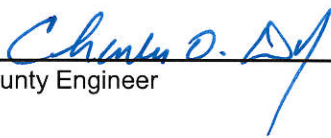


REVIEW BY FORT BEND COUNTY COMMISSIONERS COURT

On this 24th day of May, 2016, Commissioners Court came on to be heard and reviewed the accompanying notice of Salvador Guerra / W. W. Payton Corporation Job Location 19705 1/2 Terrazza Lake Ln., Richmond, TX 77407 Date 3/29/2016 Bond No. 46BSBGJ8122, Permit No. 2016-6467 to make use of certain Fort Bend County property subject to, "A Revised Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas the 3rd day of August, 1987, recorded in Volume _____ of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Article 1436a, Vernon's Texas Civil Statutes. Upon Motion of Commissioner _____, seconded by Commissioner _____, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
 - a. 48 hours in advance of construction start up, and
 - b. when construction is completed and ready for final inspection
 Mail notices to: Permit Administrator
 Fort Bend County Engineering
 301 Jackson Street
 Richmond, Texas 77469
 281-633-7500
3. This permit expires one (1) year from date of permit if construction has not commenced.

By: for  _____
County Engineer

Presented to Commissioners Court and approved.
Recorded in Volume _____
Minutes of Commissioners Court

By: N/A _____
Drainage District Engineer/Manager

Clerk of Commissioners Court

By: _____
Deputy

County of Fort Bend

Engineering Department

301 Jackson Street
Richmond, Texas 77469

Johnny Ortega
Permit Administrator

Phone: (281) 633-7500

Permit Application Review Form For Cable, Conduit, and Pole Line Activity In Fort Bend County

Permit No. 2016-6467

The following "Notice of Proposed Cable, Conduit, and/or Pole Line activity in Fort Bend County" and accompanying attachments have been reviewed and the notice conforms to appropriate regulations set by Commissioner's Court of Fort Bend County, Texas.

(1) Complete Application Form:

a. Name of road, street, and/or drainage ditch affected.

b. Vicinity map showing course of directions

c. Plans and specifications

(2) Bond:

District Attorney, approval when applicable.

Perpetual bond currently posted.

No: _____

Amount: _____

Performance bond submitted.

No: 46BSBGJ8122

Amount: \$5,000.00

Cashier's Check

No: _____

Amount: _____

(3) Verbal permission given for emergencies, to start construction before approved in Commissioner's Court.

Precinct Engineer Acknowledgment


Date

Precinct Commissioner Acknowledgment


Date

(4)
Drainage District Approval when applicable

We have reviewed this project and agree it meets minimum requirements.



Johnny Ortega CFM/Permit Administrator



Date

**PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE
ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD**

AUTHORIZED

BOND NO 46BSBGJ8122

THE STATE OF TEXAS

§

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND

§

THAT WE, W. W. Payton Corporation whose address is P.O. Box 1056, Katy, TX 77492-1056 Texas, hereinafter called the Principal, And Hartford Casualty Insurance Company, a Corporation existing under and by virtue of the laws of the state of Indiana and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at Hartford, Connecticut, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Michael Heidrick and Whose address is Hartford, 3000 Internet Blvd., #600, Frisco, TX 75034, hereinafter called the Surety, and held and firmly bound unto, Robert e. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, in the full sum of Five Thousand and No/100----- Dollars (\$ 5,000.00) current, lawful money of the United Stated of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the above bounden principal contemplates laying, constructing, maintaining and/or repairing one or more cables, conduits, and/or pole lines in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend, and the State of Texas, under the jurisdiction of the Commissioners' Court of Fort Bend County, Texas, pursuant to the Commissioners' Court order adopted on the 1st day of December, A.D. 1980, recorded in Volume 13, of the Commissioners' Court Minutes of Fort Bend County, Texas, regulating same, which Commissioners' Court order is hereby referred to and made a part hereof for all purposes as though fully set out herein;

AND WHEREAS, the principal desires to provide Fort Bend County with a performance bond covering all such cable, conduit and/or pole line activity, commercial driveway and median openings or modifications;

NOW, THEREFORE, if the above bounden principal shall faithfully perform all its cable, conduit and/or pole line activity (including, but not limited to the laying, construction, maintenance and/or repair of cables, conduits and/or pole lines) in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend and State of Texas, under the jurisdiction of the Commissioners Court of Fort Bend County, Texas, pursuant to and in accordance with minimum requirements and conditions of the above mentioned Commissioners' Court order set forth and specified to be by said principal done and performed, at the time and in the manner therein specified, and shall pay over and make good and reimburse Fort Bend County, all loss and damages which Fort Bend County may sustain by reason of any failure or default on the part of said principal, then this obligation shall be null and void, otherwise to remain in full force and effect.

This bond is payable at the County Courthouse in the County of Fort Bend and State of Texas.

It is understood that at any time Fort Bend County deems itself insecure under this bond, it may require further and/or additional bonds of the principal.

EXECUTED this 29th day of March, 2016.

W. W. Payton Corporation
PRINCIPAL

BY Wesley W. Payton, President

Hartford Casualty Insurance Company
SURETY

BY Sharon Cavanaugh Attorney-in-Fact

POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD
BOND, T-4
One Hartford Plaza
Hartford, Connecticut 06155

call: 888-266-3488 or fax: 860-757-5835

Agency Code: 61-610074 & 46-505987

KNOW ALL PERSONS BY THESE PRESENTS THAT:

- Hartford Fire Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- Hartford Casualty Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- Hartford Accident and Indemnity Company**, a corporation duly organized under the laws of the State of Connecticut
- Hartford Underwriters Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- Twin City Fire Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- Hartford Insurance Company of Illinois**, a corporation duly organized under the laws of the State of Illinois
- Hartford Insurance Company of the Midwest**, a corporation duly organized under the laws of the State of Indiana
- Hartford Insurance Company of the Southeast**, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, **up to the amount of unlimited:**

*Andrew J. Janda, C. W. Adams, Sue Kohler, Leland L. Rauch, Sharon Cavanaugh, Cheryl R. Colson,
Michael Cole, Kurt A. Risk, James Wynne Tomforde*
of
Houston, TX

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by , and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on January 22, 2004 the Companies have caused these presents to be signed by its Assistant Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



Wesley W. Cowling

Wesley W. Cowling, Assistant Secretary

M. Ross Fisher

M. Ross Fisher, Assistant Vice President

STATE OF CONNECTICUT }
COUNTY OF HARTFORD } ss. Hartford

On this 12th day of July, 2012, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Assistant Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



CERTIFICATE

Kathleen T. Maynard
Kathleen T. Maynard
Notary Public
My Commission Expires July 31, 2016

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of **March 29, 2016**
Signed and sealed at the City of Hartford.



Gary W. Stumper

Gary W. Stumper, Assistant Vice President

Inquiries Regarding Claims

Hartford Fire Insurance Company	Twin City Insurance Company
Hartford Casualty Insurance Company	Hartford Insurance Company of Illinois
Hartford Accident and Indemnity Company	Hartford insurance Company of the Midwest
Hartford Underwriters Insurance Company	Hartford Insurance Company of the Southeast

Please address inquiries regarding Claims for all surety and fidelity products issued by The Hartford's underwriting companies to the following:

Phone Number : 888-266-3488
Fax - Claims : 860-757-5835 or 860-547-8265
E-mail : claims@1stepsurety.com

Mailing Address : The Hartford
The Hartford Fidelity & Bonding (BOND)
Hartford Plaza
690 Asylum Avenue
Hartford, CT 06115

IMPORTANT NOTICE

To obtain information or make a complaint:

You may contact your agent.

You may call Hartford Insurance Group at the toll free telephone number for information or to make a complaint at:

1-800-392-7805

You may also write to The Hartford:

**The Hartford
Hartford Financial Products
2 Park Avenue, 5th Floor
New York, New York 10016
1-212-277-0400**

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at:

1-800-252-3439

You may write the Texas Department of Insurance

P.O. Box 149104
Austin, TX 78714-9104
Fax Number (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-mail: ConsumerProtection@tdi.state.tx.us

PREMIUM OR CLAIMS DISPUTES: Should you have a dispute concerning your premium or about a claim you should contact the agent first. If the dispute is not resolved, you may contact the Texas Department of Insurance.

ATTACH THIS NOTICE TO YOUR POLICY: This notice is for your information only and does not become a part or condition of the attached document.

AVISO IMPORTANTE

Para obtener informacion o para someter una queja.

Puede comunicarse con su agente.

Usted puede llamar al numero de telefono gratis de The Hartford Insurance Group para informacion o para someter una queja al

1-800-392-7805

Usted tambien puede escribir a The Hartford.

**The Hartford
Hartford Financial Products
2 Park Avenue, 5th Floor
New York, New York 10016
1-212-277-0400**

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de compaÑias, coberturas, derechos o quejas al:

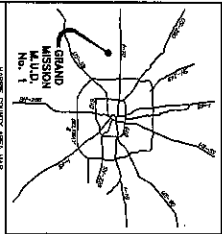
1-800-252-3439

Puede escribir al Departamento de Seguros de Texas

P.O. Box 149104
Austin, TX 78714-9104
Fax Number (512) 475-1771
Web: <http://www.tdi.state.tx.us>
E-mail: ConsumerProtection@tdi.state.tx.us

DISPUTAS SOBRE PRIMAS O RECLAMOS: Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con su agente primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).

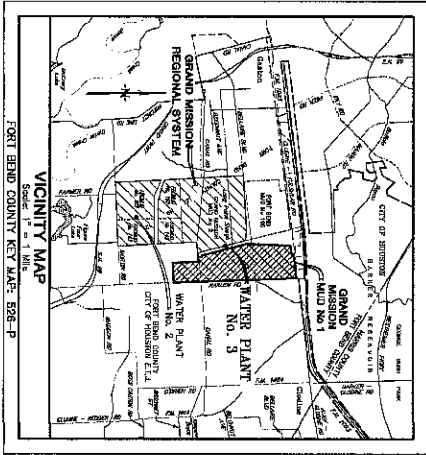
UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.



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1.	COVER SHEET & INDEX
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4.	PROCESS & INSTRUMENTATION DIAGRAM LEGEND - SHEET 2 OF 2
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6.	GROUND STORAGE TANKS PAID
7.	BOOSTER PUMPS PAID
8.	HYDRO TANKS PAID
9.	CHLORINE DISINFECTION SYSTEM PAID
10.	LAS DISINFECTION SYSTEM PAID
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11.	OVERALL SITE PLAN
12.	ENLARGED SITE AND DIMENSION PLAN
13.	PAVING & GRADING PLAN
14.	CONCRETE CSI DETAILS
15.	CONCRETE CSI MISCELLANEOUS DETAILS
16.	ALL 1 WELDED STEEL CSI DETAILS
17.	ALL 2 GALVANIZED BOLTED STEEL CSI DETAILS
18.	ALL 3 GALVANIZED BOLTED STEEL CSI DETAILS
19.	ALL 4 GALVANIZED BOLTED STEEL CSI DETAILS
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21.	HYDRO-PNEUMATIC TANK & PIPING DETAILS
22.	CONTROL BUILDING EQUIPMENT PLAN & DETAILS
23.	HYDRO-PNEUMATIC TANK & PIPING DETAILS
24.	C.S.T. SURFACE WATER FILL LINE PIPING DETAILS
25.	PAVING & DRAINAGE DETAILS
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29.	ELECTRICAL CONDUIT SCHEDULE & DUCT BANK SECTIONS
30.	ELECTRICAL ONE-LINE DIAGRAM
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44.	BOOSTER PUMP & GENERATOR SHAFT DETAILS
45.	DETAILS
46.	STORMWATER POLLUTION PREVENTION PLAN

CONSTRUCTION OF WATER PLANT No. 3 - PHASE 1 FOR GRAND MISSION MUNICIPAL UTILITY DISTRICT No. 1 FORT BEND COUNTY, TEXAS



WATER PLANT No. 3, 1920S 1/2 TERAVANZA LANE
RICHMOND, TX 77407

Contractor shall notify the City of Houston, Department of Public Works and Engineering, Office of the City Engineer, 48 hours before starting work on this project. Phone No. (832) 394-9096

OCTOBER 2015
JC JOB No. 05133-0208-00

JONES CARTER

Texas Board of Professional Engineers Registration No. F-439
6335 Edinburg, Suite 200 • Houston, Texas 77661 • 713.777.5537

ED. DETENTION PLANS INFORMATION

- Storm Water Detention Plans provided in Construction of Detention Basin Excavation Plans II (COW) Log No. 05250, dated 08/11/09, prepared by Jones & Carter, Inc. Date Signed and Approved By February 2007
- State of Texas, Department of Transportation and Detention Analysis for 670 Area Development February 2000 (Jones & Carter, Inc. Amendment) by 15020 April 5, 2005
- Increased Impervious Cover = 0.254 Acres
Detention Rate Required = 0.60 Acres-Feet/Year
Detention Rate Provided = 0.67 Acres-Feet/Year

NOTES:

These plans were prepared to meet or exceed the specifications and requirements of the City of Houston, Texas and Fort Bend County, Texas as currently amended, whichever is more stringent.

Approved by Fort Bend County will be deemed void if construction has not begun within one year of approval date.

Construction shall be monitored by a registered professional engineer of Fort Bend County upon receipt of the plat of this section. If the construction will be monitored by a registered professional engineer of JONES AND CARTER, INC. Contractor shall notify the Fort Bend County Engineering Department at least 48 hours prior to commencement of construction at construction@fortbendcounty-tx.gov

I, TERRY W. MOULDER, a Professional Engineer licensed in the State of Texas do hereby certify that these plans were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Texas.

Terry W. Moulder
TERRY W. MOULDER
DATE: 10-23-2015

FORT BEND COUNTY ENGINEER

ENGINEER: *Raymond B. Smith*, P.E.
DATE: 12/3/15

THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN ONE (1) YEAR FROM DATE OF APPROVAL.

APPROVED: *Allyson Rose*
FOR DEVELOPMENT COORDINATOR
DATE: 12/3/15

NOTES:
No herein proposed work under this work is included.

DATE OF PREPARED	10/23/15
DATE OF REVISION	
REVISION	
DATE OF REVISION	
REVISION	
DATE OF REVISION	
REVISION	

FOR OFFICIAL USE ONLY
54983

1 OF 46

MISCELLANEOUS SYMBOLS:			
	PLUG VALVE (NOMINALLY OPEN)		480 VAC ELECTRICAL SUPPLY
	BALL VALVE (NOMINALLY CLOSED)		240 VAC ELECTRICAL SUPPLY
	BUTTERFLY VALVE (NOMINALLY CLOSED)		120 VAC ELECTRICAL SUPPLY
	GATE CHECK VALVE		CURRENT TRANSFORMER
	SWING CHECK VALVE		ELECTRICAL OUTLET
	BALL CHECK VALVE		ELECTRICAL PLUG
	GATE VALVE (NOMINALLY CLOSED)		ULTRASONIC LEVEL TRANSDUCER
	GLOBE VALVE (NOMINALLY CLOSED)		SURGE PRESSURE TRANSDUCER
	SMART COCK (NOMINALLY CLOSED)		FLOAT SWITCH
	NEEDLE VALVE (NOMINALLY CLOSED)		PFC COATED WEIGHT
	NEEDLE VALVE (NOMINALLY OPEN)		FLANGED CONNECTION
	THREE-WAY VALVE (ONE PORT CLOSED)		SURGE GATE (NOMINALLY OPEN)
	FOUR-WAY VALVE (NOMINALLY OPEN)		SURGE GATE (NOMINALLY CLOSED)
	AIR RELEASE VALVE		SURGE GATE (NOMINALLY OPEN)
	SURGE AIR RELEASE VALVE		SURGE GATE (NOMINALLY CLOSED)
	SOLENOID VALVE		SURGE GATE (NOMINALLY OPEN)
	BACKPRESSURE REGULATOR		SURGE GATE (NOMINALLY CLOSED)
	PRESSURE REGULATOR SELF-COMPAVED		SURGE GATE (NOMINALLY OPEN)
	BACKPRESSURE EXTERNAL PRESSURE VALVE		SURGE GATE (NOMINALLY CLOSED)
	PRESSURE REDUCING VALVE		SURGE GATE (NOMINALLY OPEN)
	VACUUM REGULATOR		SURGE GATE (NOMINALLY CLOSED)
	DRAIN CONTROL VALVE		SURGE GATE (NOMINALLY OPEN)
	REGULATOR TYPE FLOW METER		SURGE GATE (NOMINALLY CLOSED)
	MANOMETER TYPE FLOW METER		SURGE GATE (NOMINALLY OPEN)
	TURBINE FLOW METER		SURGE GATE (NOMINALLY CLOSED)
	ORPHAN INLET (SPECIFIED)		SURGE GATE (NOMINALLY OPEN)
	ORPHAN INLET (OPEN)		SURGE GATE (NOMINALLY CLOSED)
	TUBING ADAPTER		SURGE GATE (NOMINALLY OPEN)
	FLEXIBLE COUPLING		SURGE GATE (NOMINALLY CLOSED)
	EXPANSION COUPLING		SURGE GATE (NOMINALLY OPEN)
	SLEEVE COUPLING		SURGE GATE (NOMINALLY CLOSED)
	MECHANICAL COUPLING (VERTICAL)		SURGE GATE (NOMINALLY OPEN)
	QUICK CONNECT		SURGE GATE (NOMINALLY CLOSED)
	THREADED CAP		SURGE GATE (NOMINALLY OPEN)
	BLIND FLANGE		SURGE GATE (NOMINALLY CLOSED)
	SLIDE ON-OFF VALVE		SURGE GATE (NOMINALLY OPEN)
	AIR LIFT PUMP		SURGE GATE (NOMINALLY CLOSED)
	VALVE CAM & GROOVE QUICK COUPLING		SURGE GATE (NOMINALLY OPEN)
	UNI-PHASE SEAL		SURGE GATE (NOMINALLY CLOSED)
	ANALYTICAL DIFFUSIONAL RESISTOR DAMPER		SURGE GATE (NOMINALLY OPEN)
	AIR IN-LINE FILTER		SURGE GATE (NOMINALLY CLOSED)
	PLATE & FRAME SEPARATOR		SURGE GATE (NOMINALLY OPEN)
	STAND MIXER		SURGE GATE (NOMINALLY CLOSED)
	RUPTURE DISK (PRESSURE SEAL)		SURGE GATE (NOMINALLY OPEN)
	RUPTURE DISK (VACUUM RELIEF)		SURGE GATE (NOMINALLY CLOSED)
	MIXER		SURGE GATE (NOMINALLY OPEN)
	FLOW STRAIGHTENER		SURGE GATE (NOMINALLY CLOSED)
	TRAP		SURGE GATE (NOMINALLY OPEN)
	HEAT EXCHANGER		SURGE GATE (NOMINALLY CLOSED)
	EJECTOR		SURGE GATE (NOMINALLY OPEN)
	INJECTOR		SURGE GATE (NOMINALLY CLOSED)
	ANALYZER		SURGE GATE (NOMINALLY OPEN)
	VAPORIZER		SURGE GATE (NOMINALLY CLOSED)
	CALIBRATION TUBE/COLUMN		SURGE GATE (NOMINALLY OPEN)
	HEAT TRACING		SURGE GATE (NOMINALLY CLOSED)
	DISCHARGE SILENCER		SURGE GATE (NOMINALLY OPEN)
	DISCHARGE AIR FILTER		SURGE GATE (NOMINALLY CLOSED)
	ROTARY LOBE/ DISPLACEMENT BLOWER		SURGE GATE (NOMINALLY OPEN)
	PERISTALTIC PUMP		SURGE GATE (NOMINALLY CLOSED)
	MOTOR		SURGE GATE (NOMINALLY OPEN)
	VERTICAL TURBINE BOOSTER PUMP		SURGE GATE (NOMINALLY CLOSED)
	SUBMERSIBLE PUMP (WET PIT)		SURGE GATE (NOMINALLY OPEN)
	CENTRIFUGAL PUMP (WET PIT)		SURGE GATE (NOMINALLY CLOSED)
	CENTRIFUGAL PUMP (DRY PIT)		SURGE GATE (NOMINALLY OPEN)
	CENTRIFUGAL PUMP (SELF PRIMING)		SURGE GATE (NOMINALLY CLOSED)
	GENERAL FAN		SURGE GATE (NOMINALLY OPEN)
	CENTRIFUGAL COMPRESSOR OR BLOWER		SURGE GATE (NOMINALLY CLOSED)
	RECIPROCATING COMPRESSOR (POSITIVE DISPLACEMENT)		SURGE GATE (NOMINALLY OPEN)
	ROTARY COMPRESSOR (POSITIVE DISPLACEMENT)		SURGE GATE (NOMINALLY CLOSED)
	POSITIVE DISPLACEMENT BLOWER		SURGE GATE (NOMINALLY OPEN)
	ROTARY LOBE PUMP		SURGE GATE (NOMINALLY CLOSED)
	DUAL PISTON PUMP		SURGE GATE (NOMINALLY OPEN)
	SCREW PUMP		SURGE GATE (NOMINALLY CLOSED)
	HOSE PUMP		SURGE GATE (NOMINALLY OPEN)
	POSITIVE DISPLACEMENT PUMP (WET PIT)		SURGE GATE (NOMINALLY CLOSED)
	ENHANCED WETBERG PUMP		SURGE GATE (NOMINALLY OPEN)
	METERING PUMP		SURGE GATE (NOMINALLY CLOSED)
	PROGRESSIVE CAVITY PUMP		SURGE GATE (NOMINALLY OPEN)
	GIMMER PUMP		SURGE GATE (NOMINALLY CLOSED)
	MID VALVE		SURGE GATE (NOMINALLY OPEN)
	TELESCOPIC VALVE		SURGE GATE (NOMINALLY CLOSED)
	WET STRAINER		SURGE GATE (NOMINALLY OPEN)
	MOTOR		SURGE GATE (NOMINALLY CLOSED)
	CORPORATION STOP		SURGE GATE (NOMINALLY OPEN)
	DUAL & SINGLE BACKFLOW PREVENTER		SURGE GATE (NOMINALLY CLOSED)
	FOOT VALVE		SURGE GATE (NOMINALLY OPEN)
	WHIRL		SURGE GATE (NOMINALLY CLOSED)
	LOCAL DISCONNECT		SURGE GATE (NOMINALLY OPEN)
	EMERGENCY EYE WASH & SHOWER		SURGE GATE (NOMINALLY CLOSED)
	PERFORATED PLATE		SURGE GATE (NOMINALLY OPEN)
	DOOR CONTROL DEVICE		SURGE GATE (NOMINALLY CLOSED)
	TRAVERSING BRIDGE CRANE		SURGE GATE (NOMINALLY OPEN)
	MOTOR		SURGE GATE (NOMINALLY CLOSED)
	VERTICAL TURBINE PUMP (WET WELL)		SURGE GATE (NOMINALLY OPEN)
	TRAP VALVE		SURGE GATE (NOMINALLY CLOSED)

NOTE: For Electrical Interconnection Only

NOTE: For Process Only

APPROVED: *[Signature]*

DATE: 12/15/15

GRAND MISSION ALUJA No. 1
TOWN BEHO COUNTY, TEXAS

WATER PLANT No. 3 - PHASE 1

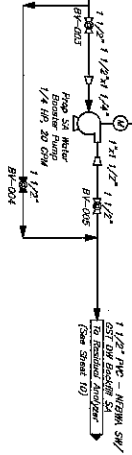
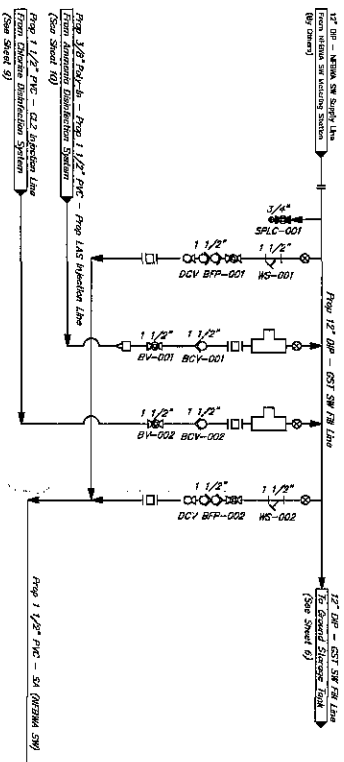
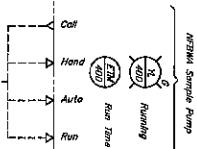
JONES CARTER
A Division of Environmental Engineering, Inc.

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

SHEET 2 OF 2

54983

Prop Programmable Logic Controller (PLC) Autostart Pump (ASP)



NOTE: For Electrical & Instrumentation Only
 NOTE: For Process Only



C.O.H. LOG NO. 15-1188

APPROVED: *[Signature]*
 DATE: 12/15

APPROVED FOR FACILITY DEVELOPMENT COORDINATOR

DATE: 12/15

GRAND MISSION ALU.D. No. 1
 POST RENO COUNTY, TEXAS

JONES CARTER
 WATER PLANT No. 3 - PHASE I
 SURFACE WATER SUPPLY LINE
 PAID

CITY OF HOUSTON

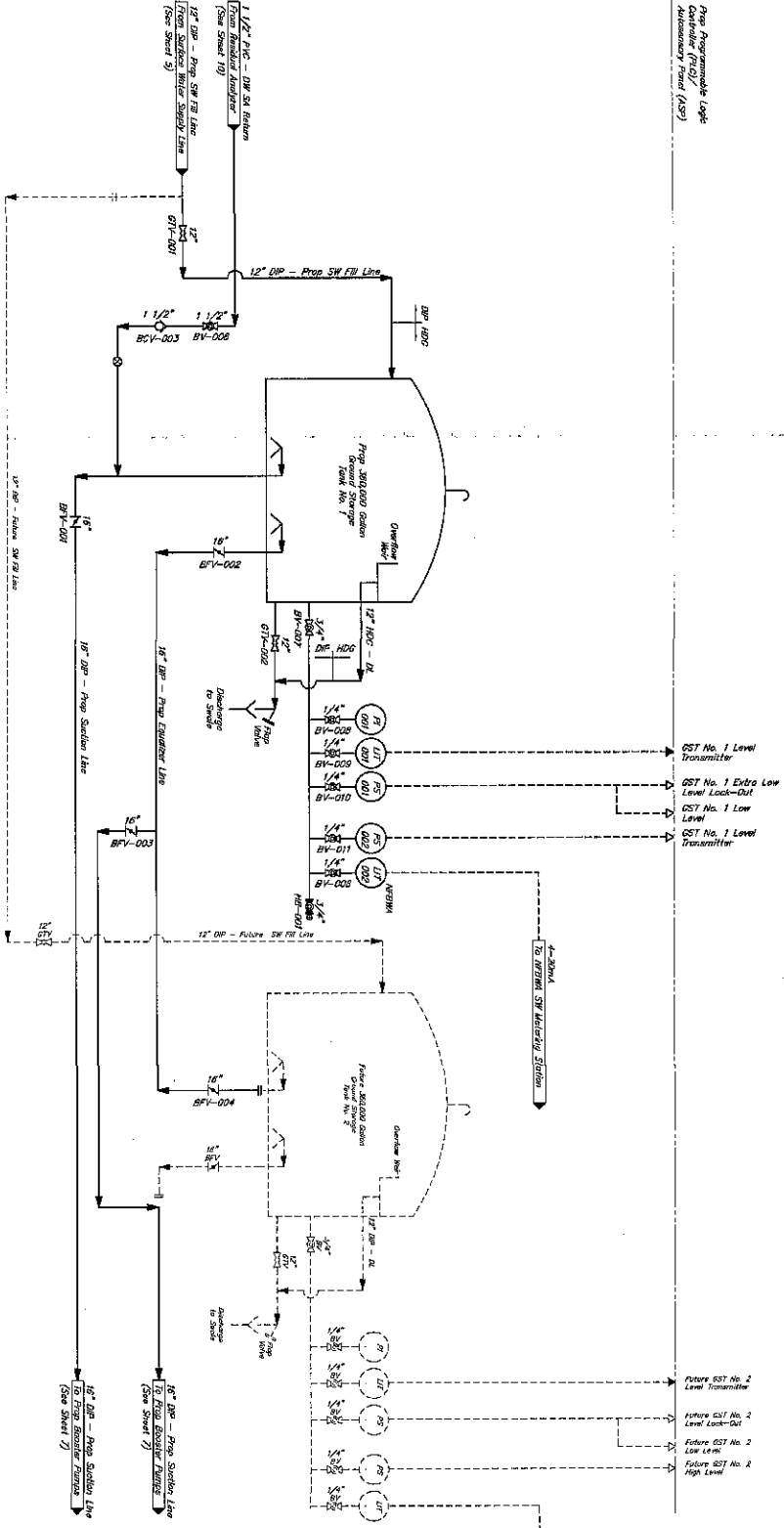
WATER PLANT No. 3 - PHASE I

DATE: 12/15

PROJECT: SURFACE WATER SUPPLY LINE

NO. 5 of 16

Open Programmable Logic
Control System (PLC)
Autonomous Panel (AP)



CST No. 1 Level Transmitter
CST No. 1 Extra Low Level Lock-Out
CST No. 1 Low Level
CST No. 1 Level Transmitter
Future CST No. 2 Level Transmitter
Future CST No. 2 Level Lock-Out
Future CST No. 2 Low Level
Future CST No. 2 High Level

NOTE:
For Elevator & Intercommunication Only
CITY OF HOUSTON
WATER DEPARTMENT

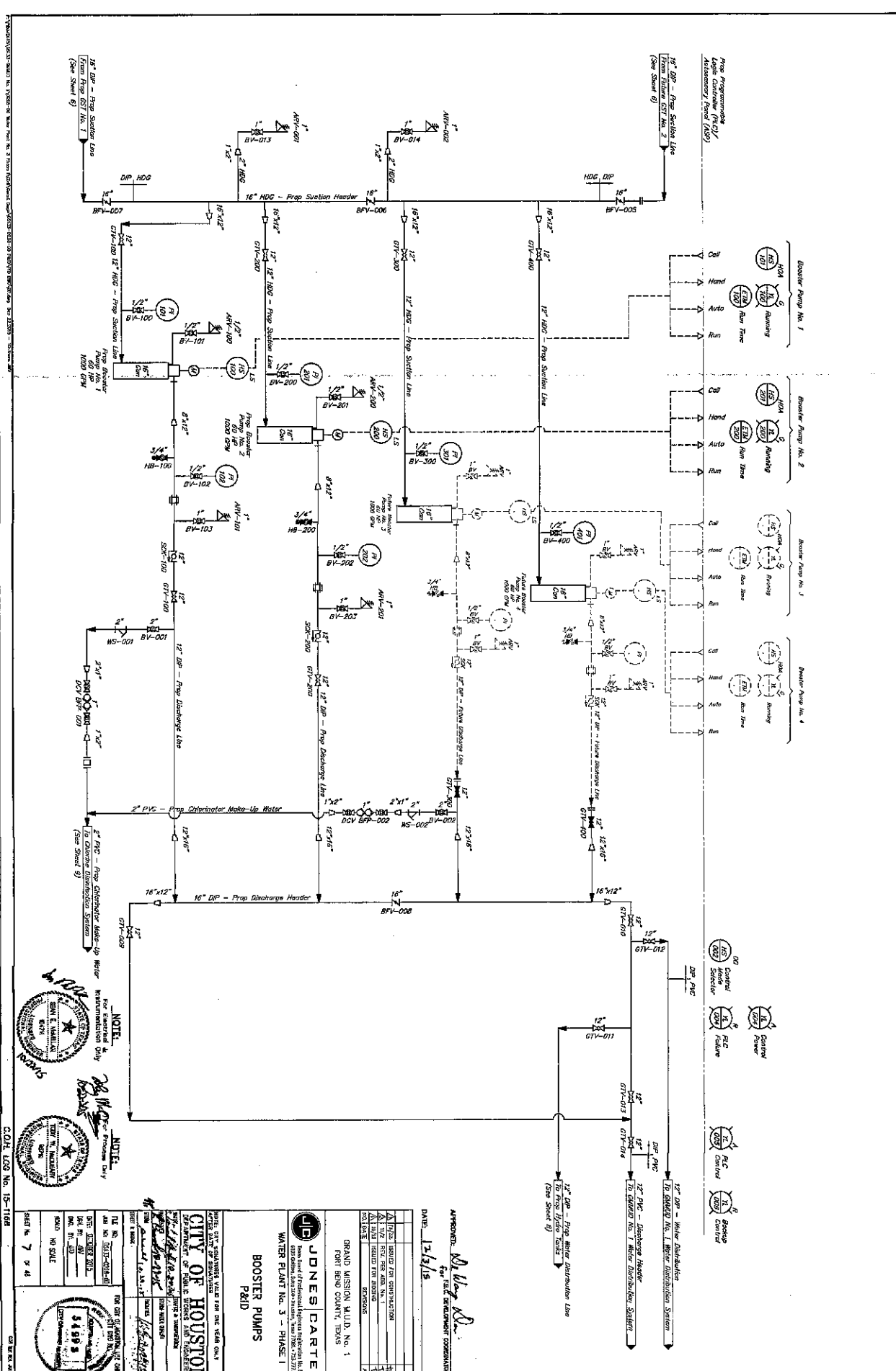
NOTE:
For Process Only
CITY OF HOUSTON
WATER DEPARTMENT

CO-1 LOG No. 15-108

<p>JONES CARTER Professional Engineering Firm WATER PLANT No. 3 - PHASE I GROUND STORAGE TANKS PKID</p>		<p>DATE: 12/1/15</p> <p>APPROVED: <i>[Signature]</i> PROJECT ENGINEER/CONSULTANT</p>
<p>NO. DATE</p> <p>REVISIONS</p> <p>BY</p> <p>CHKD</p>	<p>NO. DATE</p> <p>REVISIONS</p> <p>BY</p> <p>CHKD</p>	<p>NO. DATE</p> <p>REVISIONS</p> <p>BY</p> <p>CHKD</p>



DATE: 12/15/15



NOTE:
For Electrical Information Only
See Sheet 101

NOTE:
See Sheet 101
See Sheet 102

DATE: 12/1/15
APPROVED: [Signature]
FOR FIELD IMPLEMENTATION COORDINATION

NO. 1
NO. 2
NO. 3
NO. 4

NO. 1
NO. 2
NO. 3
NO. 4

JONES CARTER
WATER PLANT NO. 3 - PHASE I
BOOSTER PUMPS
P&ID

1500 GPM

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND UTILITIES

PROJECT NO. 15-1188

FOR SHEET NO. 101
FOR SHEET NO. 102

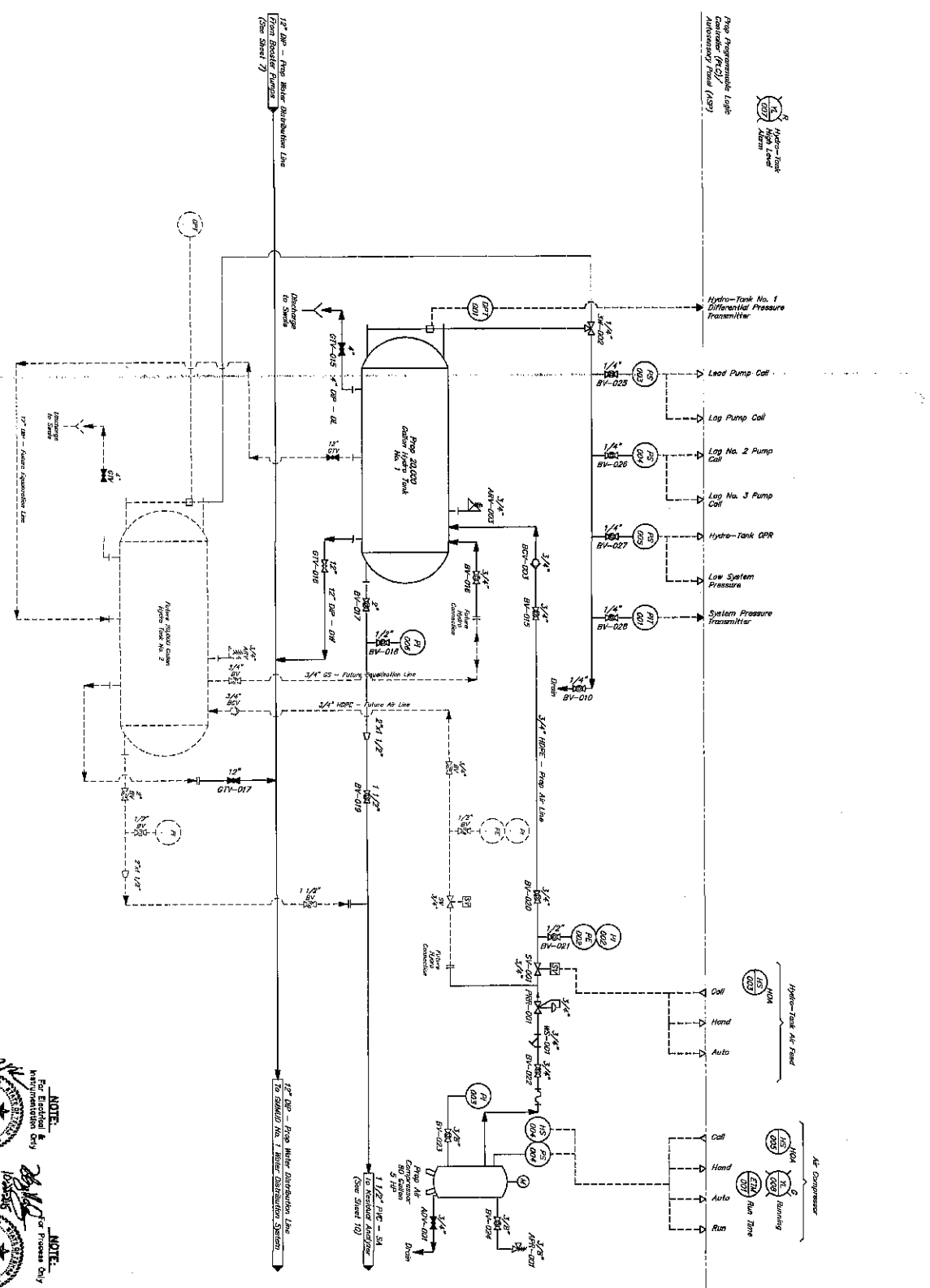
DATE: 12/1/15

NO. 1
NO. 2
NO. 3
NO. 4

NO. 1
NO. 2
NO. 3
NO. 4

NO. 1
NO. 2
NO. 3
NO. 4

NO. 1
NO. 2
NO. 3
NO. 4



1 1/2" GPR - Pop Filter Distribution Line
 (From Booster Pump
 (See Sheet 7))

NOTE: For Electrical & Instrumentation Only
 NOTE: For Process Only

THIS CITY ASSURES VALID FOR ONE YEAR ONLY
 THE STATE OF TEXAS
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 WATER DIVISION

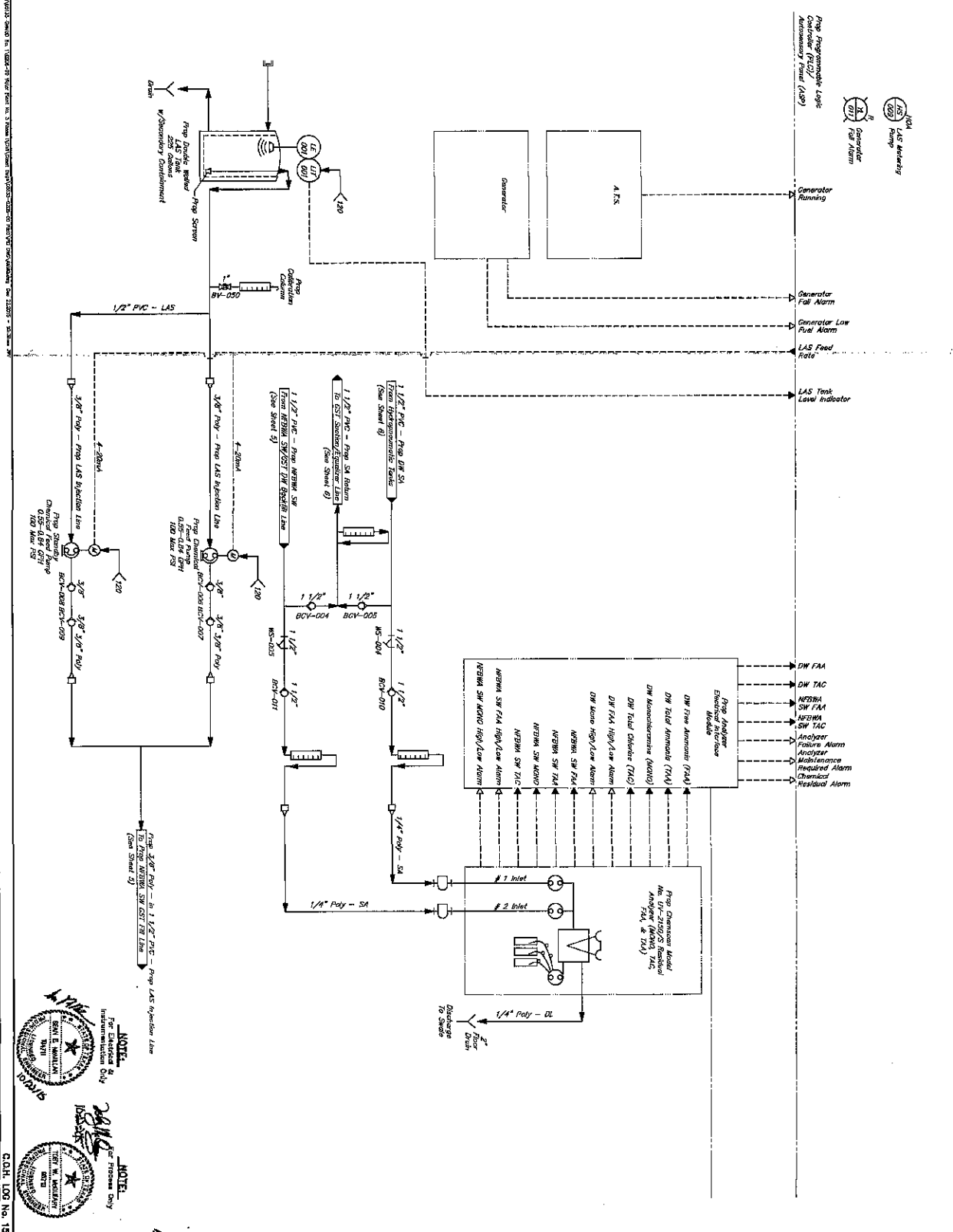
PROJECT NO. 8 OF 48

DATE: 12/15/15

APPROVED: [Signature]

JONES CARTER
 WATER PLANT NO. 3 - PHASE 1
 GRAND MISSION ALID NO. 1
 FORT BEND COUNTY, TEXAS

HYDRO TANKS
 P&ID



NOTE:
 For Electrical and Instrumentation Only
 INSTRUMENTATION ONLY
 10/20/15

NOTE:
 For Process Only
 INSTRUMENTATION ONLY
 10/20/15

APPROVED: *[Signature]*
 PROJECT ENGINEER/OPERATOR

DATE: 12/15/15

GRAND JUNCTION, TX
 FORT BEND COUNTY, TEXAS

JONES CARTER
 WATER PLANT No. 3 - PHASE I
 LAS DISINFECTION SYSTEM
 P&ID

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND UTILITIES

PROJECT NO. 10-1188

SCALE: AS SHOWN

DATE: 12/15/15

BY: *[Signature]*

FOR: *[Signature]*

PROJECT NO. 10-1188

DATE: 12/15/15

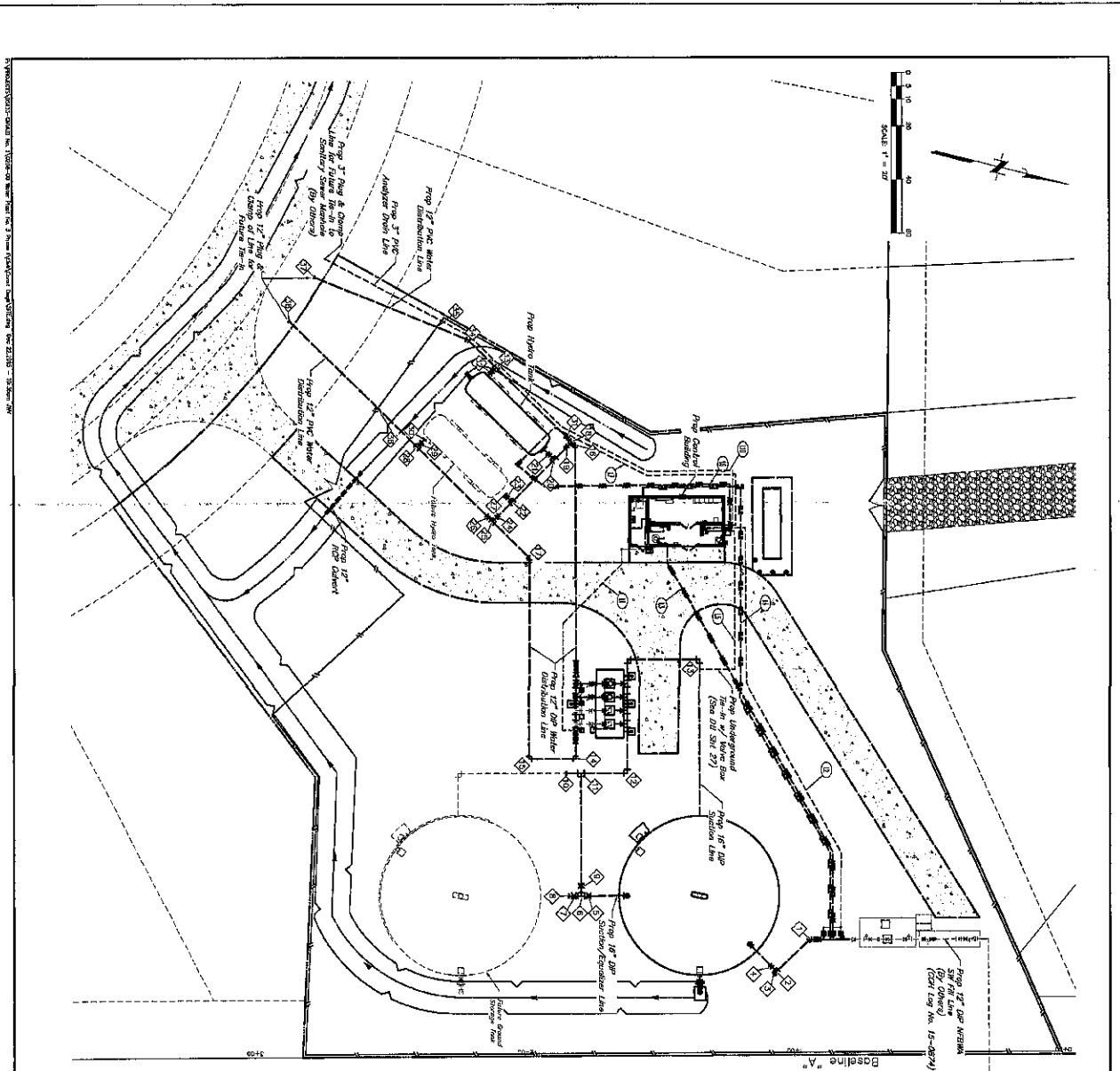
SCALE: AS SHOWN

DATE: 12/15/15

PROJECT NO. 10-1188

DATE: 12/15/15

SCALE: AS SHOWN



PIPING LOCATION TABLE

NUMBERS	STARTING STATION (FT)	ENDING STATION (FT)
1	0+48.24	43.07 FT
2	1+08.85	31.07 FT
3	1+07.50	30.16 FT
4	1+03.68	33.27 FT
5	1+76.22	59.74 FT
6	1+74.01	59.74 FT
7	1+81.80	59.75 FT
8	1+83.33	59.75 FT
9	1+76.00	63.57 FT
10	1+84.34	105.57 FT
11	1+76.00	105.57 FT
12	1+81.83	105.57 FT
13	1+34.84	147.75 FT
14	1+00.79	110.82 FT
15	1+88.02	111.07 FT
16	1+80.55	227.85 FT
17	1+83.75	227.85 FT
18	1+88.32	224.47 FT
19	1+90.32	224.47 FT
20	2+04.00	208.87 FT
21	2+08.97	208.75 FT
22	2+00.40	201.49 FT
23	2+11.30	198.52 FT
24	2+13.12	201.38 FT
25	2+06.60	208.42 FT
26	2+48.11	227.45 FT
27	2+37.00	228.72 FT
28	2+36.27	230.27 FT
29	1+83.67	230.27 FT
30	2+41.48	234.99 FT
31	2+49.83	238.84 FT
32	2+20.14	267.26 FT
33	2+31.53	272.12 FT
34	2+48.59	233.85 FT
35	2+78.52	298.44 FT
36	2+88.20	274.85 FT

SMALL PIPING LINE CHART

- ① 2" Sch. 80 PVC Water Supply / Meter-Off Water Line to Sundry Egg Wash / Shower Station / Wash Area
- ② 2" Sch. 80 PVC Sewer Line to Analyzer
- ③ 3/4" Poly-Tri-Clas Jacket in 1 1/2" Sdh. 80 PVC Conduit
- ④ 1-1/2" Sdh. 80 PVC Gas Suction Injection Line
- ⑤ 1-1/2" Sdh. 80 PVC Oil Sump Return
- ⑥ 3/4" Hose All Line
- ⑦ 1-1/2" Sdh. 80 PVC DW Sample Line
- ⑧ 3" Sdh. 80 PVC Analyzer Drain Line

PIPING CHART

- ① 12" DR/PVC Analyzer
- ② 12" Plug & Clamp, All 4" / 2" NPT Top & Bottom
- ③ 15" x 12" Tank, PO
- ④ 12" x 48" Band, PO
- ⑤ 12" x 90" Band, PO
- ⑥ 12" x 22 1/2" Band, PO
- ⑦ 12" Flange Bolt, Galv. Vane, All W/Vane Box
- ⑧ 16" Plug & Clamp, All 4" / 2" NPT Top & Bottom
- ⑨ 16" x 22 1/2" Band, PO
- ⑩ 16" x 18" Tank, PO
- ⑪ 16" x 90" Band, PO
- ⑫ 16" Sundry Vane, All W/Vane Box

LEGEND

ENCLOSURE

- 1 TYPE PIPE FITTING (VERTICAL)
- 2 TYPE PIPE FITTING (HORIZONTAL)
- 3 CONCRETE PIPE SUPPORT
- 4 UNDERGROUND PLANT PIPING
- 5 UNDERGROUND PLANT PIPING
- 6 APPROXIMATE PLANT PIPING
- 7 AIR LINE
- 8 UNDERGROUND PLANT PIPING
- 9 UNDERGROUND PLANT PIPING
- 10 UNDERGROUND PLANT PIPING
- 11 UNDERGROUND PLANT PIPING
- 12 UNDERGROUND PLANT PIPING
- 13 UNDERGROUND PLANT PIPING
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- 49 UNDERGROUND PLANT PIPING
- 50 UNDERGROUND PLANT PIPING



DATE: 12/8/15

APPROVED: [Signature]

PROJECT: GRAND MISSION M.I.D. No. 1

WATER PLANT No. 3 - PHASE I

JONES CARTER

2400 WEST LOOP SOUTH, SUITE 200, HOUSTON, TEXAS 77057

ENLARGED PIPING PLAN

SCALE: 1" = 3'

SEE PLAN 13 OF 16

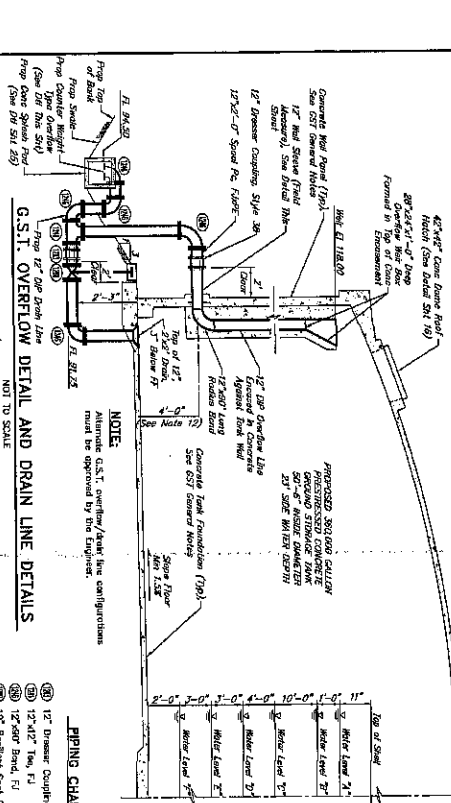
G.S.T. GENERAL NOTES.

- Concrete for tank wall grade down root and floor pipe connections shall be 1:2:4 concrete with a minimum of 28 days curing. Other pipe connections shall be 1:3:3 concrete with a minimum of 28 days curing.
- All concrete reinforcing bars shall conform to ASTM A615 grade 60, except for 3/8" bars conform to grade 40.
- Detailing and location of concrete reinforcement and connections shall be in accordance with the following:
- Reinforcing bars shall be placed in accordance with the following:
- When casted, use welded wire mesh, welded wire fabric or not acceptable.
- The use of form to facilitate the bending of reinforcing bars will not be permitted.
- Reinforcing bars shall be placed in accordance with the following:
- All structural steel shall conform to ASTM A36.
- All structural steel shall conform to ASTM A36.
- All steel members and connections exposed to earth or weather shall be hot-dipped galvanized.
- No. 10 rebar shall be used for all shop drawings.
- Rebar shall be placed for all tanks and connections of per tank manufacturer's recommendations for all tanks, valves, manways, and vents, demands and ladders.
- Pipe penetrations through walls shall have the entrance location determined as follows:

GST OPERATION NOTES.

- When the GST is being filled by the RW, the RW shall maintain a minimum of 2" of water level in the RW. The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW.
- When the GST is being filled by the RW, the RW shall maintain a minimum of 2" of water level in the RW. The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW.
- The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW.
- The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW. The RW shall be filled to the level of the RW.

G.S.T. OVERFLOW DETAIL AND DRAIN LINE DETAILS

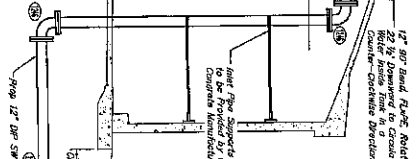


NOTE: Alternate G.S.T. overflow/vent line configurations must be approved by the Engineer.

PIPING CHART

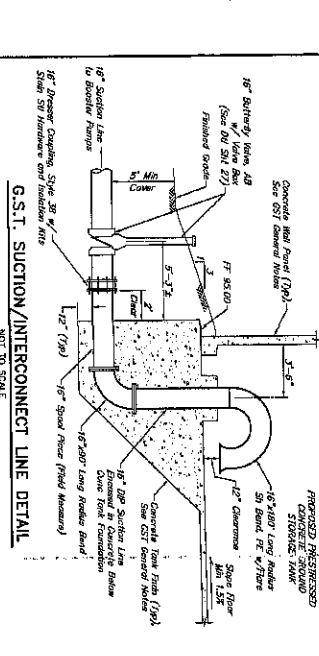
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- 12" DN, 150, 15
- 12" DN, 150, 15
- 12" DN, 150, 15

G.S.T. FILL LINE DETAIL



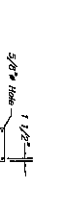
NOTE: Alternate G.S.T. fill line configurations must be approved by the Engineer.

G.S.T. SUCTION/INTERCONNECT LINE DETAIL

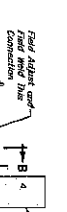


NOTE: Height of the counter weight shall be equal to the height of the counter weight and shall be a minimum of 12\"/>

TYPICAL SECTION "A-A"



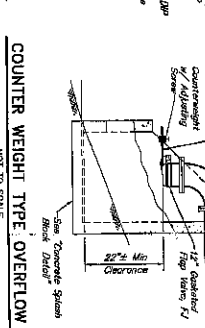
TYPICAL SECTION "B-B"



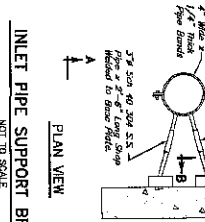
NOTES:

- All pipe and fittings shall be 1/2\"/>

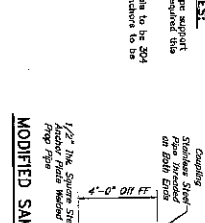
TYPICAL WALL PANEL PIPE PENETRATION DETAIL



COUNTER WEIGHT TYPE OVERFLOW



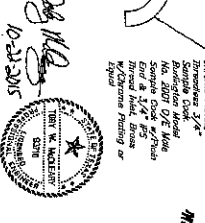
INLET PIPE SUPPORT BRACKET



PLAN VIEW



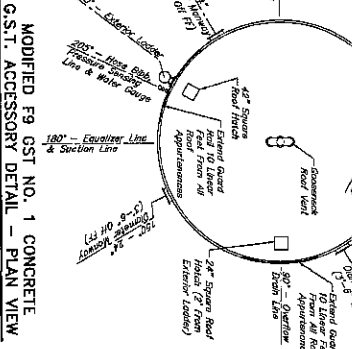
MODIFIED SAMPLE TAP AND PENETRATION DETAIL



NOTES:

- All pipe and fittings shall be 1/2\"/>

MODIFIED F9 GST NO. 1 CONCRETE G.S.T. ACCESSORY DETAIL - PLAN VIEW



NOTES:

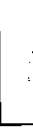
- All pipe and fittings shall be 1/2\"/>

JONES CARTER
 WATER PLANT NO. 3 - PHASE 1
 CONCRETE GST DETAILS

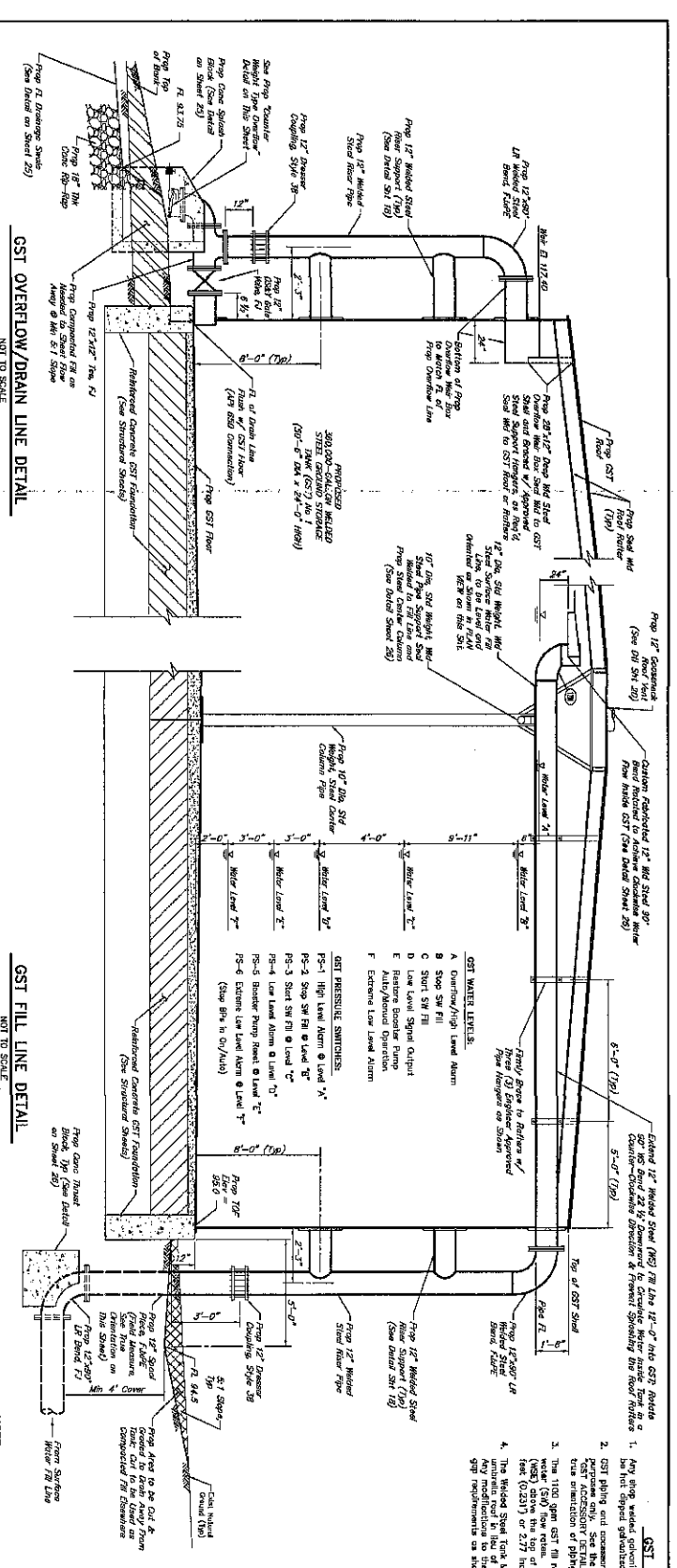
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 12/15/15
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]

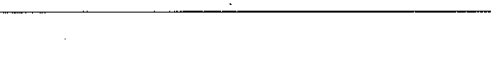
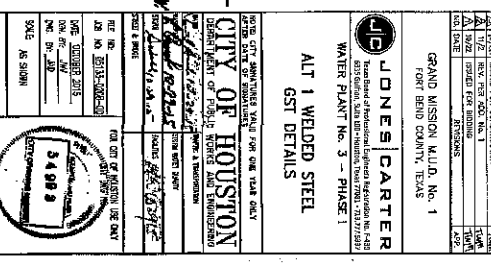
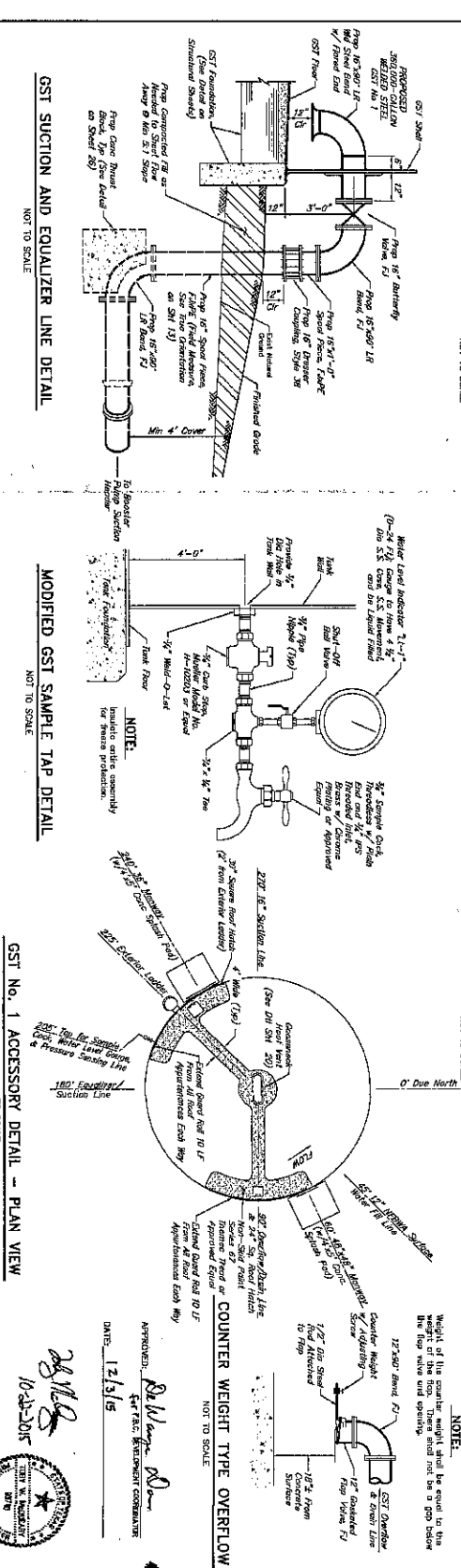
SCALE: AS SHOWN



CONTRACT NO. 15-1188



- GST CONSTRUCTION NOTES:**
- Any piping welded to the tank shell or components shall be welded to the tank shell or components by the fabricator.
 - GST piping and see the "EQUIPPED PIPING PLAN" Sheet 13 and the "GST ACCESSORY DETAIL - PLAN VIEW" on this sheet for location and orientation of piping and accessories.
 - The 1100 gal GST fill rate is based on the maximum designed liquid level of the tank. The fill rate shall be approximately 0.250 (0.2317 or 2.17 inches (2.17')).
 - The Welded Steel Tank Manufacturer is deemed to hold a self-supporting unit under test. It is the responsibility of the purchaser to provide the necessary support and reinforcement as shown on the drawings and approved by Engineer.
- GST OPERATION NOTES:**
- Under normal operating conditions, the level of the water in the tank will rise until it reaches the overflow level. At this point, the water will overflow into the overflow tank. The overflow tank is designed to hold a self-supporting unit under test. It is the responsibility of the purchaser to provide the necessary support and reinforcement as shown on the drawings and approved by Engineer.
 - When the GSTs are being filled by the DW distribution water (DW) GST headfill line flow control valve (FCV) or surface water (SW) headfill line flow control valve (FCV), the FCV will close if the system pressure falls below 20 psi. These are preliminary settings to be adjusted on a model, after confirmation is completed.
 - The point operator must set the "head-off" tank level to the "SW" level. The "SW" level is the level of the water in the overflow tank. The "SW" level is the level of the water in the overflow tank.
 - The operator shall provide proper documentation of all the water level settings of the completion of this project prior to the payment.



GST No. 1 ACCESSORY DETAIL - PLAN VIEW
 NOT TO SCALE

GST OVERFLOW/DRAIN LINE DETAIL
 NOT TO SCALE

GST SUCTION AND EQUALIZER LINE DETAIL
 NOT TO SCALE

GST FILL LINE DETAIL
 NOT TO SCALE

MODIFIED GST SAMPLE TAP DETAIL
 NOT TO SCALE

GST No. 1 ACCESSORY DETAIL - PLAN VIEW
 NOT TO SCALE

GST FILL LINE DETAIL
 NOT TO SCALE

GST SUCTION AND EQUALIZER LINE DETAIL
 NOT TO SCALE

GST OVERFLOW/DRAIN LINE DETAIL
 NOT TO SCALE

MODIFIED GST SAMPLE TAP DETAIL
 NOT TO SCALE

GST No. 1 ACCESSORY DETAIL - PLAN VIEW
 NOT TO SCALE

GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
 NOT TO SCALE

GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
 NOT TO SCALE

GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
 NOT TO SCALE

GST OVERFLOW/DRAIN LINE DETAIL
 NOT TO SCALE

MODIFIED GST SAMPLE TAP DETAIL
 NOT TO SCALE

GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
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GST FILL LINE DETAIL
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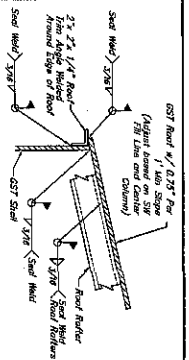
GST SUCTION AND EQUALIZER LINE DETAIL
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GST OVERFLOW/DRAIN LINE DETAIL
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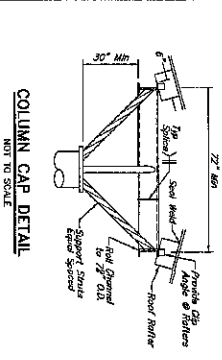
MODIFIED GST SAMPLE TAP DETAIL
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GST No. 1 ACCESSORY DETAIL - PLAN VIEW
 NOT TO SCALE

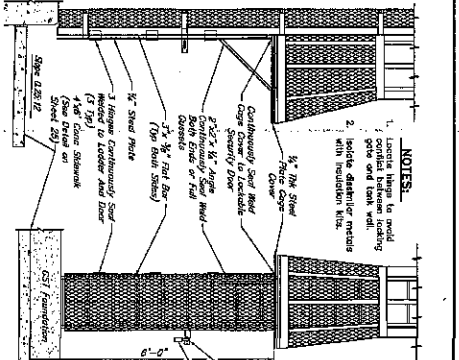
GST FILL LINE DETAIL
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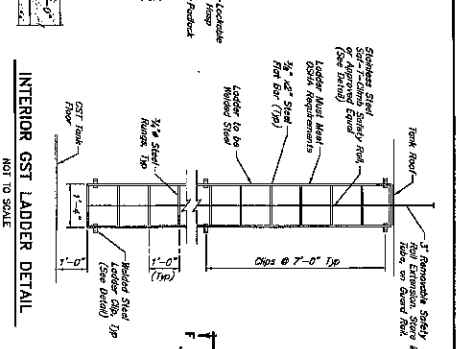
ROOF RAFTER DETAIL
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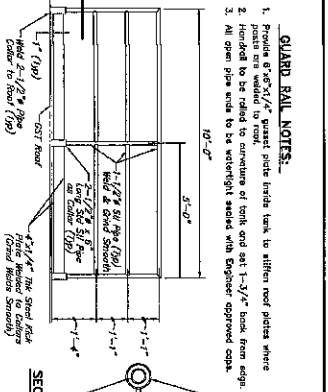
COLUMN CAP DETAIL
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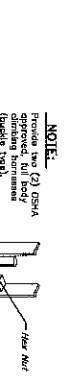
SECURITY DOOR FOR CAGED LADDER
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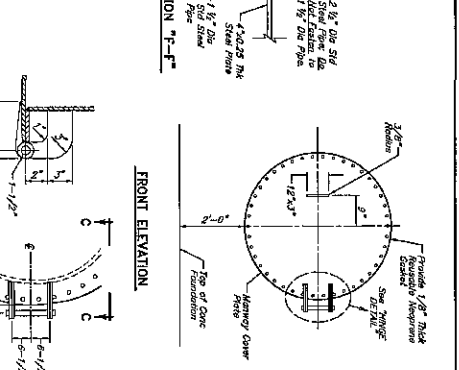
INTERIOR GST LADDER DETAIL
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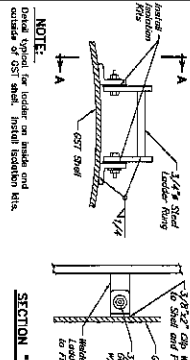
TYPICAL GUARD RAIL DETAIL
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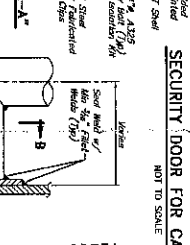
SAFETY RAIL DETAIL
NOT TO SCALE



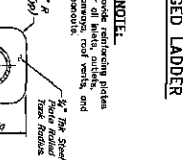
36" DIAMETER GST SHELL MANWAY
NOT TO SCALE



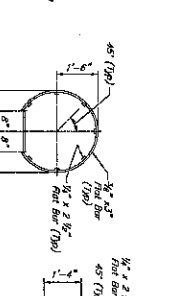
LADDER CUP DETAIL
NOT TO SCALE



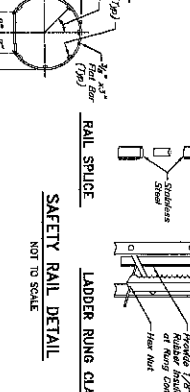
SECTION "A-A"



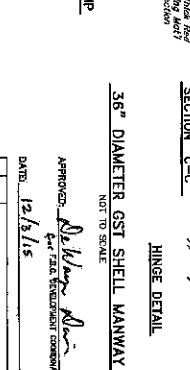
SECTION "B-B"



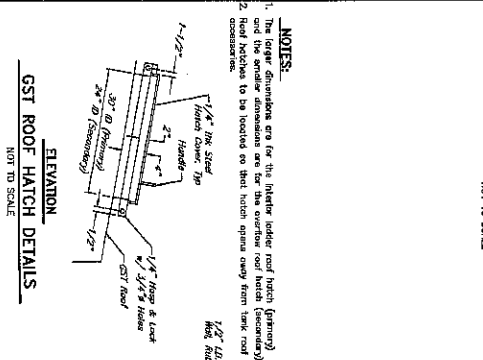
SECTION "C-C"



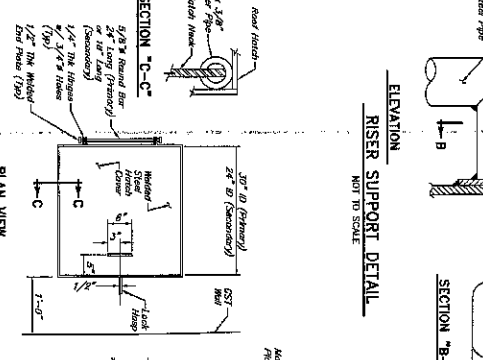
SAFETY CAGE DETAIL
NOT TO SCALE



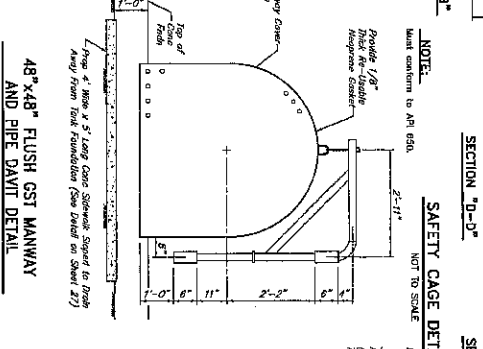
RAIL SPLICE
LADDER RING CLAMP
NOT TO SCALE



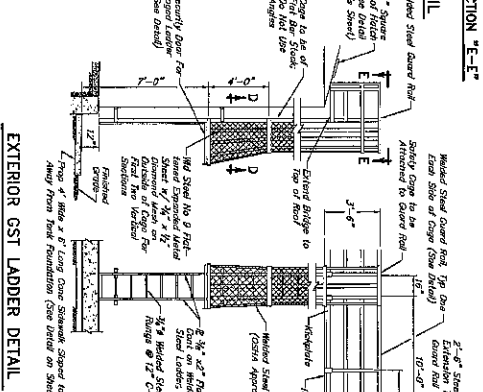
GST ROOF HATCH DETAILS
NOT TO SCALE



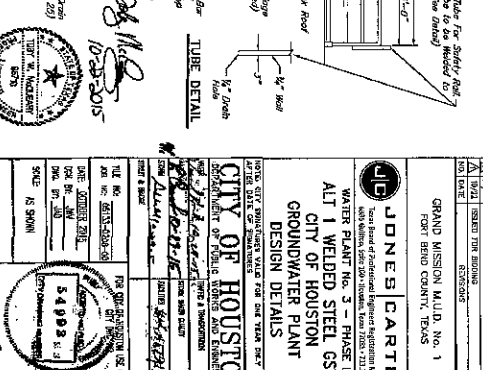
RISER SUPPORT DETAIL
NOT TO SCALE



SAFETY CAGE DETAIL
NOT TO SCALE



EXTERIOR GST LADDER DETAIL
NOT TO SCALE



48" x 48" FLUSH GST MANWAY AND PIPE DAVIT DETAIL
NOT TO SCALE

NOTES:
1. The larger dimensions are for the interior ladder roof hatch (primary) and the smaller dimensions are for the exterior roof hatch (secondary).
2. Weld practices to be located on that hatch opens away from the roof.
3. The larger dimensions are for the interior ladder roof hatch (primary) and the smaller dimensions are for the exterior roof hatch (secondary).
4. Weld practices to be located on that hatch opens away from the roof.

DATE: 12/8/15

APPROVED: *[Signature]*
6-1/2" FACE REINFORCEMENT CONNECTIONS

GRAND UNION MILD. NO. 1
CITY OF HOUSTON COUNTY, TEXAS

JONES CARTER
WATER PLANT No. 3 - PHASE I
CITY OF HOUSTON
GROUNDWATER PLANT
DESIGN DETAILS

CITY OF HOUSTON
10000 WESTHEIMER BOULEVARD, SUITE 200
HOUSTON, TEXAS 77042-3122
PHONE: 713-861-2000
FAX: 713-861-2001
WWW.CITYOFHOUSTON.COM

DESIGNED BY: *[Signature]*
CHECKED BY: *[Signature]*
DATE: 12/8/15

SCALE: AS SHOWN

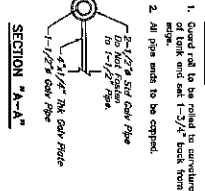
SHEET NO. 18 OF 46

10-25-2015

10-25-2015

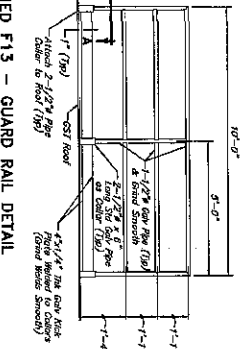
NOTES:

- 1. Guard rail to be welded to circumference of tank and set 1-3/4" back from edge.
- 2. All pipes made to be coped.



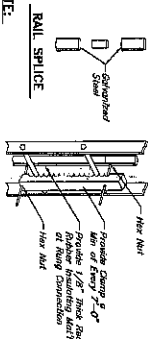
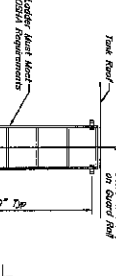
MODIFIED F13 - GUARD RAIL DETAIL

NOT TO SCALE



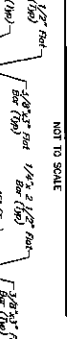
MODIFIED F12 - SAFETY RAIL DETAIL

NOT TO SCALE



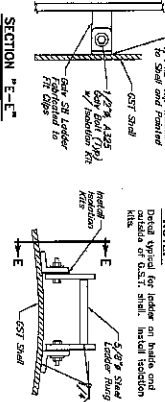
MODIFIED F12 - SAFETY RAIL DETAIL

NOT TO SCALE



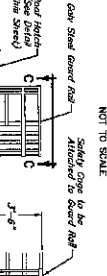
LADDER CLIP DETAIL

NOT TO SCALE



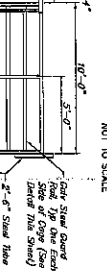
MODIFIED F12 - INTERIOR GST LADDER DETAIL

NOT TO SCALE



MODIFIED F11 - EXTERIOR GST LADDER DETAIL

NOT TO SCALE



SECTION 'D-D' - SAFETY CAGE DETAIL

NOT TO SCALE



SECTION 'C-C' - SAFETY CAGE DETAIL

NOT TO SCALE



MODIFIED F11 - EXTERIOR GST LADDER DETAIL

NOT TO SCALE



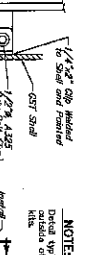
MODIFIED F10 - ROOF HATCH DETAILS

NOT TO SCALE



MODIFIED F10 - ROOF HATCH DETAILS

NOT TO SCALE



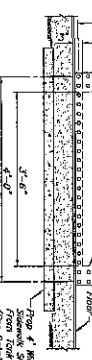
SECTION 'E-E' - LADDER CLIP DETAIL

NOT TO SCALE



MODIFIED F14 - 42"x46" CLEANOUT AND PIPE DAVIT ARM DETAIL FOR A BOLTED GST

NOT TO SCALE



MODIFIED F3 - SAMPLE TAP DETAIL

NOT TO SCALE



MODIFIED F8 - GOOSENECK-TYPE ROOF VENT DETAIL

NOT TO SCALE



SECURITY DOOR FOR CAGED LADDER

NOT TO SCALE



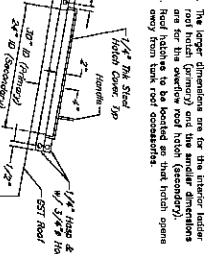
MODIFIED F12 - INTERIOR GST LADDER DETAIL

NOT TO SCALE



NOTES:

- 1. Roof hatch (optional) for the ladder ladder (optional) and the interior dimensions are for the exterior roof hatch (optional).
- 2. Roof hatch to be located on tank hatch space away from tank roof connections.



MODIFIED F10 - ROOF HATCH DETAILS

NOT TO SCALE



MODIFIED F8 - GOOSENECK-TYPE ROOF VENT DETAIL

NOT TO SCALE

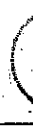


ROOF VENT NOTES:

- 1. The pipe diameter equal to 20 inches (507).
- 2. Vent to be fabricated from thin wall schedule 10 steel pipe and secure with 6 bolts with right (6) 5/8" diameter galvanized steel nuts, nuts one double for bolt code (galvanized).
- 3. Galvanneal steel must be used and double end welds do not need galvanneal.
- 4. Galvanneal steel must be used and double end welds do not need galvanneal.
- 5. Hot-dip zinc coating shall be continuously used.

NOTES:

- 1. Install with quantity for frames (0-24) (1) gauge to have 1/2" thick (1) gauge (1) material and see label for quantity and see label for quantity.
- 2. This is not a typical detail. See note for this location & orientation.



WATER PLANT NO. 3 - PHASE 1
 42" GALVANIZED BOLTED STEEL GST
 GROUNDWATER TAP PLAN DESIGN DETAILS

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

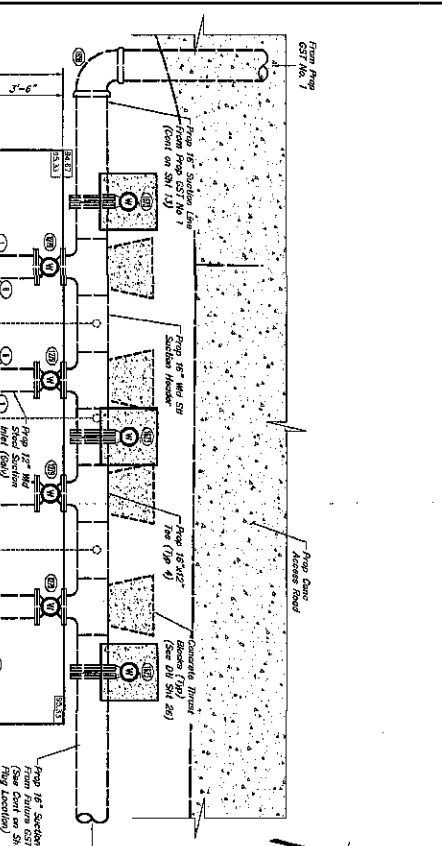
DATE: 12/13/15
 APPROVED: [Signature]

GRAND MISSION KLD, No. 1
 FERT HEAD COUNTY, TEXAS

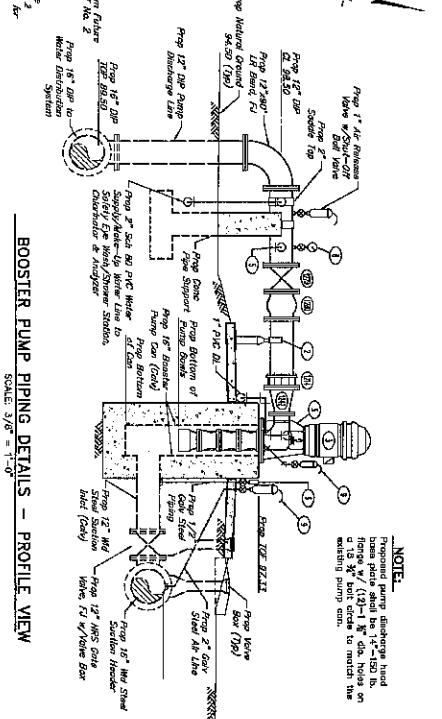
SCALE: AS SHOWN

SHEET NO. 20 OF 46

CONFORMED DOCUMENTS



BOOSTER PUMP PIPING DETAILS - PLAN VIEW
SCALE: 3/8" = 1'-0"

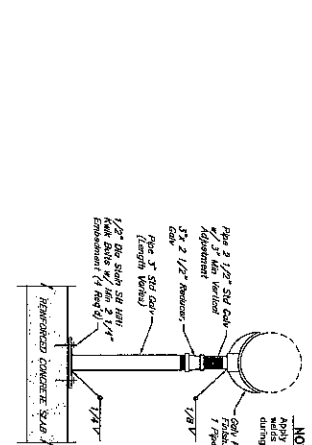


BOOSTER PUMP PIPING DETAILS - PROFILE VIEW
SCALE: 3/8" = 1'-0"

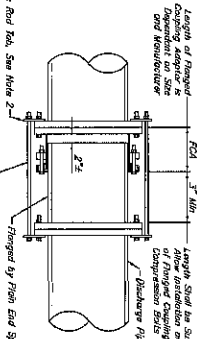
NOTE:
1. All pipe to be grade from pipe (01P) unless otherwise noted.

- PIPING CHART:**
- ① 1 1/2" A/C Reducer Valve, APCO Model No. 50
 - ② 1 1/2" A/C Gate Valve, APCO Model No. 50
 - ③ 1 1/2" A/C Check Valve, APCO Model No. 50
 - ④ 1 1/2" A/C Ball Valve, APCO Model No. 50
 - ⑤ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑥ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑦ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑧ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑨ 1 1/2" A/C Flange, APCO Model No. 50
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 - ⑮ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑯ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑰ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑱ 1 1/2" A/C Flange, APCO Model No. 50
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 - ㊿ 1 1/2" A/C Flange, APCO Model No. 50

- PIPE ACCESSORY CHART:**
- ① 1 1/2" A/C Reducer Valve, APCO Model No. 50
 - ② 1 1/2" A/C Gate Valve, APCO Model No. 50
 - ③ 1 1/2" A/C Check Valve, APCO Model No. 50
 - ④ 1 1/2" A/C Ball Valve, APCO Model No. 50
 - ⑤ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑥ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑦ Adjustable Steel Pipe Support (See Detail This Sheet)
 - ⑧ 1000-024 Vertical Turbine Booster Pump w/ 60-HP Motor
 - ⑨ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑩ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑪ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑫ 1 1/2" A/C Flange, APCO Model No. 50
 - ⑬ 1 1/2" A/C Flange, APCO Model No. 50
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 - ㊾ 1 1/2" A/C Flange, APCO Model No. 50
 - ㊿ 1 1/2" A/C Flange, APCO Model No. 50



ADJUSTABLE STEEL PIPE SUPPORT
NOT TO SCALE



TYPICAL FLANGED COUPLING ADAPTOR RESTRAINT DETAIL
NOT TO SCALE

- NOTES:**
1. The length of the rod shall be 1/8" the number of flange bolts. Each flange shall be the same diameter of the rods to be equal to the diameter of flange bolts. On site and manufacturer of flanged coupling adaptor and steel length of spool piece.
 2. Provide 316 S.S. tab for attachment of the rods. Size to be determined by Contractor.
 3. Contractor to install details during shop drawing submission.
 4. All hardware and its room shall be 316 stainless steel. The rods should be threaded.
 5. This restraint does not replace thrust blocks to be provided at other locations.

APPROVED: *[Signature]*
CITY ENGINEER, UTILITY DEPARTMENT

DATE: 12/3/15

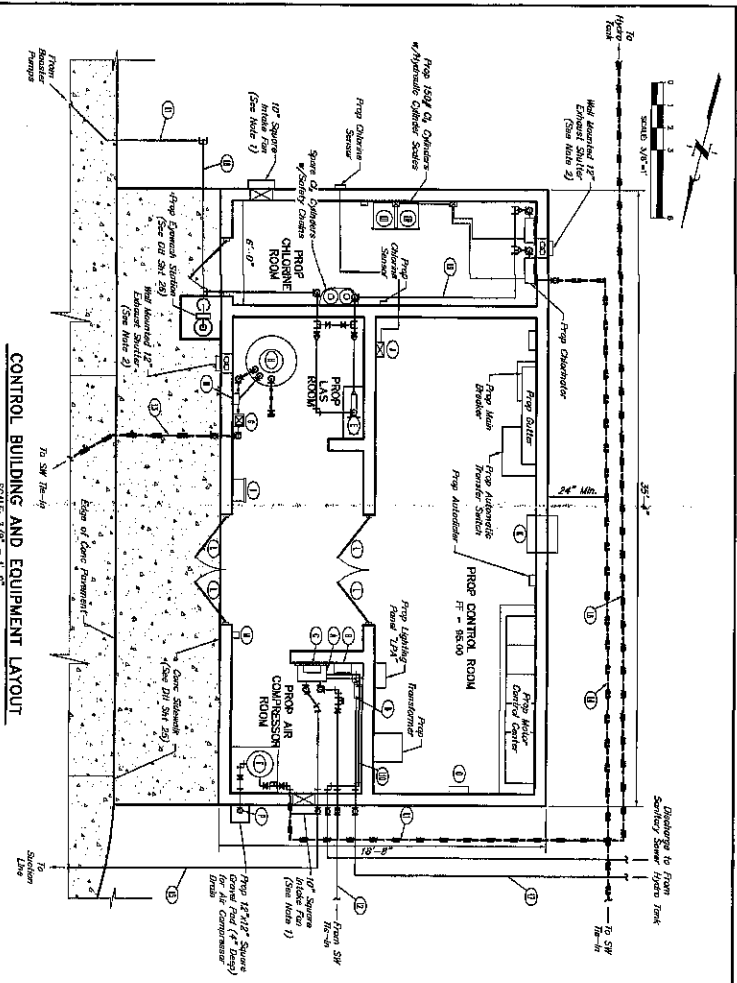
COPIES: 106 No. 15-1198

SHEET NO. 21 OF 48

JONES CARTER
Grand Mission MUD No. 1
FOOT BRIDGE COUNTY, TEXAS

BOOSTER PUMP PIPING & DETAILS
WATER PLANT No. 3 - PHASE I

NO.	DATE	DESCRIPTION
1	12/3/15	ISSUED FOR CONSTRUCTION
2	12/3/15	REVISED FOR CONSTRUCTION
3	12/3/15	REVISED FOR CONSTRUCTION
4	12/3/15	REVISED FOR CONSTRUCTION
5	12/3/15	REVISED FOR CONSTRUCTION
6	12/3/15	REVISED FOR CONSTRUCTION
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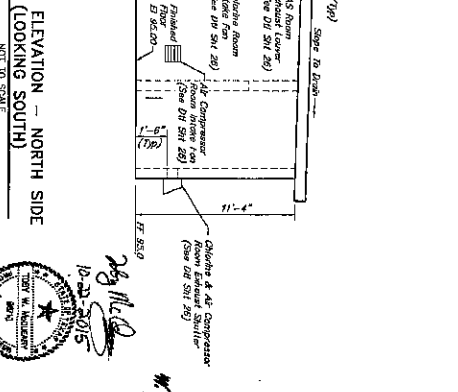
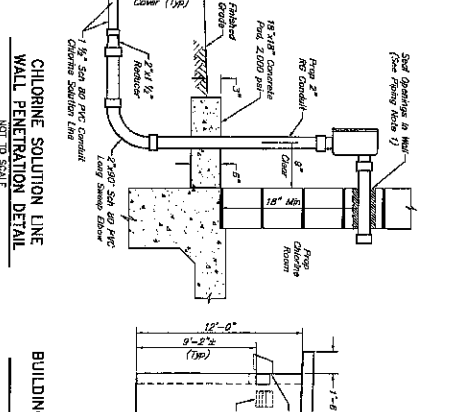
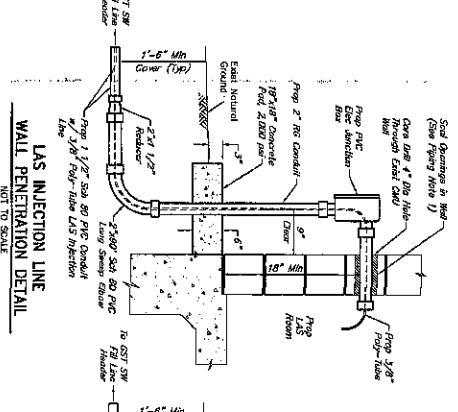
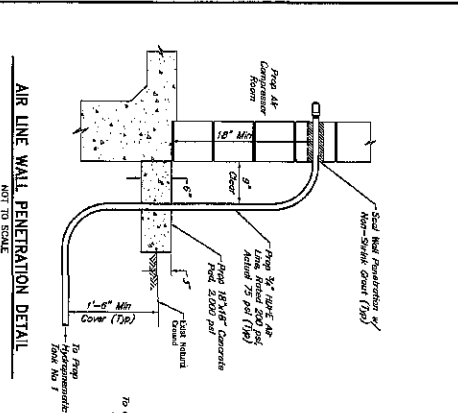
- EQUIPMENT CHART:**
- 1 Prop. Non-Magnetic Chloromax Model No. UV-2150/S Chlorination Analyzer
 - 2 Prop. Chloromax Model 4 Electrodes Model
 - 3 Prop. AEC Model 415 1000A (Part No. 88100)
 - 4 Underdrainable Paper Supply Above Analytic
 - 5 Prop. Approved Equal (See Detail Sht. 13)
 - 6 Mounted on 4" Cast Foundrying Pad
 - 7 Prop. 1.0 HP Chlorine Booster Pump
 - 8 Prop. 5.0 HP Vertical Air Compressor w/ 80 Gallon Reservoir (See Detail Sht. 23)
 - 9 Prop. Automatically Controlled Pump and Pump Section Meter (SM) L.A.S. Injection System
 - 10 Prop. 225 Gallon Double Well Vertical L.A.S. Model No. M1 250 or Prop. Approved Equal w/ 1/2" Nipple
 - 11 Prop. Through-the-Wall Air Conditioner
 - 12 Prop. Chlorine Gas Tanker Vehicle
 - 13 Prop. 40' x 6' Dual Tankage (TFR) Dura & Form W/ 12" Sq. Deck Safety Glass Windows (See Detail Sht. 25)
 - 14 Prop. 40' x 6' Dual Tankage (TFR) Dura & Form W/ 12" Sq. Deck Safety Glass Windows (See Detail Sht. 25)
 - 15 Prop. Ultrasonic Non-Contact Liquid Level Dispensing Level Controller (See Electrical Shts)
 - 16 Prop. 3" x 6" Air Compressor Automatic Drain

- SMALL PIPING LINE CHART:**
- 1 Prop. 2" Sch. 80 PVC Water Line to Supply Exp./Proc. Wash & Shower Safety Station and Pump Discharge Lines (Cont. on Sheet 13)
 - 2 Prop. 1-1/2" Sch. 80 PVC Water Supply Line to Sanitary Room from Prop. 13
 - 3 Prop. 1-1/2" Sch. 80 PVC L.A.S. Injection Line inside Sanitary Room from Prop. 13
 - 4 Prop. 3/4" Sch. 80 PVC Line Conduit to SW Fill Line (Cont. on Sheet 13)
 - 5 Prop. 5/8" PVC O.D. Solution Injection Line for SW Fill Line (Cont. on Sheet 13)
 - 6 Prop. 1-1/2" Sch. 80 PVC Water Sample Return Line from Chloromax Analyzer to SST No. 1
 - 7 Prop. 1-1/2" Sch. 80 PVC Water Supply Line for Exp./Proc. Wash & Shower Safety Station
 - 8 Prop. 3/4" Sch. 80 PVC Water-Up Water Line for Chloromax Analyzer (See Detail Sht. 13)
 - 9 Prop. 1" Sch. 80 PVC Water Supply Line for Exp./Proc. Wash & Shower Safety Station
 - 10 Prop. 2" Sch. 80 PVC Water-Up Water Line for Chloromax Analyzer (See Detail Sht. 13)
 - 11 Prop. 2" Sch. 80 PVC Analyzer Drain Line

- CONTROL BUILDING EQUIPMENT NOTES:**
- Provide and install Prop. (2) well-ventilated, automatic shutoff electrically operated chlorine gas injection system (See Detail Sht. 23) and install at no more than one twentieth (1/20) inch diameter opening in the wall. The chlorine gas injection system shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas. The chlorine gas injection system shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas. The chlorine gas injection system shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas.
 - Provide and install Prop. (2) 12-inch (12") square, well-ventilated, electrically operated chlorine gas injection system (See Detail Sht. 23) and install at no more than one twentieth (1/20) inch diameter opening in the wall. The chlorine gas injection system shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas. The chlorine gas injection system shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas.
 - Provide and install one (1) through the wall electric heat or cooling unit (See Detail Sht. 23) and install at no more than one twentieth (1/20) inch diameter opening in the wall. The electric heat or cooling unit shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas. The electric heat or cooling unit shall be installed in a room which is totally enclosed, secure and has no other openings for air or gas.

PIPING NOTES:

- All wall penetrations through existing control building walls shall be tightly sealed with an approved chemical resistant non-stick gasket.
- All underground lines shall be marked.



JONES CARTER
WATER PLANT NO. 3 - PHASE I
CONTROL BUILDING
EQUIPMENT PLAN
& DETAILS

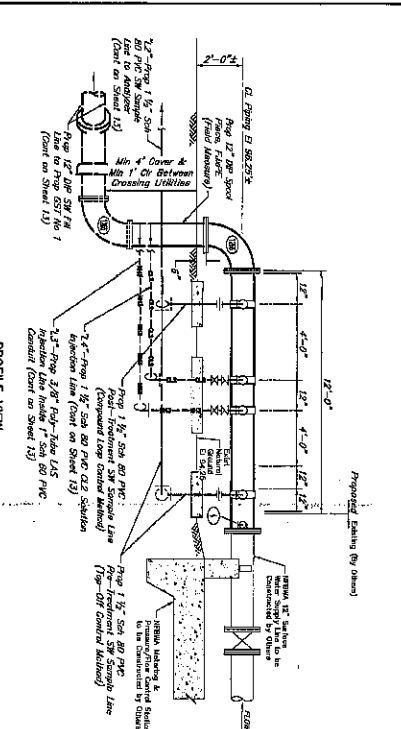
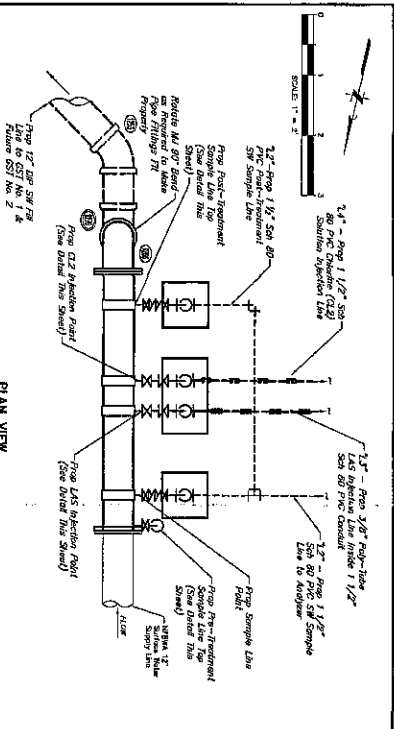
CITY OF HOUSTON
DEPARTMENT OF WATER UTILITIES
CONSTRUCTION DIVISION

APPROVED: *[Signature]*
DATE: 12/1/15

SCALE: AS SHOWN

DATE: 12/22/14

NO. 51908



G.S.T. SURFACE WATER FILL LINE DETAIL
SCALE: 3/8" = 1'-0"

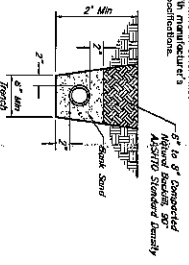
PIPING CHART:

- ① 3" Sample Check Assembly (See Detail Sheet 27)
- ② 12" 90° Bend, 90°
- ③ 12" 90° Bend, Long Radius, 90°

PIPING NOTES:

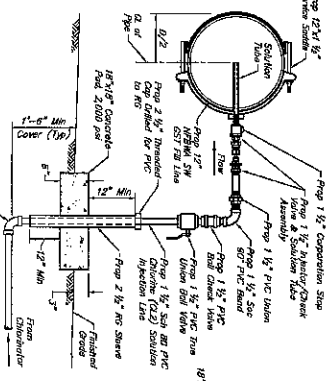
1. All pipe to be ductile iron pipe (DIP) unless otherwise noted.
2. Contractor shall construct ALL PVC-LINE solution lines except in Schedule 80 PVC where to allow ability to be welded. Where required, one/one replaced in the future.
3. All ductile iron lines and taps shall be constructed as per the referenced schedule. All fittings shall be approved by the Engineer prior to meeting any danger.
4. Contractor shall install all of piping per specifications. Provide pipe supports to steel structure.

BEDDING FOR SMALL DIAMETER (<3") PIPING DETAIL
NOT TO SCALE



NOTES:

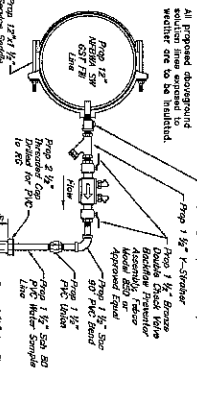
1. Compartmented ductile injection lines exposed to weather etc to be finished.
2. 0\"/>



SURFACE WATER (SW) G.S.T. FILL LINE CHLORINE (CL2) INJECTION TAP DETAIL
NOT TO SCALE

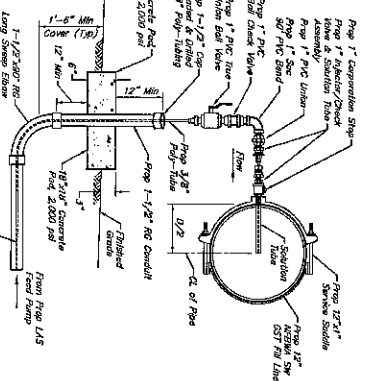
CONTRACTOR NOTE:

Proposed weathered ductile injection lines exposed to weather etc to be finished.



SURFACE WATER (SW) G.S.T. FILL LINE SAMPLE LINE TAP DETAIL
NOT TO SCALE

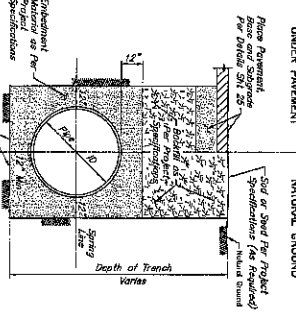
TYPICAL LAS INJECTION POINT DETAIL
NOT TO SCALE



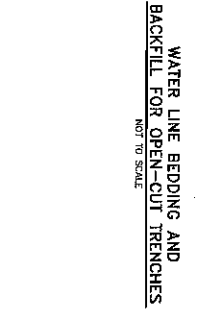
CONTRACTOR NOTES:

1. All proposed compartmented ductile injection lines exposed to weather etc to be finished.
2. 0\"/>

HALF SECTION UNDER UNFINISHED PAVERMENT

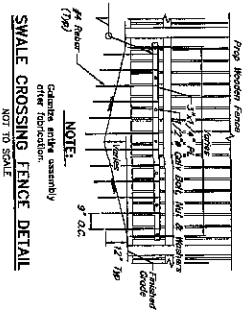


WATER LINE BEDDING AND BACKFILL FOR OPEN-CUT TRENCHES
NOT TO SCALE

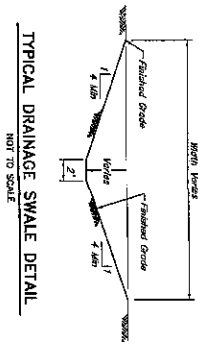


C.O.B. LOG No. 15-1168

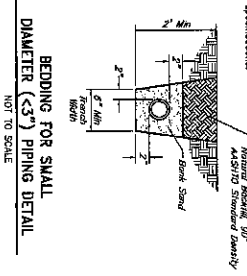
<p>APPROVED: <i>Jones Carter</i></p> <p>DATE: 12/6/15</p>	
<p>GRAND MISSION W.L.D. NO. 1 PHASE 3B QUALITY ISSUES</p>	
<p>JONES CARTER WATER PLANT NO. 3 - PHASE I</p>	
<p>G.S.T. SURFACE WATER FILL LINE PIPING DETAILS</p>	
<p>DATE: 12/6/15</p>	
<p>SCALE: AS SHOWN</p>	
<p>NO. OF SHEETS: 24 OF 14</p>	
<p>54999</p>	



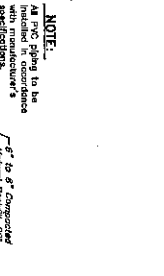
SWALE CROSSING FENCE DETAIL
NOT TO SCALE



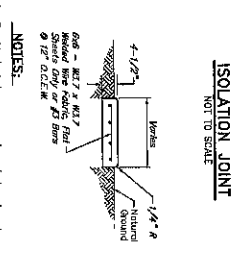
TYPICAL DRAINAGE SWALE DETAIL
NOT TO SCALE



BEDDING FOR SMALL DIAMETER (3\"/>NOT TO SCALE

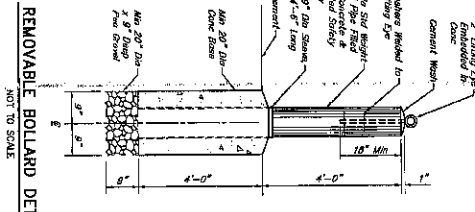


ISOLATION JOINT
NOT TO SCALE

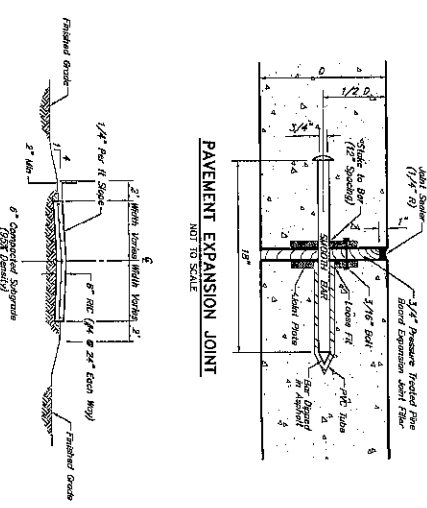


TYPICAL CONCRETE SIDEWALK DETAIL
NOT TO SCALE

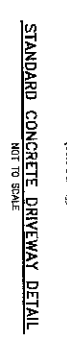
- NOTES:**
1. Finish level or top-of-surface or height construction (plus or minus 4\"/>
 2. Slope concrete sidewalk 1/4\"/>



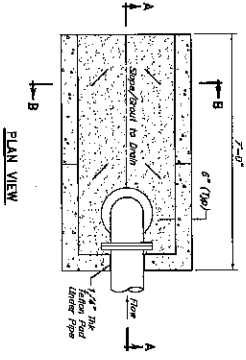
REMOVABLE BOLLARD DETAIL
NOT TO SCALE



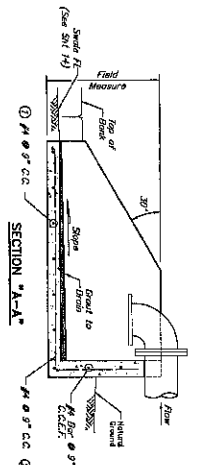
PAVEMENT EXPANSION JOINT
NOT TO SCALE



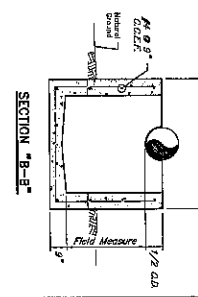
STANDARD CONCRETE DRIVEWAY DETAIL
NOT TO SCALE



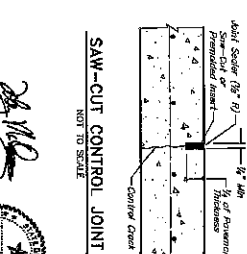
CONCRETE SPLASH BLOCK DETAIL
NOT TO SCALE



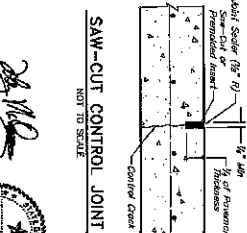
SECTION A-A



SECTION B-B



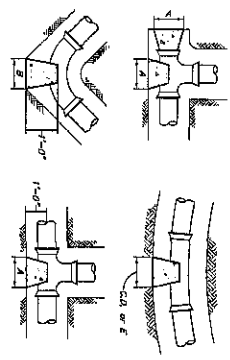
KEYED CONSTRUCTION JOINT
NOT TO SCALE



SAW-CUT CONTROL JOINT
NOT TO SCALE

CONTRACT NO. 15-1183
SHEET NO. 25 OF 43
DATE: 12/6/15
APPROVED: [Signature]
FOR THE DEVELOPMENT ENGINEER
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
WALTER JONES CARTER
PAVING & DRAINAGE DETAILS
3828 A.W. WALKER, SUITE 100, HOUSTON, TEXAS 77057-2777
PH: 281-416-2200
FAX: 281-416-2201
WWW.WALKERCONSTRUCTION.COM

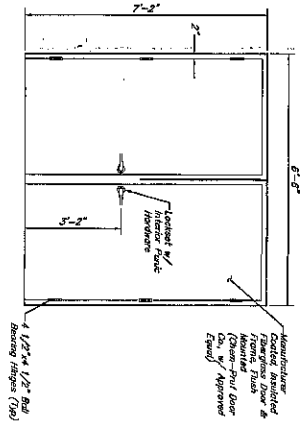




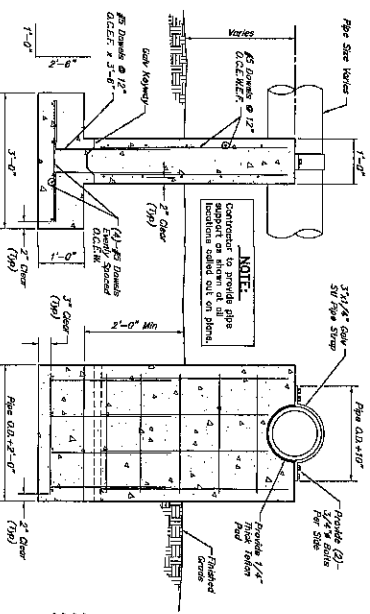
Block Size	Block Height	Block Width	Block Thickness	Block Spacing	Block Material
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"
12"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"

NOTES:
 1. Heights of all blocks shall be equal to 3/4" x 3/4" x 3/4" or 1" dimension called for.
 2. All concrete to be poured against form, undisturbed soil.

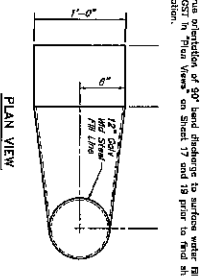
MODIFIED T - THRUST BLOCK DETAILS
 NOT TO SCALE



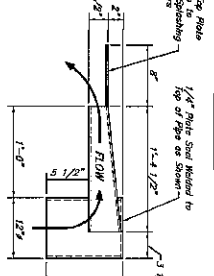
DOOR DETAIL
 SCALE 1/2"=1'-0"



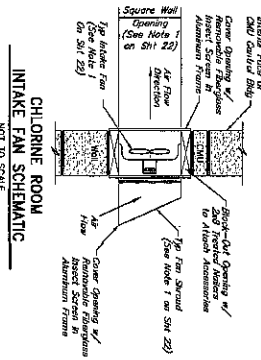
CONCRETE PIPE SUPPORT DETAIL
 NOT TO SCALE



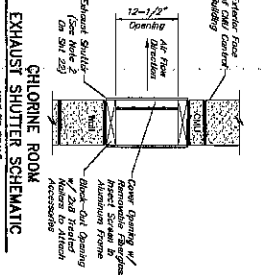
12" FABRICATED 90° BEND DETAIL
 NOT TO SCALE



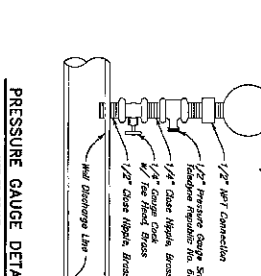
PROFILE VIEW



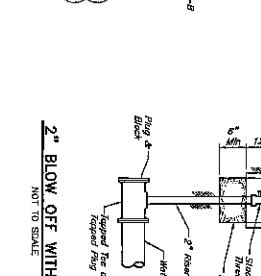
CHLORINE ROOM INTAKE FAN SCHEMATIC
 NOT TO SCALE



CHLORINE ROOM EXHAUST SHUTTER SCHEMATIC
 NOT TO SCALE



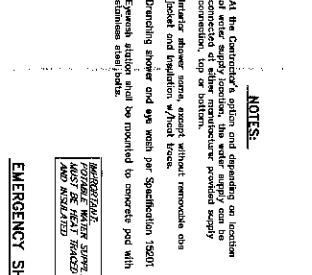
PRESSURE GAUGE DETAIL
 NOT TO SCALE



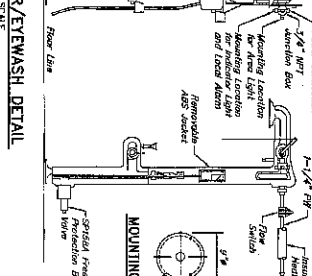
2" BLOW OFF WITH BOX
 NOT TO SCALE



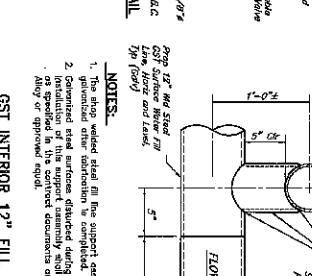
EMERGENCY SHOWER/EYEWASH DETAIL
 NOT TO SCALE



PIPE MOUNTING DETAIL
 NOT TO SCALE



12" FILL LINE SUPPORT DETAIL
 NOT TO SCALE



12" FABRICATOR 90° BEND DETAIL
 NOT TO SCALE

NOTES:
 Reinforced steel bend shall be constructed of minimum 1/2" thick plate steel. The bend shall be fabricated in accordance with the details shown. The custom 307 welded steel bend assembly shall be covered only after the bend is completed. The assembly shall be hot dipped galvanized as specified in contract Specification 03024, see for more details.
 See Unit Schedule of 90° bend drawings for surface where fill line indicates each 307 in "Plan View" on Sheet 17 and 18 prior to weld shop fabrication.

PLAN VIEW

PROFILE VIEW

12" FABRICATED 90° BEND DETAIL
 NOT TO SCALE

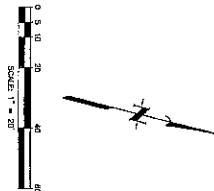
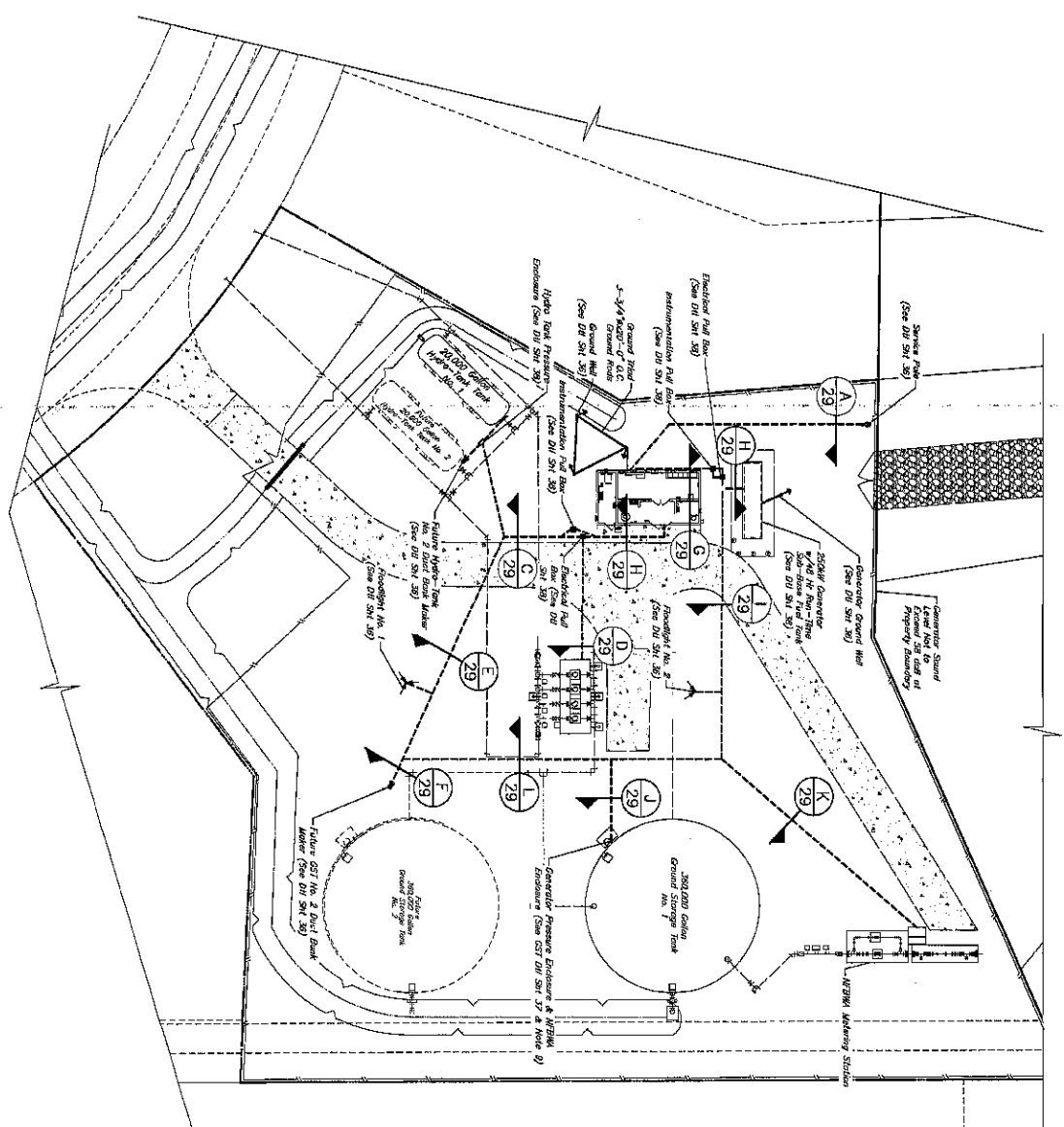
APPROVED: *[Signature]*
 DATE: 12/6/15

JONES CARTER
 WATER PLANT No. 3 - PHASE 1
 GRAND HUNSON WARD, No. 1
 GOVT BOND COUNTY, TEXAS

MISCELLANEOUS DETAILS
 SHEET 1 OF 2

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS
 1515 W. WALKER
 HOUSTON, TEXAS 77002

CONTRACT NO. 15-1188
 SHEET No. 26 OF 44



- NOTES:**
- All construction shall comply with local and national codes and requirements.
 - Conduits shall not be routed across walkways, points of access, travel, or equipment. Do not route in conflict with other piping, ventlines, equipment, or structures.
 - Contractor shall be responsible for obtaining any and all permits associated with this work. The cost of the permit, if any, shall be borne by the contractor.
 - All exterior above ground conduit shall be rigid aluminum clad conduit. Conduits within the electrical rooms are to be 3/4" PVC. All conduit in direct burial shall be 3/4" PVC except for water duct bank which shall be rigid galvanized steel. All conduits shall be installed in accordance with the applicable code.
 - All aspects of this installation shall comply with the latest utility company's own methods with utility company prior to beginning construction.
 - Field verify exact location of all underground pipes, conduits, and structures before signing report any damage done to original condition.
 - All power and instrumentation conductors shall be installed in separate conduits. Instrumentation & power conductors must have a minimum of 12" of spacing. Inside power and instrumentation conductors in separate pull boxes. The cost of connecting new service shall be provided by the owner. All conduits shall be installed in accordance with applicable codes. All conduits, fittings and other equipment necessary to energize the plant, installation shall meet utility company requirements and all applicable local and national codes.
 - Install 63T top for prepared NEMA pressure transmitter 12" above 63T foundation. See DLT SHT 35.

LEGEND:

PROPOSED	ELECTRICAL DUCT BANK MARKER (SEE DLT SHT 38)
■	ELECTRICAL DUCT BANK (SEE DLT SHT 38)
—	ELECTRICAL DUCT BANK (SEE DLT SHT 38)
—	GROUND CONDUCTOR
—	CAPPED ELECTRICAL CONDUIT
○	GROUND WELL (SEE DLT SHT 38)
○	FLOODLIGHT (SEE DLT SHT 38)
○	WEATHERHEAD (SEE DLT SHT 38)
○	SERVICE POLE (SEE DLT SHT 38)

APPROVED: *[Signature]*
DATE: 12/3/15

JONES CARTER
WATER PLANT No. 3 - PHASE 1
ELECTRICAL SITE LAYOUT

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

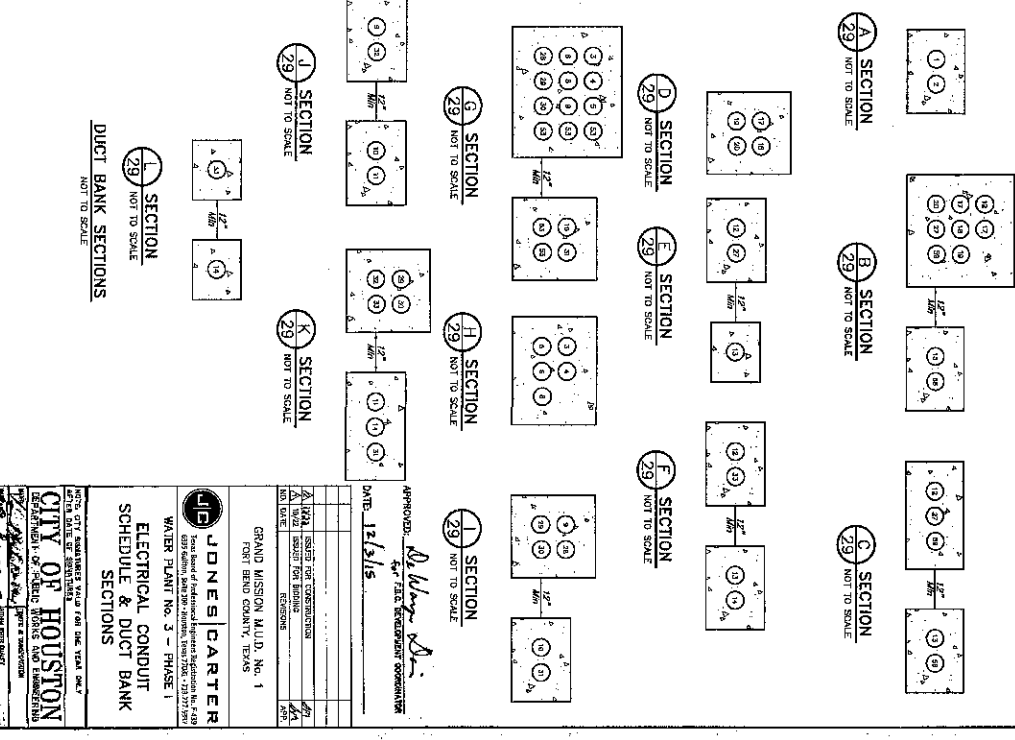
GRAND MISSION M.U.D. No. 1
FOUNT BEND COUNTY, TEXAS

PROJECT No. 28 of 16

DATE: 12/3/15

SCALE: 1" = 20'

NO.	SIZE & CONDUCTIONS	DESCRIPTION	FROM	TO
1	3" C. W/2-500 W/4 + #2/0 NEU	INDUCTION SERVICE	SERVICE POLE	MAIN BREAKER
2	3" C. W/2-500 W/4 + #2/0 NEU	INDUCTION SERVICE	SERVICE POLE	MAIN BREAKER
3	3" C. W/2-500 W/4 + #2/0 NEU	GENERATOR POWER	GENERATOR	A.I.S.
4	3" C. W/2-500 W/4 + #2/0 NEU	GENERATOR POWER	GENERATOR	A.I.S.
5	1" C. W/1-1/2 W/4 + #2/0 NEU	GENERATOR AMPLIFIER	GENERATOR	A.I.S.
6	1" C. W/2-#14 + #2/0 GND	GENERATOR WEAR/STARTS CONTROLS	GENERATOR	A.I.S.
7	1" C. W/2-#14 + #2/0 GND	GENERATOR WEAR/STARTS CONTROLS	GENERATOR	A.I.S.
8	1 1/2" C. W/2-#14 + #2/0 GND	GENERATOR WEAR/STARTS CONTROLS	GENERATOR	A.I.S.
9	1" C. W/1-#12 + #2/0 GND	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	A.I.S.
10	1" C. W/1-#12 + #2/0 GND	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	A.I.S.
11	1" C. W/1-#12 + #2/0 GND	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	A.I.S.
12	1" C. W/1-#12 + #2/0 GND	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	A.I.S.
13	1" C. W/1-#12 + #2/0 GND	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	A.I.S.
14	1" C. W/1-#12 + #2/0 GND	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	GEN. TANK HEAT TRACE RESERVE/TRACE & CONTROLS	A.I.S.
15	3" C. W/2-500 W/4 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
16	3" C. W/2-500 W/4 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
17	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
18	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
19	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
20	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
21	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
22	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
23	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
24	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
25	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
26	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
27	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
28	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
29	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
30	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
31	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
32	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
33	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
34	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
35	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
36	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
37	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
38	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
39	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
40	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
41	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
42	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
43	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
44	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
45	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
46	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
47	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
48	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
49	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
50	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
51	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
52	1 1/2" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
53	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
54	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
55	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
56	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
57	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
58	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
59	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.
60	1" C. W/2-#14 + #2/0 GND	BOOSTER PUMP NO. 1	BOOSTER PUMP NO. 1	A.I.S.



APPROVED: *[Signature]*
 DATE: 12/6/15
 GRAND MISSION ALL D. No. 1
 (JEFFERSON COUNTY, TEXAS)

JONES CARTER
 ELECTRICAL CONDUIT
 SCHEDULE & DUCT BANK
 SECTIONS

WATER PLANT No. 3 - PHASE 1
 6000 West Loop South, Suite 1000, Houston, Texas 77056 - 72373793

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS
 1100 West Loop West, Suite 1000, Houston, Texas 77056 - 72373793

PROJECT: GRAND MISSION ALL D. No. 1
 SHEET: 29 OF 66

DATE: 12/6/15

FOR THE CITY OF HOUSTON, THE CITY ENGINEER HAS REVIEWED THIS SCHEDULE AND DUCT BANK SECTIONS AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE CITY OF HOUSTON ELECTRICAL CODE AND THE CITY OF HOUSTON WATER UTILITY CODE.

FOR THE CITY OF HOUSTON, THE CITY ENGINEER HAS REVIEWED THIS SCHEDULE AND DUCT BANK SECTIONS AND HAS FOUND THEM TO BE IN ACCORDANCE WITH THE CITY OF HOUSTON ELECTRICAL CODE AND THE CITY OF HOUSTON WATER UTILITY CODE.

DIGITAL INPUT COMBINATION MODULE SCHEDULE

NO.	DESCRIPTION
1	COMBINATION
2	BOOSTER PUMP NO. 1 HAND
3	BOOSTER PUMP NO. 1 AUTO
4	BOOSTER PUMP NO. 1 RUNNING
5	BOOSTER PUMP NO. 2 HAND
6	BOOSTER PUMP NO. 2 AUTO
7	BOOSTER PUMP NO. 2 RUNNING
8	PURIFIER BOOSTER PUMP NO. 3 HAND
9	PURIFIER BOOSTER PUMP NO. 3 AUTO
10	PURIFIER BOOSTER PUMP NO. 3 RUNNING
11	PURIFIER BOOSTER PUMP NO. 4 HAND
12	PURIFIER BOOSTER PUMP NO. 4 AUTO
13	PURIFIER BOOSTER PUMP NO. 4 RUNNING
14	SHOCK PUMP HAND
15	SHOCK PUMP AUTO
16	SHOCK PUMP RUNNING
17	HYDRO TANK AIR FEED HAND
18	HYDRO TANK AIR FEED AUTO
19	HYDRO TANK AIR FEED RUNNING
20	AIR COMPRESSOR HAND
21	AIR COMPRESSOR AUTO
22	AIR COMPRESSOR RUNNING
23	HYDRO TANK NO. 1 SELECTOR
24	HYDRO TANK NO. 2 SELECTOR
25	CHLORINE BOOSTER PUMP HAND
26	CHLORINE BOOSTER PUMP AUTO
27	CHLORINE BOOSTER PUMP RUNNING
28	GENERATOR FAIL
29	GENERATOR LOW LEVEL ALARM
30	GENERATOR HIGH LEVEL ALARM
31	SET LOW LEVEL ALARM
32	SET HIGH LEVEL ALARM
33	CL2 LEAK ALARM
34	ALARM RESET
35	HYDRO CHLORINATOR RUNNING
36	HYDRO LAS INTERLOCK PUMP RUNNING

DIGITAL OUTPUT COMBINATION MODULE SCHEDULE

NO.	DESCRIPTION
1	BOOSTER PUMP NO. 1 CALL
2	BOOSTER PUMP NO. 2 CALL
3	BOOSTER PUMP NO. 3 CALL
4	BOOSTER PUMP NO. 4 CALL
5	HYDRO TANK AIR FEED CALL
6	CHLORINE BOOSTER PUMP CALL
7	HYDRO LAS PUMP CALL
8	HYDRO LAS FEED RATE
9	SET EXTRA LOW LEVEL ALARM
10	SET LOW LEVEL ALARM
11	SET HIGH LEVEL ALARM
12	HYDRO TANK HIGH LEVEL ALARM
13	HYDRO TANK DRS

ANALOG INPUT COMBINATION MODULE SCHEDULE

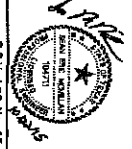
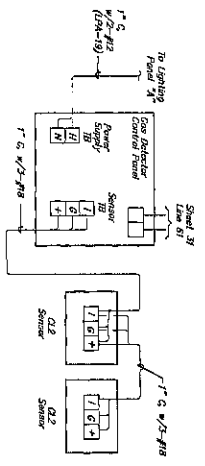
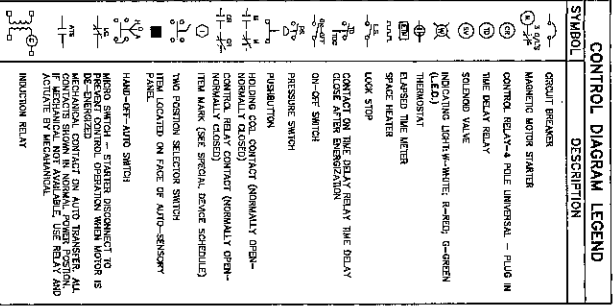
NO.	DESCRIPTION
1	SET NO. 1 PRESSURE TRANSDUCER
2	SET NO. 2 PRESSURE TRANSDUCER
3	HYDRO TANK NO. 1 PRESSURE TRANSDUCER
4	HYDRO TANK NO. 2 DIFFERENTIAL PRESSURE TRANSDUCER
5	HYDRO TANK AIR FEED CALL
6	CHLORINE BOOSTER PUMP CALL
7	LAS FEED TRANSDUCER
8	HYDRO LAS FEED RATE
9	HYDRO CHLORINATOR RESIDUAL
10	HYDRO FREEZEMAN RESIDUAL
11	HYDRO CHLORINATOR FEED RATE

ANALOG OUTPUT COMBINATION MODULE SCHEDULE

NO.	DESCRIPTION
1	SET LEVEL
2	CL2 FEED RATE
3	LAS FEED RATE
4	HYDRO TOTAL CHLORINATOR
5	HYDRO FREEZEMAN

SPECIAL DEVICE SCHEDULE

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	24 WIRE POWER SUPPLY - BRUNNEN CONTACT QUANT	11	PHOTOELECTRIC SWITCH - INEVMARQUE SERIES K100A, 120 VOLT
2	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	12	QUADRA-ERROR - DIVERSIFIED ELECTRONICS AM-120-AM
3	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	13	PRESSURE TRANSDUCER - ROSSMONT MODEL 420172ZABANBQ4
4	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	14	0-150 PSI MAX WITH INTERNAL LOG OUTPUT OR APPROVED EQUIVALENT
5	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	15	0-150 PSI MAX WITH INTERNAL LOG OUTPUT OR APPROVED EQUIVALENT
6	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	16	CELLULAR AUTODIAGNOSIS - SEE SPECIFICATION 16818
7	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	17	POWER SYSTEM MONITOR - SQUARE D CLASS 3000, TYPE CM-2350
8	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	18	W/4 WIRE ROW CAPTURE OR APPROVED EQUAL
9	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	19	FLASHING BEACON - BOPPA, 120 VOLT, RED, ACETIC DOME LENS
10	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	20	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
11	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	21	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
12	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	22	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
13	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	23	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
14	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	24	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
15	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	25	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
16	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	26	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
17	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	27	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
18	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	28	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
19	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	29	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ
20	DIFFERENTIAL PRESSURE TRANSDUCER - ROSSMONT	30	INDUCTION RELAY - WARNICK SERIES 1, 120 VOLT, 60 HZ



APPROVED: *John W. Jones*, P.E.
 DATE: 12/3/15
 PROJECT: **PHASE 1**

GRAND JUNCTION A.I.D. No. 1
 FORT BEND COUNTY, TEXAS

JONES CARTER
 ELECTRICAL
 CONTROL DIAGRAM
 SHEET 3 OF 3

WHOLE PLANT NO. 3 - PHASE 1

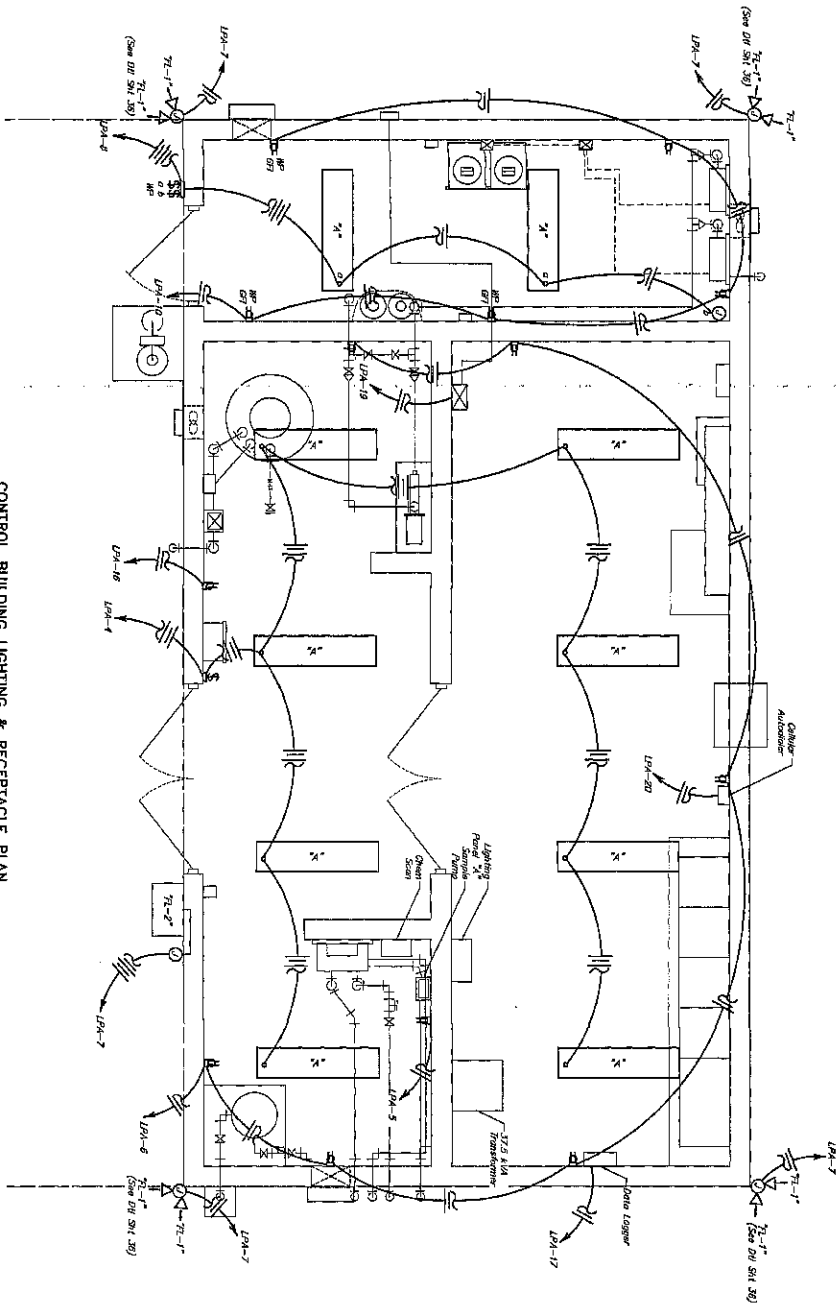
NOTE: CITY OF HOUSTON SHALL HAVE 70% OF THE YEAR 2015
 CITY OF HOUSTON SHALL HAVE 30% OF THE YEAR 2016
 CITY OF HOUSTON SHALL HAVE 30% OF THE YEAR 2017
 CITY OF HOUSTON SHALL HAVE 30% OF THE YEAR 2018
 CITY OF HOUSTON SHALL HAVE 30% OF THE YEAR 2019
 CITY OF HOUSTON SHALL HAVE 30% OF THE YEAR 2020

DATE: 12/3/15
 DRAWN BY: J. Jones
 CHECKED BY: J. Jones
 SCALE: AS SHOWN

SHEET NO. 53 OF 46

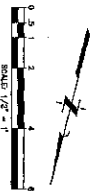
64982

C.O.H. LOG No. 15-1186



CONTROL BUILDING LIGHTING & RECEPTACLE PLAN
SCALE: 1/2"=1'-0"

LIGHTING FIXTURE SCHEDULE					
TYPE	MANUFACTURER	VOLTAGE	MOUNTING	LAMPS	REMARKS
A	LITONKA A-1-ANGL. I-8-GRS	120	CEILING	2 LED T-8	2 LAMP ENCLOSED STRIP
FL-1	ARQUATEX AR-E27-BULB-P W/POLE VANDAL SHIELD	120	SIP-ATTN	1 LED T-5250 LUMENS	ARE/MASTER W/VANDAL SHIELD SEE DETAIL SHEET FOR USE ON FALTER STRIP
FL-2	LITONKA LPH-23	120	WALL	1 Z770 LUMENS	2 LAMP ENCLOSED



NOTES:
1. Install exterior receptacles a minimum of two (2) ft. above finished grade. Receptacles to be installed in control building using stainless steel strips.

LEGEND:

- PROPOSED LIGHTING FIXTURE (SEE LIGHTING FIXTURE SCHEDULE FOR SHEET FOR DETAILS)
- 120V/15A OR TYPE RECEPTACLE WITH A WEATHERPROOF "WHILE-IN-USE" COVER
- 120V/20A RECEPTACLE
- 120V/20A WEATHERPROOF SWITCH
- NEARBY JUNCTION BOX

APPROVED: *Dr. Mary Davis*
DATE: 12/3/15
54' ELECTRICAL CONTRACTOR

DATE: 12/3/15
INDEXED FOR CONSTRUCTION
NO. DATE
NO. DATE

GRAND MISSION K.L.D. No. 1
3801 1800 CORNWALL, HOUSTON, TX 77056

JONES CARTER
WATER PLANT No. 3 - PHASE 1
CONTROL BUILDING
LIGHTING & RECEPTACLE
PLAN

NOTES: SEE ELECTRICAL SYMBOLS FOR THE PLAN ONLY.
ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF HOUSTON ELECTRICAL CODE, THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE REGULATIONS.
ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF HOUSTON ELECTRICAL CODE, THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE REGULATIONS.

CITY OF HOUSTON
ELECTRICAL DIVISION
1500 RICE AVENUE, SUITE 1000
HOUSTON, TEXAS 77055
PHONE: 713/554-3300
FAX: 713/554-3301
WWW.CITYOFHOUSTON.ORG

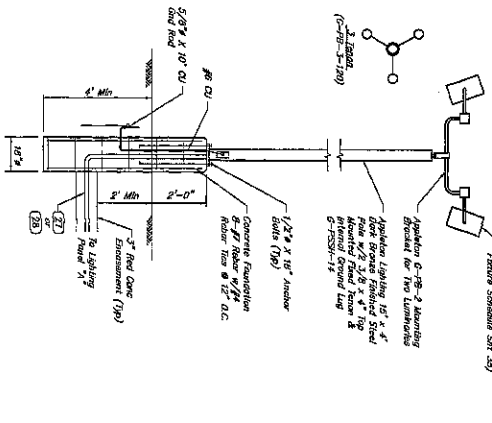
DATE: 12/3/15
SCALE: 1/2" = 1'-0"

INDEX NO. 35 of 48

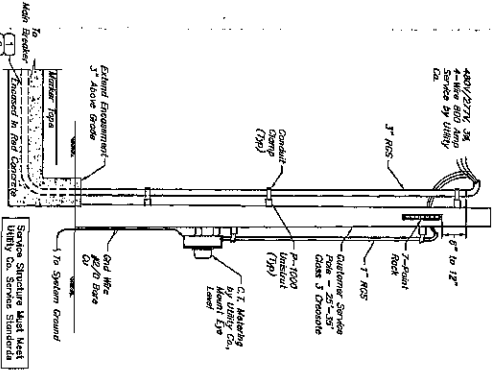
C.O.D. LOG NO. 15-1188

54000

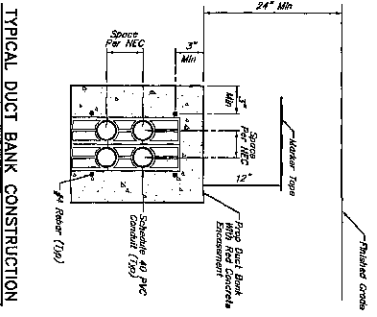
NOTE:
Light fixture to be oriented to
face from 20' upward from street;
regardless of street lighting
regulation.



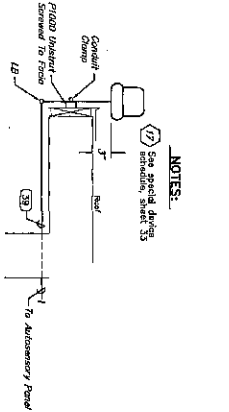
FLOODLIGHT DETAIL
NOT TO SCALE



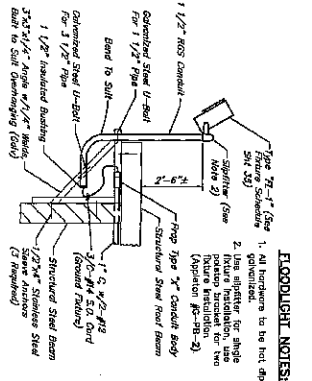
SERVICE POLE DETAIL
NOT TO SCALE



TYPICAL DUCT BANK CONSTRUCTION
NOT TO SCALE

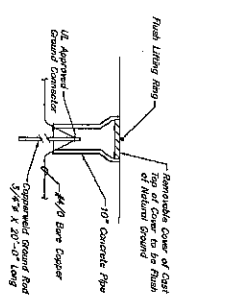


BEACON LIGHT INSTALLATION
NOT TO SCALE

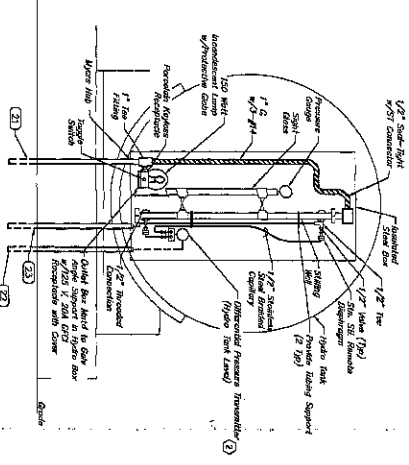


BUILDING FLOODLIGHT INSTALLATION
NOT TO SCALE

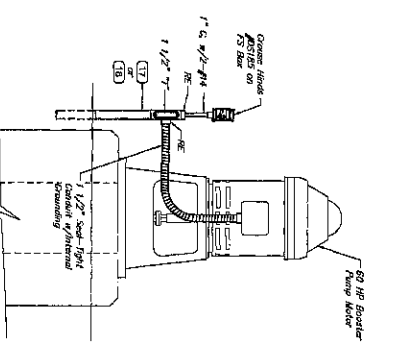
FLOODLIGHT NOTES:
1. All hardware to be hot dip
galvanized.
2. Use malleable iron angle
iron hardware for two
pole installation.
(Option A-29-2)



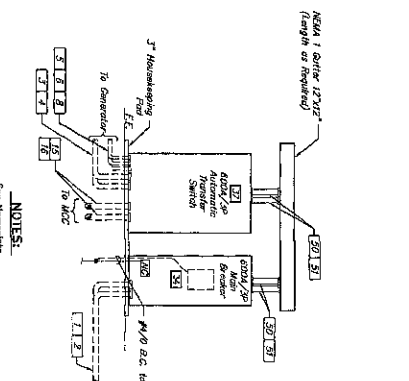
GROUND WELL DETAIL
NOT TO SCALE



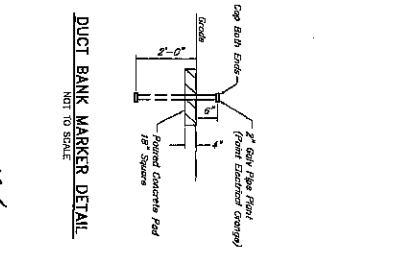
HYDRO-TANK No. 1 DETAIL W/PRESSURE TRANSMITTER
NOT TO SCALE



BOOSTER PUMP ELECTRICAL DETAIL
NOT TO SCALE



SERVICE ENTRANCE LAYOUT
NOT TO SCALE



DUCT BANK MARKER DETAIL
NOT TO SCALE

JONES GARTER
WATER PLANT No. 3 - PHASE I
ELECTRICAL DETAILS
SHEET 1 OF 3
GRAND MISSION W.L.D. No. 1
FOOT BRIDG COUNTY, TEXAS

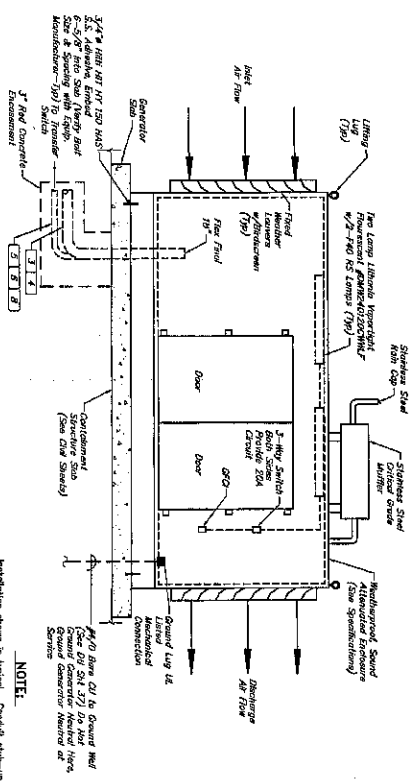
DATE: 12/31/15
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
PROJECT NO. 15-1168
SHEET NO. 36 OF 48

SCALE: AS SHOWN

NOTICE: CITY ENGINEER HAS FOR ONE YEAR ADOPTED THE STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF WATER PLANTS AND RELATED STRUCTURES AS SET FORTH IN THE CITY OF HOUSTON, TEXAS.

PROJECT NO. 15-1168 - WATER PLANT No. 3 - PHASE I - GRAND MISSION W.L.D. - BRIDGE - SHEET NO. 36 OF 48



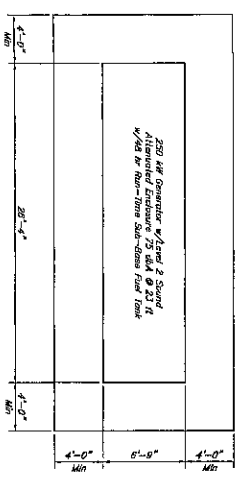
GENERATOR INSTALLATION DETAIL
NOT TO SCALE

Installation shown is typical. Consult site-up location according to generator manufacturer. Modify installation accordingly.

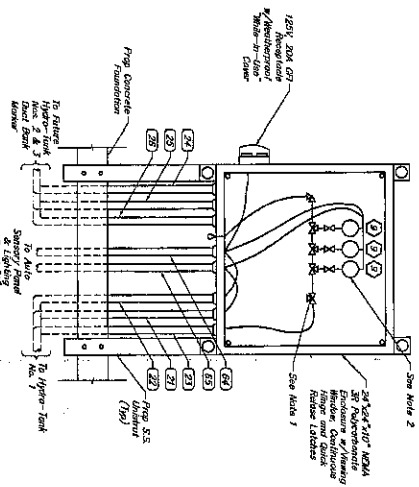
NOTE:

See D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D39, D40, D41, D42, D43, D44, D45, D46, D47, D48, D49, D50, D51, D52, D53, D54, D55, D56, D57, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72, D73, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D98, D99, D100, D101, D102, D103, D104, D105, D106, D107, D108, D109, D110, D111, D112, D113, D114, D115, D116, D117, D118, D119, D120, D121, D122, D123, D124, D125, D126, D127, D128, D129, D130, D131, D132, D133, D134, D135, D136, D137, D138, D139, D140, D141, D142, D143, D144, D145, D146, D147, D148, D149, D150, D151, D152, D153, D154, D155, D156, D157, D158, D159, D160, D161, D162, D163, D164, D165, D166, D167, D168, D169, D170, D171, D172, D173, D174, D175, D176, D177, D178, D179, D180, D181, D182, D183, D184, 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GENERATOR PLAN VIEW
SCALE: 1"=3'



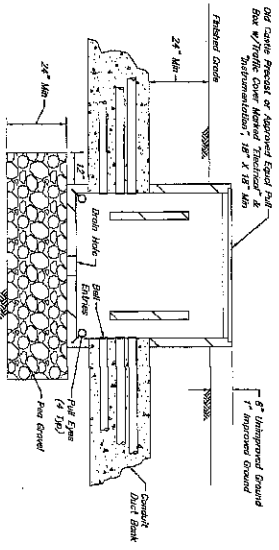
HYDRO-TANK PRESSURE ENCLOSURE DETAIL
NOT TO SCALE



NOTES:

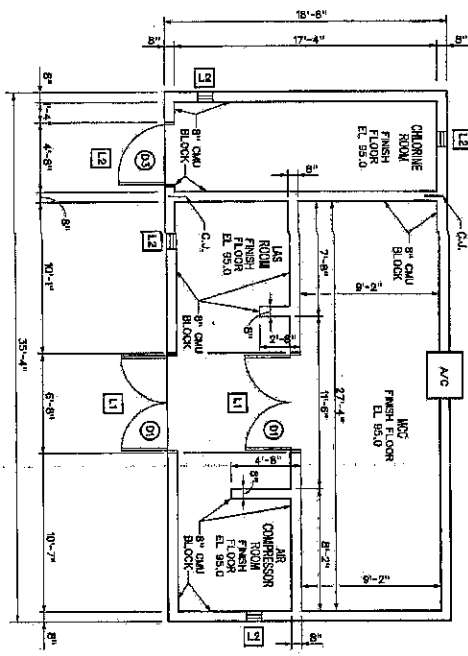
1. Collector steel based 304 stainless steel tubing with stainless steel structural fittings and bolt washers (Specify).
2. Provide manufacturer's panel mount support for (Specify).

ELECTRICAL PULL BOX INSTALLATION
NOT TO SCALE



C.O.H. LOG NO. 15-1168

<p>JONES CARTER ELECTRICAL DETAILS SHEET 3 OF 3</p>	
<p>WATER PLANT NO. 3 - PHASE 1 GRAND MISSION W.L.D. No. 1 FORT BEND COUNTY, TEXAS</p>	
<p>DATE: 12/3/15</p>	<p>APPROVED: <i>[Signature]</i> A.E. TAC. (SEVENTH DISTRICT)</p>
<p>DESIGNED BY: [Name]</p>	<p>CHECKED BY: [Name]</p>
<p>DRAWN BY: [Name]</p>	<p>SCALE: AS SHOWN</p>
<p>SHEET NO. 38 OF 44</p>	<p>FOR CITY OF HOUSTON USE ONLY</p>



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

MARK	SIZE	SPWM	REMARKS
L1	2'-3" AT BOTTOM	8" x 8" (MAX. OPENING)	AT MCC ROOM EXTERIOR DOUBLE DOOR OPENING
L2	2'-3" AT BOTTOM	24" x 24" (MAX. OPENING)	AT MCC EXTERIOR DOOR & A.C. OPENING, AT AIR COMPRESSOR ROOM EXTERIOR DOUBLE DOOR, EXHAUST OPENING AND SUPPLY FAN

MARK	SIZE	HARDWARE	REMARKS
D1	3' X 3' 6" DOOR	1- SET 2" x 4" x 8" DOOR STOPS AND HOLDERS 2- HIGH QUALITY HASP 2- FLOOR BOLTS 1- LATCH SET SOLOAGE C SERIES	STEEL HOLLOW METAL FINISH IN POLYESTER COLE NGL GAL. & SHIELD STRIPING TO BE PROVIDED.
D2	3' X 3' 6" DOOR	1- SET BLUNT HINGE 1- DOOR STOPS & HOLDER 1- LATCH SET SOLOAGE C SERIES	NOT USED
D3	3' X 3' 6" DOOR	STAINLESS STEEL HARDWARE 1- SET 2" x 4" x 8" DOOR STOPS AND HOLDERS 1- SET 2" x 4" x 8" DOOR STOPS AND HOLDERS 1- SET 2" x 4" x 8" DOOR STOPS AND HOLDERS 1- LATCH SET SOLOAGE C SERIES	CORROSION RESISTANT THERMOPLASTIC FRAME WITH STAINLESS STEEL HARDWARE, 20" X 20" WIRE SAFETY GLASS WINDOW.

STRUCTURAL NOTES

1. THE STRUCTURAL DRAWINGS AS PRESENTED HEREIN HAVE BEEN PREPARED TO CONFORM TO THE INTERNATIONAL BUILDING CODE.
2. THE DESIGN ROOF LIVE LOAD ASSUMED FOR THIS PROJECT IS 30 PSF. THE DESIGN FLOOR LOAD ASSUMED IS 800 PSF (20.0) AND LIVE LOAD, MIN. VELOCITY OF 20 MPH.

STRUCTURAL AND REINFORCING STEEL NOTES

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
2. STRUCTURAL STEEL PLATES AND ANGLE SECTIONS SHALL CONFORM TO THE ASTM DESIGNATION A572 GRADE 50 HAVING A MINIMUM YIELD STRENGTH OF 58 KSI. USING EXXX SERIES ELECTRODES. SMAW WORK SHALL CONFORM TO THE STRUCTURAL WELDING CODE OF THE AMERICAN WELDING SOCIETY.
3. ALL WELD JOINTS SHALL BE SHOP FABRICATED AND CONSIDERED STRUCTURAL WELDING CODE OF THE AMERICAN WELDING SOCIETY.
4. ALL REINFORCING STEEL SHALL BE GRADE 60 STEEL, AS PER ASTM A639. STANDARD SPECIFICATION FOR DEFORMED AND PLAIN CARBON-STEEL BARS FOR CONCRETE REINFORCEMENT. ALL LAP SPICES FOR CONCRETE REINFORCEMENT SHALL BE WELDED. ALL REINFORCING SHALL BE WELDED TO THE REINFORCING SHOWN TO BE WELDED. ALL REINFORCING SHALL BE WELDED TO THE REINFORCING SHOWN TO BE WELDED. ALL REINFORCING SHALL BE WELDED TO THE REINFORCING SHOWN TO BE WELDED.

PRECAST CONCRETE SLAB DETAIL NOTES

1. SUPERIMPOSED LOADS THAT SHALL BE CONSIDERED IN THE DESIGN AND FABRICATION OF THE IN-SITU CONCRETE SHALL BE AS FOLLOWS:
A. 50 PSF DEAD LOAD
B. 25 PSF DEAD LOAD
C. 20 PSF LIVE LOAD
2. SHOP DRAWING FOR EACH TYPE OF PRECAST SECTION SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL. ALL DIMENSIONS AND RELATED DETAILS, DESIGN CALCULATIONS FOR PRESTRESSING UNITS SHALL BE PREPARED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED WITH THE SHOP DRAWINGS.

CONCRETE MASONRY UNIT NOTES

1. MASONRY CONSTRUCTION SHALL CONFORM TO ASTM C900, BUILDING CODE FOR CONCRETE MASONRY UNITS. THE COMPRESSIVE STRENGTH OF MASONRY SHALL BE 1500 PSI.
2. REINFORCED CHALK WALL CONSTRUCTION SHALL CONSIST OF WALL BARGE CONCRETE MASONRY UNITS.
3. MORTAR FOR MASONRY WORK SHALL BE TYPE S MORTAR BY PROPORTIONING IN ACCORDANCE WITH ASTM C270 STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY. GROUT FOR MASONRY SHALL BE COURSE GROUT BY PROPORTIONING IN ACCORDANCE WITH ASTM C930 STANDARD SPECIFICATION FOR GROUT FOR MASONRY.
4. CONTINUOUS WIRE MESH REINFORCEMENT CONFORMING TO ASTM A65 SHALL BE INSTALLED THROUGHOUT THE WALL. THE WIRE MESH SHALL BE INSTALLED BETWEEN THE FIRST LAYER OF SAID REINFORCEMENT BARS INSTALLED IN THE WALL. THE WIRE MESH SHALL BE INSTALLED BETWEEN THE FIRST LAYER OF SAID REINFORCEMENT BARS INSTALLED IN THE WALL. THE WIRE MESH SHALL BE INSTALLED BETWEEN THE FIRST LAYER OF SAID REINFORCEMENT BARS INSTALLED IN THE WALL.

TIMBER NOTES

1. ALL TIMBER JOINTS SHALL BE DESIGNATED A307 USING HEX NUTS AND WASHERS UNLESS OTHERWISE NOTED. BOLT HOLES SHALL BE 1/8" INCH LARGER THAN THE BOLT DIMENSIONS. NUTS SHALL BE 1/8" INCH LARGER THAN THE BOLT DIMENSIONS. NUTS SHALL BE 1/8" INCH LARGER THAN THE BOLT DIMENSIONS. NUTS SHALL BE 1/8" INCH LARGER THAN THE BOLT DIMENSIONS.
2. LUBRICANT FOR THE FLASHING BOARD SHALL BE PRESERVATIVELY.

ROOF NOTES

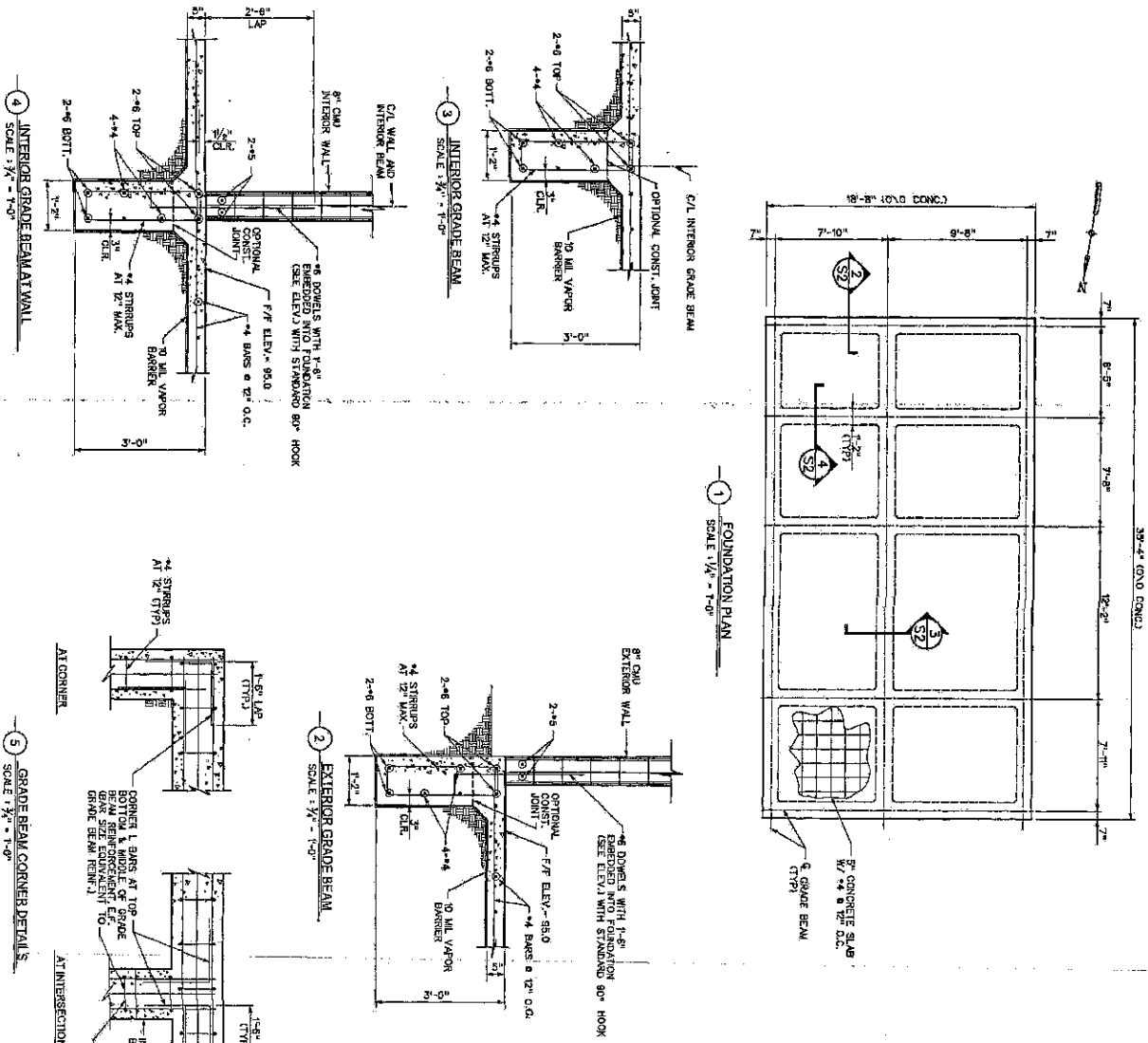
1. ROOFING SYSTEM SHALL BE AN ASPHALT FLASH-FIBER FELT 4-PLY OVER INSULATION WITH ASBESTOSITE SURFACE AS PER SECTION DIVISION 5.02.00 ROOFING.
2. ROOFING CONTRACTOR SHALL BE A CERTIFIED INSTALLER WITH MANUFACTURER'S TRAINING AND SHALL BE LICENSED BY STATE CERTIFICATION.
3. CONTRACTOR SHALL PREPARE A ROOF SYSTEM SURE AND TEMPORARY AGREEMENT FOR APPROVAL.
4. CONTRACTOR SHALL ADHERE TO THE ROOF SYSTEM AND ROOF INSTALLATION MANUFACTURER'S REQUIREMENTS FOR INSTALLATION. CONTRACTOR SHALL PROVIDE, FOR APPROVAL, TERMINATION AND FLASHING DETAILS THAT ARE ACCEPTABLE BY THE MANUFACTURER.
5. CONTRACTOR SHALL MAKE ARRANGEMENTS TO HAVE THE ROOF SYSTEM MANUFACTURER'S REPRESENTATIVE VISIT THE JOB SITE TO OBSERVE COMPLIANCE OF MANUFACTURER'S REQUIREMENTS FOR INSTALLATION.



JONES CARTER
 WATER PLANT NO. 5 - PHASE 1
MCC BUILDING FLOOR PLAN, NOTES AND SCHEDULES
 ORD. MISSION # 3 - 3054

DATE	BY	DESCRIPTION
10/22/2018	10/22/2018	ISSUED FOR CONSTRUCTION
10/22/2018	10/22/2018	ISSUED FOR CONSTRUCTION
10/22/2018	10/22/2018	ISSUED FOR CONSTRUCTION

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 PROJECT NO. 39 OF 48
 SHEET NO. 39 OF 48



- BUILDING FOUNDATION NOTES**
1. FOR MOTOR CONTROL BUILDING 5-1/2" ON-GRADE FOUNDATION, EXCAVATE TO 4 FEET BELOW BUILDING LINE, COMPACT THE UPPER 8 INCHES OF EACH OF THE EXCAVATION CUT TO 97% ASTM D698 WITHIN PLUS OR MINUS 2% OF THE UPPER 12 INCHES OF FILL IN ADVANCED AREA ADJACENT TO THE BUILDING SHALL CONSIST OF ON-SITE CLAY COMPACTED IN 6" LIFTS TO 97% OF THE UPPER 12 INCHES OF FILL IN ADVANCED AREA ADJACENT TO THE DEGS WITHIN PLUS OR MINUS 2% OF OPTIMUM MOISTURE.
 2. SELECT FILL SHALL BE OF LOW TO MEDIUM SPREAD, SILEX, PORTLAND AS DEFINED BY THE TEX. U.S.-4 FOR DETERMINING POTENTIAL VERTICAL RISE AND SOIL OF FILL SHALL HAVE A PLASTICITY INDEX LESS THAN 30. PROPER DRAINAGE.
- CONCRETE NOTES**
1. CONCRETE CONSTRUCTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND THE LATEST REVISIONS THEREOF AND THE LATEST REVISIONS OF THE PROJECT SPECIFICATIONS COMPLETE WITH A318. THE STRONGER SPECIFICATION SHALL GOVERN.
 2. ALL CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 4000 PSI UNLESS OTHERWISE SPECIFIED.
 3. CONCRETE PLACEMENT SHALL NOT BE DONE AS ASSUMED.
 4. ALL REINFORCING STEEL SHALL BE GRADE 60 STEEL AS PER ASTM A618. BAR DIAMETERS UNLESS OTHERWISE SPECIFIED. ALL REINFORCING SHALL TO BE HOOKED SHALL HAVE STANDARD HOOKS AS PER A618.3.
 5. VAPOR BARRIER MEMBRANE FOR FOUNDATION CONSTRUCTION SHALL BE 10-MIL AND SHALL BE ADHERED TO SOLID MASONRY OR SHALL BE ADHERED 9 INCHES UNDER THE ENTIRE SLAB. CARE SHALL BE TAKEN NOT TO PUNCTURE MEMBRANE.
 6. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 OR CLASS 2 STAINLESS STEEL.
 7. THE LATEST REVISIONS OF THE FOLLOWING AMERICAN SOCIETY FOR TESTING AND MATERIALS STANDARDS SHALL BE USED FOR REINFORCED CONCRETE:
 - 11. SPECIFICATION FOR PORTLAND CEMENT (ASTM C150)
 - 12. SPECIFICATION FOR PORTLAND CEMENT (ASTM C595)
 - 13. SPECIFICATION FOR PORTLAND CEMENT (ASTM C1157)
 - 14. SPECIFICATION FOR DESIGN AND PLACING CONCRETE (ACI 309)
 - 15. SPECIFICATION FOR CONCRETE REINFORCEMENT (ASTM A618, GRADE 60)

12/3/15



CO.H. 100 No. 5-185

JONES CARTER
 WATER PLANT NO. 3 - PHASE I
 MCC BUILDING
 FOUNDATION PLAN &
 STRUCTURAL DETAILS

Costello
 3000 West Loop South, Suite 1000
 Houston, Texas 77024
 Tel: 713.865.1000
 Fax: 713.865.1001
 www.costello.com

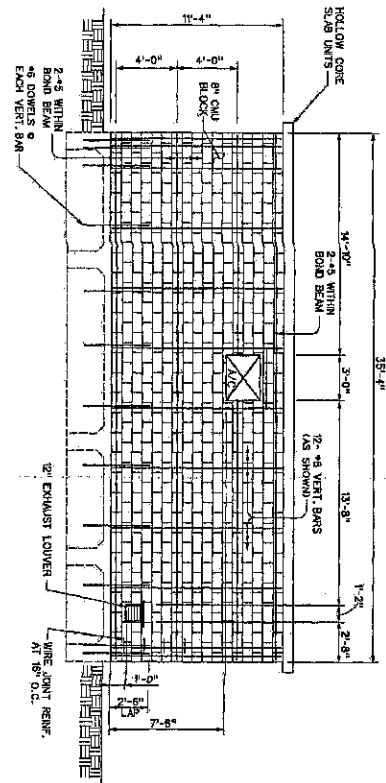
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 10/22/15
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 CHECKED BY: [Signature]
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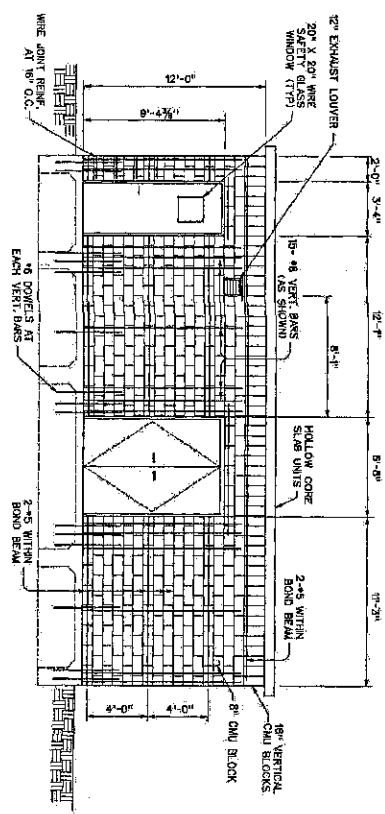
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 GRAND MISSION BLVD. No. 1

DATE: 10/22/15

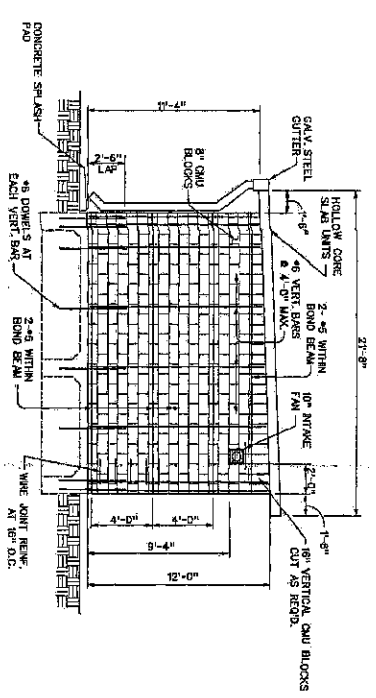
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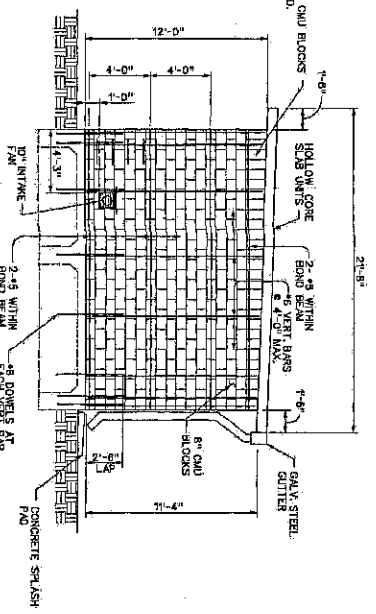
1 WEST BUILDING ELEVATION
 SCALE: 1/4"=1'-0"



2 EAST BUILDING ELEVATION
 SCALE: 1/4"=1'-0"



3 SOUTH BUILDING ELEVATION
 SCALE: 1/4"=1'-0"



4 NORTH BUILDING ELEVATION
 SCALE: 1/4"=1'-0"

NOTE: SEE SHEET S1 FOR Lintel SCHEDULE

12/3/15

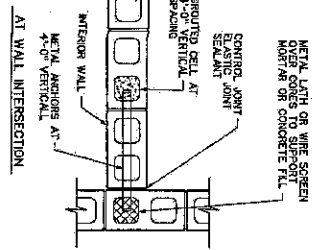
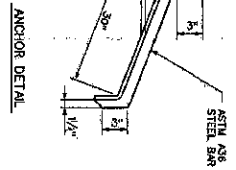
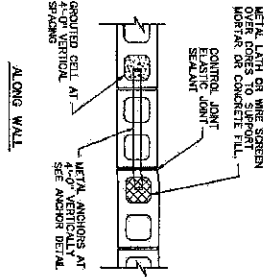


C.O.P. LOG NO. 15-7183

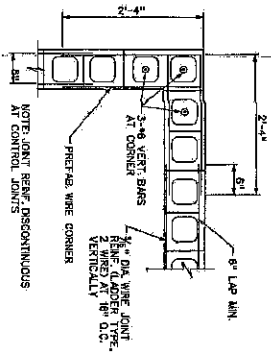
DATE: 10/25/2015	SCALE: AS SHOWN
DRAWN BY: JIC	CHECKED BY: JIC
PROJECT: GRAND MISSION M.U.D. No. 1	SHEET: 41 OF 44

JIC JONES | CARTER
 WATER PLANT No. 3 - PHASE I
 MCC BUILDING
 ELEVATIONS

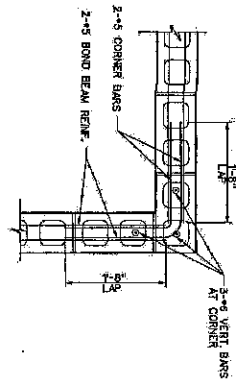
Costello
 GRAND MISSION M.U.D. No. 1



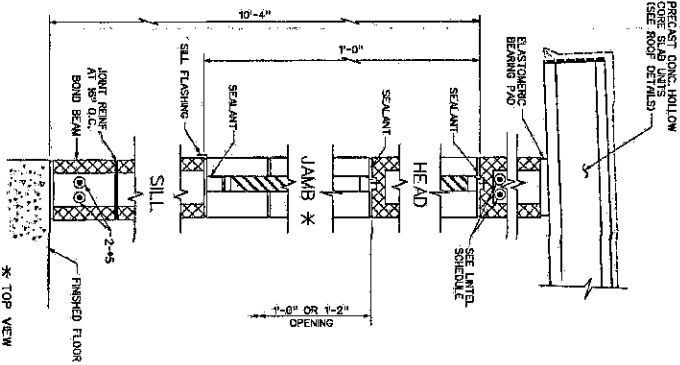
1 CONTROL JOINT DETAILS
 SCALE: 1/2" = 1'-0"



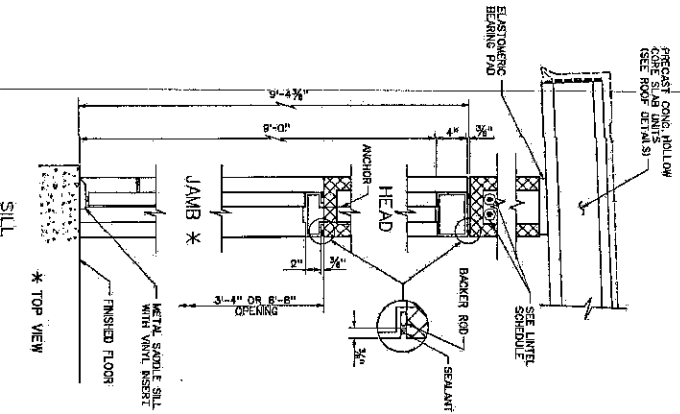
2 CORNER WIRE JOINT REIN.
 SCALE: 1/2" = 1'-0"



3 CORNER BOND BEAM REIN.
 SCALE: 1/2" = 1'-0"



4 LOWER FRAME SECTION
 SCALE: 1 1/2" = 1'-0"



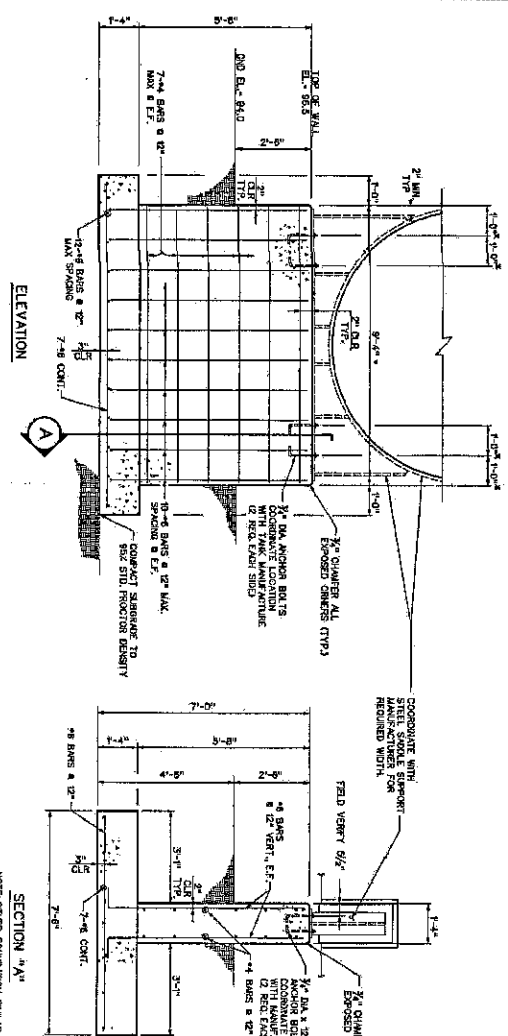
5 DOOR FRAME SECTION
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12/3/15

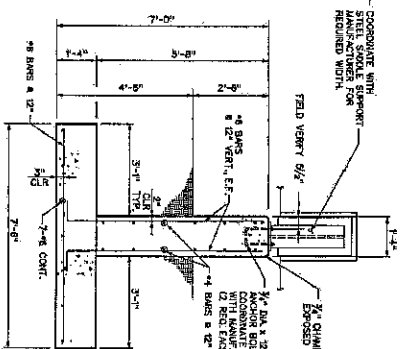


C.O.P. LOG NO. 13-1788

Costello REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS LICENSE NO. 13773		JC JONES CARTER REGISTERED PROFESSIONAL ARCHITECT STATE OF TEXAS LICENSE NO. 12773	
GRAND MISSION ALLOY, No. 1			
WATER PLANT No. 3 - PHASE I MISCELLANEOUS WALL DETAILS			
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS 1500 RICE AVENUE, HOUSTON, TEXAS 77030			
DATE: 10/22/15 DRAWN BY: [Signature] CHECKED BY: [Signature]			
SHEET NO. 43 OF 44			

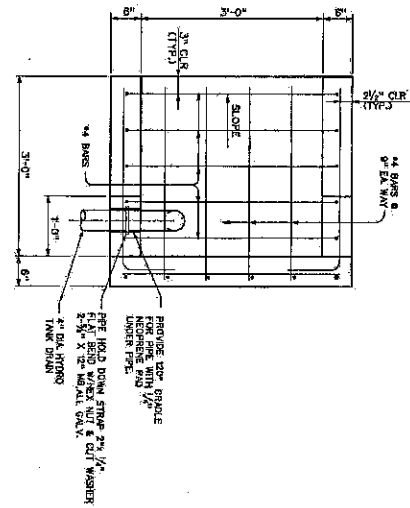


1. HYDRO-PNEUMATIC TANK FOOTING
SCALE 1/2" = 1'-0"

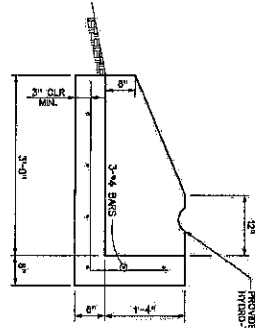


SECTION 1/4\"/>

NOTE OTHER FOUNDATION SHALL BUT OTHER FOUNDATION SHALL

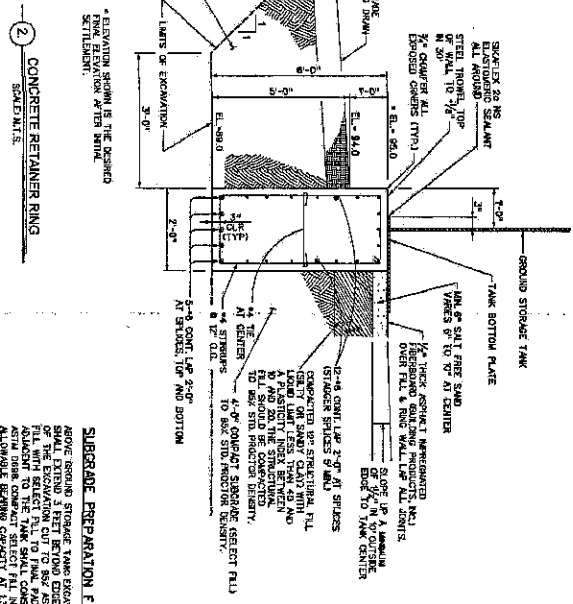


PLAN



SECTION

3. SPLASH PAD FOR HYDRO-PNEUMATIC TANK DRAIN
SCALE 1\"/>



2. CONCRETE RETAINING RING
SCALE 1\"/>

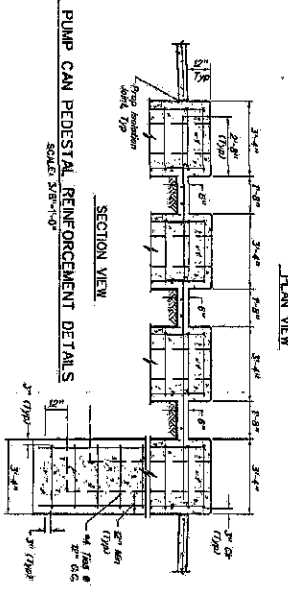
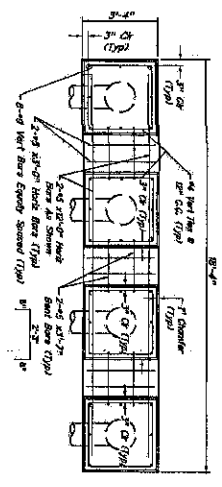
GENERAL NOTES:
1. CONCRETE CONSTRUCTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND THE CITY OF HOUSTON SPECIFICATIONS FOR CONCRETE.
2. ALL CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 4000 PSI.
3. CONCRETE PLACEMENT IN HOT OR COLD WEATHER SHALL CONFORM TO THE CITY OF HOUSTON SPECIFICATIONS FOR CONCRETE.
4. ALL REINFORCING STEEL SHALL BE GRADE 60 STEEL AS PER ASTM A631. ALL LAP SPICES FOR CONTAINERS REINFORCING STEEL SHALL BE 20 BAR DIAMETERS UNLESS OTHERWISE SPECIFIED. ALL REINFORCING SHALL BE HOODS SHALL HAVE STANDARD BENDING.
5. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 OR AS PER DCRS 2 STAINLESS STEEL.
6. USE SHIELD FOOTING FOUNDED AT A MINIMUM DEPTH OF 4 FEET BELOW EXISTING FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
8. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
9. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
10. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.

SUBGRADE PREPARATION FOR TANK FOUNDATIONS:
1. ALL SUBGRADE SHALL BE EXCAVATED TO THE PROPOSED FINISH GRADE.
2. ALL EXCAVATION SHALL BE BACKFILLED WITH 3/4\"/>

12/5/15
S6

City of Houston
Water Plant No. 3 - Phase 1
Hydro-Pneumatic Tank Foundation Details
Sheet No. 44 of 45

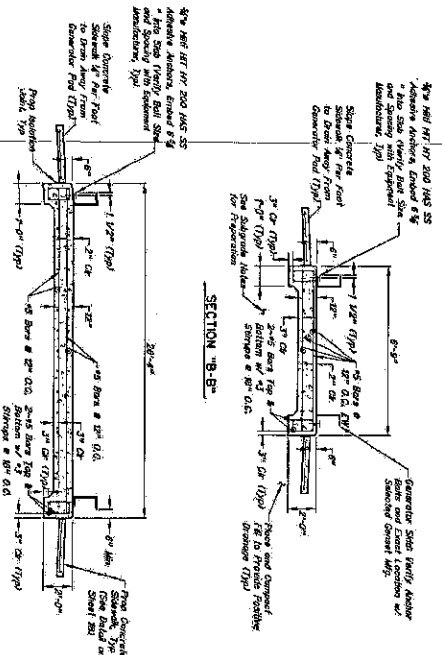
Costello
JONES CARTER
GRAND MISSION MLD, No. 1
WATER PLANT No. 3 - PHASE 1
HYDRO-PNEUMATIC TANK FOUNDATION DETAILS
SHEET NO. 44 OF 45



PLAN VIEW

PUMP CAN PEDISTAL REINFORCEMENT DETAILS

PROPOSED GENERATOR SLAB DETAILS
NOT TO SCALE



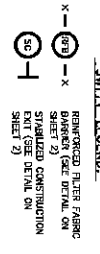
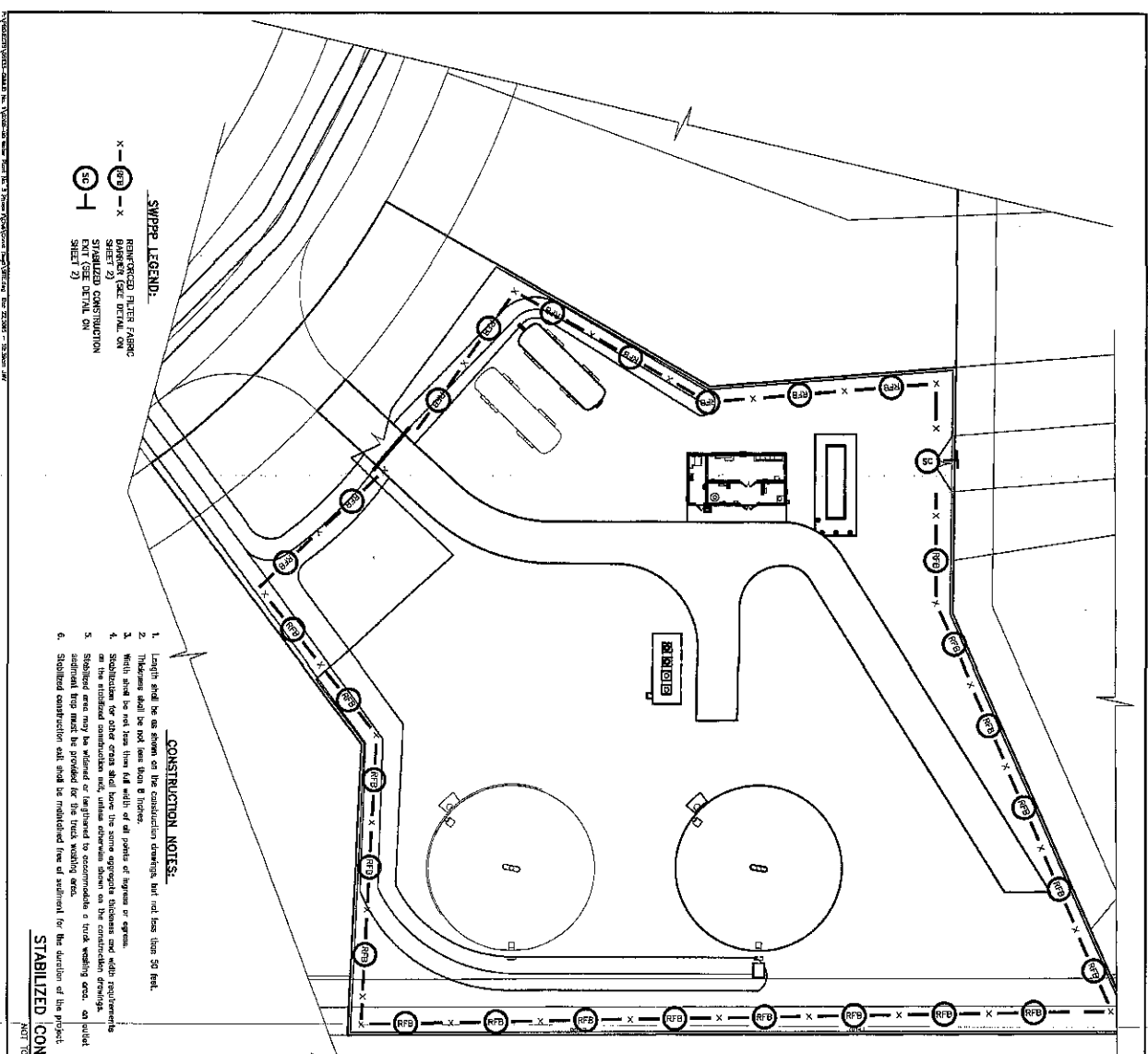
- SUBGRADE NOTES:**
1. Prior to the placing of concrete, or before any fill is placed, all traces of organic matter or obstructions shall be removed. The subgrade shall be compacted to a minimum of 95% relative compaction. Areas of excessive settlement or unevenness shall be corrected. Areas of excessive settlement or unevenness shall be corrected. Areas of excessive settlement or unevenness shall be corrected.
 2. Any additional subgrade to be placed shall be placed in a layer of 12\"/>
- GENERATOR SLAB NOTES:**
1. Foundation is continuous around perimeter of slab, with 12\"/>

12/4/15



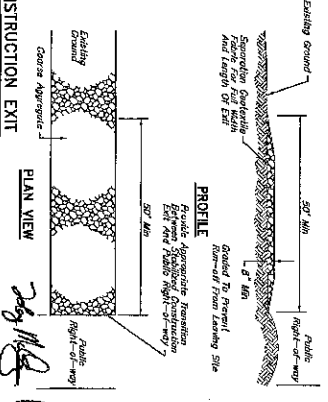
C.O.H. LOG No. 15-1168

<p>JONES CARTER COSTELLO</p>	
<p>WATER PLANT No. 3 - PHASE I BOOSTER PUMP AND GENERATOR SLAB DETAILS</p>	
<p>GRAND MISSION BLVD. No. 1</p>	
<p>DATE: 10/22/15</p>	<p>SCALE: AS SHOWN</p>
<p>PROJECT NO. 45 OF 48</p>	<p>DATE: 12/4/15</p>
<p>PROJECT: WATER PLANT No. 3 - PHASE I</p>	<p>LOCATION: GRAND MISSION BLVD. No. 1</p>
<p>CLIENT: CITY OF HOUSTON</p>	<p>DESIGNER: J. JONES</p>
<p>DATE: 10/22/15</p>	<p>SCALE: AS SHOWN</p>
<p>PROJECT NO. 45 OF 48</p>	<p>DATE: 12/4/15</p>

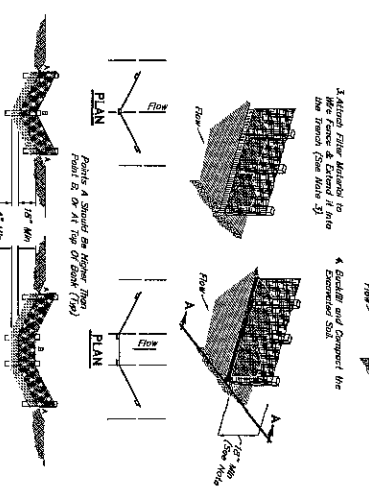


- CONSTRUCTION NOTES:**
1. Length shall be as shown on the construction drawings, but not less than 50 feet.
 2. Thickness shall be not less than 8 inches.
 3. Width shall be not less than full width of all points of ingress or egress.
 4. Stabilization for other areas shall have the same aggregate thickness and width requirements as the stabilized construction exit, unless otherwise shown on the construction drawings.
 5. Stabilized area may be retained or impinged to accommodate a truck washing area, an inlet, additional trap must be provided for the truck washing area.
 6. Stabilized construction exit shall be maintained free of sediment for the duration of the project.

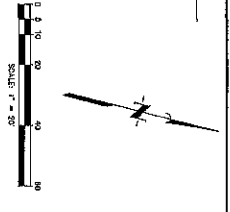
STABILIZED CONSTRUCTION EXIT
NOT TO SCALE



TRAPEZOIDAL SECTION/ELEVATION
REINFORCED FILTER FABRIC BARRIER
NOT TO SCALE

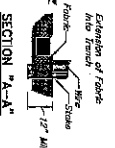


1. Reinforced Filter Fabric to be placed in the flow direction.
2. Concrete shall be finished to match the existing concrete.
3. Reinforced Filter Fabric to be placed in the flow direction.
4. Reinforced Filter Fabric to be placed in the flow direction.



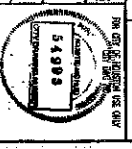
CONSTRUCTION NOTES:

1. 3/4" x 3/4" rebar (minimum) spaced at a maximum of 6" apart & encased in 2" of concrete.
2. Rebar shall be placed in the flow direction.
3. Filter cloth to be placed in the flow direction.
4. Minimum height of filter shall be 12" & a maximum of 36" above the existing ground.
5. When the existing of filter cloth exists with other, they shall be overlapped by 6" in the flow direction.



COH LOG No. 15-1198

2018 APR 23



CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STORWATER POLLUTION PREVENTION PLAN
WAIVER PLANT NO. 3 - PHASE 1

JONES CARTER
GRAND JESSON MUD, No. 1
TOWN OF HOUSTON, TEXAS

DATE: 12/15/18
APPROVED: [Signature]
BY: [Signature]

NO. DATE: [Blank]
NO. DATE: [Blank]
NO. DATE: [Blank]

SECTION A-A