

REVIEW BY FORT BEND COUNTY
COMMISSIONERS COURT

Fort Bend County
Engineering Department
301 Jackson Suite 401
Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytexas.gov

Right of Way Permit
 Commercial Driveway Permit
Permit No: 2017-12220

Applicant: Reddico Construction Company, Inc.

Job Location Site: 6425 1/2 FM 1463, Katy, TX 77494

Bond No. **Date of Bond:** 2/13/2017 **Amount:** \$20,130.00

The above applicant came to make use of certain Fort Bend County property subject to, "The 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, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Chapter 181, Vernon's Texas Statutes and Codes Annotated.

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, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 14th day of March, 2017, Upon Motion of Commissioner Mayers, seconded by Commissioner Morales, 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.

Signature

By: Charles O. Ay
for County Engineer

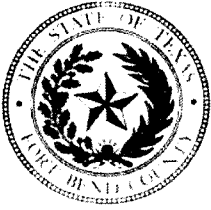
By: N/A
Drainage District Engineer/Manager

Presented to Commissioners Court and approved.

Date Recorded 3-16-2017 Comm. Court No. 11F

Clerk of Commissioners Court

By: Janice Walker
Deputy



**PERMIT APPLICATION REVIEW FORM FOR
CABLE, CONDUIT, AND POLE LINE ACTIVITY
IN FORT BEND COUNTY**

**Fort Bend County
Engineering Department**
301 Jackson Suite 401
Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytexas.gov

- Right of Way Permit
 Commercial Driveway Permit

Permit No: 2017-12220

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:

- County Attorney, approval when applicable.
- Perpetual bond currently posted. Bond No: _____ Amount: _____
- Performance bond submitted. Bond No: [REDACTED] Amount: \$20,130.00
- Cashier's Check Check No: _____ Amount: _____

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

Charly O. AJ

Permit Administrator

3/6/17

Date

Lift Station No. 1 & Force Main to Serve The Crossing at Katy-Fulshear

ROW Crossings

1. Fry Road, 100' east of FM 1463 and Fry Rd, 100 LF, Cased Bore, Installation of Force Main
2. Fry Road, 30' east of FM 1463 and Fry Rd, Open cut Parallel to Fry Rd east for 70 LF, Installation of Force Main
3. FM 1463, 30' south of FM 1463 and Fry Rd, Open Cut Parallel to FM 1463 south for 2,600 LF, Installation of Force Main
4. Langham Rose Dr, 30' east of FM 1463 and Langham Rose Drive, 100 LF, Cased Bore, Installation of Force Main
5. Ladies Tresses Drive, 30' south of FM 1463 and Ladies Tresses Drive, 60 LF, Cased Bore, Installation of Force Main



**PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE
ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD,
COMMERCIAL DRIVEWAY AND MEDIAN OPENINGS OR MODIFICATIONS
(AUTHORIZED)**

BOND NO [REDACTED]

THE STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND §

THAT WE, Reddico Construction Co., Inc. whose (address, phone) is 10083 Airport Road, Conroe, Texas 77303 / 936-441-9500, hereinafter called the Principal, and The Guarantee Company of North America USA, a Corporation existing under and by virtue of the laws of the state of Michigan and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at (name/address/phone) One Towne Square, Suite 1470, Southfield, Michigan 48076 / 1-866-328-0567, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Richard Sauer and whose address is 350 Glenborough Dr., Suite 138, Houston, Texas 77067 / 832-446-3350, 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 Twenty Thousand, One Hundred Thirty Dollars (\$20,130.00) current, lawful money of the United States 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 13th day of February, 2017.

Reddico Construction Co., Inc.
PRINCIPAL

BY Michael A. Gry, President

The Guarantee Company of North America USA
SURETY

BY Nancy T. Berry, Attorney-In-Fact

CCM 3-14-17 #111=
Fort Bend County Clerk
Return Admin Serv Coord

RET:



The Guarantee Company of North America USA
Southfield, Michigan

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS: That THE GUARANTEE COMPANY OF NORTH AMERICA USA, a corporation organized and existing under the laws of the State of Michigan, having its principal office in Southfield, Michigan, does hereby constitute and appoint

Richard D. Bright, Nancy T. Berry, Steven W Berry, Kimberly J. Smith, Marla Gentry
Guaranty Insurance Services, Inc.

its true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise.

The execution of such instrument(s) in pursuance of these presents, shall be as binding upon THE GUARANTEE COMPANY OF NORTH AMERICA USA as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at the principal office.

The Power of Attorney is executed and may be certified so, and may be revoked, pursuant to and by authority of Article IX, Section 9.03 of the By-Laws adopted by the Board of Directors of THE GUARANTEE COMPANY OF NORTH AMERICA USA at a meeting held on the 31st day of December, 2003. The President, or any Vice President, acting with any Secretary or Assistant Secretary, shall have power and authority:

- 1. To appoint Attorney(s)-in-fact, and to authorize them to execute on behalf of the Company, and attach the Seal of the Company thereto, bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof; and
- 2. To revoke, at any time, any such Attorney-in-fact and revoke the authority given, except as provided below
- 3. In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.
- 4. In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner – Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

Further, this Power of Attorney is signed and sealed by facsimile pursuant to resolution of the Board of Directors of the Company adopted at a meeting duly called and held on the 6th day of December 2011, of which the following is a true excerpt:

RESOLVED that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any Power of Attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, contracts of indemnity and other writings obligatory in the nature thereof, and such signature and seal when so used shall have the same force and effect as though manually affixed.



IN WITNESS WHEREOF, THE GUARANTEE COMPANY OF NORTH AMERICA USA has caused this instrument to be signed and its corporate seal to be affixed by its authorized officer, this 2nd day of October, 2015.

THE GUARANTEE COMPANY OF NORTH AMERICA USA

STATE OF MICHIGAN
County of Oakland

Stephen C. Ruschak, President & Chief Operating Officer

Randall Musselman, Secretary

On this 2nd day of October, 2015 before me came the individuals who executed the preceding instrument, to me personally known, and being by me duly sworn, said that each is the herein described and authorized officer of The Guarantee Company of North America USA; that the seal affixed to said instrument is the Corporate Seal of said Company; that the Corporate Seal and each signature were duly affixed by order of the Board of Directors of



Cynthia A. Takai
Notary Public, State of Michigan
County of Oakland
My Commission Expires February 27, 2018
Acting in Oakland County

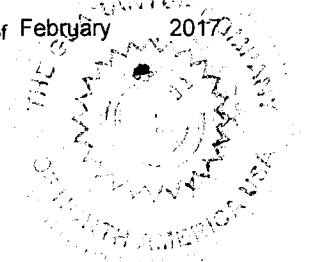
IN WITNESS WHEREOF, I have hereunto set my hand at The Guarantee Company of North America USA offices the day and year above written.

I, Randall Musselman, Secretary of THE GUARANTEE COMPANY OF NORTH AMERICA USA, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney executed by THE GUARANTEE COMPANY OF NORTH AMERICA USA, which is still in full force and effect.



IN WITNESS WHEREOF, I have thereunto set my hand and attached the seal of said Company this 13th day of February 2017

Randall Musselman, Secretary





TEXAS CONSUMER NOTICE

<p>1. IMPORTANT NOTICE To obtain information or make a complaint:</p> <p>2. You may contact your agent at:</p> <p>3. You may call The Guarantee Company of North America USA's toll-free telephone number for information or to make a complaint at: 1-866-328-0567</p> <p>4. You may also write to The Guarantee Company of North America USA at:</p> <p>One Towne Square, Suite 1470 Southfield, Michigan 48076 Web: www.theguaranteeus.com E-mail: Info@theguaranteeus.com Fax: 248-750-0431</p> <p>5. You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at: 1-800-252-3439</p> <p>6. You may write the Texas Department of Insurance: 333 Guadalupe Street P.O. Box 149104 Austin, TX 78701 Fax: (512) 490-1007 Web: http://www.tdi.texas.gov E-mail: ConsumerProtection@tdi.texas.gov</p> <p>7. PREMIUM OR CLAIM DISPUTES: Should you have a dispute concerning your premium or about a claim you should contact the (agent) (company) (agent or the company) first. If the dispute is not resolved, you may contact the Texas Department of Insurance.</p> <p>8. ATTACH THIS NOTICE TO YOUR POLICY: This notice is for information only and does not become a part or condition of the attached document.</p>	<p>AVISO IMPORTANTE Para obtener informacion o para someter una queja:</p> <p>Puede comunicarse con su agent al</p> <p>Usted puede llamar al numero de telefono gratis de The Guarantee Company of North America USA's para informacion o para someter una queja al: 1-866-328-0567</p> <p>Usted tambien puede escribir a to The Guarantee Company of North America USA;</p> <p>One Towne Square, Suite 1470 Southfield, Michigan 48076 Web: www.theguaranteeus.com E-mail: Info@theguaranteeus.com Fax: 248-750-0431</p> <p>Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al: 1-800-252-3439</p> <p>Puede escribir al Departamento de Seguros de Texas: 333 Guadalupe Street P.O. Box 149104 Austin, TX 78701 Fax: (512) 490-1007 Web: http://www.tdi.texas.gov E-mail: ConsumerProtection@tdi.texas.gov</p> <p>DISPUTAS SOBRE PRIMAS O RECLAMOS: Si tiene una disputa concierne a su prima o a un reclamo, debe comunicarse con el (agente) (la compania) agente o la compania) primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).</p> <p>UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del document adj unto.</p>
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FILED AND RECORDED
OFFICIAL PUBLIC RECORDS

Laura Richard



Laura Richard, County Clerk
Fort Bend County, Texas

March 16, 2017 01:47:34 PM

FEE: \$0.00 DP2
BOND

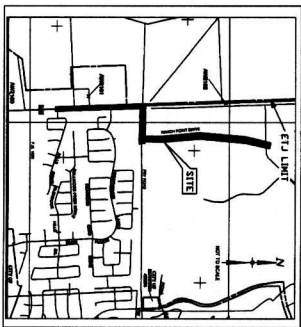
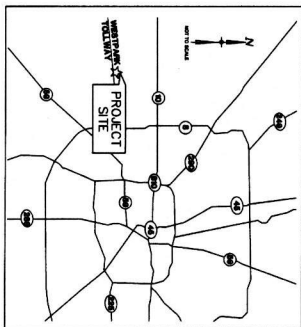
2017028087

FORT BEND COUNTY IMPROVEMENT DISTRICT No. 24

PLANS FOR LIFT STATION No.1 & FORCE MAIN TO SERVE THE CROSSING AT KATY-FULSHEAR FORT BEND COUNTY, TEXAS

SHEET INDEX

- 1..... COVER SHEET
- 2..... CONSTRUCTION NOTES
- 3..... LIFT STATION LAYOUT
- 4..... LIFT STATION SITE PLAN
- 5..... ONSITE FORCE MAIN STA. 0+00 TO STA. 5+34
- 6..... F.M. 1463 FORCE MAIN STA. 0+00 TO STA. 5+20
- 7..... F.M. 1463 FORCE MAIN STA. 5+20 TO STA. 15+20
- 8..... F.M. 1463 FORCE MAIN STA. 15+20 TO STA. 15+20
- 9..... F.M. 1463 FORCE MAIN STA. 15+20 TO STA. 20+20
- 10..... F.M. 1463 FORCE MAIN STA. 20+20 TO STA. 25+20
- 11..... FRY ROAD FORCE MAIN STA. 0+00 TO STA. 4+00
- 12..... RANCH POINT DRIVE FORCE MAIN STA. -1+00 TO STA. 4+20
- 13..... RANCH POINT DRIVE FORCE MAIN STA. 4+20 TO STA. 14+20
- 14..... RANCH POINT DRIVE FORCE MAIN STA. 14+20 TO STA. 14+20
- 15..... RANCH POINT DRIVE FORCE MAIN STA. 9+20 TO STA. 14+20
- 16..... RANCH POINT DRIVE FORCE MAIN STA. 24+20 TO STA. 24+20
- 17..... SWAPP F.M. 1463
- 18..... SWAPP FRY ROAD
- 19..... LIFT STATION ELEVATION
- 20..... PING LAYOUT
- 21..... DETAILS
- 22..... BEDDING AND DRAINAGE DETAILS
- 23..... 1200' PEDESTRIAN CURB RAMP DETAILS
- 24..... 1500' UTILITY DETAILS
- 25..... STRUCTURAL SHEETS
- 26..... ELECTRICAL SHEETS
- 27..... ELECTRICAL ABBREVIATIONS, LEGENDS, AND NOTES
- 28..... ELECTRICAL SITE PLAN
- 29..... ELECTRICAL PLAN AND ELEVATION
- 30..... ELECTRICAL CONTROL DIAGRAMS SHEET 1
- 31..... ELECTRICAL CONTROL DIAGRAMS SHEET 2
- 32..... ELECTRICAL SOLID STATE CONTROLLER
- 33..... ELECTRICAL DETAILS SHEET 1
- 34..... ELECTRICAL DETAILS SHEET 2
- 35..... ELECTRICAL DETAILS SHEET 3
- 36..... ELECTRICAL SCHEDULES



DDG PROJECT • 12-317

PROJECT NOTES.
 PRIOR TO CONSTRUCTION OF SUCH FACILITIES, VISITORS OR BY THE DISTRICT, THE DISTRICT OR ITS ENGINEER WILL GIVE WRITTEN NOTICE BY REGISTERED OR CERTIFIED MAIL TO THE CITY OF HOUSTON DIRECTOR OF PUBLIC WORKS AND ENGINEERING, STATING THE DATE SUCH CONSTRUCTION WILL COMMENCE.



LOG No. 14-00079
 LOG No. 15-00067

FORT BEND COUNTY ENGINEER
 ENGINEER: *[Signature]*
 DATE OF APPROVAL: *5/24/16*
 DATE OF CONSTRUCTION: *5/24/16*
 DATE NOT COMMENCED IN ONE (1) YEAR FOR APPROVAL: *10/24/16*
 APPROVED: *[Signature]*
 DATE: *5/24/16*

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!
 1-800-4-A-DIG
 1-800-442-0000
 1-800-442-0000

DUPULANTS DESIGN GROUP, PC
 14660 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77032
 PHONE: 282-388-8170
 TBE: FIRM NO. 2284

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY
 AFTER DATE OF SIGNATURES

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

[Signature]
 5/24/16

[Signature]
 5/24/16

TURBIDITY/SOLIDITY & BRIDGE
 STORM WATER QUALITY
[Signature]
 5/24/16

CITY ENGINEER DATE

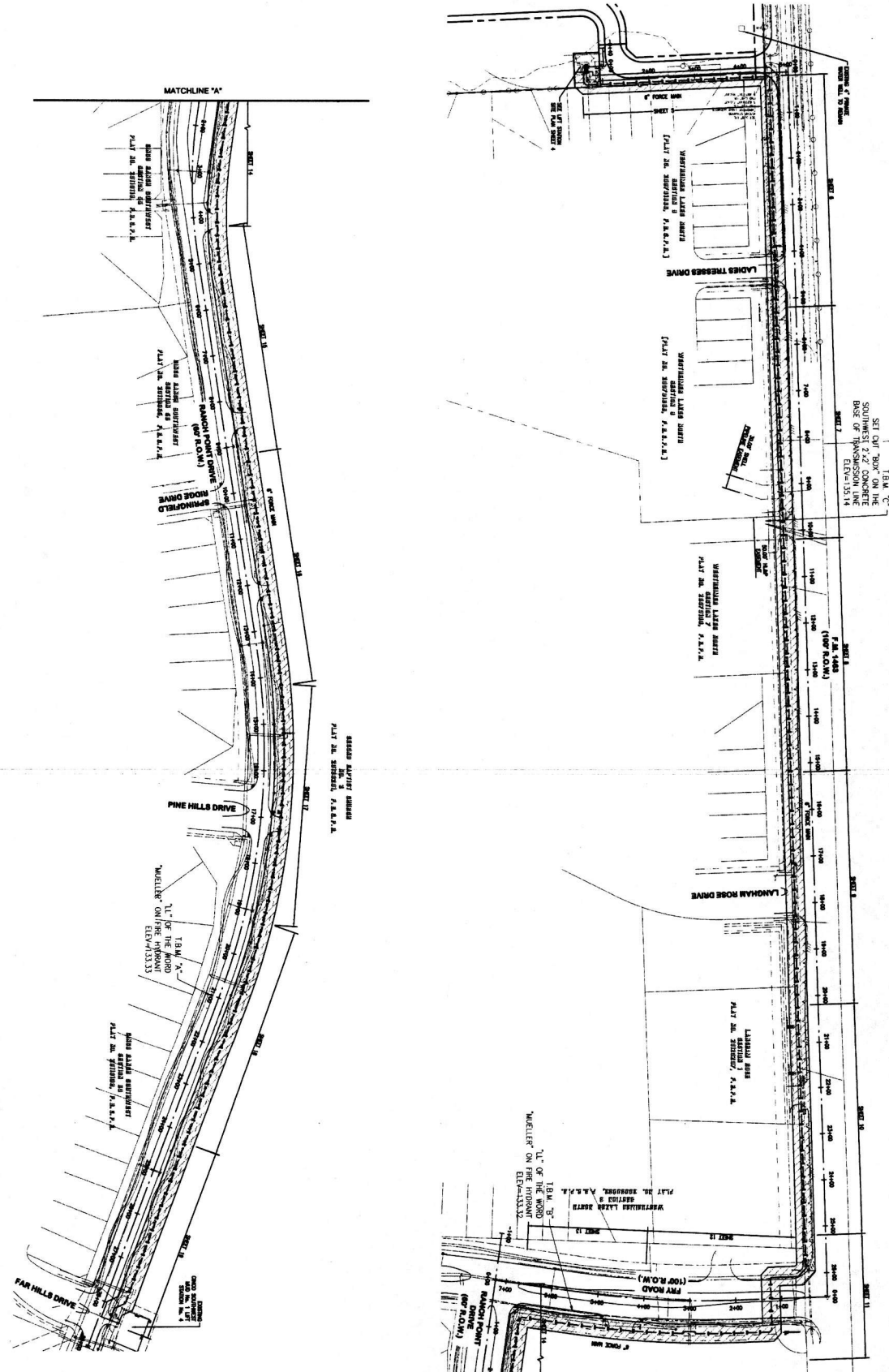
DIRECTOR OF PUBLIC WORKS AND ENGINEERING DATE

FOR CITY OF HOUSTON USE ONLY

SHEET NO. 1 OF 13 SHEETS



NOTE:
 THE EXISTING 4" PRIVATE WELLS MAY BE USED FOR CONSTRUCTION WATER FLOW IS
 APPROXIMATELY 25 TO 30 GPM.



LEGEND - NEW IMPROVEMENTS
 PROPOSED DRIVE WAY
 LINE OF WORK

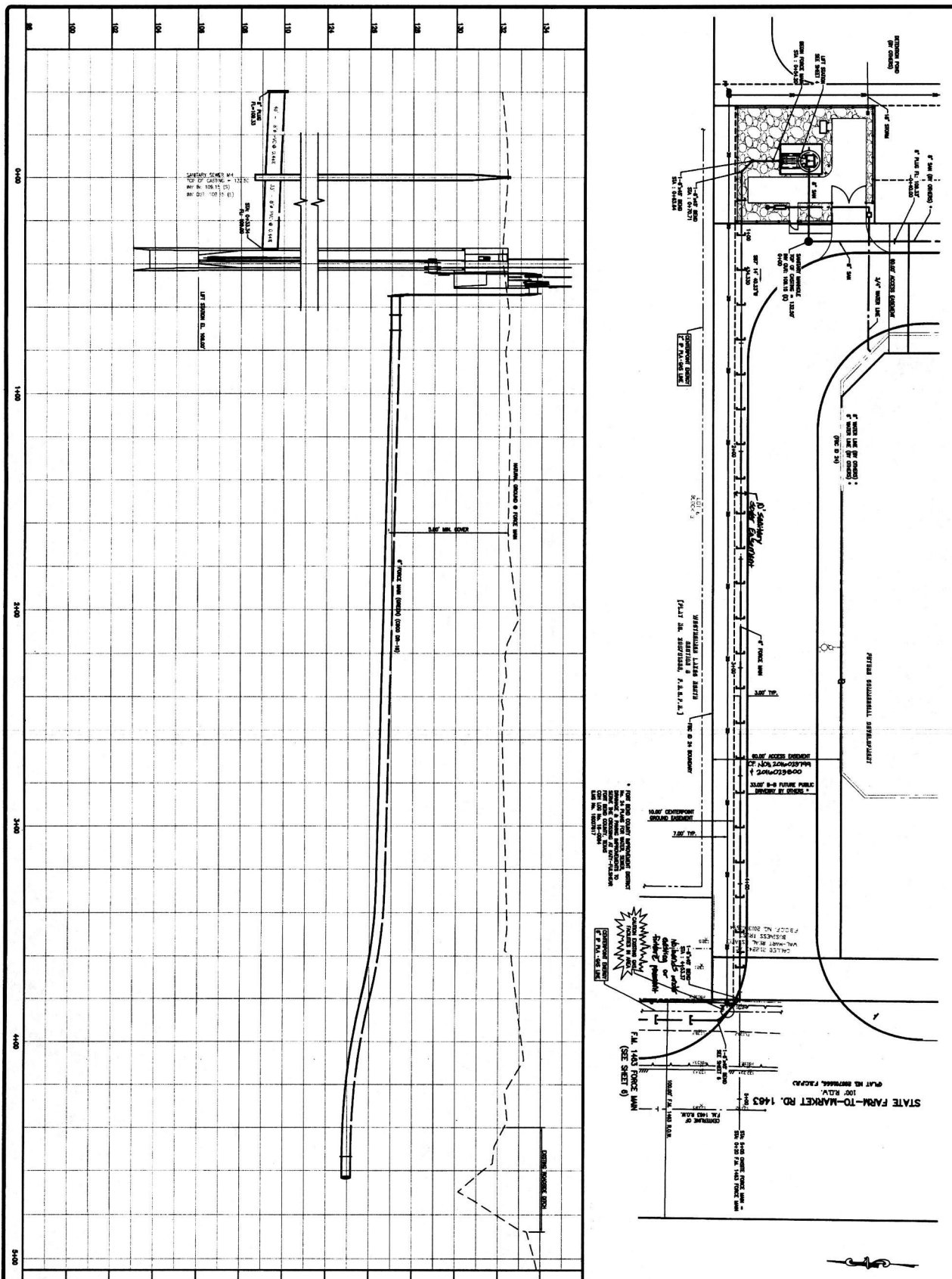
DATE: 03-27-2018
 SHEET NO. 3 OF 43
 PROJECT: IMPROVEMENT DISTRICT 24
 CITY OF HOUSTON

DDG
 DUPPLANTS DESIGN GROUP, PC
 CIVIL ENGINEERING
 14880 HEATHROW
 FOREST PARKWAY,
 SUITE 100 TX 77078
 PHONE: 832-399-8170
 THREE FRIED NO. 2254

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 CIVIL ENGINEERING DIVISION
 STAFF: [Signatures]

FOR THE CITY OF HOUSTON USE ONLY
 TITLE NO. []
 SHEET NO. 3 OF 43

DATE: 03-27-2018
 SHEET NO. 3 OF 43



X MISSISSIPPI
 P.E. DESIGNATION
 DATE: 3-3-16
 PROJECT NO. 1403 FORCE MAIN
 SHEET NO. 5 OF 43

DDG
 DUPRANTS DESIGN GROUP, P.C.
 14850 HEATHROW FOREST PARKWAY, SUITE 180
 FORT BEND COUNTY, TEXAS 78122
 PHONE: 281-398-4170
 TBE FIRM NO. 2254

CITY OF HOUSTON
 IMPROVEMENT DISTRICT 24
 ON-SITE FORCE MAIN
 STA. 0+00 TO STA. 5+34

SHEET NO. 5 OF 43

DATE: 3-3-16
 PROJECT NO. 1403 FORCE MAIN
 SHEET NO. 5 OF 43

DUPRANTS DESIGN GROUP, P.C.
 14850 HEATHROW FOREST PARKWAY, SUITE 180
 FORT BEND COUNTY, TEXAS 78122
 PHONE: 281-398-4170
 TBE FIRM NO. 2254

CITY OF HOUSTON
 IMPROVEMENT DISTRICT 24
 ON-SITE FORCE MAIN
 STA. 0+00 TO STA. 5+34

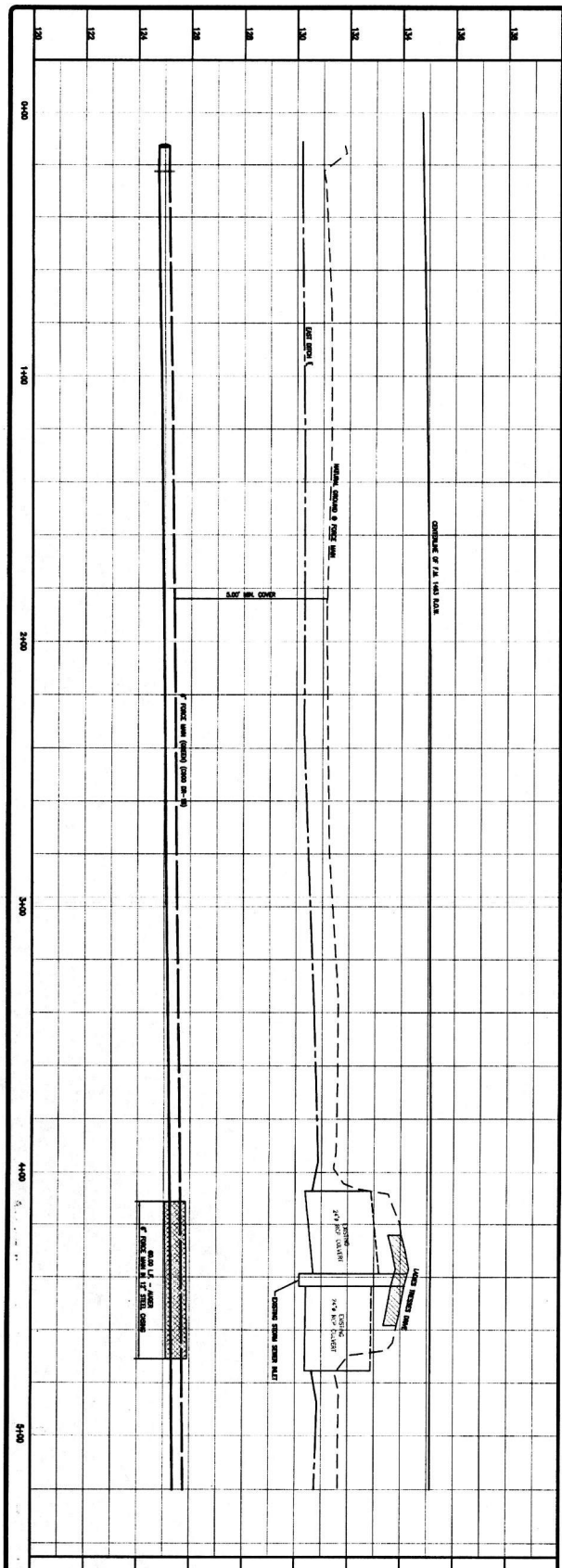
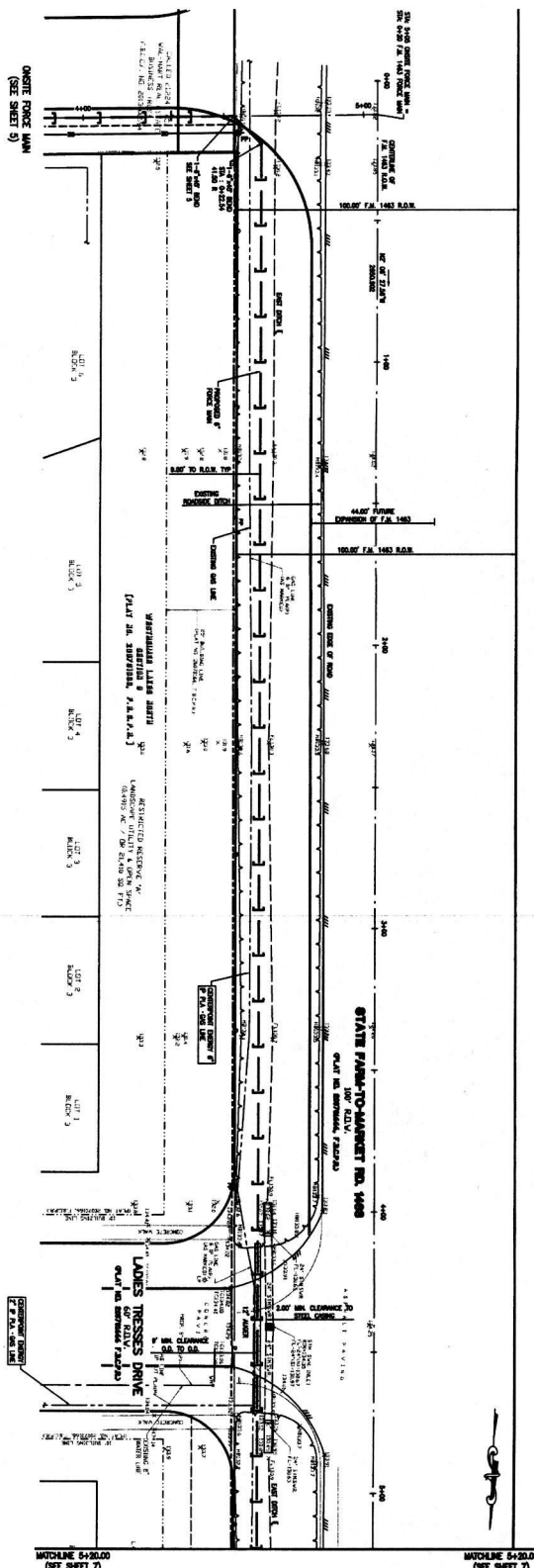
SHEET NO. 5 OF 43

DATE: 3-3-16
 PROJECT NO. 1403 FORCE MAIN
 SHEET NO. 5 OF 43

DUPRANTS DESIGN GROUP, P.C.
 14850 HEATHROW FOREST PARKWAY, SUITE 180
 FORT BEND COUNTY, TEXAS 78122
 PHONE: 281-398-4170
 TBE FIRM NO. 2254

CITY OF HOUSTON
 IMPROVEMENT DISTRICT 24
 ON-SITE FORCE MAIN
 STA. 0+00 TO STA. 5+34

SHEET NO. 5 OF 43



DDG
DUPRANTS DESIGN GROUP, P.C.
 14850 HEATHROW FOREST PARKWAY, SUITE 100 FORT WORTH, TX 76102
 PHONE: 817-338-4170
 FTE FIRM NO. 2254

DUPRANTS DESIGN GROUP, P.C.
 14850 HEATHROW FOREST PARKWAY, SUITE 100 FORT WORTH, TX 76102
 PHONE: 817-338-4170
 FTE FIRM NO. 2254

FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 14850 HEATHROW FOREST PARKWAY, SUITE 100 FORT WORTH, TX 76102
 PHONE: 817-338-4170
 FTE FIRM NO. 2254

CITY OF HOUSTON
 14850 HEATHROW FOREST PARKWAY, SUITE 100 FORT WORTH, TX 76102
 PHONE: 817-338-4170
 FTE FIRM NO. 2254

PROJECT NO. 14850
SHEET NO. 6 OF 43

REVISIONS

NO.	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		

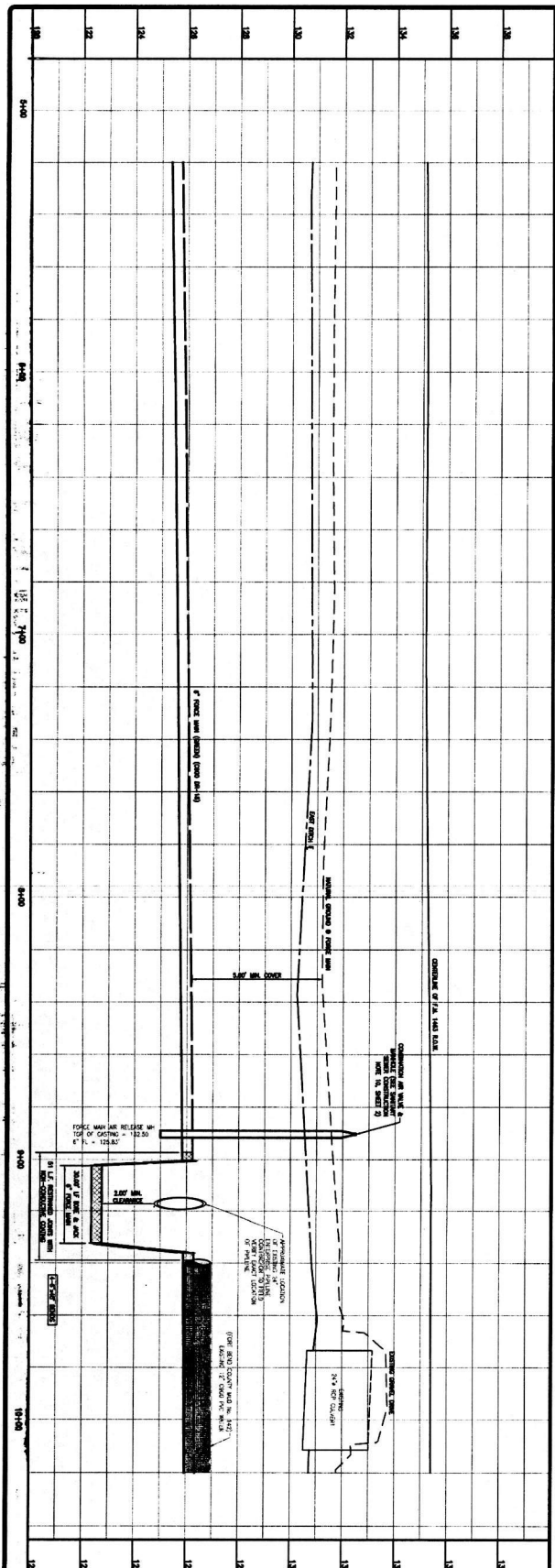
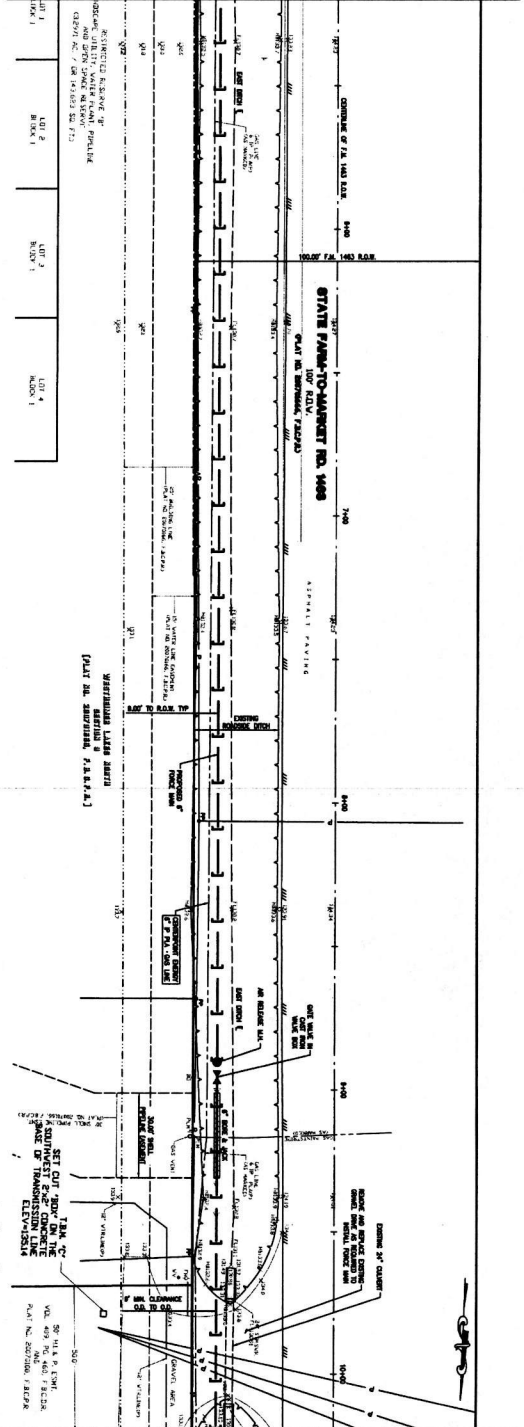
DATE: 3-3-16

PROJECT NO. 14850

SHEET NO. 6 OF 43

FOR CITY OF HOUSTON USE ONLY

55788



DATE	DESCRIPTION
12/14/16	ISSUED FOR PERMITS
12/14/16	ISSUED FOR PERMITS
12/14/16	ISSUED FOR PERMITS
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12/14/16	ISSUED FOR PERMITS
12/14/16	ISSUED FOR PERMITS

FOR THE CITY OF HOUSTON, TEXAS
 ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 12345
 STATE OF TEXAS
 EXPIRES 12/31/17
 PROJECT NO. 16-001
 SHEET NO. 7 OF 43

DDG
 DURANT'S DESIGN GROUP, PC
 14850 HEATHROW FOREST PARKWAY, SUITE 100
 FORT BEND COUNTY, TEXAS 77429
 PHONE: 832-384-8770
 TYPED FILED NO. 2254

DURANT'S DESIGN GROUP, PC
 PROJECT NO. 16-001
 SHEET NO. 7 OF 43
 DATE: 3-3-16
 APPR. [Signature] DATE: 3-3-16
 REVISIONS

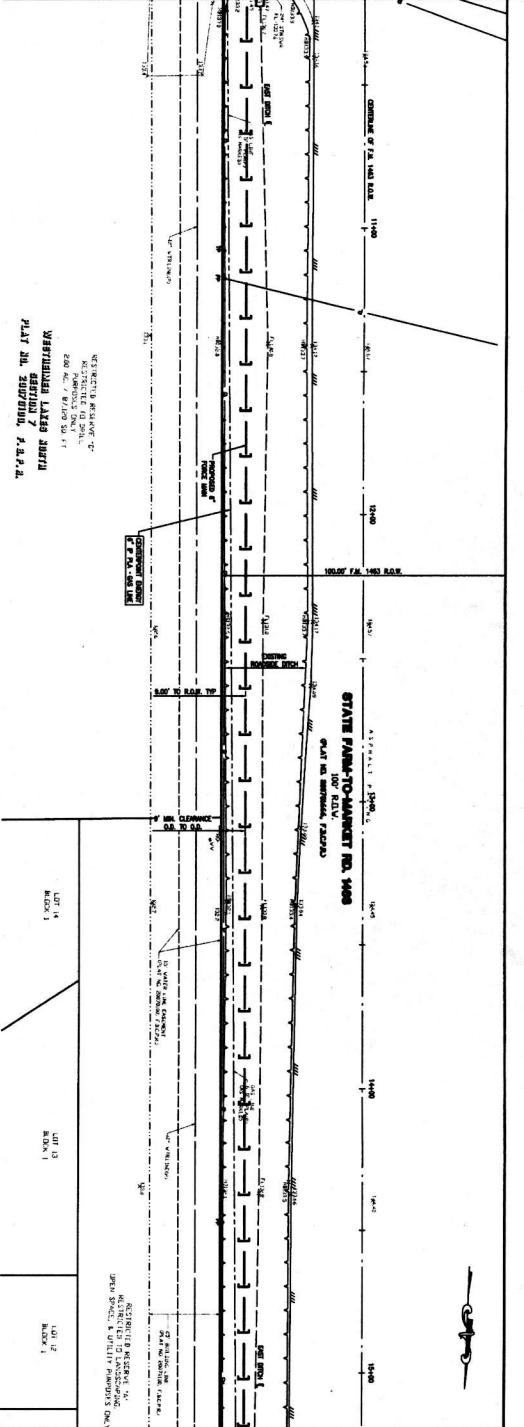
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION
 TRAFFIC ENGINEER
 [Signature]
 DATE: 3-3-16

FORT BEND COUNTY
 IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN
 STA. 6+20 TO STA. 10+20

NOTE: CITY ENGINEERS MUST SIGN FOR ONE YEAR ONLY

FOR THE CITY OF HOUSTON, TEXAS
 ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 53788
 STATE OF TEXAS
 EXPIRES 12/31/17
 PROJECT NO. 16-001
 SHEET NO. 7 OF 43

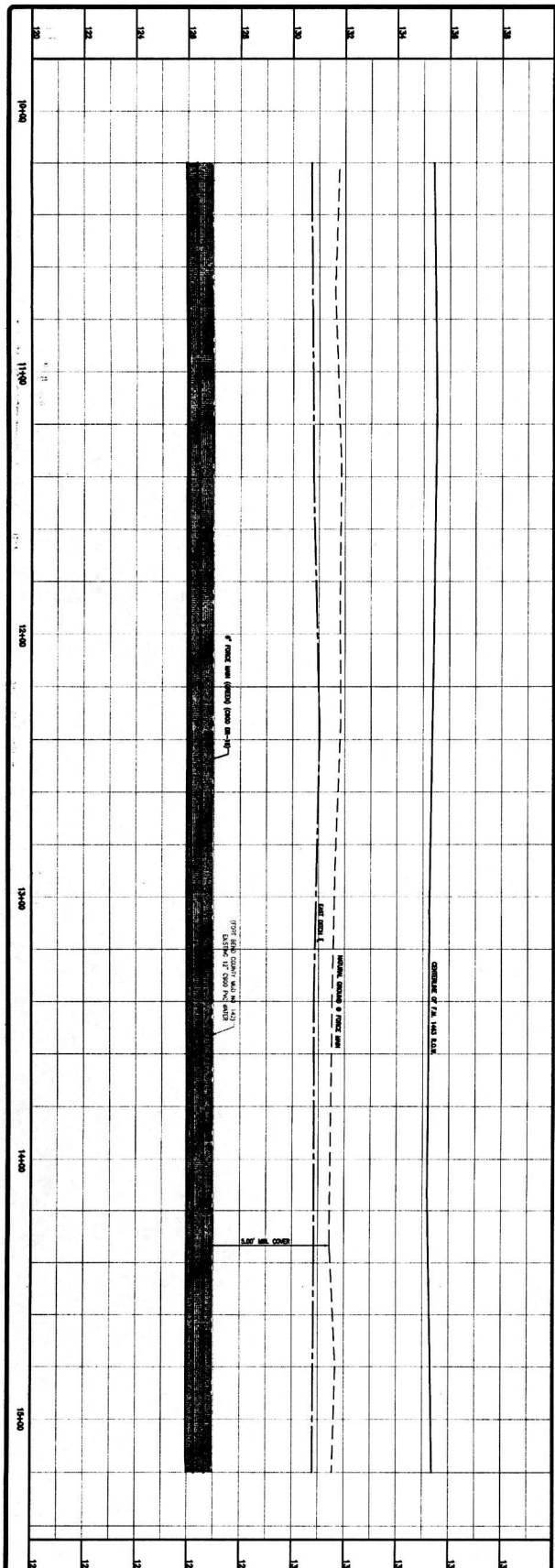
MIDLINE 10+35.00 (SEE SHEET 7) MIDLINE 10+50.00 (SEE SHEET 7)



MIDLINE 15+20.00 (SEE SHEET 8) MIDLINE 15+35.00 (SEE SHEET 8)

REGISTERED PROFESSIONAL ENGINEER
 STATE OF TEXAS
 CIVIL ENGINEERING
 200 AMHERST DRIVE
 HOUSTON, TEXAS 77057
VERNE HENNING, P.E.
PLAT NO. 20070000, A.P.P.

LOT 14	BLOCK 1	LOT 13	BLOCK 1	LOT 12	BLOCK 1
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DUPRANTS DESIGN GROUP, PC

DESIGNER: PC
 14860 HEATHROW FOREST PARKWAY, HOUSTON, TX 77032
 PHONE: 832-388-4170
 TYPED BY: M. 2254

DUPRANTS DESIGN GROUP, PC

DESIGNER: PC
 14860 HEATHROW FOREST PARKWAY, HOUSTON, TX 77032
 PHONE: 832-388-4170
 TYPED BY: M. 2254

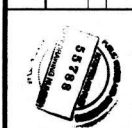
FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN
 F.M. 1463 FORCE MAIN
 STA. 10+20 TO STA. 15+20

CITY OF HOUSTON
 ENGINEER: VERNE HENNING, P.E.
 PROJECT NO. 20070000
 SHEET NO. 8 OF 43

DATE: 03-16
 DATE: 03-16

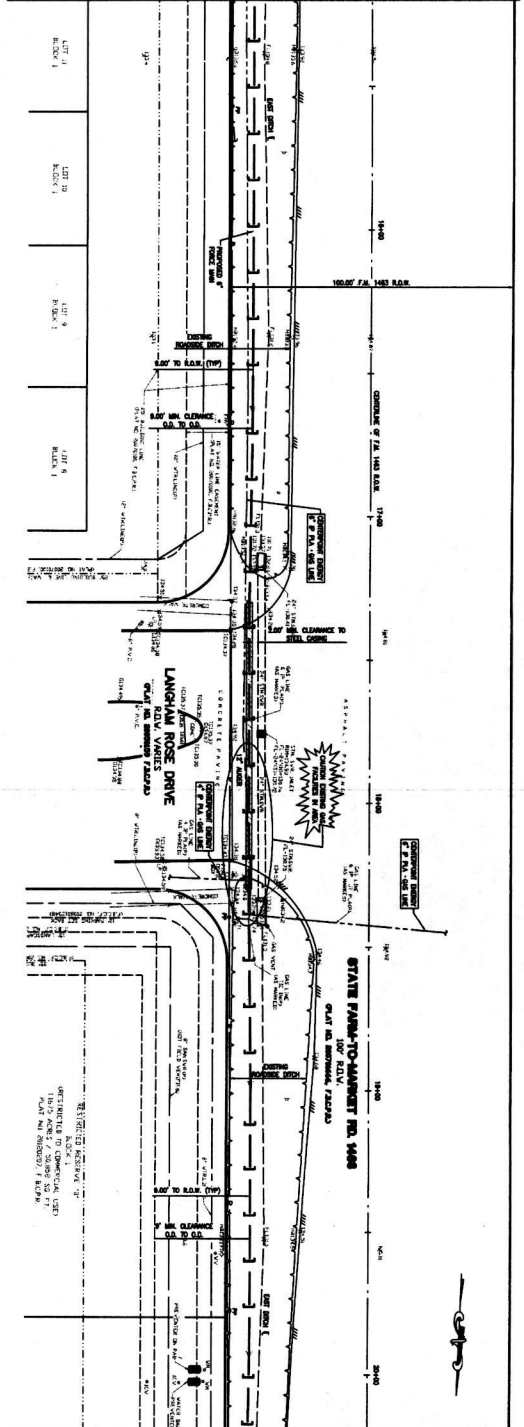
APPROVED: [Signature]
 DATE: 03-16

REVISIONS: [Table with columns for REVISIONS and DATE]

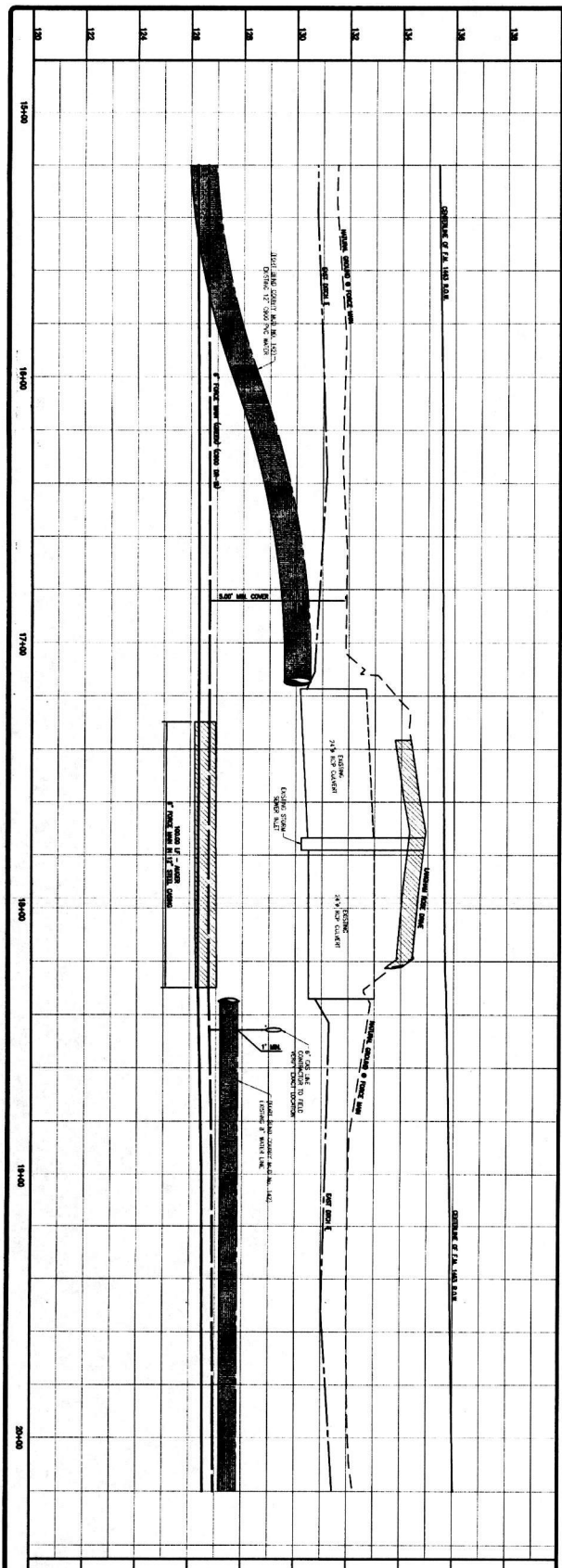


CONTRACTOR SHALL VERIFY ALL DIMENSIONS, SURVEY, AND RECORDS BEFORE CONSTRUCTION TO 100% ACCURACY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF HOUSTON AND THE STATE OF TEXAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF HOUSTON AND THE STATE OF TEXAS.

MIDLINE 15+20.00 (SEE SHEET 8)



MIDLINE 20+20.00 (SEE SHEET 10)



DDG
DUPRANTS DESIGN GROUP, PC
 14680 HEATHROW FOREST PARKWAY, SUITE 100 TX 77062
 PHONE: 832-584-8170
 TYPE: FIRM NO. 2254
 FORT BEND COUNTY
 IMPROVEMENT DISTRICT 24
 F.M. 1463 FORCE MAIN
 STA. 15+20 TO STA. 20+20
 NOTE: CITY SQUARES MARK FOR ONE YEAR ONLY

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION
 TRAFFIC ENGINEER: *[Signature]*
 TRAFFIC ENGINEER: *[Signature]*

DRAWING SCALE: HORIZ: 1"=40'
 VERT: 1"=4'
 SHEET NO. 9 OF 43

APP.	REVISIONS	DATE
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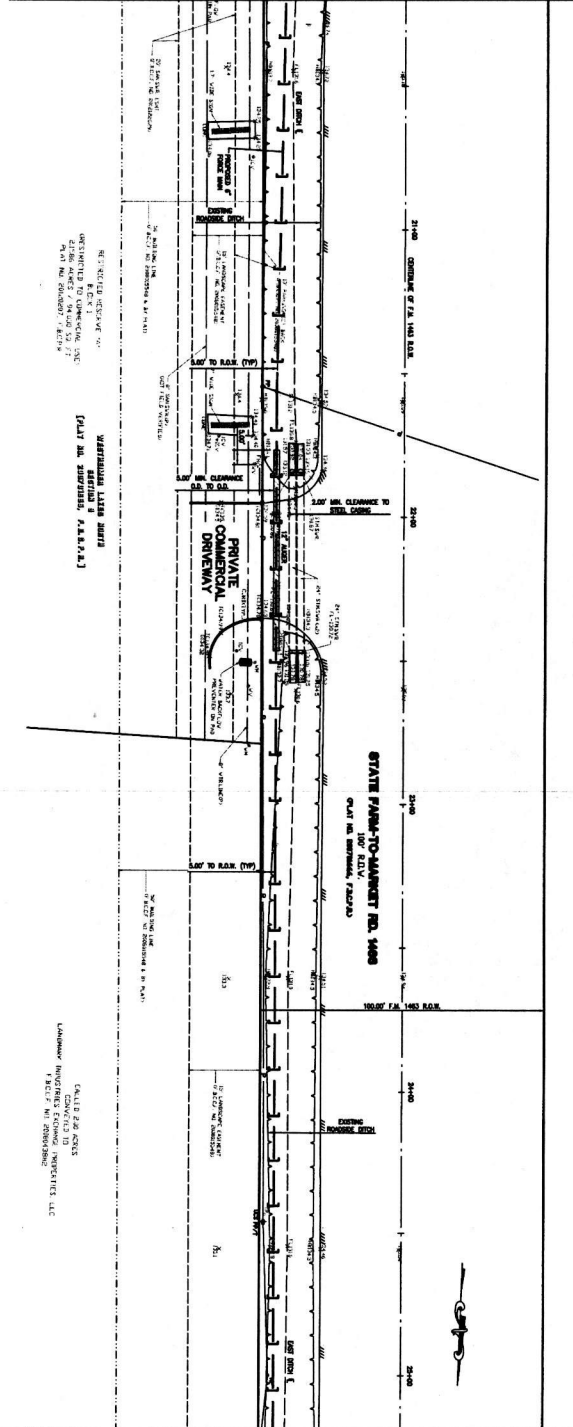
DATE: 3-3-16
 DATE: 3-3-16
 DATE: 3-3-16

X *[Signature]* 3/3/16
 FPC EXEMPT COMMISSION
 DATE:

TO BE REVIEWED FOR PLANS BY 15:00:00 ON 3/3/16. FOR YOUR REVIEW, YOU ARE ADVISED THAT THE CITY OF HOUSTON HAS A 15-DAY REVIEW PERIOD FOR ALL PLANS. IF YOU DO NOT REVIEW THE PLANS WITHIN THIS PERIOD, THE CITY WILL PROCEED WITH THE PROJECT. IF YOU HAVE ANY COMMENTS, PLEASE CONTACT THE DESIGNER AT THE ADDRESS LISTED BELOW.

DATE: 3-3-16
 DATE: 3-3-16
 DATE: 3-3-16

MICROLINE 20+30.00 (SEE SHEET 9)



MICROLINE 25+30.00 (SEE SHEET 11)

120	20+00							
121	21+00							
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DDG
DUPLANTS DESIGN GROUP, PC
CIVIL ENGINEERING

DESIGNED BY: *MJ* DATE: 02-01-2018
DRAWN BY: *CS* DATE: 02-01-2018
CHECKED BY: *CS* DATE: 02-01-2018

DUPLANTS
14890 HENTHROW
FOREST PARKWAY,
SUITE 160
HOUSTON, TX 77062
TEL: 281.254.2554
WWW.DDGP.COM

FORT BEND COUNTY
IMPROVEMENT DISTRICT 24
LIFT STATION NO. 1 & FORCE MAIN
F.M. 1463 FORCE MAIN
STA. 20+20 TO STA. 25+20

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STREETS & TRANSPORTATION
STREET & SIGNAL

FOR CITY OF HOUSTON USE ONLY
58788

MISSISSIPPI
FOR DEVELOPER'S INFORMATION

DATE: 3-3-16

APPROVED BY: *[Signature]*

REVISIONS: DATE

1. DATE: 3-3-16

2. DATE: 3-3-16

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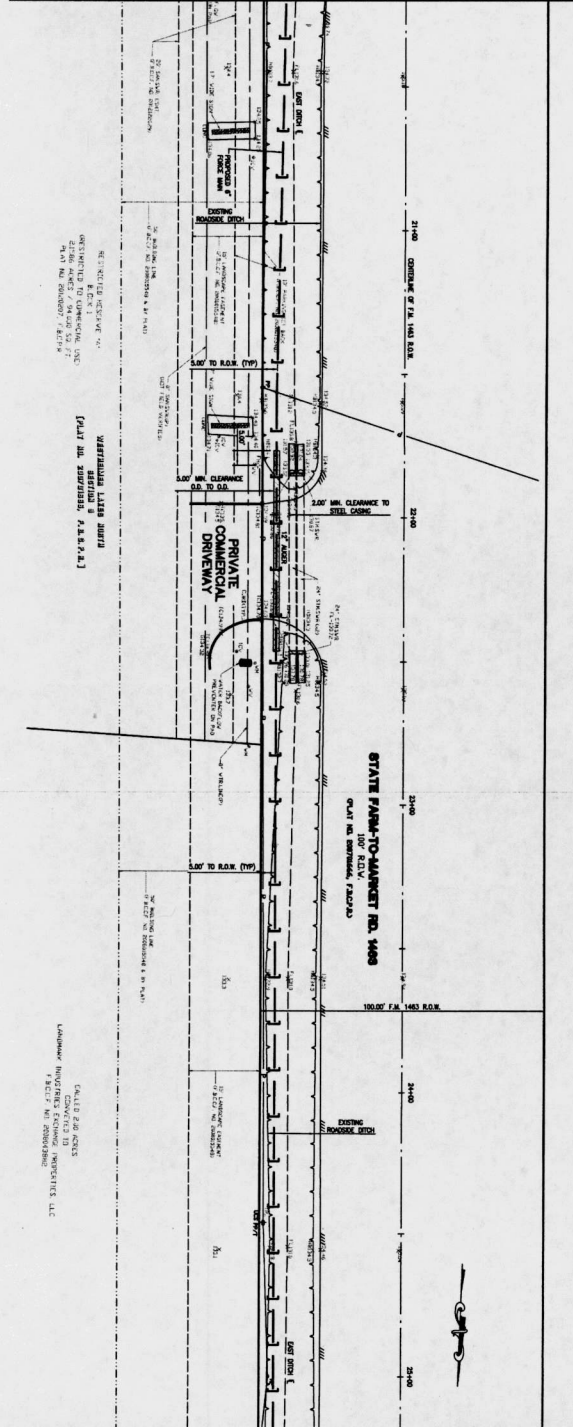
97. DATE: 3-3-16

98. DATE: 3-3-16

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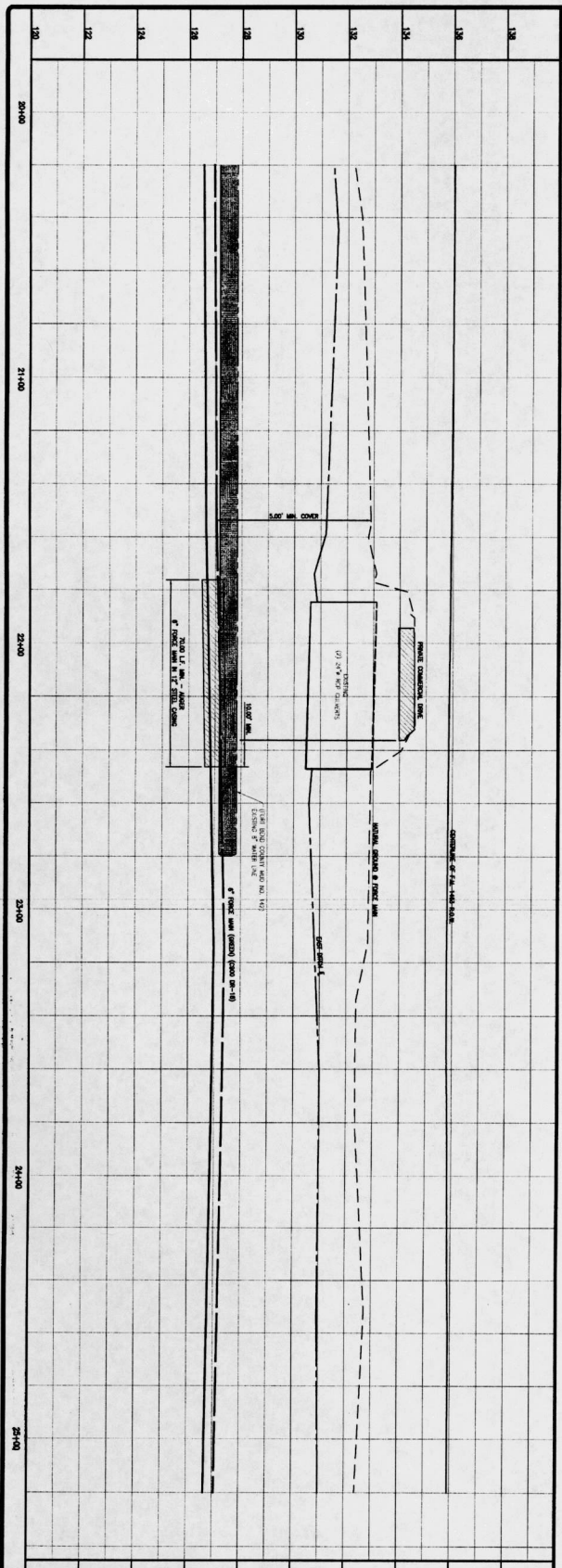
100. DATE: 3-3-16

MATCHLINE 20+30.00 (SEE SHEET 9)



MATCHLINE 25+30.00 (SEE SHEET 11)

DESIGNER: DDG
CLIENT: DUPPLANTS DESIGN GROUP, PC
PROJECT: DUPPLANTS DESIGN GROUP, PC
DATE: 03-01-2018
SCALE: 1"=40'
PROJECT NO.: 10 OF 43

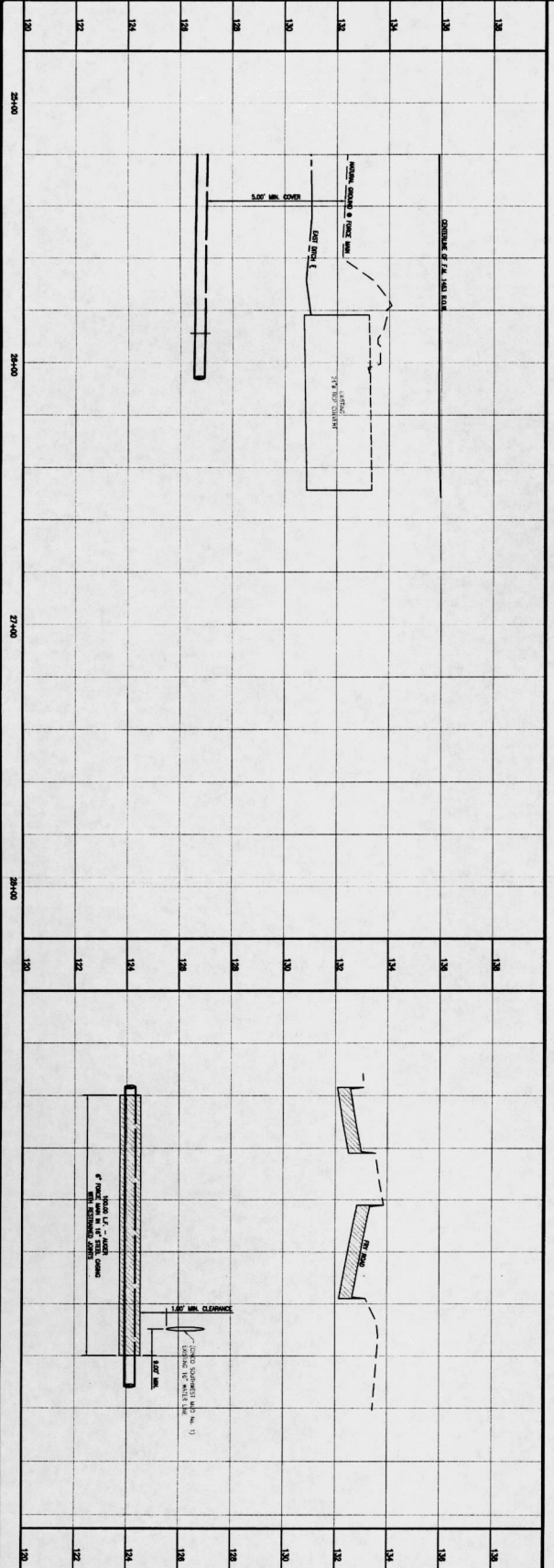
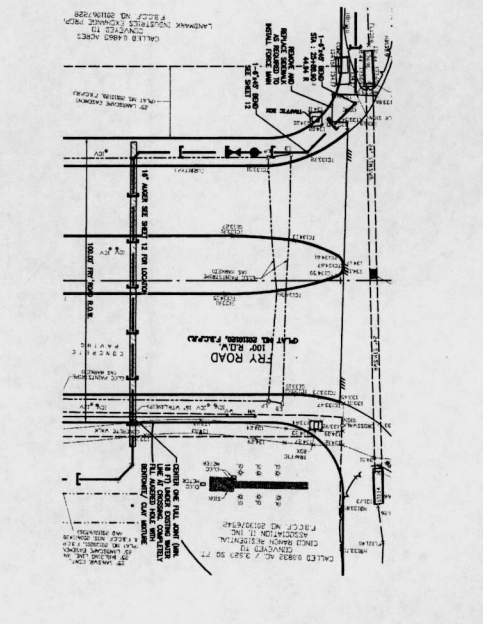
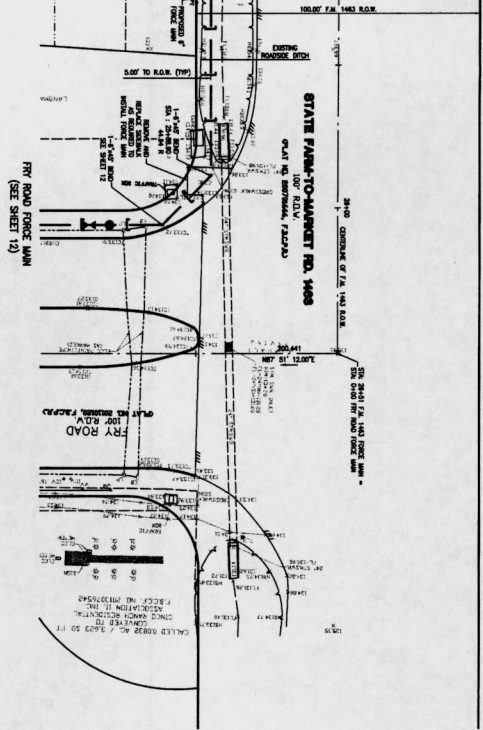


DESIGNER: DDG
CLIENT: DUPPLANTS DESIGN GROUP, PC
PROJECT: DUPPLANTS DESIGN GROUP, PC
DATE: 03-01-2018
SCALE: 1"=40'
PROJECT NO.: 10 OF 43

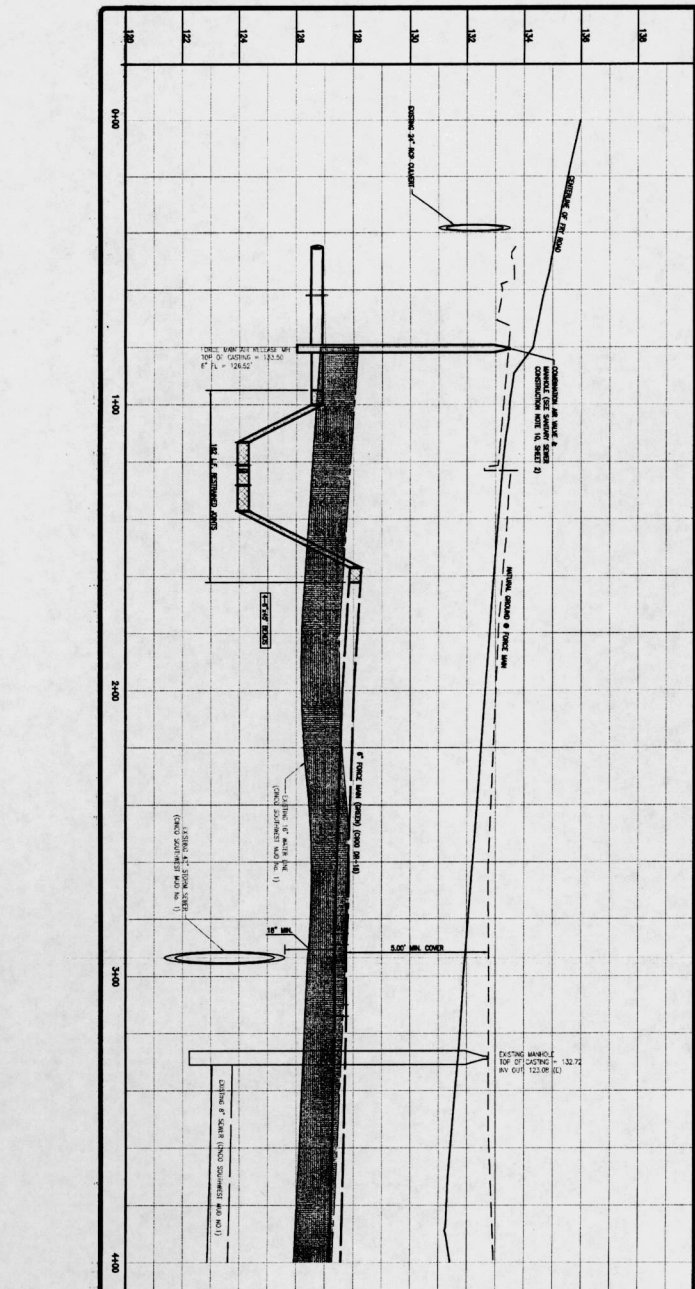
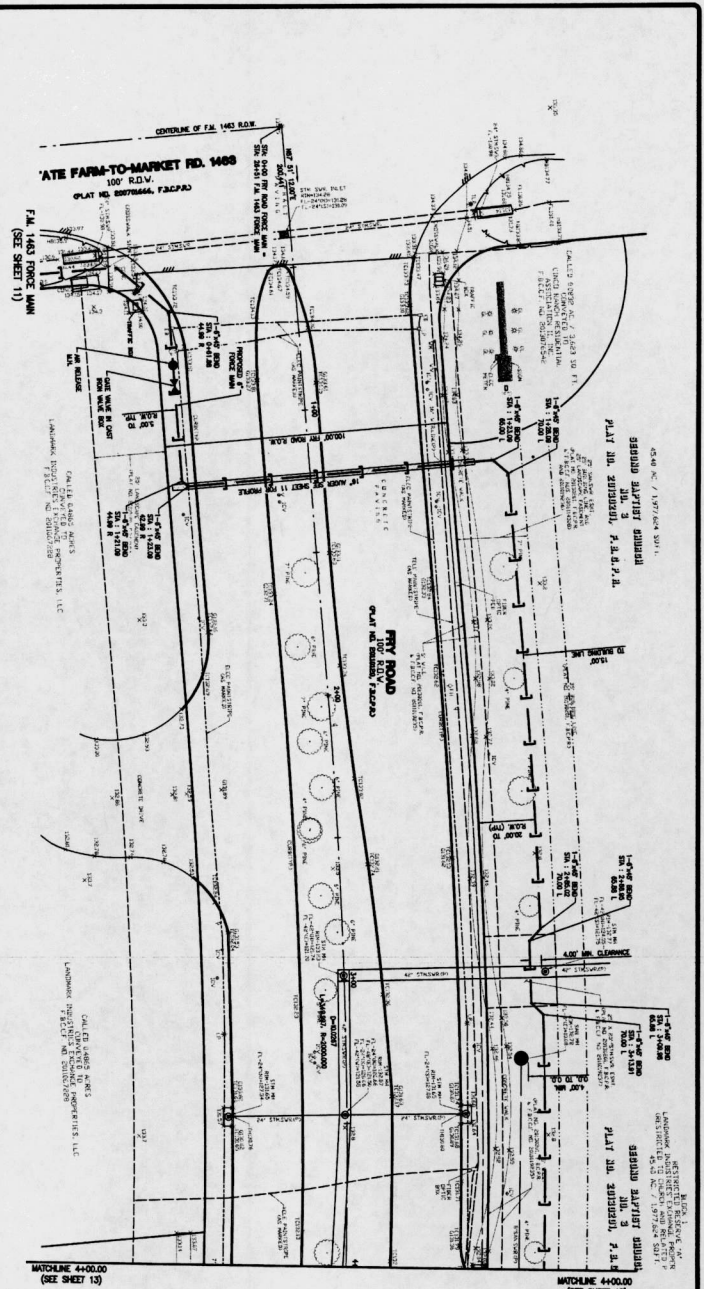
NO.	REVISIONS	DATE
1	ISSUED FOR PERMITS	03-01-2018
2	REVISED PER COMMENTS	03-01-2018
3	REVISED PER COMMENTS	03-01-2018
4	REVISED PER COMMENTS	03-01-2018
5	REVISED PER COMMENTS	03-01-2018
6	REVISED PER COMMENTS	03-01-2018
7	REVISED PER COMMENTS	03-01-2018
8	REVISED PER COMMENTS	03-01-2018
9	REVISED PER COMMENTS	03-01-2018
10	REVISED PER COMMENTS	03-01-2018

MATCHLINE 25+00.00
(SEE SHEET 10)

MATCHLINE 25+00.00
(SEE SHEET 10)



<p>DRAWING TITLE: FRY ROAD FORCE MAIN</p> <p>DATE: 3-3-16</p> <p>DESIGNER: [Signature]</p> <p>DATE: 3-3-16</p> <p>CHECKED: [Signature]</p> <p>DATE: 3-3-16</p> <p>APP.: [Signature]</p> <p>REVISIONS:</p> <p>DATE:</p>		<p>DUPRANTS DESIGN GROUP, P.C.</p> <p>14850 HEATHROW FOREST PARKWAY, HOUSTON TX 77032 PHONE: 832-589-8170 TYPE FIRM NO. 2254</p> <p>FORT BEND COUNTY IMPROVEMENT NO. 1 & FORCE MAIN LIFT STATION NO. 1</p> <p>F.M. 1483 FORCE MAIN STA. 25+20 TO STA. 29+51</p> <p>NOTE: CITY ENGINEERS WOULD FOR ONE (ONE) ONLY</p> <p>CITY OF HOUSTON</p> <p>ENGINEER: [Signature]</p> <p>DATE: 3-3-16</p> <p>STREET & BLOCK</p>	
<p>DUPRANTS DESIGN GROUP, P.C.</p> <p>14850 HEATHROW FOREST PARKWAY, HOUSTON TX 77032 PHONE: 832-589-8170 TYPE FIRM NO. 2254</p>		<p>FORT BEND COUNTY IMPROVEMENT NO. 1 & FORCE MAIN LIFT STATION NO. 1</p> <p>F.M. 1483 FORCE MAIN STA. 25+20 TO STA. 29+51</p>	
<p>DRAWING SCALE: HORIZ. 1"=40'</p> <p>SHEET NO.: 11 OF 43</p> <p>FOR CITY OF HOUSTON USE ONLY</p> <p>55788</p>		<p>DUPRANTS DESIGN GROUP, P.C.</p> <p>14850 HEATHROW FOREST PARKWAY, HOUSTON TX 77032 PHONE: 832-589-8170 TYPE FIRM NO. 2254</p>	



120	0+00	1+00	2+00	3+00	4+00	5+00
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REVISIONS

NO.	DATE	DESCRIPTION
1	3-3-16	ISSUED FOR PERMITS
2	3-3-16	REVISED PER COMMENTS

FOR THE DESIGNER: *M. J. ...*

FOR THE CONTRACTOR: *...*

APPROVED: *...*

DATE: 3/1/16

PROJECT: FORT BEND COUNTY IMPROVEMENT DISTRICT 24 LIFT STATION NO. 1 & FORCE MAIN FRY ROAD FORCE MAIN STA. 0+00 TO STA. 4+00

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STRENGTHENING, MAINTENANCE & IMPROVEMENT DIVISION
STRENGTHENING, MAINTENANCE & IMPROVEMENT DIVISION
STRENGTHENING, MAINTENANCE & IMPROVEMENT DIVISION

DUPONTIS DESIGN GROUP, PC
14850 HEATHROW
CORNEL PARKWAY
HOUSTON, TX 77032
PHONE: 832-369-8170
FAX: 832-369-8170

DDG
DUPONTIS DESIGN GROUP, PC
CIVIL ENGINEERING

DESIGNED BY: AM
DATE: 02-01-2015

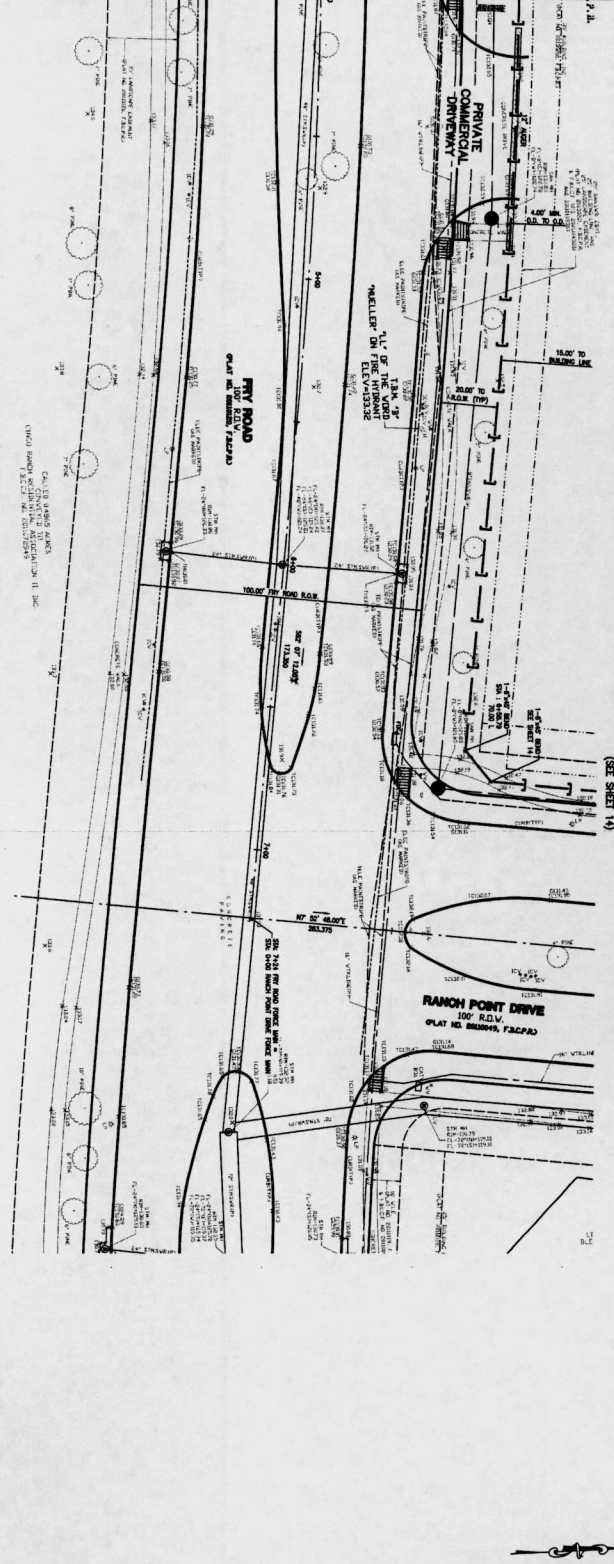
DRAWN BY: CMB
DATE: 02-01-2015

CHECKED BY: ...
DATE: 3-3-16

SCALE: 1"=40'

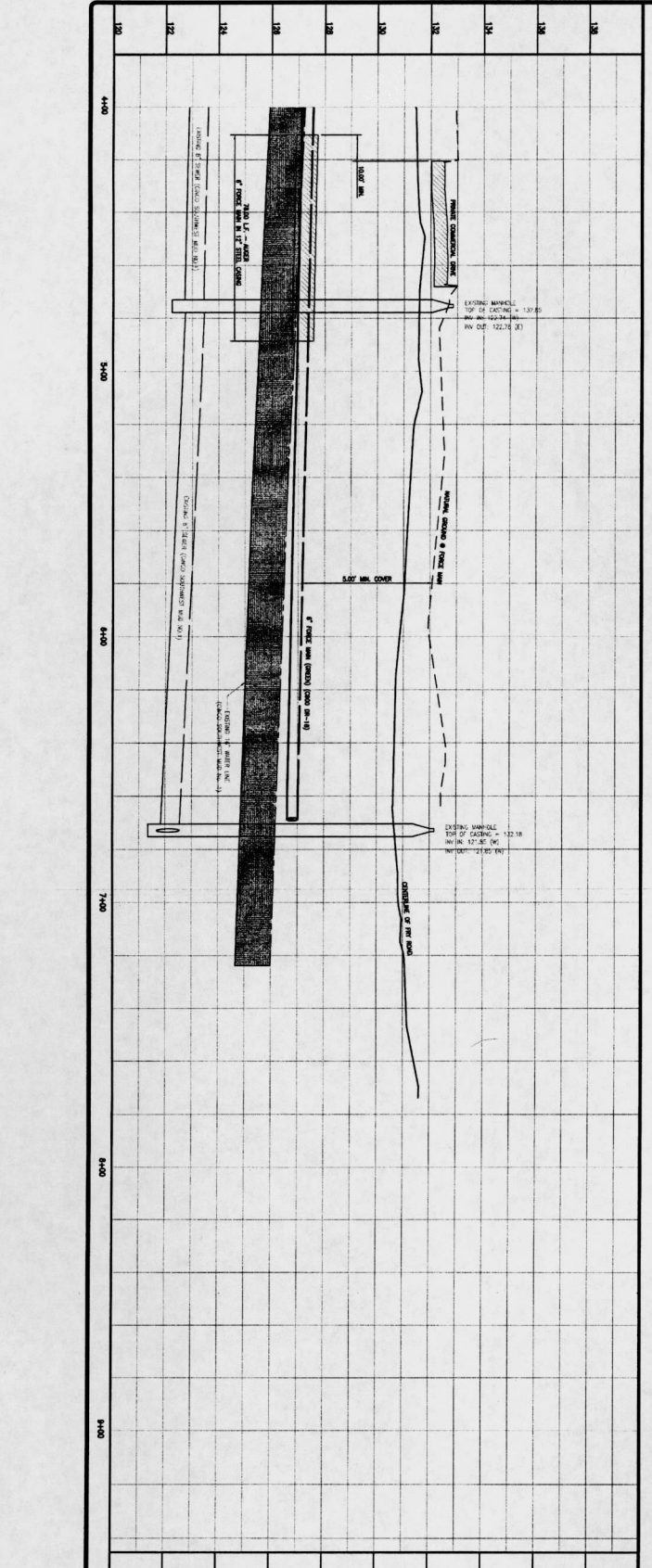
SHEET NO. 12 OF 43

MATCHLINE 4+00.00 (SEE SHEET 12) MATCHLINE 4+00.00 (SEE SHEET 12)



NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS BY CITY OF HOUSTON	03-11-2018
2	FOR CITY OF HOUSTON USE ONLY	

FOR CITY OF HOUSTON USE ONLY
SHEET NO. 13 OF 43



DDG
DUPONT DESIGN GROUP, PC
CIVIL ENGINEERING
14850 HEATHROW FOREST PARKWAY, SUITE 100, TX 77060
PHONE: 832-369-8170
TYPE FIRM NO. 2254

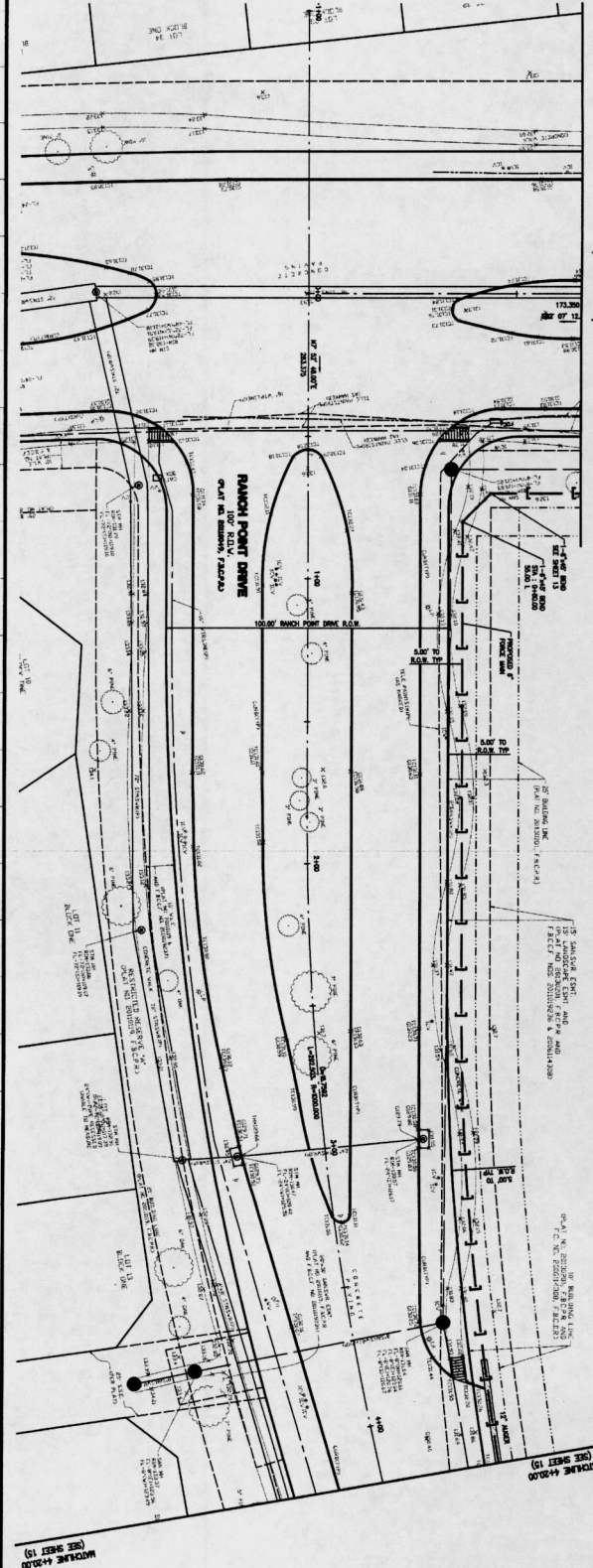
DUPONT DESIGN GROUP, PC
DESIGN GROUP
14850 HEATHROW FOREST PARKWAY, SUITE 100, TX 77060
PHONE: 832-369-8170
TYPE FIRM NO. 2254

FORT BEND COUNTY
IMPROVEMENT DISTRICT 24
LEFT STATION NO. 1 & FORCE MAIN
STA. 4+00 TO STA. 7+24

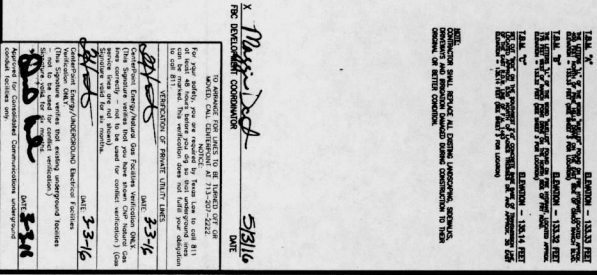
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION
STREETS AND SIDEWALKS DIVISION
STREETS MAINTENANCE SECTION
STREETS MAINTENANCE SECTION
STREETS MAINTENANCE SECTION

DATE: 03-11-2018
DRAWN BY: CEA
CHECKED BY: CEA
SCALE: AS SHOWN
SHEET NO. 13 OF 43

RTY ROAD FORCE MAIN
(SEE SHEET 13)



WORKSHEET 44-2000
(SEE SHEET 15)



STATION	DESCRIPTION
114	12" FORCE MAIN (CONCRETE) STA. 1400
115	12" FORCE MAIN (CONCRETE) STA. 1400
116	12" FORCE MAIN (CONCRETE) STA. 1400
117	12" FORCE MAIN (CONCRETE) STA. 1400
118	12" FORCE MAIN (CONCRETE) STA. 1400
119	12" FORCE MAIN (CONCRETE) STA. 1400
120	12" FORCE MAIN (CONCRETE) STA. 1400
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128	12" FORCE MAIN (CONCRETE) STA. 1400
129	12" FORCE MAIN (CONCRETE) STA. 1400
130	12" FORCE MAIN (CONCRETE) STA. 1400
131	12" FORCE MAIN (CONCRETE) STA. 1400
132	12" FORCE MAIN (CONCRETE) STA. 1400
133	12" FORCE MAIN (CONCRETE) STA. 1400
134	12" FORCE MAIN (CONCRETE) STA. 1400

DDG
DUPUNTIS DESIGN GROUP, PC
CIVIL ENGINEERING

DESIGNED BY: *[Signature]* DATE: 03-01-2014
CHECKED BY: *[Signature]* DATE: 03-01-2014
DRAWN BY: *[Signature]* DATE: 03-01-2014

DUPUNTIS DESIGN GROUP, PC
14860 HEATHCROW FOREST PARKWAY, SUITE 160 HOUSTON, TX 77062
PHONE: 281.416.1111
FAX: 281.416.1112
WWW.DDG-PC.COM

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STREETS AND SANITATION DIVISION
STREETS AND SANITATION DIVISION
STREETS AND SANITATION DIVISION

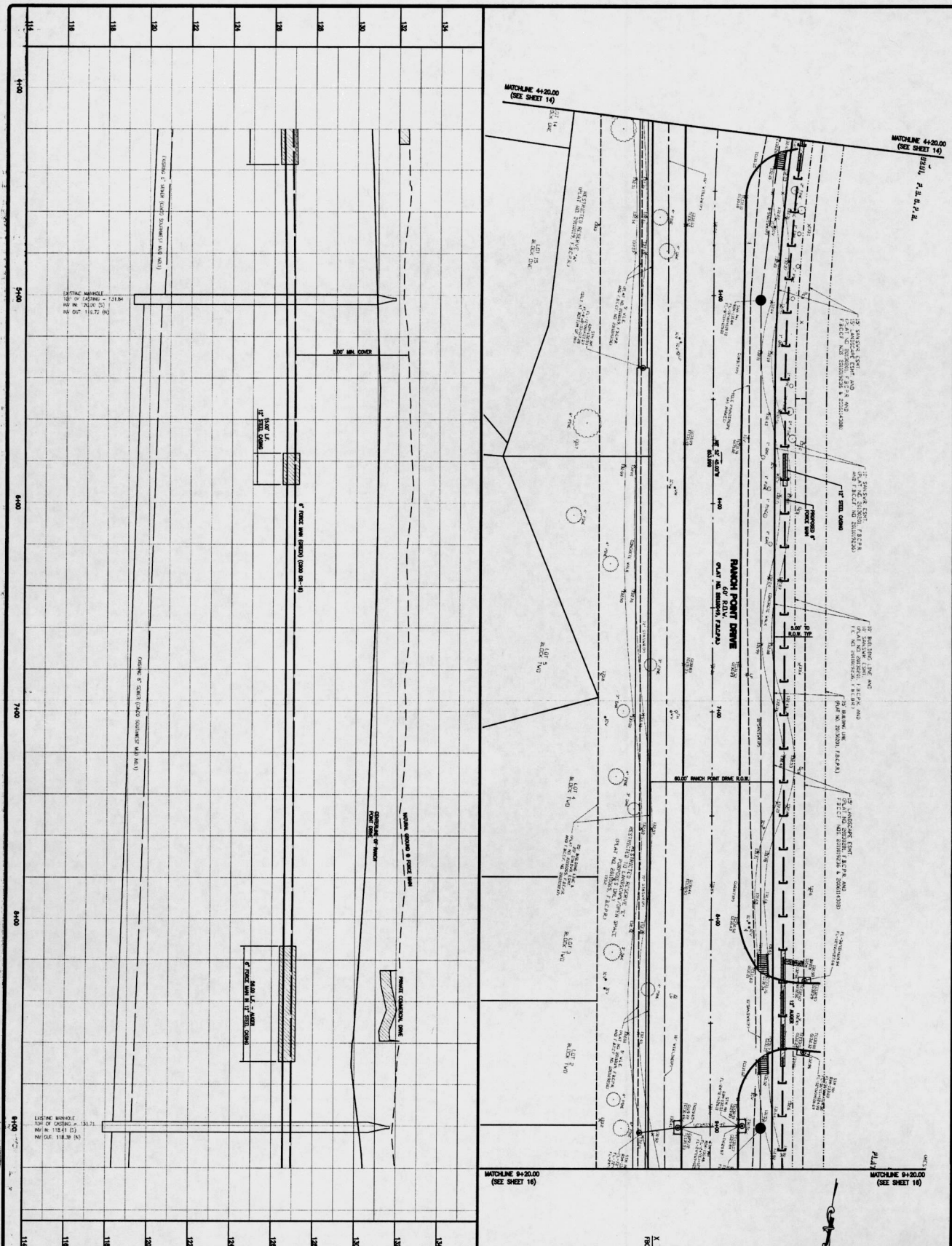
PROJECT: **RTY ROAD FORCE MAIN**
SHEET NO. **14 OF 43**

DATE: **03-01-2014**

SCALE: **1" = 40'**

PROJECT NO. **53788**

FOR CITY OF HOUSTON USE ONLY



REVISIONS

APP.	REVISIONS	DATE
Δ		
Δ		

DATE 3-3-16

DESIGNER [Signature]

CHECKED [Signature]

DATE 3-3-16

PROJECT NO. 15 OF 43

SHEET NO. 15 OF 43

FOR CITY OF HOUSTON USE ONLY

85788

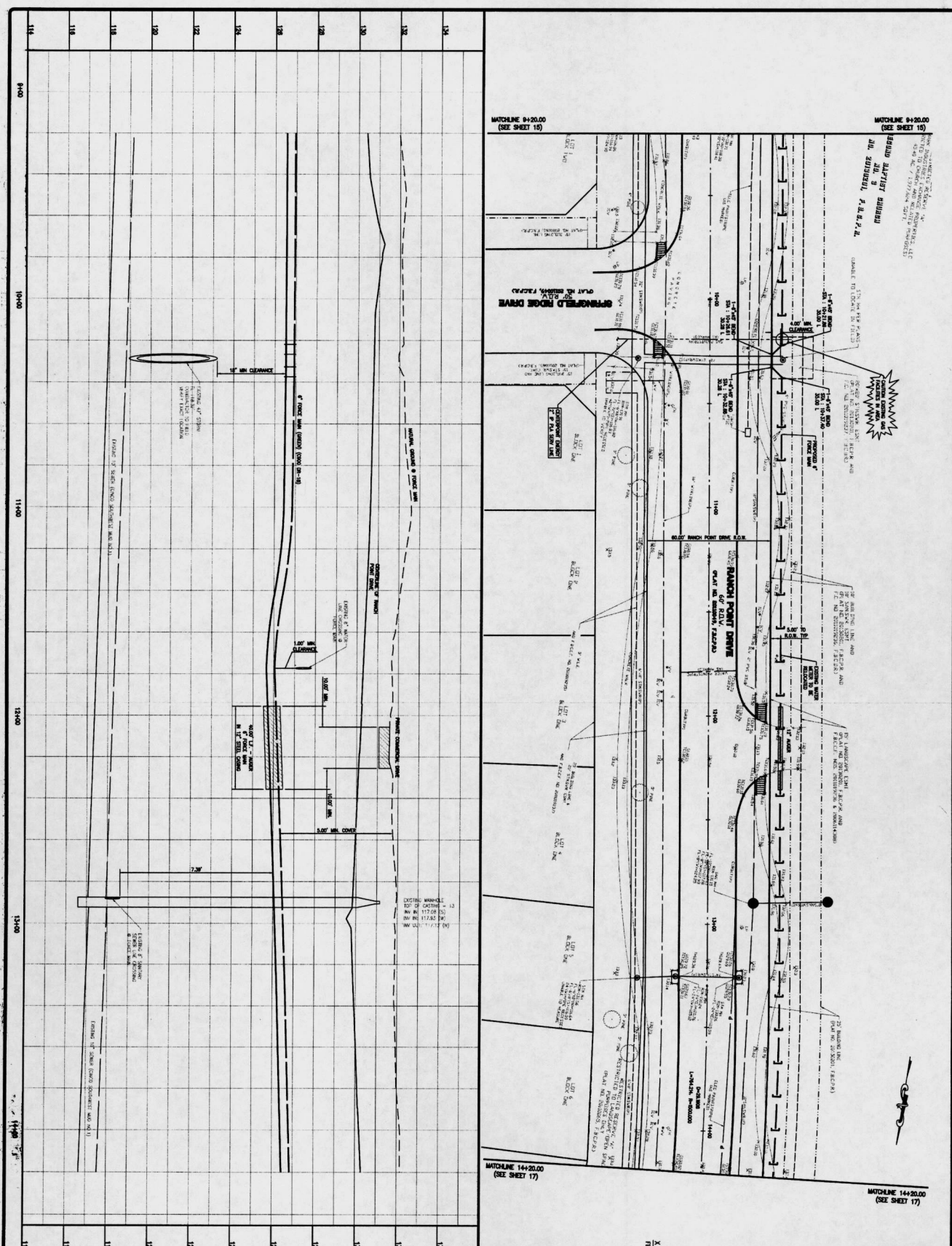
DDG
DUPILANTIS DESIGN GROUP, PC
 CHIEF ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 LICENSE NO. 15231

DUPILANTIS DESIGN GROUP
 14890 HEATHROW FOREST PARKWAY, SUITE 180
 FORT BEND COUNTY, TEXAS 77993
 PHONE: 832-986-8170
 TUBE FIRM NO. 2254

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 STREETS AND SIDEWALKS DIVISION
 STREETS MAINTENANCE SECTION
 PROJECT NO. 15 OF 43

IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN
 STA. 4+20 TO STA. 8+20

NOTE: CITY ENGINEERS WILL FOR ONE YEAR ONLY PROVIDE PLAN OF SECTIONS.



REVISIONS

NO.	DATE	DESCRIPTION
1	12/14/11	ISSUED FOR PERMITS
2	12/14/11	ISSUED FOR PERMITS
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99	12/14/11	ISSUED FOR PERMITS
100	12/14/11	ISSUED FOR PERMITS

NOTES: 1. ALL UTILITIES SHALL BE LOCATED AND DEPT. OF PUBLIC WORKS SHALL BE NOTIFIED. 2. ALL UTILITIES SHALL BE DEPT. OF PUBLIC WORKS SHALL BE NOTIFIED. 3. ALL UTILITIES SHALL BE DEPT. OF PUBLIC WORKS SHALL BE NOTIFIED.

FOR CITY OF HOUSTON USE ONLY

DDG
 DUPONT DESIGN GROUP, PC
 14888 HEATHROW FOREST PARKWAY, SUITE 100 TX 77063
 PHONE: 832-569-9170
 TYPED BY: [Signature]
 DATE: 3-3-16
 PROJECT NO: 15-217

DUPONT
 DESIGN GROUP, PC
 14888 HEATHROW FOREST PARKWAY, SUITE 100 TX 77063
 PHONE: 832-569-9170
 TYPED BY: [Signature]
 DATE: 3-3-16
 PROJECT NO: 15-217

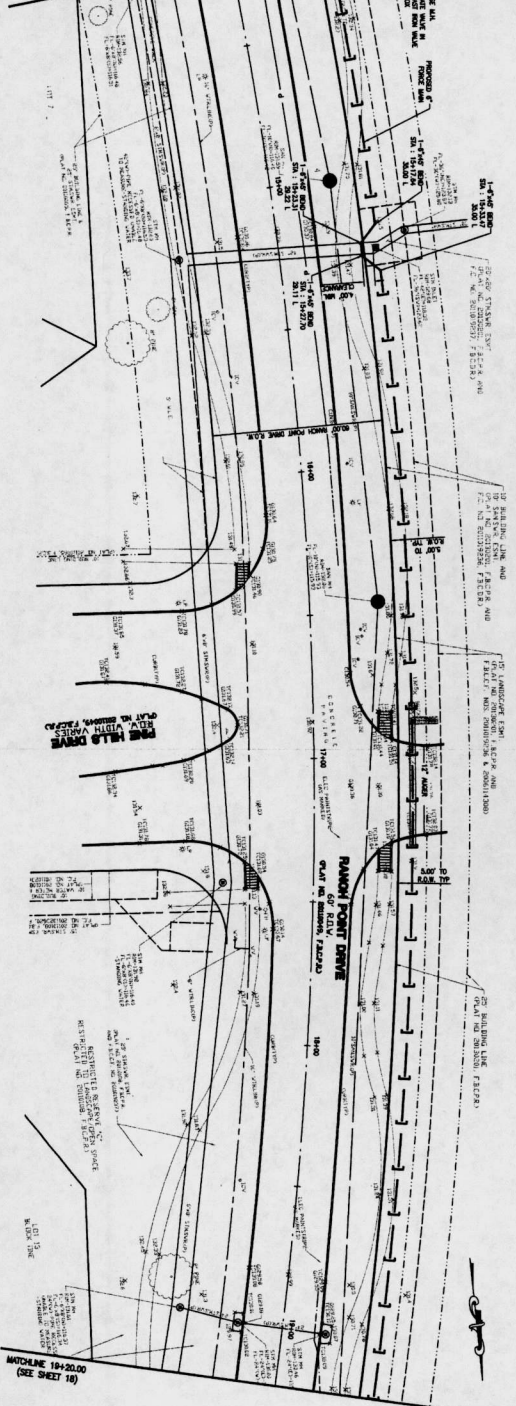
NO.	DATE	REVISIONS
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114 0+40 10+00 11+00 12+00 13+00 14+00 14+20.00 114

SHEET NO. 16 OF 43

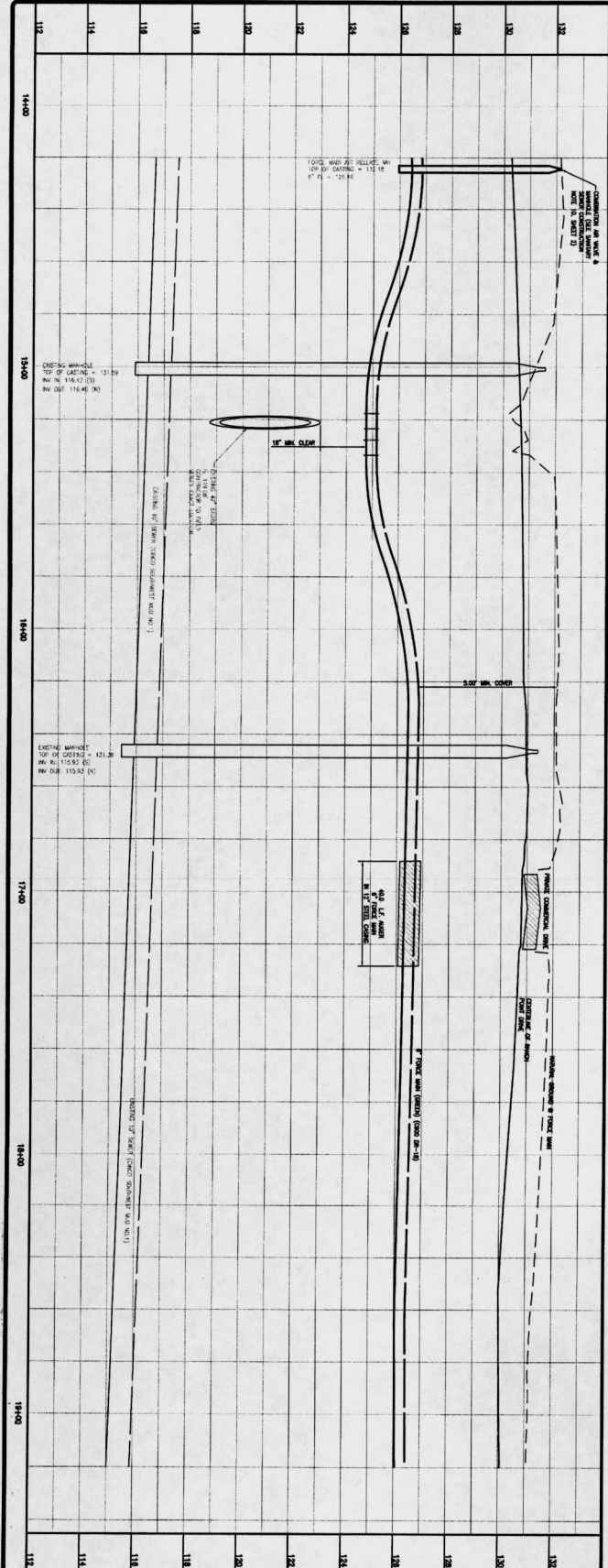
MICHALINE 144-20.00
(SEE SHEET 16)

MICHALINE 144-20.00
(SEE SHEET 16)



MICHALINE 184-20.00
(SEE SHEET 18)

MICHALINE 184-20.00
(SEE SHEET 18)



112	14+00	15+00	16+00	17+00	18+00	19+00	112
114							114
116							116
118							118
120							120
122							122
124							124
126							126
128							128
130							130
132							132

NO.	DATE	BY	REVISIONS
1	03-31-16	SS/116	DATE

FOR THE CITY OF HOUSTON USE ONLY

DDG
DUPONT DESIGN GROUP, PC
CIVIL ENGINEERING
14850 HEATHROW
FOREST PARKWAY,
SUITE 100 TX 77033
PHONE: 832-396-8170
TXPE FIRM NO. 2254

DESIGNER: SS/116
DATE: 03-31-2018

PROJECT: FORT BEND COUNTY
IMPROVEMENT DISTRICT 24
LIFT STATION NO. 1 & FORCE MAIN
RANCH POINT DRIVE FORCE MAIN
STA. 14+20 TO STA. 19+20

NOTE: CITY SOUNDINGS WARD FOR ONE YEAR ONLY
AFTER DATE OF SOUNDINGS

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION
STREET LIGHTING DIVISION
STREET LIGHT QUALITY
STREET LIGHT # 2476

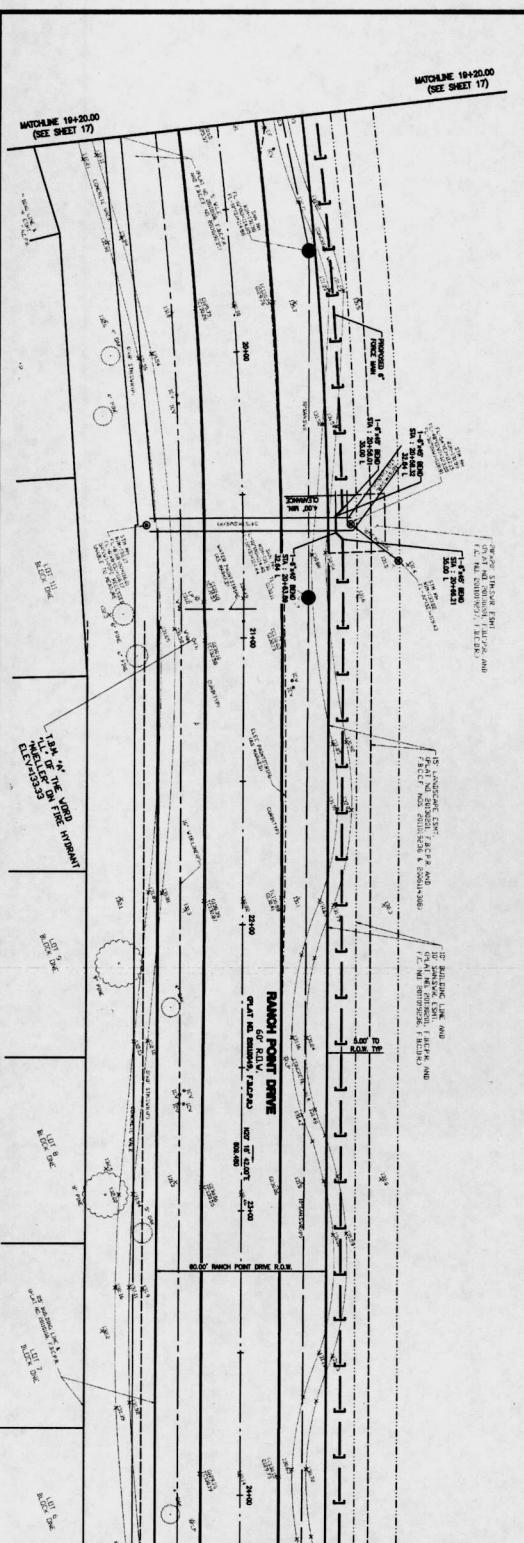
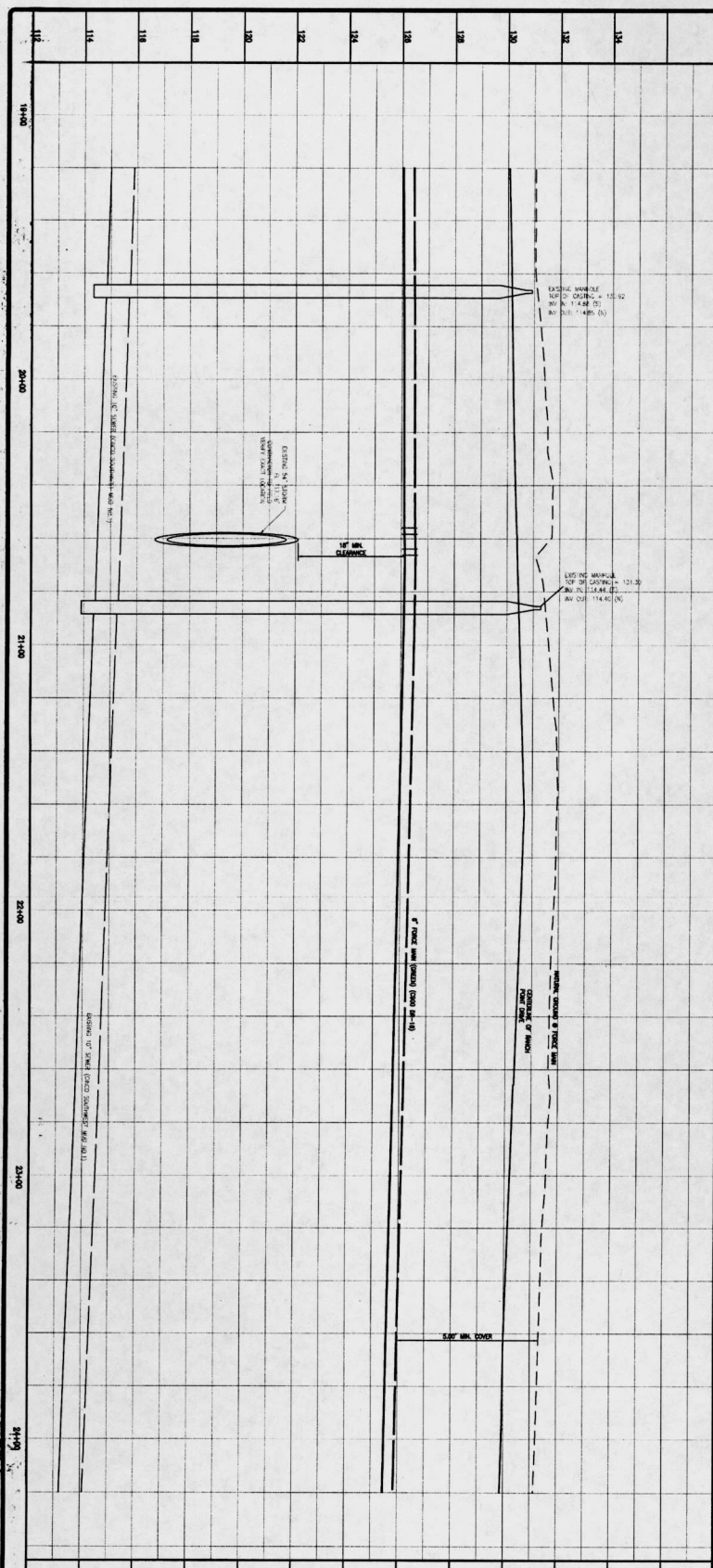


MATCHLINE 18+20.00
(SEE SHEET 17)

MATCHLINE 18+20.00
(SEE SHEET 17)

MATCHLINE 24+20.00
(SEE SHEET 19)

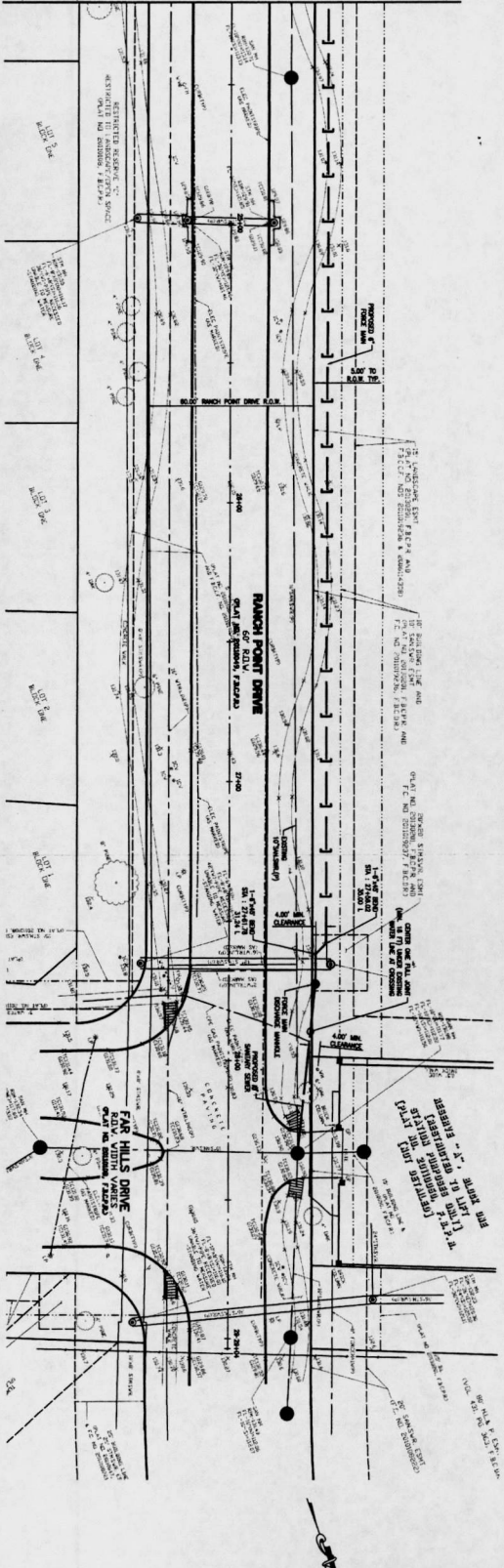
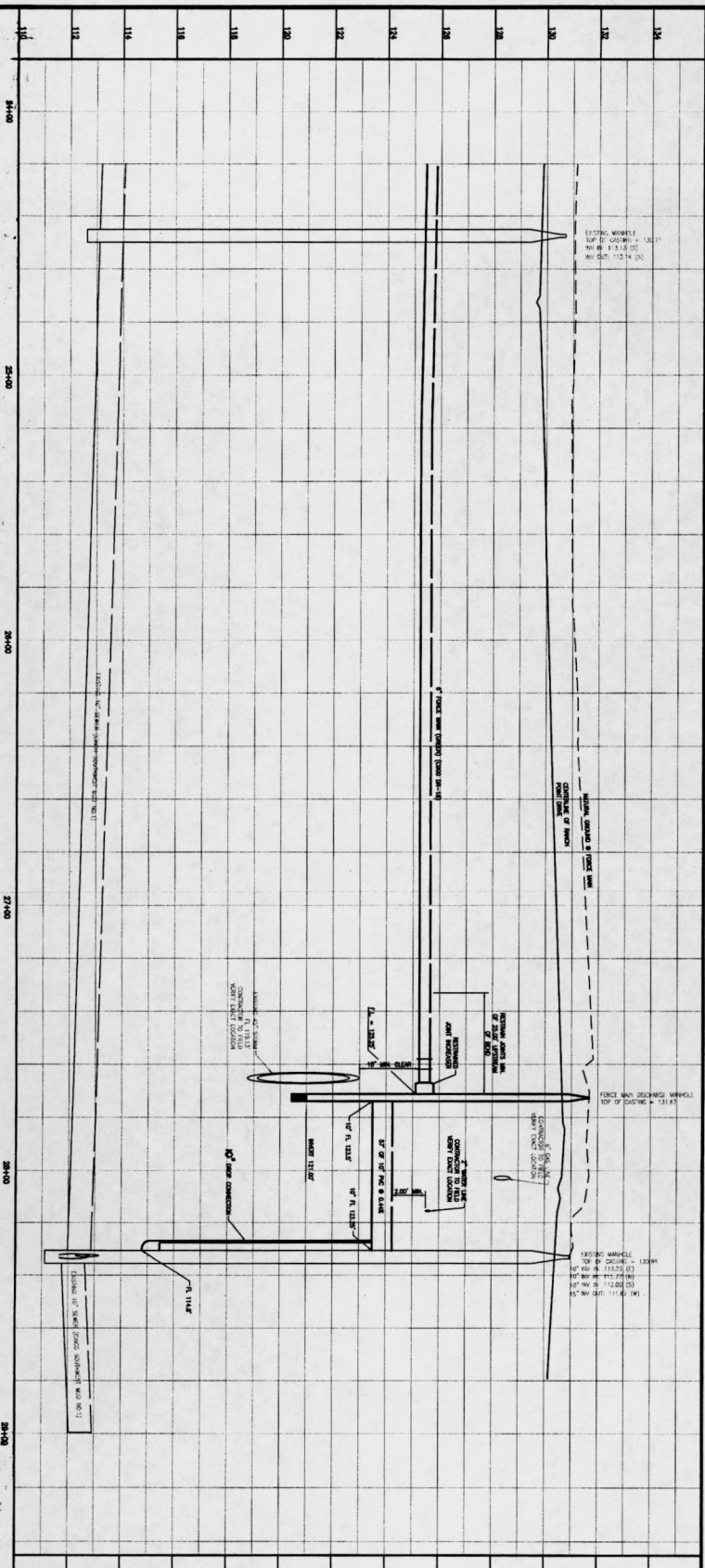
MATCHLINE 24+20.00
(SEE SHEET 19)



<p>FOR THE CITY OF HOUSTON USE ONLY</p> <p>DATE: 03-31-16</p> <p>PROJECT NO. 18 OF 43</p>		<p>FOR THE CITY OF HOUSTON USE ONLY</p> <p>DATE: 03-31-16</p> <p>PROJECT NO. 18 OF 43</p>	
<p>DDG DUPONT DESIGN GROUP, PC CIVIL ENGINEERS</p>		<p>DDG DUPONT DESIGN GROUP, PC CIVIL ENGINEERS</p>	
<p>DUPONT DESIGN GROUP, PC 14650 HEATHROW FOREST PARKWAY, SUITE 160 HOUSTON, TX 77060 PHONE: 281.255.1111 TELE FAX: 281.255.1111 TYPE FIRM NO. 2254</p>		<p>DUPONT DESIGN GROUP, PC 14650 HEATHROW FOREST PARKWAY, SUITE 160 HOUSTON, TX 77060 PHONE: 281.255.1111 TELE FAX: 281.255.1111 TYPE FIRM NO. 2254</p>	
<p>FORT BEND COUNTY IMPROVEMENT DISTRICT 24 LEFT STATION NO. 1 & FORCE MAIN RAUNCH POINT DRIVE FORCE MAIN STA. 18+20 TO STA. 24+20</p>		<p>FORT BEND COUNTY IMPROVEMENT DISTRICT 24 LEFT STATION NO. 1 & FORCE MAIN RAUNCH POINT DRIVE FORCE MAIN STA. 18+20 TO STA. 24+20</p>	
<p>CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING 1500 WESTHOPE AVENUE, SUITE 1000 HOUSTON, TEXAS 77056 STREET & BLOCK</p>		<p>CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING 1500 WESTHOPE AVENUE, SUITE 1000 HOUSTON, TEXAS 77056 STREET & BLOCK</p>	
<p>NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES</p>		<p>NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES</p>	
<p>DATE: 03-31-16</p>		<p>DATE: 03-31-16</p>	
<p>PROJECT NO. 18 OF 43</p>		<p>PROJECT NO. 18 OF 43</p>	

MATCHLINE 24+20.00
(SEE SHEET 19)

MATCHLINE 24+20.00
(SEE SHEET 19)



DUPONT'S DESIGN GROUP, PC 14850 HEATHROW FOREST PARKWAY, HOUSTON, TX 77052 PHONE: 832-969-9170 TIRE FIRE NO. 2254 <i>[Signature]</i>	
FOR CITY OF HOUSTON USE ONLY CITY OF HOUSTON ENGINEER <i>[Signature]</i>	
PROJECT: IMPROVEMENT DISTRICT 24 LIFT STATION NO. 1 & FORCE MAIN RANCH POINT DRIVE FORCE MAIN STA. 24+20 TO STA. 29+29	
DATE: 3/1/16	
SHEET NO. 19 OF 43	

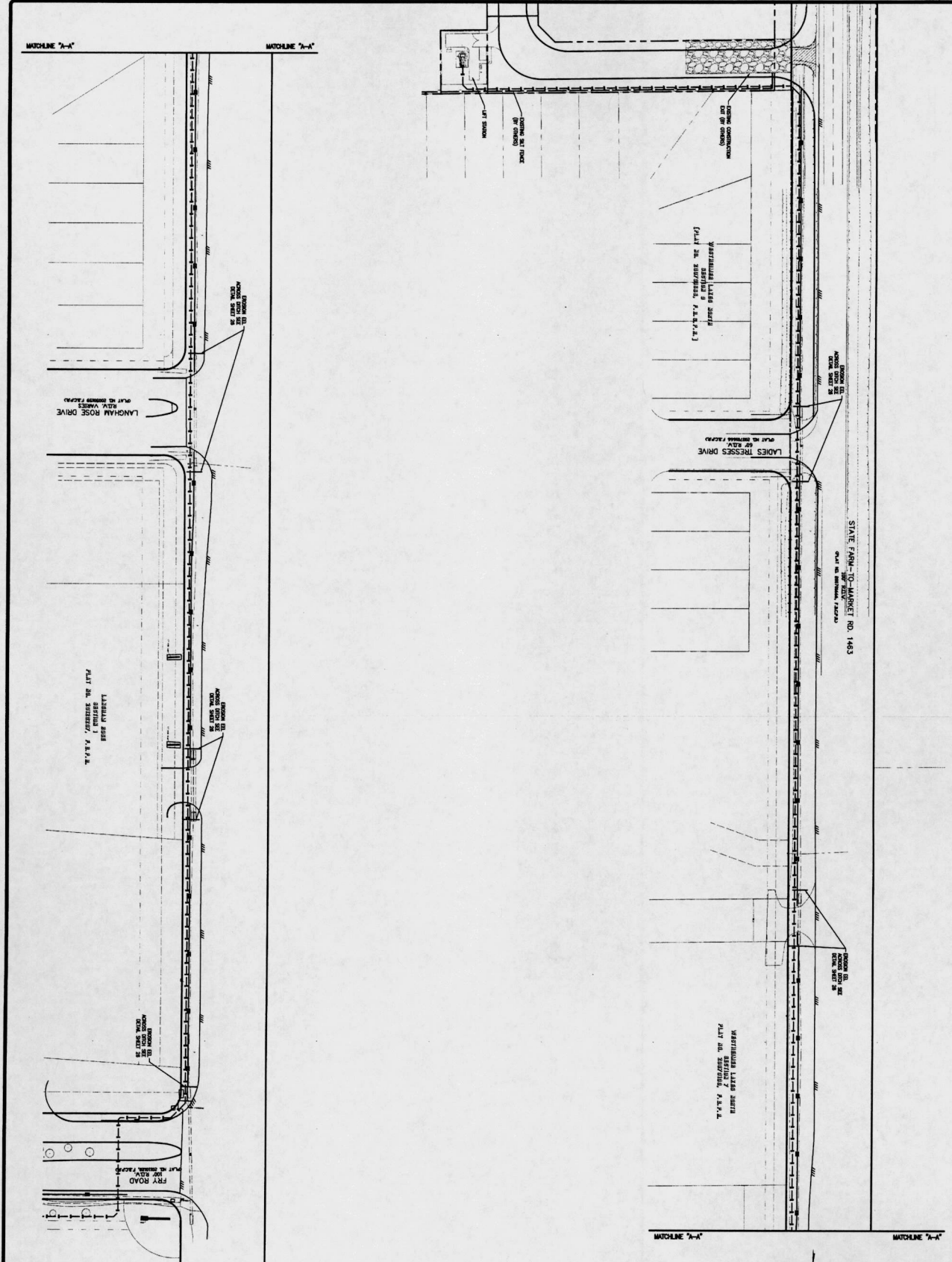
REVISIONS

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	3/1/16
2	REVISED PER CITY COMMENTS	3/1/16
3	REVISED PER CITY COMMENTS	3/1/16

APPROVED: *[Signature]* DATE: 3/1/16

FOR CITY OF HOUSTON USE ONLY

CITY OF HOUSTON
 ENGINEER
[Signature]



REVISIONS

NO.	DATE	DESCRIPTION
1	11/13/14	ISSUED FOR PERMITS
2	11/13/14	ISSUED FOR PERMITS
3	11/13/14	ISSUED FOR PERMITS
4	11/13/14	ISSUED FOR PERMITS
5	11/13/14	ISSUED FOR PERMITS
6	11/13/14	ISSUED FOR PERMITS
7	11/13/14	ISSUED FOR PERMITS
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15	11/13/14	ISSUED FOR PERMITS
16	11/13/14	ISSUED FOR PERMITS
17	11/13/14	ISSUED FOR PERMITS
18	11/13/14	ISSUED FOR PERMITS
19	11/13/14	ISSUED FOR PERMITS
20	11/13/14	ISSUED FOR PERMITS

LEGEND

- EXISTING LOT LINE
- EXISTING LOT
- PROPOSED DRIVE WAY

X Massey
 PROJECT COORDINATOR
 DATE 5/31/14

10. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 11. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 12. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 13. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 14. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 15. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 16. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 17. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 18. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 19. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014
 20. APPROVED FOR PERMITS BY THE CITY OF HOUSTON
 DATE 03-21-2014

REVISIONS

NO.	DATE	DESCRIPTION
1	03-21-2014	ISSUED FOR PERMITS
2	03-21-2014	ISSUED FOR PERMITS
3	03-21-2014	ISSUED FOR PERMITS
4	03-21-2014	ISSUED FOR PERMITS
5	03-21-2014	ISSUED FOR PERMITS
6	03-21-2014	ISSUED FOR PERMITS
7	03-21-2014	ISSUED FOR PERMITS
8	03-21-2014	ISSUED FOR PERMITS
9	03-21-2014	ISSUED FOR PERMITS
10	03-21-2014	ISSUED FOR PERMITS
11	03-21-2014	ISSUED FOR PERMITS
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16	03-21-2014	ISSUED FOR PERMITS
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18	03-21-2014	ISSUED FOR PERMITS
19	03-21-2014	ISSUED FOR PERMITS
20	03-21-2014	ISSUED FOR PERMITS

DDG
 DUPLANTIS DESIGN GROUP, PC
 CIVIL ENGINEERING
 14860 HEATHROW
 FOREST PARKWAY,
 SUITE 100 TX 77139
 PHONE: 281-369-8170
 TIRE FIRM No. 2254

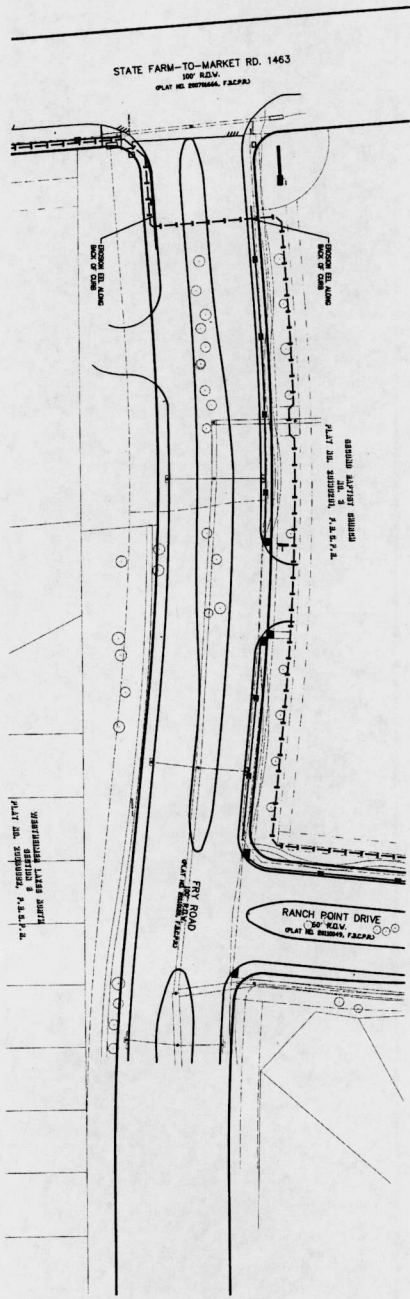
DESIGNED BY: *MA* DATE: 03-21-2014
 CHECKED BY: *CS* DATE: 03-21-2014
 DRAWN BY: *MA* DATE: 03-21-2014

FOR CITY OF HOUSTON USE ONLY
 SHEET NO. 20 OF 43

NOTE: CITY ENGINEERS MUST FOR ONE YEAR ONLY
 CITY DATE OF SUBMITTAL

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 1500 RICE AVENUE, SUITE 1000
 HOUSTON, TEXAS 77030
 PHONE: 713-858-2000

FOR CITY OF HOUSTON USE ONLY
 SHEET NO. 20 OF 43



LEGEND

KNOWN E.D. _____

PROPOSED FORCE MAIN _____

Theresa J. ...
 PROJECT COORDINATOR
 DATE: 3/11/16

DATE	REVISIONS	DATE
3-11-16	3-11-16	3-11-16
3-11-16	3-11-16	3-11-16
3-11-16	3-11-16	3-11-16

DDG
 DUPRANTIS DESIGN GROUP, PC
 CIVIL ENGINEERING
 14890 HEATHROW FOREST PARKWAY, SUITE 100
 FORT BEND COUNTY, TEXAS 77429
 PHONE: 832-368-9170
 TEPER FIRM NO. 2254

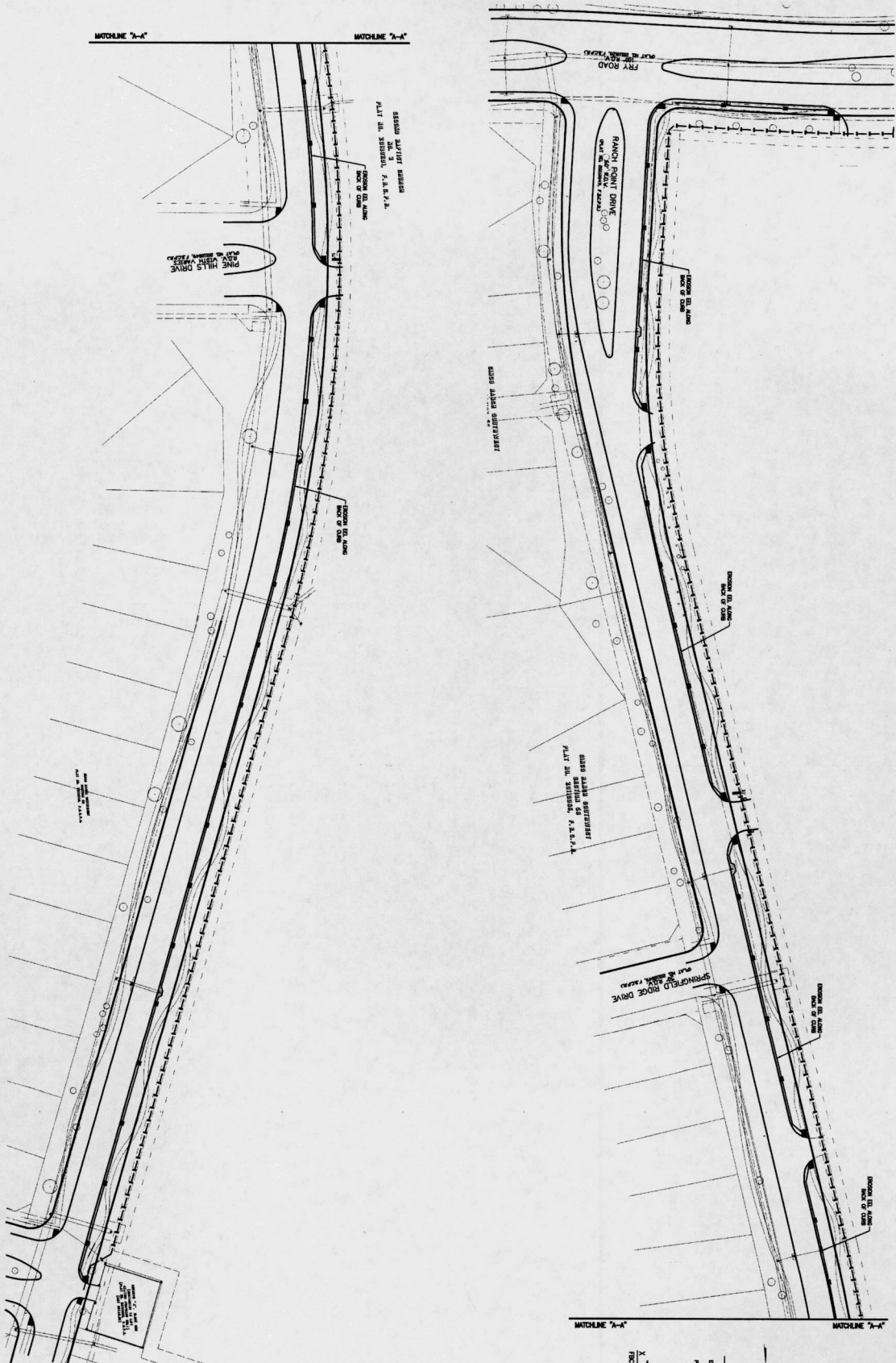
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 STRENGTH AND DURABILITY DIVISION
 STRENGTH & DURABILITY SECTION

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

FOR CITY OF HOUSTON USE ONLY

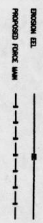
85788

21 OF 43



CONTRACT
 1. PROJECT NAME: FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 2. PROJECT NO.: 15814
 3. SHEET NO.: 22 OF 43
 4. DATE: 03-01-2018
 5. SCALE: 1"=50'
 6. DRAWING NO.: 58788

LEGEND



X. M. ...
 PROJECT MANAGER

S. B. ...
 PROJECT ENGINEER

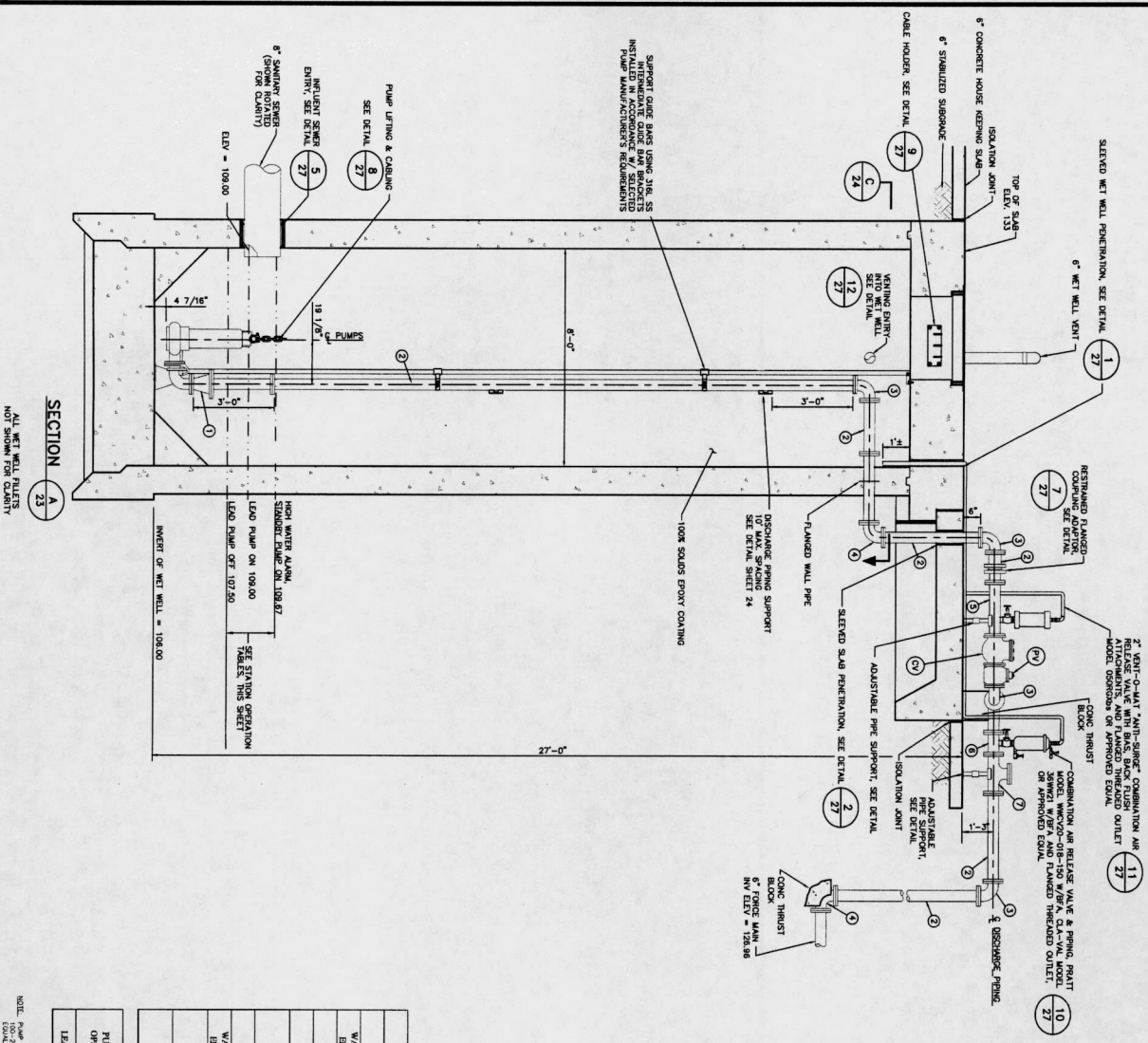
1. APPROVED FOR THE CITY OF FORT BEND COUNTY BY THE CITY ENGINEER ON 03-01-2018.
 2. APPROVED FOR THE CITY OF FORT BEND COUNTY BY THE CITY ENGINEER ON 03-01-2018.
 3. APPROVED FOR THE CITY OF FORT BEND COUNTY BY THE CITY ENGINEER ON 03-01-2018.
 4. APPROVED FOR THE CITY OF FORT BEND COUNTY BY THE CITY ENGINEER ON 03-01-2018.
 5. APPROVED FOR THE CITY OF FORT BEND COUNTY BY THE CITY ENGINEER ON 03-01-2018.

APP.	REVISIONS	DATE
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DDG
 DUPPLANTS DESIGN GROUP, PC
 CIVIL ENGINEERING
 14850 HEATHROW FOREST PARKWAY, SUITE 100
 FORT WORTH, TEXAS 76155
 PHONE: 817-336-8170
 TYPED BY: J. J. ...



CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 DIVISION OF TRAFFIC SIGNALS AND SIGNALS
 15000 NORTH LOOP WEST, SUITE 1000
 HOUSTON, TEXAS 77040
 PHONE: 281-416-2000
 FAX: 281-416-2000
 PROJECT NO.: 15814
 SHEET NO.: 22 OF 43



STATION OPERATION TABLES

RISING LEVEL CYCLE

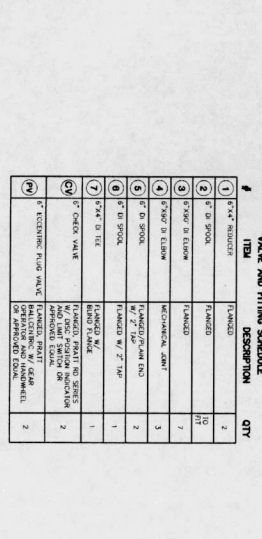
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
107.50	PUMPS OFF LEVEL - NO ACTION	ALL PUMPS OFF
109.00	LEAD PUMP TURNS ON	LEAD PUMP ON
109.67	STANDBY PUMP TURNS ON - HIGH WATER ALARM TURNS ON	ALL PUMPS ON

FALLING LEVEL CYCLE

WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
109.00	STANDBY PUMP TURNS OFF - HIGH WATER ALARM TURNS OFF	LEAD PUMP ON
107.50	LEAD PUMP TURNS OFF	ALL PUMPS STOPPED - STANDBY PUMP SWITCHES TO LEAD PUMP

VALVE AND FITTING SCHEDULE

ITEM	DESCRIPTION	QTY
1	1/2" x 1/2" REDUCER	1
2	1/2" x 1/2" SPONGE	1
3	1/2" x 1/2" ELBOW	1
4	1/2" x 1/2" ELBOW	1
5	1/2" x 1/2" SPONGE	1
6	1/2" x 1/2" SPONGE	1
7	1/2" x 1/2" ELBOW	1
8	1/2" x 1/2" ELBOW	1
9	1/2" x 1/2" ELBOW	1
10	1/2" x 1/2" ELBOW	1
11	1/2" x 1/2" ELBOW	1
12	1/2" x 1/2" ELBOW	1



OPERATING CAPACITY

OPERATING CAPACITY (GPM @ 170 PSI)	NOMINAL PUMP SPEED (RPM)	MINIMUM PUMP DISCHARGE SIZE (INCHES)	MINIMUM MOTOR HORSEPOWER
200 @ 61 FT	1700	4	15

NOTES:

- CONTRACTOR TO CONFIRM SIZE AND LOCATION OF PUMP MANUFACTURER'S REQUIREMENTS.
- SEE DETAIL AND STRUCTURAL DRAWINGS FOR PUMP ANCHOR BOLTS ARE TO BE ADHESIVE TYPE, AND SCHEDULE 40 CONCRETE SHALL BE USED FOR ALL FOUNDATION CALCULATIONS, DURING SHOP DRAWING SUBMISSION.
- CONTRACTOR TO PROVIDE ADHESIVE ANCHORS IN ALL FOUNDATION CALCULATIONS, DURING SHOP DRAWING SUBMISSION.
- CONTRACTOR TO PROVIDE ADHESIVE ANCHORS IN ALL FOUNDATION CALCULATIONS, DURING SHOP DRAWING SUBMISSION.
- CONTRACTOR TO PROVIDE ADHESIVE ANCHORS IN ALL FOUNDATION CALCULATIONS, DURING SHOP DRAWING SUBMISSION.
- CONTRACTOR TO PROVIDE ADHESIVE ANCHORS IN ALL FOUNDATION CALCULATIONS, DURING SHOP DRAWING SUBMISSION.

FOR CITY OF HOUSTON USE ONLY

58788

DDG
DUPRANTIS DESIGN GROUP, PC

DESIGN GROUP
 14890 HEATHROW FOREST PARKWAY, SUITE 100 TX 77062
 PHONE: 832-964-4170
 TYPED BY: M. ZENY
 DATE: 2/1/16

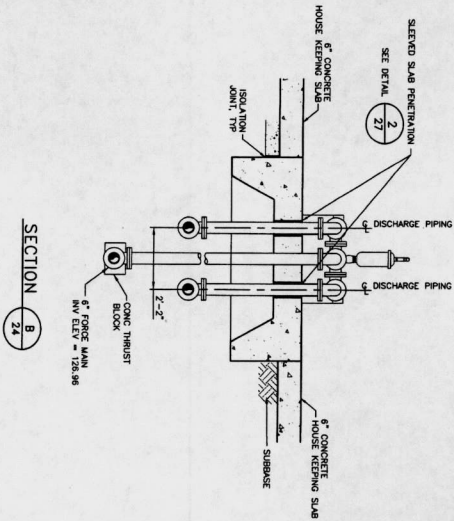
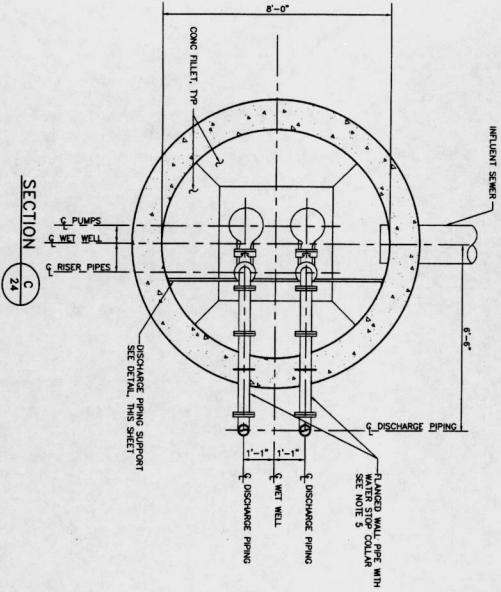
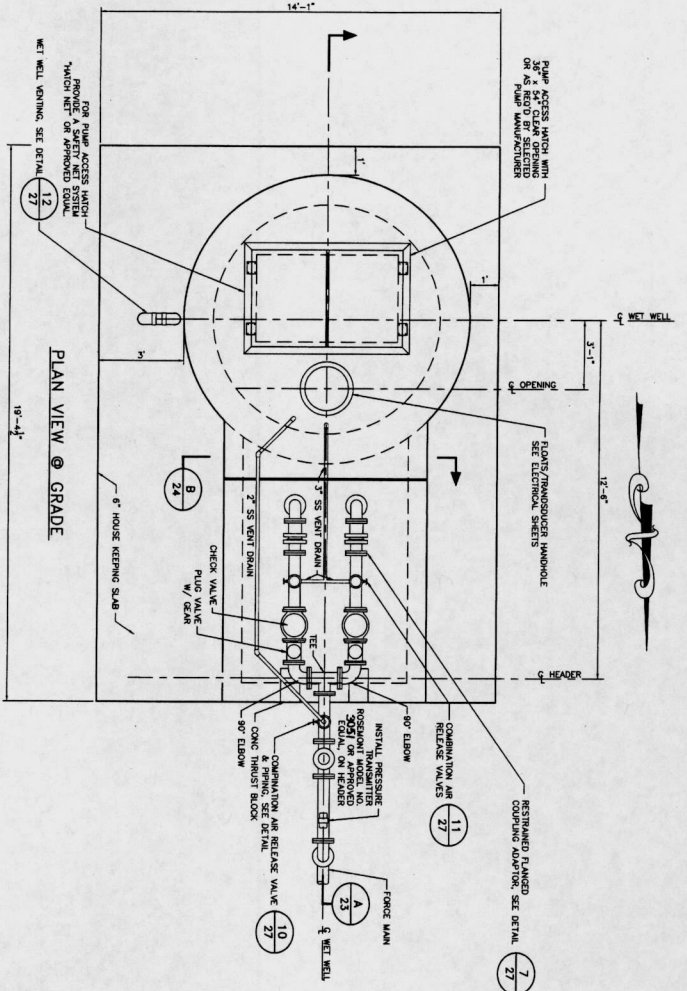
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION
 DIVISION OF WATER UTILITIES
 ENGINEER: [Signature]
 DATE: 2/1/16

FOR CITY OF HOUSTON USE ONLY

DESIGNER: M. ZENY
CHECKER: M. ZENY
DATE: 2/1/16

OPERATING CAPACITY
 200 @ 61 FT
 NOMINAL PUMP SPEED: 1700 RPM
 MINIMUM PUMP DISCHARGE SIZE: 4 INCHES
 MINIMUM MOTOR HORSEPOWER: 15

OPERATING CAPACITY
 200 @ 61 FT
 NOMINAL PUMP SPEED: 1700 RPM
 MINIMUM PUMP DISCHARGE SIZE: 4 INCHES
 MINIMUM MOTOR HORSEPOWER: 15



DISCHARGE PIPING SUPPORT DETAIL
SCALE: 1/2" = 1'-0"

ATTACH DISCHARGE PIPING TO LATERAL SUPPORT CHANNEL USING SS PIPE CLAMPS & WEDGEMOUNT BRACKET/CO. LATERAL SUPPORT CHANNEL WELDED TO CONCRETE WALL USING 2-3/8" x 6" LONG TYPE 316 SS CONCRETE ANCHOR WALL SURFACE IN SINK (OR EQUAL) SPACING 120 IN.

- NOTES:
1. SEE RETAIL AND STRUCTURAL DRAWINGS FOR LOCATION OF WELLS.
 2. CONTRACTOR TO CONFORM TO THE LOCATION OF THE WELLS HATCHES PER SELECTED HATCH AND TO THE CONTRACTOR'S RESPONSIBILITY.
 3. INSTALL FLY VALVES TO OPEN UPWARD AND TO CLOSE TO A SCRAM POSITION. THE WEIGHT LIFTER POSITION IS APPROXIMATELY 40" BELOW THE VALVE AND APPROXIMATELY 40" ABOVE THE VALVE HORIZONTAL. SEND OR COVER FLY OPEN POSITION.
 4. MINIMUM SEAL (OR APPROVED EQUAL) MAY BE USED TO ACCOMMODATE CONSTRUCTION METHOD.

FOR EXCHANGING COORDINATION
DATE

DESIGNED BY	DATE	03-11-2018
DRAWN BY	DATE	12-21-17
CHECKED BY	DATE	
APPROVED BY	DATE	
DATE		
REVISIONS		
DATE		

DDG
DUPUANTS DESIGN GROUP, PC
CIVIL ENGINEERING

DESIGNED BY: AN
DATE: 03-11-2018
DRAWN BY: CDB
DATE: 12-21-17
CHECKED BY:
DATE:
APPROVED BY:
DATE:

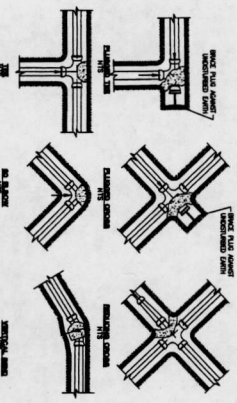
14890 HEATHROW FOREST PARKWAY, SUITE 160 HOUSTON, TX 77062
PHONE: 281.491.1100
FAX: 281.491.1101
WWW.DDG-PC.COM
TUBE FIRM NO. 2254

FORT BEND COUNTY
IMPROVEMENT DISTRICT 24
LIFT STATION NO. 1 & FORCE MAIN
PIPING LAYOUT

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STREET & RECORD
SHEET NO.
FROM CITY OF HOUSTON USE ONLY

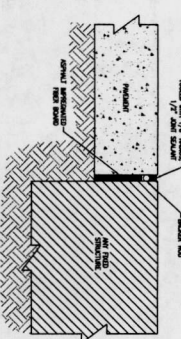
DATE: 03/11/2018
DRAWING SCALE: AS SHOWN
WORK: M.I.S.
VEN: M.I.S.
SHEET NO: 24 OF 43



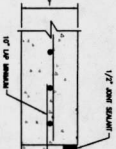
TYPICAL THRUST BLOCK DETAILS

NO.	DESCRIPTION	MIN. DIM.	MAX. DIM.	MIN. DIM.	MAX. DIM.	MIN. DIM.	MAX. DIM.
1.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
2.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
3.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
4.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
5.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
6.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
7.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
8.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
9.	CONCRETE CURB	12"	12"	12"	12"	12"	12"
10.	CONCRETE CURB	12"	12"	12"	12"	12"	12"

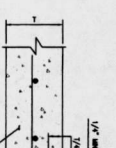
ISOLATION JOINT DETAILS



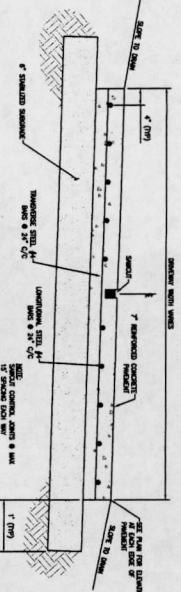
CONSTRUCTION JOINT



SAVED CONTROL JOINT



CONCRETE DRIVEWAY TYPICAL SECTION

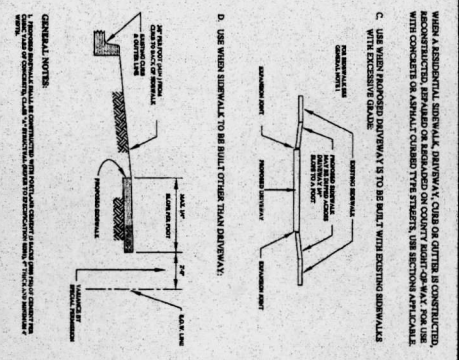


SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS RESIDENTIAL AREA

DESIGNED BY: L. BERSON
DATE: 2-14-94
DRAWING NO: FBC-0108

APPROVED BY: L. HOOD
DATE: 2-14-94

FORT BEND COUNTY ENGINEERING DEPARTMENT

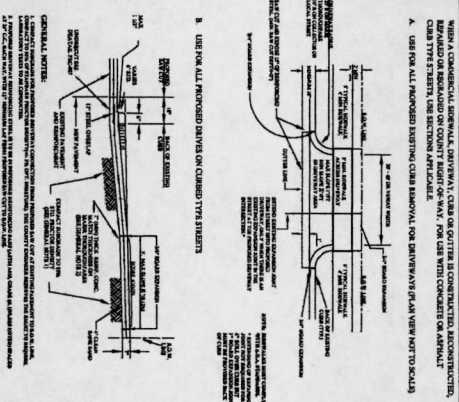


SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS COMMERCIAL AREA

DESIGNED BY: L. BERSON
DATE: 2-14-94
DRAWING NO: FBC-0254

APPROVED BY: L. HOOD
DATE: 2-14-94

FORT BEND COUNTY ENGINEERING DEPARTMENT

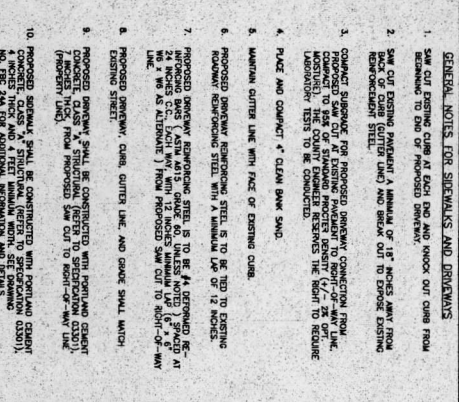


SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS COMMERCIAL AREA

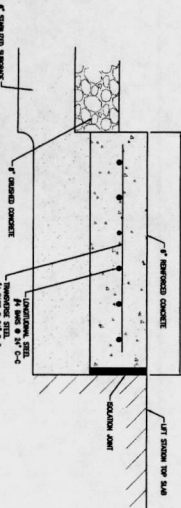
DESIGNED BY: L. BERSON
DATE: 2-14-94
DRAWING NO: FBC-0258

APPROVED BY: L. HOOD
DATE: 2-14-94

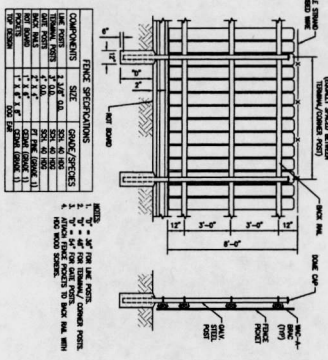
FORT BEND COUNTY ENGINEERING DEPARTMENT



HOUSE KEEPING SLAB



8" WOOD FENCE DETAIL



GENERAL NOTES FOR SIDEWALKS AND DRIVEWAYS

- SEE CUT FENCING CURB AT FOOTING AND NOTCH OUT CURB FROM DRIVEWAY TO END OF PROPOSED DRIVEWAY.
- SEE CUT FENCING CURB AT FOOTING AND NOTCH OUT CURB FROM DRIVEWAY TO END OF PROPOSED DRIVEWAY.
- CONCRETE DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE (PCC) WITH REINFORCING STEEL. CURB SHALL BE 12 INCHES HIGH AND 12 INCHES WIDE.
- CONCRETE DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE (PCC) WITH REINFORCING STEEL. CURB SHALL BE 12 INCHES HIGH AND 12 INCHES WIDE.
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- CONCRETE DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE (PCC) WITH REINFORCING STEEL. CURB SHALL BE 12 INCHES HIGH AND 12 INCHES WIDE.

DDG
DUPPLANTS DESIGN GROUP, PC

1480 HEATHROW
FOREST PARKWAY
SUITE 100
TX 77024
PHONE: 832-364-4170
TYPED: FIRM NO. 2254

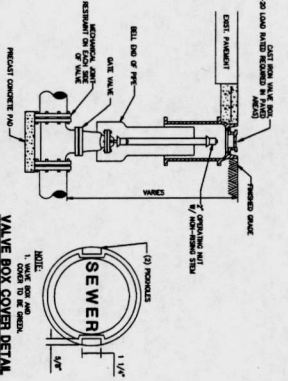
FORT BEND COUNTY IMPROVEMENT DISTRICT 24
LIFT STATION NO. 1 & FORCE MAIN DETAILS

CITY OF HOUSTON
58788

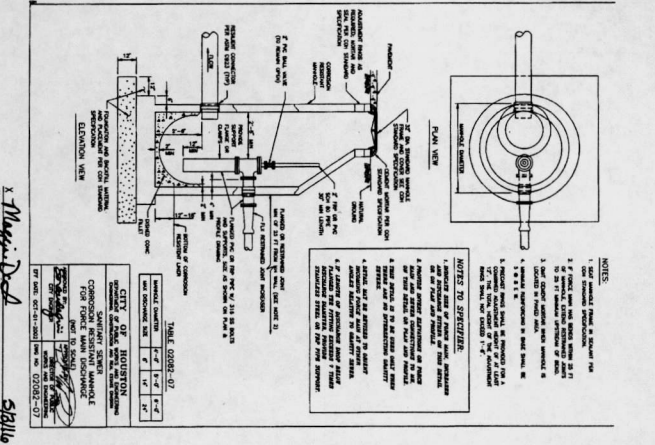
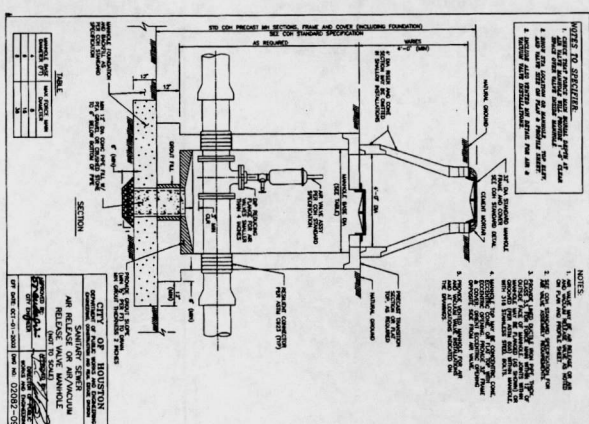
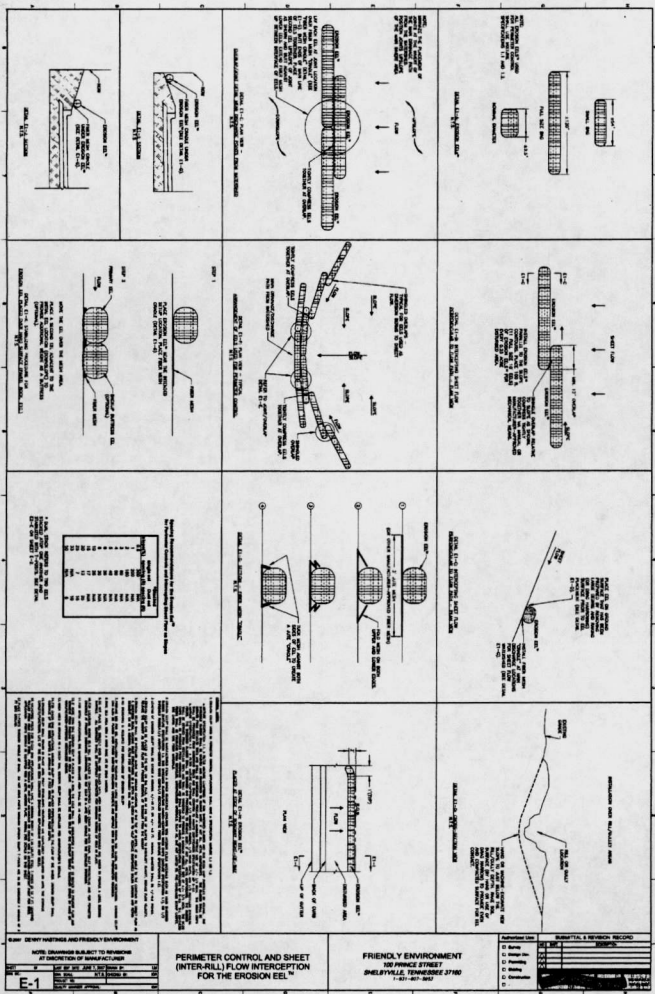
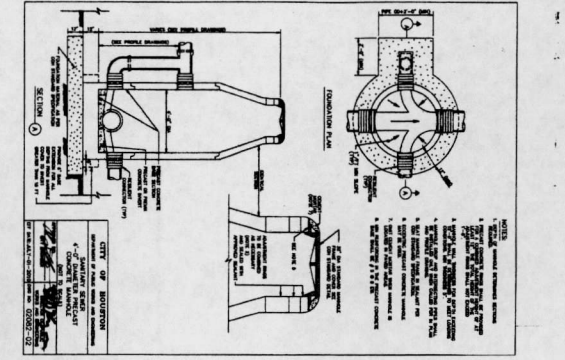
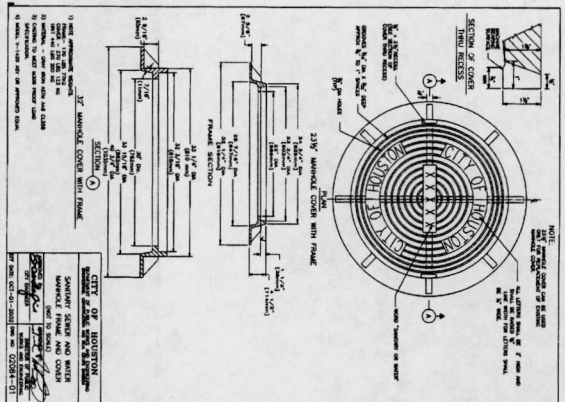
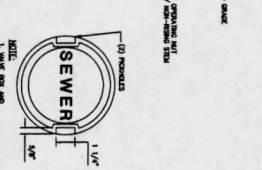
DATE: 2/14/94
SCALE: AS SHOWN
SHEET NO. 25 OF 43

GENERAL NOTES:
 1. ALL WORK SHALL BE ACCORDING TO THE SPECIFICATIONS AND STANDARD DETAILS.
 2. ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER.
 3. ALL CONCRETE SHALL BE 4000 PSI STRENGTH WITH 4% STEEL REINFORCEMENT.
 4. ALL DIMENSIONS SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.

VALVE DETAIL



VALVE BOX COVER DETAIL



DDG
DUPRANTIS DESIGN GROUP, PC
 14880 HEATHCROW FOREST PARKWAY, SUITE 180, TY 77093
 PHONE: 832-989-8170
 TIRE BURN LN, 2254
 FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LIFT STATION No. 1 & FORCE MAIN DETAILS

REVISIONS

NO.	REVISIONS	DATE
1	ISSUED FOR PERMITS	02-11-2010
2	REVISED PER COMMENTS	02-11-2010
3	REVISED PER COMMENTS	02-11-2010
4	REVISED PER COMMENTS	02-11-2010
5	REVISED PER COMMENTS	02-11-2010
6	REVISED PER COMMENTS	02-11-2010
7	REVISED PER COMMENTS	02-11-2010
8	REVISED PER COMMENTS	02-11-2010
9	REVISED PER COMMENTS	02-11-2010
10	REVISED PER COMMENTS	02-11-2010
11	REVISED PER COMMENTS	02-11-2010
12	REVISED PER COMMENTS	02-11-2010
13	REVISED PER COMMENTS	02-11-2010
14	REVISED PER COMMENTS	02-11-2010
15	REVISED PER COMMENTS	02-11-2010
16	REVISED PER COMMENTS	02-11-2010
17	REVISED PER COMMENTS	02-11-2010
18	REVISED PER COMMENTS	02-11-2010
19	REVISED PER COMMENTS	02-11-2010
20	REVISED PER COMMENTS	02-11-2010
21	REVISED PER COMMENTS	02-11-2010
22	REVISED PER COMMENTS	02-11-2010
23	REVISED PER COMMENTS	02-11-2010
24	REVISED PER COMMENTS	02-11-2010
25	REVISED PER COMMENTS	02-11-2010
26	REVISED PER COMMENTS	02-11-2010
27	REVISED PER COMMENTS	02-11-2010
28	REVISED PER COMMENTS	02-11-2010
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32	REVISED PER COMMENTS	02-11-2010
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45	REVISED PER COMMENTS	02-11-2010
46	REVISED PER COMMENTS	02-11-2010
47	REVISED PER COMMENTS	02-11-2010
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50	REVISED PER COMMENTS	02-11-2010

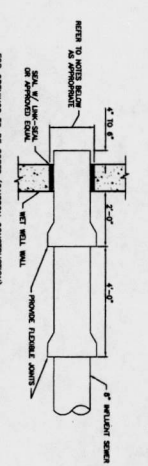
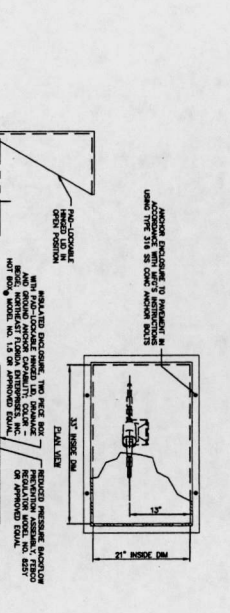
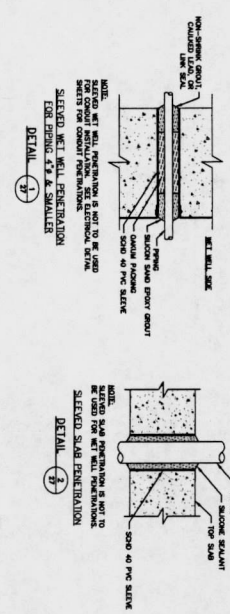
PERMITS
 CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 1500 WESTHEIMER BOULEVARD
 HOUSTON, TEXAS 77056
 PHONE: 713-858-2000
 FAX: 713-858-2001
 WWW: WWW.CITYOFHOUSTON.TX

DESIGNER
 X. M. D. D. D.
 DATE: 02-11-2010

CHECKER
 S. B. B. B.
 DATE: 02-11-2010

SCALE
 AS SHOWN

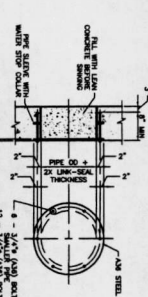
SHEET NO.
 26 OF 43



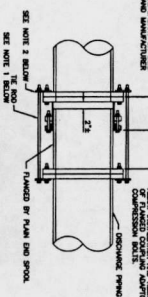
FOR OPENINGS TO BE CORDED (CONCRETE CONSTRUCTION):

1. LOCATE THE PENETRATION LOCATION WITH THE WALL PENETRATION SLEEVE.
2. REMOVE THE CONCRETE FROM THE PENETRATION LOCATION TO THE FULL DEPTH OF THE SLEEVE.
3. CLEAN THE WALL PENETRATION LOCATION TO REMOVE ALL CONCRETE DEBRIS.
4. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
5. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
6. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
7. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
8. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
9. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
10. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.

DETAIL 3: INCLINED SERVICE ENTRY DETAIL

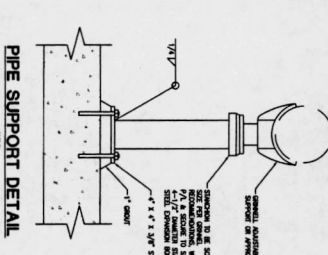


DETAIL 4: TYPICAL PIPE BLOCK-OUT DETAIL

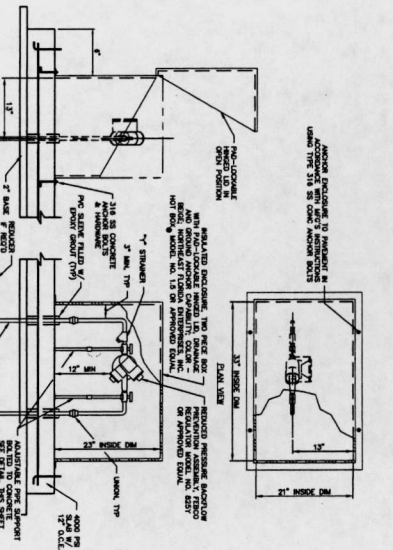


1. REMOVE A NUMBER OF THE REINFORCING BARS TO 1/2 THE LENGTH OF THE PENETRATION SLEEVE.
2. REMOVE THE CONCRETE FROM THE PENETRATION LOCATION TO THE FULL DEPTH OF THE SLEEVE.
3. CLEAN THE WALL PENETRATION LOCATION TO REMOVE ALL CONCRETE DEBRIS.
4. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
5. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
6. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
7. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
8. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
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10. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.

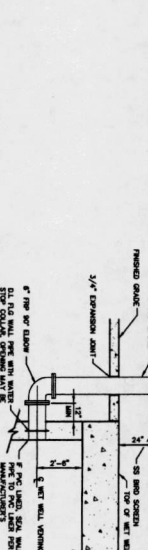
DETAIL 5: REINFORCED DETAIL



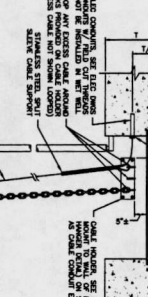
DETAIL 6: PIPE SUPPORT DETAIL



DETAIL 7: SECTION THROUGH WALL PENETRATION

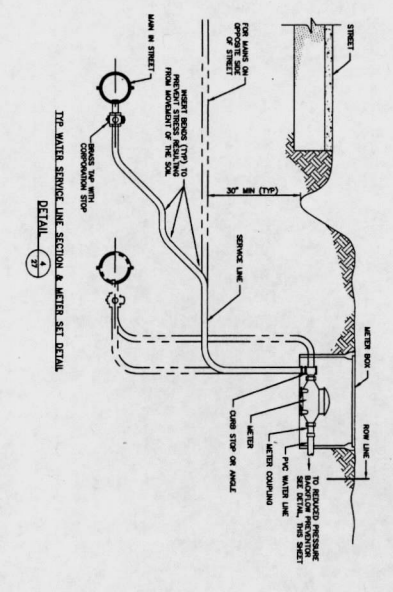


DETAIL 8: TYPICAL LIGHT PENETRATION

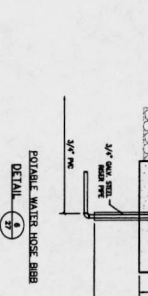


1. REMOVE A NUMBER OF THE REINFORCING BARS TO 1/2 THE LENGTH OF THE PENETRATION SLEEVE.
2. REMOVE THE CONCRETE FROM THE PENETRATION LOCATION TO THE FULL DEPTH OF THE SLEEVE.
3. CLEAN THE WALL PENETRATION LOCATION TO REMOVE ALL CONCRETE DEBRIS.
4. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
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9. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.
10. PLACE THE PENETRATION SLEEVE INTO THE PENETRATION LOCATION.

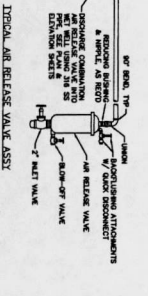
DETAIL 9: REINFORCED DETAIL



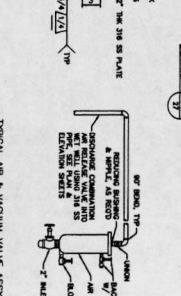
DETAIL 10: TYPICAL WATER SERVICE LINE SECTION & WATER SET DETAIL



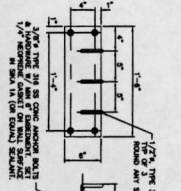
DETAIL 11: PORTABLE WATER HOSE BRB



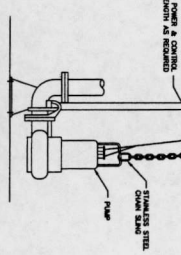
DETAIL 12: TYPICAL AIR RELEASE VALVE ASSY



DETAIL 13: TYPICAL AIR & VACUUM VALVE ASSY



DETAIL 14: TYPICAL CABLE HOODER ASSY



DETAIL 15: TYPICAL RAMP LIFTING & CLOSING DETAIL

DDG
DUPRANT'S DESIGN GROUP, PC

14850 HEATHROW
 FOREST PARKWAY,
 SUITE 100, TX 77069
 PHONE: 832-988-8170
 TBE FROM NO. 228

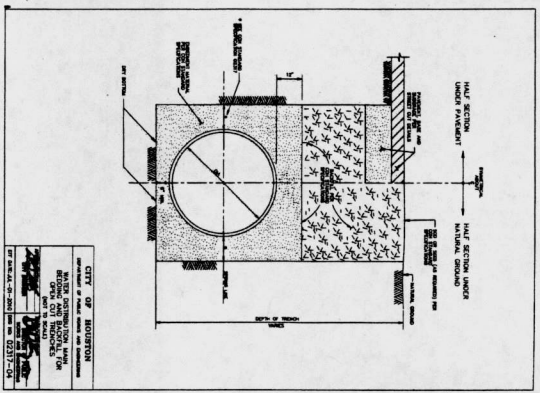
FOR BEST QUALITY, PLEASE USE THE FOLLOWING PRODUCTS:

CONCRETE	AMERICAN CONCRETE
STEEL	AMERICAN STEEL
PIPE	AMERICAN PIPE
VALVES	AMERICAN VALVES
HOSES	AMERICAN HOSES
BRACKETS	AMERICAN BRACKETS
HOODERS	AMERICAN HOODERS
VALVE ASSYS	AMERICAN VALVE ASSYS
HOSE BRBS	AMERICAN HOSE BRBS
RAMP LIFTING & CLOSING	AMERICAN RAMP LIFTING & CLOSING

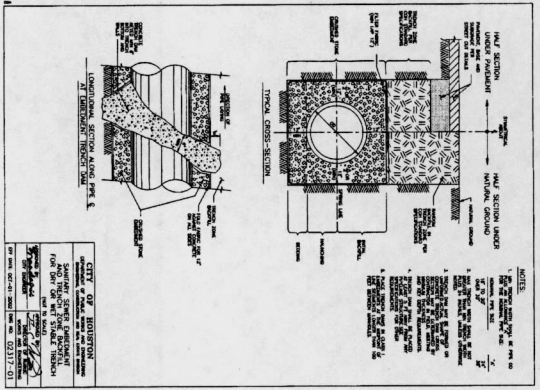
NOTE: CITY SPECIFICATIONS WOULD FOR ONE YEAR ONLY.

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS
 1500 RICE AVENUE, SUITE 100
 HOUSTON, TEXAS 77005
 PHONE: 713-871-2311

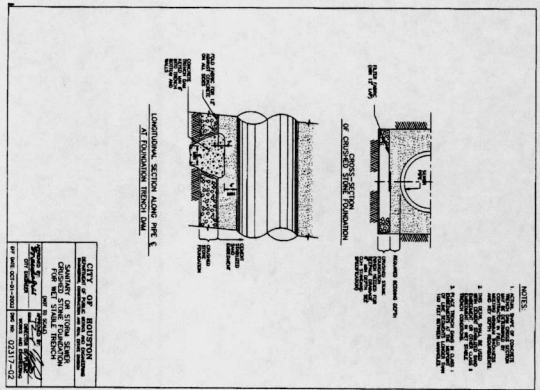
DATE: 12/12/11
 SHEET NO.: 27 OF 43



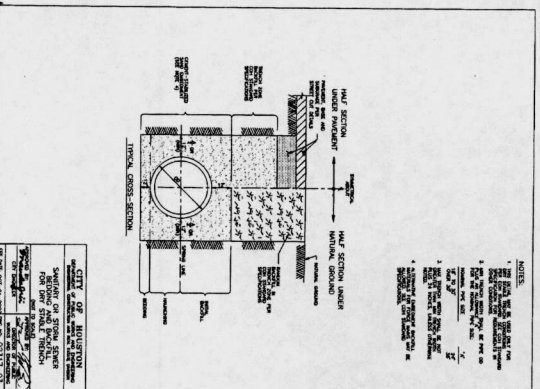
FORCE MAINS SHALL BE EMBEDDED IN BANK SAND IN ACCORDANCE WITH 02317-04.



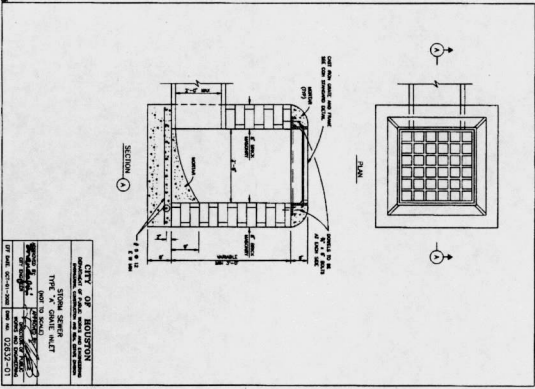
NOTE:
1. ALL DIMENSIONS ARE IN FEET AND INCHES.
2. ALL MATERIALS SHALL BE AS SHOWN OR APPROVED EQUIVALENTS.
3. ALL CONCRETE SHALL BE 4000 PSI STRENGTH.
4. ALL REINFORCEMENT SHALL BE #4 BARS.
5. ALL JOINTS SHALL BE PROPERLY SEALED.
6. ALL EXPOSED SURFACES SHALL BE FINISHED TO A SMOOTH, EVEN SURFACE.
7. ALL CURBS SHALL BE 4\"/>



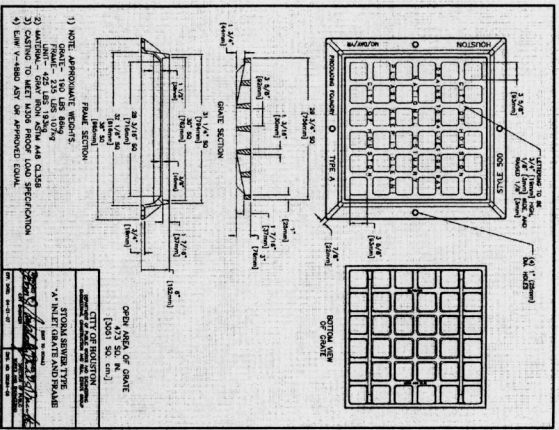
NOTE:
1. ALL DIMENSIONS ARE IN FEET AND INCHES.
2. ALL MATERIALS SHALL BE AS SHOWN OR APPROVED EQUIVALENTS.
3. ALL CONCRETE SHALL BE 4000 PSI STRENGTH.
4. ALL REINFORCEMENT SHALL BE #4 BARS.
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7. ALL CURBS SHALL BE 4\"/>



NOTE:
1. ALL DIMENSIONS ARE IN FEET AND INCHES.
2. ALL MATERIALS SHALL BE AS SHOWN OR APPROVED EQUIVALENTS.
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4. ALL REINFORCEMENT SHALL BE #4 BARS.
5. ALL JOINTS SHALL BE PROPERLY SEALED.
6. ALL EXPOSED SURFACES SHALL BE FINISHED TO A SMOOTH, EVEN SURFACE.
7. ALL CURBS SHALL BE 4\"/>



CITY OF HOUSTON
DESIGNED BY: [Signature]
DATE: 02/27/01



CITY OF HOUSTON
DESIGNED BY: [Signature]
DATE: 02/27/01

FOR THE CITY OF HOUSTON USE ONLY
DATE: 5/28/11

DDG
DUPONT DESIGN GROUP, PC
14650 HEATHROW FOREST PARKWAY, HOUSTON, TX 77032
PHONE: 832-989-4170
FAX: 832-989-4170
TRBE FIRM NO. 2294

FOR THE CITY OF HOUSTON USE ONLY

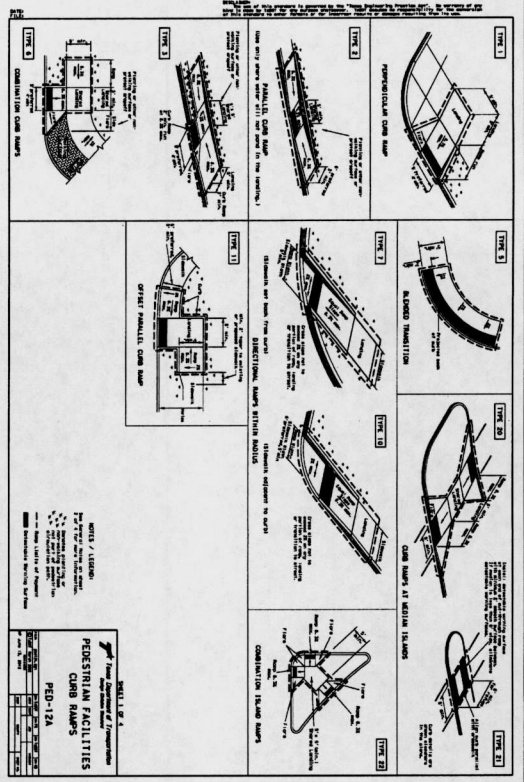
CITY OF HOUSTON
STRENGTH OF MATERIALS DIVISION
DESIGNED BY: [Signature]
DATE: 02-27-01

FOR THE CITY OF HOUSTON USE ONLY
DATE: 5/28/11

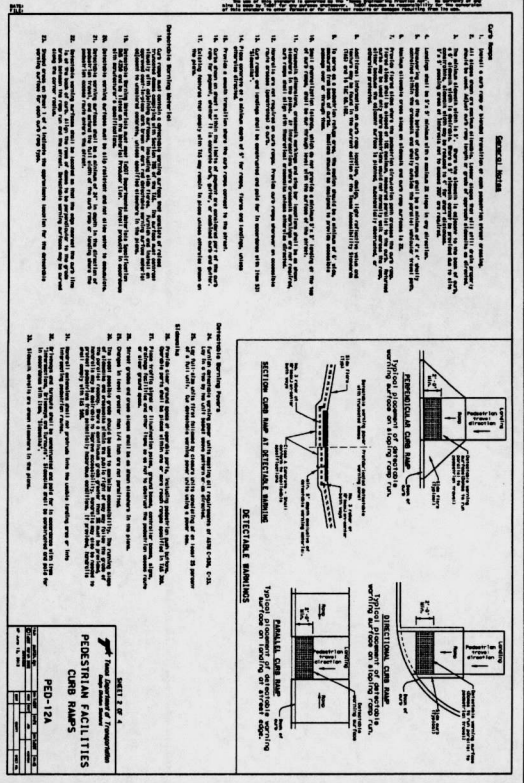
REVISIONS

NO.	DATE	DESCRIPTION
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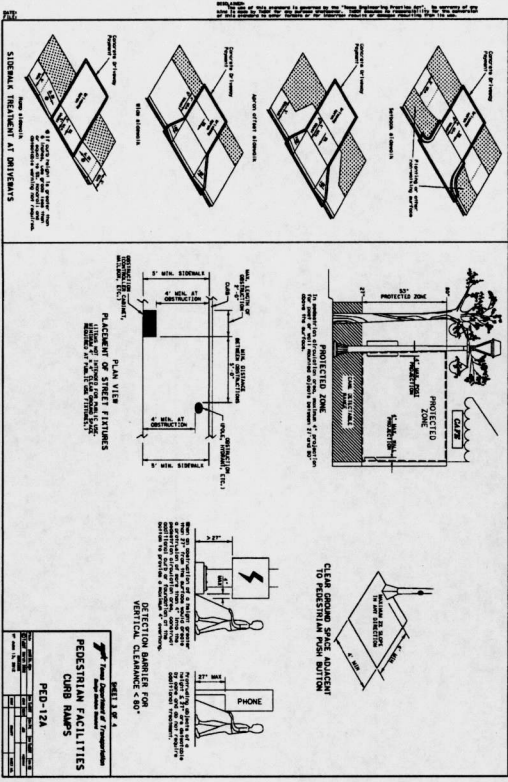
SHEET NO. 28 OF 43



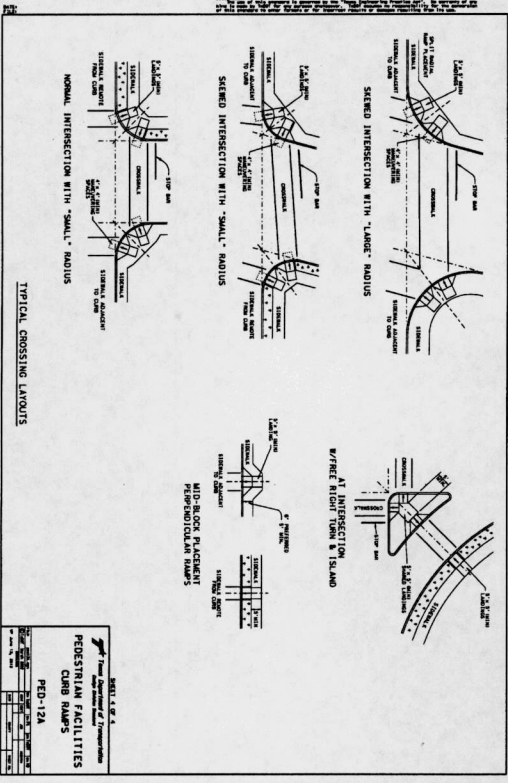
SHEET 12 OF 14
PED-12A
PED-12A
PED-12A



SHEET 13 OF 14
PED-12A
PED-12A
PED-12A



SHEET 14 OF 14
PED-12A
PED-12A
PED-12A



SHEET 15 OF 14
PED-12A
PED-12A
PED-12A

GENERAL NOTES

1. ALL CURB RAMP SLOPES SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.
2. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
3. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
4. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
5. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
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16. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
17. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
18. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
19. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
20. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
21. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.
22. ALL CURB RAMP SLOPES SHALL BE 1:12 UNLESS OTHERWISE NOTED.

TYPICAL CROSSING LAYOUTS

SPEED INTERSECTION WITH "LARGE" RADIUS

SPEED INTERSECTION WITH "SMALL" RADIUS

AT INTERSECTION

W/LEFT TURN LANE & ISLAND

MID-BLOCK PLACEMENT PERPENDICULAR RAMP

NORMAL INTERSECTION WITH "SMALL" RADIUS

PED-12A

FOR THE CITY OF HOUSTON, USE ONLY

DATE: _____

PROJECT NO.: _____

SHEET NO.: _____

DDG

DUPONT DESIGN GROUP, PC

14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294

CITY OF HOUSTON

IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN
 TxDOT PEDESTRIAN
 CURB RAMP DETAILS

DESIGN GROUP

14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294

FOR THE CITY OF HOUSTON, USE ONLY

DATE: _____

PROJECT NO.: _____

SHEET NO.: _____

DDG

DUPONT DESIGN GROUP, PC

14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294

CITY OF HOUSTON

IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN
 TxDOT PEDESTRIAN
 CURB RAMP DETAILS

DESIGN GROUP

14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294

FOR THE CITY OF HOUSTON, USE ONLY

DATE: _____

PROJECT NO.: _____

SHEET NO.: _____

DDG

DUPONT DESIGN GROUP, PC

14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294

CITY OF HOUSTON

IMPROVEMENT DISTRICT 24
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SHEET NO.: _____

DDG

DUPONT DESIGN GROUP, PC

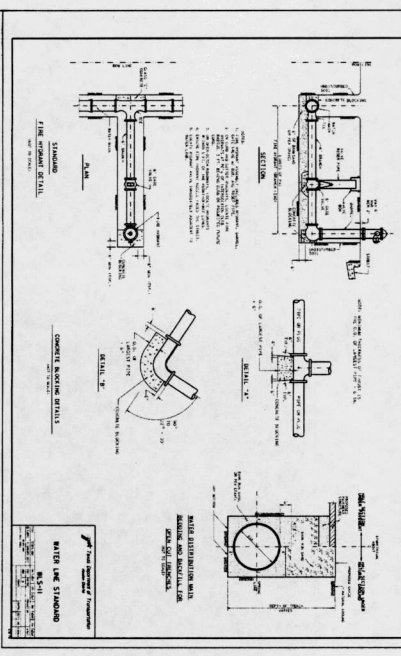
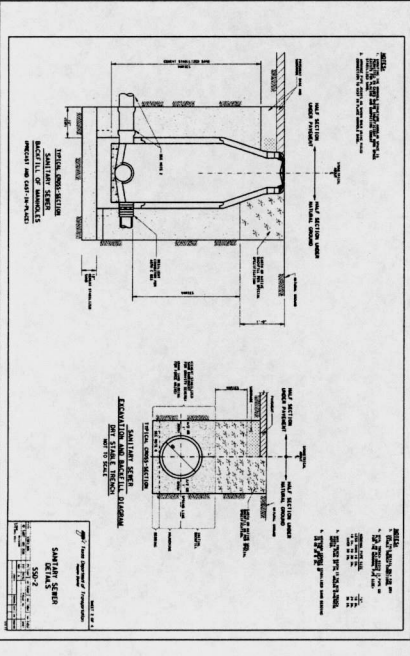
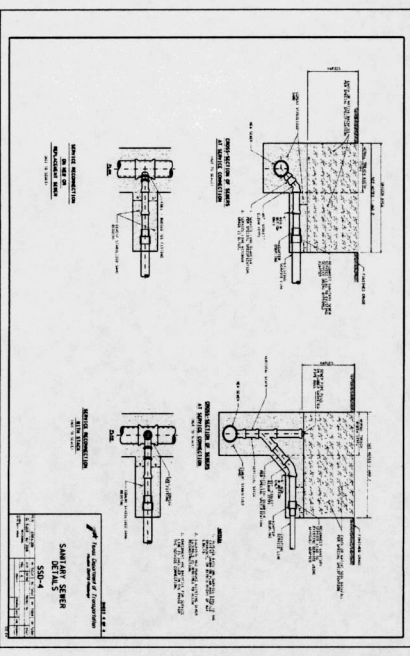
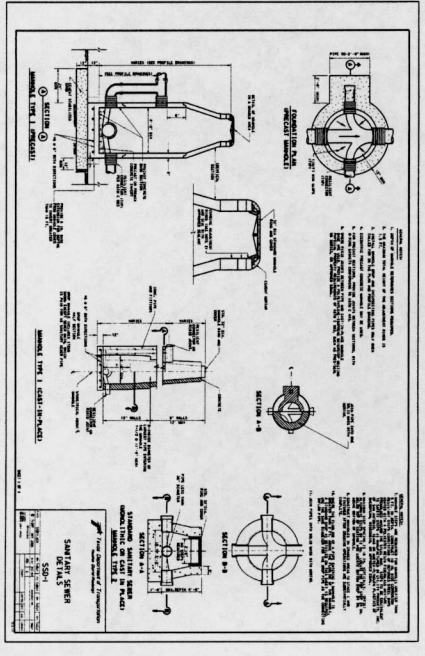
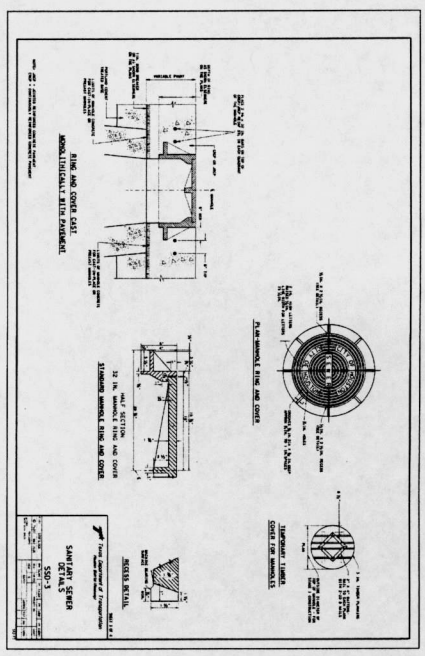
14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294

CITY OF HOUSTON

IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN
 TxDOT PEDESTRIAN
 CURB RAMP DETAILS

DESIGN GROUP

14650 HEATHROW
 FOREST PARKWAY,
 HOUSTON, TX 77062
 PHONE: 832-389-4170
 TYPE FIRM NO. 2294



UNIT OPENS ON THIS SHEET APPLY TO DIMENSIONS WITH 1/8" TYP

X. *M. J. ...*
 PREPARED BY
 DATE

5/24/11

TO APPROVE FOR ISSUE TO THE FIELD OFFICE
 For each utility, you are required to have the field office
 review and approve the drawings and the utility permit application
 on the drawings. The utility permit application is required for all
 work. The utility permit application is required for all work.
 DATE: *N/A*
 DATE: *N/A*
 DATE: *N/A*

NO.	DATE	DESCRIPTION
1		ISSUED FOR PERMIT
2		REVISIONS
3		REVISIONS
4		REVISIONS
5		REVISIONS



DURRANT DESIGN GROUP, PC

DESIGN GROUP
 14850 HEATHROW
 FOREST PARKWAY,
 SUITE 180
 FORT WORTH, TX 77132
 PHONE: 817-338-9170
 TBE FIRM NO. 2254



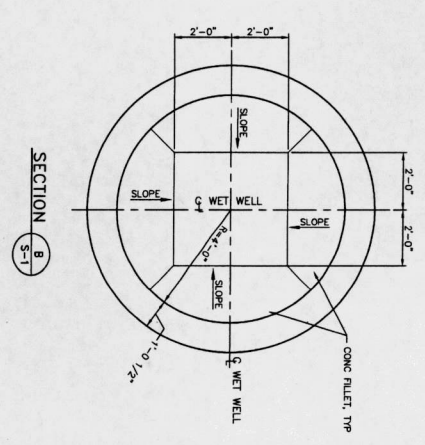
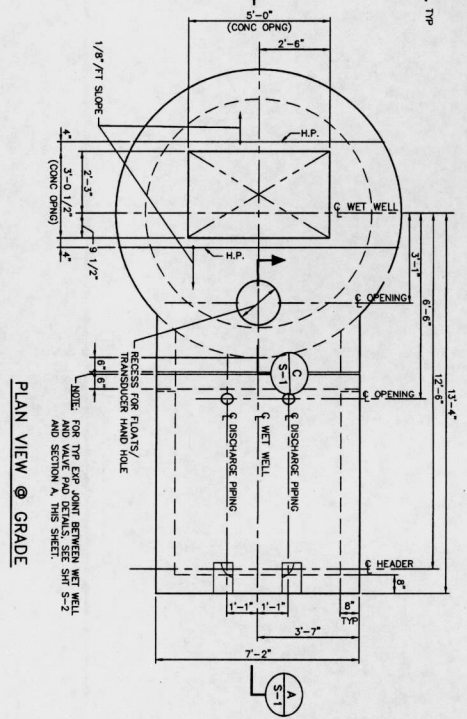
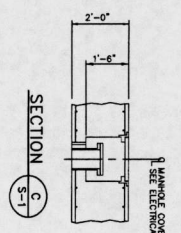
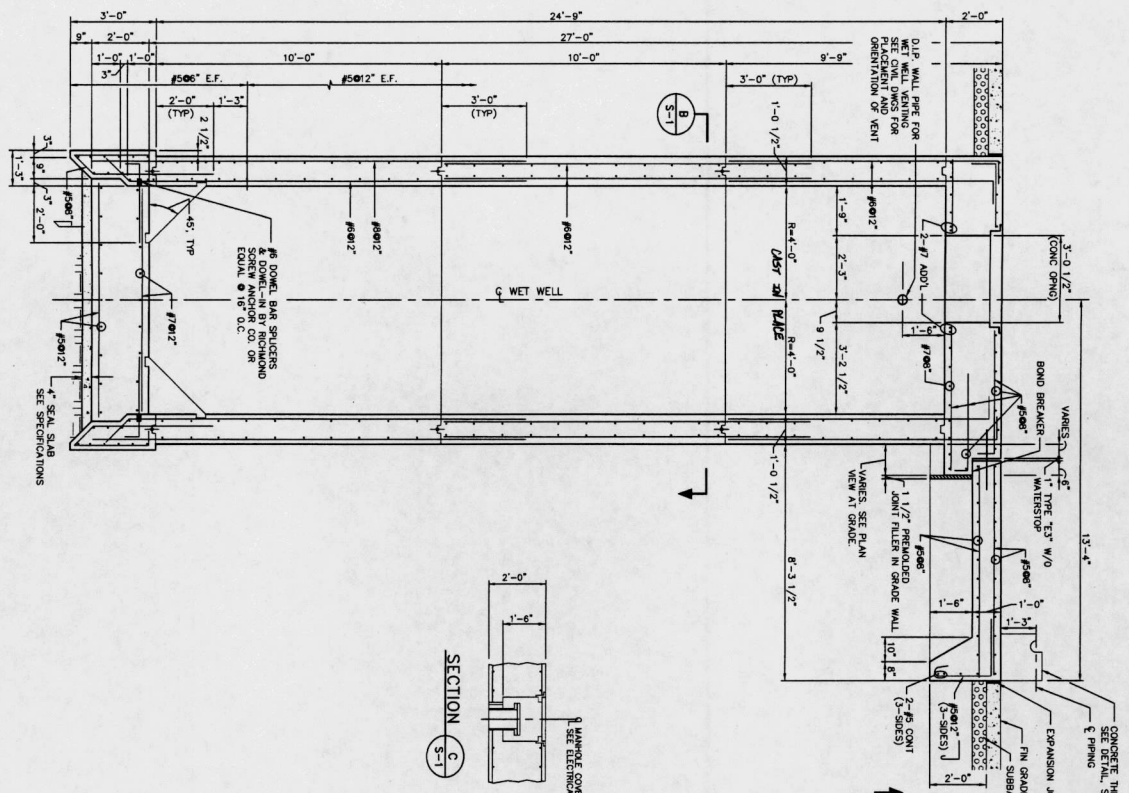
FOR TEND COUNTY
 IMPROVEMENT DISTRICT 24
 LIFT STATION NO. 1 & FORCE MAIN
 TxDOT UTILITY DETAILS

CITY OF HOUSTON
 ENGINEER
 CIVIL ENGINEER
 STATE LICENSE NO. 10108

DATE: 5/24/11
 DRAWING NO.: 58788
 SHEET NO.: 30 OF 43



FOR CITY OF HOUSTON USE ONLY



- NOTES:
1. FOR ADDITIONAL INFORMATION AT OPENINGS NOT SHOWN, SEE SHEET S-2.
 2. CONTRACTOR TO VERIFY THE SIZE AND LOCATION OF ALL OPENINGS TO THE SELECTED MANHOLE AND PUMP MANUFACTURERS' RECOMMENDATIONS.
 3. SEE DETAIL AND MAN MANUFACTURERS FOR DIMENSIONS.
 4. ALL INTERIOR SURFACES OF THE WET WELL SHALL BE COMBED WITH A 100X SOLIDS EXPOSY (GRENH) 405 OR APPROVED EQUAL.

X *M. J. ...*
 PRC DEVELOPMENT COORDINATOR
 DATE

TO: CONTRACTOR FOR THE CITY OF HOUSTON
 FROM: DESIGNER
 DATE: 11/14/16
 PROJECT: FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 SHEET NO. 31 OF 43

NO.	DATE	DESCRIPTION
1	11/14/16	ISSUED FOR PERMIT
2	11/14/16	ISSUED FOR CONSTRUCTION
3	11/14/16	ISSUED FOR AS-BUILT

DDG
 DUPRANTIS DESIGN GROUP, PC
 14860 HEATHROW FOREST PARKWAY, HOUSTON, TX 77032
 PHONE: 832-368-6170
 TYPE: FIRM NO. 2254

CITY OF HOUSTON
 FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN STRUCTURAL ELEVATION & CROSS SECTIONS

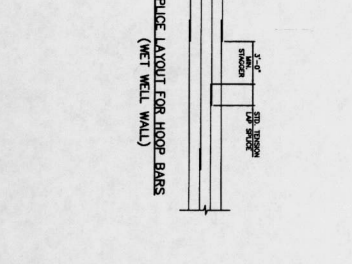
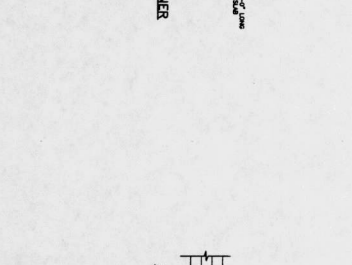
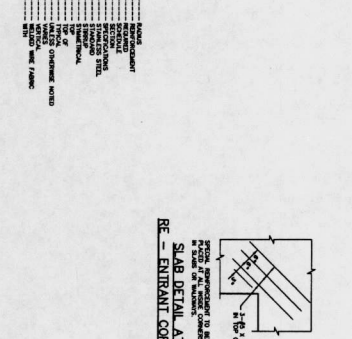
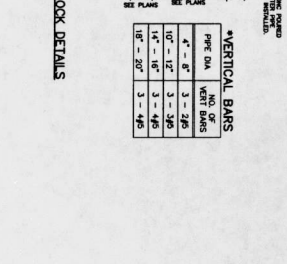
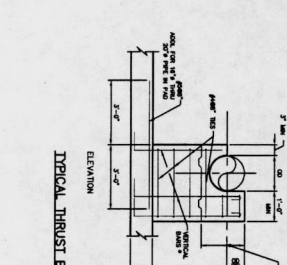
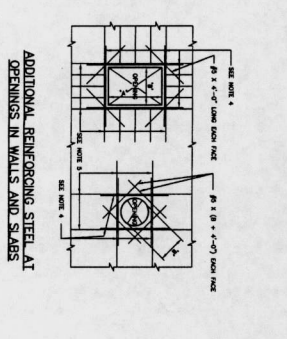
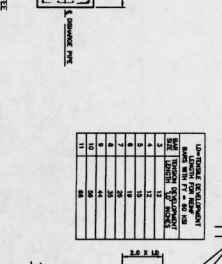
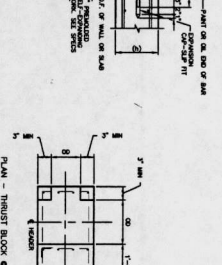
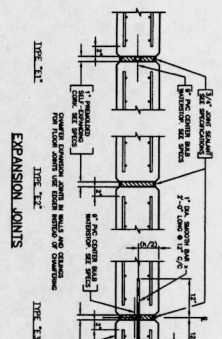
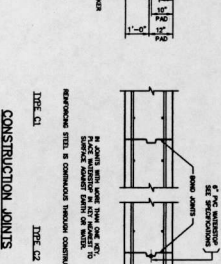
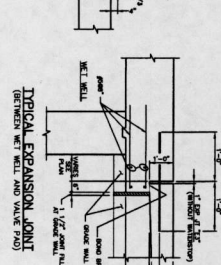
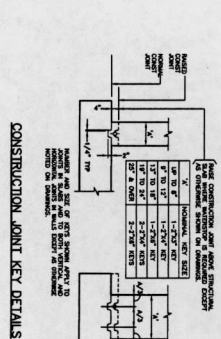
DATE: 11/14/16
 SHEET NO. 31 OF 43

GENERAL NOTES FOR STRUCTURES

1. ALL STRUCTURES SHALL BE CONSTRUCTED TO THE LATEST EDITIONS OF THE SPECIFICATIONS FOR REINFORCED CONCRETE AND STEEL STRUCTURES AS APPLICABLE.
2. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A QUALIFIED MANUFACTURER WHO SHALL FURNISH PROPERTIES AND TEST RESULTS TO THE ARCHITECT.
3. ALL WELDS SHALL BE MADE BY A QUALIFIED WELDER WHO SHALL FURNISH PROPERTIES AND TEST RESULTS TO THE ARCHITECT.
4. ALL CONCRETE SHALL BE PLACED AND COMPACTED BY THE CONTRACTOR UNDER THE SUPERVISION OF THE ARCHITECT'S REPRESENTATIVE.
5. ALL FORMWORK SHALL BE DESIGNED TO SUPPORT THE FULL WEIGHT OF THE CONCRETE TO BE PLACED THEREON.
6. ALL JOINTS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
7. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
8. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
9. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
10. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
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16. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
17. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
18. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
19. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.
20. ALL CONNECTIONS SHALL BE CONSTRUCTED TO BE FULLY DEVELOPED AND TO BE CAPABLE OF TRANSFERRING ALL STRESS.

ABBREVIATIONS

AC	ARCHITECT	CE	CITY ENGINEER
AD	ADVISOR	CF	CITY FURNISH
AE	ARCHITECTURAL	CG	CITY GRADING
AF	ARCHITECTURAL FURNISH	CH	CITY HIGHWAY
AG	ARCHITECTURAL GRADING	CI	CITY IMPROVEMENT
AH	ARCHITECTURAL HIGHWAY	CJ	CITY JUNCTION
AI	ARCHITECTURAL IMPROVEMENT	CK	CITY KUTTING
AJ	ARCHITECTURAL KUTTING	CL	CITY LIGHTING
AK	ARCHITECTURAL LIGHTING	CM	CITY MATERIALS
AL	ARCHITECTURAL MATERIALS	CN	CITY NOTIFICATION
AM	ARCHITECTURAL NOTIFICATION	CO	CITY ORDER
AN	ARCHITECTURAL ORDER	CP	CITY PLANNING
AO	ARCHITECTURAL PLANNING	CQ	CITY QUANTITY
AP	ARCHITECTURAL QUANTITY	CR	CITY RECORD
AQ	ARCHITECTURAL RECORD	CS	CITY SURVEYING
AR	ARCHITECTURAL SURVEYING	CT	CITY TITLING
AS	ARCHITECTURAL TITLING	CU	CITY UTILITIES
AT	ARCHITECTURAL UTILITIES	CV	CITY VARIATION
AV	ARCHITECTURAL VARIATION	CW	CITY WORK
AW	ARCHITECTURAL WORK	CX	CITY EXHIBIT
AX	ARCHITECTURAL EXHIBIT	CY	CITY YIELD
AY	ARCHITECTURAL YIELD	CZ	CITY ZONING
AZ	ARCHITECTURAL ZONING		



- NOTES:**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND FOR THE PROTECTION OF ALL UTILITIES.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES.

DUPRANTS DESIGN GROUP, PC
 14860 HEATHROW FOREST PARKWAY,
 SUITE 180 TX 77093
 PHONE: 832-988-8170
 TYPE: FIRM NO. 2254

FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN STRUCTURAL NOTES & DETAILS

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND RECREATION
 DIVISION OF STREETS AND SANITATION
 STREETS & SANITATION

DATE: 5/11/16
 SHEET NO. 32 OF 43

DDG
 DUPRANTS DESIGN GROUP, PC
 14860 HEATHROW FOREST PARKWAY,
 SUITE 180 TX 77093
 PHONE: 832-988-8170
 TYPE: FIRM NO. 2254

FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN STRUCTURAL NOTES & DETAILS

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND RECREATION
 DIVISION OF STREETS AND SANITATION
 STREETS & SANITATION

DATE: 5/11/16
 SHEET NO. 32 OF 43

DDG
 DUPRANTS DESIGN GROUP, PC
 14860 HEATHROW FOREST PARKWAY,
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FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LEFT STATION NO. 1 & FORCE MAIN STRUCTURAL NOTES & DETAILS

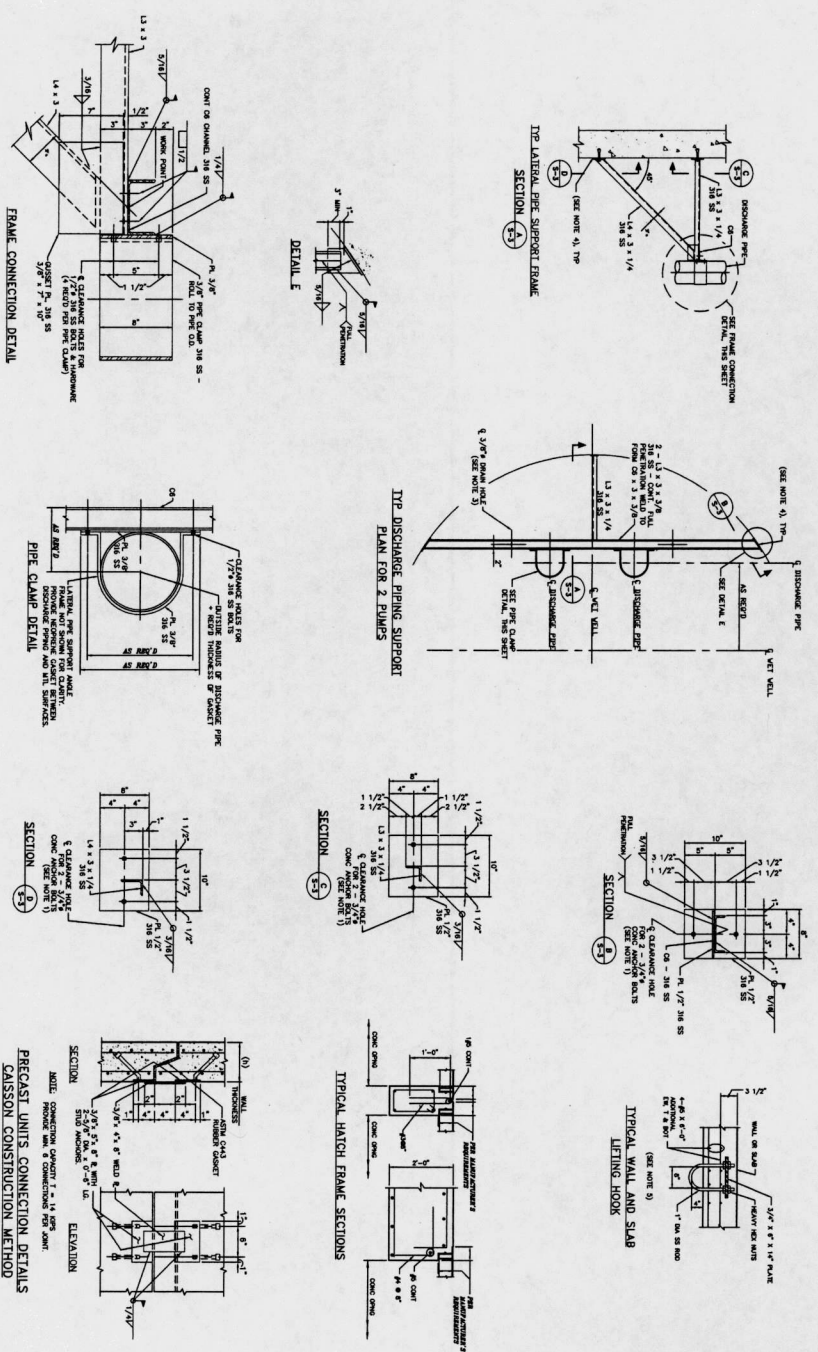
CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND RECREATION
 DIVISION OF STREETS AND SANITATION
 STREETS & SANITATION

DATE: 5/11/16
 SHEET NO. 32 OF 43

1. CONCRETE ANCHOR BOLTS SHALL HAVE 5" MINIMUM EMBEDMENT AND SHALL BE TYPE 316 STAINLESS STEEL.
2. SEE SECTION AND STRUCTURING DRAWINGS FOR DETAILS.
3. ALL WELDS SHALL BE FULL PENETRATION WELDS UNLESS OTHERWISE NOTED.
4. ALL WELDS SHALL BE WELDED BY A WELDER QUALIFIED IN ACCORDANCE WITH AWS D1.1.
5. MAKE SURE TO CHECK FOR CORROSION RESISTANT SURFACES ABOVE FLOOR SLABS.

X. *Mark D. ...*
 DATE: 5/31/16
 PROJECT ENGINEER

NO.	DATE	DESCRIPTION
1	05-31-2015	ISSUED FOR PERMITS
2	05-31-2015	ISSUED FOR PERMITS
3	05-31-2015	ISSUED FOR PERMITS
4	05-31-2015	ISSUED FOR PERMITS
5	05-31-2015	ISSUED FOR PERMITS



**PRECAST UNITS CONNECTION DETAILS
 CAISSON CONSTRUCTION METHOD**

NOTE: CITY SQUARES WALK FOR ONE YEAR ONLY AFTER CONSTRUCTION IS COMPLETE.

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 DIVISION OF STREETS AND SANITATION
 STREETS AND SANITATION DIVISION
 STREET & SIGNAL

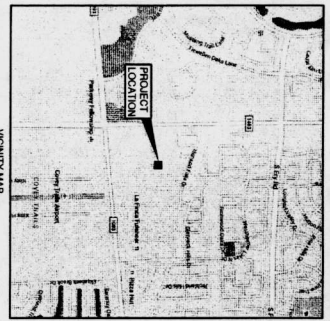
DDG
 DURANT DESIGN GROUP PC
 14650 HEATHROW FOREST PARKWAY, SUITE 100, FORT BEND COUNTY, TEXAS 77429
 PHONE: 832-988-8170
 TYPE: FIRM NO. 2254

DESIGNER: [Signature]
CHECKER: [Signature]
DATE: 3/1/16

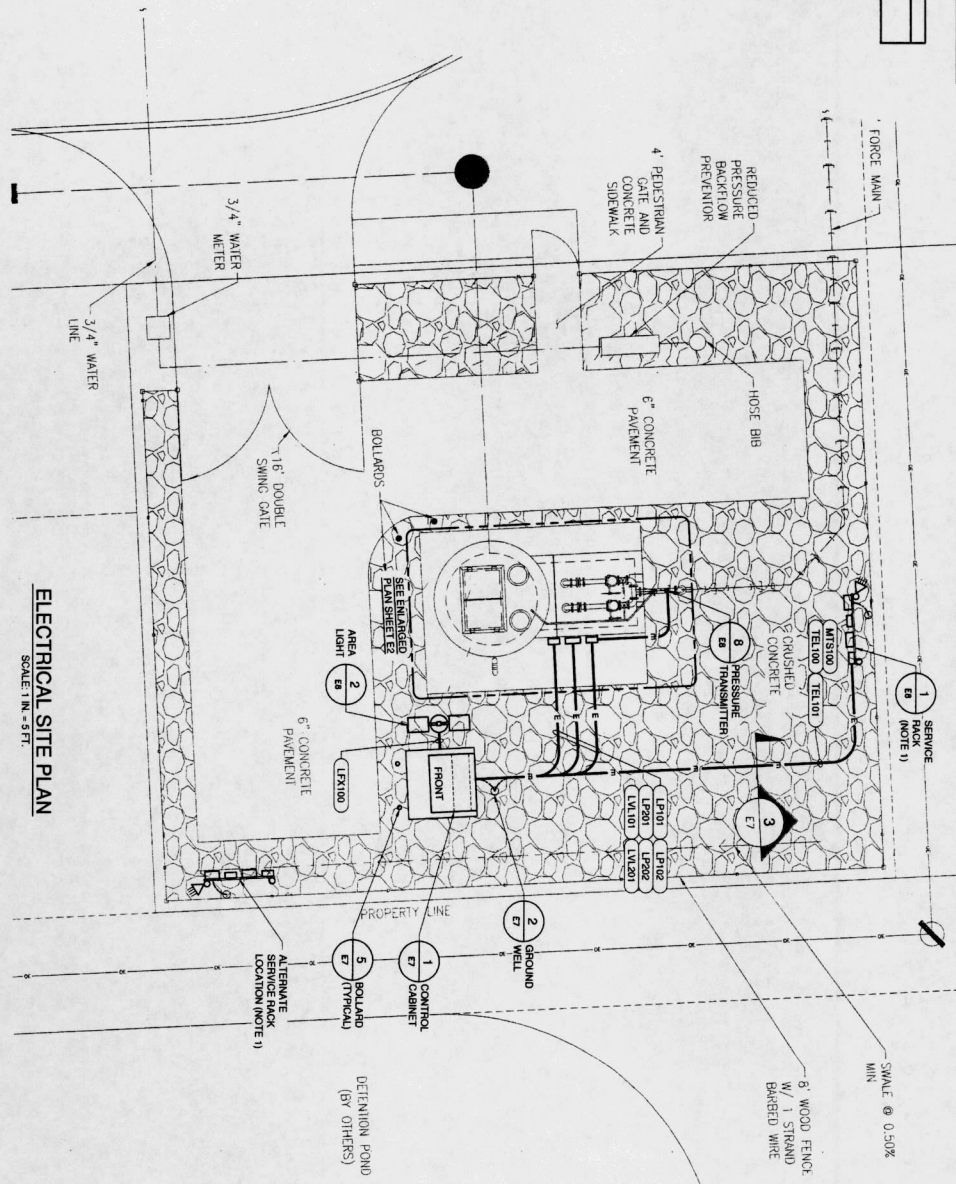
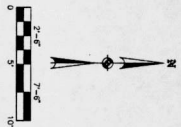
PROJECT: FORT BEND COUNTY IMPROVEMENT DISTRICT 24 LEFT STATION NO. 1 & FORCE MAIN STRUCTURAL NOTES & DETAILS

SHEET NO. 32AP-43





PROPERTY MAP
 PROJECT ADDRESS
 1414504 01/10/03
 KATY, TX 77494



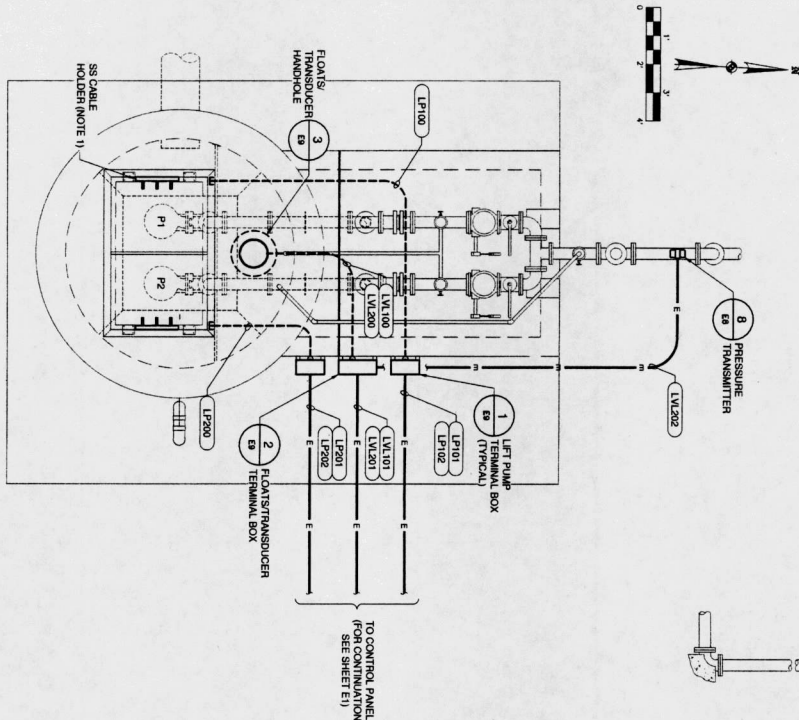
ELECTRICAL SITE PLAN
 SCALE: 1" = 5'-0"

- NOTES:**
- COORDINATE WITH LOCAL POWER COMPANY TO DETERMINE WHICH TYPE OF SERVICE, UNDERGROUND OR AERIAL, WILL BE PROVIDED FOR THE PROJECT. THE USE OF SERVICE POLES FOR AERIAL SERVICE ELECTRICAL AND AERIAL TYPE SERVICE AERIAL DROPS SHALL NOT EXTEND ACROSS SITE.
 - CONDUITS SHALL NOT BE ROUTED ACROSS WALKWAYS, PATHS OF ACCESS, TRAVEL, OR EGRESS. ROUTE IN CONCRETE STRUCTURES OR AROUND EQUIPMENT. DO NOT ROUTE IN STRUCTURES WITH OTHER PIPING, CONDUITS, EQUIPMENT OR STRUCTURES.
 - FIELD VERIFY EXACT LOCATION OF ALL UNDERGROUND PIPES, DAMAGE DONE TO ORIGINAL CONDITION.

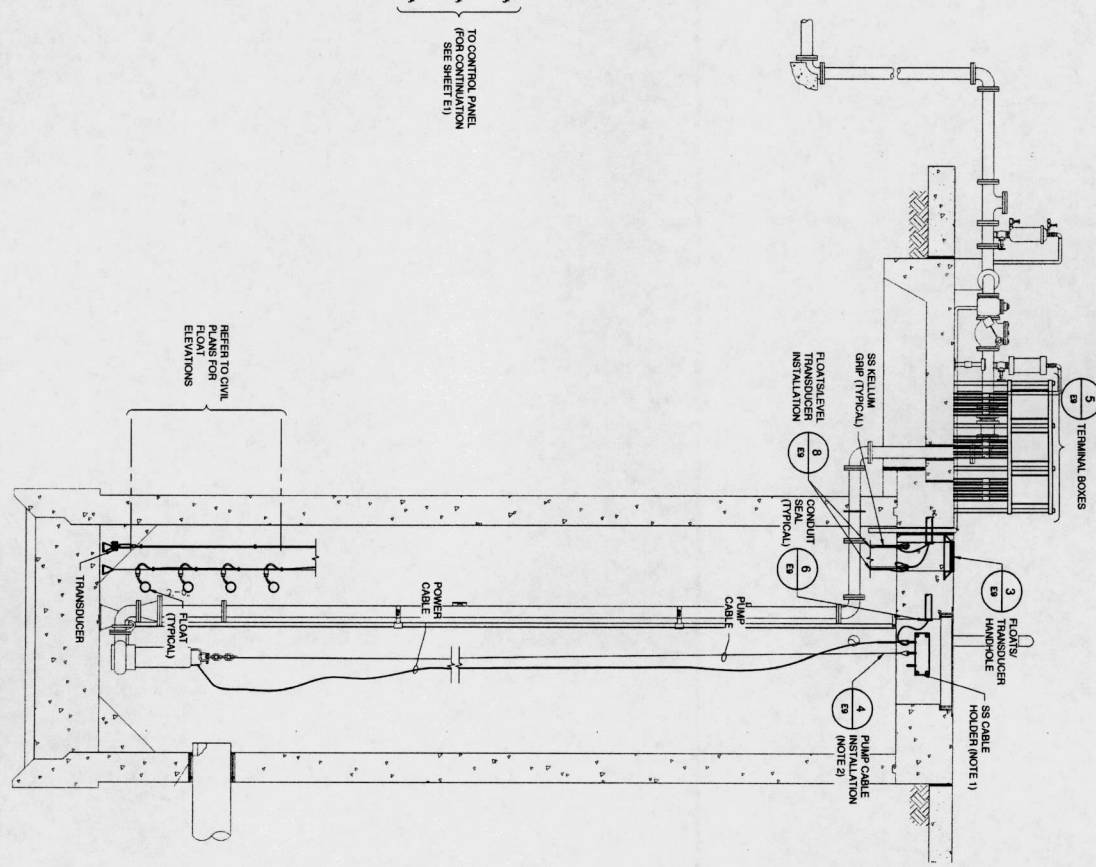
- ALL UNDERGROUND DUCTBANKS REQUIRE INSPECTION PRIOR TO CONSTRUCTION. DIMENSIONS SHALL BE AS SHOWN ON THIS SHEET. CONTACT THE ENGINEER FOR INSPECTIONS. SCHEDULE MINIMUM 48 HOURS IN ADVANCE. ANY DUCTBANKS NOT SPECIFIED WILL BE REQUIRED TO BE CHECKED FOR INSPECTION PRIOR TO CONSTRUCTION. THE ENGINEER SHALL BE RESPONSIBLE FOR THE QUALITY OF STATUS OF CONCRETE SLABS ON FOUNDATIONS.
- CONCRETE SPALLS SHALL NOT BE DAMPED ON SITE WITHOUT APPROVAL BY THE ENGINEER. ALL DUCTBANKS SHALL BE VERTICALLY STRAPPED TO CONCRETE FLOOR.
- DO NOT COVER SERVICE LINES WITH CONCRETE FOUNDATION.
- FIELD LOCATE AND MARK ALL LINES NEAR CONTRIBUTION.
- DO NOT SCALE ELECTRICAL EQUIPMENT DEVICES AND FOUNDATIONS. DIMENSIONS, SPACING, LAYOUTS AND DETAIL SHEETS FOR EXACT INFORMATION. SEE CIVIL PLANS FOR SUBMIT DIMENSIONS OF DRAWING PACKAGE. SUBMIT DIMENSIONS OF SPECIFICATION 16012. DO NOT START INSTALLATION UNTIL SUBMITTALS ARE REVIEWED BY ENGINEER.
- ALL CONCRETE FOUNDATIONS AND PADS FOR ELECTRICAL EQUIPMENT ARE SHOWN AS MINIMUM ABOVE FINISHED GRADE. FLOOD PLAIN LEVEL. REFER TO CIVIL PLANS FOR FLOODPLAIN LEVEL, AND USE FOR MINIMUM ELEVATIONS FOR ELECTRICAL PADS.
- DO NOT CONSTRUCT WITHIN ELECTRICAL EASEMENTS, WHERE OVERHEAD OR UNDERGROUND UTILITY LINES EXIST. CONTACT ENGINEER BEFORE STARTING ANY WORK, AND BEFORE ROUTING UTILITIES.
- PROVIDE GROUND CONNECTIONS FOR SERVICE ENTRANCE ELECTRICAL JUNCTION BOXES, YARD LIGHT, PIPING AND ALL METAL PADS.

X. M. ...
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF TEXAS
 No. 55788
 S. ...

 SHRADLER ENGINEERING ELECTRICAL, I COMMUNICATIONS & TECHNOLOGY 1414504 01/10/03 KATY, TX 77494 DATE: 01-10-2016 DRAWN BY: [Name] CHECKED BY: [Name] APPR: [Name] REVISIONS: [Table] DATE: [Table]		 DDG CIVIL ENGINEERING DUPRANTS DESIGN GROUP 14860 HERMITAGE FOREST PARKWAY, SUITE 180 HOUSTON, TX 77032 PHONE: 281.486.2254 FAX: 281.486.2254 WWW.DDG-CO.COM	
PROJECT: FORT BEND COUNTY IMPROVEMENT DISTRICT 24 LIFT STATION NO. 1 & FORCE MAIN ELECTRICAL SITE PLAN NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING DIVISION OF ELECTRICAL ENGINEERING DIVISION OF WATER QUALITY DIVISION OF WATER UTILITY DIVISION OF WATER TREATMENT DIVISION OF WATER DISTRIBUTION DIVISION OF WATER REUSE DIVISION OF WATER CONSERVATION DIVISION OF WATER INFRASTRUCTURE DIVISION OF WATER PLANNING DIVISION OF WATER RESEARCH DIVISION OF WATER SERVICES DIVISION OF WATER SUPPLY DIVISION OF WATER TREATMENT DIVISION OF WATER UTILITY DIVISION OF WATER QUALITY DIVISION OF WATER TREATMENT DIVISION OF WATER UTILITY DIVISION OF WATER QUALITY DIVISION OF WATER TREATMENT DIVISION OF WATER UTILITY DIVISION OF WATER QUALITY		SHEET NO. 34 OF 43 DATE: 01-10-2016 DRAWING SCALE: AS SHOWN CHECKED BY: [Name] DATE: [Table] APPR: [Name] DATE: [Table]	



LIFT STATION PLAN
SCALE: 1/2" = 1' FT



LIFT STATION ELEVATION
N.T.S.

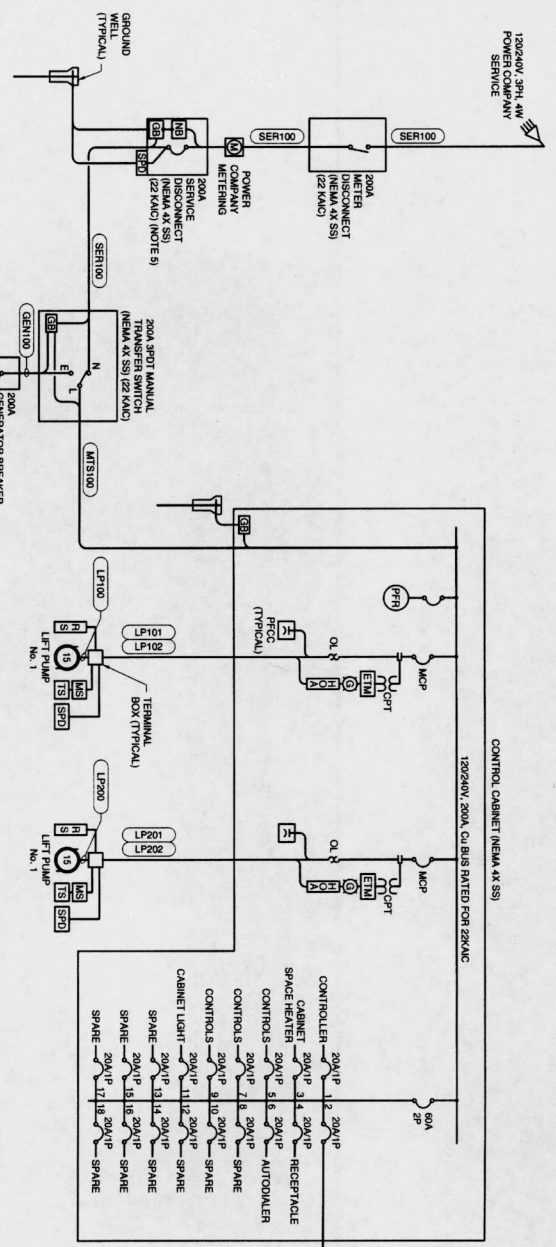
- NOTES:**
1. CABLE HOLDER SHOWN FOR CLARITY. FIELD LOCATE.
 2. COORDINATE INSTALLATION OF CONDUITS WITH LOCATION OF CABLE TRAYS FOR CABLE CLEARANCE.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD SELECTING OPTIMUM ROUTING OF CONDUITS.
 4. IF MULTIPLE PUMP CABLES ARE PROVIDED, INSTALL ADDITIONAL CONDUITS INSTEAD OF THE SINGLE CONDUIT INDICATED. THE CONDUIT SIZE INDICATED. MINIMUM CONDUIT SIZE IS 1 1/2 INCHES.

REFER TO CIVIL PLANS FOR FLOAT ELEVATIONS

Y. M. M. & S. S. ENGINEERS
FOR DESIGN & CONSTRUCTION

5/11/16
DATE

<p>SHRADER ENGINEERING ELECTRICAL, I COMMUNICATIONS TECHNOLOGY</p> <p>2500 WEST 17TH STREET, SUITE 100, FORT WORTH, TX 76107 TEL: 817.335.1111 FAX: 817.335.1112</p>		<p>DDG DUPONT DESIGN GROUP, PC CIVIL ENGINEERING</p>	
DESIGNED BY:	DATE:	DRAWN BY:	DATE:
DUPONTS	03-01-2016	DUPONTS	03-01-2016
<p>PROJECT: LIFT STATION NO. 1 & FORCE MAIN ELEVATION</p> <p>CLIENT: CITY OF HOUSTON</p> <p>ADDRESS: 14650 HEBBARD, FOREST PARKWAY, SUITE 180, HOUSTON, TX 77032</p> <p>PHONE: 832.984.9170</p> <p>PROJECT NO.: 15-00000000000000000000</p> <p>DATE: 03-01-2016</p>			
<p>NOTE: CITY SIGNATURES MAILED FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES</p> <p>CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ELECTRICAL DIVISION</p> <p>FOR CITY OF HOUSTON USE ONLY</p>			
DATE:	SCALE:	SHEET NO.:	TOTAL SHEETS:
03/01/2016	AS NOTED	35 OF 43	E2



ONE-LINE DIAGRAM

ELECTRICAL LOAD ANALYSIS

LOAD	Ø A	Ø B	Ø C
LIFT PUMP NO. 1	44	44	44
LIFT PUMP NO. 2	44	44	44
MISC. LOAD	30	11	30
25% OF LARGEST MOTOR	11	11	11
TOTAL LOAD	129	99	129
SERVICE AMPACITY @ 120/240V, 3PH, 4W	200	200	200
SPARE AMPACITY	71	101	71

CALCULATED MAXIMUM AVAILABLE FAULT CURRENT = 10,813 AMPS.
USE 22 KAC RATED DEVICES AND BRIDGING (NOTE 9)

- NOTES:**
- VERIFY PUMP CABLE SIZE WITH PUMP MANUFACTURER AND ADJUST CONDUIT & CSE SIZE AS REQUIRED.
 - CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH ACCORDANCE TO:
 - POWER COMPANY AND PROVIDE EQUIPMENT RATED ACCORDINGLY.
 - IF MULTIPLE PUMP CABLES ARE PROVIDED, INSTALL ADDITIONAL CONDUITS INSTEAD OF THE SINGLE CONDUIT INDICATED. THE MINIMUM CONDUIT SIZE FOR THE PUMP POWER CONDUIT SHALL BE 1/2 INCHES.
 - PROVIDE WEATHERPROOF CONNECTOR TO MATCH CONDUIT AND WIRE. THE WEATHERPROOF CONNECTOR SHALL BE A MINIMUM OF 30 INCHES ABOVE FINISH SLAB. ADJUST BREAKER ADJUST BREAKER SIZE TO MATCH GENERATOR CONNECTOR AMPACITY, ALLOW FOR 250 AMP CONNECTION IN BID.
 - INTERMPT CAPACITY FOR ALL COMPONENTS SHALL BE SAME AS SERVICE.
 - PROVIDE ALL REQUIRED ALARM AND DEVICE POWER CONDUITS FOR LOCAL PANELS INSTALLED NEAR MOTORS AND EQUIPMENT. SEE ONE-LINE DIAGRAM, CONTROL DIAGRAMS AND WIRING SCHEDULES FOR CONDUIT SIZES. THE MINIMUM CONDUIT SIZE FOR THE PUMP POWER CONDUIT SHALL BE 1/2 INCHES.
 - INSULATION RATING IS 600 VOLTS AND WHERE CONDUIT APERTURE SPACE IS PER NEC, OR SERVICANT 1 INCH CONDUIT SHALL BE PROVIDED.

X *M. J. ...*
REG. ELECTRICAL ENGINEER

S&B
INC.

E3

SHRADER ENGINEERING
ELECTRICAL, I COMMUNICATIONS I TECHNOLOGY

14850 HEATHROW FOREST PARKWAY, SUITE 160
HOUSTON, TX 77032
TEL: 281.486.1100
WWW.SHRADERENG.COM

DDG
DUPRANTS DESIGN GROUP, PC
ONE ENGINEERING
SUITE 200
12251
03-21-2018

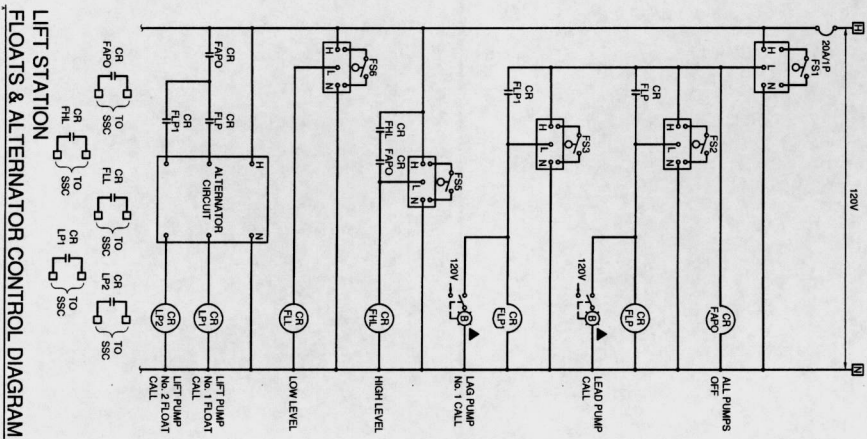
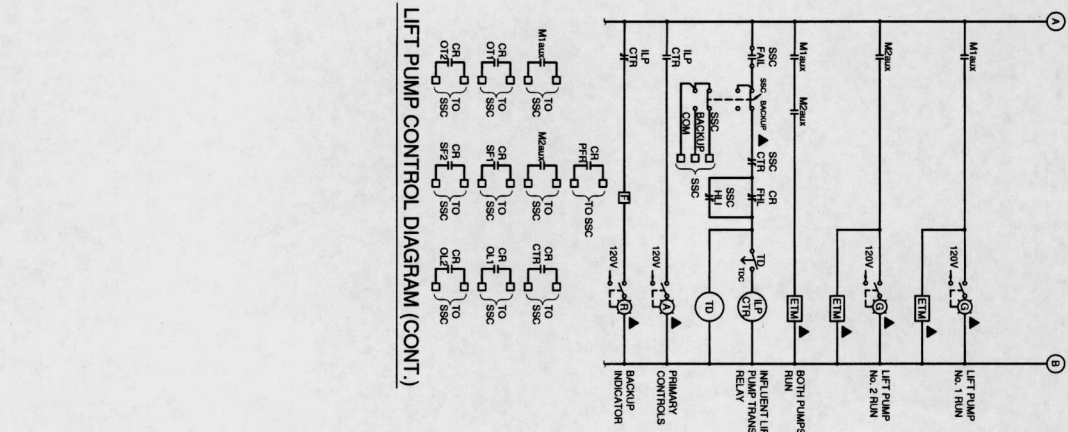
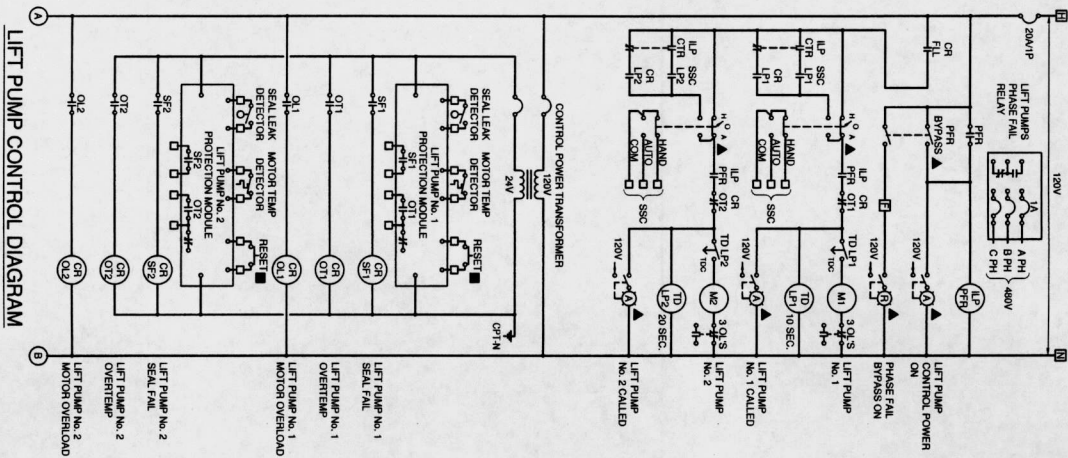
DESIGNED BY: DATE: 03-21-2018
DRAWN BY: DATE: 03-21-2018
CHECKED BY: DATE: 03-21-2018
APPROVED BY: DATE: 03-21-2018

NOTE: CITY SQUADERS VALID FOR ONE TEAM ONLY.
AFTER DATE OF SIGNATURES

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
14850 HEATHROW FOREST PARKWAY, SUITE 160
HOUSTON, TX 77032
TEL: 281.486.1100
WWW.SHRADERENG.COM

PROJECT & SHEET NO. 11300
SHEET & REVISION NO. 36 OF 43

FROM CITY OF HOUSTON USE ONLY



- NOTES:**
1. WHERE ADDITIONAL CONTACTS ARE REQUIRED, PROVIDE ADDITIONAL CONTACT BLOCKS OR ADDITIONAL RELAYS WITH COILS WIRING IN PARALLEL.
 2. COORDINATE ALL NORMALLY CLOSED (N.C.) AND NORMALLY OPEN (N.O.) CONTACTS.
 3. CONTRACTOR SHALL READ ENTIRE CONTENTS OF SPECIFICATION SECTION ENTITLED "CONTROLS/ELECTRICAL" AND OTHER REFERENCED SPECIFICATIONS CONTAINED THEREIN BEFORE BIDDING ON THIS PROJECT.
 4. ALL CONTROL SECTIONS OF MCC WITH SOLID STATE CONTROLLERS SHALL BE SHOP TESTED IN THE PRESENCE OF THE ENGINEER. ALL PROGRAMS WILL BE LOADED BY THE CONTRACTOR AND TESTED IN THE PRESENCE OF THE ENGINEER. ANY EQUIPMENT DELIVERED ON SITE WITHOUT SHOP TESTING SHALL BE RETURNED TO SHOP AND TESTING SHALL BE REPERCUSSOR.

CONTROL PANEL SHALL BE FABRICATED ONLY BY MANUFACTURERS LISTED IN SPECIFICATION 16012.201.F. NO EXCEPTIONS.

M. J. ...
DATE

...
DATE

E4

31 of 43



FOR CITY OF HOUSTON USE ONLY

55788

4503-000

SHRADER ENGINEERING
ELECTRICAL | COMMUNICATIONS | TECHNOLOGY

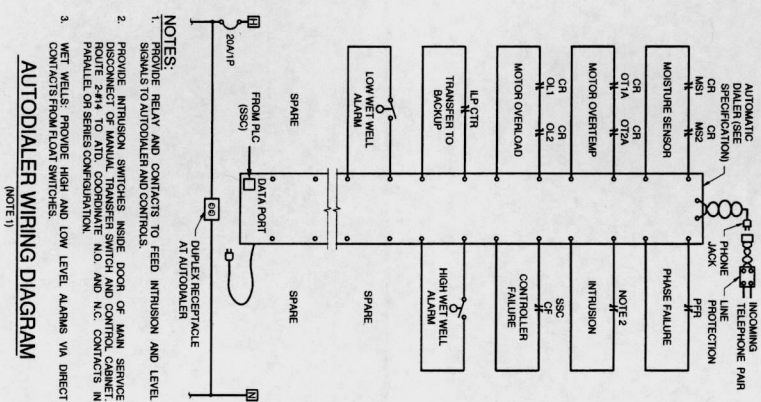
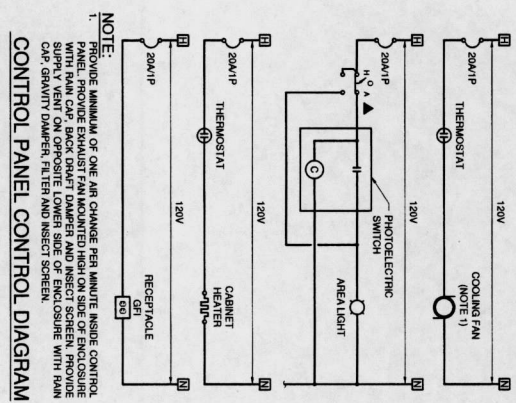
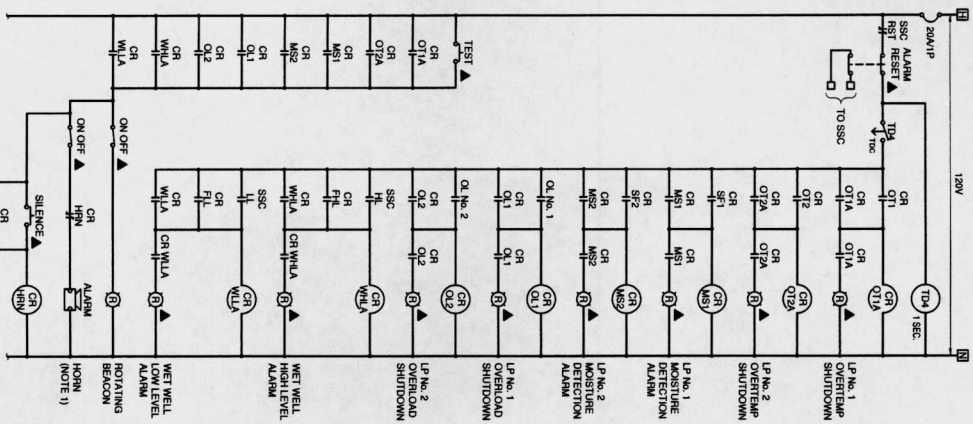
14850 HUNTERWOOD, MC TIER LN, SUITE 100
HOUSTON, TEXAS 77057
TEL: 281.468.1111 FAX: 281.468.1112
WWW.SHRADENGR.COM

DDG
DUPLANTS DESIGN GROUP, PC
CIVIL ENGINEERING

DESIGNED BY: DATE: 01-01-2018
DRAWN BY: DDC PROJ NO: 13-217

DUPLANTS DESIGN GROUP
14850 HUNTERWOOD, SUITE 100
HOUSTON, TX 77057
TEL: 281.468.1111 FAX: 281.468.1112
WWW.DUPLANTS.COM

FORI BEND COUNTY
IMPROVEMENT DISTRICT 24
LIFT STATION NO.1 & FORCE MAIN
ELECTRICAL CONTROL
DIAGRAMS SHEET 1



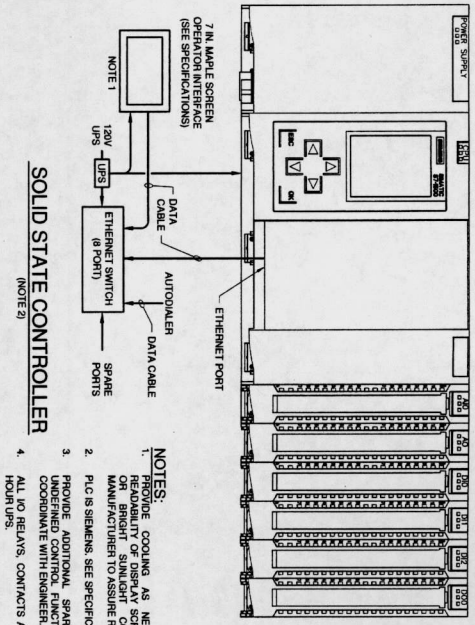
GENERAL NOTES:
1. WHERE ADDITIONAL CONTACTS ARE REQUIRED, PROVIDE ADDITIONAL CONTACT BLOCKS OR ADDITIONAL RELAYS WITH COILS WIRING IN PANEL.
2. CONTRACTOR SHALL READ ENTIRE CONTENTS OF SPECIFICATION SECTION ENTITLED ELECTRICAL WORK, 16 01 2 AND OTHER SECTIONS FOR CONDITIONS CONTAINED THEREIN BEFORE BIDDING ON THIS PROJECT.

X. *Sharon Johnson*
ELECTRICAL CONTRACTOR

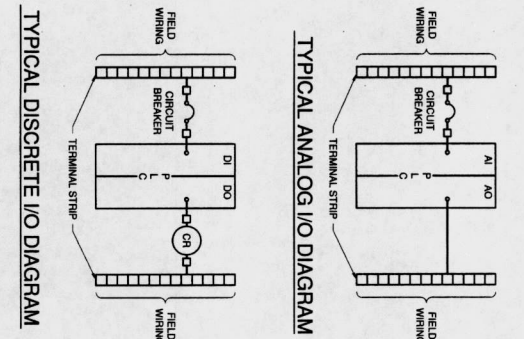
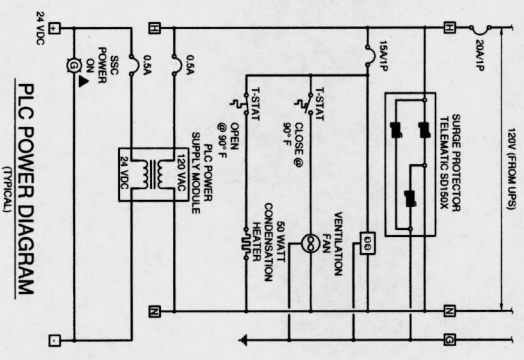
Sharon Johnson
ELECTRICAL CONTRACTOR

SHRADER ENGINEERING ELECTRICAL COMMUNICATIONS TECHNOLOGY	
10000 W. FORT WORTH BLVD. SUITE 1000 FORT WORTH, TEXAS 76134	
PHONE: 817.335.1111 FAX: 817.335.1112 WWW: SHRADERENGINEERING.COM	DATE: 03-21-2015 DRAWING NO.: 0000000002
DUPAINTS DESIGN GROUP, PC CIVIL ENGINEERING	
14890 HEATHERBROW FOREST PARKWAY, SUITE 160 HOUSTON, TX 77032 PHONE: 281.486.1111 TIRE FIRM NO. 22541	
FORT BEND COUNTY IMPROVEMENT DISTRICT 24 LEFT STATION NO. 1 & FORCE MAIN ELECTRICAL CONTROL DIAGRAMS SHEET 2	
NOTE: CITY SPECIFICATIONS VALID FOR ONE YEAR ONLY AFTER DATE OF ADOPTION	
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING 10000 W. FORT WORTH BLVD. SUITE 1000 FORT WORTH, TEXAS 76134 PHONE: 817.335.1111 FAX: 817.335.1112 WWW: HOUSTON.TX.GOV	
DRAWING SCALE: _____ SHEET NO.: 38 OF 43	DATE: _____ DRAWN BY: _____ CHECKED BY: _____ DESIGNED BY: _____ PROJECT NO.: _____ SHEET NO.: _____

GENERAL NOTE:
 1. SEE CONTROL DIAGRAMS FOR ADDITIONAL I/O REQUIREMENTS.
 2. ALL CONTROL SECTIONS OF I/O WITH SOLID STATE CONTROLLERS SHALL BE SHOP TESTED IN THE PRESENCE OF THE ENGINEER. THE PROGRAMMER SHALL BE RESPONSIBLE FOR THE PROGRAMMER PRIOR TO SHOP TESTING. CONTRACTOR TO SCHEDULE SHOP TESTING WITH ENGINEER. CONTRACTOR TO SCHEDULE SHOP TESTING WITH ENGINEER. CONTRACTOR TO SCHEDULE SHOP TESTING WITH ENGINEER. SITE WITHOUT SHOP TESTING SHALL BE RETURNED TO SHOP AND TESTING SHALL BE SCHEDULED.



- NOTES:**
1. PROVIDE COOLING AS NECESSARY TO ASSURE CLEAR OPERATION OF SOLID STATE CONTROLLER. CONSULT WITH MANUFACTURER TO ASSURE REQUIREMENTS ARE MET.
 2. PIC IS SIEMENS. SEE SPECIFICATION 1894. NO SUBSTITUTION.
 3. PROVIDE ADDITIONAL SPARE I/O'S OF EACH TYPE FOR COORDINATE WITH ENGINEER.
 4. ALL I/O RELAYS, CONTACTS AND P.L.C. TO BE POWERED BY 24 HOUR UPS.



DIGITAL INPUT MODULE #1 I/O SCHEDULE

ITEM NO.	DESCRIPTION	ADD. REF.	POINT	I/O TYPE	NOTES/SCALE
1	LP1 HOA AUTO	0.0	1	DI	SW. HAND
2	LP1 RUN STATUS	0.2	2	DI	MAX. I/O
3	LP1 OVERTEMP ALARM	0.3	3	DI	CR. OTI
4	LP1 SEAL ALARM	0.4	4	DI	CR. SFI
5	LP1 OVERLOAD ALARM	0.5	5	DI	CR. OLI
6	LP1 TALL	0.6	6	DI	CR. LPI
7	SPARE	0.7	7	DI	
8	LP2 HOA AUTO	11.0	8	DI	SW. HAND
9	LP2 RUN STATUS	11.2	9	DI	MAX. I/O
10	LP2 OVERTEMP ALARM	11.3	10	DI	CR. OTI
11	LP2 SEAL ALARM	11.4	11	DI	CR. SFI
12	LP2 OVERLOAD ALARM	11.5	12	DI	CR. OLI
13	LP2 TALL	11.6	13	DI	CR. LPI
14	SPARE	11.7	14	DI	
15	SPARE	11.8	15	DI	
16	SPARE	11.9	16	DI	

DIGITAL OUTPUT MODULE #1 I/O SCHEDULE

ITEM NO.	DESCRIPTION	ADD. REF.	POINT	I/O TYPE	NOTES/SCALE
1	LP1 START/STOP	0.0	0	DO	SSC. LPI
2	LP2 START/STOP	0.0	1	DO	SSC. LPI
3	SPARE	0.0	2	DO	SSC. LPI
4	SPARE	0.0	3	DO	SSC. LPI
5	SPARE	0.0	4	DO	SSC. LPI
6	LP1 TRANSFER (SSC-CIR)	0.0	5	DO	LOGICAL "1"
7	SPARE	0.0	6	DO	
8	SPARE	0.0	7	DO	
9	WET WELL LOW LEVEL	0.1	8	DO	CR. LLI
10	WET WELL HIGH LEVEL	0.1	9	DO	CR. WHLA
11	ALARM RESET	0.1	10	DO	CF
12	ALARM RESET	0.1	11	DO	SSC. RST
13	HIGH LEVEL INHIBIT	0.1	12	DO	SSC. HLI
14	SPARE	0.1	13	DO	
15	SPARE	0.1	14	DO	
16	SPARE	0.1	15	DO	

DIGITAL INPUT MODULE #2 I/O SCHEDULE

ITEM NO.	DESCRIPTION	ADD. REF.	POINT	I/O TYPE	NOTES/SCALE
1	LP TRANSFER (P.L.C. MOD)	0.0	0	DI	SW. PRIMARY
2	SECONDARY CONTROL (AUTOSENSORY)	0.2	2	DI	SW. BACKUP
3	ALL PUMPS OFF	0.3	3	DI	CR. FPO
4	ALARM RESET	0.4	4	DI	CR. FRN
5	PHASE FAIL RELAY (PFR)	0.5	5	DI	
6	SPARE	0.6	6	DI	
7	SPARE	0.7	7	DI	
8	SPARE	0.8	8	DI	
9	SPARE	0.9	9	DI	
10	SPARE	1.0	10	DI	
11	SPARE	1.1	11	DI	
12	HIGH LEVEL FLOAT	1.2	12	DI	CR. FLI
13	LEAD PUMP FLOAT	1.3	13	DI	CR. LPI
14	LAGI PUMP FLOAT	1.4	14	DI	CR. LPI
15	LAG2 PUMP FLOAT	1.5	15	DI	CR. LPI
16	LOW LEVEL FLOAT	1.6	16	DI	CR. LLI

ANALOG INPUT MODULE #1 I/O SCHEDULE

ITEM NO.	DESCRIPTION	ADD. REF.	POINT	I/O TYPE	NOTES/SCALE
1	WET WELL LEVEL	0.1	0	AI	4-20MA
2	SPARE	0.1	1	AI	
3	SPARE	0.1	2	AI	
4	SPARE	0.1	3	AI	
5	SPARE	0.1	4	AI	
6	SPARE	0.1	5	AI	
7	SPARE	0.1	6	AI	
8	SPARE	0.1	7	AI	

X *M. J. ...*
 FOR ELECTRICAL ENGINEER
 5/14/14
 SHEET NO. 39 OF 43

SHRADER ENGINEERING
 CONSULTING, COMMUNICATIONS & TECHNOLOGY
 14890 HEBBROW, HOUSTON, TX 77040
 (281) 485-1100
 www.shrader-engineering.com

DDG
 DUPRANTS DESIGN GROUP, PC
 ONE ENCLOSURE
 03-01-2018
 DRAWING NO. 18-0001
 SHEET NO. 39 OF 43

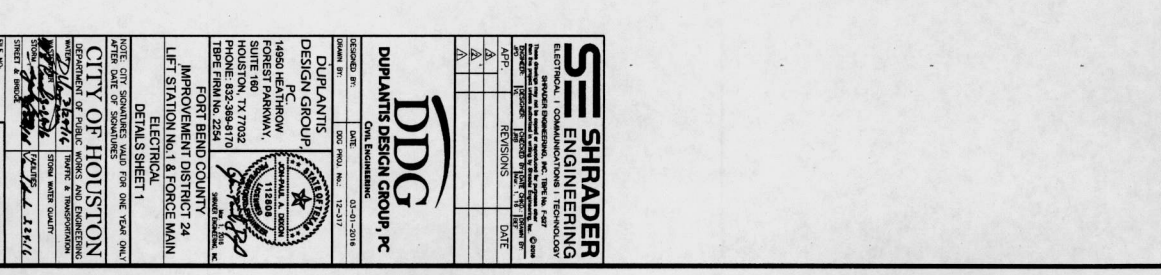
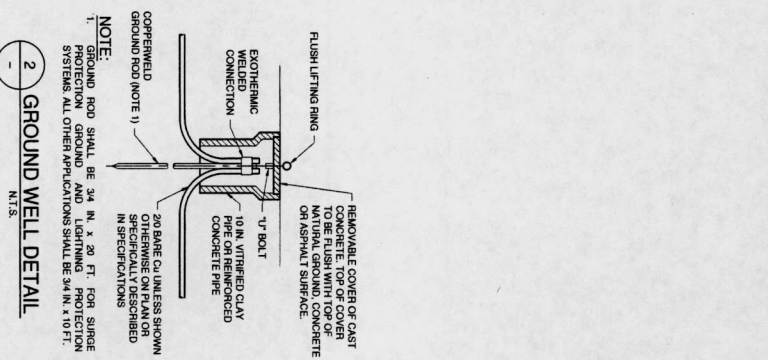
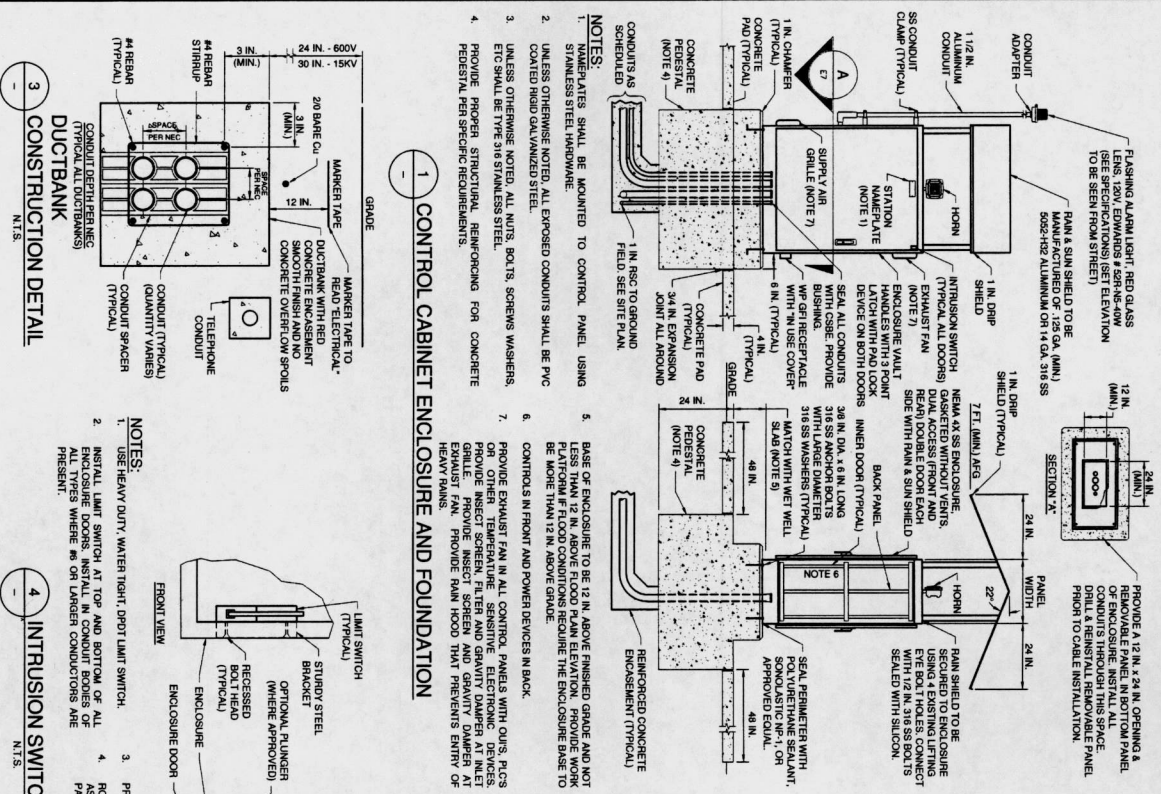
DUPRANTS DESIGN GROUP
 14890 HEBBROW, HOUSTON, TX 77040
 (281) 485-1100
 www.duprants.com

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
 1500 RICE AVENUE, HOUSTON, TX 77005
 (713) 858-2000
 www.houstontx.gov

PORT BEND COUNTY
 IMPROVEMENT DISTRICT 24
 1100 W. MAIN STREET, PORT BEND, TX 77644
 (361) 583-1100
 www.portbendtx.gov

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES.

DATE: 5/14/14
 DRAWING NO. 18-0001
 SHEET NO. 39 OF 43



1 CONTROL CABINET ENCLOSURE AND FOUNDATION
N.T.S.

2 GROUND WELL DETAIL
N.T.S.

3 CONSTRUCTION DETAIL
N.T.S.

4 INTRUSION SWITCH DETAIL
N.T.S.

5 BOLLARD DETAIL
N.T.S.

NOTES:

1. UNLESS OTHERWISE NOTED, ALL EXPOSED CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL.
2. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, SCREWS WASHERS, ETC SHALL BE TYPE 316 STAINLESS STEEL.
3. PROVIDE PROPER STRUCTURAL REINFORCING FOR CONCRETE RESTRICTION PER SPECIFIC REQUIREMENTS.
4. BASE OF ENCLOSURE SHALL BE 12 IN. ABOVE FINISHED GRADE AND NOT LESS THAN 12 IN. ABOVE FLOOD PLAIN ELEVATION. PROVIDE WORK BE BASED FROM 12 IN. ABOVE GRADE.
5. CONDUITS IN FRONT AND POWER DEVICES IN BACK.
6. PROVIDE EXHAUST FAN IN ALL CONTROL PANELS WITH OILS, PICS OR OTHER TEMPERATURE SENSITIVE ELECTRONIC DEVICES. PROVIDE RESPECT SCREEN, FILTER AND GRAVITY DAMPER AT INLET EXHAUST FAN. PROVIDE FAN 1500 RPM PREVENTS BURN IN OF HEAVY RAINS.
7. PROVIDE EXHAUST FAN IN ALL CONTROL PANELS WITH OILS, PICS OR OTHER TEMPERATURE SENSITIVE ELECTRONIC DEVICES. PROVIDE RESPECT SCREEN, FILTER AND GRAVITY DAMPER AT INLET EXHAUST FAN. PROVIDE FAN 1500 RPM PREVENTS BURN IN OF HEAVY RAINS.

NOTES:

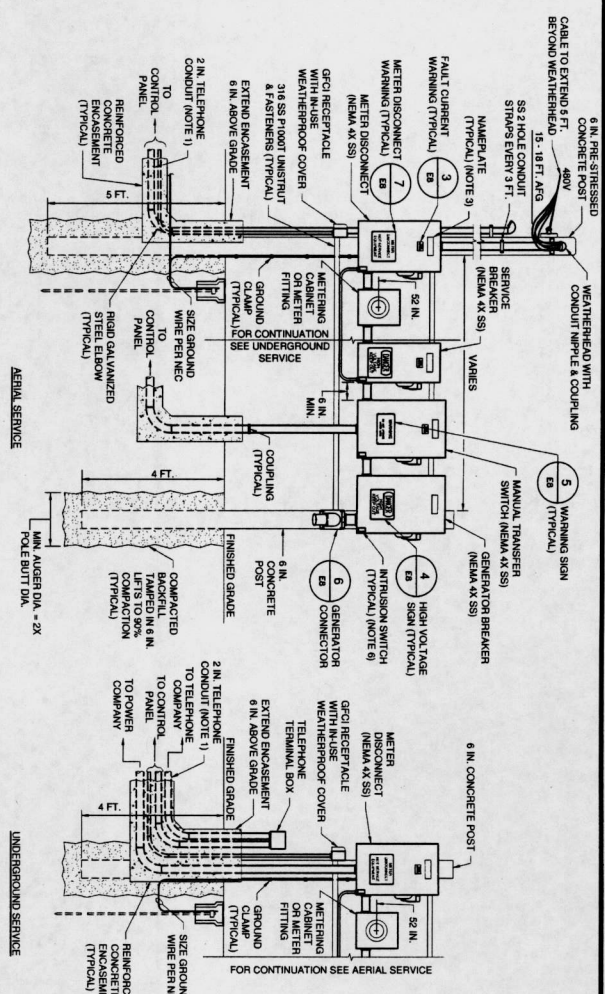
1. USE HEAVY DUTY WATER TIGHT, PROT LIMIT SWITCH.
2. INSTALL LIMIT SWITCH AT TOP AND BOTTOM OF ALL CONDUITS IN ALL TYPES WHERE #6 OR LARGER CONDUITS ARE PRESENT.
3. PROVIDE STEEL MOUNTING BRACKET AS REQUIRED.
4. ROUTE INTRUSION SWITCH CIRCUITS TO ALARM PANEL, AS SHOWN ON PLANS. WIRE SWITCHES IN SERIES OR PARALLEL AS SHOWN ON DIAGRAMS.

NOTES:

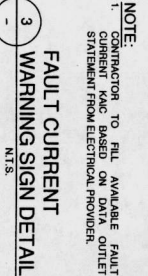
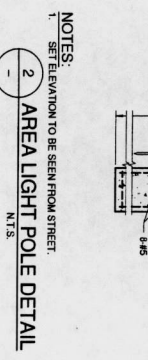
1. GROUND ROD SHALL BE 3/4 IN. X 20 FT. FOR SURGE PROTECTION GROUND AND LIGHTNING PROTECTION SYSTEMS. ALL OTHER APPLICATIONS SHALL BE 3/4 IN. X 10 FT. SPECIFICALLY DESCRIBED IN SPECIFICATIONS.

NOTES:

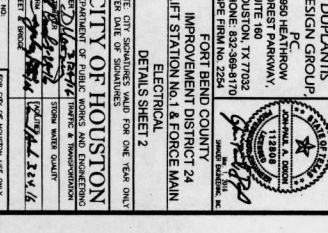
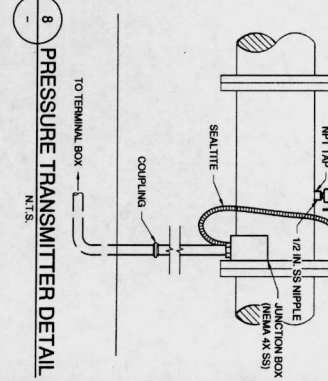
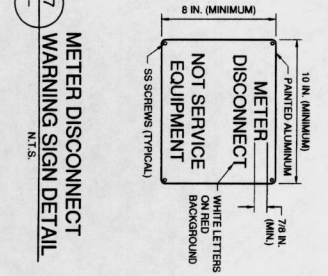
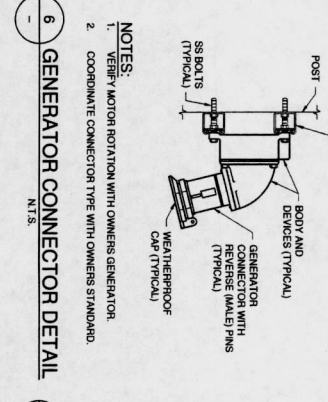
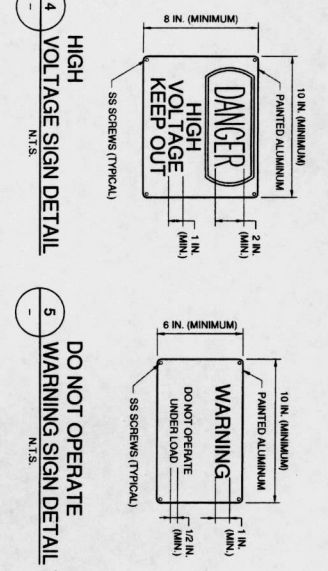
1. REMOVEABLE COVER OF CAST CONCRETE, TOP OF COVER SHALL BE FLUSH WITH TOP OF CONCRETE OR ASPHALT SURFACE.



- NOTES:**
1. STUB-UP AND CAP TELEPHONE CONDUITS 6 IN. ABOVE CONCRETE.
 2. CONTRACTOR SHALL PROVIDE ADEQUATE COST ALLOWANCE FOR REMOVAL OR UNDERGROUND SERVICE/TELEPHONE REQUIREMENTS SET FORTH BY LOCAL POWER & TELEPHONE COMPANIES. CONSULTATION WITH LOCAL UTILITY COMPANIES.
 3. METER/PLANT SHALL BE MOUNTED TO CONTROL PANEL USING STAINLESS STEEL HARDWARE.
 4. SEE PLANS AND SPECIFICATIONS FOR CONDUIT ENCLOSURE IN CONCRETE.
 5. COORDINATE LOCATION OF SERVICE DROP WITH POWER COMPANY BEFORE CONSTRUCTING SERVICE PACK.
 6. PROVIDE INTERLOCK SWITCHES FOR ALL EQUIPMENT FEEDER CONDUIT TO AUTOMATED FEEDER PANEL.
 7. ROUTE TELEPHONE CONDUIT TO TELEPHONE TERMINAL BOX. COORDINATE WITH TELEPHONE COMPANY.



- NOTES:**
1. SEPARATION REQUIRED UNDER NEC ARTICLE 504, BETWEEN INTRINSICALLY SAFE CONTROL WIRING AND NONINTRINSICALLY SAFE MOTOR FEEDER WIRING. UNLESS OTHERWISE NOTED, ALL EXPOSED CONDUITS SHALL BE PVC COATED RIBBON GALVANIZED STEEL.
 2. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, SCREWS WASHERS, ETC SHALL BE TYPE 316 STAINLESS STEEL.
 3. UNLESS OTHERWISE INDICATED, ALL DEVICES WITHOUT PANEL WHEN DESIGNATION ARE LOCATED AT THE CONTROL PANEL.



- NOTES:**
1. VERIFY MOTOR ROTATION WITH OWNERS GENERATOR.
 2. COORDINATE CONNECTION TYPE WITH OWNERS STANDARD.

GENERAL NOTES:

1. MAINTAIN MINIMUM CLEARANCE BETWEEN INTRINSICALLY SAFE CONTROL WIRING AND NONINTRINSICALLY SAFE MOTOR FEEDER WIRING.
2. UNLESS OTHERWISE NOTED, ALL EXPOSED CONDUITS SHALL BE PVC COATED RIBBON GALVANIZED STEEL.
3. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, SCREWS WASHERS, ETC SHALL BE TYPE 316 STAINLESS STEEL.
4. UNLESS OTHERWISE INDICATED, ALL DEVICES WITHOUT PANEL WHEN DESIGNATION ARE LOCATED AT THE CONTROL PANEL.

DDG DUBLIN DESIGN GROUP, PC
 DATE ENCLOSED: 03-01-2016
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 DESIGN GROUP: [Signature]
 14800 JEFFERSON PARKWAY, SUITE 160, HOUSTON, TX 77032
 PHONE: 832-386-9170
 FAX: 832-386-9171
 1906 FORT BEND COUNTY IMPROVEMENT DISTRICT 24
 LIFT STATION NO. 1 & FORCE MAIN ELECTRICAL
 DETAILS SHEET 2

SHRADER ENGINEERING
 55788
 15100
 55788

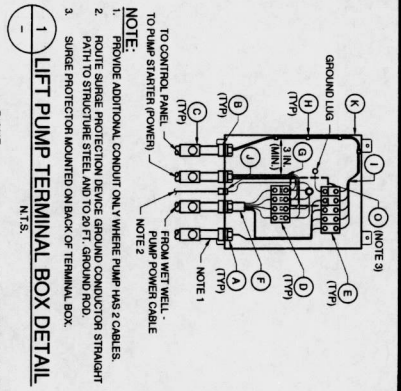
4 HIGH VOLTAGE SIGN DETAIL
 N.T.S.

5 DO NOT OPERATE WARNING SIGN DETAIL
 N.T.S.

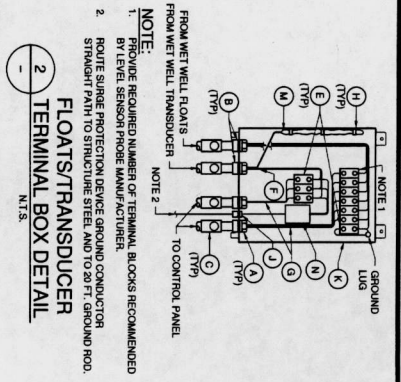
6 GENERATOR CONNECTOR DETAIL
 N.T.S.

7 METER DISCONNECT WARNING SIGN DETAIL
 N.T.S.

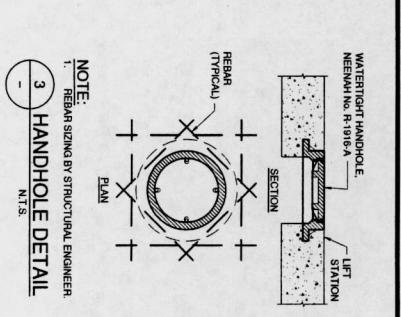
8 PRESSURE TRANSMITTER DETAIL
 N.T.S.



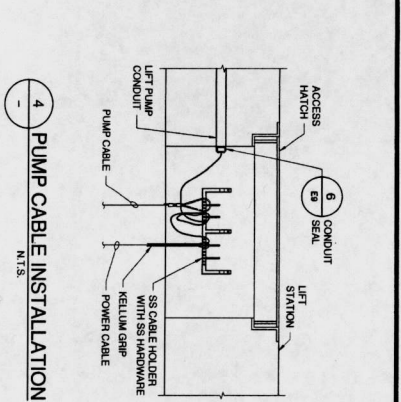
1 LIFT PUMP TERMINAL BOX DETAIL
N.T.S.



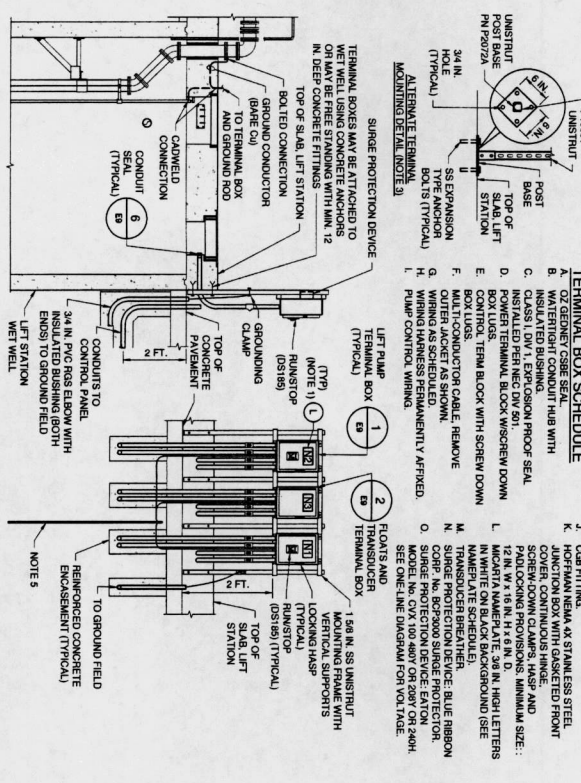
2 TERMINAL BOX SCHEDULE
N.T.S.



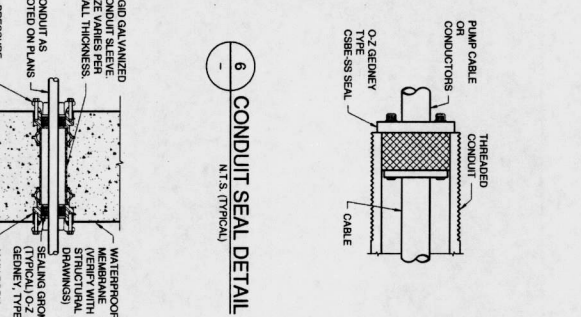
3 HANDHOLE DETAIL
N.T.S.



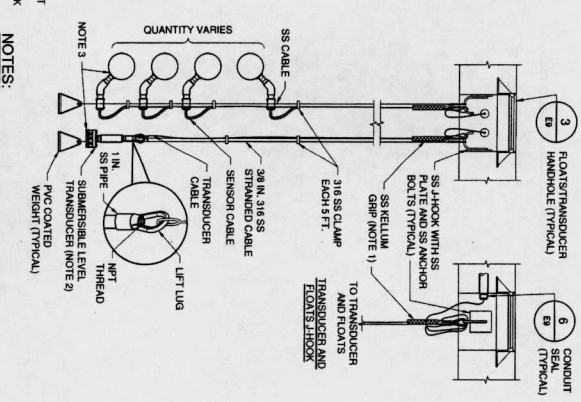
4 PUMP CABLE INSTALLATION
N.T.S.



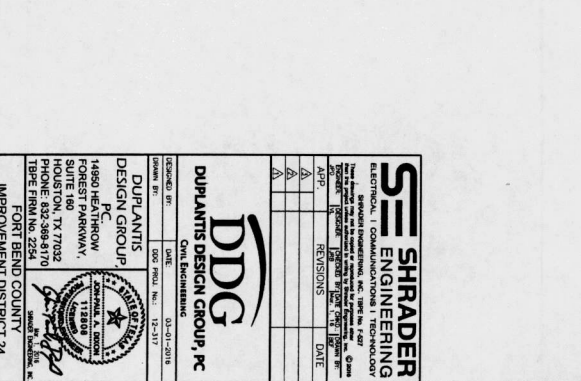
5 TERMINAL BOX INSTALLATION DETAIL
N.T.S.



6 CONDUIT SEAL DETAIL
N.T.S. (TYPICAL)



7 CONDUIT SEALS DETAIL
N.T.S. (TYPICAL)



8 FLOATS/TRANSDUCER INSTALLATION DETAIL
N.T.S. (TYPICAL)

- GENERAL NOTES:**
1. MAINTAIN MINIMUM SEPARATION REQUIRED UNDER NEC ARTICLE 504 BETWEEN INTRINSICALLY SAFE CONTROL WIRING AND NON-INTRINSICALLY SAFE MOTOR FEEDER WIRING.
 2. UNLESS OTHERWISE NOTED, ALL EXPOSED CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL.
 3. UNLESS OTHERWISE NOTED, ALL NUTS, BOLTS, SCREWS, WASHERS, ETC. SHALL BE STAINLESS STEEL.

SHRADER ENGINEERING
ELECTRICAL, COMMUNICATIONS & TELEVISION

DDG DULANTIS DESIGN GROUP, PC
Civil Engineering
14850 WESTBROOK, SUITE 180
HOUSTON, TX 77032
PHONE: 832-388-9170
12021 FORT BEND COUNTY IMPROVEMENT DISTRICT 24
LIFT STATION NO. 11A, FORCE MAIN ELECTION

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
STREET & ROAD DESIGN DIVISION
DATE: 11/23/16
SHEET & BLOCK: 44 23W/1E
SCALE: AS SHOWN
SHEET NO.: 42 OF 43

NOTE:
 1. ALL SERVICE AND MOTOR FEEDER CONDUCTORS TO BE XHHW-2 LOW VOLTAGE CONDUCTORS IN FEEDER CONDUIT TO BE 600V RATED.

CONDUIT SCHEDULE

CONDUIT TAG	CONDUIT QUANTITY	CONDUIT SIZE	FROM	TO	CONDUCTOR (EACH CONDUCTOR)	NOTES
GEN100	1	1 IN.	GENERATOR CONNECTOR	MANUAL TRANSFER SWITCH	SEE SERVICE FEEDER TABLE	GENERATOR CONNECTOR
LP100	1	1 1/2 IN.	LVP	AREA LIGHT & ALARM LIGHT	##10-2-#14-GND	AREA LIGHT, ALARM LIGHT, PHOTOCELL
LP101	1	2 1/2 IN.	LEFT PUMP NO. 1 TERMINAL BOX	LEFT PUMP NO. 1	MANUFACTURERS CABLE	LEFT PUMP NO. 1
LP102	1	1 IN.	CONTROL PANEL	LEFT PUMP NO. 1 TERMINAL BOX	SEE MOTOR DEVICE TABLE	LEFT PUMP NO. 1 CONTROLS
LP200	1	2 1/2 IN.	LEFT PUMP NO. 2 TERMINAL BOX	LEFT PUMP NO. 2	##14-GND	LEFT PUMP NO. 2
LP201	1	1 IN.	CONTROL PANEL	LEFT PUMP NO. 2 TERMINAL BOX	SEE MOTOR DEVICE TABLE	LEFT PUMP NO. 2 POWER
LP202	1	1 IN.	CONTROL PANEL	LEFT PUMP NO. 2 TERMINAL BOX	##14-GND	LEFT PUMP NO. 2 CONTROLS
LV100	1	1 1/2 IN.	FLOAT/TRANSFER TERMINAL BOX	FLOATS	MANUFACTURERS CABLE	FLOATS
LV101	1	1 IN.	CONTROL PANEL	TRANSFER SWITCH	10-#14-GND	FLOATS
LV120	1	1 1/2 IN.	CONTROL PANEL	TRANSFER SWITCH	MANUFACTURERS CABLE	LEVEL TRANSMITTER
LV121	1	1 IN.	CONTROL PANEL	TRANSFER SWITCH	2-SHIELDED PAIR CABLE	LEVEL SENSOR
LV122	1	1 IN.	CONTROL PANEL	TRANSFER SWITCH	SHIELDED CABLE	PRESSURE TRANSMITTER
M15100	1	1 IN.	MANUAL TRANSFER SWITCH	CONTROL PANEL	SEE SERVICE FEEDER TABLE	CONTROL PANEL POWER
SEN100	1	1 IN.	POWER COMPANY SERVICE	MAN SERVICE DISCONNECT	SEE SERVICE FEEDER TABLE	SERVICE ENTRANCE
TEL100	1	2 IN.	TELEPHONE COMPANY ENTRANCE	MANUAL TRANSFER SWITCH	SEE SERVICE FEEDER TABLE	SERVICE ENTRANCE
TEL101	1	1 IN.	TELEPHONE COMPANY	CONTROL PANEL	TELEPHONE CABLE	TELEPHONE EQUIPMENT

LUMINAIRE FIXTURE SCHEDULE

MARK	FIXTURE DESCRIPTION	LAMP TYPE	WATTAGE	VOLTAGE	COMMENTS
AL1	LITRONIX # CSX11 LED 300 700 WATT 140MM WOOD 5PK	LED	134	120	DARK BRONZE FINISH, SINGLE RISE, WITH MINIMAL GUARD (DARK-SKY COMPLIANT)

3 PHASE FEEDER CONDUCTOR AND DEVICE TABLE

CURRENT RATING	CONDUIT		PHASE CONDUCTOR		NEUTRAL CONDUCTOR		GROUND ELECTRODE CONDUCTOR		EQUIP GND SERVICE SUPPLY		EQUIP GND SERVICE LOAD SIDE		MAXIMUM CONDUCTOR DISTANCE BASED ON 2% VOLTAGE DROP AT 65% PF.
	QTY	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	
100	1	2 IN.	3	#1	1	#1	1	#6	1	#6	1	#6	350 FT.
150	1	2 1/2 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
200	1	2 1/2 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
250	1	2 1/2 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
300	1	3 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
350	1	3 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
400	1	3 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
450	1	3 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
500	2	4 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
600	2	4 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
800	3	3 1/2 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
1200	4	4 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
1800	4	4 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.
2500	5	4 IN.	3	#2	1	#2	1	#6	1	#6	1	#6	350 FT.

SERVICE FEEDER NOTES: FIRST OVER CURRENT PROTECTION DEVICE UNLESS A STANDBY GENERATOR IS PROVIDED.
 2. 10 MINIMUM FOR PARALLEL PHASE, NEUTRAL, OR GROUNDING ELECTRODE CONDUCTORS PER NEC.
 3. SERVICE SUPPLY SIZE EQUIPMENT GROUNDING CONDUCTORS ARE BASED ON THE PHASE CONDUCTOR SIZE IN EACH PARALLEL CONDUIT PER NEC.
 4. ALL CONDUCTORS SHALL BE XHHW-2, 600V RATED.
 5. POWER FEEDER CONDUCTORS TO BE XHHW-2, 600V RATED.
 6. BRANCH CIRCUIT CONDUCTORS TO BE THHN, 600V RATED.

230V MOTOR DEVICE TABLE (3 PHASE)

HP	% CIRCUIT BREAKER SIZE	MOTOR SIZE	MOTOR QTY	CONDUCTOR AND SIZE	CONDUCTORS			
					PHASE	GROUND	GROUND	
QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	
1/2-5	30	FVNH 1	1	1 IN.	3	#8	1	#10
7-12	45	FVNH 1	1	1 IN.	3	#8	1	#10
15	60	FVNH 2	1	1 1/2 IN.	3	#8	1	#10
20-25	125	FVNH 3	1	2 IN.	3	#8	1	#10
30	125	FVNH 3	1	2 IN.	3	#8	1	#10
40-50	200	FVNH 4	1	2 IN.	3	#8	1	#10

* CONDUIT SIZE WITH MOTOR MANUFACTURER ADJUST GROUND CONDUCTOR SIZE ACCORDINGLY.
 * CONDUIT SIZE HP, GO TO NEXT GREATER HP.
 * WHERE ODD SIZE HP, GO TO NEXT GREATER HP.

M. D. D.
 PROJECT ENGINEER
 DATE

E10
 SHEET NO. 43 OF 43

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NOTE: CONTRACT SCHEDULES MUST BE FOR ONE YEAR ONLY AFTER DATE OF SCHEDULES
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DATE: 03-01-2018
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 PROJECT NO.: 12-2-17
 SHEET NO.: 43 OF 43