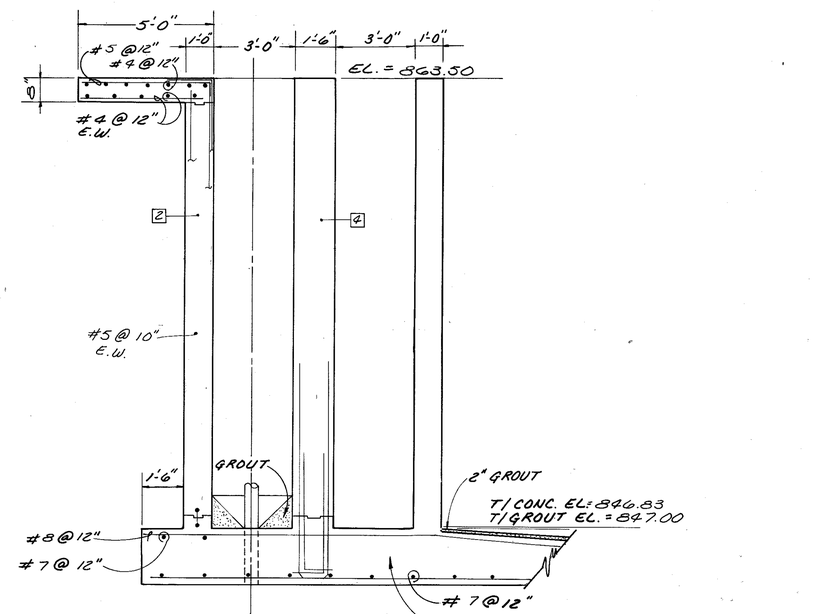
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN DP	SCALE AS NOTED
DRAWN LED	DATE 6/18/84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 69 OF 105

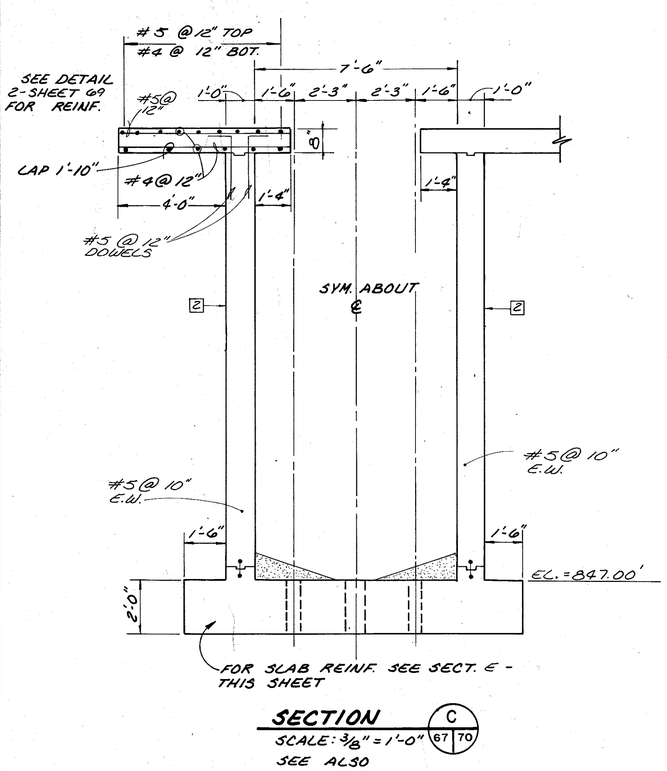
AF 8318



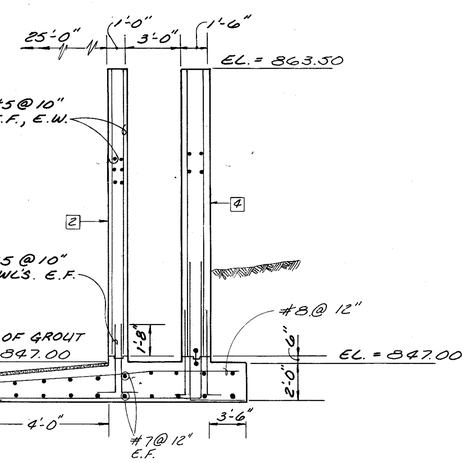
SECTION F (67|68|70)
SCALE: 1/4" = 1'-0"
SEE ALSO



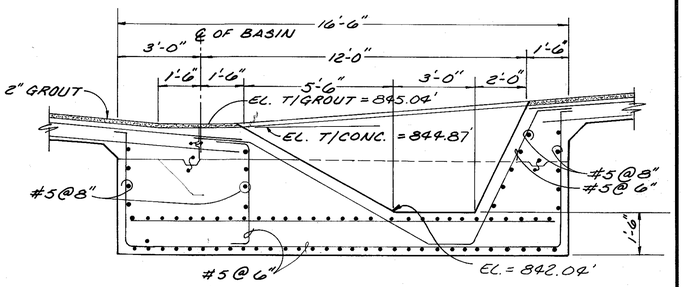
SECTION E (67|70)
SCALE: 3/16" = 1'-0"
SEE ALSO



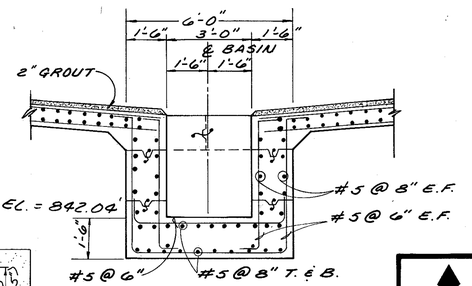
SECTION C (67|70)
SCALE: 3/16" = 1'-0"
SEE ALSO



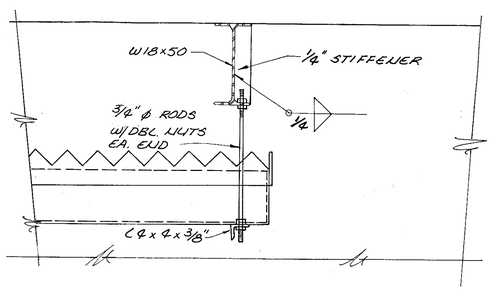
SECTION D (67|70)
SCALE: 1/4" = 1'-0"
SEE ALSO SHEET 66



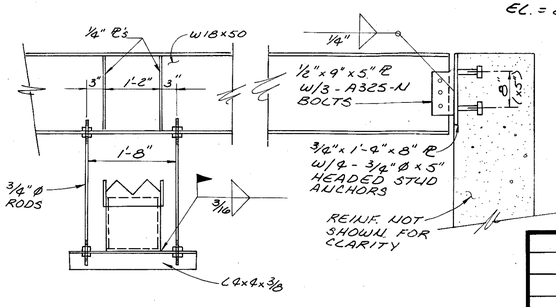
DETAIL 1 (69|70)
SCALE: 3/16" = 1'-0"



DETAIL 2 (70|70)
SCALE: 3/16" = 1'-0"



SECTION K (17|70)
SCALE: 3/4" = 1'-0"



SECTION J (17|70)
SCALE: 3/4" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

S-13

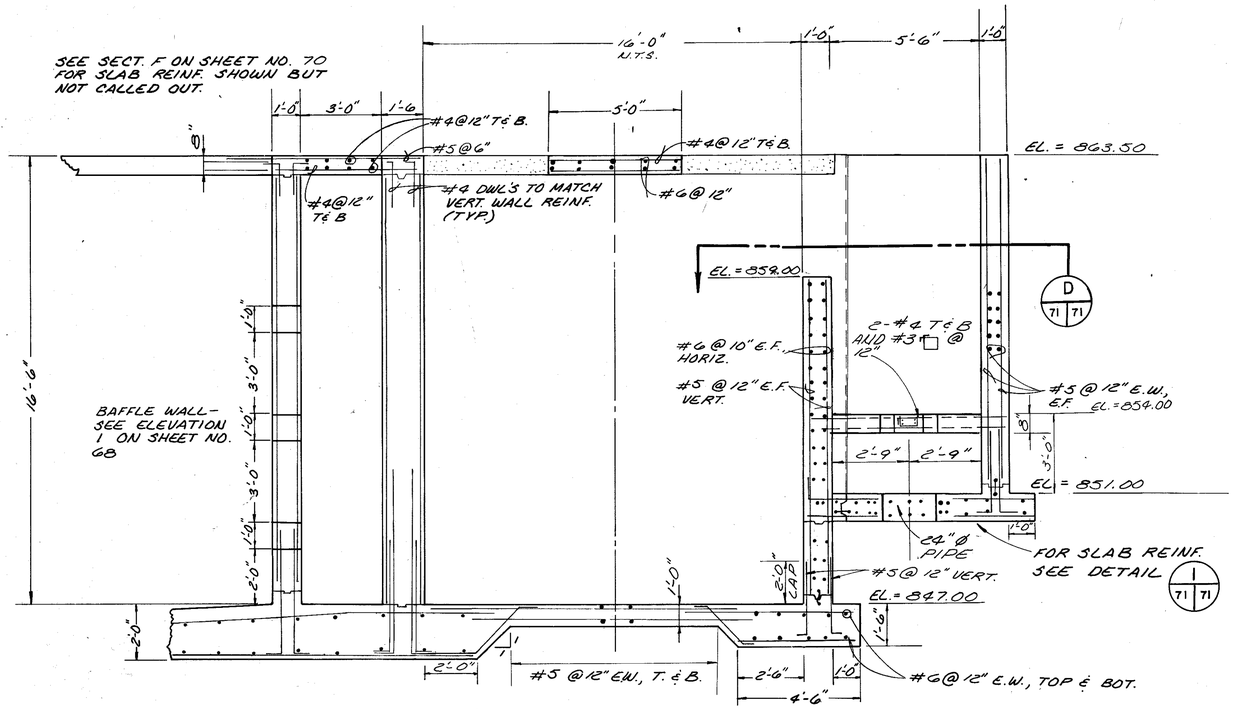
RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS
SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	70 OF 105

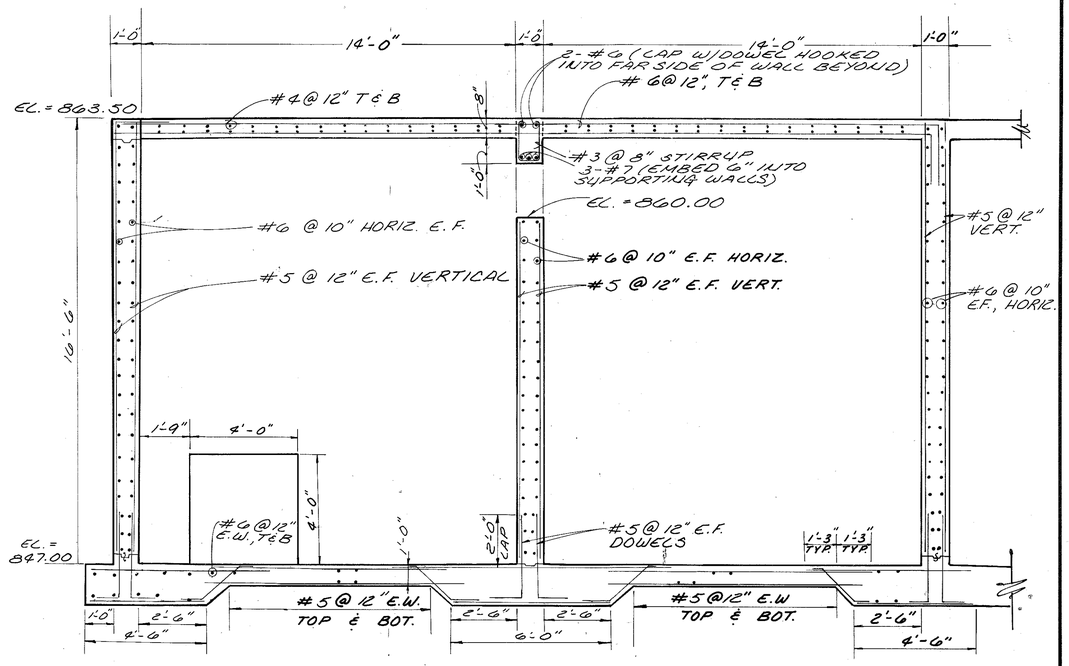
AF 8318



SECTION

SCALE: 3/8" = 1'-0"

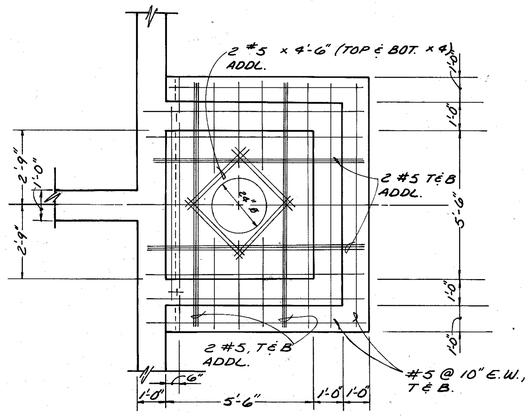
B
67 71



SECTION

SCALE: 3/8" = 1'-0"

E
68 71

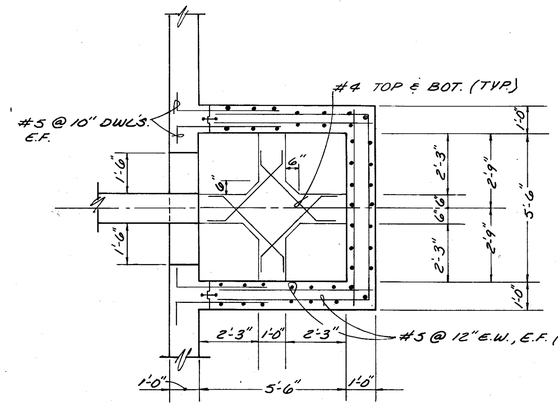


WALL REINF. NOT SHOWN FOR CLARITY. (SEE SECTION D THIS SHEET.)

DETAIL

SCALE: 3/8" = 1'-0"

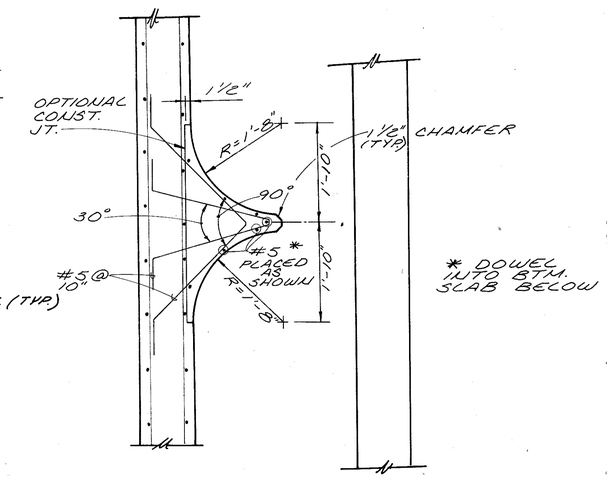
1
71 71



SECTION

SCALE: 3/8" = 1'-0"

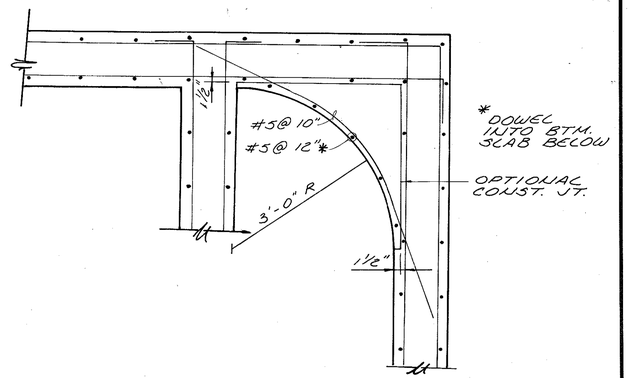
D
71 71



DETAIL

N.T.S.

1
18 71



DETAIL

N.T.S.

2
18 71

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

S-14

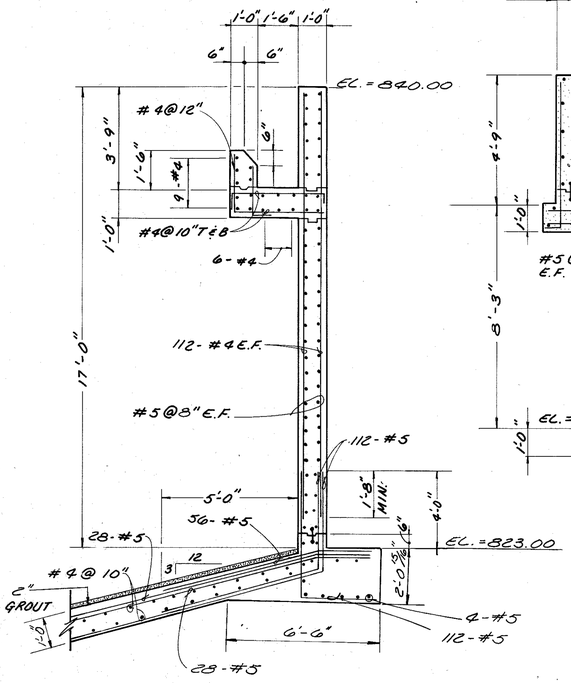
RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS
SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

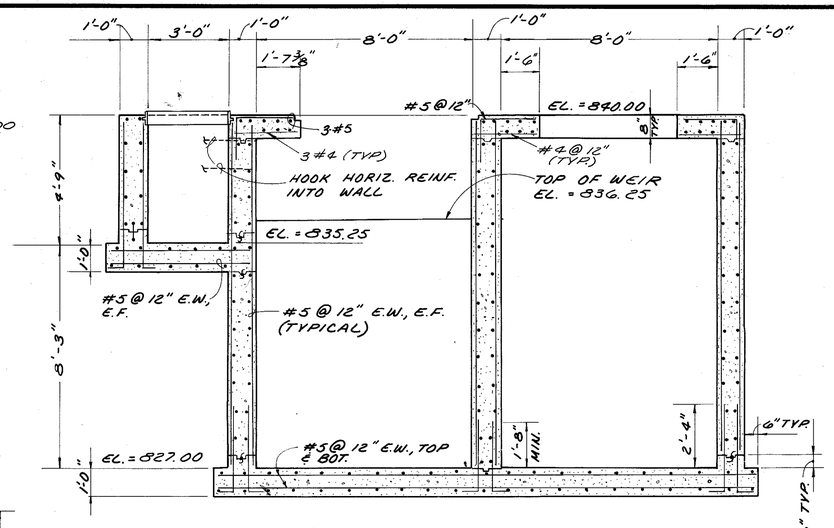
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	71 OF 105

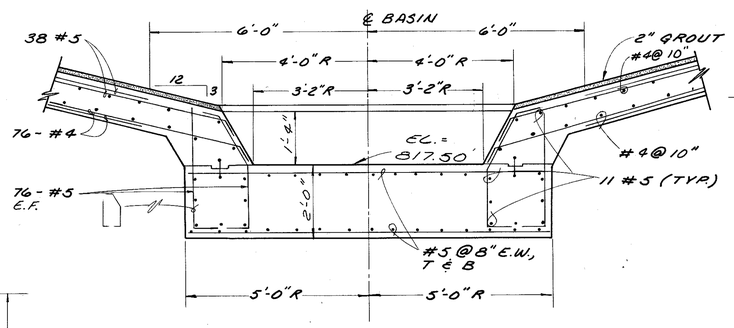
AF 8318



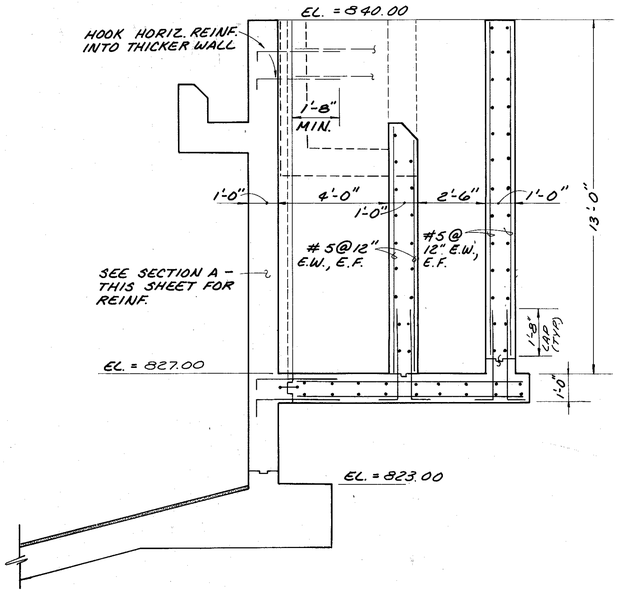
SECTION
SCALE: 3/8" = 1'-0" (A 72|72)



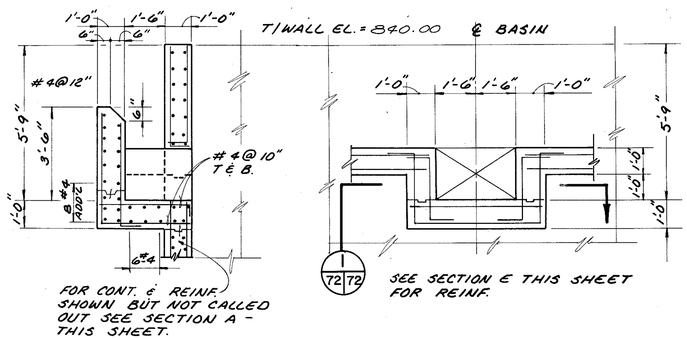
SECTION
SCALE: 3/8" = 1'-0" (B 72|72)



SECTION
SCALE: 1/2" = 1'-0" (D 72|72)

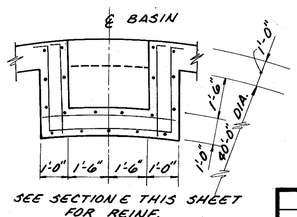


SECTION
SCALE: 3/8" = 1'-0" (C 72|72)



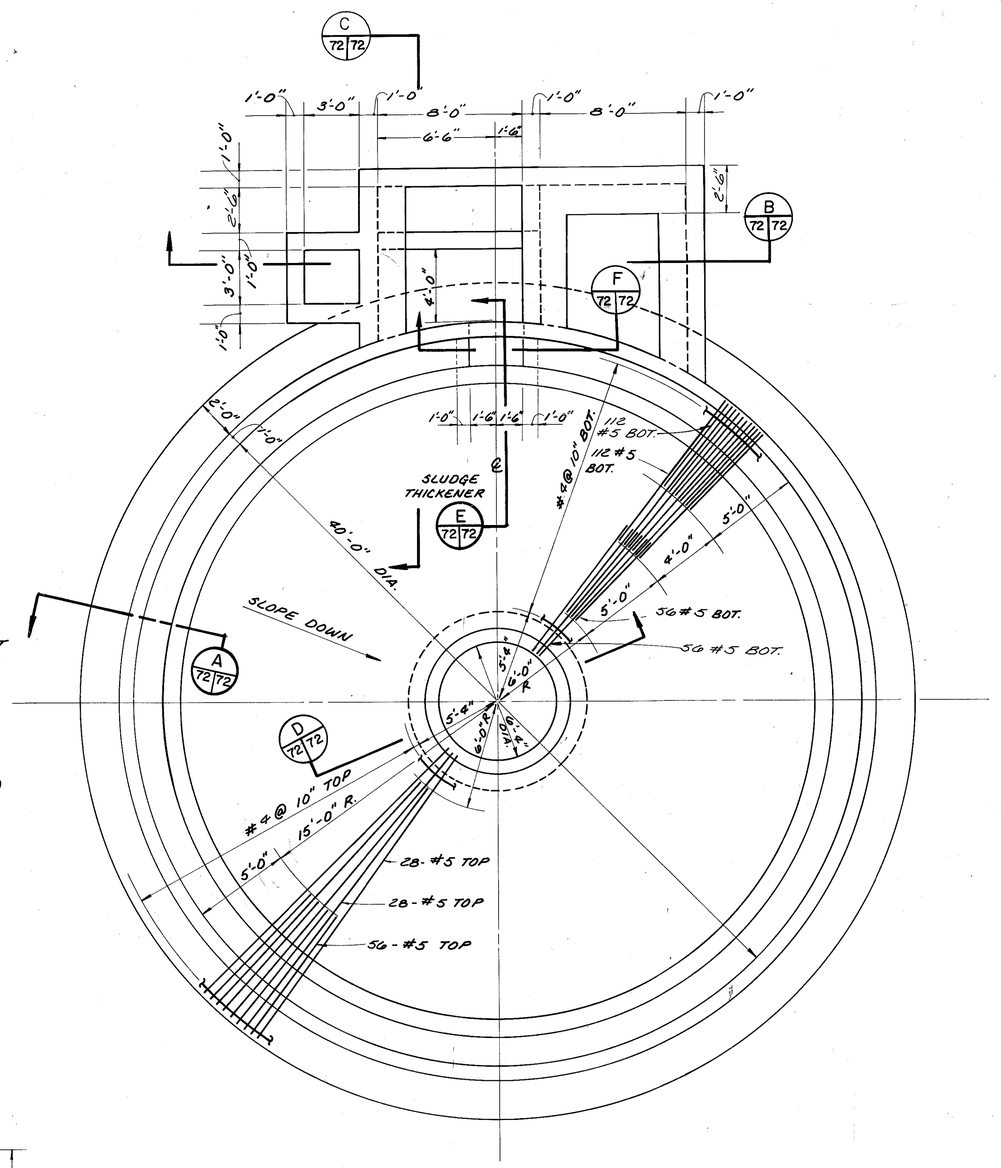
SECTION
SCALE: 3/8" = 1'-0" (E 72|72)

SECTION
SCALE: 3/8" = 1'-0" (F 72|72)



SEE SECTION E THIS SHEET FOR REINF.

DETAIL
SCALE: 3/8" = 1'-0" (I 72|72)



NOTE: SEE SHT. NO. 68 FOR GENERAL NOTES AND TYPICAL DETAILS

PLAN VIEW OF SLUDGE THICKENER BASIN
SCALE: 1/4" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

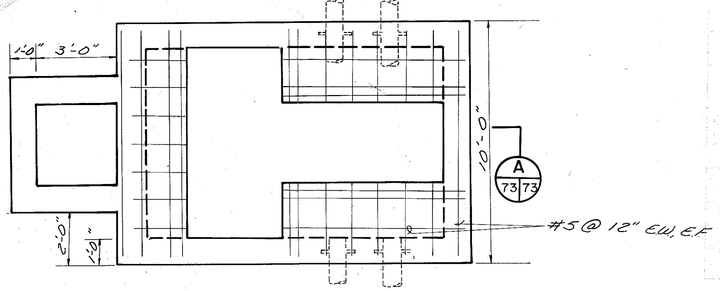
SLUDGE THICKENER
PLAN & SECTIONS

S-15

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

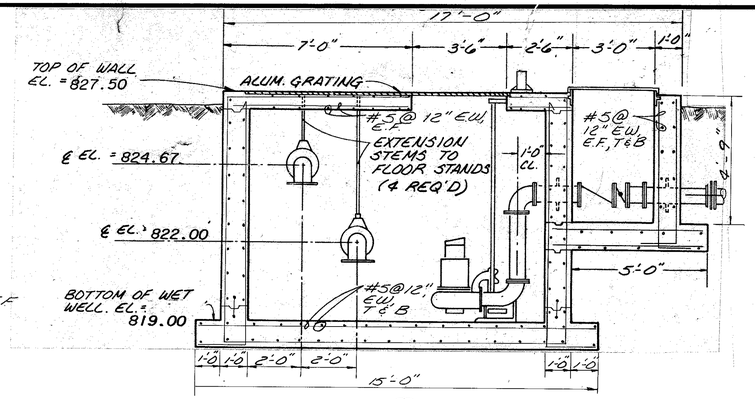
DESIGN	DP
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	72 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

AF 8318



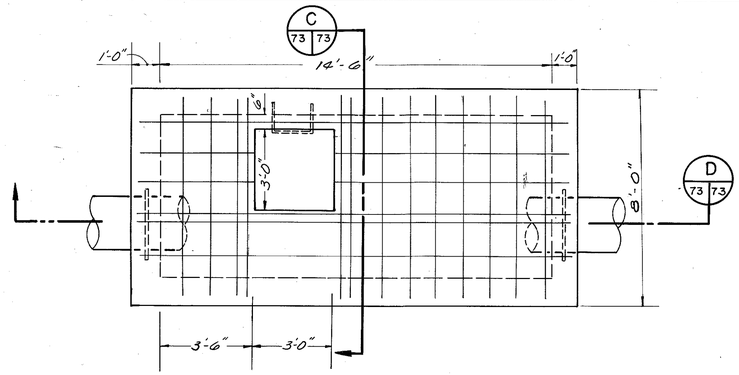
PLAN VIEW - LAGOON PUMP STATION

SCALE: 3/8" = 1'-0"



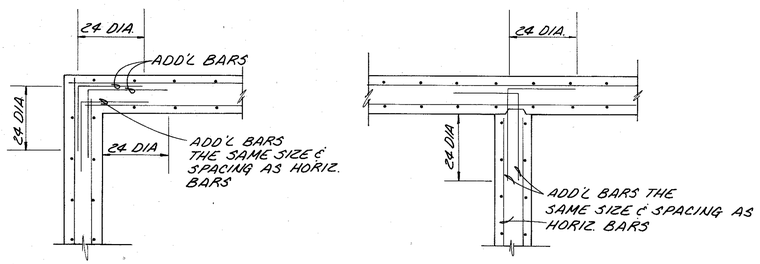
SECTION A 73 73

SCALE: 3/8" = 1'-0"



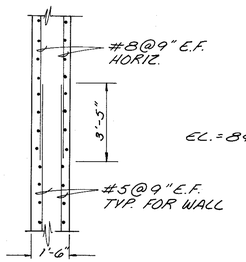
PLAN VIEW - RAW WATER VENTURI AND CHEMICAL DOSAGE PIT

SCALE: 3/8" = 1'-0"



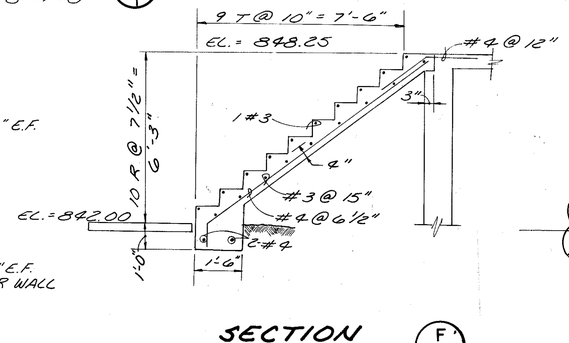
TYPICAL WALL REINFORCING DETAILS

NOT TO SCALE

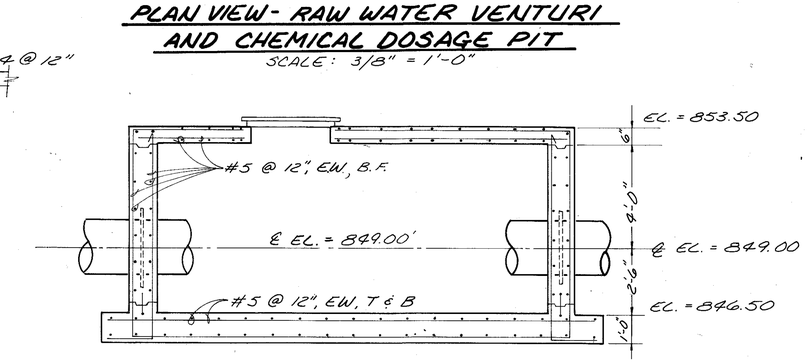


DETAIL I 67 73

NOT TO SCALE

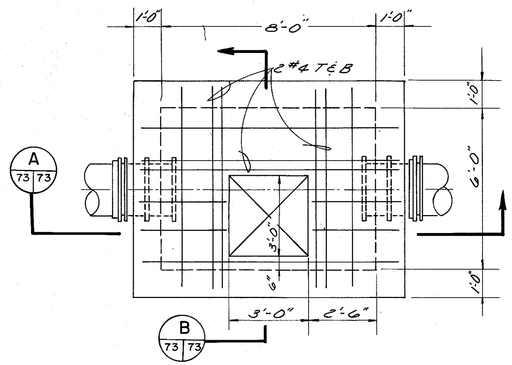


SECTION F 73 73



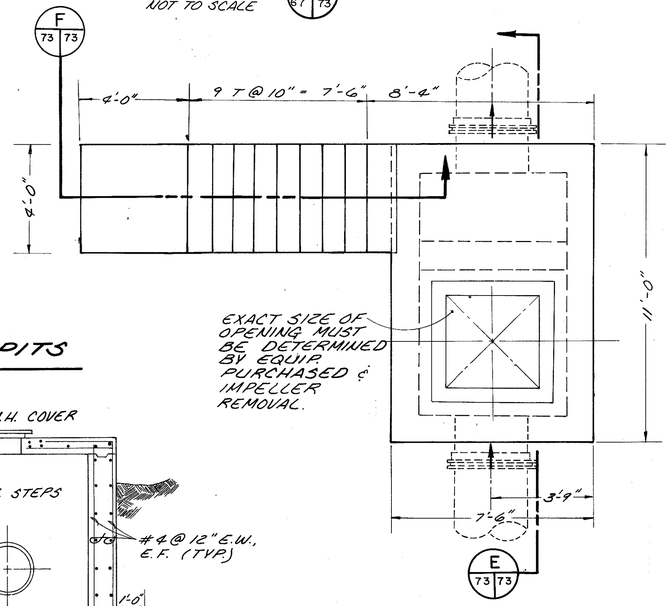
SECTION D 73 73

SCALE: 3/8" = 1'-0"



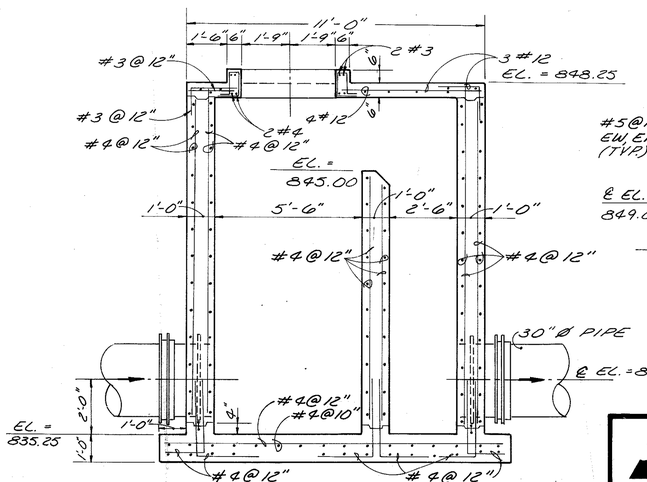
PLAN VIEW - BACKWASH & FINISHED WATER PITS

SCALE: 3/8" = 1'-0"



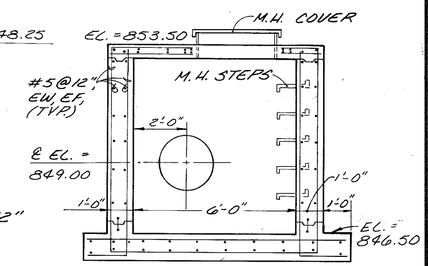
PLAN VIEW - FLASHMIX TANK AND STAIRS

SCALE: 3/8" = 1'-0"



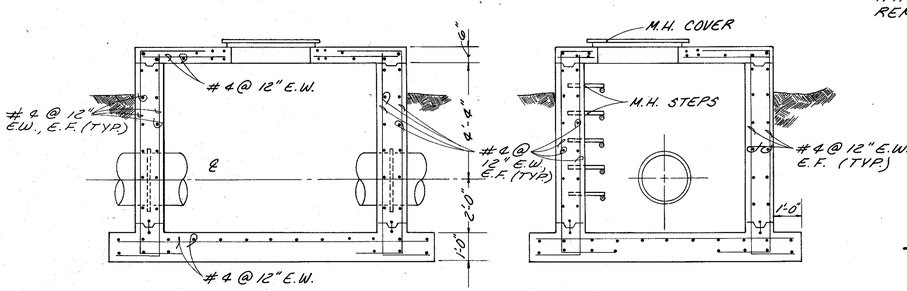
SECTION E 73 73

SCALE: 3/8" = 1'-0"



SECTION C 73 73

SCALE: 3/8" = 1'-0"



SECTION A 73 73

SCALE: 3/8" = 1'-0"

SECTION B 73 73

SCALE: 3/8" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

S-16

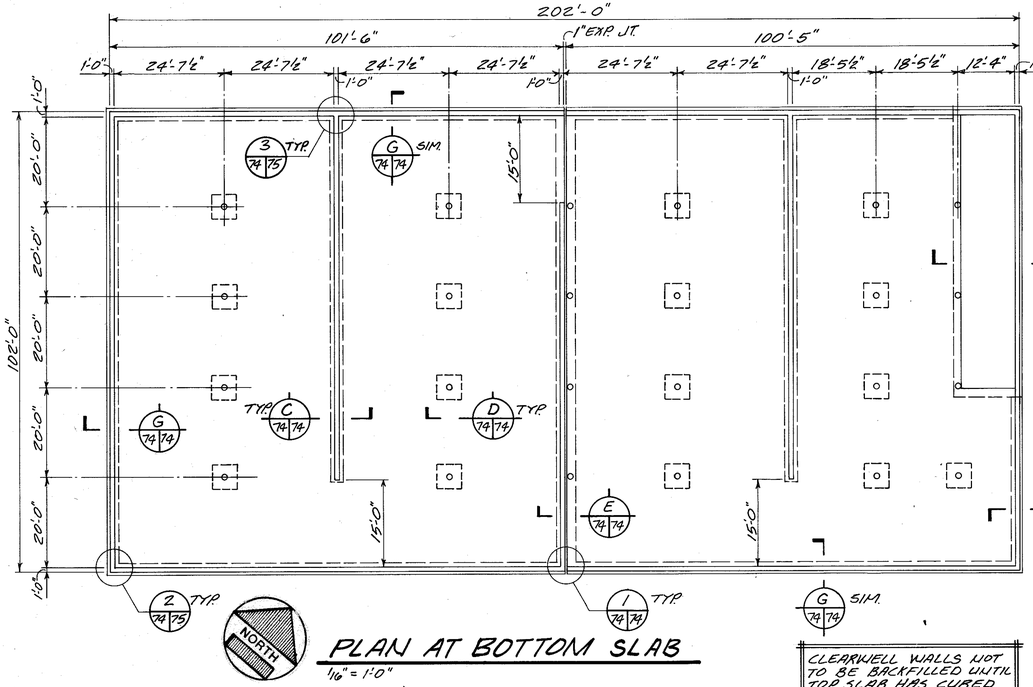
FLASH MIX LAGOON PUMP STATION & MISCELLANEOUS PITS
PLAN, SECTIONS & DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	6/15/85	ELEVATIONS-SEC. A	SB	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN: DP
DRAWN: LED
CHECK: MFL
APPROVED: JEM
SCALE: AS NOTED
DATE: 6/18/84
FILE NO.: 83175-1
SHEET NO.: 73 OF 105

KF 33506A



PLAN AT BOTTOM SLAB

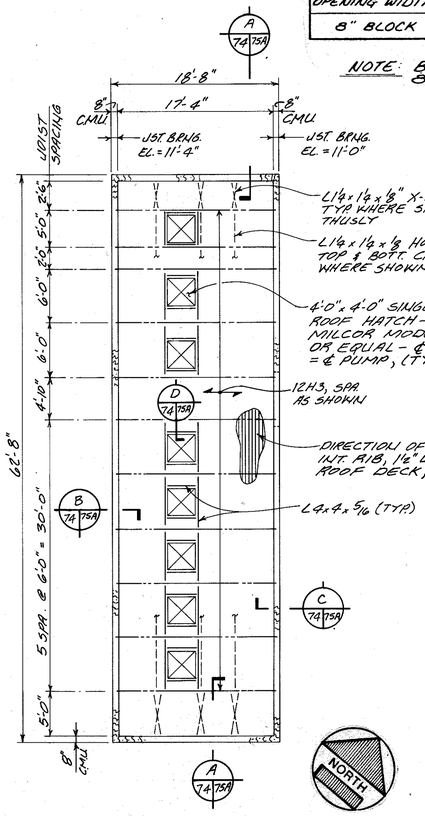
1/16" = 1'-0"

CLEARWELL WALLS NOT TO BE BACKFILLED UNTIL TOP SLAB HAS CURED FOR 7 DAYS

CONCRETE U-BLOCK LINTEL SCHEDULE		
OPENING WIDTH	UP TO 4'-0"	UP TO 6'-0"
8" BLOCK	2-#3	2-#4

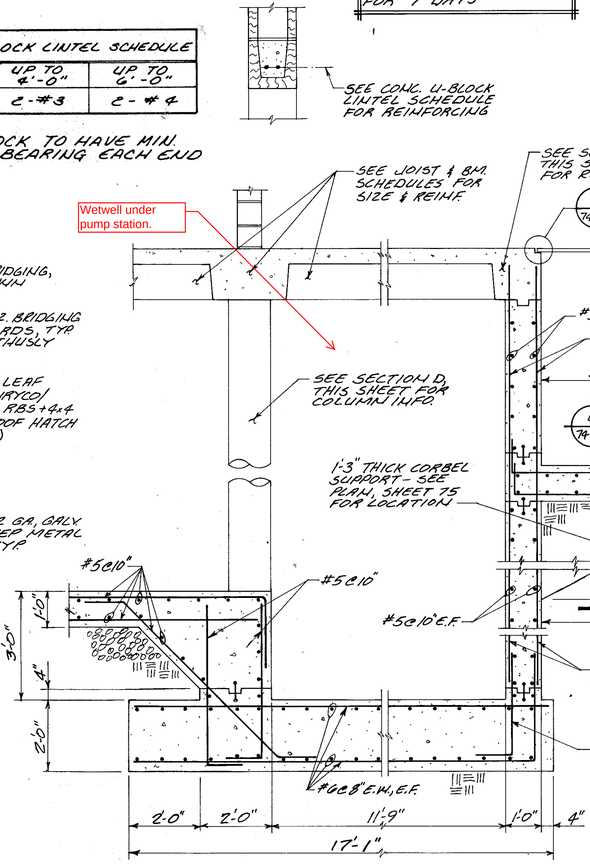
NOTE: BLOCK TO HAVE MIN. 8" BEARING EACH END

SEE CONC. U-BLOCK LINTEL SCHEDULE FOR REINFORCING



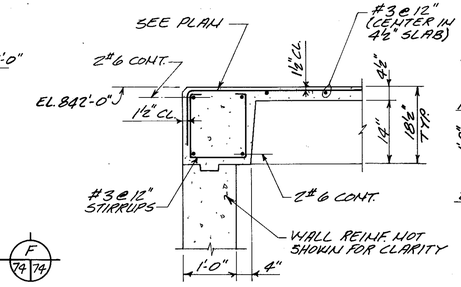
ROOF FRAMING PLAN - PUMP HOUSE

1/8" = 1'-0"



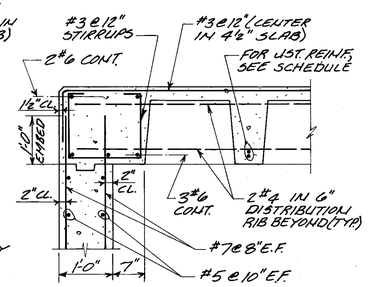
SECTION F

1/2" = 1'-0"



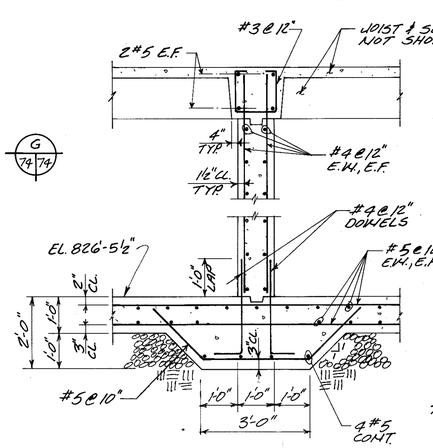
SECTION A

3/4" = 1'-0"



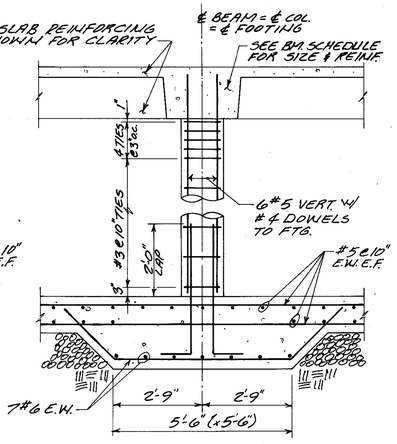
SECTION B

3/4" = 1'-0"



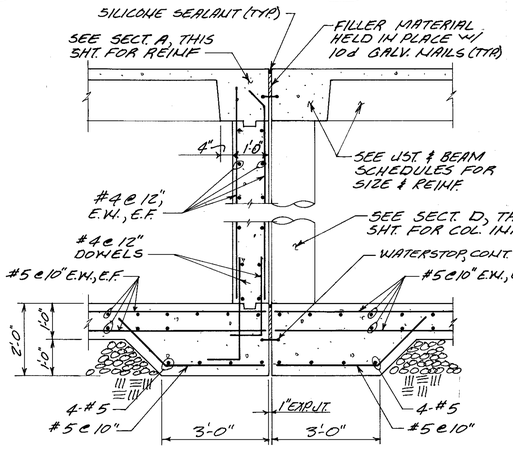
SECTION C

1/2" = 1'-0"



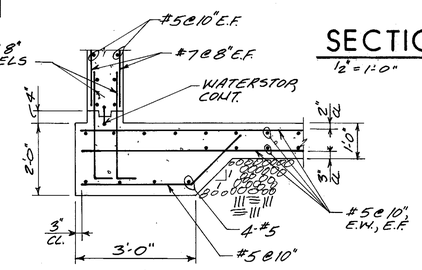
SECTION D

1/2" = 1'-0"



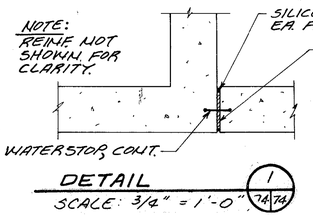
SECTION E

1/2" = 1'-0"



SECTION G

1/2" = 1'-0"



DETAIL

SCALE: 3/4" = 1'-0"

GENERAL NOTES - CLEARWELL AND FINISHED WATER PUMP STATION

I. DESIGN
- A. "STANDARD BUILDING CODE", 1982 EDITION.
- B. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-77).
- C. "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (AISC; NOV. 1, 1978) WITH CURRENT COMMENTARY.

II. DESIGN LOADS
- A. LIVE LOAD
  1. FINISHED WATER PUMP STATION FLOOR.....250 PSF
  2. FINISHED WATER PUMP STATION ROOF..... 20 PSF
  3. CLEARWELL ROOF..... 20 PSF
- B. WIND LOAD (BASIC WIND SPEED = 100MPH)..... 20 PSF

III. FOUNDATIONS
- A. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 3,000 PSF.
- B. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE REQUIRED BEARING CAPACITY IS AVAILABLE. IF ANY PORTION OF THE FOOTING IS FOUND TO OCCUR IN AN UNSUITABLE OR UNSTABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.

IV. MATERIALS
- A. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 4,000 psi.
- B. BAR REINFORCING STEEL
  1. ALL BAR REINFORCING STEEL IN CONCRETE SHALL CONFORM TO ASTM A615, GRADE 60.
- C. STRUCTURAL STEEL
  1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
  2. ALL WELDING SHALL BE AS PER AWS SPECIFICATIONS, UTILIZING E70XX ELECTRODES.
- D. MASONRY
  1. HOLLOW UNITS.....f'm = 1,350 psi
  2. SOLID UNITS.....f'm = 1,500 psi
  3. MORTAR.....TYPE S
- E. GROUT FOR MASONRY SHALL BE FINE GROUT CONFORMING TO ASTM C476.
- F. BAR JOISTS SHALL CONFORM TO SJI SPECIFICATIONS.
- G. METAL ROOF DECK SHALL CONFORM TO SDI SPECIFICATIONS.

V. MISCELLANEOUS
- A. ALL LAP SPLICE LENGTHS NOT SHOWN ON THE PLANS SHALL BE CLASS 'B' IN CONFORMANCE WITH ACI 318-77.
- B. CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND NUMBER OF OPENINGS, SLEEVES, PIPES, CONDUITS, EMBEDDED ITEMS, ETC., BEFORE POURING CONCRETE.
- C. UNLESS OTHERWISE SHOWN ON THE PLANS, MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

  FOOTINGS (CAST AGAINST EARTH).....3"
  WALLS.....2"
- D. THE STRUCTURAL DESIGN OF THE BUILDING AND CLEARWELL IS BASED UPON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISION MADE FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THEREFORE, THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING DURING CONSTRUCTION.
- E. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF MECHANICAL UNITS, ELECTRICAL FIXTURES, MECHANICAL DUCTS, CEILING HANGER ASSEMBLIES, PLUMBING EQUIPMENT, ETC., WITH ALL TRADES AFFECTED AND EQUIPMENT PURCHASED BEFORE PROCEEDING WITH STRUCTURAL WORK. THE CONTRACTOR SHALL FURNISH AND INSTALL SUBFRAMING FOR EQUIPMENT SUPPORTS WITHOUT EXTRA COST TO THE OWNER. MODIFICATIONS OR CHANGES AS A RESULT OF THIS COORDINATION SHALL BE CLEARLY DETAILED, NOTED AND SUBMITTED ON SHOP DRAWINGS.
- F. STEEL ROOF DECKING
  1. STEEL ROOF DECKING SHALL BE CONTINUOUS OVER 3 OR MORE SUPPORTS WHEREVER POSSIBLE.
  2. FASTENING OF DECK UNITS TO SUPPORTS SHALL BE MADE BY 3/4 INCH DIAMETER PUDDLE WELDS WITH A MAXIMUM SPACING AS FOLLOWS:
     - a.) END LAPS, ENDS TERMINATING AT SUPPORTS AND AT DECK CONTINUOUS OVER SUPPORTS - 12 INCHES ON CENTER MAXIMUM SPACING.
     - b.) SIDE WELDS AT SUPPORTS, 1/3 OF DECK SPAN.
     - c.) SIDE SEAMS SHALL BE SCREW FASTENED WITH NO. 12 SHEET METAL SCREWS AT 24 INCHES ON CENTER.

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404/432-5634

WATER SYSTEM IMPROVEMENTS for FAYETTE COUNTY, GEORGIA

S-17 C CLEARWELL & FINISHED WATER PUMP STATION
PLAN @ BOTTOM SLAB & ROOF FRAMING PLAN @ PUMP STATION

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

DESIGN	CL
DRAWN	ML
CHECK	JDH
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	74 OF 105

KF 33506A

ROOF FRAMING PLAN - CLEARWELL

1/8" = 1'-0"

NORTH

NOTE: #3 @ 12" TEMP. REINF. (CENTER IN 4½" SLAB)

EQUIPMENT PAD - SEE DETAIL THIS SHEET (TYP.)

1:3" WIDE CORBEL SUPPORT BELOW. SEE SECTION F, SHEET 74 FOR DETAILS.

CONTINUOUS WATERSTOP IN KEYWAY

CLASS B LAP

NOTE: C.J. IN BOTT. SLAB IS IDENTICAL.

PLAN VIEW

DETAIL - TYP. CONSTR. JT.

SCALE: 3/4" = 1'-0"

(4 / 75 / 75)

#7 @ 8" VERT.

#4 @ 12" DOWELS

#5 @ 10" HORIZ.

1'-0" LAP

#4 @ 12", E.W., E.F.

DETAIL

SCALE: 3/4" = 1'-0"

(3 / 74 / 75)

#7 @ 8" VERT.

#5 @ 10"

#5 @ 10" CONT.

DETAIL

SCALE: 3/4" = 1'-0"

(2 / 74 / 75)

1" x 1" BAR, CONT.

3/16

STEEL GRATING 1" x 3/16" BRNG. BARS @ 1 3/16" O.C. W/ CROSS BARS @ 4"

L 3 x 3 x 1/4, CONT. W/ ½" Ø x 4" HEADED STUDS @ 2'-0" O.C.

DETAIL

SCALE: 3" = 1'-0"

(1 / 74 / 75)

COORDINATE SIZE OF BEAM PENETRATION W/ EQUIPMENT

COORDINATE SIZE W/ EQUIP.

#4 @ 12", E.W.

CHAMFER ¾" ALL AROUND

AS REQ'D.

CONTR. TO COORDINATE BOLT SIZE & LOCN. W/ EQUIP. USED

NOTE: BEAM & SLAB STEEL NOT SHOWN FOR CLARITY.

DETAIL - EQUIPMENT PAD

N.T.S.

5" CURB (TYP. 4 SIDES)

SEE PROCESS DWGS. FOR OPN'G. COVER & FRAME

#4, CONT. (TYP.)

¾" CHAMFER, 2 SIDES OF OPENING.

REINF. SIM. TO B-74

3'-0" (x 3'-0")

#4 @ 12" (TYP.)

WALL & BEAM REINF. NOT SHOWN FOR CLARITY.

SECTION

SCALE: ¾" = 1'-0"

(A / 75 / 75)

4 #9, HOOK INTO WALL BEYOND

SEE SECTION F, SHEET 74 FOR SLAB REINF.

#5 @ 12" E.F.

#4 @ 8" STIRRUPS

3 #4

VARIES 5'-4" MAX.

1'-3"

SECTION

SCALE: ¾" = 1'-0"

(B / 74 / 75)

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404 / 432-5634

WATER SYSTEM IMPROVEMENTS for FAYETTE COUNTY, GEORGIA

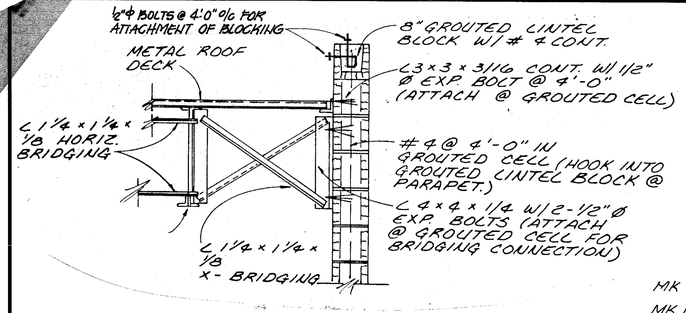
S-18

CLEARWELL & FINISHED WATER PUMP STATION FRAMING PLAN

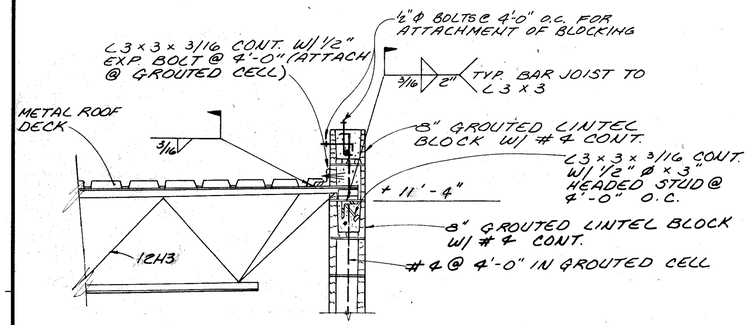
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

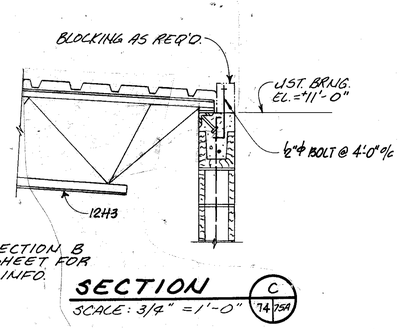
DESIGN CL | SCALE AS NOTED
DRAWN ML | DATE 6/18/84
CHECK JDH | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 75 OF 105



SECTION A
SCALE: " = 1'-0" (74/75A)

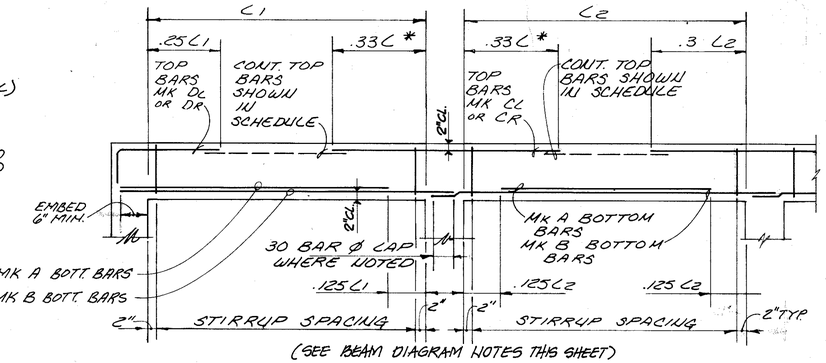


SECTION B
SCALE: " = 1'-0" (74/75A)



NOTE:
SEE SECTION B THIS SHEET FOR ADDL. INFO.

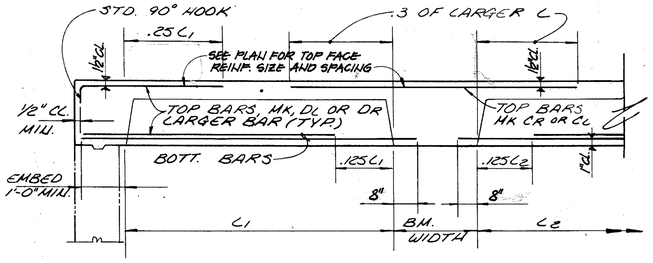
SECTION C
SCALE: 3/4" = 1'-0" (74/75A)



(SEE BEAM DIAGRAM NOTES THIS SHEET)

END SPAN INTERIOR SPAN

TYPICAL BEAM DIAGRAM
NOT TO SCALE



NOTE: BAR LENGTH SHALL BE DETERMINED AS SHOWN ABOVE UNLESS NOTED OR SHOWN OTHERWISE. CENTER 'C_L' OR 'C_R' OVER SUPPORT UNLESS NOTED OR SHOWN OTHERWISE. BARS SHOWN WITH SUFFIX 'L' OR 'R' (L_L, C_R, D_L, D_R) INDICATE BARS AT THE LEFT SUPPORT OR RIGHT SUPPORT AS FRAMING PLAN IS FACED FROM BOTTOM SIDE OR RIGHT SIDE OF SHEET. JOISTS ON OPPOSITE SIDES OF BEAMS SHALL ALIGN, UNLESS OTHERWISE NOTED OR SHOWN. NO SLEEVES, HOLES, JUNCTION BOXES ETC., SHALL BE PLACED IN JOIST EXCEPT AS NOTED ON STRUCTURAL ENG. DWGS.

TYPICAL JOIST BAR DETAIL
NOT TO SCALE

JOIST SCHEDULE

MARK	BIB (POSITIVE) REINFORCING
J1	2-#5
J2	2-#5
J3	2-#5
J4	1-#5 & 1-#4
J5	1-#5 & 1-#4
J6	1-#5 & 1-#4
J7	1-#5 & 1-#4
J8	2-#5
J9	1-#5 & 1-#4
J10	1-#5 & 1-#4
J11	1-#5 & 1-#4

NOTE: ALL JOISTS ARE 6"x18½"

BEAM DIAGRAM NOTES:

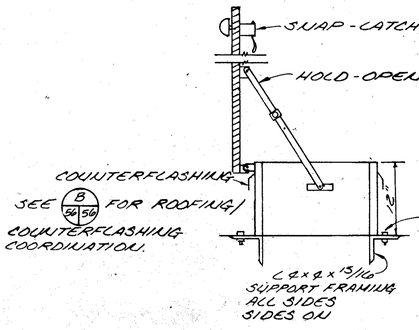
BAR LENGTHS SHALL BE DETERMINED AS SHOWN ABOVE UNLESS NOTED OTHERWISE IN SCHEDULE.

BARS SHOWN IN 2 LAYERS FOR CLARITY ONLY.

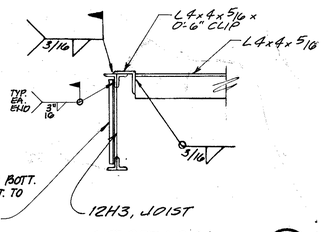
BARS SHOWN WITH SUFFIX "L" & "R" (CL, CR, DL, DR) INDICATE BARS AT THE LEFT SUPPORT AND RIGHT SUPPORT AS FRAMING PLAN IS FACED FROM BOTTOM SIDE OF SHEET OR RIGHT SIDE OF SHEET. WHERE CONT. TOP BARS ARE CALLED FOR IN SCHEDULE, LAP 24 ϕ'S WITH "C" OR "D" BARS EACH END. WHERE NO "C" OR "D" BARS OCCUR, LAP 24 ϕ'S AT C/L OF SPAN.

BEAM SCHEDULE

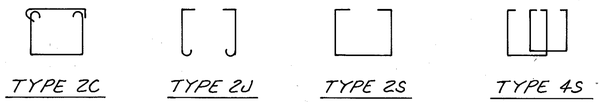
MARK	WIDTH x DEPTH	MK A & MK B	MK DL OR MK DR	MK CL OR MK CR	CONT. TOP BARS	STIRRUPS NUMBER, SIZE, SPACING, (TYPE)	REMARKS
B1	14"x18½"	2-#6B	—	—	2-#4	FROM LT.-3#3@12" (TYPE 2S) FROM RT.-3#3@12" (TYPE 2S)	EXTEND CONT. TOP BARS TO LEFT SUPPORT & HOOK
B2			—	2-#4 C_L			
B3			—	2-#4 C_L			EXTEND CONT. TOP BARS TO RIGHT SUPPORT & HOOK
B4			—	2-#4 C_L			
B5			—	2-#4 C_L 2-#4 C_R			
B6			—	2-#4 C_L			
B7	14"x18½"	2-#6B	—	2-#4 C_L		FROM LT.-3#3@12" (TYPE 2S) FROM RT.-3#3@12" (TYPE 2S)	EXTEND CONT. TOP BARS TO RIGHT SUPPORT & HOOK
B8	24"x18½"	2-#7A 2-#8B	3-#6 D_L	—		FROM LT.-10#3@8" (TYPE 2S) FROM RT.-12#3@8" (TYPE 2S)	
B9	24"x18½"	2-#6A 2-#6B	—	4-#8 C_L		FROM LT.-10#3@8" (TYPE 2S) FROM RT.-10#3@8" (TYPE 2S)	
B10	24"x18½"	2-#7A 2-#8B	3-#6 D_R	4-#8 C_L		FROM LT.-12#3@8" (TYPE 2S) FROM RT.-10#3@8" (TYPE 2S)	
B11	20"x18½"	2-#6A 2-#6B	3-#6 D_L	4-#6 C_R		FROM LT.-7#3@8" (TYPE 2S) FROM RT.-10#3@8" (TYPE 2S)	
B12	16"x18½"	2-#7B	2-#5 D_R	2-#6 C_L		FROM LT.-7#3@8" (TYPE 2C) FROM RT.-5#3@8" (TYPE 2C)	
B13		2-#7B	2-#6 D_L	—		FROM LT.-7#3@8" (TYPE 2C) FROM RT.-9#3@8" (TYPE 2C)	
B14		2-#6B	—	2-#7 C_L		FROM LT.-7#3@8" (TYPE 2C) FROM RT.-7#3@8" (TYPE 2C)	
B15	16"x18½"	2-#7B	2-#6 D_R	2-#7 C_L		FROM LT.-9#3@8" (TYPE 2C) FROM RT.-7#3@8" (TYPE 2C)	
B16	18"x18½"	1-#6A 2-#7B	2-#6 D_L	—		FROM LT.-9#3@8" (TYPE 2S) FROM RT.-11#3@8" (TYPE 2S)	
B17	18"x18½"	2-#7B	—	3-#7 C_L		FROM LT.-9#3@8" (TYPE 2S) FROM RT.-9#3@8" (TYPE 2S)	
B18	18"x18½"	1-#6A 2-#7B	2-#6 D_R	3-#7 C_L		FROM LT.-11#3@8" (TYPE 2S) FROM RT.-9#3@8" (TYPE 2S)	
B19	24"x18½"	1-#6A 2-#7B	3-#6 D_L	—	2-#4	FROM LT.-4#3@8" (TYPE 2S) FROM RT.-9#3@8" (TYPE 2S)	
B20		1-#6A 2-#7B	—	4-#8 C_L	4-#6	FROM LT.-9#3@8" (TYPE 2S) FROM RT.-9#3@8" (TYPE 2S)	
B21		2-#7A 2-#8B	—	4-#8 C_L	—	#3@8" THROUGHOUT (TYPE 2S)	EXTEND C_L FROM B22 & LAP 30ϕ AT MIDSPAN W/ 4-#8 C_L
B22		2-#7A 2-#8B	—	4-#8 C_L	4-#6	#3@8" THROUGHOUT (TYPE 2S)	
B23	24"x18½"	2-#8A 2-#8B	4-#6 D_R	4-#9 C_L	4-#4	#3@5" THROUGHOUT (TYPE 2S)	
B24	12"x18½"	2-#4B	—	—	2-#4	—	HOOK 2-#4 CONT. AT F.S. B25 AND AT F.S. WALL
B25	32"x18½"	4-#6B	—	—	4-#4	FROM LT.-3#3@12" (TYPE 4S) FROM RT.-3#3@12" (TYPE 4S)	HOOK 4-#4 CONT. AT F.S. B23 AND AT F.S. WALL
B26	60"x18½"	4-#7B	—	—	4-#5	FROM LT.-(4)-3#3@12" (TYPE 2J) FROM RT.-(4)-3#3@12" (TYPE 2J)	HOOK 4-#5 CONT. AT F.S. B27 AND B28
B27	42"x18½"		—	—		FROM LT.-4#3@8" (TYPE 4S) FROM RT.-4#3@8" (TYPE 4S)	HOOK 4-#5 CONT. AT F.S. B23 AND WALL
B28	40"x18½"		—	—			HOOK 4-#5 CONT. AT F.S. B22 AND WALL
B29	42"x18½"	4-#7B	—	4-#5		FROM LT.-4#3@8" (TYPE 4S) FROM RT.-4#3@8" (TYPE 4S)	HOOK 4-#5 CONT. AT F.S. B22 AND WALL
B30	40"x18½"	4-#9B	—	—	4-#6	#3@8" THROUGHOUT (TYPE 4S)	HOOK 4-#6 CONT. AT F.S. B22 AND WALL
B31	26"x18½"	4-#8B	—	—	4-#5	#3@8" THROUGHOUT (TYPE 4S)	HOOK 4-#5 CONT. AT F.S. B21 AND WALL
B32	47"x18½"	4-#7B	—	4-#5 C_L		FROM LT.-(4)-3#3@12" (TYPE 2J) FROM RT.-(4)-3#3@12" (TYPE 2J)	EXTEND C_L AND HOOK AT F.S. OF B29
B33	44"x18½"	4-#7B	—	—		FROM LT.-3#3@12" (TYPE 4S) FROM RT.-3#3@12" (TYPE 4S)	HOOK 4-#5 CONT. AT F.S. B20 AND WALL
B34	47"x18½"	4-#7B	—	—	4-#5	FROM LT.-(4)-9#3@8" (TYPE 2J) FROM RT.-(4)-9#3@8" (TYPE 2J)	HOOK 4-#6 CONT. AT F.S. B31



DETAIL - SINGLE LEAF ROOF HATCH



SECTION D
SCALE: 3/4" = 1'-0" (74/75A)



STIRRUP TYPES

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404/432-5634

WATER SYSTEM IMPROVEMENTS for FAYETTE COUNTY, GEORGIA

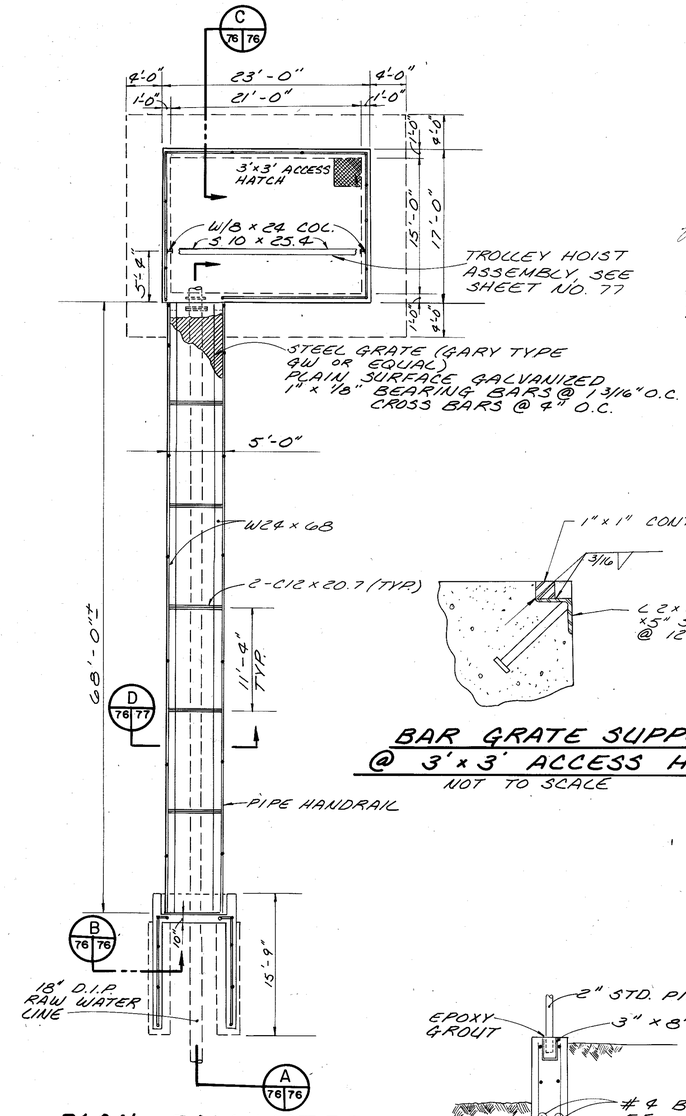
S-19 CLEARWELL & FINISHED WATER PUMP STATION SECTIONS, DETAILS & SCHEDULES

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

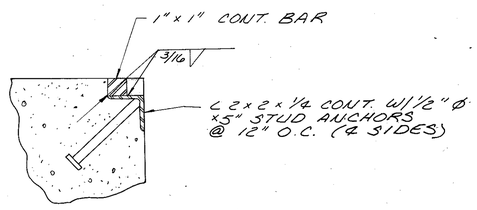
DESIGN CL | SCALE AS NOTED
DRAWN ML | DATE 6/18/84
CHECK JDH | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 75A OF 105

KF 33506A



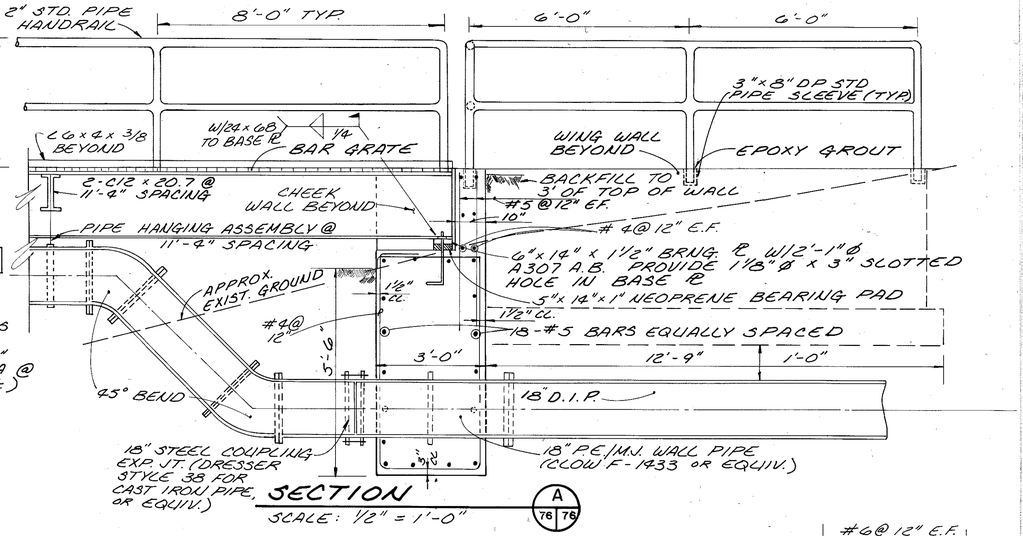
PLAN - RAW WATER INTAKE STRUCTURE

SCALE: 1/8" = 1'-0"



BAR GRATE SUPPORT @ 3'x3' ACCESS HATCH

NOT TO SCALE — I 74 76



SECTION

SCALE: 1/2" = 1'-0" — A 76 76

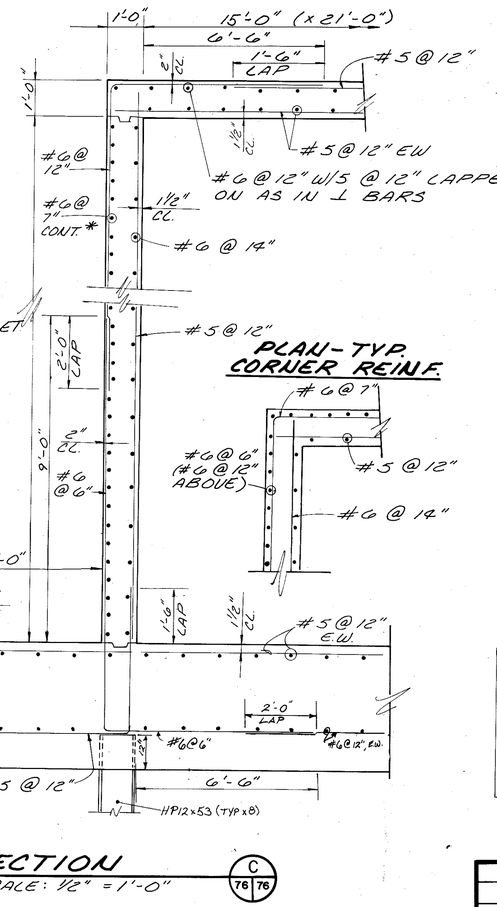
NOTES

I. LIVE LOAD. . . . . .100 PSF

II. FOUNDATIONS
- A. FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 2000 PSF.
- B. FOOTING EXCAVATIONS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE REQUIRED BEARING PRESSURE IS AVAILABLE. IF ANY PORTION OF THE FOOTING IS FOUND TO OCCUR IN AN UNSTABLE OR UNSUITABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.

III. MATERIALS
- A. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 3000 PSI.
- B. ALL BAR REINFORCING STEEL IN CONCRETE SHALL BE GRADE 60.
- C. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
- D. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS SPECIFICATIONS UTILIZING E70XX ELECTRODES.
- E. ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

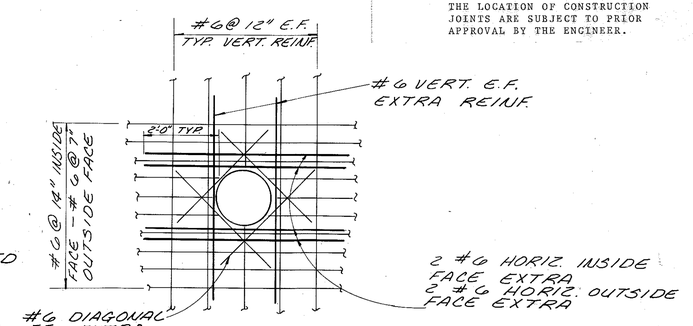
IV. MISCELLANEOUS
- A. ALL LAP SPLICE LENGTHS NOT SHOWN ON THE PLANS SHALL BE CLASS "B", IN CONFORMANCE WITH ACI 318-77.
- B. CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND NUMBER OF OPENINGS, SLEEVES, CONDUITS, EMBEDDED ITEMS, PIPES, ETC., BEFORE POURING CONCRETE OR STARTING WALL CONSTRUCTION.
- C. UNLESS SHOWN ON THE PLANS, THE LOCATION OF CONSTRUCTION JOINTS ARE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.



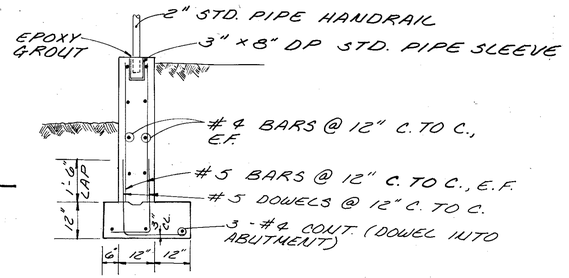
PLAN - TYP. CORNER REINF.

SECTION

SCALE: 1/2" = 1'-0" — C 76 76



TYPICAL DETAIL EXTRA REINFORCING @ PIPE SLEEVES

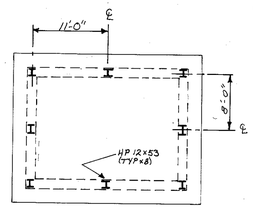


WING WALL

SCALE: 1/2" = 1'-0" — B 76 76

NOTE:
PIPE HANGING ASSEMBLY TO BE ROLLER TYPE, GALV. SUBMIT SHOP DWG'S FOR APPROVAL.

CONTRACTOR TO VERIFY LOCATION OF INTAKE STRUCTURE PRIOR TO FABRICATING WALKWAY.



PILE FOOTING PLAN
NTS

S-19

Mallett & Associates
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404 / 432-5634

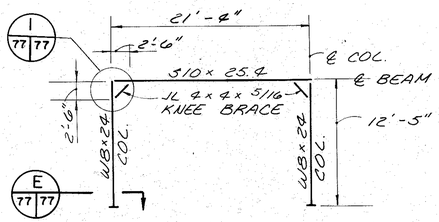
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

RAW WATER PUMP STATION
PLAN, SECTIONS AND DETAILS

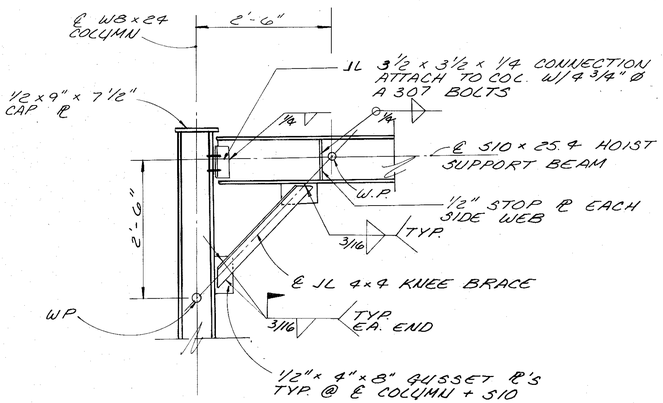
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

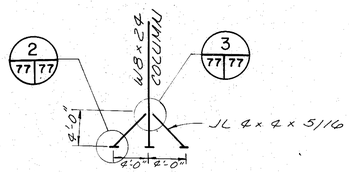
DESIGN CL	SCALE AS NOTED
DRAWN LED	DATE 6/18/84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 76 OF 105



SIDE ELEVATION
NOT TO SCALE

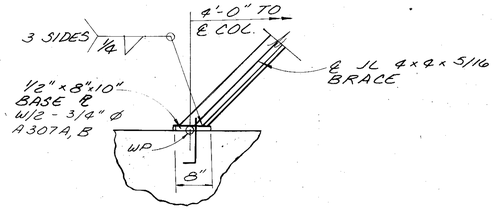


DETAIL
SCALE: 3/4" = 1'-0" (1 / 77 77)

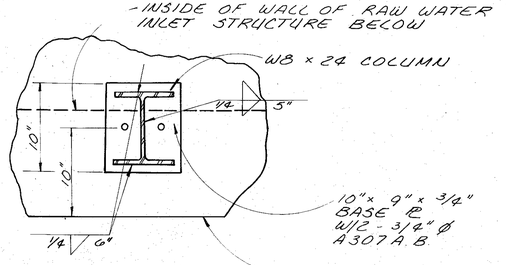


END ELEVATION
NOT TO SCALE

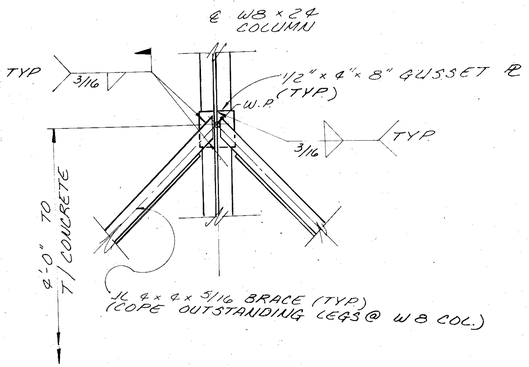
TROLLEY HOIST ELEVATIONS



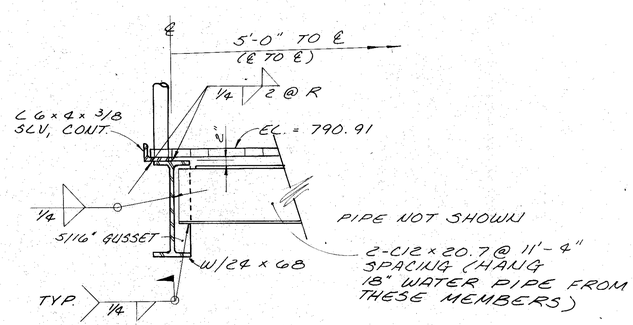
DETAIL
(2 / 77 77)



SECTION
SCALE: 1 1/2" = 1'-0" (E / 77 77)



DETAIL
SCALE: 3/4" = 1'-0" (3 / 77 77)



SECTION THRU BRIDGE
(D / 76 77)

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

S-20

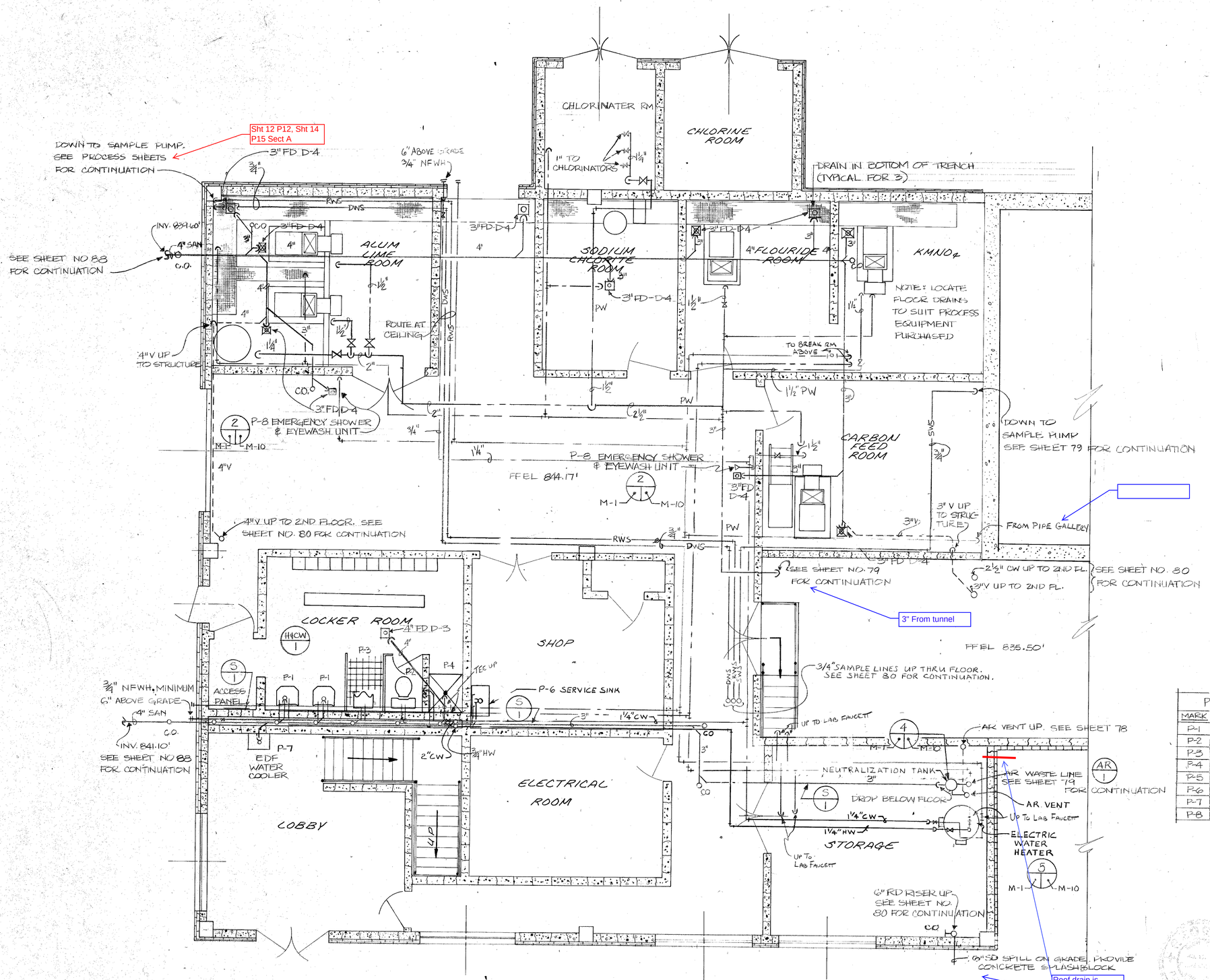
RAW WATER **PUMP STATION**
SECTIONS AND DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN CL
DRAWN LED
CHECK MFL
APPROVED JEM
SCALE AS NOTED
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 77 OF 105

AP 8316



PLUMBING LEGEND

MARK	ABB.	DESCRIPTION
	SSD	Sub Soil Drain
	SS	Sanitary Sewer
	CW	Cold Water
	HW	Hot Water
AR	AR	Acid Resistant
	V	Vent
	VTR	Vent Thru Roof
SD	SD	Storm Drain
	GV	Gate Valve
	GLV	Globe Valve
	BFV	Butterfly Valve
	CAP	Pipe Cap
	RED	Concentric Reducer
	RED	Eccentric Reducer
		Union
C.O.	C.O.	Cleanout
	STR	Strainer
	SA	Shock Absorber
	PG	Pressure Gauge
		Thermometer
	NFWH	Non Freeze Wall Hydrant
	PRV	Pressure Relief Valve
		Riser Down
		Riser Up
		Branch - Top Connection
		Branch - Bottom Connection
	FD	Floor Drain
	FF.EL	Finished Floor Elevation
	R.D.	Roof Drain
	INV.	Invert
	HD	Hub Drain
	EDF	Electric Drinking Fountain
	PRS	Pressure Reduefng Station
RWS	RWS	RAW WATER SAMPLE
DWS	DWS	DOSED WATER SAMPLE
SWS	SWS	SETTLED WATER SAMPLE
FWS	FWS	FILTERED WATER SAMPLE

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION
P-1	LAVATORY, WALL HUNG, H&CW
P-2	WATER CLOSET, FLUSH VALVE
P-3	URINAL, WALL HUNG, FLUSH VALVE
P-4	SHOWER
P-5	SINK, KITCHEN
P-6	SERVICE SINK, TRAP STANDARD
P-7	ELEC. DRINKING FOUNTAIN, WALL HUNG
P-8	EMERGENCY SHOWER & EYEWASH UNIT

FIRST FLOOR - PLAN VIEW - PLUMBING

SCALE: ¼" = 1'-0"

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
M-1
PARTIAL PLUMBING PLAN - FIRST FLOOR

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN CWL | SCALE AS NOTED
DRAWN TLF | DATE 6/18/84
CHECK [illegible] | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 78 OF 105

AF 8318

Potable feed to sinks, showers, spigots

Feeds chemicals

PRVs are located in tunnel area. See P-23.

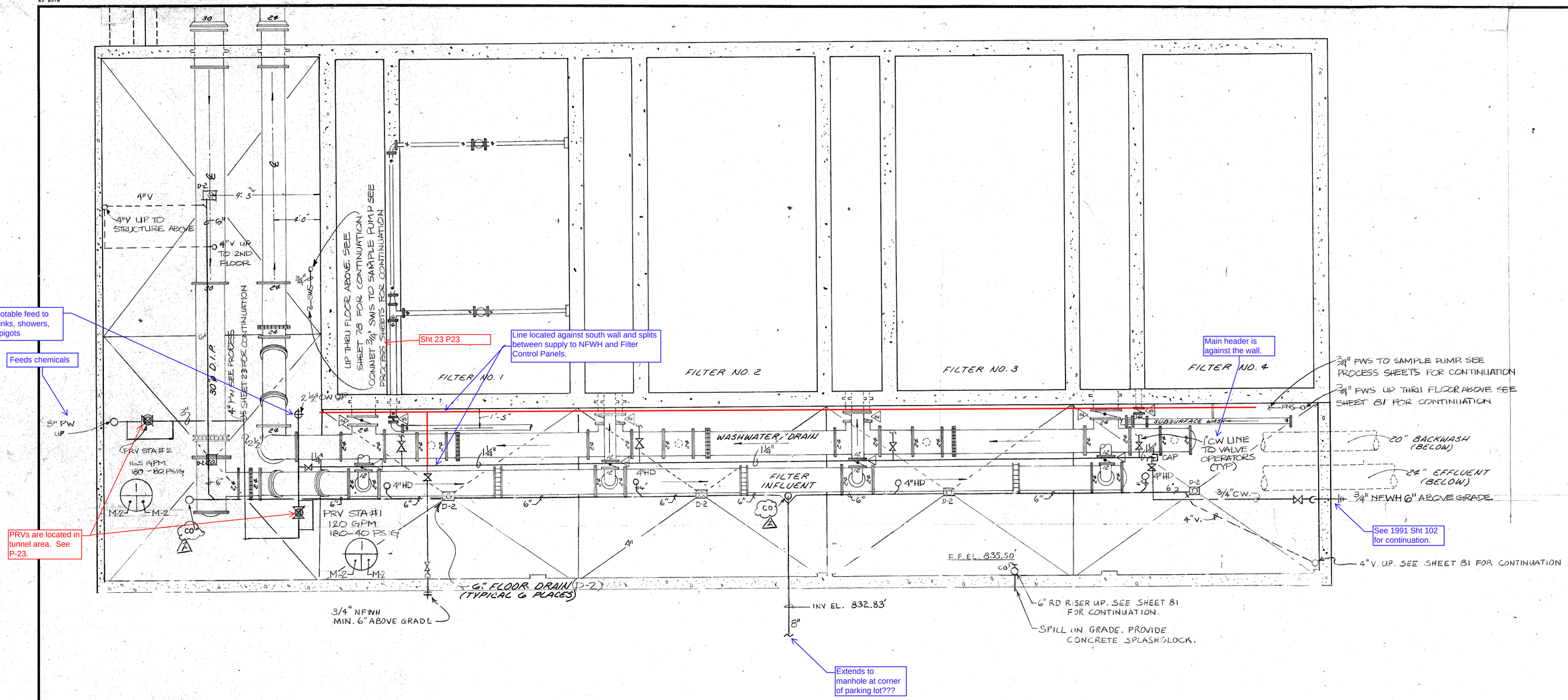
Sht 23 P23

Line located against south wall and splits between supply to NFWH and Filter Control Panels.

Main header is against the wall.

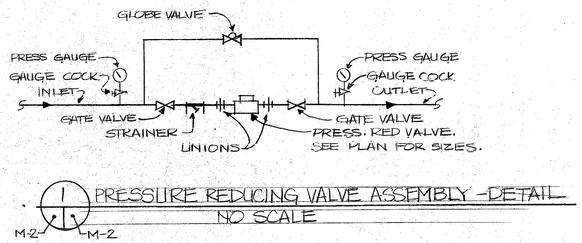
See 1991 Sht 102 for continuation.

Extends to manhole at corner of parking lot???



PIPE GALLERY LEVEL - PLUMBING

SCALE: 1/4" = 1'-0"



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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING

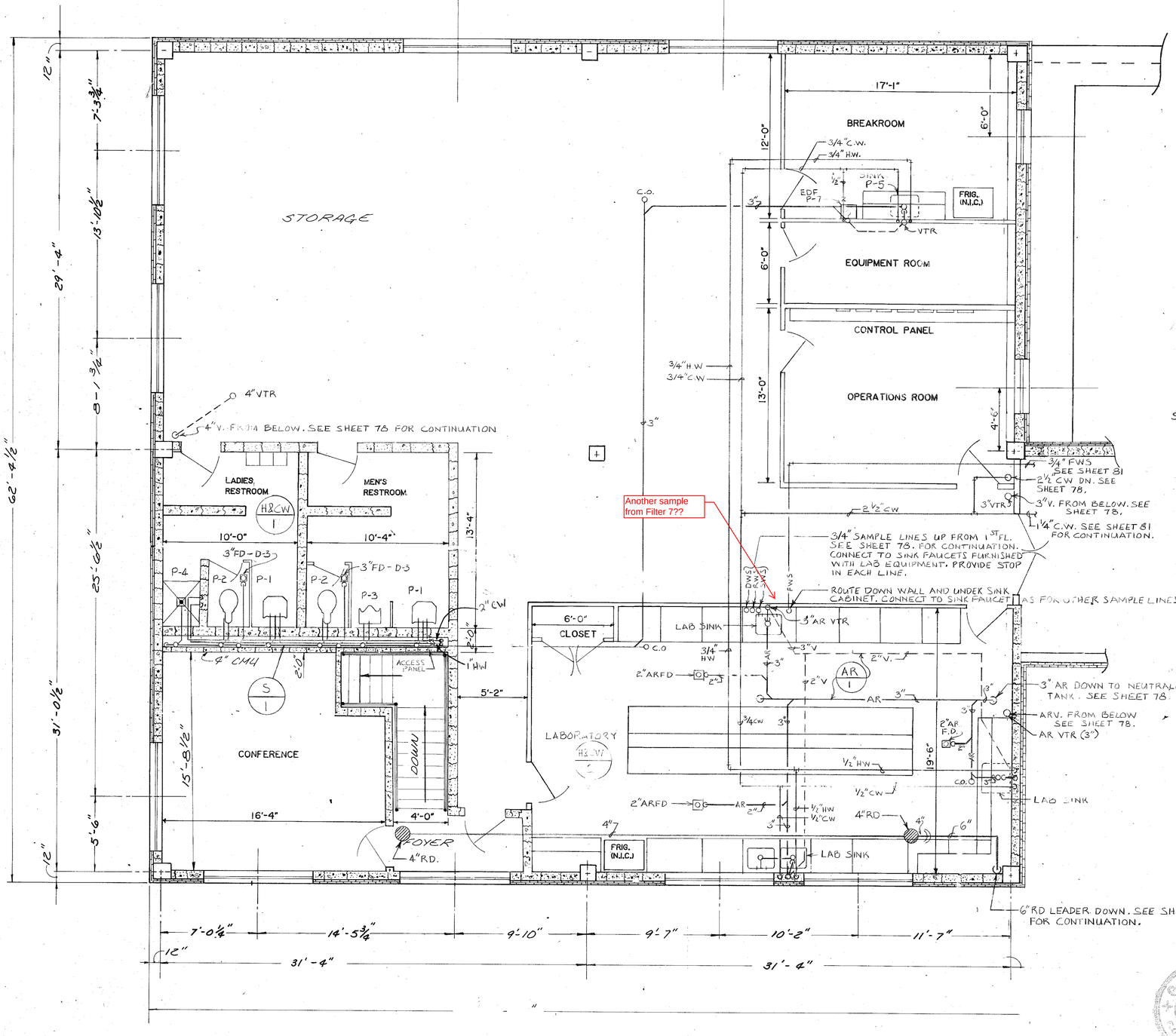
M-2 PARTIAL PLUMBING PLAN - PIPE GALLERY

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	2/28/85	AS PER D.N.R. REQUEST	DWJ	JEM
1	1/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

DESIGN CWL | SCALE 1/4"=1'-0"
DRAWN TLF | DATE 6/18/84
CHECK FES | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 79 OF 105

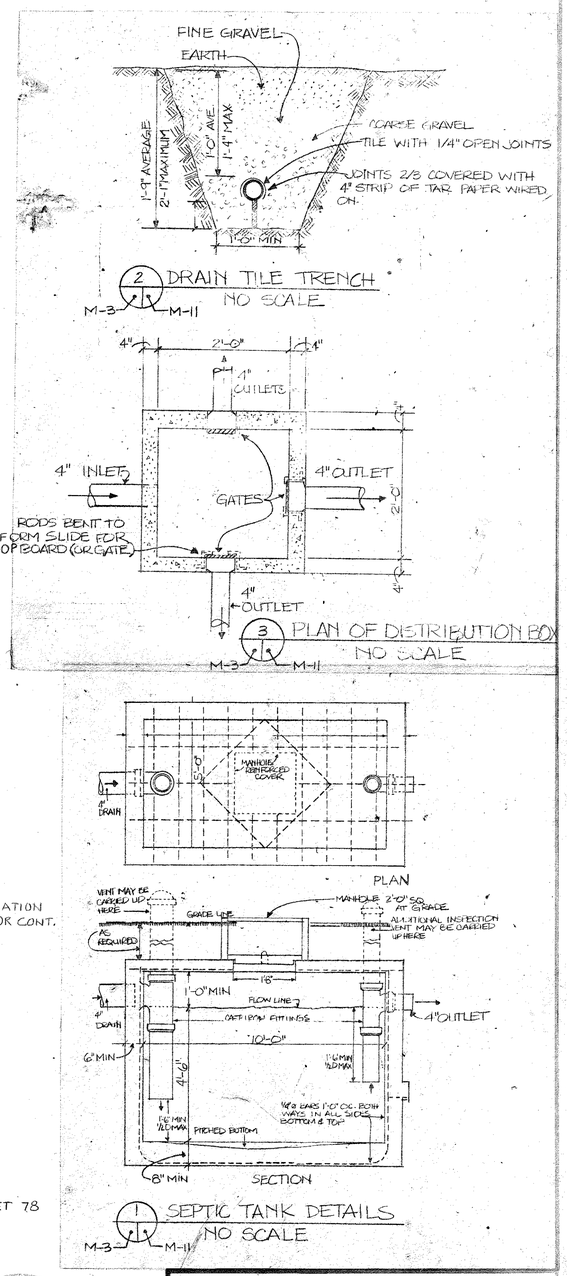
AF 8318



Another sample from Filter ???

SECOND FLOOR – PARTIAL PLAN VIEW

SCALE: ¼" = 1'-0"



GEORGIA NO. 13291 REGISTERED PROFESSIONAL ENGINEER

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

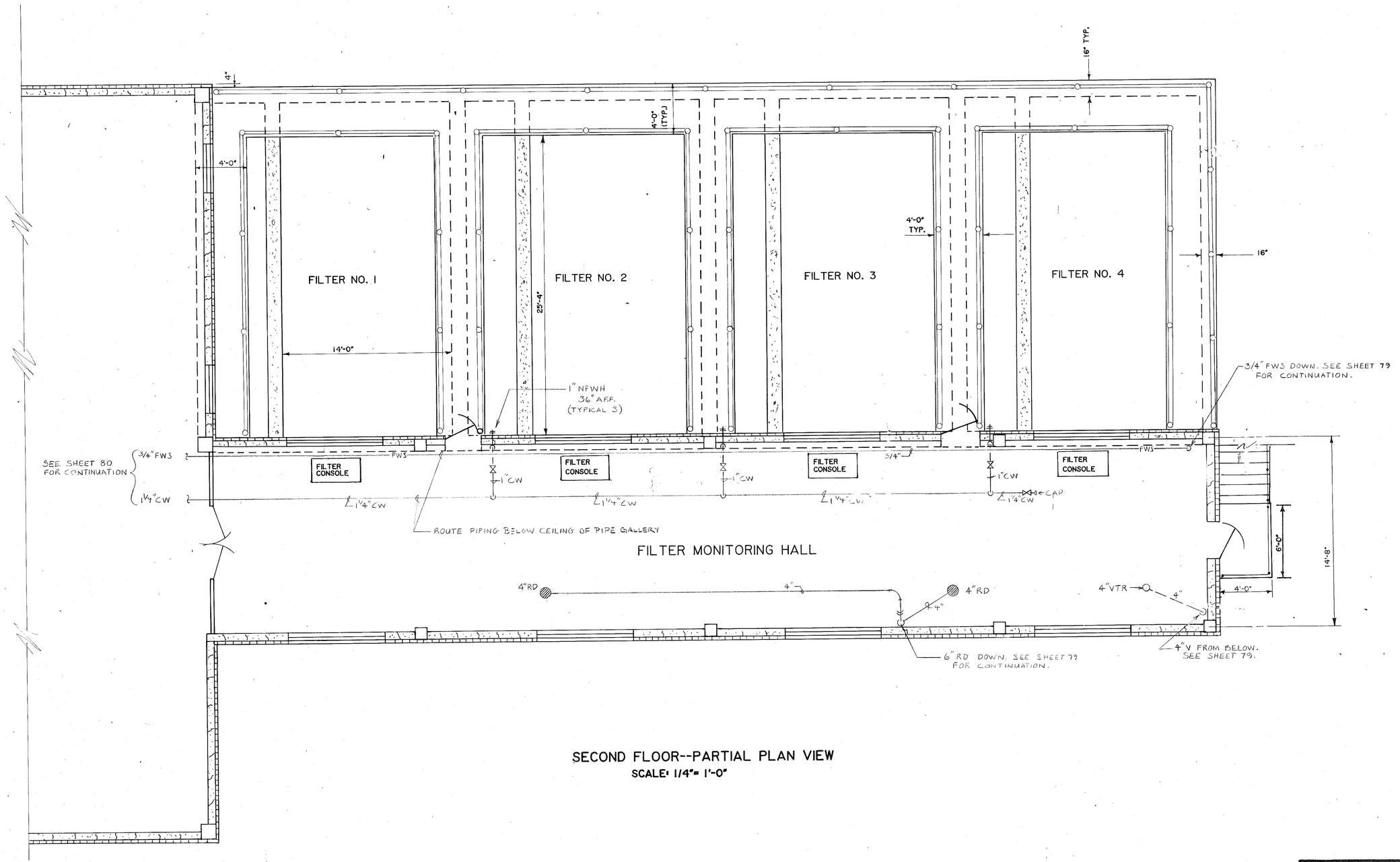
CHEMICAL AND FILTRATION BUILDING
SECOND FLOOR – PARTIAL PLUMBING PLAN

M-3

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT- DISTRICT- COUNTY- STATE-

DESIGN	FES
DRAWN	SS
CHECK	FES
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	80 OF 105



SECOND FLOOR--PARTIAL PLAN VIEW

SCALE: 1/4"= 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
PARTIAL PLUMBING PLAN - SECOND FLOOR

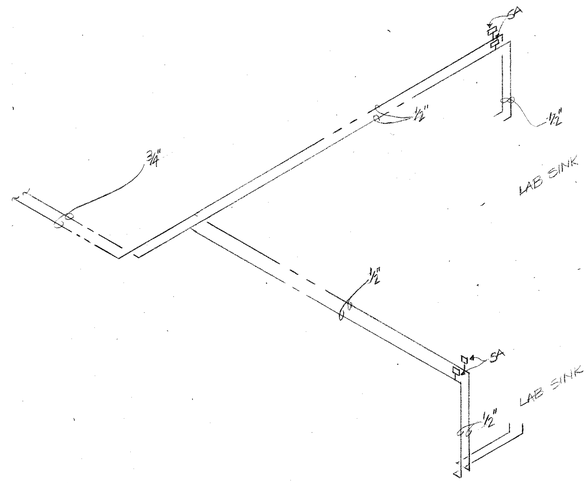
M-4

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

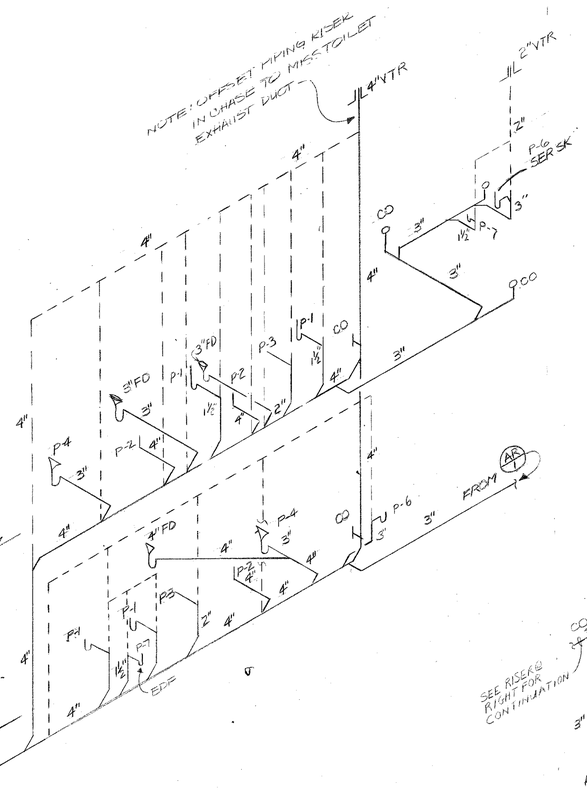
LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	FES
DRAWN	SS
CHECK	FES
APPROVED	JEM
SCALE	1/4"=1'-0"
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	81 OF 105

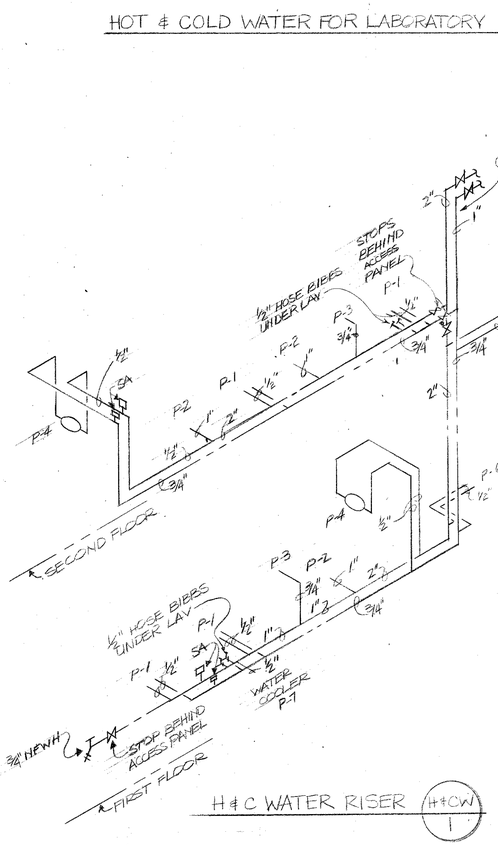
KF 33508A



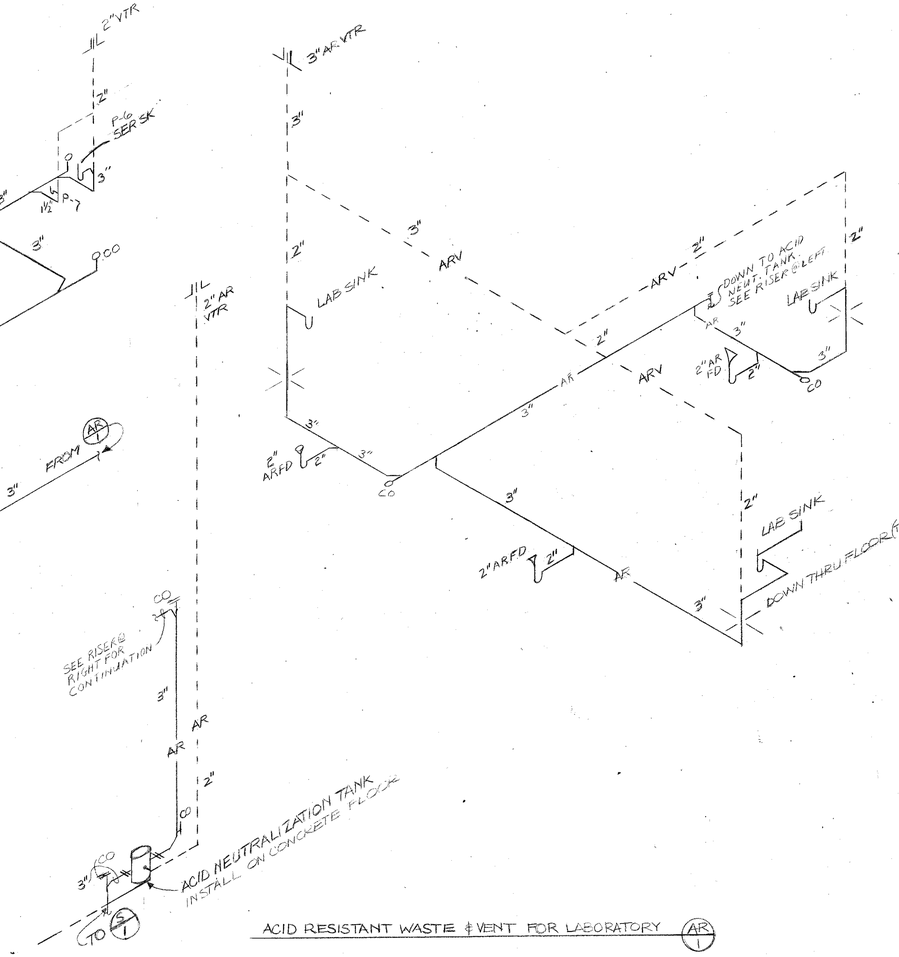
HOT & COLD WATER FOR LABORATORY (H&CW 2)



SANITARY & VENT RISER (S 1)



H&C WATER RISER (H&CW 1)



ACID RESISTANT WASTE & VENT FOR LABORATORY (AR 1)

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404/432-5634

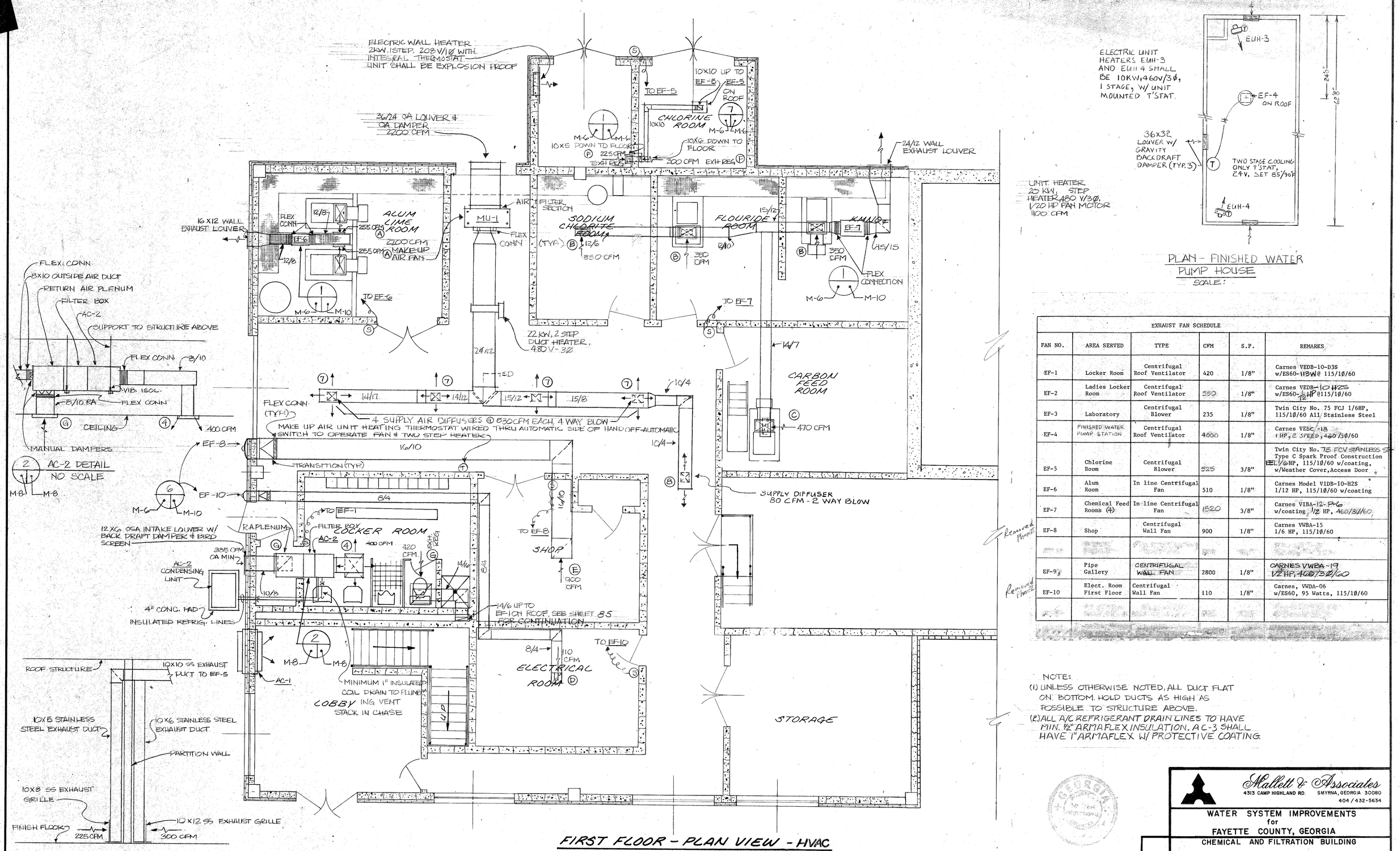
WATER SYSTEM IMPROVEMENTS
FOR
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

M-5 PLUMBING RISER DIAGRAMS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

DESIGN	CWL
DRAWN	TLF
CHECK	FES
APPROVED	JEM
SCALE	NONE
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	82 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	



FIRST FLOOR - PLAN VIEW - HVAC

SCALE: 1/4" = 1'-0"

ELECTRIC UNIT HEATERS EUH-3 AND EUH 4 SHALL BE 10KW, 460V/3Ø, 1 STAGE, W/ UNIT MOUNTED T'STAT.

UNIT HEATER 25 KW, STEP HEATER, 480 V/3Ø, 1/20 HP FAN MOTOR 1100 CFM

PLAN - FINISHED WATER PUMP HOUSE
SCALE:

EXHAUST FAN SCHEDULE

FAN NO.	AREA SERVED	TYPE	CFM	S.P.	REMARKS
EF-1	Locker Room	Centrifugal Roof Ventilator	420	1/8"	Carnes VEDB-10-D3S w/ES60-113W @ 115/1Ø/60
EF-2	Ladies Locker Room	Centrifugal Roof Ventilator	550	1/8"	Carnes VEDB-10 H2S w/ES60-1/2HP @115/1Ø/60
EF-3	Laboratory	Centrifugal Blower	235	1/8"	Twin City No. 75 FCJ 1/6HP, 115/1Ø/60 All Stainless Steel
EF-4	FINISHED WATER PUMP STATION	Centrifugal Roof Ventilator	4000	1/8"	Carnes VEBC-18 1HP, 2 SPEED, 460/3Ø/60
EF-5	Chlorine Room	Centrifugal Blower	525	3/8"	Twin City No. 75 FCV STAINLESS STEEL Type C Spark Proof Construction 1/6HP, 115/1Ø/60 w/coating, w/Weather Cover, Access Door
EF-6	Alum Room	In line Centrifugal Fan	510	1/8"	Carnes Model VIDB-10-H2S 1/12 HP, 115/1Ø/60 w/coating
EF-7	Chemical Feed Rooms (4)	In line Centrifugal Fan	1520	3/8"	Carnes VIBA-12-P6 w/coating 1/2 HP, 460/3Ø/60
EF-8	Shop	Centrifugal Wall Fan	900	1/8"	Carnes VWBA-15 1/6 HP, 115/1Ø/60
EF-9	Pipe Gallery	CENTRIFUGAL WALL FAN	2800	1/8"	CARNES VWBA-19 1/2 HP, 460/3Ø/60
EF-10	Elect. Room First Floor	Centrifugal Wall Fan	110	1/8"	Carnes, VWDA-06 w/ES60, 95 Watts, 115/1Ø/60

NOTE:
(1) UNLESS OTHERWISE NOTED, ALL DUCT FLAT ON BOTTOM. HOLD DUCTS AS HIGH AS POSSIBLE TO STRUCTURE ABOVE.
(2) ALL A/C REFRIGERANT DRAIN LINES TO HAVE MIN. 1/2" ARMAFLEX INSULATION. A C-3 SHALL HAVE 1" ARMAFLEX W/ PROTECTIVE COATING.

GEORGIA REGISTERED ENGINEER

Mallett & Associates
4513 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

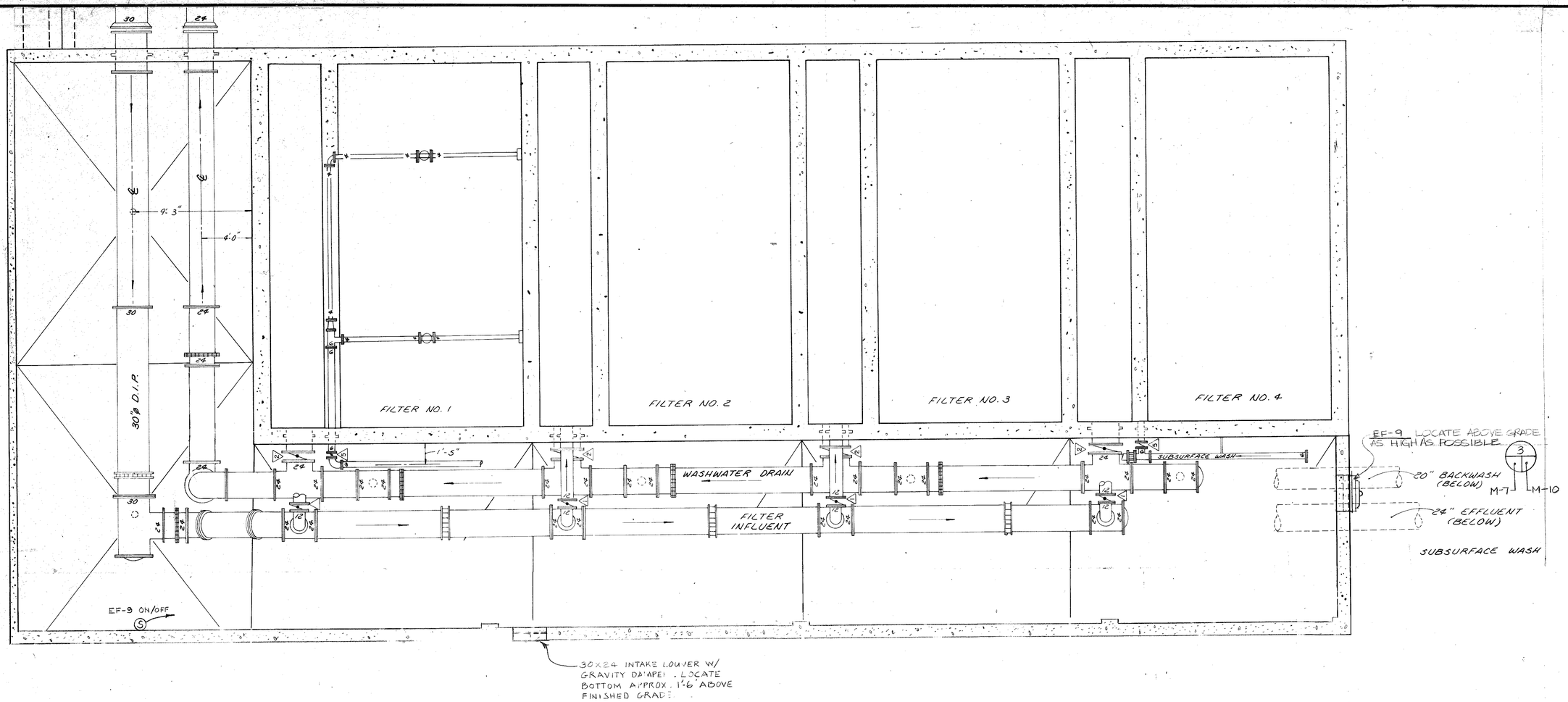
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
M-6 PARTIAL HVAC PLAN - FIRST FLOOR

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN CWL | SCALE AS NOTED
DRAWN TLF | DATE 6/18/84
CHECK FES | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 83 OF 105

AF 8318



PIPE GALLERY LEVEL - HVAC

SCALE: 1/4" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CHEMICAL AND FILTRATION BUILDING

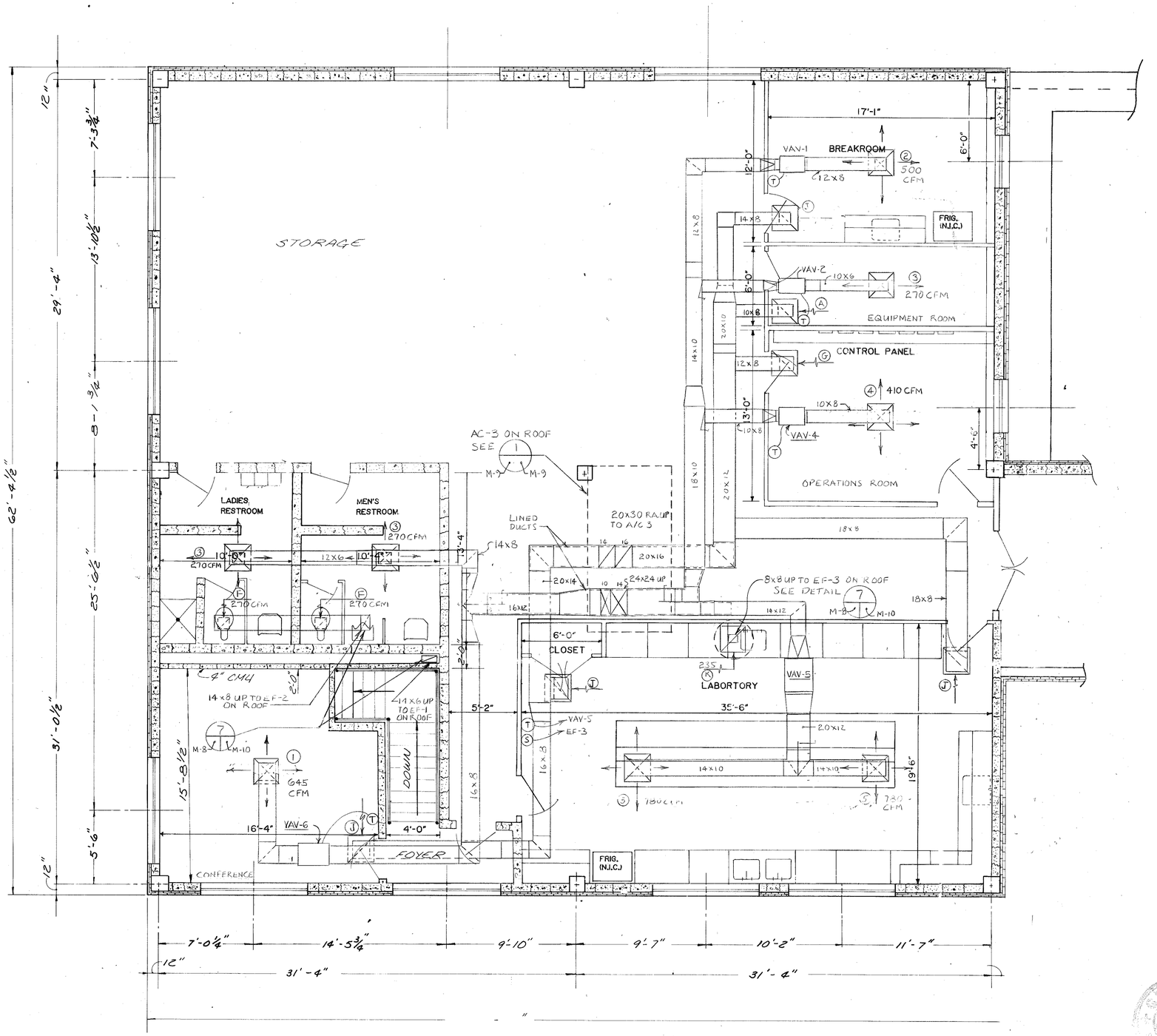
M-7 PARTIAL HVAC PLAN - PIPE GALLERY

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT -
DISTRICT -
COUNTY -
STATE -

DESIGN	CWL
DRAWN	TLF
CHECK	FES
APPROVED	JEM
SCALE	1/4"=1'-0"
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	84 OF 105

AF 8318



SECOND FLOOR - PARTIAC PLAN VIEW

SCALE: 1/4" = 1'-0"

HVAC LEGEND

MARK	ABB.	DESCRIPTION
	—	Supply Diffuser
	—	Return or Exhaust Grille
	—	Elbow w/Turning Vanes
	BoD	Bottom of Duct
	RA	Return Air
	SA	Supply Air
	SD	Splitter Damper
	OA	Outside Air
	FD	Fire Damper
	AP	Access Panel
T	T'STAT	Thermostat
	—	Door Grille
	CoND.	Condensate
	FLEX CONN.	Flexible Connection
	AHU	Air Handling Unit
	EF	Exhaust Fan
	CFM	Cubic Feet Per Minute
	—	Wall Switch
	VAV	Variable Air Volume Box
	—	Air Extractor
	FFEL	Finished Floor Elevation

VARIABLE AIR VOLUME BOX SCHEDULE

MARK	AREA SERVICED	CFM	MAX SP	MAX NC LEVEL	REMARKS
VAV-1	Breakroom	500	0.08"	23	AVBA 12
VAV-2	Instrument Room	270	0.07"	23	AVBA 06
—	—	—	—	—	—
VAV-4	Operations Office	410	0.08"	23	AVBA 08
VAV-5	Laboratory	1560	0.10"	30	AVBA 32
VAV-6	Conference Room	645	.09	23	AVBA 16

HVAC EQUIPMENT SCHEDULE

UNIT NO.	TYPE UNIT	TRANE MODEL NO.	MINIMUM CAPACITY
AC-1	PTAC/HP, Air Cooled	PTHA-15	13.8 MBH TH, 11.7 MBH SH, 200 CFM SA, 40 CFM OA, 5 KW 2 STEP ELECT. HEATER 208 V/1Ø/60HZ.
AC-2	Split System HP, Air Cooled	BPCP 252 & RPHB 252	8.0 MBH TH, 4.3 MBH SH, 400 CFM SA, 30 CFM OA, 5KW 1 STAGE ELECT. HEATER 208V/1Ø/60HZ.
AC-3	Rooftop Unit	SADB-C15	151 MBH TH, 114.8 MBH SH, 1,235 CFM SA, 335 CFM OA, 39.6 KW 2 STEP ELECT. DUCT HTR. 460V/3Ø/60HZ. E.S.P. = 0.50" WG.
MU-1	MAKE UP AIR FAN	4'Ø TORIT VENT W/ FILTER	2,250 CFM @ 0.50" ESP 5HP FAN MOTOR W/22 KW 2 STEP DUCT HEATER 460V/3Ø/60HZ

Mallett & Associates
4313 CAMP HIGHLAND RD SMYRNA, GEORGIA 30080
404/432-5634

GEORGIA REGISTERED NO. 12234 PROFESSIONAL ENGINEER

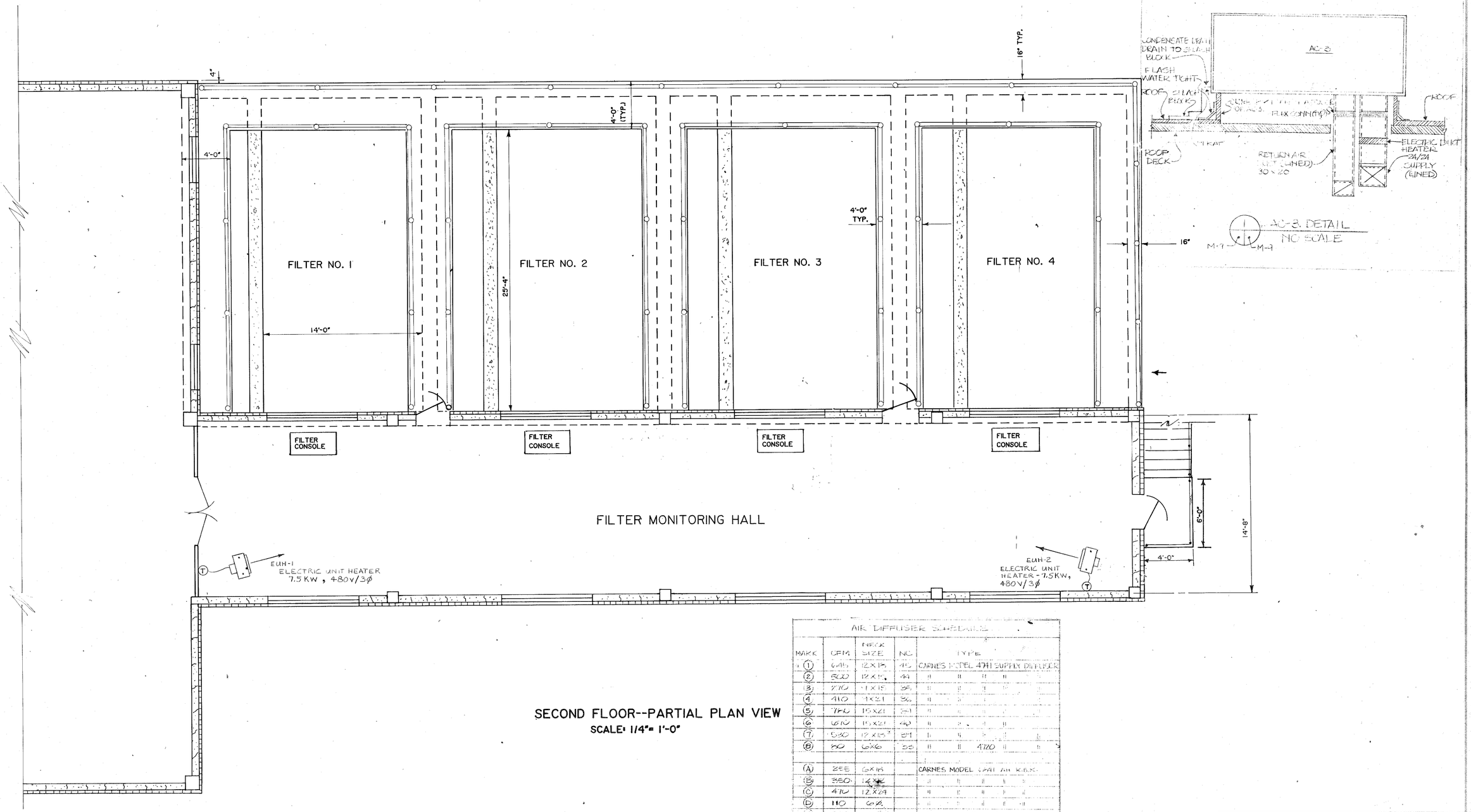
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
SECOND FLOOR - PARTIAL HVAC PLAN

M-8

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
DESIGN FLS	SCALE AS NOTED
DRAWN SB	DATE 6/18/84
CHECK FFS	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 85 OF 105

KF 33506A



SECOND FLOOR--PARTIAL PLAN VIEW
SCALE: 1/4"= 1'-0"

AIR DIFFUSER SCHEDULE

MARK	CFM	NECK SIZE	NC	TYPE
(1)	640	12X12	40	CARNES MODEL 4711 SUPPLY DIFFUSER
(2)	800	12X18	44	" " " "
(3)	710	11X18	35	" " " "
(4)	910	11X21	36	" " " "
(5)	760	15X21	34	" " " "
(6)	610	15X21	40	" " " "
(7)	530	12X18	29	" " " "
(8)	80	6X6	55	" " 4120 " "
(A)	255	6X18		CARNES MODEL 5FAL AIR BAR
(B)	350	12X18		" " " " "
(C)	470	12X24		" " " " "
(D)	110	6X6		" " " " "
(E)	900	14Ø		" " SRR RETURN AIR DIFFUSER
(F)	300	10X10		" " 350 STAINLESS STEEL
(G)	420	10"Ø		" " SRR RETURN DIFFUSER
(H)	140	7"Ø		" " " " "
(I)	1340	16"Ø		" " " " "
(J)	780	14"Ø		" " " " "
(K)	255	8"Ø		" " " " "

Mallett & Associates
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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
SECOND FLOOR- PARTIAL HVAC PLAN

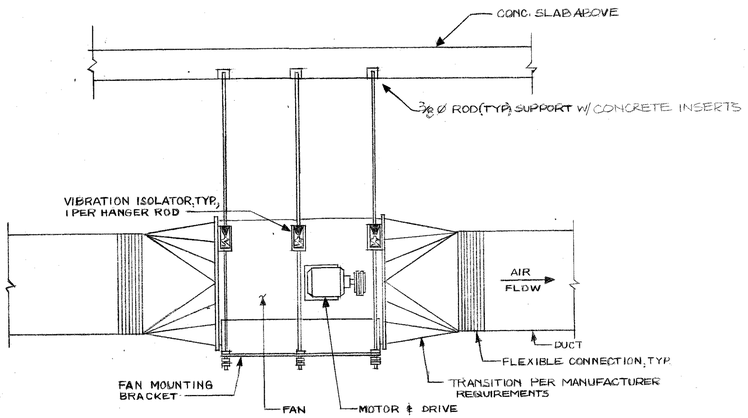
(M-2)

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-
DISTRICT-
COUNTY-
STATE-

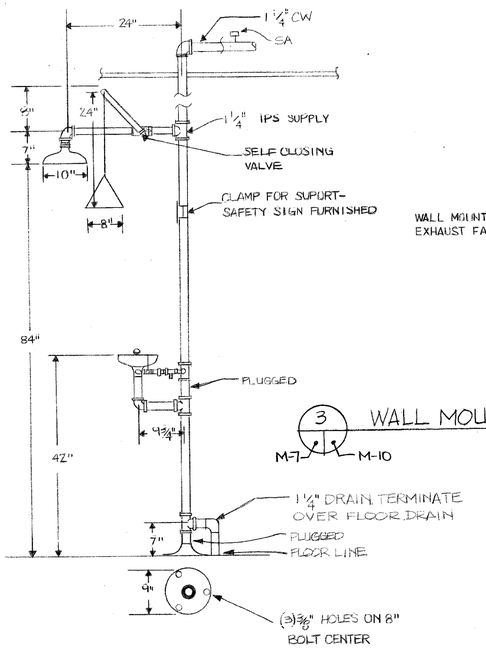
DESIGN: FES	SCALE: 1/4"=1'-0"
DRAWN: SS	DATE: 6/18/84
CHECK: FES	FILE NO.: 83175-1
APPROVED: JEM	SHEET NO.: 86 OF 105

RF 33506A

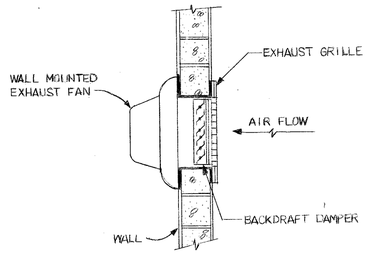


SIDE ELEVATION

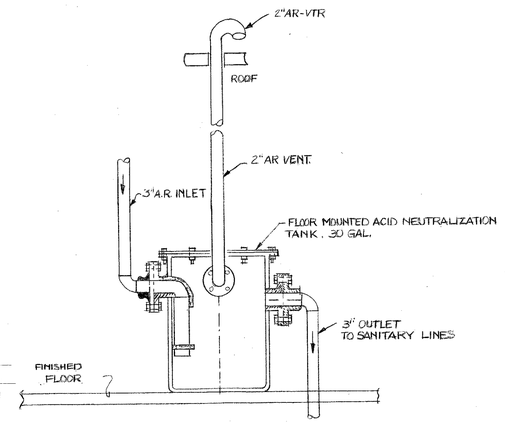
1 TYPICAL INLINE EXHAUST FAN DETAIL
NO SCALE
M-6 M-10



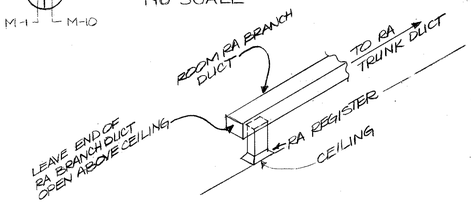
2 SAFETY SHOWER AND EYE WASH DETAIL P-8
NO SCALE
M-1 M-10



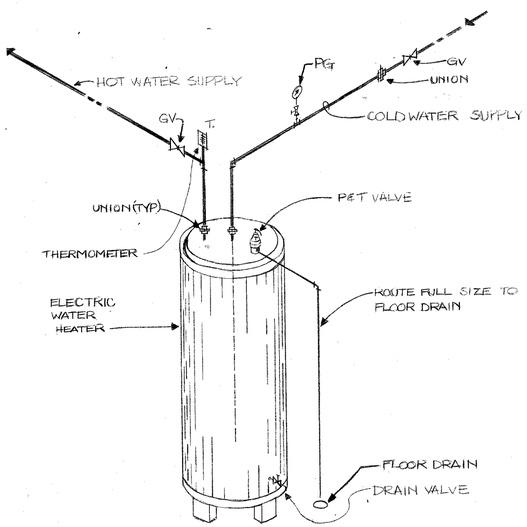
3 WALL MOUNTED EXHAUST FAN DETAIL
NO SCALE
M-7 M-10



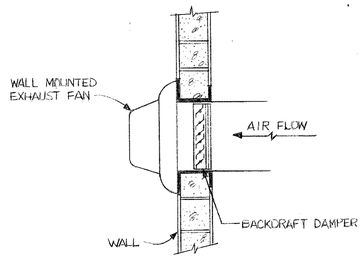
4 ACID NEUTRALIZATION TANK
NO SCALE
M-1 M-10



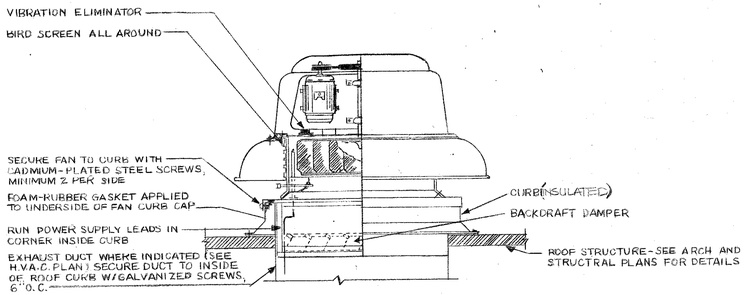
8 ROOM VAV RA BRANCH DUCT
NO SCALE
M-8 M-9 M-10



5 PIPING DETAIL WATER HEATER
NO SCALE
M-1 M-10



6 WALL MOUNTED EXHAUST FAN DETAIL
NO SCALE
M-6 M-10



7 POWER ROOF VENTILATOR
NO SCALE
M-6 M-8 M-9 M-10

GEORGIA REGISTERED NO. 12704 PROFESSIONAL ENGINEER

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
FOR
FAYETTE COUNTY, GEORGIA

M-10 CHEMICAL AND FILTRATION BUILDING
DETAILS

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN	GWL
DRAWN	TLF
CHECK	FES
APPROVED	JEM
SCALE	NONE
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	87 OF 105

N

L.L. 53
L.L. 54

R/W

(PROPOSED) CROSSTOWN ROAD (80' R/W)

FUTURE

R/W

N 47° 48' 43" E — 1485.10'

240' TO R/W
DIVIDEND DRIVE

820
810
EL. = 817
810

VOID

BOTTOM ELEVATION = 810.00'

SLUDGE
LAGOON

LAGOON RECYCLE PUMP
STATION

810

VOID

BOTTOM ELEVATION = 810.00'

SLUDGE
LAGOON

810
EL. = 817
810

N 42° 11' 17" W — 880.00'

820

L.L.L.

FUTURE
LAGOON

830

℄ LAGOON ACCESS ROAD (6" CRUSHED STONE)

830

850

842.50 INV 832.30' 843.88 845.30

INV. 832.83'

841.50 6" DRAIN 842.70

843.67

INV 841.10'

FUTURE

FUTURE

841.00

F.F. = 835.50'

F.F. = 844.17

CHEMICAL & FILTRATION BUILDING 4"

842.80

INV 838.46'

840.34

RET WALL

840.34

INV 839.60'

840

LIME STORAGE TANK

COALUM STORAGE TANK

IE 838.15'

IE 837.13'

SEPTIC TANK (1 / M-3 | M-11)

SLUDGE THICKENER

840

4"

DISTRIBUTION BOX (3 / M-3 | M-11)

4-100 LF LENGTHS OF 4" DRAIN TILE (2 / M-3 | M-11)

10'
10'
10'
10'
10'

T.W. = 863.50

BOTTOM SLAB
ELEVATION = 847.00'
SEDIMENTATION
BASINS

FUTURE

FUTURE

S 42° 11' 17" E — 880.00'

L.L.L.

820

NOTES:
THIS DRAWING COVERS SANITARY AND DRAIN LINES FROM THE CHEMICAL AND FILTRATION BUILDING, AND THE SEPTIC TANK AND DRAIN FIELD (NITRIFICATION LINE).

SEE SHEETS P8 & P9 FOR
LAGOON LOCATIONS

FUTURE
LAGOON

S 47° 48' 43" W — 1485.10'

LL 53
LL 54

GEORGIA REGISTERED NO. 12253 PROFESSIONAL ENGINEER FLOYD E. JONES, JR.

SITE PLAN - PLUMBING

SCALE: 1" = 50'

M-11

NOTES:

1. BOUNDARY SURVEY PREPARED BY OTHERS. MALLETT & ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ACCURACY THEREOF.
2. SEE SHEET NO. FOR GENERAL NOTES

REV. NO	DATE	DESCRIPTION	BY	APP'D BY
2	6/5/85	LAGOON RELOCATIONS	SB	JEM
1	1/24/85	GENERAL	SB	JEM

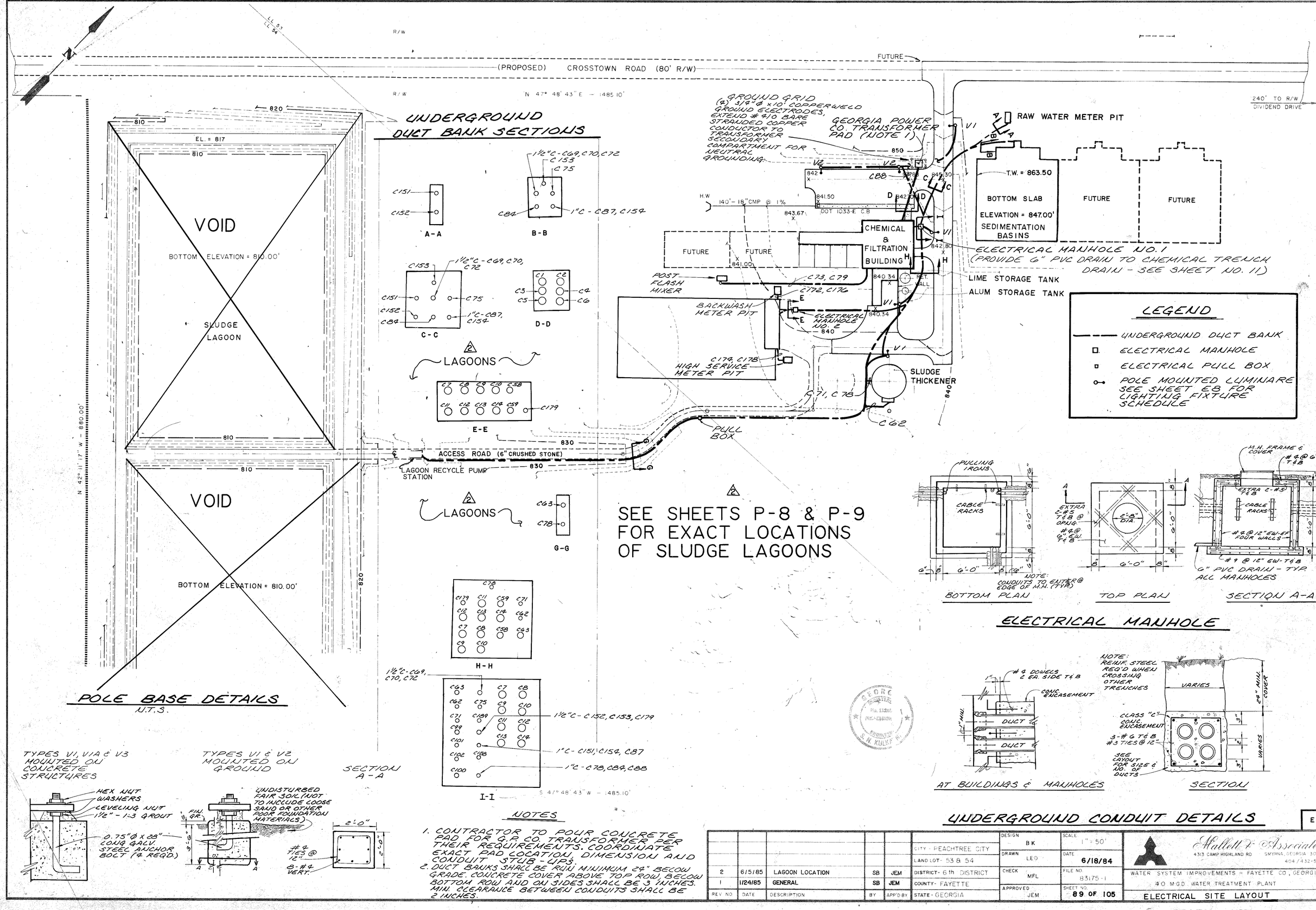
CITY - PEACHTREE CITY
LAND LOT - 53 & 54
DISTRICT - 6th DISTRICT
COUNTY - FAYETTE
STATE - GEORGIA

DESIGN MAI
DRAWN LED
CHECK MFL
APPROVED JEM

SCALE 1" - 50'
DATE 6/18/84
FILE NO. 83175-L
SHEET NO. 88 OF 105

Mallett & Associates
4313 CAMP HIGHLAND RD SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS — FAYETTE CO., GEORGIA
40 M.G.D. WATER TREATMENT PLANT
MECHANICAL SITE PLAN



UNDERGROUND CONDUIT DETAILS

E-1

REV NO	DATE	DESCRIPTION	BY	APP'D BY
2	6/5/85	LAGOON LOCATION	SB	JEM
1	1/24/85	GENERAL	SB	JEM

CITY - PEACHTREE CITY
LAND LOT - 53 & 54
DISTRICT - 6th DISTRICT
COUNTY - FAYETTE
STATE - GEORGIA

DESIGN BK | SCALE 1" = 50'
DRAWN LED | DATE 6/18/84
CHECK MFL | FILE NO. 83175-1
APPROVED JEM | SHEET NO. 89 OF 105

Hallett & Associates
4313 CAMP HIGHLAND RD SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS - FAYETTE CO., GEORGIA
40 MGD WATER TREATMENT PLANT
ELECTRICAL SITE LAYOUT

KF 33506A

GEORGIA POWER COMPANY
PAD MOUNTED TRANSFORMER
1500 KVA
480/277 WYE SECONDARY

KWH

MAIN SWITCHGEAR

2 PT'S 480:120V — VS — V 0–600 V

2 CT'S 2000/5 — AS — A 0–2000A

2000 A MAIN C.B.

1600A — 1–1200/5 — A 0–1200A

800A — 1–800/5 — A 0–800A

1600A — 1–1200/5 — A 0–1200A

MCC-1

1200A BUS

(400) HIGH SERVICE PUMP Nº 1

(40) SURFACE WASH PUMP

(125) BACKWASH PUMP Nº 1

9 KVA LTG X FMR "LT-A" 480:208Y/120V 3φ, 4W

LTG PNL "LA"

MCC-2

1200A. BUS

(200) HIGH SERVICE PUMP Nº 2

(200) HIGH SERVICE PUMP Nº 3

(125) BACKWASH PUMP Nº 2

10 KW EUH-3 ELECTRIC HEATER

10 KW EUH-4 ELECTRIC HEATER

(1) EXHAUST FAN EF-4

MCC-3

800A BUS

60/3 NEMA-1 — 22 KW DUCT HEATER

30 KVA LTG X FMR "LT-B" 480:208Y/120V — LTG PNL "LB"

45 KVA LTG X FMR "LT-C" 480:208Y/120V — LTG PNL "LC"

(10) SLUDGE RECYCLE PUMP

(10) LAGOON RECYCLE PUMP

(½) RAW WATER SAMPLE PUMP

(½) DOSED WATER SAMPLE PUMP

(½) SETTLED WATER SAMPLE PUMP

(½) FILTERED WATER SAMPLE PUMP

(¾) SLUDGE COLLECTOR DRIVE Nº 1

(¾) SLUDGE COLLECTOR DRIVE Nº 2

(¾) SLUDGE THICKENER DRIVE

(2) PREFLASH MIXER

(2) POSTFLASH MIXER

CONT. PNL — LIME SCREW CONVEYOR & LIME SILO SYSTEM

D.C. DRIVE Nº 1 — (½) D.C. FLOCCULATOR DRIVE Nº 1

D.C. DRIVE Nº 2 — (½) D.C. FLOCCULATOR DRIVE Nº 2

D.C. DRIVE Nº 3 — (½) D.C. FLOCCULATOR DRIVE Nº 3

D.C. DRIVE Nº 4 — (½) D.C. FLOCCULATOR DRIVE Nº 4

(½) MAKE UP AIR FAN MU-1

(½) EXHAUST FAN EF-9

7½ KW EUH-1 ELECTRIC HEATERS

7½ KW EUH-2 ELECTRIC HEATERS

100/3 NEMA-3R — ROOF TOP UNIT AC-3

18 KW WATER HEATER

30/3 NEMA-1 CONT. PANEL — HOIST & TROLLEY

30/3 NEMA-3R — (1½) ALUM TRANSFER PUMP

LEGEND

- TRANSFORMER
- (KWH) KILOWATTHOUR METER
- (A) AMMETER
- (V) VOLTMETER
- (VS) VOLTMETER SELECTOR SWITCH FOUR POSITION - "A-B, B-C, C-A, OFF".
- (AS) AMMETER SELECTOR SWITCH FOUR POSITION - "A, B, C, OFF".
- CURRENT TRANSFORMER
- POTENTIAL OR CONTROL - POWER TRANSFORMER
- L.A. LIGHTNING ARRESTER
- LOW VOLTAGE POWER CIRCUIT BREAKER
- MOLDED CASE CIRCUIT BREAKER MCP DENOTES MOTOR CIRCUIT PROTECTOR
- MAGNETIC STARTER - CONTACTOR WITH THERMAL ELEMENT
- MAGNETIC STARTER - REDUCED VOLTAGE, CLOSED TRANSITION AUTOTRANSFORMER TYPE
- (125) MOTOR - NUMBER INSIDE INDICATES HORSEPOWER RATING
- 30/3 NEMA-1 HEAVY DUTY DISCONNECT SWITCH. AMPERE RATING, Nº OF POLES AND ENCLOSURE TYPE AS NOTED.

NOTES:

1. REFER TO SHEET E-3 FOR M.C.C. LAYOUTS AND SCHEDULES.
2. REFER TO SHEETS E-4 & E-5 FOR M.C.C. SCHEMATIC DIAGRAMS.

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

SINGLE LINE DIAGRAM

E-2

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT- | DISTRICT- | COUNTY- | STATE-

DESIGN BK | DRAWN AJ | CHECK MFL | APPROVED JEM

SCALE NONE | DATE 6/18/84 | FILE NO. 83175-1 | SHEET NO. 90 OF 105

MCC-1

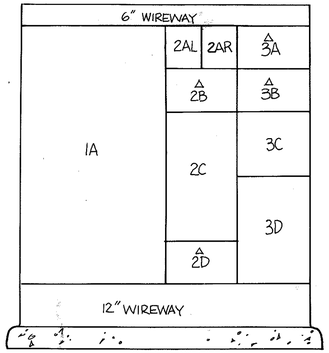
COMPT. Nº	CONTROLLER SIZE	CONTROLLER TYPE	MOTOR H.P.	PROTECTIVE DEVICE TYPE	PROTECTIVE DEVICE TRIP RATING	NAMEPLATE
1A	6	RVNR	400	C.B.	800	HIGH SERVICE PUMP Nº 1
2AL	—	—	—	C.B.	20	LIGHTING TRANSFORMER LT-A
2AR						(BLANK)
2B						(BLANK)
2C	5	FVNR	125	MCP	400	BACKWASH PUMP Nº 1
2D						(BLANK)
						(BLANK)
3A						(BLANK)
3B						(BLANK)
3C	3	FVNR	40	MCP	100	SURFACE WASH PUMP
3D						INCOMING LINE COMPARTMENT

MCC-2

COMPT. Nº	CONTROLLER SIZE	CONTROLLER TYPE	MOTOR H.P.	PROTECTIVE DEVICE TYPE	PROTECTIVE DEVICE TRIP RATING	NAMEPLATE
1A	1	2 SPEED	1	MCP	7	EXHAUST FAN EF-4
1B	5	FVNR	200	MCP	400	HIGH SERVICE PUMP Nº 3
1C						(BLANK)
2AL	—	—	10 KW	CB	20A	ELECTRIC HEATER EUH-3
2AR	—	—	10 KW	CB	20A	ELECTRIC HEATER EUH-4
2B						(BLANK)
2C	5	FVNR	200	MCP	400	HIGH SERVICE PUMP Nº 2
2D						(BLANK)
3A						(BLANK)
3B	5	FVNR	125	MCP	400	BACKWASH PUMP Nº 2
3C						INCOMING LINE COMPARTMENT

MCC-3

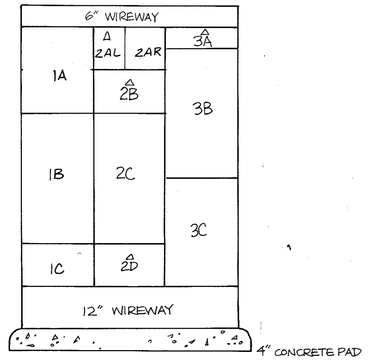
COMPT. Nº	CONTROLLER SIZE	CONTROLLER TYPE	MOTOR H.P.	PROTECTIVE DEVICE TYPE	PROTECTIVE DEVICE TRIP RATING	NAMEPLATE
1A						INCOMING LINE COMPARTMENT
1B	1	FVNR	1/2	MCP	3	MAKE UP AIR FAN MU-1
1C	1	FVNR	10	MCP	30	SLUDGE RECYCLE PUMP
1DL	—	—	7 1/2 KW	CB	20	ELECTRIC HEATER EUH-1
1DR	—	—	7 1/2 KW	CB	20	ELECTRIC HEATER EUH-2
1E	1	FVNR	10	MCP	30	LAGOON RECYCLE PUMP
1F						(BLANK)
2AL				CB	20	FLOCCULATOR DRIVE Nº 1
2AR				CB	20	FLOCCULATOR DRIVE Nº 2
2BL				CB	20	FLOCCULATOR DRIVE Nº 3
2BR				CB	20	FLOCCULATOR DRIVE Nº 4
2CL				CB	50	LIGHTING TRANSFORMER "LT-B"
2CR				CB	70	LIGHTING TRANSFORMER "LT-C"
2DL				CB	30	BULK LIME MOTOR STARTER CENTER
2DR				CB	70	A.C. UNIT Nº AC-3
2E						(BLANK)
2F	1	FVNR	1/2	MCP	3	EXHAUST FAN EF-9
3A	1	FVNR	3/4	MCP	3	SLUDGE THICKENER DRIVE
3BL						(BLANK)
3BR				CB	40	DUCT HEATER
3C	1	FVNR	3/4	MCP	3	SLUDGE COLLECTOR DRIVE Nº 1
3D	1	FVNR	3/4	MCP	3	SLUDGE COLLECTOR DRIVE Nº 2
3E	1	FVNR	1 1/2	MCP	7	ALUM TRANSFER PUMP
3FL				CB	30	WATER HEATER
3FR				CB	20	HOIST
4A	1	FVNR	1/2	MCP	3	RAW WATER SAMPLE PUMP
4B	1	FVNR	1/2	MCP	3	DOSED WATER SAMPLE PUMP
4C	1	FVNR	1/2	MCP	3	SETTLED WATER SAMPLE PUMP
4D	1	FVNR	1/2	MCP	3	FILTERED WATER SAMPLE PUMP
4E	1	FVNR	2	MCP	7	PREFLASH MIXER
4F	1	FVNR	2	MCP	7	POSTFLASH MIXER



MCC-1
FRONT VIEW
(N.T.S)

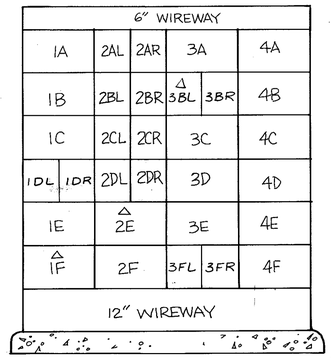
LEGEND

C.B. — DENOTES THERMAL MAGNETIC CIRCUIT BREAKER
MCP — DENOTES MOTOR CIRCUIT PROTECTOR
FVNR — DENOTES FULL VOLTAGE NON-REVERSING
RVNR — DENOTES REDUCED VOLTAGE NON-REVERSING, CLOSED TRANSITION AUTOTRANSFORMER TYPE
△ — DENOTES USABLE SPACE IN M.C.C.



MCC-2
FRONT VIEW
(N.T.S.)

MAIN SWITCHGEAR
FRONT VIEW
N.T.S.



MCC-3
FRONT VIEW
(N.T.S.)

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
MOTOR CONTROL CENTERS
SCHEDULES AND LAYOUT

E-3

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

DESIGN BK
DRAWN AJ
CHECK ML
APPROVED JM
SCALE AS NOTED
DATE 6/18/84
FILE NO. 83175-1
SHEET NO. 91 OF 105

KF 33506A

480:120 V C.P.T. — CONTROL POWER TRANSFORMER (C.P.T.)

WIRE NUMBER (TYPICAL)

MCC TERMINAL NUMBER (TYP.)

SLUDGE RECYCLE PUMP 05, 05, 06

480:120 V C.P.T.

LAGOON RECYCLE PUMP 13, 13, 14

480:120 V C.P.T.

RAW WATER SAMPLE PUMP 20, 20, 20 (NOTE 2)

480:120 V C.P.T.

DOSED WATER SAMPLE PUMP 25, 25, 25 (NOTE 2)

480:120 V C.P.T.

SETTLED WATER SAMPLE PUMP 30, 30, 30 (NOTE 2)

480:120 V C.P.T.

FILTERED WATER SAMPLE PUMP 37, 37, 37 (NOTE 2)

480:120 V C.P.T.

SLUDGE COLLECTOR DRIVE NO. 1 42, 42, 43

480:120 V C.P.T.

SLUDGE COLLECTOR DRIVE NO. 2 49, 49, 50

480:120 V C.P.T.

SLUDGE THICKENER DRIVE 56, 56, 57

480:120 V C.P.T.

PREFLASH MIXER 63, 63, 64

480:120 V C.P.T.

POST FLASH MIXER 70, 70, 71

480:120 V C.P.T.

EXHAUST FAN EF-9 82, 82, 82

480:120 V C.P.T.

ALUM TRANSFER PUMP 87, 87, 87 (NOTE 3)

480:120 V C.P.T.

MAKE UP AIR FAN MU-1 93, 93

LEGEND

- STARTER COIL
- CONTROL POWER TRANSFORMER
- FUSE
- OLS — OVERLOAD RELAY CIRCUIT OPENS ON OVERLOAD
- NORMALLY OPEN (N.O.) CONTACT
- TD — TIME DELAY RELAY TDAE : DENOTES TIME DELAY AFTER ENERGIZING TDAD : DENOTES TIME DELAY AFTER DEENERGIZING
- TIME DELAY RELAY CONTACT CLOSES AFTER TIME DELAY
- TIME DELAY RELAY CONTACT OPENS AFTER TIME DELAY
- TIME DELAY RELAY CONTACT OPENS INSTANTANEOUSLY. CLOSES AFTER TIME DELAY
- TIME DELAY RELAY CONTACT CLOSES INSTANTANEOUSLY OPENS AFTER TIME DELAY
- INDICATING LIGHT PUSH-TO-TEST-TYPE — R : RED G : GREEN A : AMBER
- SELECTOR SWITCH, THREE POSITION, H-O-A : HAND-OFF-AUTO L-O-R : LOCAL-OFF-REMOTE
- SELECTOR SWITCH, TWO POSITION
- MOMENTARY CONTACT PUSHBUTTON "STOP"
- MOMENTARY CONTACT PUSHBUTTON "START"
- LEVEL OR FLOAT SWITCH
- LIMIT SWITCH
- PRESSURE SWITCH
- OVERTORQUE SWITCH OPENS ON OVERLOAD
- TEMPERATURE SWITCH
- NORMALLY CLOSED (N.C.) CONTACT
- EV — ELECTRIC (SOLENOID) VALVE
- LS — LIMIT SWITCH
- ELAPSED TIME METER

LOCATION LEGEND

- — NO SYMBOL DENOTES DEVICE ON M.C.C.
- (P) LOCATED ON PLANT CONTROL PANEL
- (F) LOCATED IN FIELD (LOCAL)

NOTES:

1. WIRE CONTACT TO THE 22 KW DUCT HEATER CONTACTOR TO ENERGIZE DUCT HEATER WHEN THE MAKEUP AIR FAN COMES ON.
2. PUSHBUTTON STATION WITH FOUR PULL TO START-PUSH TO STOP ILLUMINATED PUSHBUTTONS SHALL BE PROVIDED AND INSTALLED IN THE LABORATORY.
3. PUSHBUTTON STATION TO BE PULL TO START-PUSH TO STOP ILLUMINATED TYPE.

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS for FAYETTE COUNTY, GEORGIA

E-4

SCHEMATIC DIAGRAMS - SHEET 1

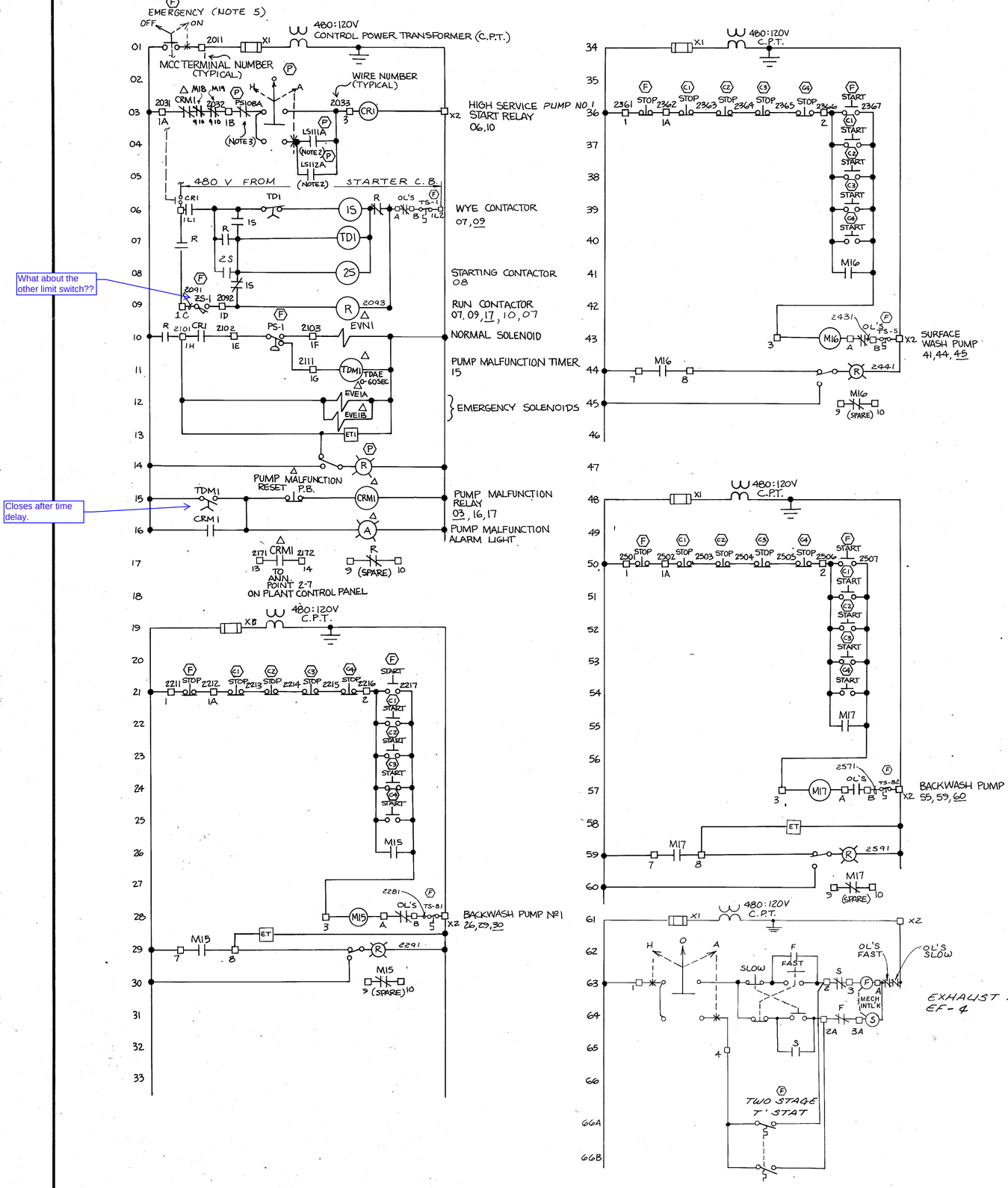
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

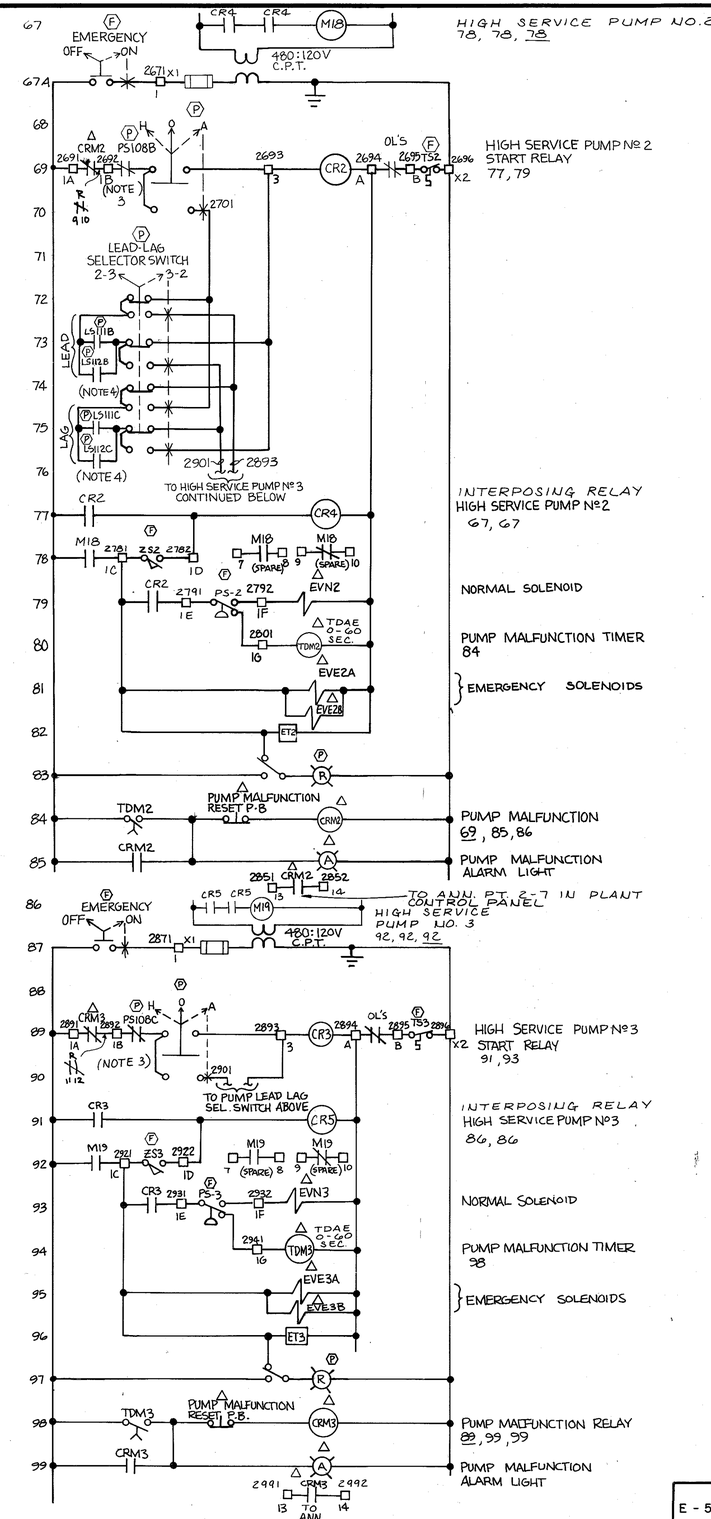
LAND LOT- | DISTRICT- | COUNTY- | STATE-

DESIGN BK | DRAWN LED | CHECK MFL | APPROVED JEM

SCALE AS NOTED | DATE 6/18/84 | FILE NO. 83175-1 | SHEET NO. 92 OF 105

XF 33506A





NOTES:

1. REFER TO SHEET E-4 FOR LEGEND.
2. CONTACTS IN RECORDERS LIR-111 & LIR-112 FOR PEACHTREE CITY AND HIGHWAY 92 ELEVATED TANKS. CONTACTS CLOSE ON SET LOW LEVEL IN THE ELEVATED TANKS AND OPEN WHEN THE LEVEL REACHES HIGHER LEVEL SET POINT.
3. CONTACT IN SYSTEM PRESSURE RECORDER PIR 108. OPENS ON HIGH SYSTEM PRESSURE.
4. LEAD AND LAG SET POINT CONTACTS IN RECORDERS LIR-111 & LIR-112 FOR PEACHTREE CITY AND HIGHWAY 92 ELEVATED TANKS. CONTACTS CLOSE ON FALLING LEVELS IN THE ELEVATED TANKS AND OPEN WHEN THE LEVEL REACHES HIGHER SET POINT.
5. EMERGENCY "ON-OFF" SWITCH FOR THE HIGH SERVICE PUMP NO. 1 SHALL HAVE TWO NORMALLY OPEN CONTACTS WIRED AS SHOWN.

LOCATION LEGEND

- — NO SYMBOL DENOTES DEVICE ON M.C.C.
- (P) LOCATED ON PLANT CONTROL PANEL
- (F) LOCATED IN FIELD (LOCAL)
- (C1) LOCATED ON FILTER CONSOLE
  C1 - Nº1 FILTER CONSOLE
  C2 - Nº2 FILTER CONSOLE
  C3 - Nº3 FILTER CONSOLE
  C4 - Nº4 FILTER CONSOLE
- △ LOCATED IN SURGE CONTROL PANEL ASSOCIATED WITH THE HIGH SERVICE PUMP.

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WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

E - 5

SCHEMATIC DIAGRAMS - SHEET 2

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

	DESIGN BK	SCALE NONE
	DRAWN AJ	DATE 6/18/84
LAND LOT-	CHECK MFL	FILE NO. 83175-1
DISTRICT-	APPROVED JEM	SHEET NO. 93 OF 105
COUNTY-		
STATE-		

KF 33506A

NOTES

1. Contractor to relocate existing telemetering panels from the existing water treatment plant and install these as indicated on sheet E-9.
2. Remove existing wires from TDR relay coils to existing H-O-A switches. Install new wires to terminal block as shown. Refer to manufacturer's (Universal Controls, Inc., Roswell, Georgia) Drawings No.s D-13650-1 and D-12280-1 for internal wiring of the existing panels.
3. Termination of field mounted instruments shown for Filter No. 4 only. Similiar termination required for other filters is not shown. Refer to Conduit & Cable Schedules Sheets E-14, E-15, & E-16.
4. Refer to manufacturer's drawings for Turbidity Monitoring System wire, terminations.

LEGEND

TERMINAL BLOCK NUMBER — TERMINAL NUMBER — WIRE NUMBER

TBA

1	2032
2	2033
3	2171
4	2172
5	2291
6	2292
7	2361
8	23

TBA — SPARE

1	BWC1
2	BWC1
3	BWH1
4	BWH1
5	BWC1
6	BWC1
7	BWC2
8	BWC2
9	BWH2
10	BWH2
11	BWC2
12	BWC2
13–40	

TBB

1	2031
2	2032
3	2033
4	2036
5	2091
6	2171
7	2172
8	2212
9	2213
10	2214
11	2215
12	2216
13	2217
14	2362
15	2363
16	2364
17	2365
18	2366
19	2367
20	2216
21	2216
22	2217
23	2217
24	2366
25	2366
26	2367
27	2367
28–40	

TBC

1	2502
2	2503
3	2504
4	2505
5	2506
6	2507
7	2691
8	2692
9	2693
10	2696
11	2781
12	2851
13	2852
14	2891
15	2892
16	2893
17	2896
18	2921
19	2991
20	2992
21	2506
22	2506
23	2507
24	2507
25–40	

TBD

1	1031
2	1032
3	1033
4	1041
5	1061
6	1062
7	1111
8	1112
9	1113
10	1121
11	1141
12	1142
13	1411
14	1412
15	1413
16	1414
17	1415
18	1421
19	1422
20	1431
21	1432
22	1481
23	1482
24	1483
25	1484
26	1485
27	1491
28	1492
29	1501
30	1502
31	1551
32	1552
33	1553
34	1554
35	1555
36	1561
37	1562
38	1571
39	1572
40	

TBE — SPARE

1	1621
2	1622
3	1623
4	1624
5	1641
6	1642
7	1691
8	1692
9	1693
10	1694
11	1711
12	1712
13–40	

TBF

1	T1-14
2	T1-16
3	T1-15
4	T1-3
5	T1-54-0
6	T1-74-0
7	T1-F-0
8	
9	T2-12
10	T2-17
11	T2-7
12	T2-10
13	T2-P-0
14	T2-C-0
15	T2-B-0
16–28	
29	10H
30	10N
31	10N
32	10N
33	10N
34	10H
35	10H
36	10H
37	10H
38	10N
39	9H
40	9N

TBG

1	101A+
2	101A-
3	SHLD
4	101B+
5	101B-
6	SHLD
7	102+
8	102-
9	SHLD
10	105A+
11	
12	105A-
13	SHLD
14	SHLD
15	
16	106+
17	106-
18	SHLD
19	107+
20	107-
21	SHLD
22	108+
23	108-
24	SHLD
25	105B+
26	105B-
27	SHLD
28–40	

HWY 54 — HWY 74 — FAYETTEVILLE CITY

OPEN CLOSE T1-14 — OPEN CLOSE T1-16 — H O A T1-15 — T1-3

FUTURE CONTACT ON FAYETTEVILLE EC. TANK RECORDER

T1-54-0 — T1-74-0 — T1-F-0 — 10N

PEACHTREE PARKWAY — COUNTY LINE — BOOSTER PUMP

OPEN CLOSE T2-12 — OPEN CLOSE T2-17 — H O A T2-7 — T2-10

CONTACT IN BROOKS ELEVATED TANK RECORDER

T2-P-0 — T2-C-0 — T2-B-0 — 10N

FIQR 105 (+ −)

C58 — C59 — C94 — C95 — C97 — C98 — C96

MCC-1 SEE SHEET E-5 FOR TERMINATION

MCC-2 SEE SHEET E-5 FOR TERMINATION

MCC-3 SEE SHEET E-4 FOR TERMINATION

120V AC PANEL-CC CIRC. # 9 — 120 V AC PANEL-CC CIRC. # 10

C151 — FT 101 (H N + −) — FCV 101 (H N + −)

C152 — FT 105 (H N + −) — FCV 105 (H N + −)

C176 — LT 106 (H N + −) — C177

C178 — FT 107 (H N + −) — C179 — FT 108 (H N + −) — C171

C172 — C173 — C174 — C175

120V AC PANEL-CA CIRC #7 — 120V AC PANEL-CA CIRC #9 — 120V AC PANEL-CA CIRC. #11

C154 — LT 102 (H N + −) — C153 — 120V AC PANEL-CA CIRC #5

TO FILTER CONSOLES. CONNECT FI-105, FI-205, FI-305 & FI-405 IN SERIES.

C150 — C149

FILTER NO. 1 CONSOLE

TYPICAL FOR ALL FILTER CONSOLES

STOP / START — B.W. PUMP NO. 1 — SURFACE WASH PUMP — B.W. PUMP NO. 2 — B.W. RATE SELECTOR SWITCH (HIGH / REF / LOW)

TBF11

1	2212
2	2213
3	2216
4	2217
5	2362
6	2363
7	2366
8	2367
9	2502
10	2503
11	2506
12	2507
13	BWC1
14	BWH1
15	BWC1
16	BWC2
17	BWH2
18	BWC2
19–23	
24	
25	H
26	N

TBF12

1	1FIVI
2	1FIVE
3	1FIVO
4	1FIVCL
5	1FIVC
6	1FSVI
7	1FSVE
8	1FSVO
9	1FSVCL
10	1FSVC
11	1FBVI
12	1FBVE
13	1FBVO
14	1FBVCL
15	1FBVC
16	1FDVI
17	1FDVE
18	1FDVO
19	1FDVCL
20	1FDVC
21	1FFDVI
22	1FFDVE
23	1FFDVO
24	1FFDVCL
25	1FFDVC
26	

FILTER NO. 2 CONSOLE

TBF21

1	2213
2	2216
3	2216
4	2217
5	2363
6	2364
7	2366
8	2367
9	2503
10	2504
11	2506
12	2507
13	BWC1
14	BWH1
15	BWC1
16	BWC2
17	BWH2
18	BWC2
19–23	
24	
25	H
26	N

TBF22

1	2FIVI
2	2FIVE
3	2FIVO
4	2FIVCL
5	2FIVC
6	2FSVI
7	2FSVE
8	2FSVO
9	2FSVCL
10	2FSVC
11	2FBVI
12	2FBVE
13	2FBVO
14	2FBVCL
15	2FBVC
16	2FDVI
17	2FDVE
18	2FDVO
19	2FDVCL
20	2FDVC
21	2FFDVI
22	2FFDVE
23	2FFDVO
24	2FFDVCL
25	2FFDVC
26	

FILTER #3 CONSOLE

TBF31

1	2214
2	2215
3	2216
4	2217
5	2364
6	2365
7	2366
8	2367
9	2504
10	2505
11	2506
12	2507
13	BWC1
14	BWH1
15	BWC1
16	BWC2
17	BWH2
18	BWC2
19–23	
24	
25	H
26	N

TBF32

1	3FIVI
2	3FIVE
3	3FIVO
4	3FIVCL
5	3FIVC
6	3FSVI
7	3FSVE
8	3FSVO
9	3FSVCL
10	3FSVC
11	3FBVI
12	3FBVE
13	3FBVO
14	3FBVCL
15	3FBVC
16	3FDVI
17	3FDVE
18	3FDVO
19	3FDVCL
20	3FDVC
21	3FFDVI
22	3FFDVE
23	3FFDVO
24	3FFDVCL
25	3FFDVC
26	

TERMINATION SIMILAR TO NO. 1 FILTER CONSOLE

FILTER NO. 4 CONSOLE (NOTE 3)

TBF41

1	2215
2	2216
3	2216
4	2217
5	2365
6	2366
7	2366
8	2367
9	2505
10	2506
11	2506
12	2507
13	BWC1
14	BWH1
15	BWC1
16	BWC2
17	BWH2
18	BWC2
19–22	
23	H
24	N
25	H
26	N

TBF42

1	4FIVI
2	4FIVE
3	4FIVO
4	4FIVCL
5	4FIVC
6	4FSVI
7	4FSVE
8	4FSVO
9	4FSVCL
10	4FSVC
11	4FBVI
12	4FBVE
13	4FBVO
14	4FBVCL
15	4FBVC
16	4FDVI
17	4FDVE
18	4FDVO
19	4FDVCL
20	4FDVC
21	4FFDVI
22	4FFDVE
23	4FFDVO
24	4FFDVCL
25	4FFDVC
26	

TERMINATION SIMILAR TO NO. 1 FILTER CONSOLE

EXISTING TELEMETERING PANEL #1 (NOTE 1)

TB

1	10H
2	10N
3	T1-3
4–11	
12	T1-14
13	T1-15
14	T1-16
15–20	

NEW WIRES (NOTE 2) — TDR2 — TDR1 — TDR3

T1-54-0 — T1-74-0 — T1-F-0 — CONNECT TO EXIST. VALVE OPEN GREEN LIGHTS TO PARALLEL CONTROL PANEL GREEN LIGHTS

TERMINATE NEW TELEPHONE LINES

EXISTING TELEMETERING PANEL #2 (NOTE 1)

TB

1	10H
2	10N
3–6	
7	T2-7
8–9	
10	T2-10
11	
12	T2-12
13–16	
17	T2-17
18–25	

NEW WIRES (NOTE 2) — TDR1 — TDR2 — TDR3

T2-P-0 — T2-C-0 — T2-B-0 — CONNECT TO EXIST. GREEN LIGHTS TO PARALLEL CONTROL PANEL GREEN LIGHTS

TERMINATE NEW TELEPHONE LINES.

C139 — C140 — C141 — C142 — C143 — FILTER #3 VALVES

C132 — C135 — C136 — C137 — C138 — FILTER #2 VALVES

C133 FILTER TO DRAIN C131 B VALVE

120V AC PANEL-CC CIRC. #37 — 120 V AC PANEL-CC CIRC. #35

120V AC PANEL-CC CIRC # 39

120V AC PANEL-CC CIRC # 41

C167 — C168 — TO PDT-906 TO FE-906 TO FE-907

C169 — C170 — PDT 403 (H N + −)

C194 — C195 — C196 — C197 — C198 — FILTER #4 VALVES

FCV 404 (H N + −) — FT 404 (H N + −)

INFLUENT VALVE — IFIVI IFIVE IFIVO IFIVCL IFIVC — ZS-OPEN — ZS-CLOSE

BACKWASH VALVE — IFBVI IFBVE IFBVO IFBVCL IFBVC — ZS-OPEN — ZS-CLOSE

SURFACE WASH VALVE — IFSVI IFSVE IFSVO IFSVCL IFSVC — ZS-OPEN — ZS-CLOSE

DRAIN VALVE — IFDVI IFDVE IFDVO IFDVCL IFDVC — ZS-OPEN — ZS-CLOSE — ZS CLOSED

IFFDVI IFFDVE IFFDVO IFFDVCL

C130

REV. NO.	DATE	DESCRIPTION		BY	APP'D BY		

Mallett & Associates
4513 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

E 6 — INTERCONNECTION DIAGRAM

LAND LOT- | DISTRICT- | COUNTY- | STATE-

DESIGN	BK
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	NONE
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	94 OF 105

NOTES

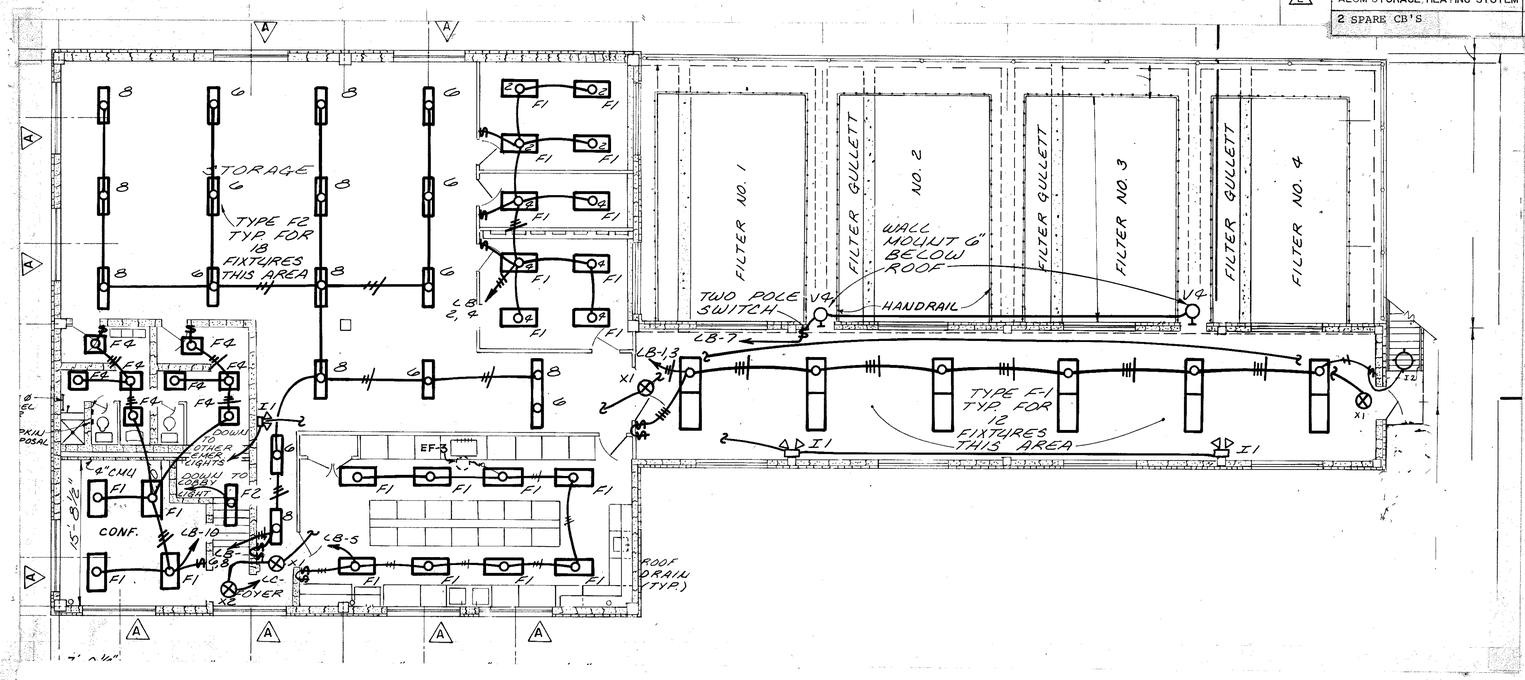
1. PROVIDE MANUAL MOTOR STARTER WITH "HAND-OFF-AUTOMATIC" SWITCH. CONNECT THERMOSTAT CONTACT ON THE "AUTOMATIC" SIDE OF THE STARTER.

PANEL - "LB" | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE

MOUNTING: XX FLUSH / SURFACE | MAINS: LUGS ONLY / XX MAIN BREAKER 125 AMP / AMP / TOP / XX BOTTOM | NEUTRAL: 50% / XX 100%

COVER: | ALL BRANCH BKRS. 20A., 1 POLE UNLESS NOTED OTHERWISE. U/L LISTED BKR. INTERRUPTING RATING 10,000 RMS SYM AMPS

LOCATION	LOAD (KVA)	NO.		NO.	LOAD (KVA)	LOCATION
FILTER CONSOLE AREA LIGHTS	1.4	1		2	0.8	BREAK ROOM LIGHTS
	1.2	3		4	1.5	OPERATIONS OFFICE
LABORATORY LIGHTS & EF-3	1.6	5		6	1.0	SECOND FLOOR LIGHTS
FILTER AREA LIGHTS	0.4	7		8	1.0	SECOND FLOOR LIGHTS
	5	9		10	1.3	CONF & LADIES ROOM LIGHTS
PIPE GALLERY LIGHTS	1.6	11		12	1.4	FIRST FLOOR LIGHTS
SHOP & ELEC. ROOM LIGHTS	0.8	13		14	1.0	FIRST FLOOR LIGHTS
ALUM LIME ROOM LIGHTS	0.4	15		16	1.4	CHEMICAL/CHLORINE ROOM LIGHTS
LIGHTING CONTACTOR NO. 1		17		18		LIGHTING CONTACTOR NO. 3
LIGHTING CONTACTOR NO. 2		21		22	0.4	EXHAUST FAN EF-7
				24	0.6	LOBBY & LOCKER ROOM LIGHTS
ELEC. & MECH. ROOM LIGHTS		25		26		REFRIGERATOR RECEPT.
LAB RECEPTACLES		27		28		LAB RECEPTACLES
LAB RECEPTACLES		31		32		LAB RECEPTACLES
LAB RECEPTACLES		35		34		LAB RECEPTACLES
ALUM STORAGE HEATING SYSTEM		37		36		LAB RECEPTACLES
2 SPARE CB'S		39-41		38-42		3 SPARE C B'S



SECOND FLOOR - PLAN VIEW

SCALE : 1/8" = 1'-0"

LEGEND

- FI ○ — FLUORESCENT LIGHTING FIXTURE WITH OUTLET. FIXTURE TYPE AS INDICATED.
- ⊗ — EXIT SIGN
- ⊢○ — WALL MOUNTED LIGHTING FIXTURE AND OUTLET. FIXTURE TYPE AS INDICATED.
- (J) — JUNCTION BOX
- LT ▭ — LIGHTING TRANSFORMER
- ▬ — LIGHTING PANEL BOARD.
- ⫽→ LB-1 — HOMERUN TO LIGHTING PANEL. CIRCUIT NUMBER AS INDICATED. SHORT HASH-MARKS INDICATE NUMBER OF №12 AWG PHASE CONDUCTORS. LONG HASH-MARKS INDICATE NUMBER OF №12 AWG NEUTRAL CONDUCTORS. NO HASH-MARKS INDICATE 2 #12 AWG CONDUCTORS IN THE CONDUIT.
- ⌒ — CONDUIT RUN EXPOSED
- ⌒ — CONDUIT CONCEALED IN FLOOR AND/OR WALL.
- ⌒ — CONDUIT CONCEALED IN WALL AND/OR ABOVE SUSPENDED CEILING.
- S — SINGLE POLE SWITCH
- S^3 — THREE WAY SWITCH
- S^M — MANUAL MOTOR STARTER

Mallett & Associates
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404/432-5634

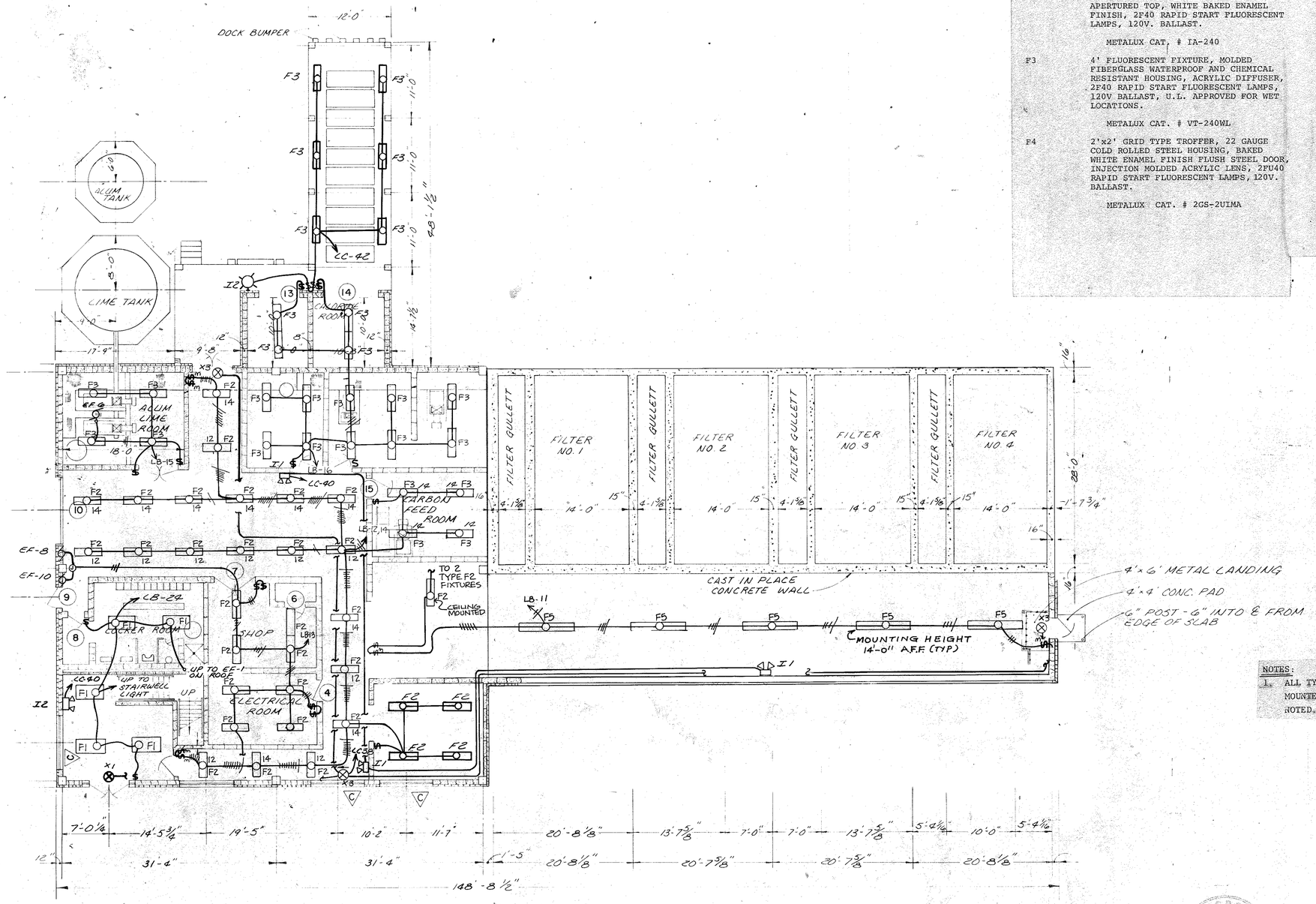
WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
SECOND FLOOR- LIGHTING LAYOUT

E-7

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
2	1/07/86	ALUM STORAGE HEATING SYSTEM	SB	JEM
1	1/24/85	GENERAL	SB	JEM

	DESIGN SNK	SCALE AS NOTED	
	DRAWN AJ	DATE 6/18/84	
LAND LOT-	CHECK SNK	FILE NO. 83175-1	
DISTRICT-	APPROVED JEM	SHEET NO. 95 OF 105	
COUNTY-			
STATE-			

AF 8318



FIRST FLOOR - PLAN VIEW

SCALE: 1/8" = 1'-0"

NOTE: DO NOT USE DIMENSIONS ON THIS SHEET FOR BUILDING PURPOSES. REFER TO ARCHITECTURAL PLANS - SHEET NO. 48.

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION
F1	2'x 4' GRID TYPE TROFFER, 22 GAUGE COLD ROLLED STEEL HOUSING, BAKED WHITE ENAMEL FINISH, FLUSH STEEL DOOR, INJECTION MOLDED ACRYLIC LENS, 4F40 RAPID START FLUORESCENT LAMPS, 120V. BALLAST. METAULUX CAT. #2GS-440IMA
F2	4' INDUSTRIAL FIXTURE, 20 GAUGE COLD ROLLED STEEL CHANNEL WITH APERTURED TOP, WHITE BAKED ENAMEL FINISH, 2F40 RAPID START FLUORESCENT LAMPS, 120V. BALLAST. METALUX CAT, # IA-240
F3	4' FLUORESCENT FIXTURE, MOLDED FIBERGLASS WATERPROOF AND CHEMICAL RESISTANT HOUSING, ACRYLIC DIFFUSER, 2F40 RAPID START FLUORESCENT LAMPS, 120V BALLAST, U.L. APPROVED FOR WET LOCATIONS. METALUX CAT. # VT-240WL
F4	2'x2' GRID TYPE TROFFER, 22 GAUGE COLD ROLLED STEEL HOUSING, BAKED WHITE ENAMEL FINISH FLUSH STEEL DOOR, INJECTION MOLDED ACRYLIC LENS, 2FU40 RAPID START FLUORESCENT LAMPS, 120V. BALLAST. METALUX CAT. # 2GS-2UIMA
F5	8' INDUSTRIAL FIXTURE, 20 GAUGE COLD ROLLED STEEL CHANNEL WITH APERTURED TOP, WHITE BAKED ENAMEL FINISH, 2F96 RAPID START FLUORESCENT LAMPS, 120V BALLAST. METALUX CAT. # IA-296HO
V1	POLE MOUNTED LUMINAIRE, CAST ALUMINUM HOUSING, GASKETED CAST ALUMINUM HOUSING DOOR WITH TEMPERED HEAT RESISTANT GLASS LENS, 150 WATT HIGH PRESSURE SODIUM LAMP, 208 VOLT BALLAST, 25' ROUND TAPERED STEEL POLE. LUMINAIRE: McGRAW EDISON CAT. #FR1835-9 POLE: SPI CAT #RTLM-25
V1A	SIMILAR TO V1 ABOVE EXCEPT WITH BRACKET FOR MOUNTING TWO LUMINAIRES. LUMINAIRE: McGRAW EDISON CAT. #FR1835-9 WITH FA67 BRACKET POLE: SPI CAT. #RTLM-25
V2	SIMILAR TO V1 ABOVE EXCEPT WITH 250W HIGH PRESSURE SODIUM LUMINAIRE. LUMINAIRE: McGRAW EDISON CAT. FR1255-9 POLE: SPI CAT #RTLM-25
V3	POLE MOUNTED LUMINAIRE, PRISMATIC ACRYLIC REFRACTOR, CAST ALUMINUM BASE, 150 WATT HIGH PRESSURE SODIUM LAMP, 208 VOLT BALLAST, 10' ROUND STEEL POLE. LUMINAIRE: McGRAW EDISON CAT. #TS-4283-9 POLE: SPI CAT. #RSM-10-3 WITH 3" OD. TENON
X1	EXIT SIGN, ALUMINUM CONSTRUCTION WITH SATIN ANODIZED FINISH, AC/DC POWERED, CEILING MOUNTED, RED LETTERS, 120V AC INPUT, 6V DC BATTERY CHLORIDE CAT. #SX-C-1-R-12.
X2	SIMILAR TO X1 ABOVE EXCEPT WITH DOUBLE FACE. CHLORIDE CAT. #SX-C-2-R
X3	SIMILAR TO X1 ABOVE EXCEPT WALL MOUNTED CHLORIDE CAT. #SX-S-1-R
I1	EMERGENCY LIGHTING FIXTURE, FULLY AUTOMATIC SOLID STATE BATTERY CHARGER, SEALED LEAD CALCIUM BATTERY, TWO 350 LUMEN LAMP HEADS, 120V AC INPUT., PUSH-TO-TEST SWITCH, HIGH-LOW CHARGE INDICATOR LIGHT. CHLORIDE CAT. #200-A74-TT-2
I2	INCANDESCENT WALL BRACKET, CAST ALUMINUM CONSTRUCTION, MATTE BLACK FINISH, 150 WATT LAMP, UL LISTED FOR WET LOCATIONS. GUTH CAT. #B17-001
V4	WALL MOUNTED LUMINAIRE, CAST ALUMINUM HOUSING, GASKETED CAST ALUMINUM DOOR WITH TEMPERED HEAT RESISTANT GLASS LENS, 150 WATT HIGH PRESSURE SODIUM LAMP, 208 VOLT BALLAST. MCGRAW EDISON CAT. #FW1831-9

NOTES:
1. ALL TYPE F2 & F3 LIGHTING FIXTURES ON FIRST FLOOR TO BE MOUNTED 10'-0" A.F.F. WITH STEM HANGERS, UNLESS OTHERWISE NOTED.

GEORGIA REGISTERED PROFESSIONAL ENGINEER S.N. KULKARNI

Mallett & Associates
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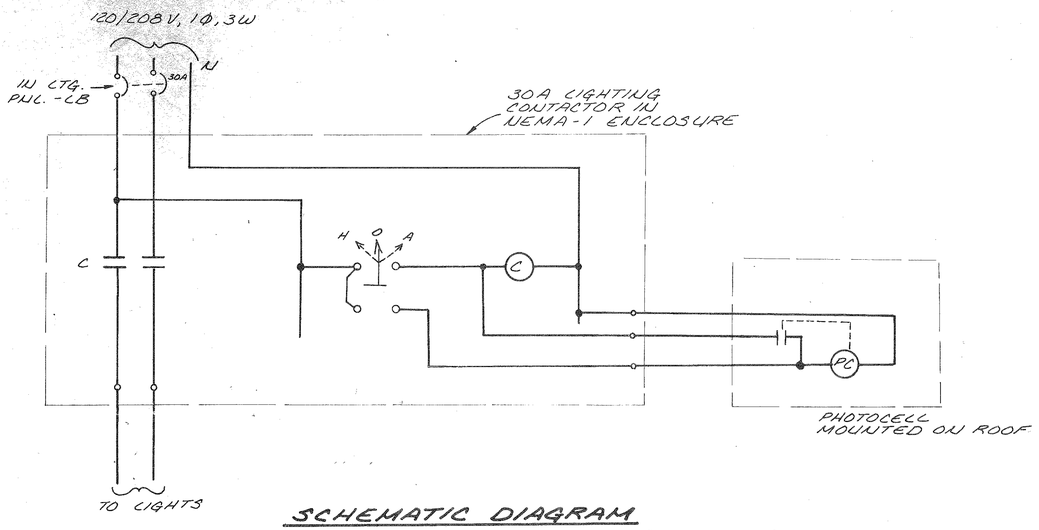
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
FIRST FLOOR - LIGHTING LAYOUT

E-8

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
DESIGN	SNK
DRAWN	AJ
CHECK	SNK
APPROVED	JEM
SCALE	AS NOTED
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	96 OF 105



SCHEMATIC DIAGRAM
LIGHTING CONTACTOR (3 REQ'D)

LIGHTING PANEL - "LC"

VOLTAGE: 120/208V, 3PHASE, 4 WIRE

MOUNTING: X SURFACE FLUSH

MAINS: LUGS ONLY AMP; X MAIN BREAKER 175 AMP; TOP; X BOTTOM

NEUTRAL: 50%; X 100%

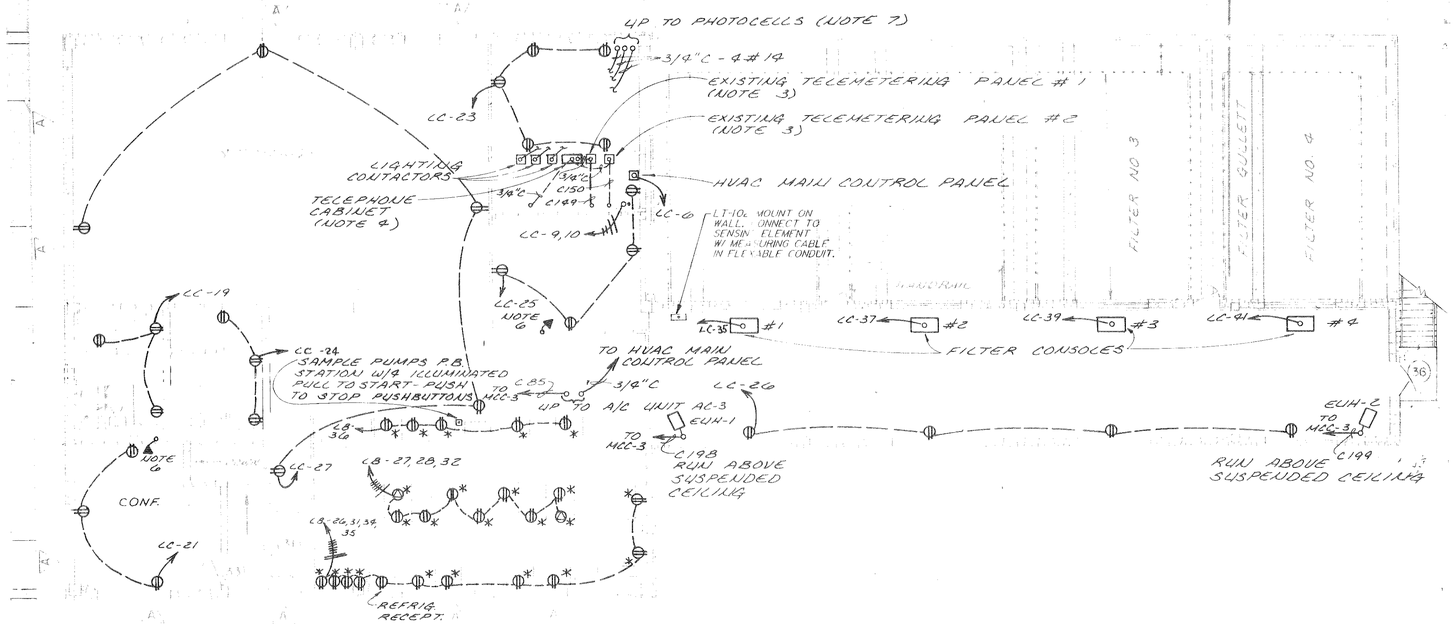
CQVER:

ALL BRANCH BKRS. 20A., 1 POLE UNLESS NOTED OTHERWISE
U/L LISTED BKR. INTERRUPTING RATING 10,000 RMS SYM.AMPS

LOCATION	LOAD (KVA)	NO
LOBBY A/C UNIT AC-1	10.1	1
		3
LOCKER ROOM A/C UNIT AC-2	5.9	5
		7
PLANT CONTROL PANEL	1.0	9
HYDRATED LIME FEEDER NO. 1	1.8	11
HYDRATED LIME FEEDER NO. 2	1.8	13
FLUORIDE FEEDER	1.8	15
EXHAUST FAN EF-5	0.3	17
LADIES ROOM RECEPTACLES	0.6	19
CONF. RECEPTACLES	0.6	21
BREAK ROOM RECEPTACLES	1.2	23
CONTROL ROOM RECEPTACLES	1.0	25
SECOND FLOOR RECEPTACLES	1.0	27
LOCKER ROOM & LOBBY RECEPTACLES	1.0	29
FIRST FLOOR RECEPTACLES		31
FIRST FLOOR RECEPTACLES		33
FILTER NO. 1 CONSOLE	0.5	35
FILTER NO. 2 CONSOLE	0.5	37
FILTER NO. 3 CONSOLE	0.5	39
FILTER NO. 4 CONSOLE	0.5	41

40 A B C
30

NO	LOAD (KVA)	LOCATION
2	2.0	WALL HEATER
6	0.5	HVAC MAIN CONTROL PANEL
8	1.8	POTASSIUM PERMANGANATE FEEDER
10	1.0	PLANT CONTROL PANEL
12	0.2	ALUM METERING PUMP NO. 1
14	0.2	ALUM METERING PUMP NO. 2
16	1.8	CARBON FEEDER
18	1.2	CARBON FEEDER DUST COLLECTOR
20	0.5	SODIUM CHLORITE FEEDER
22	0.2	CHLORINE DETECTOR
24	0.6	MEN'S ROOM RECEPT.
26	1.0	CORRIDOR RECEPT.
28	1.5	SHOP OUTLETS
32	0.5	SHOP RECEPTACLES
34	0.5	SHOP & ELEC. ROOM RECEPTACLES
36	0.6	PIPE GALLERY RECEPTACLES
38		EXIT SIGNS
40		EMERGENCY LIGHTS
42		LOADING DOCK LIGHTS



SECOND FLOOR - PLAN VIEW

SCALE: 1/8" = 1'-0"

NOTES:

1. REFER TO SHEET E-7 & E-10 FOR LEGEND
2. RECEPTACLES SHOWN WITH AN ASTERISK (*) TO BE FURNISHED MOUNTED ON LAB. FURNITURE BY MANUFACTURER, SEE SHEET A-5 FOR EXACT LOCATIONS OF RECEPTACLES.
3. CONDUITS C149 & C150 TO BE ROUTED EXPOSED BELOW THE FLOOR. CONTRACTOR TO RELOCATE THESE PANELS FROM EXIST. WATER TREATMENT PLANT.
4. CONTRACTOR TO FURNISH AND INSTALL TELEPHONE CABINET, SQ. D, CAT. #TC-24236B WITH TC-24236TS FRONT.
5. HVAC SYSTEM WIRING AND CONDUITS NOT SHOWN ON THE DRAWINGS MUST BE FURNISHED PER MANUFACTURER'S APPROVED SHOP DRAWINGS. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF THERMOSTATS AND VARIABLE AREA VOLUME BOXES.
6. RUN A 3/4" EMPTY CONDUIT WITH PULL WIRE FROM EACH TELEPHONE OUTLET TO THE TELEPHONE CABINET IN ELECTRICAL ROOM.
7. CONTRACTOR TO FURNISH AND INSTALL ON THE ROOF THREE PHOTOCELLS. REFER TO SCHEMATIC DIAGRAM ON THIS SHEET FOR CONNECTION OF PHOTOCELLS TO THE LIGHTING CONTACTORS.

NOTE: DO NOT USE DIMENSIONS ON THIS SHEET FOR BUILDING PURPOSES. REFER TO ARCHITECTURAL PLANS - SHEET NO'S 49 & 53

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA
CHEMICAL AND FILTRATION BUILDING
SECOND FLOOR - POWER & CONTROL LAYOUT

E-9

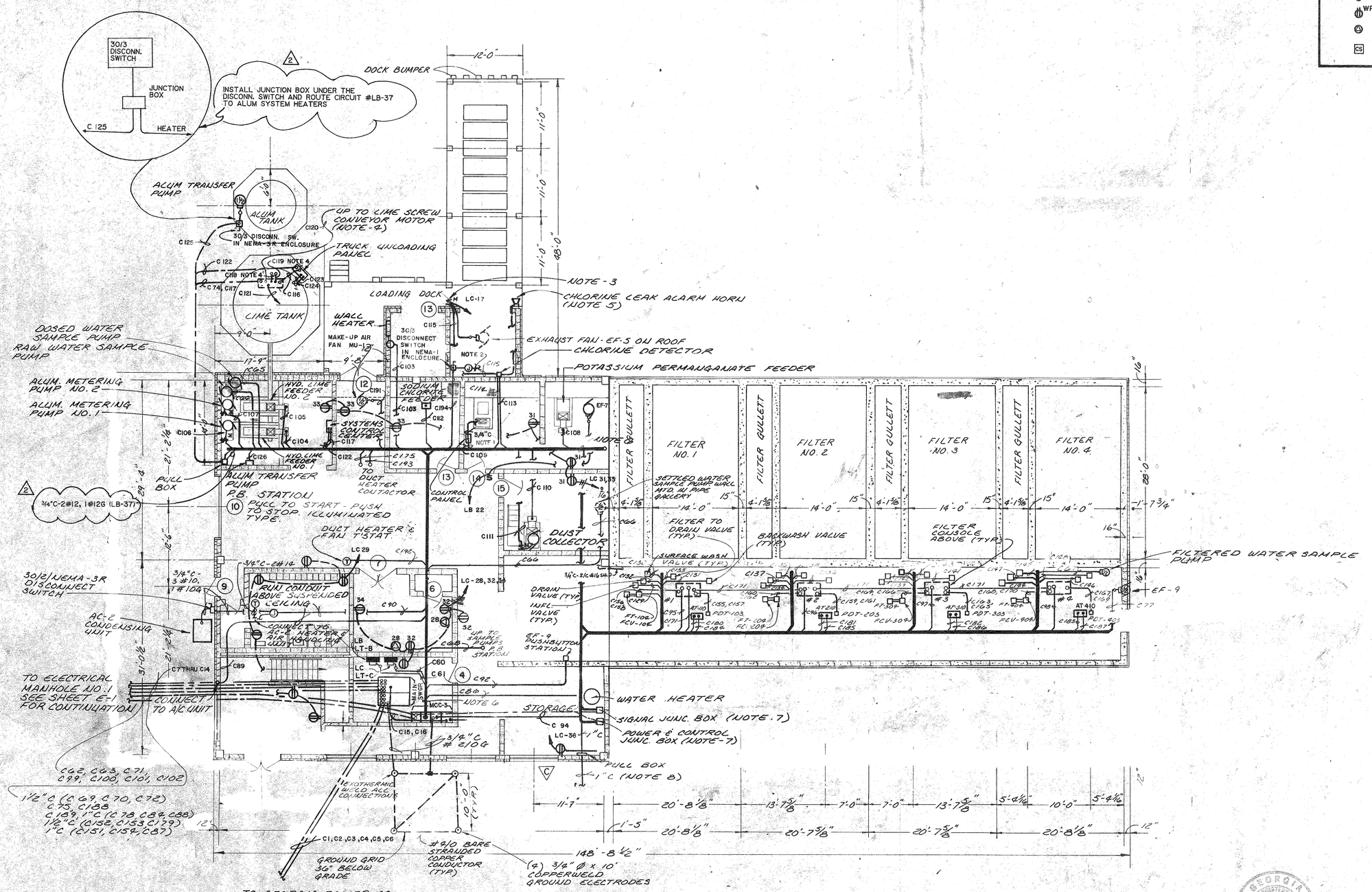
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1/24/85	GENERAL	SB	JEM

LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	
DESIGN BK	SCALE AS NOTED
DRAWN LED	DATE 6/18/84
CHECK MFL	FILE NO. 83175-1
APPROVED JEM	SHEET NO. 97 OF 105

AF 8316

LEGEND

———	Conduit Bank
S^M	Manual Motor Starter
WP	Weatherproof Receptacle with Spring Door
	208V, 1 Phase Outlet
CS	Control Station, Refer to Schematic Diagram.


30/3 DISCONN. SWITCH
JUNCTION BOX
C 125
HEATER
INSTALL JUNCTION BOX UNDER THE DISCONN. SWITCH AND ROUTE CIRCUIT #LB-37 TO ALUM SYSTEM HEATERS
DOCK BUMPER
12'-0"
11'-0"
11'-0"
11'-0"
48'-0"
ALUM TRANSFER PUMP
ALUM TANK
C120
UP TO LIME SCREW CONVEYOR MOTOR (NOTE-4)
30/3 DISCONN. SW. IN NEMA-3R ENCLOSURE
TRUCK UNLOADING PANEL
C122
C119 NOTE 4
C118 NOTE 4
C74, C117
C121
C116
C123
C124
LOADING DOCK
LC-17
NOTE-3
CHLORINE LEAK ALARM HORN (NOTE 5)
LIME TANK
9'-0"
WALL HEATER
MAKE-UP AIR FAN MU-1
30/3 DISCONNECT SWITCH IN NEMA-1 ENCLOSURE
C115
C103
NOTE 2
EXHAUST FAN-EF-5 ON ROOF
CHLORINE DETECTOR
POTASSIUM PERMANGANATE FEEDER
DOSED WATER SAMPLE PUMP
RAW WATER SAMPLE PUMP
ALUM. METERING PUMP NO. 2
ALUM. METERING PUMP NO. 1
17'-9"
C125
HYD. LIME FEEDER NO. 2
HYD. LIME FEEDER NO. 1
C107
C105
C104
C106
C126
C122
C175
C193
SODIUM CHLORIDE FEEDER
C191
C194
C112
C113
C114
EF-7
C108
SYSTEMS CONTROL PANEL
C117
3/4"C NOTE 1
C109
NOTE 8
FILTER GULLETT
FILTER NO. 1
FILTER NO. 2
FILTER NO. 3
FILTER NO. 4
SETTLED WATER SAMPLE PUMP WELL MTD. IN PIPE GALLERY
FILTER TO DRAIN VALVE (TYP.)
BACKWASH VALVE (TYP.)
SURFACE WASH VALVE (TYP.)
FILTER CONSOLE ABOVE (TYP.)
15"
14'-0"
4'-1⅜"
16"
1'-7¾"
28'-0"
FILTERED WATER SAMPLE PUMP
EF-9
PULL BOX
ALUM TRANSFER PUMP P.B. STATION
(10) PULL TO START - PUSH TO STOP. ILLUMINATED TYPE.
3/4"C-2#12, 1#12G (LB-37)
DUCT HEATER & FAN T'STAT
LC 29
C195
3/4"C-2#10, 1#10G
DUCT HEATER CONTACTOR
TO
CONTROL PANEL
LB 22
C111
DUST COLLECTOR
LC 31,33
C110
3/4"C-2#12, 1#12G
DUCT CONDUIT ABOVE SUSPENDED CEILING
LC-28, 32, 34
C90
C60
C61
C92
C89
C7 THRU C14
LB LT-B
LC LT-C
MAIN SWITCH
MCC-3
C15, C16
C84
C85
C86
C87
C88
C99
C100
C101
C102
C62, C63, C71
C75, C188
C189, 1"C (C78, C89, C98)
1½"C (C152, C153, C179)
1"C (C151, C154, C187)
1½"C (C69, C70, C72)
3/4"C-2#10, 1#10G
C189
C190
C191
C192
C193
C194
C195
C196
C197
C198
C199
C200
C201
C202
C203
C204
C205
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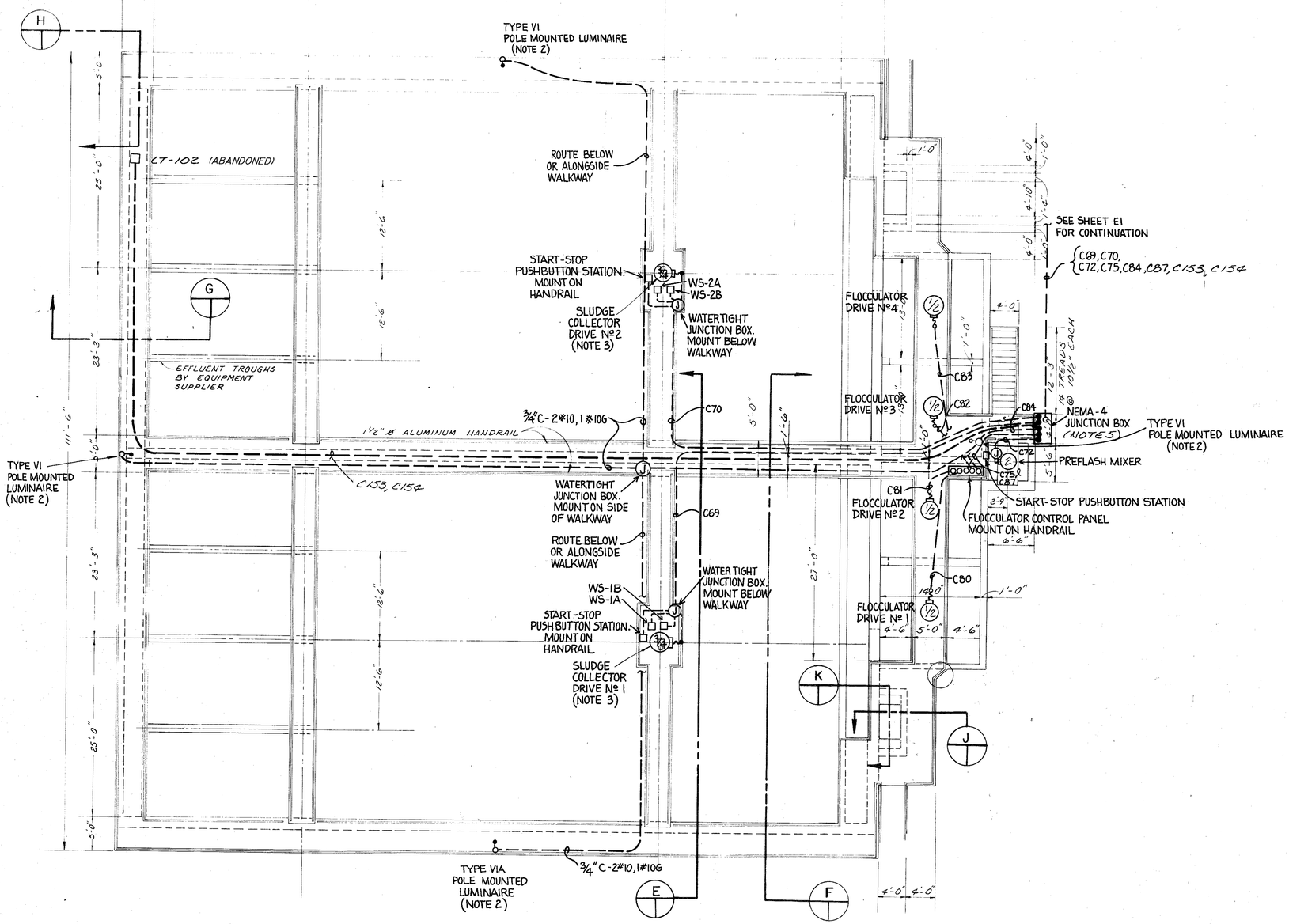
C211
C212
C213
C214
C215
C216
C217
C218
C219
C220
C221
C222
C223
C224
C225
C226
C227
C228

NOTES:

1. REFER TO SCHEMATIC AND INTERCONNECTION DIAGRAMS ON SHEETS E-4, E-5 & E-6 FOR CONNECTION OF DEVICES SHOWN ON THIS DRAWING.
2. REFER TO SHEET E-8 FOR LIGHTING FIXTURE SCHEDULE.
3. ROUTE ALL CONDUITS EXPOSED BELOW OR ALONGSIDE THE WALKWAY.
4. REFER TO SHEETS E-14, E-15 & E-16 FOR CONDUIT & CABLE SCHEDULE.
5. ALL CONDUITS RISING UP FROM NEMA-4 JUNCTION BOX SHALL BE RIGID GALVANIZED STEEL FOR THEIR ENTIRE LENGTHS. (EXPOSED OR CONCEALED IN TOP SLAB OF THE BASINS)



RAPID MIX, FLOCCULATION AND SEDIMENTATION BASINS

TOP PLAN

SCALE: 1/8" = 1'-0"

NOTE: DO NOT USE DIMENSIONS ON THIS SHEET FOR BUILDING PURPOSES. REFER TO SHEET NO'S 17, 18, 67 & 68.

GEORGIA REGISTERED No. 11205 PROFESSIONAL ENGINEER J. K. KULKARNI

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404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

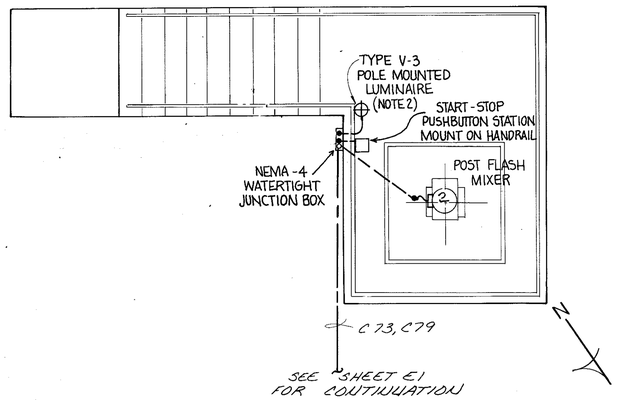
RAPID MIX, FLOCCULATION & SEDIMENTATION BASINS

LIGHTING, POWER & CONTROL LAYOUT

E-11

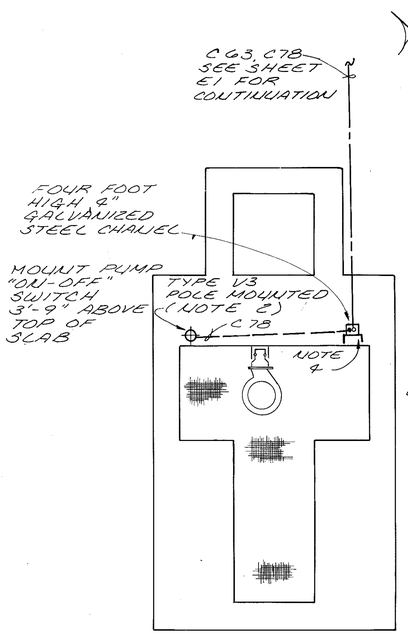
REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

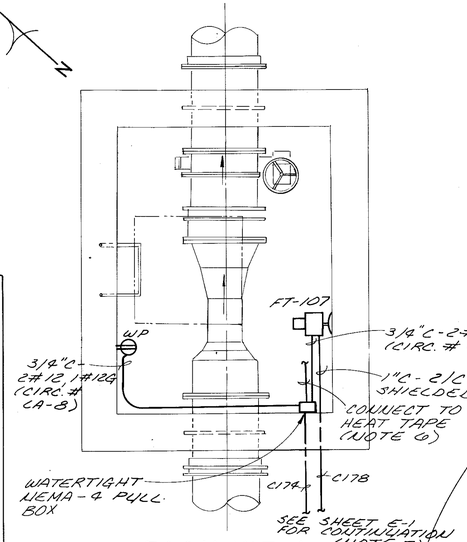
	DESIGN BK	SCALE AS NOTED
LAND LOT-	DRAWN AJ	DATE 6/18/84
DISTRICT-	CHECK MFL	FILE NO. 83175-1
COUNTY-	APPROVED JEM	SHEET NO. 99 OF 105
STATE-		



FLASH MIX STRUCTURE

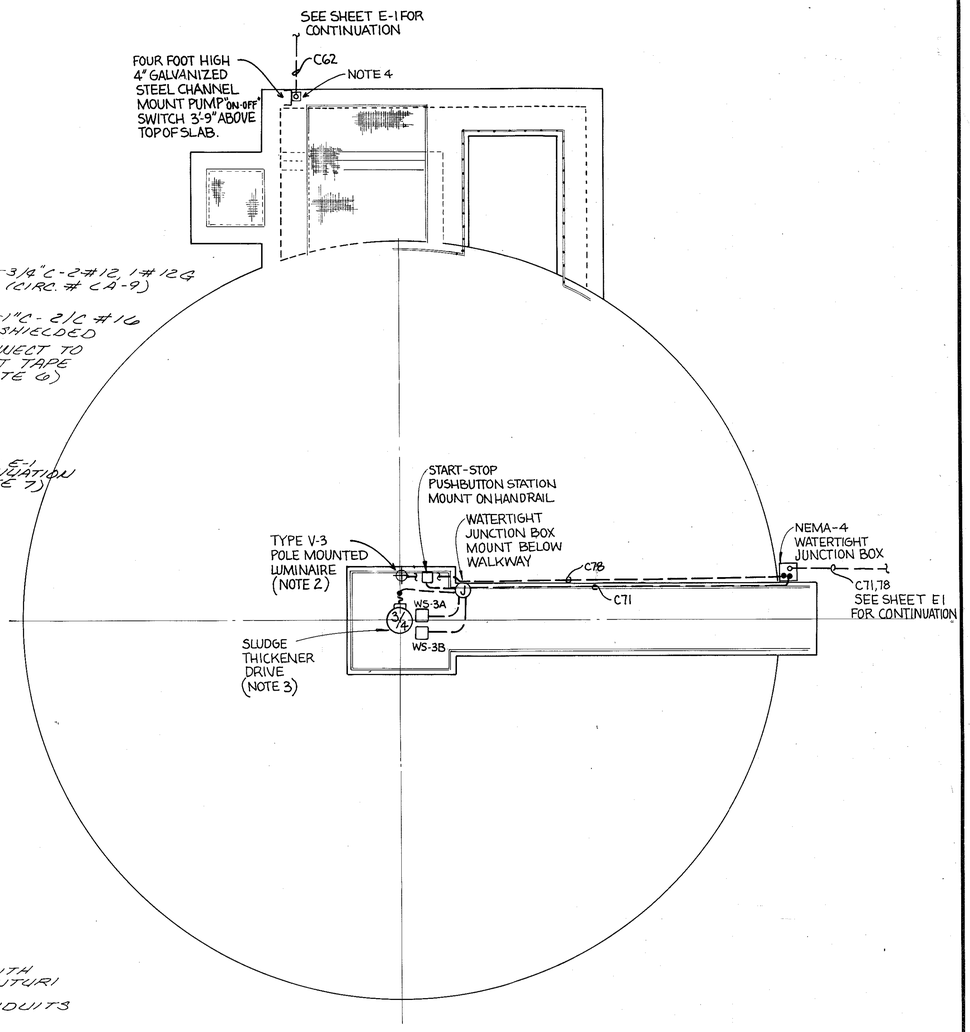
SCALE: 1/2" = 1'-0"





PLAN VIEW- FINISHED WATER METER PIT

SCALE: 1/2" = 1'-0"

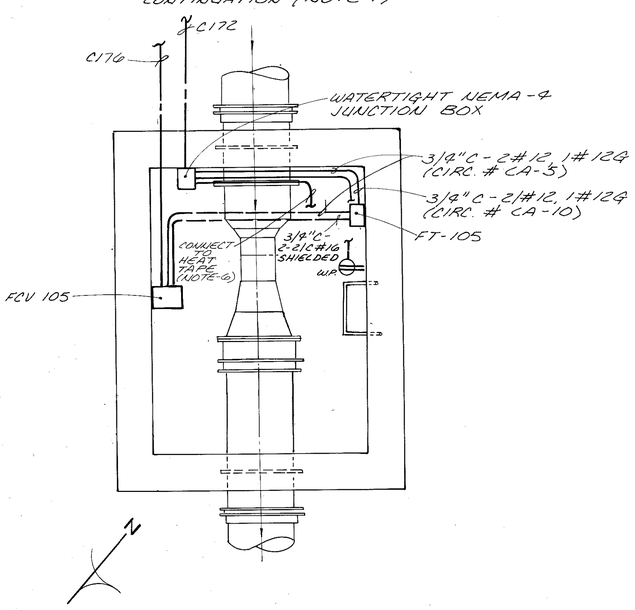


LAGOON PUMP STATION

SCALE: 3/8"=1'-0"

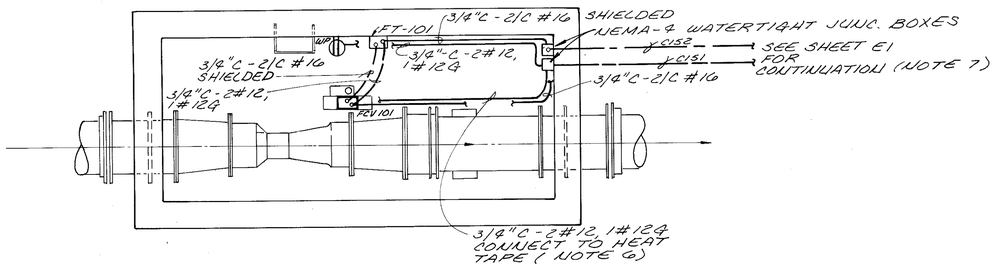
NOTES:

1. REFER TO SCHEMATIC & INTERCONNECTION DIAGRAMS ON SHEETS E4, E5 & E6 FOR CONNECTION OF DEVICES SHOWN ON THIS DRAWING.
2. REFER TO SHEET E8 FOR LIGHTING FIXTURE SCHEDULE.
3. ROUTE ALL CONDUITS EXPOSED BELOW OR ALONGSIDE THE WALKWAY.
4. MOUNT NEMA4 WATERTIGHT JUNCTION BOX ON THE CHANNEL. ROUTE PUMP MOTOR, FLOAT, AND TEMP. SWITCH CABLES THROUGH 1" SLEEVE IN CONCRETE SLAB AND SPLICE INTO THE JUNCTION BOX
5. REFER TO SHEETS E14, E15 & E16 FOR CONDUIT & CABLE SCHEDULE
6. CONTRACTOR TO FURNISH & INSTALL HEAT TRACING TAPE, SELF LIMITING TYPE, CHEMELEX CAT. # 9ATVI, WITH POWER CONNECTION KIT CAT. # PVK FOR D.P. LINES FROM VENTURI AND WATER LINES FOR CYLINDER OPERATOR.
7. INSTALL O2 TYPE WSK WATERTIGHT SLEEVES FOR CONDUITS ENTERING THE METER PITS.



BACKWASH METER PIT

SCALE: 1/2" = 1'-0"



RAW WATER VENTURI AND CHEMICAL DOSAGE POINT

SCALE: 3/8"=1'-0"

SLUDGE THICKENER

SCALE: 1/4" = 1'-0"

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404/432-5634

WATER SYSTEM IMPROVEMENTS
FAYETTE COUNTY, GEORGIA

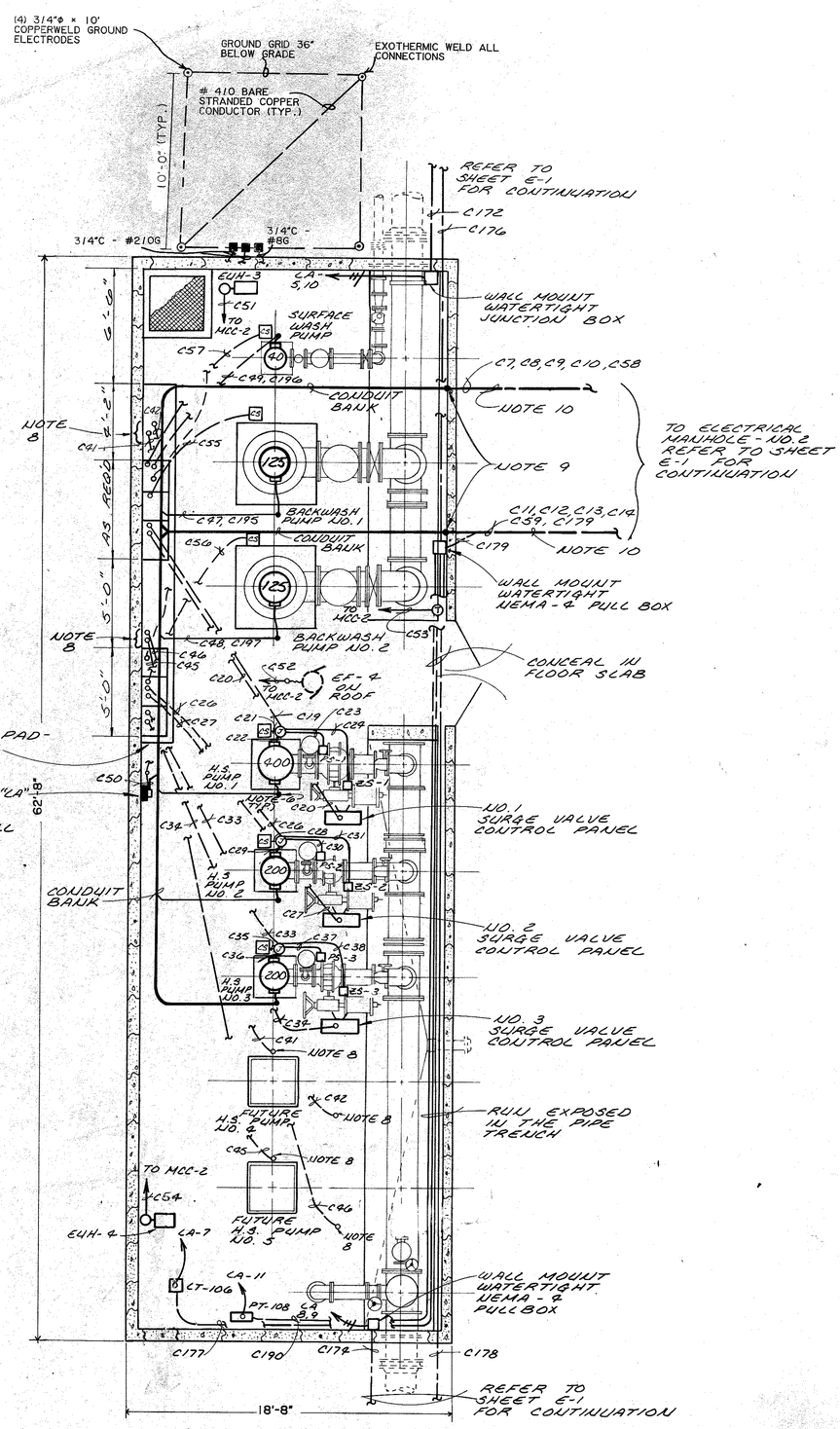
E-12

FLASH MIX STRUCTURE, LAGOON PUMP STATION, SLUDGE THICKENER, BACKWASH PIT, VENTURI & CHEMICAL DOSAGE PT.
LIGHTING, POWER, & CONTROL LAYOUT

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

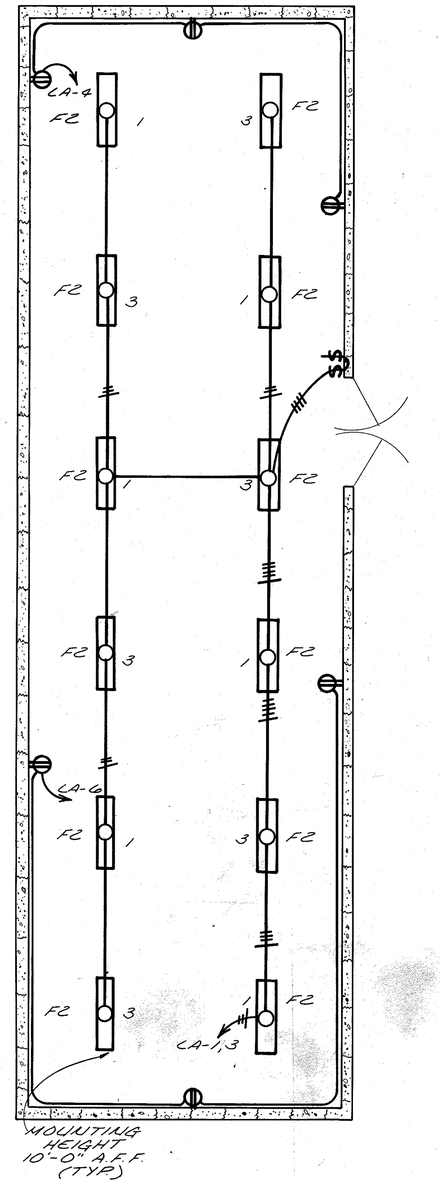
DESIGN: BK	SCALE: AS NOTED
DRAWN: LED	DATE: 6/18/84
CHECK: MFL	FILE NO.: 83175-1
APPROVED: JEM	SHEET NO.: 100 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

A# 33506A



POWER & CONTROL LAYOUT

SCALE: 1/4"=1'-0"



LIGHTING LAYOUT

SCALE: 1/4"=1'-0"

NOTES:

1. Contractor to coordinate exact locations of conduit stubups with MCC and motor manufacturer's shop drawings.
2. Refer to sheets E-14, E-15 & E-16 for conduit and cable schedule.
3. Refer to sheets E-7 and E-10 for legend.
4. Refer to schematic and interconnection diagrams on sheets E-4, E-5 and E-6 for connection of various devices.
5. Refer to sheet E-8 for lighting fixture schedule.
6. Run conduit vertically down to floor and anchor at floor. Provide a pull box in the vertical run. Run motor and temperature switch cables in flexible conduits from the pull box to motor junction box. All conduits shall be run to clear ceiling openings above the pumps.
7. Pushbutton stations and surge valve control panels shall be mounted on 4 foot high 4" galvanized steel channel embedded in floor slab. Provide unistruts for mounting as required.
8. Stubup conduits 4" above floor and cap for future use.
9. Provide watertight sleeves in the trench wall for conduit entrance. Provide an "LB" fitting for each conduit and run conduits vertically up the wall.
10. Provide PVC to rigid steel adapters in these conduits approximately 5 feet from building wall.

LIGHTING PANEL - "LA" | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE

MOUNTING: X SURFACE FLUSH | MAINS: X MAIN BREAKER 40 AMP LUGS ONLY AMP TOP X BOTTOM | NEUTRAL: X 100% 50%

COVER: | ALL BRANCH BKRS. 20A., 1 POLE UNLESS NOTED OTHERWISE U/L LISTED BKR. INTERRUPTING RATING 10,000 RMS SYM. AMPS

LOCATION	LOAD (KVA)	NO	A B C	NO	LOAD (KVA)	LOCATION
PUMP ROOM LIGHTS	0.8	1		2	1.0	SUMP PUMP
PUMP ROOM LIGHTS	0.8	3		4	0.6	RECEPTACLES
BACKWASH FLOW TRANS. & CONT. FT 105, FCV 105	0.2	5		6	0.6	RECEP.
CLEARWELL LEVEL TRANS. LT-106	0.2	7		8	0.3	FINISHED WATER METER PIT HEAT TAPE & RECEPT.
FT-107	0.2	9		10	0.3	BACKWASH METER PIT HEAT TAPE & RECEPT.
PT-108	0.2	11		12		SPARE
SPARE		13		14		
		15		16		
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		

Mallett & Associates
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404/432-5634

WATER SYSTEMS IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

FINISHED WATER PUMP STATION

E-13

LIGHTING, POWER, AND CONTROL LAYOUT

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	11/24/85	GENERAL	SB	JEM

DESIGN: BK | SCALE: AS NOTED
DRAWN: SDB | DATE: 6/18/84
CHECK: DWJ | FILE NO.: 83175-1
APPROVED: JEM | SHEET NO.: 101 OF 105

LAND LOT-
DISTRICT-
COUNTY-
STATE-

CONDUIT OR CABLE NUMBER	USAGE: POWER	USAGE: CONTROL	USAGE: INSTR.	CONDUIT SYSTEM: UNDERGROUND or BURIED SIZE (INCHES)	UNDERGROUND or BURIED MATERIAL	EXPOSED SIZE (INCHES)	EXPOSED MATERIAL	INSULATED CONDUCTORS - NOTE 2: NUMBER	WIRE SIZE	INSULATION VOLTAGE	MINIMUM GROUND WIRE NOTE 3	FROM	TO	WIRING DIAGRAM DRAWING NO.	REMARKS
C1	X			3	PVC			3	500 KCMIL	600V	#2/0	GEORGIA POWER CO. TRANSFORMER	MAIN SWITCHGEAR		
C2	X			3				3							
C3	X			3				3							
C4	X			3				3							
C5	X			3				3							
C6	X			3				3							
C7	X			3				3				MAIN SWITCHGEAR	MOTOR CONTROL CENTER MCC-1		
C8	X			3				3							
C9	X			3				3							
C10	X			3				3							
C11	X			3				3					MOTOR CONTROL CENTER MCC-2		
C12	X			3				3							
C13	X			3				3							
C14	X			3				3							
C15	X					3	GAL	3					MOTOR CONTROL CENTER MCC-3		
C16	X					3	GAL	3							
C17	X			3	GAL			3	350 KCMIL		#2	MOTOR CONTROL CENTER MCC-1	HIGH SERVICE PUMP Nº1	SHEET E-5	
C18	X			3				3			#2				
C19		X		3/4				11	#14				JUNCTION BOX @ H.S. PUMP Nº1		
C20		X		1				14	#14				SURGE VALVE Nº1 CONTROL PANEL		
C21		X				3/4	GAL	4	#14			JUNCTION BOX @ H.S. PUMP Nº1	H.S. PUMP Nº1 EMERGENCY ON-OFF SWITCH		
C22		X						2	#14				H.S. PUMP Nº1 TEMPERATURE SWITCH TS-1		
C23		X						3	#14				H.S. PUMP Nº1 DISCHARGE PRESSURE SWITCH PS-1		
C24		X						2	#14				SURGE VALVE Nº1 LIMIT SWITCH ZS-1		
C25	X			3	GAL			3	350 KCMIL		#2	MOTOR CONTROL CENTER MCC-2	HIGH SERVICE PUMP Nº2		
C26		X		3/4				9	#14				JUNCTION BOX @ H.S. PUMP Nº2		
C27		X		1				14	#14				SURGE VALVE Nº2 CONTROL PANEL		
C28		X				3/4	GAL	2	#14			JUNCTION BOX @ H.S. PUMP Nº2	H.S. PUMP Nº2 EMERGENCY ON-OFF SWITCH		
C29		X						2	#14				H.S. PUMP Nº2 TEMPERATURE SWITCH TS-2		
C30		X						3	#14				H.S. PUMP Nº2 DISCHARGE PRESSURE SWITCH PS-2		
C31		X						2	#14				SURGE VALVE Nº2 LIMIT SWITCH ZS-2		
C32	X			3	GAL			3	350 KCMIL		#2	MOTOR CONTROL CENTER MCC-2	HIGH SERVICE PUMP Nº3		
C33		X		3/4				9	#14			" " " "	JUNCTION BOX @ H.S. PUMP Nº3		
C34		X		1				14	#14			" " " "	SURGE VALVE Nº3 CONTROL PANEL		
C35		X				3/4	GAL	2	#14			JUNCTION BOX @ H.S. PUMP Nº3	H.S. PUMP Nº3 EMERGENCY ON-OFF SWITCH		
C36		X						2	#14				H.S. PUMP Nº3 TEMPERATURE SWITCH TS-3		
C37		X						3	#14				H.S. PUMP Nº3 DISCHARGE PRESSURE SWITCH PS-3		
C38		X						2	#14				SURGE VALVE Nº3 LIMIT SWITCH ZS-3		
C39	X			3	GAL							MOTOR CONTROL CENTER MCC-1	FUTURE HIGH SERVICE PUMP Nº4		EMPTY SPARE CONDUIT
C40	X			3									JUNCTION BOX @ FUTURE H.S. PUMP Nº4		
C41		X		3/4									FUTURE SURGE VALVE Nº4 CONTROL PANEL		
C42		X		1									FUTURE HIGH SERVICE PUMP Nº5		
C43	X			3								MOTOR CONTROL CENTER MCC-2			
C44	X			3									JUNCTION BOX @ FUTURE H.S. PUMP Nº5		
C45		X		3/4									FUTURE SURGE VALVE Nº5 CONTROL PANEL		
C46		X		1											
C47	X			2				3	#4/0	600 V	#6	MOTOR CONTROL CENTER MCC-1	BACKWASH PUMP Nº1	SHEET E-5	
C48	X			2				3	#4/0		#6	MOTOR CONTROL CENTER MCC-2	BACKWASH PUMP Nº2		
C49	X			1				3	#4		#8	MOTOR CONTROL CENTER MCC-1	SURFACE WASH PUMP		
C50	X					3/4	GAL	3	#12		#12		LIGHTING TRANSFORMER "LT-A"		
C51	X					3/4	GAL	3	#12		#12	MOTOR CONTROL CENTER MCC-2	ELECTRIC HEATER EUH-3		
C52	X							6	#12		#12		EXHAUST FAN EF-12	SHEET E-5	
C53		X						4	#14				THERMOSTAT		
C54		X						3	#12		#12		ELECTRIC HEATER EUH-4		
C55		X		3/4	GAL			4	#14			MOTOR CONTROL CENTER MCC-1	BACKWASH PUMP Nº1 CONTROL STATION	SHEET E-5	
C56		X		3/4				4	#14			MOTOR CONTROL CENTER MCC-2	BACKWASH PUMP Nº2 CONTROL STATION		
C57		X		3/4				4	#14			MOTOR CONTROL CENTER MCC-1	SURFACE WASH PUMP CONTROL STATION		
C58		X		2 1/2	PVC	2 1/2	GAL	38	#14				PLANT CONTROL PANEL		
C59		X		2 1/2		2 1/2		38	#14			MOTOR CONTROL CENTER MCC-2			
C60	X					1		3	#8		#10	MOTOR CONTROL CENTER MCC-3	LIGHTING TRANSFORMER LT-B		
C61	X					1 1/2		3	#4		#8		LIGHTING TRANSFORMER LT-C		
C62	X	X		1	PVC	1	GAL	3	#10		#10		SLUDGE RECYCLE PUMP	SHEET E-4	
C63	X	X		1 1/2		1 1/2		3	#8		#10		LAGOON RECYCLE PUMP		
C64	X					3/4		3	#12		#12		RAW WATER SAMPLE PUMP		
C65	X					3/4		3	#12		#12		DOSED WATER SAMPLE PUMP		
C66	X							3	#12		#12		SETTLED WATER SAMPLE PUMP		
C67	X							3	#12		#12		FILTERED WATER SAMPLE PUMP		
C68		X				1		16	#14				SAMPLE PUMPS CONTROL STATION IN LAB		
C69	X	X		NOTE 5		1		3	#12		#12		SLUDGE COLLECTOR DRIVE Nº1		MOTOR, P.B. STATION & OVERLOAD SWITCHES WS-1A & WS-1B
C70	X	X		NOTE 5		1		3	#12		#12		SLUDGE COLLECTOR DRIVE Nº2		MOTOR, P.B. STATION & OVERLOAD SWITCHES WS-2A & WS-2B

NOTES

1. CONDUIT SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
   GAL - ALUMINUM CONDUIT
   PVC - POLYVINYL CHLORIDE CONDUIT
2. CONDUCTORS SHALL BE COPPER, CLASS B STRANDED UNLESS OTHERWISE NOTED.
3. INSULATED GREEN STRANDED COPPER GROUND WIRE SHALL BE PROVIDED.
4. 600 VOLT INSULATED SHALL BE TYPE XHHW UNLESS OTHERWISE NOTED.
5. RUN IN ONE 1 1/2" UNDERGROUND CONDUIT, CABLE NO.'S C69, C70 & C72.

GEORGIA REGISTERED No. 11285 PROFESSIONAL ENGINEER S. M. KULKARNI

Mallett & Associates
4315 CAMP HIGHLAND RD SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CONDUIT & CABLE SCHEDULE
SHEET - 1

E - 14

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

	DESIGN: BK	SCALE: NONE
LAND LOT-	DRAWN: AJ	DATE: 6/18/84
DISTRICT-	CHECK: MFL	FILE NO.: 83175-1
COUNTY-	APPROVED: JEM	SHEET NO.: 102 OF 105
STATE-		

CONDUIT OR CABLE NUMBER	USAGE			CONDUIT SYSTEM				INSULATED CONDUCTORS - NOTE 2			MINIMUM GROUND WIRE NOTE 3	FROM	TO	WIRING DIAGRAM	REMARKS
				UNDERGROUND or BURIED		EXPOSED									
	POWER	CONTROL	INSTR	SIZE (INCHES)	MATERIAL	SIZE (INCHES)	MATERIAL	NUMBER	WIRE SIZE	INSULATION VOLTAGE				DRAWING NO.	
C71	X	X		1	PVC	1	GAL.	3	#12	600V	#12	MOTOR CONTROL CENTER-MCC3	SLUDGE THICKENER DRIVE	SHEET E-4	MOTOR P.B. STATION & OVERLOAD SWITCHES WS-3A & WS-3B
C72	X	X		NOTE 5		1	GAL.	3	#12		#12		PREFLASH MIXER		MOTOR & P.B. STATION
C73	X	X		1	PVC	1	GAL.	3	#12		#12		POST FLASH MIXER		
C74	X			1	PVC	3/4	GAL.	3	#10		#10		BULK LIME MOTOR STARTER CENTER		
C75	X			1	PVC	1	GAL.	8	#12		4 #12		FLOCCULATOR CONTROL PANEL		
C76															
C77	X					3/4	GAL.	3	#12	600V	#12	MOTOR CONTROL CENTER MCC-3	EXHAUST FAN EF-9	SHEET E-4	NOT USED
C78	X			1	PVC	1	GAL.	2	#10		#10	LIGHTING CONTACTOR NO. 3	LIGHTS @ THICKENER & LAGOON P.S.		
C79	X			1	PVC	1	GAL.	2	#10		#10		LIGHTS @ POST FLASH MIXER		
C80	X			3/4	GAL.			6	#12		#12	FLOCCULATOR CONTROL PANEL	FLOCCULATOR DRIVE NO. 1		ARMATURE & FIELD WIRES
C81	X			3/4				6	#12		#12		FLOCCULATOR DRIVE NO. 2		
C82	X			3/4				6	#12		#12		FLOCCULATOR DRIVE NO. 3		
C83	X			3/4				6	#12		#12		FLOCCULATOR DRIVE NO. 4		
C84	X			1	PVC	1	GAL.	2	#10		#10	LIGHTING CONTACTOR NO. 2	FLOCCULATOR BASIN LIGHTS		
C85	X					1	GAL.	3	#4		#8	MOTOR CONTROL CENTER-MCC-3	ROOFTOP A/C UNIT AC-3		
C86	X					3/4	GAL.	3	#10		#10		WATER HEATER		
C87	X			NOTE 6	PVC	3/4	GAL.	8	#14			FLOCCULATOR CONTROL PANEL	PLANT CONTROL PANEL		FLOCCULATOR RUN LIGHTS
C88	X			1	PVC	1	GAL.	2	#10		#10	LIGHTING CONTACTOR NO. 1	PARKING AREA LIGHTS		
C89	X					3/4	GAL	3	#8		#10	LIGHTING PANEL - "LC"	LOBBY A/C UNIT AC-1		
C90	X					3/4	GAL.	3	#10		#10		LOCKER ROOM A/C UNIT AC-2		
C91															
C92		X				3/4	GAL.	3	#14	600V		MOTOR CONTROL CENTER-MCC-3	EF-9 PUSHBUTTON STATION	SHEET E-4	NOT USED
C93						1	GAL.	4	#8	600V	#8	LIGHTING TRANSFORMER "LT-A"	LIGHTING PANEL "LA"		
C94		X				1-1/2	GAL.	60	#14	600V		PLANT CONTROL PANEL	MOTOR CONTROL CENTER - MCC-3	SHEET E-4	
C95		X				1-1/2		22	#14				FILTER NO.1 CONSOLE	SHEET E-6	
C96		X				1-1/2		22	#14				FILTER NO.2 CONSOLE		
C97		X				1-1/2		22	#14				FILTER NO.3 CONSOLE		
C98		X				1-1/2		22	#14				FILTER NO.4 CONSOLE		
C99				1 1/2	PVC							MOTOR CONTROL CENTER-MCC-1	ELECTRICAL MANHOLE NO. 1		EMPTY SPARE CONDUIT (NOTE 7)
C100				1 1/2											
C101				1											
C102				1											
C103	X					3/4	GAL.	2	#10	600V	#10	LIGHTING PANEL - "LC"	WALL HEATER		
C104	X					3/4		2	#12		#12		HYDRATED LIME FEEDER NO.1		
C105	X					3/4		2	#12		#12		HYDRATED LIME FEEDER NO.2		
C106	X					3/4		2	#12		#12		ALUM METERING PUMP NO.1		
C107	X					3/4		2	#12		#12		ALUM METERING PUMP NO.2		
C108	X					3/4		2	#12		#12		POTASSIUM PERMANGANATE FEEDER		
C109	X					3/4		2	#12		#12		FLUORIDE FEEDER		
C110	X					3/4		2	#12		#12		CARBON FEEDER		
C111	X					3/4		2	#12		#12		CARBON FEEDER DUST COLLECTOR		
C112	X					3/4		2	#12		#12		SODIUM CHLORITE FEEDER		
C113	X					3/4		2	#12		#12		CHLORINE DETECTOR		
C114		X				3/4		2	#14			CHLORINE DETECTOR	PLANT CONTROL PANEL		CHLORINE LEAK DETECTION ALARM
C115	X					3/4		2	#12				EXHAUST FAN EF-5 STARTER		
C116		X		3/4	GAL.	3/4	GAL.	4	#14			BULK LIME MOTOR STARTER CENTER	TRUCK UNLOADING PANEL		
C117		X		1	PVC	3/4	GAL.	10	#14				SYSTEMS CONTROL CENTER		
C118	X					3/4	GAL.	5	#12		#12		BIN VENT FILTER		
C119	X					3/4		3	#12		#12		BIN DISCHARGER		
C120	X					3/4		3	#12		#12		LIME SCREW CONVEYOR		
C121	X					3/4		2	#12		#12		LIME SILO LOWER LEVEL LIGHTING		
C122		X		1	PVC	3/4		7	#14			TRUCK UNLOADING CENTER	SYSTEMS CONTROL CENTER		
C123	X					3/4		2	#14				HOSE CONNECTION PROOF SWITCH		
C124	X					3/4		2	#12		#12		LIME SILO LEVEL SWITCHES		
C125	X			1	PVC	3/4		3	#12		#12	MOTOR CONTROL CENTER-MCC-3	ALUM TRANSFER PUMP	SHEET E-4	INSTALL 2#12, 1#12G FOR ALUM STORAGE HEATING SYSTEM IN UNDERGROUND PART
C126		X				3/4		4	#14				ALUM TRANSFER PUMP PUSHBUTTON STATION		
C127	X					1-1/4		4	#2		#6	LIGHTING TRANSFORMER "LT-B"	LIGHTING PANEL - "LB"		
C128	X					2		4	#2/0		#6	LIGHTING TRANSFORMER "LT-C"	LIGHTING PANEL - "LC"		
C129		X				3/4		5	#14			FILTER NO.1 CONSOLE	FILTER NO.1 INFLUENT VALVE	SHEET E-6	
C130		X						5					SURFACE WASH VALVE		
C131		X						5					BACKWASH VALVE		
C132		X						5					DRAIN VALVE		
C133		X						5					FILTER TO DRAIN VALVE		
C134		X						5				FILTER NO. 2 CONSOLE	FILTER NO.2 INFLUENT VALVE		
C135		X						5					SURFACE WASH VALVE		
C136		X						5					BACKWASH VALVE		
C137		X						5					DRAIN VALVE		
C138		X						5					FILTER TO DRAIN VALVE		
C139		X						5				FILTER NO. 3 CONSOLE	FILTER NO. 3 INFLUENT VALVE		
C140		X						5					SURFACE WASH VALVE		

NOTES

1. CONDUIT SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
2. GALVANIZED CONDUIT
PVC - POLYVINYL CHLORIDE CONDUIT
3. CONDUCTORS SHALL BE COPPER, TRADE 8 STRANDED UNLESS OTHERWISE NOTED.
4. RED MARKED WIRE, STRANDED COPPER GROUND WIRE, SHALL BE PROVIDED.
5. RUN IN ONE 1 1/2" UNDERGROUND CONDUIT, CABLE NO.'S C69, C70, & C72.
6. RUN IN ONE 1" UNDERGROUND CONDUIT WITH CABLE NUMBER C154.
7. PROVIDE CAPPED CONDUIT STUBS IN ELECTRICAL MANHOLE NO. 1 WALL FOR EXTENSION OF THESE CONDUITS TO FUTURE SEDIMENTATION BASINS.

GEORGIA REGISTERED No. 12261 PROFESSIONAL ENGINEER S. N. KULKARNI

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY
1	1-07-86	ALUM TRANSFER NOTE	SB	JEM

Mallett & Associates
4215 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-3634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

E-15

CONDUIT & CABLE SCHEDULE
SHEET - 2

	DESIGN BK	SCALE NONE	
LAND LOT-	DRAWN LED	DATE 6/18/84	
DISTRICT-	CHECK MFL	FILE NO. 83175-1	
COUNTY-	APPROVED JEM	SHEET NO. 103 OF 105	
STATE-			

KF 33506A

CONDUIT OR CABLE NUMBER	USAGE: POWER	USAGE: CONTROL	USAGE: INSTR.	CONDUIT SYSTEM: UNDERGROUND or BURIED: SIZE (INCHES)	CONDUIT SYSTEM: UNDERGROUND or BURIED: MATERIAL	CONDUIT SYSTEM: EXPOSED: SIZE (INCHES)	CONDUIT SYSTEM: EXPOSED: MATERIAL	INSULATED CONDUCTORS - NOTE 2: NUMBER	INSULATED CONDUCTORS - NOTE 2: WIRE SIZE	INSULATED CONDUCTORS - NOTE 2: INSULATION VOLTAGE	MINIMUM GROUND WIRE NOTE 3	FROM	TO	WIRING DIAGRAM DRAWING NO.	REMARKS
C141		X				3/4	GAL.	5	#14	600V		FILTER NO. 3 CONSOLE	FILTER NO. 3 BACKWASH VALVE	SHEET E6	
C142		X						5	#14				DRAIN VALVE		
C143		X						5	#14				FILTER TO DRAIN VALVE		
C144		X						5	#14			FILTER NO. 4 CONSOLE	FILTER NO. 4 INFLUENT VALVE		
C145		X						5	#14				SURFACE WASH VALVE		
C146		X						5	#14				BACKWASH VALVE		
C147		X						5	#14				DRAIN VALVE		
C148		X						5	#14				FILTER TO DRAIN VALVE		
C149		X						9	#14			PLANT CONTROL PANEL	EXIST. TELEMETERING PANEL NO. 1		
C150		X						9	#14				EXIST. TELEMETERING PANEL NO. 2		
C151	X			1	PVC			2	#12		#12		FCV101, HEAT TAPE & RECEPT.		
C152			X	1	PVC			2-2/C	#16 SHIELDED	300V			FT-101 & FCV-101		
C153															NOT USED
C154															NOT USED
C155	X							2	#14	600V		FILTER NO. 1 CONSOLE	PDT-103		
C156	X							2	#14	600V			FT-102, FC-104		
C157			X					2/C	#16 SHIELDED	300V			PDT-103		
C158			X					2-2/C	#16 SHIELDED	300V			FT-102, FCV 104		
C159	X							2	#14	600V		FILTER NO. 2 CONSOLE	PDT-203		
C160	X							2	#14	600V			FT-204, FCV-204		
C161			X					2/C	#16 SHIELDED	300V			PDT-203		
C162			X					2-2/C	#16 SHIELDED	300V			FT-204, FCV-204		
C163	X							2	#14	600V		FILTER NO. 3 CONSOLE	PDT-303		
C164	X							2	#14	600V			FT-304, FCV-304		
C165			X					2/C	#16 SHIELDED	300V			PDT-303		
C166			X					2-2/C	#16 SHIELDED	300V			FT-304, FCV-304		
C167	X							2	#14	600V		FILTER NO. 4 CONSOLE	PDT 403		
C168	X							2	#14	600V			FT 404, FCV-404		
C169			X					2/C	#16 SHIELDED	300V			PDT 403		
C170			X					2-2/C	#16 SHIELDED	300V			FT 404, FCV-404		
C171			X					2/C	#16 SHIELDED	300V		PLANT CONTROL PANEL	FILTER CONSOLES - 1 THRU 4		
C172	X			1	PVC			4	#12	600V	#12	LIGHTING PANEL - LA	FT 105, FCV-105, HEAT TAPE & RECEPT.		
C173															NOT USED
C174	X			1	PVC	3/4	GAL.	4	#12	600V	#12	LIGHTING PANEL - LA	FT-107, HEAT TAPE & RECEPT	SHEET E-6	
C175	X					3/4	GAL.	3	#8	600V	#10	MOTOR CONTROL CENTER MCC-3	22 KW DUCT HEATER		
C176			X	1	PVC	3/4	GAL.	2-2/C	#16 SHIELDED	300V		PULL BOX IN PIPE TRENCH	FT-105, FCV-105	SHEET E6	
C177			X	1				2/C					CT-106		ROUTE TO PLANT CONTROL PANEL IN CONDUIT NO. C179
C178			X	1				2/C					FT-107		
C179			X	1		1		5-2/C					PLANT CONTROL PANEL		
C180	X	X				3/4	GAL.	7	#14	600V		PLANT CONTROL PANEL	AT-110		
C181	X	X						7	#14				AT-210		
C182	X	X						7	#14				AT-310		
C183	X	X						7	#14				AT-410		
C184			X					2/C	#16 SHIELDED	300V			AT-110		
C185			X										AT-210		
C186			X										AT-310		
C187			X										AT-410		
C188				1	PVC								ELECTRICAL M.H. NO. 1		EMPTY CONDUIT FOR FUTURE USE
C189				1	PVC										
C190			X	1	PVC	3/4	GAL.	2/C	#16 SHIELDED	300V		JUNC BOX IN PIPE TRENCH	PT 108		ROUTE TO PLANT CONTROL PANEL IN CONDUIT NO. C179
C191	X					3/4	GAL.	3	#12	600V	#12	MOTOR CONTROL CENTER MCC-3	MAKE UP AIR FAN MU-1	SHEET E4	
C192		X				3/4		2	#14				THERMOSTAT		
C193		X				3/4		2	#14				22 KW DUCT HEATER		INTERLOCK WITH MAKE UP AIR FAN
C194	X					3/4		3	#12		#12		HOIST		
C195		X				3/4		2	#14			MOTOR CONTROL CENTER MCC-1	BACKWASH PUMP NO.1 TEMPERATURE SWITCH	SHEET E5	
C196		X				3/4		2	#14				SURFACE WASH PUMP TEMPERATURE SWITCH		
C197		X				3/4		2	#14			MOTOR CONTROL CENTER MCC-2	BACKWASH PUMP NO.2 TEMPERATURE SWITCH		
C198	X					3/4		3	#12		#12	MOTOR CONTROL CENTER MCC-3	ELECTRIC HEATER EUH-1		
C199	X					3/4		3	#12		#12		ELECTRIC HEATER EUH-2		

NOTES

1. CONDUIT SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
   - AL: ALUMINUM CONDUIT
   - PVC: POLYVINYL CHLORIDE CONDUIT
2. CONDUCTORS SHALL BE COPPER, CLASS B STRANDED UNLESS OTHERWISE NOTED.
3. INSULATED GREEN STRANDED COPPER GROUND WIRE SHALL BE PROVIDED.
4. 600 VOLT INSULATION SHALL BE TYPE XHHW UNLESS OTHERWISE NOTED.
5. RUN IN ONE 1" C WITH CABLE NO. C87.

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

CONDUIT & CABLE SCHEDULE
SHEET - 3

E 16

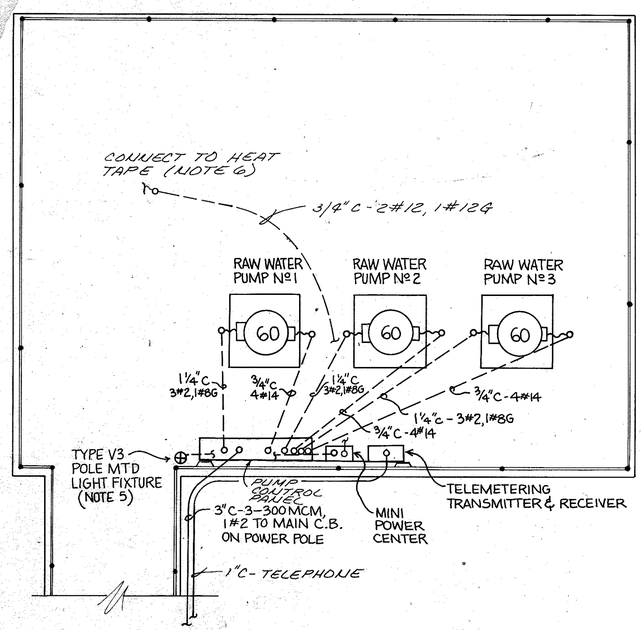
GEORGIA REGISTERED No. 11258 PROFESSIONAL ENGINEER S.N. KULKARNI

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

LAND LOT-
DISTRICT-
COUNTY-
STATE-

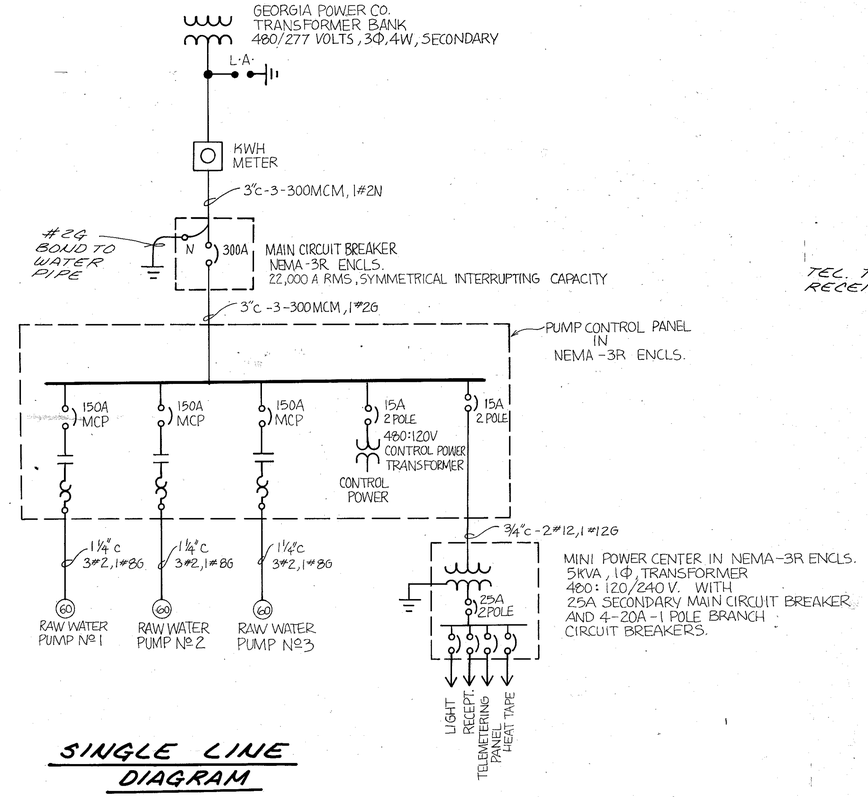
DESIGN	BK
DRAWN	LED
CHECK	MFL
APPROVED	JEM
SCALE	NONE
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	104 OF 105

KF 33506A



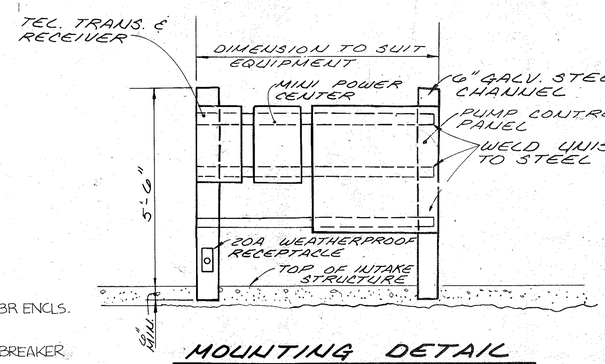
PLAN - RAW WATER PUMP STATION

SCALE: 3/8" = 1'-0"



MINI POWER CENTER IN NEMA-3R ENCLS.
5KVA, 1Φ, TRANSFORMER
480: 120/240 V. WITH
25A SECONDARY MAIN CIRCUIT BREAKER
AND 4-20A-1 POLE BRANCH
CIRCUIT BREAKERS.

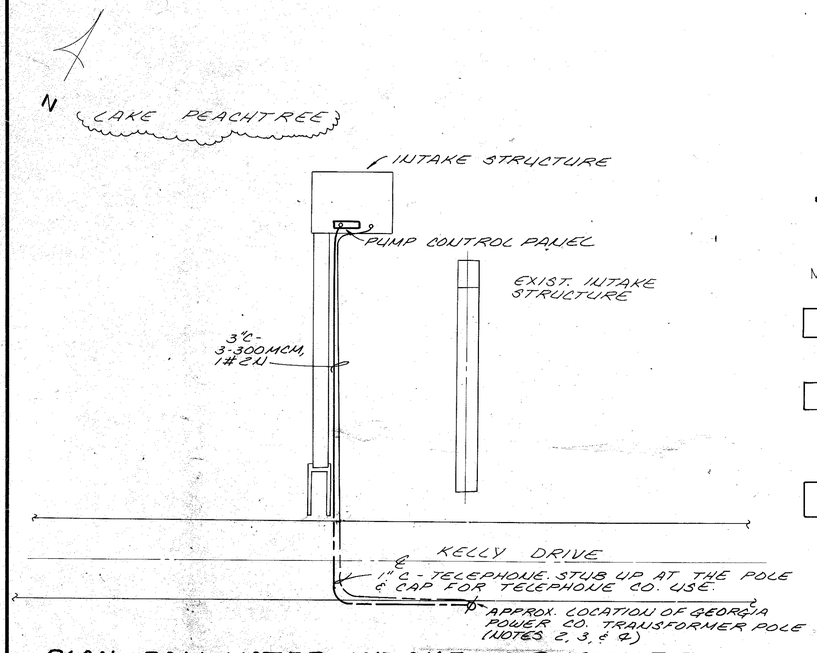
SINGLE LINE DIAGRAM



MOUNTING DETAIL

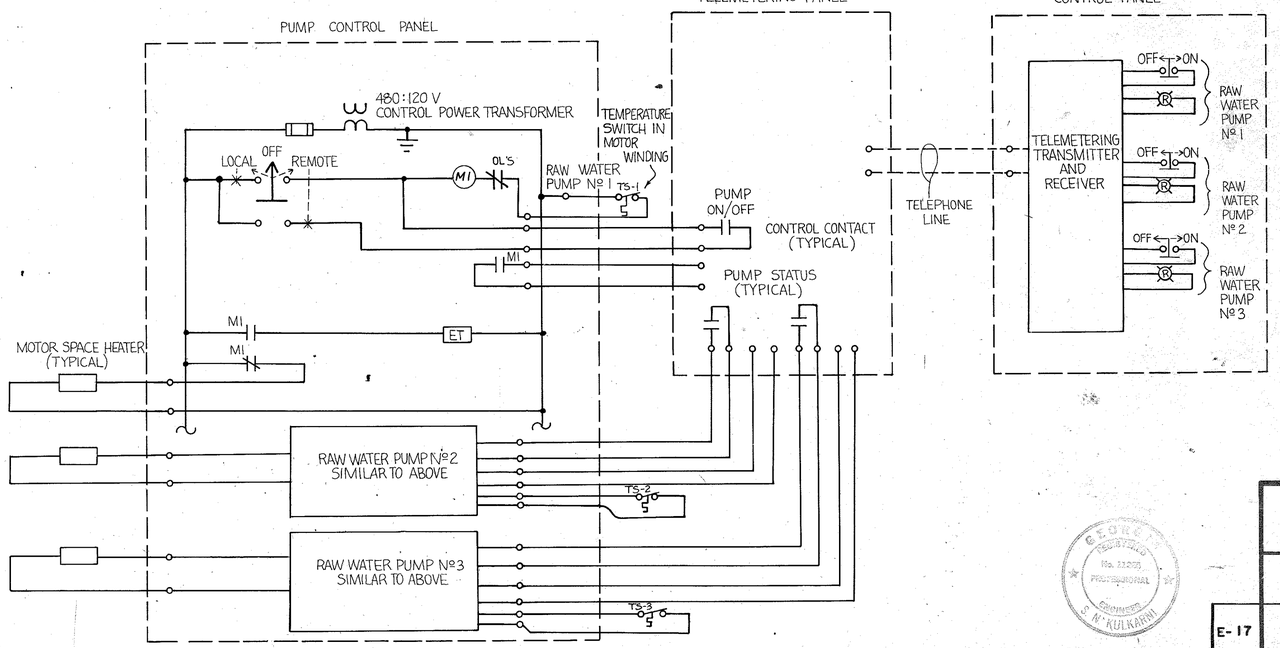
NOTES:

1. REFER TO SHEET NO's E1, E2 & E3 FOR LEGEND.
2. TURN THE CONDUIT UP THE POLE AND PROVIDE A WEATHERHEAD.
3. INSTALL AND CONNECT A 3-POLE, 600V LIGHTNING ARRESTOR ON POLE.
4. INSTALL MAIN CIRCUIT BREAKER ON THE POLE.
5. REFER TO SHEET E-8 FOR LIGHTING FIXTURE SCHEDULE.
6. CONTRACTOR TO FURNISH & INSTALL HEAT TRACING TAPE SELF LIMITING TYPE CHEMELEX CAT.#4 ATV1 WITH POWER CONNECTION KIT CAT.#PVK FOR SURGE RELEIF VALVE PIPING.



PLAN - RAW WATER INTAKE STRUCTURE

SCALE: 1" = 20'



SCHEMATIC DIAGRAM

GEORGIA REGISTERED No. 22203 PROFESSIONAL ENGINEER S. W. KULKARNI

Mallett & Associates
4313 CAMP HIGHLAND RD. SMYRNA, GEORGIA 30080
404/432-5634

WATER SYSTEM IMPROVEMENTS
for
FAYETTE COUNTY, GEORGIA

RAW WATER PUMP STATION
ELECTRICAL LAYOUT

E-17

REV. NO.	DATE	DESCRIPTION	BY	APP'D BY

DESIGN	BK
DRAWN	AJ
CHECK	MFL
APPROVED	JEM
SCALE	NONE
DATE	6/18/84
FILE NO.	83175-1
SHEET NO.	105 OF 105
LAND LOT-	
DISTRICT-	
COUNTY-	
STATE-	

ATTACHMENT 2

CONTRACT DOCUMENTS FOR
CONSTRUCTION OF

CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS

BID #913

Fayette COUNTY

WHERE QUALITY IS A LIFESTYLE.

PREPARED FOR

FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

DRAWINGS
VOLUME 2 OF 2

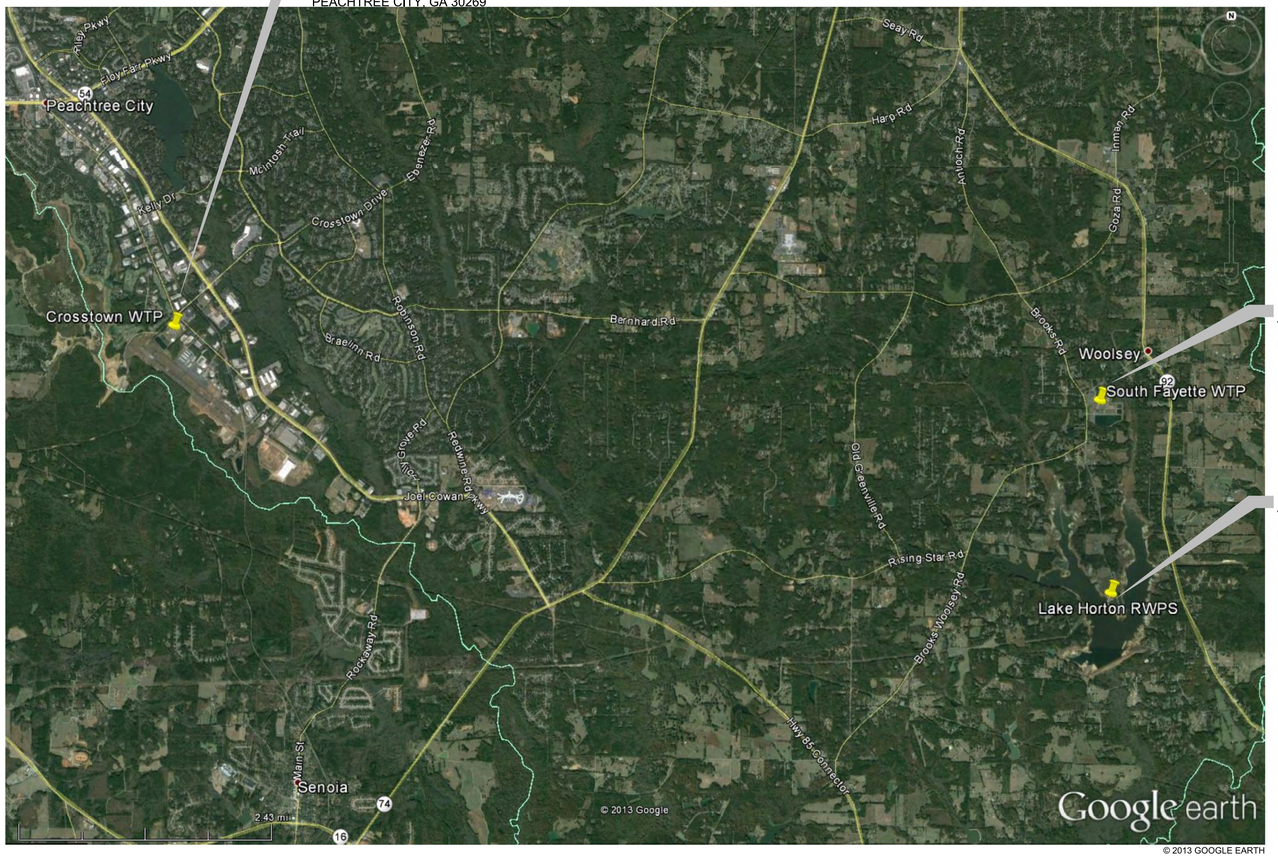
For information regarding this project, contact:
STUART JEFFCOAT, Ph.D, P.E.
6600 Peachtree Dunwoody Road
400 Embassy Row, Suite 600
Atlanta, GA 30328
770.604.9095

CH2MHILL®

Project No.
486753, 496783

FEBRUARY 2015

CONFORMED DOCUMENTS



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VICINITY MAP
NTS

CROSSTOWN WTP
3500 TDK BOULEVARD
PEACHTREE CITY, GA 30269

SOUTH FAYETTE WTP
880 ANTIOCH RD
FAYETTEVILLE, GA 30215

LAKE HORTON RWPS
100 HORTON RD
FAYETTEVILLE, GA 30215

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LOCATION MAP - CROSSTOWN WTP
NTS

© 2013 GOOGLE EARTH

LOCATION MAP - SOUTH FAYETTE WTP
NTS

© 2013 GOOGLE EARTH

LOCATION MAP - LAKE HORTON RWPS
NTS

DRAWING INDEX

SHT NO	DWG NO	TITLE
GENERAL		
		COVER
1	G-01	DRAWING INDEX, LOCATION MAPS
2	G-02	GENERAL AND CIVIL LEGEND
3	G-03	STRUCTURAL GENERAL NOTES
4	G-04	STRUCTURAL SPECIAL INSPECTIONS AND ABBREVIATIONS
5	G-05	STRUCTURAL SPECIAL INSPECTIONS
6	G-06	STRUCTURAL SPECIAL INSPECTIONS
7	G-07	LIFE SAFETY PLAN
8	G-08	PROCESS MECHANICAL, YARD PIPING LEGEND
9	G-09	ELECTRICAL LEGEND
10	G-10	ELECTRICAL LEGEND
11	G-11	INSTRUMENTATION AND CONTROL LEGEND
12	G-12	INSTRUMENTATION AND CONTROL LEGEND
CROSSTOWN WATER TREATMENT PLANT		
13	10-C-01	SITE LAYOUT PLAN
14	10-C-02	UTILITIES PLAN
15	10-C-03	SITE LAYOUT PLAN, SODIUM PERMANGANATE
16	10-C-04	UTILITIES PLAN
17	10-SME-01	LIQUID LIME SYSTEM PLAN AND SECTIONS
18	10-SME-02	SODIUM PERMANGANATE FACILITY PLAN
19	10-SME-03	SODIUM PERMANGANATE FACILITY SECTIONS
20	10-SME-04	METER VAULTS PLANS AND SECTIONS
21	10-S-05	SODIUM PERMANGANATE FACILITY OPTION B PLAN
22	10-S-06	SODIUM PERMANGANATE FACILITY OPTION B SECTIONS
23	10-D-01A	FILTER BUILDING DEMOLITION PLAN AND DETAIL
24	10-D-01B	CHEMICAL BUILDING DEMOLITION PLAN AND DETAIL
25	10-D-02	LIQUID LIME FEED PIPING PLAN
26	10-D-03	LIQUID LIME FEED PIPING SECTIONS
27	10-D-04	CHEMICAL VAULT AND CHEMICAL TRENCH DETAILS
28	10-E-01	ONE LINE DIAGRAM, PANEL SCHEDULE, EXISTING FILTER BUILDING ELECTRICAL ROOM PLAN
29	10-E-02	ONE LINE DIAGRAM, PANEL SCHEDULE, SODIUM PERMANGANATE BUILDING
30	10-N-01	P&ID LIQUID LIME FEED AND STORAGE
31	10-N-02	P&ID SODIUM PERMANGANATE STORAGE AND FEED
SOUTH FAYETTE WATER TREATMENT PLANT		
32	20-C-01	SITE LAYOUT PLAN
33	20-C-02	UTILITIES PLAN
34	20-SME-01	LIQUID LIME SYSTEM PLAN AND SECTIONS
35	20-D-01	CHEMICAL BUILDING DEMOLITION PLAN, SECTIONS AND DETAILS
36	20-D-02	CHEMICAL BUILDING DEMOLITION DETAILS
37	20-E-01	ONE LINE, PANEL SCHEDULE, EXISTING CHEMICAL BUILDING ELECTRICAL ROOM PLAN
38	20-N-01	P&ID LIQUID LIME FEED AND STORAGE
LAKE HORTON RAW WATER PUMP STATION		
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40	30-D-02	DEMOLITION DETAILS
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43	30-E-03	CONTROL DIAGRAM
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46	SD-02	STRUCTURAL STANDARD DETAILS
47	SD-03	STRUCTURAL STANDARD DETAILS
48	SD-04	STRUCTURAL STANDARD DETAILS
49	SD-05	STRUCTURAL STANDARD DETAILS
50	SD-06	PROCESS MECHANICAL STANDARD DETAILS
51	SD-07	PROCESS MECHANICAL STANDARD DETAILS
52	SD-08	ELECTRICAL STANDARD DETAILS
53	SD-09	ELECTRICAL, UTILITY STANDARD DETAILS
54	SD-10	INSTRUMENTATION AND CONTROL STANDARD DETAILS

NO.	DATE	REVISION	DR	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	M HALES	M DIAZ	E MINCHEW

DSGN: E MINCHEW | MH | BY: E MINCHEW | MD | APVD

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CH2MHILL®

CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL

DRAWING INDEX, LOCATION MAPS

CONFORMED DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	G-01
SHEET	1 of 54

GENERAL SITE NOTES:

1. SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS ARE BASE MAPS CREATED FROM FIELD MEASUREMENTS, AERIAL PHOTOGRAPHS, AND RECORD DRAWINGS OF BOTH CROSSTOWN AND SOUTH FAYETTE WTP SITES.
2. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
4. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
5. PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
6. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
7. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
8. ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE COVERED WITH COMMON BURMUDA GRASS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION. EROSION CONTROL DEVICES AND LOCATIONS ARE SHOWN ON THE CIVIL SITE PLANS. REFER TO GEORGIA SOIL AND WATER CONSERVATION COMMISSION MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, SIXTH EDITION, JANUARY 2014 FOR DETAILS.
10. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN.
11. CONTRACTOR SHALL NOT BE REQUIRED TO SUBMIT AN EROSION CONTROL PERMIT. THE DISTURBED AREA DURING CONSTRUCTION SHALL BE LESS THAN 1 ACRE AT ALL TIMES.

GENERAL YARD PIPING AND UTILITIES NOTES:

1. EXISTING UNDERGROUND UTILITIES OBTAINED FROM AS-BUILTS AND FROM FIELD MEASUREMENTS. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
2. FOR PIPING FLOW STREAM IDENTIFICATION, SEE DRAWING G-11.
3. EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT ARE SHOWN HEAVY-LINED.
4. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 30" COVER.
5. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING IS SHOWN.
6. ALL NEW WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED.
7. FOR TRENCHING AND BACKFILL, SEE (3123-110) .
8. FOR SURFACE RESTORATION OF ASPHALT CONCRETE, CONCRETE PAVEMENT AND GRASS, SEE (3123-115).
9. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE 3". CONTROLLED DENSITY FILL SUPPORT IS REQUIRED AS SHOWN ON (3123-120) .

GENERAL NOTE:

1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

CIVIL LEGEND

EXISTING	THIS CONTRACT	
× 157.7	⊗ 158.5	SPOT ELEVATION
155	155	CONTOUR LINE
	3:1	EMBANKMENT AND SLOPE
		DRAINAGEWAY OR DITCH
	CB OR CB	CATCH BASIN OR INLET
		TRENCH DRAIN
	OR	SIGN
	Ⓓ OR Ⓢ	MANHOLE
E	E	ELECTRICAL MANHOLE
H	H	ELECTRIC HANDHOLE
		POST OR GUARD POST
		GUY ANCHOR
		FIRE HYDRANT
		UTILITY POLE
		LIGHT POLE
	BM	BENCH MARK
		SURVEY CONTROL POINT OR POINT OF INTERSECTION
		BRUSH/TREE LINE
		TREE
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		STAGING OR WORK AREA LIMITS
	N 1000.00 E 1000.00	STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
	B-1	BORING LOCATION AND NUMBER
	TP-2	TEST PIT LOCATION AND NUMBER
	P-3	PIEZOMETER LOCATION AND NUMBER
OR OR	OR	DEMOLITION
OR	OR	STRUCTURE, BUILDING OR FACILITY
		ASPHALT CONCRETE PAVEMENT
		GRAVEL SURFACING
		CONCRETE PAVEMENT
		CURB
		CURB AND GUTTER
		SINGLE SWING GATE
		DOUBLE SWING GATE
		SLIDING GATE
		GUARD RAIL
		CHAIN LINK FENCE
		ARCHITECTURAL FENCE
		WIRE FENCE
		CULVERT
		SILT FENCE
		CURB INLET FILTER
		TRENCH COVER RETROFIT
		GRADE SLOPE DIRECTION

YARD PIPING LEGEND

EXISTING	THIS CONTRACT	
		NOMINAL PIPE DIAMETER
	8" PE	PIPE USE IDENTIFICATION
8" PE	8" PE	PIPING < 30" DIAMETER
		PIPING ≧ 30" DIAMETER
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		NON-FREEZE HOSE VALVE (V-X) X = NO. IN SPECIFICATIONS
		NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X = NO. IN SPECIFICATIONS
		INDICATOR POST VALVE
		GATE VALVE AND VALVE BOX
		BUTTERFLY VALVE AND VALVE BOX
		PLUG VALVE AND VALVE BOX
		FLEXIBLE COUPLING
		90° ELBOW UP
		90° ELBOW DOWN
		BEND < 90° UP
		BEND < 90° DOWN
		CONCENTRIC REDUCER
		CAP OR PLUG
		CLEANOUT
		FIRE HYDRANT

NO.	DATE	REVISION	DR	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	M HALES	J RAMOS	J RAMOS

DSGN: N MEADE | MH | BY | MD

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CH2MHILL®

CHEMICAL SYSTEMS AND
ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL

GENERAL AND CIVIL LEGEND

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	G-02
SHEET	2 of 54

DESIGN CRITERIA

1. APPLICABLE CODE: 2012 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY GEORGIA STATE BUILDING CODE.

2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.

3. RISK CATEGORY: IV

4. ROOF LOADS:
   - SNOW LOADS:
     - GROUND SNOW LOAD, Pg = 5 PSF
     - TERRAIN CATEGORY = C
     - SNOW EXPOSURE FACTOR, Ce = 1.0
     - IMPORTANCE FACTOR, I = 1.2
     - MINIMUM FLAT ROOF SNOW LOAD, Pf = 10 PSF
     - SNOW DRIFTS PER ASCE 7
   - ROOF LIVE LOAD = 20 PSF
   - LIME STORAGE TANK ROOF = 20 PSF
   - LIME EQUIPMENT SHELTER ROOF = 20 PSF
   - SUPERIMPOSED MPE LOADS APPLIED TO ALL ROOFS = 10 PSF

5. WIND LOADS:
   - ULTIMATE DESIGN WIND SPEED, V = 120 MPH
   - NOMINAL DESIGN WIND SPEED = 93 MPH
   - EXPOSURE CATEGORY = C

   COMPONENT AND CLADDING WALL ELEMENTS (WINDOWS, DOORS, LOUVERS, SIDING, ETC FOR STRUCTURES UNDER 20 FEET IN HEIGHT) = 39 PSF

6. SEISMIC LOADS:
   - MAPPED SPECTRAL RESPONSE ACCELERATIONS
     - S_S = 0.161 g
     - S_1 = 0.084 g
     - T_L = 8 second
   - DESIGN SPECTRAL RESPONSE ACCELERATIONS
     - S_{DS} = 0.172 g
     - S_{D1} = 0.135 g
   - SITE CLASS = D
   - SEISMIC DESIGN CATEGORY = D
   - IMPORTANCE FACTOR, I = 1.50

   STRUCTURES HAVE BEEN ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURES OF ASCE 7.

7. LATERAL FORCE RESISTING SYSTEMS :
   FLAT BOTTOM GROUND SUPPORTED TANKS:
   REINFORCED OR PRESTRESSED CONCRETE WITH REINFORCED NONSLIDING BASE
   - V = C_SW
   - C_S = 0.129
   - R = 2

8. SPECIAL LOADS:
   FOR STRUCTURE SPECIFIC LOADS SEE PLANS

9. HYDRAULIC LOADS:
   FOR HYDRAULIC LOADS SEE PLANS

10. SOIL DESIGN PARAMETERS:
    - A. NET ALLOWABLE SOIL BEARING PRESSURES: 2000 PSF
    - B. EQUIVALENT DRAINED FLUID PRESSURES:
      - ACTIVE: 40 PCF
      - AT REST: 60 PCF
      - PASSIVE: 180 PCF
    - C. COEFFICIENT OF FRICTION: 0.45 COMPACTED STRUCTURAL FILL; 0.35 NATIVE SOIL
    - D. SOIL UNIT WEIGHT: 120 PCF
    - E. GROUND WATER (GW) ELEVATION:
      - NORMAL HIGH GW: EL 832.50' (CROSSTOWN WTP); EL 809.00' (SOUTH FAYETTE COUNTY WTP)
      - 100 YEAR FLOOD: EL 767.00' (CROSSTOWN WTP); EL 801.00' (SOUTH FAYETTE COUNTY WTP)

11. FROST DEPTH: 0'-8"

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.

3. VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.

4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.

5. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

6. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

7. DETAILING AND DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ARE BASED ON AS-BUILT DESIGN DRAWINGS, AND DO NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK THAT IS AFFECTED BY THE EXISTING STRUCTURE.

SPECIAL INSPECTION AND RELATED TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED INSPECTIONS BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.

2. SPECIFIED CONCRETE AND MASONRY AND OTHER MATERIAL TESTING DURING CONSTRUCTION WILL BE OWNER FURNISHED. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTION.

FOUNDATIONS

1. REFER TO GEOTECHNICAL DATA REPORT FOR SOUTH FAYETTE COUNTY WTP BY PIEDMONT GEOTECHNIAL ASSOCIATES, DATED SEPTEMBER 30, 1997 AND SUPPLEMENTAL DESIGN MEMO BY CH2M HILL DATED MARCH, 2014. REFER TO GEOTECHNICAL DATA REPORT FOR CROSSTOWN WTP BY MALLETT & ASSOCIATES, DATED DECEMBER 21, 1990 AND SUPPLEMENTAL DESIGN MEMO BY CH2M HILL DATED MARCH, 2014.

2. EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE OR DAMAGE TO ADJACENT EXISTING STRUCTURES, STREETS, UTILITIES, ETC.

3. FOUNDATION SLABS, SLABS-ON-GRADE AND WALL AND COLUMN FOUNDATIONS SHALL BEAR ON MINIMUM 6 INCHES OF COMPACTED GRANULAR FILL UNLESS NOTED OTHERWISE.

4. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER OR QUALIFIED DESIGNEE PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS AND DATA REPORTS.

FORMWORK, SHORING AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

CONCRETE REINFORCING

1. REINFORCING STEEL:
   TYPICAL: ASTM A615, GRADE 60

2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".

3. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE:
   - WHEN PLACED ON GROUND: 3"
   - OTHER CONCRETE SURFACES: 2"

4. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL 0330-003. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.

5. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.

6. WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED IN DETAIL 0330-003.

7. REFER TO OPENING REINFORCING DETAILS 0330-001.

8. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI MIN AT 28 DAYS		GRADE 60 REINFORCING STEEL								
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING<6"	TOP BAR *	1'-4"	2'-0"	3'-0"	4'-0"	5'-10"	6'-8"	7'-7"	8'-6"	9'-5"
	OTHER BAR	1'-4"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
SPACING≥6"	TOP BAR *	1'-4"	1'-6"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING<6"	TOP BAR *	1'-0"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
	OTHER BAR	1'-0"	1'-3"	1'-9"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"
SPACING≥6"	TOP BAR *	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

CAST IN PLACE CONCRETE

1. 28-DAY COMPRESSIVE STRENGTHS: 4000 PSI

2. 56-DAY COMPRESSIVE STRENGTHS: 5000 PSI

3. DESIGN STRENGTHS ARE SAME AS 28-DAY COMPRESSIVE STRENGTHS.

4. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN CONSTRUCTION JOINTS OF WATER HOLDING BASINS, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

5. CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS. LAYOUT SHOWING ALL CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.

6. ROUGHEN (1/4" AMPLITUDE) AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.

7. COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.

8. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

9. DO NOT PLACE CONDUIT PARALLEL TO BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.

10. PATCH FORM TIE HOLES IN ACCORDANCE WITH DETAILS 0310-051.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK.

2. WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S QUALITY ASSURANCE PLAN AND STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.

3. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE FILED BY THE CONTRACTOR AND ACKNOWLEDGED AS ACCEPTED BY THE PERMITTING AGENCY PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION OR DRAWING	ITEM
01 88 15	ANCHORAGE AND BRACING
13 34 23	FABRICATED STRUCTURES
40 05 15	PIPING SUPPORT SYSTEMS
43 40 10	LIME SLURRY CHEMICAL STORAGE AND FEED SYSTEM
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

NO.	DATE	REVISION	DR	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	H JOCHIMSEN	M CHRZANOWSKI	M CHRZANOWSKI

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CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL

STRUCTURAL GENERAL NOTES

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CONFORMED DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE AUGUST 2014
PROJ 486753
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STATEMENT OF SPECIAL INSPECTION

GENERAL NOTES:

1. THE STATEMENT OF SPECIAL INSPECTIONS DRAWINGS PROVIDE PROJECT COMPLIANCE WITH THE PROVISIONS OF THE 2012 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION, STRUCTURAL OBSERVATION, AND TESTING FOR WIND AND SEISMIC RESISTANCE AS APPLICABLE. EXCEPT WHERE OTHERWISE NOTED, THIS INSPECTION IS OWNER FURNISHED.
2. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 1.
3. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR STRUCTURAL COMPONENTS, REGARDLESS OF WIND OR SEISMIC DESIGN CATEGORIES, ARE CONTAINED IN TABLE 2. STANDARD TESTING REQUIREMENTS FOR STRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 3.
4. PROJECT SPECIFIC REQUIREMENTS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORIES C, D, E, OR F ARE CONTAINED IN TABLE 4. ADDITIONAL TESTING REQUIREMENTS FOR STRUCTURAL RESISTANCE ARE CONTAINED IN TABLE 6.
5. PROJECT SPECIFIC REQUIREMENTS FOR STRUCTURES SUBJECT TO NOMINAL DESIGN WIND SPEEDS IN EXCESS OF 110 MPH ARE CONTAINED IN TABLE 5.
6. FOR ADDITIONAL REQUIREMENTS, REFER TO SPECIFICATION SECTION 01 45 33, SPECIAL INSPECTION, OBSERVATION AND TESTING. THESE INCLUDE:
   - A. CONTRACTOR'S REQUIREMENTS TO PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS, AND TO PROVIDE NOTICE OF REQUIRED INSPECTIONS AND STRUCTURAL OBSERVATION.
   - B. CONTRACTOR'S STATEMENT OF RESPONSIBILITY FOR WORK TO BE PERFORMED ON SYSTEMS DESIGNATED UNDER THE STATEMENT OF SPECIAL INSPECTIONS PLAN FOR WIND OR SEISMIC RESISTANCE.
   - C. DEFINITIONS AND TERMINOLOGY USED IN THIS STATEMENT OF SPECIAL INSPECTIONS.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION WILL BE IN ACCORDANCE WITH IBC SECTIONS 1704 AND 1705 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE TABLES CONTAINED ON THESE GENERAL SHEETS FOR PROJECT SPECIFIC INSPECTION TYPES AND FREQUENCIES.
2. SPECIAL INSPECTIONS WILL BE PROVIDED BY A CERTIFIED OR QUALIFIED INSPECTOR AND ASSOCIATED TESTING WILL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY. THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.
3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING WILL BE REQUIRED ARE NOTED IN THE TABLES CONTAINED ON THIS STATEMENT OF SPECIAL INSPECTIONS.
5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED.
6. SPECIAL INSPECTION REPORTS AND FINAL REPORT IN ACCORDANCE WITH SECTION 1704.2.4 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF THE WORK IS APPROVED FOR OCCUPANCY.

GEOTECHNICAL OBSERVATION:

1. ALL FOUNDATION BEARING SURFACES SHALL BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL. ADDITIONAL SPECIAL INSPECTION REQUIREMENTS ARE LISTED IN TABLE 1.
2. GEOTECHNICAL TESTING REQUIREMENTS ARE LISTED IN TABLE 3.

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE:

1. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE WILL BE IN ACCORDANCE WITH IBC SECTION 1705.11 TOGETHER WITH LOCAL AND STATE AMENDMENTS.
2. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE SHALL APPLY TO THE SYSTEMS AND COMPONENTS LISTED IN TABLE 4.
3. MAIN SYSTEMS REQUIRED TO BE COVERED UNDER PROJECT SPECIAL INSPECTION REQUIREMENTS INCLUDE THE FOLLOWING TOGETHER WITH THEIR CONNECTIONS. REFER TO SPECIFICATION 01 45 33, SPECIAL INSPECTION, OBSERVATION AND TESTING.
   - A. LIME CONTAINMENT STRUCTURES.
   - B. FABRICATED BUILDING.

SPECIAL INSPECTIONS FOR WIND RESISTANCE:

1. SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.10 ARE NOT APPLICABLE TO THIS PROJECT

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION WILL BE IN ACCORDANCE WITH IBC SECTION 1704.5 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO PROJECT SPECIFIC NOTES ON THIS SHEET.
2. ON-SITE STRUCTURAL OBSERVATION WILL BE PERFORMED FOR EACH IDENTIFIED SEISMIC FORCE- OR WIND FORCE-RESISTING SYSTEM, INCLUDING FOUNDATIONS AND CONNECTIONS. REFER TO THE GENERAL STRUCTURAL NOTES FOR THE BASIC SEISMIC AND WIND FORCE-RESISTING SYSTEMS FOR THE STRUCTURES INCLUDED IN THE WORK.
3. STRUCTURAL OBSERVATION WILL BE PERFORMED BY A REGISTERED PROJECT DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS OR INSPECTIONS BY THE BUILDING OFFICIAL.
4. STRUCTURAL OBSERVATION REPORTS, NOTING ANY DEFICIENCIES IN OBSERVED CONSTRUCTION, WILL BE DELIVERED TO THE CONTRACTOR, BUILDING OFFICIAL, AND OWNER FOLLOWING EACH OBSERVATION. THE CONTRACTOR WILL BE NOTIFIED ON-SITE OR BY PHONE OR EMAIL WITHIN 24 HOURS UPON FINDING DEFICIENCIES.
5. AT THE CONCLUSION OF CONSTRUCTION, A WRITTEN STATEMENT WILL BE PROVIDED TO VERIFY THAT THE STRUCTURAL OBSERVATION SITE VISITS WERE MADE AND WHETHER THERE REMAIN ANY STRUCTURAL DEFICIENCIES THAT HAVE NOT BEEN RESOLVED.
6. STRUCTURAL OBSERVATION WILL INCLUDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM FOR EACH STRUCTURE CONTAINED IN THE WORK. THE CONTRACTOR SHALL SCHEDULE AND FACILITATE STRUCTURAL OBSERVATION INCLUDING THE FOLLOWING:

	SYSTEM FOR LIME STORAGE FACILITY	STAGE	ITEMS	COMMENTS
1.	CONCRETE STRUCTURES	PRIOR TO FIRST CONCRETE PLACEMENT ON FIRST PRIMARY LIQUID CONTAINING STRUCTURE WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, WALL DOWELS, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS	NOTE 1
2.	CONCRETE STRUCTURES	AT COMPLETION OF PLACEMENT OF ALL CONCRETE COMPONENTS FOR THE FIRST PRIMARY LIQUID CONTAINING STRUCTURE	CONCRETE TOLERANCES, FINISHING, LIQUID TIGHTNESS, AND SIMILAR ITEMS	NOTE 1
3.	AT ADDITIONAL TIMES DURING CONSTRUCTION AT WHICH THE ENGINEER OF RECORD OR OWNER DEEM THE NEED FOR ADDITIONAL STRUCTURAL OBSERVATION			NOTE 1
4.	AT SUBSTANTIAL COMPLETION OF PRIMARY STRUCTURAL FEATURES FOR DETERMINATION OF FINAL CONDITION OF STRUCTURE			NOTE 1

NOTES:

1. STRUCTURAL OBSERVER TO DISCUSS ITEMS AND SITE-SPECIFIC CONDITIONS WITH SPECIAL INSPECTOR AND FIELD INSPECTION STAFF DURING OBSERVATION.

STRUCTURAL ABBREVIATIONS

@	AT
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTION
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISH FLOOR
AHR	ANCHOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
ALLOW	ALLOWABLE
ALTN	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
APVD	APPROVED
ARCH.	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BF	BOTTOM FACE
BLDG	BUILDING
BO	BOTTOM OF
BOT	BOTTOM
BRG	BEARING
C	CHANNEL OR C-SHAPE
CHKD PL	CHECKERED PLATE
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLR	CLEARANCE, CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
CRSI	CONCERTE REINFORCING STEEL INSTITUTE
CTR	CENTER
CTRD	CENTERED
CU	CUBIC
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM.	DIMENSION
DIR	DIRECTION
DL	DEAD LOAD
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT, EMBED
ENGR	ENGINEER
EQL	EQUAL
EQL SP	EQUALLY SPACED
EQPT	EQUIPMENT
EQUIV	EQUIVALENT
EW	EACH WAY
EXP JT	EXPANSION JOINT
EXST	EXISTING
EXT	EXTERIOR
FAB	FABRICATE, FABRICATION
FB	FLAT BAR
FD	FLOOR DRAIN
FDN	FDN
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLOOR
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET, FOOT
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE, GAGE
GALV	GALVANIZED (HOT DIP)
GRTG	GRATING
H.A.S.	HEADED ANCHOR STUD
HDR	HEADER
HORIZ	HORIZONTAL
HPT	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
HVAC	HEATING , VENTILATION, AND AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
I.F.	INSIDE FACE
IN.	INCH(ES)
INSUL	INSULATION
INTMD	INTERMEDIATE
INTR	INTERIOR
J	JOIST
JB	JOIST BEARING
JT	JOINT
KIP(S)	THOUSAND POUNDS
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	ANGLE OR L-SHAPE
LB(S)	POUND(S) FORCE
LF	LINEAR FEET
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG.	LONGITUDINAL
LPT	LOW POINT
LSL	LONG SLOTTED HOLE
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MET.	METAL
MFD	MANUFACTURED
MFR(S)	MANUFACTURER (MANUFACTURER'S)
MIN	MINIMUM
MISC	MISCELLANEOUS
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG(S)	OPENING(S)
OPP	OPPOSITE
PJF	PREMOLDED JOINT FILLER
PKG	PACKAGE
PL	PLATE
PLF	POUNDS FORCE PER LINEAR FOOT
PREFAB	PREFABRICATE(D)
PRELIM	PRELIMINARY
PRI	PRIMARY
PSF	POUNDS FORCE PER SQUARE FOOT
PSI	POUNDS FORCE PER SQUARE INCH
PT	PRESSURE TREATED
PVC	POLYVINYL CHLORIDE
R	RADIUS, RISER
RAD	RADIUS
RC	REINFORCED CONCRETE
RECT	RECTANGULAR, RECTANGLE
REF	REFERENCE
REINF	REINFORCE, REINFORCING
REQD	REQUIRED
RST	REINFORCING STEEL
SCHED	SCHEDULE
SIM	SIMILAR
SOG	SLAB ON GRADE
SP	SPACE
SPEC(S)	SPECIFICATION(S)
SPECD	SPECIFIED
SQ	SQUARE
SSL	SHORT SLOTTED HOLE
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STR	STRAIGHT
STRL	STRUCTURAL
STRUCT	STRUCTURE
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
TC	TOP OF CONCRETE, TOP OF CURB
TEMP	TEMPERATURE
TF	TOP OF FOOTING, TOP FACE
THK	THICK
THKNS	THICKNESS
T.O.	TOP OF
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
UNIF	UNIFORM, UNIFORMLY
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W	WIDE FLANGE BEAM
W/	WITH
W/O	WITHOUT
WP	WORKING POINT
WS	WATERSTOP, WATER SURFACE
WT	WEIGHT
WWF	WELDED WIRE FABRIC

NOTES:
FOR ABBREVIATIONS NOT LISTED, SEE GENERAL ABBREVIATIONS AND ASME Y14.38 - "ABBREVIATIONS AND ACRONYMS FOR USE ON DRAWINGS AND RELATED DOCUMENTS" AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

NO.	DATE	REVISION	DR	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	H.JOCHIMSEN	M.CHRZANOWSKI	M.CHRZANOWSKI

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CHEMICAL SYSTEMS AND
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FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL

STRUCTURAL SPECIAL INSPECTIONS AND ABBREVIATIONS

CONFORMED DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	G-04
SHEET	4 of 54

TABLE 1
REQUIRED NON-STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM OR MATERIAL	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
GEOTECHNICAL							
1. SOILS:							
A. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6, 1803.5.8, 1803.5.9, 1804.5	SECTION 31 23 13, SUBGRADE PREPARATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER	
B. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	1705.6	SECTION 31 23 16, EXCAVATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER	
C. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	1705.6	SECTION 31 23 23, FILL AND BACKFILL	X		X		SEE TABLE 3 FOR GRADATION TEST REQUIREMENTS
D.VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	1705.6, 1803.5.8	SECTION 31 23 23, FILL AND BACKFILL		X	X		SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS
E. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	1705.6	SECTION 31 23 13, SUBGRADE PREPARATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER	SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS
GENERAL							
1. CONSTRUCTION MATERIALS AND SYSTEMS THAT ARE ALTERNATIVES TO MATERIALS AND SYSTEMS PRESCRIBED BY CODE	1705.1.1 ITEM 1		X		X		
2. UNUSUAL DESIGN APPLICATION OF CODE MATERIALS	1705.1.1 ITEM 2			X	X		
3. INSTALLATION OF MATERIALS THAT REQUIRE ADDITIONAL MANUFACTURER'S INSTRUCTIONS BEYOND CODE REQUIREMENTS	1703.4.2, 1705.1.1 ITEM 3	ICC-ES EVALUATION REPORTS		X	X		
STRUCTURAL							
SEE TABLE 2.							

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
CONCRETE							
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	1705.3, 1903.1, 1910.4	ACI 318: 3.5, 7.1-7.7	X		X		
2. INSPECTION OF ANCHORS CAST IN CONCRETE	1705.3, 1908.5, 1909.1	ACI 318: 8.1.3, 21.2.8	X		X		
3. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	1705.3, 1909.1	ACI 318: 3.8.6, 8.1.3, 21.2.8, ICC-ES EVALUATION REPORTS	X		X	PROVIDE CONTINUOUS SPECIAL INSPECTION WHERE REQUIRED BY ICC-ES REPORT	
4. VERIFYING USE OF REQUIRED DESIGN MIX	1705.3, 1904.2, 1910.2, 1910.3	ACI 318: Ch. 4, 5.2-5.4	X		X		
5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1705.3, 1910.10	ASTM C 172, ASTM C 31, ACI 318: 5.6, 5.8		X	X		SEE TABLE 3 FOR CONCRETE TEST REQUIREMENTS
6. INSPECTION OF CONCRETE FOR PROPER APPLICATION TECHNIQUES	1705.3, 1910.6, 1910.7, 1910.8	ACI 318: 5.9, 5.10		X	X		
7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1705.3, 1910.9	ACI 318: 5.11-5.13	X		X		
8. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1705.3, 1906.1	ACI 318: 6.1.1	X		X		
9. INSPECTION OF WATERSTOPS FOR PROPER SHAPE, LOCATION, JOINT QUALITY, AND SURROUNDING CONCRETE PLACEMENT			X		X		
10. VERIFY PROPER INSTALLATION OF MECHANICAL REINFORCING SPLICES AND CONNECTIONS	1705.1.1 ITEM 3, 1705.3	ICC-ES EVALUATION REPORTS	X		X		

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING

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0	02/2015	REVISION	H.JOCHIMSEN	M.CHRZANOWSKI	APVD
DSGN	R.FORREST		MH	BY	M.CHRZANOWSKI
			MD	APVD	

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CHEMICAL SYSTEMS AND
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FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL

STRUCTURAL SPECIAL INSPECTIONS

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TABLE 3
TESTING FOR REQUIRED SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

MATERIAL	TYPE OR SCOPE	STANDARD	2012 IBC CODE REFERENCE	FREQUENCY	BY WHOM	REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST	COMMENTS
GEOTECHNICAL							
CONTROLLED FILL	GRADATION	ASTM D422	1704.7	SECTION 31 23 23, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
CONTROLLED FILL	COMPACTION	ASTM D698	1704.7	SECTION 31 23 23, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
CONTROLLED FILL	DENSITY	ASTM D1556, D6938	1704.7	SECTION 31 23 23, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
PREPARED SUBGRADE	DENSITY	ASTM D1556, D6938	1704.7	SECTION 31 23 13, SUBGRADE PREPARATION	OWNER'S APPROVED TESTING AGENCY	X	
CONCRETE							
CONCRETE	STRENGTH	ASTM C39	1704.4, 1905.6	ONCE EACH DAY, BUT NOT LESS THAN ONE SAMPLE FOR EACH 100 CUBIC YARDS OR 5,000 SFT OF WALLS OR SLABS PLACED	OWNER'S APPROVED TESTING AGENCY	X	
CONCRETE	SLUMP	ASTM C143, C94	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S APPROVED TESTING AGENCY	X	
CONCRETE	AIR CONTENT	ASTM C231, C94	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S APPROVED TESTING AGENCY	X	
CONCRETE	TEMPERATURE	ASTM C1064	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S APPROVED TESTING AGENCY	X	

TABLE 4
REQUIRED SPECIAL INSPECTION FOR SEISMIC RESISTANCE FOR STRUCTURAL SYSTEMS
REFER TO TABLE 2 FOR STANDARD STRUCTURAL SPECIAL INSPECTION REQUIREMENTS

The Seismic Design Category (SDC) for this Project is D.

SYSTEM	INSPECTION REQUIRED FOR FOLLOWING SEISMIC DESIGN CATEGORIES	2012 IBC CODE REFERENCE	STANDARD OR CODE	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS FOR DETAILS, REFER TO SPECIFICATION SECTION 01 45 33	TESTING FOR SPECIAL INSPECTION
PROCESS MECHANICAL								
INSTALLATION OF PIPING SYSTEMS MEANT TO CARRY FLAMMABLE, COMBUSTIBLE OR HIGHLY TOXIC CONTENTS AND ITS ASSOCIATED MECHANICAL UNITS	"C" AND ABOVE	1705.11.6 ITEM 3		X		X		
INSTALLATION OF OTHER SEISMIC SUPPORTS FOR DESIGNATED MECHANICAL SYSTEMS AND THEIR COMPONENTS	"C" AND ABOVE	1705.11.4		X		X	NOTES 2 & 3	
STRUCTURAL								
SEISMIC-FORCE-RESISTING SYSTEMS	"C" AND ABOVE	1705.11 ITEM 1			X	X		

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING AND COVERING THE INSPECTED WORK
2. TESTING OF SYSTEMS AND THEIR ANCHORAGE SHALL BE IN CONFORMANCE WITH 2012 IBC SECTION 1705.12.
3. CERTIFICATION OF SYSTEMS AND THEIR ANCHORAGE SHALL BE IN CONFORMANCE WITH 2012 IBC SECTION 1705.12

TABLE 5
REQUIRED SPECIAL INSPECTION FOR WIND RESISTANCE FOR STRUCTURAL SYSTEMS

The 3-second-gust Nominal Wind Speed for this Project is 93 mph.
The Wind Exposure is Category C.

SYSTEM	2012 IBC CODE REFERENCE	STANDARD OR CODE	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS FOR DETAILS, REFER TO SPECIFICATION SECTION 01 45 33
TABLE NOT USED						

TABLE 6
TESTING FOR SEISMIC RESISTANCE
REFER TO SPECIFICATION SECTION 01 45 33

MATERIAL	TYPE OR SCOPE	STANDARD	2012 IBC CODE REFERENCE	FREQUENCY	BY WHOM	REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST	COMMENTS
OTHER							
DESIGNATED SEISMIC SYSTEM COMPONENTS (AND ASSOCIATED ANCHORAGES) SUBJECT TO PROVISIONS OF ASCE 7 SECTION 13.2.2	CERTIFICATE OF COMPLIANCE	ASCE 7 SECTION 13.2.2	1705.12 ITEM 2	EACH SYSTEM OR COMPONENT	MANUFACTURER	X	NOTE 2
DESIGNATED SEISMIC SYSTEM COMPONENTS (AND ASSOCIATED ANCHORAGES) SUBJECT TO PROVISIONS OF ASCE 7 SECTION 13.2.1	CERTIFICATE OF COMPLIANCE	ASCE 7 SECTION 13.2.1	1705.12 ITEM 3	EACH SYSTEM OR COMPONENT	MANUFACTURER	X	NOTE 2

NOTES:
1. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE ARE REQUIRED FOR SEISMIC-FORCE-RESISTING SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E, OR F, UNLESS OTHERWISE NOTED.
2. BASED ON ACTUAL TEST ON SHAKE TABLE, BY THREE-DIMENSIONAL SHOCK TESTS, BY AN ANALYTICAL METHOD USING DYNAMIC CHARACTARISTICS AND FORCES, BY THE USE OF EXPERIENCE DATA, OR BY MORE RIGOROUS ANALYSIS PROVIDING FOR EQUIVALENT SAFETY.

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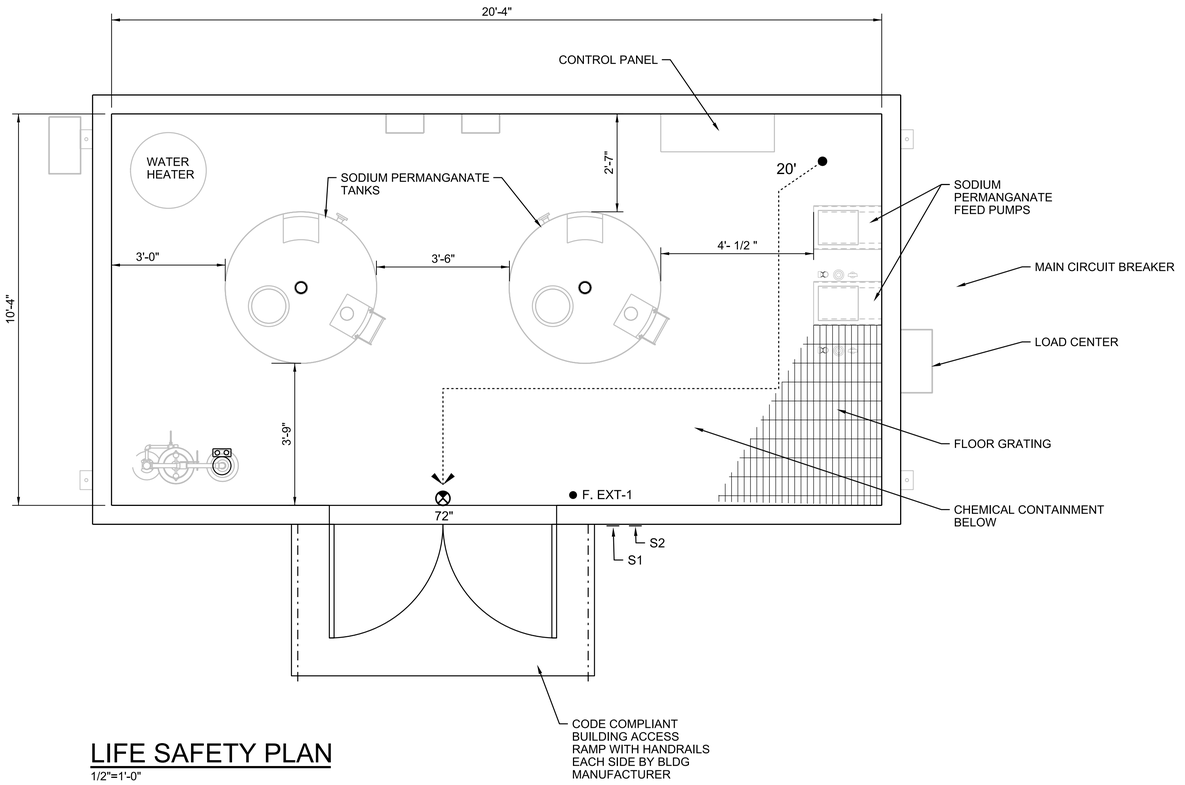

LIFE SAFETY PLAN
1/2"=1'-0"

APPLICABLE CONSTRUCTION CODES
AS MODIFIED BY THE STATE OF GEORGIA:

INTERNATIONAL BUILDING CODE, 2012 EDITION
INTERNATIONAL PLUMBING CODE, 2012 EDITION
INTERNATIONAL MECHANICAL CODE, 2012 EDITION
INTERNATIONAL FUEL GAS CODE, 2012 EDITION
INTERNATIONAL ENERGY CONSERVATION CODE, 2009 EDITION
INTERNATIONAL FIRE CODE, 2012 EDITION
NATIONAL ELECTRICAL CODE, 2011 EDITION

CODE DATA
INTERNATIONAL BUILDING CODE 2012 EDITION

BUILDING: SODIUM PERMANGANATE FACILITY

GENERAL INFORMATION

USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)	GROUP: H3 MIXED USE: NA
CONSTRUCTION CLASSIFICATION (IBC 602 & TABLE 503)	TYPE VB

AREA AND HEIGHT LIMITATIONS

MAXIMUM ALLOWABLE AREA (TABLE 503)	5,000 SF
ACTUAL AREA:	242 SF
MAXIMUM ALLOWABLE STORIES (TABLE 503)	1
ACTUAL NUMBER OF STORIES:	1
MAXIMUM ALLOWABLE HEIGHT (TABLE 503)	40 FT
ACTUAL HEIGHT:	11 FT

OCCUPANCY / EGRESS INFORMATION

DESIGN OCCUPANCY (TABLE 1004.1.2)	1
EGRESS WIDTH BASED ON OCCUPANCY (TABLE 1008.1.1 / 1005.3.2)	0.2" (32" MIN)

REQUIRED FIRE RESISTANT RATINGS

BUILDING ELEMENTS (TABLE 601)	
STRUCTURAL FRAME	NA
EXTERIOR BEARING WALLS	NA
INTERIOR BEARING WALLS	NA
INTERIOR NON-BEARING WALLS	NA
FLOOR CONSTRUCTION	NA
ROOF CONSTRUCTION	NA
SHAFT ENCLOSURE	NA
STAIRWAY ENCLOSURE	NA
CORRIDOR	NA
ALLOWABLE AREA OF EXTERIOR DOORS AND WINDOWS	NA
OCCUPANCY SEPARATIONS	NA
INCIDENTAL USE AREAS	NA
ACCESSORY USE AREAS	NA
NON-SEPARATED USE	NA
FIRE SEPARATION DISTANCE	NA
DISTANCE FROM ADJACENT BUILDING OR PROPERTY LINE	> 30 FT

EXIT REQUIREMENTS

REQUIRED EXITS (TABLE 1015.1):	1
MAX. EXIT ACCESS TRAVEL DISTANCE ALLOWED: (TABLE 1016.1)	150 FT
MAX. COMMON PATH TRAVEL: (TABLE 1014.3)	25 FT
MAX. DEAD ENDS: (1018.4)	NA
CORRIDOR WIDTH (TABLE 1018.2):	3 FT
MIN. EGRESS WIDTH (TABLE 1005.1):	3 FT

FIRE PROTECTION

SPRINKLERS (IBC SECT 903)	PROVIDED
FIRE EXTINGUISHERS (SECT 906)	PROVIDED
EXIT LIGHTING	PROVIDED

NOTE: THE FIRE PROTECTION SYSTEM WILL NOT BE PROVIDED PER FAYETTE COUNTY FIRE MARSHALL CODE VARIANCE ALLOWANCE. EXCLUDE ALL COMPONENTS RELATED TO FIRE SUPPRESSION SYSTEM.

HAZARDOUS MATERIAL INFORMATION

BUILDING OCCUPANCY CLASSIFICATION:

CHEMICAL STORED:
SODIUM PERMANGANATE - LIQUID (20%)

ALLOWABLE AMOUNT PER CONTROL AREA IBC TABLE 307.1 (1):	50 GALS (SPRINKLERED BLDG)
ACTUAL AMOUNT STORED:	1000 GAL (TWO 500 GAL TANKS)
HAZARDOUS CLASSIFICATION:	HIGH-HAZARD GROUP H-3 (IBC 307)
HEALTH:	1
FLAMMABILITY:	0
REACTIVITY:	0
SPECIAL:	OXIDIZER (CLASS 2)
INCOMPATABILITIES:	ACIDS, PEROXIDES & ALL COMBUSTIBLE ORGANIC/READILY OZIDIZED MATERIALS
EXTINGUISHING MEDIA:	WATER SPRAY

GENERAL NOTES:

FOR CHEMICAL STORAGE BUILDING AND COMPONENTS, SEE SPECIFICATION SECTION 13 34 23.

LEGEND

- X' — TRAVEL DISTANCE (X = TOTAL DISTANCE TO EXIT IN FEET)
- X" — EGRESS WIDTH (IN INCHES)
- ● F. EXT-1 — FIRE EXTINGUISHER
- ⊗ — EXIT LIGHT, ONE SIDED
- EYEWASH/SAFETY SHOWER
- S1 — SIGN CALL OUT:
  S1 = NFPA HAZEMAT DIAMOND FOR CHEMICAL STORED
  S2 = DANGER - NO SMOKING

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LIFE SAFETY PLAN

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CONFORMED DOCUMENTS

PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT & PROPRIETARY RESTRAINED JOINT
		BELL & SPIGOT JOINT (LEADED)
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		FLEXIBLE COUPLING
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER

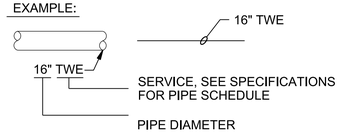
DOUBLE LINE	SINGLE LINE	
		REDUCING BUSHING
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

NOTES:

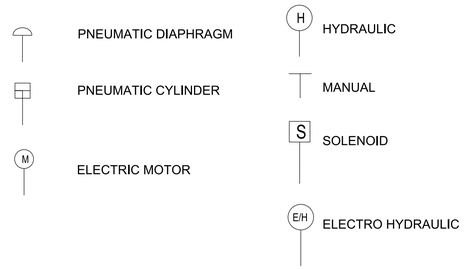
1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

PIPING DESIGNATION

EXAMPLE:



ACTUATOR SYMBOLS

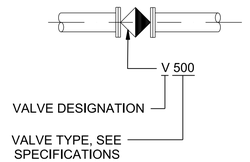


VALVE SYMBOLS

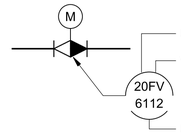
SINGLE LINE	DOUBLE LINE
GATE	
KNIFE GATE	OR
BUTTERFLY	OR
GLOBE	OR
BALL	OR
SEATING PORT	
ECCENTRIC PLUG	OR
PLUG OR COCK	OR
NEEDLE	OR
DIAPHRAGM	OR
PINCH	OR
SWING CHECK	OR
BALL CHECK	OR
HOSE VALVE (HV- X) OR (V-X) X = NO. IN SPECS	
SAMPLE	
MUD	
PRESSURE RELIEF	
AIR AND/OR VACUUM RELEASE	
REGULATED SIDE	
PRESSURE CONTROL (INTERNAL PILOT)	
REGULATED SIDE	
PRESSURE CONTROL (EXTERNAL PILOT)	
MULTI-PORT VALVE, ARROWS INDICATE FLOW PATTERN. SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.	
TELESCOPING SCUM VALVE	

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES



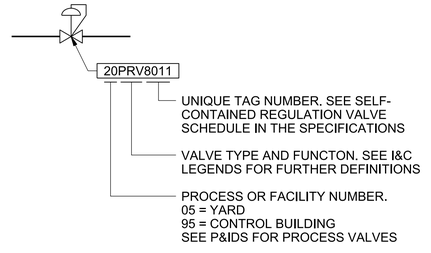
CONTROL VALVES



NOTE:

SEE I&C LEGENDS FOR FURTHER DEFINITIONS AND ACTUATOR TYPES.

SELF-CONTAINED REGULATING VALVES



MECHANICAL LEGEND AND NOTES

GENERIC PIPING NOTES

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN SUPPORTS AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
7. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED.
8. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
9. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.

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PROCESS MECHANICAL, YARD PIPING LEGEND

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ONE-LINE DIAGRAM-1

SYMBOL	DESCRIPTION
400	CIRCIUT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
100/M	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO
100	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO
60 (3)	FUSE, CURRENT RATING AND QUANTITY INDICATED
1	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO
AFD	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE
	CABLE OR BUS CONNECTION POINT
	SURGE ARRESTER (GAP TYPE)
10	CAPACITOR - KVAR INDICATED, 3 PHASE
3	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
G 500/625	GENERATOR, KW/KVA RATING SHOWN
VS V 0-600V	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVARS PF = POWER FACTOR
DPM	DIGITAL POWER METER (MULTIFUNCTION)
	GROUND
15 KVA 480-120/240V 1 PH	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED
480-120V (3)	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS, RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	TERMINAL BLOCK LUG
	DELTA CONNECTION
	WYE GROUNDED CONNECTION, SOLID GROUND

POWER SYSTEM PLAN-1

SYMBOL	DESCRIPTION
LPXXA	PANELBOARD - SURFACE MOUNTED PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL
LPXXA	HOME RUN - DESTINATION SHOWN
or G	EXPOSED CONDUIT AND CONDUCTORS*
- - - - - or G	CONCEALED CONDUIT AND CONDUCTORS*

NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

SYMBOL	DESCRIPTION
G	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
[A1]	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
EX	EXISTING CONDUIT/ DUCT BANK
BD	BUS DUCT - SEE SPECIFICATIONS
CE	CONCRETE ENCASED CONDUIT
DB	DIRECT BURIED CONDUIT
FO	FIBER OPTIC CONDUIT
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE

NOTES:

1. THESE ARE STANDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL) SEE OTHER LEGENDS.

CONTROL DIAGRAM-1

SYMBOL	DESCRIPTION
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK
	3 POSITION SELECTOR SWITCH MAINTAINED CONTACT
HAND OFF REMOTE	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY:

	POSITION		
CKT	HAND	OFF	REMOTE
1	X	O	O
2	O	O	X

X - CLOSED CONTACT
O - OPEN CONTACT

SYMBOL	DESCRIPTION
	TOGGLE SWITCH, ON-OFF TYPE
ON OFF	SELECTOR SWITCH, ON-OFF TYPE
	MUSHROOM HEAD PUSHBUTTON SWITCH
A	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR
A	INDICATING LIGHT - LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE
ETM	ELAPSED TIME METER
M	MOTOR STARTER CONTACTOR COIL
CRX	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
TDR X	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
SV X	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT
	CONTACT - NORMALLY OPEN
	CONTACT - NORMALLY CLOSED
	REMOTE DEVICE
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSES WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, CLOSES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSES WHEN DE-ENERGIZED AND TIMED OUT
	MOTOR SPACE HEATER
	TERMINAL BLOCK, REMOTE
	TERMINAL BLOCK, INTERNAL
	FUSED TERMINAL BLOCK
	FUSE, RATING INDICATED
CPT 120V	TRANSFORMER, CONTROL POWER
	THERMOCOUPLE

CONTROL DIAGRAM-2

SYMBOL	DESCRIPTION
+ −	BATTERY
	LIMIT SWITCH, NORMALLY OPEN, CLOSES AT END OF TRAVEL
	LIMIT SWITCH, NORMALLY CLOSED, OPENS AT END OF TRAVEL
	TEMPERATURE SWITCH, OPENS ON TEMPERATURE RISE
	TEMPERATURE SWITCH, CLOSES ON TEMPERATURE RISE
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON DESCENDING LEVEL
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL
	PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE
	PRESSURE SWITCH, NORMALLY OPEN, CLOSES ON RISING PRESSURE

GROUND SYSTEM PLAN

SYMBOL	DESCRIPTION
	GROUND ROD
	GROUND ROD IN TEST WELL
G	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
G	EQUIPMENT GROUND BUS
N	EQUIPMENT NEUTRAL BUS
	COAXIAL CABLE
	MULTICONDUCTOR SHIELDED CABLE
	DUPLEX RECEPTACLE
L U	RELAY, WITH MECHANICAL LATCH

NO.	DATE	DSGN	DR	CHK	REVISION	APVD
0	02/2015	K HORTON	G MESSER	PY KESKAR	CONFORMED DOCUMENTS	K HORTON

MD	BY	APVD
MH		

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FAYETTE COUNTY, GEORGIA

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GENERAL

ELECTRICAL LEGEND

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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SHEET	9 of 54

CONFORMED DOCUMENTS

SYMBOL	DESCRIPTION

DEVICE TABLE

CIRCUIT AND RACEWAY

GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

POWER CIRCUIT CALLOUTS

[P1]	[1/2"FLEX, 2#12,#12G]	[P24]	[1"C,3#8,3#14,1#10G]
[P2]	[3/4"C,2#12,1#12G]	[P25]	[1"C,3#8,4#14,1#10G]
[P3]	[3/4"C,3#12,1#12G]	[P26]	[1"C,3#8,5#14,1#10G]
[P4]	[3/4"C,4#12,1#12G]	[P27]	[1"C,2#6, 1#10G]
[P5]	[3/4"C,5#12,1#12G]	[P28]	[1"C,3#6, 1#8G]
[P6]	[3/4"C,6#12,1#12G]	[P29]	[1"C,3#6, 2#14,1#8G]
[P7]	[3/4"C,7#12,1#12G]	[P30]	[1"C,3#6, 3#14,1#8G]
[P8]	[3/4"C,8#12,1#12G]	[P31]	[1"C,3#6, 4#14,1#8G]
[P9]	[3/4"C,3#12,2#14,1#12G]	[P32]	[1"C,3#6, 5#14,1#8G]
[P10]	[3/4"C,3#12,3#14,1#12G]	[P33]	[1"C,3#4,1#8G]
[P11]	[3/4"C,3#12,4#14,1#12G]	[P34]	[1 1/4"C,3#4,3#14,1#8G]
[P12]	[3/4"C,3#12,5#14,1#12G]	[P35]	[1 1/4"C,3#4,5#14,1#8G]
[P13]	[3/4"C,3#12,6#14,1#12G]	[P36]	[1 1/4"C,3#3, 1#6G]
[P14]	[3/4"C,3#12,7#14,1#12G]	[P37]	[1 1/4"C,3#3, 3#14,1#6G]
[P15]	[3/4"C,2#10,1#10G]	[P38]	[1 1/4"C,3#2, 1#6G]
[P16]	[3/4"C,3#10,1#10G]	[P39]	[1 1/4"C,3#1, 1#6G]
[P17]	[3/4"C,3#10,2#14,1#10G]	[P40]	[1 1/2"C,3#1, 3#14,1#6G]
[P18]	[3/4"C,3#10,3#14,1#10G]	[P41]	[1 1/2"C,3#2/0, 1#4G]
[P19]	[3/4"C,3#10,4#14,1#10G]	[P42]	[2"C,3#3/0, 1#4G]
[P20]	[3/4"C,3#10,5#14,1#10G]	[P43]	[2"C,3#4/0, 1#3G]
[P21]	[1"C,2#8,1#10G]	[P44]	[2"C,4#1/0, 1#6G]
[P22]	[1"C,3#8,1#10G]		
[P23]	[1"C,3#8,2#14,1#10G]		

MULTICONDUCTOR POWER CABLE CIRCUIT CALLOUTS

[PC1]	[3/4"C,1 (3C#12,1#12G) TYPE 2]
[PC2]	[3/4"C,1 (3C#10,1#10G) TYPE 2]
[PC3]	[1"C,1 (3C#8,1#10G) TYPE 2]
[PC4]	[1 1/4"C,2 (3C#12,1#12G) TYPE 2]
[PC5]	[1 1/2"C,2 (3C#10,1#10G) TYPE 2]
[PC1A]	[3/4"C,1 (2C#12,1#12G) TYPE 2]
[PC2A]	[3/4"C,1 (2C#10,1#10G) TYPE 2]

EMPTY CONDUIT

[EC-1]	[3/4"C,WITH PULL STRING]
[EC-2]	[1"C,WITH PULL STRING]
[EC-3]	[1 1/4"C,WITH PULL STRING]
[EC-4]	[1 1/2"C,WITH PULL STRING]
[EC-5]	[2"C,WITH PULL STRING]
[EC-6]	[3"C,WITH PULL STRING]
[EC-7]	[4"C,WITH PULL STRING]
[EC-8]	[5"C,WITH PULL STRING]

ANALOG CIRCUIT CALLOUTS

[A1]	[3/4"C,1 TYPE 3]
[A2]	[1"C,2 TYPE 3]
[A3]	[1"C,3 TYPE 3]
[A4]	[1"C,4 TYPE 3]
[A5]	[1 1/4"C,5 TYPE 3]
[A6]	[1 1/4"C,6 TYPE 3]
[A7]	[1 1/2"C,7 TYPE 3]
[A8]	[1 1/2"C,8 TYPE 3]
[A9]	[1 1/2"C,9 TYPE 3]
[A10]	[2"C,10 TYPE 3]
[A11]	[2"C,11 TYPE 3]
[A12]	[2"C,12 TYPE 3]
[A13]	[2"C,13 TYPE 3]
[A14]	[2"C,14 TYPE 3]
[A15]	[3/4"C,1 TYPE 4]
[A16]	[3/4"C,2 TYPE 4]
[A17]	[1"C,3 TYPE 4]
[A18]	[1 1/4"C,4 TYPE 4]
[A19]	[1 1/4"C,5 TYPE 4]
[A20]	[1 1/4"C,6 TYPE 4]
[A21]	[1 1/2"C,7 TYPE 4]
[A22]	[1 1/2"C,8 TYPE 4]
[A23]	[2"C,9 TYPE 4]
[A24]	[3/4"C,1-4 pr. TYPE 5]
[A25]	[1"C,2-4 pr. TYPE 5]

CONTROL CIRCUIT CALLOUTS

[C1]	[3/4"C,MSC]
[C2]	[3/4"C,2#14,1#14G]
[C3]	[3/4"C,3#14,1#14G]
[C4]	[3/4"C,4#14,1#14G]
[C5]	[3/4"C,5#14,1#14G]
[C6]	[3/4"C,6#14,1#14G]
[C7]	[3/4"C,7#14,1#14G]
[C8]	[3/4"C,8#14,1#14G]
[C9]	[3/4"C,9#14,1#14G]
[C10]	[3/4"C,10#14,1#14G]
[C11]	[3/4"C,11#14,1#14G]
[C12]	[3/4"C,12#14,1#14G]
[C13]	[3/4"C,13#14,1#14G]
[C14]	[3/4"C,14#14,1#14G]
[C15]	[3/4"C,15#14,1#14G]
[C16]	[3/4"C,16#14,1#14G]
[C17]	[3/4"C,17#14,1#14G]
[C18]	[3/4"C,18#14,1#14G]
[C19]	[3/4"C,19#14,1#14G]
[C20]	[1"C,20#14,1#14G]
[C21]	[1"C,21#14,1#14G]
[C22]	[1"C,22#14,1#14G]
[C23]	[1"C,23#14,1#14G]
[C24]	[1"C,24#14,1#14G]
[C25]	[1"C,25#14,1#14G]

MULTICONDUCTOR CONTROL CABLE CIRCUIT CALLOUTS

[CC5]	[3/4"C,1-5C TYPE 1]
[CC7]	[3/4"C,1-7C TYPE 1]
[CC9]	[1"C,1-9C TYPE 1]
[CC12]	[1"C,1-12C TYPE 1]
[CC19]	[1 1/2"C, 1-19C TYPE 1]
[CC25]	[1 1/2"C,1-25C TYPE 1]
[CC37]	[2"C,1-37C TYPE 1]
[CCC1]	[1-7C #12 TYPE 1]

NOTES:

1. FOR CABLE TYPES, SEE SPECIFICATIONS.
2. CONDUIT SIZES ARE BASED ON THE AREA OF THW CONDUCTORS.
3. SIZING OF CONDUCTORS #1AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
4. WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".
5. FOR METRIC CONDUIT SIZES USE THE FOLLOWING CONVERSION:

1/2" = 16 mm	1/4" = 35 mm
3/4" = 21 mm	1 1/2" = 41 mm
1" = 27 mm	2" = 53 mm

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			MD	APVD	

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0 1"

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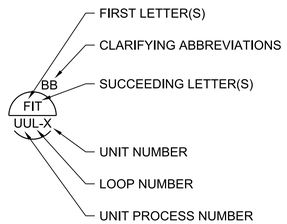
INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS



DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- $\triangle_X$ DISCRETE INPUT
- ∇_X DISCRETE OUTPUT

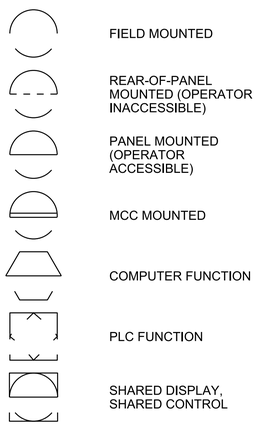
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS



TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED

EXAMPLE

TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

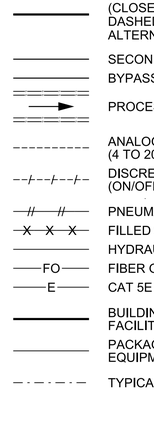
SPECIAL CASES

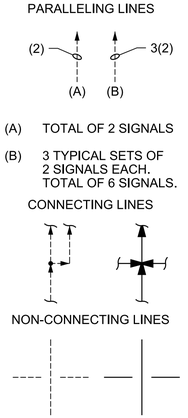
ON AND OFF EVENT LIGHTS

ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

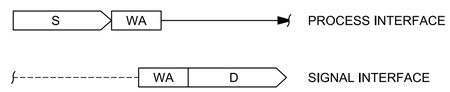
STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

LINE LEGEND

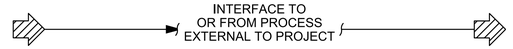


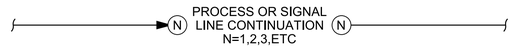


INTERFACE SYMBOLS



- W SOURCE UNIT PROCESS NO. (1 OR 2 DIGITS)
- A INTERFACE NO. (2 DIGITS)
- D DESTINATION DRAWING NO.
- S SOURCE DRAWING NO.





SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

W-D-X-Y

- W UNIT PROCESS NUMBER
- D
  - ARV AIR RELEASE VALVE
  - AVRV AIR AND VACUUM RELEASE VALVE
  - E EJECTOR
  - G GATE
  - M MECHANICAL EQUIPMENT
  - P PUMP
  - T TANK
- X LOOP NUMBER
- Y UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL_2 etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
ENS	ETHERNET SWITCH
FCL_2	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
PP	PATCH PANEL (FIBER OPTIC)
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL_2	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
Δ	DIFFERENCE
Σ	SUM
$\times$	MULTIPLY
$\div$	DIVIDE
F(X)	CHARACTERIZED
X^n	RAISED TO THE Nth POWER
$\sqrt{\ }$	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (✳) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (✳✳) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
3. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.

NO.	DATE	DSGN	REVISION	CHK
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		DR		APVD
		MH		BY
		MD		APVD

PY KESKAR
PY KESKAR

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FAYETTE COUNTY, GEORGIA

GENERAL

INSTRUMENTATION AND CONTROL LEGEND

CONFORMED DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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VALVE SYMBOLS

- GATE
- KNIFE GATE
- BUTTERFLY
- GLOBE
- BALL
- VEE-BALL
- PLUG
- SEAT PORT ECCENTRIC PLUG
- DIAPHRAGM
- PINCH
- NEEDLE
- SWING CHECK
- BALL CHECK
- BACKFLOW PREVENTER
- ROTARY
- TELESCOPE
- SAMPLE
- MUD
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE PRESSURE CONTROL
- PRESSURE REGULATION (CLAY-TYPE)
- MULTI-PORT VALVE (GATE VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- ANGLE GATE

GATE SYMBOLS

- SLUICE
- BUTTERFLY
- FABRICATED SLIDE
- FLAP
- STOP LOG
- SHEAR

ACTUATOR SYMBOLS

- PNEUMATIC DIAPHRAGM SPRING-OPPOSED, SINGLE OR DOUBLE ACTING
- PNEUMATIC CYLINDER SINGLE OR DOUBLE ACTING ACTUATED BY ONE INPUT
- ELECTRIC MOTOR
- SOLENOID
- VALVE POSITIONER
- HYDRAULIC
- DIAPHRAGM, DIFFERENTIAL PRESSURE
- ELECTROHYDRAULIC
- MANUAL

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)

XX: FO FAIL OPEN
FC FAIL CLOSED
FLP FAIL TO LAST POSITION

PRIMARY ELEMENT SYMBOLS

- PARSHALL FLUME
- WEIR
- ORFICE PLATE
- FLOW TUBE
- PITOT-STATIC
- VORTEX METER
- ULTRASONIC FLOWMETER
- ELECTROMAGNETIC FLOWMETER
- PROPELLER OR TURBINE METER
- THERMAL FLOWMETER
- LEVEL (BUBBLER TUBE)
- LEVEL (FLOAT)
- ROTAMETER
- DENSITY METER
- GENERIC
- LEVEL

MISCELLANEOUS SYMBOLS

- VENT TO ATMOSPHERE
- AIR GAP
- DRIP TRAP
- PIG INSERT POINT
- PIG CATCH POINT
- SELF CONTAINED AIR SUPPLY
- AIR PURGE SET
- FLUSHING CONNECTION
- SEAL WATER SET
- WATER PURGE SET
- FLEXIBLE CONNECTION
- AERATOR
- DIAPHRAGM SEAL
- ANNULAR DIAPHRAGM SEAL
- COMPOSITE SAMPLER
- FLAME TRAP
- CALIBRATION COLUMN
- INLINE SILENCER
- BLIND FLANGE
- PIPE CAP
- STRAINER
- BASKET STRAINER
- FILTER
- PULSATION DAMPENER
- EXPANSION CHAMBER

FFLCPLLLX — PANEL CONTINUED ON SAME OR OTHER DRAWING
PANEL OUTLINE
PANEL NAME

120V — 120 VOLT, 60 HZ POWER
480V — 480 VOLT, 60 HZ POWER

XX — AIR SET
XX = SUPPLY PRESSURE IN PSIG.

- PLUG
- RECEPTACLE
- RUPTURE DISK (VACUUM)
- RUPTURE DISK (PRESSURE)
- TV MONITOR
- TV CAMERA

A, B → AND → C — LOGIC ELEMENT: IF A AND NOT B THEN C

A, B → OR → C — LOGIC ELEMENT: IF A OR B THEN C

- RADIO ANTENNA

I / OR / I — INTERLOCK, SEE CONTROL DIAGRAMS

- VOICE COMMUNICATION POINT
- SKIMMING MECHANISM
- SCREW CONVEYOR
- MIXER
- ELECTRIC MOTOR

PUMP AND COMPRESSOR SYMBOLS

- CENTRIFUGAL PUMP (DRY PIT) XX
- CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP XX
- RECIPROCATING OR METERING PUMP (POSITIVE DISPLACEMENT) XX
- DIAPHRAGM PUMP XX
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT) XX
- PROGESSING CAVITY PUMP XX
- COMPRESSOR (CENTRIFUGAL) XX
- COMPRESSOR (PISTON) XX
- BLOWER OR FAN (CENTRIFUGAL) XX
- EJECTOR
- PISTON PUMP XX
- SUBMERSIBLE SUMP PUMP XX
- ROTARY PUMP
- VACUUM PUMP
- SCREW PUMP

XX: AS ADJUSTABLE SPEED
CS-1 CONSTANT SPEED (SINGLE SPEED)
CS-2 CONSTANT SPEED (TWO SPEED)

FLOW STREAM IDENTIFICATION

CP	CHEMICAL CARRIER PIPE
DWS	DOSED WATER SAMPLE
DR	DRAIN
FE	FILTER EFFLUENT
FW	FINISHED WATER
HW	HOT WATER
LI	LIQUID LIME
OF	OVERFLOW
RW	RAW WATER
RWS	RAW WATER SAMPLE
SP	SODIUM PERMANGANATE
TW	TEMPERED WATER
W1	PLANT WATER SUPPLY
W2	PLANT WATER SUPPLY, BACKFLOW-PREVENTED

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	MD	APVD
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CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

GENERAL

INSTRUMENTATION AND CONTROL LEGEND

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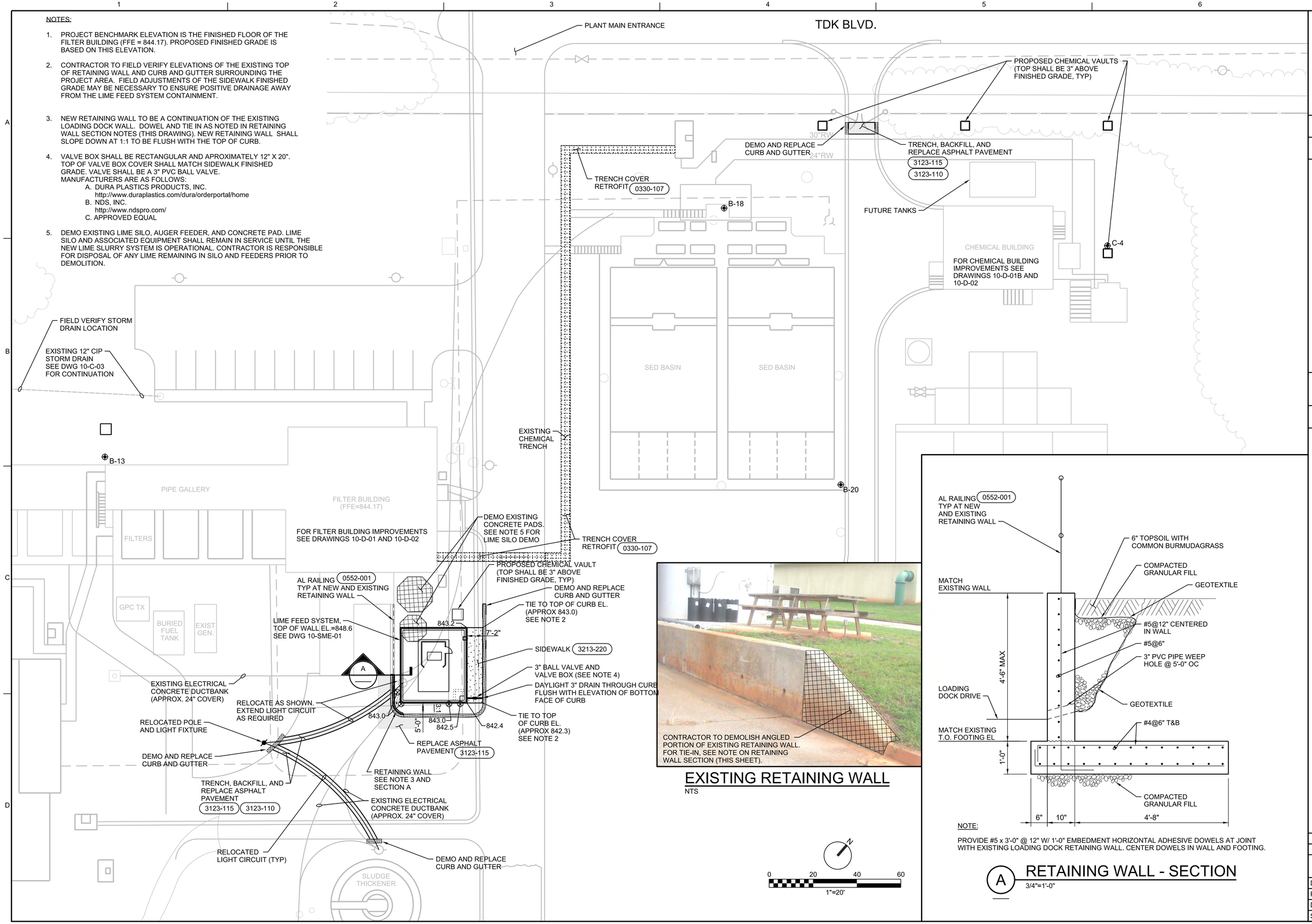
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	G-12
SHEET	12 of 54

NOTES:

1. PROJECT BENCHMARK ELEVATION IS THE FINISHED FLOOR OF THE FILTER BUILDING (FFE = 844.17). PROPOSED FINISHED GRADE IS BASED ON THIS ELEVATION.
2. CONTRACTOR TO FIELD VERIFY ELEVATIONS OF THE EXISTING TOP OF RETAINING WALL AND CURB AND GUTTER SURROUNDING THE PROJECT AREA. FIELD ADJUSTMENTS OF THE SIDEWALK FINISHED GRADE MAY BE NECESSARY TO ENSURE POSITIVE DRAINAGE AWAY FROM THE LIME FEED SYSTEM CONTAINMENT.
3. NEW RETAINING WALL TO BE A CONTINUATION OF THE EXISTING LOADING DOCK WALL. DOWEL AND TIE IN AS NOTED IN RETAINING WALL SECTION NOTES (THIS DRAWING). NEW RETAINING WALL SHALL SLOPE DOWN AT 1:1 TO BE FLUSH WITH THE TOP OF CURB.
4. VALVE BOX SHALL BE RECTANGULAR AND APROXIMATELY 12" X 20". TOP OF VALVE BOX COVER SHALL MATCH SIDEWALK FINISHED GRADE. VALVE SHALL BE A 3" PVC BALL VALVE. MANUFACTURERS ARE AS FOLLOWS:
   A. DURA PLASTICS PRODUCTS, INC. http://www.duraplastics.com/dura/orderportal/home
   B. NDS, INC. http://www.ndspro.com/
   C. APPROVED EQUAL
5. DEMO EXISTING LIME SILO, AUGER FEEDER, AND CONCRETE PAD. LIME SILO AND ASSOCIATED EQUIPMENT SHALL REMAIN IN SERVICE UNTIL THE NEW LIME SLURRY SYSTEM IS OPERATIONAL. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ANY LIME REMAINING IN SILO AND FEEDERS PRIOR TO DEMOLITION.



EXISTING RETAINING WALL
NTS

NOTE:

PROVIDE #5 x 3'-0" @ 12" W/ 1'-0" EMBEDMENT HORIZONTAL ADHESIVE DOWELS AT JOINT WITH EXISTING LOADING DOCK RETAINING WALL. CENTER DOWELS IN WALL AND FOOTING.

A RETAINING WALL - SECTION
3/4"=1'-0"

N

0 20 40 60

1"=20'

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BY	APVD
MH	MD
J RAMOS	

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VERIFY SCALE
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DATE	AUGUST 2014
PROJ	486753
DWG	10-C-01
SHEET	13 of 54

NOTES:

1. DEMOLISH EXISTING GALVANIZED RAW WATER AND DOSED WATER SAMPLE PIPES BEGINNING AT THE RESPECTIVE SAMPLE PUMPS IN THE LIME FEED ROOM INSIDE THE FILTER BUILDING AND CONTINUING THROUGH THE CHEMICAL TRENCH TO THE POINT OF ORIGIN. RAW WATER SAMPLE PIPE POINT OF ORIGIN IS IN THE RAW WATER METER VAULT. DOSED WATER SAMPLE PIPE POINT OF ORIGIN IS AT THE RAPID MIX STRUCTURE. CONTRACTOR SHALL VERIFY ROUTE OF DWS AND HOW IT ENTERS THE CHEMICAL TRENCH. REPLACE SAMPLE LINES WITH NEW 2" PVC PIPING.
2. PROVIDE CHEMICAL VAULTS PER DETAIL 2605-444A. LOCATE CHEMICAL VAULTS AT SPACING OF NOT MORE THAN 60 FEET AND AT EVERY CHANGE IN DIRECTION.
3. DEMOLISH EXISTING CONCRETE COVERS OF CHEMICAL TRENCH. PROVIDE AND INSTALL NEW COVERS PER DETAIL 0330-107.
4. PROVIDE MAXIMUM 60-FT SPANS OF 4" CP. PROVIDE A 2-FT GAP BETWEEN SPANS OF 4" CP. TYPICAL THROUGHOUT ROUTING IN CHEMICAL TRENCH. PROVIDE BREAKS IN 4" CP AT EVERY CHANGE IN DIRECTION TO FACILITATE PULLING LI TUBING THROUGH CP.
5. DEMO EXISTING LIME AUGER, HOPPERS, FEEDERS, SLURRY TANKS, FEED PUMPS, AND ASSOCIATED PIPING INSIDE FILTER BUILDING. EXISTING LIME SYSTEM SHALL REMAIN IN SERVICE UNTIL NEW LIME SLURRY SYSTEM IS OPEARTIONAL. SEE DWG 10-D-01A FOR DETAILS. FILL IN EXISTING AUGER OPENING WITH MORTARED IN CMU AND BRICK TO MATCH EXISTING WALL THICKNESS AND MASONRY PATTERN. COLOR AND TEXTURE OF NEW MASONRY AND MORTAR SHALL MATCH THE EXISTING WALL AS CLOSELY AS POSSIBLE. CUT AND FIT THE NEW MASONRY UNITS INTO THE AUGER OPENING WITH THE SAME MORTAR JOINT THICKNESS AND IN ALIGNMENT WITH THE EXISTING MASONRY COURSING.
6. DEMO EXISTING LIME HOPPERS, SLURRY TANKS, FEED PUMPS, AND ASSOCIATED PIPING INSIDE CHEMICAL BUILDING. LIME SILO SHALL REMAIN IN PLACE. EXISTING LIME SYSTEM SHALL REMAIN IN SERVICE UNTIL NEW LIME SLURRY SYSTEM IS OPERATIONAL. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ANY REMAINING LIME IN THE LIME SILO. SEE DWG 10-D-01B FOR DETAILS.
7. TURN CONDUIT UP AT EDGE OF FILTER BUILDING BEFORE CHEMICAL TRENCH. SEE DWG 10-E-01 FOR ADDITIONAL DETAILS.
8. THERE ARE EXISTING CONDUITS FROM EXISTING LIME SYSTEM TO FILTER BUILDING THAT MUST REMAIN OPERATIONAL UNTIL NEW LIME SYSTEM IS OPERATIONAL. PROTECT CONDUITS DURING CONSTRUCTION OR TEMPORARILY REROUTE AS REQUIRED.

TDK BLVD.

SEE DWG 10-D-04 FOR RAW WATER VAULT AND CHEMICAL TRENCH PIPING DETAILS
CONCRETE ENCASEMENT 0330-016
SEE NOTE 1
2" DWS SEE NOTE 1
5'-0" TYP
24"RW
4" CP WITH THREE LI TUBES
FIELD VERIFY LOCATION OF 30" RW
SEE NOTE 2 (TYP)
FUTURE TANKS
SEE NOTE 6
4" CP WITH THREE LI TUBES
CHEMICAL BUILDING
CHEMICAL VAULT 2605-444A
EXST. CHEMICAL FEED VAULT
SEE DWG 10-D-02 FOR ENLARGED VIEW
EXST. RAPID MIX STRUCTURE
B-18
B-20
C-4
C-5
SED BASIN
SED BASIN
4" CP WITH THREE LI TUBES, SEE NOTE 4
2" DWS AND 2" RWS SEE NOTE 1
EXST 6" W1
EXST 20" FW
4" W1 @ 3' BELOW GRADE. SEE DWG 10-C-04 FOR CONTINUATION
DB
2605-444D
FOR CONTINUATION SEE 10-C-04
2-2"C SPARE
1-4"C SPARE
STUB UP AND CAP
ELECTRICAL CONDUIT SEE 10-E-02 AND 10-SME-02
TAP EXST 20" W1 USE 4027-643X (SIM) WITH FLANGED SADDLE OUTLET FITTING
SEE NOTE 5
SEE NOTE 3
SEE NOTE 8
ELECTRICAL CONDUIT SEE DWG 10-E-01 FOR CONTINUATION SEE NOTE 7
6" CP WITH SIX LI TUBES. SEE DWG 10-D-02 FOR CONTINUATION
CHEMICAL VAULT SEE DWG 10-SME-01
FILTER BUILDING (FFE=844.17)
GPC TX
BURIED FUEL TANK
EXIST GEN.
2" W1
LIME FEED SYSTEM, SEE DWG 10-SME-01
3" V331, SEE NOTE 4, DWG 10-C-01
2" V122, SEE NOTE 9, DWG 10-SME-01
EXST 6" W1
3" DR
EXTEND LIGHT CIRCUIT TO RELOCATED POLE AS REQUIRED
EXST 20" FW
SLUDGE THICKENER

0 20 40 60
1"=20"

NO.	DATE	DSGN	DR	CHK	APVD
0	02/2015	J BURTON	M HALES	M DIAZ	K HORTON
					E MINCHEW

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TDK BLVD.

20" RW

LAKE McINTOSH METER VAULT
SODIUM PERMANGANATE
FEED LOCATION NO. 1

RAW WATER METER VAULT
SODIUM PERMANGANATE
FEED LOCATION NO. 2

20" RW

SILT FENCE (GDOT TYPE C)
FIELD LOCATE MIN. 5 FEET DOWNHILL
FROM LIMITS OF DISTURBED AREA

EXISTING FENCE

T

B-4

34.23'

16.83'

4.5'

NEW UTILITY PAD MOUNTED
TRANSFORMER.
COORDINATE WITH GEORGIA
POWER COMPANY FOR LOCATION.

10.5'

.83'

20.74'

1.29'

CHEMICAL VAULTS
(TYP)
SEE DWG 10-C-04

ELECTRICAL
HANDHOLE

5.33'

42'

15'

38.26'

32.35'

CONTRACTOR TO ORIENT THE CHEMICAL BUILDING
AS SHOWN, PARALLEL TO THE SOUTH
FACE OF THE RAW WATER METER VAULT.
DIMENSIONS SHOWN MEASURE FROM SOUTH-EAST
CORNER OF RAW WATER METER VAULT.

NEW CHEMICAL BUILDING
SODIUM PERMANGANATE STORAGE
AND FEED FACILITY
(SEE DWG 10-SME-02 FOR DETAILS
AND SLAB ELEVATION)

EXISTING STORM DRAIN
PIPES.

EXST. BOTTOM OF POND
EL 810

EXST.
30" RW

52.93'

EXST. 20" RW
PIPE IE = 806.2

2.5'

ELECTRICAL
HANDHOLE

30" RW

CHEMICAL VAULTS (TYP)
SEE DWG 10-C-04, NOTE 1

C-3

FILTER BUILDING

B-9

EXISTING RAW
WATER STORAGE
RESERVOIR

EXST.
30" RW

EXISTING
SLUDGE LAGOON

CLEARWELL

EXST. 30" RW
APPROX PIPE
IE = 821.5

N

0 20 40 60

1"=20'

NO.	DATE	CONFORMED DOCUMENTS	DR	CHK	APVD
0	02/2015	REVISION	MH	T MALONE	J RAMOS
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SODIUM PERMANGANATE

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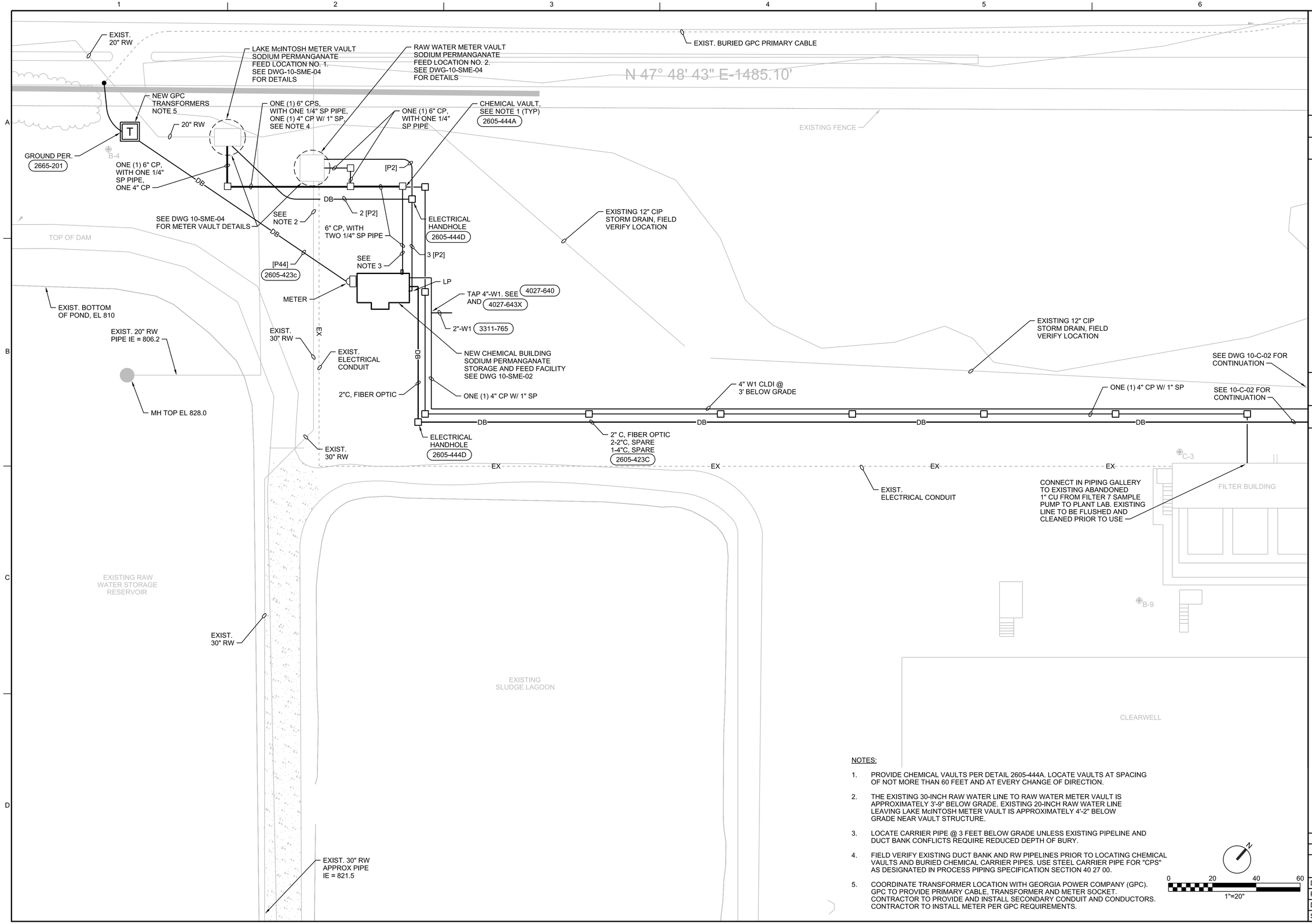

NOTES:

1. PROVIDE CHEMICAL VAULTS PER DETAIL 2605-444A. LOCATE VAULTS AT SPACING OF NOT MORE THAN 60 FEET AND AT EVERY CHANGE OF DIRECTION.
2. THE EXISTING 30-INCH RAW WATER LINE TO RAW WATER METER VAULT IS APPROXIMATELY 3'-9" BELOW GRADE. EXISTING 20-INCH RAW WATER LINE LEAVING LAKE McINTOSH METER VAULT IS APPROXIMATELY 4'-2" BELOW GRADE NEAR VAULT STRUCTURE.
3. LOCATE CARRIER PIPE @ 3 FEET BELOW GRADE UNLESS EXISTING PIPELINE AND DUCT BANK CONFLICTS REQUIRE REDUCED DEPTH OF BURY.
4. FIELD VERIFY EXISTING DUCT BANK AND RW PIPELINES PRIOR TO LOCATING CHEMICAL VAULTS AND BURIED CHEMICAL CARRIER PIPES. USE STEEL CARRIER PIPE FOR "CPS" AS DESIGNATED IN PROCESS PIPING SPECIFICATION SECTION 40 27 00.
5. COORDINATE TRANSFORMER LOCATION WITH GEORGIA POWER COMPANY (GPC). GPC TO PROVIDE PRIMARY CABLE, TRANSFORMER AND METER SOCKET. CONTRACTOR TO PROVIDE AND INSTALL SECONDARY CONDUIT AND CONDUCTORS. CONTRACTOR TO INSTALL METER PER GPC REQUIREMENTS.

0 20 40 60
1"=20"

NO.	DATE	DSGN	REVISION	CHK	APVD
0	02/2015	K YANOSEK	CONFORMED DOCUMENTS	M HALES	M DIAZ

	MH	BY	K HORTON K YANOSEK
	MD	APVD	

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0 1"

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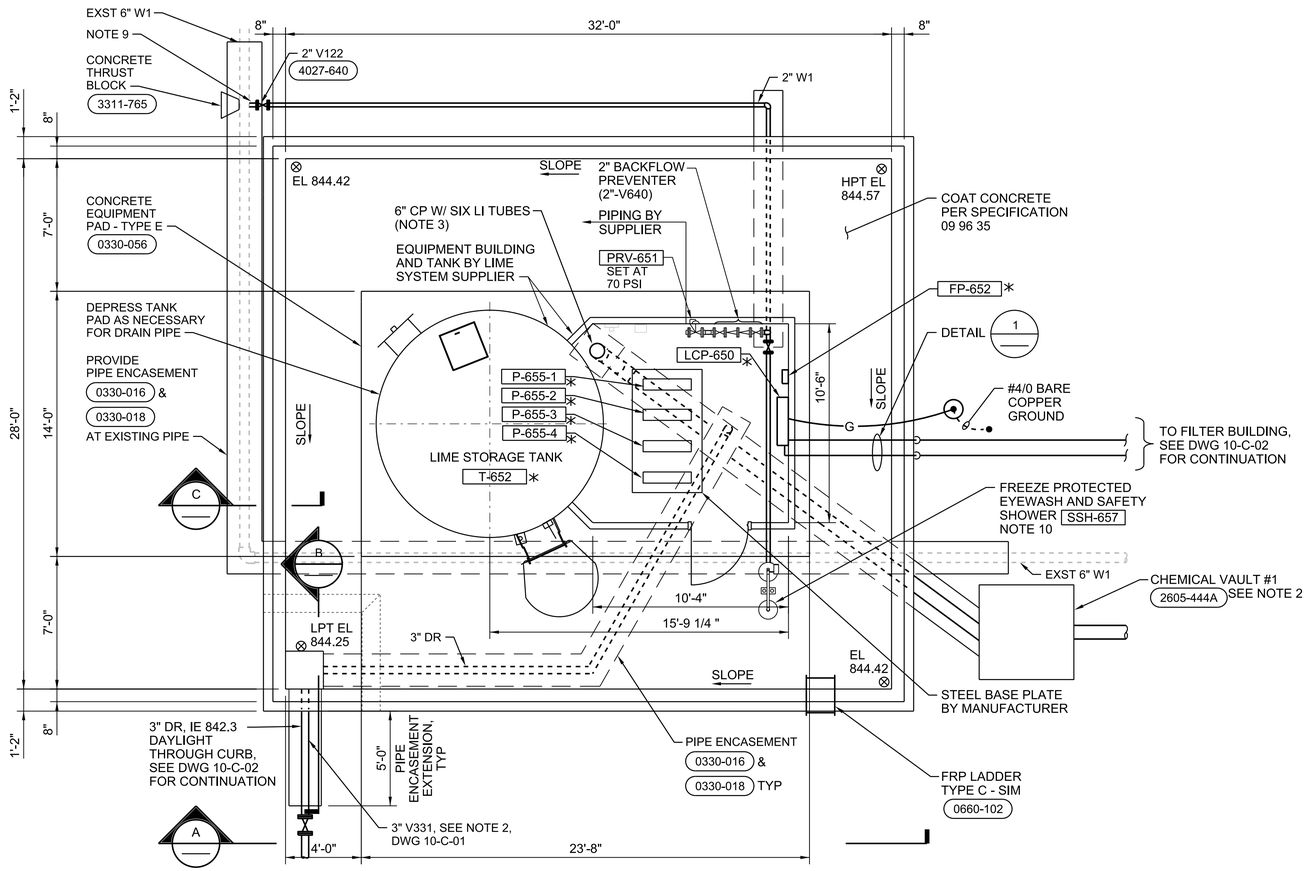
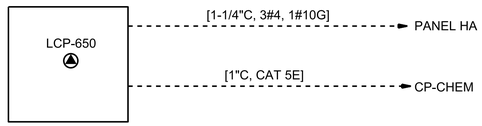


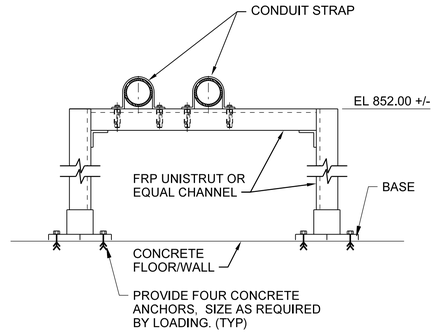
PLAN
1/4"=1'-0"

NOTES:

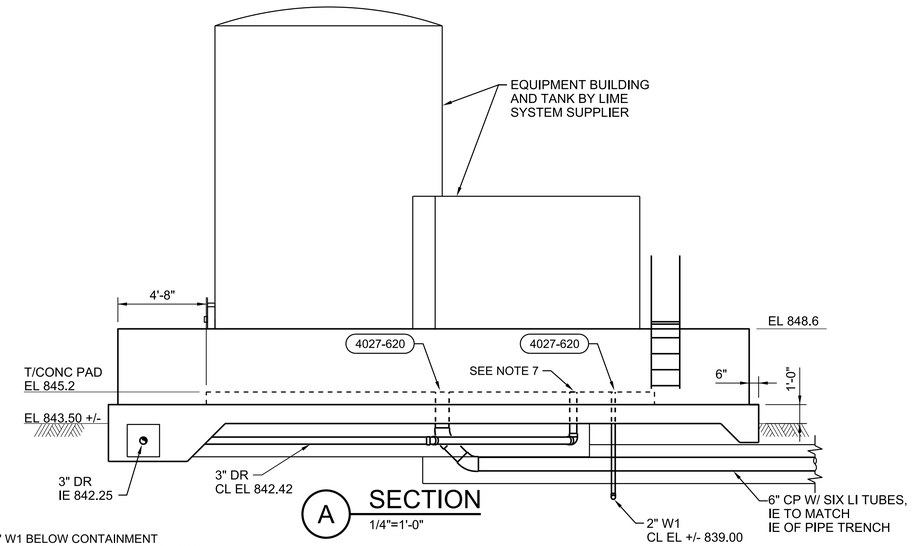
1. CONTRACTOR TO SUPPLY W1, DR, AND CP LINES AS WELL AS ELECTRICAL CONDUIT AND WIRE AS INDICATED. LIME SYSTEM SUPPLIER TO CONNECT TO CONTRACTOR SUPPLIED TERMINATION POINTS AND PROVIDE AND INSTALL ALL EQUIPMENT AND CONNECTIONS AS SPECIFIED. LIME SYSTEM SUPPLIER TO PROVIDE ALL OTHER PIPING ASSOCIATED WITH THE LIQUID LIME SYSTEM.
2. LIQUID LIME SYSTEM TO SERVICE APPLICATION POINTS: PRE-LIME AND POST-LIME. REFER TO 10-D-02 FOR APPLICATION POINT LOCATIONS.
3. CP TO TERMINATE 3'-5" ABOVE FINISHED FLOOR. CONTRACTOR TO PROVIDE CP.
4. CONDUIT AND WIRE SHOWN IS FOR CONTRACTOR TO PROVIDE TO THE LIME SYSTEM. CONDUIT AND WIRE BETWEEN LIME SYSTEM COMPONENTS FURNISHED AND INSTALLED BY LIQUID LIME SYSTEM SUPPLIER. CONDUIT SHALL NOT PENETRATE CONTAINMENT SLAB OR WALL.
5. INSULATION SHALL BE PROVIDED ON W1 LINES TO A DEPTH OF 12" BELOW GROUND BY CONTRACTOR. LIQUID LIME SYSTEM SUPPLIER TO PROVIDE INSULATION AND HEAT TRACING ON ALL EXPOSED PIPING AND TANK, PROVIDED BY SUPPLIER.
6. PROVIDE #4/0 BARE COPPER PIGTAIL FOR GROUNDING LIME SYSTEM ENCLOSURE, TANK, AND POWER PANEL ENCLOSURE.
7. PVC CHEMICAL-RESISTANT FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY AND SECONDARY WEEP HOLES, PVC STRAINER AND SOCKET OUTLET. WATTS MODEL FD-1160, OR EQUAL.
8. ALL BELOW-SLAB PIPING SHALL BE CONCRETE ENCASED PER DETAILS 0330-016 AND 0330-018. ENCASEMENT INCLUDES EXISTING PIPING WHICH PASSES UNDER THE CONTAINMENT STRUCTURE OR WITHIN THE LIMITS OF INFLUENCE OF THE CONTAINMENT STRUCTURE, AS DETERMINED BY A 45-DEGREE ANGLE DRAWN OUTWARDS FROM THE CONTAINMENT STRUCTURE FOOTER.
9. HOT TAP EXISTING 6"W1 FOR NEW 2"W1 SUPPLY TO LIME SLURRY SYSTEM.
10. SSH657, SAFETY SHOWER/EYEWASH COMBINATION (FREEZE-PROOF); MODEL: BRADLEY S19-310TW OR EQUAL.



LIME SYSTEM WIRING DIAGRAM
NOTE 4

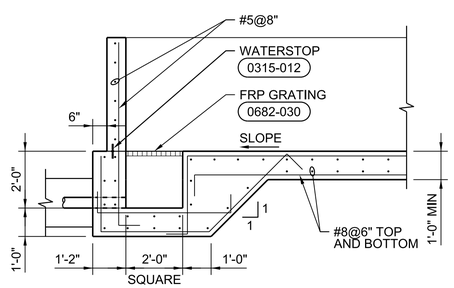


1 SUPPORT DETAIL
NTS

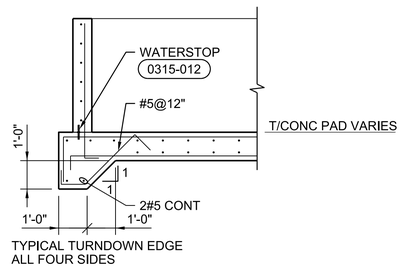


NOTE:
EXISTING 6" W1 BELOW CONTAINMENT STRUCTURE NOT SHOWN FOR CLARITY. EXISTING PIPE TO BE ENCASED PER NOTE 8.

A SECTION
1/4"=1'-0"



B SECTION
3/8"=1'-0"



TYPICAL TURNDOWN EDGE ALL FOUR SIDES

C SECTION
3/8"=1'-0"

NO.	DATE	DSGN	DR	CHK	APVD
0	02/2015	R FORREST	H JOCHIMSEN	M CHRZANOWSKI	M CHRZANOWSKI

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CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

CH2MHILL®

STRUCTURAL/MECHANICAL/ELECTRICAL
CROSSTOWN WTP
LIQUID LIME SYSTEM
PLAN AND SECTIONS

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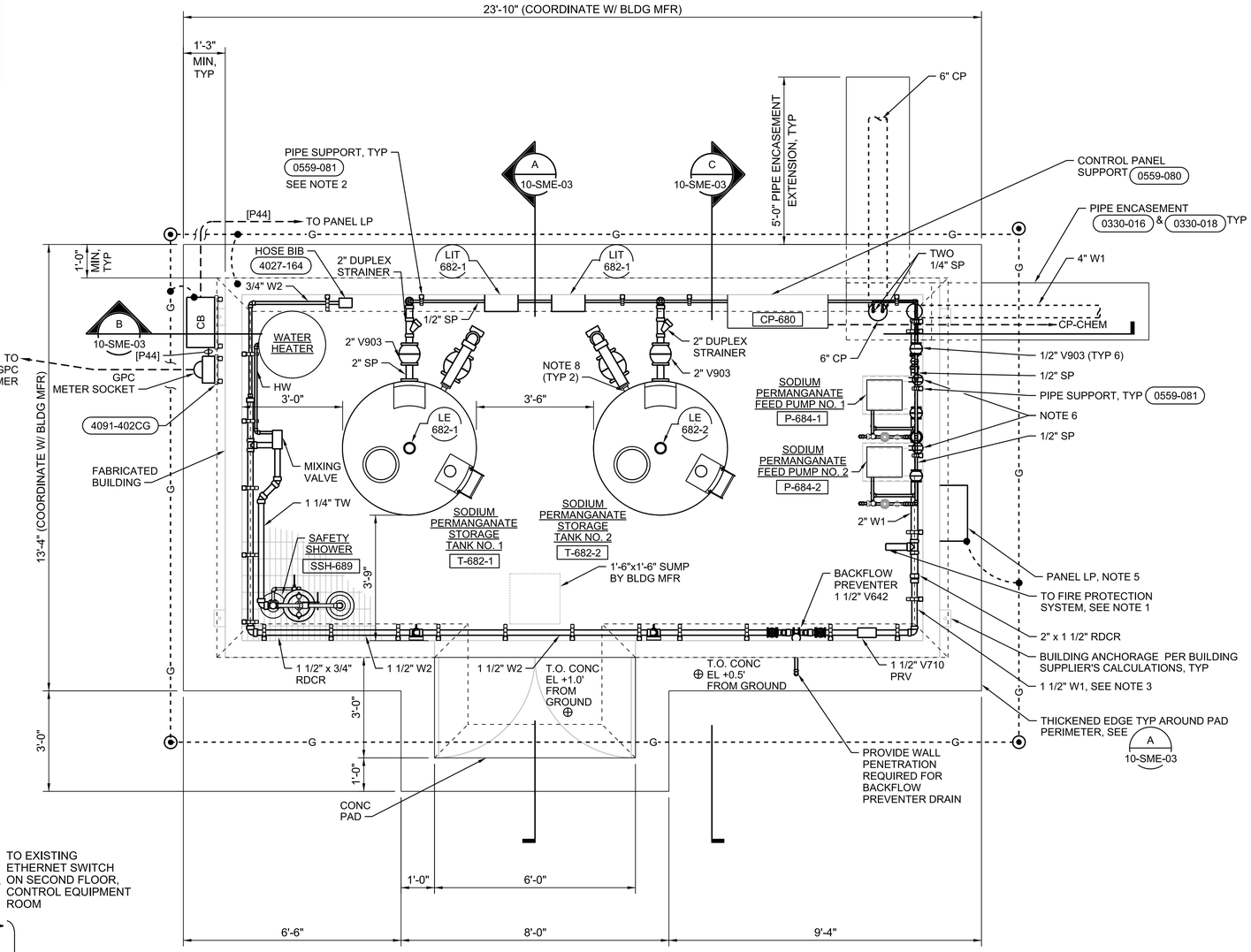
0 1"

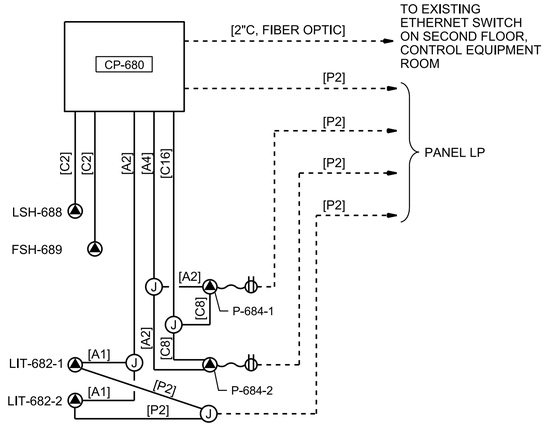
DATE	AUGUST 2014
PROJ	486753
DWG	10-SME-01
SHEET	17 of 54

NOTES:

1. CONTRACTOR TO PROVIDE RISER FOR FIRE PROTECTION SYSTEM. RISER INCLUDES (UPSTREAM TO DOWNSTREAM) ISOLATION VALVE, BACKFLOW PREVENTER ASSEMBLY, AND FLOW SWITCH. ALL COMPONENTS AND MATERIALS OF CONSTRUCTION MUST BE UL LISTED IN ACCORDANCE WITH NFPA 13 FOR USE IN FIRE SUPPRESSION SYSTEMS. CONTRACTOR TO MAKE CONNECTIONS BETWEEN WATER SUPPLY AND SPRINKLER SYSTEM SUPPLIED WITH PREFABRICATED BUILDING. BUILDING SYSTEM SUPPLIER TO PROVIDE TEE FITTING FOR RISER.
   THE FIRE PROTECTION SYSTEM WILL NOT BE PROVIDED PER FAYETTE COUNTY FIRE MARSHALL CODE VARIANCE ALLOWANCE. EXCLUDE ALL COMPONENTS RELATED TO FIRE SUPPRESSION SYSTEM.
2. BUILDING MANUFACTURER TO SUPPLY UNISTRUT ON ALL INTERIOR BUILDING WALLS AS REQUIRED FOR MOUNTING PIPE SUPPORTS, CONTROL PANEL, AND PUMP SUPPORTS.
3. BUILDING MANUFACTURER TO SUPPLY SAFETY SHOWER, HOT WATER HEATER WITH MIXING VALVE, AND HOSE BIB. BUILDING MANUFACTURER IS RESPONSIBLE FOR ALL VALVES (INCLUDING BACKFLOW PREVENTER AND PRESSURE REDUCING VALVES) AND INTERCONNECTING PIPING FOR POTABLE WATER LINES (W1, W2, H2, TW) NOT ASSOCIATED WITH THE RISER FOR THE FIRE SUPPRESSION SYSTEM.
4. CONDUIT AND WIRE SHOWN IS FOR CONTRACTOR TO PROVIDE AND INSTALL. CONDUIT AND WIRE BETWEEN BUILDING COMPONENTS (LIGHTS, HVAC, WATER HEATER AND BUILDING RECEPTACLES) PROVIDED BY BUILDING SYSTEM SUPPLIER.
5. LOAD CENTER PANEL LP PROVIDED WITH BUILDING SYSTEM.
6. MOUNT 20A RECEPTACLE ABOVE PUMP.
7. CONTRACTOR TO USE EXISTING GROUND ELEVATION ON SOUTH SIDE OF NEW CHEMICAL BUILDING AS A BENCHMARK FOR SLAB ELEVATIONS.
8. OVERFLOW/DRAIN NOZZLE.



PLAN
1/2"=1'-0"



SODIUM PERMANGANATE WIRING DIAGRAM
NOTE 4

NO.	DATE	DSGN	DR	CHK	REVISION	BY	APVD
0	02/2015	K YANOSEK	M HALES	PY KESKAR A AKAR M DIAZ	CONFORMED DOCUMENTS	MH	MD

K HORTON
D PRESTER
K YANOSEK

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CHEMICAL SYSTEMS AND
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FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

CH2MHILL®

STRUCTURAL/MECHANICAL/ELECTRICAL

CROSSTOWN WTP
SODIUM PERMANGANATE FACILITY
PLAN

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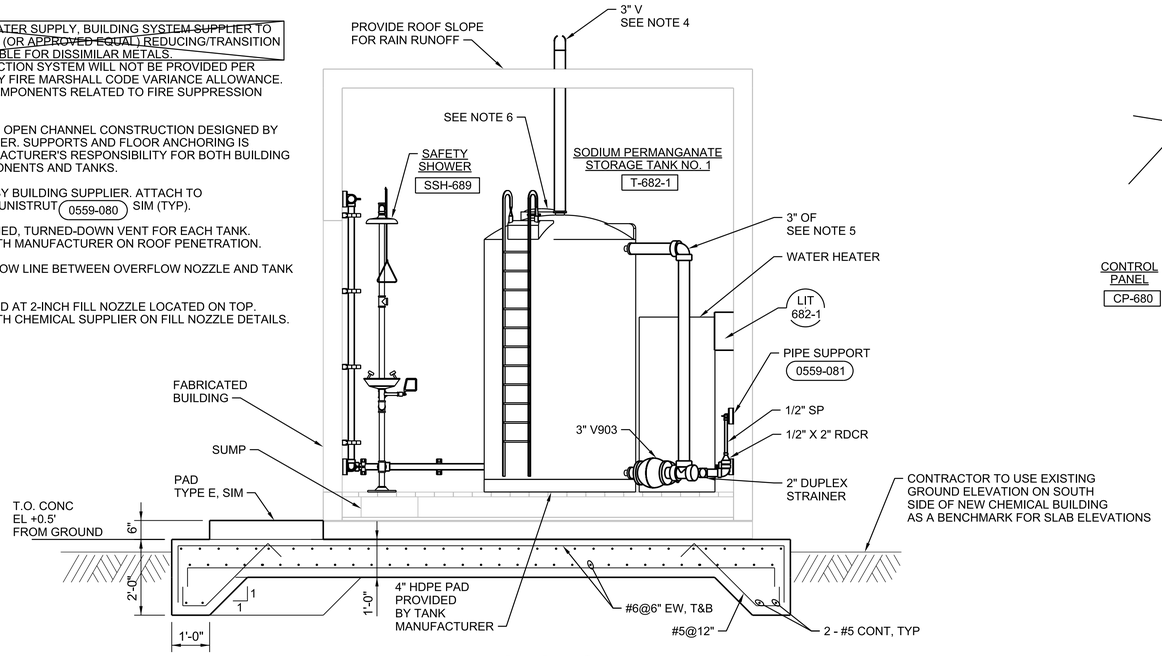
DATE	AUGUST 2014
PROJ	486753
DWG	10-SME-02
SHEET	18 of 54

NOTES:

1. ~~FOR POTABLE WATER SUPPLY, BUILDING SYSTEM SUPPLIER TO PROVIDE ROMAC (OR APPROVED EQUAL) REDUCING/TRANSITION COUPLING SUITABLE FOR DISSIMILAR METALS.~~
   THE FIRE PROTECTION SYSTEM WILL NOT BE PROVIDED PER FAYETTE COUNTY FIRE MARSHALL CODE VARIANCE ALLOWANCE. EXCLUDE ALL COMPONENTS RELATED TO FIRE SUPPRESSION SYSTEM.
2. BUILDING BASE IS OPEN CHANNEL CONSTRUCTION DESIGNED BY BUILDING SUPPLIER. SUPPORTS AND FLOOR ANCHORING IS BUILDING MANUFACTURER'S RESPONSIBILITY FOR BOTH BUILDING PACKAGE COMPONENTS AND TANKS.
3. PUMP SUPPORT BY BUILDING SUPPLIER. ATTACH TO WALL-MOUNTED UNISTRUT (0559-080) SIM (TYP).
4. PROVIDE SCREENED, TURNED-DOWN VENT FOR EACH TANK. COORDINATE WITH MANUFACTURER ON ROOF PENETRATION.
5. PROVIDE OVERFLOW LINE BETWEEN OVERFLOW NOZZLE AND TANK DRAIN LINE.
6. TANK TO BE FILLED AT 2-INCH FILL NOZZLE LOCATED ON TOP. COORDINATE WITH CHEMICAL SUPPLIER ON FILL NOZZLE DETAILS.



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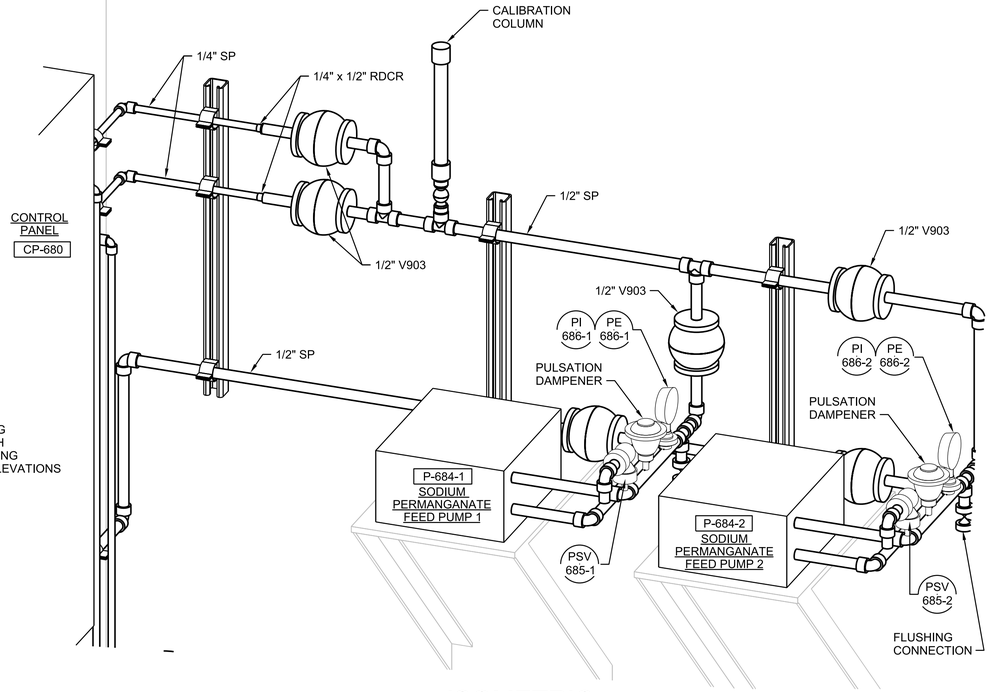
1/2"=1'-0"
10-SME-02



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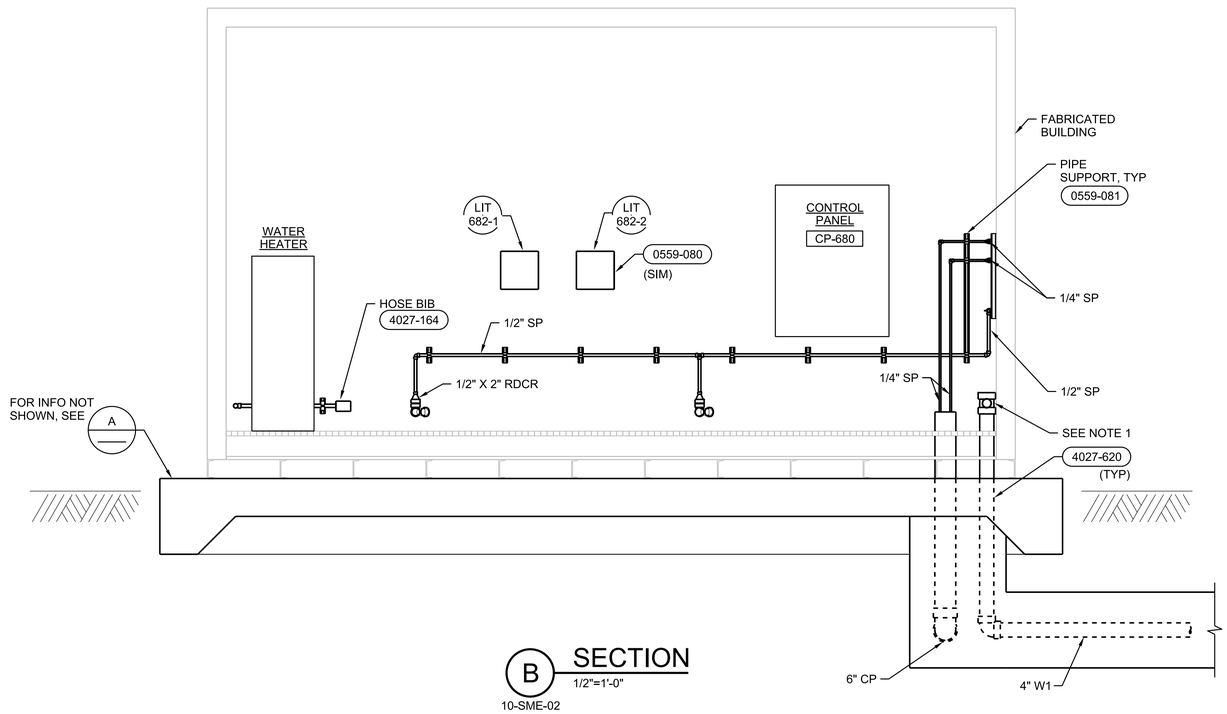
NTS



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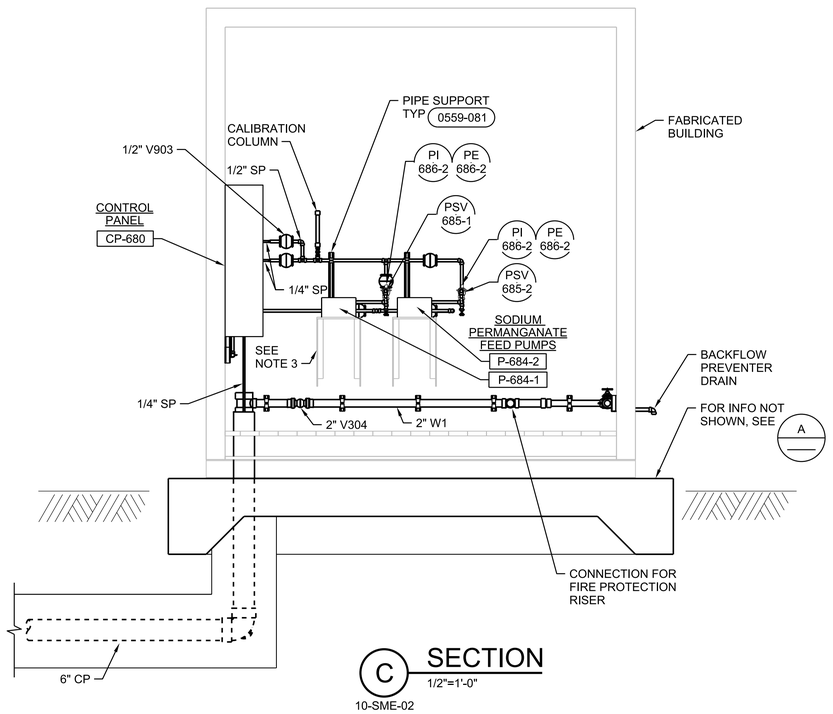
10-SME-02



C SECTION
1/2"=1'-0"
10-SME-02

NO.	DATE	DSGN	DR	CHK	APVD
0	02/2015	K YANOSEK	M HALES	A FIRTH M DIAZ	D PREISSLER K YANOSEK

REVISION

CONFORMED DOCUMENTS

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FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

STRUCTURAL/MECHANICAL/ELECTRICAL

CROSSTOWN WTP
SODIUM PERMANGANATE FACILITY
SECTIONS

CONFORMED DOCUMENTS

VERIFY SCALE
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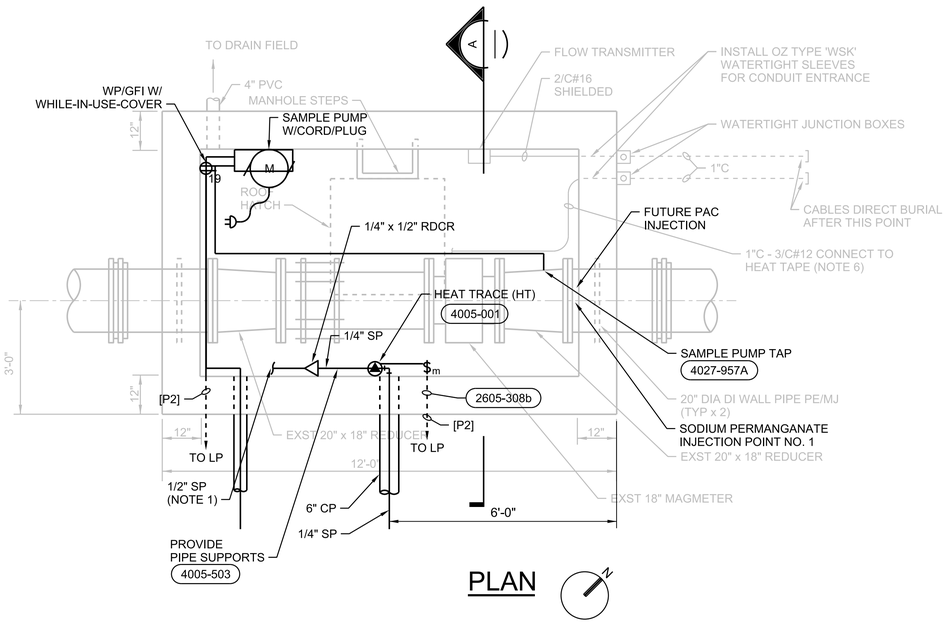
0 1"

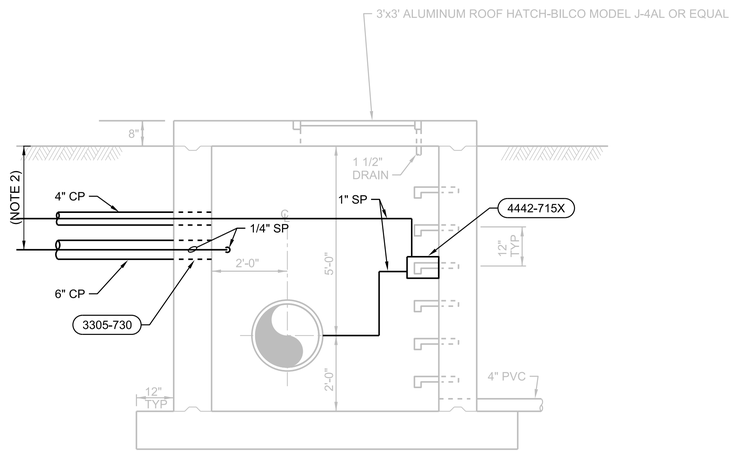
DATE	AUGUST 2014
PROJ	486753
DWG	10-SME-03
SHEET	19 of 54

NOTES:

1. FLEXIBLE HOSE TO BE PROVIDED WITH CHEMICAL INJECTOR (4027-957A)
2. SEE DWG 10-C-04 FOR NOTES ON INVERT ELEVATION AND DEPTH OF BURY.
3. RELOCATE MAGMETER DOWNSTREAM FOR INSTALLATION OF FLANGED SPOOL SECTION FOR SODIUM PERMANGANATE AND PAC INJECTION TAPS.



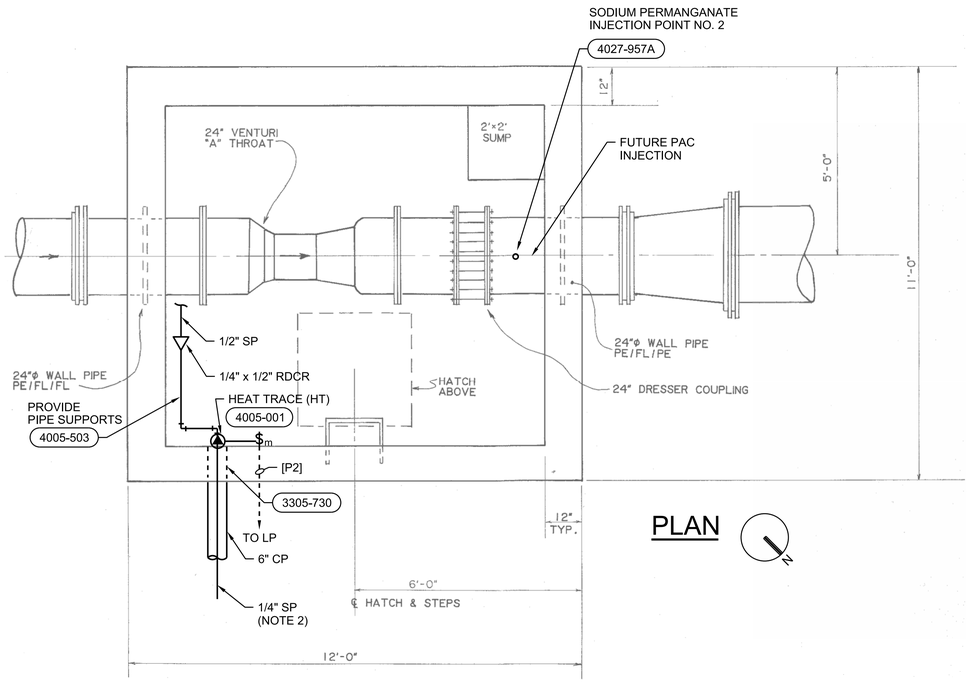
PLAN



A SECTION

LAKE McINTOSH METER VAULT

1/2"=1'-0"



PLAN

RAW WATER METER VAULT

1/2"=1'-0"

NO.	DATE	DSGN	REVISION	CHK	APVD
0	02/2015	K YANOSEK	CONFORMED DOCUMENTS	M HALES	PY KESKAR M DIAZ
				MH	K HORTON K YANOSEK
				BY	APVD
				MD	

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FAYETTE COUNTY, GEORGIA

CROSSTOWN WTP
METER VAULTS
PLANS AND SECTIONS

CONFORMED DOCUMENTS

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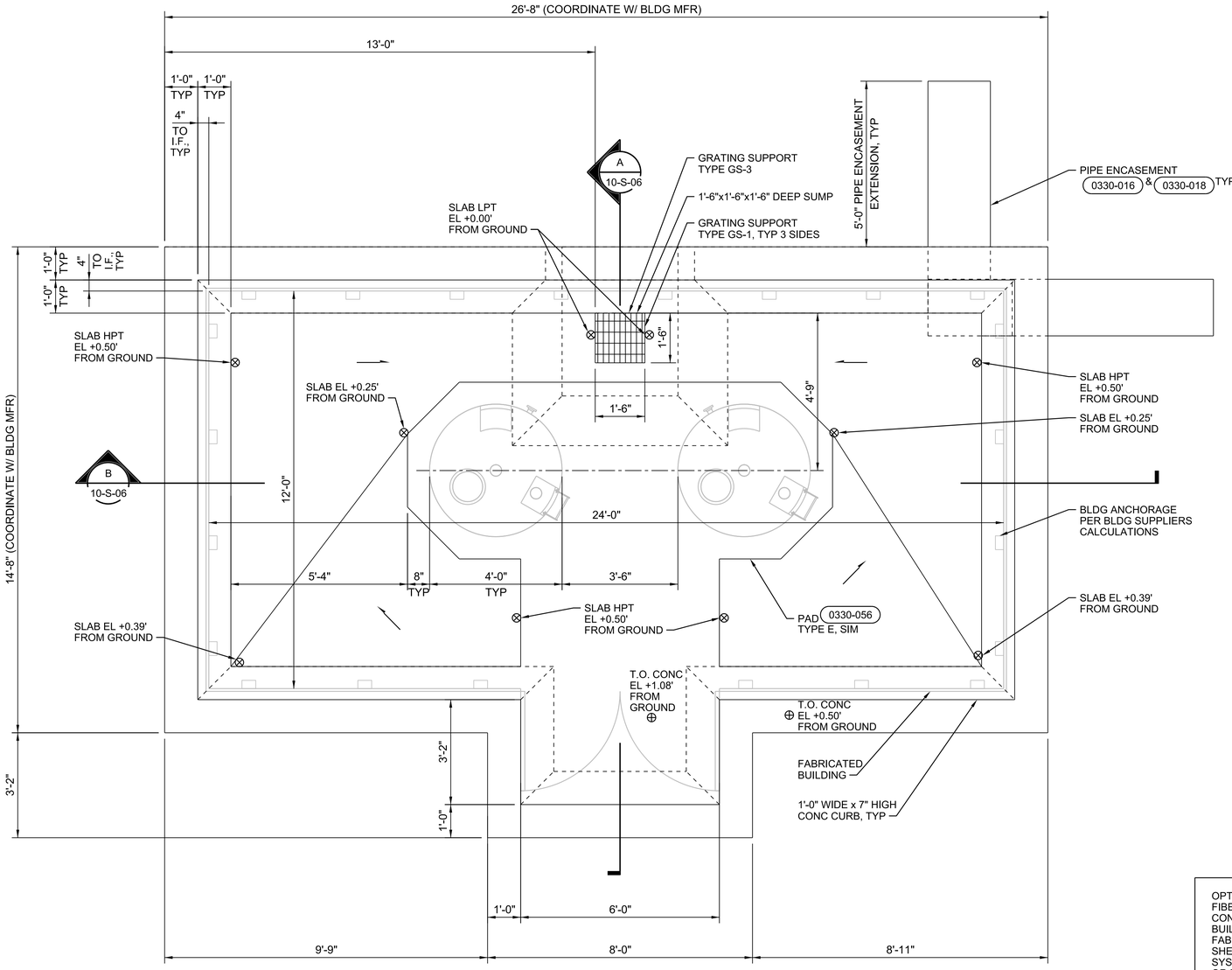
0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	10-SME-04
SHEET	20 of 54

NOTES:

1. CONTRACTOR TO USE EXISTING GROUND ELEVATION ON SOUTHSIDE OF NEW CHEMICAL BUILDING AS A BENCHMARK FOR SLAB ELEVATIONS.
2. PROVIDE FREE-STANDING SUPPORTS FOR CONTROL PANEL, PUMPS, AND PIPING. SUBMIT CALCULATIONS IN ACCORDANCE WITH SPECIFICATION 01 88 15 "ANCHORAGE AND BRACING".
3. REFER TO DRAWINGS 10-SME-02 AND 10-SME-03 FOR INFORMATION NOT SHOWN.



PLAN
1/2"=1'-0"

OPTION B IS AN ALTERNATE BUILDING TYPE OF FIBERGLASS CONSTRUCTION THAT SHALL BE CONSIDERED FOR THE FACILITY IN PLACE OF THE BUILDING SYSTEM DESCRIBED IN 13 34 23 FABRICATED STRUCTURES AND SHOWN ON SHEETS 10-SME-02 AND 10-SME-03. THE BUILDING SYSTEM MUST BE THE PRODUCT OF TRACOM, INC OR ENGINEERED APPROVED EQUAL. EQUIPMENT CLEARANCES (AROUND AND BETWEEN TANKS, PUMPS, CONTROLS, AND PLUMBING FIXTURES) MUST BE EQUAL OR GREATER TO THOSE AS SHOWN IN 10-SME-02 AND 10-SME-03. CHANGES TO MECHANICAL DETAILS SUCH AS PIPE SUPPORTS, BUILDING WALL/ROOF PENETRATIONS, PANEL MOUNTING, AND PUMP SUPPORTS AND ANCHORAGE AND BRACING OF THE COMPONENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE COORDINATED WITH THE ALTERNATE BUILDING MANUFACTURER TO ENSURE COMPATIBILITY.

NO.	DATE	CONFORMED DOCUMENTS	DR	CHK	APVD
0	02/2015	REVISION	MH	BY	APVD
			MD	APVD	
DSGN	R.FORREST		R.JOCHIMSEN	D.PREISSLER	K.YANOSEK

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FAYETTE COUNTY WATER SYSTEM
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OPTION B - PLAN

CONFORMED DOCUMENTS

VERIFY SCALE
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DATE	AUGUST 2014
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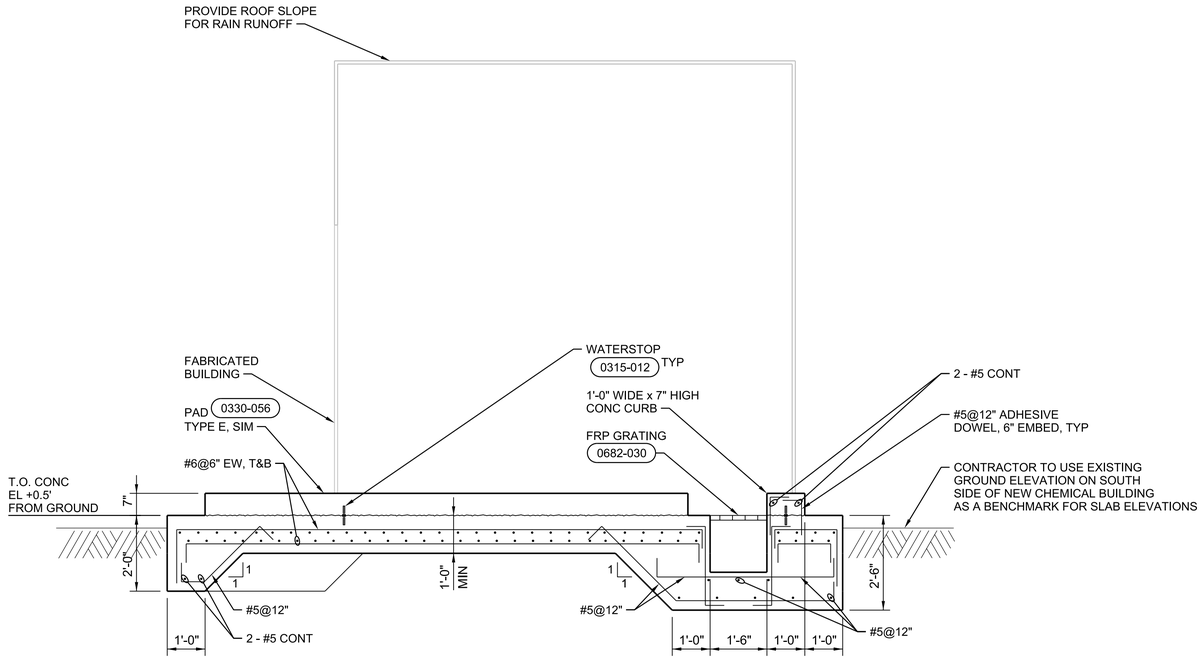
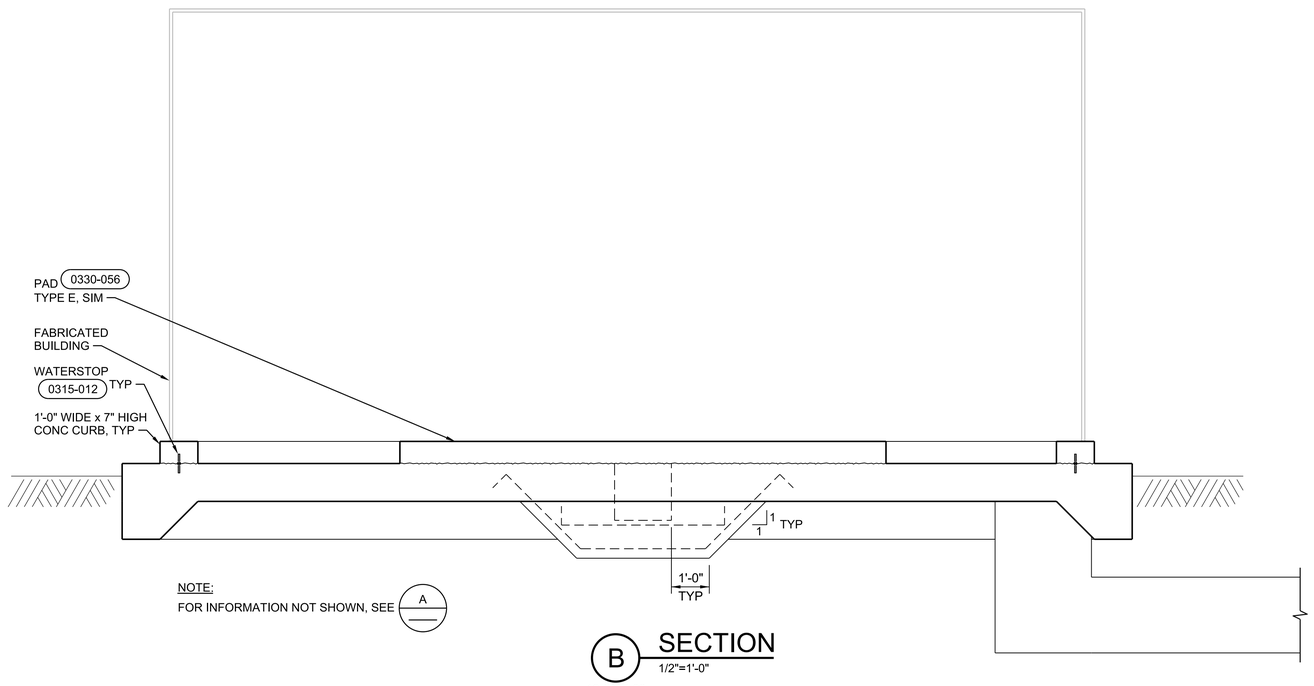


A SECTION
1/2"=1'-0"
10-SME-02



B SECTION
1/2"=1'-0"
10-SME-02

NO.	DATE	REVISION	CHK	APVD
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			BY	APVD
DSGN	R.FORREST	DR	R.JOCHIMSEN	D.PREISSLER	APVD	K.YANOSEK

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SODIUM PERMANGANATE FACILITY
OPTION B - SECTIONS

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DATE	AUGUST 2014
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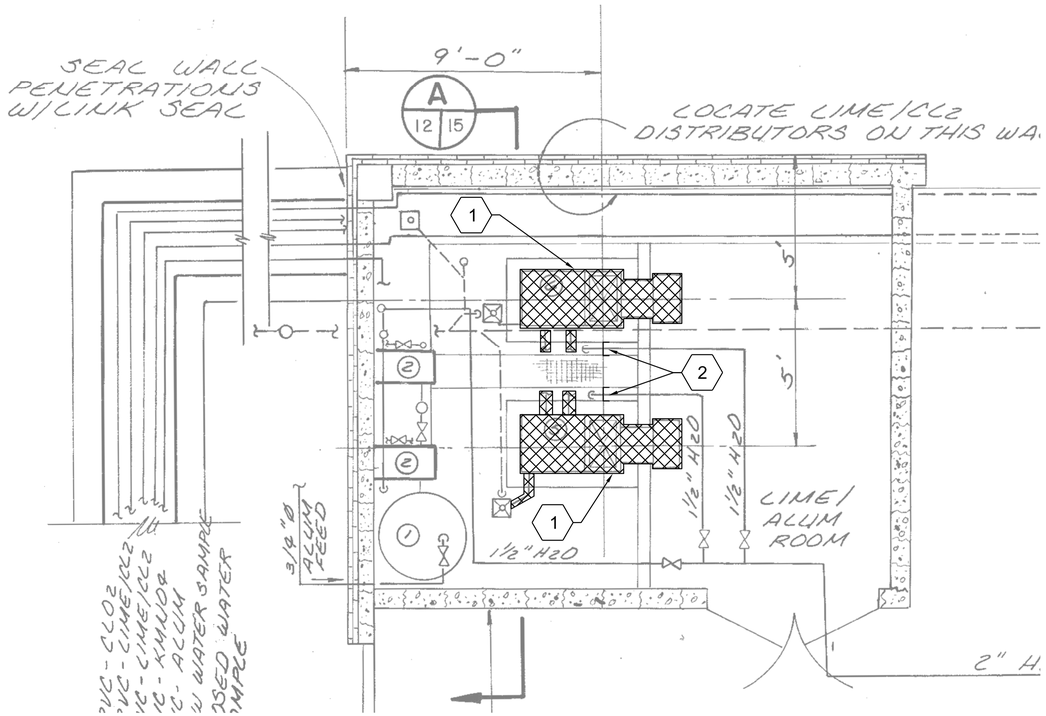
SHEET	22 of 54



DEMOLITION NOTES:

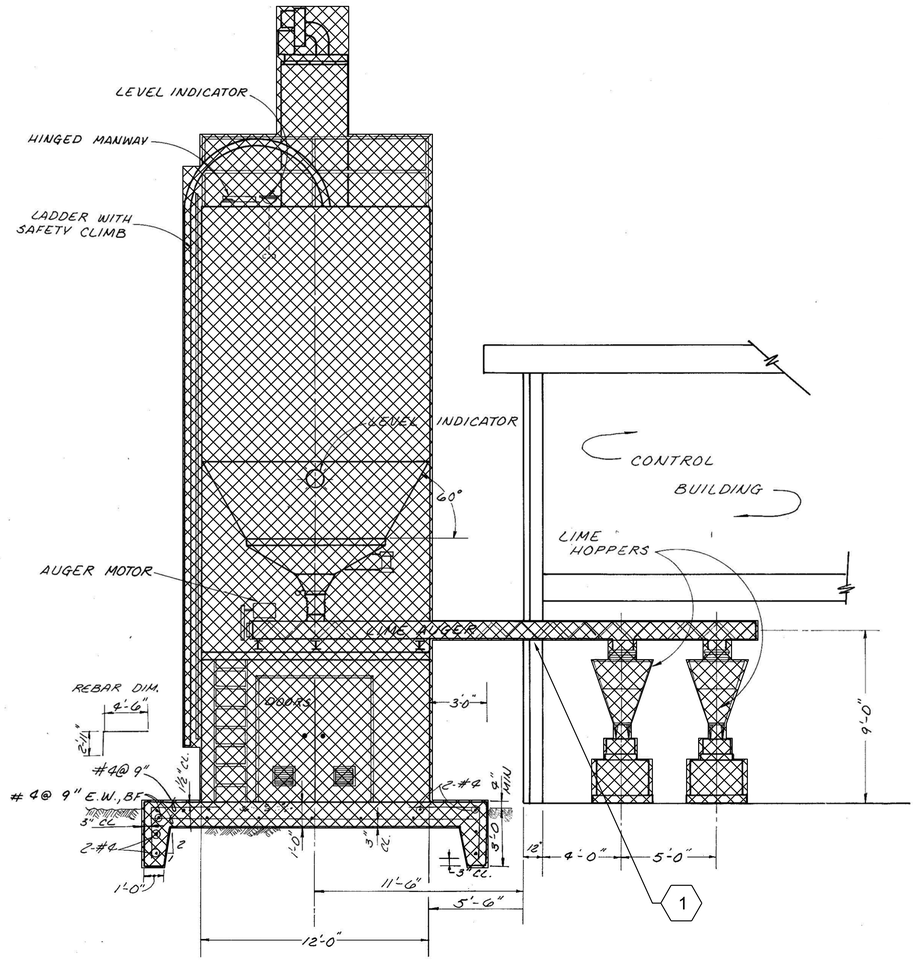
1. REMOVE EXISTING LIME FEEDER SYSTEM, FEED PIPING, AND APPURTENANCES.
2. CAP WATER SUPPLY LINES.
3. CAP CHLORINE SUPPLY LINES (NOT SHOWN).

NOTE:

REMOVE AND PROTECT STEEL EMBEDMENTS AND REPAIR CONCRETE, SEE 0330-143

FILTER BUILDING - PLAN

3/8"=1'-0"



LIME SILO DETAIL

1/4"=1'-0"

NOTE:

1. FILL IN EXISTING AUGER OPENING WITH MORTARED IN CMU AND BRICK TO MATCH EXISTING WALL THICKNESS AND MASONRY PATTERN. COLOR AND TEXTURE OF NEW MASONRY AND MORTAR NEED NOT MATCH THE EXISTING WALL. CUT AND FIT THE NEW MASONRY UNITS INTO THE AUGER OPENING WITH THE SAME MORTAR JOINT THICKNESS AND IN ALIGNMENT WITH THE EXISTING MASONRY COURSING.

NO.	DATE	REVISION	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	MH	MD
			BY	APVD
DSGN	J BURTON	DR M HALES	CHK M DIAZ	APVD E MINCHEW

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FILTER BUILDING
DEMOLITION PLAN AND DETAIL

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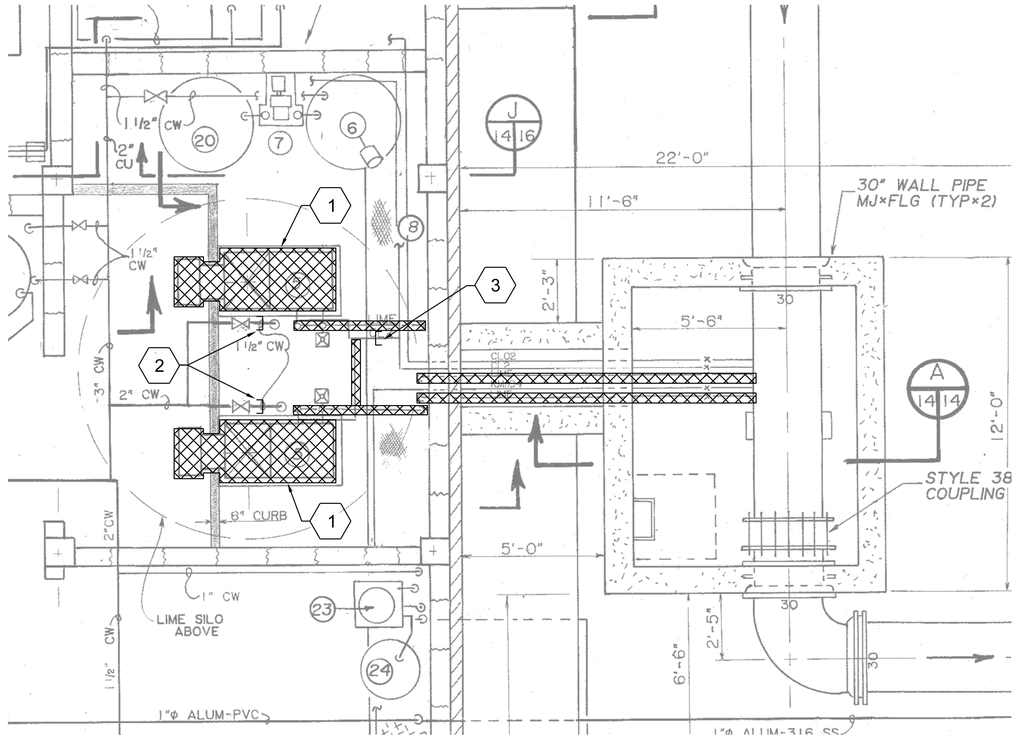


DEMOLITION NOTES:

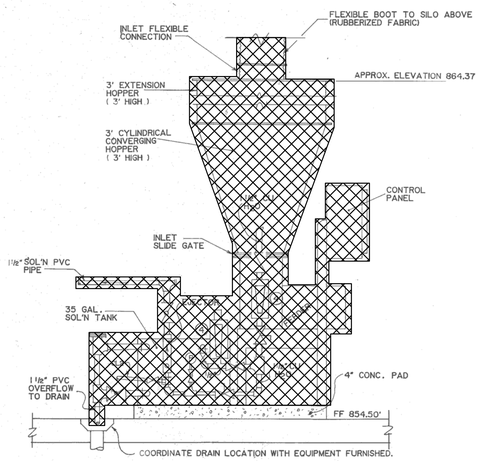
1. REMOVE EXISTING LIME FEEDERS AND APPURTENANCES.
2. CAP EXISTING WATER SUPPLY LINES.
3. CAP EXISTING CHLORINE SUPPLY LINES.

CHEMICAL BUILDING - PLAN

3/8"=1'-0"

DEMOLITION NOTES:

1. REMOVE LIME FEEDER SYSTEM TO SILO CONNECTION.
2. CAP WATER AND CHLORINE SUPPLY LINES.
3. REMOVE LIME FEED PIPING TO EXISTING CHEMICAL FEED PIT.



CHEMICAL BUILDING LIME FEEDER DETAIL

NTS

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CHEMICAL SYSTEMS AND
ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

NO.	DATE	REVISION	BY	APVD
0	02/2015	CONFORMED DOCUMENTS	MH	MD

DSGN	DR	CHK	APVD
J BURTON	M HALES	M DIAZ	E MINCHEW

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CHEMICAL BUILDING
DEMOLITION PLAN AND DETAIL

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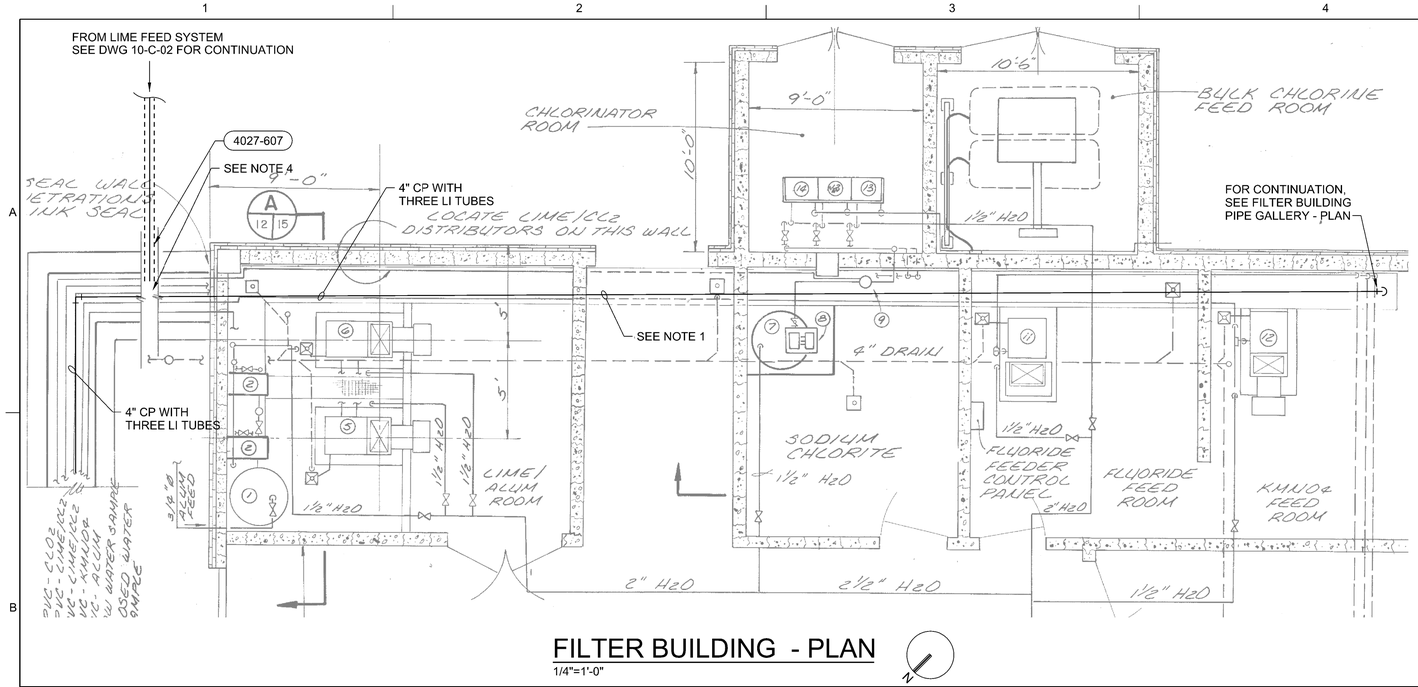
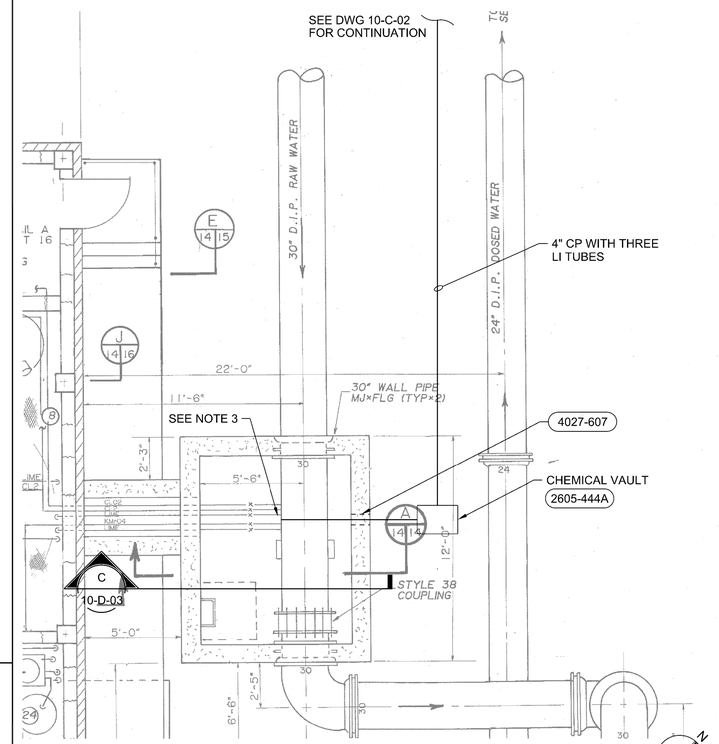
SHEET	24 of 54



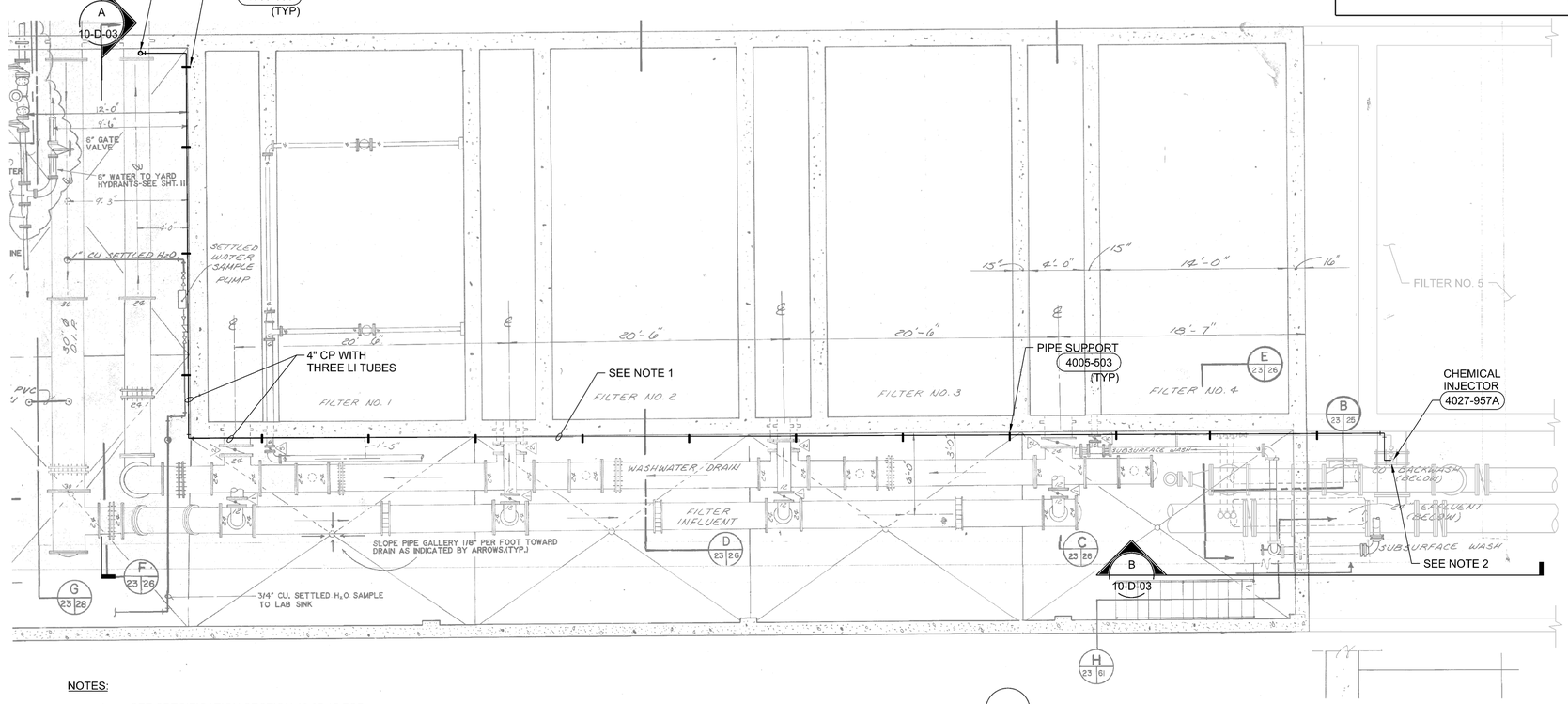
FILTER BUILDING - PLAN

1/4"=1'-0"



CHEMICAL BUILDING - PLAN

1/4"=1'-0"



FILTER BUILDING PIPE GALLERY - PLAN

3/16"=1'-0"

NOTES:

1. SEE SPECIFICATION SECTION 40 05 15 FOR PIPE SUPPORT MATERIALS AND MAXIMUM SPACING.

NOTES:

1. PROVIDE MAXIMUM 60-FT SPANS OF 4" CP. PROVIDE A 2-FT GAP BETWEEN SPANS OF 4" CP. TYPICAL THROUGHOUT ROUTING TO FILTER PIPE GALLERY INJECTION POINT AND IN CHEMICAL TRENCH. PROVIDE BREAKS IN 4" CP AT EVERY CHANGE IN DIRECTION TO FACILITATE PULLING LI TUBING THROUGH CP.
2. EXTEND LI TUBING TO EXISTING TAPS IN 24" FILTERED WATER PIPE. REPLACE EXISTING LIME INJECTOR WITH NEW INJECTION QUILL PROVIDED BY BURNETT LIME. TAP PIPE FOR SECOND LIME INJECTION POINT PER DETAIL 4027-957A. USING NEW INJECTION QUILL PROVIDED BY BURNETT LIME. CONNECT TWO LI TO THE NEW INJECTION QUILLS; LEAVE THE THIRD LI UNATTACHED, BUT WITH ENOUGH LENGTH TO CONNECT TO EITHER OF THE INJECTION QUILLS.
3. REMOVE EXISTING LIME INJECTOR INTO RAW WATER PIPE. TAP PIPE ON OPPOSITE SIDE FOR SECOND LIME INJECTION POINT PER DETAIL 4027-957A. INSTALL NEW INJECTION QUILLS PROVIDED BY BURNETT LIME. CONNECT TWO LI TO THE NEW INJECTION QUILLS; LEAVE THIRD LI UNATTACHED BUT WITH SUFFICIENT LENGTH TO ATTACH TO EITHER OF THE NEW INJECTION QUILLS. REPAINT ALL PIPING AND APPURTENANCES.
4. TERMINATE 6" CP FLUSH WITH INSIDE FACE OF WALL. PROVIDE A 2-FT GAP BEFORE BEGINNING OF 4" CP TO THE FILTER GALLERY AND THE 4" CP TO THE CHEMICAL TRENCH.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
0	02/2015	J BURTON	K DIAZ	M DIAZ		MH	MD

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E MINCHEW

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CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

PROCESS MECHANICAL
CROSSTOWN WTP
LIQUID LIME FEED PIPING PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	10-D-02
SHEET	25 of 54

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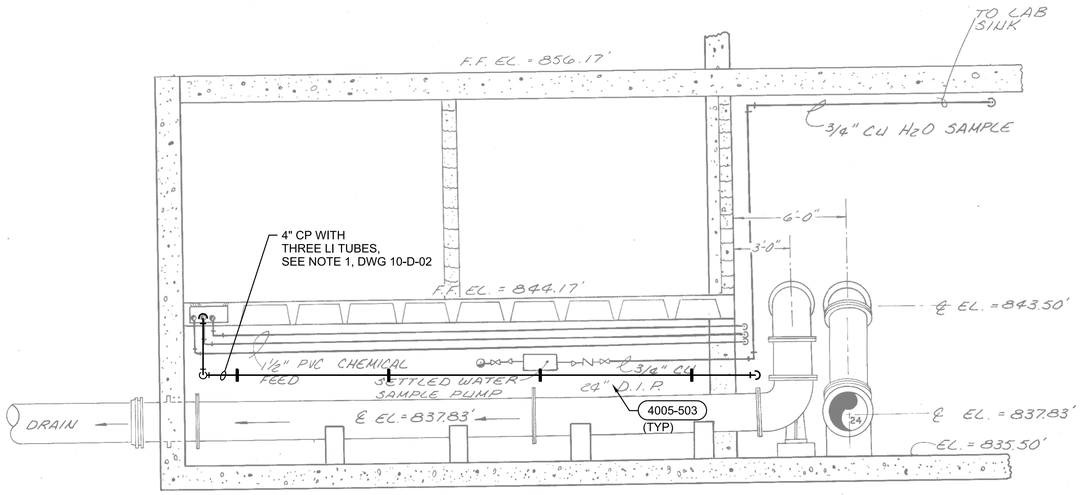
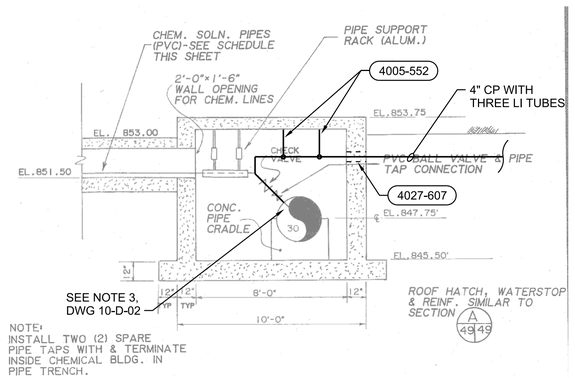
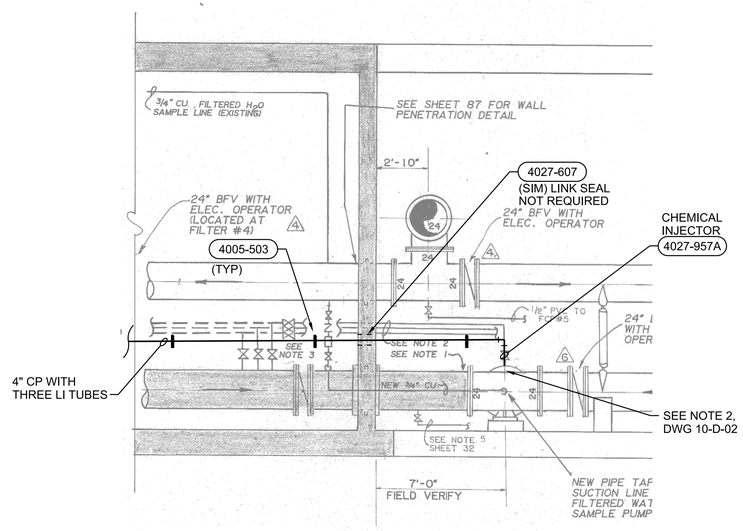


A SECTION
1/4"=1'-0"
10-D-02



C SECTION
1/4"=1'-0"
10-D-02



B SECTION
1/4"=1'-0"
10-D-02

NO.	DATE	DSGN	DR	CHK	APVD
0	02/2015	J BURTON	K DIAZ	M DIAZ	E MINCHEW

REVISION

			MH	BY	APVD
			MD		

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FAYETTE COUNTY, GEORGIA

PROCESS MECHANICAL
CROSSTOWN WTP
LIQUID LIME FEED PIPING SECTIONS

VERIFY SCALE
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0 1"

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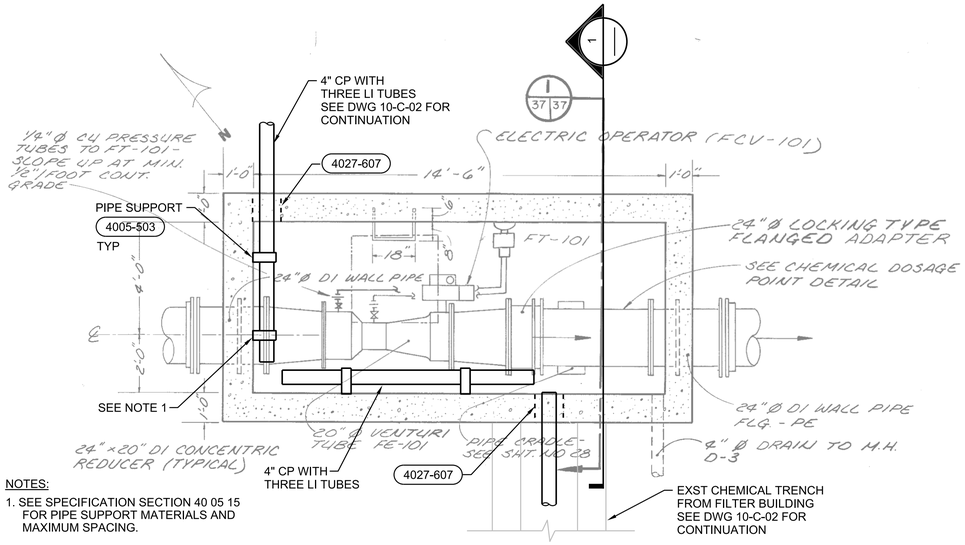
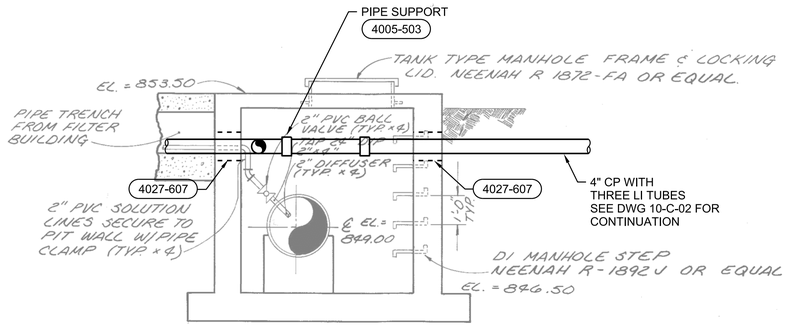


NOTES:

1. SEE SPECIFICATION SECTION 40 05 15 FOR PIPE SUPPORT MATERIALS AND MAXIMUM SPACING.
2. REMOVE AND PROTECT STEEL EMBEDMENTS AND REPAIR CONCRETE, SEE 0330-143

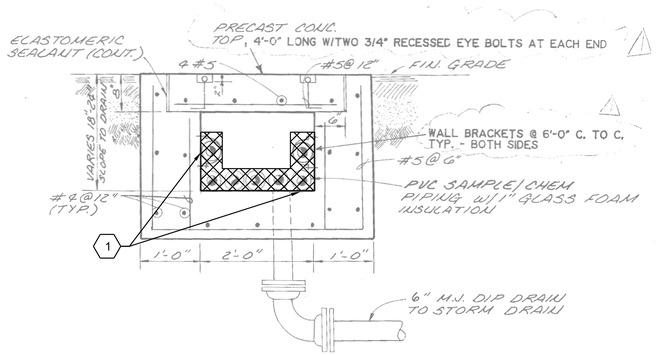
RAW WATER VAULT PLAN

3/8"=1'-0"



1 RAW WATER VAULT DETAIL

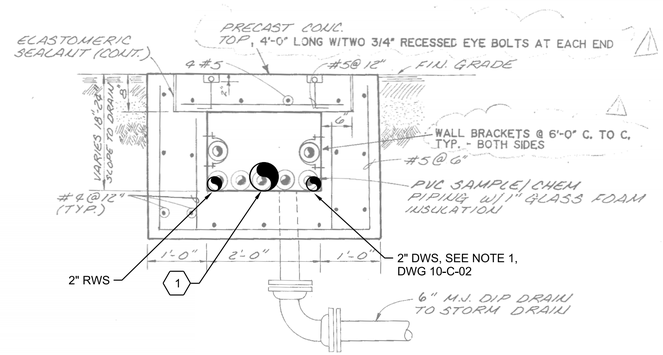
3/8"=1'-0"



1 REMOVE EXISTING ABANDONED CHEMICAL FEED LINES. SEE NOTE 1, DWG 10-C-02.

EXISTING CHEMICAL TRENCH DEMOLITION

3/4"=1'-0"



1 INSTALL 4" CP WITH THREE LI TUBES

EXISTING CHEMICAL TRENCH PIPING

3/4"=1'-0"

NO.	DATE	REVISION	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	MH	MD
DSGN	J BURTON	DR M HALES	BY M DIAZ	APVD E MINCHEW

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FAYETTE COUNTY, GEORGIA

PROCESS MECHANICAL

CROSSTOWN WTP CHEMICAL VAULT AND CHEMICAL TRENCH DETAILS

CONFORMED DOCUMENTS

VERIFY SCALE

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0 1"

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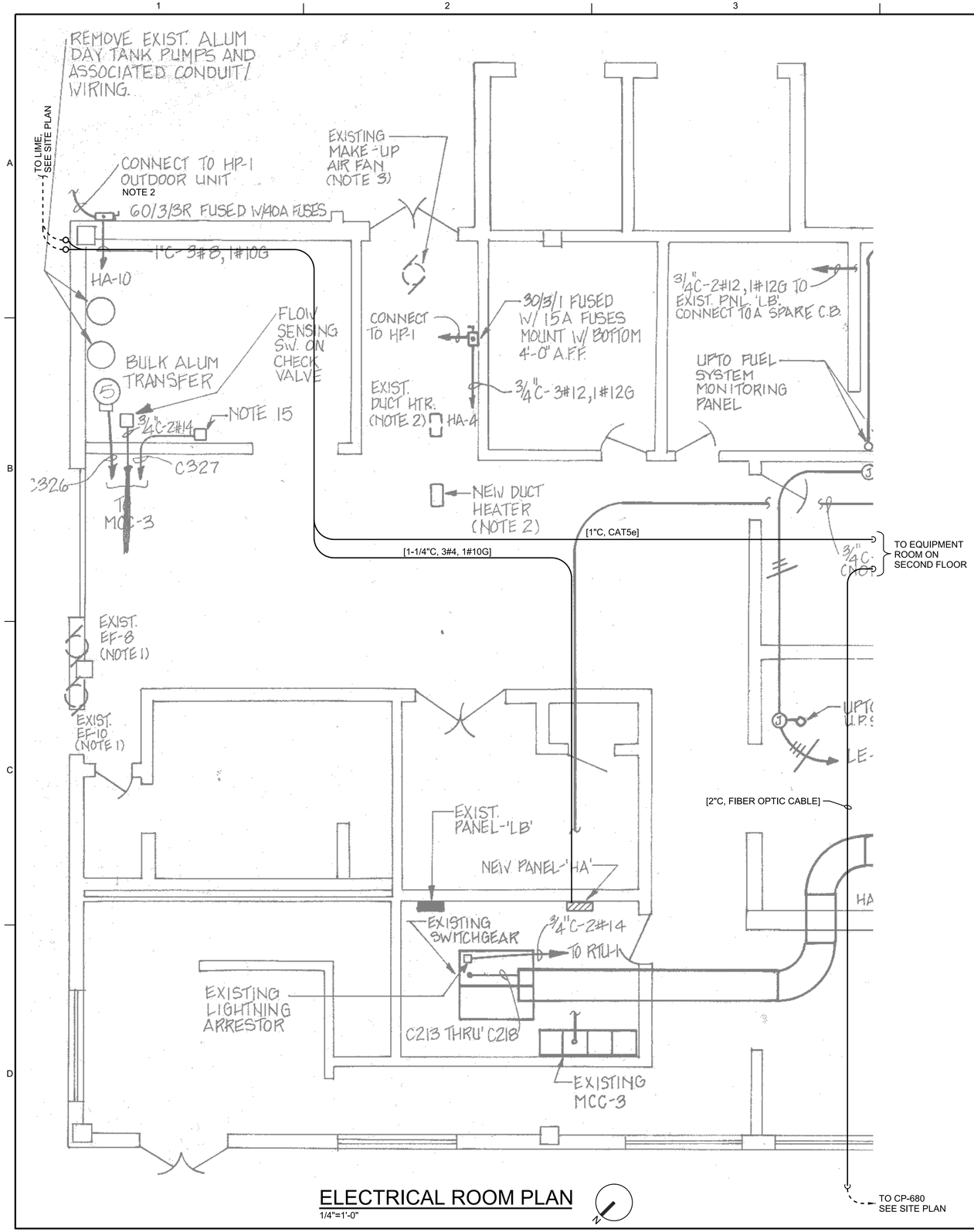

ELECTRICAL ROOM PLAN

1/4"=1'-0"

PANEL: HA
SERVICE VOLTAGE: 480V, 3PH, 3W
TOTAL LOAD KVA: 115.35
REMARKS: HA

LOCATION: LOCATION:
PHASE: 3 WIRE: 3
BUS SIZE: 225A MAIN SIZE:
NEUTRAL: NONE MOUNTING: SURFACE
TYPE: MOL

LOAD IN KVA A	LOAD IN KVA B	LOAD IN KVA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN KVA A	LOAD IN KVA B	LOAD IN KVA C
10.0			RTU-1	40/3	1	2	15/3	HP-1	0.95		
	10.0			-	3	4	-			0.95	
		10.0		-	5	6	-				0.95
7.0			RTU-2	30/3	7	8	40/3	OUTDOOR UNIT FOR HP-1	8.0		
	7.0			-	9	10	-			8.0	
		7.0		-	11	12	-				8.0
2.5			UNIT HEATER UH-3	20/3	13	14	15/3	SPARE	0		
	2.5			-	15	16	-			0	
		2.5		-	17	18	-				0
2.5			UNIT HEATER	20/3	19	20	70/3	PANEL HB	2.5		
	2.5			-	21	22	-			2.5	
		2.5		-	23	24	-				2.5
0			SPARE	20/3	25	26	20/3	SPARE	0		
	0			-	27	28	-			0	
		0		-	29	30	-				0
0					31	32	60/3	LIME SYSTEM NOTE 1	5		
	0				33	34	-			5	
		0			35	36	-				5
0				20/1	37	38	20/1		0		
	0			20/1	39	40	20/1			0	
		0		20/1	41	42	20/1				0
22.0	22.0	22.0	TOTAL					TOTAL	16.45	16.45	16.45

NOTES:

1. REMOVE 3-20A/1P CIRCUIT BREAKERS. REPLACE WITH 60A/3P BREAKER.
2. EXISTING CONDUIT AND WIRE TO POWER TO HEAT PUMP HP-1 WILL NEED TO BE REPLACED AS INSTALLATION OF LIME SYSTEM WILL INTERFERE WITH EXISTING CONDUIT. PROVIDE NEW 1"C, 3#8, 1#10G FROM DISCONNECT TO HP-1.

NO.	DATE	REVISION	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	G MESSER	PY KESKAR

DSGN: K HORTON DR: K HORTON MH BY MD APVD

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CHEMICAL SYSTEMS AND
ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

ELECTRICAL

CROSSTOWN WTP - ONE LINE DIAGRAM, PANEL SCHEDULE, EXISTING FILTER BUILDING ELECTRICAL ROOM PLAN

CONFORMED DOCUMENTS

VERIFY SCALE
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0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	10-E-01
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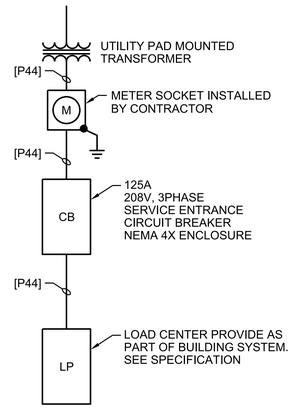

SODIUM PERMANGANATE ONE-LINE DIAGRAM

NTS

PANEL: LP — LOCATION: (PROVIDED BY BUILDING SYSTEM VENDER)
SERVICE VOLTAGE: 208/120V — PHASE: 3 — WIRE:4
TOTAL LOAD KVA: 32.6 — BUS SIZE: 125 — MAIN SIZE: 125 — TYPE: MCB
REMARKS: * PROVIDE EGFI RATED BREAKERS — NEUTRAL: FULL — MOUNTING: SURFACE

LOAD IN KVA				BKR	CKT	CKT	BKR		LOAD IN KVA		
A	B	C	CIRCUIT DESCRIPTION	A/P	NO.	NO.	A/P	CIRCUIT DESCRIPTION	A	B	C
7.0			HAVC UNIT	40/3	1	2	20/1	RECEPTACLES	0.7		
	7.0				3	4	20/1	EXTERIOR LIGHT		0.2	
		7.0			5	6	20/1	INTERIOR LIGHTS			0.4
3.0			WATER HEATER	40/2	7	8	20/1	SAFETY SHOWER FSH	0.2		
	3.0				9	10	20/1	ALARM STROBE LIGHTS		0.3	
			SPARE	30/2	11	12	20/1	CHEMICAL PUMP P-682-1			0.4
					13	14	20/1	CHEMICAL PUMP P-682-2	0.4		
	0.2		HEAT TRACE	20/1*	15	16	20/1	CP-680		1.0	
		0.2	HEAT TRACE	20/1*	17	18	20/1	EX FAN			0.5
0.9			RECEPT-SAMPLE PUMP	20/1	19	20	20/1	LIT-682-1,LI-682-2	0.2		
10.9	10.2	7.2	TOTAL						1.5	1.5	1.3

NO.	DATE	REVISION	DR	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	MH	MD	APVD
DSGN	K HORTON	G MESSER	BY	PY KESKAR	K HORTON

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FAYETTE COUNTY, GEORGIA

ELECTRICAL

CROSSTOWN WTP - ONE LINE DIAGRAM
PANEL SCHEDULE
SODIUM PERMANGANATE BUILDING

CONFORMED DOCUMENTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2014
PROJ	486753
DWG	10-E-02
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480V

LCP-650 *
SS1
PLC
REORDER QL 650-1
SILENT HS 650
QA 650
POWER ON QL 650-2
LSH 652
LSL 652
MIXER OO HS 652
MIXER ON QL 652
MIXER FAIL QA 652 (3)
OOR HS 655-X (4)
OO QL 655-X (4)
FAIL QA 655-X (4)
PI 655-X (4)
PAL 655-X (4)
PAH 655-X (4)
E

TO EXISTING SCADA ETHERNET SWITCH IN SECOND FLOOR CONTROL EQUIPMENT ROOM

LEVEL | OPEN/CLOSED (8) | FEED/FLUSH (2) | FEED/FLUSH (2) | FEED/FLUSH (2) | FEED/FLUSH (2) | STROKE IND | STROKE COMMAND | PRESSURE (3)

120V P

FP-652 *
LAH 652
LIT 652
SS4 *

PRV-651
W2
PLANT WATER
FI 651 *
TRUCK DELIVERY
LI
V
P
LIME STORAGE TANK MIXER M-652 * CS
LE 652 *
OF
DR
LIME STORAGE TANK T-652 *
TO CONTAINMENT
W1
SAFETY SHOWER / EYEWASH SSH-657

OC ZS 653-1 *
FV 653-1 *
FV 654-1 *
OC ZS 653-2 *
FV 653-2 *
FV 654-2 *
OC ZS 653-3 *
FV 653-3 *
FV 654-3 *
OC ZS 653-4 *
FV 653-4 *
FV 654-4 *

SS3 * SS3 * SS3 *
PE 655-1 *
PIT 655-1 *
QUICK CONNECT (TYP) *
PRE-LIME FEED PUMP 1 P-655-1 * (NOTE 1)
PRE-LIME FEED PUMP 2 P-655-2 * (SAME AS ABOVE)
POST-LIME FEED PUMP 1 P-655-3 * (SAME AS ABOVE)
POST-LIME FEED PUMP 2 P-655-4 * (SAME AS ABOVE)
PIT-655-2 PE-655-2
PIT-655-3 PE-655-3
PIT-655-4 PE-655-4

TO RAW WATER
TO COMBINED FILTER EFFLUENT

CONTAINMENT
DR

NOTES:
1. SUCTION AND DISCHARGE BALL CHECK VALVES ARE INTEGRATED INTO FEED PUMPS.
2. ALL TAGS ARE PRECEDED BY "CT-".

NO.	DATE	REVISION	DR	CHK	APVD
0	02/2015	CONFORMED DOCUMENTS	MH	MD	APVD
DSGN	C BATES		G MESSER	PY KESKAR	PY KESKAR

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FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

CH2MHILL®

PROCESS AND INSTRUMENTATION
CROSSTOWN WTP
P&ID
LIQUID LIME FEED AND STORAGE

CONFORMED DOCUMENTS

VERIFY SCALE
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0 1"

DATE	AUGUST 2014
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CP-680 ◆

SS1
PLC — E
UPS
0559-080
ENS — E — FO
E
FO
PP
FO
TO EXISTING SCADA ETHERNET SWITCH IN SECOND FLOOR CONTROL EQUIPMENT ROOM NOTE 1
FO

HIGH LEVEL △
LSH 688 ✳

LEVEL △
LIT 682-2 ◆
0559-080
120V
V
TANK FILL
MSC
LE 682-2 ◆
4091-252
OF
OF/DR
DR
SODIUM PERMANGANATE TANK NO. 2
T-682-2
TO CONTAINMENT

LEVEL △
LIT 682-1 ◆
0559-080
120V
V
TANK FILL
MSC
LE 682-1 ◆
4091-252
OF
OF/DR
DR
SODIUM PERMANGANATE TANK NO. 1
T-682-1
TO CONTAINMENT

CALIBRATION COLUMN ✳

ON △(2)
FAIL △(2)
IN REMOTE △(2)
RUN ▽(2)
SPEED INDICATION ▲(2)
SPEED FEEDBACK ▼(2)

FLOW △
FSH 687 ◆
FIRE SUPRESSION

FLOW △
FSH 689 ✳
TW
SAFETY SHOWER/ EYEWASH STATION
SSH-689

SP
SP
SP

120V
DC-684-1 ✳
PSV-685-1 ✳
PULSATION DAMPENER ✳
PI 686-1 ◆ 4091-304B
PE 686-1 ◆ 4091-305A
AS
F
SODIUM PERMANGANATE FEED PUMP NO. 1
P-684-1 ✳

DC-684-2 ✳
PSV-685-2 ✳
PI-686-2 ◆
PE-686-2 ◆
SODIUM PERMANGANATE FEED PUMP NO. 2
P-684-2 ✳
(SAME AS ABOVE)

SP
TO RAW WATER VAULT
SP
TO STORAGE POND INFLUENT VAULT

NOTES:

1. CONTRACTOR TO PROVIDE A FIBER OPTIC TO COPPER CONVERTER IN THE CONTROL EQUIPMENT ROOM.

NO.	DATE	DSGN	REVISION	CHK	APVD
0	02/2015	C BATES	CONFORMED DOCUMENTS	AL CLOUGH	PY KESKAR
		MH		BY	APVD
		MD			

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CHEMICAL SYSTEMS AND ACTUATOR IMPROVEMENTS
FAYETTE COUNTY WATER SYSTEM
FAYETTE COUNTY, GEORGIA

PROCESS AND INSTRUMENTATION
CROSSTOWN WTP
P&ID - SODIUM PERMANGANATE STORAGE AND FEED

CONFORMED DOCUMENTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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9. Painting may be continued during inclement weather only if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer for application and drying.
10. Provide adequate illumination and ventilation where painting operations are in progress.

D. Protection:
   1. Cover or otherwise protect finished work of other trades and surfaces not being painted concurrently, or not to be painted.
   2. During surface preparation and painting, facility shall remain in operation. Use procedures that prevent contamination of process or cause or require facility shutdown.
   3. Coordinate and schedule surface preparation and painting to avoid exposing personnel to hazards associated with painting Work. Provide required personnel safety equipment per requirements of authorities having jurisdiction at Site.
   4. Submit protection procedures to be employed. Do not begin surface preparation and painting Work until ENGINEER accepts protection techniques proposed by CONTRACTOR.
   5. When working with flammable materials, provide fire extinguishers and post temporary signs warning against smoking and open flame.

1.8 MAINTENANCE

A. Extra Materials: Furnish, tag, and store an additional one percent by volume of all coatings and colors installed. Provide a minimum of one gallon of each coating and color. Store in unopened containers as specified until turned over to OWNER.

PART 2 - PRODUCTS

2.1 PAINTING SYSTEM MANUFACTURERS

A. Products and Manufacturers: Where referenced under painting systems provide products manufactured by the following:
   1. Tnemec Company, Inc. (TCI).
   2. The Carboline Company, part of StonCor Group, an RMP Company (TCC).
   3. Sherwin-Williams Company (SWC).
   4. Benjamin Moore & Company (BMC).
   5. Duron Inc. (DI).

2.2 PAINTING SYSTEMS

Surface/ Exposure	Surf. Prep.	Primer/Surfacer System Type % Solids	(Coats) DFT (Mils) Max VOC g/l (EPA)	Intermediate System Type % Solids	(Coats) DFT (Mils) Max VOC g/l (EPA)	Finish System Type % Solids	(Coats) DFT (Mils) Max VOC g/l (EPA)
Cast-In-Place Concrete Walls (except walls within height of chemical containment wall areas), Columns, Underside of Roof Slabs and Beams, Architectural Precast Concrete, except as noted.							
TABLE 09 91 00-A							
Moderate Corrosion and Abrasion; Non-Submerged; Interior.	1.5.B.1. 3.2.A. 3.2.B.3. 3.2.B.5. 3.2.B.6. 3.2.B.7.	-Series 218 Mortar Clad (TCI) -Carboguard 501/510 (TCC) -Duraplate 2300 (SWC) Epoxy Modified Cement 100%	Patch to 2" deep; 1/16" cont. 40	-Series 1224 (TCI) -Sanitile 555 (TCC) -Pro Industrial Waterbased Catalyzed Epoxy (SWC) Water-Based Epoxy 44%	(1) 3-5 151	-Series 1224 (TCI) -Sanitile 555 (TCC) --Pro Industrial Waterbased Catalyzed Epoxy (SWC) - Water-Based Epoxy 44%	(1) 3-5 151
Concrete Unit Masonry							
TABLE 09 91 00-B							
Aggressive and Moderate Corrosion and Abrasion; High Gloss; Non-Submerged ; Interior	1.5.A.2. 3.2.A. 3.2.B.1. 3.2.B2. 3.2.B..8. Acrylic 53%	-Series 130 Envirofill (TCI) -Sanitile 500 TG (TCC) -Cementplex 875 (SWC) 71	(1) 10-14 214	Primer -Series L69 Epoxoline II (TCI) -Carboguard 890 VOC (TCC) -Duraplate UHS(SWC) Epoxy 66%	(1) 5-20 214	-Series L69 Epoxoline II (TCI) -Carboguard 890VOC (TCC) -Duraplate UHS (SWC) Epoxy 66%	(2) 6-8 H (2) 4-6 V 214

Ferrous Metals, Structural Steel, Exterior Surfaces of Valves and Piping, Hollow Metal Doors and Frames							
TABLE 09 91 00-C							
Low VOC Content; Non-Submerged; Interior	1.5.A.2. 3.2.A. 3.2.C.1. 3.2.C2.	-Series L69 Epoxoline II (TCI) -Carboguard 890 (TCC) -Macropoxy 646(SWC) Epoxy 66%	(1) 2-10 234	Field Primer & Touch Up -Series V69 Epoxoline II (TCI) -Carboguard 954 HB (TCC) -Macropoxy 646 (SWC) Epoxy 69%	(1) 2-10 228	-Series V69 Epoxoline II (TCI) -Carboguard 954 HB (TCC) -Macropoxy 646 (SWC) Epoxy 69%	(1) 2-10 H (1) 4-6 V 228
TABLE 09 91 00-D - Hollow Metal Doors and Frames							
Non-Submerged; VOC Compliant; Semi-Gloss; Exterior	1.5.A.2. 3.2.A. 3.2.C.1. 3.2.C2. 3.2.D. 3.2.E. 3.2.F.	Ferrous Metal, Galvanized, and Non-Ferrous Metal Primer -Series V69 Epoxoline II (TCI) -Carboguard 890 (TCC) -Macropoxy 646 (SWC) Epoxy 67%	(1) 4-6 234	Ferrous Metal Touch Up Low Temperature - Series V69 Epoxoline II (TCI) - Carboguard 890 LT (TCC) - Macropoxy 646 (SWC) Epoxy 69% Ferrous Metal Touch Up Warm Temperature - Series V69 Epoxoline II (TCI) - Carboguard 890 (TCC) - Macropoxy 646 (SWC) Epoxy 69%	(1) 10 228 (1) 228	-Series 1095 (TCI) -Carbothane 133 LH (TCC) -Hi-solids Polyurethane 250 (SWC) Polyurethane 71%	(2) 2-4 220
TABLE 09 91 00-E							
Aluminum in Contact With Dissimilar Materials; Low VOC Content; Interior and Exterior.	1.5.A.2. 3.2.A. 3.2.D.	-Series 22 (TCI) -Carboguard 954 HB (TCC) -Duraplate UHS (SWC) Epoxy 100% 10	(1) 12-16 10			-Series 22 (TCI) -Carboguard 954 HB (TCC) -Duraplate UHS (SWC) Epoxy 100%	(1) 12-16 10

ATTACHMENT 4

OASIS
CONSULTING
SERVICES

REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION

SOUTH FAYETTE AND CROSSTOWN WTP
875 ANTIOCH ROAD
FAYETTEVILLE, GA 30215
3500 TDK BOULEVARD
PEACHTREE CITY, GA 30269

Oasis Project No. P25044

Prepared For:
Arcadis
2839 Paces Ferry Road SE
Suite 900
Atlanta, Georgia 30339

Prepared By:
Oasis Consulting Services
45 Woodstock Street
Roswell, Georgia 30075

June 20, 2025

OASIS
CONSULTING
SERVICES

June 20, 2025

Arcadis
2839 Paces Ferry Road SE
Suite 900
Atlanta, Georgia 30339

Attention: Mr. Travis Thomas, P.E.

Subject: **Report of Subsurface Exploration and Geotechnical Engineering Evaluation**
South Fayette WTP and Crosstown WTP
Chemical Systems Improvements
Fayette County & Peachtree City, Georgia
Oasis Project No. P25044

Dear Travis:

Oasis Consulting Services (Oasis) is pleased to provide this report of our subsurface exploration and geotechnical engineering evaluation for the referenced project. The field study and this report were accomplished in general accordance with our email correspondence with you and the provided Geotechnical Investigation Scope of Work and the provided Boring Location Plans.

The following report presents a brief summary of our pertinent findings and recommendations followed by our understanding of the proposed construction, methods of exploration employed, site and subsurface conditions encountered, and conclusions and recommendations regarding the geotechnical aspects of the project. We request that we be provided with a copy of the approved plans for review to verify that the design recommendations are incorporated into the design. We will also be able to make supplemental recommendations to address conditions that were not known at the time this report was prepared.

Should you have any questions regarding items discussed in this report, please do not hesitate to contact the undersigned.

Sincerely,
Oasis Consulting Services

Kiersten Crye
Staff Geologist

Darren J. Bray, P.E.
Technical Director
Georgia Reg #PE038504

GEORGIA REGISTERED No. PE038504 PROFESSIONAL ENGINEER DARREN J. BRAY

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1.0 SUMMARY

A brief summary of pertinent findings, conclusions and recommendations are presented below. This information should not be utilized in design without first referring to the more detailed expansion of these ideas presented in the text of this report.

1.1. For the purpose of this report, we anticipate the construction of a Fluoride Tank Pad and a Sodium Hypo Tank Pad at the South Fayette WTP and a Sodium Hypo Tank Pad at the Crosstown WTP. The sites have already been graded; therefore, we anticipate earthwork will be minimal.

1.2. The general subsurface conditions encountered in the soil test borings consist of 4 inches of topsoil underlain by previously placed fill to a depth of approximately 5.5 feet to 8 feet for the South Fayette WTP and up to a depth of approximately 3 feet for the Crosstown WTP, underlain by residual (virgin) soils extending to the boring termination depth of 30 feet below existing grade. The residual soils were generally classified as silty sand, clayey sand, or clayey-silty sand with low to moderate amounts of mica. Groundwater was encountered in the borings at a depth of 12 feet to 13 feet below existing grade at the South Fayette WTP and at a depth of 23 feet below existing grade at the Crosstown WTP.

1.3. A potential issue that could impact site grading is related to the presence of micaceous soils across the sites. This issue is relatively minor but could represent a major issue if site grading takes place during periods of inclement weather, since soils with high mica content are moisture sensitive.

1.4. The major concern with the sites is that previously placed fill is present in all soil test borings to depths ranging from 3 to 8 feet below existing ground surface with topsoil encountered up to 3 feet in depth in boring B-2 of South Fayette WTP. The previously placed fill is poorly to slightly under compacted and is underlain by low consistency residual soils. We expect that the low consistency soils encountered are the result of the shallow groundwater. We anticipate that some temporary groundwater control may be necessary in these areas.

We anticipate some surficial remedial measures such as undercutting and replacement will be necessary within the proposed tank pads. An Oasis geotechnical engineer should carefully evaluate all subgrade conditions prior to fill placement or at-grade construction. In the event that soft soils or materials containing deleterious materials are encountered in other areas at the time of construction, typical recommendations would include undercutting and replacing with structural fill or stabilizing in place.

1.5. The on-site soils appear visually suitable for reuse as structural fill providing they do not contain topsoil as encountered in boring B-2. Moisture conditioning may be required prior to placement as fill depending upon weather conditions at the time of construction. New fill should be compacted to 95 percent of the standard Proctor (ASTM D 698) maximum dry density. Compaction of the subgrade immediately beneath grade slabs and pavements should be increased to 98 percent.

Since a significant amount of the on-site soils encountered contain a moderate amount of mica, they are typically more moisture sensitive and may be more problematic to work with should earthwork operations take place during periods of wet weather.

1.6. Excavations to the anticipated depths can be accomplished using conventional heavy earthmoving equipment. No difficult excavation is expected above the boring termination depths.

1.7. Once the proposed site preparation measures, earthwork, and any necessary remediation measures are successfully completed, we anticipate the proposed matt foundations may be soil supported on the existing fill soils, residual soils or new structural fill placed as recommended using a maximum net allowable bearing pressure of 2,000 psf.

1.8. The site class is based on the Site Class Definitions in Section 1613.2.2, Design Spectral Response Acceleration Parameters in Section 1613.2.4, and Determination of Seismic Design Category in Section 1613.2.5 of the *2018 International Building Code and Section 11.4.7 of ASCE.* Based on the standard penetration resistance data from the borings, we recommend that Site Class "D" be used for the seismic design considerations.

1.9. Additional recommendations relative to earth pressures, site preparation, and foundation construction are discussed in the report.

2.0 PROPOSED CONSTRUCTION

Based on our review of the provided Boring Location Plans, we understand that the chemical systems improvement plans include the construction of a Fluoride Tank Pad and a Sodium Hypo Tank Pad at the South Fayette WTP and a Sodium Hypo Tank Pad at the Crosstown WTP in Fayette County, Georgia. For the purpose of this report, we understand the structures will be placed on matt foundations supported on the existing fill soils, residual soils or new structural fill placed as recommended. We have been advised that the structural load for the Sodium Hypo Tank pads is 215 kips and for the Fluoride Tank Pad is 74 kips. No other details concerning the project were available at the time this report was prepared.

3.0 METHODS OF EXPLORATION

To evaluate the subsurface conditions, the properties were explored by a combination of a visual site reconnaissance and drilling two (2) soil test boings at South Fayette WTP and one (1) soil test boring at Crosstown WTP to a depth of 30 feet below existing grade. The borings were located in the field with a handheld GPS device along with measuring distances and estimating directions from identifiable

site features. **Therefore, their locations as shown on the Boring Location Plan in the Appendix should be considered approximate.**

The borings were advanced using a power rotary drill and twisting continuous hollow stem auger flights into the ground. At selected intervals, Standard Penetration Tests (SPT) were performed in general accordance with ASTM standard D-1586 by driving a standard 1-$^3/_8$" I.D. (2" O.D.) split spoon sampler with an automatic 140-pound hammer falling 30 inches. The number of hammer blows needed to drive the sampler 18 inches, in 6-inch increments, was recorded. The Standard Penetration Test value or "N" value is the summation of the last two 6-inch increments and is shown on the boring logs adjacent to their corresponding depths. In very dense soils or partially weathered rock, the sampler is driven a few inches instead of the 6-inch increment and the number of blows needed versus the penetration depth is recorded. The results of the penetration tests, when properly evaluated, provide an indication of the relative consistency of the soil being sampled, the potential for difficult excavation, and the soil's ability to support loads.

At the conclusion of the subsurface drilling, all the borings were backfilled with the soil cuttings prior to demobilizing from the site. Soil samples recovered during the drilling process were returned to Oasis' lab where they were visually classified in general accordance with the Unified Soil Classification System (USCS). Detailed descriptions of the materials encountered at each boring location, along with a graphical representation of the Standard Penetration Test results, are shown on the Boring Logs in the Appendix. Boring elevations were not indicated on the Boring Logs because topographic information was not available. If encountered, groundwater depths were measured at the time of drilling.

Laboratory testing was performed on selected split-barrel and bulk samples obtained during the drilling process. Sieve analysis, moisture content, Standard Proctor, and Atterberg Limits tests were performed to aid in the classification of the on-site soils and to assist in determining the suitability of the soils for reuse as fill. The results of these tests are included in the Appendix.

4.0 SITE DESCRIPTION, GEOLOGY AND SUBSURFACE CONDITIONS

4.1 SITE DESCRIPTION

The South Fayette WTP property is located southeast of the intersection of Antioch Road and Hampton Road located in Fayetteville, Georgia. The Crosstown WTP property is located southwest of the intersection of Tdk Boulevard and Dividend Drive located in Peachtree City, Georgia. At the time of our field work, the properties were developed with various structures and elements of a water treatment facility. The borings were located in cleared, grassed areas of the property.

4.2 GEOLOGY

The site is located in the Piedmont Physiographic Province of Georgia, an area underlain by ancient igneous and metamorphic rocks. The residual soils in the Piedmont are the result of the chemical and physical weathering of the underlying parent rock. The weathering profile usually results in fine-grained clayey silts and silty clays near the surface, where weathering is more advanced. With depth, sandy silts and silty sands are found, often containing mica. Below the residual soils, partially weathered rock is often found as a transition above relatively unweathered rock. In local practice, partially weathered rock is arbitrarily defined as residual soils with Standard Penetration Resistances in excess of 100 blows per foot (50 blows per 6 inches), and which can be penetrated by a power auger. The upper surface of bedrock is generally very erratic and the depth at which bedrock is encountered can vary greatly. Typically, bedrock is encountered at shallow to moderate depths. This typical profile can be altered by the process of erosion and deposition and recent development.

4.3 SUBSURFACE CONDITIONS

The general subsurface conditions encountered by the borings during this study are generally typical of those described in the previous geology section of this report. Topsoil, previously placed fill, residual soils, and groundwater were encountered in the borings. The following briefly describes the subsurface conditions encountered.

4.3.1 TOPSOIL

Topsoil is a dark-colored surficial material with a high organic content and is generally unsuitable for structural support. All borings initially encountered 4 inches of topsoil and associated root zone. Some variation in topsoil thickness should be anticipated during site stripping operations.

4.3.2 PREVIOUSLY PLACED FILL

Fill is any material that has been transported and deposited by man. All borings encountered previously placed fill to a depth of approximately 5.5 feet to 8 feet for the South Fayette WTP and up to a depth of approximately 3 feet for the Crosstown WTP, underlain by residual (virgin) soils extending to the boring termination depth of 30 feet below existing grade. The fill was generally classified as clayey-silty sand (SC-SM) or silty sand (SM) and Standard Penetration Test (SPT) results ranged from 4 to 9 blows per foot (bpf). Based on SPT results, the previously placed fill would be considered slightly under compacted.

4.3.3 RESIDUUM

Residuum is a term used to define soils formed in-place by the chemical and physical weathering process of the underlying rocks. Residual soils were encountered in all the borings below the previously placed fill and extended to the proposed boring termination depths of 30 feet below existing

grades. The residuum was generally classified as silty sand (SM), clayey sand (SC), or clayey-silty sand (SC-SM) with low to high amounts of mica. Standard Penetration Test results ranged from 4 to 40 bpf, with typical results ranging from 4 to 14 bpf. Based on SPT results, the residuum would be considered very low to moderate in consistency.

4.3.4 GROUNDWATER

Groundwater was encountered in the borings at depths ranging from 12 feet to 13 feet below existing grade at the South Fayette WTP and at a depth of 23 feet below existing grade at the Crosstown WTP. Fluctuations in measured groundwater elevations of 5 feet or more are common in this geology due to seasonal fluctuations and could be encountered at higher elevations in the future.

Table 1: Soil Test Boring Summary

Boring ID	Existing Elev (ft).	Boring Termination Depth (ft)	Topsoil Depth (in)	Fill Depth (ft)	Groundwater Depth (ft)
B-1	-	30	4	8	13
B-2	-	30	4	5.5	12
B-3	-	30	4	3	23

-Not Available

4.4 LABORATORY TEST RESULTS

The soil laboratory test results indicate that, in general, the soils encountered at the South Fayette WTP site are classified as inorganic clayey silts (MH) or clayey sand (SC). The percentage of fines (% passing #200 sieve) ranged from 46.6 to 63.9 percent. The results of the Atterberg Limits tests performed indicate that the Liquid Limit (LL) ranges from 44 to 63 and the Plasticity Index (PI) ranges from 18 to 24. As a result, the soils are in the high plastic range. Moisture content tests indicate that in-situ moisture content ranges from 25.6 to 26.7 percent. Standard Proctor Tests indicate that the dry unit weights of the soils range from 96.4 to 108.3 pounds per cubic foot (pcf). Shear testing indicates an effective angle of internal friction of ranges from 30.3 to 34.3°, effective cohesion ranges from 2.1 to 4.2 psi, and an effective undrained shear strength ranges from 0.717 to 1.37 ksf. The soils encountered at the Crosstown WTP site are classified as inorganic sandy silts (MH). The percentage of fines (% passing #200 sieve) were 67.5 percent. The results of the Atterberg Limits tests performed indicate that the Liquid Limit (LL) was 68 and the Plasticity Index (PI) was 29. As a result, the soils are in the high plastic range. Moisture content tests indicate that in-situ moisture content was 28.1 percent. Standard Proctor Tests indicate that the dry unit weight of the soil was 98.0 pounds per cubic foot (pcf). Shear testing indicates an effective angle of internal friction of 30.4°, effective cohesion of

1.2 psi, and an effective undrained shear strength ranges from 0.909 ksf. Results are tabulated in the Lab Testing Summary attached.

A copy of the laboratory testing procedures is provided in Appendix B. A summary of the Laboratory test results, and test reports are included in Appendix D of this report.

The conditions described in the preceding paragraphs, and those shown in the Appendix, have been based on interpolation of the results of the previously described data using generally accepted principles and practices of geotechnical engineering. However, conditions in this geology may vary intermediate of the tested locations and even more so on previously filled property.

Although individual soil test borings are representative of the subsurface conditions at the precise boring locations on the day drilled, they are not necessarily indicative of the subsurface conditions at other locations or other times. The nature and extent of variation between the borings may not become evident until the course of construction. If such variations are then noted, it will be necessary to reevaluate the recommendations of this report after on-site observation of the conditions.

5.0 CONCLUSIONS AND RECOMMMENDATIONS

The following conclusions and recommendations are based on the data gathered during this exploration, our understanding of the proposed construction, our experience with similar site and subsurface conditions and generally accepted principles and practices of geotechnical engineering. Should the proposed construction change significantly from that described in this report, we request that we be advised so that we may amend these recommendations accordingly. This report, and the conclusions and recommendations provided herein, are provided exclusively for the use of Arcadis and their design team and is intended solely for design of the referenced project.

5.1 GENERAL

The on-site soils appear suitable for reuse as structural fill, and we anticipate that planned excavations can be accomplished using conventional heavy earthmoving equipment. We recommend that the proposed matt foundations may be soil supported on the existing fill soils, residual soils or new structural fill placed as recommended using a maximum net allowable bearing pressure of 2,000 psf.

We anticipate a potential issue that could impact site grading is related to the presence of silty and micaceous soils over the site. This issue is relatively minor but could represent a major issue if site grading takes place during periods of inclement weather, since soils with high mica content are moisture sensitive.

We anticipate surficial remedial measures such as undercutting and replacement will be necessary within the proposed tank pads. The loose material was found to be underlain by low consistency residual soils.

5.2 SITE PREPARATION

As an initial step in site preparation, e**xisting utilities should be rerouted around the proposed building location or removed so as not to negatively impact the new development.** Any excavations created to demolish existing utilities should be properly backfilled according to the earthwork recommendations contained in this report.

Since most of the residual soils encountered contain a low to moderate amount of mica, they are typically more moisture sensitive and may be more problematic to work with should earthwork operations take place during periods of wet weather.

The subgrade should be evaluated by an Oasis geotechnical engineer prior to at-grade construction or fill placement. The evaluation process should include proofrolling the subgrade with a fully loaded tandem axle dump truck (20 tons) during a period of dry weather and under the observation of the geotechnical engineer. Any areas which "pump" or "rut" excessively under the weight of the proofrolling vehicle should be further evaluated. After evaluation by Oasis, remedial options could include recompaction, undercutting and replacing with soil and/or rock, partial over-excavation with geogrid placement, or drying and recompaction. Proofrolling can occasionally detect pits where stumps or other debris may have been buried, or other areas where weak surface conditions exist. If encountered, weak soils should be evaluated by Oasis and remedial options could include replacing with structural fill or compacted crushed stone. As needed, backhoe test pits or hand augers with Dynamic Cone Penetrometer (DCP) testing can be used to delineate any unsuitable material found during proofrolling.

5.3 EARTHWORK

The previously placed fill and residual soils on the property appear suitable for reuse as structural fill based on visual examination if they are free from deleterious materials, such as organics and debris. Moisture control may be necessary, primarily depending on the weather conditions at the time of construction. A significant amount of the on-site soils contain mica; therefore, these soils can be problematic to work with during cooler/rainy seasons. If importing of soils is required, the proposed borrow source should be evaluated and approved by an Oasis geotechnical engineer.

Positive drainage should be maintained at all times to prevent saturation of exposed soils. During the grading operations, the contractor should take precautions to prevent water from ponding on the

subgrade soils. If adequate drainage is not provided, these soils will become wet and unstable. As a result, additional drying or remedial measures may be required during the site grading.

We do not anticipate difficult excavation techniques will be required for site grading or installation of underground utilities.

All structural fill should be compacted to at least 95 percent of the soil's standard Proctor maximum dry density, as determined by ASTM standard D-698. The upper one foot of fill which will support structures, pavements or slabs-on-grade should be compacted to at least 98 percent of the soil's standard Proctor maximum dry density for improved support. Further, the fill material should have a maximum dry density of 90 pcf or above. In areas which are at or above the finished grade, and which will support pavements or slabs, the upper 8 inches immediately below these systems should be scarified and recompacted to the 98 percent criteria. Structural fill should be free of topsoil, organic materials or highly plastic silts and clays, have a liquid limit (LL) less than 40 and a plasticity index (PI) less than 20 and contain rock sizes no larger than 4 inches. Unacceptable materials removed during grading operations should be either stockpiled for later use in landscaped areas or placed in approved disposal areas either on site or off site.

Fill operations should be observed on a full-time basis by an Oasis soils technician and density testing should be performed to determine the degree of compaction and to verify compliance with the project specifications. Fill materials should be placed in loose lifts not exceeding 8 inches and moisture conditioned to within 3 percent of the optimum moisture content to facilitate proper compaction. For underfloor areas, at least one field density test should be made per 2,500 square feet of fill area for each two-foot lift. Testing frequency should be increased in confined areas. Areas which do not meet the compaction specifications should be recompacted to achieve compliance. In confined areas, such as utility trenches, the use of portable compaction equipment and thin lifts of 3 to 4 inches may be required to achieve compaction.

5.4 GROUNDWATER CONTROL

We do not anticipate that groundwater will be encountered above about 12 feet below the existing ground surface. If encountered, temporary groundwater or perched groundwater control may be required in the lower elevations during excavations for underground utilities. We recommend placing utilities as shallow as possible and in lower topographical areas of the site in order to minimize the potential need for groundwater control. Groundwater should be properly controlled such that it is maintained 2 feet to 3 feet below the bottom of proposed excavations. Pumping from sumps in the excavations may suffice for limited depths of dewatering; however, deeper excavations may require systems such as deep wells or well points.

5.5 FOUNDATIONS

After successful completion of the site preparation measures, the proposed matt foundations may be soil supported on the existing fill soils, residual soils or new structural fill placed as recommended using a maximum net allowable bearing pressure of 2,000 psf. The recommended bearing pressure is based on correlations with the Standard Penetration Test results and the maximum assumed building loads discussed in Section 2.0. These correlations imply that a maximum total settlement of one inch is possible and a maximum differential settlement of half the total settlement is possible.

Exterior foundations should bear at least 18 inches below finished grades to prevent frost damage.

As with any construction, all foundation excavations should be evaluated by an Oasis geotechnical engineer, who will verify that the design bearing pressure is available intermediate of boring locations, and that foundations are not immediately underlain by worse conditions. If the engineer finds localized conditions of weak or organic soil below an individual footing, it should be undercut or a lower bearing pressure used, depending upon the actual conditions found. **Due to some of the soft fill and residual soils encountered in the borings, some isolated undercutting and stone replacement may be required in foundation excavations.** Again, the impact of the softer soil conditions will be dependent on the final grades selected.

Foundation excavations should be concreted as soon as practical after they are excavated, and water should not be allowed to pond in any excavation. If an excavation is to be left open for an extending period of time, a thin mat of lean concrete should be placed over the bottom of the excavation to minimize damage to the bearing surface from weather or construction activities. Foundation concrete should not be placed on saturated or frozen subgrades.

5.6 SOIL SUPPORTED SLABS

After successful completion of the site preparation measures, the proposed building slab may be soil supported on the existing residual soils or new structural fill placed as recommended. We recommend a modulus of subgrade reaction of 100 pci for use in the slab design. We suggest that the floor slab design include at least a four to six inch layer of Graded Aggregate Base (GAB) compacted to 98% of the modified Proctor in conjunction with a vapor barrier. Our experience indicates that often subgrade areas require some minor repair due to the construction activities described above and the application of this stone layer can aid in this regard. Therefore, immediately prior to slab construction, we recommend the entire area be re-evaluated by an Oasis geotechnical engineer. If deficient conditions are encountered, these conditions can be identified and repaired or replaced as needed prior to further construction. The stone also will provide more

uniform support and protection of the prepared subgrade from minor rainfall events immediately prior to slab construction.

5.7 TEMPORARY AND PERMANENT SLOPES

Temporary and permanent slopes may be used to accommodate grade changes. If temporary slopes are used, they should be constructed no steeper than 1.5H:1V for slopes less than 15 feet high. Permanent slopes should be constructed no steeper than 2H:1V for slopes less than 20 feet high. These recommendations are based on our experience with similar conditions and no detailed slope stability analyses have been performed. Further, these recommendations assume that no groundwater or seepage is present in the proposed slope location. If groundwater or seepage is present, then a detailed slope stability analyses will need to be performed. Likewise, if the maximum slope heights indicated in this section are exceeded then a detailed slope stability analysis will need to be performed. Buildings should be set back at least 10 feet from the top of slopes; a minimum 5-foot setback is considered sufficient for pavement areas. All finished slopes should be suitably protected from erosion.

5.8 LATERAL EARTH PRESSURES

Lateral earth pressures imposed on a retaining wall are a function of the soil properties, the inclination of the backfill behind the retaining wall, any surcharge loads applied behind the wall, and the amount of deflection the wall system can undergo. Lateral earth pressures developed from the "active" condition are applicable for design of temporary or permanent free-standing retaining walls, if adequate wall movement can occur to fully mobilize the shear strength of the retained soil. Permanent laterally restrained walls, such as basement walls, should be designed for pressures using the full "at-rest" case. The following equivalent fluid pressures are based on our experience and correlations with our field testing. Site specific laboratory soil strength testing was not performed for this project. However, based on the conditions found, the following equivalent fluid pressures are recommended using a horizontal backfill configuration with no surcharge loads and providing "typical" Piedmont soils (silty sand and sandy silt) are used for backfill. We assume the soils have a moist unit weight of 120 pounds per cubic foot (pcf), an angle of internal friction (ϕ) of 28 degrees and a sliding coefficient of friction of .45 x N where N is the vertical force component of the foundation system per linear foot. For concrete on soil, a sliding coefficient of friction of 0.53 may be used in the *ultimate design value* of the retaining wall.

Earth Pressure Condition	Earth Pressure Value	Recommended Equivalent Fluid Pressure (psf/f) Above Groundwater	Recommended Equivalent Fluid Pressure (psf/f) Below Groundwater
Active (K_A)	0.36	45	85
At-Rest (K_O)	0.53	60	90
Passive (Kp)	2.77	160*	160*

*safety factor of at least 2 for material properties and service criterion

Heavy compaction equipment should not be used to compact backfill immediately behind any retaining wall, unless the wall is designed for the increased pressure. Retaining wall backfill should be compacted to at least 95% of the soil's standard Proctor maximum dry density; therefore hand operated compaction equipment will be necessary in these areas. Areas exposed to groundwater or surface infiltration of water should include a properly filtered footing and wall drain. The drain should include a perforated schedule 40 PVC pipe, placed in clean crushed stone, encapsulated in a 4 ounce needle-punched nonwoven filter fabric.

For structures supported on shallow foundations, lateral loads can be resisted by passive pressures against the face of the foundation or sliding resistance on the base of the footing. Because significant wall movements are required to develop the passive pressure, the recommended passive equivalent fluid pressure (160 psf/f) is one-half of the total calculated passive pressure, a safety factor of at least 2. Additional resistance to movement can be gained by developing sliding friction on the base of the footing and an allowable friction factor of 0.35 may be used. This includes a factor of safety of about 1.5. If the structural engineer is designing according to the International Building Code (IBC) 2012, the structural engineer can increase the values for passive pressure and sliding friction factor to 250 psf and 0.4, respectively. These values have a factor of safety for material properties but no service criterion factor of safety since the service criterion factor of safety is accounted for in the structural calculations per the IBC code.

5.9 SEISMIC SITE CLASSIFICATION

We have been asked to provide the Site Class as defined by the International Building Code 2012 as adopted by the State of Georgia. The following recommendations are based on the Site Class Definitions in Section 1613.3.2 and Sections 1613.3.4 Design spectral response acceleration parameters, and 1613.3.5 Determination of Seismic Design Category of the *2012 International Building Code and Section 11.4.7 of ASCE 7.* Based on the boring data, the site does not correspond to any of the categories for Site Class "F". Since there is not a total thickness of soft clay greater than 10 feet, the site does not meet the requirements for Site Class "E". Therefore,

based on the standard penetration resistance data from the borings, we recommend that Site Class "D" be used for seismic design considerations.

5.10 LIQUEFACTION POTENTIAL AT THE SITE

Under cyclic loading (i.e. during an earthquake) loose non-cohesive materials (gravels, sands, silty sands) tend to decrease in volume. This tendency to decrease in volume is much greater in loose than dense soils. When loose non-cohesive soils are saturated and rapid loading occurs under undrained conditions, the soil densification causes excess pore water pressure to increase. The increase in pore water pressure results in a loss of soil strength due to a decrease in effective stress and eventually liquefaction occurs, once the effective stress drops to zero. Liquefaction of loose sands can lead to large displacements of foundations, flow failures of slopes, ground surface settlement, sand boils, and post-earthquake stability failures.

It is our opinion that the potential for liquefaction of the native soils at the site due to earthquake activity is relatively low based on the information obtained from the soil test borings.

6.0 QUALIFICATIONS OF RECOMMENDATIONS

This evaluation of the geotechnical aspects of the proposed design and construction has been based on our understanding of the project and the data obtained during this study. The general subsurface conditions used in our evaluation were based on interpolation of the subsurface data between the borings. Regardless of the thoroughness of a subsurface exploration, there is the possibility that conditions will differ between boring locations, that conditions are not as anticipated by the designers, or that the construction process has modified the soil conditions. Therefore, experienced Oasis soil engineers and technicians should evaluate earthwork and foundation construction to verify that the conditions anticipated in design actually exist. Otherwise, we assume no responsibility for construction compliance with the design concepts, specifications or recommendations.

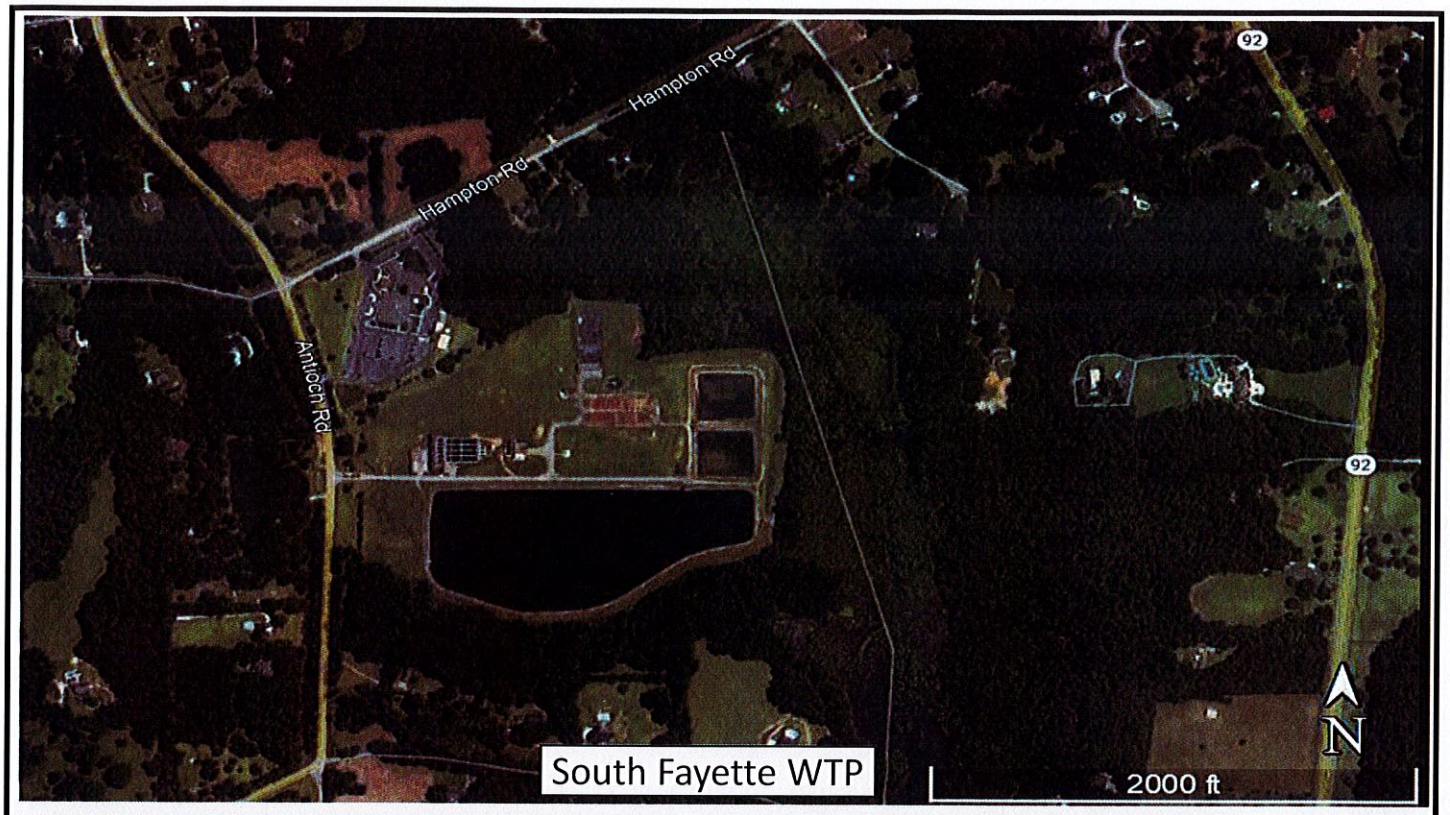
The recommendations contained in this report have been developed on the basis of the previously described project characteristics and subsurface conditions. If project criteria change, we should be permitted to determine if the recommendations should be modified. The findings of such a review will be presented in a supplemental report. Even after completion of a subsurface study, the nature and extent of variation between borings may not become evident until the course of construction. If such variations then become evident, it will be necessary to reevaluate the recommendations of this report after on-site observations of the conditions.

These professional services have been performed, the findings derived, and recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This

warranty is in lieu of all warranties either expressed or implied. This company is not responsible for the conclusions, opinions or recommendation of others based on these data.

APPENDIX A

SITE VICINITY MAP AND BORING LOCATION PLANS



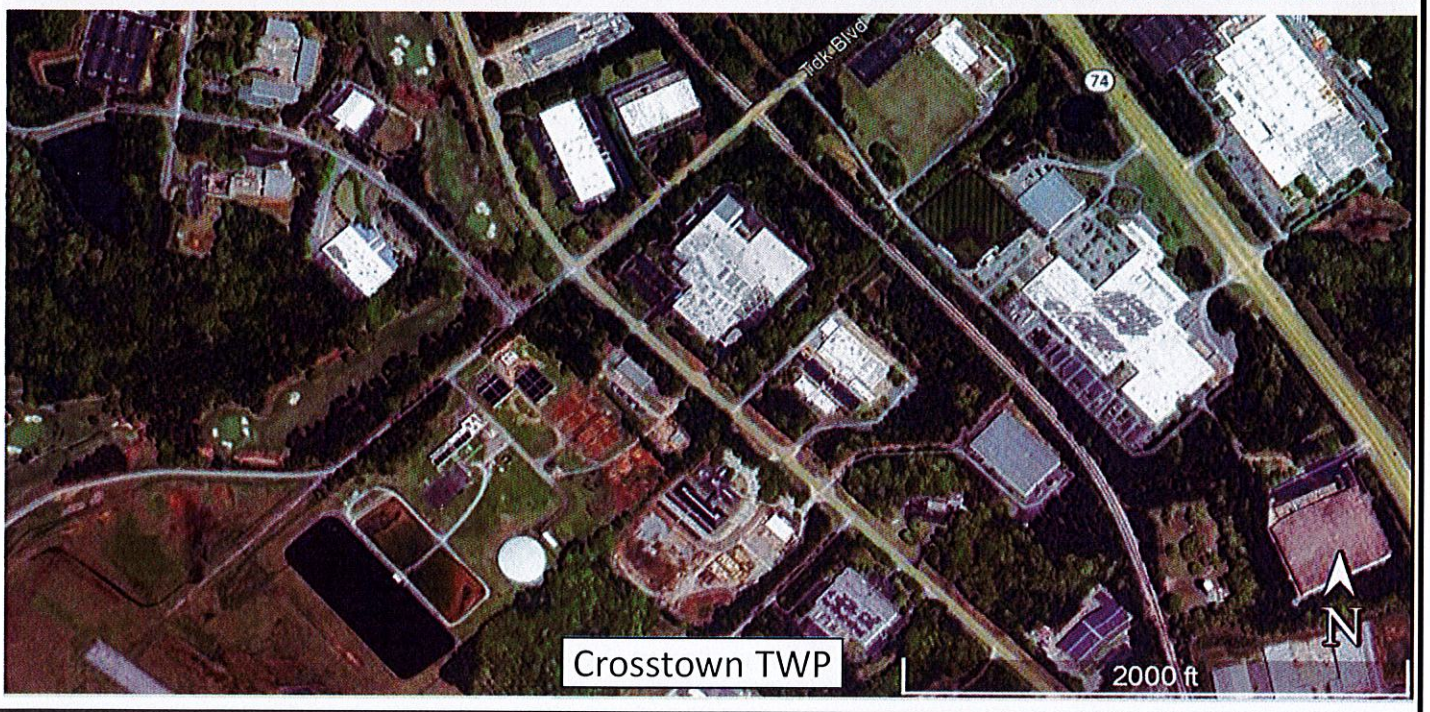
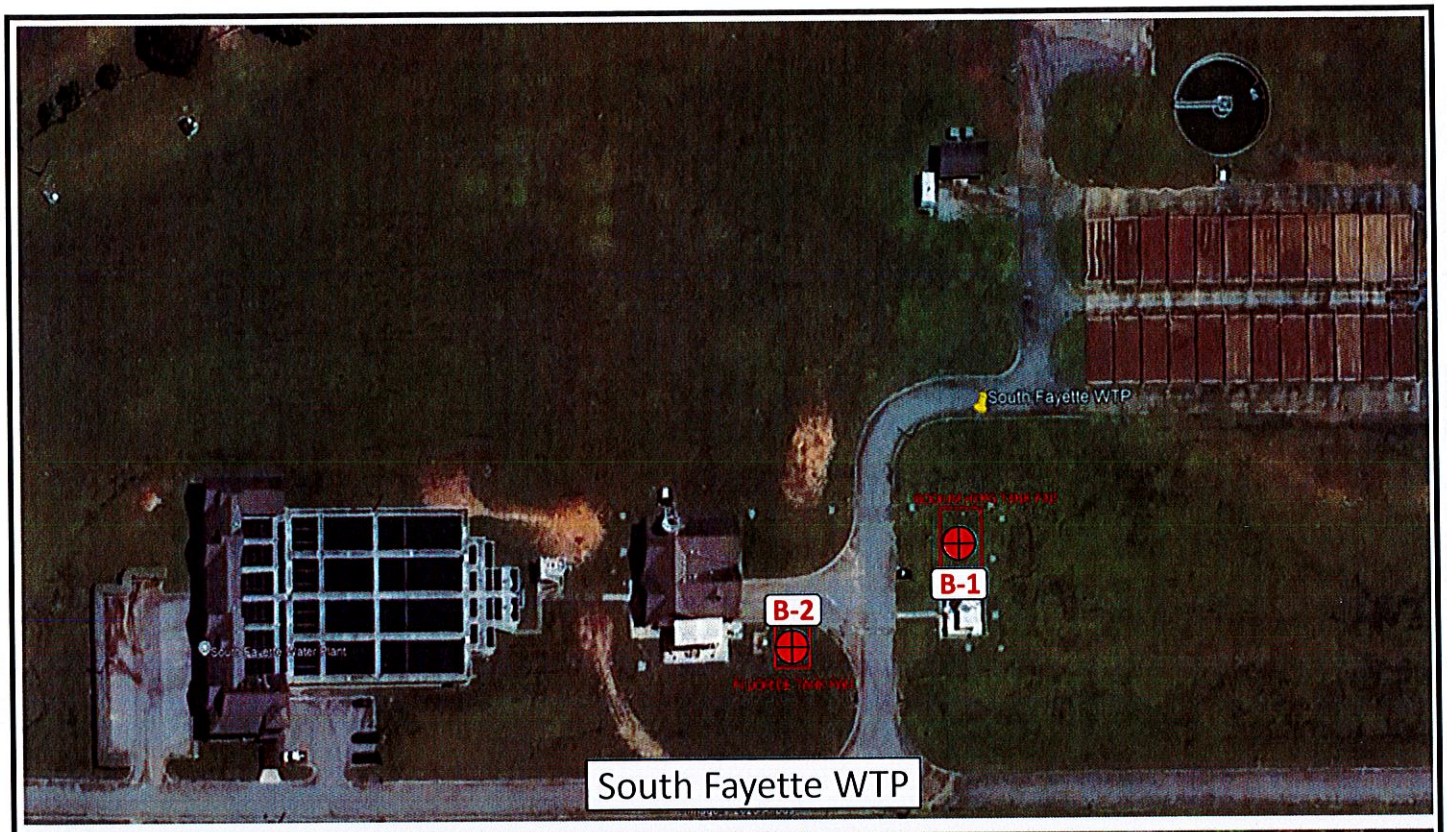


Figure No.:	SITE VICINITY MAP		
1	Source: Google Earth	South Fayette WTP and Crosstown WTP Chemical Systems Improvements Fayette County, Georgia	
	Oasis Project No.: P25044	Scale: Map Scale	**Oasis Consulting Services** **45 Woodstock Street** **Roswell, Georgia 30075**
	Date drawn: 6/2025	Drawn By: DB	



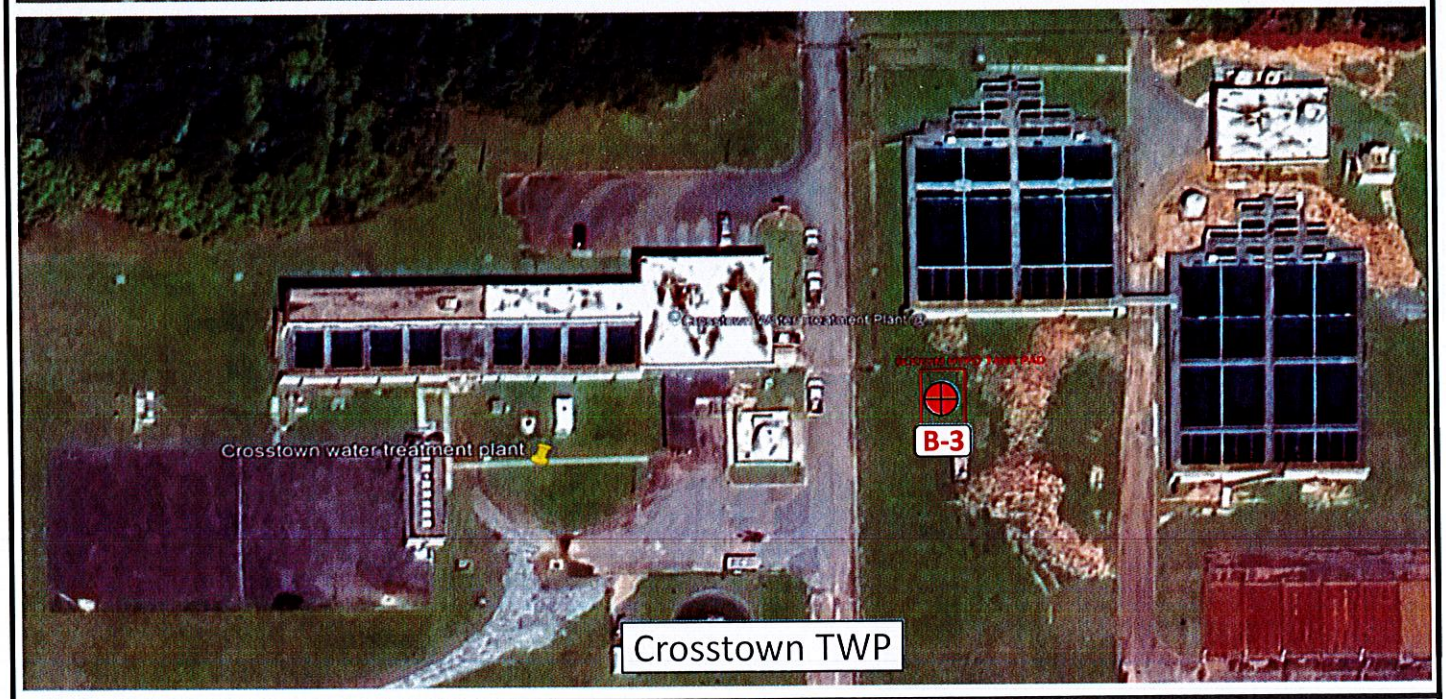


Figure No.:	REQUESTED BORING LOCATION PLANS		
2	Source: Google Earth ⊕ = Boring Location	South Fayette WTP and Crosstown WTP Chemical Systems Improvements Fayette County, Georgia	OASIS CONSULTING SERVICES
	Oasis Project No.: P25044	Scale: NTS	**Oasis Consulting Services** **45 Woodstock Street** **Roswell, Georgia 30075**
	Date drawn: 6/2025	Drawn By: DB	

APPENDIX B

FIELD TEST PROCEDURES AND LABORATORY TEST PROCEDURES

TEST PROCEDURES

The general field procedures employed by Oasis Consulting Services (OCS) are summarized in the American Society for Testing and Materials (ASTM) Standard D 420 - Investigating and Sampling Soil and Rock. This practice lists recognized methods for determining soil, rock and groundwater conditions. These methods include geophysical and in-situ methods as well as borings.

Standard Drilling Techniques

To obtain subsurface samples, borings are drilled using one of several alternate techniques depending upon the subsurface conditions. Some of these techniques are:

In Soils:

a) Continuous hollow stem augers.
b) Rotary borings using roller cone bits or drag bits and water or drilling mud.
c) Hand augers.

In Rock:

a) Core drilling with diamond-faced, double or triple tube core barrels.
b) Core boring with roller cone bits.

Typical drilling methods used are presented in the following paragraphs.

Hollow Stem Augering: A hollow stem augers consists of a hollow steel tube with a continuous exterior spiral flange termed a flight. The auger is turned into the ground, returning the cuttings along the flights. The hollow center permits a variety of sampling and testing tools to be used without removing the auger.

Sampling and Testing in Boreholes

Several techniques are used to obtain samples and data in soils in the field; however the most common methods in this area are:

a) Standard Penetrating Testing
b) Undisturbed Sampling
c) Dynamic Cone Penetrometer Testing
d) Water Level Readings

The procedures utilized for this project are presented below.

Standard Penetration Testing: At regular intervals, soil samples are obtained with a standard 2-inch diameter split tube sampler connected to an A or N-size rod. The sampler is first seated 6 inches to penetrate any loose cuttings and then driven an additional 12 inches with blows of a 140-pound hammer falling 30 inches. Generally, the number of hammer blows required to drive the sampler the final 12 inches is designated the "penetration resistance" or "N" value, in blows per foot (bpf). The sampler is designed to retain the soil penetrated, so that it may be returned to the surface for observation. Representative portions of the soil samples obtained from each sample are placed in jars, sealed and transported to our laboratory.

The standard penetration test, when properly evaluated, provides an indication of the soil strength and compressibility. The tests are conducted according to ASTM Standard D1586. The depths and N-values

of standard penetration tests are shown on the Boring Logs. Split tube samples are suitable for visual observation and classification tests but are not sufficiently intact for quantitative laboratory testing.

Water Level Readings: Water table readings are normally taken in the borings and are recorded on the Boring Logs. In sandy soils, these readings indicate the approximate location of the hydrostatic water table at the time of our field exploration. In clayey soils, the rate of water seepage into the borings is low and it is generally not possible to establish the location of the hydrostatic water table through short term water level readings. Also, fluctuation in the water table should be expected with variations in precipitation, surface run-off, evaporation, and other factors. For long-term monitoring of water levels, it is necessary to install piezometers.

The water levels reported on the Boring Logs are determined by field crews immediately after the drilling tools are removed, and several hours after the borings are completed, if possible. The time lag is intended to permit stabilization of the groundwater table which may have been disrupted by the drilling operation.

Occasionally the borings will cave-in, preventing water level readings from being obtained or trapping drilling water above the cave-in zone. The cave-in depth is measured and recorded on the Boring Logs.

Boring Logs

The subsurface conditions encountered during drilling are reported on a field boring log prepared by the driller or an OCS representative. The log contains information concerning the boring method, samples attempted and recovered, indications of the presence of coarse gravel, cobbles, etc., and observations of groundwater. It also contains the field representative's interpretation of the soil conditions between samples. Therefore, these boring records contain both factual and interpretive information. The field boring records are kept on file in our office.

After the drilling is completed, a geotechnical engineer or geologist classifies the soil samples and prepares the final Boring Logs, which are the basis for our evaluations and recommendations.

Soil Classification

Soil classifications provide a general guide to the engineering properties of various soil types and enable the engineer to apply his past experience to current problems. In our investigations, samples obtained during drilling operations are examined in our laboratory and visually classified by an engineer or geologist. The soils are classified according to consistency (based on number of blows from standard penetration tests), color and texture. These classification descriptions are included on our Boring Logs.

The classification system discussed above is primarily qualitative and for detailed soil classification two laboratory tests are necessary; grain size tests and plasticity tests. Using these test results the soil can be classified according to the AASHTO or Unified Classification Systems (ASTM D-2487). Each of these classification systems and the in-place physical soil properties provides an index for estimating the soil's behavior. The soil classification and physical properties are presented in this report.

The Key to Symbols and Classifications presents criteria that are typically used in the classification and description of soil and rock samples for preparation of Boring Logs.

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LABORATORY TEST PROCEDURES

Soil Compaction

Compaction tests are run on representative soil samples to determine the dry density obtained by a uniform compactive effort at varying moisture contents. The results of the test are used to determine the moisture content and unit weight desired in the field for similar soils. Proper field compaction is necessary to decrease future settlements, increase the shear strength of the soil and decrease the permeability of the soil.

The two most commonly used compaction tests are the standard Proctor test and the modified Proctor test. They are performed in accordance with ASTM Standards D698 and D1557, respectively. Generally, the standard compaction test is run on samples from building areas and areas where small compaction equipment is anticipated. The modified compaction test is generally used for analyses of highways and other areas where large compaction equipment is expected. In both tests, dry portions of each soil are mixed with varying quantities of water and representative portions are placed in a mold and compacted with a compaction hammer. Each portion is compacted with exactly the same compactive effort. Both tests have four alternate methods.

In the standard Proctor test, compaction is achieved by twenty-five blows of a 5.5 pound hammer falling 12 inches on each of three equal layers in a 4 inch diameter, 1/30 cubic foot cylinder. The moisture content and unit weight (dry density) of each compacted sample is determined and a graph of the results is plotted with the optimum moisture content occurring at the maximum dry density.

California Bearing Ratio

The results of the previously described compaction tests were used in preparing samples for California Bearing Ratio (CBR) tests. CBR tests are performed in accordance with ASTM D1883. The CBR is a punching shear test that provides data that is a semi-empirical index of the strength and deflection characteristics of a soil correlated with pavement performance to establish design curves for pavement thickness. The test is performed on a 6-inch diameter, 5-inch thick sample of compacted soil confined in a steel cylinder. Before testing, the sample is soaked in water under a confining pressure roughly equivalent to the weight of the future pavement to determine the potential swelling and to simulate subgrade saturation in the field. A 1.95-inch diameter piston is then forced into the soil at a standard rate to determine the resistance to penetration. The CBR is the ratio, expressed as a percentage, of the load required to produce a 0.1-inch deflection of the test soil to that required to produce the same deflection in a standard crushed stone.

Moisture Content

The moisture content of soil is defined as the weight of water in a given soil mass divided by the weight of dry soil solids in the same mass. Natural moisture contents are determined in accordance with ASTM Standard D2216.

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Soil Plasticity

Representative samples of the soils were selected for Atterberg limits testing to determine the soil plasticity characteristics. The soil's Plasticity Index (PI) is representative of this characteristic and is bracketed by the Liquid Limit (LL) and the Plastic Limit (PL). The LL is the moisture content at which the soil will flow as a heavy viscous fluid and the PL is the moisture content at which the soil begins to lose its plasticity. These limits are determined in accordance with ASTM D4318.

Certain soils swell and shrink with increases and decreases in soil moisture. The PI is related to this potential volume change ability. When such volume changes occur in soils confined beneath foundations, structural deformations can be produced. Past experience has shown that soils having a PI of less than 30 are only slightly susceptible to volume changes. Soils having a PI greater than 50 are generally very susceptible to these volume changes. Soils with a PI between these limits have moderate volume change potential.

Grain Size/Gradation

Grain size tests are performed to determine the soil classification and the grain size distribution. The soil samples are prepared for testing according to ASTM D421 (dry preparation) or ASTM D2217 (wet preparation). The grain size distribution of soils coarser than a number 200 sieve (0.074 mm opening) is determined by passing the samples through a standard set of nested sieves. A sample of known weight is passed through the sequence of sieves with decreasing size of openings and the portions retained on each sieve weighed. Materials passing the number 200 sieve are suspended in water and the grain size distributing calculated from the measured settlement rate (hydrometer analysis). Hydrometer analysis determines the density of a suspension of soil at various times after agitation. Using Stokes's law, the particle size remaining suspended at each particular time is calculated and the corresponding density is a measure of the quantity of soil smaller than the computed size. Test results are presented in the form of percent finer versus grain size curves.

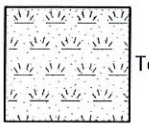
APPENDIX C

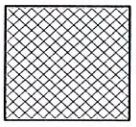
KEYS TO SYMBOLS AND CLASSIFICATIONS AND BORING LOGS

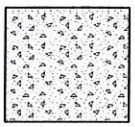
KEY TO SYMBOLS AND CLASSIFICATIONS

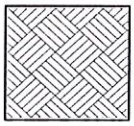
SYMBOL	TYPE OF SAMPLE
	Split Tube Sample (SPT)
	Shelby Tube Sample
	Bulk Sample
	Core Run

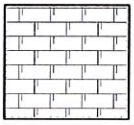
Asphalt


Topsoil


Fill


Partially Weathered Rock


Bedrock


Concrete

PARTICLE SIZE DEFINITIONS	
COMPONENT	**SIZE RANGE**
Boulders	Larger than 12 inches
Cobbles	3 to 12 inches
Gravel	3 inches to 4.5 mm (Sieve No.4)
Coarse Gravel	3 inches to 3/4 of an inch
Fine Gravel	3/4 of an inch 4.5
Sand	4.5 mm to 0.074 mm (Sieves No.4 to No.200)
Coarse Sand	4.5 mm to 2.0 mm (Sieves No.4 to No.10)
Medium Sand	2.0 mm to 0.42 mm (Sieves No.10 to No.40)
Fine Sand	0.42 mm to 0.074 mm (Sieves No.40 to No.200)
Silt and Clay	Smaller than 0.074 mm (passing sieve No. 200)

MOISTURE CONTENT	
Dry	Absence of moisture, dusty, dry to the touch
Damp	Some perceptible moisture, below optimum
Moist	No visible water, near optimum moisture content
Wet	Visible free water, usually soil is below water table

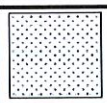
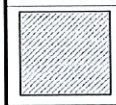
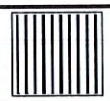
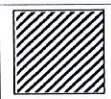
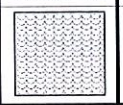
RELATIVE HARDNESS OF ROCK	
Very Soft	Desintegrates or easily compresses to touch
Soft	May be broken with fingers
Moderately Soft	May be scratched with nail, edges may be broken with fingers
Moderately Hard	Light blow of hammer required to break sample
Hard	Hard blow of hammer required to break sample

ROCK CONTINUITY	
DESCRIPTION	**RQD***
Incompetent	Less than 40%
Competent	40% to 70%
Fairly Continuous	71% to 90%
Continuous	91% to 100%

*RQD=Rock Quality Designation

RELATIVE DENSITY OR CONSISTENCY VERSUS SPT N-VALUE					
COHESIONLESS SOIL			**COHESIVE SOILS**		
Density	**N (blows/ foot)**	**Approximate Relative Density (%)**	**Consistency**	**N (blows/foot)**	**Approximate Undrained Shear Strength (psf)**
Very Loose	0 to 4	0 to 15	Very Soft	0 to 1	Less than 250
Loose	5 to 10	15 to 35	Soft	2 to 4	250 to 500
Medium Dense	11 to 30	35 to 65	Firm	5 to 8	500 to 1000
Dense	31 to 50	65 to 85	Stiff	9 to 15	1000 to2000
Very Dense	over 50	85 to 100	Very Stiff	16 to 30	2000 to 4000
			Hard	31 to 50	Greater than 4000
			Very Hard	over 50	

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISION			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO.4 SIEVE	Clean Gravels (Little or no fines)		GW	Well graded gravels, gravel-sand mixtures, little or no fines
				GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with fines (Appreciable amount of fines)		GM	Silty gravels, gravel-sand-silt mixtures
				GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS AND SANDY SOILS MORE THAN 50% OF COARSE FRACTIONPASSING NO.4 SIEVE	Clean sands (Little or no fines)		SW	Well graded sands, gravelly sands, little or no fines
				SP	Poorly graded sands, gravelly sands, little or no fines
		Sands with fines (Appreciable amount of fines)		SM	Silty sands, sand-silt mixtures
				SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	Liquid Limit less than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
				CL	Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays
				OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS	Liquid Limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
				CH	Inorganic clays of high plasticity, fat clays
				OH	Organic clays of medium high plasticity, organic silts
HIGHLY ORGANIC SOILS				PT	Peat, humus, swamp soils with high organic contents

Note: Dual symbols are used to indicate borderline soil classifications

Oasis Consulting
45 Woodstock Street
Roswell, GA 30075

BORING NUMBER B-1

CLIENT Arcadis
PROJECT NAME South Fayette and Crosstown WTP
PROJECT NUMBER P25044
PROJECT LOCATION Fayetteville, GA / Peachtree City, GA
DATE STARTED 5/21/25 **COMPLETED** 5/21/25
GROUND ELEVATION _____ **HOLE SIZE** 6
DRILLING CONTRACTOR Gable Drilling Co., Inc.
GROUND WATER LEVELS:
DRILLING METHOD HSA-Auto Hammer
▽ **AT TIME OF DRILLING** 13.00 ft
LOGGED BY Emilio **CHECKED BY** BT
AT END OF DRILLING ---
NOTES South Fayette WTP (875 Antioch Rd, Fayetteville, GA 30215)
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	ELEVATION (ft)	BLOW COUNTS (N VALUE)
0		(SM) TOPSOIL: Approximately 4" of topsoil and associated root zone, sampled as brown silty SAND			
		(SC-SM) PREVIOUSLY PLACED FILL: Loose brown orange clayey silty medium to fine SAND, micaceous	SS 1		3-3-6 (9)
5			SS 2		4-3-5 (8)
		(SC-SM) Loose brown red clayey silty medium to fine SAND, topsoil	SS 3		5-4-5 (9)
		(SC) RESIDUUM: Loose brown red clayey medium to fine SAND	SS 4		3-3-6 (9)
10					
		▽ (SM) Loose brown red tan silty medium to fine SAND, micaceous	SS 5		5-3-4 (7)
15					
		(SM) Very loose to loose brown tan silty medium to fine SAND, micaceous, wet	SS 6		2-2-2 (4)
20					
			SS 7		2-2-3 (5)
25					
			SS 8		2-3-3 (6)
30		Borehole terminated at 30.0 feet.			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 6/10/25 10:05 - G:\GEOTECHNICAL PROJECTS\2025 PROJECTS\P25044 SOUTH FAYETTE AND CROSSTOWN WTP\P25044 SOUTH FAYETTE AND CROSSTOWN WTP BORING LOGS.GPJ

BORING NUMBER B-2

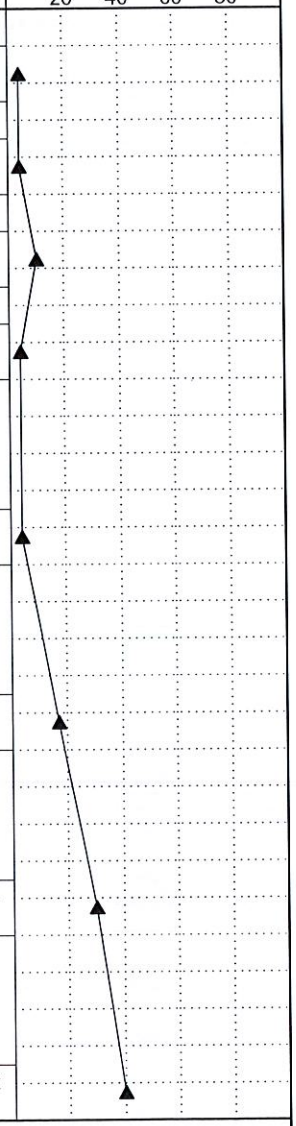
Oasis Consulting
45 Woodstock Street
Roswell, GA 30075

CLIENT Arcadis
PROJECT NUMBER P25044
DATE STARTED 5/21/25 **COMPLETED** 5/21/25
DRILLING CONTRACTOR Gable Drilling Co., Inc.
DRILLING METHOD HSA-Auto Hammer
LOGGED BY Emilio **CHECKED BY** BT
NOTES South Fayette WTP (875 Antioch Rd, Fayetteville, GA 30215)

PROJECT NAME South Fayette and Crosstown WTP
PROJECT LOCATION Fayetteville, GA / Peachtree City, GA
GROUND ELEVATION _____ **HOLE SIZE** 6
GROUND WATER LEVELS:
AT TIME OF DRILLING 12.00 ft
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	ELEVATION (ft)	BLOW COUNTS (N VALUE)
0	(SM) TOPSOIL: Approximately 4" of topsoil and associated root zone, sampled as brown silty SAND			
	(SM) PREVIOUSLY PLACED FILL: Very loose brown silty coarse to fine SAND, topsoil	SS 1		2-2-2 (4)
	(SC-SM) Very loose brown orange clayey silty medium to fine SAND, micaceous, wet	SS 2		8-2-2 (4)
5	(SC-SM) RESIDUUM: Loose brown red orange clayey silty medium to fine SAND, micaceous	SS 3		5-5-5 (10)
	(SM) Very loose brown red silty medium to fine SAND, micaceous	SS 4		3-2-2 (4)
10	(SM) Very loose tan silty fine SAND, micaceous, wet	SS 5		2-2-2 (4)
15	(SM) Medium dense to dense brown tan silty coarse to fine SAND, highly micaceous	SS 6		5-8-9 (17)
20		SS 7		6-10-20 (30)
25		SS 8		4-18-22 (40)
30	Borehole terminated at 30.0 feet.			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 6/10/25 10:05 - G:\GEOTECHNICAL PROJECTS\2025 PROJECTS\P25044 SOUTH FAYETTE AND CROSSTOWN WTP\P25044 SOUTH FAYETTE AND CROSSTOWN WTP BORING LOGS.GPJ

Oasis Consulting
45 Woodstock Street
Roswell, GA 30075

BORING NUMBER B-3

CLIENT Arcadis
PROJECT NAME South Fayette and Crosstown WTP
PROJECT NUMBER P25044
PROJECT LOCATION Fayetteville, GA / Peachtree City, GA
DATE STARTED 5/21/25 **COMPLETED** 5/21/25
GROUND ELEVATION _____ **HOLE SIZE** 6
DRILLING CONTRACTOR Gable Drilling Co., Inc.
GROUND WATER LEVELS:
DRILLING METHOD HSA-Auto Hammer
▽ **AT TIME OF DRILLING** 23.00 ft
LOGGED BY Emilio **CHECKED BY** BT
AT END OF DRILLING ---
NOTES Crosstown WTP (3500 Tdk Blvd, Peachtree City, GA 30269)
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	ELEVATION (ft)	BLOW COUNTS (N VALUE)
0		(SM) TOPSOIL: Approximately 4" of topsoil and associated root zone, sampled as brown silty SAND			
		(SC-SM) PREVIOUSLY PLACED FILL: Loose brown red clayey silty medium to fine SAND, micaceous	SS 1		2-2-3 (5)
		(SC) RESIDUUM: Loose red brown clayey medium to fine SAND, slightly micaceous	SS 2		3-3-3 (6)
5		(SC-SM) Loose red brown clayey silty medium to fine SAND, slightly micaceous	SS 3		3-3-4 (7)
			SS 4		3-3-3 (6)
10		(SM) Medium dense brown red silty fine SAND			
			SS 5		5-7-7 (14)
15		(SM) Loose brown orange black silty medium to fine SAND, wet			
			SS 6		2-3-4 (7)
20		▽ (SM) Medium dense brown tan silty medium to fine SAND, micaceous, wet			
			SS 7		5-9-11 (20)
25					
			SS 8		4-5-7 (12)
30					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Borehole terminated at 30.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 6/10/25 10:05 - G:\GEOTECHNICAL PROJECTS\2025 PROJECTS\P25044 SOUTH FAYETTE AND CROSSTOWN WTP\P25044 SOUTH FAYETTE AND CROSSTOWN WTP BORING LOGS.GPJ

APPENDIX D

LABORATORY TEST RESULTS: GRAIN SIZE AND ATTERBERG LIMITS TESTS, AND MOISTURE CONTENTS

OASIS CONSULTING SERVICES

45 Woodstock Street
Roswell, GA 30075
Phone: 678-739-2400

Moisture-Density Relationship

ASTM D698

Client:	Project:
Arcadis 2839 Paces Ferry Road SE Suite 900 Atlanta, GA 30339	P25044.1 South Fayette Water Plant 875 Antioch Rd Fayetteville, GA 30215

General Information

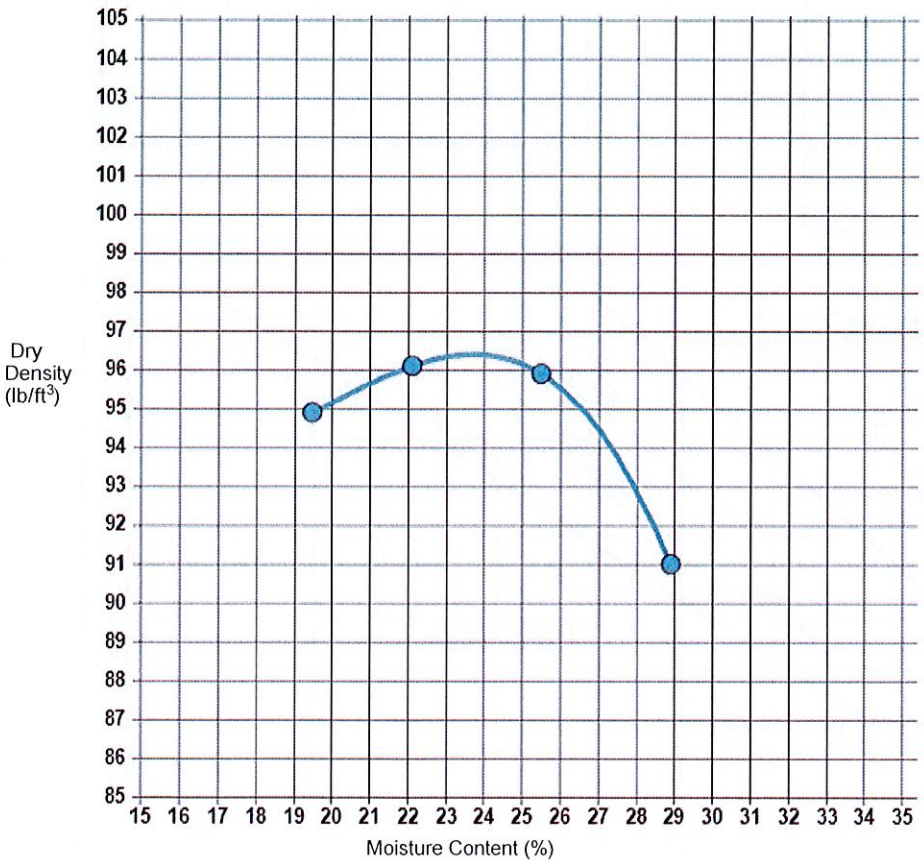
Group Sample Number:	3211	**Sample Date:**	04/22/2025
Sample From:	Boring	**Sampling Method:**	Auger Boring ASTM D1452
Location Details:	Sampled from On Site Boring	**Technician:**	Ben Thomason
Lab Number:	5532		

Test Results

Sample ID: B-1

Soil Description: Red sandy clayey SILT

Compaction Method Used: A (ASTM D698)



Maximum Dry Density (lb/ft³):	96.4
Optimum Moisture Content (%):	23.7
Insitu Moisture Content (%):	26.2
Lab Technician:	Catherine Gingrich
Checked By:	Darren Bray

OASIS CONSULTING SERVICES

45 Woodstock Street
Roswell, Georgia 30075
678-739-2400

REPORT OF SOIL CLASSIFICATION TEST RESULTS

(ASTM D2487)

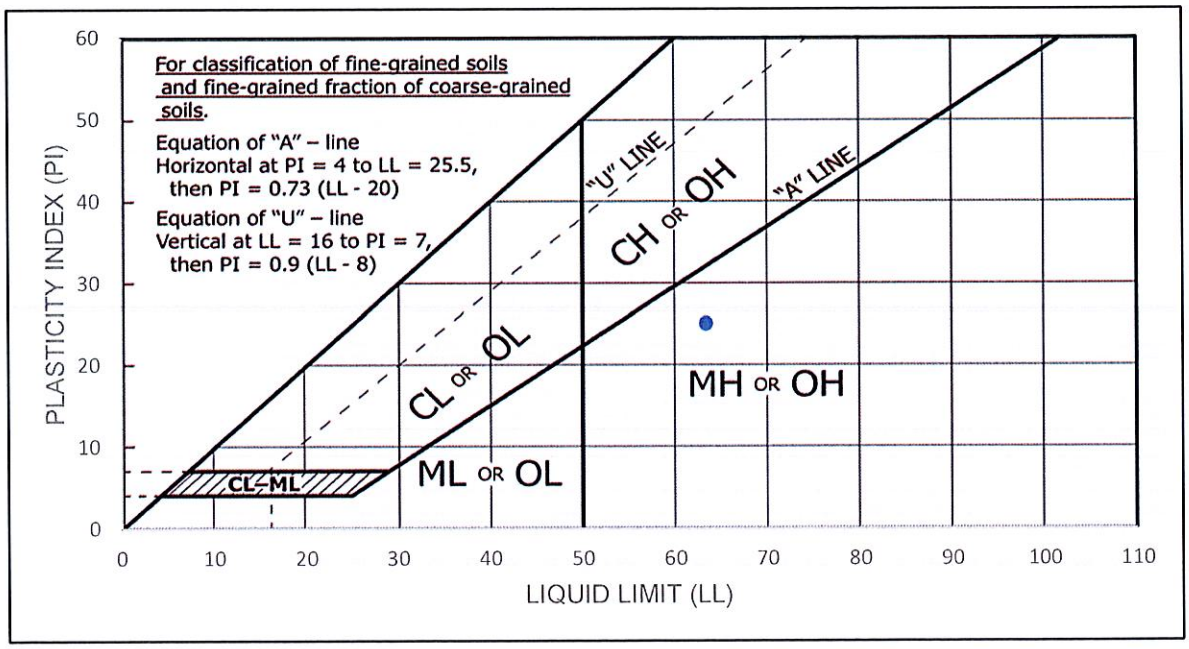
Client:	Arcadis	Test Date:	5/22/2025
Project Name:	South Fayette Water Plant	Lab Number:	5532
Project Number:	P25044.1	Techician:	JS/CG
Associated Tests:	ASTM D2216, ASTM D1140, ASTM D4318	USCS Class.[1]:	MH
Sample Number:	B-1	Boring:	1
Sample Description[2]:	Red sandy clayey SILT	Depth:	4'-8'

[1] USCS Classification is based on the Atterberg Limit test and the Grain Size Analysis results.

[2] Sample description is based on a visual analysis.

Liquid Limit	63
Plastic Limit	39
Plasticity Index	24

Material Passing #200 (%)	63.9
Insitu Moisture Content (%)	26.7



Checked By: DB

(Test results only represent the material received by the laboratory and may or may not be applicable to the on site material)

OASIS CONSULTING SERVICES

45 Woodstock Street
Roswell, Georgia 30075
678-739-2400

Report of Grain Size Analysis of Material Larger Than #200 Sieve

(ASTM D6913), (ASTM D1140)

Client	Arcadis		
Project Name	South Fayette Water Plant		
Project Number	P25044.1		
Date	5/22/2025	**Technician**	JS/CG
Sample #	B-1 (4'-8')	**Lab #**	5532
Classification	Red sandy clayey SILT		

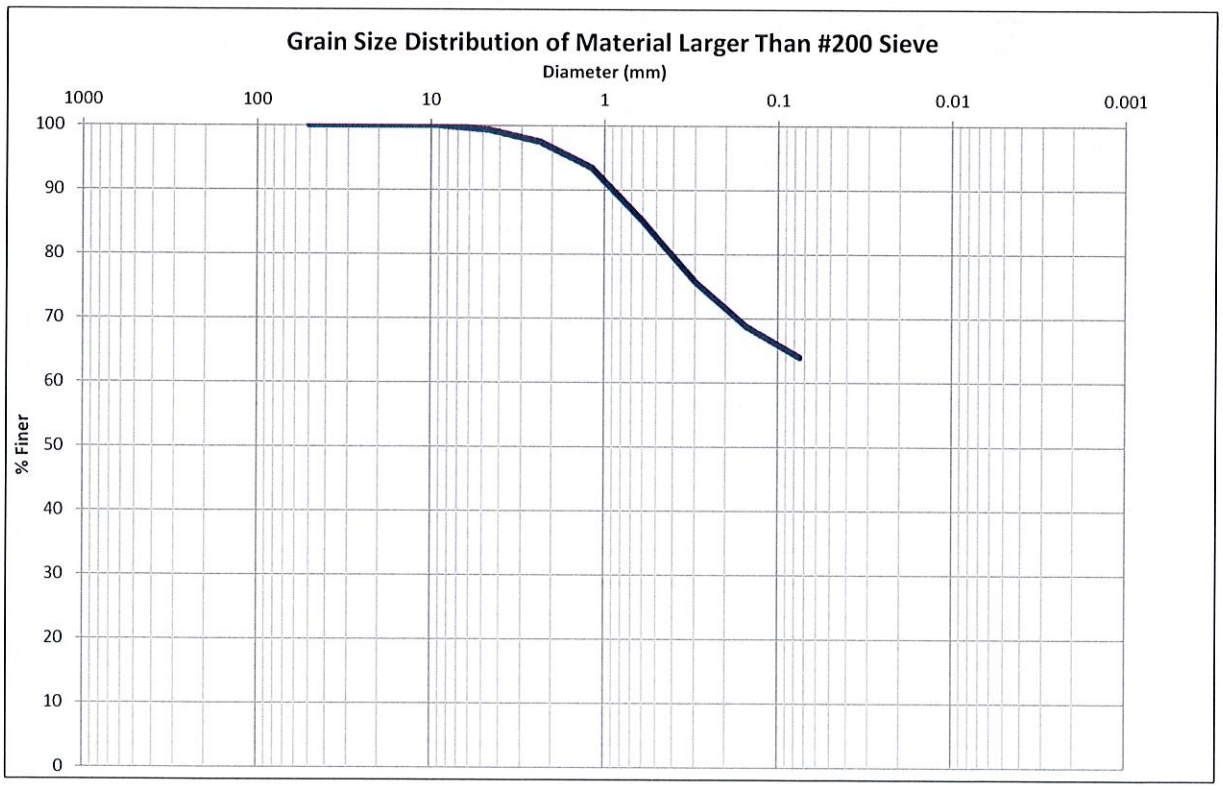
Sieve Analysis		
Sieve #	Diameter mm	Passing %
2	50.8	100.0
1.5	38.09	100.0
1	25.4	100.0
3/4	19.04	100.0
1/2	12.7	100.0
3/8	9.5	100.0
#4	4.75	99.3
#10	2.36	97.4
#20	1.18	93.3
#40	0.595	84.9
#60	0.297	75.5
#100	0.15	68.6
#200	0.075	63.9

Natural Moisture Content (%)
26.7

Wash #200 Soak Time (At least 120 min to the nearest 10 min)
960

Test Method		
A		B
		X

Initial Dry Mass (g)
160.97



Jun-19

Checked By: DB

(Test results only represent the material received by the laboratory and may or may not be applicable to the onsite material)

TIMELY ENGINEERING SOIL TESTS, LLC

1874 Forge Street Tucker, GA 30084
Phone: 770-938-8233
Fax: 770-923-8973
Web: www.test-llc.com

AASHTO ACCREDITED

Tested By	EB
Date	06/03/25
Checked By	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

	(initial)	(after consol.)
Height, in	5.568	5.516
Diameter, in	2.836	2.832
Height-to-Diameter Ratio	2.0	1.9
Area, in^2	6.32	6.30
Volume, cm^3	576.37	569.52
Mass of Wet Sample, g	1078.10	1092.10
Mass of Dry Sample, g	829.98	829.98
Wet Density, pcf	116.8	119.7
Dry Density, pcf	89.9	91.0
Specific Gravity (assumed)	2.700	2.700
Volume of Solids, cm^3	307.40	307.40
Volume of Voids, cm^3	268.97	262.12
Void Ratio	0.87	0.85
% Saturation	92.2	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1078.10	1092.10
Mass of Dry Sample and Tare, g	829.98	829.98
Mass of Tare, g	0.00	0.00
Moisture, %	29.90	31.58

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	14.0
Machine Speed, in / min	0.0100
Strain Rate, % / min	0.18
Chamber Pressure, psi	85.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	5.0
Change in Height, in	0.052
"B" Value	0.95

SHEAR DATA

Elapsed Time (min)	Deformation Stage 1 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Total Strain Stage 1 (%)	Corrected Area (in^2)	Dev.Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Eff.Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)
0.0	0.000	16.5	80.00	0.0	0.00	6.30	0.0	5.0	5.0	1.00	5.0	0.0	5.0
0.5	0.005	46.5	82.03	2.0	0.09	6.31	4.8	9.8	7.7	2.60	5.3	2.4	3.0
1.0	0.010	54.0	82.63	2.6	0.18	6.31	5.9	10.9	8.3	3.51	5.3	3.0	2.4
1.5	0.015	58.8	82.95	3.0	0.27	6.32	6.7	11.7	8.7	4.27	5.4	3.3	2.1
2.0	0.020	62.7	83.17	3.2	0.36	6.32	7.3	12.3	9.1	4.99	5.5	3.7	1.8
2.5	0.025	65.8	83.30	3.3	0.45	6.33	7.8	12.8	9.5	5.58	5.6	3.9	1.7
3.0	0.030	68.7	83.39	3.4	0.54	6.34	8.2	13.2	9.8	6.12	5.7	4.1	1.6
3.5	0.035	71.4	83.47	3.5	0.63	6.34	8.7	13.7	10.2	6.66	5.9	4.3	1.5
4.0	0.040	73.8	83.53	3.5	0.73	6.35	9.0	14.0	10.5	7.14	6.0	4.5	1.5
5.0	0.050	78.3	83.61	3.6	0.91	6.36	9.7	14.7	11.1	7.99	6.2	4.9	1.4
6.0	0.060	82.7	83.68	3.7	1.09	6.37	10.4	15.4	11.7	8.87	6.5	5.2	1.3
7.0	0.070	87.4	83.73	3.7	1.27	6.38	11.1	16.1	12.4	9.75	6.8	5.6	1.3
8.0	0.080	91.7	83.77	3.8	1.45	6.39	11.8	16.8	13.0	10.56	7.1	5.9	1.2
9.0	0.090	96.5	83.80	3.8	1.63	6.41	12.5	17.5	13.7	11.41	7.4	6.2	1.2
10.0	0.100	101.3	83.83	3.8	1.81	6.42	13.2	18.2	14.4	12.29	7.8	6.6	1.2
11.0	0.110	106.2	83.85	3.8	1.99	6.43	14.0	19.0	15.1	13.13	8.1	7.0	1.2
12.0	0.120	111.2	83.86	3.9	2.18	6.44	14.7	19.7	15.8	13.90	8.5	7.4	1.1
13.0	0.130	116.5	83.86	3.9	2.36	6.45	15.5	20.5	16.6	14.59	8.9	7.7	1.1
14.0	0.140	121.9	83.85	3.8	2.54	6.46	16.3	21.3	17.5	15.18	9.3	8.2	1.2
15.0	0.150	127.3	83.83	3.8	2.72	6.48	17.1	22.1	18.3	15.62	9.7	8.6	1.2
17.0	0.170	138.8	83.74	3.7	3.08	6.50	18.8	23.8	20.1	15.93	10.7	9.4	1.3
18.0	0.180	144.1	83.67	3.7	3.26	6.51	19.6	24.6	20.9	15.73	11.1	9.8	1.3
19.0	0.190	149.9	83.60	3.6	3.44	6.53	20.4	25.4	21.8	15.60	11.6	10.2	1.4
Values @ Failure					3.7	3.08	6.50	18.8	23.8	20.1	15.93	10.7	9.4	1.3

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

TIMELY ENGINEERING SOIL TESTS, LLC

1874 Forge Street Tucker, GA 30084
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Fax: 770-923-8973
Web: www.test-llc.com

AASHTO ACCREDITED

Tested By	EB
Date	06/04/25
Checked By	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.326	5.371
Diameter, in		2.882	2.863
Height-to-Diameter Ratio		1.8	1.9
Area, in^2		6.53	6.44
Volume, cm^3		569.52	566.52
Mass of Wet Sample, g		1092.10	1089.10
Mass of Dry Sample, g		829.98	829.98
Wet Density, pcf		119.7	120.0
Dry Density, pcf		91.0	91.5
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		307.40	307.40
Volume of Voids, cm^3		262.12	259.12
Void Ratio		0.85	0.84
% Saturation		100.0	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1092.10	1089.10
Mass of Dry Sample and Tare, g	829.98	829.98
Mass of Tare, g	0.00	0.00
Moisture, %	31.58	31.22

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	-3.0
Machine Speed, in / min	0.0100
Strain Rate, % / min	0.19
Chamber Pressure, psi	90.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	10.0
Change in Height, in	-0.045
"B" Value	0.95

SHEAR DATA

Deformation Stage 2 (inch)	Total Deformation ST.1 + ST.2 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Strain Stage 2 %	Corrected Area (in^2)	Dev.Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Effective Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress	Total Strain ST.1 + ST.2 %
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)	
0.000	0.145	25.0	80.00	0.0	0.00	6.44	0.0	10.0	10.0	1.00	10.0	0.0	10.0	2.63
0.005	0.150	66.7	83.40	3.4	0.09	6.44	6.5	16.5	13.1	1.98	9.8	3.2	6.6	2.72
0.010	0.155	84.3	84.64	4.6	0.19	6.45	9.2	19.2	14.6	2.72	10.0	4.6	5.4	2.81
0.015	0.160	96.7	85.37	5.4	0.28	6.45	11.1	21.1	15.7	3.40	10.2	5.6	4.6	2.90
0.020	0.165	106.3	85.87	5.9	0.37	6.46	12.6	22.6	16.7	4.05	10.4	6.3	4.1	2.99
0.025	0.170	115.7	86.27	6.3	0.47	6.47	14.0	24.0	17.8	4.76	10.7	7.0	3.7	3.08
0.030	0.175	124.4	86.58	6.6	0.56	6.47	15.4	25.4	18.8	5.49	11.1	7.7	3.4	3.17
0.035	0.180	132.6	86.84	6.8	0.65	6.48	16.6	26.6	19.8	6.26	11.5	8.3	3.2	3.26
0.040	0.185	140.7	87.06	7.1	0.74	6.48	17.8	27.8	20.8	7.07	11.9	8.9	2.9	3.35
0.050	0.195	153.9	87.33	7.3	0.93	6.50	19.8	29.8	22.5	8.43	12.6	9.9	2.7	3.54
0.060	0.205	163.6	87.42	7.4	1.12	6.51	21.3	31.3	23.9	9.25	13.2	10.6	2.6	3.72
0.070	0.215	171.5	87.39	7.4	1.30	6.52	22.5	32.5	25.1	9.61	13.8	11.2	2.6	3.90
0.080	0.225	178.0	87.29	7.3	1.49	6.53	23.4	33.4	26.1	9.64	14.4	11.7	2.7	4.08
0.090	0.235	184.0	87.15	7.2	1.68	6.55	24.3	34.3	27.1	9.52	15.0	12.1	2.8	4.26
0.100	0.245	189.4	86.98	7.0	1.86	6.56	25.1	35.1	28.1	9.30	15.6	12.5	3.0	4.44
Values @ Failure				7.3	1.49	6.53	23.4	33.4	26.1	9.64	14.4	11.7	2.7	4.08

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

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Tested By	EB
Date	06/05/25
Checked By	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.271	5.316
Diameter, in		2.890	2.861
Height-to-Diameter Ratio		1.8	1.9
Area, in^2		6.56	6.43
Volume, cm^3		566.52	560.12
Mass of Wet Sample, g		1089.10	1082.70
Mass of Dry Sample, g		829.98	829.98
Wet Density, pcf		120.0	120.7
Dry Density, pcf		91.5	92.5
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		307.40	307.40
Volume of Voids, cm^3		259.12	252.72
Void Ratio		0.84	0.82
% Saturation		100.0	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1089.10	1357.90
Mass of Dry Sample and Tare, g	829.98	1105.20
Mass of Tare, g	0.00	275.30
Moisture, %	31.22	30.45

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	-6.4
Machine Speed, in / min	0.01000
Strain Rate, % / min	0.19
Chamber Pressure, psi	100.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	20.0
Change in Height, in	-0.045
"B" Value	0.95

SHEAR DATA

Deformation Stage 3 (inch)	Total Deformation ST.1 + ST.2 + ST.3 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Strain Stage 3 %	Corrected Area (in^2)	Deviator Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Effective Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress	Total Strain ST.1 + ST.2 + ST.3, %
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)	
0.000	0.200	31.5	80.00	0.0	0.00	6.43	0.0	20.0	20.0	1.00	20.0	0.0	20.0	3.63
0.010	0.210	123.3	87.60	7.6	0.20	6.44	14.3	34.3	26.7	2.15	19.5	7.1	12.4	3.81
0.020	0.220	153.8	89.95	10.0	0.38	6.45	18.9	38.9	29.0	2.89	19.5	9.5	10.0	4.00
0.030	0.230	176.2	91.34	11.3	0.57	6.47	22.4	42.4	31.0	3.58	19.8	11.2	8.7	4.18
0.040	0.240	195.1	92.33	12.3	0.76	6.48	25.3	45.3	32.9	4.29	20.3	12.6	7.7	4.36
0.050	0.250	211.1	93.01	13.0	0.95	6.49	27.7	47.7	34.7	4.96	20.8	13.8	7.0	4.54
0.070	0.270	232.6	93.47	13.5	1.32	6.52	30.9	50.9	37.4	5.72	22.0	15.4	6.5	4.90
0.100	0.300	252.7	93.06	13.1	1.89	6.55	33.8	53.8	40.7	5.87	23.8	16.9	6.9	5.45
0.120	0.320	262.9	92.56	12.6	2.26	6.58	35.2	55.2	42.6	5.73	25.0	17.6	7.4	5.81
0.150	0.350	276.3	91.68	11.7	2.83	6.62	37.0	57.0	45.3	5.45	26.8	18.5	8.3	6.35
0.170	0.370	284.1	91.08	11.1	3.21	6.64	38.0	58.0	47.0	5.26	27.9	19.0	8.9	6.71
0.200	0.400	295.1	90.19	10.2	3.77	6.68	39.4	59.4	49.3	5.02	29.5	19.7	9.8	7.26
0.230	0.430	305.0	89.33	9.3	4.33	6.72	40.7	60.7	51.4	4.81	31.0	20.3	10.7	7.80
0.260	0.460	314.0	88.50	8.5	4.90	6.76	41.8	61.8	53.3	4.64	32.4	20.9	11.5	8.35
0.280	0.480	319.4	88.00	8.0	5.27	6.79	42.4	62.4	54.4	4.54	33.2	21.2	12.0	8.71
0.310	0.510	327.2	87.26	7.3	5.84	6.83	43.3	63.3	56.0	4.40	34.4	21.7	12.7	9.25
0.360	0.560	338.5	86.10	6.1	6.78	6.90	44.5	64.5	58.4	4.20	36.2	22.3	13.9	10.16
0.410	0.610	349.8	85.01	5.0	7.72	6.97	45.7	65.7	60.7	4.05	37.8	22.8	15.0	11.07
0.470	0.670	361.3	83.87	3.9	8.85	7.05	46.8	66.8	62.9	3.90	39.5	23.4	16.1	12.15
0.520	0.720	370.3	83.00	3.0	9.79	7.13	47.5	67.5	64.5	3.80	40.8	23.8	17.0	13.06
0.570	0.770	378.4	82.19	2.2	10.73	7.20	48.2	68.2	66.0	3.70	41.9	24.1	17.8	13.97
0.610	0.810	384.7	81.60	1.6	11.48	7.26	48.6	68.6	67.0	3.64	42.7	24.3	18.4	14.69
0.630	0.830	387.6	81.32	1.3	11.86	7.29	48.8	68.8	67.5	3.61	43.1	24.4	18.7	15.05
Values @ Failure					13.1	1.89	6.55	33.8	53.8	40.7	5.87	23.8	16.9	6.9	5.45

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

TIMELY ENGINEERING SOIL TESTS, LLC

1874 Forge Street Tucker, GA 30084

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Web: www.test-llc.com

AASHTO ACCREDITED

Tested By	EB
Date	06/05/25
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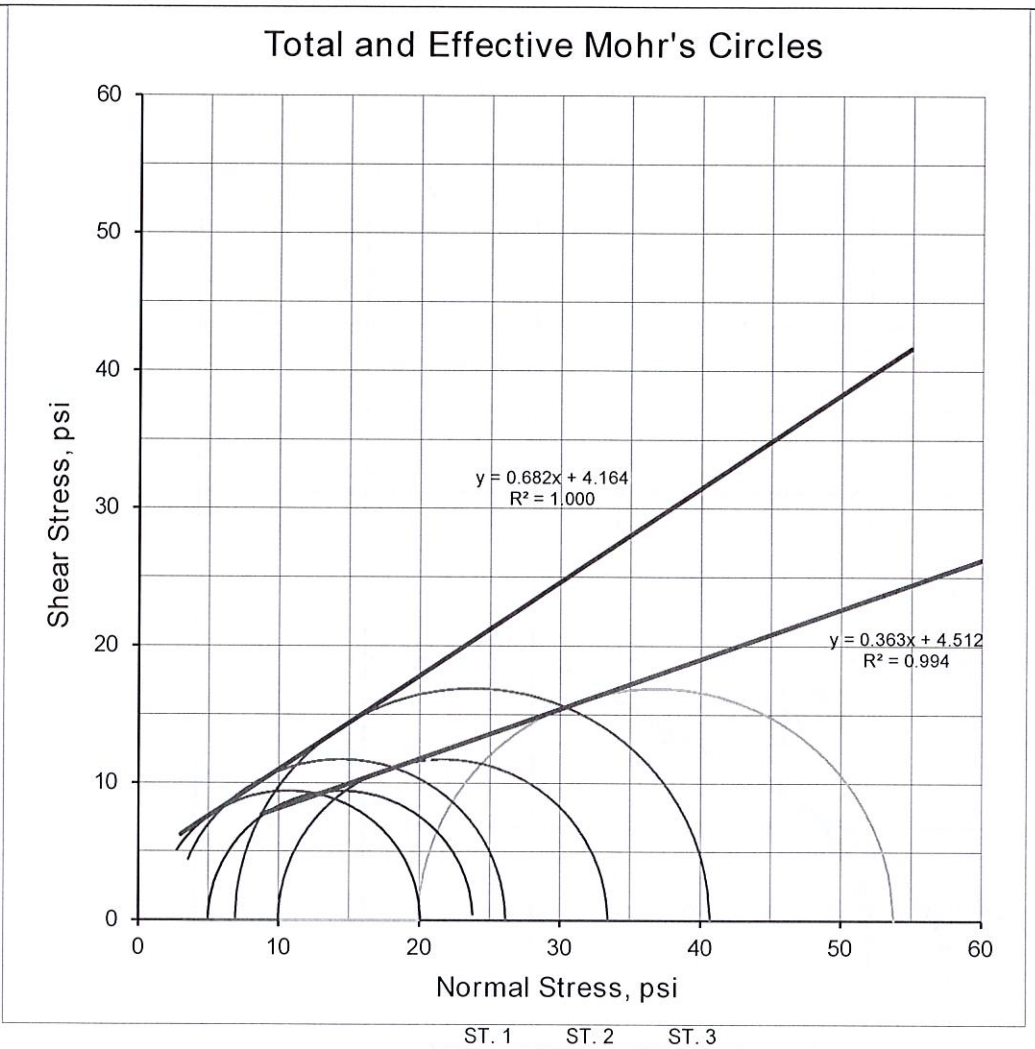
ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-



	ST. 1	ST. 2	ST. 3
Effective Consolidation Stress, psi	5.0	10.0	20.0
Deviator Stress at Failure, psi	18.8	23.4	33.8
Effective Minor Principal Stress at Failure, psi	1.3	2.7	6.9
Effective Major Principal Stress at Failure, psi	20.1	26.1	40.7
Axial Strain at Failure, %	3.08	1.49	1.89

STRENGTH PARAMETERS*			
Total		Effective	
ϕ°	19.9	ϕ'°	34.3
C, psi	4.5	C', psi	4.2

*Valid only for Received Material at Reported Densities and Moisture Contents. Please see remarks on page 6 of this report

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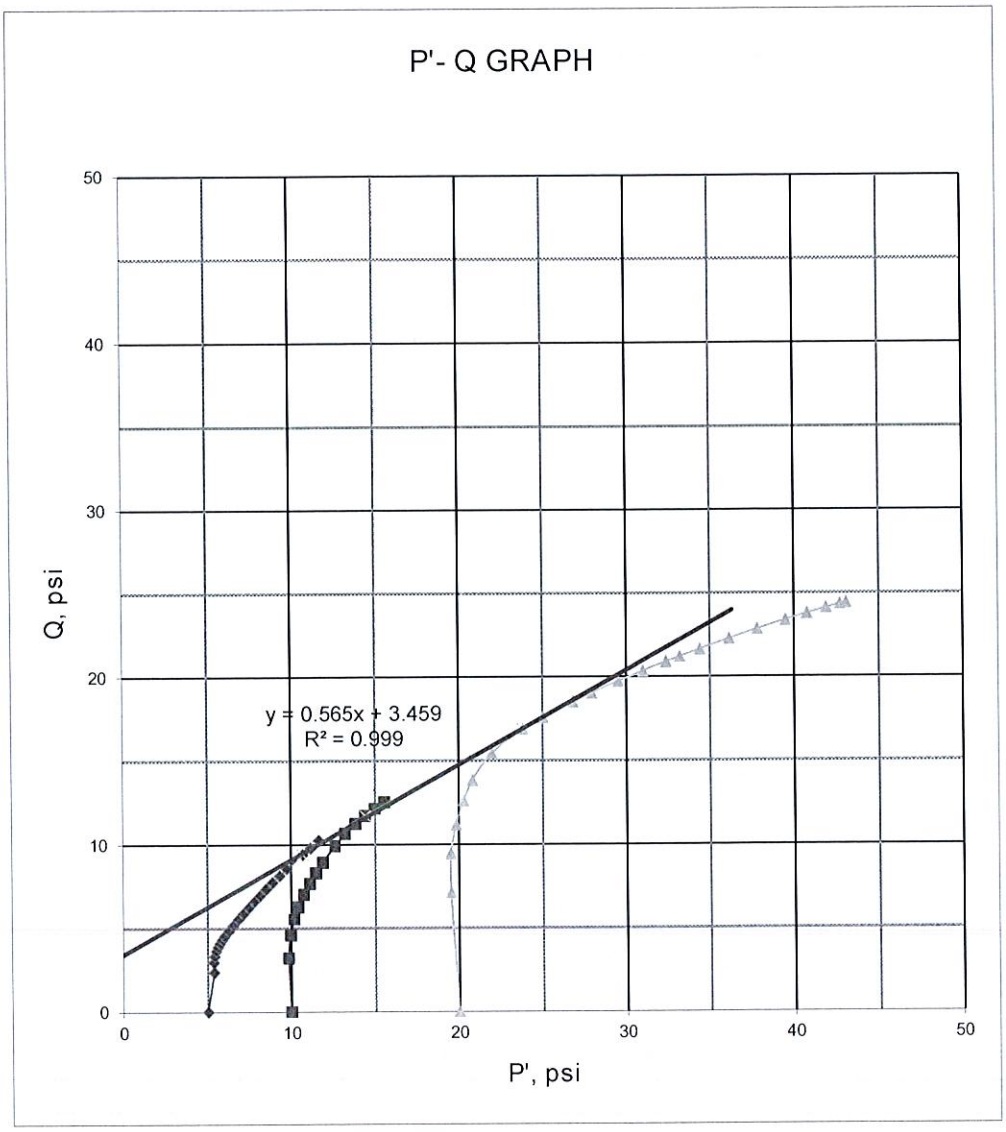
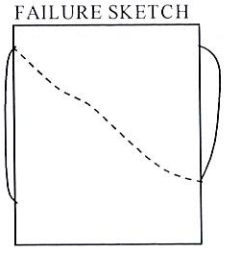
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-



FAILURE SKETCH



a, psi	3.5
α, degree	29.5

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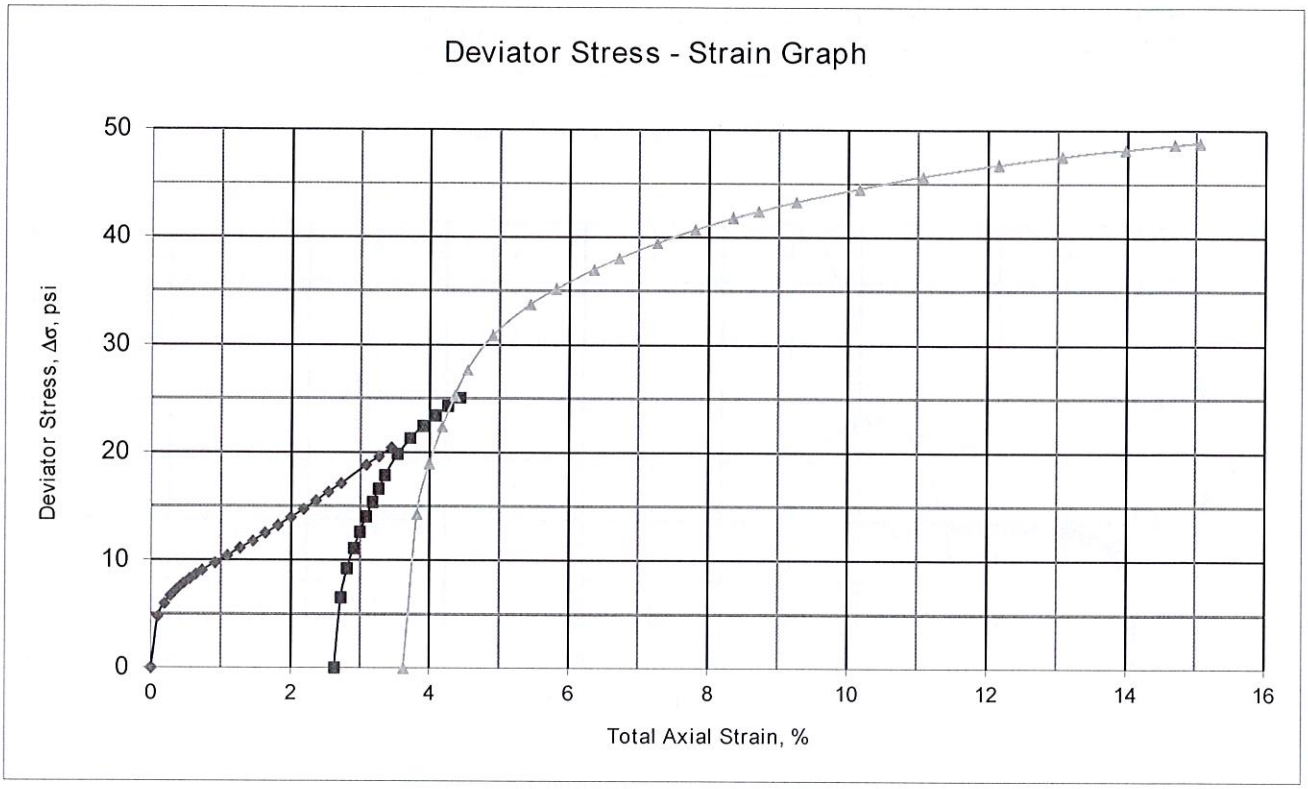
Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-



		REMARKS	DESCRIPTION
Balance ID Number	563/700	Material from shelby tube was not homogeneous and/or not long enough to select 3 uniform specimens 6" long each. Most representative portion of sample (2" above the bottom of shelby tube) was selected for multi-stage triaxial testing (per ASTM STP 883).	NA
Oven ID Number	496/610		
Deformation Indicator ID #	178/349/689		
Digital Caliper ID #	370/458		
Load Cell ID #	11/347/692		
Apparatus ID #	10/293/693		

NOTES:
1. Method for Saturation
2. Method for determination of cross-sectional area after consol.
3. Final moisture content (Stage 3) obtained from entire sample

WET	
B	

LL	-
PL	-
PI	-
Gs	-

USCS (ASTM D2487: D2488)
NA

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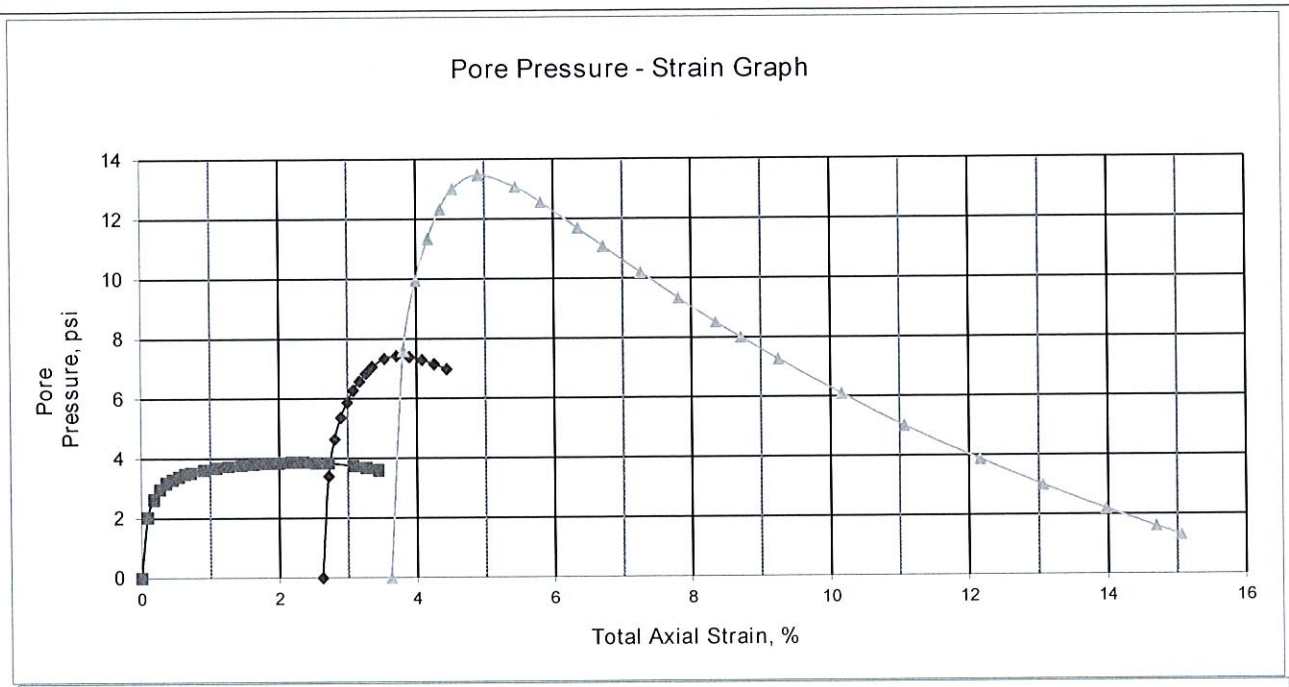
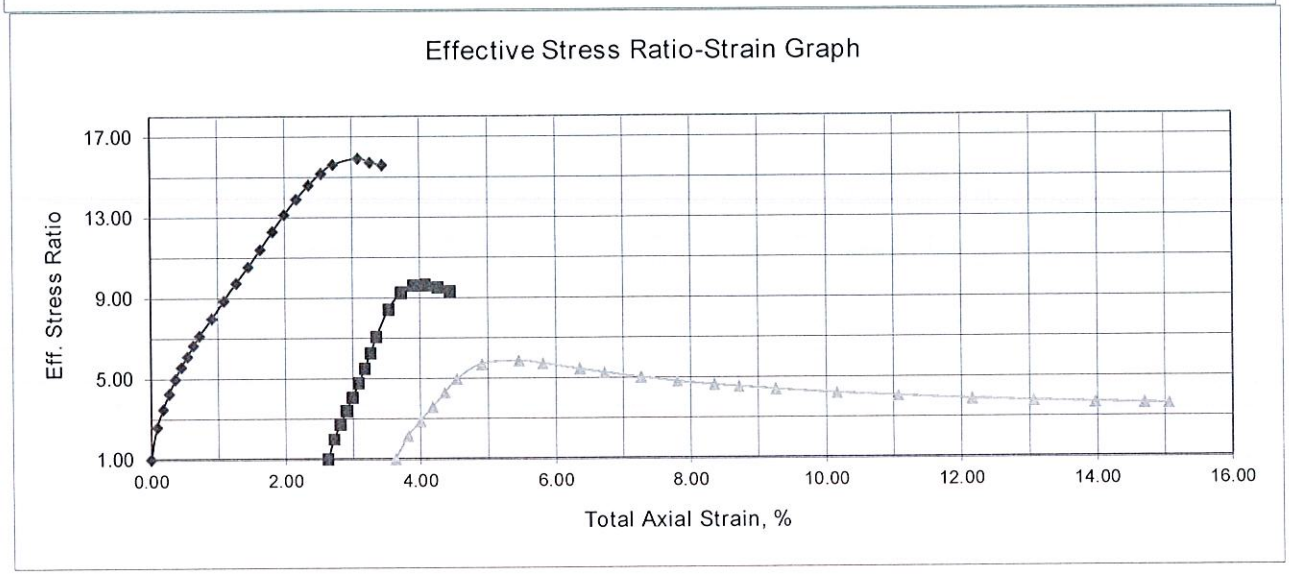
Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53005/B-1	Depth/Elev.	-
Location	-	Additional Info	-





OASIS CONSULTING SERVICES

45 Woodstock Street
Roswell, GA 30075
Phone: 678-739-2400

Moisture-Density Relationship

ASTM D698

Client:	Project:
Arcadis 2839 Paces Ferry Road SE Suite 900 Atlanta, GA 30339	P25044.1 South Fayette Water Plant 875 Antioch Rd Fayetteville, GA 30215

General Information

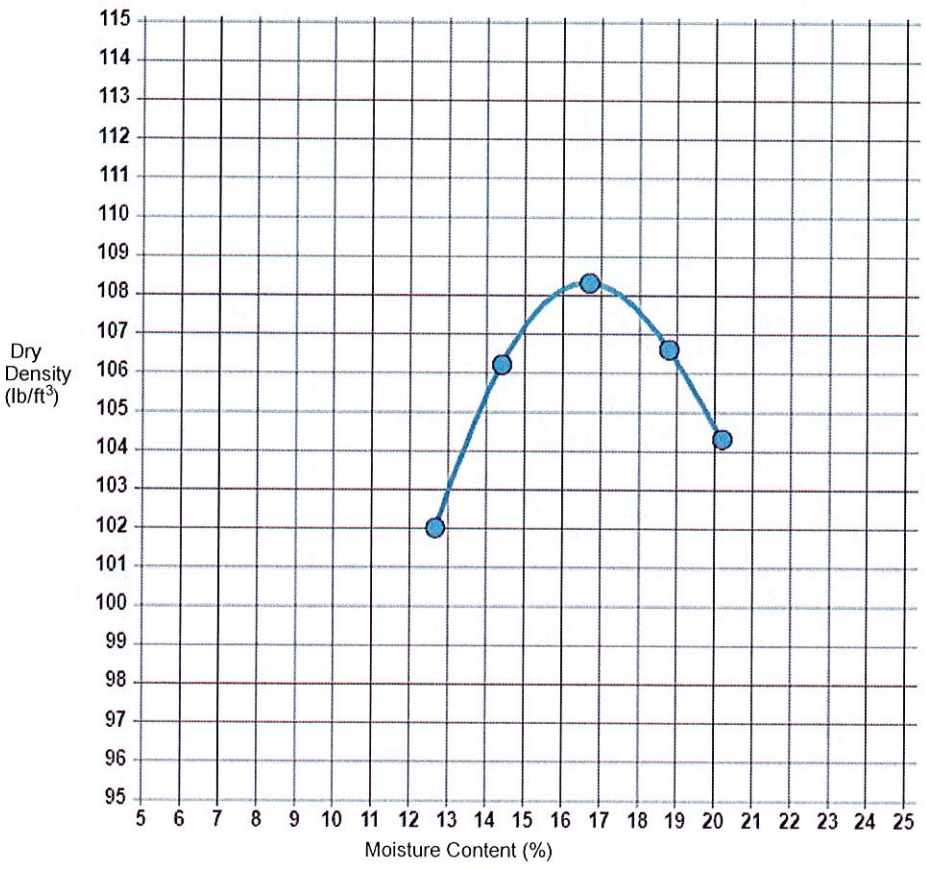
Group Sample Number:	3211	**Sample Date:**	04/22/2025
Sample From:	Boring	**Sampling Method:**	Auger Boring ASTM D1452
Location Details:	Sampled from On Site Boring	**Technician:**	Ben Thomason
Lab Number:	5532		

Test Results

Sample ID: B-2

Soil Description: Red silty clayey SAND

Compaction Method Used: A (ASTM D698)



Maximum Dry Density (lb/ft³):	108.3
Optimum Moisture Content (%):	16.6
Insitu Moisture Content (%):	25.6
Lab Technician:	Catherine Gingrich
Checked By:	Darren Bray

OASIS CONSULTING SERVICES

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678-739-2400

REPORT OF SOIL CLASSIFICATION TEST RESULTS

(ASTM D2487)

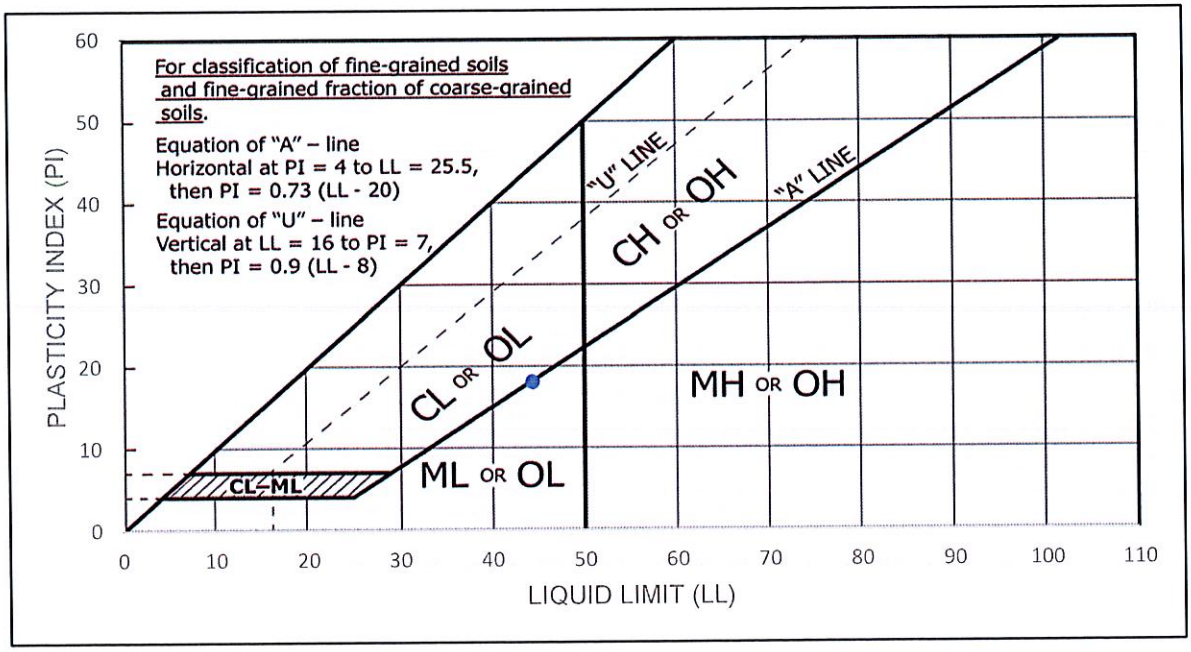
Client:	Arcadis	Test Date:	5/22/2025
Project Name:	South Fayette Water Plant	Lab Number:	5532
Project Number:	P25044.1	Techician:	JS/CG
Associated Tests:	ASTM D2216, ASTM D1140, ASTM D4318	USCS Class.[1]:	SC
Sample Number:	B-2	Boring:	2
Sample Description[2]:	Red silty clayey SAND	Depth:	4'-8'

[1] USCS Classification is based on the Atterberg Limit test and the Grain Size Analysis results.

[2] Sample description is based on a visual analysis.

Liquid Limit	44
Plastic Limit	26
Plasticity Index	18

Material Passing #200 (%)	46.6
Insitu Moisture Content (%)	25.6



Checked By: DB

(Test results only represent the material received by the laboratory and may or may not be applicable to the on site material)

OASIS CONSULTING SERVICES

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Report of Grain Size Analysis of Material Larger Than #200 Sieve

(ASTM D6913), (ASTM D1140)

Client	Arcadis		
Project Name	South Fayette Water Plant		
Project Number	P25044.1		
Date	5/22/2025	**Technician**	JS/CG
Sample #	B-2 (4'-8')	**Lab #**	5532
Classification	Red silty clayey SAND		

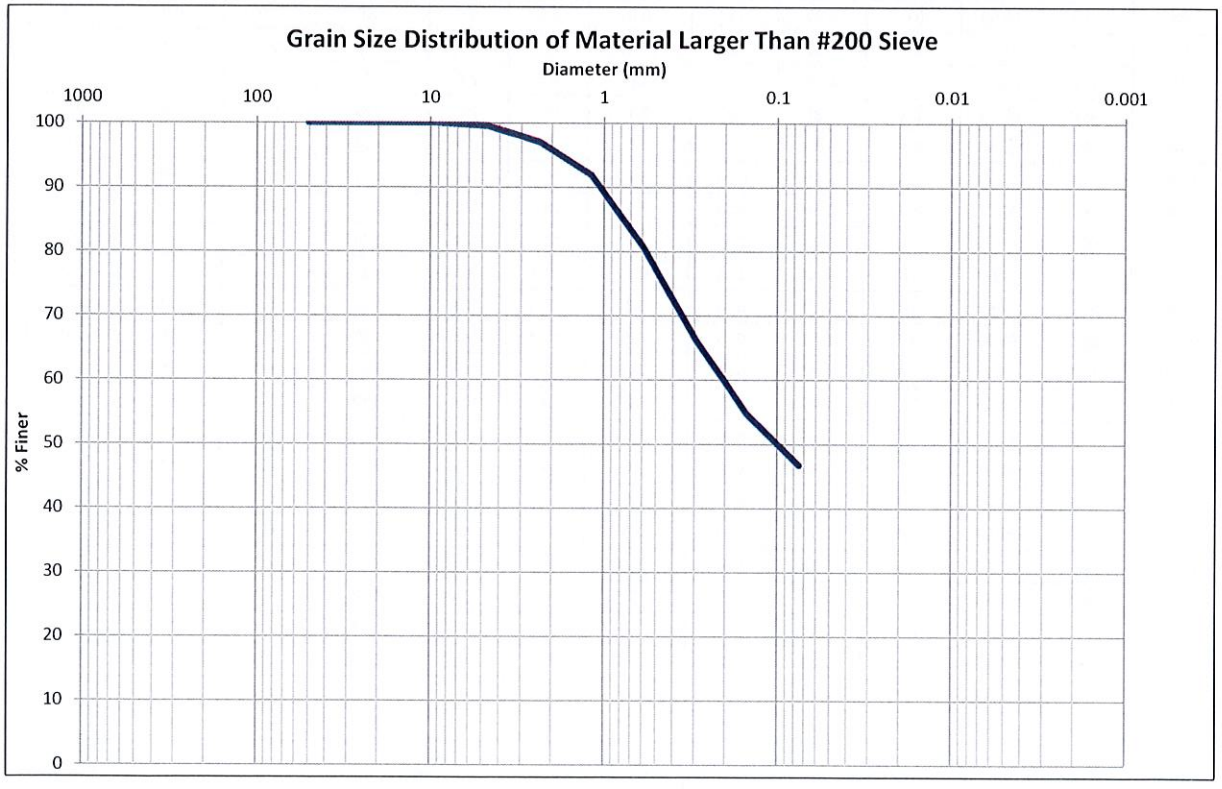
Sieve Analysis		
Sieve #	Diameter mm	Passing %
2	50.8	100.0
1.5	38.09	100.0
1	25.4	100.0
3/4	19.04	100.0
1/2	12.7	100.0
3/8	9.5	100.0
#4	4.75	99.5
#10	2.36	97.0
#20	1.18	91.8
#40	0.595	80.6
#60	0.297	66.4
#100	0.15	54.6
#200	0.075	46.6

Natural Moisture Content (%)
25.6

Wash #200 Soak Time (At least 120 min to the nearest 10 min)
960

Test Method		
A		B
		X

Initial Dry Mass (g)
174.98



Jun-19

Checked By: DB

(Test results only represent the material received by the laboratory and may or may not be applicable to the onsite material)

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Tested By	EB
Date	06/04/25
Checked By	KB

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.577	5.531
Diameter, in		2.849	2.825
Height-to-Diameter Ratio		2.0	2.0
Area, in^2		6.37	6.27
Volume, cm^3		582.61	568.02
Mass of Wet Sample, g		1093.30	1103.70
Mass of Dry Sample, g		850.78	850.78
Wet Density, pcf		117.1	121.3
Dry Density, pcf		91.2	93.5
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		315.10	315.10
Volume of Voids, cm^3		267.51	252.92
Void Ratio		0.85	0.80
% Saturation		90.7	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1093.30	1103.70
Mass of Dry Sample and Tare, g	850.78	850.78
Mass of Tare, g	0.00	0.00
Moisture, %	28.51	29.73

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	10.4
Machine Speed, in / min	0.0100
Strain Rate, % / min	0.18
Chamber Pressure, psi	85.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	5.0
Change in Height, in	0.046
"B" Value	0.95

SHEAR DATA

Elapsed Time (min)	Deformation Stage 1 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Total Strain Stage 1 (%)	Corrected Area (in^2)	Dev.Stress ($\Delta\sigma=\sigma_1-\sigma_3$) (psi)	Major Principal Stress, psi		Eff.Stress Ratio σ'_1/σ'_3	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress σ'_3 (psi)
			Total, U	Change,ΔU				Total σ_1	Eff. σ'_1				
0.0	0.000	19.8	80.00	0.0	0.00	6.27	0.0	5.0	5.0	1.00	5.0	0.0	5.0
0.5	0.005	45.7	81.80	1.8	0.09	6.27	4.1	9.1	7.3	2.29	5.3	2.1	3.2
1.0	0.010	50.0	82.18	2.2	0.18	6.28	4.8	9.8	7.6	2.71	5.2	2.4	2.8
1.5	0.015	52.0	82.38	2.4	0.27	6.28	5.1	10.1	7.7	2.96	5.2	2.6	2.6
2.0	0.020	54.5	82.53	2.5	0.36	6.29	5.5	10.5	8.0	3.23	5.2	2.8	2.5
2.5	0.025	55.4	82.59	2.6	0.45	6.30	5.7	10.7	8.1	3.35	5.2	2.8	2.4
3.0	0.030	57.0	82.67	2.7	0.54	6.30	5.9	10.9	8.2	3.53	5.3	3.0	2.3
3.5	0.035	58.6	82.75	2.8	0.63	6.31	6.2	11.2	8.4	3.73	5.3	3.1	2.3
4.0	0.040	60.1	82.82	2.8	0.72	6.31	6.4	11.4	8.6	3.93	5.4	3.2	2.2
5.0	0.050	63.0	82.90	2.9	0.90	6.32	6.8	11.8	8.9	4.25	5.5	3.4	2.1
6.0	0.060	66.0	82.99	3.0	1.08	6.34	7.3	12.3	9.3	4.63	5.7	3.6	2.0
7.0	0.070	68.9	83.01	3.0	1.27	6.35	7.7	12.7	9.7	4.89	5.9	3.9	2.0
8.0	0.080	71.8	83.05	3.1	1.45	6.36	8.2	13.2	10.1	5.19	6.0	4.1	2.0
9.0	0.090	74.6	83.07	3.1	1.63	6.37	8.6	13.6	10.5	5.46	6.2	4.3	1.9
10.0	0.100	77.5	83.07	3.1	1.81	6.38	9.0	14.0	11.0	5.68	6.5	4.5	1.9
11.0	0.110	80.3	83.05	3.1	1.99	6.39	9.5	14.5	11.4	5.85	6.7	4.7	2.0
12.0	0.120	83.0	83.01	3.0	2.17	6.41	9.9	14.9	11.9	5.96	6.9	4.9	2.0
13.0	0.130	85.7	82.98	3.0	2.35	6.42	10.3	15.3	12.3	6.08	7.2	5.1	2.0
14.0	0.140	88.5	82.92	2.9	2.53	6.43	10.7	15.7	12.8	6.14	7.4	5.3	2.1
15.0	0.150	91.3	82.87	2.9	2.71	6.44	11.1	16.1	13.2	6.21	7.7	5.5	2.1
16.0	0.160	93.8	82.82	2.8	2.89	6.45	11.5	16.5	13.6	6.26	7.9	5.7	2.2
17.0	0.170	96.3	82.74	2.7	3.07	6.47	11.8	16.8	14.1	6.24	8.2	5.9	2.3
18.0	0.180	98.6	82.65	2.7	3.25	6.48	12.2	17.2	14.5	6.18	8.4	6.1	2.3
Values @ Failure			2.8	2.89	6.45	11.5	16.5	13.6	6.26	7.9	5.7	2.2	

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

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ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.351	5.387
Diameter, in		2.872	2.846
Height-to-Diameter Ratio		1.9	1.9
Area, in^2		6.48	6.36
Volume, cm^3		568.02	561.62
Mass of Wet Sample, g		1103.70	1097.30
Mass of Dry Sample, g		850.78	850.78
Wet Density, pcf		121.3	122.0
Dry Density, pcf		93.5	94.6
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		315.10	315.10
Volume of Voids, cm^3		252.92	246.52
Void Ratio		0.80	0.78
% Saturation		100.0	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1103.70	1097.30
Mass of Dry Sample and Tare, g	850.78	850.78
Mass of Tare, g	0.00	0.00
Moisture, %	29.73	28.98

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	-6.4
Machine Speed, in / min	0.0100
Strain Rate, % / min	0.19
Chamber Pressure, psi	90.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	10.0
Change in Height, in	-0.036
"B" Value	0.95

SHEAR DATA

Deformation Stage 2 (inch)	Total Deformation ST.1 + ST.2 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Strain Stage 2 %	Corrected Area (in^2)	Dev.Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Effective Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress	Total Strain ST.1 + ST.2 %
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)	
0.000	0.144	21.8	80.00	0.0	0.00	6.36	0.0	10.0	10.0	1.00	10.0	0.0	10.0	2.60
0.005	0.149	58.6	82.40	2.4	0.09	6.37	5.8	15.8	13.4	1.76	10.5	2.9	7.6	2.69
0.010	0.154	70.4	83.25	3.3	0.19	6.37	7.6	17.6	14.4	2.13	10.6	3.8	6.8	2.78
0.015	0.159	78.4	83.77	3.8	0.28	6.38	8.9	18.9	15.1	2.42	10.7	4.4	6.2	2.87
0.020	0.164	84.3	84.11	4.1	0.37	6.39	9.8	19.8	15.7	2.66	10.8	4.9	5.9	2.97
0.025	0.169	90.1	84.40	4.4	0.46	6.39	10.7	20.7	16.3	2.91	10.9	5.3	5.6	3.06
0.030	0.174	95.3	84.62	4.6	0.56	6.40	11.5	21.5	16.9	3.14	11.1	5.7	5.4	3.15
0.035	0.179	100.3	84.84	4.8	0.65	6.40	12.3	22.3	17.4	3.38	11.3	6.1	5.2	3.24
0.040	0.184	104.8	85.00	5.0	0.74	6.41	12.9	22.9	17.9	3.59	11.5	6.5	5.0	3.33
0.050	0.194	110.2	85.14	5.1	0.93	6.42	13.8	23.8	18.6	3.83	11.7	6.9	4.9	3.51
0.060	0.204	115.8	85.26	5.3	1.11	6.43	14.6	24.6	19.4	4.08	12.0	7.3	4.7	3.69
0.070	0.214	119.8	85.28	5.3	1.30	6.45	15.2	25.2	19.9	4.22	12.3	7.6	4.7	3.87
0.080	0.224	123.5	85.26	5.3	1.49	6.46	15.7	25.7	20.5	4.32	12.6	7.9	4.7	4.05
0.090	0.234	126.5	85.22	5.2	1.67	6.47	16.2	26.2	21.0	4.39	12.9	8.1	4.8	4.23
0.100	0.244	129.3	85.16	5.2	1.86	6.48	16.6	26.6	21.4	4.43	13.1	8.3	4.8	4.41
0.110	0.254	131.8	85.08	5.1	2.04	6.49	16.9	26.9	21.9	4.44	13.4	8.5	4.9	4.59
0.120	0.264	134.3	85.00	5.0	2.23	6.51	17.3	27.3	22.3	4.46	13.6	8.6	5.0	4.77
0.130	0.274	136.4	84.90	4.9	2.41	6.52	17.6	27.6	22.7	4.45	13.9	8.8	5.1	4.95
0.140	0.284	138.4	84.80	4.8	2.60	6.53	17.9	27.9	23.1	4.43	14.1	8.9	5.2	5.13
Values @ Failure			5.0		2.23	6.51	17.3	27.3	22.3	4.46	13.6	8.6	5.0	4.77

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

TIMELY ENGINEERING SOIL TESTS, LLC

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AASHTO ACCREDITED

Tested By	EB
Date	06/05/25
Checked By	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.247	5.287
Diameter, in		2.884	2.849
Height-to-Diameter Ratio		1.8	1.9
Area, in^2		6.53	6.37
Volume, cm^3		561.62	552.22
Mass of Wet Sample, g		1097.30	1087.90
Mass of Dry Sample, g		850.78	850.78
Wet Density, pcf		122.0	123.0
Dry Density, pcf		94.6	96.2
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		315.10	315.10
Volume of Voids, cm^3		246.52	237.12
Void Ratio		0.78	0.75
% Saturation		100.0	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1097.30	1365.30
Mass of Dry Sample and Tare, g	850.78	1128.20
Mass of Tare, g	0.00	277.50
Moisture, %	28.98	27.87

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	-9.4
Machine Speed, in / min	0.01000
Strain Rate, % / min	0.19
Chamber Pressure, psi	100.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	20.0
Change in Height, in	-0.040
"B" Value	0.95

SHEAR DATA

Deformation Stage 3 (inch)	Total Deformation ST.1 + ST.2 + ST.3 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Strain Stage 3 %	Corrected Area (in^2)	Deviator Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Effective Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress	Total Strain ST.1 + ST.2 + ST.3, %
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)	
0.000	0.244	32.0	80.00	0.0	0.00	6.37	0.0	20.0	20.0	1.00	20.0	0.0	20.0	4.41
0.010	0.254	105.8	86.27	6.3	0.19	6.39	11.5	31.5	25.3	1.84	19.5	5.8	13.7	4.60
0.020	0.264	129.0	88.23	8.2	0.39	6.40	15.2	35.2	26.9	2.29	19.4	7.6	11.8	4.78
0.031	0.275	144.9	89.27	9.3	0.58	6.41	17.6	37.6	28.3	2.64	19.5	8.8	10.7	4.96
0.041	0.285	157.1	89.98	10.0	0.77	6.42	19.5	39.5	29.5	2.94	19.8	9.7	10.0	5.15
0.051	0.295	166.2	90.42	10.4	0.96	6.44	20.8	40.8	30.4	3.18	20.0	10.4	9.6	5.33
0.071	0.315	179.1	90.85	10.8	1.35	6.46	22.8	42.8	31.9	3.49	20.5	11.4	9.2	5.70
0.102	0.346	190.7	90.93	10.9	1.93	6.50	24.4	44.4	33.5	3.69	21.3	12.2	9.1	6.25
0.122	0.366	196.3	90.83	10.8	2.31	6.52	25.2	45.2	34.4	3.74	21.8	12.6	9.2	6.62
0.153	0.397	203.2	90.58	10.6	2.89	6.56	26.1	46.1	35.5	3.77	22.5	13.0	9.4	7.18
0.173	0.417	207.2	90.42	10.4	3.28	6.59	26.6	46.6	36.2	3.78	22.9	13.3	9.6	7.54
0.204	0.448	212.7	90.12	10.1	3.86	6.63	27.3	47.3	37.1	3.76	23.5	13.6	9.9	8.10
0.234	0.478	217.5	89.84	9.8	4.43	6.67	27.8	47.8	38.0	3.74	24.1	13.9	10.2	8.65
0.265	0.509	221.4	89.54	9.5	5.01	6.71	28.2	48.2	38.7	3.70	24.6	14.1	10.5	9.20
0.285	0.529	223.8	89.33	9.3	5.40	6.74	28.5	48.5	39.1	3.67	24.9	14.2	10.7	9.57
0.316	0.560	227.7	89.11	9.1	5.98	6.78	28.9	48.9	39.8	3.65	25.3	14.4	10.9	10.12
0.367	0.611	233.9	88.89	8.9	6.94	6.85	29.5	49.5	40.6	3.65	25.9	14.7	11.1	11.04
0.418	0.662	240.0	88.53	8.5	7.90	6.92	30.1	50.1	41.5	3.62	26.5	15.0	11.5	11.97
0.479	0.723	246.4	88.08	8.1	9.06	7.01	30.6	50.6	42.5	3.57	27.2	15.3	11.9	13.07
0.530	0.774	251.6	87.74	7.7	10.02	7.08	31.0	51.0	43.3	3.53	27.8	15.5	12.3	13.99
0.550	0.794	253.6	87.60	7.6	10.41	7.11	31.2	51.2	43.6	3.51	28.0	15.6	12.4	14.36
0.581	0.825	256.4	87.40	7.4	10.99	7.16	31.3	51.3	43.9	3.49	28.3	15.7	12.6	14.91
0.600	0.844	258.2	87.28	7.3	11.35	7.19	31.5	51.5	44.2	3.47	28.5	15.7	12.7	15.26
Values @ Failure					10.4	3.28	6.59	26.6	46.6	36.2	3.78	22.9	13.3	9.6	7.54

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

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AASHTO ACCREDITED

Tested By	EB
Date	06/05/25
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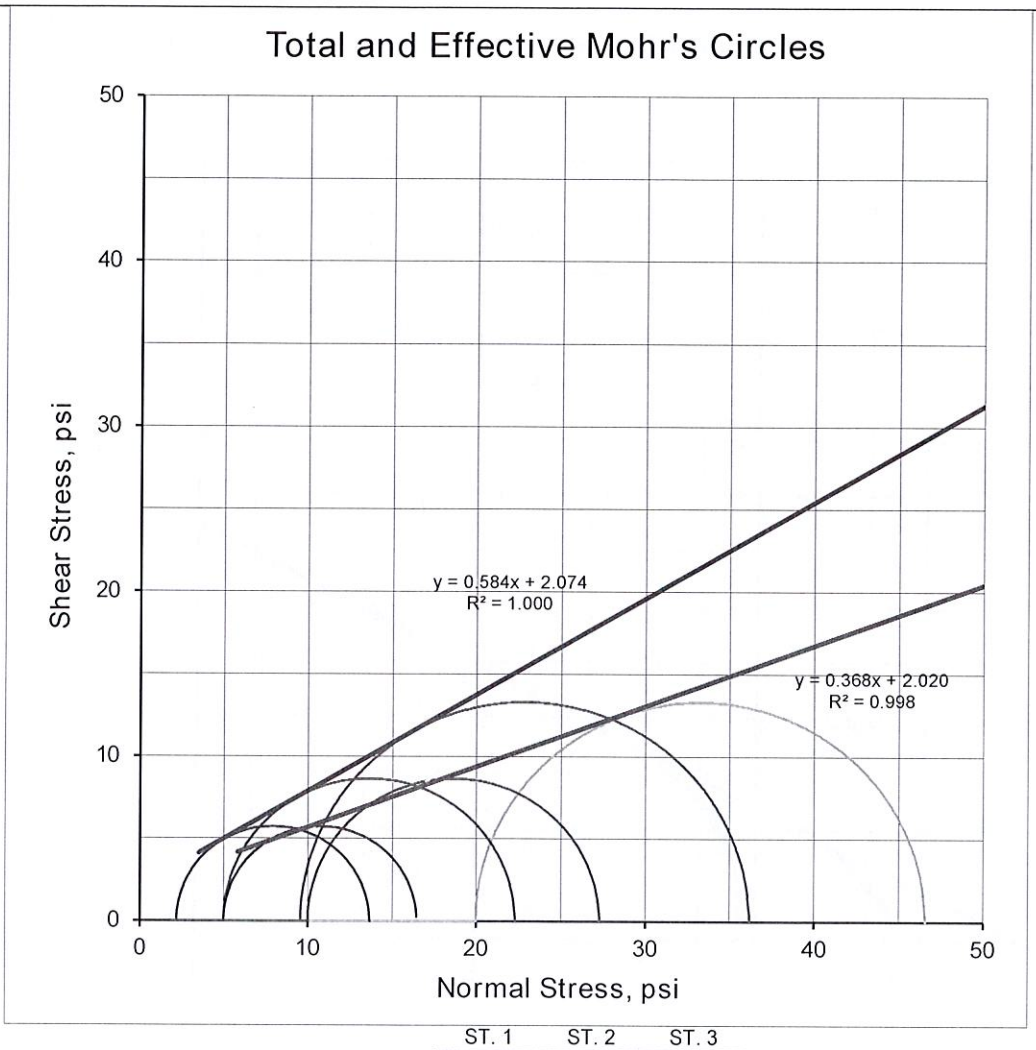
ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-



	ST. 1	ST. 2	ST. 3
Effective Consolidation Stress, psi	5.0	10.0	20.0
Deviator Stress at Failure, psi	11.5	17.3	26.6
Effective Minor Principal Stress at Failure, psi	2.2	5.0	9.6
Effective Major Principal Stress at Failure, psi	13.6	22.3	36.2
Axial Strain at Failure, %	2.89	2.23	3.28

STRENGTH PARAMETERS*			
Total		Effective	
ϕ °	20.2	ϕ' °	30.3
C, psi	2.0	C', psi	2.1

*Valid only for Received Material at Reported Densities and Moisture Contents. Please see remarks on page 6 of this report

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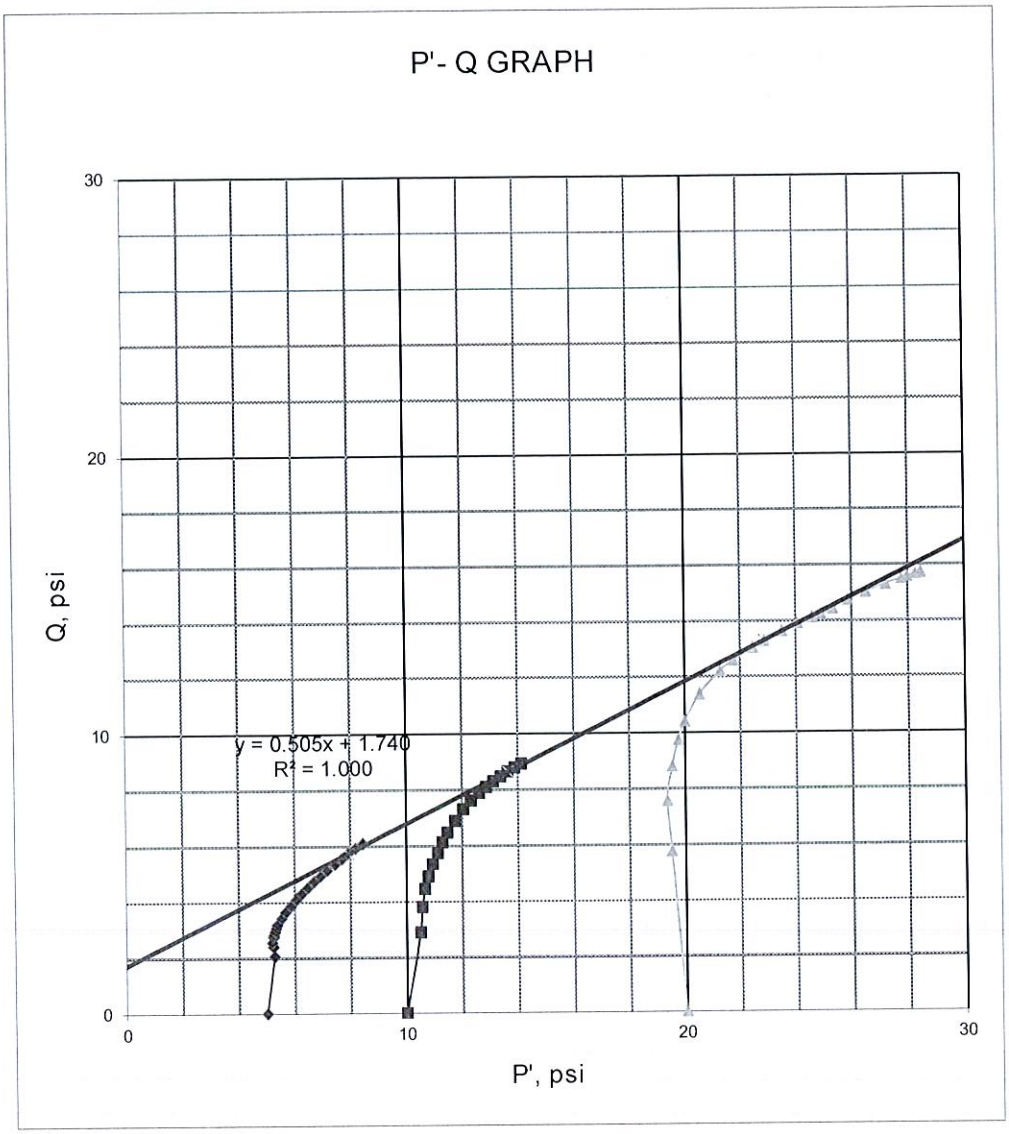
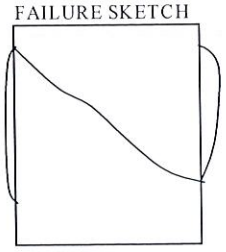
Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-



FAILURE SKETCH



a, psi	1.7
α, degree	26.8

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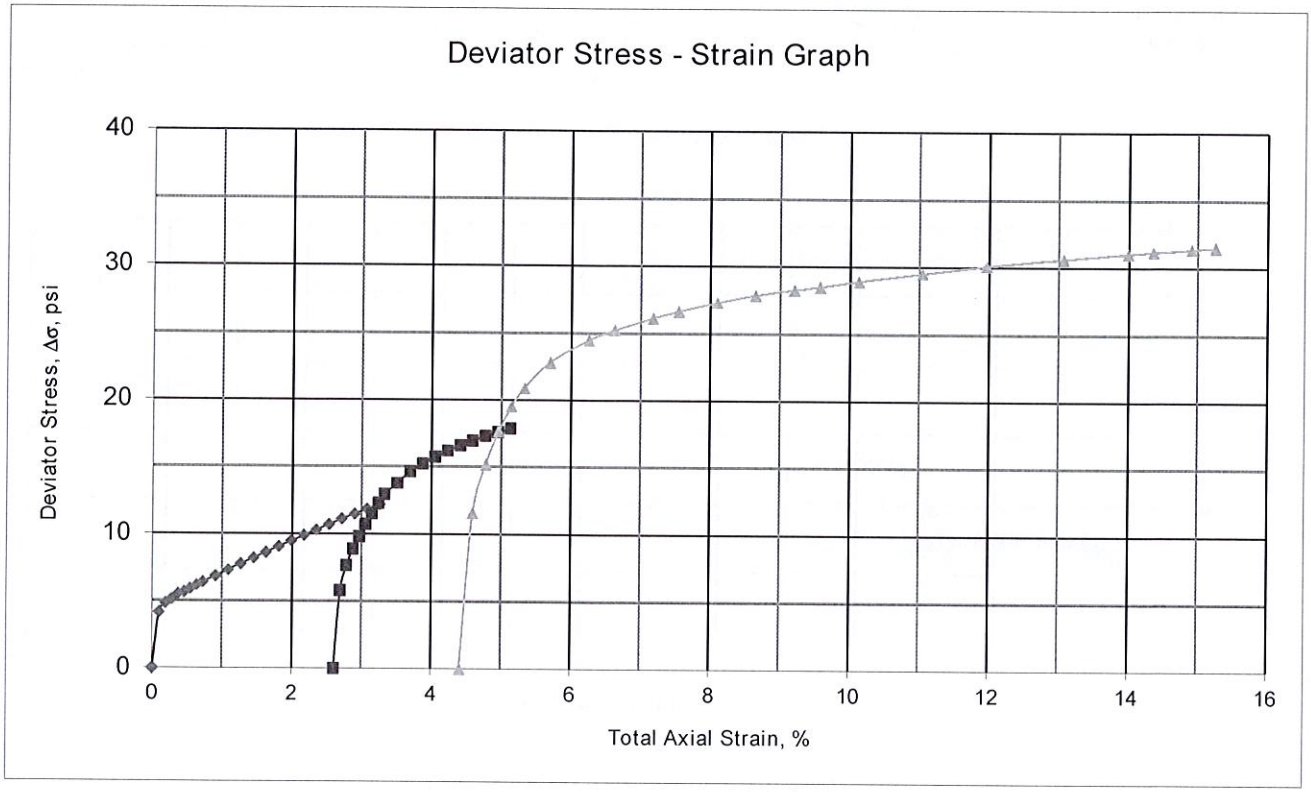
Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-



		REMARKS	DESCRIPTION
Balance ID Number	563/700	Material from shelby tube was not homogeneous and/or not long enough to select 3 uniform specimens 6" long each. Most representative portion of sample (3" above the bottom of shelby tube) was selected for multi-stage triaxial testing (per ASTM STP 883).	NA
Oven ID Number	496/610		
Deformation Indicator ID #	178/349/689		
Digital Caliper ID #	370/458		
Load Cell ID #	11/347/692		
Apparatus ID #	10/293/693		

NOTES:
1. Method for Saturation
2. Method for determination of cross-sectional area after consol.
3. Final moisture content (Stage 3) obtained from entire sample

WET	
B	

LL	-
PL	-
PI	-
Gs	-

USCS (ASTM D2487: D2488)
NA

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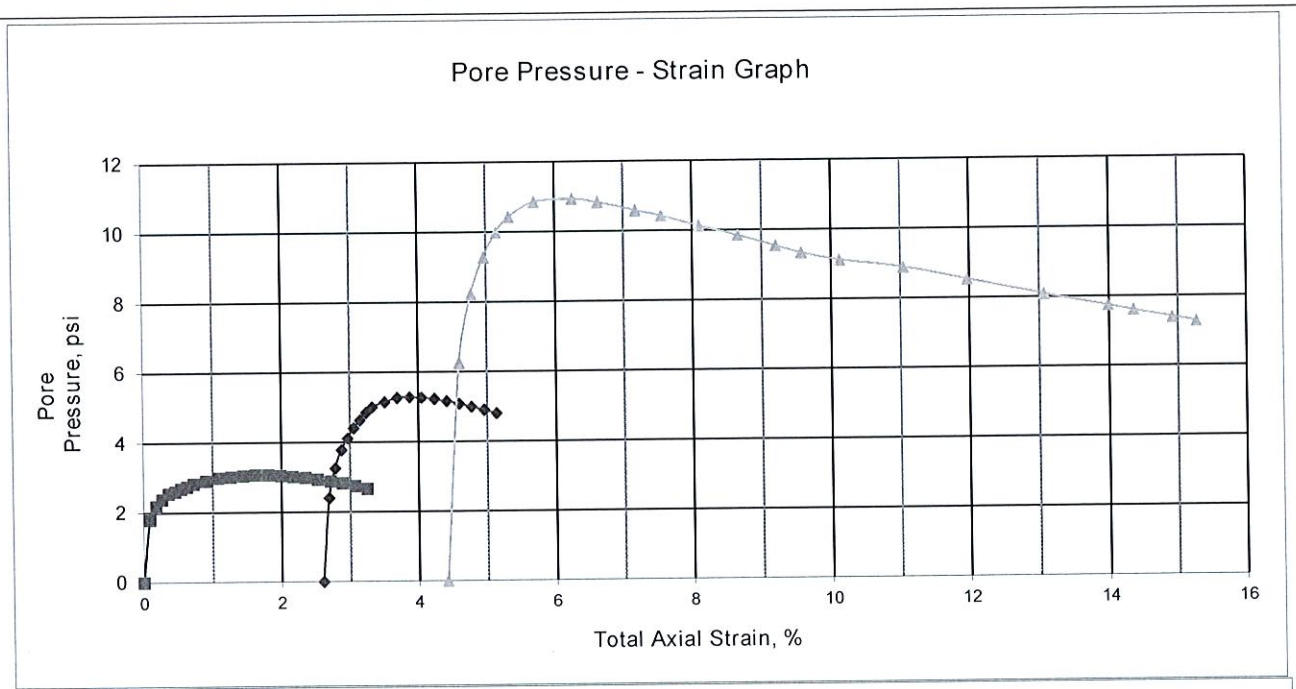
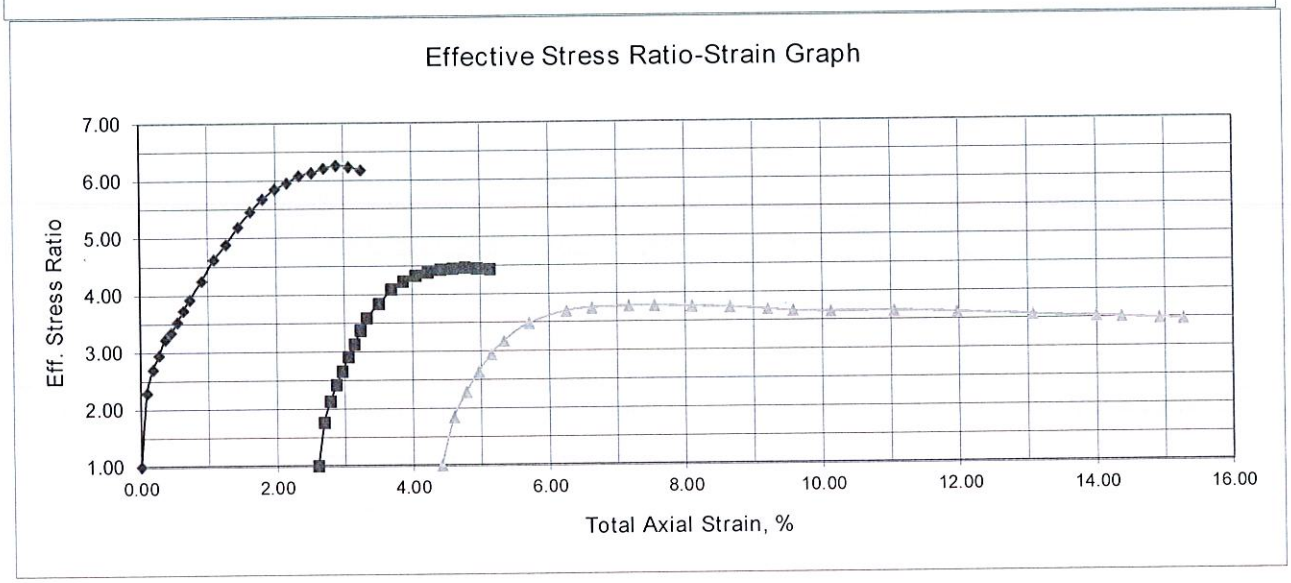
Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53006/B-2	Depth/Elev.	-
Location	-	Additional Info	-





OASIS CONSULTING SERVICES

45 Woodstock Street
Roswell, GA 30075
Phone: 678-739-2400

Moisture-Density Relationship

ASTM D698

Client:	Project:
Arcadis 2839 Paces Ferry Road SE Suite 900 Atlanta, GA 30339	P25044.2 Crosstown Water Treatment Plant 3500 Tdk Blvd Peachtree City, GA

General Information

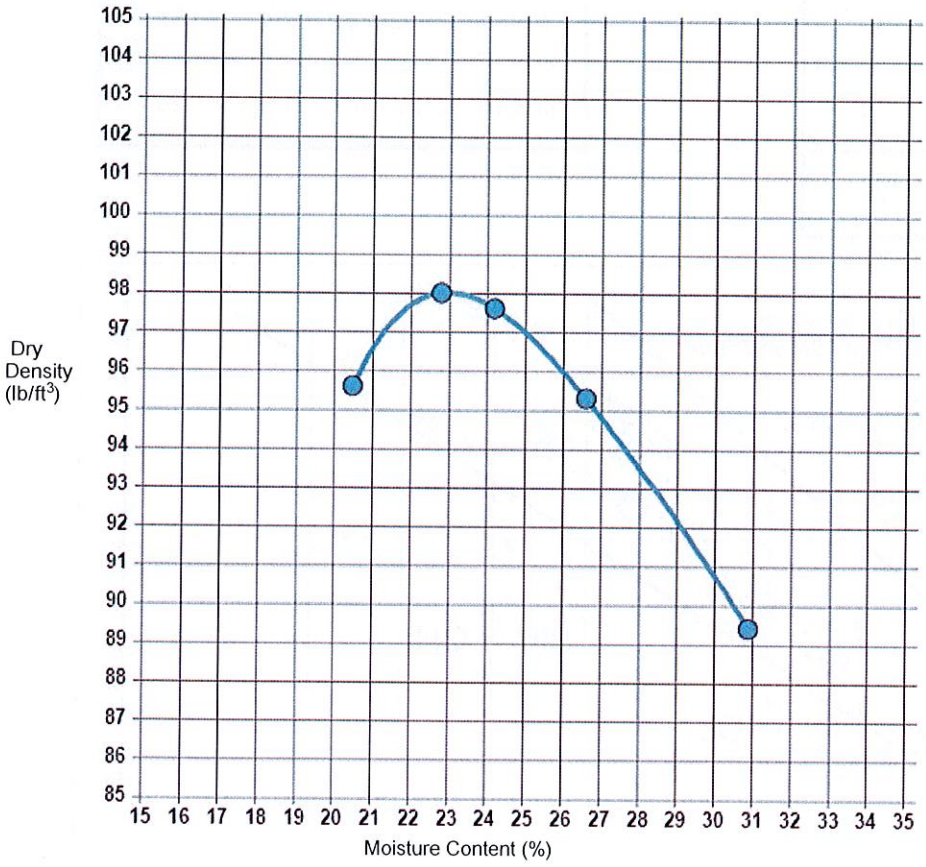
Group Sample Number:	3212	**Sample Date:**	05/22/2025
Sample From:	Boring	**Sampling Method:**	Auger Boring ASTM D1452
Location Details:	Sampled from On Site Boring.	**Technician:**	Ben Thomason
Lab Number:	5539		

Test Results

Sample ID: B-3

Soil Description: Red sandy SILT

Compaction Method Used: A (ASTM D698)



Maximum Dry Density (lb/ft³):	98.0
Optimum Moisture Content (%):	23.0
Insitu Moisture Content (%):	28.6
Lab Technician:	Catherine Gingrich
Checked By:	Darren Bray

OASIS CONSULTING SERVICES

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678-739-2400

REPORT OF SOIL CLASSIFICATION TEST RESULTS

(ASTM D2487)

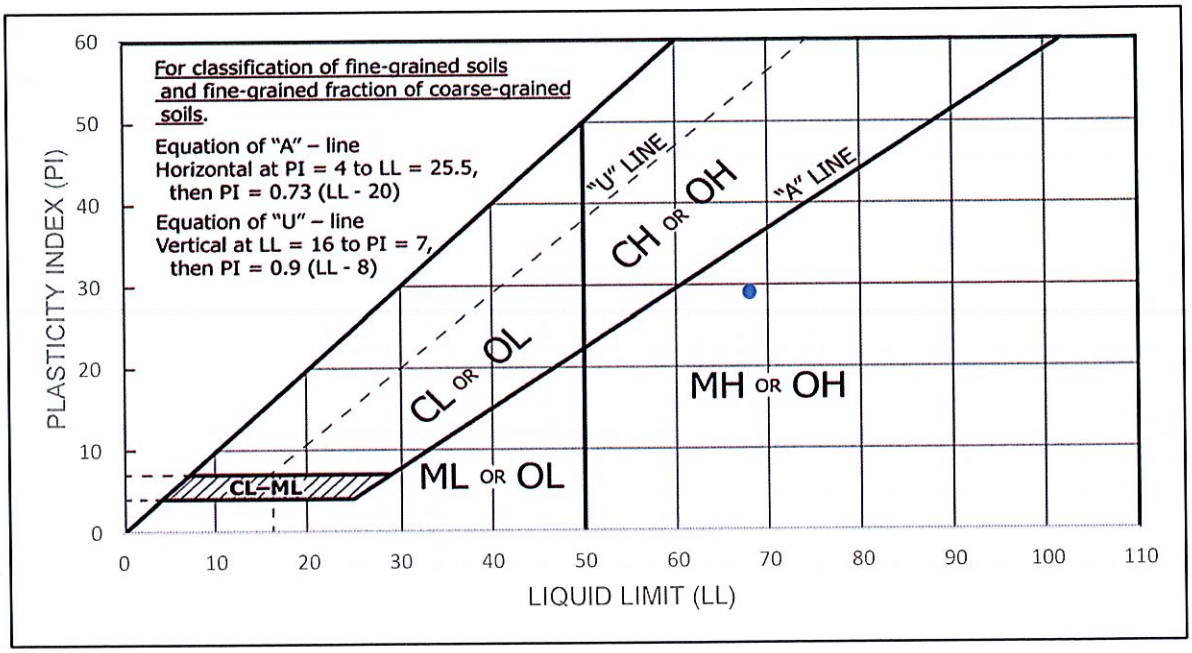
Client:	Arcadis	Test Date:	5/22/2025
Project Name:	Crosstown Water Treatment Plant	Lab Number:	5539
Project Number:	P25044.2	Techician:	JS/CG
Associated Tests:	ASTM D2216, ASTM D1140, ASTM D4318	USCS Class.[1]:	MH
Sample Number:	B-3	Boring:	3
Sample Description[2]:	Red sandy SILT	Depth:	4'-8'

[1] USCS Classification is based on the Atterberg Limit test and the Grain Size Analysis results.

[2] Sample description is based on a visual analysis.

Liquid Limit	68
Plastic Limit	39
Plasticity Index	29

Material Passing #200 (%)	67.5
Insitu Moisture Content (%)	28.1



Checked By: DB

(Test results only represent the material received by the laboratory and may or may not be applicable to the on site material)

OASIS CONSULTING SERVICES

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Roswell, Georgia 30075
678-739-2400

Report of Grain Size Analysis of Material Larger Than #200 Sieve

(ASTM D6913), (ASTM D1140)

Client	Arcadis		
Project Name	Crosstown Water Treatment Plant		
Project Number	P25044.2		
Date	5/22/2025	**Technician**	JS/CG
Sample #	B-3 (4'-8')	**Lab #**	5539
Classification	Red sandy SILT		

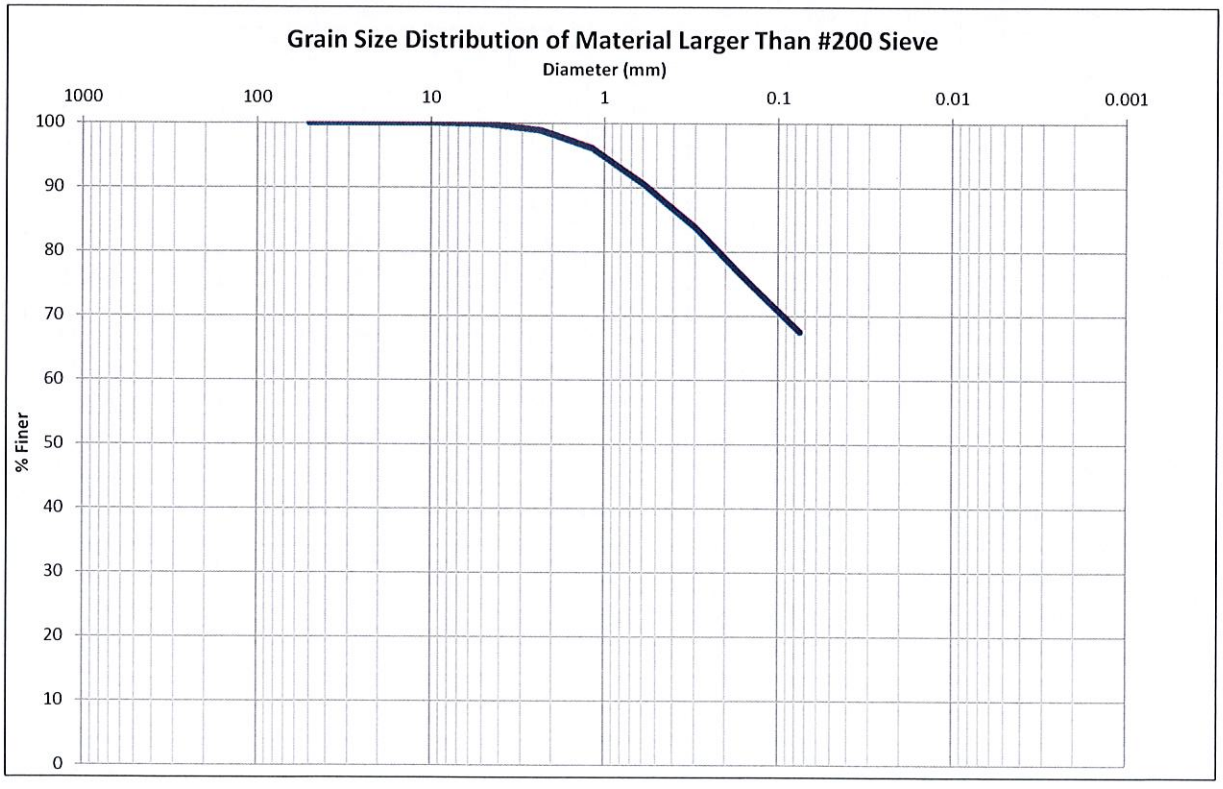
Sieve Analysis		
Sieve #	Diameter mm	Passing %
2	50.8	100.0
1.5	38.09	100.0
1	25.4	100.0
3/4	19.04	100.0
1/2	12.7	100.0
3/8	9.5	100.0
#4	4.75	99.8
#10	2.36	98.9
#20	1.18	96.1
#40	0.595	90.5
#60	0.297	83.7
#100	0.15	75.4
#200	0.075	67.5

Natural Moisture Content (%)
28.1

Wash #200 Soak Time (At least 120 min to the nearest 10 min)
960

Test Method		
A		B
		X

Initial Dry Mass (g)
164.18



Jun-19

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(Test results only represent the material received by the laboratory and may or may not be applicable to the onsite material)

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Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53007/B-3	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.571	5.526
Diameter, in		2.864	2.864
Height-to-Diameter Ratio		1.9	1.9
Area, in^2		6.44	6.44
Volume, cm^3		588.13	583.40
Mass of Wet Sample, g		1053.80	1067.80
Mass of Dry Sample, g		769.35	769.35
Wet Density, pcf		111.9	114.3
Dry Density, pcf		81.7	82.3
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		284.94	284.94
Volume of Voids, cm^3		303.18	298.45
Void Ratio		1.06	1.05
% Saturation		93.8	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1053.80	1067.80
Mass of Dry Sample and Tare, g	769.35	769.35
Mass of Tare, g	0.00	0.00
Moisture, %	36.97	38.79

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	14.0
Machine Speed, in / min	0.0100
Strain Rate, % / min	0.18
Chamber Pressure, psi	85.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	5.0
Change in Height, in	0.045
"B" Value	0.95

SHEAR DATA

Elapsed Time (min)	Deformation Stage 1 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Total Strain Stage 1 (%)	Corrected Area (in^2)	Dev.Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Eff.Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)
0.0	0.000	19.0	80.00	0.0	0.00	6.44	0.0	5.0	5.0	1.00	5.0	0.0	5.0
0.5	0.005	39.7	80.98	1.0	0.09	6.45	3.2	8.2	7.2	1.80	5.6	1.6	4.0
1.0	0.010	45.8	81.32	1.3	0.18	6.45	4.2	9.2	7.8	2.13	5.8	2.1	3.7
1.5	0.015	49.0	81.52	1.5	0.27	6.46	4.6	9.6	8.1	2.33	5.8	2.3	3.5
2.0	0.020	51.6	81.65	1.7	0.36	6.47	5.0	10.0	8.4	2.51	5.9	2.5	3.3
2.5	0.025	54.1	81.77	1.8	0.45	6.47	5.4	10.4	8.7	2.68	5.9	2.7	3.2
3.0	0.030	56.5	81.86	1.9	0.54	6.48	5.8	10.8	8.9	2.84	6.0	2.9	3.1
3.5	0.035	58.7	81.94	1.9	0.63	6.48	6.1	11.1	9.2	3.00	6.1	3.1	3.1
4.0	0.040	60.7	82.00	2.0	0.72	6.49	6.4	11.4	9.4	3.14	6.2	3.2	3.0
5.0	0.050	64.5	82.08	2.1	0.90	6.50	7.0	12.0	9.9	3.40	6.4	3.5	2.9
6.0	0.060	68.2	82.14	2.1	1.09	6.51	7.6	12.6	10.4	3.64	6.6	3.8	2.9
7.0	0.070	71.6	82.14	2.1	1.27	6.53	8.1	13.1	10.9	3.82	6.9	4.0	2.9
8.0	0.080	74.8	82.14	2.1	1.45	6.54	8.5	13.5	11.4	3.98	7.1	4.3	2.9
9.0	0.090	77.5	82.12	2.1	1.63	6.55	8.9	13.9	11.8	4.10	7.3	4.5	2.9
10.0	0.100	80.1	82.08	2.1	1.81	6.56	9.3	14.3	12.2	4.19	7.6	4.7	2.9
11.0	0.110	82.3	82.01	2.0	1.99	6.57	9.6	14.6	12.6	4.22	7.8	4.8	3.0
12.0	0.120	84.6	81.95	2.0	2.17	6.59	10.0	15.0	13.0	4.27	8.0	5.0	3.1
13.0	0.130	86.3	81.89	1.9	2.35	6.60	10.2	15.2	13.3	4.28	8.2	5.1	3.1
14.0	0.140	87.9	81.82	1.8	2.53	6.61	10.4	15.4	13.6	4.28	8.4	5.2	3.2
15.0	0.150	89.5	81.73	1.7	2.71	6.62	10.6	15.6	13.9	4.26	8.6	5.3	3.3

Values @ Failure	1.9	2.35	6.60	10.2	15.2	13.3	4.28	8.2	5.1	3.1
Failure criteria used*	3									

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

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AASHTO ACCREDITED

Tested By	EB
Date	06/04/25
Checked By	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53007/B-3	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.376	5.414
Diameter, in		2.904	2.878
Height-to-Diameter Ratio		1.9	1.9
Area, in^2		6.62	6.51
Volume, cm^3		583.40	577.20
Mass of Wet Sample, g		1067.80	1061.60
Mass of Dry Sample, g		769.35	769.35
Wet Density, pcf		114.3	114.8
Dry Density, pcf		82.3	83.2
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		284.94	284.94
Volume of Voids, cm^3		298.45	292.25
Void Ratio		1.05	1.03
% Saturation		100.0	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1067.80	1061.60
Mass of Dry Sample and Tare, g	769.35	769.35
Mass of Tare, g	0.00	0.00
Moisture, %	38.79	37.99

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	-6.2
Machine Speed, in / min	0.0100
Strain Rate, % / min	0.18
Chamber Pressure, psi	90.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	10.0
Change in Height, in	-0.038
"B" Value	0.95

SHEAR DATA

Deformation Stage 2 (inch)	Total Deformation ST.1 + ST.2 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Strain Stage 2 %	Corrected Area (in^2)	Dev.Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Effective Stress Ratio	P' $(\sigma'_1+\sigma'_3)/2$ (psi)	Q $(\sigma_1-\sigma_3)/2$ (psi)	Eff. Minor Pr. Stress	Total Strain ST.1 + ST.2 %
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)	
0.000	0.112	22.4	80.00	0.0	0.00	6.51	0.0	10.0	10.0	1.00	10.0	0.0	10.0	2.03
0.005	0.117	48.4	81.66	1.7	0.09	6.51	4.0	14.0	12.3	1.48	10.3	2.0	8.3	2.12
0.010	0.122	60.9	82.58	2.6	0.18	6.52	5.9	15.9	13.3	1.80	10.4	3.0	7.4	2.21
0.015	0.127	69.2	83.20	3.2	0.28	6.52	7.2	17.2	14.0	2.05	10.4	3.6	6.8	2.30
0.020	0.132	75.5	83.56	3.6	0.37	6.53	8.1	18.1	14.6	2.26	10.5	4.1	6.4	2.39
0.025	0.137	81.5	83.89	3.9	0.46	6.54	9.0	19.0	15.2	2.48	10.6	4.5	6.1	2.48
0.030	0.142	87.0	84.17	4.2	0.55	6.54	9.9	19.9	15.7	2.69	10.8	4.9	5.8	2.57
0.035	0.147	91.8	84.40	4.4	0.65	6.55	10.6	20.6	16.2	2.89	10.9	5.3	5.6	2.66
0.040	0.152	95.7	84.56	4.6	0.74	6.55	11.2	21.2	16.6	3.06	11.0	5.6	5.4	2.75
0.050	0.162	101.7	84.79	4.8	0.92	6.57	12.1	22.1	17.3	3.32	11.2	6.0	5.2	2.93
0.060	0.172	106.2	84.94	4.9	1.11	6.58	12.7	22.7	17.8	3.52	11.4	6.4	5.1	3.11
0.070	0.182	109.2	85.02	5.0	1.29	6.59	13.2	23.2	18.1	3.64	11.6	6.6	5.0	3.29
0.080	0.192	111.8	85.05	5.1	1.48	6.60	13.5	23.5	18.5	3.74	11.7	6.8	5.0	3.47
0.090	0.202	113.6	85.06	5.1	1.66	6.62	13.8	23.8	18.7	3.79	11.8	6.9	4.9	3.66
0.100	0.212	115.4	85.04	5.0	1.85	6.63	14.0	24.0	19.0	3.83	12.0	7.0	5.0	3.84
0.110	0.222	116.9	85.02	5.0	2.03	6.64	14.2	24.2	19.2	3.86	12.1	7.1	5.0	4.02
0.120	0.232	118.3	84.98	5.0	2.22	6.65	14.4	24.4	19.4	3.87	12.2	7.2	5.0	4.20
0.130	0.242	119.6	84.93	4.9	2.40	6.67	14.6	24.6	19.7	3.88	12.4	7.3	5.1	4.38
0.140	0.252	120.7	84.88	4.9	2.59	6.68	14.7	24.7	19.8	3.87	12.5	7.4	5.1	4.56
0.150	0.262	121.8	84.81	4.8	2.77	6.69	14.9	24.9	20.0	3.86	12.6	7.4	5.2	4.74
Values @ Failure			4.9	2.40	6.67	14.6	24.6	19.7	3.88	12.4	7.3	5.1	4.38	

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

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AASHTO ACCREDITED

Tested By	EB
Date	06/05/25
Checked By	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53007/B-3	Depth/Elev.	-
Location	-	Additional Info	-

SPECIMEN PROPERTIES

		(initial)	(after consol.)
Height, in		5.264	5.299
Diameter, in		2.919	2.884
Height-to-Diameter Ratio		1.8	1.8
Area, in^2		6.69	6.53
Volume, cm^3		577.20	567.40
Mass of Wet Sample, g		1061.60	1051.80
Mass of Dry Sample, g		769.35	769.35
Wet Density, pcf		114.8	115.7
Dry Density, pcf		83.2	84.6
Specific Gravity	(assumed)	2.700	2.700
Volume of Solids, cm^3		284.94	284.94
Volume of Voids, cm^3		292.25	282.45
Void Ratio		1.03	0.99
% Saturation		100.0	100.0

WATER CONTENT DETERMINATION

	(initial)	(final)
Mass of Wet Sample and Tare, g	1061.60	1330.90
Mass of Dry Sample and Tare, g	769.35	1048.50
Mass of Tare, g	0.00	279.30
Moisture, %	37.99	36.71

TEST DATA PRIOR TO LOADING

Volume change (Consolidation), ml	-9.8
Machine Speed, in / min	0.01000
Strain Rate, % / min	0.19
Chamber Pressure, psi	100.0
Back Pressure, psi	80.0
Eff. Consol. Stress,(Minor pr. stress, σ_3),psi	20.0
Change in Height, in	-0.035
"B" Value	0.95

SHEAR DATA

Deformation Stage 3 (inch)	Total Deformation ST.1 + ST.2 + ST.3 (inch)	Axial Load (lb)	Pore-Water Pressure, psi		Strain Stage 3 %	Corrected Area (in^2)	Deviator Stress ($\Delta\sigma=\sigma_1-\sigma_3$)	Major Principal Stress, psi		Effective Stress Ratio	P' ($\sigma'_1+\sigma'_3$)/2 (psi)	Q ($\sigma_1-\sigma_3$)/2 (psi)	Eff. Minor Pr. Stress	Total Strain ST.1 + ST.2 + ST.3, %
			Total, U	Change,ΔU			(psi)	Total σ_1	Eff. σ'_1	σ'_1/σ'_3			σ'_3 (psi)	
0.000	0.227	35.0	80.00	0.0	0.00	6.53	0.0	20.0	20.0	1.00	20.0	0.0	20.0	4.11
0.010	0.237	98.8	84.82	4.8	0.19	6.55	9.7	29.7	24.9	1.64	20.1	4.9	15.2	4.29
0.020	0.247	121.2	86.92	6.9	0.38	6.56	13.1	33.1	26.2	2.00	19.7	6.6	13.1	4.48
0.031	0.258	136.6	88.19	8.2	0.58	6.57	15.5	35.5	27.3	2.31	19.5	7.7	11.8	4.66
0.041	0.268	147.5	89.01	9.0	0.77	6.58	17.1	37.1	28.1	2.56	19.5	8.5	11.0	4.85
0.051	0.278	155.8	89.60	9.6	0.96	6.60	18.3	38.3	28.7	2.76	19.6	9.2	10.4	5.03
0.071	0.298	166.8	90.28	10.3	1.35	6.62	19.9	39.9	29.6	3.05	19.7	10.0	9.7	5.40
0.102	0.329	176.2	90.71	10.7	1.92	6.66	21.2	41.2	30.5	3.28	19.9	10.6	9.3	5.95
0.122	0.349	179.8	90.77	10.8	2.31	6.69	21.7	41.7	30.9	3.34	20.1	10.8	9.2	6.32
0.153	0.380	184.2	90.77	10.8	2.88	6.73	22.2	42.2	31.4	3.40	20.3	11.1	9.2	6.87
0.173	0.400	186.7	90.71	10.7	3.27	6.76	22.5	42.5	31.7	3.42	20.5	11.2	9.3	7.24
0.204	0.431	189.9	90.58	10.6	3.85	6.80	22.8	42.8	32.2	3.42	20.8	11.4	9.4	7.80
0.234	0.461	192.9	90.44	10.4	4.42	6.84	23.1	43.1	32.7	3.42	21.1	11.5	9.6	8.35
0.265	0.492	195.7	90.34	10.3	5.00	6.88	23.4	43.4	33.0	3.42	21.3	11.7	9.7	8.90
0.285	0.512	197.6	90.38	10.4	5.38	6.91	23.5	43.5	33.2	3.45	21.4	11.8	9.6	9.27
0.316	0.543	200.3	90.28	10.3	5.96	6.95	23.8	43.8	33.5	3.45	21.6	11.9	9.7	9.82
0.367	0.594	204.0	89.96	10.0	6.92	7.02	24.1	44.1	34.1	3.40	22.1	12.0	10.0	10.75
0.418	0.645	207.5	89.70	9.7	7.89	7.09	24.3	44.3	34.6	3.36	22.5	12.2	10.3	11.67
0.479	0.706	211.9	89.44	9.4	9.04	7.18	24.6	44.6	35.2	3.33	22.9	12.3	10.6	12.78
0.530	0.757	214.7	89.27	9.3	10.00	7.26	24.7	44.7	35.5	3.31	23.1	12.4	10.7	13.70
0.550	0.777	216.1	89.21	9.2	10.39	7.29	24.8	44.8	35.6	3.30	23.2	12.4	10.8	14.07
0.581	0.808	217.8	89.11	9.1	10.96	7.34	24.9	44.9	35.8	3.29	23.3	12.5	10.9	14.62
0.610	0.837	219.6	89.03	9.0	11.52	7.38	25.0	45.0	36.0	3.28	23.5	12.5	11.0	15.15
Values @ Failure					10.3	5.96	6.95	23.8	43.8	33.5	3.45	21.6	11.9	9.7	9.82

Failure criteria used* 3

*Note: "1" = Max Deviator Stress; "2" = Deviator Stress @ 15% Strain; "3" = Max Eff.Stress Ratio(σ'_1/σ'_3)

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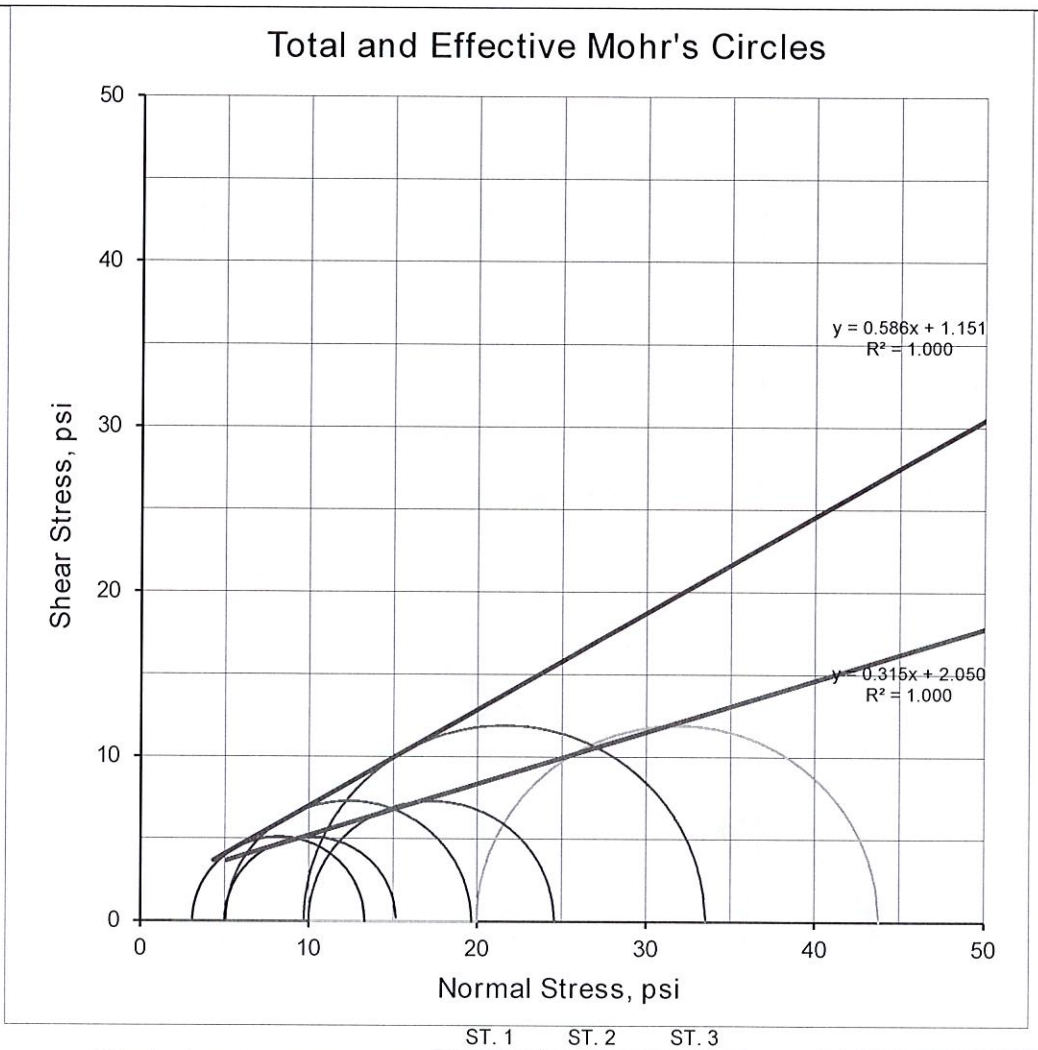
AASHTO ACCREDITED

Tested By	EB
Date	06/05/25
Check	

ASTM D 4767/AASHTO T 297

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils (Multistage per ASTM STP 883)

Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53007/B-3	Depth/Elev.	-
Location	-	Additional Info	-



	ST. 1	ST. 2	ST. 3
Effective Consolidation Stress, psi	5.0	10.0	20.0
Deviator Stress at Failure, psi	10.2	14.6	23.8
Effective Minor Principal Stress at Failure, psi	3.1	5.1	9.7
Effective Major Principal Stress at Failure, psi	13.3	19.7	33.5
Axial Strain at Failure, %	2.35	2.40	5.96

STRENGTH PARAMETERS*			
Total		Effective	
ϕ °	17.5	ϕ ' °	30.4
C, psi	2.1	C', psi	1.2

*Valid only for Received Material at Reported Densities and Moisture Contents. Please see remarks on page 6 of this report

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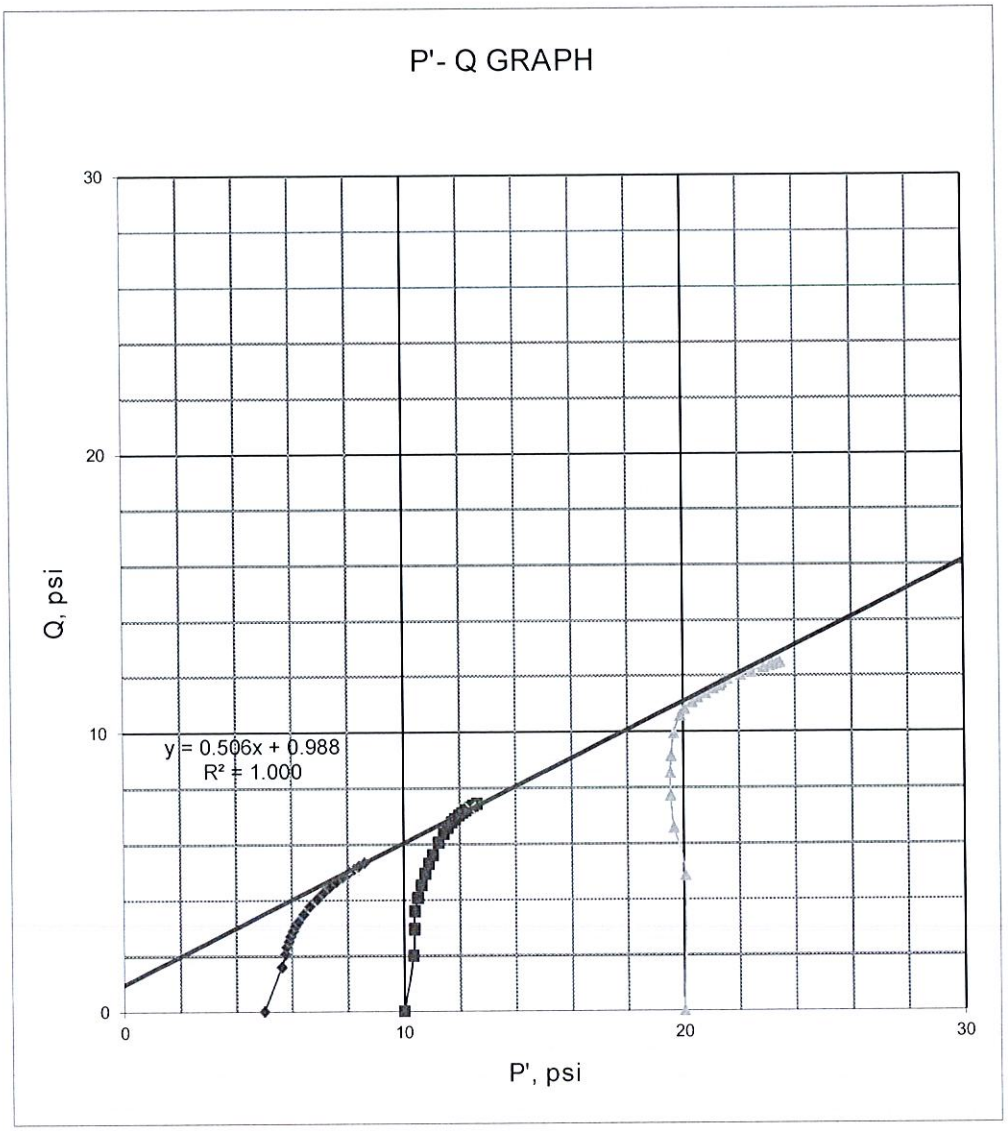
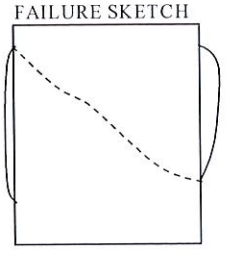
Location	-	Additional Info	-



FAILURE SKETCH



a, psi	1.0
α, degree	26.8

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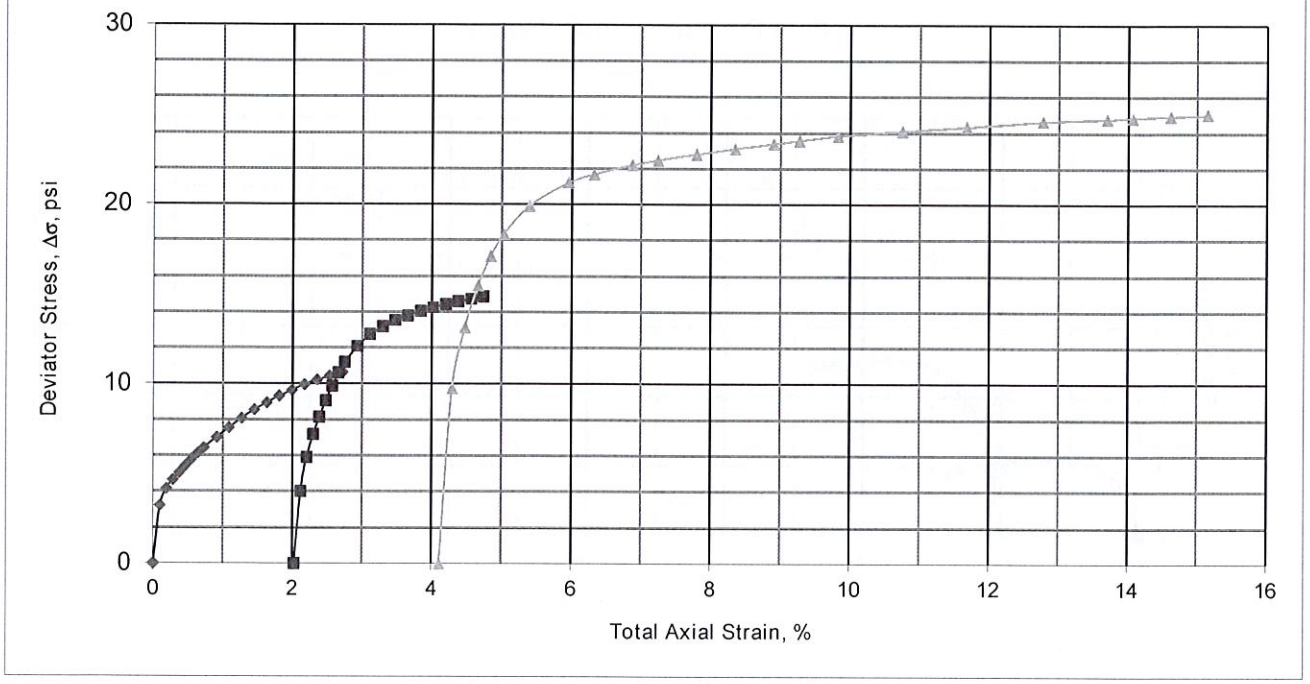
Client Project #	-	Laboratory Project #	2565-07-1
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53007/B-3	Depth/Elev.	-
Location	-	Additional Info	-

Deviator Stress - Strain Graph



Balance ID Number	563/700
Oven ID Number	496/610
Deformation Indicator ID #	178/349/689
Digital Caliper ID #	370/458
Load Cell ID #	11/347/692
Apparatus ID #	10/293/693

REMARKS

Material from shelby tube was not homogeneous and/or not long enough to select 3 uniform specimens 6" long each. Most representative portion of sample (12" above the bottom of shelby tube) was selected for multi-stage triaxial testing (per ASTM STP 883).

DESCRIPTION

NA

NOTES:

1. Method for Saturation
2. Method for determination of cross-sectional area after consol.
3. Final moisture content (Stage 3) obtained from entire sample

WET	
B	

LL	-
PL	-
PI	-
Gs	-

USCS (ASTM D2487: D2488)

NA

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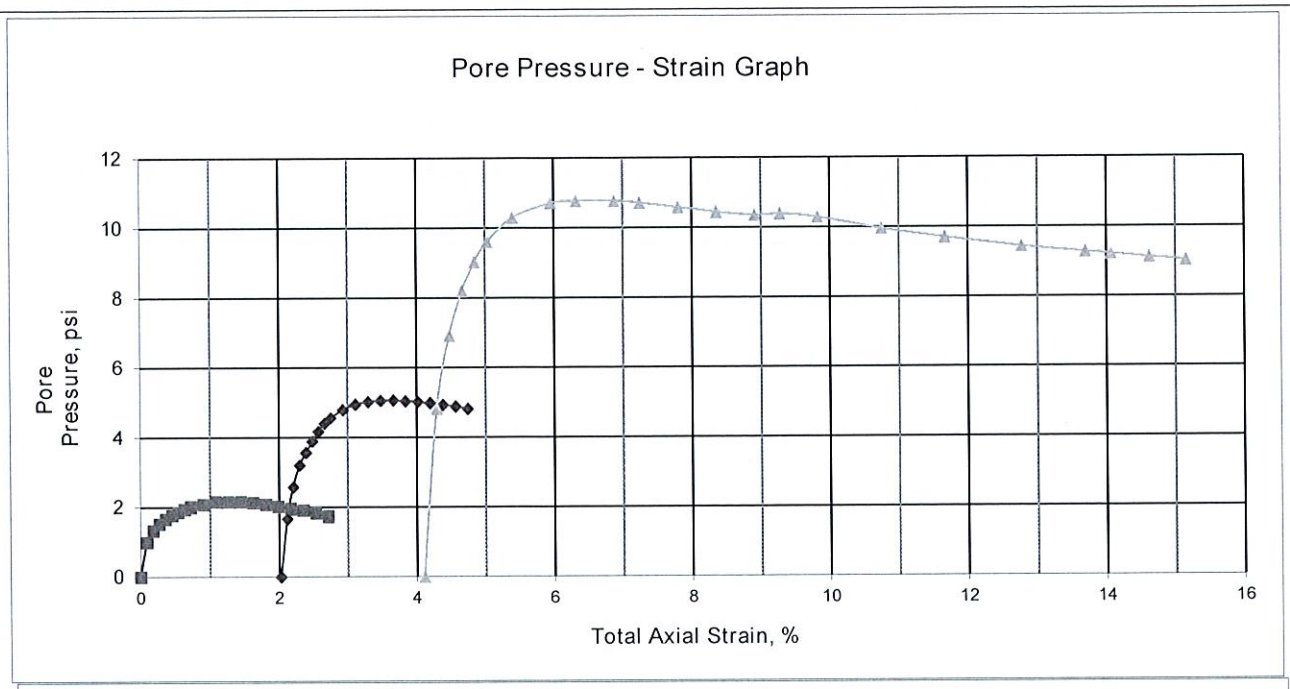
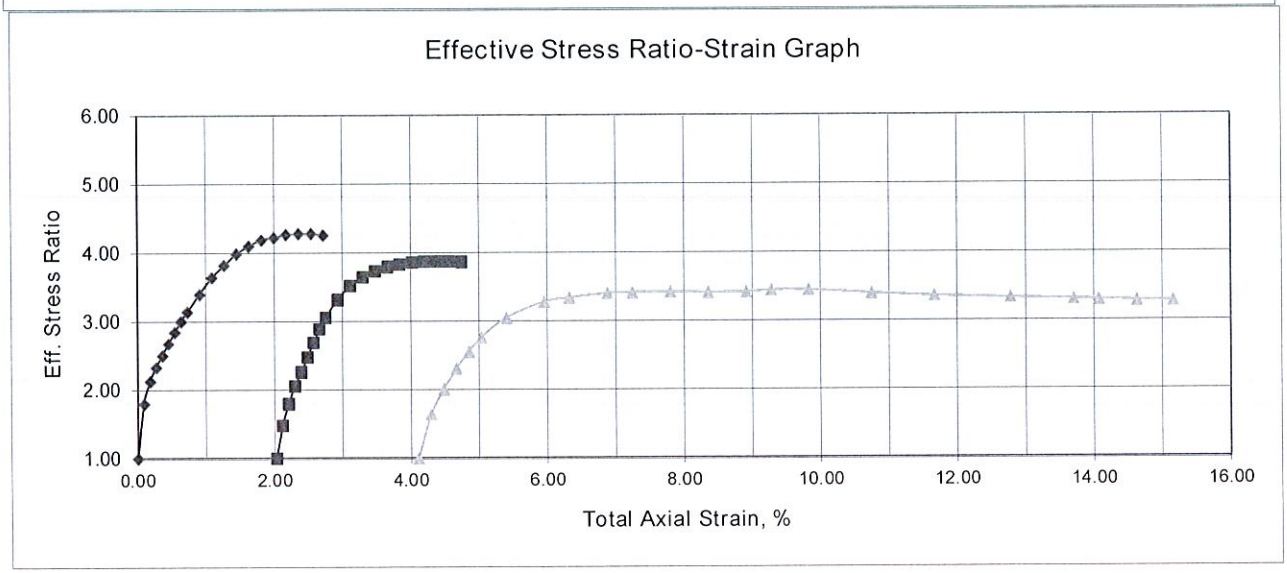
Project Name	South Fayette & Crosstown	Sample Type	UD
Sample ID	53007/B-3	Depth/Elev.	-
Location	-	Additional Info	-





OASIS CONSULTING SERVICES

45 Woodstock Street
Roswell, Georgia 30075
678-739-2400

Laboratory Testing Summary

Date: 6/5/2025
Lab No.: 5532
Project No.: P25044.1 & P25044.2

CLIENT: Acradis
2839 Paces Ferry Road SE
Atlanta, GA 30339

PROJECT: South Fayette & Crosstown WTP
Antioch Road & Tdk Blvd
Fayetteville & Peachtree City, GA

Boring Number	Sample Number	Sample Depth (ft)	USCS	In-Situ Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Passing #200 Sieve (%)	Compaction		Internal Friction Angle (ϕ'°)	Cohesion (C', psi)	Undrained Shear Stength (S_u, ksf)	pH	Torvane Shear Test (tsf)	Resitivity (ohms-cm)
									Maximum Density (pcf)	Optimum Moisture (%)						
B-1	Bulk	4-8	MH	26.7	63	39	24	63.9	96.4	23.7	34.3	4.2	1.37			
B-2	Bulk	4-8	SC	25.6	44	26	18	46.6	108.3	16.6	30.3	2.1	0.717			
B-3	Bulk	4-8	MH	28.1	68	39	29	67.5	98.0	23.0	30.4	1.2	0.909			

By: DB