



**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@fortbendcountytx.gov](mailto:Permits@fortbendcountytx.gov)

- Right of Way Permit  
 Commercial Driveway Permit

Permit No: 2017-15031

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: ██████████      Amount: \$5,000.00
- 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.**

*Charles O. Ay*

\_\_\_\_\_  
Permit Administrator

\_\_\_\_\_  
Date



**REVIEW BY FORT BEND COUNTY  
COMMISSIONERS COURT**

**Fort Bend County  
Engineering Department**  
301 Jackson Suite 401  
Richmond, Texas 77469  
281.633.7500  
[Permits@fortbendcountytx.gov](mailto:Permits@fortbendcountytx.gov)

**Right of Way Permit**

**Commercial Driveway Permit**

Permit No: 2017-15031

**Applicant:** Axiom DR Construction, LLC

**Job Location Site:** 4833 Waterview Meadow Drive, Richmond, TX 77406

**Bond No.**                      **Date of Bond:** 7/26/2017 **Amount:** \$5,000.00

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](http://MyGovernmentOnline.org) portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 22nd day of August, 2017, Upon Motion of Commissioner \_\_\_\_\_, seconded by Commissioner \_\_\_\_\_, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

**Signature**

Presented to Commissioners Court and approved.

By:   
County Engineer

Date Recorded \_\_\_\_\_ Comm. Court No. \_\_\_\_\_

By: N/A  
Drainage District Engineer/Manager

Clerk of Commissioners Court

By: \_\_\_\_\_  
Deputy

**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           §  
COUNTY OF FORT BEND       §

**KNOW ALL MEN BY THESE PRESENTS:**

THAT WE, Axiom DR Construction, LLC  
whose (address, phone) is 1219 Wunsche Loop SPRING, TX 77373 (281) 443-6327  
Texas, hereinafter called the Principal, and Travelers Casualty and Surety Company of America,  
a Corporation existing under and by virtue of the laws of the state of \_\_\_\_\_ and  
authorized to do an indemnifying business in the state of Texas, and whose principal office is  
located at (name/address/phone) One Tower Square Hartford, CT 06183 (832) 482-4730,  
whose officer residing in the State of Texas, authorized to accept service in all suits and  
actions brought whining said state is Christopher Noble and whose address is  
1301 E. Collins Blvd., Richardson, TX 75081, hereinafter called the Surety,  
and held and firmly bound unto, Robert E. Hebert, County Judge of Fort Bend County, Texas,  
or his successors in office, in the full sum of Five Thousand  
Dollars (\$5,000.00) 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 26 day of July, 2017.

Axiom DB Construction, LLC

**PRINCIPAL**

BY

Travelers Casualty and Surety Company of America

**SURETY**

BY Misty Witt



POWER OF ATTORNEY

Farmington Casualty Company  
Fidelity and Guaranty Insurance Company  
Fidelity and Guaranty Insurance Underwriters, Inc.  
St. Paul Fire and Marine Insurance Company  
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company  
Travelers Casualty and Surety Company  
Travelers Casualty and Surety Company of America  
United States Fidelity and Guaranty Company

Surety Bond No. [Redacted]

Principal: **Axiom DR Construction, LLC**  
**1219 Wunsche Loop SPRING, TX 77373**

Obligee: **County Judge of Fort Bend County**  
**301 Jackson St., Suite 401 Department of Engineering**  
**RICHMOND, TX 77469**

**KNOW ALL MEN BY THESE PRESENTS:** That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc. is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Misty Witt**, of the City of **Houston**, State of **TX**, their true and lawful Attorney(s)-in-Fact, to sign, execute, seal and acknowledge the surety bond referenced above.

**IN WITNESS WHEREOF**, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this **7th** day of **July**, 2016.

Farmington Casualty Company  
Fidelity and Guaranty Insurance Company  
Fidelity and Guaranty Insurance Underwriters, Inc.  
St. Paul Fire and Marine Insurance Company  
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company  
Travelers Casualty and Surety Company  
Travelers Casualty and Surety Company of America  
United States Fidelity and Guaranty Company



State of Connecticut

City of Hartford ss.

By: *Robert L. Raney*  
Robert L. Raney, Senior Vice President

On this the **7th** day of **July**, 2016, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

**In Witness Whereof**, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2021.



*Marie C. Tetreault*  
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

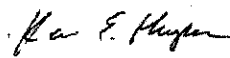
**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

**IN TESTIMONY WHEREOF**, I have hereunto set my hand and affixed the seals of said Companies this 26 day of July, 2017.

  
Kevin E. Hughes, Assistant Secretary



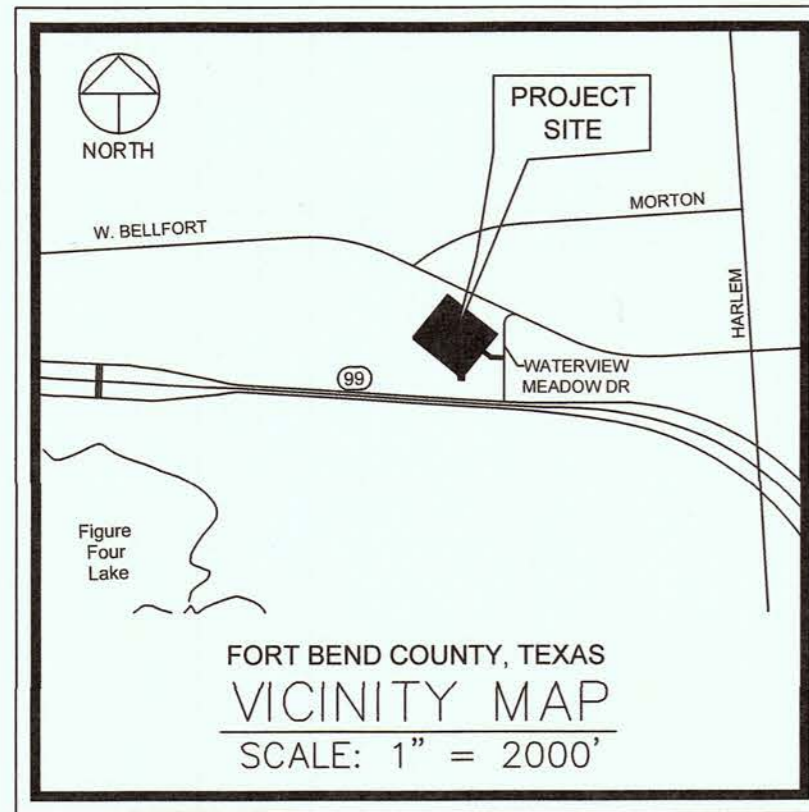
**To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at [www.travelersbond.com](http://www.travelersbond.com). Please refer to the above-named individuals and the details of the bond to which the power is attached.**



## **IMPORTANT NOTICE REGARDING COMPENSATION DISCLOSURE**

For information about how Travelers compensates independent agents, brokers, or other insurance producers, please visit this website: [www.travelers.com/w3c/legal/Producer\\_Compensation\\_Disclosure.html](http://www.travelers.com/w3c/legal/Producer_Compensation_Disclosure.html)

If you prefer, you can call the following toll-free number: 1-866-904-8348. Or you can write to us at Travelers, Enterprise Development, One Tower Square, Hartford, CT 06183.



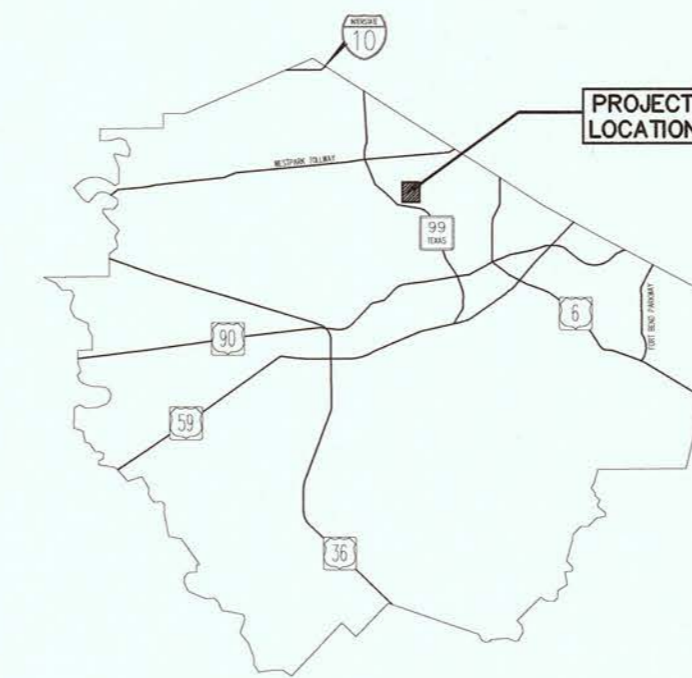
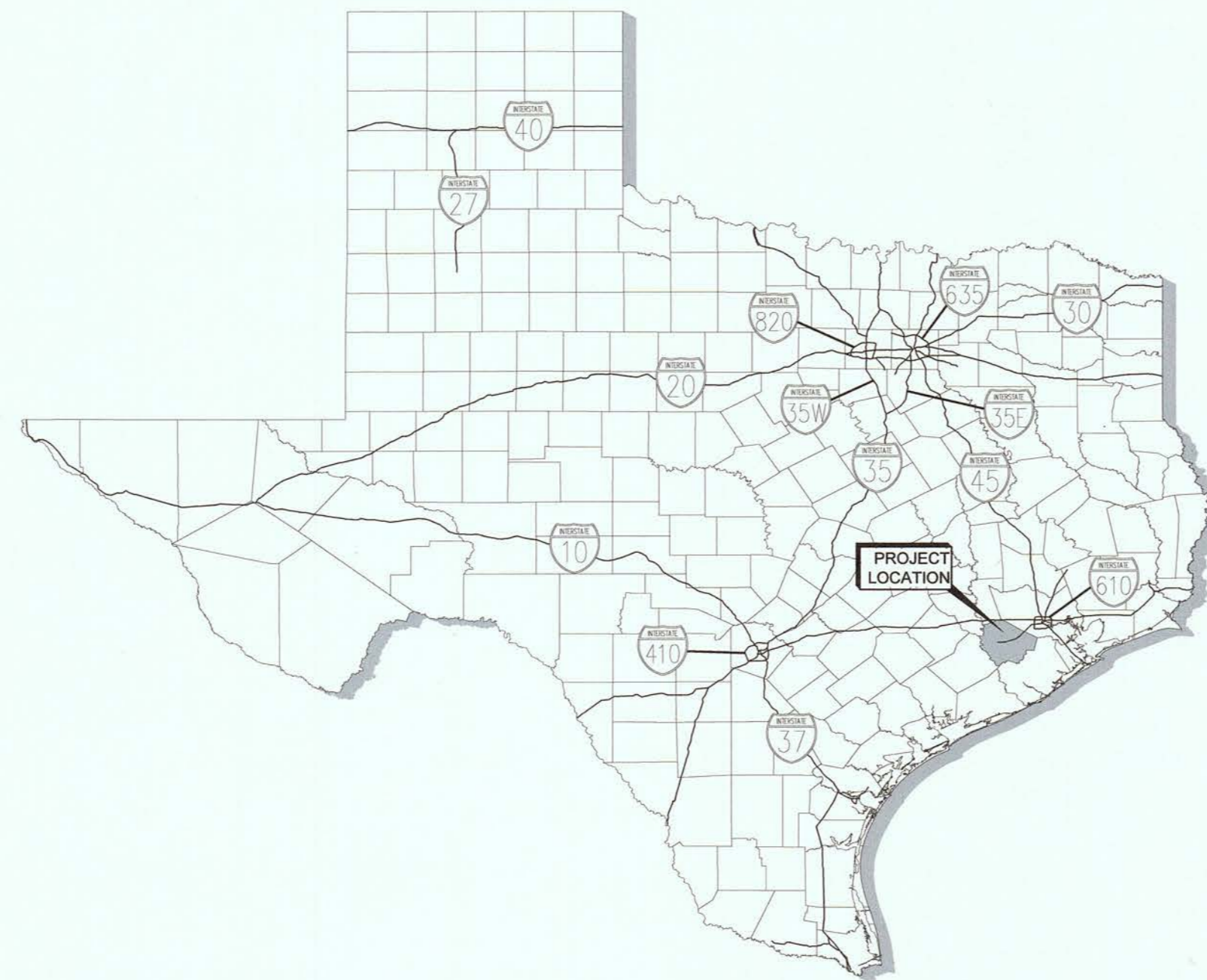
LOCATION MAP  
N.T.S.

KEYMAP NO.: 526X  
ZIP CODE: 77407

# CIVIL PLANS FOR AT HOME @ WATERVIEW TOWN CENTER

LOCATED @ 4833 WATERVIEW MEADOW DR  
FORT BEND COUNTY, TEXAS

PLAT NAME: WATERVIEW TOWN CENTER  
SECTION 3 PARTIAL REPLAT NO. 1



INDEX OF SHEETS

CIVIL ENGINEERING (ALJ LINDSEY, LLC)	
SHEET NO.	DESCRIPTION
C0.0	COVER SHEET
C0.1	GENERAL NOTES
C0.2	TOPOGRAPHIC SURVEY
C0.3	PLAT
C1.0	DIMENSION CONTROL PLAN
C2.0	UTILITY PLAN
C3.0	STORM SEWER PLAN
C3.1	STORM SEWER CALCULATIONS
C4.0	GRADING PLAN (1 OF 2)
C4.1	GRADING PLAN (2 OF 2)
C5.0	PAVING PLAN
C5.1	JOINT PAVEMENT PLAN
C6.0	EROSION CONTROL PLAN
C7.0	CONSTRUCTION DETAILS (1 OF 4)
C7.1	CONSTRUCTION DETAILS (2 OF 4)
C7.2	CONSTRUCTION DETAILS (3 OF 4)
C7.3	CONSTRUCTION DETAILS (4 OF 4)
C7.4	AT HOME CONSTRUCTION DETAILS
C7.5	TXDOT DETAILS
C7.6	TXDOT TRAFFIC CONTROL PLAN
L-1	LANDSCAPE PLAN (1 OF 4)
L-2	LANDSCAPE PLAN (2 OF 4)
L-3	LANDSCAPE PLAN (3 OF 4)
L-4	LANDSCAPE PLAN (4 OF 4)
IR-1	IRRIGATION PLAN (1 OF 4)
IR-2	IRRIGATION PLAN (2 OF 4)
IR-3	IRRIGATION PLAN (3 OF 4)
IR-4	IRRIGATION PLAN (4 OF 4)
E1.0	ELECTRICAL SITE PLAN
E0.0	PHOTOMETRIC SITE PLAN

PLANS SUBMITTAL/REVIEW LOG

INTERNAL REVIEW -NOT FOR CONSTRUCTION	02/22/2017
SUBMIT FOR PERMIT REVIEW FBCDD, MUD DISTRICT, FBC ENGINEERING	02/24/2014
FOR BID	03/17/2017
RESUBMIT TO FBCDD	03/31/2017
RESUBMIT TO FBC ENGINEERING, MUD DISTRICT -FOR PERMIT	04/21/2017

UTILITY CONTACTS:

**MUD DISTRICT:**  
FORT BEND COUNTY MUD NO. 143  
6330 WEST LOOP SOUTH, SUITE 150  
BELLAIRE, TEXAS 77401  
713.777.5337  
CONTACT: BRADLEY D. JENKINS, P.E.

**GAS:**  
CENTERPOINT GAS  
1111 LOUISIANA ST.  
HOUSTON, TEXAS 77002  
281.341.4936  
CONTACT: IGNACIO GUERRERO

**ELECTRIC:**  
CENTERPOINT ELECTRIC  
4011 AVENUE H  
ROSENBERG, TEXAS 77471  
281.341.4908  
CONTACT: GABRIEL GONZALEZ

**TELEPHONE/CABLE:**  
ENTOUCH SYSTEMS, INC.  
281.225.1000  
CONTACT: ELISHA EZE

JURISDICTIONAL AUTHORITY CONTACTS:

**FORT BEND DRAINAGE DISTRICT:**  
1124 BLUME ROAD  
ROSENBERG, TEXAS 77471  
281.342.2863  
CONTACT: NEIL GOERTZ, P.E.

**FORT BEND ENGINEERING DEPARTMENT:**  
301 JACKSON ST.  
RICHMOND, TEXAS 77469  
BELLAIRE, TEXAS 77401  
281.633.7500  
CONTACT: MAGGIE DALTON

FORT BEND COUNTY MUNICIPAL UTILITY DISTRICT NO. 143 ENGINEER DATE  
SIGNATURE VALID FOR ONE (1) YEAR\*

ACCORDING TO MAP NO. 48157C0140L OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS FOR FORT BEND COUNTY AND INCORPORATED AREAS, DATED APRIL 2, 2014, THE SUBJECT TRACT IS SITUATED WITHIN: UNSHADED ZONE "X"

FORT BEND COUNTY ENGINEER

ENGINEER: *Richard W. Stolleis, P.E., P.702*  
FOR RICHARD W. STOLLEIS, P.E.

DATE: 4/26/17

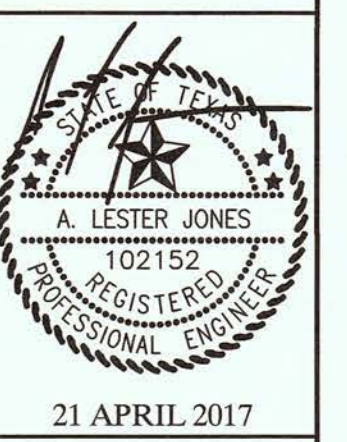
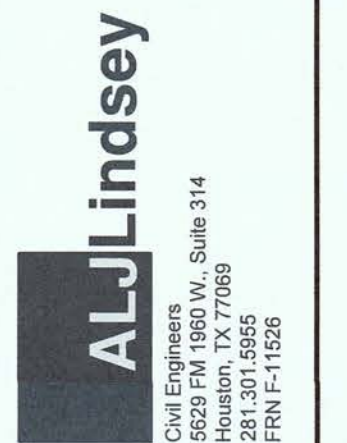
THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN ONE (1) YEAR FROM DATE OF APPROVAL

APPROVED: *Cassandra J. [Signature]*  
for DEVELOPMENT COORDINATOR

DATE: 4/26/17



No.	REVISIONS	DATE
2	FBC/MUD COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017



21 APRIL 2017

COVER SHEET

AT HOME @  
WATERVIEW TOWN CENTER  
FORT BEND COUNTY, TEXAS

SHEET  
C0.0

AT HOME @ WATERVIEW TOWN CENTER  
PLAT NAME: WATERVIEW TOWN CENTER SEC. 3 PARTIAL REPLAT NO. 1

GENERAL NOTES

- 1. THE LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS WAS TAKEN FROM AVAILABLE SURVEY INFORMATION AND/OR EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES MUST BE DETERMINED BY CONTRACTOR...
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PUBLIC UTILITIES TO REMAIN, CURBS, SIDEWALKS, SIGNS, TREES, ETC., IN THE CONSTRUCTION OF THIS PROJECT...
3. CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITY LINES AND SHALL NOTIFY THE FOLLOWING AGENCIES 72 HOURS PRIOR TO EXCAVATING OR AUGERING NEAR EXISTING FACILITIES...
4. PRIOR TO ANY CONSTRUCTION ACTIVITY, CONTRACTOR IS TO ACQUIRE ALL REQUIRED CONSTRUCTION PERMITS FROM APPROPRIATE AUTHORITIES...
5. THE ENGINEER AND THE CITY/COUNTY OR MUD SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR CONNECTING TO ANY EXISTING UTILITY LINES...
6. NO CONNECTIONS SHALL BE MADE TO EXISTING PUBLIC WATER LINES OR PUBLIC SANITARY SEWERS UNTIL ALL PROPOSED WATER OR SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED (AS REQUIRED) AND APPROVED BY THE APPROPRIATE AUTHORITIES...
7. HORIZONTAL AND VERTICAL INFORMATION REGARDING UTILITY CONNECTIONS TO PROPOSED BUILDINGS ON THIS SET OF PLANS TERMINATE AT FIVE (5) FEET FROM THE NEAREST BUILDING WALL...
8. ALL MANHOLES, CLEAN-OUTS, VALVE BOXES, FIRE HYDRANTS, ETC MUST BE ADJUSTED TO PROPER LINE AND GRADE BY THE CONTRACTOR PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING...
9. ALL APPURTENANCES WILL BE ASSUMED TO BE IN GOOD CONDITION UNLESS OTHERWISE CONFIRMED IN WRITING PRIOR TO COMMENCEMENT OF WORK...
10. OVERHEAD LINES EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE...
11. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL REGULATIONS OF UTILITY COMPANIES CONCERNING SAFETY AND HEALTH PRACTICES...
12. PRIOR TO THE START OF CONSTRUCTION, OWNER AND CONTRACTOR ARE RESPONSIBLE FOR SUBMITTING THE "NOTICE OF INTENT" (N.O.I.) AND ANY ADDITIONAL INFORMATION REQUIRED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)...
13. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION...
14. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED OR DROPPED ON THE EXISTING ROADWAY AT THE END OF EACH WORK DAY...
15. CONTRACTOR IS RESPONSIBLE FOR PREVENTING ALL STATE AND LOCAL REGULATIONS RELATED TO STORM WATER POLLUTION AND QUALITY...
16. CONTRACTOR SHALL REESTABLISH ALL TURF DISTURBED DURING CONSTRUCTION TO ACCEPTABLE OPERATING CONDITION...
17. CONTRACTOR SHALL MAINTAIN A WORKSITE FREE OF TRASH AND DEBRIS...
18. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES, NO TREE SHALL BE REMOVED OR ALTERED WITHOUT WRITTEN PERMISSION FROM OWNER OR ENGINEER...
19. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SET OF "AS BUILT" PLANS FOR ALL WORK PERFORMED ON AND OFF SITE...
20. ALL TRAFFIC CONTROL AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES...
21. ALL SIDEWALKS, RAMPS, AND HANDRAILS TO MEET OR EXCEED CITY/COUNTY, TAS, AND ADA REQUIREMENTS...
22. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY/COUNTY RULES AND REGULATIONS...
23. ALL EXCESS SPOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE AND DISPOSED IN ACCORDANCE WITH LOCAL LAWS...
24. AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES, TO EQUAL TO BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION...
25. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING LANDSCAPING AND IRRIGATION...
26. PRIOR TO SUBMITTAL OF BID OR PROPOSAL, CONTRACTOR SHALL VISIT PROJECT SITE AND BECOME FAMILIAR WITH THE PROJECT AND THE EXISTING CONDITIONS ON THE SITE...
27. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID SECTION OF THE CONTRACT DOCUMENTS...
28. IN THE EVENT OF A DISCREPANCY WITHIN THESE PLANS, OR BETWEEN THESE PLANS AND THE GEOTECHNICAL REPORT, THE MOST CONSERVATIVE CRITERIA SHALL APPLY...
29. ALL UTILITY TRENCHES BELOW PROPOSED OR FUTURE PAVING SHALL BE BACKFILLED WITH CEMENT SAND...
30. UTILITY TRENCHES ARE A COMMON SOURCE OF WATER INFILTRATION AND MIGRATION...
31. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY TIE IN LOCATIONS FOR MATERIAL, SIZE, ELEVATION AND FIELD CONDITIONS...
32. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO CONFIRM POSSESSION OF LATEST DRAWINGS...
33. CONTRACTOR TO OBTAIN ALL PERMITS. OWNER WILL PROVIDE PAYMENT AS NECESSARY AND REQUESTED BY CONTRACTOR.

GRADING NOTES

- 1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION...
2. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND...
3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN EITHER PAVED OR LANDSCAPE AREAS...
4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION...
5. ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR...
6. FOR BUILDING PAD SUBGRADE PREPARATION AND GENERAL NETWORK OBSERVATIONS, REFER TO THE GEOTECHNICAL REPORT...
7. FINAL PAVEMENT GRADES SHALL BE WITHIN 0.05' OF DESIGN ELEVATIONS...
8. ALL DETENTION PONDS SHALL BE GRADED TO WITHIN 0.1' OF PROPOSED ELEVATIONS AND WITHIN 6" OF HORIZONTAL LOCATION...
9. NO CONNECTIONS SHALL BE MADE TO THE EXISTING SANITARY SEWER LINES UNTIL ALL PROPOSED SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED AND APPROVED BY THE ENGINEER...
10. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY/COUNTY AT LEAST 48 HOURS PRIOR TO PRESSURE AND DEFLECTION TEST ON ALL SANITARY LINES...
11. ALL SEWER LINES ENTERING A MANHOLE AT A FLOWLINE HIGHER THAN 3.0' OR 36" ABOVE THE MANHOLE INVERT MUST BE PROVIDED WITH A DROP PIPE OUTSIDE OF THE MANHOLE.

SANITARY SEWERS

- 1. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST FORT BEND COUNTY, MUD DISTRICT AND TCEQ CRITERIA...
2. SANITARY SEWER PIPE USED FOR CONNECTION TO SEWER IN PUBLIC RIGHT-OF-WAY SHALL BE C900 P.V.C. PIPE MEETING ASTM SPECIFICATION D3034 WITH RUBBER GASKET JOINTS...
3. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BAND SAND...
4. ALL SANITARY SEWERS AND WATER LINES CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY, MUD DISTRICT, AND TCEQ REGULATIONS...
5. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3" ABOVE THE SURROUNDING LEVEL...
6. SDR 26 P.V.C. PIPE USES "FULL BODIED" SDR 26 P.V.C. FITTINGS OR D.I.P. FITTINGS WITH APPROPRIATE ADAPTERS...
7. DEFLECTION TESTS. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE BETWEEN MANHOLES...
8. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.2 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS...
9. NO CONNECTIONS SHALL BE MADE TO THE EXISTING SANITARY SEWER LINES UNTIL ALL PROPOSED SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED AND APPROVED BY THE ENGINEER...
10. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY/COUNTY AT LEAST 48 HOURS PRIOR TO PRESSURE AND DEFLECTION TEST ON ALL SANITARY LINES...
11. ALL SEWER LINES ENTERING A MANHOLE AT A FLOWLINE HIGHER THAN 3.0' OR 36" ABOVE THE MANHOLE INVERT MUST BE PROVIDED WITH A DROP PIPE OUTSIDE OF THE MANHOLE.

PAVING AND STRIPING NOTES

- 1. PAVEMENT DESIGN AND SOIL PREPARATION RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT PREPARED BY QC LABORATORIES, INC., DATED MARCH 2017...
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND CITY/COUNTY STANDARDS...
3. CONTRACTOR SHALL FURNISH ALL PAVEMENT MARKINGS FOR FIRE LINES, ROADWAY LINES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, ACCESS AISLES, STOP BARS AND SIGNS...
4. ALL JOINTS SHALL BE SEALED PER CITY/COUNTY SPECIFICATIONS...
5. THE MATERIALS AND PROPERTIES OF CONCRETE SHALL MEET THE APPLICABLE REQUIREMENTS IN THE A.C.I. (AMERICAN CONCRETE INSTITUTE) MANUAL OF CONCRETE PRACTICE...
6. PAVEMENT THICKNESS SHOWN IN THIS PLAN SET ARE "MINIMUM" NOT AVERAGE...
7. ANY DAMAGED PAVEMENT, CURB AND/OR SIDEWALK WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE...
8. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER A.D.A. & T.A.S.) EXIST TO AND FROM EVERY DOOR...
9. REINFORCING BAR SPLICES SHALL BE STAGGERED WITH NO MORE THAN 2 SPLICES ADJACENT TO EACH OTHER...
10. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 1 FOOT BEYOND EDGE OF ALL PAVEMENT...
11. ALL CONCRETE PAVEMENT SHALL BE FLOAT FINISHED MECHANICALLY WITH APPROVED SELF-PROPELLED MACHINES...
12. CONTRACTOR SHALL PROTECT THE FINISHED CONCRETE PAVEMENT AGAINST LOSS OF MOISTURE...
13. ALL PROPOSED PAVEMENT WITHIN ANY PUBLIC R.O.W. SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE DETAIL FROM THE APPLICABLE GOVERNING ENTITY...
14. CONTRACTOR SHALL MAINTAIN A WORKSITE FREE OF TRASH AND DEBRIS...
15. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION...
16. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED OR DROPPED ON THE EXISTING ROADWAY...
17. CONTRACTOR IS RESPONSIBLE FOR PREVENTING ALL STATE AND LOCAL REGULATIONS RELATED TO STORM WATER POLLUTION AND QUALITY...
18. CONTRACTOR SHALL REESTABLISH ALL TURF DISTURBED DURING CONSTRUCTION...
19. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES...
20. ALL TRAFFIC CONTROL AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES...
21. ALL SIDEWALKS, RAMPS, AND HANDRAILS TO MEET OR EXCEED CITY/COUNTY, TAS, AND ADA REQUIREMENTS...
22. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY/COUNTY RULES AND REGULATIONS...
23. ALL EXCESS SPOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE...
24. AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES...
25. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING LANDSCAPING AND IRRIGATION...
26. PRIOR TO SUBMITTAL OF BID OR PROPOSAL, CONTRACTOR SHALL VISIT PROJECT SITE...
27. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS...
28. IN THE EVENT OF A DISCREPANCY WITHIN THESE PLANS, OR BETWEEN THESE PLANS AND THE GEOTECHNICAL REPORT...
29. ALL UTILITY TRENCHES BELOW PROPOSED OR FUTURE PAVING SHALL BE BACKFILLED WITH CEMENT SAND...
30. UTILITY TRENCHES ARE A COMMON SOURCE OF WATER INFILTRATION AND MIGRATION...
31. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY TIE IN LOCATIONS...
32. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO CONFIRM POSSESSION OF LATEST DRAWINGS...
33. CONTRACTOR TO OBTAIN ALL PERMITS. OWNER WILL PROVIDE PAYMENT AS NECESSARY AND REQUESTED BY CONTRACTOR.

WATER LINES

- 1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST FORT BEND COUNTY, MUD DISTRICT AND TCEQ REGULATIONS...
2. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 150, DR-18, AWWA C-900 AND 1" THRU 3" WATER LINES SHALL BE PVC SCHEDULE 40...
3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT...
4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BAND SAND...
5. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500...
6. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH...
7. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX...
8. 4" THRU 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS...
9. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST FORT BEND COUNTY, MUD DISTRICT AND TCEQ REQUIREMENTS...
10. ALL WATER LINES TO HAVE 4" MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEAR TO OTHER UTILITIES...
11. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION...
12. ALL FIRE LINES TO BE DESIGNED, INSTALLED, AND TESTED PER NFPA REGULATIONS...
13. CONTRACTOR TO CENTER A JOINT OF WATERLINE PIPE AT ANY AND ALL SANITARY AND STORM SEWER CROSSINGS...
14. CONTRACTOR SHALL MAINTAIN A WORKSITE FREE OF TRASH AND DEBRIS...
15. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION...
16. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED OR DROPPED ON THE EXISTING ROADWAY...
17. CONTRACTOR IS RESPONSIBLE FOR PREVENTING ALL STATE AND LOCAL REGULATIONS RELATED TO STORM WATER POLLUTION AND QUALITY...
18. CONTRACTOR SHALL REESTABLISH ALL TURF DISTURBED DURING CONSTRUCTION...
19. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES...
20. ALL TRAFFIC CONTROL AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES...
21. ALL SIDEWALKS, RAMPS, AND HANDRAILS TO MEET OR EXCEED CITY/COUNTY, TAS, AND ADA REQUIREMENTS...
22. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY/COUNTY RULES AND REGULATIONS...
23. ALL EXCESS SPOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE...
24. AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES...
25. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING LANDSCAPING AND IRRIGATION...
26. PRIOR TO SUBMITTAL OF BID OR PROPOSAL, CONTRACTOR SHALL VISIT PROJECT SITE...
27. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS...
28. IN THE EVENT OF A DISCREPANCY WITHIN THESE PLANS, OR BETWEEN THESE PLANS AND THE GEOTECHNICAL REPORT...
29. ALL UTILITY TRENCHES BELOW PROPOSED OR FUTURE PAVING SHALL BE BACKFILLED WITH CEMENT SAND...
30. UTILITY TRENCHES ARE A COMMON SOURCE OF WATER INFILTRATION AND MIGRATION...
31. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY TIE IN LOCATIONS...
32. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO CONFIRM POSSESSION OF LATEST DRAWINGS...
33. CONTRACTOR TO OBTAIN ALL PERMITS. OWNER WILL PROVIDE PAYMENT AS NECESSARY AND REQUESTED BY CONTRACTOR.

FORT BEND COUNTY MUNICIPAL UTILITY DISTRICT NO. 143 GENERAL CONSTRUCTION NOTES

- A. THE CITY OF HOUSTON AND TCEQ RULES FOR WATERLINE CROSSINGS MUST BE FOLLOWED...
B. POLY-VINYL-CHLORIDE (PVC) PIPE SHALL CONFORM TO ASTM SPECIFICATION D3034...
C. ALL SANITARY SEWER SERVICE LINES SHALL BE CONSTRUCTED TO TRUE ALIGNMENT AND GRADE...
D. BUILDING TIE-ON CONNECTION WILL BE MADE DIRECTLY TO THE STUB-OUT FROM THE BUILDING PLUMBING...
E. ALL NON-SINGLE FAMILY SERVICE LINES WILL BE ENCASED IN A LAYER OF 1.5 SACK PER CUBIC YARD CEMENT STABILIZED SAND...
F. ALL SERVICE LINES UNDER OR WITHIN ONE-FOOT (1') OF PROPOSED OR FUTURE DRIVEWAYS OR PARKING LOTS SHALL BE BACKFILLED WITH 1.5 SACK PER CUBIC YARD, CEMENT STABILIZED SAND...
G. WATER-TIGHT ADAPTERS OF A TYPE COMPATIBLE WITH THE MATERIALS BEING JOINED WILL BE USED...
H. NO BENDS OR TURNS AT ANY POINT WILL BE GREATER THAN 45 DEGREES...
I. EACH CLEANOUT WILL BE INSTALLED SO THAT IT OPENS IN A DIRECTION OPPOSITE TO THE FLOW OF THE WASTE AND, EXCEPT IN THE CASE OF "WYE" BRANCH AND END-OF-THE-LINE CLEANOUTS...
J. CLEANOUT WILL BE MADE WITH AIRTIGHT MECHANICAL PLUG...
K. APPLICATION FOR SANITARY SEWER SERVICE MUST BE FILED PRIOR TO CONSTRUCTION OF THE SERVICE LINE...
L. WHEN THE SERVICE LINE IS COMPLETE, AND PRIOR TO BACKFILLING THE PIPE TRENCH...
M. THE PHYSICAL CONNECTION TO THE DISTRICT'S SEWER MAIN WILL BE MADE BY USE OF AN ADAPTER...
N. ANY DAMAGE TO THE DISTRICT'S FACILITY SHALL BE REPAIRED PROMPTLY BY THE APPLICANT...
O. ALL BATHROOM FIXTURES INCLUDING TOILETS, URINALS, ETC., WILL HAVE SEPARATE PLUMBING...
P. BACKFILLING OF SERVICE LINES TRENCH MUST BE ACCOMPLISHED WITHIN TWENTY-FOUR (24) HOURS...
Q. DURING INSPECTION OF THE SERVICE CONNECTION, THE INSPECTOR WILL EXAMINE ALL DISTRICT FACILITIES...
R. NO WASTE MATERIAL WHICH IS NOT BIOLOGICALLY DEGRADABLE WILL BE PERMITTED TO DISCHARGE...
S. A CONNECTION PERMIT WILL BE GRANTED AFTER INSPECTION CONFIRMS THAT ALL REQUIREMENTS...
U. THE USE OF PIPE OR PIPE FITTINGS THAT CONTAIN MORE THAN 0.25 PERCENT (0.25%) LEAD, OR SOLDER AND FLUX THAT CONTAIN MORE THAN 0.2 PERCENT (0.2%) LEAD, ARE PROHIBITED FOR INSTALLATION OR REPAIR OF ANY PLUMBING...

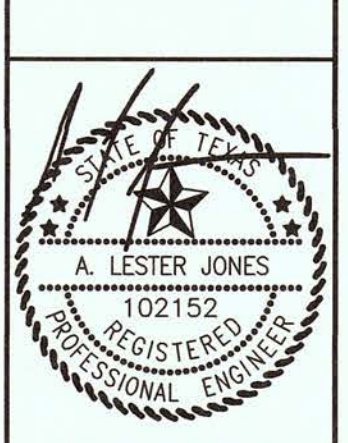
SWPPP NOTES

- 1. POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION SITE: -ADHESIVES, PESTICIDES, DETERGENTS, PAINTS, FUELS, SOLVENTS, SEALANTS, FERTILIZERS, OILS, HERBICIDES, CLEANING SOLUTIONS, CONCRETE/CEMENT/PLASTER...
2. STORM WATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND DISTURBING ACTIVITIES: A. PRIOR TO CONSTRUCTION: SILT FENCING SHALL BE INSTALLED IN ALL LOCATIONS SHOWN ON THE PLAN...
3. PERMANENT STORM WATER CONTROLS: AFTER CONSTRUCTION ACTIVITY IS COMPLETE, AREAS NOT COVERED BY CONCRETE PAVEMENT OR BY STRUCTURES WILL BE LANDSCAPED AND IRRIGATED...
4. MATERIAL HANDLING AND SPILL PREVENTION PLAN: A. HAZARDOUS MATERIALS WILL BE STORED AND USED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS...
5. GENERAL PERMIT MAINTENANCE REQUIREMENTS (FROM GENERAL PERMIT): A. ALL PROTECTIVE MEASURES IDENTIFIED IN THIS SWPPP MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION...
6. EROSION AND SEDIMENT CONTROLS: A. THE FOLLOWING NON-STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE UTILIZED ON THE PROJECT SITE: A.1. WHERE PRACTICAL, CARE WILL BE TAKEN TO PROTECT NATURAL VEGETATION...
7. TRAFFIC NOTES: 1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART V OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES...
8. INSPECTION: THE PROJECT AND ALL PARTS THEREOF SHALL BE SUBJECT TO INSPECTION FROM TIME TO TIME BY INSPECTORS DESIGNATED BY FORT BEND COUNTY...
9. FRANCHISE UTILITY NOTES: 1. CONTRACTOR SHALL CALL THE TEXAS ONE CALL AND DIG-TEST AT LEAST 72 HOURS PRIOR TO COMMENCING DEMOLITION OR CONSTRUCTION ACTIVITIES...
10. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES...
11. \*THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER...
12. \*\*THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OPERATION FOR ANY AND ALL TRAFFIC CONTROL MEASURES AS REQUIRED BY REGULATING AGENCIES...
13. FORT BEND COUNTY NOTES: 1. FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING...
14. CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION...
15. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY...
16. ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY RULES...
17. ALL ROAD WIDTHS, CURB RADI AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB...
18. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS...
19. ALL CONCRETE PAVEMENT SHALL BE 5 1/2 SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI...
20. ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES...
21. 4" X 12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY...
22. AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PED-12A STANDARD DETAIL SHEET...
23. CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMPS...
24. ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A.D.A. WHEEL CHAIR RAMPS INSTALLED...
25. GUIDELINES ARE SET FORTH IN THE TEXAS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES"...
26. ALL R1-1 STOP SIGNS SHALL BE 30" X 30" WITH DIAMOND GRADE SHEETING...
27. STREET NAME SIGNAGE SHALL BE ON A 9" HIGH SIGN FLAT BLADE W/ REFLECTIVE GREEN BACKGROUND...
28. A BLUE DUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS...
11. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES...
12. \*THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER...
13. \*\*THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OPERATION FOR ANY AND ALL TRAFFIC CONTROL MEASURES AS REQUIRED BY REGULATING AGENCIES...
14. FORT BEND COUNTY NOTES: 1. FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING...
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16. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY...
17. ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY RULES...
18. ALL ROAD WIDTHS, CURB RADI AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB...
19. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS...
20. ALL CONCRETE PAVEMENT SHALL BE 5 1/2 SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI...
21. ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES...
22. 4" X 12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY...
23. AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PED-12A STANDARD DETAIL SHEET...
24. CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMPS...
25. ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A.D.A. WHEEL CHAIR RAMPS INSTALLED...
26. GUIDELINES ARE SET FORTH IN THE TEXAS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES"...
27. ALL R1-1 STOP SIGNS SHALL BE 30" X 30" WITH DIAMOND GRADE SHEETING...
28. STREET NAME SIGNAGE SHALL BE ON A 9" HIGH SIGN FLAT BLADE W/ REFLECTIVE GREEN BACKGROUND...
29. A BLUE DUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS...
11. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES...
12. \*THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER...
13. \*\*THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OPERATION FOR ANY AND ALL TRAFFIC CONTROL MEASURES AS REQUIRED BY REGULATING AGENCIES...
14. FORT BEND COUNTY NOTES: 1. FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING...
15. CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION...
16. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY...
17. ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY RULES...
18. ALL ROAD WIDTHS, CURB RADI AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB...
19. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS...
20. ALL CONCRETE PAVEMENT SHALL BE 5 1/2 SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI...
21. ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES...
22. 4" X 12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY...
23. AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PED-12A STANDARD DETAIL SHEET...
24. CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMPS...
25. ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A.D.A. WHEEL CHAIR RAMPS INSTALLED...
26. GUIDELINES ARE SET FORTH IN THE TEXAS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES"...
27. ALL R1-1 STOP SIGNS SHALL BE 30" X 30" WITH DIAMOND GRADE SHEETING...
28. STREET NAME SIGNAGE SHALL BE ON A 9" HIGH SIGN FLAT BLADE W/ REFLECTIVE GREEN BACKGROUND...
29. A BLUE DUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS...

ALJ-LINDSEY STANDARD NOTES TEMPLATE: REVISION 1 - MODIFIED 2/23/17

Table with columns: DATE, REVISIONS, AGENCY COMMENTS, EBC/AMLD COMMENTS. Includes dates 04/21/2017 and 03/31/2017.

ALJLindsey logo and contact information: Civil Engineering, 5629 FM 1960 W., Suite 314, Houston, TX 77060, PRN-F-11526



21 APRIL 2017

GENERAL NOTES

AT HOME @ WATERVIEW TOWN CENTER FORT BEND COUNTY, TEXAS

SHEET C0.1

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: [Signature] DEVELOPMENT COORDINATOR DATE: 4/24/17



STATE OF TEXAS  
COUNTY OF FORT BEND

We, the 99 GRAND MISSION, LLC, a Texas limited liability company, acting by and through Jeffrey A. Read, Member and Cortez Ewing King, Member, being officers of 99 GRAND MISSION, LLC, a Texas limited liability company, owner (or owners) hereinafter referred to as Owners (whether one or more) of the 0.2181 acre tract described in the above and foregoing map of AT HOME STORES PLAT, do hereby make and establish said subdivision and development plan of said property according to all lines, dedications, restrictions and notations on said maps or plat and hereby dedicate to the use of the public forever, all streets (except those streets designated as private streets, or permanent access easement), alleys, parks, water courses, drains, easements and public places shown thereon for the purposes and considerations therein expressed; and do hereby bind ourselves, our heirs, successors and assigns to warrant and forever defend the title on the land so dedicated.

FURTHER, Owners have dedicated and by these presents do dedicate to the use of the public for public utility purpose forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional eleven feet, six inches (11'-6") for ten feet (10'-0") perimeter ground easements or seven feet, six inches (7'-6") for fourteen feet (14'-0") perimeter ground easements or five feet, six inches (5'-6") for sixteen feet (16'-0") perimeter ground easements, from a plane sixteen feet (16'-0") above the ground level upward, located adjacent to and adjoining said public utility easements that are designated with aerial easements (U.E. and A.E.) as indicated and depicted hereon, whereby the aerial easement totals twenty one feet, six inches (21'-6") in width.

FURTHER, Owners have dedicated and by these presents do dedicate to the use of the public for public utility purpose forever unobstructed aerial easements. The aerial easements shall extend horizontally an additional ten feet (10'-0") for ten feet (10'-0") back-to-back ground easements, or eight feet (8'-0") for fourteen feet (14'-0") back-to-back ground easements or seven feet (7'-0") for sixteen feet (16'-0") back-to-back ground easements, from a plane sixteen feet (16'-0") above ground level upward, located adjacent to both sides and adjoining said public utility easements that are designated with aerial easements (U.E. and A.E.) as indicated and depicted hereon, whereby the aerial easement totals thirty feet (30'-0") in width.

FURTHER, Owners do hereby covenant and agree that all of the property within the boundaries of this plat is hereby restricted to prevent the drainage of any septic tanks into any public or private street, permanent access easement, road or alley, or any drainage ditch, either directly or indirectly.

FURTHER, Owners do hereby dedicate to the public a strip of land fifteen feet (15'-0") wide on each side of the center line of any and all bayous, creeks, gullies, ravines, draws, sloughs or other natural drainage courses located in said plat, as easements for drainage purposes, giving the City of Houston, Harris County, or any other governmental agency, the right to enter upon said easement at any and all times for the purpose of construction and maintenance of drainage facilities and structures.

FURTHER, Owners do hereby covenant and agree that all of the property within the boundaries of this plat and adjacent to any drainage easement, ditch, gully, creek or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences, buildings, plantings and other obstructions to the operations and maintenance of the drainage facility and that such abutting property shall not be permitted to drain directly into this easement except by means of an approved drainage structure.

FURTHER, Owners certify and covenant that they have complied with or will comply with existing Harris County Road Law, Section 31-C as amended by Chapter 614, Acts of 1973, 63rd Legislature and all other regulations heretofore on file with the Harris County Engineer and adopted by the Commissioners' Court of Harris County.

FURTHER, we do hereby acknowledge the receipt of the "Orders for Regulations of Outdoor Lighting in the Unincorporated Areas of Fort Bend County, Texas", and do hereby covenant and agree that this site has complied with or has exceeded all lighting regulations as defined within this order as adopted by Fort Bend County Commissioners' Court on March 23, 2004, and any subsequent amendments.

IN TESTIMONY WHEREOF, the 99 GRAND MISSION, LLC, a Texas limited liability company, has caused these presents to be signed by Jeffrey A. Read, its Member, thereunto authorized, attested by its Member, Cortez Ewing King, this day of \_\_\_\_\_ 2017.

By: 99 GRAND MISSION, LLC  
a Texas Limited Liability Company

Attest:

C. Ewing King  
Member

STATE OF TEXAS  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this day personally appeared Jason Kotter and Ryan Van Alfen, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and considerations therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

Notary Public in and for the  
State of Texas

My Commission Expires: \_\_\_\_\_

I, Paul A. Jurica, Jr., am authorized under the laws of the State of Texas to practice the profession of surveying and hereby certify that the above subdivision is true and accurate; was prepared from an actual survey of the property made under my supervision on the ground; that, except as shown all boundary corners, angle points, points of curvature and other points of reference have been marked with iron (or other objects of a permanent nature) pipes or rods having an outside diameter of not less than five eighths (5/8) inch and a length of not less than three (3) feet; and that the plat boundary corners have been tied to the Texas Coordinate System of 1983, south central zone.

Paul A. Jurica, Jr.  
Registered Professional Land Surveyor  
Texas Registration No. 4264

This is to certify that the Planning Commission of the City of Houston, Texas, has approved this plat and subdivision of AT HOME STORES PLAT, in conformance with the laws of the State of Texas and the ordinances of the City of Houston as shown hereon and authorized recording of this plat this \_\_\_\_\_ day of \_\_\_\_\_, 2017.

By: Martha L. Stein or M. Sonny Garza  
Chair Vice Chairman  
By: Patrick Walsh, P.E.  
Secretary

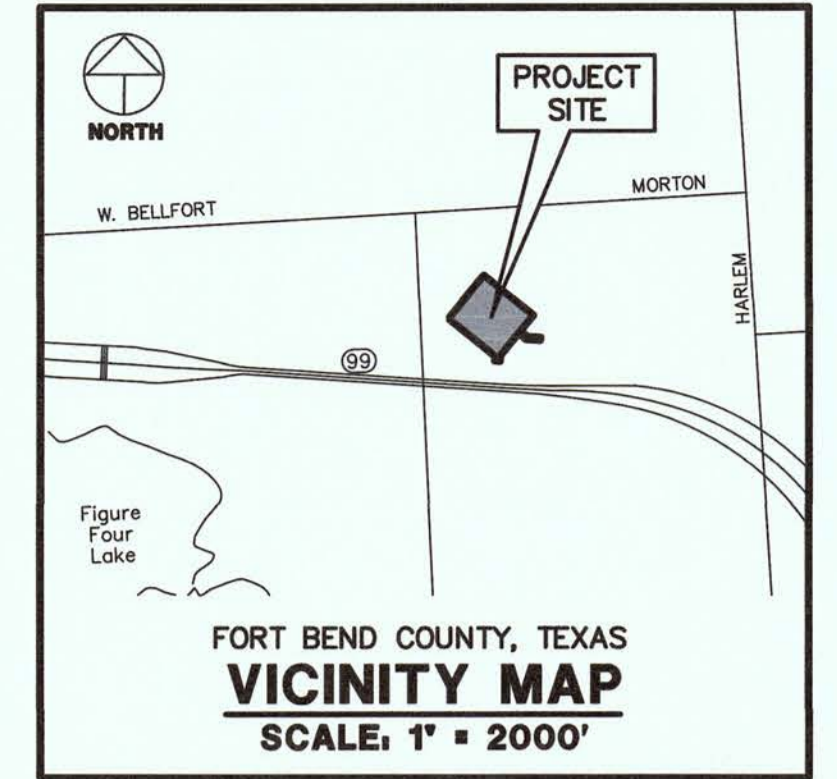
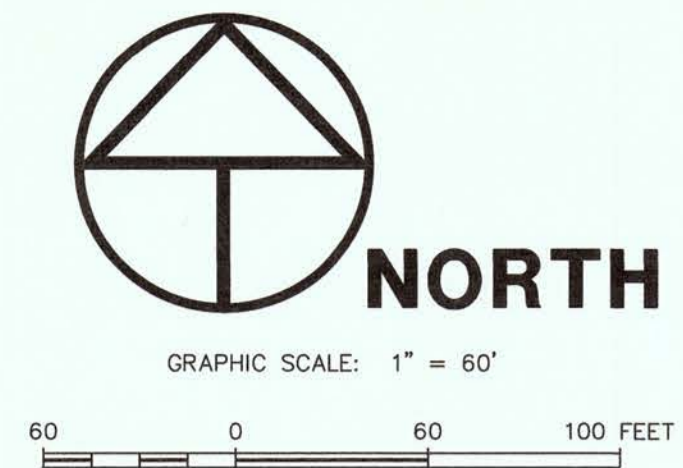
ABBREVIATIONS

- FND - FOUND
- F.C. - FILM CODE
- F.B.C.C.F. - FORT BEND COUNTY CLERKS FILE
- F.B.C.D.R. - FORT BEND COUNTY DEED RECORDS
- F.B.C.M.R. - FORT BEND COUNTY MAP RECORDS
- IP - IRON PIPE
- IR - IRON ROD
- NO. - NUMBER
- PG. - PAGE
- R.O.W. - RIGHT-OF-WAY
- SQ. FT. - SQUARE FEET
- VOL. - VOLUME
- A.E. - AERIAL EASEMENT
- B.L. - BUILDING LINE
- S.S.E. - SANITARY SEWER EASEMENT
- ST.S.E. - STORM SEWER EASEMENT
- U.E. - UTILITY EASEMENT
- W.L.E. - WATER LINE EASEMENT

SET 5/8" IRC  
"WINDROSE LAND SERVICES"  
X: 3008798.13 (GRID)  
Y: 13803243.12 (GRID)

DISTRICT NAMES

WCID	NONE
MUD	FORT BEND MUD 143
LID	NONE
DID	FBC DRAINAGE
SCHOOL	FORT BEND ISD
FIRE	PECAN GROVE
IMPACT FEE AREA	NONE
CITY OR CITY ETJ	CITY OF HOUSTON ETJ
UTILITIES CO.	CENTERPOINT ENERGY
EMERGENCY SERVICE	RICHMOND
COUNTY COMMISSIONER	PRECINCT NO. 4



I, Richard Stolleis, P.E., Fort Bend County Engineer, do hereby certify that the plat of this subdivision complies with all the existing rules and regulations of this Office as adopted by the Fort Bend County Commissioners' Court. However, no certification is hereby given as to the effect of drainage from this subdivision on the intersecting drainage artery, parent stream, or any other area or subdivision within the watershed.

Richard Stolleis, P.E.  
Fort Bend County Engineer

APPROVED by the Commissioners' Court of Fort Bend County, Texas, this, the \_\_\_\_\_ day of \_\_\_\_\_, 2017.

Vincent M. Morales, Jr. Commissioner, Precinct 1

Robert E. Habert, Ph.D. County Judge

W. A. "Andy" Meyers Commissioner, Precinct 3

I, Laura Richard, County Clerk in and for Fort Bend County, hereby certify that the foregoing instrument with its certificate of authentication was filed for recordation in my office on \_\_\_\_\_ 2017, at \_\_\_\_\_ o'clock \_\_\_\_\_ m., and duly recorded on \_\_\_\_\_ 2017, in Plat No. \_\_\_\_\_ of the Map Records of Fort Bend County, for said county.

Witness my hand and seal of office, at Richmond, Texas, the day and date last above written.

Laura Richard  
Clerk of the County Court  
of Fort Bend County, Texas

By: \_\_\_\_\_ Deputy

VARIABLE WIDTH  
DRAINAGE & DETENTION EASEMENT  
TO FBCMUD NO. 143  
F.B.C.C.F. NO. 2017013948

SET 5/8" IRC  
"WINDROSE LAND SERVICES"  
X: 3008443.24 (GRID)  
Y: 13802805.03 (GRID)

SET 5/8" IRC  
"WINDROSE LAND SERVICES"

VARIABLE WIDTH DRAINAGE & DETENTION EASEMENT  
TO FBCMUD NO. 143  
F.B.C.C.F. NO. 2017013948

RESIDUE OF UNRESTRICTED RESERVE "A",  
BLOCK 1,  
WATERVIEW TOWN CENTER SEC 3,  
PLAT NO. 20170020, F.B.C.M.R.

10' LANDSCAPE EASEMENT  
F.B.C.C.F. NO. 2017013948

25' STORM SEWER EASTMENT  
F.B.C.C.F. NO. 2017013948

SET 5/8" IRC  
"WINDROSE LAND SERVICES"

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 03°30'06" W	57.60'
L2	N 86°29'54" W	60.00'
L3	N 03°30'06" E	47.48'
L4	N 02°03'45" W	29.69'
L5	S 50°59'26" E	95.49'
L6	S 86°29'54" E	135.17'
L7	N 86°29'51" W	142.17'
L8	N 50°59'26" W	105.09'

CURVE TABLE

CURVE	RADIUS	DELTA	ARC	BEARING	CHORD
C1	547.00'	03°09'17"	30.12'	N 08°28'19" E	30.12'

GENERAL NOTES

- Bearings were based on the Texas State Plane Coordinate System, South Central Zone (NAD83).
- All coordinates shown hereon are Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD 83), and may be brought to surface by applying the following scale factor 0.999870017.
- Unless otherwise indicated, the building lines (B.L.), whether one or more, shown on this subdivision plat are established to evidence compliance with the applicable provisions of Chapter 42, Code of Ordinances, City of Houston, Texas, in effect at the time this plat was approved, which may be amended from time to time.
- The subject tract lies within the City of Houston's ETJ and this plat was prepared to meet City of Houston and Fort Bend County requirements.
- Primary Benchmark is NGS Marker "E 1280", stamped "E 1280 1978", located 1.7 miles east along FM 1093 from the junction of FMs 359 and 1463, set 0.1 mile northwest of the power line sub-station, 60 feet north of the centerline of the road, 20.5 feet east of the centerline of Field Road and the nearby gate leading north, 2.5 feet west/northwest of a power pole numbered 1405, and 1 foot south of a fence. The benchmark is 0.3 meters south from the witness post. Elevation = 125.06 feet, NAVD 1988, 2001 adjusted.
- Temporary benchmark is a cut box in first concrete "C" inlet located on the west right-of-way of Waterview Meadow Drive south of West Bellfort. Elevation = 93.75 feet, NAVD 1988, 2001 adjusted.

GENERAL NOTES CONTINUED

- The top of all floor slab elevations shall be a minimum of 95.00 feet above Mean Sea Level. The top of slab elevation at any point on the perimeter of the slab shall not be less than eight (8) inches above natural ground. Any future development should verify that the minimum slab elevation is at least 12 inches above the maximum anticipated ponding or sheet flow elevation for the site.
- The drainage system for this subdivision shall be designed to meet the requirements of the Fort Bend County drainage criteria manual which allows for street ponding with intense rainfall events.
- All drainage easements shall be kept clear of fences, building, vegetation, and other obstructions for the purpose of the operation and maintenance of the drainage facility.
- All property to drain into a drainage easement only through an approved drainage structure.
- Pipeline easements, if any, within the platted area shown hereon.
- This plat lies wholly within Fort Bend County Lighting Zone LZ3.
- This property lies within Unshaded Zone "X" according to FEMA FIRM Map No. 48157C0140L, effective date April 2, 2014.

GENERAL NOTES CONTINUED

- Sidewalks shall be built or caused to be built not less than 5 feet in width on both sides of all dedicated right-of-way within said plat and on the contiguous right-of-way of all perimeter roads surrounding said plat, in accordance with the A.D.A.
- Absent written authorization by the affected utilities, all utility and aerial easements must be kept unobstructed from any non-utility improvements or obstructions by the property owner. Any unauthorized improvements or obstructions may be removed by any public utility of the property owner's expense. While wooden posts and paneled wooden fences along the perimeter and back to back easements and alongside rear lots lines are permitted, they too may be removed by public utilities at the property owner's expense should they be an obstruction. Public Utilities may pull solid wooden posts and paneled wooden fences back up, but generally will not replace with new fencing.
- Subject to Section 7 (Greenspace Regulations) of the Fort Bend County Regulations of Subdivisions.

STATE HIGHWAY 99  
(GRAND PARKWAY)  
WIDTH VARIES  
(VOL. 1753, PG. 75, F.B.C.D.R.)

WATERVIEW TOWN CENTER  
SECTION 3  
PARTIAL REPLAT NO 1

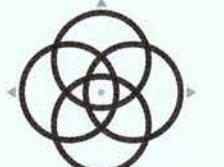
A SUBDIVISION OF OF 9.136 AC. / 397,988 SQ. FT. OF LAND,  
BEING A REPLAT OF  
UNRESTRICTED RESERVE A, WATERVIEW TOWN CENTER SEC 3,  
RECORDED IN PLAT NO. 20170020, F.B.C.M.R.,  
SITUATED IN THE WILLIAM MORTON LEAGUE, SURVEY, A-62,  
CITY OF HOUSTON ETJ, FORT BEND COUNTY, TEXAS.

1 BLOCK 1 RESERVE 0 LOTS

MARCH 2017

Owner  
99 GRAND MISSION, LLC  
a Texas Limited Liability Company  
5850 San Felipe, Suite 490  
Houston, Texas 77057  
713-782-9000

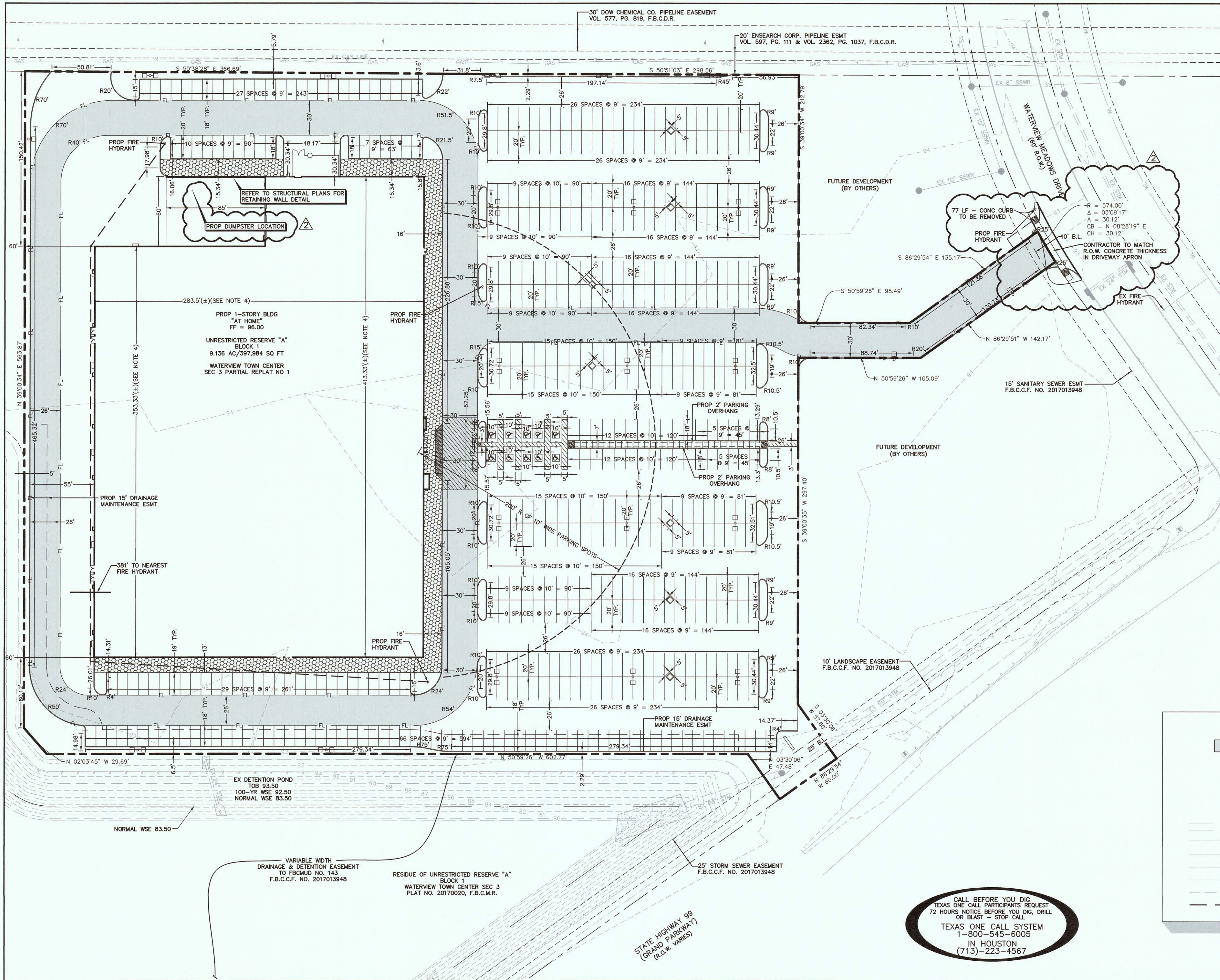
Surveyor



WINDROSE  
LAND SURVEYING | PLATTING  
3200 WILCREST, SUITE 325 | HOUSTON, TX 77042 | 713.458.2281  
FIRM REGISTRATION NO. 10108800 | WINDROSERVICES.COM

PLAT  
C0.3

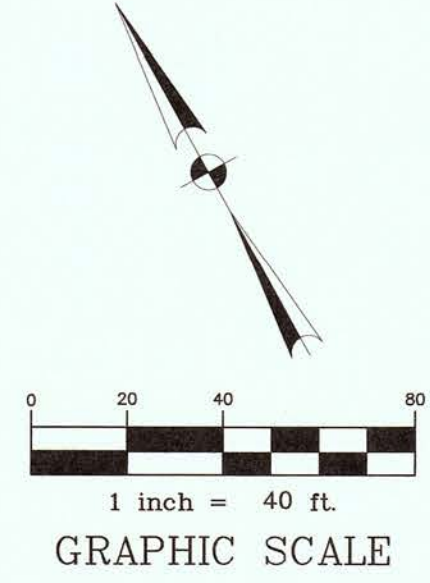
4/26/17



**BENCHMARK:**  
 NATIONAL GEODETIC SURVEY MARKER, DESIGNATION "E 1280", PID "AW2158", DISK STAMPED "E 1280 1978" LOCATED ABOUT 4.6 MILES EAST ALONG FARM ROAD 1093 FROM THE SOUTHERN PACIFIC RAILROAD STATION IN FULSHEAR. ALSO, 1.7 MILES EAST ALONG FARM ROAD 1093 FROM THE JUNCTION OF FARM ROADS 359 AND 1463, SETE 0.1 MILE NORTHWEST OF A POWER LINE SUB-STATION, 60 FEET NORTH OF THE CENTERLINE OF THE ROAD, 20.5 FEET EAST OF THE CENTERLINE OF A FIELD ROAD AND GATE LEADING NORTH, 2.5 FEET WEST-NORTHWEST OF A POWER POLE, NUMBER 1405, AND 1 FOOT SOUTH OF A FENCE. THE MARK IS 0.3 METERS SOUTH FROM A WITNESS POST. ELEVATION = 125.06' (NAVD 1988)

**TEMPORARY BENCHMARK "A":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE SOUTH OF WEST BELFORT. ELEVATION = 93.75'

**TEMPORARY BENCHMARK "B":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE NORTH OF STATE HIGHWAY 99. ELEVATION = 93.20'



- GENERAL NOTES**
1. PAVEMENT DIMENSIONS AND RADII ARE FACE TO FACE OF CURB, UNLESS OTHERWISE NOTED.
  2. RADII ARE 3' UNLESS OTHERWISE NOTED.
  3. REFER TO SITE ELECTRICAL PLAN FOR PROPOSED SITE LIGHTING LAYOUT.
  4. REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING/FOUNDATION DIMENSIONS.

**FIRE LANE MARKING NOTES**

CURBS LOCATED ON EITHER SIDE OF A FIRE LANE SHALL BE PAINTED RED OR A RED STRIPE SHALL BE PLACED ALONG THE PAVEMENT WHERE THERE IS NO CURB. WHERE A FIRE LANE PASSES BETWEEN HEAD-IN PARKING SPACES, THE RED STRIPE SHOULD BE PLACED ALONG THE REAR OF THESE SPACES CLEARLY DEFINING THE FIRE LANE. PAINTED CURBS AND FIRE LANE STRIPES SHALL ALSO BE CONSPICUOUSLY AND LEGIBLY MARKED WITH THE WARNING "FIRE LANE-TOW AWAY ZONE" IN WHITE LETTERS AT LEAST THREE (3) INCHES IN HEIGHT, AT INTERVALS NOT EXCEEDING (50) FEET

**LEGEND**

FL	PROPOSED FIRE LANE (RED STRIPING)
FL	PROPOSED BUILDING PERIMETER SIDEWALK
FL	PROPOSED CURB RAMP
●	EX. MANHOLE
—	EX. STORM SEWER
—	EX. WATER LINE
—	EX. SANITARY SEWER LINE
—	EX. OVERHEAD POWER LINE
—	EX. UNDERGROUND GAS LINE
—	EX. CONTOUR
—	HOSE LAY

CALL BEFORE YOU DIG  
 TEXAS ONE CALL PARTICIPANTS REQUEST  
 72 HOURS NOTICE BEFORE YOU DIG, DRILL  
 OR BLAST - STOP CALL  
 TEXAS ONE CALL SYSTEM  
 1-800-545-6005  
 IN HOUSTON  
 (713)-223-4567

NO.	REVISIONS	DATE
2	FBC/MUD COMMENTS	04/23/2017
1	AGENCY COMMENTS	03/31/2017

**ALJLindsey**  
 Civil Engineer  
 5625 FM 1980 W., Suite 314  
 Houston, TX 77069  
 PRN-F-11256

**A. LESTER JONES**  
 102152  
 REGISTERED PROFESSIONAL ENGINEER  
 21 APRIL 2017

**DIMENSION CONTROL PLAN**

**AT HOME @ WATERVIEW TOWN CENTER FORT BEND COUNTY, TEXAS**

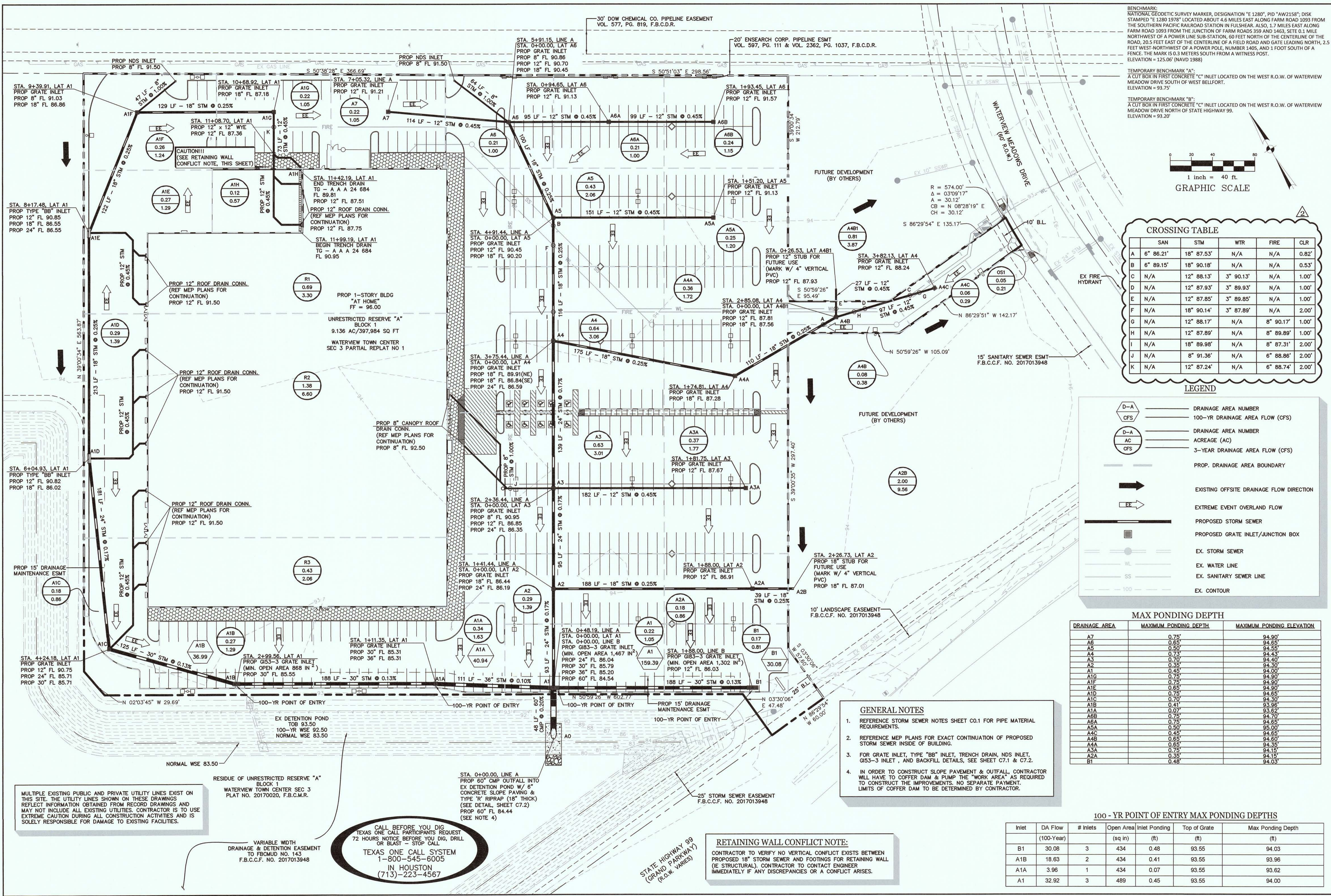
SHEET  
**C1.0**

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *Caranda R. S.*  
 DEVELOPMENT COORDINATOR

DATE: 4/26/17

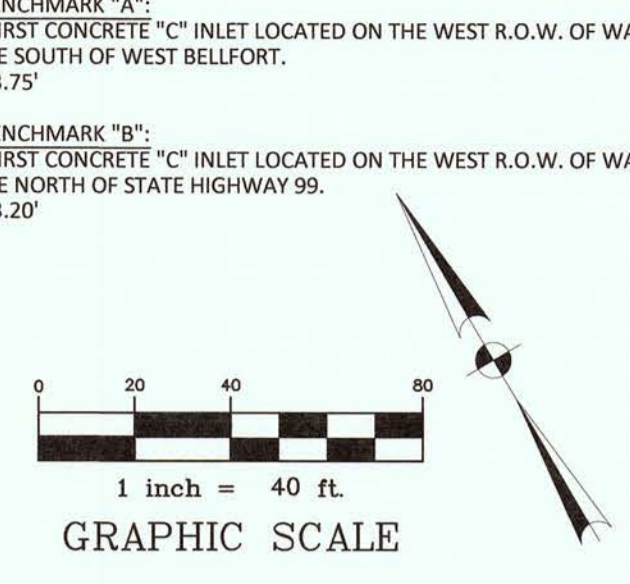




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TEMPORARY BENCHMARK "A":  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE SOUTH OF WEST BELFORT. ELEVATION = 93.75'

TEMPORARY BENCHMARK "B":  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE NORTH OF STATE HIGHWAY 99. ELEVATION = 93.20'



**CROSSING TABLE**

	SAN	STM	WTR	FIRE	CLR
A	6" 86.21'	18" 87.53'	N/A	N/A	0.82'
B	6" 89.15'	18" 90.18'	N/A	N/A	0.53'
C	N/A	12" 88.13'	3" 90.13'	N/A	1.00'
D	N/A	12" 87.93'	3" 89.93'	N/A	1.00'
E	N/A	12" 87.85'	3" 89.85'	N/A	1.00'
F	N/A	18" 90.14'	3" 87.89'	N/A	2.00'
G	N/A	12" 88.17'	N/A	8" 90.17'	1.00'
H	N/A	12" 87.89'	N/A	8" 89.89'	1.00'
I	N/A	18" 89.98'	N/A	8" 87.31'	2.00'
J	N/A	8" 91.36'	N/A	6" 88.86'	2.00'
K	N/A	12" 87.24'	N/A	6" 88.74'	2.00'

**LEGEND**

- DRAINAGE AREA NUMBER
- 100-YR DRAINAGE AREA FLOW (CFS)
- DRAINAGE AREA NUMBER
- ACREAGE (AC)
- 3-YEAR DRAINAGE AREA FLOW (CFS)
- PROP. DRAINAGE AREA BOUNDARY
- EXISTING OFFSITE DRAINAGE FLOW DIRECTION
- EXTREME EVENT OVERLAND FLOW
- PROPOSED STORM SEWER
- PROPOSED GRATE INLET/JUNCTION BOX
- EX. STORM SEWER
- EX. WATER LINE
- EX. SANITARY SEWER LINE
- EX. CONTOUR

**MAX PONDING DEPTH**

DRAINAGE AREA	MAXIMUM PONDING DEPTH	MAXIMUM PONDING ELEVATION
A7	0.75'	94.90'
A6	0.65'	94.65'
A5	0.50'	94.55'
A4	0.73'	94.43'
A3	0.70'	94.40'
A2	0.35'	94.30'
A1	0.45'	94.00'
A1G	0.75'	94.90'
A1F	0.75'	94.90'
A1E	0.65'	94.90'
A1D	0.75'	94.65'
A1C	0.70'	94.30'
A1B	0.41'	93.95'
A1A	0.07'	93.62'
A6B	0.75'	94.70'
A6A	0.75'	94.65'
A5A	0.50'	95.00'
A4C	0.45'	94.65'
A4A	0.65'	94.60'
A3A	0.85'	94.35'
A2A	0.75'	94.15'
A2	0.35'	94.15'
B1	0.48'	94.03'

**100 - YR POINT OF ENTRY MAX PONDING DEPTHS**

Inlet	DA Flow (100-Year)	# Inlets	Open Area (sq in)	Inlet Ponding (ft)	Top of Grate (ft)	Max Ponding Depth (ft)
B1	30.08	3	434	0.48	93.55	94.03
A1B	18.63	2	434	0.41	93.55	93.96
A1A	3.96	1	434	0.07	93.55	93.62
A1	32.92	3	489	0.45	93.55	94.00

- GENERAL NOTES**
- REFERENCE STORM SEWER NOTES SHEET CO.1 FOR PIPE MATERIAL REQUIREMENTS.
  - REFERENCE MEP PLANS FOR EXACT CONTINUATION OF PROPOSED STORM SEWER INSIDE OF BUILDING.
  - FOR GRATE INLET, TYPE "BB" INLET, TRENCH DRAIN, NDS INLET, G153-3 INLET, AND BACKFILL DETAILS, SEE SHEET C7.1 & C7.2.
  - IN ORDER TO CONSTRUCT SLOPE PAVEMENT & OUTFALL, CONTRACTOR WILL HAVE TO COFFER DAM & PUMP THE "WORK AREA" AS REQUIRED TO CONSTRUCT THE IMPROVEMENTS. NO SEPARATE PAYMENT. LIMITS OF COFFER DAM TO BE DETERMINED BY CONTRACTOR.

**RETAINING WALL CONFLICT NOTE:**  
 CONTRACTOR TO VERIFY NO VERTICAL CONFLICT EXISTS BETWEEN PROPOSED 18" STORM SEWER AND FOOTINGS FOR RETAINING WALL (E STRUCTURAL). CONTRACTOR TO CONTACT ENGINEER IMMEDIATELY IF ANY DISCREPANCIES OR A CONFLICT ARISES.

CALL BEFORE YOU DIG  
 TEXAS ONE CALL PARTICIPANTS REQUEST  
 72 HOURS NOTICE BEFORE YOU DIG, DRILL  
 OR BLAST - STOP CALL  
 TEXAS ONE CALL SYSTEM  
 1-800-545-6005  
 IN HOUSTON  
 (713)-223-4567

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

RESIDUE OF UNRESTRICTED RESERVE "A" BLOCK 1 WATERVIEW TOWN CENTER SEC 3 PLAT NO. 20170020, F.B.C.M.R.

VARIABLE WIDTH DRAINAGE & DETENTION EASEMENT TO FCBMUD NO. 143 F.B.C.C.F. NO. 2017013948

**ALJLindsey**  
 Civil Engineer  
 6529 FM 1960 W., Suite 314  
 Houston, TX 77069  
 FIRM # 11526

**REGISTERED PROFESSIONAL ENGINEER**  
 A. LESTER JONES  
 102152  
 21 APRIL 2017

**STORM SEWER PLAN**

**AT HOME @ WATERVIEW TOWN CENTER FORT BEND COUNTY, TEXAS**

SHEET **C3.0**

NO.	REVISIONS	DATE
2	FBC/ALUD COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017
		NO.

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED:   
 DEVELOPMENT COORDINATOR

DATE: 4/24/17

CUMULATIVE STORM SEWER CALCULATIONS

Storm Sewer Design Analysis  
At Home WaterView  
SH 99 & WaterView Meadows Drive  
Fort Bend County, Texas

Design Frequency: 3 years  
100-Year Multiplier: 1.00  
Downstream 25-year WS ELEV: 89.01 feet

Manhole No. From	Manhole No. to	Drainage Area (acres)	Total Area (acres)	Runoff Coefficient C	DA C*A	Total C*A	Overland Flow Distance (ft)	Time of Conc. (min)	Intensity I (in/hr)	Drainage Area Flow (cfs)	Total Flow (cfs)	Reach Length (ft)	Diameter (in) or Rise (ft)	Slope %	Manning's Roughness Coefficient "n"	Design Capacity (cfs)	Design Velocity (ft/sec)	Full Pipe Flow Area (sq ft)	Flow Wetted Perimeter (ft)	Drop from Downstream Manhole (ft)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Minimum Depth Ratio (y/d or y/h)	Minimum W.S. Elev. Downstream (ft)	Actual Depth Ratio (y/d or y/h)	Actual Velocity (ft/sec)	Actual Flow per Barrel (sq ft)	Hydraulic Gradient %	Change in Head (ft)	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)	Top of Pipe Elevation Upstream (ft)	Top of Pipe Elevation Downstream (ft)	Pvnt / Grate Elevation Upstream (ft)	Pvnt / Grate Elevation Downstream (ft)		
A7	A8	0.22	0.22	0.80	0.18	0.18	75	10.00	5.98	1.05	1.05	114.17	12	0.450	0.013	2.4	3.0	0.8	3.1	0.51	0.25	91.21	90.70	0.46	91.16	1.00	1.34	0.79	3.14	0.087	0.10	93.57	93.47	92.21	91.70	94.15	
A6	A5	0.21	0.88	0.80	0.17	0.70	115	10.00	5.98	1.00	4.21	99.71	18	0.250	0.013	5.3	3.0	1.8	4.7	0.25	0.00	90.45	90.20	0.67	91.21	1.00	2.38	1.77	4.71	0.160	0.16	93.47	93.31	91.95	91.70	94.00	
A5	A4	0.43	1.56	0.80	0.34	1.25	123	10.00	5.98	2.06	7.46	116.00	18	0.250	0.013	5.3	3.0	1.8	4.7	0.29	0.25	90.20	89.91	1.00	91.41	1.00	4.22	1.77	4.71	0.504	0.58	93.31	92.72	91.70	91.41	94.05	
A4	A3	0.64	3.51	0.80	0.51	2.81	124	10.00	5.98	3.08	16.78	139.00	24	0.170	0.013	9.3	3.0	3.1	6.3	0.24	0.00	86.59	86.35	1.00	88.35	1.00	5.34	3.14	6.28	0.550	0.76	92.72	91.96	88.59	88.35	93.70	
A3	A2	0.63	4.51	0.80	0.50	3.61	110	10.00	5.98	3.01	21.56	95.00	24	0.170	0.013	9.3	3.0	3.1	6.3	0.16	0.00	86.35	86.19	1.00	88.19	1.00	6.86	3.14	6.28	0.908	0.86	91.96	91.10	88.35	88.19	93.70	
A2	A1	0.29	6.98	0.80	0.23	5.58	121	10.00	5.98	1.39	33.36	93.25	24	0.170	0.013	9.3	3.0	3.1	6.3	0.16	1.50	86.19	86.04	1.00	88.04	1.00	10.62	3.14	6.28	2.175	2.03	91.10	89.07	88.19	88.04	93.95	
A1	A0	0.22	11.82	0.80	0.18	9.46	138	10.00	5.98	1.05	56.50	48.19	60	0.200	0.022	68.8	3.5	19.6	15.7	0.10		84.54	84.44	0.68	87.84	0.91	3.01	18.76	12.66	0.118	0.06	89.07	89.01	89.54	89.44	93.55	
ABA	A6A	0.24	0.24	0.80	0.19	0.19	83	10.00	5.98	1.15	1.15	98.80	12	0.450	0.013	2.4	3.0	0.8	3.1	0.44	0.00	91.57	91.13	0.48	91.61	1.00	1.46	0.79	3.14	0.104	0.10	93.91	93.81	92.57	92.13	93.95	
A6A	A6	0.21	0.45	0.80	0.17	0.36	70	10.00	5.98	1.00	2.15	94.65	12	0.450	0.013	2.4	3.0	0.8	3.1	0.43	0.25	91.13	90.70	0.74	91.44	1.00	2.74	0.79	3.14	0.365	0.35	93.81	93.47	92.13	91.70	93.90	
ASA	A5	0.25	0.25	0.80	0.20	0.20	84	10.00	5.98	1.20	1.20	151.20	12	0.450	0.013	2.4	3.0	0.8	3.1	0.68	0.25	91.13	90.45	0.50	90.95	1.00	1.52	0.79	3.14	0.113	0.17	93.48	93.31	92.13	91.45	94.50	
A4C	A4B	0.06	0.06	0.80	0.05	0.05	42	10.00	5.98	0.29	0.29	97.05	12	0.450	0.013	2.4	3.0	0.8	3.1	0.44	0.25	88.24	87.81	0.23	88.04	1.00	0.37	0.79	3.14	0.006	0.01	93.56	93.55	89.24	88.81	94.20	
A4B	A4A	0.08	0.95	0.80	0.06	0.76	50	10.00	5.98	0.38	4.54	110.27	18	0.250	0.013	5.3	3.0	1.8	4.7	0.28	0.00	87.56	87.28	0.71	88.35	1.00	2.57	1.77	4.71	0.187	0.21	93.55	93.34	89.06	88.78	93.95	
A4A	A4	0.36	1.31	0.80	0.29	1.05	101	10.00	5.98	1.72	6.26	174.81	18	0.250	0.013	5.3	3.0	1.8	4.7	0.44	0.25	87.28	86.84	1.00	88.34	1.00	3.54	1.77	4.71	0.355	0.62	93.34	92.72	88.78	88.34	93.70	
A4B1	A4B	0.81	0.81	0.80	0.65	0.65	101	10.00	5.98	3.87	3.87	26.53	12	0.450	0.013	2.4	3.0	0.8	3.1	0.12	0.25	87.93	87.81	1.00	88.81	1.00	4.93	0.79	3.14	1.181	0.31	93.86	93.55	88.93	88.81	95.00	
A3A	A3	0.37	0.37	0.80	0.30	0.30	101	10.00	5.98	1.77	1.77	181.75	12	0.450	0.013	2.4	3.0	0.8	3.1	0.82	0.50	87.67	86.85	0.64	87.49	1.00	2.25	0.79	3.14	0.246	0.45	92.41	91.96	88.67	87.85	93.40	
A2B	A2A	2.00	2.00	0.80	1.60	1.60	78	10.00	5.98	9.56	9.56	38.73	18	0.250	0.013	5.3	3.0	1.8	4.7	0.10	0.00	87.01	86.91	1.00	88.41	1.00	5.41	1.77	4.71	0.828	0.32	93.04	92.72	88.51	88.41	93.50	
A2A	A2	0.18	2.18	0.80	0.14	1.74	78	10.00	5.98	0.86	10.42	188.00	18	0.250	0.013	5.3	3.0	1.8	4.7	0.47	0.25	86.91	86.44	1.00	87.94	1.00	5.90	1.77	4.71	0.984	1.85	92.95	91.10	88.41	87.94	93.80	
B1	A1	0.17	0.17	0.80	0.14	0.14	93	10.00	5.98	0.81	0.81	188.00	30	0.130	0.013	14.8	3.0	4.9	7.9	0.24	1.25	86.03	85.79	0.15	86.16	1.00	0.17	4.91	7.85	0.000	0.00	89.07	89.07	88.53	88.29	93.55	
A1H	A1G	0.12	0.12	0.80	0.10	0.10	82	10.00	5.98	0.57	0.57	73.27	12	0.450	0.013	2.4	3.0	0.8	3.1	0.33	0.00	87.51	87.18	0.33	87.51	1.00	0.73	0.79	3.14	0.026	0.02	91.92	91.80	88.51	88.18	91.95	
A1G	A1F	0.22	0.34	0.80	0.18	0.27	82	10.00	5.98	1.05	1.63	129.01	18	0.250	0.013	5.3	3.0	1.8	4.7	0.32	0.00	87.18	86.86	0.38	87.43	1.00	0.92	1.77	4.71	0.024	0.03	91.90	91.87	88.68	88.36	94.15	
A1F	A1E	0.26	0.60	0.80	0.21	0.48	76	10.00	5.98	1.24	2.87	122.43	18	0.250	0.013	5.3	3.0	1.8	4.7	0.31	0.00	86.86	86.55	0.52	87.33	1.00	1.62	1.77	4.71	0.075	0.09	91.87	91.77	88.36	88.05	94.15	
A1E	A1D	0.27	1.56	0.80	0.22	1.25	93	10.00	5.98	1.29	7.46	212.55	18	0.250	0.013	5.3	3.0	1.8	4.7	0.53	0.00	86.55	86.02	1.00	87.52	1.00	4.22	1.77	4.71	0.504	1.07	91.77	90.70	88.05	87.52	94.25	
A1D	A1C	0.29	3.23	0.80	0.23	2.58	131	10.00	5.98	1.39	15.44	180.75	24	0.170	0.013	9.3	3.0	3.1	6.3	0.31	0.00	86.02	85.71	1.00	87.71	1.00	4.91	3.14	6.28	0.466	0.84	90.70	89.86	88.02	87.71	93.90	
A1C	A1B	0.18	3.84	0.80	0.14	3.07	148	10.00	5.98	0.86	18.36	124.62	30	0.130	0.013	14.8	3.0	4.9	7.9	0.16	0.00	85.71	85.55	1.00	88.05	1.00	3.74	4.91	7.85	0.200	0.25	89.86	89.61	88.21	88.05	93.60	
A1B	A1A	0.27	4.11	0.80	0.22	3.29	104	10.00	5.98	1.29	19.65	188.21	30	0.130	0.013	14.8	3.0	4.9	7.9	0.24	0.00	85.55	85.31	1.00	87.81	1.00	4.00	4.91	7.85	0.229	0.43	89.61	89.18	88.05	87.81	93.55	
A1A	A1	0.34	4.45	0.80	0.27	3.56	105	10.00	5.98	1.63	21.27	111.35	36	0.100	0.013	21.1	3.0	7.1	9.4	0.11	0.00	85.31	85.20	0.82	87.66	1.00	3.01	7.07	9.42	0.102	0.11	89.18	89.07	88.31	88.20	93.55	
R1	A1E	0.69	0.69	0.80	0.55	0.55	1	10.00	5.98	3.30	3.30	113.51	12	0.450	0.013	2.4	3.0	0.8	3.1	0.51																	
R2	A1D	1.38	1.38	0.80	1.10	1.10	1	10.00	5.98	6.60	6.60	149.87	12	0.450	0.013	2.4	3.0	0.8	3.1	0.67																	
R3	A1C	0.43	0.43	0.80	0.34	0.34	1	10.00	5.98	2.06	2.06	159.82	12	0.450	0.013	2.4	3.0	0.8	3.1	0.72																	
R3	A1C	4.43	4.43	0.80	3.54	3.54	1	10.00	5.98	21.18	21.18	159.82	12	0.450	0.013	2.4	3.0	0.8	3.1	0.72																	

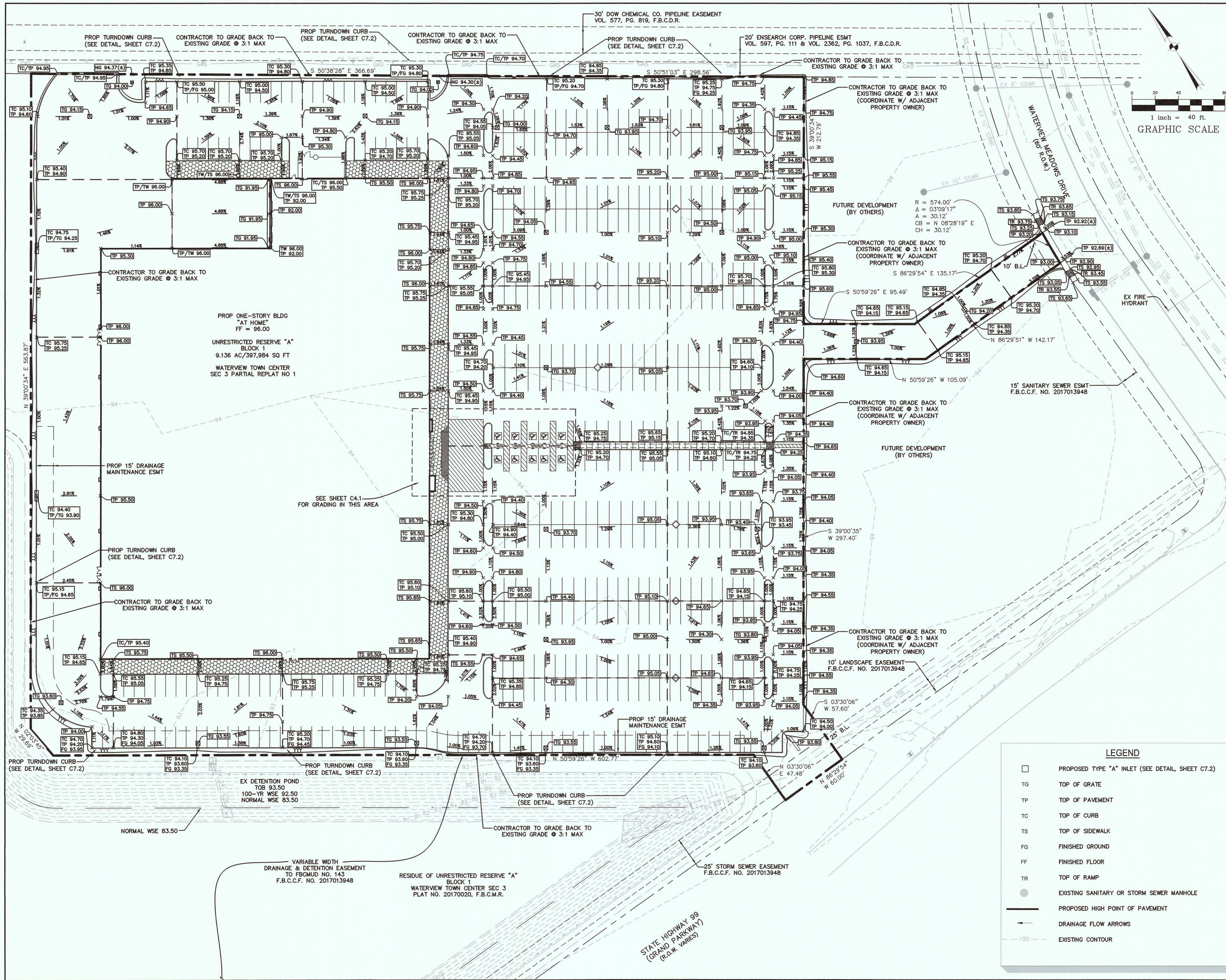
\*THE DRAINAGE CALCULATIONS LISTED ABOVE ARE BASED ON THE 2-YEAR STORM EVENT PER THE FORT BEND COUNTY DESIGN GUIDELINES.

CUMULATIVE STORM SEWER CALCULATIONS

Storm Sewer Design Analysis  
At Home WaterView  
SH 99 & WaterView Meadows Drive  
Fort Bend County, Texas

Design Frequency: 100 years  
100-Year Multiplier: 1.25  
Downstream 25-year WS ELEV: 89.01 feet

Manhole No. From	Manhole No. to	Drainage Area (acres)	Total Area (acres)	Runoff Coefficient C	DA C*A	Total C*A	Overland Flow Distance (ft)	Time of Conc. (min)	Intensity I (in/hr)	Drainage Area Flow (cfs)	Total Flow (cfs)	Reach Length (ft)	Diameter (in) or Rise (ft)	Slope %	Manning's Roughness Coefficient "n"	Design Capacity (cfs)	Design Velocity (ft/sec)	Full Pipe Flow Area (sq ft)	Flow Wetted Perimeter (ft)	Drop from Downstream Manhole (ft)	Flowline Elevation Upstream (ft)	Flowline Elevation Downstream (ft)	Minimum Depth Ratio (y/d or y/h)	Minimum W.S. Elev. Downstream (ft)	Actual Depth Ratio (y/d or y/h)	Actual Velocity (ft/sec)	Actual Flow per Barrel (sq ft)	Hydraulic Gradient %	Change in Head (ft)	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)	Top of Pipe Elevation Upstream (ft)	Top of Pipe Elevation Downstream (ft)	Pvnt / Grate Elevation Upstream (ft)	Pvnt / Grate Elevation Downstream (ft)	
A7	A8	0.22	0.22	0.80	0.22	0.22	75	10.00	11.63	2.56	1.05	114.17	12	0.450	0.013	2.4	3.0	0.8	3.1	0.51	0.25	91.21	90.70	0.46	91.16	1.00	1.34	0.79	3.14	0.087	0.10	94.46	94.36	92.21	91.70	94.15
A6	A5	0.21	0.88	0.80	0.21	0.88	115	10.00	11.63	2.44	4.21	99.71	18	0.250	0.013	5.3	3.0	1.8	4.7	0.25	0.00	90.45	90.20	0.67	91.21	1.00	2.38	1.77	4.71	0.160	0.16	94.36	94.20	91.95	91.70	94.00
A5	A4	0.43	1.56	0.80	0.43	1.56	123	10.00	11.63	5.00	7.46	116.00	18	0.250	0.013	5.3	3.0	1.8	4.7	0.29	0.25	90.20	89.91	1.00	91.41	1.00	4.22	1.77	4.71	0.504	0.58	94.20	93.61	91.70	91.41	94.05
A4	A3	0.64	3.51	0.80	0.64	3.51	124	10.00	11.63	7.45	16.78	139.00	24	0.170	0.013	9.3	3.0	3.1	6.3	0.24	0.00	86.59	86.35	1.00	88.35	1.00	5.34	3.14	6.28							



**BENCHMARK:**  
 NATIONAL GEODETIC SURVEY MARKER, DESIGNATION "E 1280", PID "AW2158"; DISK STAMPED "E 1280 1978" LOCATED ABOUT 4.6 MILES EAST ALONG FARM ROAD 1093 FROM THE SOUTHERN PACIFIC RAILROAD STATION IN FULSHEAR. ALSO, 1.7 MILES EAST ALONG FARM ROAD 1093 FROM THE JUNCTION OF FARM ROADS 359 AND 1463, SETE 0.1 MILE NORTHWEST OF A POWER LINE SUB-STATION, 60 FEET NORTH OF THE CENTERLINE OF THE ROAD, 20.5 FEET EAST OF THE CENTERLINE OF A FIELD ROAD AND GATE LEADING NORTH, 2.5 FEET WEST-NORTHWEST OF A POWER POLE, NUMBER 1405, AND 1 FOOT SOUTH OF A FENCE. THE MARK IS 0.3 METERS SOUTH FROM A WITNESS POST. ELEVATION = 125.06' (NAVD 1988)

**TEMPORARY BENCHMARK "A":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE SOUTH OF WEST BELLFORT. ELEVATION = 93.75'

**TEMPORARY BENCHMARK "B":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE NORTH OF STATE HIGHWAY 99. ELEVATION = 93.20'

- GENERAL NOTES**
- REFER TO ARCHITECTURAL PLANS FOR GRADES INSIDE THE BUILDING ENVELOPE.
  - PAVING CONTRACTOR TO CONFIRM AND/OR ADJUST ALL EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISHED GRADE PRIOR TO PLACEMENT OF ANY PAVING.
  - CONTRACTOR TO MATCH EXISTING TOP OF PAVEMENT AND CURB ELEVATIONS.
  - CONTRACTOR TO INSTALL NEW SIDEWALK IN ADA ACCESSIBLE ROUTES AT MAXIMUM 5% LONGITUDINAL SLOPE AND 2% CROSS SLOPE.

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

**BUILDING PAD NOTE**  
 BUILDING PAD PREPARATION IS IN CONTRACTOR'S SCOPE & SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

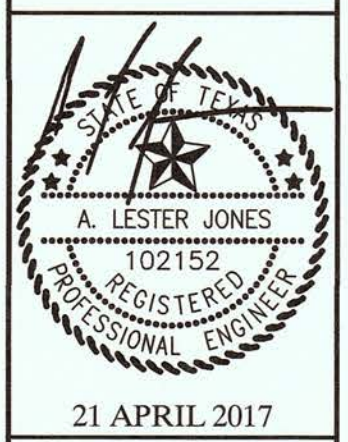
**LEGEND**

□	PROPOSED TYPE "A" INLET (SEE DETAIL, SHEET C7.2)
TG	TOP OF GRATE
TP	TOP OF PAVEMENT
TC	TOP OF CURB
TS	TOP OF SIDEWALK
FG	FINISHED GROUND
FF	FINISHED FLOOR
TR	TOP OF RAMP
●	EXISTING SANITARY OR STORM SEWER MANHOLE
—	PROPOSED HIGH POINT OF PAVEMENT
→	DRAINAGE FLOW ARROWS
- - -	EXISTING CONTOUR

CALL BEFORE YOU DIG  
 TEXAS ONE CALL PARTICIPANTS REQUEST  
 72 HOURS NOTICE BEFORE YOU DIG, DRILL  
 OR BLAST - STOP CALL  
 TEXAS ONE CALL SYSTEM  
 1-800-545-6005  
 IN HOUSTON  
 (713)-223-4567

NO.	REVISIONS	DATE
2	FBC AMLUD COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017

**ALJLindsey**  
 Civil Engineer  
 5629 FM 1960 W., Suite 314  
 Houston, TX 77069  
 FRN F-11526



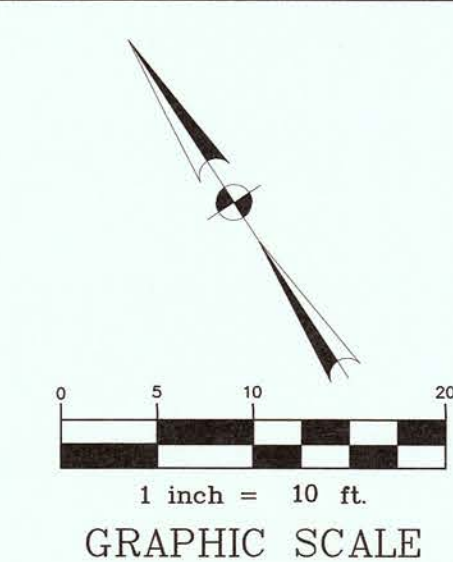
**GRADING PLAN (1 OF 2)**

**AT HOME @**  
**WATERVIEW TOWN CENTER**  
**FORT BEND COUNTY, TEXAS**

SHEET  
**C4.0**

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

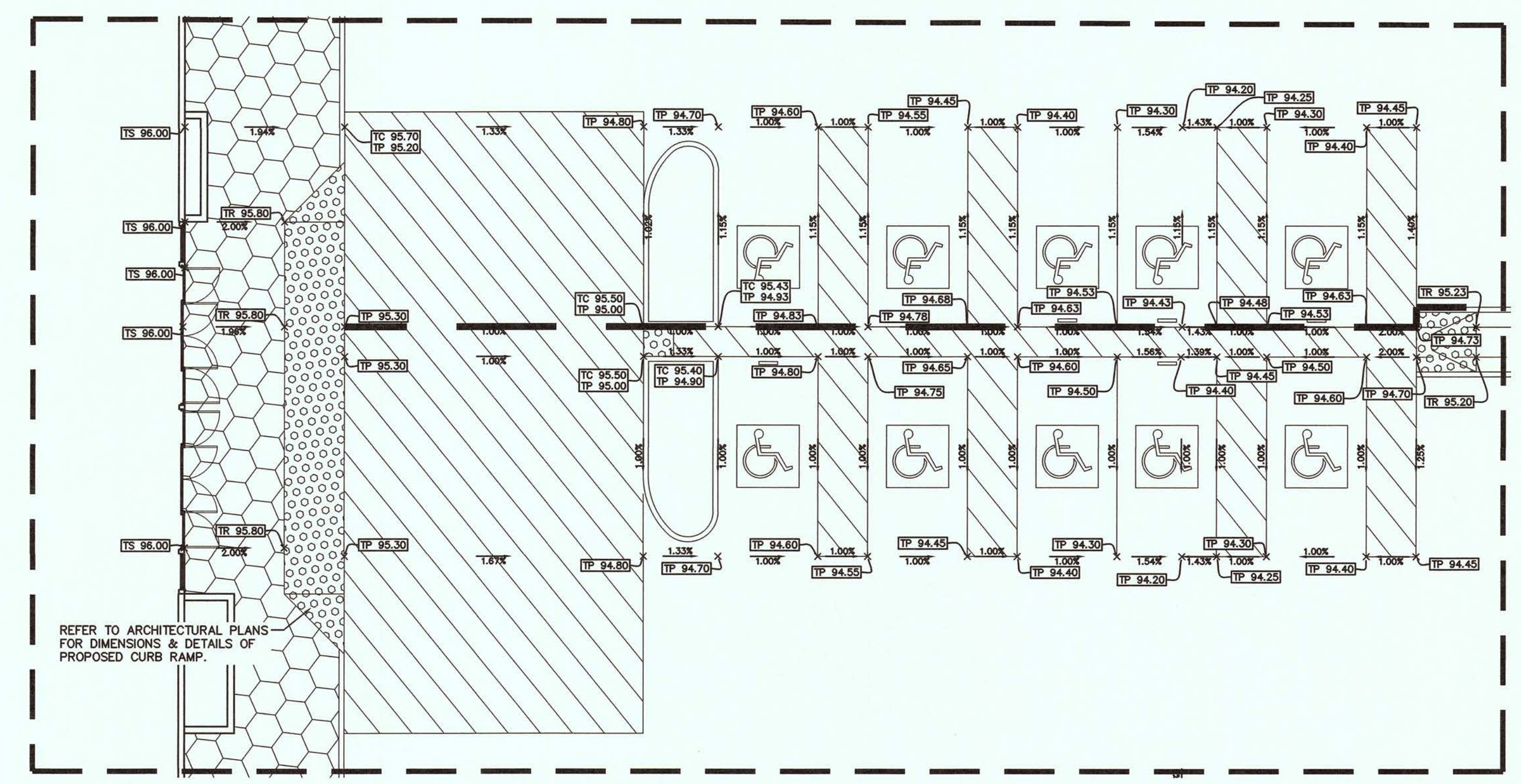
APPROVED: *[Signature]*  
 DEVELOPMENT COORDINATOR  
 DATE: 4/24/17



**BENCHMARK:**  
 NATIONAL GEODETIC SURVEY MARKER, DESIGNATION "E 1280", PID "AW2158"; DISK STAMPED "E 1280 1978" LOCATED ABOUT 4.6 MILES EAST ALONG FARM ROAD 1093 FROM THE SOUTHERN PACIFIC RAILROAD STATION IN FULSHEAR. ALSO, 1.7 MILES EAST ALONG FARM ROAD 1093 FROM THE JUNCTION OF FARM ROADS 359 AND 1463, SETE 0.1 MILE NORTHWEST OF A POWER LINE SUB-STATION, 60 FEET NORTH OF THE CENTERLINE OF THE ROAD, 20.5 FEET EAST OF THE CENTERLINE OF A FIELD ROAD AND GATE LEADING NORTH, 2.5 FEET WEST-NORTHWEST OF A POWER POLE, NUMBER 1405, AND 1 FOOT SOUTH OF A FENCE. THE MARK IS 0.3 METERS SOUTH FROM A WITNESS POST.  
 ELEVATION = 125.06' (NAVD 1988)

**TEMPORARY BENCHMARK "A":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE SOUTH OF WEST BELLFORT.  
 ELEVATION = 93.75'

**TEMPORARY BENCHMARK "B":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE NORTH OF STATE HIGHWAY 99.  
 ELEVATION = 93.20'



NO.	REVISIONS	DATE
2	FBC/MLD COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017
NC		

**ALJ Lindsey**  
 Civil Engineers  
 8629 FM 1960 W., Suite 314  
 Houston, TX 77068  
 FRN F-11528

A. LESTER JONES  
 102152  
 REGISTERED PROFESSIONAL ENGINEER  
 21 APRIL 2017

**GRADING PLAN (2 OF 2)**

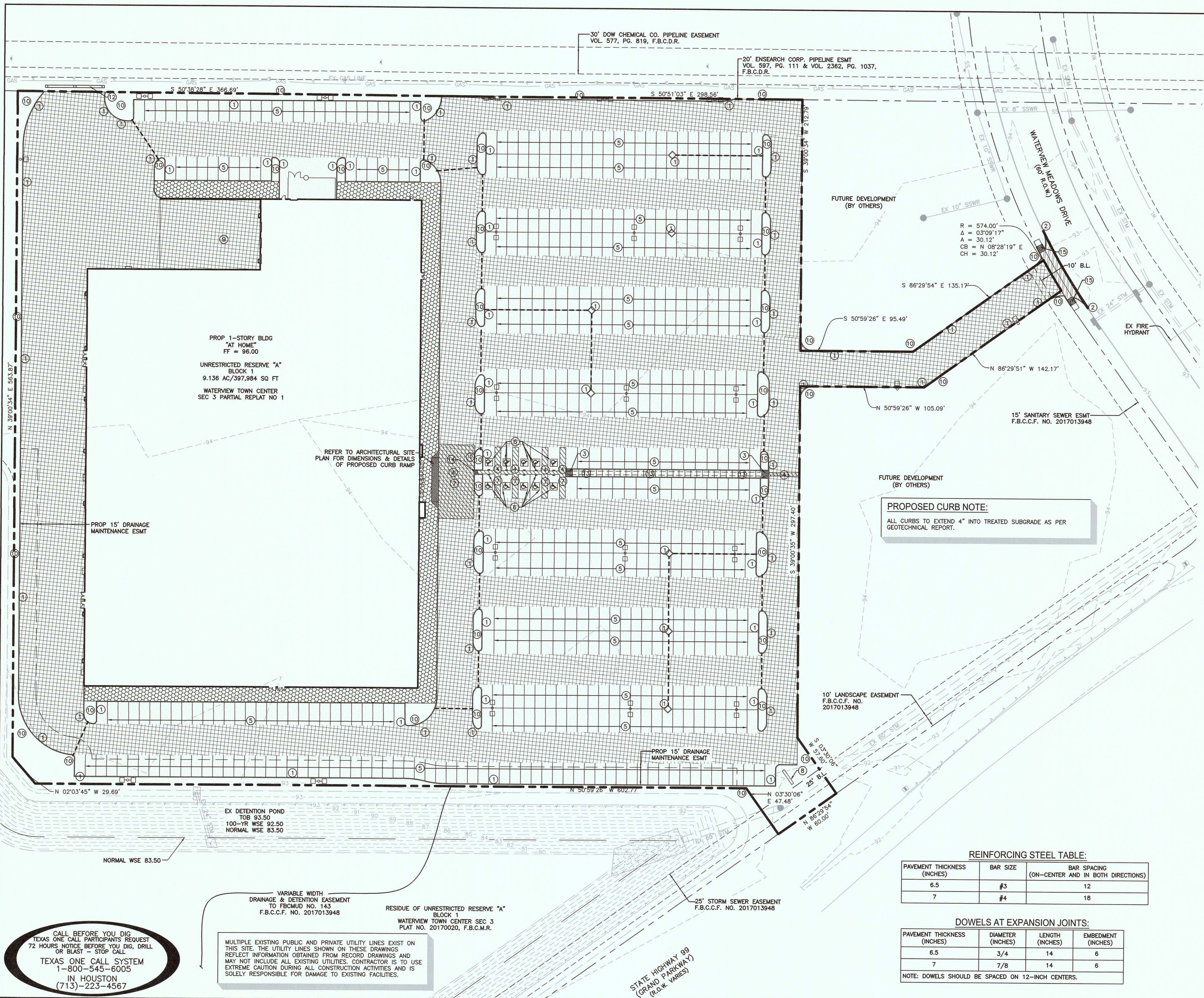
**AT HOME @  
 WATERVIEW TOWN CENTER  
 FORT BEND COUNTY, TEXAS**

CALL BEFORE YOU DIG  
 TEXAS ONE CALL PARTICIPANTS REQUEST  
 72 HOURS NOTICE BEFORE YOU DIG, DRILL  
 OR BLAST - STOP CALL  
 TEXAS ONE CALL SYSTEM  
 1-800-545-6005  
 IN HOUSTON  
 (713)-223-4567

SHEET  
**C4.1**

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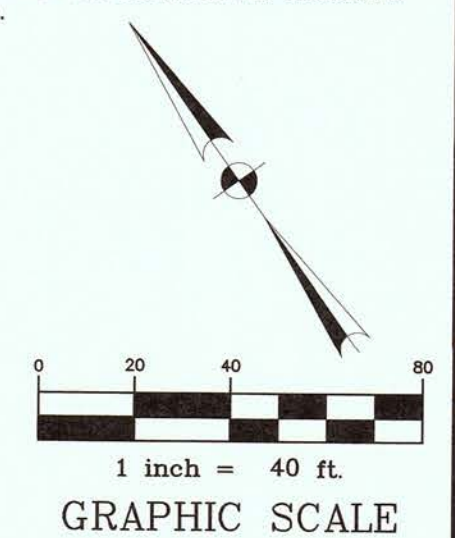
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 DEVELOPMENT COORDINATOR  
 DATE: 4/21/17



**BENCHMARK:**  
 NATIONAL GEODETIC SURVEY MARKER, DESIGNATION "E 1280", PID "AW2158", DISK STAMPED "E 1280 1978" LOCATED ABOUT 4.6 MILES EAST ALONG FARM ROAD 1093 FROM THE SOUTHERN PACIFIC RAILROAD STATION IN FULSHEAR, ALSO, 1.7 MILES EAST ALONG FARM ROAD 1093 FROM THE JUNCTION OF FARM ROADS 359 AND 1463, SETE 0.1 MILE NORTHWEST OF A POWER LINE SUB-STATION, 60 FEET NORTH OF THE CENTERLINE OF THE ROAD, 20.5 FEET EAST OF THE CENTERLINE OF A FIELD ROAD AND GATE LEADING NORTH, 4.25 FEET WEST-NORTHWEST OF A POWER POLE, NUMBER 1405, AND 1 FOOT SOUTH OF A FENCE. THE MARK IS 0.3 METERS SOUTH FROM A WITNESS POST. ELEVATION = 125.06' (NAVD 1988)

**TEMPORARY BENCHMARK "A":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE SOUTH OF WEST BELFORT. ELEVATION = 93.75'

**TEMPORARY BENCHMARK "B":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE NORTH OF STATE HIGHWAY 99. ELEVATION = 93.20'



- KEYED NOTES**
- PROPOSED 6" MONOLITHIC CONCRETE CURB (SEE DETAIL, SHEET C7.4)
  - TIE THE PROPOSED CURB INTO EXISTING CURB
  - CONSTRUCT CURB RAMP (SEE DETAIL, SHEET C7.0)
  - 4" PAINTED WHITE STRIPING @ 2' O.C. @ 45°
  - 90° WHITE PARKING LOT STRIPING
  - HANDICAP PARKING SYMBOL W/ SIGNAGE (SEE DETAIL, SHEET C7.0 & ARCHITECTURAL PLANS)
  - HANDICAP ACCESSIBLE PARKING STALL STRIPING
  - SIGN (REF. ARCHITECTURAL PLANS)
  - TRUCK DOCK (REF. ARCHITECTURAL & STRUCTURAL PLANS)
  - LANDSCAPED AREA (REF. LANDSCAPE PLANS)
  - EDGE OF PAVEMENT (NO CURB)
  - TXDOT TYPE III BARRICADE (SEE DETAIL, SHEET C7.0)
  - CONCRETE SIDEWALK (SEE DETAIL, SHEET C7.2)
  - 3' x 3' LANDING W/ TRUNCATED DOMES (SEE DETAIL, SHEET C7.1)
  - PROP TXDOT "TYPE 7" CURB RAMP IN R.O.W. (PER DETAIL PED-12A, SHEET C7.5)
- PROPOSED LIGHT DUTY CONCRETE PAVEMENT WITH STABILIZED SUBGRADE (SEE NOTE 2 BELOW)  
 PROPOSED HEAVY DUTY CONCRETE PAVEMENT WITH STABILIZED SUBGRADE (SEE NOTE 2 BELOW)  
 PROPOSED BUILDING PERIMETER SIDEWALK (REF. ARCHITECTURAL PLANS FOR SURFACE FINISH, SEE GRADING ON SHEET C4.0)  
 PROPOSED DRIVEWAY PER FORT BEND COUNTY DESIGN STANDARDS  
 PROPOSED IRRIGATION SLEEVE (SEE NOTE 3)  
 CONCRETE TO CONCRETE PAVEMENT CONNECTION (INCLUDING 2" SAWCUT, EXISTING PAVEMENT REMOVAL, EXISTING CURB REMOVAL, DOWEL INTO EXISTING PAVEMENT, CONCRETE PAVEMENT HEADER AND SEALED JOINTS)  
 EX. CONTOUR

**PROPOSED CURB NOTE:**  
 ALL CURBS TO EXTEND 4" INTO TREATED SUBGRADE AS PER GEOTECHNICAL REPORT.

**REINFORCING STEEL TABLE:**

PAVEMENT THICKNESS (INCHES)	BAR SIZE	BAR SPACING (ON-CENTER AND IN BOTH DIRECTIONS)
6.5	#3	12
7	#4	18

**DOWELS AT EXPANSION JOINTS:**

PAVEMENT THICKNESS (INCHES)	DIAMETER (INCHES)	LENGTH (INCHES)	EMBEDMENT (INCHES)
6.5	3/4	14	6
7	7/8	14	6

NOTE: DOWELS SHOULD BE SPACED ON 12-INCH CENTERS.

- GENERAL NOTES**
- REFER TO SITE ELECTRICAL PLAN FOR PROPOSED SITE LIGHTING LAYOUT.
  - PAVEMENT AND SUBGRADE THICKNESS INCLUDED ON THIS SHEET FOR REFERENCE ONLY. REFER TO GEOTECHNICAL REPORT PREPARED BY GC LABORATORIES, INC., DATED MARCH 2017 (PROJECT NO. 17G13632).
  - REFER TO IRRIGATION PLAN FOR EXACT LOCATION OF IRRIGATION SLEEVES.
  - MAXIMUM CONTROL JOINT SPACING TO BE 15'-FT AND EXPANSION JOINT SPACING TO BE 60'-FT.
  - CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS AND ALL STEEL TO BE GRADE 60, UNLESS OTHERWISE SPECIFIED IN GEOTECHNICAL REPORT.
  - PAVING CONTRACTOR TO CONFIRM AND/OR ADJUST ALL EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISHED GRADE PRIOR TO PLACEMENT OF ANY PAVING.

CALL BEFORE YOU DIG  
 TEXAS ONE CALL PARTICIPANTS REQUEST  
 72 HOURS NOTICE BEFORE YOU DIG, DRILL  
 OR BLAST - STOP CALL  
 TEXAS ONE CALL SYSTEM  
 1-800-545-6005  
 IN HOUSTON  
 (713)-223-4567

MULTIPLE EXISTING PUBLIC AND PRIVATE UTILITY LINES EXIST ON THIS SITE. THE UTILITY LINES SHOWN ON THESE DRAWINGS REFLECT INFORMATION OBTAINED FROM RECORD DRAWINGS AND MAY NOT INCLUDE ALL EXISTING UTILITIES. CONTRACTOR IS TO USE EXTREME CAUTION DURING ALL CONSTRUCTION ACTIVITIES AND IS SOLELY RESPONSIBLE FOR DAMAGE TO EXISTING FACILITIES.

DATE	04/21/2017
REVISIONS	03/31/2017
AGENCY COMMENTS	
FBC/MUD COMMENTS	
NO.	1

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 281.301.5855  
 FRN F-11926

**A. LESTER JONES**  
 REGISTERED PROFESSIONAL ENGINEER  
 02152

21 APRIL 2017

**PAVING PLAN**

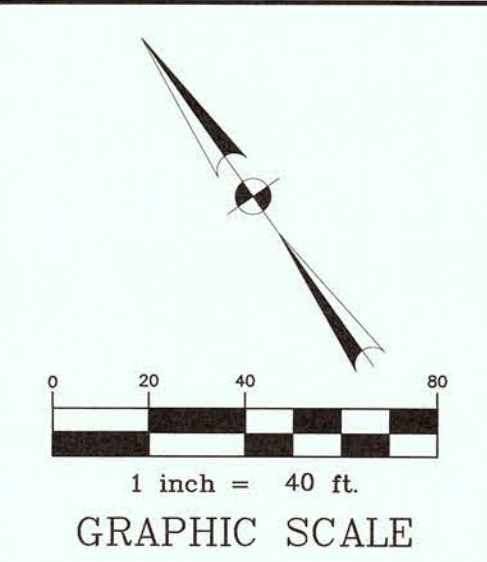
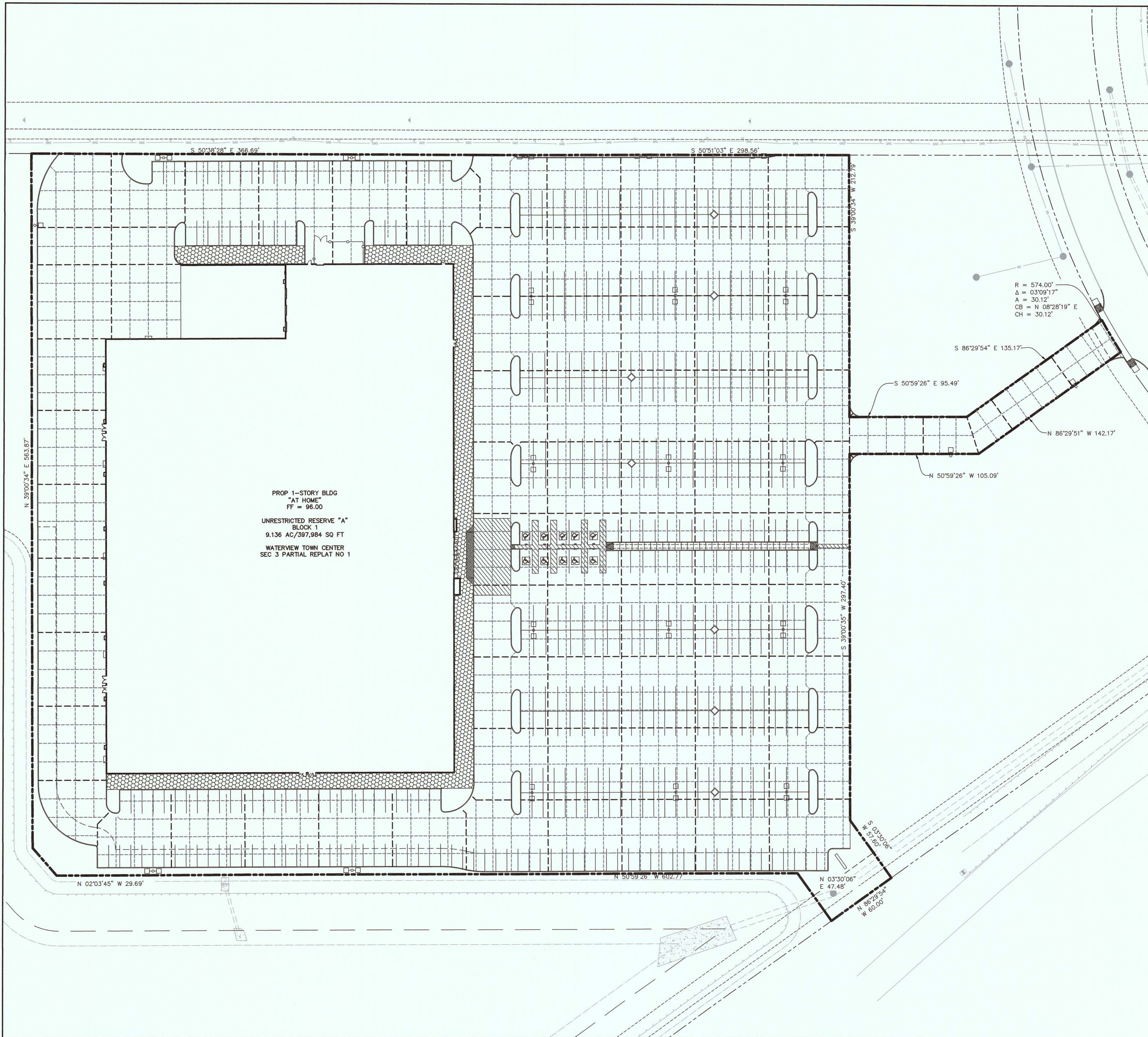
**AT HOME @ WATERVIEW TOWN CENTER FORT BEND COUNTY, TEXAS**

SHEET  
**C5.0**

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *Caramel R. Jones*  
 DEVELOPMENT COORDINATOR

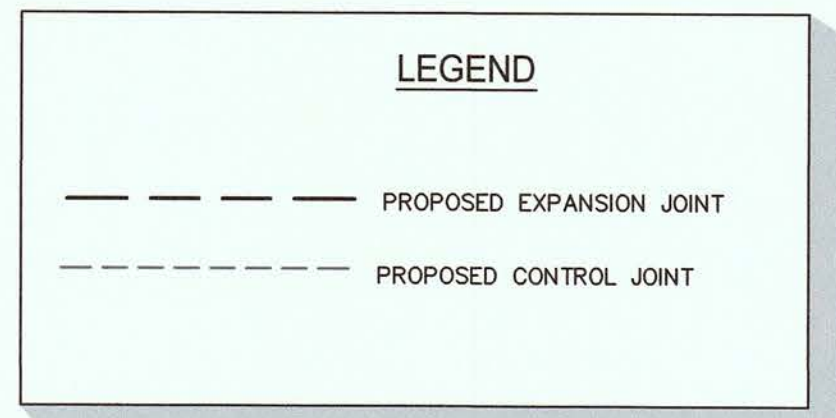
DATE: 4/26/17



**BENCHMARK:**  
 NATIONAL GEODETIC SURVEY MARKER, DESIGNATION "E 1280", PID "AW2158"; DISK STAMPED "E 1280 1978" LOCATED ABOUT 4.6 MILES EAST ALONG FARM ROAD 1093 FROM THE SOUTHERN PACIFIC RAILROAD STATION IN FULSHEAR. ALSO, 1.7 MILES EAST ALONG FARM ROAD 1093 FROM THE JUNCTION OF FARM ROADS 359 AND 1463, SETE 0.1 MILE NORTHWEST OF A POWER LINE SUB-STATION, 60 FEET NORTH OF THE CENTERLINE OF THE ROAD, 20.5 FEET EAST OF THE CENTERLINE OF A FIELD ROAD AND GATE LEADING NORTH, 2.5 FEET WEST-NORTHWEST OF A POWER POLE, NUMBER 1405, AND 1 FOOT SOUTH OF A FENCE. THE MARK IS 0.3 METERS SOUTH FROM A WITNESS POST.  
 ELEVATION = 125.06' (NAVD 1988)

**TEMPORARY BENCHMARK "A":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE SOUTH OF WEST BELLFORT.  
 ELEVATION = 93.75'

**TEMPORARY BENCHMARK "B":**  
 A CUT BOX IN FIRST CONCRETE "C" INLET LOCATED ON THE WEST R.O.W. OF WATERVIEW MEADOW DRIVE NORTH OF STATE HIGHWAY 99.  
 ELEVATION = 93.20'



**GENERAL NOTES**

1. MAXIMUM CONTROL JOINT SPACING TO BE 15-FT AND EXPANSION JOINT SPACING TO BE 60-FT.

NO.	REVISIONS	DATE
2	FBC/AJLD COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017

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 5629 FM 1980 W., Suite 314  
 Houston, TX 77098  
 PRN F-1826

**A. LESTER JONES**  
 REGISTERED PROFESSIONAL ENGINEER  
 102152  
 21 APRIL 2017

**JOINT PAVEMENT PLAN**

**AT HOME @ WATERVIEW TOWN CENTER FORT BEND COUNTY, TEXAS**

SHEET  
**C5.1**

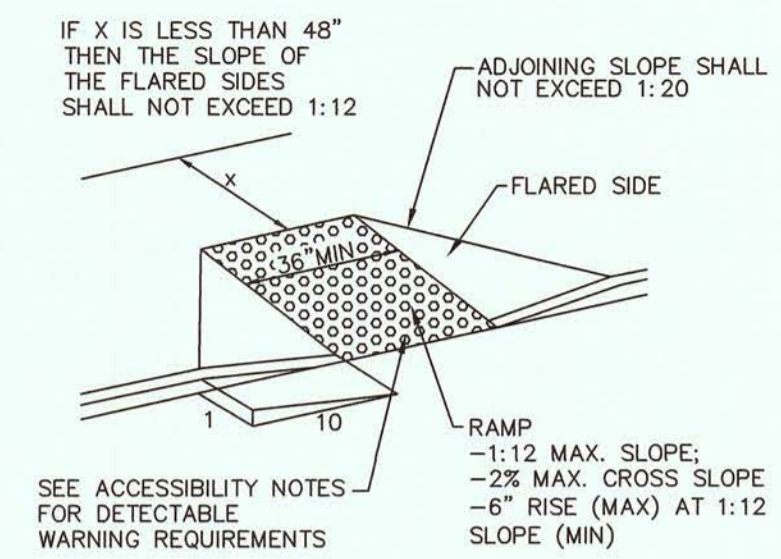
CALL BEFORE YOU DIG  
 TEXAS ONE CALL PARTICIPANTS REQUEST  
 72 HOURS NOTICE BEFORE YOU DIG, DRILL  
 OR BLAST - STOP CALL  
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 1-800-545-6005  
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 (713)-223-4567

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *Cassandra R...*  
 DEVELOPMENT COORDINATOR

DATE: 4/24/17





**CURB RAMP DETAIL - FLARED SIDES**  
N.T.S.

**ACCESSIBILITY NOTES:**

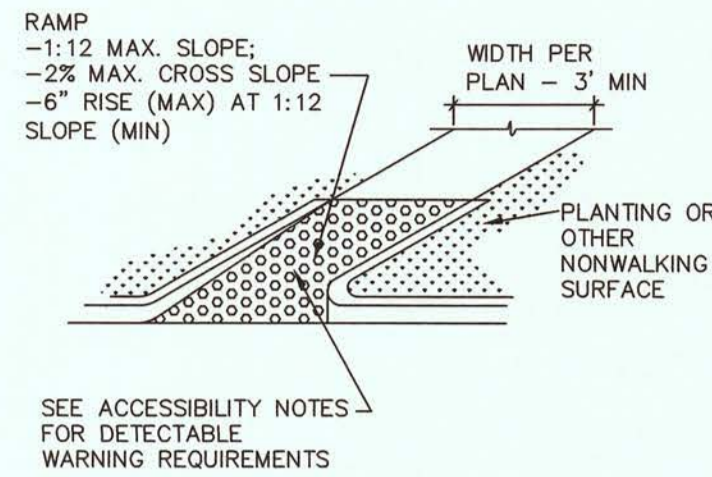
- ALL ACCESSIBLE SPACES AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND CITY/COUNTY REQUIREMENTS.
- ACCESSIBLE PARKING SPACES AND DRIVE AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:48 (2.08%) IN ALL DIRECTIONS. CURB RAMPS SHALL BE PROVIDED AT ALL PASSENGER LOADING ZONES.
- EACH ACCESSIBLE PARKING SPACE SHALL BE DESIGNATED AS RESERVED BY AN APPROPRIATE SIGN SHOWING THE SYMBOL OF ACCESSIBILITY PER TAS SECTION 216.5. SPACES COMPLYING WITH TAS SECTION 502.6 SHALL HAVE AN ADDITIONAL SIGN "VAN-ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY.
  - SIGNS SHALL BE LOCATED 60" MIN. ABOVE THE GROUND, FLOOR, OR PAVING SURFACE MEASURED TO THE BOTTOM OF THE SIGN SO THEY CANNOT BE OBTUSCURED BY A VEHICLE PARKED IN THE SPACE.
  - SIGNS LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL COMPLY WITH TAS SECTION 307.4.
  - CHARACTERS AND SYMBOLS ON OVERHEAD SIGNS SHALL COMPLY WITH TAS SECTION 703.5.
- SLOPES OF CURB RAMPS SHALL COMPLY WITH TAS SECTION 405.2. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
- SURFACES OF CURB RAMPS SHALL COMPLY WITH TAS SECTIONS 405.4 AND 302.1.

**CURB RAMPS IN PUBLIC RIGHT-OF-WAY**  
ALL CURB RAMPS SHALL COMPLY WITH ARCHITECTURAL BARRIERS ADMINISTRATIVE RULE 68.102(B)(2):

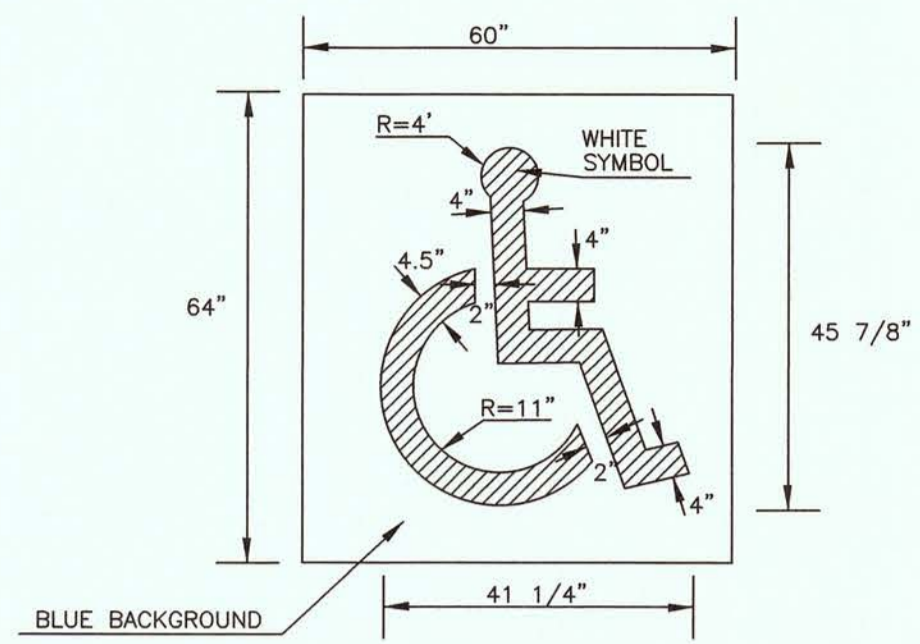
- DETECTABLE WARNING STRIP SHALL EXTEND A MINIMUM OF 24" IN DEPTH (IN DIRECTION OF PEDESTRIAN TRAVEL)
- DETECTABLE WARNING STRIP SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING.

**CURB RAMPS NOT IN PUBLIC RIGHT-OF-WAY**  
ALL CURB RAMPS NOT CONSTRUCTED IN PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH TAS 406:

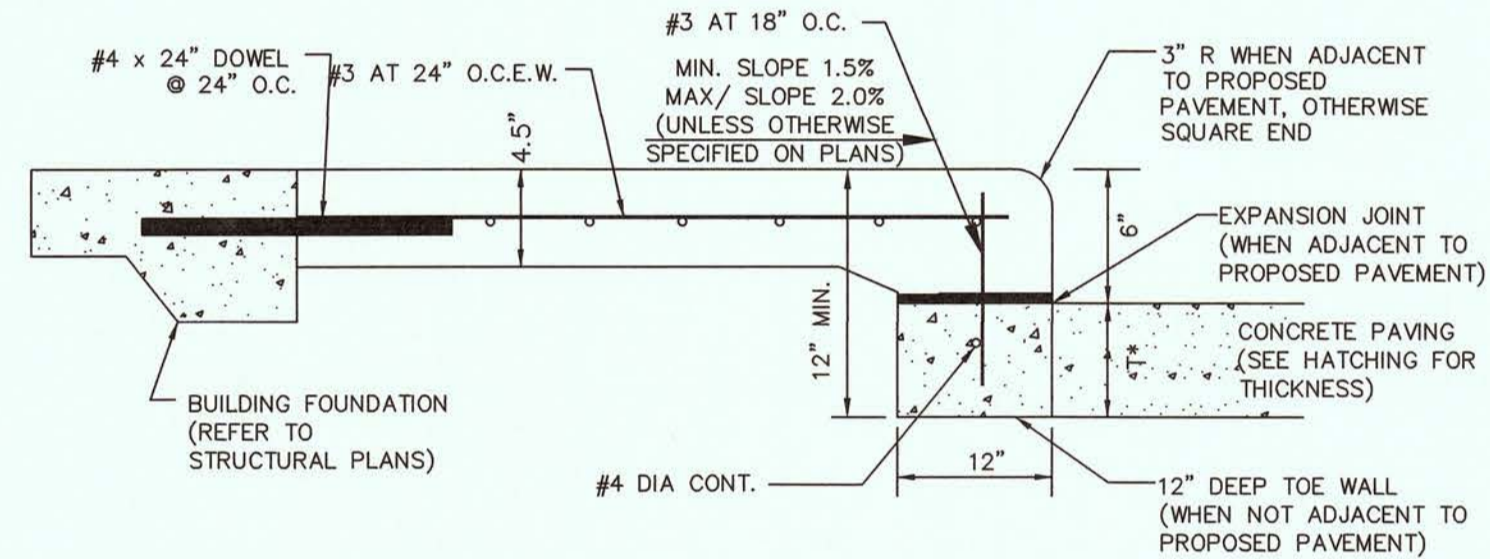
- DETECTABLE WARNING STRIPS ARE NOT REQUIRED ON CURB RAMPS NOT IN PUBLIC RIGHT-OF-WAY.



**CURB RAMP DETAIL - SQUARE SIDES**  
N.T.S.

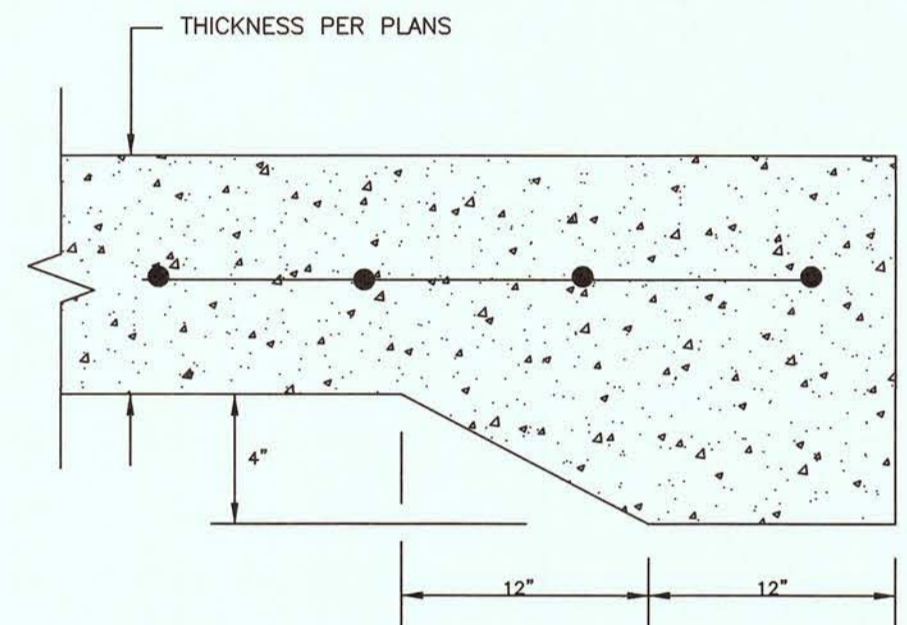


**HANDICAP SURFACE PAINT DETAIL**  
N.T.S.

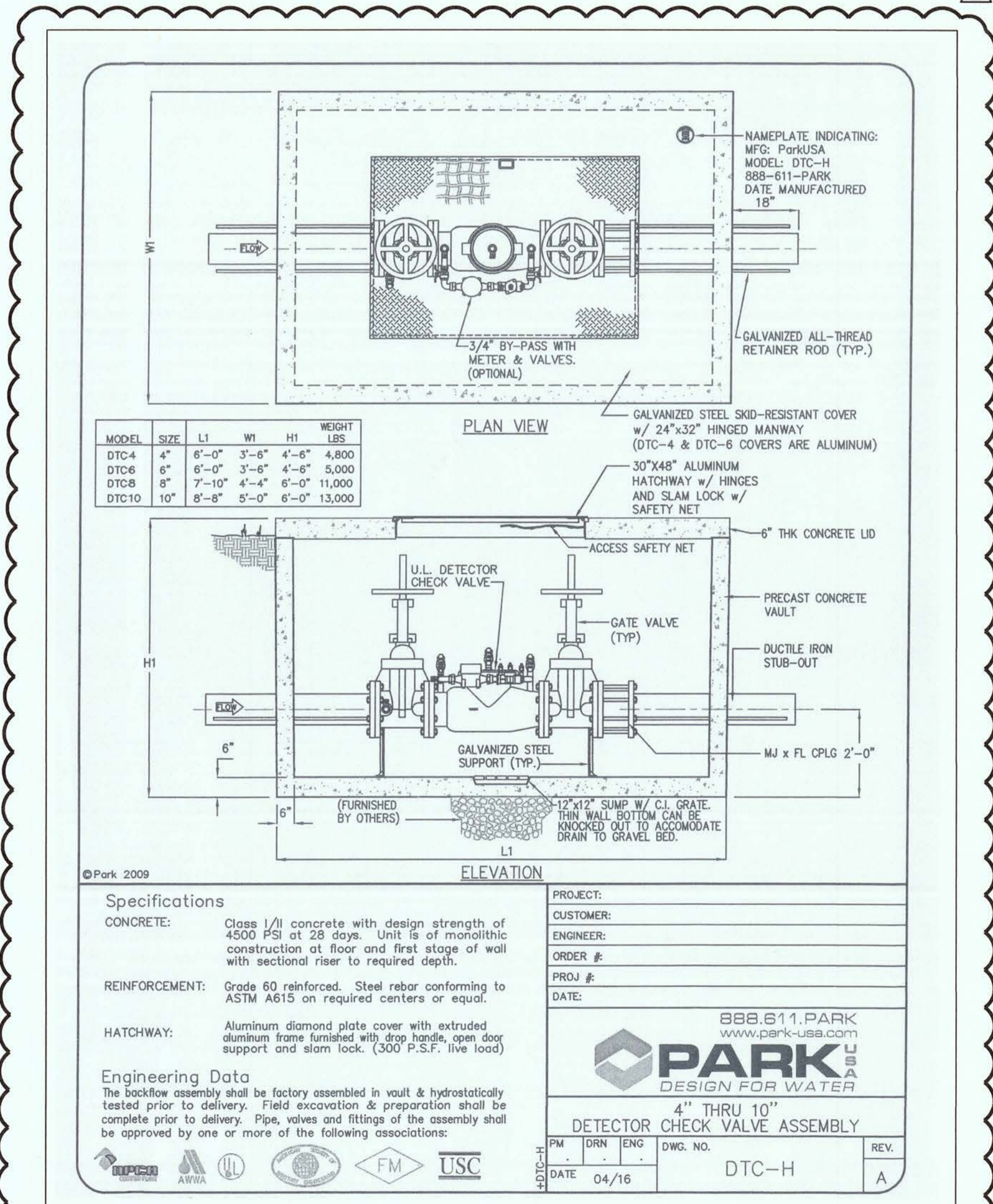


**BUILDING PERIMETER SIDEWALK**  
N.T.S.

\* = FOR REQUIRED PAVEMENT/SUBGRADE THICKNESS, SEE HATCHING ON PLAN, REFERENCE GEOTECHNICAL REPORT FOR SPECIFICATIONS.



**STANDARD PAVING HEADER**  
N.T.S.



**Specifications**

**CONCRETE:** Class I/II concrete with design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.

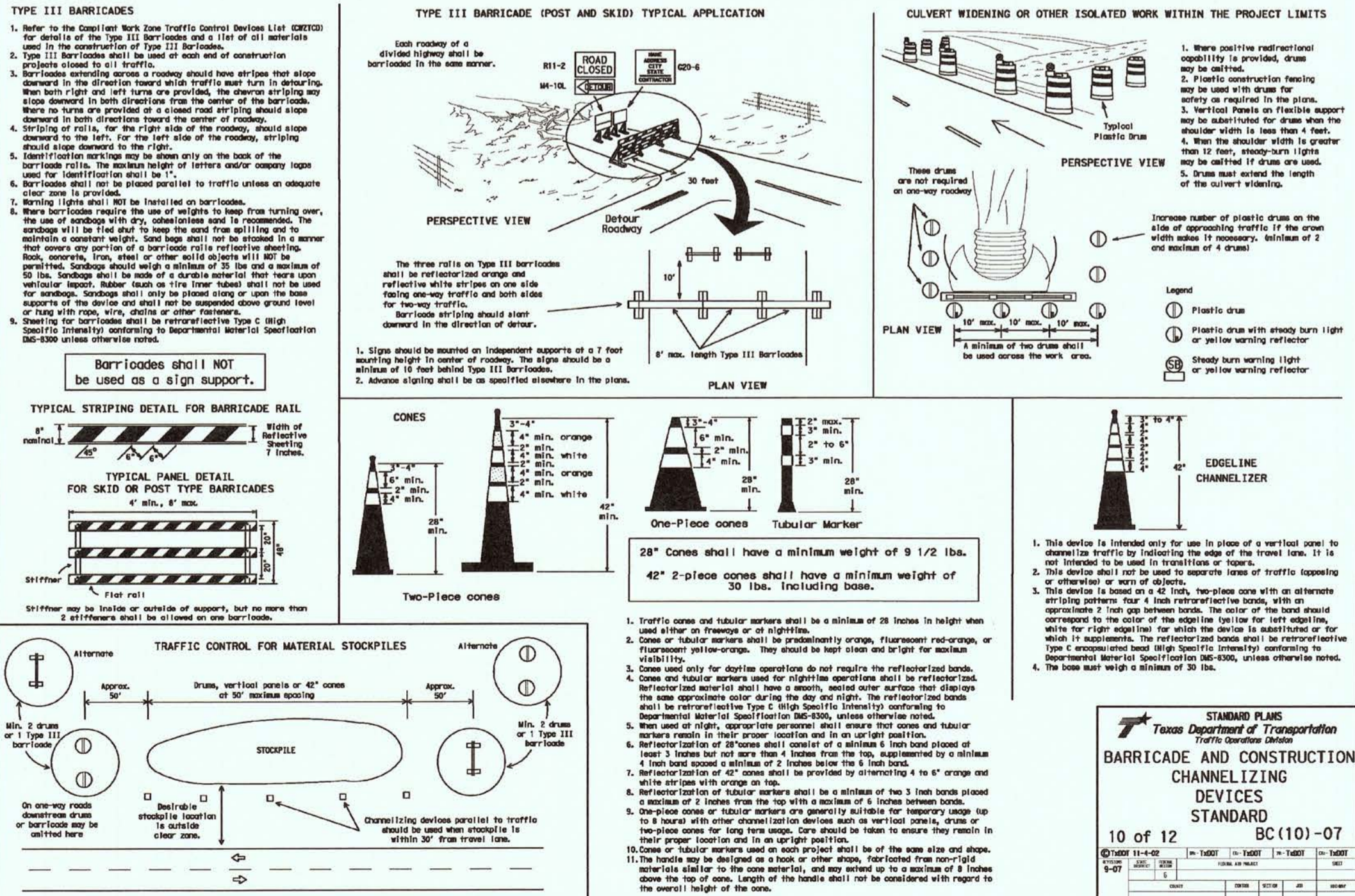
**REINFORCEMENT:** Grade 60 reinforced. Steel rebar conforming to ASTM A615 as required centers or equal.

**HATCHWAY:** Aluminum diamond plate cover with extruded aluminum frame furnished with drop handle, open door support and slam lock. (300 P.S.F. live load)

**Engineering Data**

The backflow assembly shall be factory assembled in vault & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves and fittings of the assembly shall be approved by one or more of the following associations:

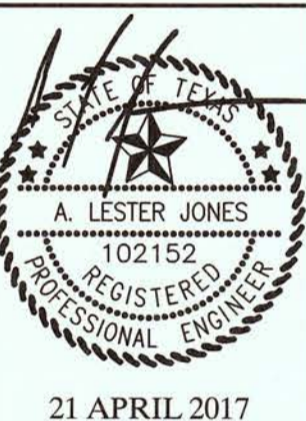
PROJECT: 888 B11, PARK  
CUSTOMER: www.park-usa.com  
ENGINEER: [Signature]  
ORDER #:  
PROJ #:  
DATE: 04/16  
DTC-H



**STANDARD PLANS**  
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES  
STANDARD  
10 of 12 BC (10) - 07

NO.	REVISIONS	DATE
2	FRC/ML/D COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017

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Houston, TX 77060  
PRN-F-11526



21 APRIL 2017

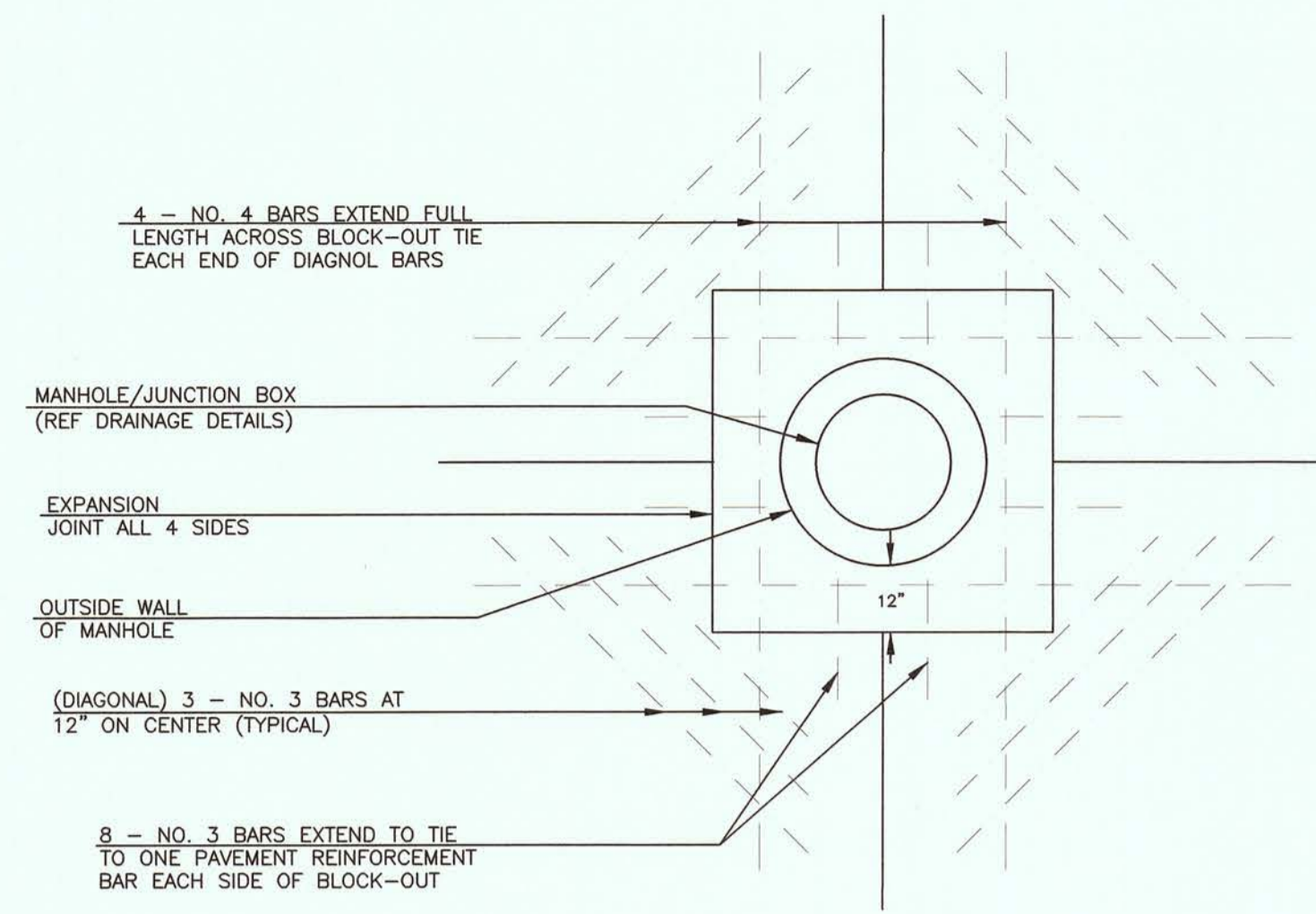
**CONSTRUCTION DETAILS**  
(1 OF 4)

**AT HOME @**  
WATERVIEW TOWN CENTER  
FORT BEND COUNTY, TEXAS

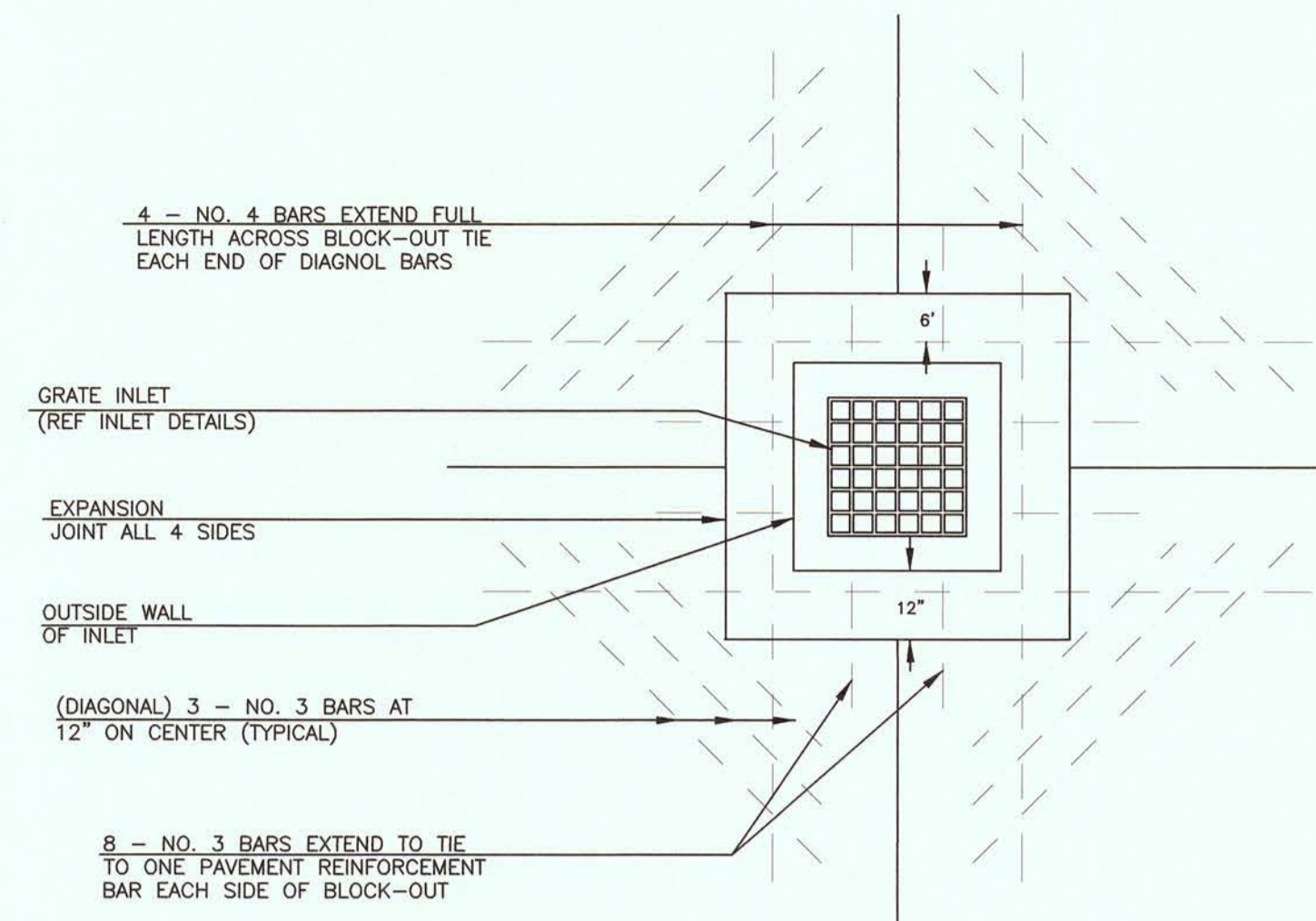
SHEET  
C7.0

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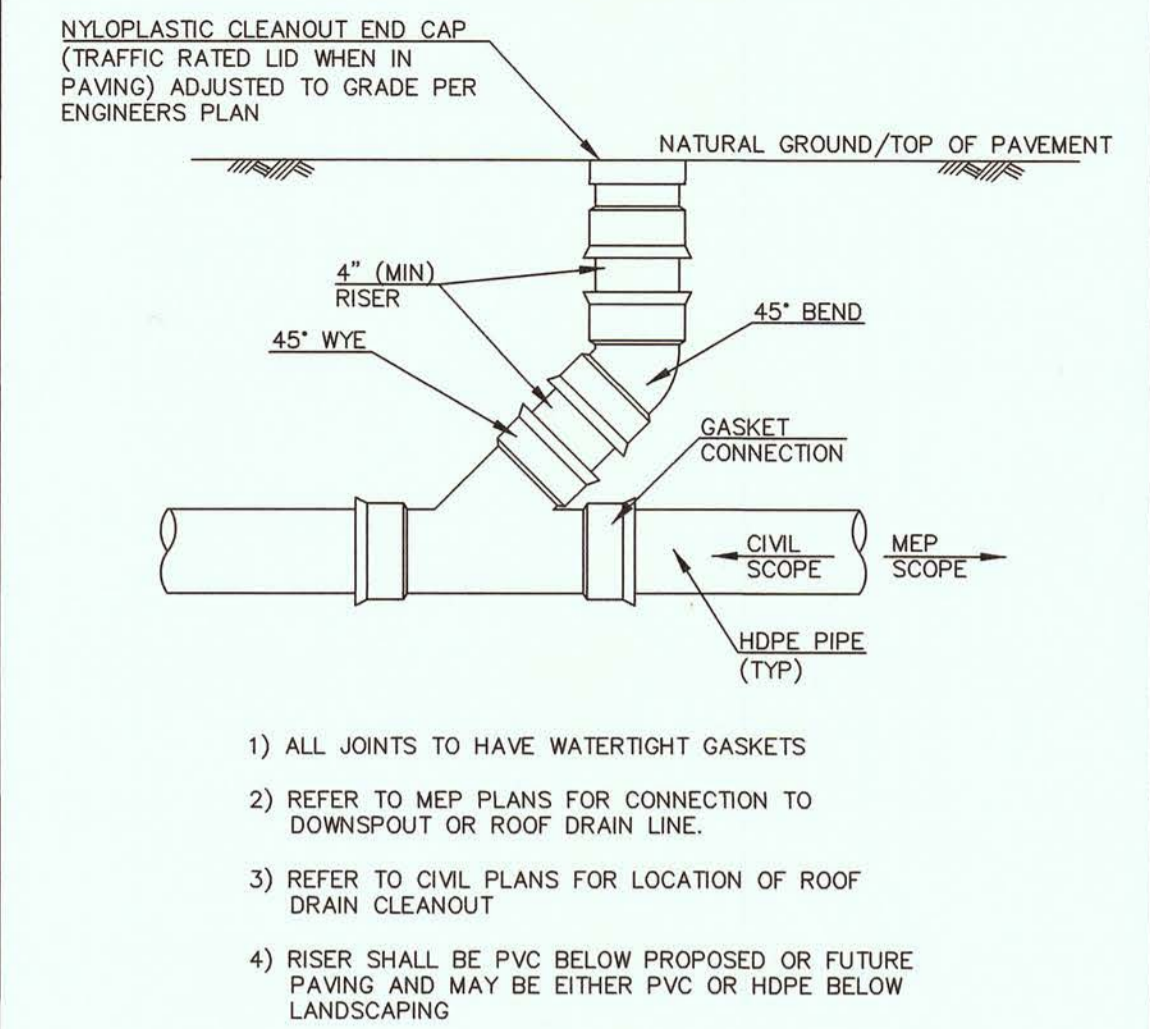
APPROVED: [Signature]  
DATE: 4/24/17



**MANHOLE CONCRETE BLOCKOUT**  
N.T.S.



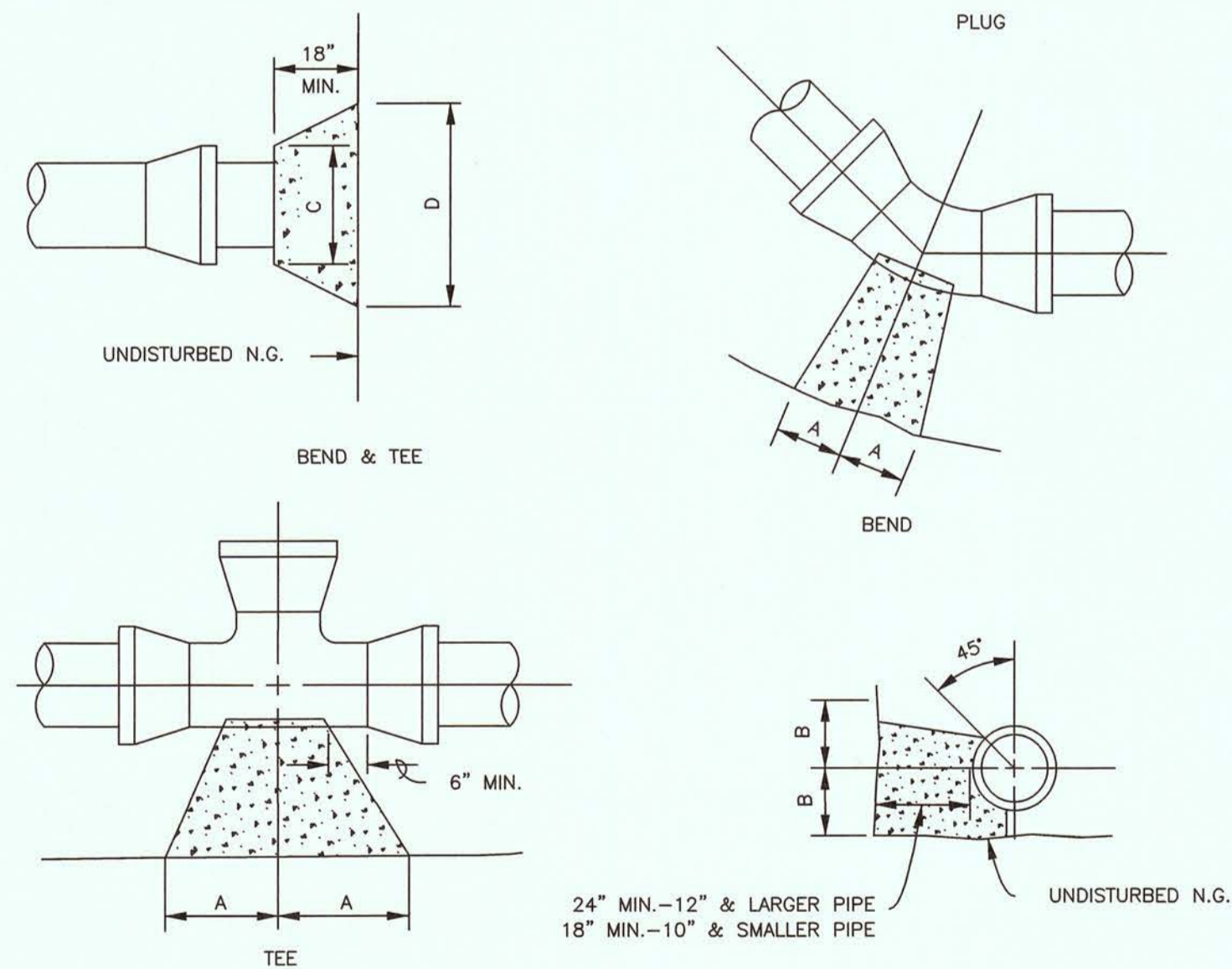
**GRATE INLET CONCRETE BLOCKOUT**  
N.T.S.



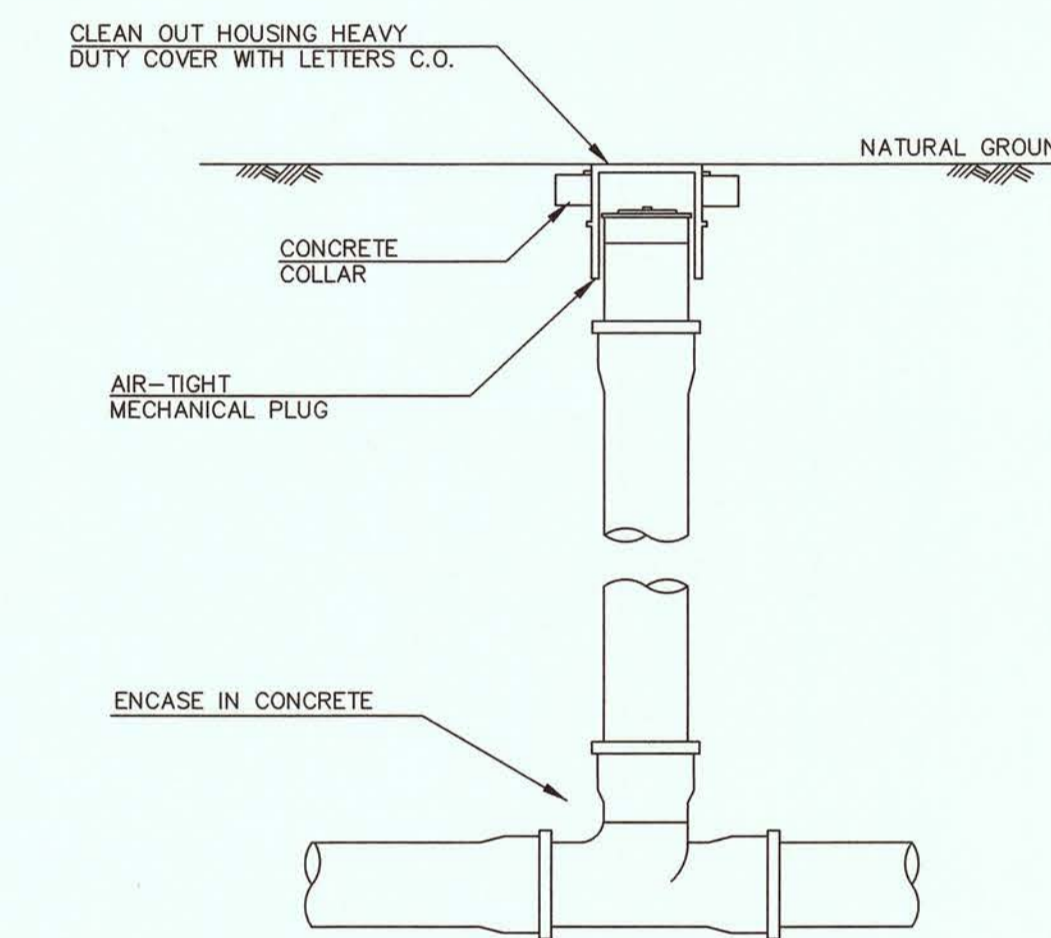
- 1) ALL JOINTS TO HAVE WATERTIGHT GASKETS
- 2) REFER TO MEP PLANS FOR CONNECTION TO DOWNSPOUT OR ROOF DRAIN LINE.
- 3) REFER TO CIVIL PLANS FOR LOCATION OF ROOF DRAIN CLEANOUT
- 4) RISER SHALL BE PVC BELOW PROPOSED OR FUTURE PAVING AND MAY BE EITHER PVC OR HDPE BELOW LANDSCAPING

**ROOF DRAIN CLEANOUT DETAIL**  
N.T.S.

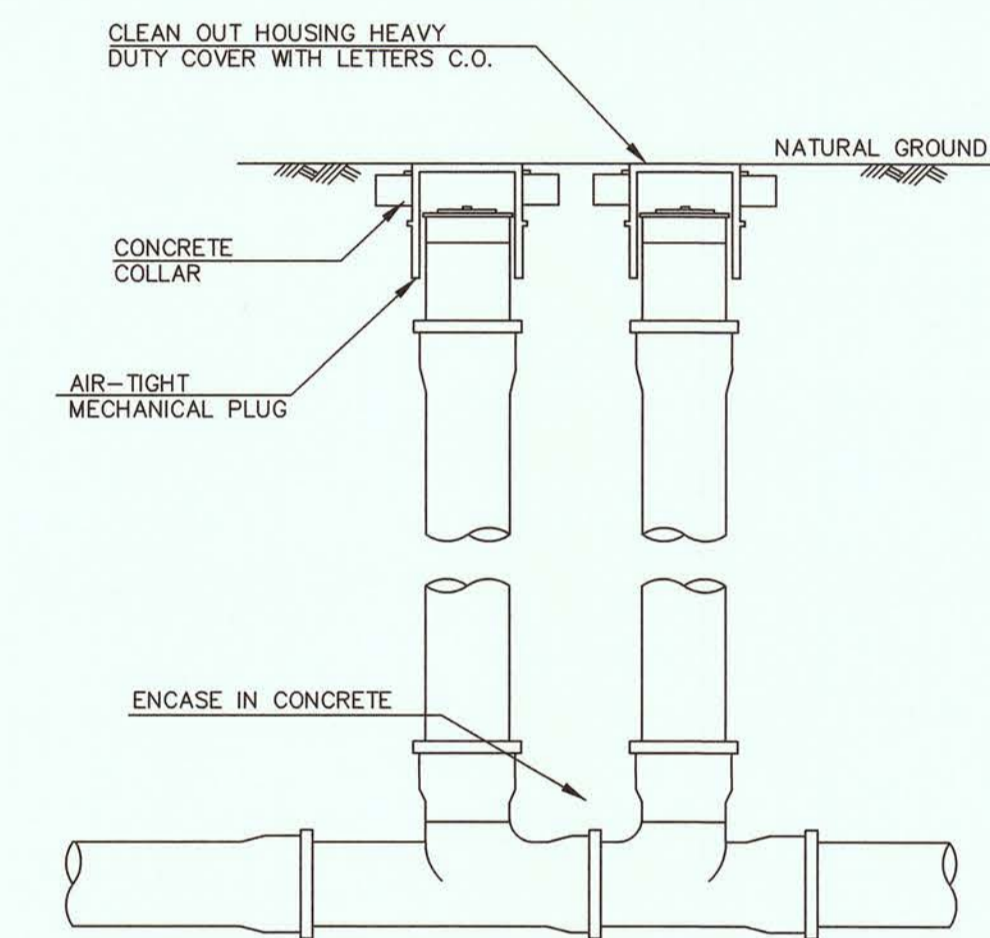
SIZE	90° BEND		45° BEND		22 1/2° BEND		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
2 1/2"	12"	7"	6"	7"	6"	6"	7"	8"	8"	14"
4"	14"	8"	7"	9"	6"	6"	8"	11"	8"	18"
6"	16"	10"	9"	10"	6"	6"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
12"	29"	21"	18"	21"	11"	16"	18"	24"	16"	41"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"



**CURB TRANSITION**  
N.T.S.



**CLEANOUT DETAIL**  
N.T.S.

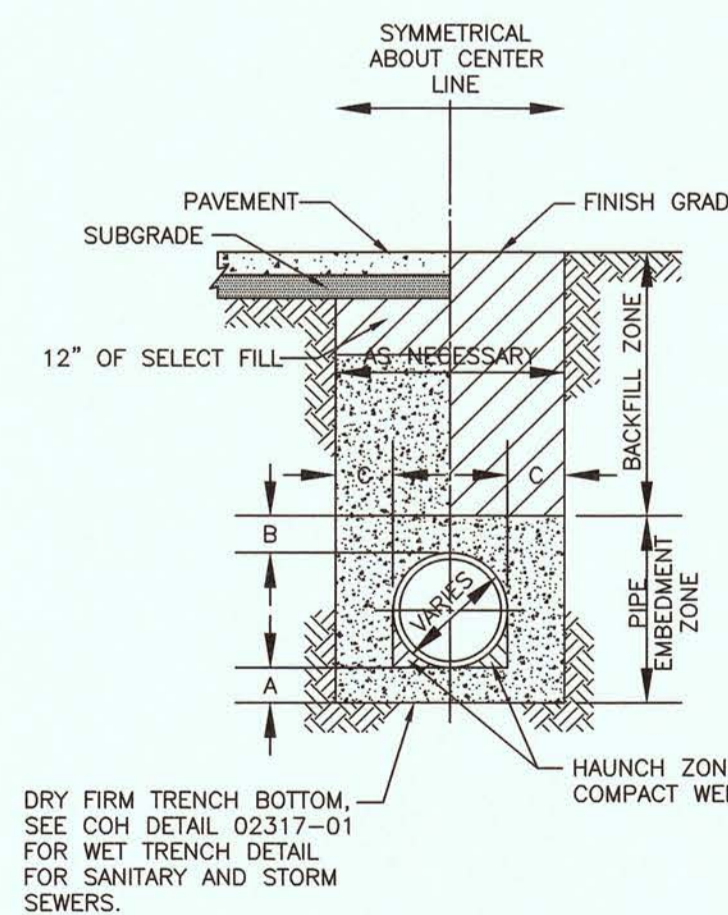


**2-WAY CLEANOUT DETAIL**  
N.T.S.

- NOTE:**
1. CONCRETE TO BE MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

- NOTE:**
- THRUST BLOCKS AT TRENCH FACE MUST HAVE A MINIMUM BEARING SURFACE OF 1.0 SQ. FOOT AND THE LEAST DIMENSION SHALL BE NO SMALLER THAN 1.5 TIMES PIPE DIAMETER, BUT NOT LESS THAN 1.0 FT.

**THRUST-BLOCKING**  
N.T.S.



**WATER, SANITARY AND STORM BEDDING AND BACKFILL FOR DRY STABLE TRENCH**  
N.T.S.

**DIMENSIONAL REQUIREMENTS**

PIPE SIZE	A	B	C
20" AND SMALLER	6"	12"	9"
21" THRU 48"	6"	12"	12"
54" THRU 66"	9"	12"	15"
72" AND LARGER	12"	18"	15"

**MATERIAL REQUIREMENTS**

**BACKFILL ZONE**

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 12" OF SUBGRADE.
2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

**PIPE EMBEDMENT ZONE**

1. FOR STORM AND SANITARY SEWERS, USE CEMENT STABILIZED SAND, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
2. FOR WATER LINES, USE SAND, PLACE IN 8" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

NO.	REVISIONS	DATE
2	FBC/ALJD COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017

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PRN F-11526

**A. LESTER JONES**  
102152  
REGISTERED PROFESSIONAL ENGINEER  
21 APRIL 2017

**CONSTRUCTION DETAILS**  
(2 OF 4)

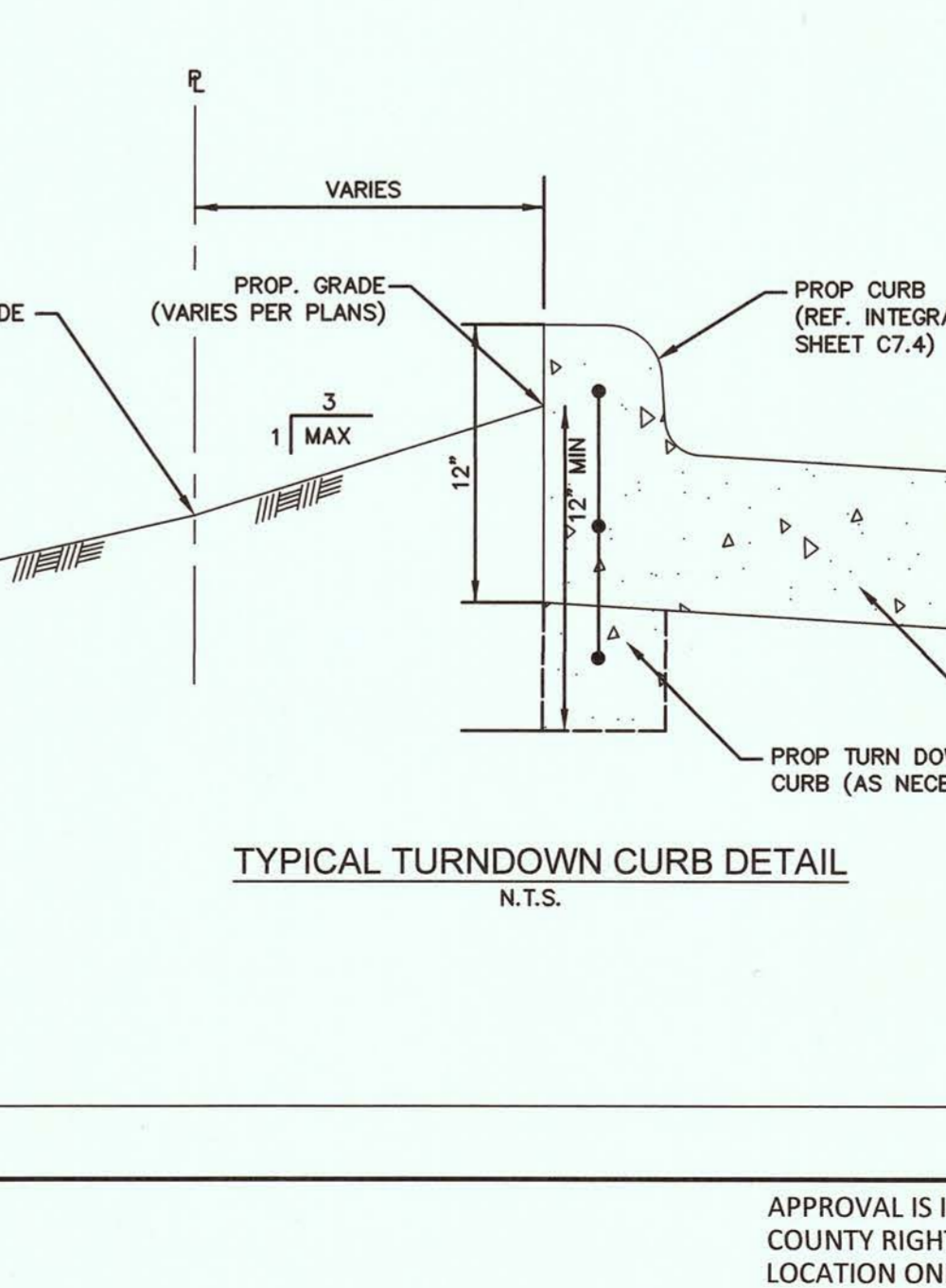
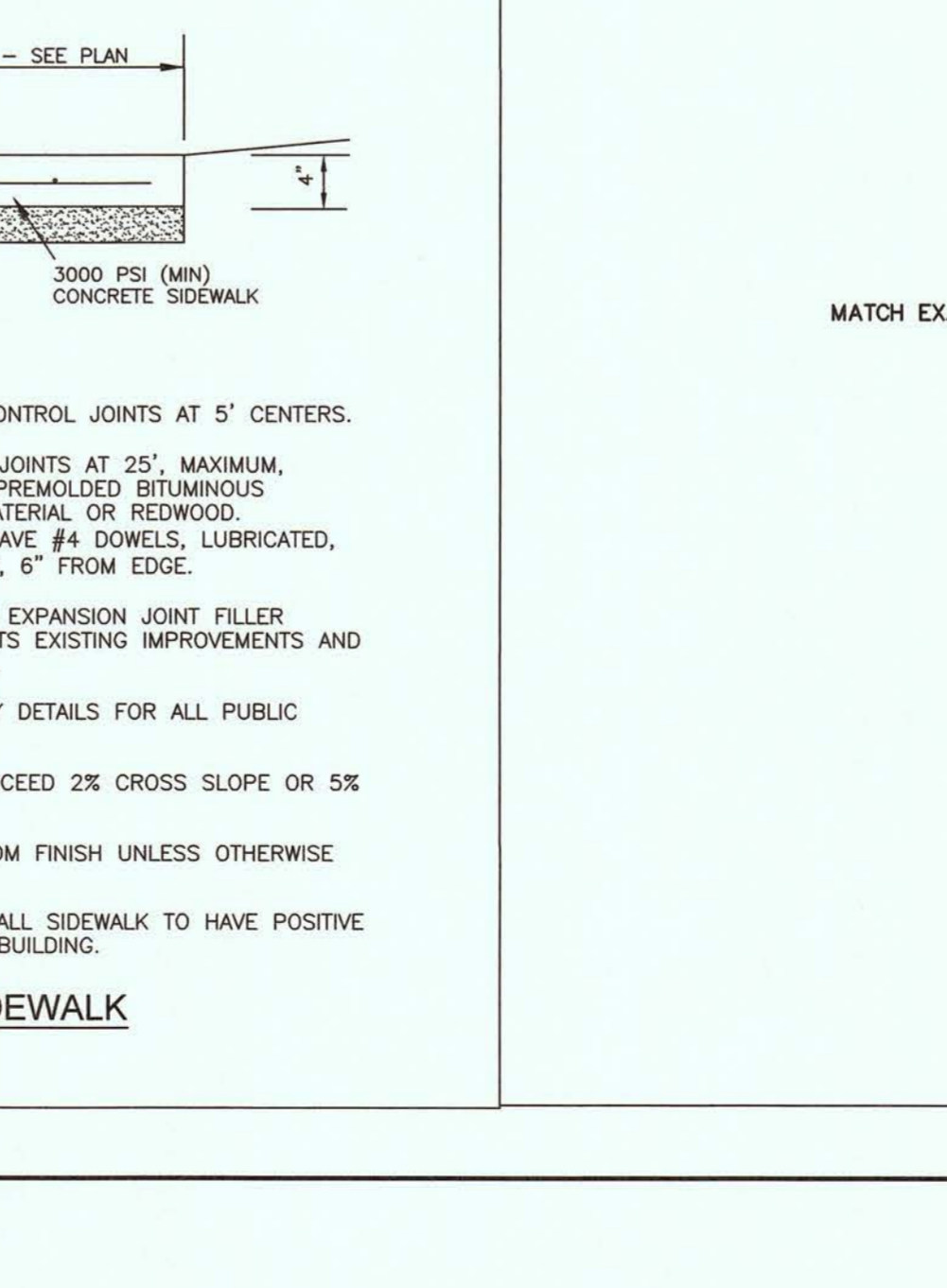
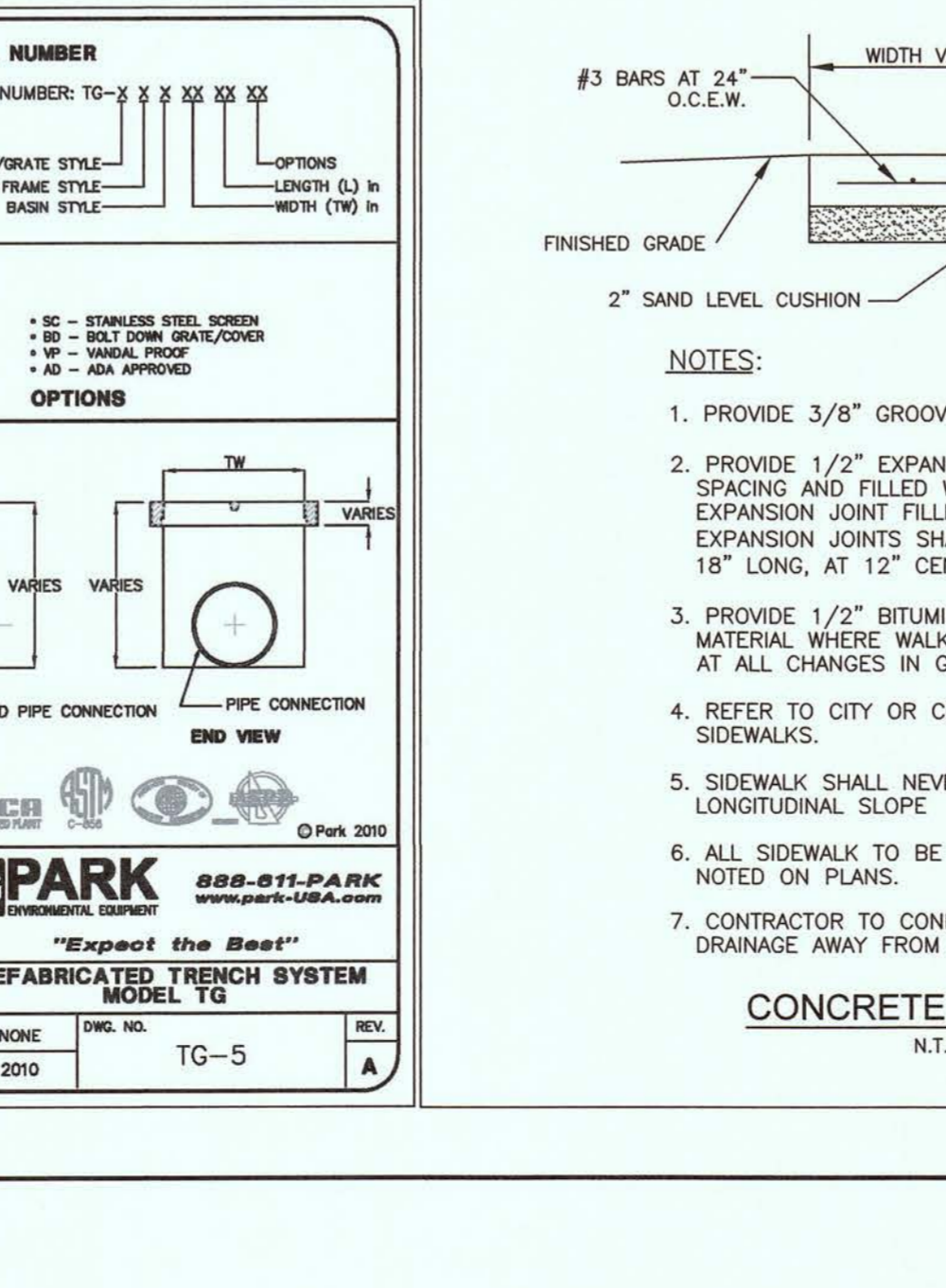
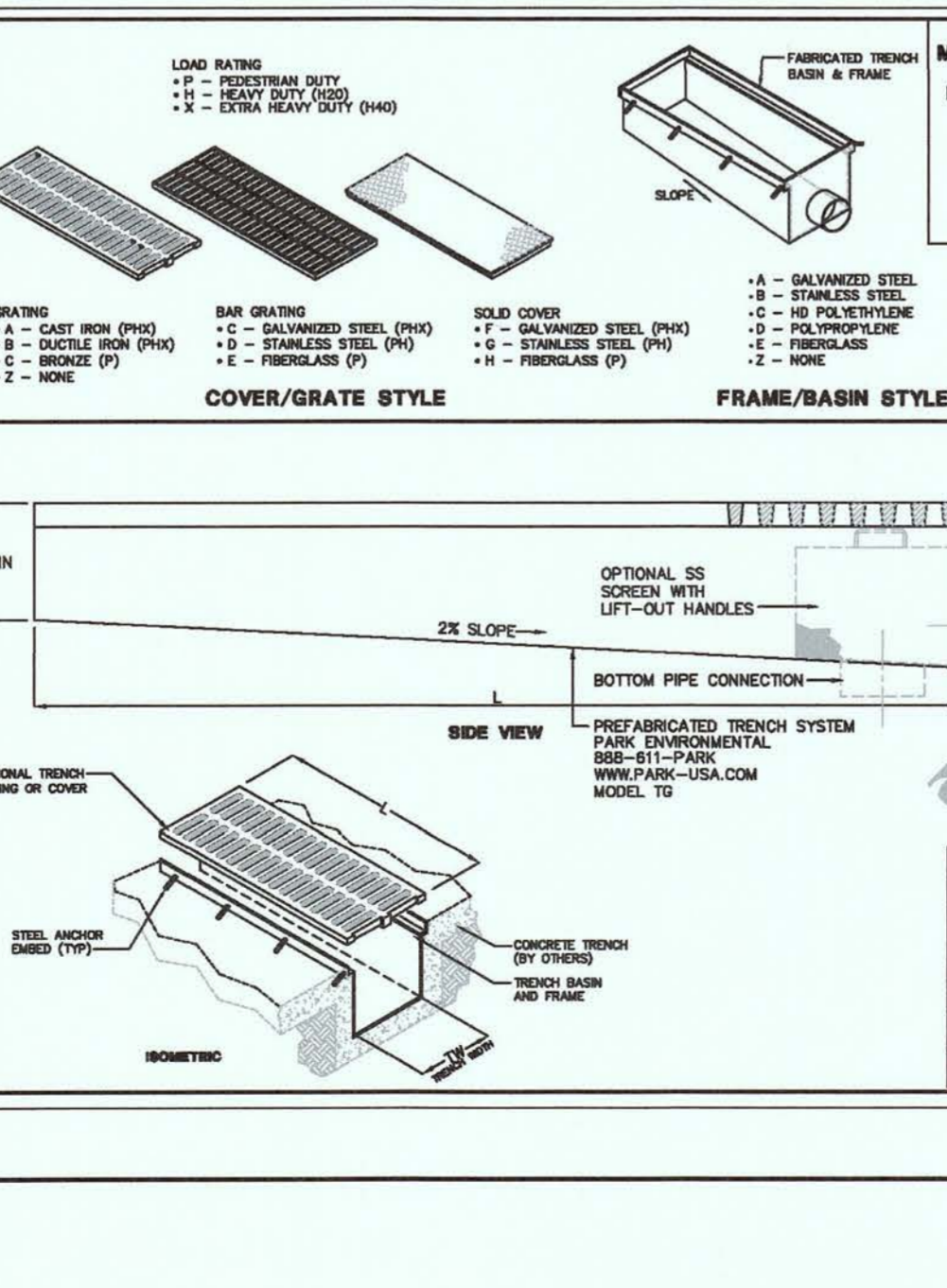
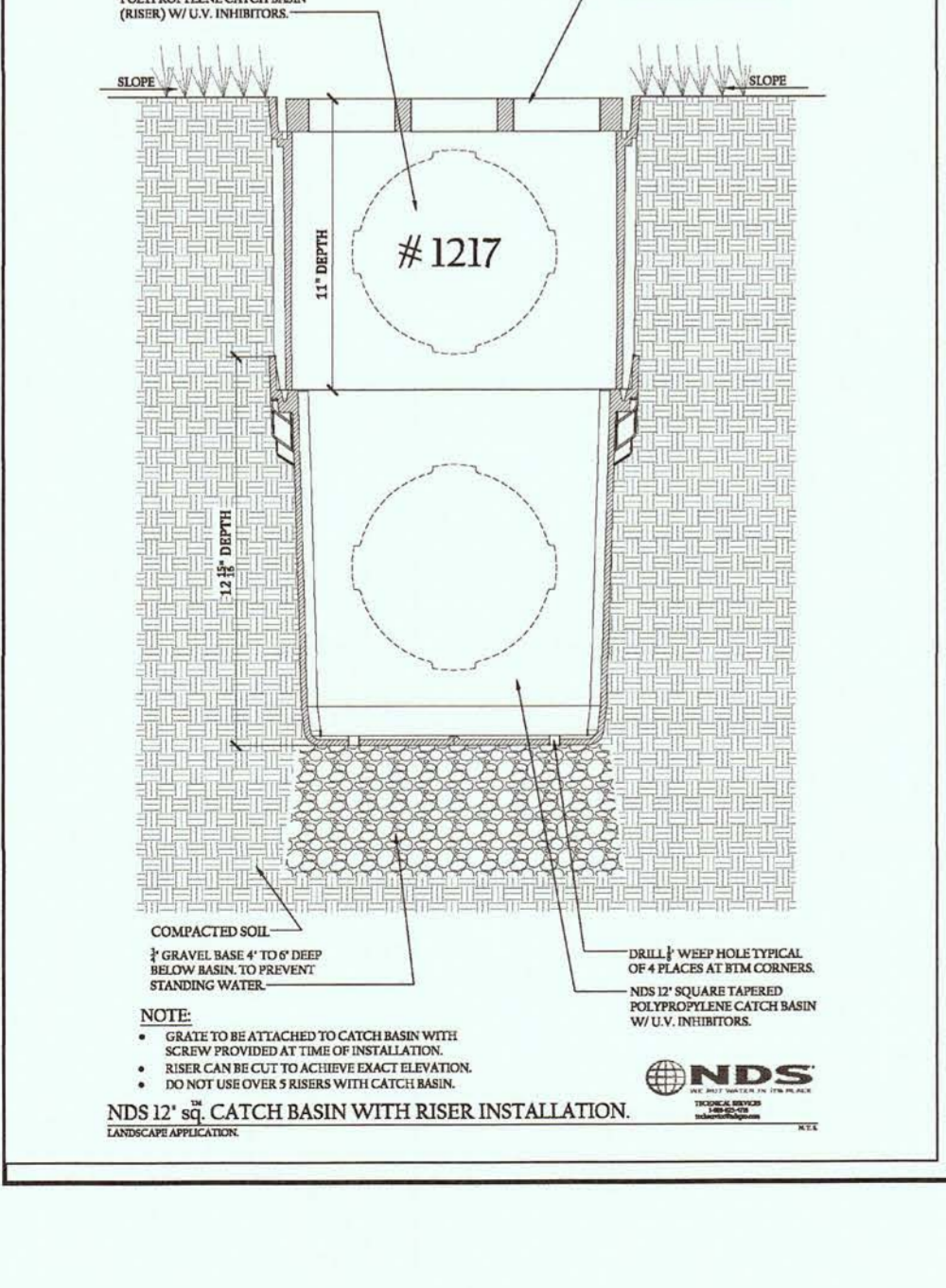
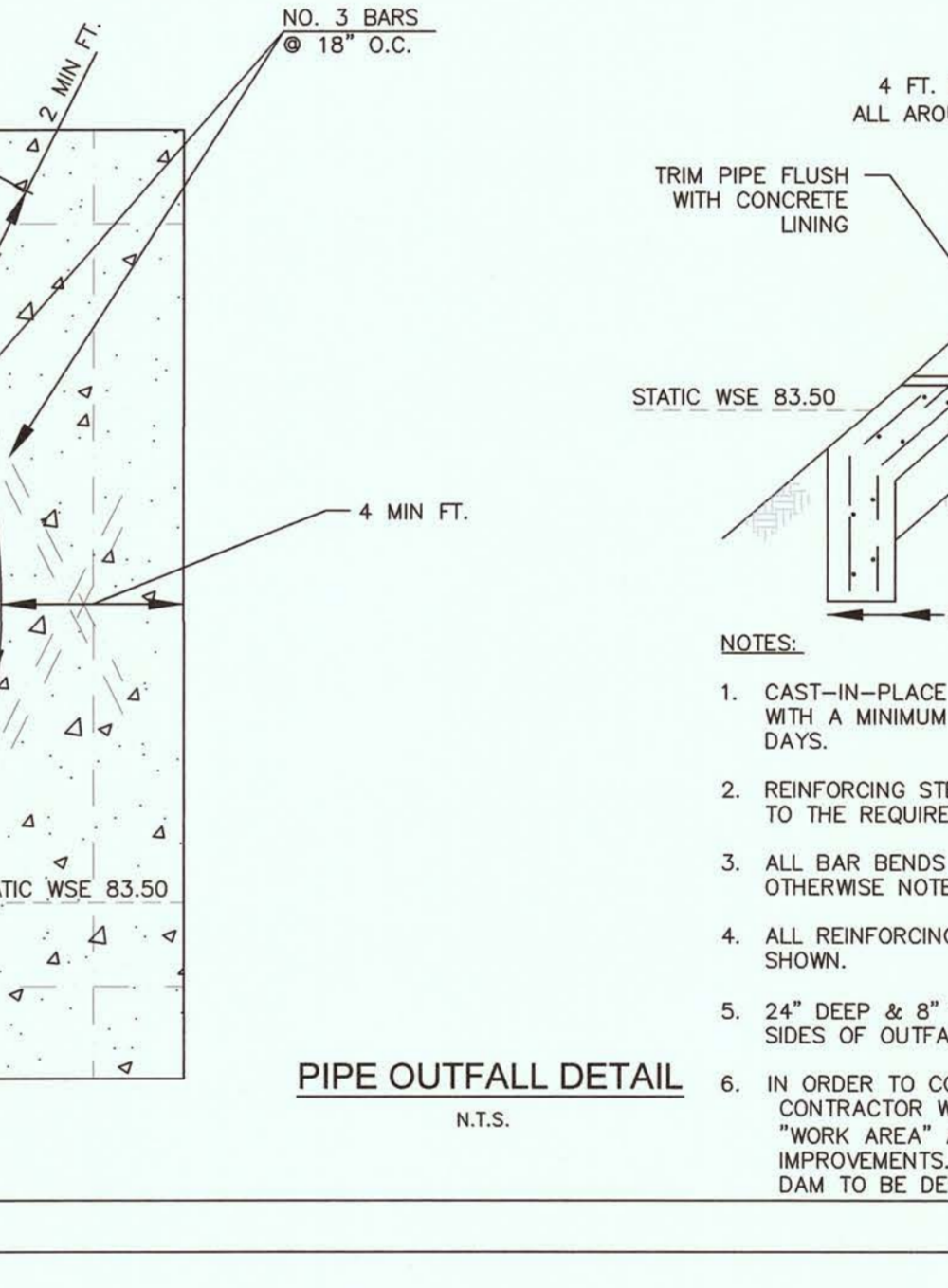
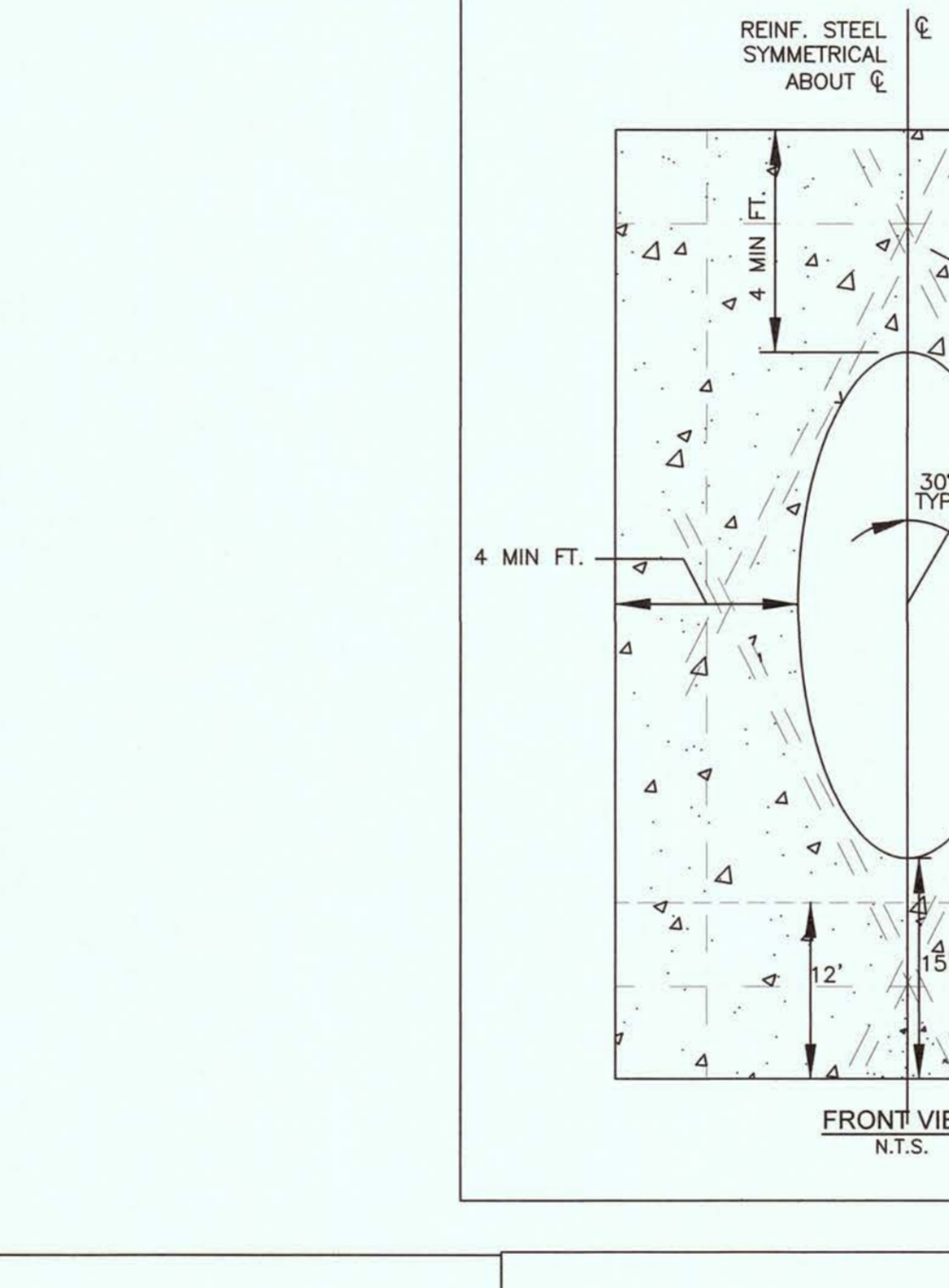
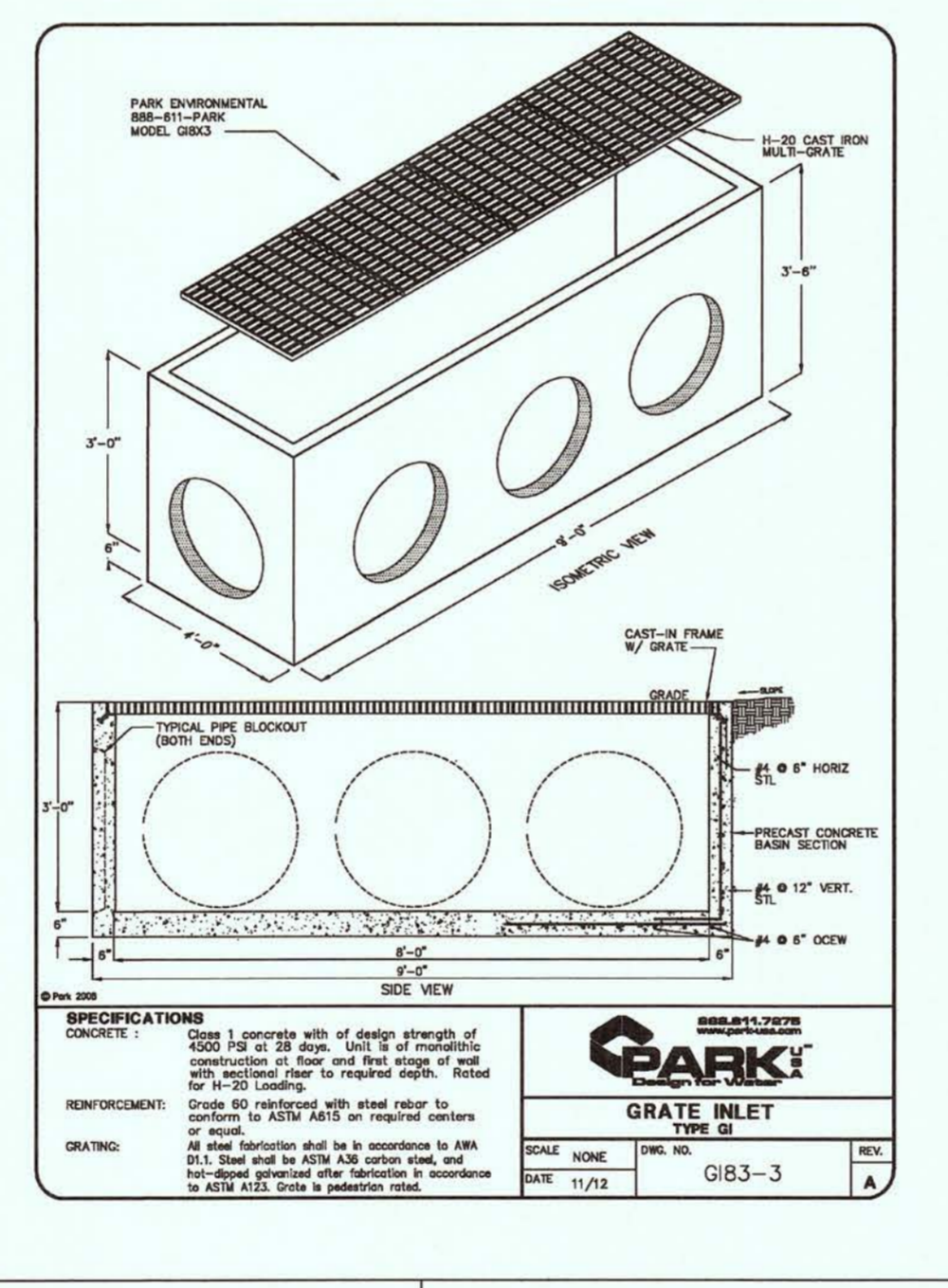
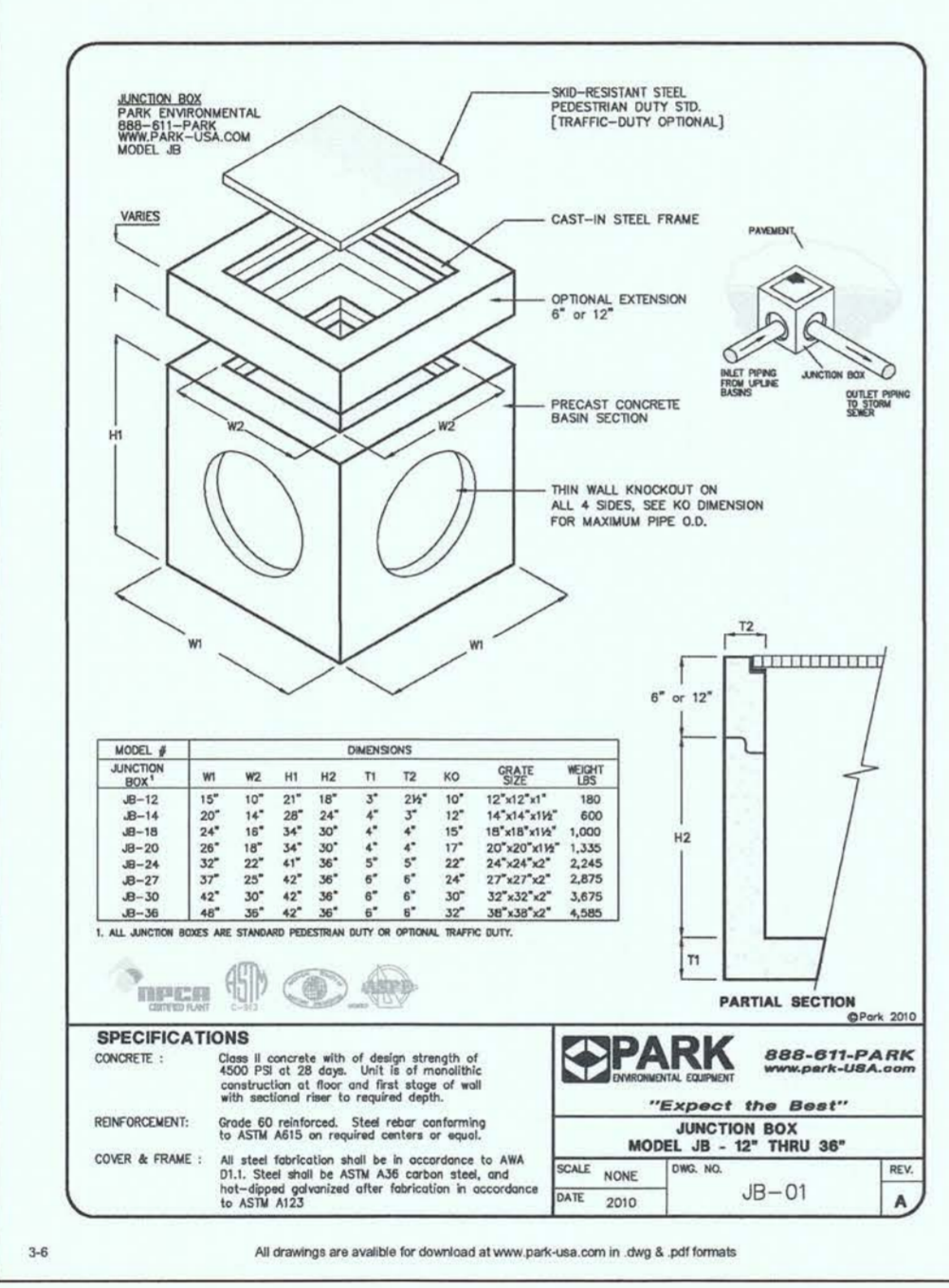
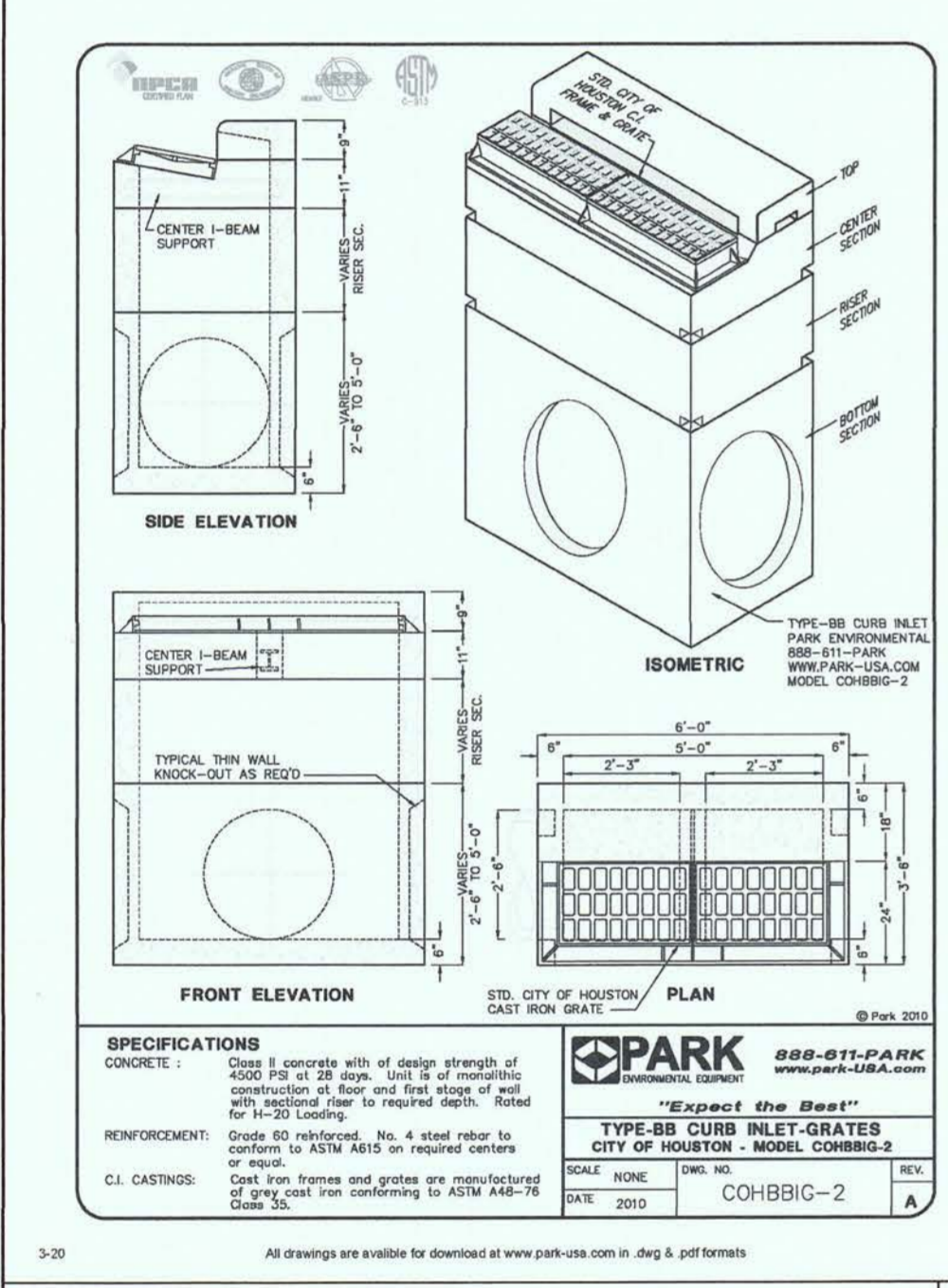
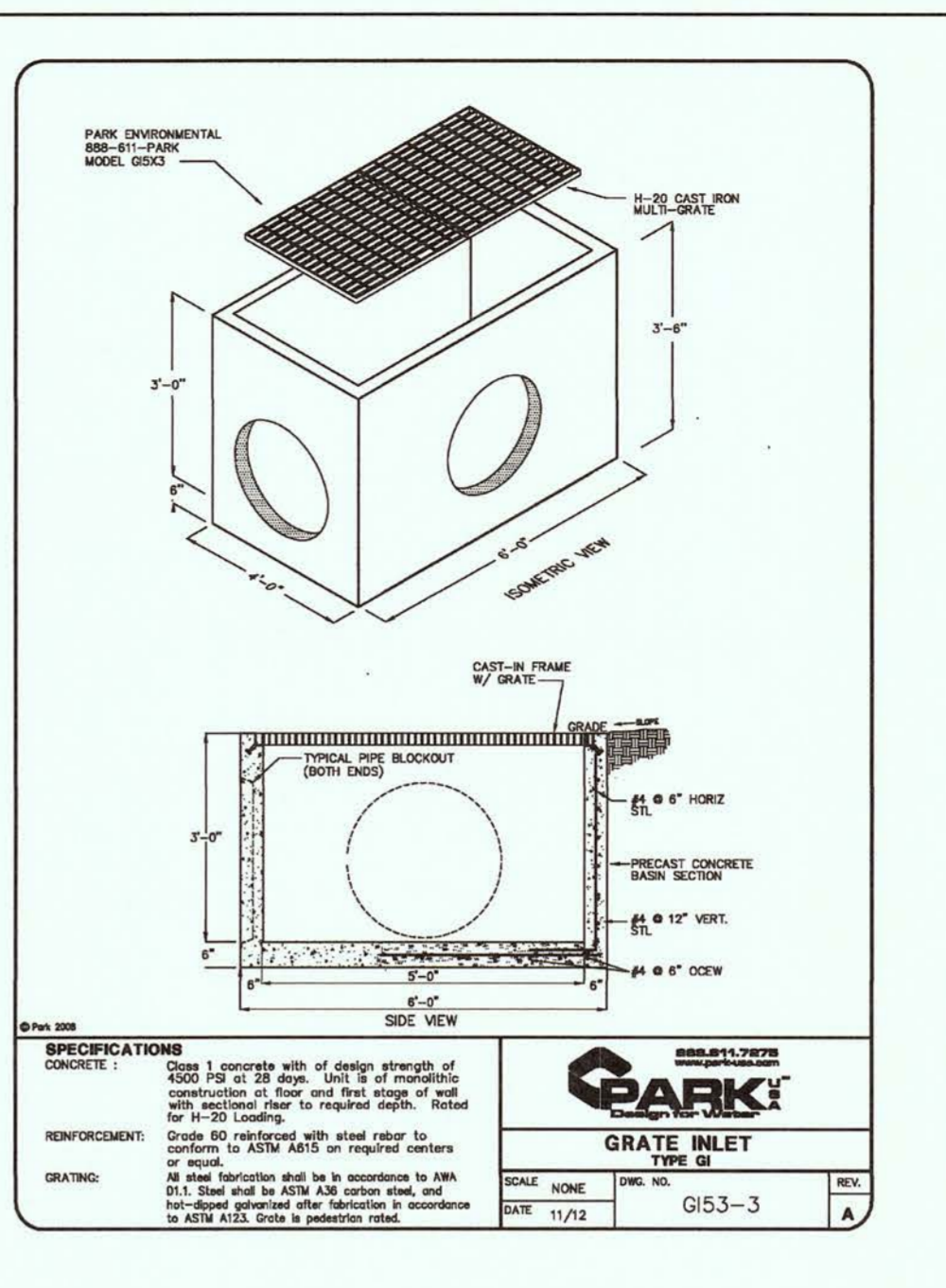
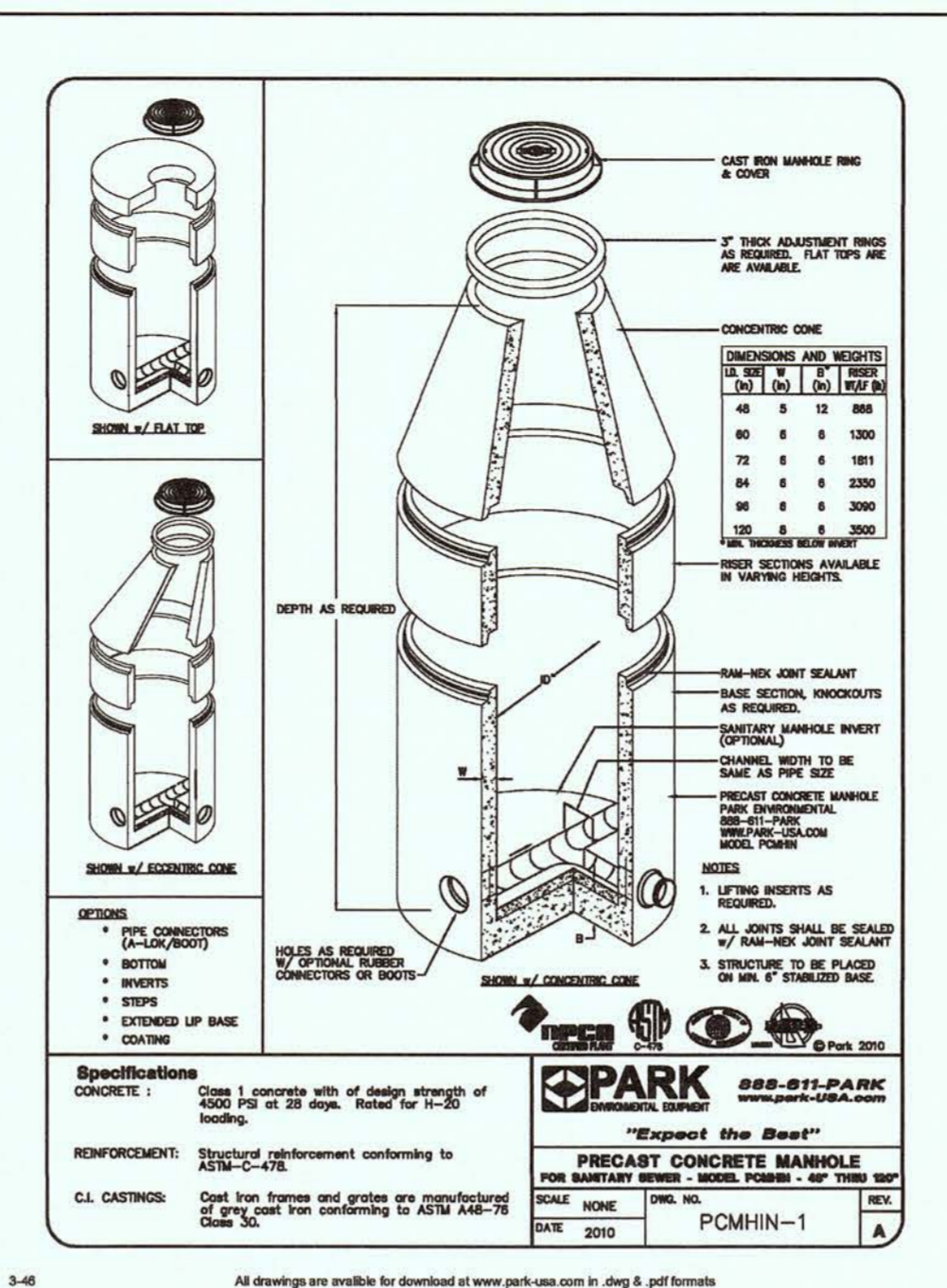
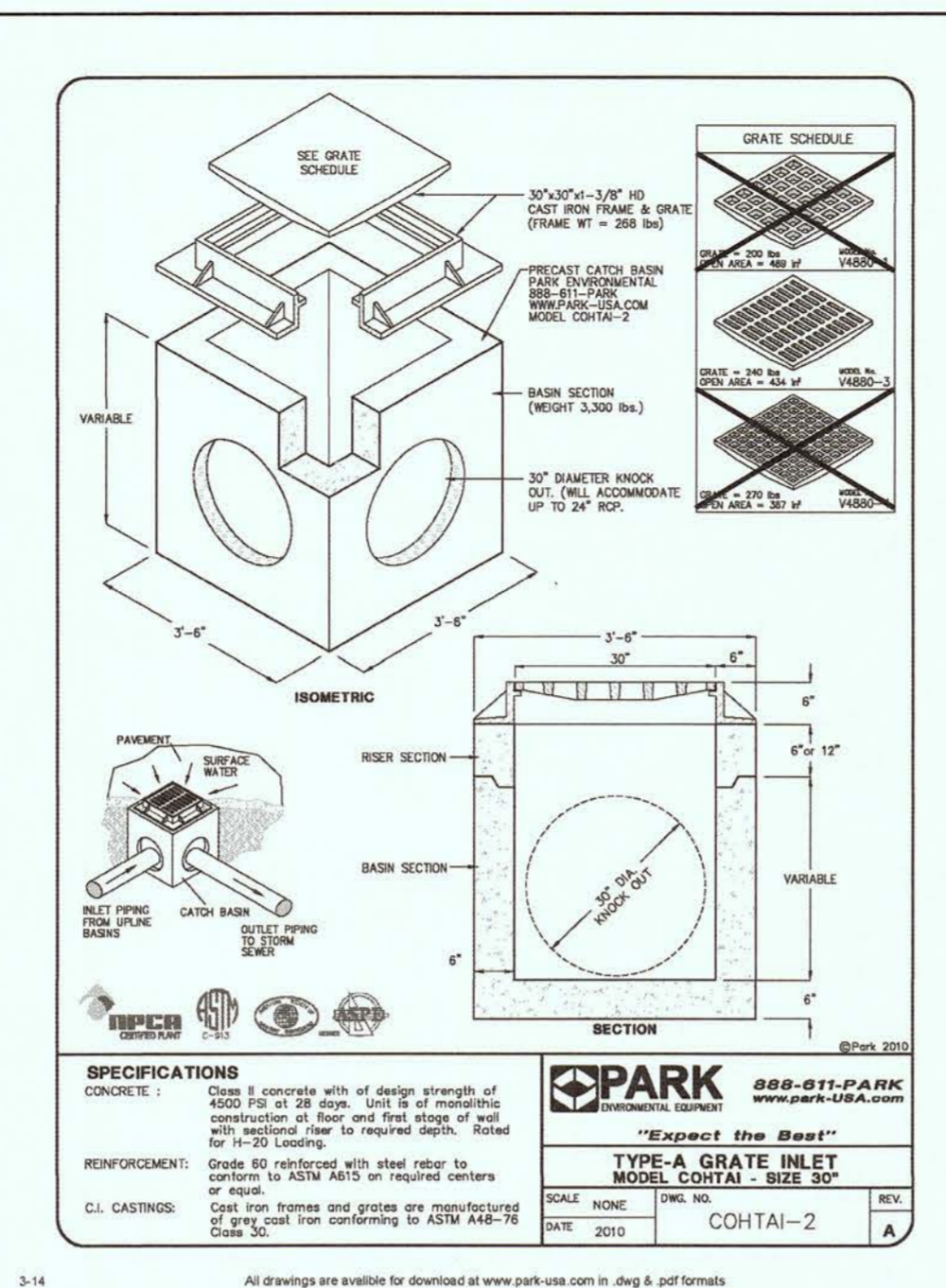
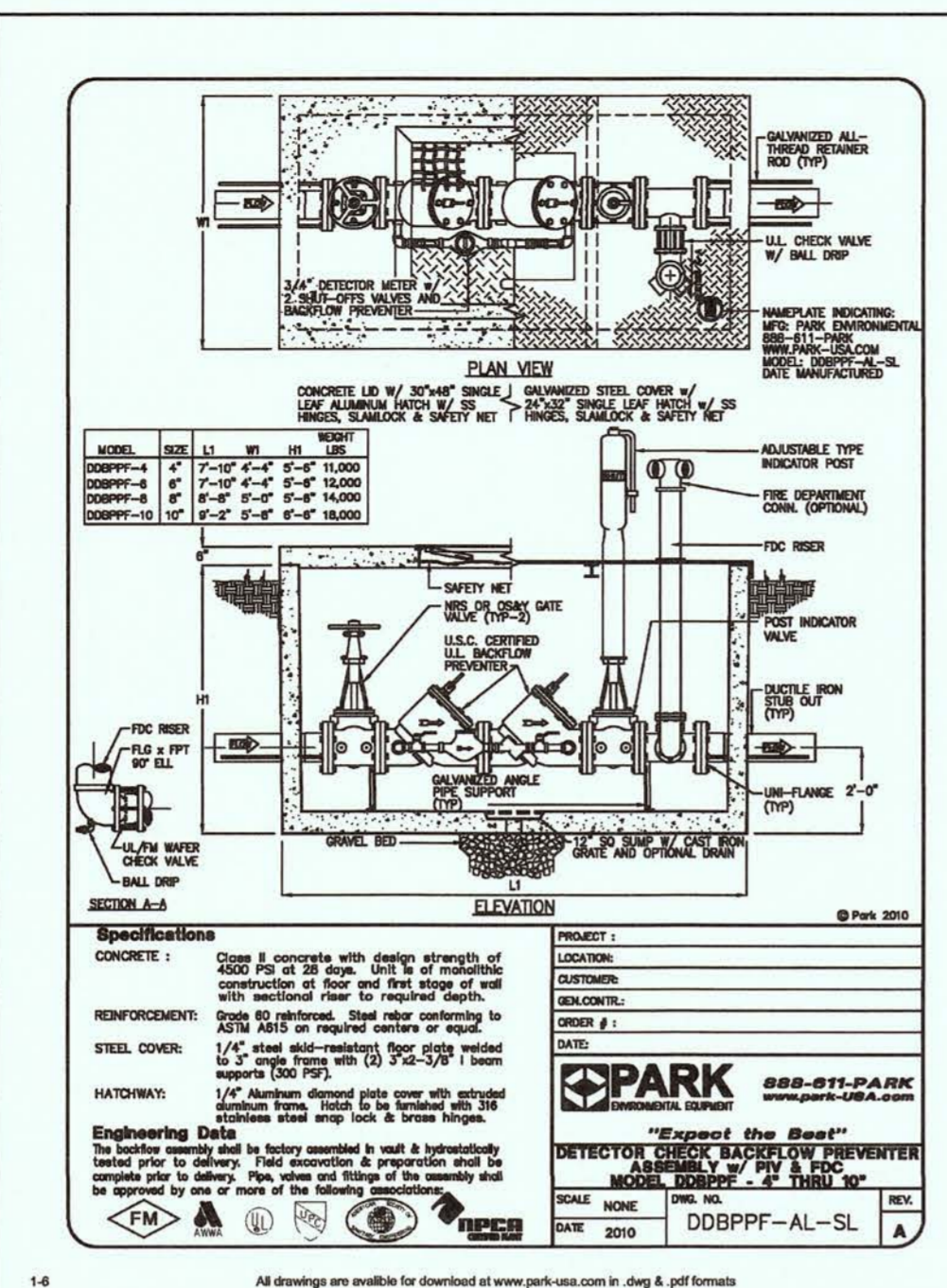
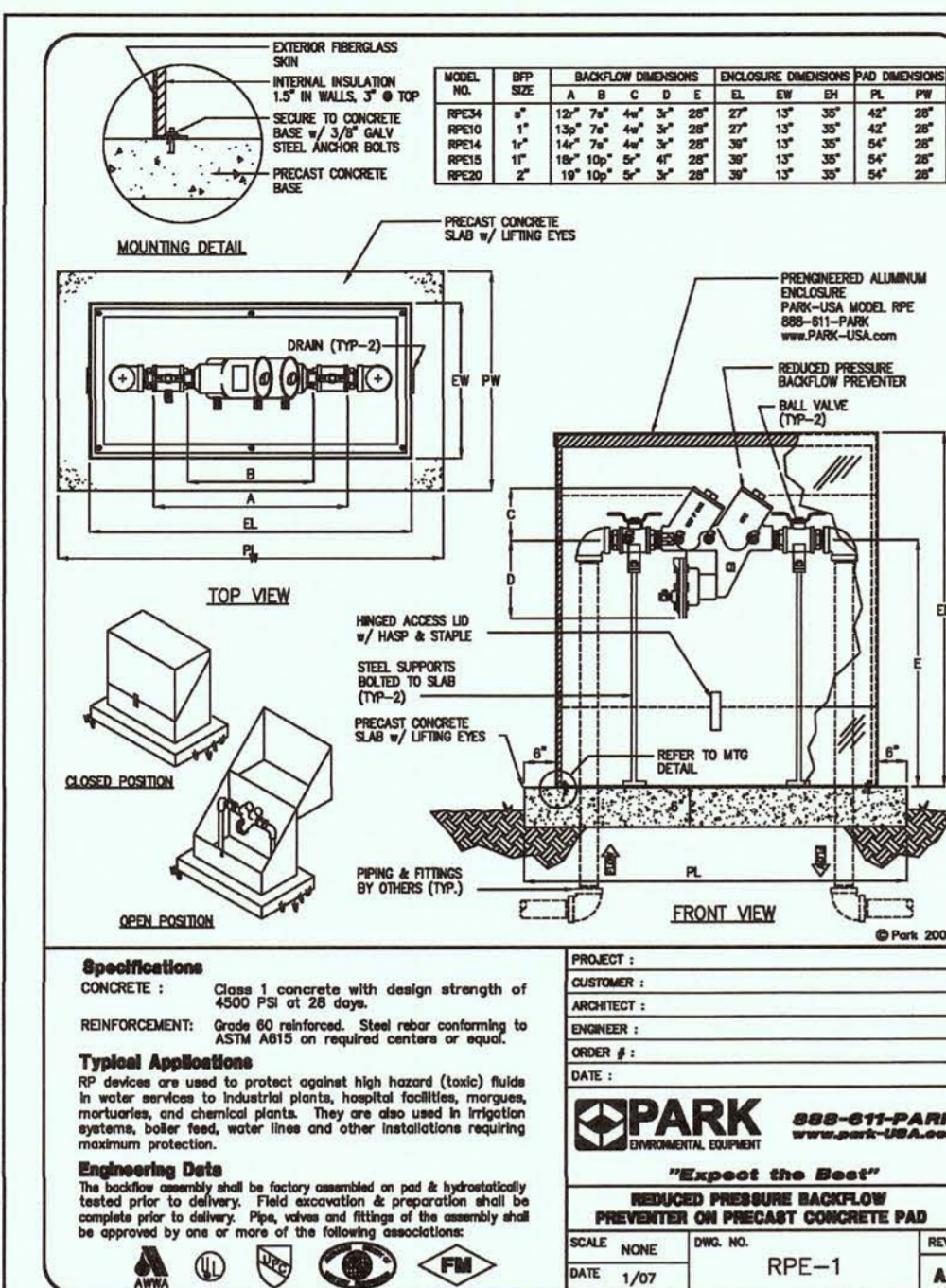
**AT HOME @**  
**WATERVIEW TOWN CENTER**  
**FORT BEND COUNTY, TEXAS**

SHEET  
**C7.1**

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APPROVED: *Carroll*  
DEVELOPMENT COORDINATOR

DATE: 4/26/17



**ALJ Lindsey**  
 2629 FM 1960 W., Suite 314  
 Houston, TX 77069  
 FRN F-11528

**CONSTRUCTION DETAILS (3 OF 4)**

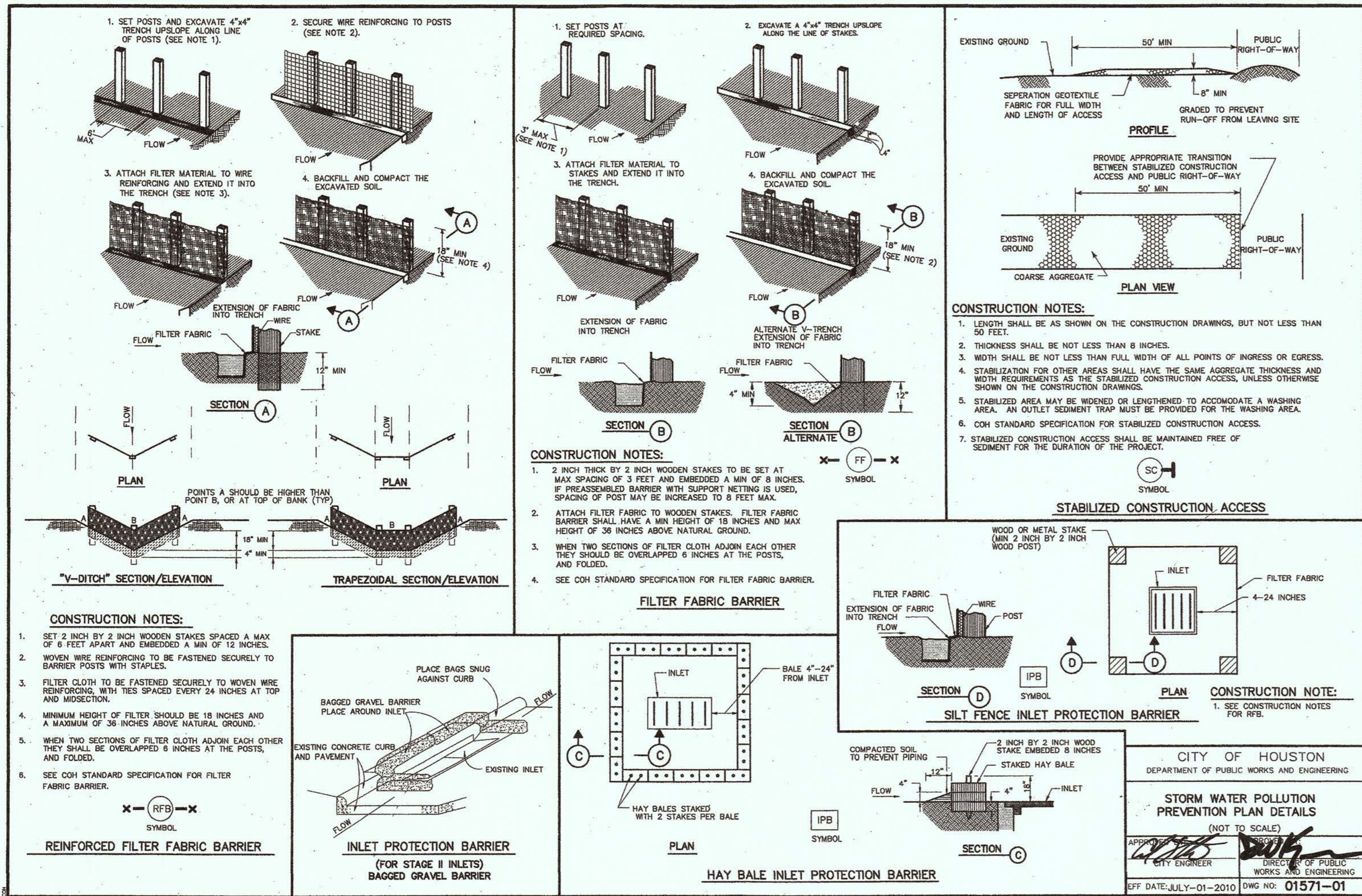
**AT HOME @ WATERVIEW TOWN CENTER FORT BEND COUNTY, TEXAS**

**SHEET C7.2**

APPROVED: *[Signature]*  
 DATE: 4/24/17

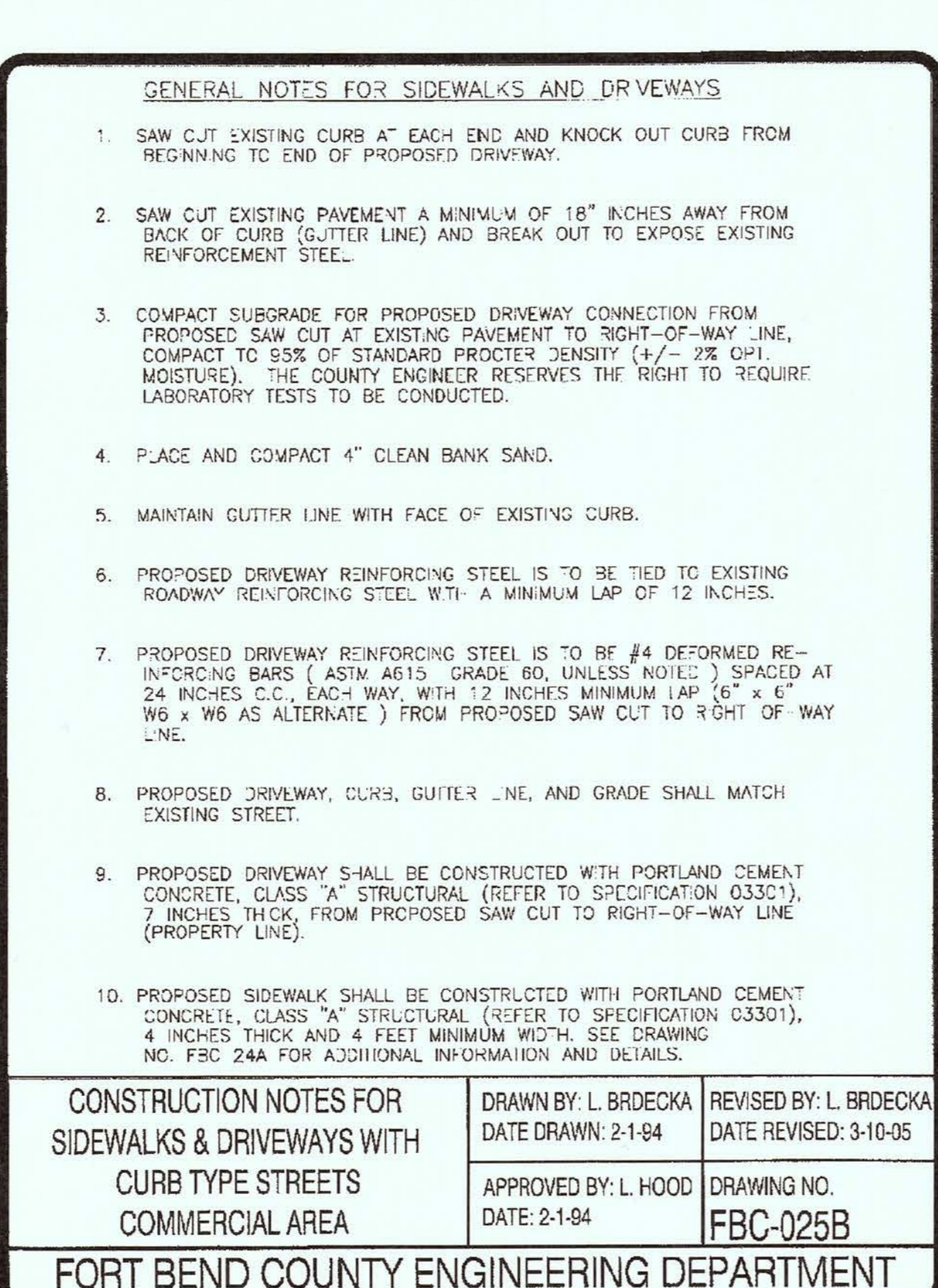
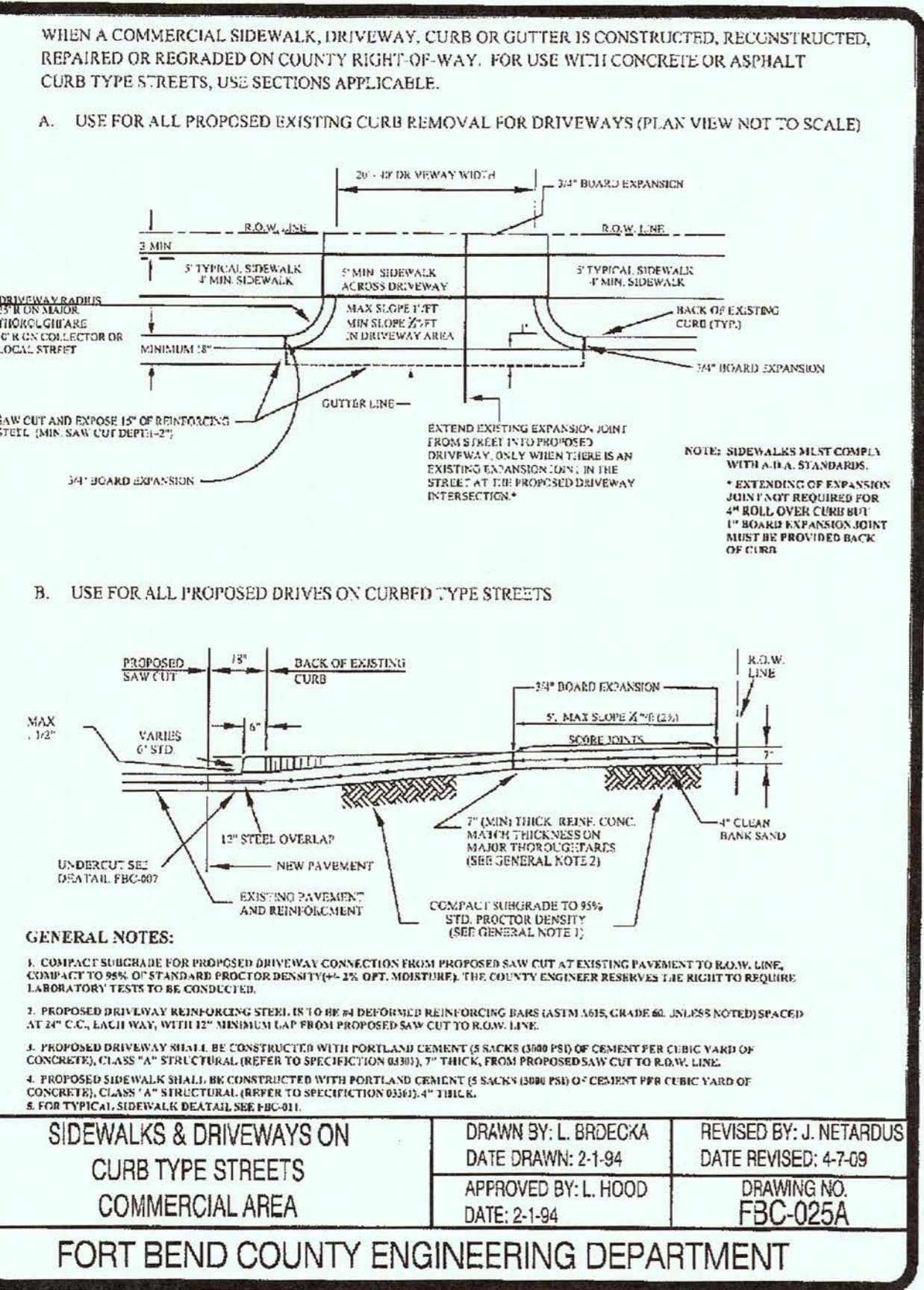
REVISIONS:

NO.	DESCRIPTION	DATE
1	AGENCY COMMENTS	04/21/2017
2	FBC AMLD COMMENTS	03/31/2017



**SWPPP NOTES**

- POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION SITE:
  - ADHESIVES, PESTICIDES, DETERGENTS, PAINTS, FUELS, SOLVENTS, SEALANTS, FERTILIZERS, OILS, HERBICIDES, CLEANING SOLUTIONS, CONCRETE/CEMENT/PLASTER
- STORM WATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND DISTURBING ACTIVITIES:
  - PRIOR TO CONSTRUCTION: SILT FENCING SHALL BE INSTALLED IN ALL LOCATIONS SHOWN ON SITE MAP THAT WILL NOT BE DISTURBED DURING THE INITIAL GRADING PROCESS. THE STABILIZED CONSTRUCTION EXIT SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
  - DURING CONSTRUCTION:
    - IMMEDIATELY AFTER PAVING CONSTRUCTION IS COMPLETE, INLET PROTECTION TRAPS WILL BE INSTALLED ON ALL NEWLY CONSTRUCTED INLETS.
    - WHEN EXISTING SILT FENCING NEEDS TO BE REMOVED FOR CONSTRUCTION OR ACCESS PURPOSES, IT WILL BE REPLACED AS SOON AS POSSIBLE AFTER CONSTRUCTION IN THE VICINITY OF THE REMOVED FENCE IS COMPLETE.
    - AS SOON AS PRACTICABLE AFTER SITE GRADING IS COMPLETE, FINAL STABILIZATION PROCEDURES SUCH AS TURF ESTABLISHMENT AND INSTALLATION OF PLANT MATERIAL WILL BE COMMENCED.
  - AFTER CONSTRUCTION: AFTER CONSTRUCTION ACTIVITY AND SITE STABILIZATION PROCEDURES ARE COMPLETE, STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE REMOVED. SOIL DISTURBED BY THE REMOVAL OF CONTROLS WILL BE STABILIZED.
- PERMANENT STORM WATER CONTROLS: AFTER CONSTRUCTION ACTIVITY IS COMPLETE, AREAS NOT COVERED BY CONCRETE PAVEMENT OR BY STRUCTURES WILL BE LANDSCAPED AND IRRIGATED. ONCE ESTABLISHED, THIS VEGETATION WILL HELP PREVENT SEDIMENT RUNOFF IN THE FUTURE STORM EVENTS. NEWLY GRADED AREA WILL BE TEXTURED TO REDUCE FLOW VELOCITY.
- MATERIAL HANDLING AND SPILL PREVENTION PLAN:
  - HAZARDOUS MATERIALS WILL BE STORED AND USED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS. DISPOSAL WILL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION, AND IN ACCORDANCE WITH STATE AND LOCAL LAWS AND REGULATIONS.
  - THE FOLLOWING PROCEDURES WILL BE FOLLOWED FOR CONTAINMENT AND CLEAN-UP OF SPILLS:
    - ALL SPILLS WILL BE CLEANED UP AND PROPERLY REMOVED IN ACCORDANCE WITH STATE REGULATIONS AND LOCAL ORDINANCES.
    - SOIL AND SPILLED MATERIALS WILL BE COLLECTED UNTIL NO VISIBLE EVIDENCE OF SPILLED MATERIAL REMAINS.
    - THE TYPE OF MATERIAL AND QUANTITY OF RELEASE SHALL BE IDENTIFIED, AND APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE) SHALL BE WORN AS RECOMMENDED BY THE PRODUCT-SPECIFIC MSDS.
    - SPILL CONTAINMENT MAY BE INCLUDE CONSTRUCTION OF EARTH DIKES AROUND THE SPILL AREA, DEPLOYMENT OF ABSORBENT MATERIALS, OR USE OF COMMERCIALLY AVAILABLE KITS.
    - CONTAMINATED SOIL AND SPILLED MATERIAL WILL BE STORED IN APPROPRIATE AND PROPERLY LABELED CONTAINERS, AND DISPOSED OF IN ACCORDANCE WITH STATE, LOCAL, AND FEDERAL RULES AND REGULATIONS.
- GENERAL PERMIT MAINTENANCE REQUIREMENTS (FROM GENERAL PERMIT):
  - ALL PROTECTIVE MEASURES IDENTIFIED IN THIS SWPPP MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF, THROUGH INSPECTION OR OTHER MEANS, THE PERMITEE DETERMINES THAT BMP'S ARE NOT OPERATING EFFECTIVELY, THEN THE PERMITEE SHALL PERFORM MAINTENANCE AS NECESSARY TO MAINTAIN THE CONTINUED EFFECTIVENESS OF STORM WATER CONTROLS, AND PRIOR TO THE NEXT RAIN EVENT, IF FEASIBLE. IF MAINTENANCE PRIOR TO THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, THE REASON SHALL BE DOCUMENTED IN THE SWPPP AND MAINTENANCE MUST BE SCHEDULED AND ACCOMPLISHED AS SOON AS PRACTICABLE. EROSION AND SEDIMENT CONTROLS THAT HAVE BEEN INTENTIONALLY DISABLED, RUN-OVER, REMOVED, OR OTHERWISE RENDERED INEFFECTIVE MUST BE REPLACED OR CORRECTED IMMEDIATELY UPON DISCOVERY.
  - IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INCORRECTLY, IS PERFORMING INADEQUATELY, OR IS DAMAGED, THEN THE OPERATOR MUST REPLACE OR MODIFY THE CONTROL AS SOON AS PRACTICABLE AFTER MAKING THE DISCOVERY.
  - SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS AND SEDIMENTATION PONDS NO LATER THAN THE TIME THAT DESIGN CAPACITY HAS BEEN REDUCED BY 50% FOR PERIMETER CONTROLS SUCH AS SILT FENCES, BERMS, ETC., THE TRAPPED SEDIMENT MUST BE REMOVED BEFORE IT REACHES 50% OF THE ABOVE GROUND HEIGHT.
  - IF SEDIMENT ESCAPES THE SITE, ACCUMULATIONS MUST BE REMOVED AT A FREQUENCY THAT MINIMIZES OFF-SITE IMPACTS, AND PRIOR TO THE NEXT RAIN EVENT, IF FEASIBLE. IF THE PERMITEE DOES NOT OWN THE OFFSITE CONVEYANCE, THEN THE PERMITEE MUST WORK WITH THE OWNER OR OPERATOR OF THE PROPERTY TO REMOVE THE SEDIMENT.
  - EROSION AND SEDIMENT CONTROLS:
    - THE FOLLOWING NON-STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE UTILIZED ON THE PROJECT SITE:
      - WHERE PRACTICAL, CARE WILL BE TAKEN TO PROTECT NATURAL VEGETATION THAT DOES NOT NEED TO BE REMOVED FOR CONSTRUCTION PURPOSES.
      - PLACEMENT OF CONCRETE PARKING AND DRIVEWAY AREAS WILL BE PERFORMED AS SOON AS POSSIBLE AFTER SUB-GRADE STABILIZATION, TO MINIMIZE THE AMOUNT OF TIME DISPOSED SOIL IS EXPOSED TO THE ELEMENTS. THIS PRACTICE WILL REDUCE THE FREQUENCY THAT MAINTENANCE IS REQUIRED ON THE STRUCTURAL BMP'S.
      - THE GENERAL PERMIT REQUIRES THAT EROSION AND STABILIZATION MEASURES MUST BE INITIATED WITHIN 14 DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED. IF CONSTRUCTION ACTIVITY IS SCHEDULED TO RESUME WITHIN 21 DAYS FROM THE CESSATION OF CONSTRUCTION ACTIVITY, EROSION AND STABILIZATION MEASURES ARE NOT REQUIRED FOR THAT PORTION OF THE SITE.
      - STABILIZATION PROCEDURES SUCH AS TURF ESTABLISHMENT AND INSTALLATION OF PLANT MATERIAL SHOULD BE COMMENCED AS SOON AS PRACTICABLE AFTER SITE GRADING IS COMPLETE AND FINAL.
    - THE FOLLOWING STRUCTURAL EROSION AND SEDIMENT CONTROLS WILL BE UTILIZED ON THE PROJECT SITE:
      - A STABILIZED CONSTRUCTION EXIT WILL BE INSTALLED AT THE LOCATION WHERE CONSTRUCTION TRAFFIC EXISTS THE PROJECT SITE.
      - INLET PROTECTION TRAPS WILL BE INSTALLED AT ALL INLETS IMMEDIATELY AFTER CONCRETE PAVEMENT IS PLACED.
      - SILT FENCING (FILTER FABRIC FENCE OR REINFORCED FILTER FABRIC FENCE) WILL BE INSTALLED ALONG THE PROPERTY BOUNDARY AND ADJACENT TO EXISTING DITCHES, BAYOUS, STREAMS, RIVERS, AND/OR CHANNELS.
      - JANY SEDIMENT THAT ENTERS THE STORM SEWER SYSTEM WILL BE REMOVED IMMEDIATELY (NOT FLUSHED).
      - SINCE ALL PROPOSED INLETS DRAIN LESS THAN 10-ACRES, SEDIMENT BASINS NOT REQUIRED FOR THIS SITE.
      - WHERE PRACTICAL, CARE WILL BE TAKEN TO PROTECT NATURAL VEGETATION THAT DOES NOT NEED TO BE REMOVED FOR CONSTRUCTION PURPOSES.



ALJ Lindsey  
 Civil Engineer  
 5629 FM 1960 W., Suite 314  
 Houston, TX 77068  
 FRN F-11528

21 APRIL 2017

CONSTRUCTION DETAILS  
 (4 OF 4)

AT HOME @  
 WATERVIEW TOWN CENTER  
 FORT BEND COUNTY, TEXAS

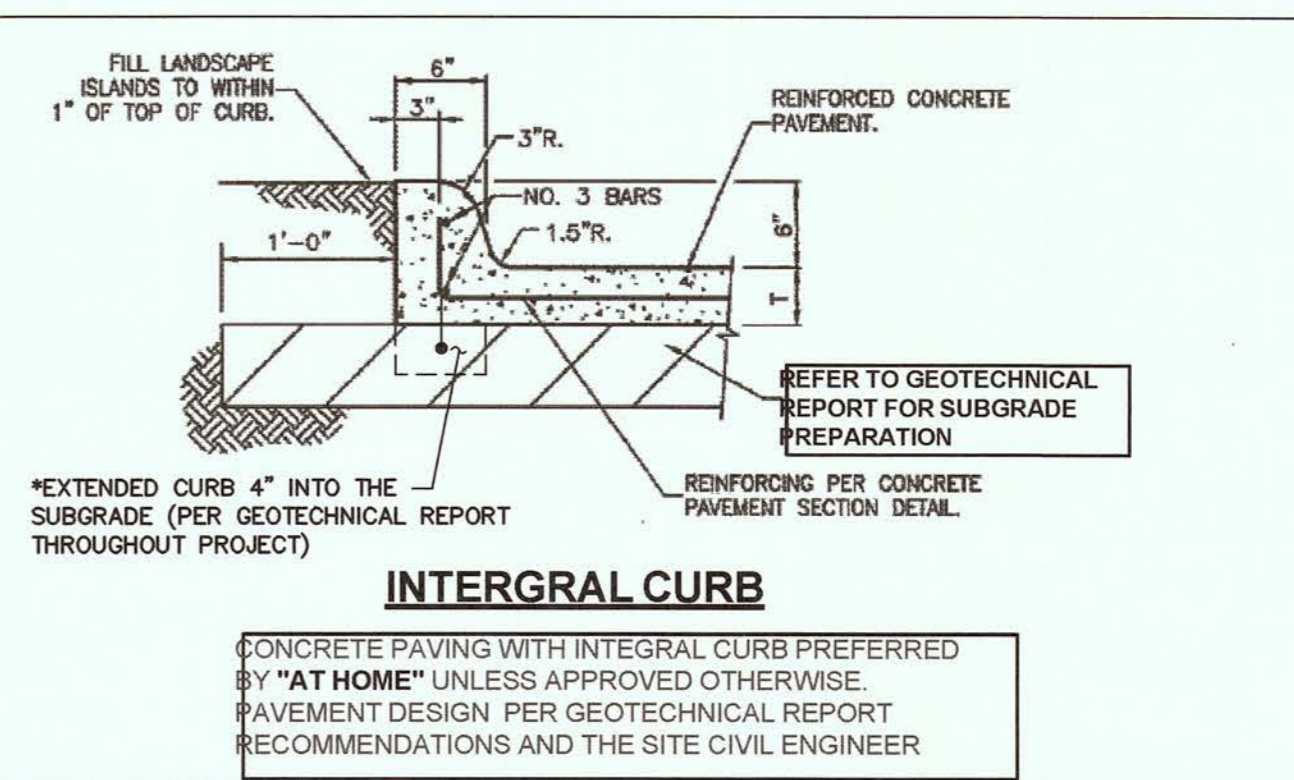
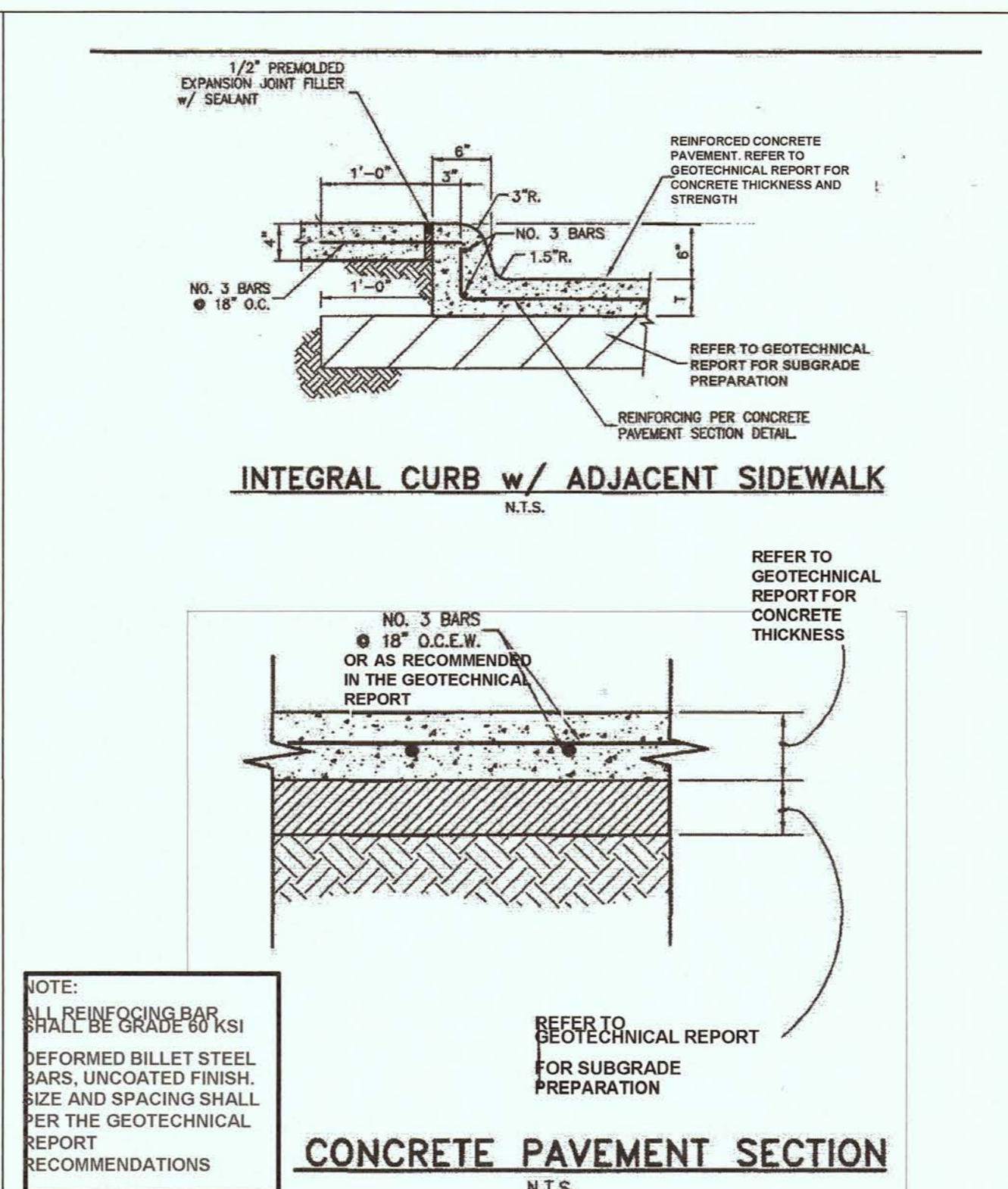
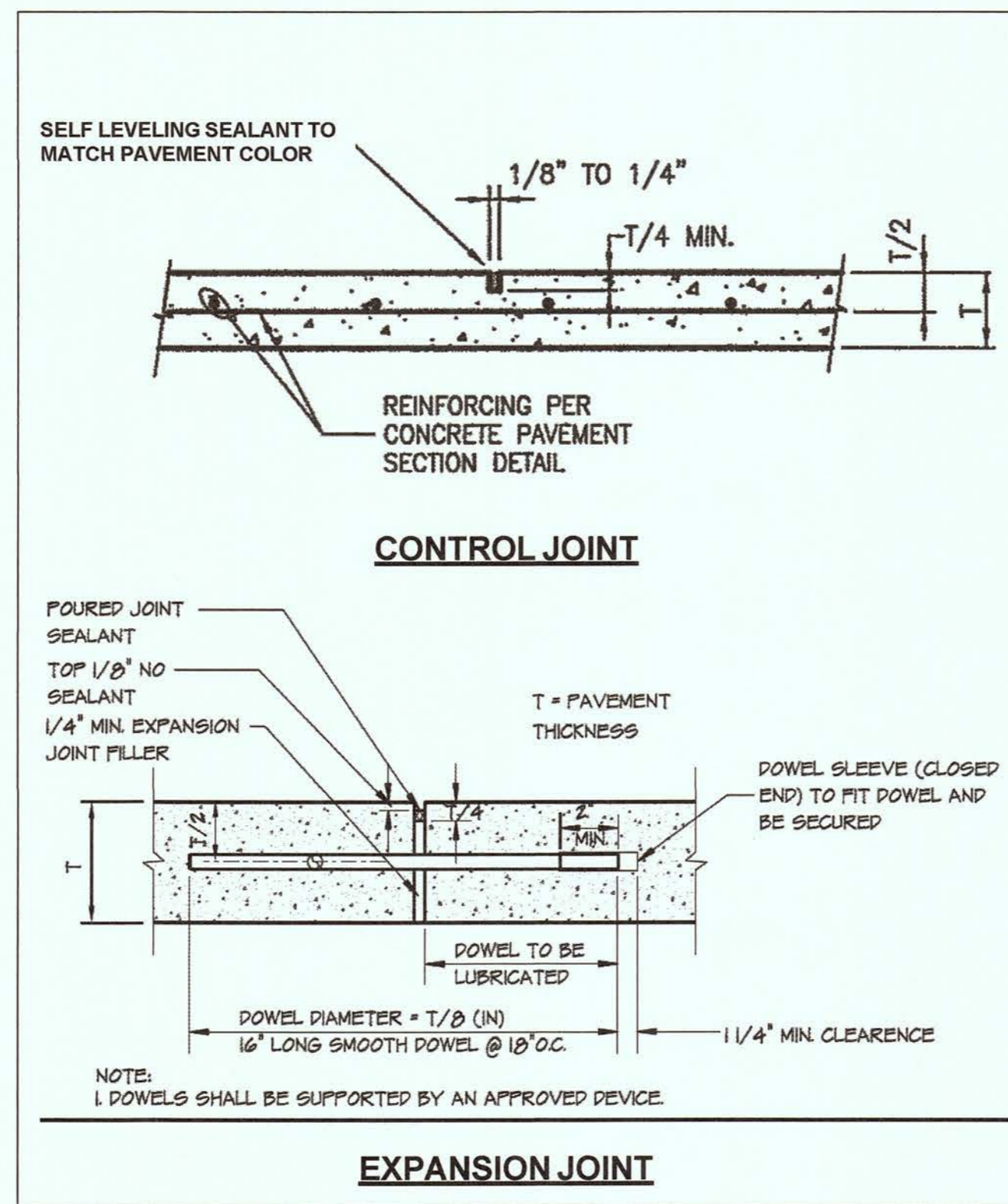
SHEET  
 C7.3

NO.	REVISIONS	DATE
2	FBC A/LID COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *[Signature]*  
 DEVELOPMENT COORDINATOR

DATE: 4/24/17



NO.	REVISIONS	DATE
2	FBC AUID COMMENTS	04/21/2017
1	AGENCY COMMENTS	03/31/2017

**ALJ Lindsey**  
 Civil Engineers  
 8629 FM 1960 W., Suite 314  
 Houston, TX 77068  
 FRM F-11526

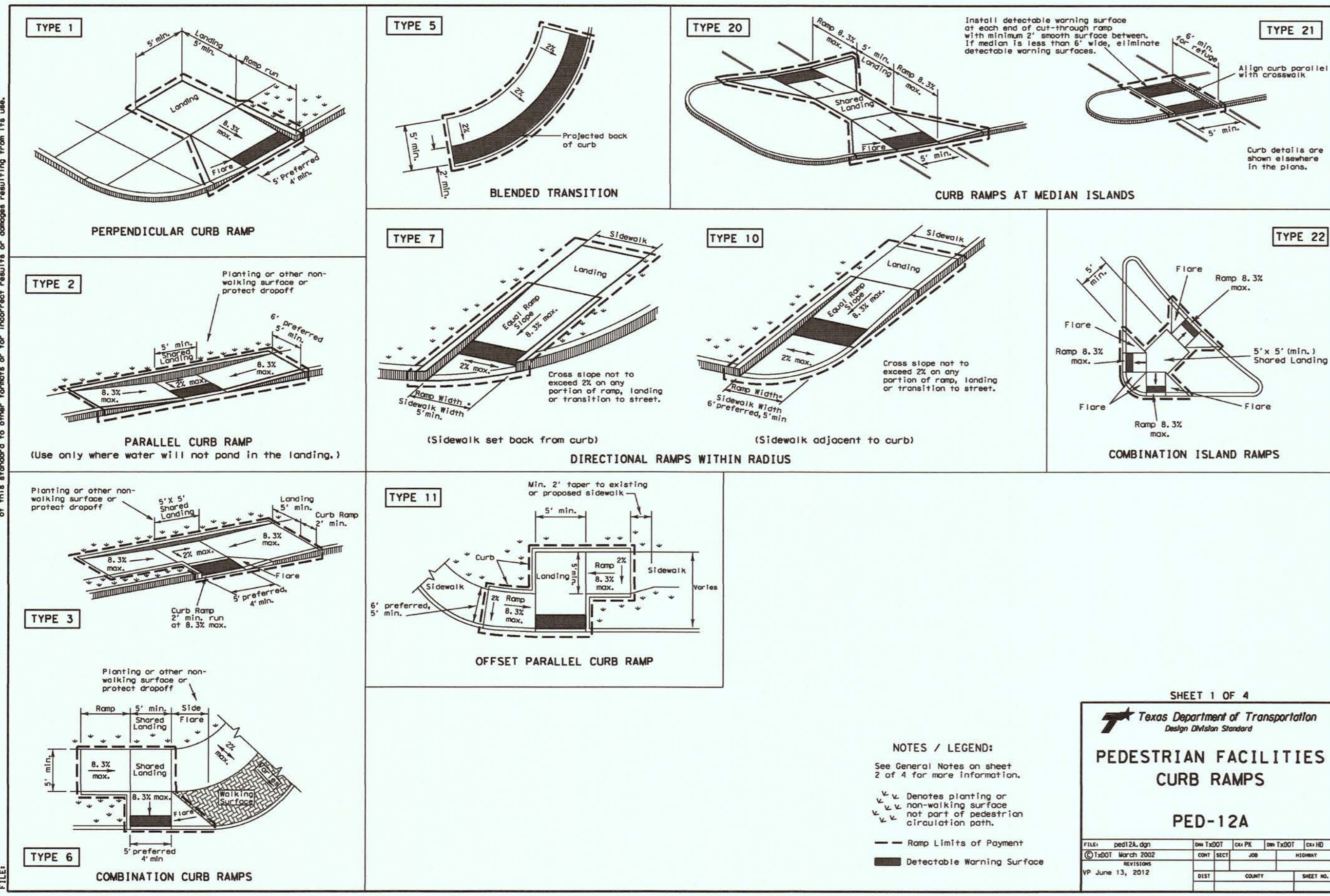
**A. LESTER JONES**  
 102152  
 REGISTERED PROFESSIONAL ENGINEER  
 21 APRIL 2017

**AT HOME CONSTRUCTION  
 DETAILS**

**AT HOME @  
 WATERVIEW TOWN CENTER  
 FORT BEND COUNTY, TEXAS**

SHEET  
**C7.4**

APPROVAL IS IMPLIED FOR IMPROVEMENTS WITHIN FORT BEND COUNTY RIGHTS-OF-WAY ONLY. UTILITY LINES APPROVED AS TO LOCATION ONLY. AUTHORIZATION IS VALID FOR 1 YEAR.  
 APPROVED: *[Signature]*  
 DEVELOPMENT COORDINATOR  
 DATE: 4/26/17



SHEET 1 OF 4

**Texas Department of Transportation**  
Design Division Standard

**PEDESTRIAN FACILITIES**  
**CURB RAMPS**

**PED-12A**

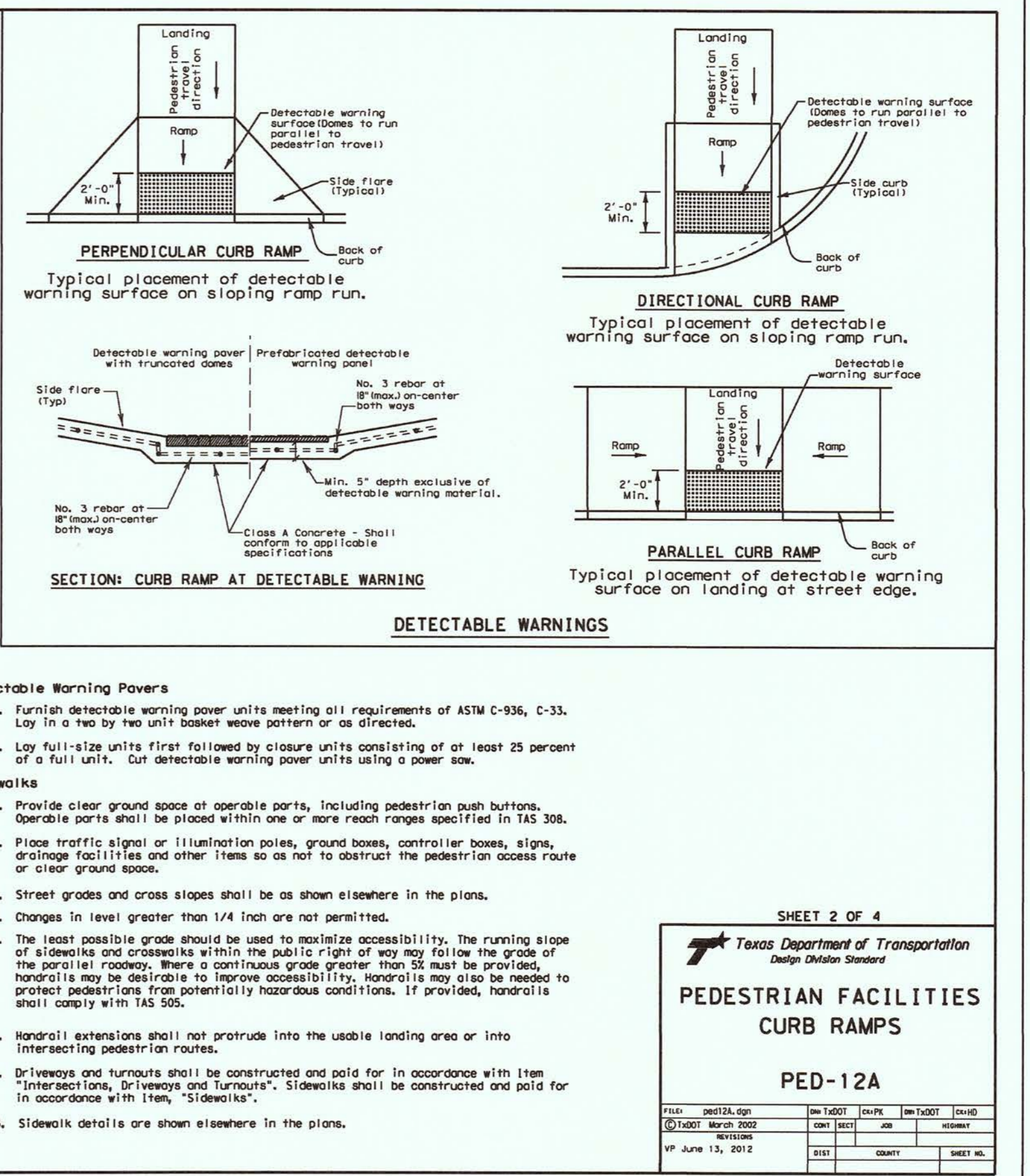
ITEM	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1	CONCRETE				
2	ASPHALT				
3	PAVEMENT				
4	LANDING				
5	FLARE				
6	SIDEWALK				
7	CROSSWALK				
8	STOP BAR				
9	MANEUVERING SPACES				
10	LANDING				
11	FLARE				
12	SIDEWALK				
13	CROSSWALK				
14	STOP BAR				
15	MANEUVERING SPACES				
16	LANDING				
17	FLARE				
18	SIDEWALK				
19	CROSSWALK				
20	STOP BAR				
21	MANEUVERING SPACES				
22	LANDING				
23	FLARE				
24	SIDEWALK				
25	CROSSWALK				
26	STOP BAR				
27	MANEUVERING SPACES				
28	LANDING				
29	FLARE				
30	SIDEWALK				
31	CROSSWALK				
32	STOP BAR				
33	MANEUVERING SPACES				
34	LANDING				
35	FLARE				
36	SIDEWALK				
37	CROSSWALK				
38	STOP BAR				
39	MANEUVERING SPACES				
40	LANDING				
41	FLARE				
42	SIDEWALK				
43	CROSSWALK				
44	STOP BAR				
45	MANEUVERING SPACES				
46	LANDING				
47	FLARE				
48	SIDEWALK				
49	CROSSWALK				
50	STOP BAR				
51	MANEUVERING SPACES				
52	LANDING				
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56	STOP BAR				
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88	LANDING				
89	FLARE				
90	SIDEWALK				
91	CROSSWALK				
92	STOP BAR				
93	MANEUVERING SPACES				
94	LANDING				
95	FLARE				
96	SIDEWALK				
97	CROSSWALK				
98	STOP BAR				
99	MANEUVERING SPACES				
100	LANDING				

**General Notes**

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes than will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' paving areas at intervals not to exceed 200' are required.
4. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space of the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flare areas where the pedestrian circulation path crosses the curb ramp. Flare areas shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 16.105.
9. To serve as a pedestrian refuge area, the median should be a minimum of 5' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required at curb ramps. Provide curb ramps wherever an accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete of a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

**Detectable Warning Material**

18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 105 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install on approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the cross ramp between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.





NOTES:  
 1. WORK SCHEDULING: CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH ANY LANDSCAPING OR IRRIGATION WORK. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.  
 2. CONTRACTOR SHALL APPLY FOR AND PROCURE ALL REQUIRED PERMITS PRIOR TO COMMENCING WORK.  
 3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK. CONTACT ALL UTILITY COMPANIES MINIMUM 48 HOURS PRIOR TO ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, ETC. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF THESE UTILITIES.  
 4. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN FORESEEN IN THE DESIGN. SUCH CONDITIONS SHALL BE BROUGHT UP TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY CHANGES DUE TO FAILURE TO GIVE SUCH NOTIFICATION.  
 5. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER SUBCONTRACTORS ON THE JOBSITE AS REQUIRED TO COMPLETE CONSTRUCTION. 6. CONTRACTOR TO PROVIDE SAMPLES OF EACH SHRUB AND GROUND COVER SPECIES OR NURSERY SOURCE FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ALL PLANTS ARE TO BE SPECIMEN QUALITY, FULL POT AND HEAD, SYMMETRICAL FOLIAGE AND BRANCHING STRUCTURE. SHRUBS SHALL BE FULL TO GROUND. PLANT MATERIAL OF THE SAME SPECIES SHALL BE OBTAINED FROM THE SAME SOURCE. MATERIAL SHALL BE SHIPPED DIRECTLY FROM NURSERY AND NOT FROM CONTRACTOR'S HOLDING YARD AFTER AN EXTENDED PERIOD. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY AND ALL PLANT MATERIAL THAT DOES NOT MEET SATISFACTORY EXPECTATIONS OF LANDSCAPE ARCHITECT.

3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK. CONTACT ALL UTILITY COMPANIES MINIMUM 48 HOURS PRIOR TO ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, ETC. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF THESE UTILITIES.  
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CITY OF HOUSTON  
 DEPARTMENT OF PLANNING & DEVELOPMENT

LANDSCAPE ANALYSIS FORM  
 (Please attach to permit site plan)

Non-Single Family Residential  
 (Staff may create an artificial lot)

1. TREE AND SHRUB PLANTING REQUIREMENTS

A. STREET TREES: Sec. 33-126 (a)

Length of property line in lineal feet as measured along each street separately.

STREET NAME	Lineal Feet	Tree Planting Requirement	Equivalent Credits *	Total Trees Planted
GRAND PARKWAY 99	60 / 30	2		2
	/ 30			
	/ 30			
	/ 30			
TOTAL STREET TREES				2

\* Maximum street tree credits can not exceed 50% of each block face.

B. PARKING LOT TREES: Sec. 33-127 (a)

50% of parking lot trees must be large trees. Each parking space must be within 120' of a tree.

Total Number of Proposed Parking Spaces	# of Spaces	Tree Planting Requirement	Equivalent Credits	Large Trees	Small Trees	Total Trees Planted
512	110	51		54		54

C. SHRUBS: Sec. 33-127 (b)

75% of the shrubs must be planted along the perimeter of the parking lot. (Shrubs are required for new and/or the expanded portion of parking lots.)

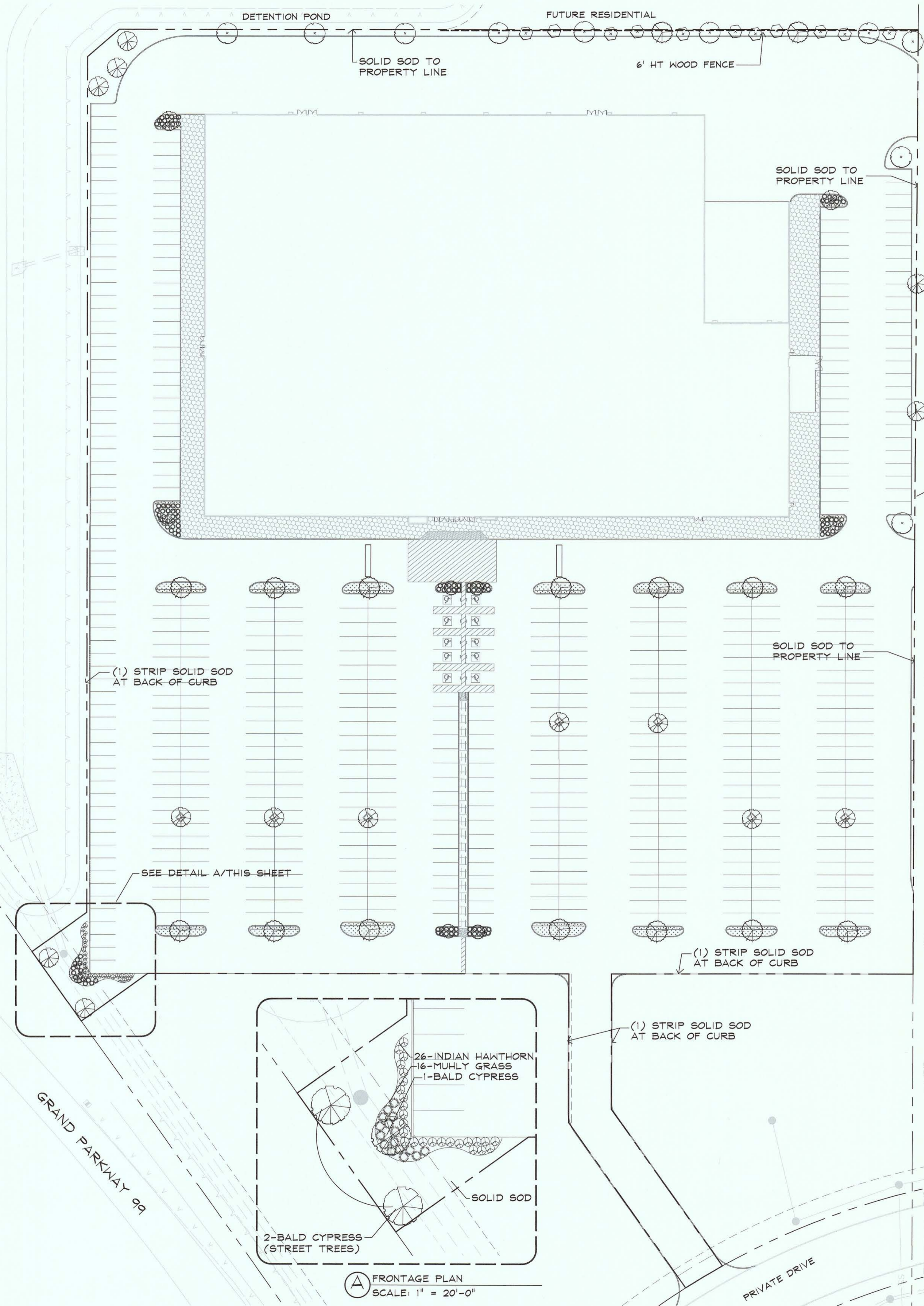
Street Tree Planting Requirement	Requirement	Total Shrub Requirement
2	x 10	20

D. LANDSCAPE BUFFER: Sec. 33-128 (1) Wood, concrete masonry opaque screening fence. (Min. 6')

Sec. 33-128 (2) Evergreen screening. A 6' high wood, concrete masonry opaque screening fence, or 15' wide evergreen planting strip along the total length of property line adjacent to existing single family residential, or limit of expansion adjacent to existing single family residential. (Site plan must show land use on all sides of the property.)

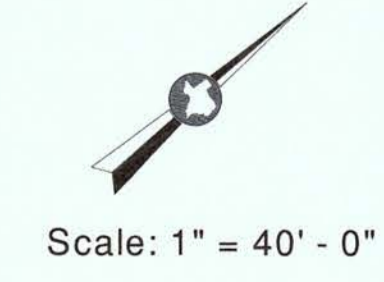
PLANT LIST

SYM	QTY	COMMON NAME	SCIENTIFIC NAME	SIZE	REMARKS
	19	BALD CYPRESS	Taxodium distichum	45gal	2.5" cal; 10'-12' HT; 5'-6' SPRD CONTAINER GROWN SPECIMEN
	10	LIVE OAK	Quercus virginiana	45gal	2.5" cal; 10'-12' HT; 5'-6' SPRD CONTAINER GROWN SPECIMEN
	11	LOBLOLLY PINE	Pinus taeda	45gal	2.5" cal; 10'-12' HT; 5'-6' SPRD CONTAINER GROWN SPECIMEN
	16	MONTERREY OAK	Quercus polymorpha	45gal	2.5" cal; 10'-12' HT; 5'-6' SPRD CONTAINER GROWN SPECIMEN
	4	RETAMA TREE	Parkinsonia aculata	1.5" CAL	8'-10' HT; 4'-5' SPRD CONTAINER GROWN SPECIMEN
	26	INDIAN HAWTHORN	Raphiolepis indica 'Clara'	3gal	15" HT; 15" SPRD FULL POT
	118	GULF MUHLY GRASS	Muhlenbergia capillaris	3gal	24" HT; 24" SPRD FULL POT
	7	ASIAN JASMINE	Trachelospermum asiaticum	1gal	8" ht; 12" sprd; 24" OC
		COMMON BERMUDA	Cynodon dactylon		SOLID SOD



FRONTAGE PLAN  
 SCALE: 1" = 20'-0"

SEE SHEET L-4 FOR PLANTING DETAILS



3-16-17

**AT HOME**  
 Landscape Improvements  
 Richmond, TX

Job No.: 181-17-009  
 Scale: 1" = 40' - 0"  
 Date: MAR. 16, 2017  
 Revised:

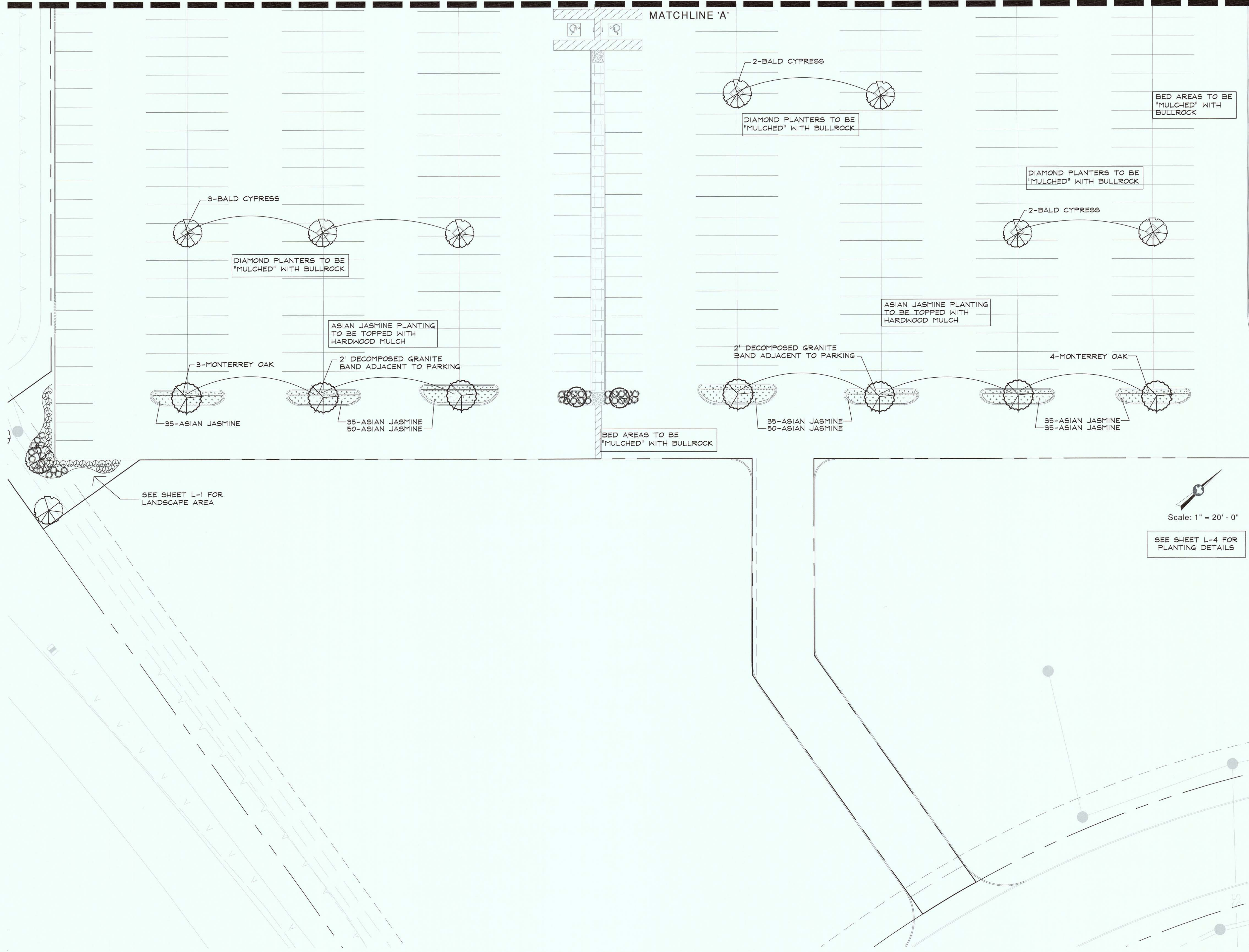
Overall Landscape Plan

L-1

Casandra AS  
 4/26/17



**AT HOME**  
Landscape Improvements  
Richmond, TX



Job No.:	181-17-009
Scale:	1" = 20' - 0"
Date:	MAR 16, 2017
Revised:	

Landscape  
Plan

L-2

*Carol AS*  
4/24/17



PLANTING

**PART 1 GENERAL**  
**1.01 RELATED DOCUMENTS**  
 A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and all applicable specification sections, apply to this section.  
**1.02 DESCRIPTION OF WORK**  
 A. This section specifies the requirements for providing planting materials and their installation as indicated on drawings and schedules.

**1.03 QUALITY ASSURANCE**  
 A. Installer: Installation of planting work shall be performed by a single firm specializing in landscape and planting work. Contractor shall be licensed by the Texas Association of Nurserymen, shall possess an agricultural certificate, shall be a licensed pest applicator, and shall have not less than 5 years of experience in this type of work.  
 B. Quality Control  
 1. Trees, Shrubs, and Groundcovers:  
 a. Provide plants of quantity, size, genus, species and variety shown and scheduled for planting work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock."  
 Provide healthy, vigorous stock, grown in recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae and defects such as knots, sun-scaid, injuries, abrasions, or discoloration.  
 b. Label each plant with securely attached waterproof tag bearing legible designation of botanical and common name.  
 2. Compliance: Ship planting materials with Certificates of Inspection as required by governing authorities. Comply with all applicable local, state, and federal requirements regarding materials, methods of work, and disposal of excess and waste materials.  
 3. Substitutions: Do not make substitutions unless approved in writing by Landscape Architect. If specified planting material is not obtainable, submit proof of non-availability to Landscape Architect together with proposal for use of equivalent material. Contractor shall submit proposal in a timely manner as to not impact project completion or installation of other work.  
 4. Analysis and Standards: All packaged products shall be delivered in original manufacturer's sealed containers. For unpackaged materials, submit analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable.  
 5. Inspection: Notify Landscape Architect at least 2 weeks prior to installation, of location where materials that have been selected for planting may be inspected, either at place of growth or this site prior to planting. Plant material will be inspected for compliance with requirements for genus, species, variety, size and quality. Landscape Architect retains right to further inspect trees for size and conditions of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Contractor shall remove rejected trees immediately from site and replace with specified materials. Plant material not installed in accordance with Contract will be rejected.  
 C. Reference standards Applicable to this section:  
 1. ANSI: American National Standards Institute  
 a. Z60.1: Nursery Stock  
 2. Association of Official Agriculture Chemists  
 3. FS: Federal Specifications and Standards  
 a. Q-P-166E: Peat, Moss; Peat, Humus; and Peat, Reed-Sedge  
 4. NBS: National Bureau of Standards  
 a. PS23: Perlite Product Standard  
**1.04 SUBMITTALS**  
 A. Work Schedule: Contractor shall submit a work schedule for all planting work prior to purchase and installation of plant material.  
 B. Certification:  
 1. Submit, for landscape Architect's review and approval, manufacturer's or vendor's certified analysis of soil amendments. Submit other data substantiating that materials comply with specified and indicated requirements.  
 2. Fertilizer certification shall be submitted for landscape Architect's review and approval to the chemical analysis of the fertilizer, a listing of the elements contained therein and their percentages.  
 C. Maintenance Instructions: Submit typewritten instructions, including manufacturer's recommendations and instructions recommending procedures to be established by Owner for maintenance of planting work. Submit instructions prior to expiration of contractor's required maintenance period.  
 D. Submittals: Contractor shall submit in writing materials used on jobsite. Provide company name of product or nursery.

**1.05 DELIVERY, STORAGE AND HANDLING**  
 A. Packaged Materials: Deliver packaged materials in fully labeled original containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.  
 B. Plants:  
 1. Do not drop stock during delivery.  
 2. Materials shall not be pruned prior to installation unless otherwise approved by Landscape Architect in writing. Do not bend or bind-tie trees and shrubs in such a manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery.  
 3. Deliver plants after preparation for planting has been completed and plant immediately. If planting is delayed more than 7 hours after delivery, set plants in shade, protect from weather and mechanical damage. Keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture, and water as needed.  
 4. Do not remove container grown stock from containers before time of planting and water immediately after delivery and prior to planting.

**1.06 JOB CONDITIONS**  
 A. Work Scheduling: Proceed with and complete planting work in a timely manner, working within seasonal limitations for each kind of planting work required.  
 B. Planting time  
 1. Correlate planting with specified maintenance periods to provide maintenance from date of Substantial Completion.  
 2. Plan to frost-protect only after danger of frost is past or sufficiently before frost season to allow for establishment before first frost. Do not plant in frozen ground.  
 3. Plant trees, shrubs and groundcover after final grades are established and prior to planting of lawns, unless otherwise directed by Landscape Architect in writing. If planting occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.  
 C. Utilities: Refer to engineering drawings and coordinate with Utility Contractor for location of utilities. Contractor shall be responsible for damage to existing utilities and structures.  
 D. Security: The Owner will not assume any responsibility for security of any materials, equipment, etc. during construction of the project until project acceptance.  
 E. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions beyond the scope of this contract, or obstructions, notify Landscape Architect of such conditions, immediately and before planting.  
 F. Pollution Control: Control dust caused by planting operations. Dampen surfaces as necessary. Comply with pollution control regulations of governing authorities.  
**1.07 SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE**  
 A. Substantial Completion notice for planting work will be issued by landscape Architect only for entire planting and landscape work.  
 B. Substantial Completion notice will be issued only after Owner and Landscape Architect inspect and approve all required planted materials and grassed areas.  
 C. Final acceptance will be determined after the maintenance period and when all plant materials are alive and healthy and grass areas are established.  
 D. Final acceptance notice will be issued only after Owner and Landscape Architect inspect and approve all planting work as in accordance with the Contract Documents.

**1.08 SPECIAL PROJECT WARRANTY**  
 A. Contractor shall furnish written warranty of trees, shrubs and groundcover for 12 months after date of final acceptance, against defects including death and unsatisfactory growth, except for defects resulting from neglect by Owner or abuse or damage by others. (Machine moved trees installed by others under a separate contract shall be warranted by others.)  
 B. Remove and replace shrubs and groundcover found to be dead or in unhealthy condition during warranty period. Replace shrubs and groundcover which are in doubtful condition at end of warranty period. However, if in the opinion of Owner, such doubtful material may survive, Contractor shall extend the warranty period for a full growing season. Owner will determine which items are in doubtful condition.  
 C. Another inspection will be conducted by Owner, at end of extended warranty period to determine acceptance or rejection.  
**PART 2 PRODUCTS**  
**2.01 MATERIALS**  
 A. Fertilizer  
 1. Granular fertilizer shall be a commercial fertilizer, uniform in composition, free flowing, and suitable for application with approved equipment. Fertilizer which has been exposed to high humidity and moisture, has become caked or otherwise damaged making it unsuitable for use, will not be acceptable. Application shall be Osmocote 13, 13, 13 + Iron by Sierra Chemical, 1-800-492-8255, 1001 Yosemite Dr., Milpitas, CA 95035, or approved equal. Broadcast rotolift fertilizer at the rate of 3 lbs. Actual nitrogen per 1000 square feet into prepared planting soil.

**2.02 PLANT MATERIALS**  
 A. Shrubs and Groundcover: Provide specimen quality plant material as described in Construction Documents. Each individual species of plant material shall be obtained and provided from a single source.  
**3.01 EXECUTION**  
**A. Grading**  
 1. Strip existing vegetation and soil in areas to receive planting and grass to depth shown on drawings. Backfill with topsoil and planting backfill mix to depth shown on drawings.  
 2. Perform grading within Contract limits, including adjacent transition areas, where required, to new elevations, levels, and contours indicated. Provide subgrade surfaces parallel to finished surface grades. Provide uniform levels and slopes.  
 3. Grade surface to ensure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes. Provide subgrade surface free of exposed boulders or stones exceeding 4 inches in greatest dimension in paved areas; 2 inches lawn areas.  
 4. Provide adequate drainage of the working area at all times.  
 5. Fine grade topsoil eliminating rasm and low areas to ensure positive drainage. Maintain levels, profiles, and contours of subgrades.  
 6. Remove stones, roots, weeds, and debris while raking topsoil. Rake surface clean of stones 1 inch or larger in any dimension and of all debris. Place planting backfill mix to depth specified on drawings.  
 7. All finished grades shall meet line and grade of pavement. Finished grades (top of soil prior to hydromulch) shall be maximum of 1 inch below walkway pavement surface. Grade all slopes from rear of landscape easement or center of medians to walkways and curbs at a minimum of 2 percent slope.  
 B. Plant Layout: Layout individual tree locations of trees to be machine moved by others and areas for multiple plantings as shown on drawings. In case of conflicts or non-contractual conditions, notify Landscape Architect before proceeding with the work.

**A. Preparation of Planting Backfill Mix**  
 1. Mix specified soil amendments and fertilizers with topsoil at rates indicated. Delay mixing of fertilizer if planting will not follow placing of planting soil within 48 hours, unless otherwise directed. Amendments shall be incorporated into soil as a part of the soil preparation process prior to fine grading, fertilizing, and planting. Each amendment material shall be broadcast or spread evenly at the specified rate over the planting area.  
 Amendments shall be thoroughly incorporated into the topsoil until amendments are pulverized and have become a homogeneous layer of soil ready for planting.  
 Incorporation and mixing shall be accomplished by mechanical means.  
 1. For planting beds, mix planting soil prior to backfilling.  
 D. Fire Ant Control: Fire ants shall be controlled with broadcast application of insecticide at a rate of 1-1/2 lbs. bait per acre. Apply after dew has dried and when no rain is expected for 6 hours. Use properly calibrated equipment to assure uniform distribution. Apply to entire area of planting/grassing.  
**3.02 PLANTING**  
**A. Excavation for Shrubs**  
 1. Excavate pits, beds and trenches with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage.  
 2. Make excavations at least half again as wide as the ball diameter and equal to the ball depth, plus 3" allowance for setting of ball on a layer of compacted backfill.  
 3. Dispose of subsoil removed from planting excavations. Do not mix with planting soil or use as backfill.  
**B. Planting Large Shrubs**  
 1. Set stock on layer of compacted planting soil mixture, plumb and in center of pit at same elevation as adjacent finished planting grades. Place fertilizer tablets evenly spaced in hole at specified rate. Place additional backfill mix around base and sides of ball and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before planting remainder of backfill. Repeat watering until no more water is absorbed. Dish top of backfill to allow for mulching.  
 2. Prune, thin out, and shape shrubs in accordance with standard horticultural practice. Prune shrubs to retain natural character. Remove and replace excessively pruned or misformed stock resulting from improper pruning.  
**C. Planting Shrubs, Groundcover and Seasonals**  
 1. Excavate hole as necessary to accommodate root ball. Place fertilizer tablet(s) or granular fertilizer in hole according to recommended rate. Backfill hole with planting backfill mix. Water after planting to remove voids and place additional prepared soil to cover root ball if necessary.  
 2. Mulch entire planting bed areas with 2-3 inches bark mulch spread consistently and evenly across root balls and entire planting bed areas.  
**3.03 CLEANUP AND PROTECTION**  
 A. During planting work, keep pavements clean and work area in an orderly condition. Sweep site and remove trash at end of each workday as necessary.  
 B. Protect planting work and materials from damage due to planting operations, operations by other contractors and trades and trespassers. Maintain protection during installation periods. Treat, repair or replace damaged planting work as directed by Landscape Architect.  
 C. Stockpile, haul from site, and dispose of waste materials and debris. Accumulation will not be permitted. Maintain haul and disposal routes clear, clean and free of debris. On-site burning of combustible cleared materials will not be permitted.  
 D. Upon completion of work, clean areas within Contract limits; remove tools, supplies and equipment. Wash down curbs and pavement areas. Scrub curbs and walks as necessary to insure a clean surface. Provide site clean and free of materials and suitable for use as intended.  
**3.04 MAINTENANCE**  
 A. Contractor shall correctly maintain the planting work throughout the installation process and throughout the landscape maintenance period as specified in Section 02493, Exterior Landscape Maintenance.  
**3.05**  
 A. While planting work is completed and at the completion of maintenance period, Owner will make an inspection to determine acceptability.  
 B. When inspected planting work does not comply with the Contract Document requirements, replace rejected work and continue specified maintenance until reinspected by Owner and found to be acceptable. Contractor shall remove rejected plants and materials promptly from site.  
**END OF SECTION**  
**SODDING**  
**PART 1 GENERAL**  
**1.01 RELATED DOCUMENTS**  
 A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and all applicable specification sections, apply to this section.  
**1.02 DESCRIPTION**  
 A. Provide sodding as specified and as indicated.  
**1.03 SUBMITTALS**  
 A. Sod Certification: Certification shall be submitted from the sod nursery as to the grass species, location of the field from which the sod has been stripped and the date of stripping. Certification shall accompany the delivery of the sod.  
 B. Fertilizer Certification: Certification shall be submitted from the fertilizer manufacturer as to the chemical analysis of the fertilizer, a listing of the elements contained therein and their percentages. Certification shall also indicate that the fertilizer is in accordance with the requirements of the Texas Fertilizer Law.  
**1.04 PRODUCT HANDLING**  
 A. Sod Delivery: Sod shall be delivered on pallets with the root system protected from exposure to wind and sun. Stripping and delivery shall be timed so that sod will be placed within 48 hours of stripping.  
 B. Fertilizer Delivery: Fertilizer shall be delivered in the manufacturer's unopened containers, labeled to indicate the manufacturer's name and product identification. Containers shall be stored protected from ground contact and from the elements.  
**1.05 JOB CONDITIONS**  
 A. Sod shall be placed during the period between the last freeze in the spring and 6 weeks prior to the average date for the first freeze in the fall according to the National Weather Service for the area in which the work is located.  
**1.06 GUARANTEE**  
 A. A written guarantee shall be provided guaranteeing the sodded areas are in a healthy, vigorous, undamaged condition for a period of 90 days beginning on the date of final acceptance. Guarantee shall provide for filling, leveling, and repairing eroded areas, or resodding areas exhibiting lack of healthy growth.

A. Sharp Sand: Sand shall be thoroughly washed, coarse grade shape, construction or brick sand, free of clay balls, weeds, and grass. So-called cushion sand, blow sand, or creek silt is not acceptable for substitution where sharp sand is specified.  
 B. Herbicide  
 1. Pre-emergent herbicide shall be Eptam 5G by Green Light Co., P. O. Box 471, Missouri City, TX, 77459, (713) 438-6824, or approved equal.  
 2. Contact herbicide shall be Roundup by Monsanto, 800 N. Lindbergh, St. Louis, Missouri, 63167, (314) 694-1000, or approved equal.  
 D. Bark Mulch for top dressing: Organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs or plants. Mulch shall be composted, well rotted, shredded hardwood mulch, black or dark brown in color. Enriched Bark Mulch for bed prep shall be as above with additional organic of peat and/or manure.  
 E. Root Stimulator: Shall be Hi-Yield Root Stimulator 5-12-3, by Voluntary Purchasing Group, P. O. Box 460, Bonham, TX, 75418, (214) 583-5501, or approved equal. Spreader sticker as needed.  
 F. Fire Ant Control: Durban or 1% Diazinon Granular as manufactured by Green Light Projects Co., San Antonio, TX, 78217 or Logic by PBI Gordon, Kansas City, MO.  
 G. Insecticide: Lindane or Advant distributed by Esco Distributors, 514 W. 25th Street, Houston, TX, 77008, (713) 864-7771.  
 H. Planting Backfill Mix: Shall be 33% topsoil, 33% sharp sand, and 33% enriched bark mulch or approved commercially available planter's soil mix. Add fertilizer as per specifications. Contractor shall submit source or sample to Landscape Architect.

1. Topsoil  
 1. Provide topsoil which is fertile, friable, natural loam, surface soil, free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 2 inches in any dimension and other extraneous or toxic matter harmful to plant growth.  
 2. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4 inches. Topsoil shall not be collected from sites that are infested with growth of, or the reproductive parts of noxious weeds, especially nut grass. Topsoil shall not be stripped, collected or deposited while wet. Topsoil shall not be excessively acid or alkaline or contain toxic substances which may be harmful to plant growth. Topsoil shall be without admixture of subsoil.  
**2.02 PLANT MATERIALS**  
 A. Shrubs and Groundcover: Provide specimen quality plant material as described in Construction Documents. Each individual species of plant material shall be obtained and provided from a single source.  
**3.01 EXECUTION**  
**A. Grading**  
 1. Strip existing vegetation and soil in areas to receive planting and grass to depth shown on drawings. Backfill with topsoil and planting backfill mix to depth shown on drawings.  
 2. Perform grading within Contract limits, including adjacent transition areas, where required, to new elevations, levels, and contours indicated. Provide subgrade surfaces parallel to finished surface grades. Provide uniform levels and slopes.  
 3. Grade surface to ensure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes. Provide subgrade surface free of exposed boulders or stones exceeding 4 inches in greatest dimension in paved areas; 2 inches lawn areas.  
 4. Provide adequate drainage of the working area at all times.  
 5. Fine grade topsoil eliminating rasm and low areas to ensure positive drainage. Maintain levels, profiles, and contours of subgrades.  
 6. Remove stones, roots, weeds, and debris while raking topsoil. Rake surface clean of stones 1 inch or larger in any dimension and of all debris. Place planting backfill mix to depth specified on drawings.  
 7. All finished grades shall meet line and grade of pavement. Finished grades (top of soil prior to hydromulch) shall be maximum of 1 inch below walkway pavement surface. Grade all slopes from rear of landscape easement or center of medians to walkways and curbs at a minimum of 2 percent slope.  
 B. Plant Layout: Layout individual tree locations of trees to be machine moved by others and areas for multiple plantings as shown on drawings. In case of conflicts or non-contractual conditions, notify Landscape Architect before proceeding with the work.

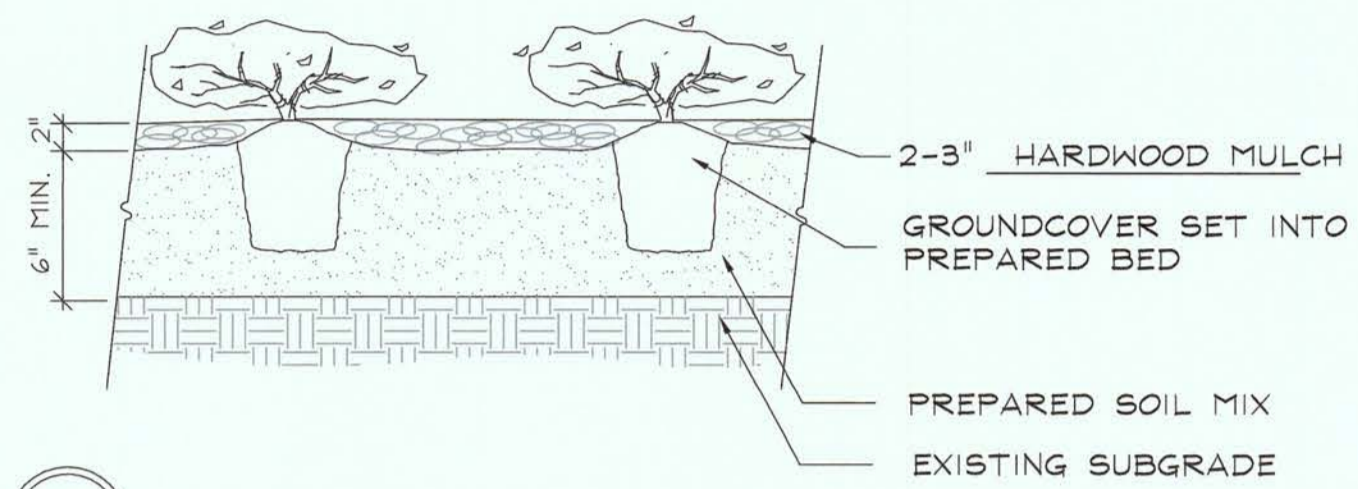
**A. Preparation of Planting Backfill Mix**  
 1. Mix specified soil amendments and fertilizers with topsoil at rates indicated. Delay mixing of fertilizer if planting will not follow placing of planting soil within 48 hours, unless otherwise directed. Amendments shall be incorporated into soil as a part of the soil preparation process prior to fine grading, fertilizing, and planting. Each amendment material shall be broadcast or spread evenly at the specified rate over the planting area.  
 Amendments shall be thoroughly incorporated into the topsoil until amendments are pulverized and have become a homogeneous layer of soil ready for planting.  
 Incorporation and mixing shall be accomplished by mechanical means.  
 1. For planting beds, mix planting soil prior to backfilling.  
 D. Fire Ant Control: Fire ants shall be controlled with broadcast application of insecticide at a rate of 1-1/2 lbs. bait per acre. Apply after dew has dried and when no rain is expected for 6 hours. Use properly calibrated equipment to assure uniform distribution. Apply to entire area of planting/grassing.  
**3.02 PLANTING**  
**A. Excavation for Shrubs**  
 1. Excavate pits, beds and trenches with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage.  
 2. Make excavations at least half again as wide as the ball diameter and equal to the ball depth, plus 3" allowance for setting of ball on a layer of compacted backfill.  
 3. Dispose of subsoil removed from planting excavations. Do not mix with planting soil or use as backfill.  
**B. Planting Large Shrubs**  
 1. Set stock on layer of compacted planting soil mixture, plumb and in center of pit at same elevation as adjacent finished planting grades. Place fertilizer tablets evenly spaced in hole at specified rate. Place additional backfill mix around base and sides of ball and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before planting remainder of backfill. Repeat watering until no more water is absorbed. Dish top of backfill to allow for mulching.  
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**3.03 CLEANUP AND PROTECTION**  
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 B. Protect planting work and materials from damage due to planting operations, operations by other contractors and trades and trespassers. Maintain protection during installation periods. Treat, repair or replace damaged planting work as directed by Landscape Architect.  
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 D. Upon completion of work, clean areas within Contract limits; remove tools, supplies and equipment. Wash down curbs and pavement areas. Scrub curbs and walks as necessary to insure a clean surface. Provide site clean and free of materials and suitable for use as intended.  
**3.04 MAINTENANCE**  
 A. Contractor shall correctly maintain the planting work throughout the installation process and throughout the landscape maintenance period as specified in Section 02493, Exterior Landscape Maintenance.  
**3.05**  
 A. While planting work is completed and at the completion of maintenance period, Owner will make an inspection to determine acceptability.  
 B. When inspected planting work does not comply with the Contract Document requirements, replace rejected work and continue specified maintenance until reinspected by Owner and found to be acceptable. Contractor shall remove rejected plants and materials promptly from site.  
**END OF SECTION**  
**SODDING**  
**PART 1 GENERAL**  
**1.01 RELATED DOCUMENTS**  
 A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and all applicable specification sections, apply to this section.  
**1.02 DESCRIPTION**  
 A. Provide sodding as specified and as indicated.  
**1.03 SUBMITTALS**  
 A. Sod Certification: Certification shall be submitted from the sod nursery as to the grass species, location of the field from which the sod has been stripped and the date of stripping. Certification shall accompany the delivery of the sod.  
 B. Fertilizer Certification: Certification shall be submitted from the fertilizer manufacturer as to the chemical analysis of the fertilizer, a listing of the elements contained therein and their percentages. Certification shall also indicate that the fertilizer is in accordance with the requirements of the Texas Fertilizer Law.  
**1.04 PRODUCT HANDLING**  
 A. Sod Delivery: Sod shall be delivered on pallets with the root system protected from exposure to wind and sun. Stripping and delivery shall be timed so that sod will be placed within 48 hours of stripping.  
 B. Fertilizer Delivery: Fertilizer shall be delivered in the manufacturer's unopened containers, labeled to indicate the manufacturer's name and product identification. Containers shall be stored protected from ground contact and from the elements.  
**1.05 JOB CONDITIONS**  
 A. Sod shall be placed during the period between the last freeze in the spring and 6 weeks prior to the average date for the first freeze in the fall according to the National Weather Service for the area in which the work is located.  
**1.06 GUARANTEE**  
 A. A written guarantee shall be provided guaranteeing the sodded areas are in a healthy, vigorous, undamaged condition for a period of 90 days beginning on the date of final acceptance. Guarantee shall provide for filling, leveling, and repairing eroded areas, or resodding areas exhibiting lack of healthy growth.

**PART 2 PRODUCTS**  
**2.01 SOD**  
 A. Sod shall be nursery grown Common Bermuda sod having a healthy, virile root system of dense, thickly matted roots throughout the soil of the sod for a minimum thickness of 1 inch. Sod shall be free of noxious weeds and undesirable native grasses. Soil attached to the sod shall be free of stones and debris.  
 B. Sod shall have been mowed within 7 days of being stripped. Sod shall be provided in rectangular pads of not less than 12 inches nor more than 24 inches. Dry sod will be rejected.  
**2.02 TOPSOIL**  
 A. Provide topsoil which is fertile, friable, natural loam, surface soil, free of subsoil, clay lumps, brush, weeds and other litter, and free of roots, stumps, stones larger than 2" in any dimension and other extraneous or toxic matter harmful to plant growth.  
 B. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4". Topsoil shall not be collected from sites that are infested with growth of or the reproductive parts of noxious weeds, especially nut grass. Topsoil shall not be stripped, collected or deposited while wet. Topsoil shall not be excessively acid or alkaline or contain toxic substances which may be harmful to plant growth. Topsoil shall be without admixture of subsoil.  
**2.03 FERTILIZER**  
 A. Fertilizer shall be granulated fertilizer with an analysis of 16-8-8 + iron, unless otherwise indicated. The figures in the analysis represent the percent of nitrogen, phosphoric acid and potash nutrients respectively.  
 B. Fertilizer shall be uniform in composition and dry. Fertilizer shall be furnished in unopened containers, labeled to indicate the analysis of the contents. Caked or otherwise damaged material will be rejected.  
**PART 3 EXECUTION**  
**3.01 INSPECTION**  
 A. Surfaces indicated to be sodded shall be inspected to verify that all preceding work in the area has been completed. Sodding shall not start until all preceding work has been completed.  
**3.02 SODDING**  
**A. Preparation**  
 1. Strip existing vegetation and 1 inch of existing soil from all areas to receive sod not stripped and graded under previous work or contract.  
 2. After stripping, loosen soil to a depth of 1-1/2 inches prior to laying sod. Remove all stones, roots, vegetation, rubbish, debris and other foreign matter 1" in diameter or larger from the top 2" of soil. No foreign matter may be buried on site. Hand rake to achieve smooth grade.  
 3. Fertilizer shall be uniformly spread over the topsoil at the average rate of 400 lbs. per acre and shall be raked into the topsoil to a full 2-inch depth.  
 4. Immediately prior to placing sod, the fertilized topsoil substrate shall be lightly moistened.  
**B. Installation**  
 1. All sod shall be carefully laid in parallel rows in a smooth manner, alternating all sod joints. Fit sod strips tightly together so that no joints are visible and tamp firmly. Cut pieces of sod to fill any voids left.  
 2. Water sod immediately after planting, slowly but thoroughly, to secure at least six (6) inches penetration into the soil below the sod. Do not allow the blades of grass to wilt. The sodded area shall be rolled to form a thoroughly even, solid mat. Any voids left in block sodding shall be filled with cut sod pieces and/or topsoil.  
 3. Follow the completion of the installation, the sod shall be watered in an amount and as often as necessary to maintain healthy growth of the grass.  
 4. Treat entire areas of sod for fire ants with Durban as per manufacturer's instructions.  
**3.03 MAINTENANCE OF SODDED AREAS**  
 A. Contractor shall correctly maintain the sodded areas throughout the installation. Contractor shall be responsible for care and maintenance of entire project.  
**END OF SECTION**

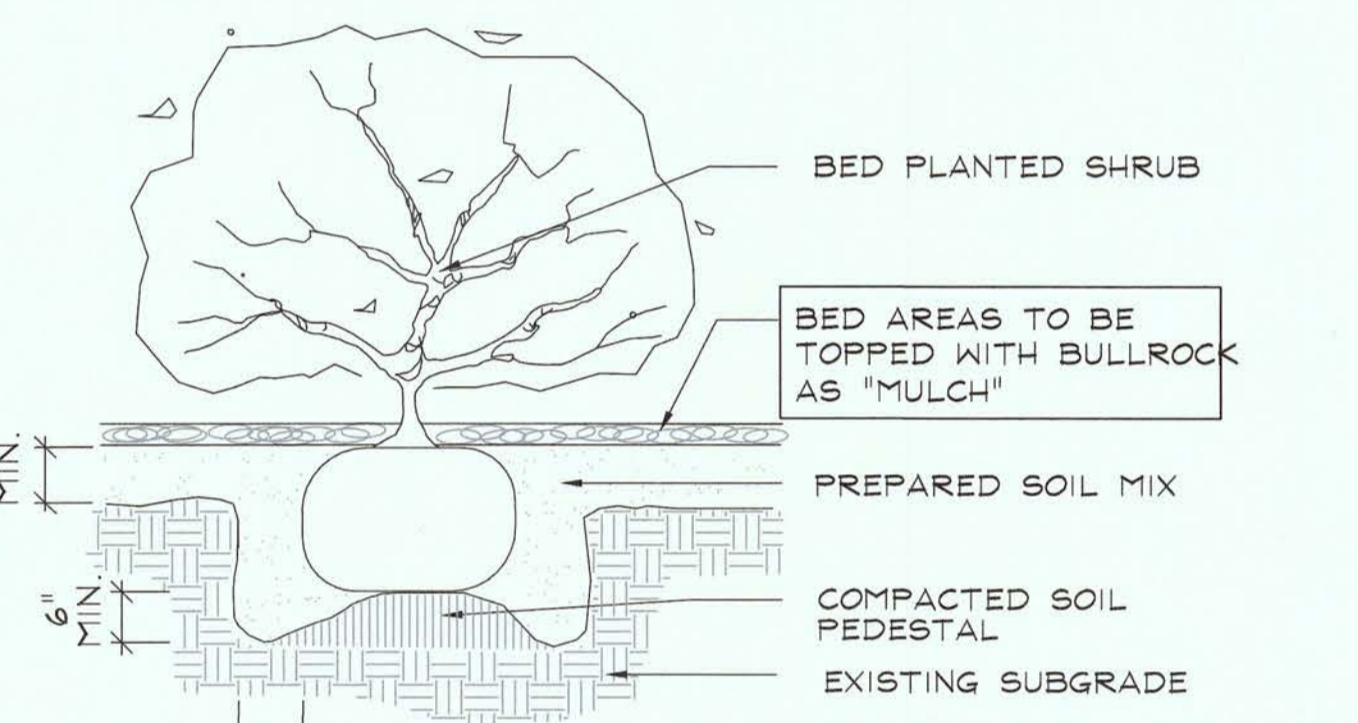
ALL DOOR SWING AREAS TO HAVE A 2' WIDE GRANITE PATH



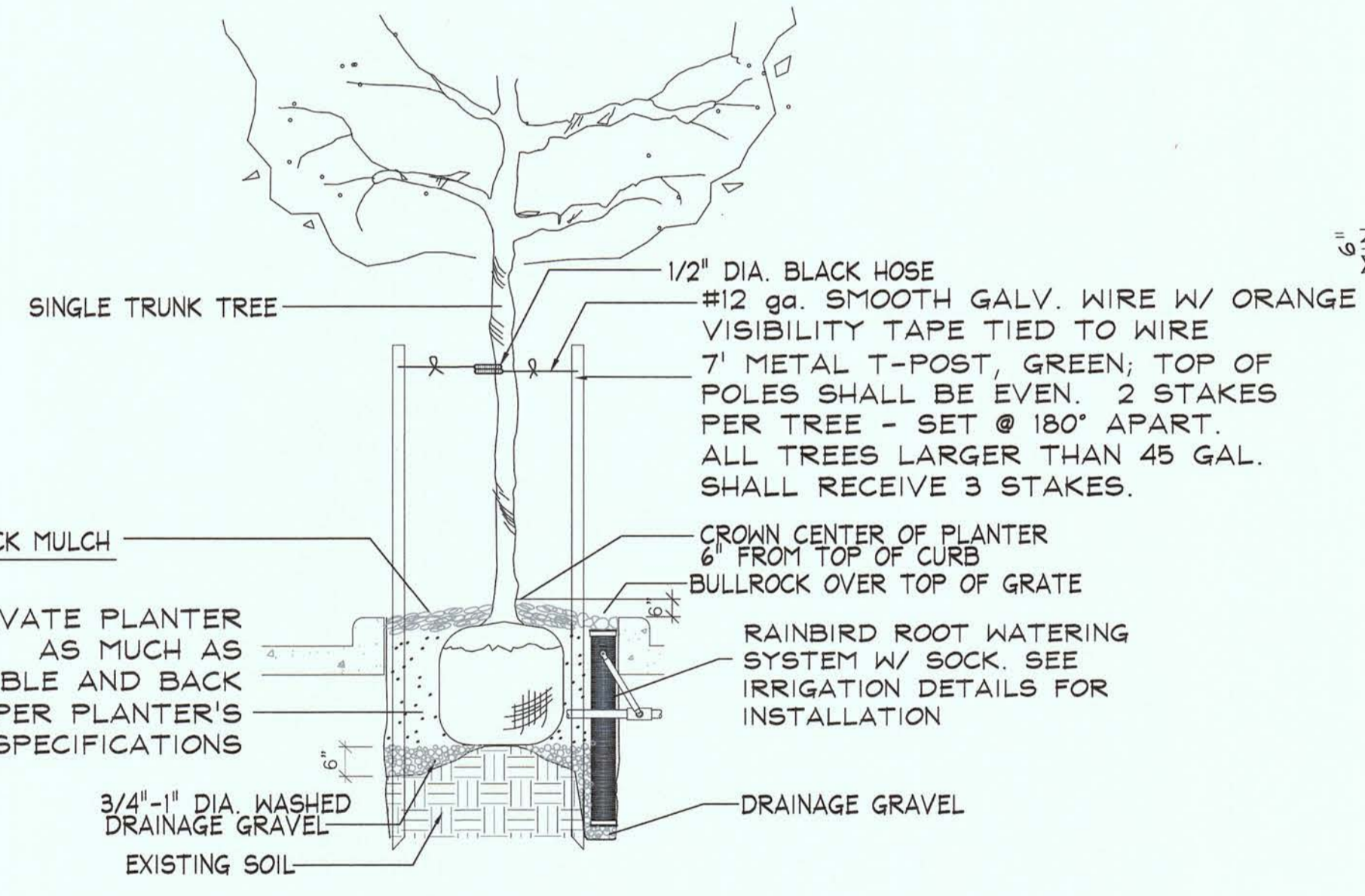
**E - PARKING DETAIL**  
SCALE: NTS



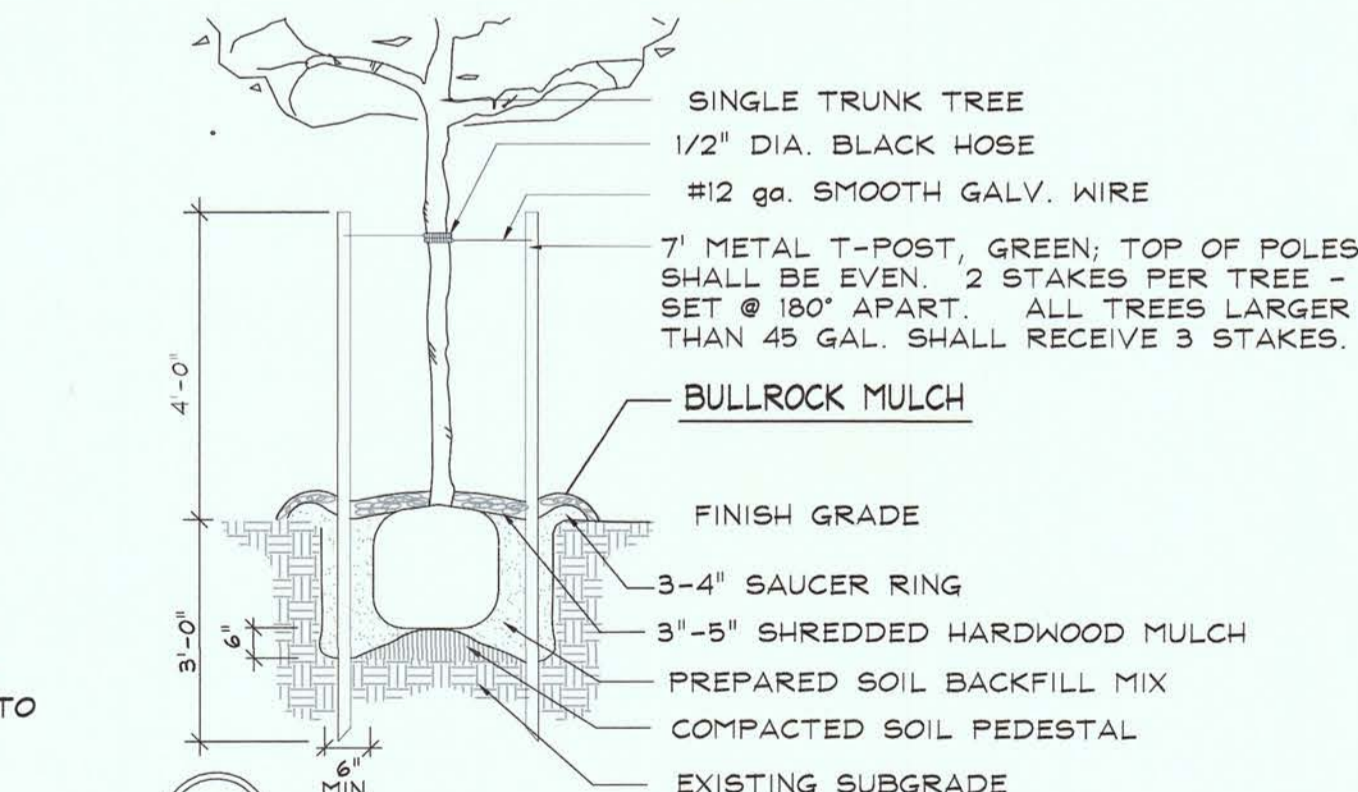
**D - ASIAN JASMINE PLANTING**  
SCALE: NTS



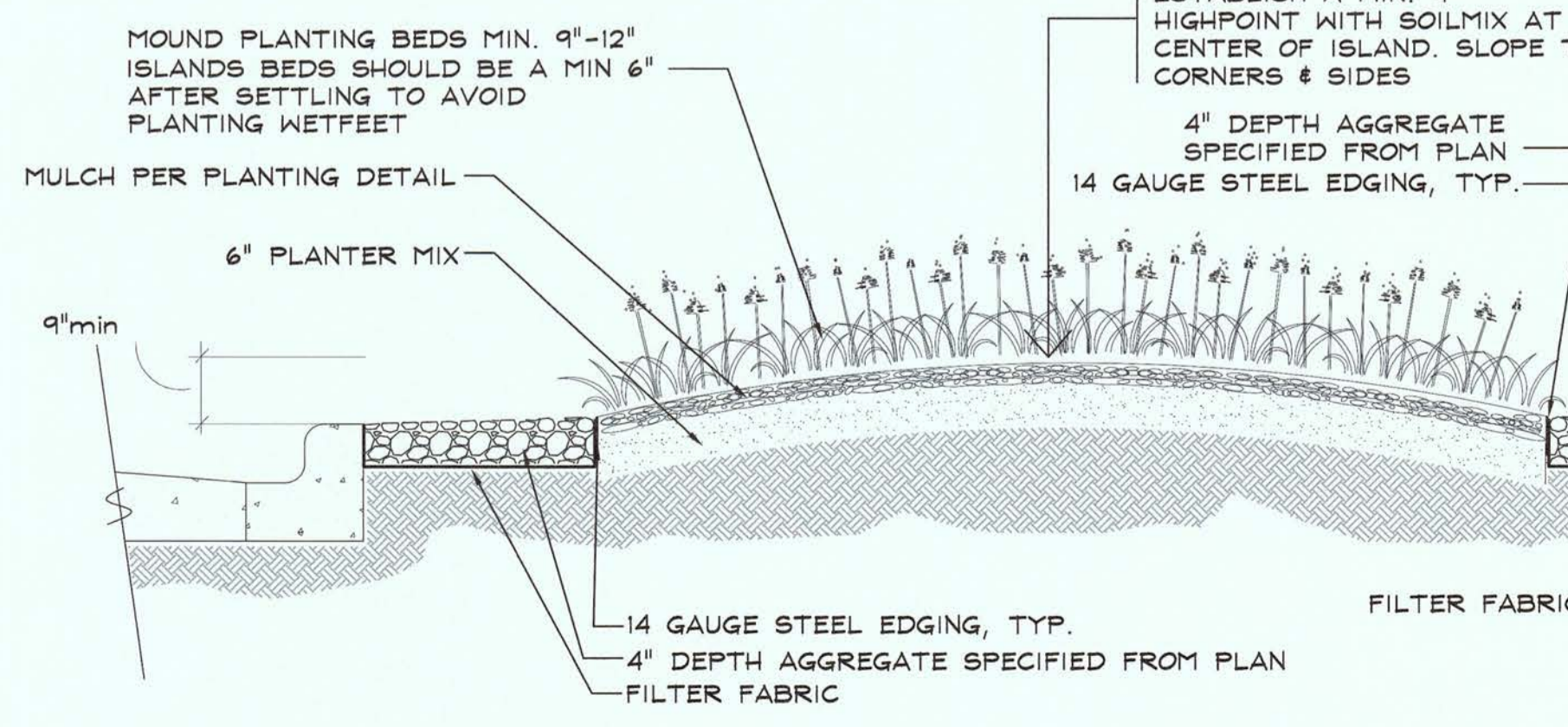
**C - SHRUB PLANTING**  
SCALE: NTS



**F - DIAMOND PLANTER**  
SCALE: NTS



**B - TREE PLANTING**  
SCALE: NTS



**A - ISLAND PLANTING**  
SCALE: NTS



Job No.:	181-17-009
Scale:	
Date:	MAR 16, 2017
Revised:	

*Asendi AS*  
 4/26/17



4-4-17

**AT HOME**  
Landscape Improvements  
Richmond, TX

**IRRIGATION NOTES:**

1. Irrigation system shall be installed by a Licensed Irrigator. Irrigator shall provide an as-built locating mainline and valves with installed calculations after construction. This plan is to be used as a reference and for bidding purposes only.
2. Except as otherwise noted, the contractor shall procure permits and licenses, pay charges and fees and give notices necessary and incidental to the due lawful prosecution of the work. The contractor shall make arrangements and pay costs for installation of irrigation water meters at the approximate locations. Verify with Owner's Representative for the addresses for each.
3. The contractor shall follow the applicable City/County Department of Public Works specifications for installation of water meter and hot tapping.
4. The contractor shall notify pertinent utility companies 48 hours prior to construction for current utility locations. Extreme care shall be exercised in excavating and working near existing utilities. Contractor shall verify the location and condition of utilities and be responsible for damage to utilities.
5. The contractor shall at all times protect his work from damage and theft, and replace all damaged or stolen parts until the work is accepted in writing by owner.
6. The contractor shall not willfully install the sprinkler system as shown on the drawings when it is obvious in the field that obstructions, grade differences or differences in the area's dimensions exist that might not have been in the design. Such obstructions or differences shall be brought to the attention of the Landscape Architect. In the event this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions necessary.
7. The contractor shall clearly mark exposed excavations and materials and equipment. Cover or barricade trenches when contractor is not on site.
8. For purposes of clarity, some irrigation lines and valves may be shown outside of property, easements, or in paved areas. Locate all lines and valves in planting area unless otherwise noted.
9. Adjust arc of irrigation heads for even coverage. Head layout should be as per plans.
10. Avoid existing or future location of tree balls when laying pipe.
11. The contractor shall stake controller and PVB locations for approval by Landscape Architect or owner's representative prior to their installation.
12. Patch and repair any and all damage done to existing plant material and grading during installation of this work.
13. Contractor shall provide original and 2 copies of Pressure Vacuum Breaker certification to the Owner at completion of project.
14. Irrigation cycles shall be set to take place prior to sunrise and not to interfere with business unless otherwise instructed by the Owner, except during visits of grounds maintenance personnel during such visits the irrigation system may be operated as desired by those personnel.
15. Complete sprinkler system servicing shall be performed as required to maintain sprinklers in correct operating condition including all required labor. Check shall include visual "inspection" of all accessible components of the irrigation system including but not limited to controllers, remote control valves, quick couplers, and heads.
16. Adjust the sprinklers to avoid damage to windows, building and sign walls also adjust heads to keep water off the street. Make repairs and alterations to the sprinkling system and water lines. All sprinkler repairs such as cleaning of heads or breaks caused by the Contractor shall be the Contractor's responsibility.
17. The contractor, in the end, shall install a fully functional irrigation system with full coverage. The purpose of this plan is for bidding and reference. However, any changes shall be brought to the attention of the Landscape Architect. In the event this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions necessary.

DETENTION POND

DETENTION POND

FUTURE RESIDENTIAL

6' HT WOOD FENCE

EASEMENT

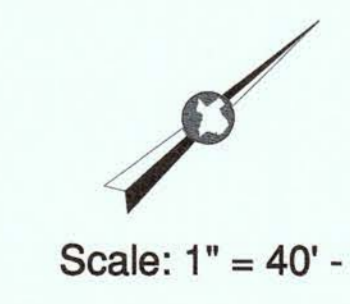
GRAND PARKWAY 99

PRIVATE DRIVE

**KEY:**

- SCH. 40 PVC PIPE SLEEVE
- △ SLEEVE SIZE
- 2" MAINLINE

SEE SHEET IR-4 FOR  
IRRIGATION DETAILS



RPZ BACKFLOW  
ISO VALVE  
2" IRRIGATION METER

Casand  
4/26/17

Job No.:	181-17-009
Scale:	1" = 40' - 0"
Date:	MAR. 16, 2017
Revised:	COMMENTS APRIL 4, 2017

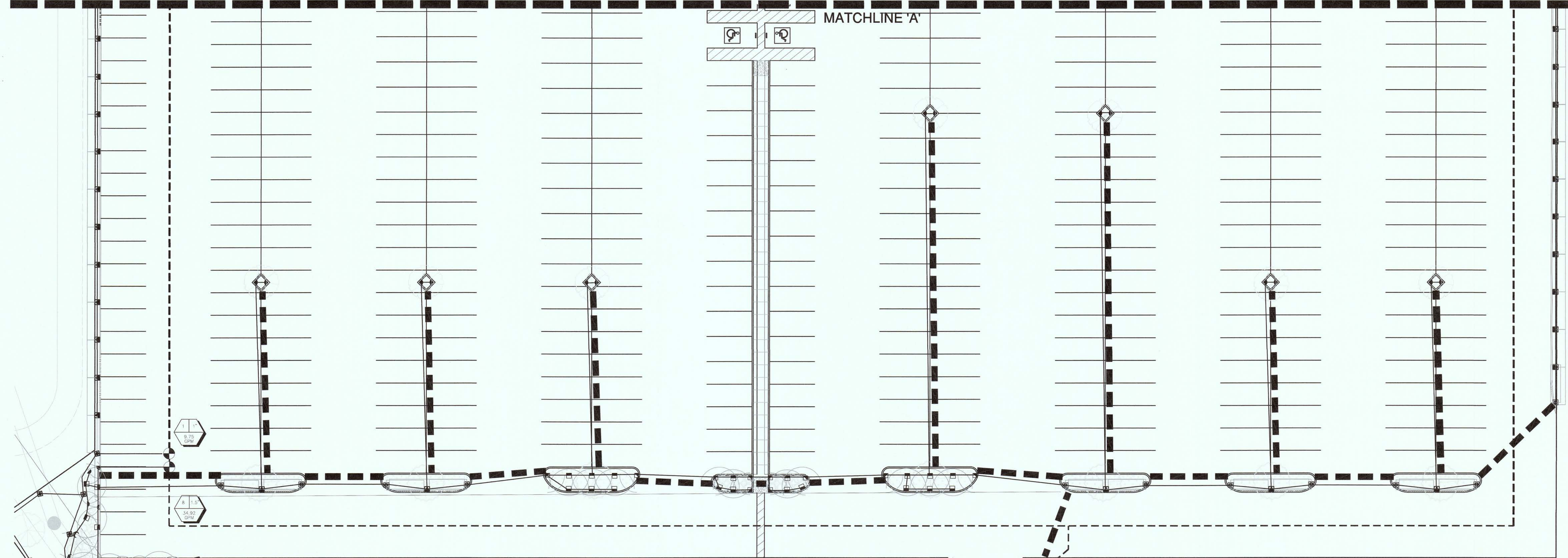
Overall  
Irrigation Plan

IR-1



4-4-17

**AT HOME**  
Landscape Improvements  
Richmond, TX



**Irrigation**

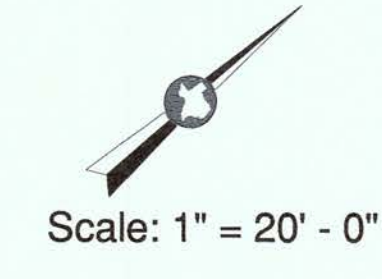
Symbol	Description	Part #	Pressure	Flow	Radius
▲	Rain Bird 5H	5H	30	0.2	5
▼	Rain Bird 5Q	5Q	30	0.1	5
●	Rain Bird 5F	5F	30	0.4	5
■	Rain Bird 8F	8F	30	1.05	8
▣	Rain Bird 8H	8H	30	0.52	8
◆	Rain Bird 8Q	8Q	30	0.26	8
●	Rain Bird 10F	10F	30	1.58	10
○	Rain Bird 10TQ	10TQ	30	1.18	10
∩	Rain Bird 10H	10H	30	0.79	10
●	Rain Bird 10Q	10Q	30	0.39	10
⊙	Rain Bird 12F	12F	30	2.6	12
∇	Rain Bird 12H	12H	30	1.3	12
▽	Rain Bird 12Q	12Q	30	0.65	12
○	Rain Bird 15F	15F	30	3.70	15
△	Rain Bird 15H	15H	30	1.85	15
◇	Rain Bird 15Q	15Q	30	0.92	15
■	Rain Bird 15SST	15SST	30	1.21	30
⊠	Rain Bird 15EST	15EST	30	.62	30
○	Hunter PGP	PGP			
■	Hunter PGJ	PGJ			
●	Febco 860				
⊙	Rain Bird PEB				
▲	Hunter I-Core W/ MINI CLIK SIZE PER ZONES				
⊘	Nibco isolation valve				
⊞	2 inch meter				
—	Lateral Line - class 200				
- - -	2.5" Mainline - SCH 40				
▬	PVC SLEEVE - Size noted on sheet IR-1				

**PIPE SIZING CHART:**  
CLASS 200 PVC LATERAL LINES  
(1/2" IS SCH. 40)

SIZE	GALLONS
1/2"	0 - 6
3/4"	6.1 - 10
1"	10.1 - 17
1 1/4"	17.1 - 26
1 1/2"	26.1 - 36
2"	36.1 - 55

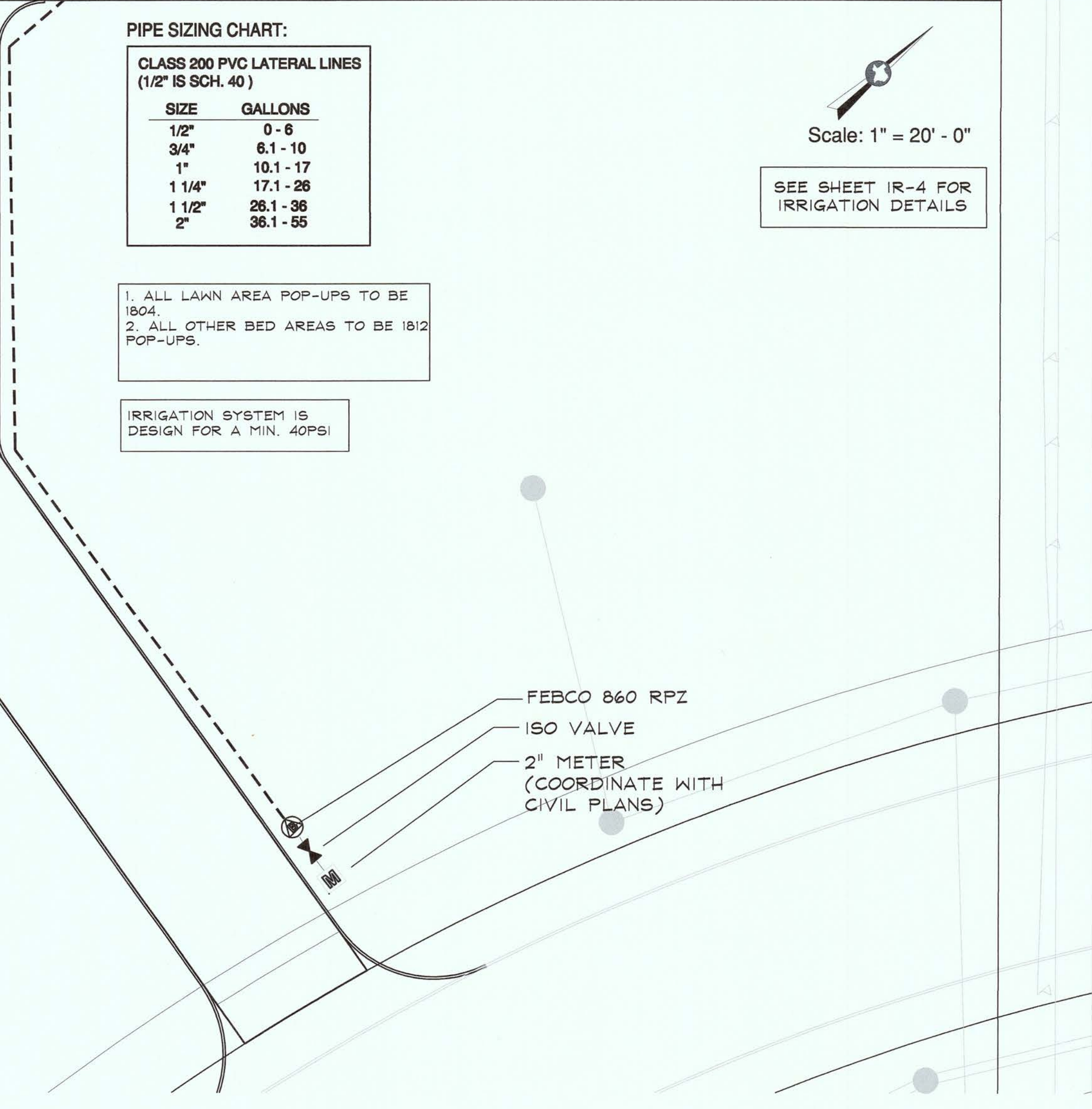
1. ALL LAWN AREA POP-UPS TO BE 1804.
2. ALL OTHER BED AREAS TO BE 181/2 POP-UPS.

IRRIGATION SYSTEM IS DESIGN FOR A MIN. 40PSI



Scale: 1" = 20' - 0"

SEE SHEET IR-4 FOR IRRIGATION DETAILS



Job No.: 181-17-009  
Scale: 1" = 20' - 0"  
Date: MAR 16, 2017  
Revised: COMMENTS APRIL 4, 2017

Irrigation Plan

**IR-2**

*Caswell*  
4/26/17



4-4-17

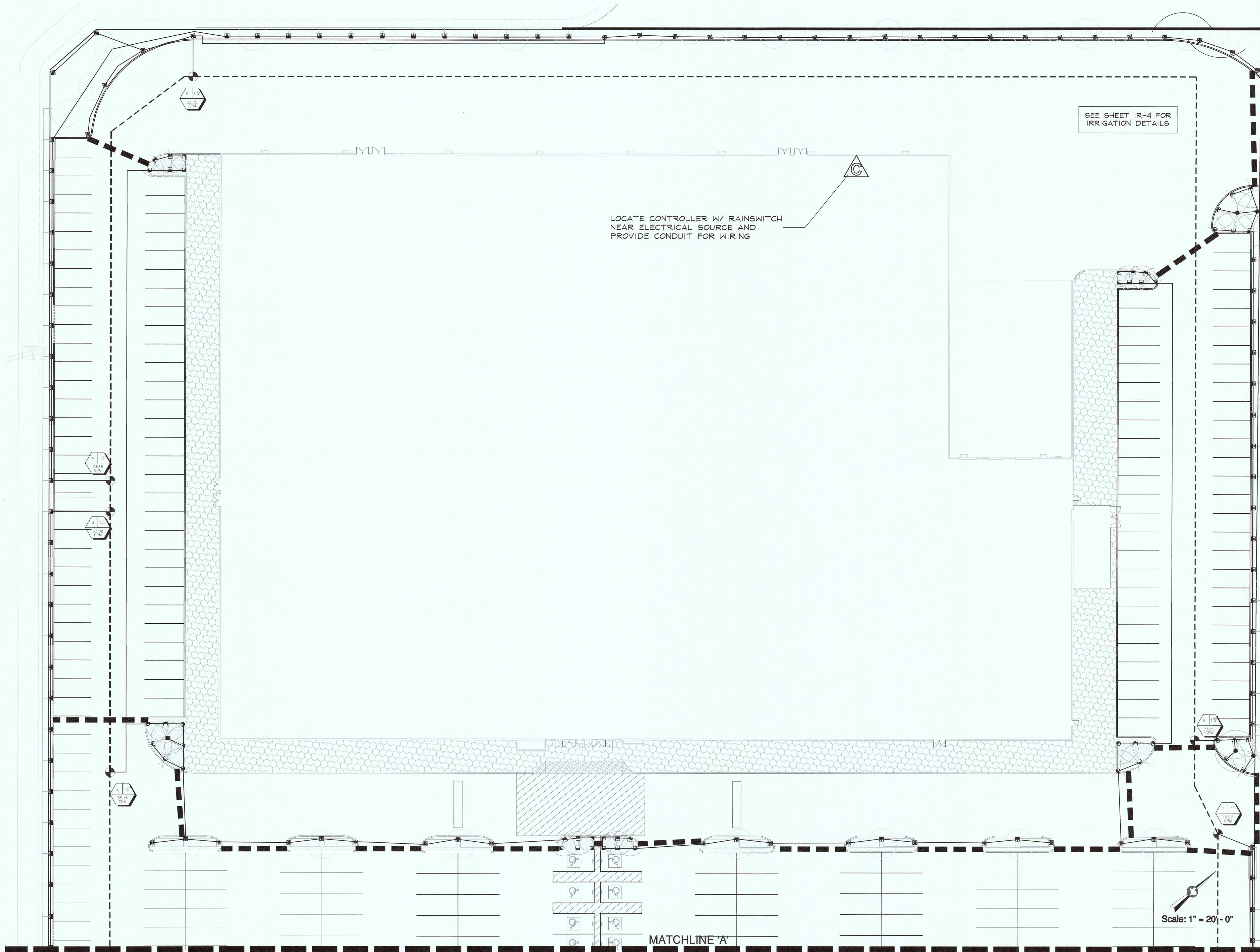
**AT HOME**  
Landscape Improvements  
Richmond, TX

Job No.: 181-17-009  
Scale: 1" = 20' - 0"  
Date: MAR 16, 2017  
Revised: COMMENTS  
APRIL 4, 2017

Irrigation  
Plan

**IR-3**

Casandre D. Se  
4/26/17



LOCATE CONTROLLER W/ RAINSWITCH  
NEAR ELECTRICAL SOURCE AND  
PROVIDE CONDUIT FOR WIRING

SEE SHEET IR-4 FOR  
IRRIGATION DETAILS

Scale: 1" = 20' - 0"

MATCHLINE 'A'

IRRIGATION SYSTEM

PART I GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and all applicable specification sections, apply to this section.

1.02 DESCRIPTION

A. This Section specifies the requirements for providing the irrigation system as indicated on the Drawings.  
 B. Contractor shall provide irrigation system as a complete system including but not limited to: heads, valves, valve boxes, control wire splice boxes, control wiring, electric controller, piping circuits, vacuum breaker, water meters and all accessories, including electric power source coordination and installation.

1.03 QUALITY ASSURANCE

A. Available Manufacturers: Subject to compliance with specified requirements, manufacturers offering products which may be incorporated in the Work are included in the specifications or denoted on the Drawings.  
 B. Installer: Installation of Irrigation System shall be performed under the direction of a State of Texas licensed irrigator with not less than 5 years experience in this type of work.  
 C. Reference Standards Applicable to this Section:

1. ANSI: American National Standards Institute
  - a. 255.1: Gray Finishes for Industrial Apparatus and Equipment
2. ASTM: American Society for Testing and Materials
  - a. B88: Specifications or Seamless Copper water tube.
  - b. D 1785: Specifications for Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80 and 120.
  - c. D 2241: Specification for Poly Vinyl Chloride (PVC) Pressure Rated Pipe (SDR Series)
  - d. D 2466: Specification for Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80.
  - e. D 2564: Specification for Solvent Cements for Poly Vinyl Chloride (PVC) Plastic Pipe and Fittings.
  - f. F 690: Practice for Underground Installation of Thermoplastic Pressure Piping Irrigation Systems.
3. AWWA: American Water Works Association
  - a. C 500: Gate Valves, 3 inches through 48 inches NPS, for Water
  - b. C 506: Backflow Prevention Devices, Reduced Pressure Principle and Double Check Valve Types.
4. IAMPO: International Association of Plumbing Mechanical Officials
5. NEMA: National Electrical Manufacturer's Association
  - a. 250: Enclosures for Electrical Equipment (1000 Volts Maximum)
6. NFPA: National Fire Protection Association
  - a. NFPA 70 (NEC): National Electrical Code
7. NSF: National Sanitation Foundation
  - a. No. 14 Plastic Piping System Components and Related Materials

1.04 SUBMITTALS

A. Product Data  
 1. Submit manufacturer's technical data, specifications, shop drawings, and installation instructions for sprinkler heads, automatic valves, controllers, backflow preventers, connections, details, and related items.  
 2. Submit manufacturer's operating instructions and a schedule indicating length of time each valve is to be open to produce a given amount of precipitation.  
 3. Submit maintenance instructions on all items requiring manufacturer's standard detail submittal.  
 B. Spares and Special Tools: Provide Owner with four (4) spare sprinkler heads of each size and type, two (2) wrenches for each type of head cover and two (2) wrenches for removal and installation of each type of head. In addition, see Section 2.17E.  
 C. Water: potable water to be supplied by Owner. Contractor shall make provisions for all connections required.

1.05 PRODUCT DELIVERY AND HANDLING

A. Materials shall be delivered in manufacturer's unopened packaging labeled to indicate manufacturer's name and product identification. Insure that packaging and labeling remain intact until installation. Materials shall be stored protected from the elements, including direct sunlight.  
 B. Pipes shall be handled so as to prevent being damaged and to maintain their straightness. Pipe ends shall be wrapped. Pipes shall be stored on beds the full length of the pipes. Damaged or dented pipes or fittings shall not be used.

1.06 DEFINITIONS

A. Irrigation Main: Irrigation main is the piping from the water source to control valves. Irrigation main is that pipe which is on the pressure side of irrigation control valves.  
 B. Irrigation Lateral Lines: Irrigation lateral line is the piping from the control valves to the irrigation heads. Lateral line is that pipe which is on the non-pressure side of irrigation control valves.

PART 2 PRODUCTS

2.01 PIPES  
 A. Markings: Thermoplastic pipes should be marked in accordance with ASTM D 1785 and ASTM D 2241, as applicable and shall bear the NSF mark in accordance with NSF 14.  
 B. Irrigation Main Pipe: ASTM D 2231, PVC, 1120 or 1220, Schedule 40.  
 C. Irrigation Lateral Line Pipe  
 1. Pipes 1/2 inch diameter and larger: ASTM D 2231, PVC, 1120 or 1220, Schedule 40.  
 2. Pipes 1/4 inch diameter: ASTM D 2231, PVC, 1120 or 1220, Schedule 40.  
 2.02 SETTINGS FOR THREADED JOINTS  
 A. ASTM D 2466, PVC, Schedule 80.  
 2.03 SEALANT FOR THREADED JOINTS  
 A. Rector Seal Liquid Teflon by Rector Seal Corp., 2830 Produce Row, Houston, Texas 77023, (713) 928-6423, or approved equal.  
 2.04 SLEEVES UNDER PAVING FOR CONTROL WIRE AND IRRIGATION LINES  
 A. ASTM D 2466, PVC, Schedule 40, sized as shown on drawings.

2.05 POP-UP SPRINKLER HEADS, AS SPECIFIED ON DRAWINGS.

1. Shall be heavy-duty plastic pop-up to specified height with appropriate nozzle as indicated on Drawings.  
 2. Irrigation head body, stem, nozzle, and screen shall be constructed of heavy duty plastic.  
 3. Head shall have wiper seal for cleaning debris as it retracts into case.  
 4. Plastic nozzles shall have matched precipitation rate with an adjusting screw capable of regulating the radius and flow.  
 5. Head shall have stainless steel retroactive spring.  
 6. Head shall have filter screen under nozzle.  
 7. Head shall have side and bottom inlet on racking system for easy alignment of pattern on 6 inch and 12 inch pop-ups.  
 8. The nozzles on pop-up spray head body shall be as shown on Drawings and shall be capable of covering the radius as designated on Drawings. Nozzles in same series shall have matched precipitation rates.  
 9. Heads shall be connected to irrigation lateral lines by swing joints as indicated. Flexible PVC cont be accepted as a swing joint with permission from Landscape Architect.  
 B. Gear Driven Sprinklers as specified on drawings.  
 1. The pop-up sprinklers shall be a gear driven sprinkler. The part circle sprinklers shall have an infinitely adjustable arc of coverage from 40 to 360.  
 2. The sprinkler case and internal assembly, except for the arm spring, bearing spring, wiper seal and bearing washers, shall be constructed of durable plastic.  
 3. The sprinkler shall have an adjustable nozzle-retainer/range adjustment screw for distance and distribution control and shall be capable of full or part circle operation as noted on Drawings.  
 4. The sprinkler shall have a 4" pop-up stroke, turbine bypass valve, fine mesh filter screen, and the gear drive shall be sealed in oil.  
 5. Plastic nozzles shall be as per irrigation legend.

2.06 ELECTRIC REMOTE CONTROL VALVES

A. Electric remote control valves shall be as specified on Drawings.  
 1. Remote control valves shall be normally closed, 24 volt AC 60 Cycle, solenoid actuated flow pattern diaphragm. Valve pressure rating shall be 200 psi minimum.  
 2. Valve body and bonnet shall be constructed of heavy-duty glass-filled nylon. Diaphragm shall be nylon reinforced rubber. Solenoid coil shall be encapsulated in molded epoxy.  
 3. Valve shall be actuated by a low power, 2.0 watt 24 volt AC Solenoid.  
 4. Valve shall have a flow control stem with wheel handle for regulating or shutting off flow of water and a bleed plug for manual operation.  
 5. All valve integral parts shall be removable from top of valve without disturbing the valve installation.

2.07 REMOTE CONTROL VALVE TIES

A. Remote control valve ties shall be plastic tags with wire to attach numbered tag to valve.

2.08 VALVE BOXES

A. Valve boxes shall be heavy duty plastic 17 inch by 11-1/4 inch by 12-inch depth, black with green cover. Valve box shall be Series 1419, non-hinged, non-bolt cover, by Carson Industries, Inc., 1925 Street, La Verne, CA 91750, (213) 732-6265, or approved equal.  
 2.09 CONTROL WIRE SPICE BOXES  
 A. Control wire splice boxes shall be heavy duty plastic 10 inch diameter by 10 1/4 inch deep, black with black cover, No. 910-12B, by Carson Industries, Inc. or approved equal.

2.10 GRAVEL BACKFILL

A. Gravel backfill for valve boxes and control wire splice boxes shall be 3/8-inch diameter pea gravel.

2.11 IRRIGATION CONTROL WIRE

A. Wire: Solid copper wire, NEC type UF, UL listed for direct burial in ground. Minimum size: No. 14 AWG.  
 B. Splicing Material: Scotchlok connector with No. 3570/Scotchlok Connector Sealing Packs by Electro-Products Division/3M, Minneapolis, Minnesota, Rain Bird Snap-Tites by Rain Bird Sprinkler Manufacturing Corporation, or approved equal. Use separate packs for each splice.  
 2.12 GATE VALVES  
 A. Gate Valves shall be PVC Ball Valves, size as noted on drawings.

2.13 QUICK COUPLING VALVES

A. Quick coupling valves shall have heavy-duty brass construction, durable thermoplastic rubber cover, stainless steel internal valve springs, one-piece body design, as indicated on drawings.  
 B. Provide four valve keys with 1/4 inch swivel hose ends.

2.14 BACKFLOW PREVENTER

A. Backflow Preventers shall be bronze and copper, pressure vacuum breaker assembly Febco No. 765 by Febco Sales, Inc. (OMB Industries), P.O. Box 8070, Fresno, CA 93747 (209) 252-0791, or approved equal.  
 2.15 CONTROLLER  
 A. Controller shall be as indicated on drawings.

2.16 CONTROLLER ENCLOSURE

A. Controller enclosure shall be painted, galvanized NEMA enclosure as provided by Lemur or approved equal. Enclosure to be vented, lockable with accessible bottom, panel.

PART 3 EXECUTION

3.01 SYSTEM DESIGN

A. Design Pressures: Pressure shall be as indicated on Drawings, and as measured at last head in circuit.  
 B. Location of Heads: Design location is represented as accurately as possible. Make minor adjustments on site with approval of Landscape Architect as necessary to ensure consistent and even spacing where applicable. Set all heads minimum 6" from back of curb and 4" from edge of concrete walks.

3.02 TRENCHING AND BACKFILLING

A. General: Contractor shall comply with Section 02221 Trenching & Trench Backfill and Section 02200 Earthwork and the Specifications. Excavate straight and true with bottom uniformly sloped to low points. Protect existing lawns and plantings. Remove and replant as necessary to complete installation. Replace damaged lawn areas and plants with new products to restore to existing installation's original condition.  
 B. Minimum Cover: Provide 18-inch minimum cover over top of installed irrigation main piping. Provide 12-inch minimum cover over top of installed irrigation later line piping. Provide 2 inches of earth between parallels and wire. Parallels shall be laid side-by-side, not stacked.  
 C. Backfill: Backfill with clean material from excavation after obtaining landscape Architect's approval. Remove organic material, as well as rocks and debris larger than 1 inch in diameter. Place acceptable backfill in 6 inch lifts, compacting each lift.  
 D. Existing Lawns: Where trenching is required across existing lawns, (or in event of changes or repairs after new lawn has been established), uniformly cut strips of sod 6 inches wider than trench. Remove sod in rolls of suitable size for handling and keep moistened until replanted.

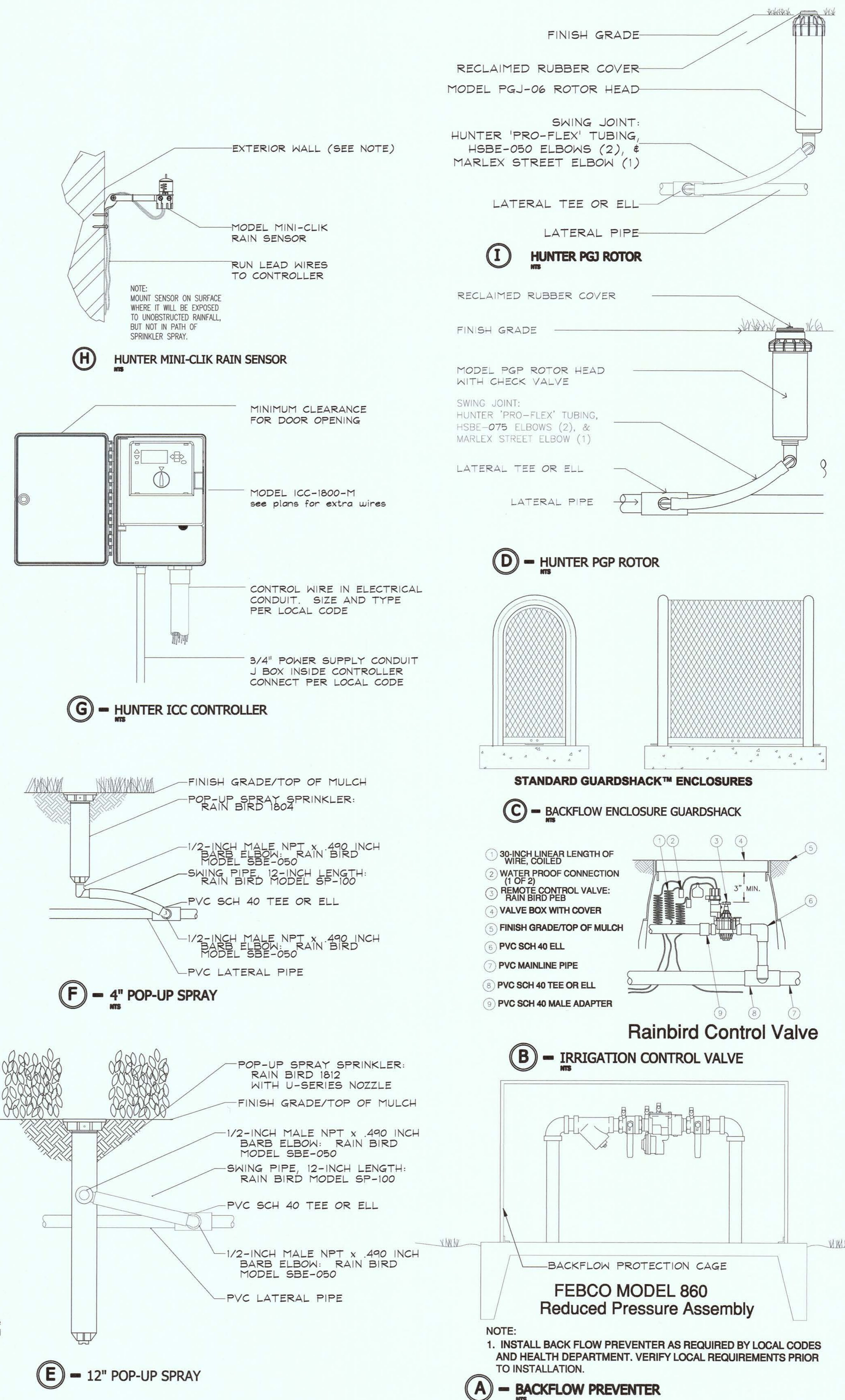
1. Backfill trench to with 6 inches of finished grade and compact. Continue fill with acceptable topsoil; and compact to bring sod even with existing lawn.  
 2. Replant sod within 2 days after removal, roll and water generously.  
 3. Resod and restore to original condition all sod areas not in healthy condition equal to adjoining lawns 30 days after replanting.

3.03 GENERAL NOTES

otherwise indicated, Contractor shall comply with requirements of local municipal regulations and ASTM F 690.  
 B. Pipes  
 1. Piping Mains and Laterals: Lay out sprinkler mainlines and perform line adjustments and site modifications to laterals prior to excavation. Lay pipe on solid subbase, uniformly sloped without humps or depressions.  
 2. PVC Pipe Assembly  
 a. Cut PVC pipe square and de-burr. Clean pipe and fittings using primer and cleaner as recommended by the PVC pipe manufacturer. Use tinted primer to aid in visual inspection.  
 b. Apply a thin even flow coat of PVC solvent cement to inside of the fitting and pipe mating surface. Cure joints as recommended by the manufacturer and keep pipe and fitting out of service during curing period. Construct watertight joints equal or greater in strength than the pipe. Do not tap pipe at fittings.  
 3. Install plastic pipe in dry weather, when temperature is above 40 degrees F. and in accordance with manufacturer's written instructions. Allow joint to cure at least 24 hours at temperature above 40 degrees F. before testing.  
 4. Plastic pipe shall be snaked in the trenches in a manner to provide for expansion and contraction as recommended by pipe manufacturer.  
 C. Sleeves Under Paving: The majority of sleeves under paving are existing as shown on drawings. Where boring is required for new sleeves (refer to drawings), it shall be a "wet bore." Install sleeves 12" beyond edge of pavement. Perform trench and backfill in accordance with these specifications.  
 D. Irrigation Heads  
 1. Flush irrigation lines with full head of water and install heads after hydrostatic test is completed.  
 2. Install heads at manufacturer's recommended heights.  
 3. Locate part-circle heads to maintain a minimum distance of 4 inches from walls and 2 inches from other boundaries, unless otherwise indicated.  
 4. Check for uniformity of coverage and pattern correctness. Adjust for 100% coverage where required.  
 E. Electric Remote Control Valves  
 1. Adjust automatic control valves to provide flow rate at rated operating pressure required for each irrigation section.  
 2. Install valves in valve boxes, arranged for easy adjustment and removal. Locate valves to ensure ease of access for maintenance such that no physical interference with other elements of the project exist.  
 F. Remote Control Valve Tags: One Remote Control Valve Tag shall be attached to stem of each electric remote control valve. Tags shall be numbered sequentially. Numbers shall correspond to station numbers in electric controller. Provide tags and corresponding numbers for wires pulled for future valves.  
 G. Valve Boxes: Install valve boxes to cover electric remote control valves. Install two valves maximum in valve box where possible. Top of Valve box shall be flush with finished grade. Bury minimum 2 bricks under base of each box as support.  
 H. Control Wire Splice Boxes: Install control wire splice box to cover any splice in control wire. Top of valve box shall be flush with finished grade. Bury minimum 2 bricks under base of each box as support. Install control wire splice box to cover wires pulled for future valves.  
 I. Gravel Backfill: Backfill valve boxes and control wire splice boxes with gravel, minimum 6-inch depth.  
 J. Irrigation Control Wires  
 1. Provide 24-volt system for control of automatic circuit-section valves of underground irrigation system. Provide unit capacity to suit number of circuits indicated.  
 2. Install control wires with irrigation mains and laterals in common trench where possible. Lay control wire to side of pipe. Provide looped slack at valves and snakes wire in trench to allow for contraction. Tie wires in bundles at 10-foot intervals. Line Splices will be allowed on runs of 500 Ft. or more. Splices shall be made and placed in control wire splice boxes.  
 3. Common ground wire shall be white. No other wires shall be white.  
 4. Supply extra wire, for each direction of run, to valve, which is located the greatest distance from the controller. Extra wire shall be green. Leave two loops of wire at each valve location.  
 5. Color of wire from controller to control valve shall be consistent to each valve.  
 6. Solder splices and protect with splicing material specified. Provide 12 inch long expansion loop within 3 feet of each wire connection and splice on runs of wire 100 feet or longer.  
 K. Quick Coupling Valves  
 1. Connect quick coupling valves to irrigation mains by installing a Schedule 40 galvanized joint as per drawing.  
 2. Swing joints at quick couplers shall have threaded fittings with liquid Teflon sealant.  
 L. Backflow Preventers  
 1. Make required connection to water supply according to local codes and manufacturer's written instructions.  
 2. Install pressure type backflow devices at required grade in accordance with the local code. Exposed mainline and mainline risers above PVC pipe main elevation shall be copper. Install one brass union in riser downstream of device.  
 M. Irrigation Controller  
 1. Install controllers within lockable NEMA enclosure, Re: drawings. Wire complete and operable.

3.04 TESTING  
 A. General: Notify Landscape Architect 48 hours in advance when testing will be conducted. Conduct tests in presence of Landscape Architect.  
 B. Hydrostatic Test: Test irrigation main line, before backfilling trenches, to a hydrostatic pressure of not less than 100 psi for 1 hour. Piping may be tested in sections to expedite work, remove and repair or replace piping and connections which do not pass hydrostatic testing. System shall not lose more than 1 1/2 gallons of water in 1 hour.  
 C. Operational Testing: Perform operational testing after hydrostatic testing is completed, backfill is in place and irrigation heads are adjusted to final position.  
 1. Demonstrate to Landscape Architect that system meets coverage requirements, is a specified and indicated, and that automatic controls function properly.  
 2. Coverage requirements are based on operation of one circuit at a time. After completion of grading, sodding and rolling of grass areas, carefully adjust lawn sprinkler heads so they will be flush with or not more than 1/2 inch above finished grade. Set shrub sprinkler heads no more than 1/2 inch above top of mulch.

3.05 MAINTENANCE  
 A. Contractor shall correctly maintain the irrigation system during the installation process and throughout the landscaping maintenance service period. Contractor shall provide "As Built" Drawings showing dimensioned locations of valves, meters, vacuum breakers, controllers, and mainline. Contractor shall request reproducible mylars from the Landscape Architect in preparation of "As Built" Drawings.



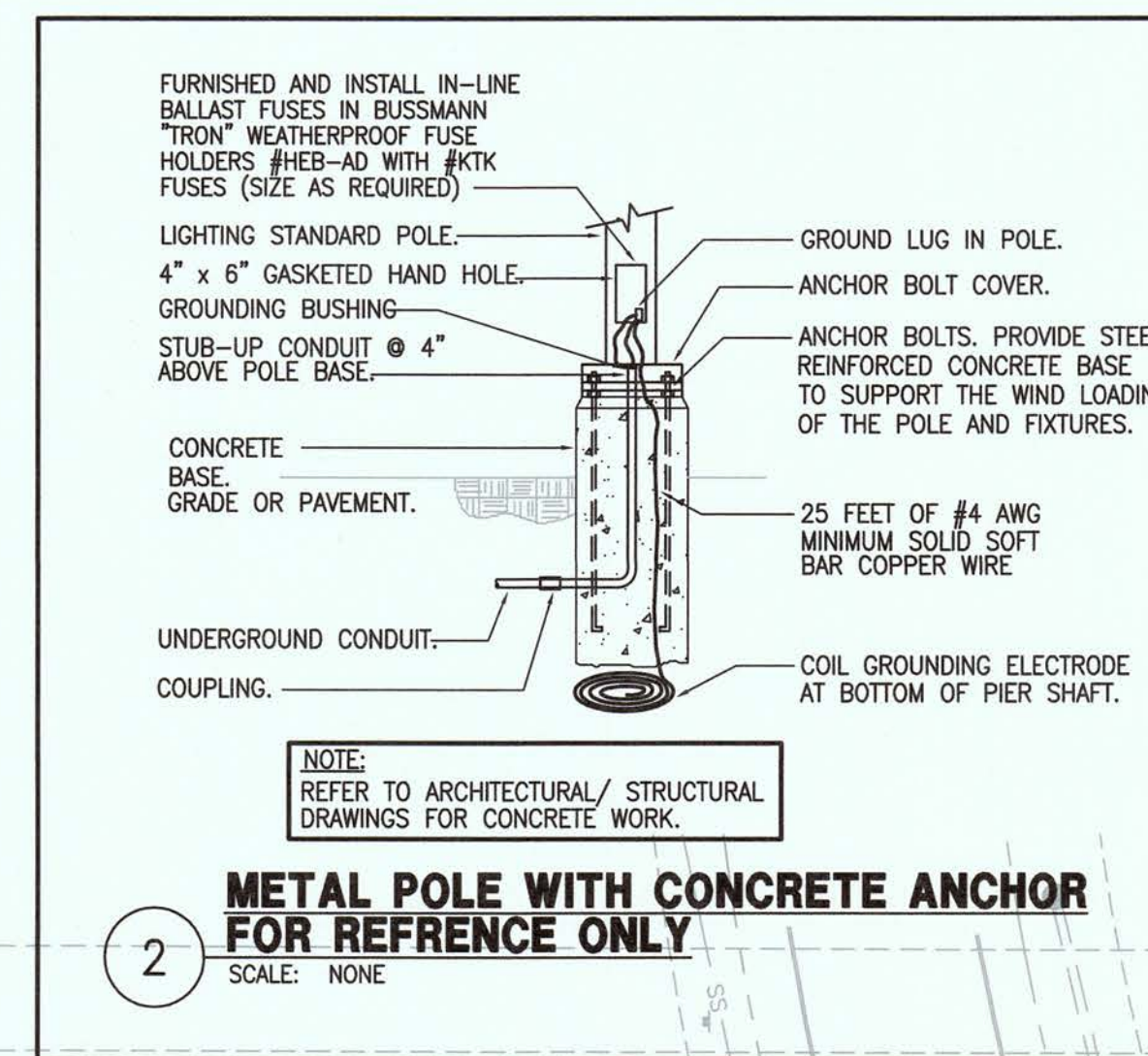
NOTE:  
 1. INSTALL BACK FLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.



Job No.:	181-17-009
Scale:	
Date:	MAR 16, 2017
Revised:	COMMENTS APRIL 4, 2017

SITE LIGHTING FIXTURE SCHEDULE										
FIXTURE DESIGNATION	MANUFACTURER	CATALOG NO.	FIXTURE				VOLT	MOUNTING	INPUT WATTAGE	POLE DESCRIPTION
			NO.	TYPE	COLOR	WATT				
SA1	LITHONIA LIGHTING	DSX2-LED-80C-530-40K-T3M-480-HS-RPA	1	LED	4000K	137	480	SINGLE POLE MOUNTED	150	30" ROUND TAPERED POWDER COATED OVER GALVANIZING STEEL ON 2" BASE. KW #RTSP30-7.5-11
SA1F	LITHONIA LIGHTING	DSX2-LED-80C-530-40K-TFTM-480-HS-RPA	1	LED	4000K	137	480	SINGLE POLE MOUNTED	150	30" ROUND TAPERED POWDER COATED OVER GALVANIZING STEEL ON 2" BASE. KW #RTSP30-7.5-11
SA2	LITHONIA LIGHTING	DSX2-LED-80C-700-40K-T3M-480-RPA	2	LED	4000K	188	480	2-180 DEGREES POLE MOUNTED	400	30" ROUND TAPERED POWDER COATED OVER GALVANIZING STEEL ON 2" BASE. KW #RTSP30-7.5-11
SA2R	LITHONIA LIGHTING	DSX2-LED-80C-700-40K-T3M-480-HS-L90/R90-RPA WITH ROTATED OPTICS	2	LED	4000K	188	480	2-180 DEGREES POLE MOUNTED	400	30" ROUND TAPERED POWDER COATED OVER GALVANIZING STEEL ON 2" BASE. KW #RTSP30-7.5-11
W	LITHONIA LIGHTING	DSXW1-LED-20C-1000-40K-TFTM-MVOLT	1	LED	4000K	445	277	WALL MOUNTED	277	

THIS LIGHTING FIXTURE SCHEDULE IS FOR REFERENCE AND FINAL APPROVAL SHALL BE PER CIVIL ENGINEER/OWNER  
REFER TO CIVIL PLANS FOR EXACT SPECIFICATIONS AND REQUIREMENTS OF ALL LIGHTING POLES PRIOR TO PURCHASE AND INSTALLATION  
SUBSTITUTION TO THE ABOVE LIGHTING MANUFACTURERS DOES NOT GUARANTEE APPROVAL. APPROVAL WILL BE DETERMINED AFTER REVIEW OF SHOP DRAWING TO DETERMINE IF THE FIXTURE OR POLE SUBMITTED MEETS OR EXCEEDS THE DESIGN STANDARDS AND PERFORMANCE REQUIRED OF THE ACTUAL FIXTURE SPECIFIED IN THE LIGHT FIXTURE SCHEDULE.



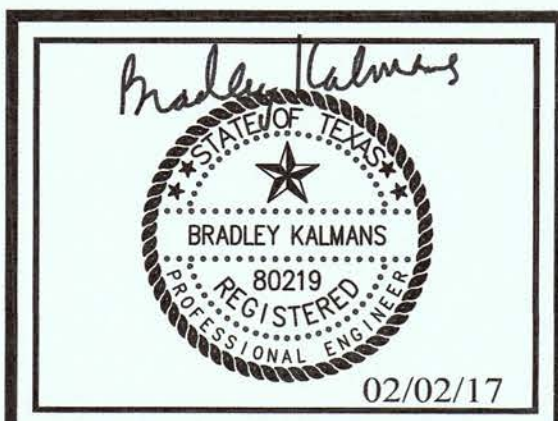
- ELECTRICAL GENERAL NOTES**
1. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
  2. ALL JUNCTION BOXES, CONDUITS, AND WIRES SHALL BE SIZED PER NEC.
  3. ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
  4. ALL EXTERIOR ELECTRICAL DEVICES SHALL BE LISTED AS WEATHERPROOF TYPE.
  5. REFER TO CIVIL DRAWINGS AND SIGN DRAWINGS FOR DIMENSIONS AND MORE INFORMATION.
  6. ALL SITE LIGHTING POLES SHALL BE MINIMUM 15'-0" AWAY FROM OVERHEAD POWER LINES.

Project No: 2189-170183  
Drawn By: PS  
Checked By: JZ  
Date: 03-02-2017  
Revision Dates:

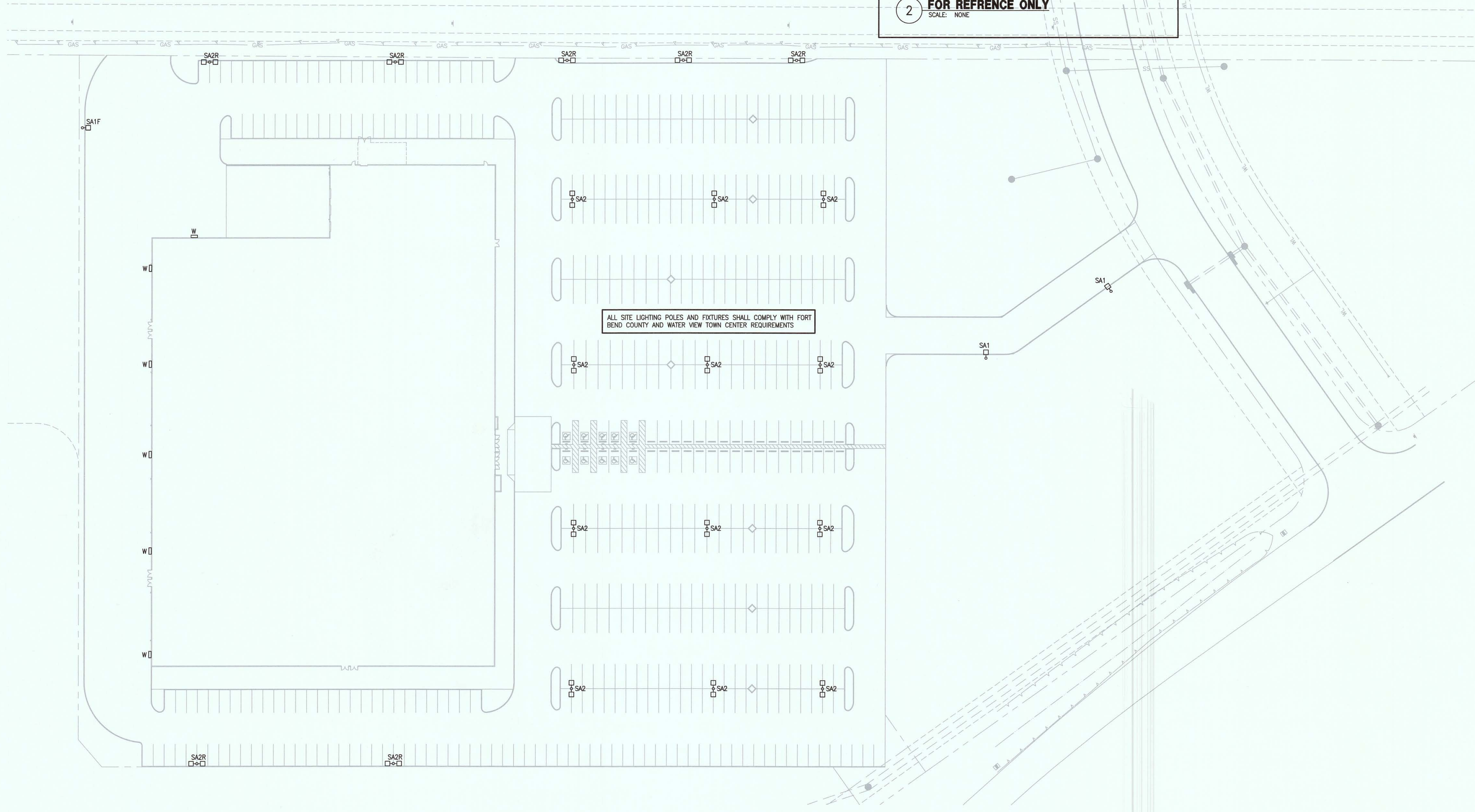
**CONSULTANTS**

**AT HOME**  
FORT BEND

**SALASO'BRIEN**  
*Expect a difference!*  
10930 W. Sam Houston Parkway N., Suite 900  
Houston, Texas 77064  
281.664.1900 | Registration No. F-4111



ELECTRICAL  
SITE PLAN  
**E1.0**



**1 ELECTRICAL SITE PLAN**  
SCALE: 1" = 40'-0"

*Casanel R.S.*  
4/26/17

SITE LIGHTING FIXTURE SCHEDULES											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
□	SA2	12	Lithonia Lighting	DSX2 LED 80C 700 40K TSM MVOLT	DSX2 LED WITH 80 LEDs @700mA, 4000K, TYPE 3 MEDIUM OPTICS	LED	1	DSX2_LED_80C_700_40K_TSM_MVOLT.iies	22757	0.95	376
□	SA2LR	7	Lithonia Lighting	DSX2 LED 80C 530 40K TSM MVOLT HS L90R90	[...]	[...]	1	[...]	19090.59	0.95	412
□	SA1	2	Lithonia Lighting	DSX2 LED 80C 530 40K TSM MVOLT HS	DSX2 LED WITH 80 LEDs @530mA, 4000K, TYPE 3 MEDIUM OPTICS, WITH HOUSE SIDE SHIELD	LED	1	DSX2_LED_80C_530_40K_TSM_MVOLT_HS.iies	13159	0.95	137
□	SA1TFM	1	Lithonia Lighting	DSX2 LED 80C 530 40K TFTM MVOLT HS	DSX2 LED WITH 80 LEDs @530mA, 4000K, TYPE FORWARD THROW MEDIUM OPTICS, WITH HOUSE SIDE SHIELD	LED	1	DSX2_LED_80C_530_40K_TFTM_MVOLT_HS.iies	13305	0.95	137
□	W	6	Lithonia Lighting	DSXW1 LED 20C 1000 40K TFTM MVOLT	DSXW1 LED WITH 20 LED LIGHT ENGINES, TYPE TFTM OPTIC, 4000K, @ 1000mA	LED	1	DSXW1_LED_20C_1000_40K_TFTM_MVOLT.iies	7711	0.95	73.2

Project No:	2189-170183
Drawn By:	PS
Checked By:	JZ
Date:	03-02-2017
Revision Dates:	

CONSULTANTS

**AT HOME**  
FORT BEND

**SALASO'BRIEN**  
(expect a difference)

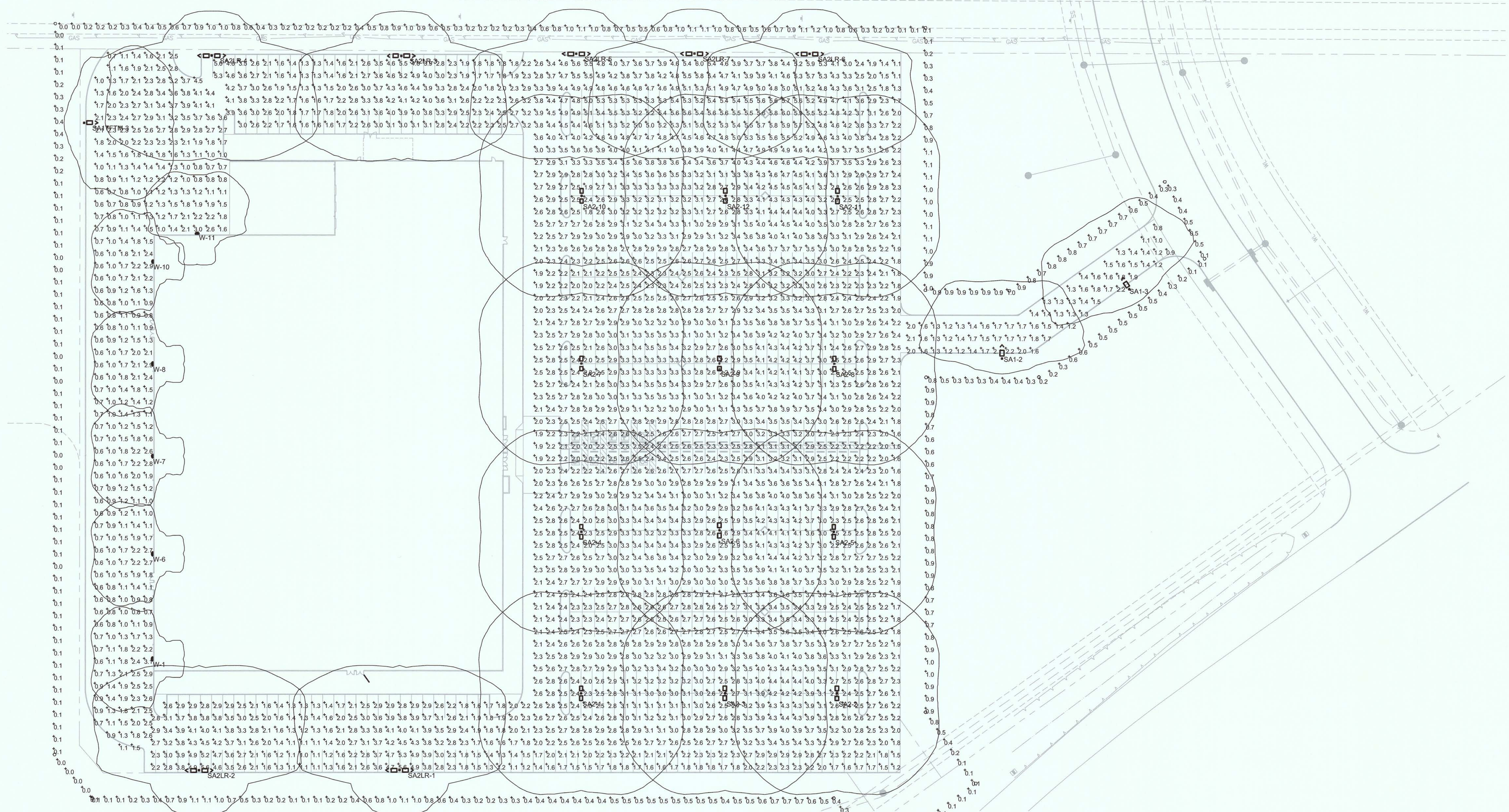
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Houston, Texas 77064  
281.664.1900 | Registration No. F-4111

*Bradley Kilmann*

STATE OF TEXAS  
BRADLEY KILMANN  
REGISTERED  
ELECTRICAL ENGINEER  
02/02/17

PHOTOMETRIC  
SITE PLAN

**E0.0**



1 ELECTRICAL PHOTOMETRIC SITE PLAN  
SCALE: 1" = 40'-0"

*Cassandra*  
4/26/17