12b

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

REVIEW BY FORT BEND COUNTY COMMISSIONERS COURT

☐ **Right of Way Permit**
☒ **Commercial Driveway Permit**

Permit No: 2018-18331

Applicant: **Helker & Crawford Constructors, LP**

Job Location Site: **4110 Williams Way Boulevard, Richmond, TX 77469**

Bond No. [redacted] **Date of Bond:** **1/30/2018** **Amount:** **$10,000.00**

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 inconsistant with Chapter 181, Vernon's Texas Statutes and Codes Annoted.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
   a. 48 hours in advance of construction start up, and
   b. When construction is completed and ready for final inspection, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 6th day of March, 2018, Upon Motion of Commissioner Meyers, seconded by Commissioner Morales, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Signature

By: Charles O. D

for County Engineer

N/A

By:

Drainage District Engineer/Manager

Presented to Commissioners Court and approved.

Date Recorded 3-12-2018 Comm. Court No. 12 B

Clerk of Commissioners Court

By: Willis

Deputy

3-12-2018 Original sent to Charles Dean, Engineering dept.

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

☐ **Right of Way Permit**
☒ **Commercial Driveway Permit**

Permit No: 2018-18331

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

(1) COMPLETE APPLICATION FORM:

- ☒ a. Name of road, street, and/or drainage ditch affected.
- ☒ b. Vicinity map showing course of directions
- ☒ c. Plans and specifications

(2) BOND:

☐ County Attorney, approval when applicable.

☐ Perpetual bond currently posted. Bond No: Amount:

☒ Performance bond submitted. Bond No: [redacted] Amount: $10,000.00

☐ 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.

Permit Administrator

2/26/2018
Date

34

4 pgs 2018025188

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)

DUPLICATE ORIGINAL

BOND NO: [redacted]

THE STATE OF TEXAS §
KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF FORT BEND §

THAT WE, Helker & Crawford Constructors, LP, whose address is 720 Valley Ridge Circle, Suite 1, Lewisville, TX 75057, Texas, hereinafter called the Principal, and Berkley Insurance Company, a Corporation existing under and by virtue of the laws of the state of Delaware and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at 475 Steamboat Road, Greenwich, CT 06830, (203) 542-3800, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought within said state is Mr. Tim Miller and whose address is Berkley Surety Group, 12400 Coit Road, Suite 625, Dallas, TX 75251, (972) 385-1140, 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 Ten Thousand Dollars ($10,000.00) 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 30th day of January, 2018.

Helker & Crawford Constructors, LP
PRINCIPAL

BY Nathan D. Crawford, President

Berkley Insurance Company

SURETY

BY Anthony T. Papa, Jr., Attorney-in-Fact

CCM 3-06-2018 # 12B
Fort Bend County Clerk
Return Admin Serv Coord **RAC**
Permit # 2018-18331

No. BI-10125d

POWER OF ATTORNEY
BERKLEY INSURANCE COMPANY
WILMINGTON, DELAWARE

NOTICE: The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: ***Carol A. McManus; Christine A. Papa; Teresa L. Steadman; or Anthony T. Papa, Jr. of InSource Partners, LLC of Sarasota, FL*** its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed **Fifty Million and 00/100 U.S. Dollars (U.S.$50,000,000.00),** to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

RESOLVED, that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

RESOLVED, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

RESOLVED, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

RESOLVED, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 18th day of July, 2017.

Attest:

(Seal) By ______________________
Ira S. Lederman
Executive Vice President & Secretary

Berkley Insurance Company

By ______________________
Jeffrey M. Hafter
Senior Vice President

WARNING: THIS POWER INVALID IF NOT PRINTED ON BLUE "BERKLEY" SECURITY PAPER.

STATE OF CONNECTICUT)
) ss:
COUNTY OF FAIRFIELD)

Sworn to before me, a Notary Public in the State of Connecticut, this 18th day of July 2017, by Ira S. Lederman and Jeffrey M. Hafter who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

MARIA C. RUNDBAKEN
NOTARY PUBLIC
MY COMMISSION EXPIRES
APRIL 30, 2019

Maria C. Rundbaken
Notary Public, State of Connecticut

CERTIFICATE

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

Given under my hand and seal of the Company, this 30th day of January 2018

(Seal) ______________________
Vincent P. Forte

WARNING – Any unauthorized reproduction or alteration of this document is prohibited. This power of attorney is void unless seals are readable and the certification seal at the bottom is embossed. The background imprint, warning and **verification instructions** (on reverse) must be in blue ink.

Please **verify the authenticity** of the instrument attached to this Power by:

Toll-Free Telephone: (800) 456-5486; or

Electronic Mail: BSGInquiry@berkleysurety.com

Any written notices, inquiries, claims or demands to the Surety on the bond attached to this Power should be directed to:

Berkley Surety
412 Mount Kemble Ave.
Suite 310N
Morristown, NJ 07960
Attention: Surety Claims Department

Or

Email: BSGClaim@berkleysurety.com

Please include with all communications the bond number and the name of the principal on the bond. Where a claim is being asserted, please set forth generally the basis of the claim. In the case of a payment or performance bond, please also identify the project to which the bond pertains.

Berkley Surety is a member company of W. R. Berkley Corporation that underwrites surety business on behalf of Berkley Insurance Company, Berkley Regional Insurance Company and Carolina Casualty Insurance Company.

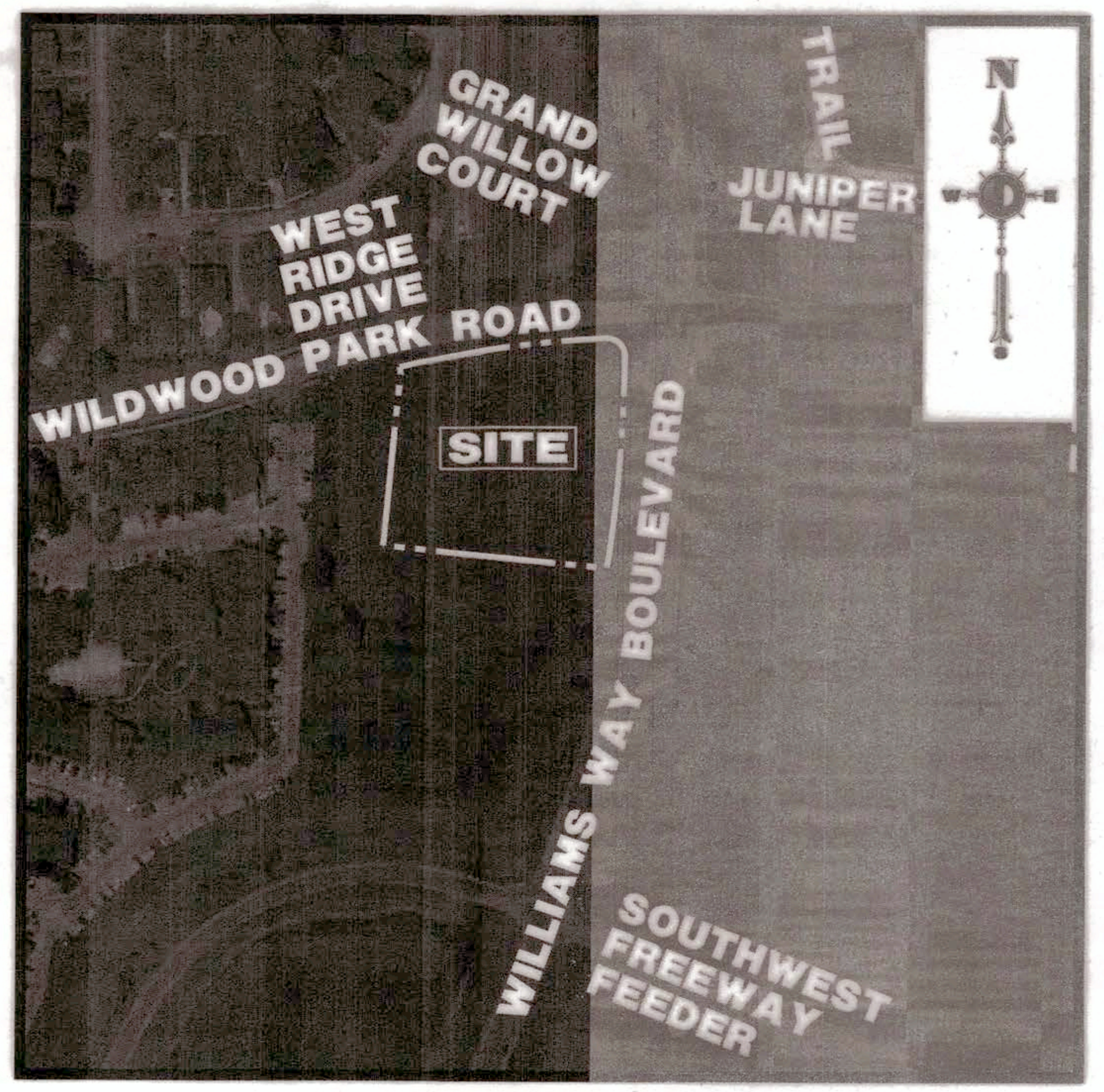
FILED AND RECORDED
OFFICIAL PUBLIC RECORDS

Laura Richard

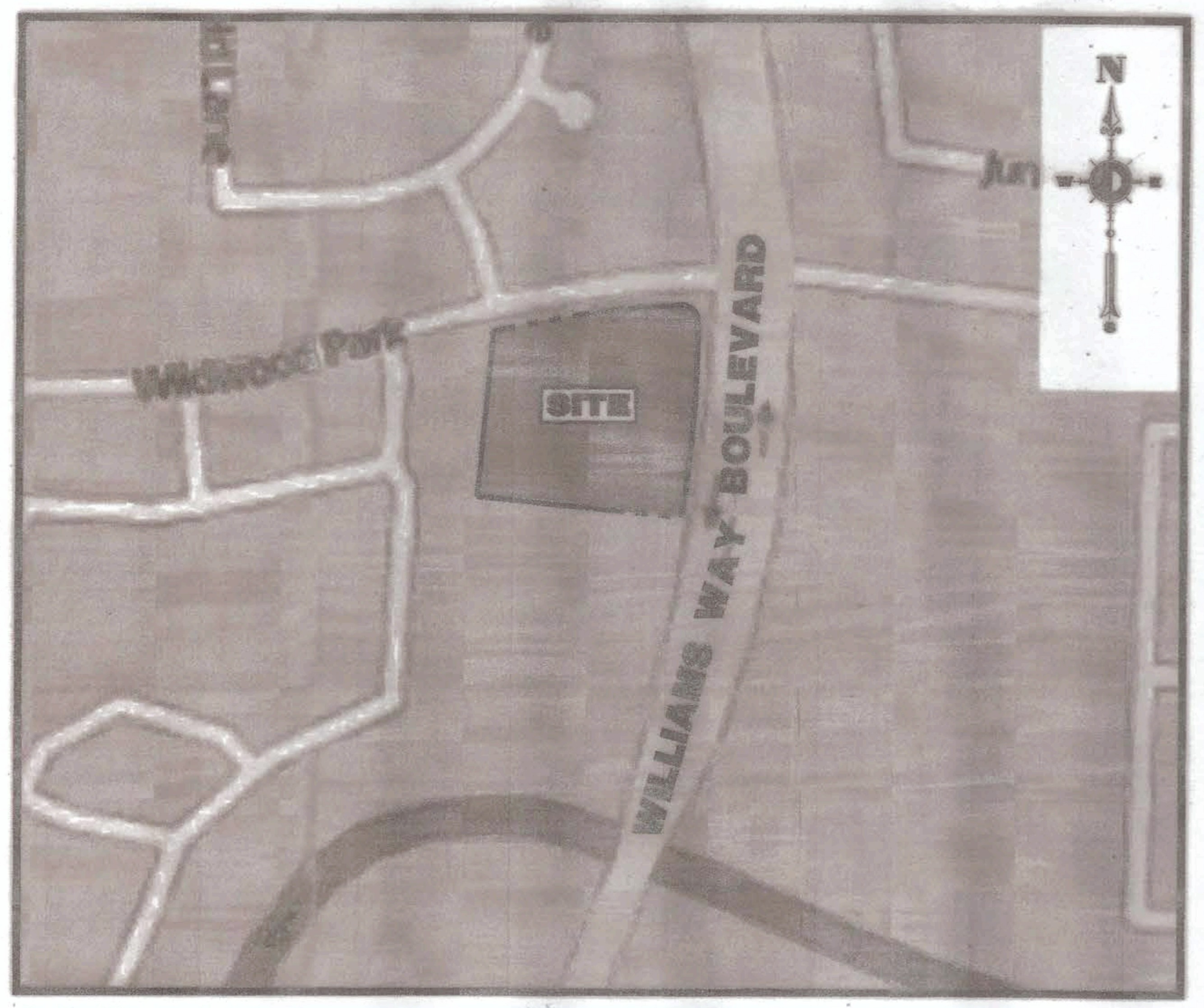
Laura Richard, County Clerk
Fort Bend County Texas
March 09, 2018 02:25:03 PM
FEE: $0.00 CR1 **2018025188**

ENGINEERING CONSTRUCTION DRAWINGS
FOR
FIRST HARTFORD REALTY CORPORATION
PROPOSED CVS pharmacy

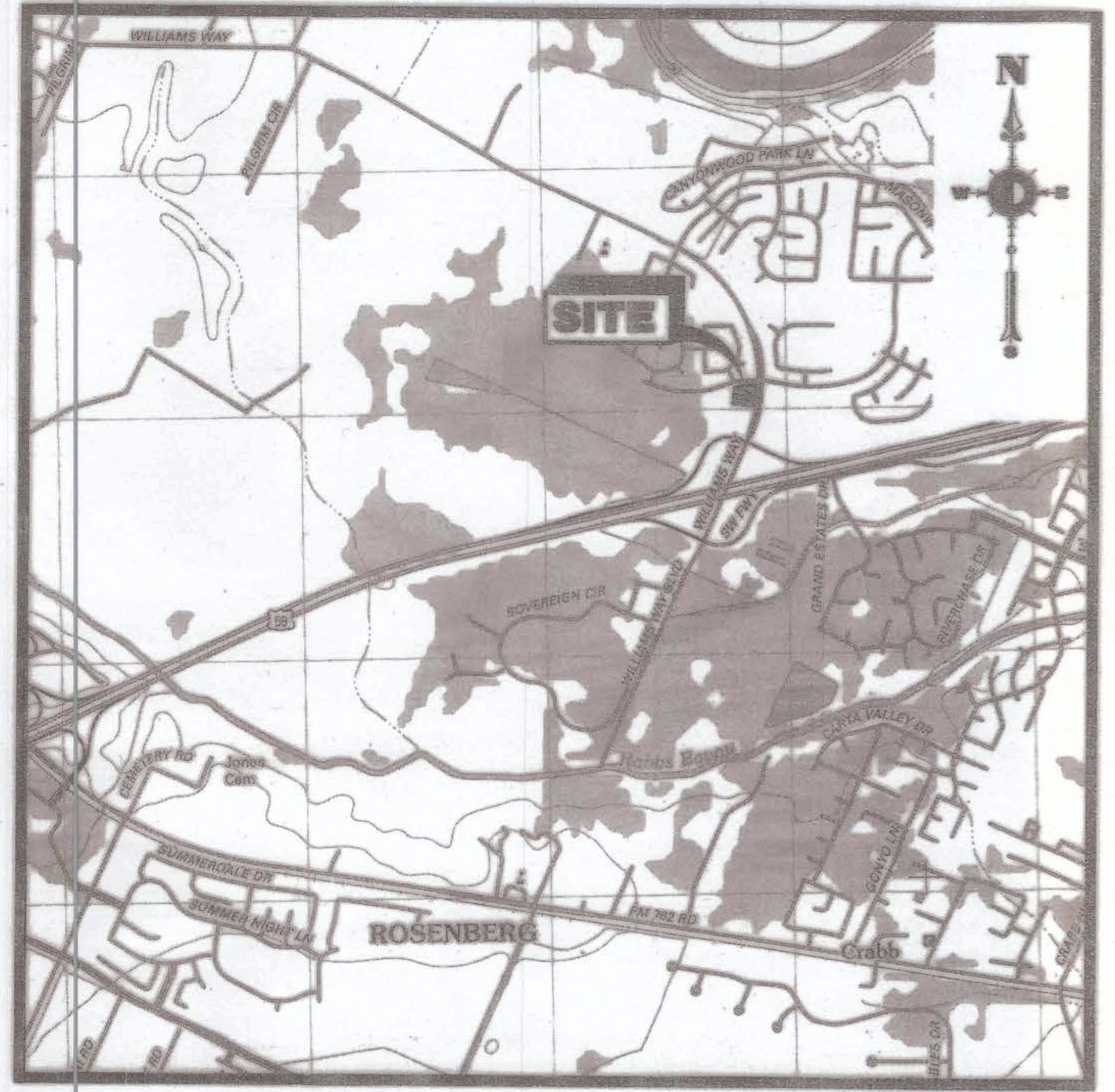
PARCEL #055-00-000-0683-901
4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND
FORT BEND COUNTY, TEXAS, 77469



AREA MAP
1" = 200'



AREA MAP
1" = 200'



VICINITY MAP
1" = 2000' KEY MAP PAGE #606L

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EXTERIOR ELEVATIONS	1 OF 1

SITE BENCHMARK

TBM "A": SQUARE CUT ON TOP OF A "C" INLET LOCATED NEAR THE NORTHEAST CORNER OF THE SUBJECT TRACT AS SHOWN HEREON, ELEV.=72.35'

CITY BENCHMARK

CONTROL BENCHMARK: CITY OF SUGAR LAND BENCHMARK SGR-RM020, ELEV.=71.4059' NAVD88, 2001 ADJUSTMENT.

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM (1-800-245-4545) A MINIMUM OF 72 HOURS PRIOR TO START OF WORK

PROPERTY OWNER:
D & M SUGAR LAND REALTY, LLC.
1310 MEADOW BAY COURT
SUGAR LAND, TX 77479

APPLICANT:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
T: 713-255-0280
CONTACT: JOAQUIN OROZCO

ARCHITECT:
GENESIS DESIGN GROUP, INC.
421 W. HARWOOD ROAD
HURST, TX 76054
T: 817-285-7318
CONTACT: BRIAN PRICE

ENGINEER:
DYNAMIC ENGINEERING CONSULTANTS, PC
(DBA) MIDWEST DYNAMIC ENGINEERING CONSULTANTS, PC
14521 OLD KATY ROAD, SUITE 250
HOUSTON, TX 77079
T: 281-789-6400
CONTACT: JOHN MCINTYRE

PREPARED BY
DYNAMIC ENGINEERING CONSULTANTS, P.C.
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 OLD KATY ROAD - SUITE 250
HOUSTON, TEXAS 77079
WWW.DYNAMICEC.COM

FORT BEND COUNTY ENGINEER
ENGINEER: Rick J Staigle, PE, PTOE
for Richard W. Stolleis, P.E.
DATE: 10/2/17
THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN (1) YEAR FROM DATE OF APPROVAL.
APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

APPROVED:
CITY OF RICHMOND
Kelly Kaluza 8/17/17
KELLY R. KALUZA - CITY ENGINEER DATE
Terri Vela 8/22/17
TERRI VELA - CITY MANAGER DATE

CVS pharmacy
14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096
4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER:99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
8 Robbins Street - Suite 102
Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) AS (V) SHOWN
DRAWN BY: DNH
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: COVER SHEET
SHEET No: 01 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 - 4:46 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX - SWC Williams Way\Dwg\Site Plans\046916197SK3.dwg, ----> 01 COVER

GENERAL NOTES

1. THIS PLAN HAS BEEN PREPARED BASED ON REFERENCES INCLUDING: TEJAS SURVEYING, INC.
   12615 W. AIRPORT BOULEVARD, SUITE 400
   SUGAR LAND, TX 77478
   FILE #: JC\44\44-1343
   11/25/2013

2. OWNER: D & M SUGAR LAND REALTY, LLC
   1310 MEADOW BAY COURT
   SUGAR LAND, TX 77479

3. APPLICANT: FIRST HARTFORD REALTY CORPORATION
   149 COLONIAL ROAD
   MANCHESTER, CT 06042

4. PARCEL DATA: PARCEL ID #055-00-000-0683-901
   4110 WILLIAMS WAY BOULEVARD
   CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
   NEIGHBORHOOD: ABSTRACT GROUP 2

5. SCHEDULE OF ZONING REQUIREMENTS

ZONE REQUIREMENT	WFBMD DEVELOPMENT STANDARDS	PROPOSED
MINIMUM LOT AREA	43,560 SF	87,254 SF (2.003 AC.)
MINIMUM PRINCIPAL BUILDING SETBACK		
-FRONT YARD (WILLIAMS WAY BOULEVARD)	35'	100.3'
-FRONT YARD (WILDWOOD PARK ROAD)	25'	90.3'
-SIDE YARD	10'	49.8'
-REAR YARD	10'	57.9' ±
MINIMUM PARKING SETBACK		
-FRONT YARD (WILLIAMS WAY BOULEVARD)	25'	25.4'
-FRONT YARD (WILDWOOD PARK ROAD)	25'	25'
-SIDE YARD	6'	N/A
-REAR YARD	6'	23.0' ±
MAXIMUM BUILDING HEIGHT	45'	28.0'
MINIMUM LANDSCAPE SURFACE AREA RATIO	15%	29.9%
MAXIMUM FLOOR AREA RATIO	28%	17%

6. OFF-STREET PARKING REQUIREMENTS:

   MIN. PARKING SPACE SIZE (THAT ABOUT A CURB OR EDGE OF PAVEMENT): 9' x 18' REQUIRED; 9' x 18' PROPOSED

   MIN. PARKING SPACE SIZE (THAT ABOUT A CURB OR EDGE OF PAVEMENT): 9' x 20' REQUIRED; 9' x 20' PROPOSED

   TOTAL PARKING REQUIRED = 63 SPACES (12,494 SF / 200 SF)

   TOTAL PARKING PROPOSED = 67 SPACES

7. OFF-STREET LOADING REQUIREMENTS:

   MIN. LOADING SPACE SIZE: 12'W x 60'L REQUIRED; 12'W x 60'L PROPOSED **(COMPLIES)**

   MIN. NUMBER OF LOADING SPACES: ONE (1) REQUIRED; ONE (1) PROPOSED **(COMPLIES)**

8. DRIVEWAY REQUIREMENTS:

   MIN. ACCESS DRIVE WIDTH; 25', MAX. ACCESS WIDTH: 45'; 30' PROPOSED **(COMPLIES)**

   TWO WAY DRIVEWAY MIN. WIDTH: 25', MAX. WIDTH: 45'; 30' PROPOSED **(COMPLIES)**

9. LANDSCAPE REQUIREMENTS:
   WEST FORT BEND MANAGEMENT DISTRICT DEVELOPMENT STANDARDS:
   - ALL PARKING SETBACK AREAS SHALL HAVE GRASS, SHRUBS, AND TREES THAT PROVIDE AS THE PRIMARY LANDSCAPE MATERIALS.
   - GRASS GROUND COVER SHALL BE SODDED OR HYDRO-MULCHED ON A GRADED SURFACE THAT PROVIDES ADEQUATE DRAINAGE.
   - WEEDS AND UNDERBRUSH SHALL BE REMOVED AND TOPSOIL PROVIDED TO ALLOW FOR A HEALTHY STAND OF GRASS.
   - IF WINTER RYE IS PLANTED DURING THE WINTER MONTHS, BERMUDA SEED SHALL BE ADDED TO PROVIDE FOR GROWTH DURING WINTER TEMPERATURES.
   - ALL GRASS TURF AND OTHER LANDSCAPING SHALL BE IRRIGATED WITH AN AUTOMATIC SPRINKLER.
   - SINGLE TRUNK, 65 GALLON TREES, 3.5 CALIPER, 12 FEET TO 14 FEET IN HEIGHT, SHALL BE PLANTED WITH TREES SPACED ON 30 FOOT TO 40 FOOT CENTERS.
   - TREES SHALL BE RANDOMLY SPACED ALONG THE ENTIRE FRONTAGE OF THE PRIMARY AND SECONDARY ROADS.
   - MINIMUM NUMBER OF REQUIRED TREES: ONE (1) TREE FOR EVERY 30 LF OF FRONTAGE.
   - ALL TREES SHALL BE ADEQUATELY IRRIGATED WITH AN AUTOMATED DRIP SYSTEM.
   - ALL SIDE PROPERTY LINES SHALL HAVE SHRUB HEDGES AND TREES PLANTED THE GREATER OF THE BACK OF THE BUILDING OR 200 FEET.
   - A DOUBLE ROW OF FIVE (5) GALLON OR LARGER WAX LEAF LIGUSTRUMS OR WAX MYRTLES SHALL BE PLANTED IN A TRIANGULAR SPACING OF 18 INCHES ALONG ALL SIDE PROPERTY LINES.
   - SINGLE TRUNK, 65 GALLON TREES, 3.5 INCH CALIPER, 12 FEET TO 14 FEET IN HEIGHT, SHALL BE PLANTED ALONG ALL SIDE PROPERTY LINES, SPACED AT 40 FEET ON CENTER.
   - IF THERE IS AN ADJOINING SITE TO THE PROPERTY LINE, THE FIRST OWNER TO DEVELOP THE PROPERTY WILL PROVIDE THE TREES AND THE OTHER PROPERTY OWNER WILL PROVIDE THE SHRUBS.
   - PARKING LOTS MUST BE PROPERLY SCREENS FROM PUBLIC STREETS AND ADJACENT PROPERTIES WITH THE USE OF SHRUB HEDGES AND TREES. TREES SHALL BE USED TO PROVIDE SHADE AND SOFTEN LARGE EXPANSES OF CONCRETE.
   - PLANTING ISLANDS SHALL BE REQUIRED AT THE END OF ALL PARKING BAYS.
   - TWO TREES SHALL BE PLANTED WITHIN EACH END OF THE PARKING BAYS, TEN (10) FROM THE EDGE OF THE BAY PLANTER. THE TREES SHALL BE SINGLE TRUNK, 65 GALLON, 3.5 INCH CALIPER, AND 12 TO 14 FEET IN HEIGHT.
   - THE OUTSIDE BORDER OF ALL PARKING LOTS SHALL BE BORDERED WITH FIVE (5) GALLON OR LARGER WAX LEAF LIGUSTRUM OR WAX MYRTLE HEDGES PLANTED IN A DOUBLE ROW, TRIANGULARLY SPACES ON 18 INCH CENTERS AND FOUR (4) FEET IN HEIGHT.
   - DRIVE-THRU LANES FOR PHARMACIES SHALL REQUIRE A MINIMUM OF TWO (2) DOUBLE ROWS OF LANDSCAPING TO COMPLETELY SCREEN VEHICLES FROM PUBLIC VIEW.
   - THE ROW OF LANDSCAPING CLOSEST TO THE DRIVE-THRU LANE SHALL BE FIVE (5) GALLON OR LARGER WAX MYRTLES OR WAX LEAF LIGUSTRUMS PLANTED 18 INCHES ON CENTER IN A TRIANGULAR PATTERN IN A DOUBLE ROW TO CREATE A HEDGE THAT IS SIX (6) FEET IN HEIGHT.
   - TREES SHOULD BE LOCATED THROUGHOUT THE PARKING LOT AND NOT SIMPLY AT THE ENDS OF PARKING AISLES.
   - LANDSCAPING SHOULD BE PROTECTED FROM VEHICULAR AND PEDESTRIAN ENCROACHMENT BY RAISED PLANTING STRUCTURES, DEPRESSED WALKS, OR THE USE OF CURBS.

10. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.

11. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER CONSTRUCTION MANAGER OF ANY DISCREPANCY BETWEEN SOILS REPORT & PLANS.
12. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
13. THE PROPERTY SURVEY SHALL BE CONSIDERED A PART OF THESE PLANS.
14. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
15. SOLID WASTE TO BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
16. ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
17. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
18 ALL CONTRACTORS MUST CARRY STATUTORY WORKERS COMPENSATION, EMPLOYERS LIABILITY INSURANCE AND APPROPRIATE LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME DYNAMIC ENGINEERING CONSULTANTS, P.C. , ITS SUBCONSULTANTS AS ADDITIONAL INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THE HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH DYNAMIC ENGINEERING CONSULTANTS, P.C. WITH CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS DYNAMIC ENGINEERING CONSULTANTS, P.C. AND ITS SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS.
19. NEITHER THE PROFESSIONAL ACTIVITIES OF DYNAMIC ENGINEERING CONSULTANTS, P.C., NOR THE PRESENCE OF DYNAMIC ENGINEERING CONSULTANTS, P.C. OR ITS EMPLOYEES AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. DYNAMIC ENGINEERING CONSULTANTS, P.C. AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOBSITE SAFETY. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE.
20. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL REVIEW AND APPROVE OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION SHOWN IN THE CONSTRUCTION MEANS OR METHODS, COORDINATION OF THE WORK WITH OTHER TRADES OR CONSTRUCTION SAFETY PRECAUTIONS, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DYNAMIC ENGINEERING'S REVIEW SHALL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT DYNAMIC ENGINEERING CONSULTANTS, P.C. HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE ATTENTION OF DYNAMIC ENGINEERING CONSULTANTS, P.C. IN WRITING BY THE CONTRACTOR. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
21. IN AN EFFORT TO RESOLVE ANY CONFLICTS THAT ARISE DURING THE DESIGN AND CONSTRUCTION OF THE PROJECT OR FOLLOWING THE COMPLETION OF THE PROJECT, DYNAMIC ENGINEERING CONSULTANTS, P.C. AND THE CONTRACTOR MUST AGREE THAT ALL DISPUTES BETWEEN THEM ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE PROJECT SHALL BE SUBMITTED TO NONBINDING MEDIATION UNLESS THE PARTIES MUTUALLY AGREE OTHERWISE.
22.THE CONTRACTOR MUST INCLUDE A MEDIATION PROVISION IN ALL AGREEMENTS WITH INDEPENDENT SUBCONTRACTORS AND CONSULTANTS RETAINED FOR THE PROJECT AND TO REQUIRE ALL INDEPENDENT CONTRACTORS AND CONSULTANTS ALSO TO INCLUDE A SIMILAR MEDIATION PROVISION IN ALL AGREEMENTS WITH THEIR SUBCONTRACTORS, SUBCONSULTANTS, SUPPLIERS AND FABRICATORS, THEREBY PROVIDING FOR MEDIATION AS THE PRIMARY METHOD FOR DISPUTE RESOLUTION BETWEEN THE PARTIES TO ALL THOSE AGREEMENTS.
23.IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED THEREON, WITHOUT FIRST OBTAINING PRIOR WRITTEN AUTHORIZATION FOR SUCH DEVIATIONS FROM THE OWNER AND ENGINEER, IT SHALL BE RESPONSIBLE FOR THE PAYMENT OF ALL COSTS TO CORRECT ANY WORK DONE, ALL FINES OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND IT SHALL INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ALL SUCH COSTS TO CONNECT ANY SUCH WORK AND FROM ALL SUCH FINES AND PENALTIES, COMPENSATION AND PUNITIVE DAMAGES AND COSTS OF ANY NATURE RESULTING THEREFROM.
24. ALL TRAFFIC SIGNS AND STRIPING SHALL FOLLOW THE REQUIREMENTS SPECIFIED IN THE MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
25. THE BUILDING SETBACK DIMENSIONS ILLUSTRATED AND LISTED ON THE SITE PLAN DRAWINGS ARE MEASURED FROM THE OUTSIDE SURFACE OF BUILDING WALLS. THESE SETBACK DIMENSIONS DO NOT ACCOUNT FOR ROOF OVERHANGS, ORNAMENTAL ELEMENTS, SIGNAGE OR OTHER EXTERIOR EXTENSIONS UNLESS SPECIFICALLY NOTED.
26. CONTRACTOR TO BE ADVISED THAT THE ENGINEER WAS NOT PROVIDED WITH FINAL FLOOR PLAN DRAWINGS FOR THE BUILDING AT THE TIME OF SITE PLAN DESIGN. AS A RESULT, ENTRANCE DOOR LOCATIONS AS DEPICTED HEREON MAY NOT BE FINAL AND MUST BE CONFIRMED WITH THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. THE HANDICAP ACCESSIBLE PARKING SPACES AND THE ASSOCIATED RAMPS AND ACCESSIBLE ROUTE MUST COMPLY WITH TEXAS ACCESSIBILITY STANDARDS SEC. 406,502 AND THE HANDICAP PARKING SPACES MUST BE LOCATED AS THE NEAREST SPACES TO THE ENTRANCE. CONTRACTOR TO NOTIFY OWNER AND ENGINEER IMMEDIATELY OF ANY DISCREPANCY PRIOR TO CONSTRUCTION.
27. ALL WORK PERFORMED AND MATERIALS SUPPLIED SHALL CONFORM TO THE SITE WORK SPECIFICATIONS, IF SUPPLIED. ANY WORK NOT COVERED IN THE SITE WORK SPECIFICATIONS SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES", LATEST EDITION.

TEXAS 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

DEMOLITION NOTES

1. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS.
2. PROCEED WITH DEMOLITION IN A SYSTEMATIC MANNER, FROM THE TOP OF THE STRUCTURE(S) TO THE GROUND.
3. COMPLETE DEMOLITION WORK ABOVE EACH FLOOR OR TIER BEFORE DISTURBING ANY OF THE SUPPORTING MEMBERS OF THE LOWER LEVELS.
4. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS.
5. REMOVE STRUCTURAL FRAMING MEMBERS AND LOWER THEM TO THE GROUND BY MEANS OF HOISTS, DERRICKS OR OTHER SUITABLE METHODS.
6. BREAK UP CONCRETE SLABS-ON-GRADE, UNLESS OTHERWISE DIRECTED BY OWNER.
7. LOCATE DEMOLITION EQUIPMENT THROUGHOUT THE STRUCTURE AND REMOVE MATERIALS SO AS TO NOT IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS, OR FRAMING.
8. PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING AND SUPPORTS TO PREVENT MOVEMENT, SETTLEMENT OR COLLAPSE OF STRUCTURES TO BE DEMOLISHED (AND ADJACENT FACILITIES, IF APPLICABLE).
9. DEMOLISH AND REMOVE ALL FOUNDATION WALLS, FOOTINGS AND OTHER MATERIALS WITHIN THE AREA OF THE DESIGNATED FUTURE BUILDING. ALL OTHER FOUNDATION SYSTEMS, INCLUDING BASEMENTS, SHALL BE DEMOLISHED TO A DEPTH OF NOT LESS THAN ONE FOOT BELOW PROPOSED PAVEMENT OR, BREAK BASEMENT FLOOR SLABS. SEAL ALL OPEN UTILITY LINES WITH CONCRETE. CONTRACTOR TO REVIEW STRUCTURE PRIOR TO DEMOLITION TO DETERMINE IF BASEMENT, CRAWL SPACE OR ANY SUB-STRUCTURE EXISTS. ANY SUB-STRUCTURE, INCLUDING BASEMENTS SHALL BE REMOVED IN ITS ENTIRETY OR AS DIRECTED BY OWNER.
10. ERECT AND MAINTAIN COVERED PASSAGEWAYS IN ORDER TO PROVIDE SAFE PASSAGE FOR PERSONS AROUND THE AREA OF DEMOLITION. CONDUCT ALL DEMOLITION OPERATIONS IN A MANNER THAT WILL PREVENT DAMAGE AND PERSONAL INJURY TO STRUCTURES, ADJACENT BUILDINGS AND ALL PERSONS.
11. REFRAIN FROM USING ANY EXPLOSIVES WITHOUT PRIOR WRITTEN CONSENT OF OWNER AND APPLICABLE GOVERNMENTAL AUTHORITIES.
12. CONDUCT DEMOLITION SERVICES IN SUCH A MANNER TO INSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED FACILITIES WITHOUT PRIOR WRITTEN PERMISSION OF OWNER AND ANY APPLICABLE GOVERNMENTAL AUTHORITIES. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS, IF REQUIRED BY APPLICABLE GOVERNMENTAL REGULATIONS.
13. USE WATERING, TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS, AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DIRT RISING AND SCATTERING IN THE AIR. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. RETURN ALL ADJACENT AREAS TO THE CONDITIONS EXISTING PRIOR TO THE START OF WORK.
14. ACCOMPLISH AND PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
15. COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM THE DEMOLITION OF STRUCTURES AND FOUNDATIONS WITH SOIL MATERIALS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, CONSISTING OF STONE, GRAVEL AND SAND, FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS AND OTHER ORGANIC MATTER. STONES USED WILL NOT BE LARGER THAN 6 INCHES IN DIMENSION. MATERIAL FROM DEMOLITION MAY NOT BE USED AS FILL. PRIOR TO PLACEMENT OF FILL MATERIALS, UNDERTAKE ALL NECESSARY ACTION IN ORDER TO INSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH, DEBRIS. PLACE FILL MATERIALS IN HORIZONTAL LAYERS NOT EXCEEDING 6 INCHES IN LOOSE DEPTH AND COMPACT EACH LAYER AT PLACEMENT TO 95% OPTIMUM DENSITY. GRADE THE SURFACE TO MEET ADJACENT CONTOURS AND TO PROVIDE SURFACE DRAINAGE.
16. REMOVE FROM THE DESIGNATED SITE, AT THE EARLIEST POSSIBLE TIME, ALL DEBRIS, RUBBISH, SALVAGEABLE ITEMS, HAZARDOUS AND COMBUSTIBLE SERVICES. REMOVED MATERIALS MAY NOT BE STORED, SOLD OR BURNED ON THE SITE. REMOVAL OF HAZARDOUS AND COMBUSTIBLE MATERIALS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROCEDURES AS AUTHORIZED BY THE FIRE DEPARTMENT OR OTHER APPROPRIATE REGULATORY AGENCIES AND AUTHORITIES.
17. DISCONNECT, SHUT OFF AND SEAL IN CONCRETE ALL UTILITIES SERVING THE STRUCTURE(S) TO BE DEMOLISHED BEFORE THE COMMENCEMENT OF THE DESIGNATED DEMOLITION. MARK FOR POSITION ALL UTILITY DRAINAGE AND SANITARY LINES AND PROTECT ALL ACTIVE LINES. CLEARLY IDENTIFY BEFORE THE COMMENCEMENT OF DEMOLITION SERVICES THE REQUIRED INTERRUPTION OF ACTIVE SYSTEMS THAT MAY AFFECT OTHER PARTIES, AND NOTIFY ALL APPLICABLE UTILITY COMPANIES TO INSURE THE CONTINUATION OF SERVICE.
18. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL PROCEDURES ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS NECESSARY.

NOTES

1. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL BE REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES ONE CALL DAMAGE PROTECTION SYSTEM OR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION.
2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ALL DISCREPANCIES SHALL BE IDENTIFIED TO THE ENGINEER IN WRITING.
3. ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE DISCONNECTED AND CAPPED AT THE MAIN FOR WATER, AT THE CLEAN-OUT FOR SEWER AND THE SHUT-OFF VALVE OR MAIN FOR GAS IN ACCORDANCE WITH MUNICIPAL AND LOCAL UTILITY REQUIREMENTS.
4. ALL EXISTING DEBRIS SHALL BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH MUNICIPAL AND LOCAL UTILITY COMPANY REQUIREMENTS.

GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER, REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MIN. SLOPE AGAINST ALL ISLAND GUTTERS, CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1-1/2% MIN. ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY EFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MIN. OF 0.75% GUTTER GRADE ALONG CURB FACE. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
4. SUBBASE MATERIAL FOR SIDEWALKS, CURB, CONCRETE OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. CONTRACTOR MUST NOTIFY ENGINEER OF RECORD OF ANY CONFLICT IMMEDIATELY.
7. MAXIMUM CROSS SLOPE OF 2% ON ALL SIDEWALKS.
8. CONTRACTOR TO ENSURE A MAXIMUM OF 2% SLOPE IN ALL DIRECTIONS IN ADA PARKING SPACES, ADA STRIPING AREAS AND ADA ACCESSIBLE ROUTES. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
9. THE OWNER SHALL RETAIN DYNAMIC EARTH, LLC (908-879-7095) OR ALTERNATE QUALIFIED GEOTECHNICAL ENGINEER TO PROVIDE CONSTRUCTION PHASE INSPECTIONS.
10. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.
11. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO ONSET OF CONSTRUCTION TO SUBMIT AND CONFIRM THE CONTRACTOR'S PROPOSED MEANS AND MATERIALS AND TO SCHEDULE INSPECTIONS FOR BOTTOM OF BASIN, REMOVAL OF UNSUITABLE SOIL, FILL PLACEMENT, AND FINAL BASIN PERMEABILITY TESTING.

UTILITY NOTES

1. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
4. WATER SERVICE MATERIALS SHALL BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTORS PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
5. THE MINIMUM DIAMETER FOR DOMESTIC WATER SERVICES SHALL BE 1 INCH.
6. ALL SEWER PIPE INSTALLED WITH LESS THAN 3 FEET OF COVER, GREATER THAN [illegible]0 FEET OF COVER OR WITHIN 18 INCHES OF A WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE. ALL DUCTILE IRON SEWER PIPE SHALL BE CEMENT-LINED, CLASS 52 PIPE, FURNISHED WITH SEWER COAT, OR APPROVED EQUAL.
7. WHERE SANITARY SEWER LATERALS ARE GREATER THAN 10' DEEP AT CONNECTION TO THE SEWER MAIN, CONCRETE DEEP LATERAL CONNECTIONS ARE TO BE UTILIZED.
8. LOCATION & LAYOUT OF GAS, ELECTRIC & TELECOMMUNICATION UTILITY LINES AND SERVICES SHOWN ON THESE PLANS ARE SCHEMATIC IN NATURE. ACTUAL LOCATION & LAYOUT OF THESE UTILITIES & SERVICES ARE TO BE PER THE APPROPRIATE UTILITY PROVIDER.
9. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
10. ALL SEWER AND WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATORY AUTHORITY'S RULES AND REGULATIONS.
11. ALL PROPOSED UTILITIES TO BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
12. HDPE DRAINAGE PIPE (PRIVATE ONLY) SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURE RECOMMENDATIONS. STORM SEWER THAT IS CONSTRUCTED IN THE PUBLIC RIGHT-OF-WAY SHALL BE ASTM. C-76 CLASS III R.C.P.
13. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

SWPPP NOTES

1. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS AND AS FIELD CONDITIONS WARRANT TO PREVENT OFFSITE MIGRATION OF SOILS OR OTHER POLLUTANTS BY VEHICULAR TRACKING OR IN STORM WATER RUNOFF.
2. THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION EXIT AND SHALL TAKE APPROPRIATE MEASURES TO PREVENT TRACKING OF SOILS ONTO PUBLIC ROADWORK. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY OFFSITE TRACKING THAT OCCURS.
3. ALL STOCKPILED SOILS WILL BE SURROUNDED BY A SILT FENCE, SWALE OR EQUIVALENT MEASURE TO PROPERLY CONTROL SEDIMENT RUNOFF.
4. THE CONTRACTOR SHALL DESIGNATE A CONCRETE TRUCK WASHOUT AREA. WASTE CONCRETE AND ASSOCIATED WATER AND MATERIAL WILL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH THE APPLICABLE REGULATIONS.
5. IF DEWATERING METHODS ARE TO BE UTILIZED, THE DISCHARGE SHALL BE FILTERED USING SEDIMENT TANKS OR SEDIMENT FILTER BAGS TO REMOVE SEDIMENT AND OTHER POLLUTANTS BEFORE THE WATER ENTERS A STORM DRAIN OR LEAVES THE SITE.
6. INLET PROTECTION SHALL BE INSTALLED AT ALL ONSITE OR NEW INLETS TO PREVENT SEDIMENT AND SOILS FROM ENTERING THE STORM DRAIN SYSTEM UNTIL PERMANENT VEGETATION IS ESTABLISHED.
7. CONTROL MEASURES MAY ONLY BE PLACED IN FRONT OF INLETS OR IN CHANNELS, DRAINAGE WAYS OR BORROW DITCHES AT THE CONTRACTOR'S RISK. CONTRACTOR SHALL REMAIN LIABLE FOR ANY DAMAGE CAUSED BY THE MEASURE INCLUDING FLOOD DAMAGE THAT OCCURS AS A RESULT OF BLOCKED DRAINAGE.
8. AT A MINIMUM, PERIMETER CONTROLS SUCH AS SILT FENCE SHALL BE INSTALLED AT ALL DOWN SLOPE BOUNDARIES OF DISTURBED AREAS AND AS WARRANTED WHERE PAVEMENT REMOVAL, UTILITY CONSTRUCTION, GRADING OR OTHER CONSTRUCTION ACTIVITIES ARE TO BE PERFORMED. THE CONTRACTOR SHALL AT ALL TIMES TAKE SUCH MEASURES AS NECESSARY TO PREVENT OFFSITE MIGRATION OF SEDIMENT AND DEBRIS.
9. IF DISCHARGE OF SOIL OR OTHER POLLUTANTS OCCURS, THE CONTROL MEASURES SHALL BE EVALUATED AND CHANGES OR ADDITIONAL MEASURES IMPLEMENTED WITHIN 48 HOURS TO PREVENT FUTURE DISCHARGES.
10. DAMAGE TO ADJACENT PROPERTY AND/OR TO RECEIVING WATER CAUSED BY IMPROPERLY INSTALLED OR POORLY MAINTAINED EROSION AND POLLUTION CONTROL MEASURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS RESPONSIBILITY INCLUDES REMOVAL AND DISPOSAL OF ANY SILTATION, DEBRIS OR OTHER POLLUTANTS CAUSED BY HIS/HER OPERATIONS AND/OR FAILURE OF THE CONTROL MEASURES. FAILURE TO ADDRESS THE CAUSES OF DAMAGES WILL RESULT IN A STOP WORK ORDER.
11. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ACCUMULATED SEDIMENT BEFORE IT REACHES A DEPTH OF SIX (6) INCHES OR IMPAIRS THE EFFECTIVENESS OF THE CONTROL MEASURE.
12. THE OWNER'S REPRESENTATIVE WILL INSPECT THE PROJECT EVERY FOURTEEN (14) DAYS, AT A MINIMUM, AND AFTER EVERY RAIN EVENT OF ONE-HALF INCH OR GREATER TO DETERMINE THE INTEGRITY AND EFFECTIVENESS OF THE EROSION AND POLLUTION CONTROL MEASURES. A WRITTEN INSPECTION REPORT, SIGNED BY THE PERSON MAKING THE INSPECTION, WILL BE FILED WITH ONSITE POLLUTION CONTROL PLAN AND A COPY OF THE REPORT SENT TO THE CITY FOR THEIR RECORDS. THIS INSPECTION DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR INSPECTION AND MAINTENANCE OF THE CONTROL MEASURES. FAILURE TO FILE REPORTS MAY RESULT IN A STOP WORK ORDER.
13. THE CONTRACTOR SHALL STABILIZE, WITH SOME FORM OF GROUND COVER, ANY AREA WHERE CONSTRUCTION ACTIVITY IS TO BE CEASED (TEMPORARILY OR PERMANENTLY) FOR MORE THAN TWENTY-ONE (21) DAYS.
14. AT THE CONCLUSION OF THE PROJECT, ALL CHANNELS, DRAINAGE WAY AND BORROW DITCHES IN THE WORK ZONE SHALL BE CLEARED OF ANY SEDIMENT AND DEBRIS GENERATED BY THE PROJECT OR DEPOSITED AS A RESULT OF THE EROSION AND POLLUTION CONTROL MEASURES.
15. REVEGETATION OF ALL DISTURBED SOIL SHALL BE INITIATED WITHIN TWENTY-ONE (21) DAYS OF FINAL CONSTRUCTION OPERATIONS.

APPROVED:
Development Coordinator
DATE: 9/27/17

REFER TO CONSTRUCTION DETAILS FOR SOIL CONSERVATION NOTES & SIGNAGE TABLE

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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07/19/17
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Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

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SHEET No: 02 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

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File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SGN3.dwg, ---> 02 GENERAL

GENERAL NOTES

G-1. THE CONTRACTOR SHALL NOTIFY CITY OF RICHMOND (REFERRED TO AS THE "CITY") DIRECTOR OF PUBLIC WORKS AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK AT (281) 342-0559. CONTRACTOR SHALL ATTEND A PRECONSTRUCTION MEETING WITH CITY AND THE PROJECT ENGINEER PRIOR TO INITIATING CONSTRUCTION. PRECONSTRUCTION MEETINGS SHALL BE HELD AT 600 MORTON STREET OR AT A LOCATION APPROVED BY THE DIRECTOR OF PUBLIC WORKS.

G-2. ALL PUBLIC INFRASTRUCTURE SHALL BE INSPECTED BY PUBLIC WORKS INSPECTOR(S) OR AUTHORIZED AGENTS(S). THE CONTRACTOR SHALL GIVE 24-HOUR ADVANCE NOTIFICATION TO THE PUBLIC WORKS DEPARTMENT FOR INSPECTION OF WORK. COMPLETED WORK SHALL NOT BE BACKFILLED WITHOUT APPROVAL OF THE CITY.

G-3. CONTRACTOR MUST OBTAIN ALL PERMITS AND SUPPLY ALL BONDS REQUIRED BY THE CITY, PRIOR TO BEGINNING CONSTRUCTION.

G-4. UPON COMPLETION OF A PROJECT, THE CONTRACTOR AND/OR PROJECT ENGINEER SHALL PROVIDE THE DIRECTOR OF PUBLIC WORKS AND CITY ENGINEER DETAILED, "RECORD DRAWINGS" IN REPRODUCTIVE AND ELECTRONIC FORMAT.

G-5. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT AND LABOR FOR EXCAVATION, INSTALLATION AND BACKFILLING OF WATER, SANITARY AND STORM SEWER LINES AND RELATED APPURTENANCES AS SHOWN ON THE PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS.

G-6. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2004) AND REVISIONS THERETO.

G-7. ALL WORK PERFORMED SHALL COMPLY WITH CURRENT NATIONAL SPECIFICATIONS AND STANDARD PRACTICES, APPROVED PROJECT PLANS AND SPECIFICATIONS AND ALL APPLICABLE CITY STANDARDS, CODES AND ORDINANCES.

G-8. ALL CONSTRUCTION TRAFFIC CONTROL IN THE PROJECT AREA SHALL MEET THE REQUIREMENTS OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE APPROVED BY THE CITY FOR ALL PROJECTS WITHIN THE CITY LIMITS.

G-9. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA PRIOR TO COMMENCING WORK IN ANY RIGHT-OF-WAY OR EXISTING EASEMENT. A VERIFICATION NUMBER FROM THE ONE-CALL UTILITY COORDINATING COMMITTEE IS REQUIRED.

G-10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION AND UNCOVER EXISTING UTILITIES AT ALL "POINTS OF CROSSING" TO DETERMINE IF CONFLICTS EXIST PRIOR TO COMMENCING ANY CONSTRUCTION. NOTIFY THE PROJECT ENGINEER, CITY ENGINEER AND DIRECTOR OF PUBLIC WORKS IMMEDIATELY OF ANY CONFLICT.

G-11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE SUCH UNDERGROUND FEATURES SUFFICIENTLY IN ADVANCE OF OPERATIONS TO PRECLUDE DAMAGE IN THE EVENT THAT UNDERGROUND FACILITIES NOT SHOWN ON THE DRAWINGS ARE ENCOUNTERED.

G-12. IN THE EVENT OF DAMAGE TO UNDERGROUND FACILITIES, WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE THE NECESSARY REPAIRS TO REPLACE THE FACILITY BACK IN SERVICE. ALL SUCH REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE OWNER OF THE FACILITY.

G-13. THE CONTRACTOR SHALL PROVIDE SHEETING, SHORING AND BRACING NECESSARY TO PROTECT WORKMEN AND EXISTING UTILITIES DURING ALL PHASES OF CONSTRUCTION AS MAY BE REQUIRED BY O.S.H.A, FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES.

G-14. CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS ALONG EXISTING ROADWAYS AND WITHIN TRAFFIC AREAS.

G-15. ALL TESTING FOR THIS PROJECT SHALL CONFORM TO THE CITY REQUIREMENTS. SHOULD ANY TEST RESULTS NOT MEET THE TESTING REQUIREMENTS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE OR REPLACE SUCH MATERIALS AND INSTALLATIONS, SO THAT THE TESTING REQUIREMENTS ARE MET.

G-16. THE LOADING, UNLOADING AND HANDLING OF ALL PIPE, VALVES, HYDRANTS, FITTINGS, MANHOLES AND OTHER MATERIALS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIALS. THE CONTRACTOR SHALL LOCATE AND PROVIDE THE NECESSARY STORAGE AREAS FOR MATERIALS AND EQUIPMENT.

G-17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS, UNTIL PROJECT COMPLETION.

G-18. THE CONTRACTOR SHALL NOT UNLOAD ANY TRACK-TYPE CONSTRUCTION MACHINERY ON ANY EXISTING PAVEMENT OR CROSS OVER ANY EXISTING PAVEMENT OR CURB DURING ANY PROJECT.

G-19. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPERVISE AND COORDINATE ALL WORK TO INSURE THE PROPER EXECUTION. ALL WORK IS TO BE ACCOMPLISHED IN A NEAT, WORKMANLIKE MANNER, AND ALL EXCESS MATERIALS, TRASH AND DEBRIS, ETC., SHALL BE REMOVED FROM THE JOB BY THE CONTRACTOR, AT HIS EXPENSE.

G-20. CONTRACTOR SHALL REMOVE DIRT AND/OR DEBRIS DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY ON A DAILY BASIS. ALL EQUIPMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AT THE END OF THE PROJECT.

G-21. EXISTING ROADS, RIGHT-OF-WAYS, EASEMENTS AND PROPERTY DISTURBED DURING CONSTRUCTION SHALL BE RESTORED AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK.

G-22. UNLESS OTHERWISE REQUIRED, ALL DISTURBED AREAS SHALL BE SEEDED WITH HYDROMULCH SEEDING AND PROVIDE WATERING UNTIL VEGETATION IS ESTABLISHED.

G-23. ALL EXCESS AND/OR UNSUITABLE SOIL, AND DEBRIS AND/OR WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.

G-24. ADJUST MANHOLES, INLETS, FLUSHING VALVES AND WATER VALVE BOXES TO MATCH FINAL GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY.

G-25. UTILITY SERVICE LINES

1) ALL UTILITY SERVICE LINES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTORS SHALL ANTICIPATE THAT SUCH SERVICE LINES EXIST AND REPAIR THEM IF DAMAGED DURING CONSTRUCTION. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS WITH THE OWNERS OF SUCH UTILITIES PRIOR TO WORKING IN THE AREA TO CONFIRM THEIR EXACT LOCATIONS AND/OR DEPTHS, AND TO DETERMINE WHETHER ANY ADDITIONAL UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS MAY BE PRESENT. THE CONTRACTOR SHALL DETERMINE IF ANY OF THESE UTILITIES ARE CLEAR, AND SHALL PRESERVE AND PROTECT ALL OF THESE UTILITIES SHOWN OR FOUND. IF CONFLICTS ARISE REGARDING PUBLIC UTILITIES, THE CONTRACTOR SHOULD IMMEDIATELY NOTIFY THE PROJECT ENGINEER.

2) UTILITY RELOCATIONS REQUIRED BY CONSTRUCTION SHALL BE PERFORMED BY THE APPROPRIATE UTILITY COMPANY. ANY RELOCATIONS OR TEMPORARY BRACING NOT DEEMED NECESSARY BY THE ENGINEER, BUT DESIRED FOR CONVENIENCE BY THE CONTRACTOR, SHALL BE PERFORMED BY THE APPROPRIATE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

3) TEXAS ONE CALL	1-800-245-4545	6) AT&T	281-341-4312
4) CENTERPOINT ENERGY-GAS	281-342-8881	7) COMCAST	713-462-1900
5) CENTERPOINT ENERGY-ELECTRIC	281-341-4930	8) CITY OF RICHMOND	281-342-0559

G-26. AT&T TELEPHONE

1) THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF UTILITIES BY CALLING TEXAS ONE-CALL SYSTEM AT LEAST 72 HOURS BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE THE UNDERGROUND UTILITIES.

2) CONTRACTOR SHALL HAND DIG WITHIN ONE (1) FOOT OF SBC UNDERGROUND CONDUIT OR CABLE SYSTEMS.

G-27. CENTERPOINT ENERGY (ELECTRIC)

1. OVERHEAD LINES EXIST ON THE PROPERTY AND APPROXIMATE LOCATIONS ARE SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTOR IS LEGALLY RESPONSIBLE FOR SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED AND LOCATE EXISTING UNDERGROUND UTILITIES, CALL CENTERPOINT ENERGY AT LEAST 72 HOURS BEFORE COMMENCING WORK.

2. CONSTRUCTION THAT WILL REQUIRE EXCAVATION CLOSER THAN THREE (3) FEET TO CENTERPOINT FACILITIES SHALL BE BORED AND JACKED WITH THE WRITTEN APPROVAL FROM CENTERPOINT.

3. CONTRACTOR SHALL HAND DIG WITHIN ONE (1) FOOT OF CENTERPOINT ENERGY UNDERGROUND CONDUIT OR AS OTHERWISE REQUIRED BY CENTERPOINT.

G-28. CENTERPOINT ENERGY (GAS)

CAUTION: UNDERGROUND GAS FACILITIES
LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567, 1-800-669-8344 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713) 945-8036 OR (713) 945-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MACHANIZED EXCAVATION PROCEDURES
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 659-3552 OR (713) 207-4200

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

ACTIVITIES ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY
NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6248 OR (713) 207-5769

G-29. COMCAST - THE CONTRACTOR SHALL NOTIFY TIME WARNER AT LEAST 72 HOURS BEFORE COMMENCING WORK TO LOCATE EXISTING UNDERGROUND CABLE.

G-30. ALL PIPE AND REINFORCEMENT STEEL SHALL BE KEPT FREE OF DIRT AND DEBRIS. ANY DAMAGE TO THE COATINGS OF THE VARIOUS MATERIALS MUST BE REPAIRED OR REPLACED BY THE CONTRACTOR WITH APPROVAL BY THE CITY.

G-31. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE AND POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

G-32. NO CONNECTIONS SHALL BE MADE TO THE EXISTING WATER LINES OR SANITARY SEWERS UNTIL ALL PROPOSED LINES HAVE BEEN THOROUGHLY CLEANED, TESTED AND APPROVED BY THE CITY.

G-33. CONTRACTOR SHALL VERIFY PUBLIC INFRASTRUCTURE ALIGNMENT, CENTERLINE CURVE DATA AND STATIONING WITH APPROVED SUBDIVISION PLAT AND APPROVED PLANS.

G-34. ALL BEDDING AND BACKFILL (INCLUDING CEMENT STABILIZED SAND) SHALL BE PLACED IN LIFTS THAT DO NOT EXCEED 8" (LOOSE), SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AND BE TESTED BY A CERTIFIED TESTING LABORATORY.

G-35. ALL TRENCH BACKFILL SHALL BE TESTED AT A MINIMUM RATE OF ONE DENSITY TEST PER ONE LIFTS OF TRENCH BACKFILL PER 300 FEET OF TRENCH. TESTS SHALL BE TAKEN AT RANDOM LOCATION SELECTED BY THE LAB OR AS AS OTHERWISE REQUESTED BY THE CITY.

G-36. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL POLLUTION CONTROLS FOR THE DURATION OF THE PROJECT.

G-37. CONTRACTOR SHALL CONTACT CITY PUBLIC WORKS DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED. NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1' (FT.) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24 HOURS AFTER BEDDING AND BACKFILL IS IN PLACE.

G-38. IN THE EVENT OF CONFLICT BETWEEN THE CITY OF RICHMOND DETAIL SPECIFICATIONS, CONSTRUCTION NOTES, OR CITY OF RICHMOND PUBLIC INFRASTRUCTURE DESIGN MANUAL, OR THE MORE STRINGENT REQUIREMENTS WILL GOVERN.

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

WATER DISTRIBUTION NOTES

W-1. EXCEPT AS OTHERWISE REQUIRED, WATER MAINS FOUR INCHES (4") THROUGH TWELVE INCHES (12") SHALL BE AWWA C-900, AWWA C-909 CLASS 150, DR 18.
WATER MAINS LESS THAN 4 INCHES (4") DIAMETER SHALL BE PVC, ASTM D-2241, SDR-21 (PR-200), WITH RUBBER GASKET JOINTS OR APPROVED EQUAL. ALL POTABLE WATER PIPE USED IN THE PROJECT MUST MEET THE REQUIREMENTS OF AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION STANDARD 61 (ANSI/NSF61). PIPE SHALL BE CERTIFIED TO CONFORM TO ANSI/NSF-61 AND SHALL BE MARKED "NSF-PW".

W-2. ALTERNATIVE WATER MAIN PIPE MATERIAL (WITH APPROVAL OF THE CITY):
A) STEEL: AWWA C200, 150 PSI FOR LINES 4-INCHES TO 12-INCHES, 235 PSI FOR LINES GREATER THAN 12-INCHES. ALL PIPE COATINGS SHALL BE IN ACCORDANCE WITH AWWA C210. ALL NUTS AND BOLTS SHALL BE EPOXY COATED.

B) DUCTILE IRON: AWWA C151 (ANSI A21.51) FOR LINES 4-INCHES TO 54-INCHES. PIPE SHALL BE LINED WITH POLYWRAP IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).

W-3. INSTALLATION OF WATER MAINS SHALL BE IN ACCORDANCE WITH CURRENT AWWA APPROVED METHODS, STANDARDS AND MATERIALS, TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (T.C.E.Q.) REGULATIONS AND CITY STANDARDS, CODES AND ORDINANCES.

W-4. ALL WATER MAINS SHALL HAVE A MINIMUM 3.5 FEET AND A MAXIMUM 5 FEET OF COVER WHEN CONSTRUCTED IN STREET RIGHTS-OF-WAY OR EASEMENTS, UNLESS APPROVED BY THE CITY.

W-5. FIRE HYDRANTS SHALL BE SET BEHIND BACK OF CURB AT APPROVED LOCATIONS. CENTER LINE OF FIRE HYDRANTS SHALL BE THREE (3) FEET FROM BACK OF CURB OF THE STREET UNLESS OTHERWISE REQUIRED IN THE PLANS. FIRE HYDRANTS SHALL BE INSTALLED A MINIMUM OF TEN (10) FEET FROM ALL SANITARY SEWERS AND APPURTENANCES. FIRE HYDRANTS SHALL BE LOCATED OPPOSITE PROPERTY LINES OR RIGHT-OF-WAY LINE EXTENSIONS, UNLESS OTHERWISE APPROVED BY THE CITY.

W-6. GATE VALVES, FIRE HYDRANTS AND BLOWOFFS SHALL BE COUNTER-CLOCKWISE OPENING.

W-7. ALL FITTINGS, VALVES AND FIRE HYDRANTS SHALL BE CAST IRON MECHANICAL JOINT TYPE UNLESS APPROVED IN WRITING BY THE CITY. ALL MECHANICAL JOINTS SHALL BE INSTALLED WITH MECHANICAL RESTRAINED JOINTS (EBAA IRON, INC., SERIES 2000PV OR EQUAL). NIPPLES FROM FITTING TO FITTING AT GATE VALVES SHALL BE 18" IN LENGTH.

W-8. A MINIMUM HORIZONTAL CLEARANCE OF NINE FEET (9') BETWEEN WATER MAINS AND SANITARY SEWER LINES SHALL BE MAINTAINED BY THE CONTRACTOR, EXCEPT AS APPROVED BY THE CITY.

W-9. THE CONTRACTOR SHALL PROVIDE FOR A MINIMUM OF SIX INCHES (6") CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS AND TWENTY-FOUR INCHES (24") MINIMUM CLEARANCE AT SANITARY SEWER AND WATER LINE CROSSINGS. WATER LINES SHALL BE LOCATED AT A HIGHER ELEVATION THAN THE SEWER WHEREVER POSSIBLE. WHEN NOT POSSIBLE, T.C.E.Q., "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS", ARTICLE 290.44 WILL TAKE PRECEDENCE. IF A CONFLICT EXISTS, THE CONTRACTOR SHALL ADVISE THE DIRECTOR OF PUBLIC WORKS AND WATER SUPERINTENDENT IMMEDIATELY AND SHALL NOT CONTINUE FURTHER CONSTRUCTION WITHOUT CITY APPROVAL.

W-10. ABANDONMENT OF EXISTING WATER LINES SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH APPROVED PLANS OR WHEN APPROVAL FROM THE CITY PUBLIC WORKS DIRECTOR OR WATER SUPERINTENDENT IS OBTAINED IN WRITING.

W-11. TAPPING SLEEVE & VALVES ON THE EXISTING CITY WATER SYSTEM WILL BE INSTALLED BY A CITY APPROVED TAPPING CONTRACTOR.

W-12. NO CONNECTION SHALL BE MADE TO ANY EXISTING WATER LINES UNTIL THE NEW WATER LINES HAVE BEEN THOROUGHLY STERILIZED, CLEANED AND TESTED AND FINAL APPROVAL FROM THE CITY'S AUTHORIZED AGENT HAS BEEN OBTAINED IN WRITING.

W-13. ALL VALVES AND HYDRANTS SHALL BE STORED SO THAT THEY ARE PROTECTED FROM FREEZING.

W-14. ALL PRESSURE PIPE INSTALLATIONS SHALL BE TESTED FOR LEAKAGE. TEST PRESSURE SHALL BE 1.5 TIMES THE MAXIMUM DESIGN PRESSURE OR 150 PSIG, WHICHEVER IS GREATER. THE TEST SHALL HAVE A MINIMUM DURATION OF FOUR HOURS AND SHALL BE OBSERVED BY THE AUTHORIZED REPRESENTATIVE OF THE CITY PUBLIC WORKS DEPARTMENT.

W-15. STERILIZATION OF NEW WATER LINES SHALL BE DONE IN ACCORDANCE WITH AWWA C-651, LATEST EDITION. A MINIMUM OF ONE SAMPLE PER 1000 FEET OF WATER MAIN OR ONE SAMPLE PER SEPARATION SECTION OF WATER MAIN SHALL BE COLLECTED. IF THE SAMPLES FAIL TO MEET THE T.C.E.Q. DRINKING WATER STANDARD REQUIREMENTS, THE FLUSHING AND TESTING PROCESS SHALL BE REPEATED.

W-16. WATER LINES SHALL HAVE SAND EMBEDMENT TO TWELVE (12) INCHES ABOVE THE TOP OF PIPE.

W-17. WATER LINE TRENCHES UNDER PAVEMENT OR WITHIN THREE (3) FEET FROM EDGE OF PAVEMENT TO BE BACKFILLED WITH CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND) FROM THE TOP OF THE EMBEDMENT TO THE BASE OF PROPOSED BASE OF PROPOSED PAVING SUBGRADE LESS 6 INCHES.

W-18. ALL WATER LINE CONSTRUCTION CROSSING EXISTING ASPHALT AND/OR CONCRETE STREETS SHALL BE BORED AND JACKED, UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER AND THE CITY.

W-19. TRENCH SAFETY SYSTEM IS REQUIRED FOR ALL WATER MAIN CONSTRUCTION.

W-20. CONCRETE THRUST BLOCKING IS REQUIRED FOR ALL VALVES, FIRE HYDRANTS AND FITTINGS.

W-21. A TRAC-HOE IS NOT A COMPACTOR. USE PROPER COMPACTING METHODS, SUCH AS, SHEEPSFOOT, JUMPING JACK, PLATE, ETC..

SANITARY SEWER CONSTRUCTION NOTES

S-1. SANITARY SEWERS SHALL BE CONSTRUCTED ACCORDING TO THESE PLANS AND SPECIFICATIONS AND THE CITY AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (T.C.E.Q.) RULES AND REGULATIONS.

S-2. ALL MANHOLES SHALL BE PRECAST IN ACCORDANCE WITH DETAILS INCLUDING THE INTERIOR COATING. BRICK MANHOLES ARE NOT ALLOWED. ALL SANITARY MANHOLES SHALL BE INSTALLED WITH INFLOW PROTECTORS.

S-3. ALLOWABLE SANITARY SEWER PIPE MATERIAL:

A) GRAVITY LINES

1. POLYVINYL CHLORIDE (PVC), PIPE AND FITTINGS MEETING THE REQUIREMENTS OF ASTM D2241 (SDR 26; PR160), ASTM D1784, ASTM D3212 AND ASTM F477. FOR DEPTH LESS THAN 4 FEET AND GREATER THAN 20 FEET, INSTALL ASTM D2241 (SDR21, PR200).

2. DUCTILE IRON (D.I.P.), AWWA C-151, AWWA C-111, STANDARD CLASS 150, WITH BELL AND SPIGOT PUSH-ON JOINTS, ALL PIPE SHALL HAVE AN INTERIOR POLYETHYLENE COATING OF 40-MILS AND AN EXTERIOR POLYETHYLENE WRAP OF 8-MILS.

B) FORCE MAINS

1. PVC, 4-INCH TO 12-INCH, AWWA C900, DR18, CLASS 150, ASTM D3139, ASTM F477. (GREEN COLOR)

S-4. ALL D.I.P. SANITARY SEWER PIPES SHALL BE LINED WITH POLYWRAP AND INSTALLED WITH CATHODIC PROTECTION.

S-5. THE CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS DEPARTMENT AT LEAST 24 HOURS PRIOR TO PRESSURE AND DEFLECTION TESTS ON ALL GRAVITY SANITARY SEWERS. ALL TESTS SHALL BE MONITORED BY AN AUTHORIZED AGENT OF THE CITY.

S-6. ALL GRAVITY SANITARY SEWER PIPE SHALL BE LOW PRESSURE AIR TESTED AND MANHOLES VACUUM TESTED IN ACCORDANCE WITH T.C.E.Q. REQUIREMENTS. FORCE MAINS SHALL BE HYDROSTATIC TESTED AT A MINIMUM OF 150 PSI.

S-7. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID PIPE. THE CITY MAY REQUIRE SERVICE LEADS TO BE RANDOMLY TESTED. DEFLECTION TESTS SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. THE TEST SHALL BE CONDUCTED USING A MANDREL HAVING AN OUTSIDE DIAMETER EQUAL TO 95% OF THE AVERAGE INSIDE DIAMETER OF THE PIPE. THE MANDREL SHALL HAVE A MINIMUM OF 9 RUNNERS WITH THE CONTACT LENGTH OF EACH RUNNER EQUAL TO OR GREATER THAN THE PIPE'S NOMINAL DIAMETER. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

S-8. SANITARY SEWER MANHOLE RIMS, EXCEPT IN PAVED AREAS, SHALL BE SET 4-INCHES ABOVE FINISHED GRADE WITHIN STREET RIGHT-OF-WAY, AND 6-INCHES ABOVE FINISHED LOT GRADES WITHIN EASEMENTS. CLEAN FILL MAY BE PLACED ADJOINING THE MANHOLE AND GRADED AWAY FROM THE RIM FOR SURFACE WATER DRAINAGE.

S-9. SANITARY MANHOLES BELOW THE 100-YEAR FLOOD PLAIN (OR WHERE OTHERWISE REQUIRED) SHALL BE WATERPROOFED USING A NEOPRENE GASKET. ONLY STAINLESS STEEL SCREWS OR NUTS & BOLTS CAN BE USED TO HOLD DOWN THE COVER. A VENT PIPE EXTENDING ONE FOOT ABOVE THE FLOODPLAIN ELEVATION SHALL BE PROVIDED, UNLESS OTHERWISE APPROVED.

S-10. SANITARY LINES AND MANHOLES PARALLEL TO WATER LINES SHALL BE INSTALLED WITH AT LEAST A 9-FOOT HORIZONTAL SEPARATION (OUTSIDE TO OUTSIDE). SANITARY SEWERS INSTALLED CROSSING UNDER WATER MAIN SHALL COMPLY WITH T.C.E.Q. REQUIREMENTS.

S-11. ALL SANITARY SEWERS SHALL BE CONSTRUCTED ON A STRAIGHT ALIGNMENT AND ON A UNIFORM GRADE. GRAVITY SEWERS SHALL BE CONSTRUCTED WITH THE PIPE BELL FACING UPSTREAM. ALL 6-INCH SANITARY SERVICE LEADS SHALL BE LAID WITH A MINIMUM GRADE OF 0.70%

S-12. ALL SEWER LEADS AND STUBOUTS SHALL BE MARKED IN ACCORDANCE WITH THE DETAILS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MARKERS IN GOOD AND PLUMB CONDITION WITH A VERTICAL ALIGNMENT. IF DAMAGED, THE CONTRACTOR SHALL REPLACE THE MARKER.

S-13. ALL SEWER LINES (INCLUDING SERVICE LEADS) ENTERING A MANHOLE AT AN ELEVATION GREATER THAN 24-INCHES ABOVE THE MANHOLE INVERT MUST BE CONSTRUCTED WITH AN EXTERIOR DROP PIPE IN ACCORDANCE WITH THE DETAILS.

S-14. STEPS IN MANHOLES ARE PROHIBITED.

S-15. CONTRACTOR SHALL PROVIDE ADEQUATE CONCRETE THRUST BLOCKING AT ALL FORCE MAIN BENDS.

S-16. AT ALL LOTS WHERE TOP OF PIPE IS GREATER THAN 8-FEET BELOW FINISHED GRADE, PROVIDE A 6-INCH SANITARY SEWER STACK OR RISER. STACKS AND RISERS SHALL BE EXTENDED TO WITHIN 6 FEET OF FINISHED GRADE. STACKS SHALL BE MARKED FOR LOCATION AS INDICATED ON THE DETAILS.

S-17. FORCE MAIN SHALL BE LAID WITH DETECTOR TAPE LAID AT 6" ABOVE THE PIPE. THE DETECTOR TAPE MUST BEAR THE LABEL "PRESSURIZED WASTEWATER" IN 1.5 INCH HIGH LETTERS, REPEATED CONTINUOUSLY, FOR THE ENTIRE LENGTH OF THE FORCE MAIN.

STORM SEWER NOTES

ST-1. ALL STORM SEWERS SHALL MEET THE REQUIREMENTS OF THE CITY, FORT BEND COUNTY AND FORT BEND COUNTY DRAINAGE DISTRICT (WHEN APPLICABLE).

ST-2. ALL STORM SEWER MANHOLE AND INLET COVERS SHALL BE LABELED "STORM SEWER" IN ACCORDANCE WITH THE DETAILS.

ST-3. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE, A.S.T.M. C-76, CLASS III (MINIMUM) INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE CITY DETAILS AND FORT BEND COUNTY DRAINAGE DISTRICT CRITERIA. ALL REINFORCED CONCRETE PIPE 42-INCH DIAMETER AND GREATER SHALL HAVE WATER-TIGHT RUBBER GASKET JOINTS. CONTRACTOR MAY USE TAL-COAT OR EQUAL FOR PIPE JOINTS WITH PIPE LESS THAN 42" DIAMETER. ALL STORM SEWER SHALL BE BACKFILLED WITH SELECT FILL MATERIAL COMPACTED TO 95% STANDARD PROCTOR COMPACTION, ASTM D-698, IN ACCORDANCE WITH THE DETAILS. CONTRACTOR SHALL USE MECHANICAL ROLLER OR MECHANICAL TAMPER IN COMPACTING ALL BACKFILL FOR PROJECT.

ST-4. ALL STORM SEWER STRUCTURES SUCH AS MANHOLES AND INLETS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND. CEMENT STABILIZED SAND BACKFILL SHALL EXTEND A MINIMUM OF TWENTY-FOUR INCHES (24") FROM THE OUTSIDE WALL OF ALL STRUCTURES. (1-1/2 SACKS OF CEMENT PER TON OF SAND.)

ST-5. AREAS ADJACENT TO THE PAVEMENT SHALL BE GRADED TO POSITIVELY DRAIN TOWARD INLETS, CONCRETE CURB AND/OR ROAD DITCHES IF DISTURBED DURING CONSTRUCTION. CONTRACTOR SHALL PROVIDE MATERIALS, LABOR AND EQUIPMENT TO PERFORM ALL GRADING OPERATIONS.

ST-6. CONTRACTOR SHALL ADJUST EXISTING WATER LINE MAINS AND WATER LINE SERVICES IN CONFLICT WITH A STORM SEWER. CONTRACTOR SHALL COORDINATE THE DISRUPTION OF WATER SERVICE DURING THE WATER LINE LOWERING OPERATION WITH THE CITY PUBLIC WORKS DEPARTMENT.

ST-7. ADJUST ALL STORM SEWER MANHOLE COVERS TO MATCH FINISHED GRADE ELEVATIONS.

ST-8. ALL PRECAST CONCRETE STRUCTURES SHALL BE REINFORCED AND SHALL BE DESIGNED TO WITHSTAND AASHTO H-20 LOADINGS.

ST-9. ALTERNATIVE STORM SEWER PIPE MATERIAL (WITH APPROVAL OF THE CITY):
A) STEEL: AWWA C200, 150 PSI FOR LINES 4-INCHES TO 12-INCHES, 235 PSI FOR LINES GREATER THAN 12-INCHES. ALL PIPE COATINGS SHALL BE IN ACCORDANCE WITH AWWA C210. ALL NUTS AND BOLTS SHALL BE EPOXY COATED.

B) DUCTILE IRON: AWWA C151 (ANSI A21.51) FOR LINES 4-INCHES TO 54-INCHES. PIPE SHALL BE LINED WITH POLYWRAP IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).

Fort Bend County
Construction - General Notes

1. Fort Bend County must be invited to the Pre-Construction Meeting.
2. Contractor shall notify Fort Bend County Engineering Department 48 hours prior to commencing construction and 48 hour notice to any construction activity within the limits of the paving at Construction@fortbendcountytx.gov .
3. Contractor is responsible for obtaining all permits required from Fort Bend County prior to commencing construction of any improvements within County road right of ways.
4. All Paving Improvements shall be constructed in accordance with Fort Bend County "Rules, Regulations and Requirements relating to the Approval and Acceptance of Improvements in Subdivisions as currently amended.
5. All road widths, curb radii and curb alignment shown indicates back of curb
6. A continuous longitudinal reinforcing bar shall be used in the curbs.

STREET AND PAVING CONSTRUCTION NOTES

P-1. ALL PAVING SHALL BE CONSTRUCTED WITH THE PLANS AND SPECIFICATIONS AND CITY REQUIREMENTS.

P-2. THE CONTRACTOR SHALL NOTIFY CITY PUBLIC WORKS DEPARTMENT AT LEAST 24 HOURS PRIOR TO ANY AND ALL SUBGRADE TESTING AND CONCRETE POURS.

P-3. ALL TEMPORARY AND PERMANENT SIGNAGE MUST COMPLY WITH THE LATEST REVISION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

P-4. CONTRACTOR SHALL PROTECT ALL UTILITIES, SIDEWALKS, PAVEMENT, ETC. AND SHALL REPAIR OR REPLACE ANY FACILITIES DAMAGED DURING PAVING OR GRADING OPERATIONS.

P-5. EXISTING PAVEMENTS, CURBS, SIDEWALKS DRIVEWAYS, ETC., DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE CITY STANDARDS.

P-6. ALL DISTURBED AREAS WITHIN STREET RIGHT-OF-WAY AND EASEMENTS NOT COVERED BY PAVEMENT OR STRUCTURE SHALL BE HYDRO-MULCHED AND WATERED UNTIL VEGETATION ESTABLISHMENT.

P-7. AREAS TO BE FILLED SHALL BE CLEARED AND GRUBBED, SCARIFIED AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY (+/- 2% OF OPTIMUM MOISTURE) PER ASTM D-698, TO A DEPTH OF 6" PRIOR TO FILL PLACEMENT. FILL MATERIAL SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS (MEASURED LOOSE) AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY (+/- 2% OF OPTIMUM MOISTURE) PER ASTM D-698. FILL SHALL BE CLEAN EARTH AND BE FREE FROM TRASH, VEGETATION AND LARGE STONES. TEST REPORTS INDICATING COMPLIANCE WITH DENSITY REQUIREMENTS SHALL BE SUBMITTED TO THE CITY PRIOR TO PLACEMENT OF PAVEMENT.

P-8. THE SUBGRADE IS TO BE SCARIFIED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY (+/- 2% OF OPTIMUM MOISTURE) PER ASTM D-698. THE SUBGRADE SHALL BE STABILIZED TO 8" DEPTH WITH A MINIMUM EIGHT PERCENT (8%) LIME BY WEIGHT OR AS REQUIRED TO ACHIEVE A STABILIZED SOIL P.I. OF 20 OR LESS. LIME REQUIREMENTS SUBGRADE SHALL EXTEND A MINIMUM OF 2-FEET BEHIND THE BACK OF ALL CURB AND BEYOND THE EDGE OF PAVEMENT.

P-9. TESTING OF FILL, SUBGRADE AND PAVEMENT TO DOCUMENT COMPLIANCE WITH THE CITY REQUIREMENTS SHALL BE COMPLETED BY A CERTIFIED (REFERENCE: THE ASSOCIATION FOR LABORATORY ACCREDITATION) TESTING LABORATORY APPROVED BY THE CITY. A COPY OF ALL TEST RESULTS SHALL BE SUBMITTED TO THE CITY PUBLIC WORKS DIRECTOR.

P-10. ALL INTERSECTION EDGE RETURN RADII SHALL BE 25 FEET ON LOCAL RESIDENTIAL AND MINOR COLLECTOR STREETS. ALL CUL-DE-SAC RETURN RADII SHALL BE 35 FEET UNLESS NOTED OTHERWISE. MINIMUM GRADES AT INTERSECTIONS AND IN CUL-DE-SACS SHALL BE 1.00% MINIMUM GRADE ON CURB AND GUTTER STREETS SHALL BE 0.30%.

P-11. PAVING JOINTS (TRANSVERSE AND LONGITUDINAL) SHALL BE IN ACCORDANCE WITH THE DETAILS.

P-12. WHEN A THICKER PAVEMENT ROADWAY INTERSECTS WITH A THINNER PAVEMENT ROADWAY, THE THICKER PAVEMENT SHALL BE CONSTRUCTED FOR THE ENTIRE INTERSECTION TO THE CURB RETURNS ON ALL INTERSECTING STREETS.

P-13. WHERE PROPOSED PAVEMENT IS TO CONNECT TO EXISTING CONCRETE PAVEMENT, THE CONNECTION SHALL BE COMPLETED IN ACCORDANCE WITH THE PAVEMENT UNDERCUT DETAIL.

P-14. SIDEWALKS SHALL BE LOCATED AS SHOWN ON THE PLANS. SIDEWALK RAMP CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (T.A.S.) AND CITY REQUIREMENTS.

P-15. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH SIDEWALK RAMPS IN ACCORDANCE WITH THE TEXAS ACCESSIBILITY STANDARDS, THE AMERICAN DISABILITIES ACT AND THE CITY REQUIREMENTS.

P-16. CONCRETE SHALL CONTAIN A MINIMUM 5-1/2 SACKS OF PORTLAND CEMENT PER CUBIC YARD OF CONCRETE WITH A MINIMUM 3500 PSI COMPRESSIVE STRENGTH AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 5 INCHES AND AN AIR CONTENT OF 4.5 PERCENT. AIR ENTRAINMENT ADMIXTURES SHALL CONFORM TO ASTM C260. FLYASH IS NOT ALLOWED.

P-17. CONCRETE PAVEMENT THICKNESSES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. A MINIMUM OF 18" LAPS ON ALTERNATE STEEL BARS SHALL BE PROVIDED. ALL REINFORCING STEEL SHALL BE SECURELY TIED AND SUPPORTED WITH BAR CHAIRS IN ACCORDANCE WITH ACI STANDARDS. SPACING FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

1. 7" CONCRETE PAVEMENT - #4 BAR ON 18" CENTER EACH WAY.

2. 6" CONCRETE PAVEMENT AND DRIVEWAYS - #4 BAR ON 18" CENTER EACH WAY.

3. SIDEWALKS AND CONCRETE SLOPE PAVEMENT - MINIMUM 4-1/2" THICK CONCRETE - #3 BAR ON 24" CENTER EACH WAY. (2% CROSS SLOPE MAXIMUM)

P-18. CONCRETE SHALL NOT BE PLACED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES FAHRENHEIT AND FALLING. CONCRETE MAY BE PLACED IF THE AMBIENT TEMPERATURE IS 35 DEGREES AND RISING. CONTRACTOR SHALL PROVIDE AN APPROVED COVERING MATERIAL (COTTON MATS, POLYETHYLENE SHEETING, ETC.) IN THE EVENT TEMPERATURE SHOULD FALL BELOW 32 DEGREES FAHRENHEIT WITHIN 72 HOURS OF PLACING CONCRETE. NO SALT OR OTHER CHEMICALS SHALL BE ADDED TO CONCRETE TO PREVENT FREEZING. NO CONCRETE SHALL BE PLACED WHEN THE MIXTURE TEMPERATURE IS ABOVE 95 DEGREES FAHRENHEIT. CONCRETE SHALL BE PLACED WITHIN 60 MINUTES OF THE BATCH TIME.

P-19. ALL CONCRETE PLACED SHALL BE UNIFORMLY SPRAYED WITH A MEMBRANE CURING COMPOUND (TXDOT DMS-4650, TYPE 2, WHITE). CURING COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATIONS.

P-20. CONCRETE SAMPLES: CYLINDERS (SET OF 4), SLUMP AND AIR ENTRAINMENT TESTS ARE REQUIRED FOR EACH 100 CUBIC YARDS AND EACH FRACTION THEREOF. A MINIMUM OF ONE SET OF SAMPLES IS REQUIRED PER CONCRETE POUR. THE CITY RESERVES THE RIGHT TO REQUEST ADDITIONAL TESTS.

P-21. FINISHED PAVEMENT SHALL HAVE CORE SAMPLES TAKEN EVERY 750 LINEAR FEET (750'), STAGGERED ACROSS THE ROADWAY CROSS-SECTION, AND IN EVERY CUL-DE-SAC. ADDITIONAL CORE SAMPLES MAY BE REQUIRED AT THE DISCRETION OF THE CITY ENGINEER. THESE CORE SAMPLES SHALL BE TESTED TO INSURE THAT THE PAVEMENT THICKNESS MEETS THE REQUIRED PROJECT THICKNESS.

P-22. PROPER TESTING AND LABORATORY DOCUMENTATION IS REQUIRED. FAILURE TO MEET THE MINIMUM PAVEMENT REQUIREMENTS WILL RESULT IN THE REJECTION OF PAVEMENT. IMMEDIATE REMOVAL AND REPLACEMENT OF SUBSTANDARD PAVEMENT SECTIONS WILL BE NECESSARY TO SATISFY THESE REQUIREMENTS.

P-23. CRACKS 1/16 INCH OR LARGER ARE NOT ACCEPTABLE IN NEW PAVEMENT. CRACKS 1/16 INCH OR LESS WILL BE ADDRESSED AN INDIVIDUAL BASIS, SUBJECT TO APPROVAL OR REJECTION.

P-24. STREET NAME SIGNS SHALL BE LOCATED AT ALL INTERSECTIONS. CONTRACTOR SHALL VERIFY STREET NAME WITH RECORDED PLAT. STOP SIGNS AND OTHER TRAFFIC SIGNAGE SHALL BE PLACED IN ACCORDANCE WITH THE PLANS AND THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

P-25. A DOUBLE-REFLECTORIZED BLUE TRAFFIC PAVEMENT MARKER SHALL BE PLACED ONE FOOT OFFSET OF THE PAVEMENT CENTERLINE ON FIRE HYDRANT SIDE, AT ALL FIRE HYDRANT LOCATIONS, BY THE PAVING CONTRACTOR. FIRE HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A MARKER PLACED ON EACH STREET.

P-26. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED, PERMANENT PREFABRICATED PAVEMENT MARKINGS MEETING THE MINIMUM REQUIREMENTS OF TxDOT, DMS-8240, TYPE A OR B, INSTALLED IN ACCORDANCE WITH TxDOT STANDARD SPECIFICATION ITEM 668. CENTERLINE PAVEMENT MARKINGS, STOP BARS AND MISCELLANEOUS MARKINGS SHALL HAVE A MINIMUM THICKNESS OF 90 MILS. LANE DELINEATION AND ROAD EDGE PAVEMENT MARKINGS SHALL HAVE A MINIMUM THICKNESS OF 60 MILS. ALL PAVEMENT MARKINGS SHALL BE INSTALLED WITH DOUBLE ADHESIVE AS REQUIRED BY THE CITY. OUTSIDE THE CITY (IN THE ETJ) COMPLY WITH FORT BEND COUNTY REQUIREMENTS.

P-27. ALL DRIVEWAYS SHALL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.

P-28. CONCRETE MIX DESIGN SHALL BE SENT TO THE CITY FOR APPROVAL WITH A MINIMUM OF 72 HOURS BEFORE THE FIRST CONCRETE POUR.

P-29. VEHICLES OF ALL TYPES ARE PROHIBITED FROM DRIVING ON NEW PAVEMENTS THREE (3) DAYS AFTER THE PLACING OF CONCRETE AND UNTIL THE CONCRETE HAS REACHED A MINIMUM OF 3500 PSI.

P-30. THE SUBGRADE SURFACE SHALL BE SMOOTH AND IN CONFORMITY WITH LINES & GRADES ON THE PLANS. WHEN THE SUBGRADE FAILS TO MEET DENSITY REQUIREMENTS OR SHOULD IT LOSE THE REQUIRED STABILITY, DENSITY, OR FINISH, IT SHALL BE REWORKED IN ACCORDANCE WITH TxDOT SUBARTICLE 260.4:

(7) "REWORKING A SECTION", WHICH MAY REQUIRE AN ADDITIONAL 25% OF THE SPECIFIED LIME AMOUNT.

P-31. FLOODING OF THE STREETS SHALL OCCUR 24 HOURS PRIOR TO THE INITIAL INSPECTION.

P-32. SUBGRADE DENSITIES SHALL BE RETAKEN IN THE EVENT OF A 1 INCH (1") OR GREATER RAINFALL OR IN THE EVENT THE AMBIENT AIR TEMPERATURE FALLS BELOW 32 DEGREES FAHRENHEIT FOR GREATER THAN THREE HOURS. SUBGRADE DENSITIES SHALL BE RETAKEN IF CONCRETE HAS NOT BEEN PLACED WITHIN 14 CALENDAR DAYS FROM FINAL COMPACTION.

7. All concrete pavement shall be 5 ½ sack cement with a minimum compressive strength of 3500 psi at 28 days. Transverse expansion joints shall be installed at each curb return and at a maximum spacing of 60 feet.
8. All weather access to all existing streets and driveways shall be maintained at all times.
9. 4"x 12" reinforced concrete curb shall be placed in front of single family lots only. **All other areas shall be 6" reinforced concrete curb.**
10. At all intersection locations, **Type 7 ramps** shall be place in accordance with **TXDOT Ped-12a** standard detail sheet. A.D.A. – Handicap Ramps shall be installed with street paving at all intersections and comply with current A.D.A. regulations.
11. Curb headers are required at curb connections to Handicap Ramps, with no construction joint within 5' of ramps.
12. All intersections utilizing Traffic Control measures shall have A.D.A. wheel chair ramps installed.
13. Guidelines are set forth in the Texas "Manual on Uniform Traffic Control Devices", as currently amended, shall be observed. The Contractor shall be responsible for providing adequate flagmen, signing, striping and warning devices, etc., during construction – both day and night.
14. All R1-1 stop signs shall be 30"x30" with diamond grade sheeting per Texas manual on uniform traffic control devices.
15. Street name signage shall be on a 9" high sign flat blade w/reflective green background. Street names shall be upper and lowercase lettering with uppercase letters of 6" minimum and lowercase letters of 4.5" minimum. The letters shall be reflective white. Street name signs shall be mounted on stop sign post.
16. A Blue Double Reflectorized button shall be placed at all Fire Hydrant locations. The Button shall be placed 12 inches off of the centerline of the street on the same side as the hydrant.
17. The project and all parts thereof shall be subject to inspection from time to time by inspectors designated by Fort Bend County. No such inspections shall relieve the Contractor of any of its obligations hereunder. Neither failure to inspect nor failure to discover or reject any of the work as not in accordance with the drawings and specifications, requirements and specifications of Fort Bend County or any provision of this project shall be construed to imply an acceptance of such work or to relieve the Contractor of any of its obligations hereunder.

NOTE: Fort Bend County notes supersede any conflicting notes.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER DISTRIBUTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. Construction for public water systems must always, at a minimum, meet TCEQ's "Rules and Regulations for Public Water Systems.

2. An appointed engineer shall notify in writing the local TCEQ's Regional Office when construction will start. Please keep in mind that upon completion of the water works project, the engineer or owner shall notify the commission's Water Supply Division, in writing, as to its completion and attest to the fact that the work has been completed essentially according to the plans and change orders on file with the commission as required in 30 TAC §290.39(h)(3).

3. All newly installed pipes and related products must conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61-G and must be certified by an organization accredited by ANSI, as required by 30 TAC §290.44(a)(1).

4. Plastic pipe for use in public water systems must bear the National Sanitation Foundation Seal of Approval (NSF pw-G) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less, as required by 30 TAC §290.44(a)(2).

5. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply, as required by 30 TAC §290.44(a)(3).

6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface, as required by 30 TAC §290.44(a)(4).

7. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
o The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$Q = \frac{LD\sqrt{P}}{148{,}00}$$

Where:

Q = the quantity of makeup water in gallons per hour,
L = the length of the pipe section being tested, in feet,
D = the nominal diameter of the pipe in inches, and
P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

o The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$L = \frac{SD\sqrt{P}}{148{,}00}$$

Where:

L = the quantity of makeup water in gallons per hour,
S = the length of the pipe section being tested, in feet,
D = the nominal diameter of the pipe in inches, and
P = the average test pressure during the hydrostatic test in pounds per square inch (psi).

8. Projects constructed on or after January 4, 2014 must comply with changes to the Safe Drinking Water Act that reduce the maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures to 0.25 percent.

9. The system must be designed to maintain a minimum pressure of 35 psi at all points within the distribution network at flow rates of at least 1.5 gallons per minute per connection. When the system is intended to provide firefighting capability, it must also be designed to maintain a minimum pressure of 20 psi under combined fire and drinking water flow conditions as required by 30 TAC §290.44(d).

10. The contractor shall install appropriate air release devices in the distribution system at all points where topography or other factors may create air locks in the lines. All vent openings to the atmosphere shall be covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent as required by 30 TAC §290.44(d)(1).

11. Pursuant to 30 TAC §290.44(d)(4), accurate water meters shall be provided. Service connections and meter locations should be shown on the plans.

12. Pursuant to 30 TAC §290.44(d)(5), sufficient valves and blowoffs to make repairs. The engineering report shall establish criteria for this design.

13. Pursuant to 30 TAC §290.44(d)(6), the system shall be designed to afford effective circulation of water with a minimum of dead ends. All dead-end mains shall be provided with acceptable flush valves and discharge piping. All dead-end lines less than two inches in diameter will not require flush valves if they end at a customer service. Where dead ends are necessary as a stage in the growth of the system, they shall be located and arranged to ultimately connect the ends to provide circulation.

14. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes and septic tank drainfields. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet 30 TAC §290.44(e)(1-4) of the current rules.

15. Pursuant to 30 TAC §290.44(e)(5), the separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant.

16. Pursuant to 30 TAC §290.44(e)(6), fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction.

17. Pursuant to 30 TAC §290.44(e)(7), suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line.

18. Pursuant to 30 TAC §290.44(e)(8), waterlines shall not be installed closer than ten feet to septic tank drainfields.

19. Pursuant to 30 TAC §290.44(f)(1), the contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation.

20. Pursuant to 30 TAC §290.44(f)(2), when waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the water main shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested.

21. The contractor shall disinfect the new water mains in accordance with AWWA Standard C-651 and then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed water line will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer, in accordance with 30 TAC §290.44(f)(3).

APPROVED: Development Coordinator
DATE: 9/27/17

REFER TO CONSTRUCTION DETAILS FOR SOIL CONSERVATION NOTES & SIGNAGE TABLE

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
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F: 732.974.3521

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F: 732.974.3521

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07/19/17
JOSEPH G. JAWORSKI
120486

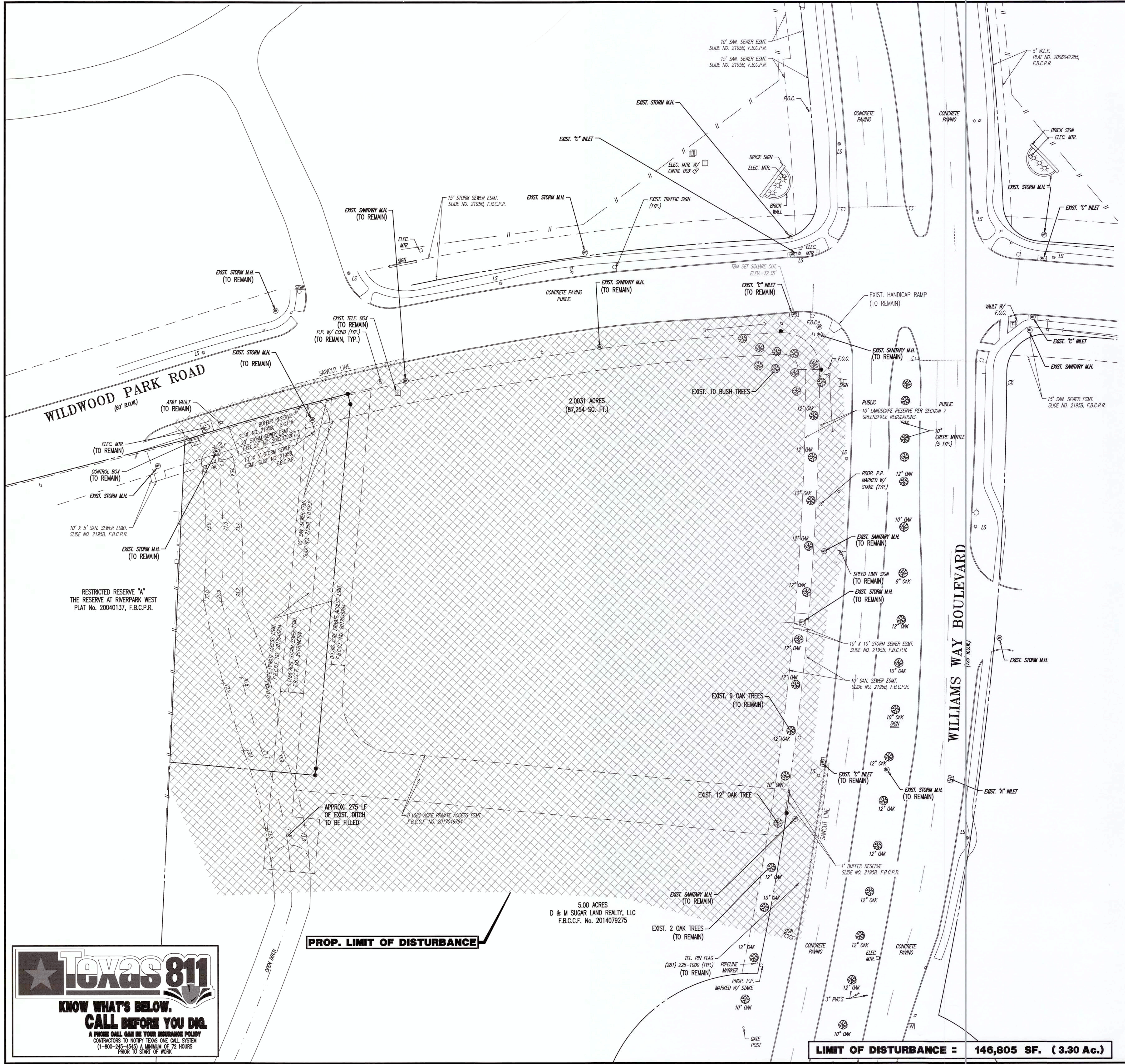
JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

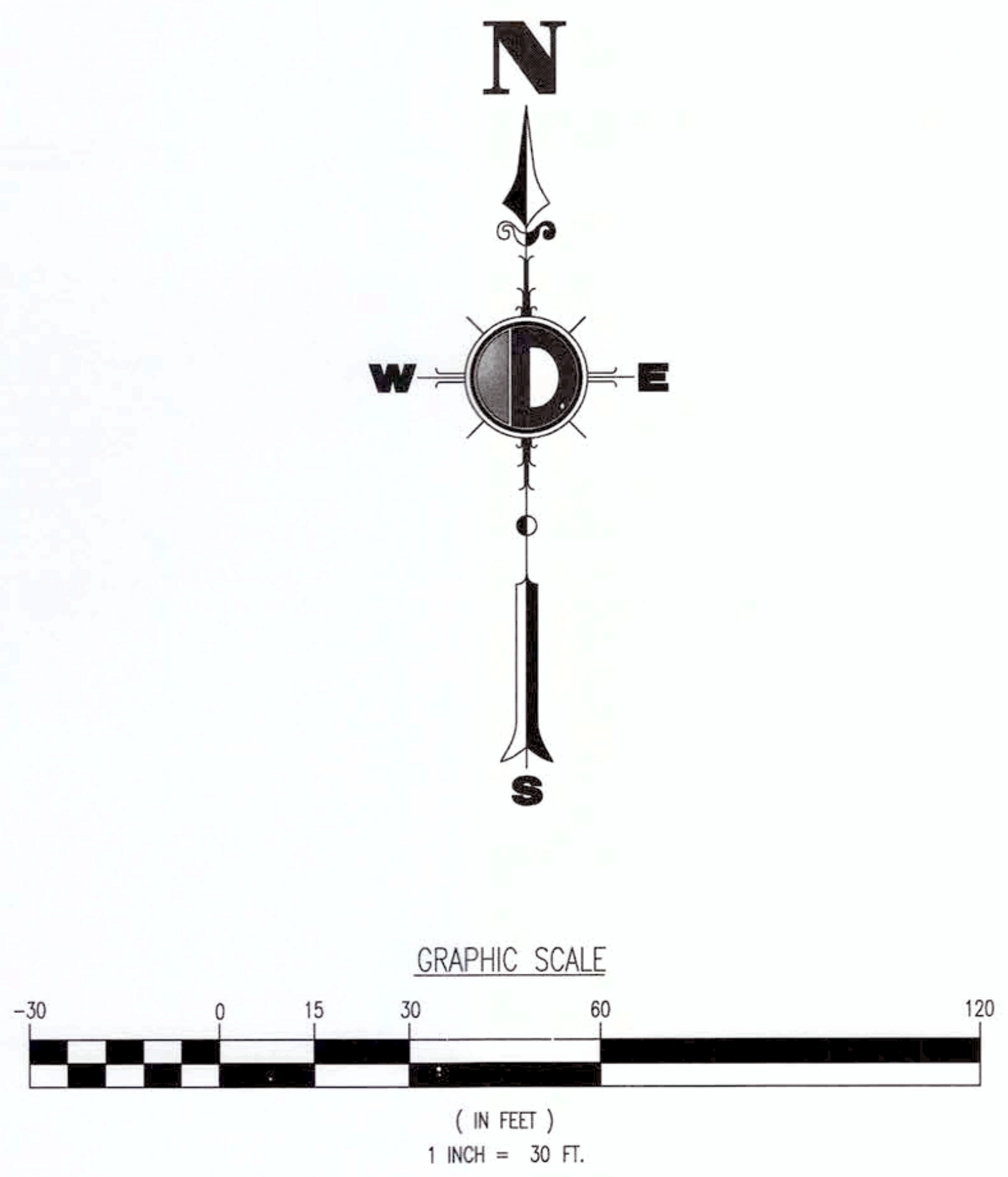
SCALE: (H) NOT TO SCALE (V)
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: GENERAL NOTES
SHEET No: 03 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 – 5:09 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SR3.dwg, ---> 04 DEMOLITION


10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H.
EXIST. "C" INLET
F.O.C.
CONCRETE PAVING
BRICK SIGN
ELEC. MTR.
ELEC. MTR. W/ CNTRL BOX
BRICK WALL
15' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. TRAFFIC SIGN (TYP.)
EXIST. SANITARY M.H. (TO REMAIN)
SIGN
LS
TBM SET SQUARE CUT, ELEV.=72.35'
CONCRETE PAVING PUBLIC
EXIST. "C" INLET (TO REMAIN)
EXIST. HANDICAP RAMP (TO REMAIN)
5' W.L.E. PLAT NO. 2006042285, F.B.C.P.R.
VAULT W/ F.O.C.
EXIST. SANITARY M.H.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H. (TO REMAIN)
EXIST. TELE. BOX (TO REMAIN)
P.P. W/ COND (TYP.) (TO REMAIN, TYP.)
SAWCUT LINE
WILDWOOD PARK ROAD (60' R.O.W.)
AT&T VAULT (TO REMAIN)
ELEC. MTR. (TO REMAIN)
CONTROL BOX (TO REMAIN)
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT. F.B.C.C.F. NO. 2002039207
10' X 5' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' X 5' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
2.0031 ACRES (87,254 SQ. FT.)
RESTRICTED RESERVE "A" THE RESERVE AT RIVERPARK WEST PLAT No. 20040137, F.B.C.P.R.
0.0734 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
0.1186 ACRE STORM SEWER ESMT. F.B.C.C.F. NO. 2017046794
0.1796 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
0.1082 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
APPROX. 275 LF OF EXIST. DITCH TO BE FILLED
OPEN DITCH
EXIST. 10 BUSH TREES
PUBLIC
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
10" CREPE MYRTLE (5 TYP.)
12" OAK
10" OAK
8" OAK
PROP. P.P. MARKED W/ STAKE (TYP.)
SPEED LIMIT SIGN (TO REMAIN)
10' X 10' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. 9 OAK TREES (TO REMAIN)
WILLIAMS WAY BOULEVARD (120' R.O.W.)
EXIST. "A" INLET
EXIST. 12" OAK TREE
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
EXIST. 2 OAK TREES (TO REMAIN)
TEL. PIN FLAG (281) 225-1000 (TYP.) (TO REMAIN)
PIPELINE MARKER
PROP. P.P. MARKED W/ STAKE
3" PVC'S
GATE POST
5.00 ACRES D & M SUGAR LAND REALTY, LLC F.B.C.C.F. No. 2014079275
PROP. LIMIT OF DISTURBANCE

LIMIT OF DISTURBANCE = 146,805 SF. (3.30 Ac.)

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK


N
W
E
S
GRAPHIC SCALE
-30
0
15
30
60
120
(IN FEET)
1 INCH = 30 FT.

NOTES

1. THE SURVEYOR HAS ABSTRACTED THE SUBJECT PROPERTY.
2. SURVEY WAS CREATED WITH THE BENEFIT OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY UNDER G.F. NO. FAH16003470, DATED JUNE 16, 2016.
3. BASIS OF BEARINGS FOR THE SURVEY IS THE DEED OF RECORD IN F.B.C.C.F. NUMBER 2014079275.
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7. UNDERGROUND UTILITIES SHOWN HEREON MARKED IN FIELD BY OTHERS.
8. SUBJECT TO BLANKET EASEMENT AGREEMENT BETWEEN SOUTHWEST 545, L.P., A TEXAS LIMITED PARTNERSHIP AND EN-TOUCH SYSTEMS, INC., A TEXAS CORPORATION OF RECORD IN F.B.C.C.F. NUMBER 2001088036, AND RE-RECORDED UNDER F.B.C.C.F. NUMBER 2001105426.
9. SUBJECT TO RESTRICTIONS OF RECORD IN F.B.C.C.F. NUMBER 2003071811.
10. BEFORE DEMOLITITON COORDINATE WITH TERRY'S LANDSCAPE AND DESIGN, JAMES TERRY AT (713) 574-0058. ALL IRRIGATION DAMAGED CAUSED BY THE CONSTRUCTION OF THIS PROJECT WILL BE REPAIRED TO ITS EXISTING OR BETTER CONDITION BY CVS'S CONTRACTOR.

DEMOLITION PLAN LEGEND

▬ ▪ ▪ ▬	PROPOSED LIMIT OF DISTURBANCE LINE
—TPF—TPF—	PROPOSED TREE PROTECTION FENCE LINE
▨	EXISTING IMPROVEMENTS TO BE REMOVED UNLESS OTHERWISE NOTED

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
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Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

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Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

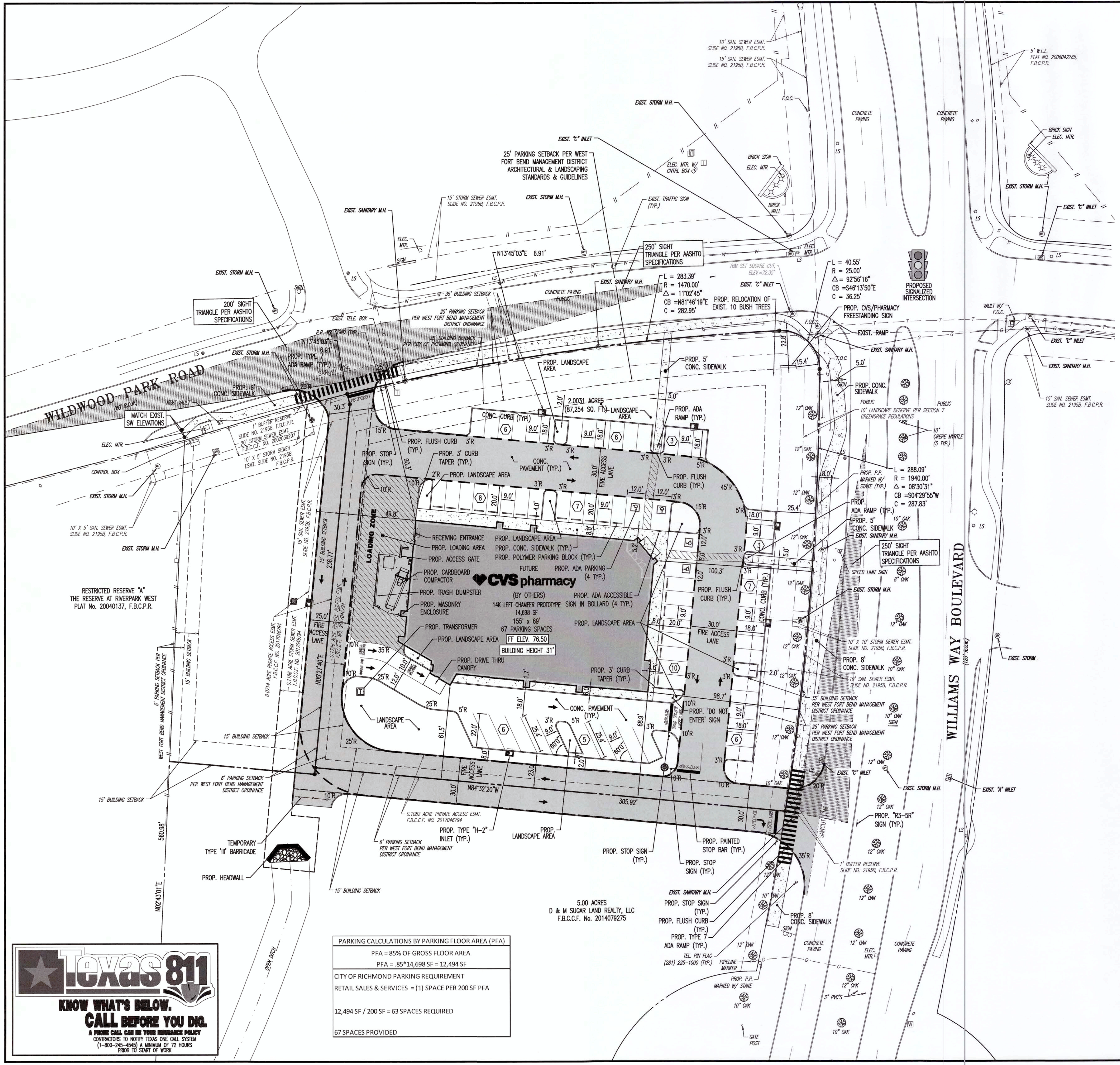
07/19/17
JOSEPH G. JAWORSKI
120486

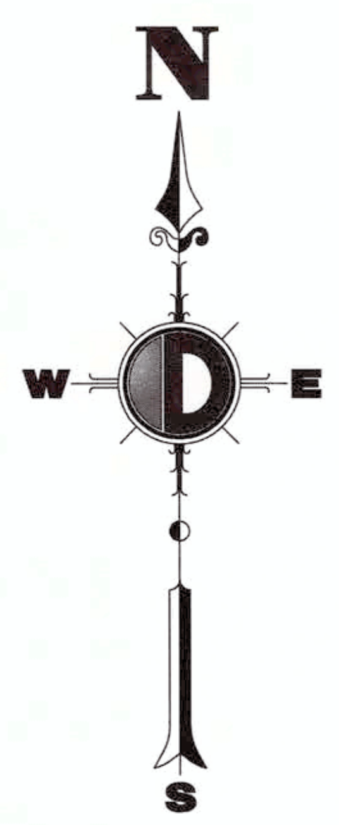
JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30' (V)
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE:
DEMOLITION PLAN
SHEET No:
04
OF 36
COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3


WILDWOOD PARK ROAD (60' R.O.W.)
WILLIAMS WAY BOULEVARD (120' R.O.W.)
200' SIGHT TRIANGLE PER AASHTO SPECIFICATIONS
250' SIGHT TRIANGLE PER AASHTO SPECIFICATIONS
25' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ARCHITECTURAL & LANDSCAPING STANDARDS & GUIDELINES
MATCH EXIST. SW ELEVATIONS
PROP. RELOCATION OF EXIST. 10 BUSH TREES
PROP. CVS/PHARMACY FREESTANDING SIGN
PROPOSED SIGNALIZED INTERSECTION
L = 283.39'
R = 1470.00'
Δ = 11°02'45"
CB =N81°46'19"E
C = 282.95'
L = 40.55'
R = 25.00'
Δ = 92°56'16"
CB =S46°13'50"E
C = 36.25'
L = 288.09'
R = 1940.00'
Δ = 08°30'31"
CB =S04°29'55"W
C = 287.83'
N13°45'03"E 6.91'
2.0031 ACRES (87,254 SQ. FT.)
LOADING ZONE
RECEIVING ENTRANCE
PROP. LOADING AREA
PROP. ACCESS GATE
PROP. CARDBOARD COMPACTOR
PROP. TRASH DUMPSTER
PROP. MASONRY ENCLOSURE
PROP. TRANSFORMER
PROP. LANDSCAPE AREA
PROP. DRIVE THRU CANOPY
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
FF ELEV. 76.50
BUILDING HEIGHT 31'
PROP. CONC. SIDEWALK (TYP.)
PROP. POLYMER PARKING BLOCK (TYP.)
PROP. ADA PARKING (4 TYP.)
PROP. ADA ACCESSIBLE SIGN IN BOLLARD (4 TYP.)
PROP. FLUSH CURB (TYP.)
PROP. 3' CURB TAPER (TYP.)
CONC. PAVEMENT (TYP.)
FIRE ACCESS LANE
PROP. 'DO NOT ENTER' SIGN
PROP. STOP SIGN (TYP.)
PROP. PAINTED STOP BAR (TYP.)
PROP. TYPE "H-2" INLET (TYP.)
PROP. TYPE 7 ADA RAMP (TYP.)
PROP. 5' CONC. SIDEWALK
PROP. 8' CONC. SIDEWALK
PROP. "R3-5R" SIGN (TYP.)
TEMPORARY TYPE "III" BARRICADE
PROP. HEADWALL
RESTRICTED RESERVE "A" THE RESERVE AT RIVERPARK WEST PLAT No. 20040137, F.B.C.P.R.
5.00 ACRES D & M SUGAR LAND REALTY, LLC F.B.C.C.F. No. 2014079275
N84°32'20"W 305.92'
N05°27'40"E 236.77'
N02°43'01"E 560.98'
15' BUILDING SETBACK
6' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
35' BUILDING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
25' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
0.1082 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
EXIST. STORM M.H.
EXIST. SANITARY M.H.
EXIST. "C" INLET
EXIST. "A" INLET
EXIST. TRAFFIC SIGN (TYP.)
TBM SET SQUARE CUT, ELEV.=72.35'
12" OAK
10" OAK
CONCRETE PAVING
PUBLIC



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9. SUBJECT TO RESTRICTIONS OF RECORD IN F.B.C.C.F. NUMBER 2003071811.

PAVING LEGEND

▨	– PROPOSED 8' CONCRETE SIDEWALK
☐	– PROPOSED LIGHT DUTY CONCRETE PAVEMENT (REFERENCE DETAIL)
▩	– PROPOSED HEAVY DUTY CONCRETE PAVEMENT (REFERENCE DETAIL)

NOTES:

1. ALL CONSTRUCTION SHALL BE DONE IN STRICT CONFORMANCE TO THESE PLANS AND ALL APPLICABLE MUNICIPAL CODES AND STANDARDS.
2. CONTRACTOR MUST OBTAIN ALL NECESSARY PERMITS FROM THE STATE HIGHWAY DEPARTMENT FOR ANY AND ALL WORK TO BE DONE IN HIGHWAY RIGHT-OF-WAY.
3. ALL DIMENSIONS ARE SHOWN TO THE FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
4. SEE ARCHITECTURAL PLANS FOR DETAILED DIMENSIONS SURROUNDING BUILDING.

SITE PLAN LEGEND

♿	ADA PARKING SPACE	▩	PROPOSED CVS BUILDING
⟨#⟩	NUMBER OF PARKING SPACES	— — —	PROPOSED ACCESS FIRE LANE
🚦	PROPOSED TRAFFIC SIGNAL		
T	TRANSFORMER BOX ON PAD		

GRAPHIC SCALE

-30 0 15 30 60 120

(IN FEET)
1 INCH = 30 FT.

PARKING CALCULATIONS BY PARKING FLOOR AREA (PFA)
PFA = 85% OF GROSS FLOOR AREA PFA = .85*14,698 SF = 12,494 SF
CITY OF RICHMOND PARKING REQUIREMENT RETAIL SALES & SERVICES = (1) SPACE PER 200 SF PFA 12,494 SF / 200 SF = 63 SPACES REQUIRED 67 SPACES PROVIDED

Texas 811

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CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
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PRIOR TO START OF WORK

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

Plotted: 07/18/17 – 4:42 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\046916197SS3.dwg, ----> 05 SITE

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30'
(V)

DRAWN BY: DNH/GRY

DESIGNED BY: JAK

CHECKED BY: SES

DATE: 02/17/17

JOB No: 0469-16-197

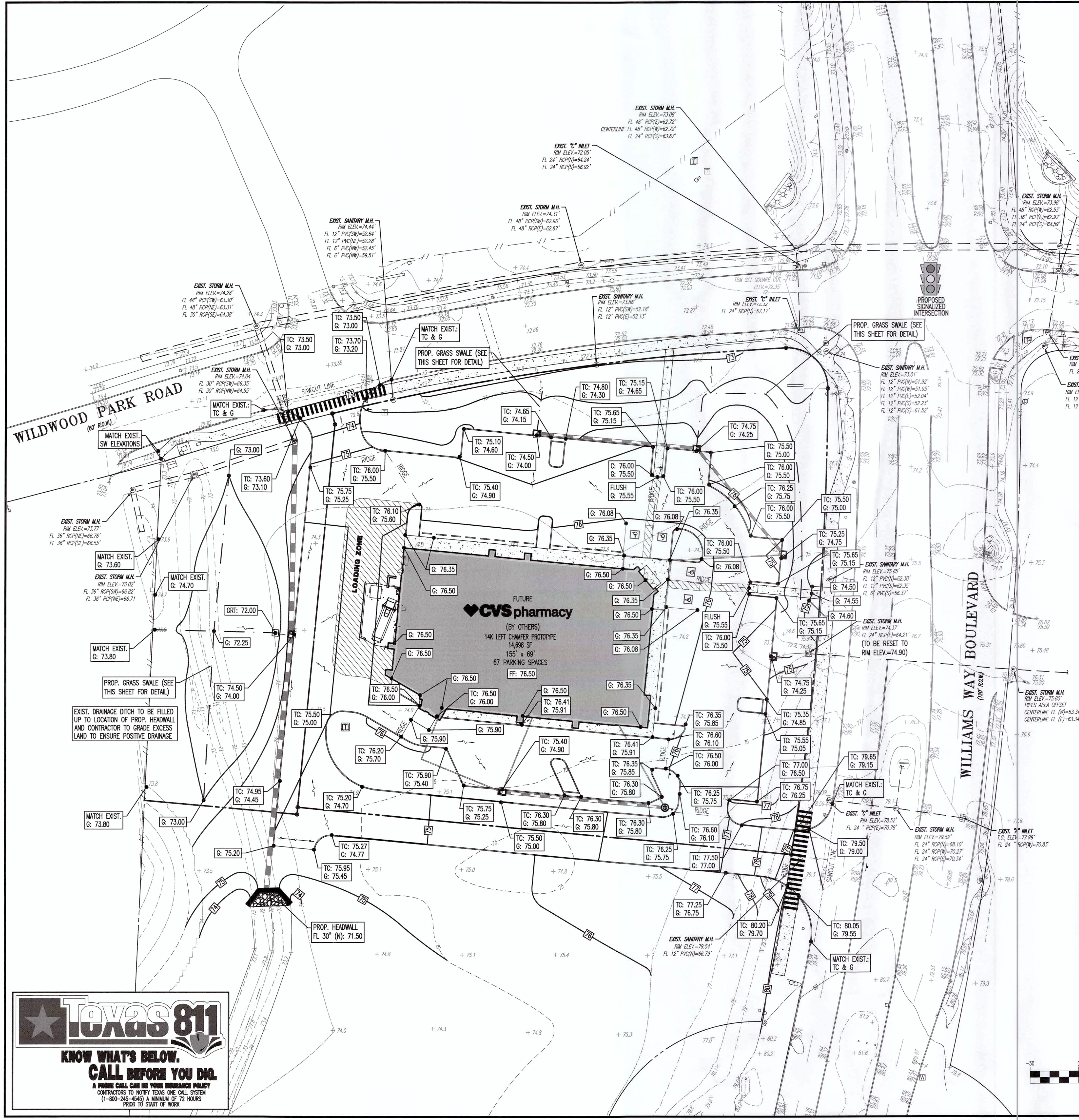
TITLE:

SITE PLAN

SHEET No: **05** OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
PROPOSED SIGNALIZED INTERSECTION
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
FF: 76.50
LOADING ZONE
RIDGE
SAWCUT LINE
MATCH EXIST. SW ELEVATIONS
MATCH EXIST. TC & G
PROP. GRASS SWALE (SEE THIS SHEET FOR DETAIL)
EXIST. DRAINAGE DITCH TO BE FILLED UP TO LOCATION OF PROP. HEADWALL AND CONTRACTOR TO GRADE EXCESS LAND TO ENSURE POSITIVE DRAINAGE
PROP. HEADWALL FL 30" (N): 71.50
GRT: 72.00
G: 72.25
MATCH EXIST. G: 73.60
MATCH EXIST. G: 74.70
MATCH EXIST. G: 73.80
TC: 73.50 G: 73.00
TC: 73.70 G: 73.20
TC: 74.65 G: 74.15
TC: 74.80 G: 74.30
TC: 75.15 G: 74.65
TC: 75.65 G: 75.15
TC: 74.75 G: 74.25
TC: 75.10 G: 74.60
TC: 74.50 G: 74.00
TC: 76.00 G: 75.50
TC: 75.75 G: 75.25
TC: 75.40 G: 74.90
TC: 76.10 G: 75.60
C: 76.00 G: 75.50
FLUSH G: 75.55
G: 76.08
G: 76.35
G: 76.50
TC: 76.50 G: 76.00
TC: 76.41 G: 75.91
G: 75.90
TC: 76.20 G: 75.70
TC: 75.90 G: 75.40
TC: 76.35 G: 75.85
TC: 76.30 G: 75.80
TC: 75.50 G: 75.00
TC: 76.25 G: 75.75
TC: 75.20 G: 74.70
TC: 75.75 G: 75.25
TC: 75.27 G: 74.77
TC: 75.95 G: 75.45
TC: 74.95 G: 74.45
TC: 74.50 G: 74.00
TC: 73.60 G: 73.10
G: 73.00
G: 75.20
TC: 76.60 G: 76.10
TC: 76.50 G: 76.00
TC: 77.50 G: 77.00
TC: 77.25 G: 76.75
TC: 80.20 G: 79.70
TC: 80.05 G: 79.55
TC: 79.50 G: 79.00
TC: 79.65 G: 79.15
TC: 77.00 G: 76.50
TC: 76.75 G: 76.25
TC: 75.55 G: 75.05
TC: 75.35 G: 74.85
TC: 74.75 G: 74.25
TC: 75.65 G: 75.15
TC: 75.25 G: 74.75
TC: 75.50 G: 75.00
TC: 76.25 G: 75.75
G: 74.50
G: 74.55
G: 74.60
TC: 76.00 G: 75.50
(TO BE RESET TO RIM ELEV.=74.90)
EXIST. STORM M.H.
EXIST. SANITARY M.H.
EXIST. "C" INLET
EXIST. "A" INLET
TBM SET SQUARE CUT
73
74
75
76
77
78
79
80

Plotted: 07/18/17 – 5:10 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SXG3.dwg, ---> 06 GRADING

Texas 811

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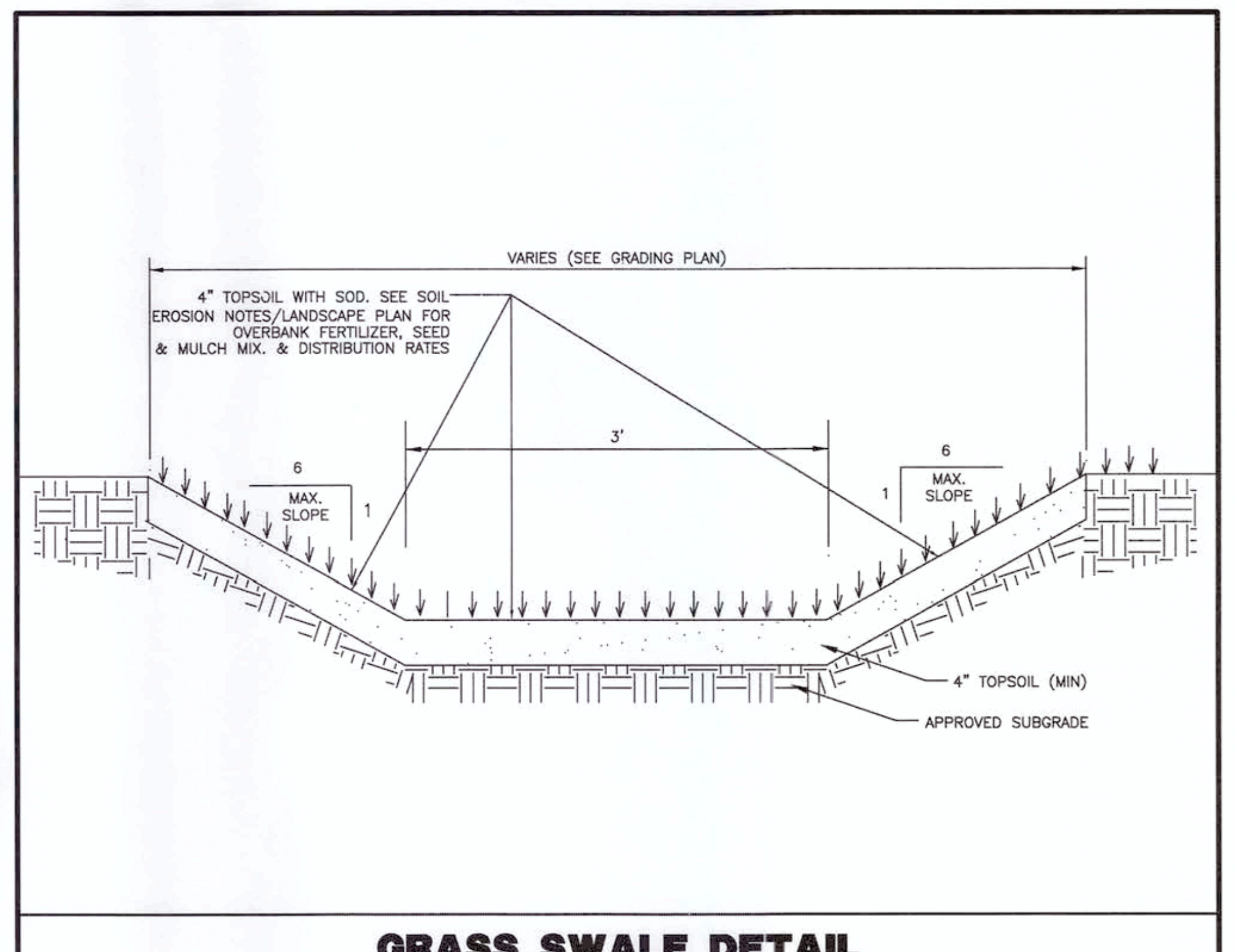

VARIES (SEE GRADING PLAN)
4" TOPSOIL WITH SOD. SEE SOIL EROSION NOTES/LANDSCAPE PLAN FOR OVERBANK FERTILIZER, SEED & MULCH MIX. & DISTRIBUTION RATES
3'
6
1
MAX. SLOPE
4" TOPSOIL (MIN)
APPROVED SUBGRADE

GRASS SWALE DETAIL

NOT TO SCALE

GRADING/UTILITY LEGEND

PROPERTY LINE (PARCEL IN QUESTION)
OFF-SITE PROPERTY LINES
APPROX. TEST PIT LOCATION

— W — — W —	APPROX. LOC. UNDERGROUND WATER LINE
— G — — G —	APPROX. LOC. UNDERGROUND GAS LINE
— OH —	EXISTING POWER POLE & O.H. ELECTRIC LINES
— T — — T —	APPROX. LOC. UNDERGROUND TEL. LINE
— S — — S — 8" CIP OR	EXISTING SANITARY SEWER
15" RCP	EXISTING STORM SEWER
17 - - - -	EXISTING MINOR CONTOUR & ELEVATION
10 — — —	EXISTING MAJOR CONTOUR & ELEVATION
XXXXXXX	EXISTING ELEVATION
X TC 123.45	EXIST. TOP OF CURB ELEVATION
X G 122.95	EXIST. GUTTER ELEVATION
	EXIST. FIRE HYDRANT
⋈	EXIST. UTILITY VALVE
	EXIST. UTILITY POLE
	EXIST. TRAFFIC SIGNAL
MW	EXIST. MONITORING WELL
▭	EXIST. CATCH BASIN
●	EXIST. MANHOLE

— W — — W —	PROPOSED WATER LINE
— G — — G —	PROPOSED GAS MAIN
— UGE&T —	PROPOSED UNDERGROUND ELECTRIC SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
— S — OR — S —	PROPOSED CONDUIT FOR TELEPHONE SERVICE
	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM DRAIN LINE
XX	PROPOSED FINISH GRADE CONTOUR & ELEVATION
	PROPOSED DIRECTION OF DRAINAGE FLOW ARROW
	PROPOSED AREA LIGHT
C/O	PROP CLEAN OUT
TW:000.00 GL: 000.00	PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
TC: 000.00 G: 000.00	PROP. TOP OF CURB & FINISHED GRADE ELEV.
G: 000.00	PROP. SPOT ELEV.
FF: 000.00	PROP. FINISHED FLOOR ELEV.
	PROP. 'B' INLET
	PROP. 'E' INLET
	PROP. DRAINAGE MANHOLE
	PROP. SANITARY SEWER MANHOLE
	PROP. OUTLET STRUCTURE
	PROP. FLARED END SECTION
	PROP. HEADWALL

GRAPHIC SCALE

-30 0 15 30 60 120

(IN FEET)
1 INCH = 30 FT.

APPROVED: Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
8 Robbins Street - Suite 102
Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

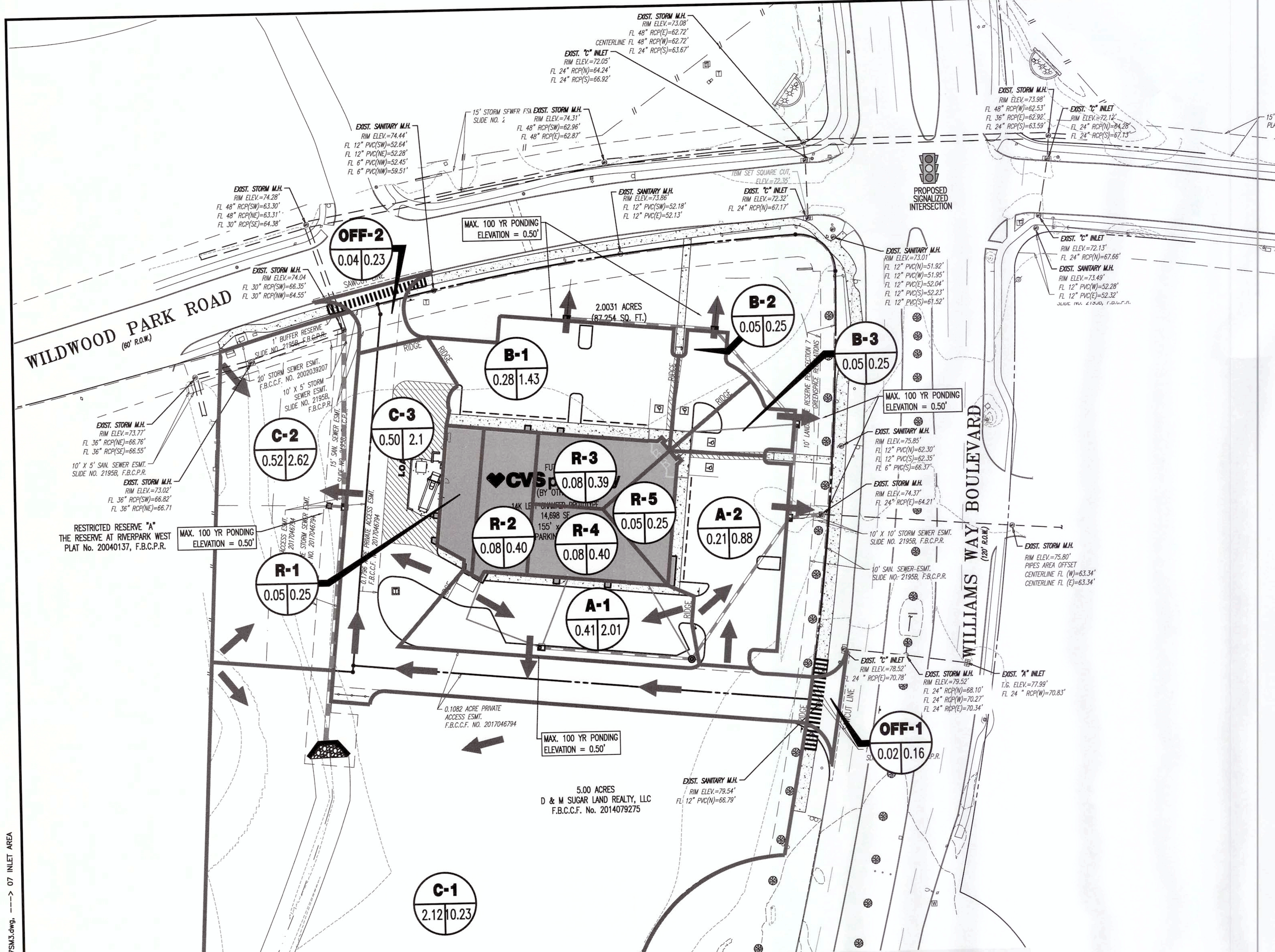
DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE:	(H) 1"=30' (V)
DRAWN BY:	DNH/GRY
DESIGNED BY:	JAK
CHECKED BY:	SES
DATE:	02/17/17
JOB No:	0469-16-197
TITLE:	GRADING PLAN
SHEET No:	06 OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
PROPOSED SIGNALIZED INTERSECTION
2.0031 ACRES
(87,254 SQ. FT.)
5.00 ACRES
D & M SUGAR LAND REALTY, LLC
F.B.C.C.F. No. 2014079275
RESTRICTED RESERVE "A"
THE RESERVE AT RIVERPARK WEST
PLAT No. 20040137, F.B.C.P.R.
0.1082 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
MAX. 100 YR PONDING ELEVATION = 0.50'
OFF-2 0.04 0.23
B-1 0.28 1.43
B-2 0.05 0.25
B-3 0.05 0.25
C-2 0.52 2.62
C-3 0.50 2.1
R-3 0.08 0.39
R-5 0.05 0.25
R-2 0.08 0.40
R-4 0.08 0.40
A-2 0.21 0.88
A-1 0.41 2.01
R-1 0.05 0.25
OFF-1 0.02 0.16
C-1 2.12 10.23
EXIST. STORM M.H.
EXIST. SANITARY M.H.
EXIST. "C" INLET
EXIST. "A" INLET
RIDGE
N
S
E
W

DYNAMIC ENGINEERING

Project: Richmond CVS
Job #: 0469-16-197
Location: Richmond, TX
Design Storm: 25 year

Computed By: RAF
Checked By: JPM
Date: 5/3/2017

1) Design method used is Rational Method
2) Refer to Weighted Runoff Coefficient table for calculation of incremental areas and C values

Manhole From	Manhole To	Delta Area	Area (Acres)	Runoff Coefficient C	Sum of C x A	Frequency	Intensity I (In/Hr)	Sum of Flows (CFS)	Time of Concentration (Minutes)	Pipe Time (Minutes)	Reach Length (Feet)	Diameter or Rise (Inches)	Slope %	Mannings "n"	Design Capacity (CFS)	Design Velocity (Ft/S)	Fall (Feet)	Flowline Elevation Upstream (Feet)	Top of Pipe Elevation Upstream (Feet)	Flowline Elevation Downstream (Feet)	Top of Pipe Elevation Downstream (Feet)	Actual Velocity (Ft/S)	Hydraulic Gradient (%)	Change in Head (Feet)	Hyd. Grad. Upstream (Feet)	Hyd. Grad. Downstream (Feet)	Grate/T/Curb Elevation (Feet)	Gutter Elevation (Feet)	Differance Hyd. Grad. Gutter	Hyd. Grad. Curb Downstream
SYSTEM A																														
A-1	MH-1	0.62	0.62	0.85	0.53	25	5.89	3.11	24.19	0.92	97	18	0.50	0.013	7.43	4.20	0.49	67.18	68.68	66.69	68.19	1.76	0.09	0.08	69.73	69.65	73.90	73.90	(4.17)	69.65
MH-1	A-2	0.00	0.62	0.85	0.53	25	5.89	3.11	24.19	1.04	110	18	0.50	0.013	7.43	4.20	0.55	66.69	68.19	66.14	67.64	1.76	0.09	0.10	69.27	69.17	76.25	76.25	(6.60)	69.17
B-1	B-2	0.28	0.28	0.85	0.24	25	6.02	1.43	22.99	1.95	95	18	0.50	0.013	7.43	4.20	0.48	68.15	69.65	67.67	69.17	0.81	0.02	0.02	69.65	69.17	73.50	73.50	(3.85)	69.17
B-2	B-3	0.05	0.33	0.85	0.28	25	5.99	1.68	23.23	1.40	80	18	0.50	0.013	7.43	4.20	0.40	67.67	69.17	67.27	68.77	0.95	0.03	0.02	69.17	68.77	74.25	74.25	(5.08)	68.77
B-3	A-2	0.18	0.51	0.85	0.43	25	5.92	2.57	23.88	0.68	59	18	0.50	0.013	7.43	4.20	0.30	67.27	68.77	66.97	68.47	1.45	0.06	0.04	68.77	68.47	74.25	74.25	(5.48)	68.47
A-2	Ex. MH WW	0.21	1.34	0.85	1.14	25	5.76	6.56	25.53	0.14	18	24	0.50	0.013	16.00	5.09	0.09	66.47	68.47	66.38	68.38	2.09	0.08	0.02	68.47	68.38	73.75	73.75	(4.98)	68.38
SYSTEM B																														
Headwall	C-1	2.12	2.12	0.85	1.80	25	5.68	10.23	26.41	1.26	157	30	0.50	0.013	29.00	5.9	0.79	71.50	74.00	70.71	73.21	2.08	0.06	0.10	74.00	73.21	71.50	71.50	2.50	73.21
C-2	C-1	0.52	0.52	0.85	0.44	25	5.92	2.62	23.91	0.08	7	18	0.50	0.013	7.43	4.2	0.04	69.05	70.55	69.00	70.50	1.48	0.06	0.00	70.55	70.50	70.70	70.70	0.80	70.50
C-1	Ex. MH WP	0.50	3.14	0.85	2.67	25	5.60	14.95	27.23	0.63	115	30	0.50	0.013	29.00	5.9	0.58	67.43	69.93	66.85	69.35	3.05	0.13	0.15	69.93	69.35	73.50	73.50	(2.80)	69.35

GRAPHIC SCALE

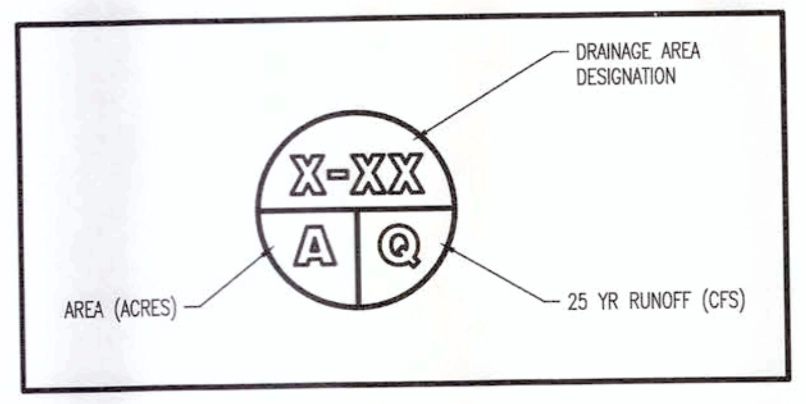
-40 0 20 40 80 160

(IN FEET)
1 INCH = 40 FT.

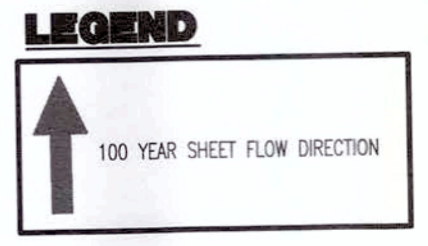
APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

NOTES

1. THE SURVEYOR HAS ABSTRACTED THE SUBJECT PROPERTY.
2. SURVEY WAS CREATED WITH THE BENEFIT OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY UNDER G.F. NO. FAH16003470, DATED JUNE 16, 2016.
3. BASIS OF BEARINGS FOR THE SURVEY IS THE DEED OF RECORD IN F.B.C.C.F. NUMBER 2014079275.
4. BY GRAPHIC PLOTTING ONLY, THE SUBJECT TRACT IS LOCATED IN ZONE "X"(SHADED ON THE FIRM MAP) WITH A SPECIAL NOTE, ZONE "X-SHADED" IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. THE SPECIAL NOTES READS AS FOLLOWS: "THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE." AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 48157C0265 L, DATED APRIL 2, 2014.
5. CONTROL BENCHMARK: CITY OF SUGAR LAND BENCHMARK SGR-RM020, ELEV.=71.4059' NAVD88, 2001 ADJUSTMENT.
6. TBM "A": SQUARE CUT ON TOP OF A "C" INLET LOCATED NEAR THE NORTHEAST CORNER OF THE SUBJECT TRACT AS SHOWN HEREON, ELEV.=72.35'
7. UNDERGROUND UTILITIES SHOWN HEREON MARKED IN FIELD BY OTHERS.
8. SUBJECT TO BLANKET EASEMENT AGREEMENT BETWEEN SOUTHWEST 545, L.P., A TEXAS LIMITED PARTNERSHIP AND EN-TOUCH SYSTEMS, INC., A TEXAS CORPORATION OF RECORD IN F.B.C.C.F. NUMBER 2001088036, AND RE-RECORDED UNDER F.B.C.C.F. NUMBER 2001105426.
9. SUBJECT TO RESTRICTIONS OF RECORD IN F.B.C.C.F. NUMBER 2003071811.


DRAINAGE AREA DESIGNATION
X-XX
A
Q
AREA (ACRES)
25 YR RUNOFF (CFS)

LEGEND


100 YEAR SHEET FLOW DIRECTION

NOTE: DRAINAGE CALCULATIONS FOR 25-YEAR STORM EVENTS ARE BASED ON THE FORT BEND COUNTY DRAINAGE CRITERIA MANUAL.

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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F: 732.974.3521

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Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
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Allen, TX 75013
T: 972.534.2100

Houston TX Office
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14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

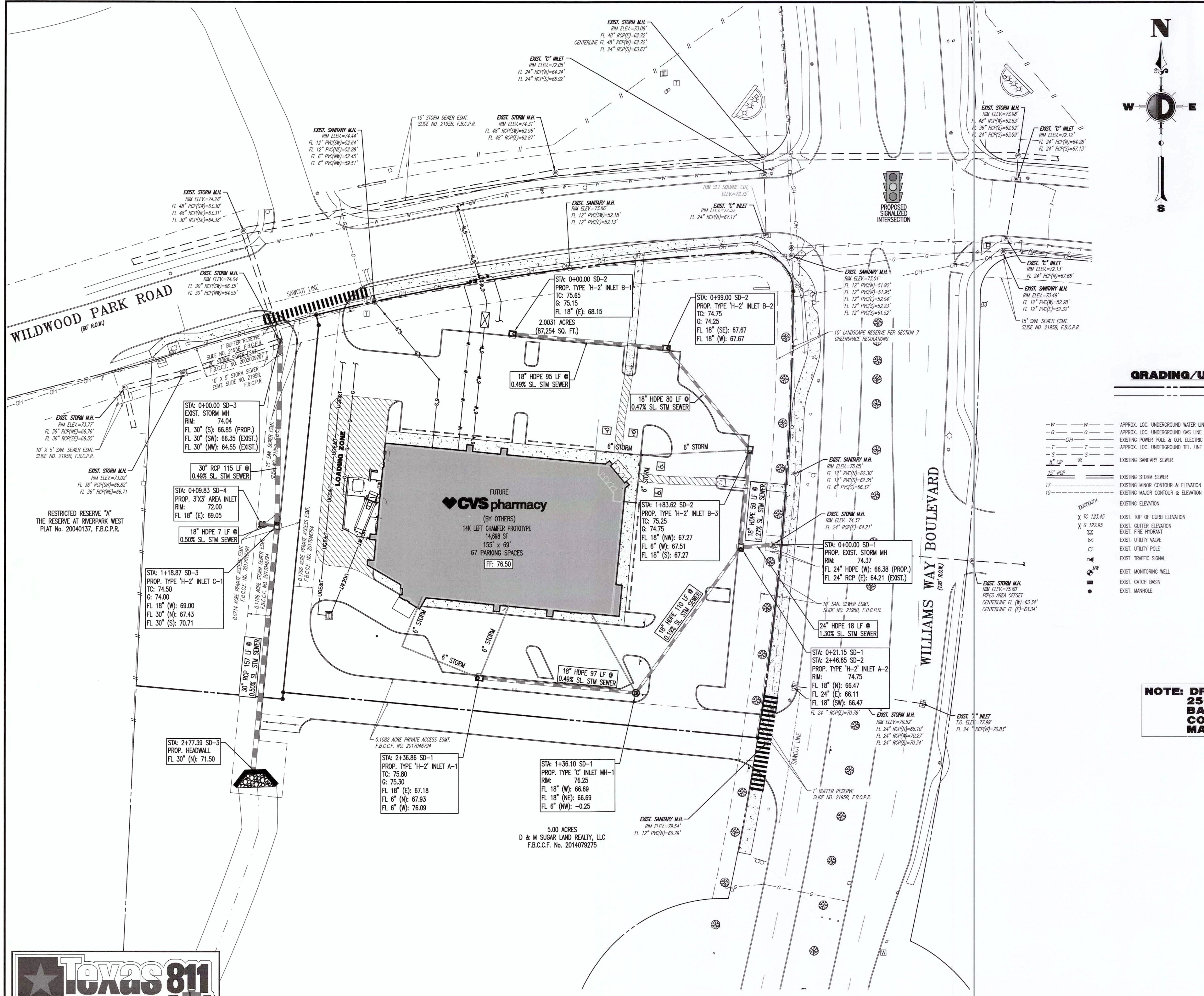
Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=40'
(V)
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: INLET AREA MAP
SHEET No: 07 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM (1-800-245-4545) A MINIMUM OF 72 HOURS PRIOR TO START OF WORK

Plotted: 07/18/17 – 5:10 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SM3.dwg, ---> 07 INLET AREA

Plotted: 07/18/17 – 5:18 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SXC3.dwg, ---> 08 STORM DRAINAGE


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
N
S
E
W
EXIST. STORM M.H.
RIM ELEV.=73.08'
FL 48" RCP(E)=62.72'
CENTERLINE FL 48" RCP(W)=62.72'
FL 24" RCP(S)=63.67'
EXIST. "C" INLET
RIM ELEV.=72.05'
FL 24" RCP(N)=64.24'
FL 24" RCP(S)=66.92'
15' STORM SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H.
RIM ELEV.=74.31'
FL 48" RCP(SW)=62.96'
FL 48" RCP(E)=62.87'
EXIST. SANITARY M.H.
RIM ELEV.=74.44'
FL 12" PVC(SW)=52.64'
FL 12" PVC(NE)=52.28'
FL 6" PVC(NW)=52.45'
FL 6" PVC(NW)=59.51'
EXIST. STORM M.H.
RIM ELEV.=74.28'
FL 48" RCP(SW)=63.30'
FL 48" RCP(NE)=63.31'
FL 30" RCP(SE)=64.38'
EXIST. STORM M.H.
RIM ELEV.=74.04
FL 30" RCP(SW)=66.35'
FL 30" RCP(NW)=64.55'
SAWCUT LINE
1' BUFFER RESERVE
SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT.
F.B.C.C.F. NO. 2002039207
10' X 5' STORM SEWER
ESMT. SLIDE NO. 2195B,
F.B.C.P.R.
EXIST. STORM M.H.
RIM ELEV.=73.77'
FL 36" RCP(NE)=66.76'
FL 36" RCP(SE)=66.55'
10' X 5' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H.
RIM ELEV.=73.02'
FL 36" RCP(SW)=66.82'
FL 36" RCP(NE)=66.71
RESTRICTED RESERVE "A"
THE RESERVE AT RIVERPARK WEST
PLAT No. 20040137, F.B.C.P.R.
STA: 0+00.00 SD-3
EXIST. STORM MH
RIM: 74.04
FL 30" (S): 66.85 (PROP.)
FL 30" (SW): 66.35 (EXIST.)
FL 30" (NW): 64.55 (EXIST.)
30" RCP 115 LF @
0.49% SL. STM SEWER
STA: 0+09.83 SD-4
PROP. 3'X3' AREA INLET
RIM: 72.00
FL 18" (E): 69.05
18" HDPE 7 LF @
0.50% SL. STM SEWER
STA: 1+18.87 SD-3
PROP. TYPE 'H-2' INLET C-1
TC: 74.50
G: 74.00
FL 18" (W): 69.00
FL 30" (N): 67.43
FL 30" (S): 70.71
0.0714 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
0.1186 ACRE STORM SEWER ESMT.
F.B.C.C.F. NO. 2017046794
15' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
0.1796 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
30" RCP 157 LF @
0.50% SL. STM SEWER
STA: 2+77.39 SD-3
PROP. HEADWALL
FL 30" (N): 71.50
LOADING ZONE
UGE&T
STA: 0+00.00 SD-2
PROP. TYPE 'H-2' INLET B-1
TC: 75.65
G: 75.15
FL 18" (E): 68.15
2.0031 ACRES
(87,254 SQ. FT.)
18" HDPE 95 LF @
0.49% SL. STM SEWER
EXIST. SANITARY M.H.
RIM ELEV.=73.86'
FL 12" PVC(SW)=52.18'
FL 12" PVC(E)=52.13'
TBM SET SQUARE CUT,
ELEV.=72.35'
EXIST. "C" INLET
RIM ELEV.=72.32
FL 24" RCP(N)=67.17'
STA: 0+99.00 SD-2
PROP. TYPE 'H-2' INLET B-2
TC: 74.75
G: 74.25
FL 18" (SE): 67.67
FL 18" (W): 67.67
18" HDPE 80 LF @
0.47% SL. STM SEWER
6" STORM
6" STORM
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
FF: 76.50
STA: 1+83.62 SD-2
PROP. TYPE 'H-2' INLET B-3
TC: 75.25
G: 74.75
FL 18" (NW): 67.27
FL 6" (W): 67.51
FL 18" (S): 67.27
18" HDPE 59 LF @
1.27% SL. STM SEWER
18" HDPE 110 LF @
0.19% SL. STM SEWER
6" STORM
6" STORM
6" STORM
18" HDPE 97 LF @
0.49% SL. STM SEWER
0.1082 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
STA: 2+36.86 SD-1
PROP. TYPE 'H-2' INLET A-1
TC: 75.80
G: 75.30
FL 18" (E): 67.18
FL 6" (N): 67.93
FL 6" (W): 76.09
STA: 1+36.10 SD-1
PROP. TYPE 'C' INLET MH-1
RIM: 76.25
FL 18" (W): 66.69
FL 18" (NE): 66.69
FL 6" (NW): -0.25
5.00 ACRES
D & M SUGAR LAND REALTY, LLC
F.B.C.C.F. No. 2014079275
PROPOSED
SIGNALIZED
INTERSECTION
EXIST. STORM M.H.
RIM ELEV.=73.98'
FL 48" RCP(W)=62.53'
FL 36" RCP(E)=62.92'
FL 24" RCP(S)=63.59'
EXIST. "C" INLET
RIM ELEV.=72.12'
FL 24" RCP(N)=64.28'
FL 24" RCP(S)=67.13'
EXIST. SANITARY M.H.
RIM ELEV.=73.01'
FL 12" PVC(N)=51.92'
FL 12" PVC(W)=51.95'
FL 12" PVC(E)=52.04'
FL 12" PVC(S)=52.23'
FL 12" PVC(S)=61.52'
EXIST. "C" INLET
RIM ELEV.=72.13'
FL 24" RCP(N)=67.66'
EXIST. SANITARY M.H.
RIM ELEV.=73.49'
FL 12" PVC(W)=52.28'
FL 12" PVC(E)=52.32'
15' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
10' LANDSCAPE RESERVE PER SECTION 7
GREENSPACE REGULATIONS
EXIST. SANITARY M.H.
RIM ELEV.=75.85'
FL 12" PVC(N)=62.30'
FL 12" PVC(S)=62.35'
FL 6" PVC(S)=66.37'
EXIST. STORM M.H.
RIM ELEV.=74.37'
FL 24" RCP(E)=64.21'
STA: 0+00.00 SD-1
PROP. EXIST. STORM MH
RIM: 74.37
FL 24" HDPE (W): 66.38 (PROP.)
FL 24" RCP (E): 64.21 (EXIST.)
EXIST. STORM M.H.
RIM ELEV.=75.80'
PIPES AREA OFFSET
CENTERLINE FL (W)=63.34'
CENTERLINE FL (E)=63.34'
10' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
24" HDPE 18 LF @
1.30% SL. STM SEWER
STA: 0+21.15 SD-1
STA: 2+46.65 SD-2
PROP. TYPE 'H-2' INLET A-2
RIM: 74.75
FL 18" (N): 66.47
FL 24" (E): 66.11
FL 18" (SW): 66.47
FL 24 " RCP(E)=70.78'
EXIST. STORM M.H.
RIM ELEV.=79.52'
FL 24" RCP(N)=68.10'
FL 24" RCP(W)=70.27'
FL 24" RCP(E)=70.34'
EXIST. "I" INLET
T.G. ELEV.=77.99'
FL 24 " RCP(W)=70.83'
SAWCUT LINE
1' BUFFER RESERVE
SLIDE NO. 2195B, F.B.C.P.R.
EXIST. SANITARY M.H.
RIM ELEV.=79.54'
FL 12" PVC(N)=66.79'

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

GRAPHIC SCALE
-30 0 15 30 60 120
(IN FEET)
1 INCH = 30 FT.

NOTES

1. THE SURVEYOR HAS ABSTRACTED THE SUBJECT PROPERTY.
2. SURVEY WAS CREATED WITH THE BENEFIT OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY UNDER G.F. NO. FAH16003470, DATED JUNE 16, 2016.
3. BASIS OF BEARINGS FOR THE SURVEY IS THE DEED OF RECORD IN F.B.C.C.F. NUMBER 2014079275.
4. BY GRAPHIC PLOTTING ONLY, THE SUBJECT TRACT IS LOCATED IN ZONE "X"(SHADED ON THE FIRM MAP) WITH A SPECIAL NOTE, ZONE "X-SHADED" IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. THE SPECIAL NOTES READS AS FOLLOWS: "THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE." AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 48157C0265 L, DATED APRIL 2, 2014.
5. CONTROL BENCHMARK: CITY OF SUGAR LAND BENCHMARK SGR-RM020, ELEV.=71.4059' NAVD88, 2001 ADJUSTMENT.
6. TBM "A": SQUARE CUT ON TOP OF A "C" INLET LOCATED NEAR THE NORTHEAST CORNER OF THE SUBJECT TRACT AS SHOWN HEREON, ELEV.=72.35'
7. UNDERGROUND UTILITIES SHOWN HEREON MARKED IN FIELD BY OTHERS.
8. SUBJECT TO BLANKET EASEMENT AGREEMENT BETWEEN SOUTHWEST 545, L.P., A TEXAS LIMITED PARTNERSHIP AND EN-TOUCH SYSTEMS, INC., A TEXAS CORPORATION OF RECORD IN F.B.C.C.F. NUMBER 2001088036, AND RE-RECORDED UNDER F.B.C.C.F. NUMBER 2001105426.
9. SUBJECT TO RESTRICTIONS OF RECORD IN F.B.C.C.F. NUMBER 2003071811.
10. ALL FITTINGS USED IN DROP MANHOLE (BOLTS, FASTENERS, FITTINGS) ARE STAINLESS STEEL OR EPOXY COATED.

GRADING/UTILITY LEGEND

—— – – ——	PROPERTY LINE (PARCEL IN QUESTION)
—— – – ——	OFF-SITE PROPERTY LINES
TH	APPROX. TEST PIT LOCATION

–W– –W–	APPROX. LOC. UNDERGROUND WATER LINE
–G– –G–	APPROX. LOC. UNDERGROUND GAS LINE
—OH—	EXISTING POWER POLE & O.H. ELECTRIC LINES
–T– –T–	APPROX. LOC. UNDERGROUND TEL. LINE
–S– –S– OR 8" CIP	EXISTING SANITARY SEWER
15" RCP	EXISTING STORM SEWER
17 – – – –	EXISTING MINOR CONTOUR & ELEVATION
10 ——	EXISTING MAJOR CONTOUR & ELEVATION
XXXXXXX	EXISTING ELEVATION
X TC 123.45	EXIST. TOP OF CURB ELEVATION
X G 122.95	EXIST. GUTTER ELEVATION
	EXIST. FIRE HYDRANT
⋈	EXIST. UTILITY VALVE
	EXIST. UTILITY POLE
	EXIST. TRAFFIC SIGNAL
MW	EXIST. MONITORING WELL
▬	EXIST. CATCH BASIN
●	EXIST. MANHOLE

—W——W—	PROPOSED WATER LINE
—G——G—	PROPOSED GAS MAIN
—UGE&T—	PROPOSED UNDERGROUND ELECTRIC SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
—S— OR —S—	PROPOSED CONDUIT FOR TELEPHONE SERVICE
	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM DRAIN LINE
XX	PROPOSED FINISH GRADE CONTOUR & ELEVATION
	PROPOSED DIRECTION OF DRAINAGE FLOW ARROW
	PROPOSED AREA LIGHT
C/O	PROP CLEAN OUT
TW:000.00 GL: 000.00	PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
TC: 000.00 G: 000.00	PROP. TOP OF CURB & FINISHED GRADE ELEV.
G: 000.00	PROP. SPOT ELEV.
FF: 000.00	PROP. FINISHED FLOOR ELEV.
	PROP. 'B' INLET
	PROP. 'E' INLET
Ⓓ	PROP. DRAINAGE MANHOLE
Ⓢ	PROP. SANITARY SEWER MANHOLE
	PROP. OUTLET STRUCTURE
	PROP. FLARED END SECTION
	PROP. HEADWALL

NOTE: DRAINAGE CALCULATIONS FOR 25-YEAR STORM EVENTS ARE BASED ON THE FORT BEND COUNTY DRAINAGE CRITERIA MANUAL.

APPROVED: Mazzi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
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Toms River, NJ 08753
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Allen, TX 75013
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TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
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Houston, TX 77079
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Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
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www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

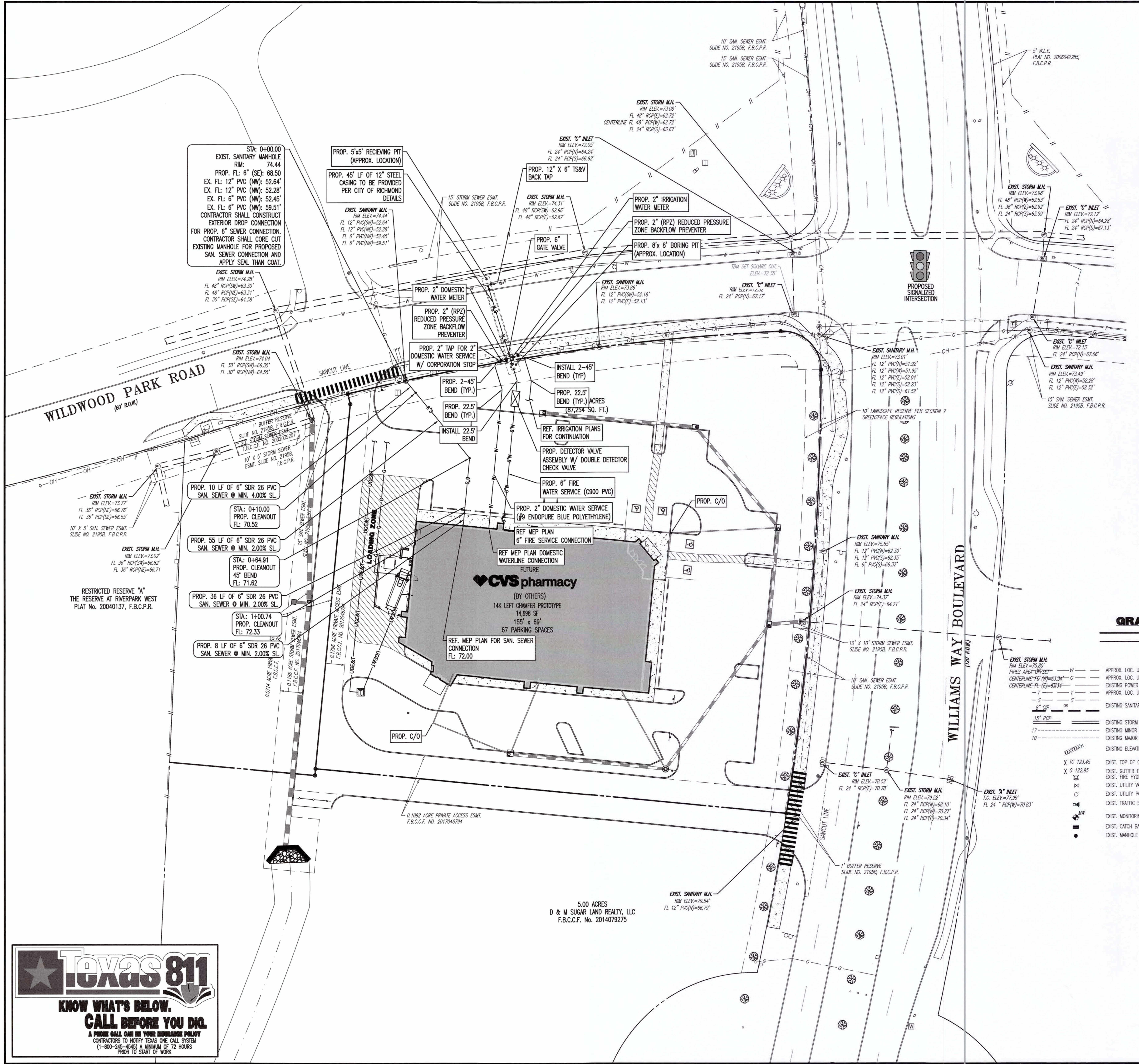
SCALE:	(H) 1"=30' (V)
DRAWN BY:	DNH/GRY
DESIGNED BY:	JAK
CHECKED BY:	SES
DATE:	02/17/17
JOB No:	0469-16-197

TITLE:
STORM DRAINAGE PLAN

SHEET No:
08
OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
STA: 0+00.00
EXIST. SANITARY MANHOLE
RIM: 74.44
PROP. FL: 6" (SE): 68.50
EX. FL: 12" PVC (NW): 52.64'
EX. FL: 12" PVC (NW): 52.28'
EX. FL: 6" PVC (NW): 52.45'
EX. FL: 6" PVC (NW): 59.51'
CONTRACTOR SHALL CONSTRUCT EXTERIOR DROP CONNECTION FOR PROP. 6" SEWER CONNECTION. CONTRACTOR SHALL CORE CUT EXISTING MANHOLE FOR PROPOSED SAN. SEWER CONNECTION AND APPLY SEAL THAN COAT.
PROP. 5'x5' RECIEVING PIT (APPROX. LOCATION)
PROP. 45' LF OF 12" STEEL CASING TO BE PROVIDED PER CITY OF RICHMOND DETAILS
EXIST. SANITARY M.H. RIM ELEV.=74.44' FL 12" PVC(SW)=52.64' FL 12" PVC(NE)=52.28' FL 6" PVC(NW)=52.45' FL 6" PVC(NW)=59.51'
15' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. "C" INLET RIM ELEV.=72.05' FL 24" RCP(N)=64.24' FL 24" RCP(S)=66.92'
PROP. 12" X 6" TS&V BACK TAP
EXIST. STORM M.H. RIM ELEV.=74.31' FL 48" RCP(SW)=62.96' FL 48" RCP(E)=62.87'
PROP. 6" GATE VALVE
PROP. 2" IRRIGATION WATER METER
PROP. 2" (RPZ) REDUCED PRESSURE ZONE BACKFLOW PREVENTER
PROP. 8'x 8' BORING PIT (APPROX. LOCATION)
EXIST. STORM M.H. RIM ELEV.=73.08' FL 48" RCP(E)=62.72' CENTERLINE FL 48" RCP(W)=62.72' FL 24" RCP(S)=63.67'
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
5' W.L.E. PLAT NO. 2006042285, F.B.C.P.R.
EXIST. STORM M.H. RIM ELEV.=73.98' FL 48" RCP(W)=62.53' FL 36" RCP(E)=62.92' FL 24" RCP(S)=63.59'
EXIST. "C" INLET RIM ELEV.=72.12' FL 24" RCP(N)=64.28' FL 24" RCP(S)=67.13'
TBM SET SQUARE CUT, ELEV.=72.35'
EXIST. "C" INLET RIM ELEV.=72.32 FL 24" RCP(N)=67.17'
PROPOSED SIGNALIZED INTERSECTION
EXIST. STORM M.H. RIM ELEV.=74.28' FL 48" RCP(SW)=63.30' FL 48" RCP(NE)=63.31' FL 30" RCP(SE)=64.38'
PROP. 2" DOMESTIC WATER METER
PROP. 2" (RPZ) REDUCED PRESSURE ZONE BACKFLOW PREVENTER
PROP. 2" TAP FOR 2" DOMESTIC WATER SERVICE W/ CORPORATION STOP
EXIST. SANITARY M.H. RIM ELEV.=73.86' FL 12" PVC(SW)=52.18' FL 12" PVC(E)=52.13'
EXIST. STORM M.H. RIM ELEV.=74.04 FL 30" RCP(SW)=66.35' FL 30" RCP(NW)=64.55'
SAWCUT LINE
INSTALL 2-45' BEND (TYP)
PROP. 2-45' BEND (TYP.)
PROP. 22.5' BEND (TYP.) ACRES (87,254 SQ. FT.)
PROP. 22.5' BEND (TYP.)
INSTALL 22.5' BEND
REF. IRRIGATION PLANS FOR CONTINUATION
PROP. DETECTOR VALVE ASSEMBLY W/ DOUBLE DETECTOR CHECK VALVE
PROP. 6" FIRE WATER SERVICE (C900 PVC)
PROP. 2" DOMESTIC WATER SERVICE (#9 ENDOPURE BLUE POLYETHYLENE)
REF MEP PLAN 6" FIRE SERVICE CONNECTION
REF MEP PLAN DOMESTIC WATERLINE CONNECTION
PROP. C/O
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT. F.B.C.C.F. NO. 2002039207
10' X 5' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. SANITARY M.H. RIM ELEV.=73.01' FL 12" PVC(N)=51.92' FL 12" PVC(W)=51.95' FL 12" PVC(E)=52.04' FL 12" PVC(S)=52.23' FL 12" PVC(S)=61.52'
EXIST. "C" INLET RIM ELEV.=72.13' FL 24" RCP(N)=67.66'
EXIST. SANITARY M.H. RIM ELEV.=73.49' FL 12" PVC(W)=52.28' FL 12" PVC(E)=52.32'
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
EXIST. STORM M.H. RIM ELEV.=73.77' FL 36" RCP(NE)=66.76' FL 36" RCP(SE)=66.55'
10' X 5' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H. RIM ELEV.=73.02' FL 36" RCP(SW)=66.82' FL 36" RCP(NE)=66.71
RESTRICTED RESERVE "A" THE RESERVE AT RIVERPARK WEST PLAT No. 20040137, F.B.C.P.R.
PROP. 10 LF OF 6" SDR 26 PVC SAN. SEWER @ MIN. 4.00% SL.
STA.: 0+10.00 PROP. CLEANOUT FL: 70.52
PROP. 55 LF OF 6" SDR 26 PVC SAN. SEWER @ MIN. 2.00% SL.
STA.: 0+64.91 PROP. CLEANOUT 45' BEND FL: 71.62
PROP. 36 LF OF 6" SDR 26 PVC SAN. SEWER @ MIN. 2.00% SL.
STA.: 1+00.74 PROP. CLEANOUT FL: 72.33
PROP. 8 LF OF 6" SDR 26 PVC SAN. SEWER @ MIN. 2.00% SL.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
0.0714 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F.
0.1186 ACRE STORM SEWER ESMT. F.B.C.C.F. NO. 2017046794
0.1796 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
LOADING ZONE
UGE&T
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
REF. MEP PLAN FOR SAN. SEWER CONNECTION FL: 72.00
PROP. C/O
EXIST. SANITARY M.H. RIM ELEV.=75.85' FL 12" PVC(N)=62.30' FL 12" PVC(S)=62.35' FL 6" PVC(S)=66.37'
EXIST. STORM M.H. RIM ELEV.=74.37' FL 24" RCP(E)=64.21'
10' X 10' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H. RIM ELEV.=75.80' PIPES AREA OFFSET CENTERLINE FL (W)=63.34' CENTERLINE FL (E)=63.34'
EXIST. "C" INLET RIM ELEV.=78.52' FL 24 " RCP(E)=70.78'
EXIST. STORM M.H. RIM ELEV.=79.52' FL 24" RCP(N)=68.10' FL 24" RCP(W)=70.27' FL 24" RCP(E)=70.34'
EXIST. "A" INLET T.G. ELEV.=77.99' FL 24 " RCP(W)=70.83'
0.1082 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
SAWCUT LINE
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
EXIST. SANITARY M.H. RIM ELEV.=79.54' FL 12" PVC(N)=66.79'
5.00 ACRES D & M SUGAR LAND REALTY, LLC F.B.C.C.F. No. 2014079275

Texas 811

KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

Plotted: 07/18/17 – 5:18 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SW3.dwg, ---> 09 WATER & WASTEWATER

N
W E
S

NOTES

1. THE SURVEYOR HAS ABSTRACTED THE SUBJECT PROPERTY.
2. SURVEY WAS CREATED WITH THE BENEFIT OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY UNDER G.F. NO. FAH16003470, DATED JUNE 16, 2016.
3. BASIS OF BEARINGS FOR THE SURVEY IS THE DEED OF RECORD IN F.B.C.C.F. NUMBER 2014079275.
4. BY GRAPHIC PLOTTING ONLY, THE SUBJECT TRACT IS LOCATED IN ZONE "X"(SHADED ON THE FIRM MAP) WITH A SPECIAL NOTE, ZONE "X–SHADED" IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. THE SPECIAL NOTES READS AS FOLLOWS: "THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1–PERCENT–ANNUAL–CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE." AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 48157C0265 L, DATED APRIL 2, 2014.
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10. ALL FITTINGS USED IN DROP MANHOLE (BOLTS, FASTENERS, FITTINGS) ARE STAINLESS STEEL OR EPOXY COATED.

GRADING/UTILITY LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF–SITE PROPERTY LINES
- APPROX. TEST PIT LOCATION

— W — — W —	APPROX. LOC. UNDERGROUND WATER LINE
— G — — G —	APPROX. LOC. UNDERGROUND GAS LINE
	EXISTING POWER POLE & O.H. ELECTRIC LINES
— T — — T —	APPROX. LOC. UNDERGROUND TEL. LINE
— S — — S — 8" CIP OR	EXISTING SANITARY SEWER
15" RCP	EXISTING STORM SEWER
17 - - - - -	EXISTING MINOR CONTOUR & ELEVATION
10 — — — —	EXISTING MAJOR CONTOUR & ELEVATION
XXXXXXX×	EXISTING ELEVATION
X TC 123.45	EXIST. TOP OF CURB ELEVATION
X G 122.95	EXIST. GUTTER ELEVATION
	EXIST. FIRE HYDRANT
⋈	EXIST. UTILITY VALVE
	EXIST. UTILITY POLE
	EXIST. TRAFFIC SIGNAL
MW	EXIST. MONITORING WELL
▬	EXIST. CATCH BASIN
●	EXIST. MANHOLE

— W — — W —	PROPOSED WATER LINE
— G — — G —	PROPOSED GAS MAIN
— UGE&T —	PROPOSED UNDERGROUND ELECTRIC SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
	PROPOSED CONDUIT FOR TELEPHONE SERVICE
— S — OR — S —	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM DRAIN LINE
XX	PROPOSED FINISH GRADE CONTOUR & ELEVATION
	PROPOSED DIRECTION OF DRAINAGE FLOW ARROW
	PROPOSED AREA LIGHT
C/O	PROP CLEAN OUT
TW:000.00 GL: 000.00	PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
TC: 000.00 G: 000.00	PROP. TOP OF CURB & FINISHED GRADE ELEV.
G: 000.00	PROP. SPOT ELEV.
FF: 000.00	PROP. FINISHED FLOOR ELEV.
	PROP. 'B' INLET
	PROP. 'E' INLET
	PROP. DRAINAGE MANHOLE
	PROP. SANITARY SEWER MANHOLE
	PROP. OUTLET STRUCTURE
	PROP. FLARED END SECTION
	PROP. HEADWALL

GRAPHIC SCALE
-30 0 15 30 60 120
(IN FEET)
1 INCH = 30 FT.

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP–OUT DRIVE–THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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07/19/17
JOSEPH G. JAWORSKI
120486

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PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

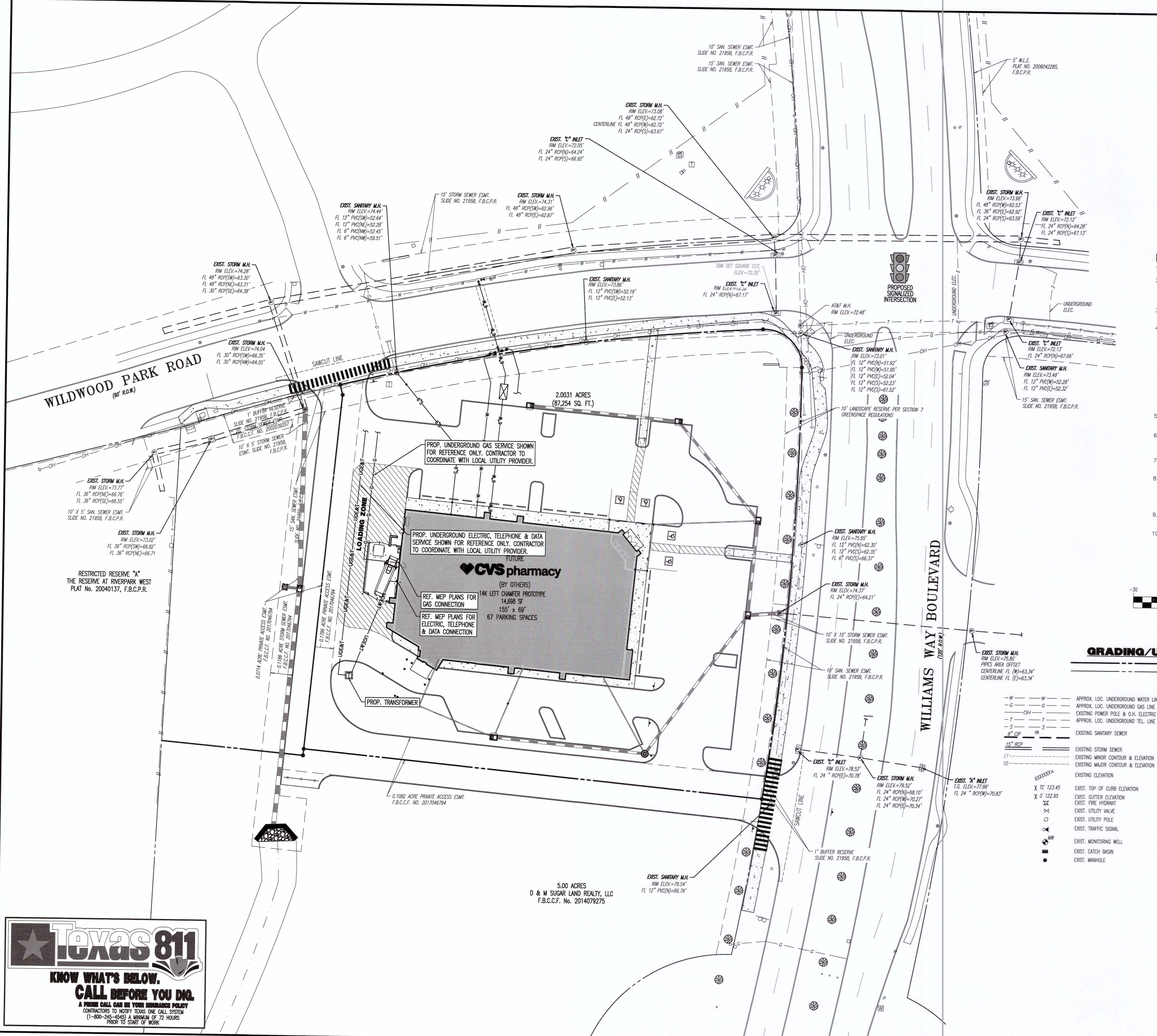
SCALE: (H) 1"=30' (V)
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469–16–197

TITLE:
WATER & WASTEWATER PLAN

SHEET No: 09 OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
SAWCUT LINE
SAWCUT LINE
2.0031 ACRES
(87,254 SQ. FT.)
PROP. UNDERGROUND GAS SERVICE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY PROVIDER.
PROP. UNDERGROUND ELECTRIC, TELEPHONE & DATA SERVICE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY PROVIDER.
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
REF. MEP PLANS FOR GAS CONNECTION
REF. MEP PLANS FOR ELECTRIC, TELEPHONE & DATA CONNECTION
PROP. TRANSFORMER
LOADING ZONE
UGE&T
PROPOSED SIGNALIZED INTERSECTION
RESTRICTED RESERVE "A"
THE RESERVE AT RIVERPARK WEST
PLAT No. 20040137, F.B.C.P.R.
5.00 ACRES
D & M SUGAR LAND REALTY, LLC
F.B.C.C.F. No. 2014079275
0.1082 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
0.1796 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
10' LANDSCAPE RESERVE PER SECTION 7
GREENSPACE REGULATIONS
1' BUFFER RESERVE
SLIDE NO. 2195B, F.B.C.P.R.
10' X 10' STORM SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
15' STORM SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
10' X 5' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
5' W.L.E.
PLAT NO. 2006042285,
F.B.C.P.R.
TBM SET SQUARE CUT
ELEV.=72.35'
AT&T M.H.
RIM ELEV.=72.48'
UNDERGROUND ELEC.
EXIST. STORM M.H.
RIM ELEV.=73.08'
FL 48" RCP(E)=62.72'
CENTERLINE FL 48" RCP(W)=62.72'
FL 24" RCP(S)=63.67'
EXIST. "C" INLET
RIM ELEV.=72.05'
FL 24" RCP(N)=64.24'
FL 24" RCP(S)=66.92'
EXIST. STORM M.H.
RIM ELEV.=74.31'
FL 48" RCP(E)=62.96'
FL 48" RCP(W)=62.87'
EXIST. SANITARY M.H.
RIM ELEV.=74.44'
FL 12" PVC(SW)=52.64'
FL 12" PVC(NE)=52.28'
FL 6" PVC(SE)=52.45'
FL 6" PVC(NW)=59.51'
EXIST. STORM M.H.
RIM ELEV.=74.28'
FL 48" RCP(SW)=63.30'
FL 48" RCP(NE)=63.31'
FL 30" RCP(SE)=64.38'
EXIST. STORM M.H.
RIM ELEV.=74.04'
FL 30" RCP(SW)=66.35'
FL 30" RCP(NW)=64.55'
EXIST. SANITARY M.H.
RIM ELEV.=73.86'
FL 12" PVC(SW)=52.18'
FL 12" PVC(E)=52.13'
EXIST. "C" INLET
RIM ELEV.=72.36'
FL 24" RCP(N)=67.17'
EXIST. STORM M.H.
RIM ELEV.=73.98'
FL 48" RCP(W)=62.53'
FL 36" RCP(E)=62.92'
FL 24" RCP(S)=63.59'
EXIST. "C" INLET
RIM ELEV.=72.12'
FL 24" RCP(N)=64.28'
FL 24" RCP(S)=67.13'
EXIST. SANITARY M.H.
RIM ELEV.=73.01'
FL 12" PVC(N)=51.92'
FL 12" PVC(W)=51.95'
FL 12" PVC(E)=52.04'
FL 12" PVC(S)=52.23'
FL 12" PVC(S)=51.52'
EXIST. "C" INLET
RIM ELEV.=72.13'
FL 24" RCP(N)=67.66'
EXIST. SANITARY M.H.
RIM ELEV.=73.49'
FL 12" PVC(W)=52.28'
FL 12" PVC(N)=52.32'
EXIST. STORM M.H.
RIM ELEV.=73.77'
FL 36" RCP(W)=66.76'
FL 36" RCP(SE)=66.55'
EXIST. STORM M.H.
RIM ELEV.=73.02'
FL 36" RCP(SW)=66.82'
FL 36" RCP(NE)=66.71
EXIST. SANITARY M.H.
RIM ELEV.=75.85'
FL 12" PVC(N)=62.30'
FL 12" PVC(S)=62.35'
FL 6" PVC(S)=66.37'
EXIST. STORM M.H.
RIM ELEV.=74.37'
FL 24" RCP(N)=64.21'
EXIST. STORM M.H.
RIM ELEV.=75.80'
PIPES AREA OFFSET
CENTERLINE FL (W)=63.34'
CENTERLINE FL (E)=63.34'
EXIST. "C" INLET
RIM ELEV.=78.52'
FL 24" RCP(E)=70.78'
EXIST. STORM M.H.
RIM ELEV.=79.52'
FL 24" RCP(N)=68.10'
FL 24" RCP(W)=70.27'
FL 24" RCP(S)=70.34'
EXIST. "A" INLET
T.G. ELEV.=77.99'
FL 24" RCP(W)=70.83'
EXIST. SANITARY M.H.
RIM ELEV.=79.54'
FL 12" PVC(N)=66.79'
UNDERGROUND ELEC.
SAWCUT LINE

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

Plotted: 07/18/17 – 5:19 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\046916197SU3.dwg. ---> 10 FRANCHISE UTILITY

N
W E
S

NOTES

1. THE SURVEYOR HAS ABSTRACTED THE SUBJECT PROPERTY.
2. SURVEY WAS CREATED WITH THE BENEFIT OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY UNDER G.F. NO. FAH16003470, DATED JUNE 16, 2016.
3. BASIS OF BEARINGS FOR THE SURVEY IS THE DEED OF RECORD IN F.B.C.C.F. NUMBER 2014079275.
4. BY GRAPHIC PLOTTING ONLY, THE SUBJECT TRACT IS LOCATED IN ZONE "X"(SHADED ON THE FIRM MAP) WITH A SPECIAL NOTE, ZONE "X-SHADED" IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. THE SPECIAL NOTES READS AS FOLLOWS: "THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE." AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 48157C0265 L, DATED APRIL 2, 2014.
5. CONTROL BENCHMARK: CITY OF SUGAR LAND BENCHMARK SGR-RM020, ELEV.=71.4059' NAVD88, 2001 ADJUSTMENT.
6. TBM "A": SQUARE CUT ON TOP OF A "C" INLET LOCATED NEAR THE NORTHEAST CORNER OF THE SUBJECT TRACT AS SHOWN HEREON, ELEV.=72.35'
7. UNDERGROUND UTILITIES SHOWN HEREON MARKED IN FIELD BY OTHERS.
8. SUBJECT TO BLANKET EASEMENT AGREEMENT BETWEEN SOUTHWEST 545, L.P., A TEXAS LIMITED PARTNERSHIP AND EN-TOUCH SYSTEMS, INC., A TEXAS CORPORATION OF RECORD IN F.B.C.C.F. NUMBER 2001088036, AND RE-RECORDED UNDER F.B.C.C.F. NUMBER 2001105426.
9. SUBJECT TO RESTRICTIONS OF RECORD IN F.B.C.C.F. NUMBER 2003071811.
10. ALL FITTINGS USED IN DROP MANHOLE (BOLTS, FASTENERS, FITTINGS) ARE STAINLESS STEEL OR EPOXY COATED.

GRAPHIC SCALE

-30 0 15 30 60 120

(IN FEET)
1 INCH = 30 FT.

GRADING/UTILITY LEGEND

━━ ━ ━ ━━	PROPERTY LINE (PARCEL IN QUESTION)
—— – – ——	OFF-SITE PROPERTY LINES
TP-1	APPROX. TEST PIT LOCATION
—W— —W— —	APPROX. LOC. UNDERGROUND WATER LINE
—G— —G— —	APPROX. LOC. UNDERGROUND GAS LINE
——OH—— ——	EXISTING POWER POLE & O.H. ELECTRIC LINES
—T— —T— —	APPROX. LOC. UNDERGROUND TEL. LINE
—S— —S— — OR 8" CIP ━ ━ ━	EXISTING SANITARY SEWER
15" RCP ═══	EXISTING STORM SEWER
17 - - - - - -	EXISTING MINOR CONTOUR & ELEVATION
10 — — — — —	EXISTING MAJOR CONTOUR & ELEVATION
XXXXXXXX	EXISTING ELEVATION
X TC 123.45	EXIST. TOP OF CURB ELEVATION
X G 122.95	EXIST. GUTTER ELEVATION
	EXIST. FIRE HYDRANT
⋈	EXIST. UTILITY VALVE
○	EXIST. UTILITY POLE
	EXIST. TRAFFIC SIGNAL
MW	EXIST. MONITORING WELL
▬	EXIST. CATCH BASIN
●	EXIST. MANHOLE

—W———W—	PROPOSED WATER LINE
—G———G—	PROPOSED GAS MAIN
——UGE&T——	PROPOSED UNDERGROUND ELECTRIC SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
—S———S— OR	PROPOSED CONDUIT FOR TELEPHONE SERVICE
━━━━	PROPOSED SANITARY SEWER LINE
▬▬▬▬	PROPOSED STORM DRAIN LINE
—XX—	PROPOSED FINISH GRADE CONTOUR & ELEVATION
∼→	PROPOSED DIRECTION OF DRAINAGE FLOW ARROW
	PROPOSED AREA LIGHT
C/O	PROP CLEAN OUT
TW:000.00 GL:000.00	PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
TC:000.00 G: 000.00	PROP. TOP OF CURB & FINISHED GRADE ELEV.
G: 000.00	PROP. SPOT ELEV.
FF:000.00	PROP. FINISHED FLOOR ELEV.
	PROP. 'B' INLET
	PROP. 'E' INLET
Ⓓ	PROP. DRAINAGE MANHOLE
Ⓢ	PROP. SANITARY SEWER MANHOLE
	PROP. OUTLET STRUCTURE
	PROP. FLARED END SECTION
	PROP. HEADWALL

APPROVED: Margi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
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Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

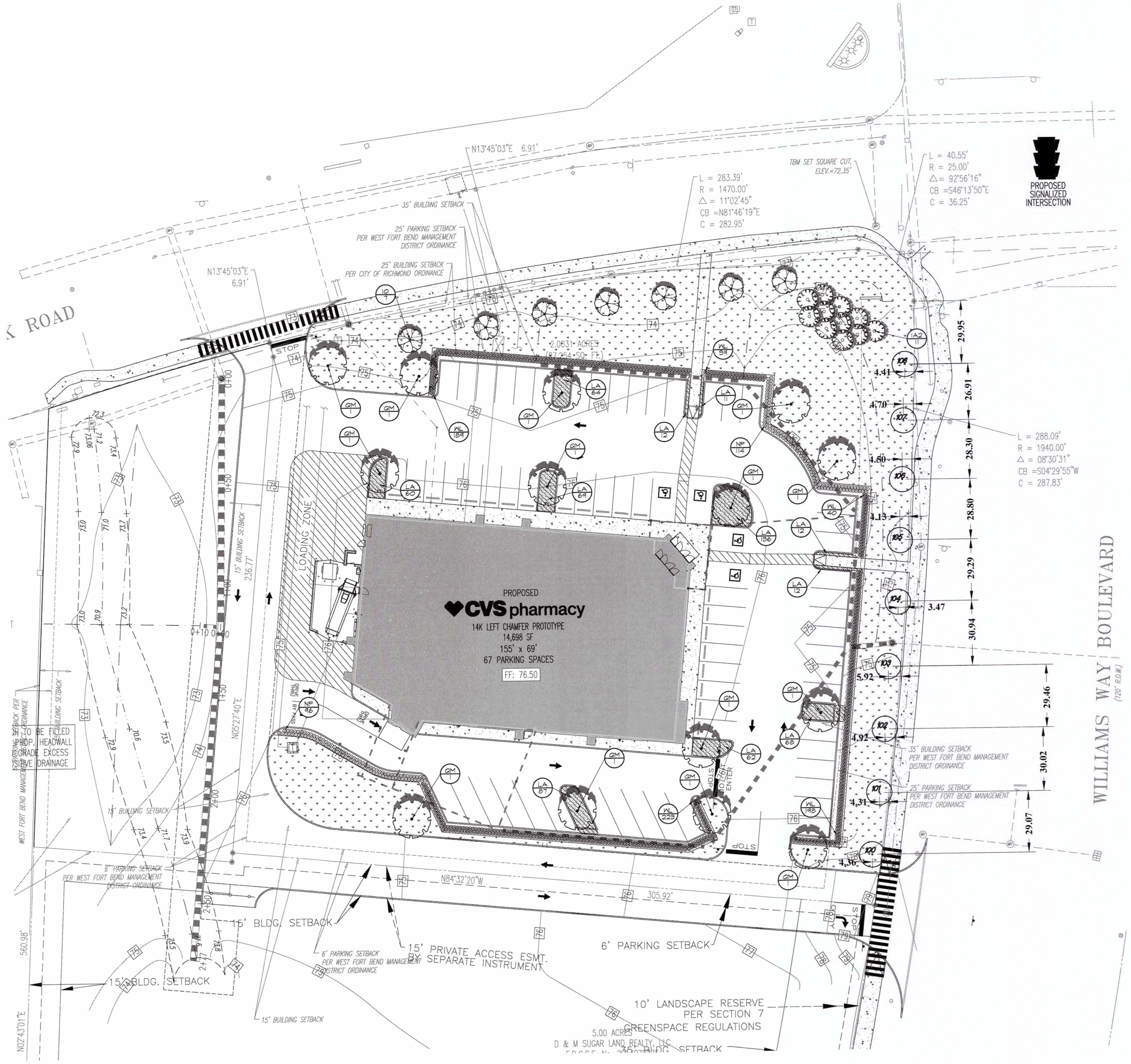
SCALE:	(H) 1"=30' (V)
DRAWN BY:	DNH/GRY
DESIGNED BY:	JAK
CHECKED BY:	SES
DATE:	02/17/17
JOB No:	0469-16-197

TITLE:
FRANCHISE UTILTY
PLAN

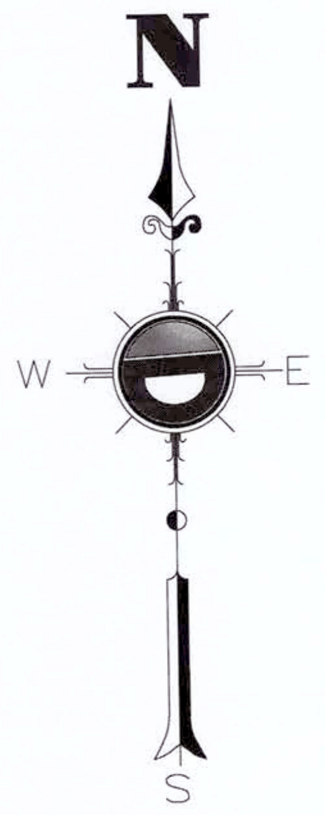
SHEET No:
10
OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3



K ROAD
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
PROPOSED SIGNALIZED INTERSECTION
PROPOSED
CVS pharmacy
14K LEFT CHAMFER PROTOTYPE
14,696 SF
155' x 69'
67 PARKING SPACES
FF: 76.50
LOADING ZONE
N13°45'03"E 6.91'
L = 283.39'
R = 1470.00'
Δ = 11°02'45"
CB =N81°46'19"E
C = 282.95'
L = 40.55'
R = 25.00'
Δ= 92°56'16"
CB =S46°13'50"E
C = 36.25'
L = 288.09'
R = 1940.00'
Δ = 08°30'31"
CB =S04°29'55"W
C = 287.83'
TBM SET SQUARE CUT, ELEV.=72.35'
35' BUILDING SETBACK
25' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
25' BUILDING SETBACK PER CITY OF RICHMOND ORDINANCE
35' BUILDING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
25' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
15' BUILDING SETBACK
6' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
15' BLDG. SETBACK
15' PRIVATE ACCESS ESMT. BY SEPARATE INSTRUMENT
6' PARKING SETBACK
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
5.00 ACRES
D & M SUGAR LAND REALTY, LLC
N84°32'20"W 305.92'
N02°27'40"E 236.77'
N02°43'01"E 560.98'
TO BE FILLED PROP. HEADWALL GRADE EXCESS STIVE DRAINAGE
STOP
ENTER
29.95
26.91
28.30
28.80
29.29
30.94
29.46
30.02
29.07
4.41
4.70
4.60
4.13
3.47
5.92
4.92
4.31
4.36



PLANT_SCHEDULE

TREES	CODE	COMMON NAME / BOTANICAL NAME	CONT	CAL	SIZE	QTY
	IA2	Cherry Laurel / Prunus caroliniana 'Bright 'n tight"	CONT.	1.5"Cal	min. 6`	11
	IC	Desert Willow / Chilopsis lineares street tree due to OHE	Min. 65 gal.	3.5"Cal	12-14`	7
	QM	Laurel Oak / Quercus laurefolius parking lot tree	Min. 65 gal.	3.5"Cal	12-14`	14

SHRUBS	CODE	COMMON NAME / BOTANICAL NAME	SIZE	QTY
❀	WL	Waxleaf Ligustrum / Ligustrum japonica 18" o.c.; 48" ht.; double row / triangular spacing	7 gal	687
⊕	NP	Wax Myrtle / Myrica cerifera 18" o.c.; 48" ht.; double row / triangular spacing	7 gal	210

SHRUB AREAS	CODE	COMMON NAME / BOTANICAL NAME	CONT	SPACING	QTY
▨	LA	Aztec Grass / Liriope muscari `Aztec` triangular spacing	1 gal	18" o.c.	593

GROUND COVERS	CODE	COMMON NAME / BOTANICAL NAME	CONT	QTY
☐	BG	Bermuda Grass / Cynodon dactylon	sod	21,588 sf

GENERAL LANDSCAPE NOTES

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING VEGETATION (EXCEPT WHERE NOTED TO REMAIN). BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS ARE WITHIN +/-0.1' OF FINISH GRADE. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST. SEE SPECIFICATIONS FOR MORE DETAILED INSTRUCTION ON TURF AREA AND PLANTING BED PREPARATION.
2. THE LANDSCAPE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN FINISH GRADES AS SHOWN ON GRADING PLANS, AND CONSTRUCT AND MAINTAIN SLOPES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHNICAL REPORT, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.
3. CONTRACTOR SHALL ENSURE THAT THE GRADE IN SOD AREAS SHALL BE 1" BELOW FINISH GRADE BEFORE INSTALLING SOIL AMENDMENTS, AND 2" BELOW FINISH GRADE IN SHRUB AREAS BEFORE INSTALLING SOIL AMENDMENTS. MULCH COVER WITHIN 6" OF CONCRETE WALKS AND CURBS SHALL NOT PROTRUDE ABOVE THE FINISH SURFACE OF THE WALKS AND CURBS. MULCH COVER WITHIN 12" OF WALLS SHALL BE AT LEAST 3" LOWER THAN THE TOP OF WALL.
4. INSTALL 5 OUNCE, WOVEN, NEEDLE-PUNCHED POLYPROPYLENE FABRIC UNDER ALL MULCHED AREAS AND INDIVIDUAL TREE RINGS.
5. INSTALL SHREDDED HARDWOOD MULCH TOPDRESSING IN ALL PLANTING BEDS (2" DEPTH) AND ALL TREE RINGS (3" DEPTH). DO NOT INSTALL MULCH WITHIN 6" OF TREE ROOT FLARE. REF. LP2 FOR MULCH SPECIFICATION.
6. HYDROMULCH ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOD).
7. ALL PLANT LOCATIONS ARE DIAGRAMMATIC. ACTUAL LOCATIONS SHALL BE VERIFIED WITH THE LANDSCAPE ARCHITECT OR DESIGNER PRIOR TO PLANTING. THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT ALL REQUIREMENTS OF THE PERMITTING AUTHORITY ARE MET (I.E., MINIMUM PLANT QUANTITIES, PLANTING METHODS, TREE PROTECTION METHODS, ETC.).
8. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR DETERMINING PLANT QUANTITIES; PLANT QUANTITIES SHOWN ON LEGENDS AND CALLOUTS ARE FOR GENERAL INFORMATION ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE PLANT LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN (FOR INDIVIDUAL SYMBOLS) OR CALLOUT (FOR GROUNDCOVER PATTERNS) SHALL TAKE PRECEDENCE.
9. NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE ALLOWED. IF ANY OF THE PLANTS ARE NOT AVAILABLE, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE DESIGNER IN WRITING (VIA PROPER CHANNELS).
10. PLANTS MAY BE INSPECTED AND APPROVED OR REJECTED ON THE JOBSITE BY THE OWNER OR OWNER'S REPRESENTATIVE.
11. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES,REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
12. SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHAL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.
13. TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
    - A. THE LANDSCAPE SHALL SHOW ACTIVE, HEALTHY GROWTH (WITH EXCEPTIONS MADE FOR SEASONAL DORMANCY). ALL PLANTS NOT MEETING THIS CONDITION SHALL BE REJECTED AND REPLACED BY HEALTHY PLANT MATERIAL PRIOR TO FINAL ACCEPTANCE.
    - B. ALL HARDSCAPE SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE.
    - C. SODDED AREAS MUST BE ACTIVELY GROWING AND MUST REACH A MINIMUM HEIGHT OF 1 1/2 INCHES BEFORE FIRST MOWING. HYDROMULCHED AREAS SHALL SHOW ACTIVE, HEALTHY GROWTH. BARE AREAS LARGER THAN TWELVE SQUARE INCHES MUST BE RESODDED OR RESEEDED (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.
14. SEE SPECIFICATIONS AND DETAILS FOR FURTHER REQUIREMENTS.
15. THERE ARE EXISTING TREES ONSITE/ADJACENT TO SITE S SHOWN TREES ARE THE PROPERTY OF FBCLID 17 ARE SHALL NOT BE REMOVED
16. ALL EXISTING LANDSCAPING AND IRRIGATION SHALL NOT BE DISTURBED IN CONSTRUCTION. CONTRACTOR SHALL REPLACE/REPAIR ALL LANDSCAPING/IRRIGATION DISTUBED/REMOVED DURING CONSTRUCTION. CONTACT LARRY TALLERINE (713-724-2037 OR 281-859-3546) WITH RIDGEWOOD LANDSCAPING INC. PRIOR TO THE START OF ALL LANDSCAPE/SITE WORK.

LANDSCAPING REQUIREMENTS

FRONTAGE REQUIREMENTS
(1 TREE/30' ROAD FRONTAGE)

PROPERTY LINE	LENGTH	CANOPY TREES REQUIRED	CANOPY TREES PROVIDED
WILDWOOD PARK RD.	300'	10	10
WILLIAMS WAY BLVD.	308'	10	10*

* EXISTING TREES (SEE TS-1)

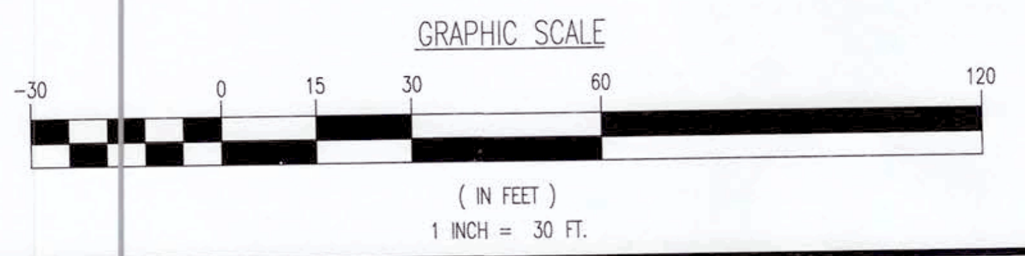
SIDE YARD REQUIREMENTS
(1 TREE/40' SIDE YARD FRONTAGE)

PROPERTY LINE	LENGTH	CANOPY TREES REQUIRED	CANOPY TREES PROVIDED
SIDE YARD	288	7	0*

ADJACENT PARCEL SHALL PROVIDE REQUIRED SHRUB SCREENING AT TIME OF DEVELOPMENT
*NO LARGE TREES ARE PROVIDED WITHIN THE ELECTRICAL EASEMENT.

PARKING LOT SCREENING

TRIANGULAR-SPACED SHRUB ROW IS REQUIRED AND PROVIDED BETWEEN ALL EXISTING ROADS AND PROPOSED PARKING LOTS.



GRAPHIC SCALE
-30
0
15
30
60
120

(IN FEET)
1 INCH = 30 FT.

9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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DANIEL REECE
6/9/17

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DESIGN GROUP
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www.landscape-consultants.net

DEVELOPER:
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MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

SCALE: (H) as (V) noted
DRAWN BY: DFR
DESIGNED BY: DFR
CHECKED BY: RM
DATE: 12/2/2016
JOB No: 0469-16-197
TITLE: LANDSCAPE PLANTING
SHEET No: 11 OF 29
COMMENTS: THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 2

PLANTING SPECIFICATIONS

GENERAL

A. QUALIFICATIONS OF LANDSCAPE CONTRACTOR
  1. ALL LANDSCAPE WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE FIRM SPECIALIZING IN LANDSCAPE PLANTING.
  2. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
  3. THE LANDSCAPE CONTRACTOR MUST HOLD A VALID NURSERY AND FLORAL CERTIFICATE ISSUED BY THE TEXAS DEPARTMENT OF AGRICULTURE, AS WELL AS OPERATE UNDER A COMMERCIAL PESTICIDE APPLICATOR LICENSE ISSUED BY EITHER THE TEXAS DEPARTMENT OF AGRICULTURE OR THE TEXAS STRUCTURAL PEST CONTROL BOARD.

B. SCOPE OF WORK
  1. WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK, SPECIFIED HEREIN AND / OR SHOWN ON THE LANDSCAPE PLANS, NOTES, AND DETAILS.
  2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS.
  3. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK.

C. THE LANDSCAPE CONTRACTOR SHALL OBTAIN THE OWNER'S PROJECT MANAGER APPROVAL VIA A SITE INSPECTION, FOR ALL GRADING PRIOR TO ANY LANDSCAPE MATERIAL INSTALLATION.

PRODUCTS

A. ALL MANUFACTURED PRODUCTS SHALL BE NEW.

B. CONTAINER AND BALLED-AND-BURLAPPED PLANTS:
  1. FURNISH NURSERY-GROWN PLANTS COMPLYING WITH ANSI Z60.1-2004. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT. ALL PLANTS WITHIN A SPECIES SHALL HAVE SIMILAR SIZE, AND SHALL BE OF A FORM TYPICAL FOR THE SPECIES. ALL TREES SHALL BE OBTAINED FROM SOURCES WITHIN 200 MILES OF THE PROJECT SITE, AND WITH SIMILAR CLIMACTIC CONDITIONS.
  2. ROOT SYSTEMS SHALL BE HEALTHY, DENSELY BRANCHED, FIBROUS ROOT SYSTEMS, NON-POT-BOUND, FREE FROM ENCIRCLING AND/OR GIRDLING ROOTS, AND FREE FROM ANY OTHER ROOT DEFECTS (SUCH AS J-SHAPED ROOTS).
  3. ANY PLANT DEEMED UNACCEPTABLE BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND SHALL BE REPLACED WITH AN ACCEPTBLE PLANT OF LIKE TYPE AND SIZE AT THE CONTRACTOR'S OWN EXPENSE. ANY PLANTS APPEARING TO BE UNHEALTHY, EVEN IF DETERMINED TO STILL BE ALIVE, SHALL NOT BE ACCEPTED. THE LANDSCAPE ARCHITECT AND OWNER SHALL BE THE SOLE JUDGES AS TO THE ACCEPTABILITY OF PLANT MATERIAL.
  4. ALL TREES SHALL BE STANDARD IN FORM, UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADER IS DAMAGED OR REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING.
  5. CALIPER MEASUREMENTS FOR STANDARD (SINGLE TRUNK) TREES SHALL BE AS FOLLOWS: SIX INCHES ABOVE THE ROOT FLARE FOR TREES UP TO AND INCLUDING FOUR INCHES IN CALIPER, AND TWELVE INCHES ABOVE THE ROOT FLARE FOR TREES EXCEEDING FOUR INCHES IN CALIPER.
  6. MULTI-TRUNK TREES SHALL BE MEASURED BY THEIR OVERALL HEIGHT, MEASURED FROM THE TOP OF THE ROOT BALL.
  7. ANY TREE OR SHRUB SHOWN TO HAVE EXCESS SOIL PLACED ON TOP OF THE ROOT BALL, SO THAT THE ROOT FLARE HAS BEEN COMPLETELY COVERED, SHALL BE REJECTED.

C. SOD: PROVIDE WELL-ROOTED SOD OF THE VARIETY NOTED ON THE PLANS. SOD SHALL BE CUT FROM HEALTHY, MATURE TURF WITH SOIL THICKNESS OF 3/4" TO 1". EACH PALLET OF SOD SHALL BE ACCOMPANIED BY A CERTIFICATE FROM SUPPLIER STATING THE COMPOSITION OF THE SOD.

D. SEED: PROVIDE BLEND OF SPECIES AND VARIETIES AS NOTED ON THE PLANS, WITH MAXIMUM PERCENTAGES OF PURITY, GERMINATION, AND MINIMUM PERCENTAGE OF WEED SEED AS INDICATED ON PLANS. EACH BAG OF SEED SHALL BE ACCOMPANIED BY A TAG FROM THE SUPPLIER INDICATING THE COMPOSITION OF THE SEED.

E. TOPSOIL: SANDY TO CLAY LOAM TOPSOIL, FREE OF STONES LARGER THAN ½ INCH, FOREIGN MATTER, PLANTS, ROOTS, AND SEEDS.

F. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, pH RANGE OF 5.5 TO 8; MOISTURE CONTENT 35 TO 55 PERCENT BY WEIGHT; 100 PERCENT PASSING THROUGH 3/4-INCH SIEVE; SOLUBLE SALT CONTENT OF 5 TO 10 DECISIEMENS/M; NOT EXCEEDING 0.5 PERCENT INERT CONTAMINANTS AND FREE OF SUBSTANCES TOXIC TO PLANTINGS. NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED.

G. PLANTING MIX: AN EQUAL PART MIXTURE OF TOPSOIL, SAND AND COMPOST.

H. FERTILIZER: GRANULAR FERTILIZER CONSISTING OF NITROGEN, PHOSPHORUS, POTASSIUM, AND OTHER NUTRIENTS IN PROPORTIONS, AMOUNTS, AND RELEASE RATES RECOMMENDED IN A SOIL REPORT FROM A QUALIFIED SOIL-TESTING AGENCY (SEE BELOW).

I. MULCH: FINELY-SHREDDED HARDWOOD MULCH FROM LIVING EARTH TECHNOLOGIES; 713-466-7360 or 281-342-6113; LIVINGEARTH.NET. MULCH SHALL BE FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS.

J. WEED FABRIC: 5 OUNCE, WOVEN, NEEDLE-PUNCHED FABRIC, SUCH AS DEWITT PRO5 LANDSCAPE FABRIC (OR APPROVED EQUAL).

K. TREE STAKING AND GUYING
  1. STAKES: 6' LONG GREEN METAL T-POSTS.
  2. GUY AND TIE WIRE: ASTM A 641, CLASS 1, GALVANIZED-STEEL WIRE, 2-STRAND, TWISTED, 0.106 INCH DIAMETER.
  3. STRAP CHAFING GUARD: REINFORCED NYLON OR CANVAS AT LEAST 1-1/2 INCH WIDE, WITH GROMMETS TO PROTECT TREE TRUNKS FROM DAMAGE.

L. STEEL EDGING: N/A

M. PRE-EMERGENT HERBICIDES: ANY GRANULAR, NON-STAINING PRE-EMERGENT HERBICIDE THAT IS LABELED FOR THE SPECIFIC ORNAMENTALS OR TURF ON WHICH IT WILL BE UTILIZED. PRE-EMERGENT HERBICIDES SHALL BE APPLIED PER THE MANUFACTURER'S LABELED RATES.

METHODS

A. SOIL PREPARATION
  1. BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS ARE WITHIN +/-0.1' OF FINISH GRADE. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST.
  2. SOIL TESTING:
    a. AFTER FINISH GRADES HAVE BEEN ESTABLISHED, CONTRACTOR SHALL HAVE SOIL SAMPLES TESTED BY AN ESTABLISHED SOIL TESTING LABORATORY FOR THE FOLLOWING: SOIL TEXTURAL CLASS, GENERAL SOIL FERTILITY, pH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ADSORPTION RATIO (SAR) AND BORON CONTENT. EACH SAMPLE SUBMITTED SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL.
    b. CONTRACTOR SHALL ALSO SUBMIT THE PROJECT'S PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES.
    c. THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): GENERAL SOIL PREPARATION AND BACKFILL MIXES, PRE-PLANT FERTILIZER APPLICATIONS, AND ANY OTHER SOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
  3. THE CONTRACTOR SHALL INSTALL SOIL AMENDMENTS AND FERTILIZERS PER THE SOILS REPORT RECOMMENDATIONS. ANY CHANGE IN COST DUE TO THE SOIL REPORT RECOMMENDATIONS, EITHER INCREASE OR DECREASE, SHALL BE SUBMITTED TO THE OWNER WITH THE REPORT.
  4. FOR BIDDING PURPOSES ONLY, THE SOIL PREPARATION SHALL CONSIST OF THE FOLLOWING:
    a. TURF: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
    i. NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
    ii. AMMONIUM PHOSPHATE 16-20-0 - 15 LBS PER 1,000 S.F.
    iii. AGRICULTURAL GYPSUM - 100 LBS PER 1,000 S.F.
    b. TREES, SHRUBS, AND PERENNIALS: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
    i. NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
    ii. 12-12-12 FERTILIZER - 10 LBS. PER CU. YD.
    iii. AGRICULTURAL GYPSUM - 10 LBS. PER CU. YD.
    iv. IRON SULPHATE - 2 LBS. PER CU. YD.
  5. CONTRACTOR SHALL ENSURE THAT THE GRADE IN SOD AREAS SHALL BE 1" BELOW FINISH GRADE AFTER INSTALLING SOIL AMENDMENTS, AND 2" BELOW FINISH GRADE IN SHRUB AREAS AFTER INSTALLING SOIL AMENDMENTS. MULCH COVER WITHIN 6" OF CONCRETE WALKS AND CURBS SHALL NOT PROTRUDE ABOVE THE FINISH SURFACE OF THE WALKS AND CURBS. MULCH COVER WITHIN 12" OF WALLS SHALL BE AT LEAST 3" LOWER THAN THE TOP OF WALL.
  6. ONCE SOIL PREPARATION IS COMPLETE, THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THERE ARE NO DEBRIS, TRASH, OR STONES LARGER THAN 1" REMAINING IN THE TOP 6" OF SOIL.

B. GENERAL PLANTING
  1. REMOVE ALL NURSERY TAGS AND STAKES FROM PLANTS.
  2. EXCEPT IN AREAS TO BE PLANTED WITH ORNAMENTAL GRASSES, APPLY PRE-EMERGENT HERBICIDES AT THE MANUFACTURER'S RECOMMENDED RATE.
  3. TRENCHING NEAR EXISTING TREES:
    a. CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS EQUAL TO 1' FOR EVERY 1" OF TRUNK DIAMETER-AT-BREAST-HEIGHT (4.5' ABOVE THE AVERAGE GRADE AT THE TRUNK).
    b. ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
    c. ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER. WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITHIN THE CANOPY DRIP LINES WITHIN 24 HOURS.
    d. ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.

C. TREE PLANTING
  1. TREE PLANTING HOLES SHALL BE EXCAVATED TO MINIMUM WIDTH OF TWO TIMES THE WIDTH OF THE ROOTBALL, AND TO A DEPTH EQUAL TO THE DEPTH OF THE ROOTBALL LESS TWO INCHES.
  2. SCARIFY THE SIDES AND BOTTOM OF THE PLANTING HOLE PRIOR TO THE PLACEMENT OF THE TREE. REMOVE ANY GLAZING THAT MAY HAVE BEEN CAUSED DURING THE EXCAVATION OF THE HOLE.
  3. FOR CONTAINER TREES, TO REMOVE ANY POTENTIALLY GIRDLING ROOTS AND OTHER ROOT DEFECTS, THE CONTRACTOR SHALL SHAVE A 1" LAYER OFF OF THE SIDES AND BOTTOM OF THE ROOTBALL OF ALL TREES JUST BEFORE PLACING INTO THE PLANTING PIT. DO NOT "TEASE" ROOTS OUT FROM THE ROOTBALL.
  4. INSTALL THE TREE ON UNDISTURBED SUBGRADE SO THAT THE TOP OF THE ROOTBALL IS TWO TO THREE INCHES ABOVE THE SURROUNDING GRADE.
  5. BACKFILL THE TREE HOLE UTILIZING THE EXISTING TOPSOIL FROM ON-SITE. ROCKS LARGER THAN 1" DIA. AND ALL OTHER DEBRIS SHALL BE REMOVED FROM THE SOIL PRIOR TO THE BACKFILL. SHOULD ADDITIONAL SOIL BE REQUIRED TO ACCOMPLISH THIS TASK, IMPORT ADDITIONAL TOPSOIL FROM OFF-SITE AT NO ADDITIONAL COST TO THE OWNER.
  6. THE TOTAL NUMBER OF TREE STAKES (BEYOND THE MINIMUMS LISTED BELOW) WILL BE LEFT TO THE LANDSCAPE CONTRACTOR'S DISCRETION. SHOULD ANY TREES FALL OR LEAN, THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN THE TREE, OR REPLACE IT SHOULD IT BECOME DAMAGED. TREE STAKING SHALL ADHERE TO THE FOLLOWING GUIDELINES:
    a. 15 - 30 GAL TREES — TWO STAKES PER TREE
    b. 45 - 100 GAL TREES — THREE STAKES PER TREE
    c. MULTI-TRUNK TREES — THREE STAKES PER TREE MINIMUM, POSITIONED AS NEEDED TO STABILZE THE TREE
  7. UPON COMPLETION OF PLANTING, CONSTRUCT AN EARTH WATERING BASIN AROUND THE TREE. COVER THE INTERIOR OF THE TREE RING WITH THE WEED BARRIER CLOTH AND TOPDRESS WITH MULCH (TYPE AND DEPTH PER PLANS).

D. SHRUB, PERENNIAL, AND GROUNDCOVER PLANTING
  1. DIG THE PLANTING HOLES TWICE AS WIDE AND 2" LESS DEEP THAN EACH PLANT'S ROOTBALL. INSTALL THE PLANT IN THE HOLE. BACKFILL AROUND THE PLANT WITH SOIL AMENDED PER SOIL TEST RECOMMENDATIONS.
  2. INSTALL THE WEED BARRIER CLOTH, OVERLAPPING IT AT THE ENDS. UTILIZE STEEL STAPLES TO KEEP THE WEED BARRIER CLOTH IN PLACE.
  3. WHEN PLANTING IS COMPLETE, INSTALL MULCH (TYPE AND DEPTH PER PLANS) OVER ALL PLANTING BEDS, COVERING THE ENTIRE PLANTING AREA.

E. SODDING
  1. SOD VARIETY TO BE AS SPECIFIED ON THE LANDSCAPE PLAN.
  2. LAY SOD WITHIN 24 HOURS FROM THE TIME OF STRIPPING. DO NOT LAY IF THE GROUND IS FROZEN.
  3. LAY THE SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD STRIPS - DO NOT OVERLAP. STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES.
  4. ROLL THE SOD TO ENSURE GOOD CONTACT OF THE SOD'S ROOT SYSTEM WITH THE SOIL UNDERNEATH.
  5. WATER THE SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING TO OBTAIN AT LEAST SIX INCHES OF PENETRATION INTO THE SOIL BELOW THE SOD.

F. HYDROMULCHING
  1. THE HYDROMULCH MIX (PER 1,000 SF) SHALL BE AS FOLLOWS:
    a. WINTER MIX (OCTOBER 1 - MARCH 31)
      50# CELLULOSE FIBER MULCH
      2# UNHULLED BERMUDA SEED
      2# ANNUAL RYE SEED
      15# 15-15-15 WATER SOLUBLE FERTILIZER
    b. SUMMER MIX (APRIL 1 - SEPTEMBER 30)
      50# CELLULOSE FIBER MULCH
      2# HULLED BERMUDA SEED
      15# 15-15-15 WATER SOLUBLE FERTILIZER

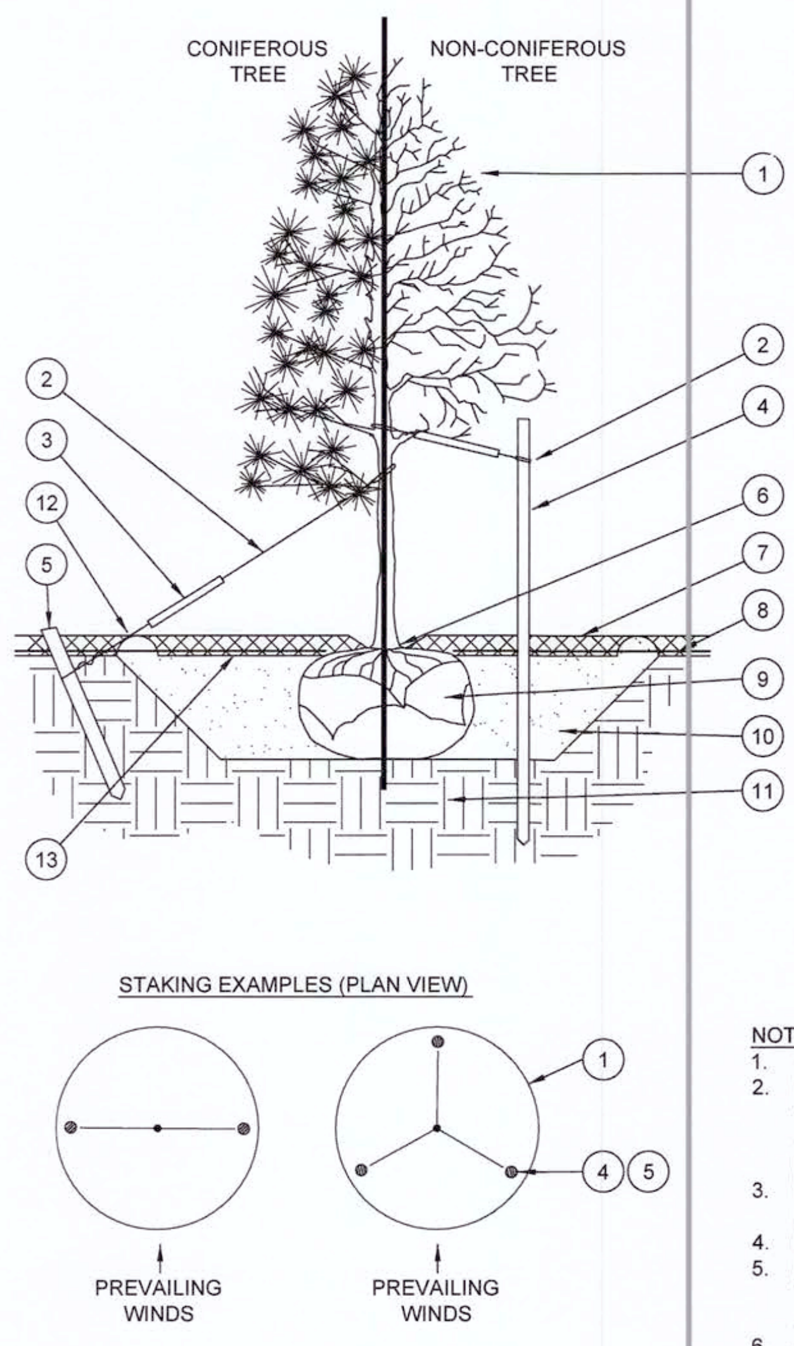
G. CLEAN UP
  1. DURING LANDSCAPE PREPARATION AND PLANTING, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
  2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

H. INSPECTION AND ACCEPTANCE
  1. UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE LANDSCAPE CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
  3. WHEN THE INSPECTED PLANTING WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE LANDSCAPE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
  4. THE LANDSCAPE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE LANDSCAPE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.

I. LANDSCAPE MAINTENANCE
  1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES,REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
  2. SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHAL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL, HEALTHY STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.
  3. TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
    a. THE LANDSCAPE SHALL SHOW ACTIVE, HEALTHY GROWTH (WITH EXCEPTIONS MADE FOR SEASONAL DORMANCY). ALL PLANTS NOT MEETING THIS CONDITION SHALL BE REJECTED AND REPLACED BY HEALTHY PLANT MATERIAL PRIOR TO FINAL ACCEPTANCE.
    b. ALL HARDSCAPE SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE.
    c. SODDED AREAS MUST BE ACTIVELY GROWING AND MUST REACH A MINIMUM HEIGHT OF 1 1/2 INCHES BEFORE FIRST MOWING. HYDROMULCHED AREAS SHALL SHOW ACTIVE, HEALTHY GROWTH. BARE AREAS LARGER THAN TWELVE SQUARE INCHES MUST BE RESODDED OR RESEEDED (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.

J. WARRANTY PERIOD, PLANT GUARANTEE AND REPLACEMENTS
  1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, SEEDED/HYDROMULCHED AREAS, AND IRRIGATION SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S FINAL ACCEPTANCE (90 DAYS FOR ANNUAL PLANTS). THE CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER, ANY PLANTS WHICH DIE IN THAT TIME, OR REPAIR ANY PORTIONS OF THE IRRIGATION SYSTEM WHICH OPERATE IMPROPERLY.
  2. AFTER THE INITIAL MAINTENANCE PERIOD AND DURING THE GUARANTEE PERIOD, THE LANDSCAPE CONTRACTOR SHALL ONLY BE RESPONSIBLE FOR REPLACEMENT OF PLANTS WHEN PLANT DEATH CANNOT BE ATTRIBUTED DIRECTLY TO OVERWATERING OR OTHER DAMAGE BY HUMAN ACTIONS.

K. PROVIDE A MINIMUM OF (2) COPIES OF RECORD DRAWINGS TO THE OWNER UPON COMPLETION OF WORK. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.



① TREE CANOPY.

② CINCH-TIES (24" BOX TREES AND SMALLER) OR 12 GAUGE GALVANIZED WIRE WITH NYLON TREE STRAPS AT TREE AND STAKE (36" BOX TREES AND LARGER). SECURE TIES OR STRAPS TO TRUNK JUST ABOVE LOWEST MAJOR BRANCHES.

③ 24" X 3/4" P.V.C. MARKERS OVER WIRES.

④ GREEN STEEL T-POSTS. EXTEND POSTS 12" MIN. INTO UNDISTURBED SOIL.

⑤ PRESSURE-TREATED WOOD DEADMAN, TWO PER TREE (MIN.). BURY OUTSIDE OF PLANTING PIT AND 18" MIN. INTO UNDISTURBED SOIL.

⑥ TRUNK FLARE.

⑦ MULCH, TYPE AND DEPTH PER PLANS. DO NOT PLACE MULCH WITHIN 6" OF TRUNK.

⑧ WEED FABRIC UNDER MULCH.

⑨ ROOT BALL.

⑩ BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.

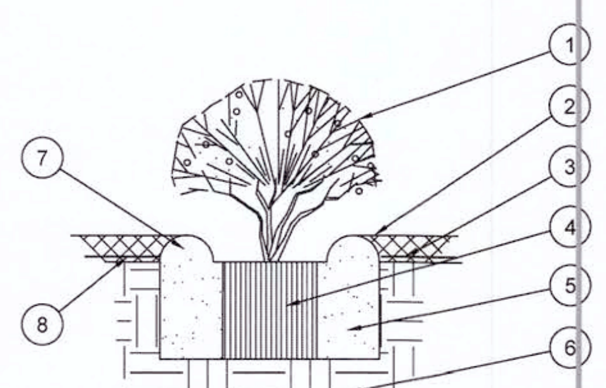
⑪ UNDISTURBED NATIVE SOIL.

⑫ 4" HIGH EARTHEN WATERING BASIN.

⑬ FINISH GRADE.

NOTES:
1. SCARIFY SIDES OF PLANTING PIT PRIOR TO SETTING TREE.
2. REMOVE EXCESS SOIL APPLIED ON TOP OF THE ROOTBALL THAT COVERS THE ROOT FLARE. THE PLANTING HOLE DEPTH SHALL BE SUCH THAT THE ROOTBALL RESTS ON UNDISTURBED SOIL, AND THE ROOT FLARE IS 2"-3" ABOVE FINISH GRADE.
3. FOR BALLED-AND-BURLAPPED TREES, REMOVE WIRE BASKET AND BURLAP BEFORE BACKFILLING.
4. REMOVE ALL NURSERY STAKES AFTER PLANTING.
5. FOR TREES OVER 3" CALIPER AND TREES 36" BOX AND LARGER, USE THREE STAKES OR DEADMEN (AS APPROPRIATE), SPACED EVENLY AROUND TREE.
6. STAKING SHALL BE TIGHT ENOUGH TO PREVENT TRUNK FROM BENDING, BUT LOOSE ENOUGH TO ALLOW SOME TRUNK MOVEMENT IN WIND.

A TREE PLANTING
SCALE: NOT TO SCALE



① SHRUB, PERENNIAL, OR ORNAMENTAL GRASS.

② MULCH, TYPE AND DEPTH PER PLANS. PLACE NO MORE THAN 1" OF MULCH WITHIN 6" OF PLANT CENTER.

③ FINISH GRADE.

④ ROOT BALL.

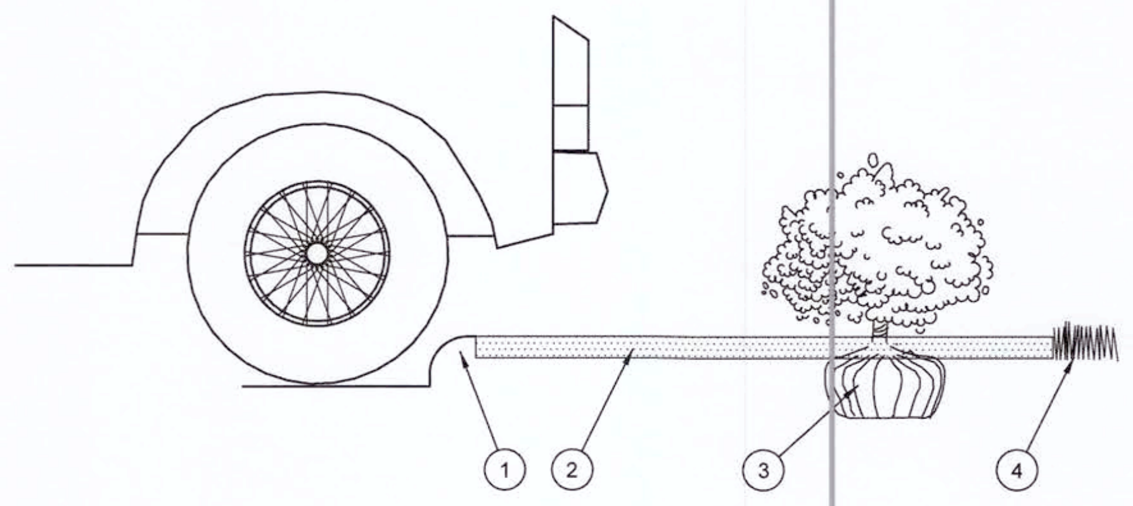
⑤ BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.

⑥ UNDISTURBED NATIVE SOIL.

⑦ 3" HIGH EARTHEN WATERING BASIN.

⑧ WEED FABRIC UNDER MULCH.

B SHRUB AND PERENNIAL PLANTING
SCALE: NTS



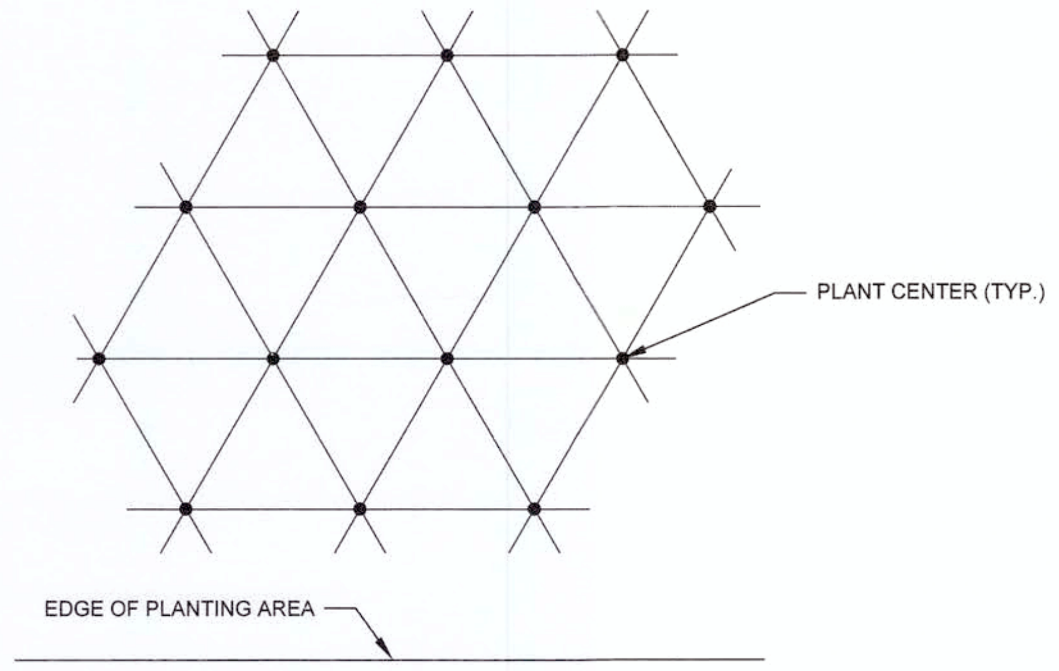
① CURB.

② MULCH LAYER.

③ PLANT.

④ TURF (WHERE SHOWN ON PLAN).

E HEDGE PLANTING AT PARKING AREA
SCALE: NOT TO SCALE



NOTE: ALL PLANTS SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING (EXCEPT WHERE SHOWN ON PLANS AS INFORMAL GROUPINGS). REFER TO PLANT LEGEND FOR SPACING DISTANCE BETWEEN PLANTS.

PLANT SPACING	AREA DIVIDER TO DETERMINE NO. OF PLANTS
6"	0.25
8"	0.45
10"	0.69
12"	1
15"	1.56
18"	2.25
24"	4
30"	6.25
36"	9

EXAMPLE: PLANTS AT 18" O.C. IN 100 SF OF PLANTING AREA = 100/2.25 = 44 PLANTS

C PLANT SPACING
SCALE: NTS

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS
CS PROJECT NUMBER: 99715

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DANIEL REECE
5/3/17

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DEVELOPER:
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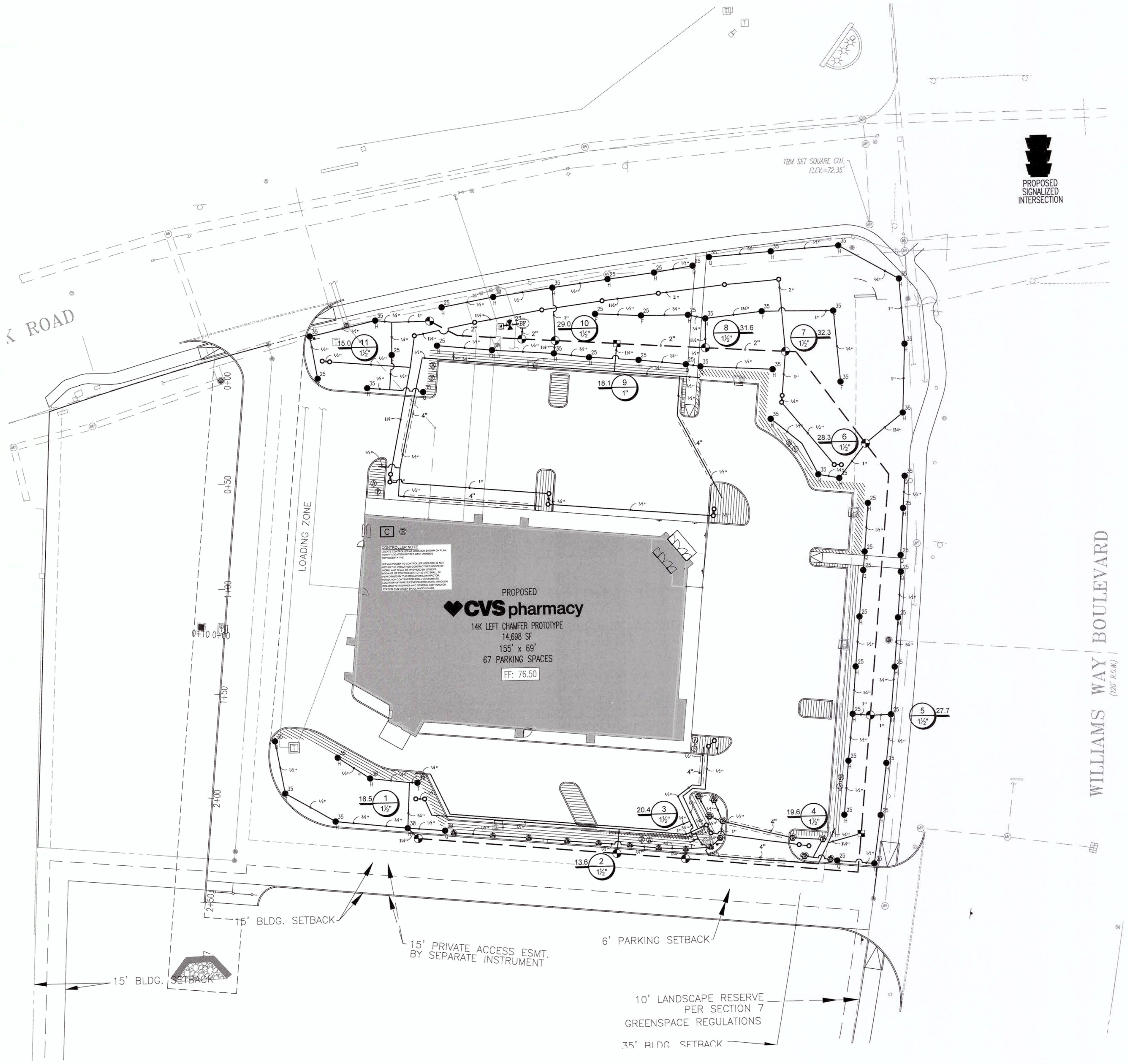
FAX: (860) 646–8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

SCALE: (H) as (V) noted
DRAWN BY: DFR
DESIGNED BY: DFR
CHECKED BY: RM
DATE: 12/2/2016
JOB No: v
TITLE: PLANTING SPECS & DETAILS
SHEET No: 12 OF 29
COMMENTS: THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 1

9/27/17

Plotted: 05/03/17 – 5:39 PM, By: dandandan
File: C:\Users\dandandan\Dropbox (Rodney)\EDG – Shared\2016\CVS at Richmond TX\CVS Richmond LP 2017–5–3.dwg, ---> 12


K ROAD
TBM SET SQUARE CUT ELEV.=72.35'
PROPOSED SIGNALIZED INTERSECTION
LOADING ZONE
PROPOSED
CVS pharmacy
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
FF: 76.50
WILLIAMS WAY BOULEVARD
15' BLDG. SETBACK
15' PRIVATE ACCESS ESMT. BY SEPARATE INSTRUMENT
6' PARKING SETBACK
15' BLDG. SETBACK
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
35' BLDG. SETBACK

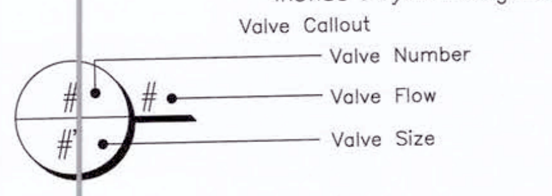
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
EST LCS RCS CST SST	Rain Bird 1806 15 Strip Series Turf Spray 6" popup.	30
Q T H TT TQ F	Rain Bird 1806 12 Series MPR Turf Spray 6" popup.	30
Q T H TT TQ F	Rain Bird 1806 15 Series MPR Turf Spray 6" popup.	30
○	Rain Bird 1400 Flood Flood Bubbler 4" pop-up with check valve and pressure regulator, with a PA-80 adapter.	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	GPM	RADIUS
●	Rain Bird 5006-PL-MPR Turf Rotor, 6" pop-up with flow shut-off device, matched precipitation rotor, arc and radius as per symbol. 25 ft=red, 30 ft=green, 35ft=beige	35		24'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
▚	Rain Bird XCZ-100-PRB-COM Drip Control Kit, 1" PEBS valve, 1" Basket Filter, and 40psi Pressure Regulator, 1" Ball Valve.
F	Rain Bird MDCFCAP Dripline Flush Valve cap in compression fitting coupler. Install as required per Manufacturer.
A	Rain Bird AR Valve Kit 1" Air Relief Valve kit with 6" drip valve box. Install as required per Manufacturer.
▤	Area to Receive Dripline Rain Bird XFD-06-18 Landscape Dripline with 0.60gph emitters at 18" o.c. Dripline laterals spaced at 18" apart, with emitters offset for triangular pattern.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
◐	Rain Bird PEB Electric Remote Control Valve
⧗	Nibco T-580-S6-R-66-LL Bronze ball valve Shut Off Valve
BF	Febco 825Y 1" Reduced Pressure Backflow Preventer
C	Rain Bird ESPLXMI Rain Bird ESP-LX Modular Series. Modular controller up to 32 stations maximum with ESPLXMSM4- 4 station and ESPLXMSM8- 8 station modules. Install the proper number of modules to accomodate the number of stations in the scope of work.
R	Rainbird WR2-RFC: Wireless Rain/Freeze Sensor Mount as instructed by Owner
M	Water Meter 1" Estimation - field verify.
———	Irrigation Lateral Line: PVC Class 200 SDR 21 PVC Class 200 irrigation pipe.
— — —	Irrigation Mainline: PVC Schedule 40 2" PVC Schedule 40 irrigation pipe.
═ ═ ═	Pipe Sleeve: PVC Schedule 40 Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.



CRITICAL ANALYSIS

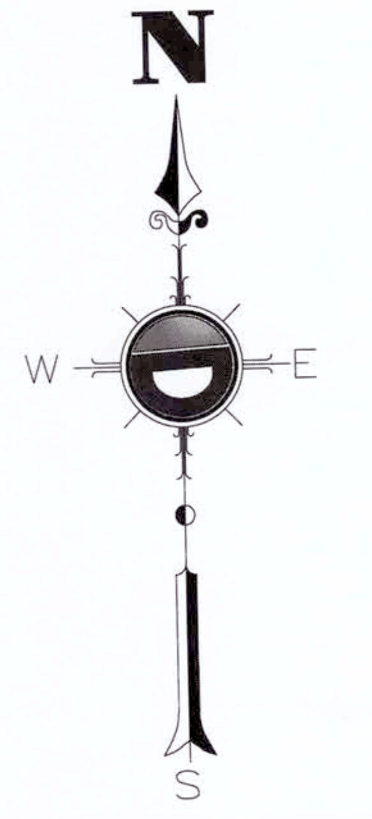
Generated:	2017-06-03 14:35
P.O.C. NUMBER: 01	
Water Source Information:	Estimation - field verify.
FLOW AVAILABLE	
Water Meter Size:	1"
Flow Available:	37.50 gpm
PRESSURE AVAILABLE	
Static Pressure at POC:	65.00 psi
Service Line Size:	1 1/2"
Pressure Available:	65.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	32.30 gpm
Flow Available at POC:	37.50 gpm
Residual Flow Available:	5.20 gpm
Critical Station:	9
Design Pressure:	30.00 psi
Friction Loss:	2.62 psi
Fittings Loss:	0.26 psi
Loss through Valve:	18.87 psi
Pressure Req. at Critical Station:	51.75 psi
Loss for Fittings:	0.02 psi
Loss for Main Line:	0.18 psi
Loss for Backflow:	11.30 psi
Loss for Water Meter:	0.67 psi
Critical Station Pressure at POC:	63.92 psi
Pressure Available:	65.00 psi
Residual Pressure Available:	1.08 psi

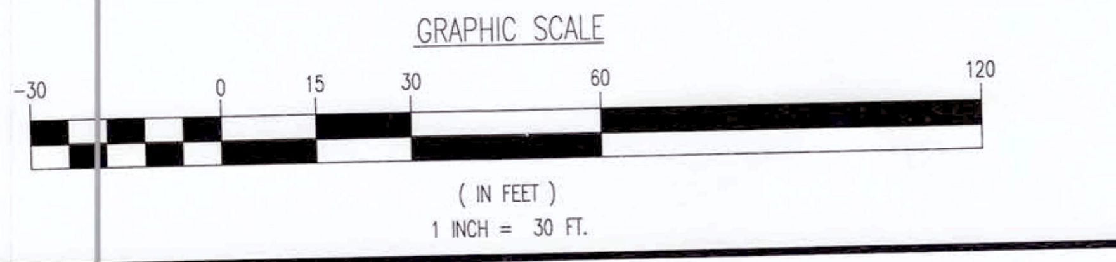
VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PRECIP
1	Rain Bird PEB	1-1/2"	Turf Rotor	38.52	52.49	18.51	0.62 in/h
2	Rain Bird PEB	1-1/2"	Bubbler	34.25	46.84	13.60	52.08 in/h
3	Rain Bird PEB	1-1/2"	Turf Spray	34.88	48.91	20.43	1.35 in/h
4	Rain Bird XCZ-150-COM	1-1/2"	Area for Dripline	40.89	54.35	19.58	0.96 in/h
5	Rain Bird PEB	1-1/2"	Turf Rotor	40.47	55.75	27.71	0.66 in/h
6	Rain Bird PEB	1-1/2"	Turf Rotor	41.69	56.22	28.31	0.67 in/h
7	Rain Bird PEB	1-1/2"	Bubbler	36.09	51.18	32.30	52.08 in/h
8	Rain Bird PEB	1-1/2"	Turf Rotor	38.95	53.52	31.60	0.63 in/h
9	Rain Bird XCZ-100-PRB-COM	1"	Area for Dripline	51.76	63.92	18.09	0.96 in/h
10	Rain Bird PEB	1-1/2"	Turf Rotor	39.55	53.00	28.98	0.61 in/h
11	Rain Bird PEB	1-1/2"	Turf Rotor	38.68	50.57	15.03	0.65 in/h
MASTER	Rain Bird PEB	1-1/2"					

Irrigation Note:
Prior to construction coordinate with James Terry with Terry's Landscaping

Plotted: 06/09/17 - 7:32 AM, By: dandandan
File: C:\Users\dandandan\Dropbox (Rodney)\EDG - Shared\2016\CVS at Richmond TX\CVS Richmond LI 2017-6-3.dwg. ---> 13





9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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REGISTERED LANDSCAPE ARCHITECT
DANIEL REECE
STATE OF TEXAS

Dan Reece
6/9/17

EVERGREEN
DESIGN GROUP
(800) 680-6630
2500 CityWest Blvd, Ste 300
Houston, TX 77042
www.landscape-consultants.net

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

SCALE:	(H) as (V) noted
DRAWN BY:	DFR
DESIGNED BY:	DFR
CHECKED BY:	RM
DATE:	12/2/2016
JOB No:	0469-16-197
TITLE:	LANDSCAPE IRRIGATION
SHEET No:	13 OF 29
COMMENTS:	THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. #	2

IRRIGATION SPECIFICATIONS

GENERAL

A. QUALIFICATIONS OF IRRIGATION CONTRACTOR
  1. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE IRRIGATION CONTRACTING FIRM SPECIALIZING IN IRRIGATION SYSTEMS. SEE THE IRRIGATION PLAN FOR SPECIFIC EQUIPMENT AND SYSTEM LAYOUT.
  2. THE IRRIGATION CONTRACTOR MUST HAVE ON ITS STAFF A TEXAS LICENSED IRRIGATOR, AS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. A LICENSED IRRIGATOR OR LICENSED IRRIGATION INSTALLER SHALL BE PRESENT AT THE PROJECT SITE AT ALL TIMES AS WORK IS IN PROGRESS. THE OWNER MAY DEMAND THAT WORK STOP UNTIL THE CONTRACTOR PROVIDES FOR A LICENSED IRRIGATOR OR LICENSED IRRIGATION INSTALLER TO BE PRESENT AT THE PROJECT SITE AND SUPERVISING ALL IRRIGATION WORK.
  3. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.

B. SCOPE OF WORK
  1. WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK, SPECIFIED HEREIN AND / OR SHOWN ON THE IRRIGATION PLANS, NOTES, AND DETAILS.
  2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS.
  3. THE INTENT OF THE IRRIGATION SYSTEM IS TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS. THE IRRIGATION PLAN IS GENERALLY DIAGRAMMATIC; COORDINATE IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF CONTROLLER, BACKFLOW DEVICE, PIPING, VALVES, SPRAY HEADS, DRIP IRRIGATION, AND RELATED EQUIPMENT MAY NEED TO BE ADJUSTED BASED ON ACTUAL SITE CONDITIONS.
  4. THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON THE PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQURED TO MOVE SUCH ITEMS AT HIS OWN COST.
  5. FOR CLARITY PURPOSES, SOME IRRIGATION LINES AND EQUIPMENT ARE SHOWN IN HARDSCAPE AREAS WITHOUT ACCESS SLEEVES; THESE LINES SHALL BE INSTALLED IN A COMMON TRENCH OR AT THE BACK OF CURB IN LANDSCAPE AREAS. MINOR FIELD ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

PRODUCTS

A. ALL MATERIALS SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND. ALL MATERIALS SHALL HAVE A MINIMUM GUARANTEE OF ONE YEAR AGAINST MATERIAL DEFECTS OR DEFECTIVE WORKMANSHIP. ALL MATERIALS SHALL BE OF THE BRANDS AND TYPES NOTED ON THE DRAWINGS OR AS SPECIFIED HEREIN, OR APPROVED EQUAL. THE CONTRACTOR MUST FIRST OBTAIN APPROVAL FROM THE IRRIGATION DESIGNER FOR AN 'APPROVED EQUAL' BEFORE INSTALLING SUCH MATERIALS IN THE FIELD, OR THE CONTRACTOR MAY BE REQUIRED TO REPLACE SUCH MATERIALS AT HIS OWN COST.

B. BACKFLOW PREVENTION DEVICES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS. INSTALL BACKFLOW PREVENTION UNITS IN ACCORDANCE WITH IRRIGATION CONSTRUCTION DETAILS AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.

C. PIPING
  1. PRESSURE SUPPLY LINES, DOWNSTREAM OF THE POINT-OF-CONNECTION:
    a. SCHEDULE 40 PVC FOR ALL PIPE 1-1/2" OR LESS
    b. CLASS 315 PVC FOR ALL PIPE 2" TO 2-1/2"
    c. CLASS 200 PVC, GASKETED, FOR ALL PIPE 3" AND LARGER
  2. SLEEVING AND NON-PRESSURE LATERAL LINES (DOWNSTREAM FROM VALVES): CLASS 200 PVC
  3. FITTINGS: SCH. 40 PVC, EXCEPT AS NOTED OTHERWISE.

D. VALVES AND DRIP VALVE ASSEMBLIES: TYPE AND SIZE AS NOTED ON PLANS. EACH VALVE SHALL BEAR A PRE-MANUFACTURED, NUMBERED WATERPROOF TAG BEARING A NUMBER CORRESPONDING TO ITS VALVE SEQUENCE OF OPERATION ON THE CONTROLLER. THE OPERATION SEQUENCE SHALL MATCH THAT AS SHOWN ON THE PLANS.

E. QUICK COUPLERS, BALL VALVES, AND GATE VALVES: TYPE AND SIZE PER PLANS.

F. VALVE BOXES: TYPE AND SIZE AS NOTED ON DETAILS. ALL VALVES BOXES SHALL BE LOCKING BOLT-DOWN TYPE, FURNISHED WITH LIDS AND BOLTS. BOXES SHALL BE OF A SIZE TO CONTAIN THE ENTIRE VALVE AND/OR VALVE ASSEMBLY. THE VALVE BOX LID SHALL HAVE THE VALVE STATION NUMBER HEAT-BRANDED INTO THE LID WITH 2" HIGH LETTERS.

G. INTEGRAL EMITTER DRIP TUBING: TUBING MODEL AND FLOW RATE AS NOTED ON PLANS, WITH INTEGRAL EMITTERS WELDED TO THE INSIDE WALL OF THE TUBING AS AN INTEGRAL PART OF THE TUBING ASSEMBLY.

H. AUTOMATIC CONTROLLER: TYPE AND MODEL PER PLANS. PROVIDE VANDAL-PROOF ENCLOSURE FOR ALL EXTERIOR INSTALLATIONS. PROVIDE LINE-VOLTAGE DISCONNECT SWITCH WITH GROUND FAULT PROTECTION.

I. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR IRRIGATION WIRE. EACH CONTROLLER SHALL HAVE A DIFFERENT COLOR STATION AND COMMON WIRE.
  1. STATION WIRE - ANY COLOR EXCEPT WHITE OR BLUE
  2. COMMON WIRE - WHITE
  3. EXTRA COMMON WIRES - BLUE

J. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF COMPOUND OR GEL. ALL FIELD SPLICES SHALL BE LOCATED IN A 6 INCH ROUND VALVE BOX.

K. RAIN SENSOR: TYPE AND MODEL PER PLANS.

METHODS

A. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQURED TO MOVE SUCH ITEMS AT HIS OWN COST. ENSURE FIELD COORDINATION IS MADE EARLY ON IN THE CONSTRUCTION PHASE SO PLACEMENT LOCATION IS CORRECT.

B. THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND REPORT ANY CONFLICTS OR DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY.

C. THE IRRIGATION CONTRACTOR SHALL NOT WILFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADES OR DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE IRRIGATION DESIGNER. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS AND NECESSARY COSTS.

D. SEE UTILITY PLANS FOR IRRIGATION POINTS OF CONNECTION (TAP) AND DOMESTIC WATER SUPPLY.

E. THE IRRIGATION CONTRACTOR SHALL PAY ANY AND ALL FEES ASSOCIATED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM.

F. AT LEAST SEVEN DAYS BEFORE BEGINNING WORK, CONFIRM THE STATIC WATER PRESSURE IS AT LEAST 60 PSI. IF STATIC WATER PRESSURE IS LESS THAN STATED, DO NOT PROCEED WITHOUT FIRST NOTIFYING THE IRRIGATION DESIGNER AND OWNER IN WRITING, AND OBTAINING SUBSEQUENT DIRECTION FOR CORRECTIONAL MEASURES. SHOULD THE IRRIGATION CONTRACTOR CHOOSE TO BEGIN THE INSTALLATION WITHOUT SUCH NOTIFICATION, THE IRRIGATION CONTRACTOR WILL ASSUME THE RESPONSIBILITY FOR ALL COSTS INCURRED TO ENSURE THE SYSTEM IS WORKING PROPERLY. NO CHANGE ORDERS WILL BE AUTHORIZED IN SUCH CIRCUMSTANCES.

G. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES AND UTILITIES.

H. COORDINATE WITH THE OWNER THE PROPOSED LOCATIONS OF THE AUTOMATIC CONTROLLER AND ANY REQUIRED SLEEVES THROUGH THE BUILDING FOR CONTROL WIRES.

I. TRENCHING NEAR EXISTING TREES:
  1. CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS EQUAL TO 1' FOR EVERY 1" OF TRUNK DIAMETER-AT-BREAST-HEIGHT (4.5' ABOVE THE AVERAGE GRADE AT THE TRUNK).
  2. ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
  3. ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER. WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITHIN THE CANOPY DRIP LINES WITHIN 24 HOURS.
  4. ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.

J. ALL BACKFILL MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE OWNER. BACKFILL MATERIAL SHALL BE FREE FROM RUBBISH, ROCK, LARGE STONES, BRUSH, SOD, FROZEN MATERIAL OR OTHER UNSUITABLE SUBSTANCES THAT MAY DAMAGE PIPE DURING THE BACKFILLING OPERATIONS. IN THE EVENT THAT THE MATERIAL FROM THE EXCAVATION OR TRENCHING IS FOUND TO BE UNSUITABLE FOR USE IN BACKFILL, IT SHALL BE REMOVED FROM THE SITE AND PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL THEN PURCHASE AND AND FURNISH SUITABLE BACKFILL MATERIAL CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND OR OTHER APPROVED MATERIALS FREE OF DEBRIS.

K. BACKFLOW INSTALLATION: CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER SOURCES AT LOCATION SHOWN ON PLANS AND AS APPROVED BY THE OWNER, AND SHALL MAKE ANY MINOR CHANGES IN LOCATION AS MAY BE NECESSARY DUE TO ACTUAL SITE CONDITIONS. BACKFLOW HEIGHT SHALL BE AS PER LOCAL CODES AND IRRIGATION DETAILS. INSTALL A BRASS BALL VALVE IMMEDIATELY UPSTREAM OF THE BACKFLOW DEVICE TO SERVE AS AN ISOLATION VALVE.

L. PIPING:
  1. PIPE SIZE SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS FOR LARGER SIZES MAY BE APPROVED.
  2. MAINLINE PIPE AND WIRES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18 INCHES. LATERAL PIPE SHALL BE INSTALLED WITH A MINIMUM COVER OF 12 INCHES.
  3. ASSEMBLE ALL THREADED FITTINGS WITH TEFLON TAPE, WHICH SHALL BE APPLIED TO MALE THREADS ONLY.
  4. ALL SOLVENT-WELD CONNECTIONS SHALL BE MADE WITH APPROVED SOLVENT-WELD PRIMER AND GLUE.
  5. PIPE SHALL BE INSTALLED WITH A MINIMUM OF 4" HORIZONTAL CLEARANCE FROM ANY OTHER PIPE AND 2" VERTICAL CLEARANCE FROM ANY PIPES THAT CROSS OVER OR UNDER.

M. VALVES SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS. EACH VALVE SHALL BEAR A PRE-PRINTED WATERPROOF TAG BEARING THE APPROPRIATE CONTROLLER STATION NUMBER.

N. VALVE BOXES SHALL BE INSTALLED FLUSH WITH THE GRADE, WITH CLEAN PEA GRAVEL LOCATED BELOW THE VALVE AS NOTED ON THE DETAILS. EACH VALVE BOX COVER SHALL BE HEAT-BRANDED WITH THE CONTROLLER STATION NUMBER.

O. DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
  1. SUBSURFACE DRIP LINES SHALL BE BURIED NO MORE THAN 2" BELOW FINISH GRADE.
  2. DRIP LINES MOUNTED ON GRADE SHALL BE LOCATED BENEATH LANDSCAPE FABRIC, AND SECURED IN PLACE WITH WIRE STAPLES AT A MAXIMUM OF 48" ON CENTER.

P. AUTOMATIC CONTROLLER:
  1. INSTALL THE CONTROLLER AT THE LOCATION INDICATED BY THE OWNER. INSTALL CONTROLLER WITH A BACKUP BATTERY AS RECOMMENDED BY THE MANUFACTURER.
  2. THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLER AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
  3. ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3M'S "DBY-DIRECT BURIAL SPLICE KIT". THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COIL OF EXCESS WIRE AT EACH CONNECTION.
  4. PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
  5. CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3M'S "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).
  6. PROVIDE THREE ADDITIONAL IRRIGATION CONTROL WIRES ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.
  7. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE SLEEVES AND PIPE SLEEVES UNDER PAVED AREAS PRIOR TO PAVING - SEE SLEEVING NOTES.

Q. INSTALL THE RAIN SENSOR IN THE VICINITY OF THE CONTROLLER, AND COORDINATE LOCATION WITH THE OWNER. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THE RAIN SENSOR IS PLACED IN A LOCATION WHERE IT CAN RECEIVE ADEQUATE RAINFALL WITHOUT OBSTRUCTIONS. IF IT IS PLACED IN AN INADEQUATE LOCATION, THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO RELOCATE IT AT NO ADDITIONAL COST TO THE OWNER.

R. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

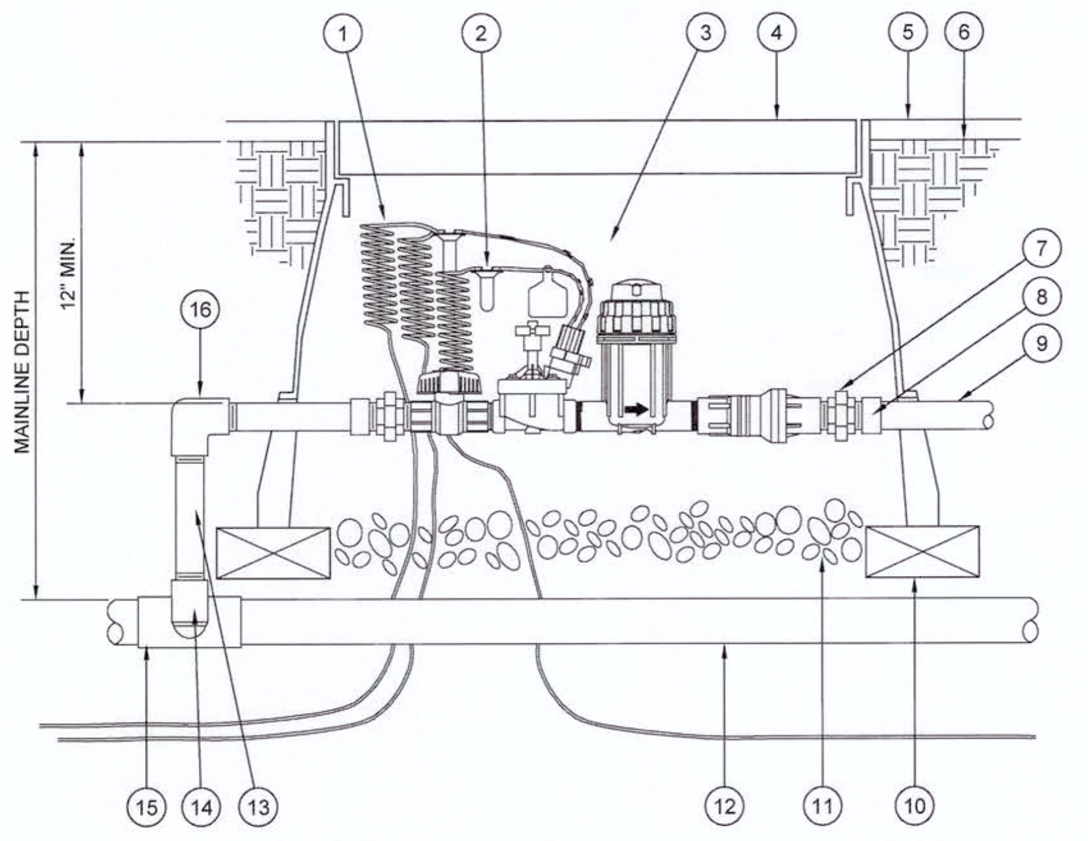
S. QUALITY CONTROL
  1. PERFORM COVERAGE TESTS AFTER SPRINKLER SYSTEM IS COMPLETED, BUT PRIOR TO ANY PLANTING AND PERFORM TESTING IN THE PRESENCE OF THE IRRIGATION DESIGNER AND THE CONSTRUCTION MANAGER.
  2. TEST SYSTEM TO ASSURE THAT ALL LAWN AND PLANTING AREAS ARE WATERED COMPLETELY AND UNIFORMLY.
  3. MAKE ALL NECESSARY ADJUSTMENTS TO PROVIDE COMPLETE COVERAGE, INCLUDING REALIGNMENT OF HEADS AND REPLACEMENT OF NOZZLES.

T. CLEAN UP
  1. DURING IRRIGATION EXCAVATION AND INSTALLATION, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
  2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

U. INSPECTION AND ACCEPTANCE
  1. UPON COMPLETION OF THE WORK, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE IRRIGATION CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
  3. WHEN THE INSPECTED WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
  4. THE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.
  5. CONTROLLER CHART: THE IRRIGATION CONTRACTOR SHALL PROVIDE A 8 $\frac{1}{2}$" X 11" COLOR-CODED, LAMINATED COPY OF THE IRRIGATION LAYOUT AND PLACE IT IN THE CONTROLLER'S COVER. THE CONTROLLER CHART SHALL CLEARLY DELINEATE THE AREAS COVERED BY EACH VALVE, USING A SEPARATE COLOR FOR EACH ZONE.
  6. TURN THE FOLLOWING ITEMS IN TO THE OWNER UPON COMPLETION OF THE INSTALLATION:
    a. QUICK COUPLER KEYS (2)
    b. CONTROLLER MANUAL (1)
    c. CONTROLLER KEYS (2)
    d. A MINIMUM OF (2) COPIES OF RECORD DRAWINGS. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.

V. REFER TO THE PLANTING SPECIFICATIONS FOR ADDITIONAL CONDITIONS OF FINAL ACCEPTANCE AND START OF THE MAINTENANCE PERIOD.

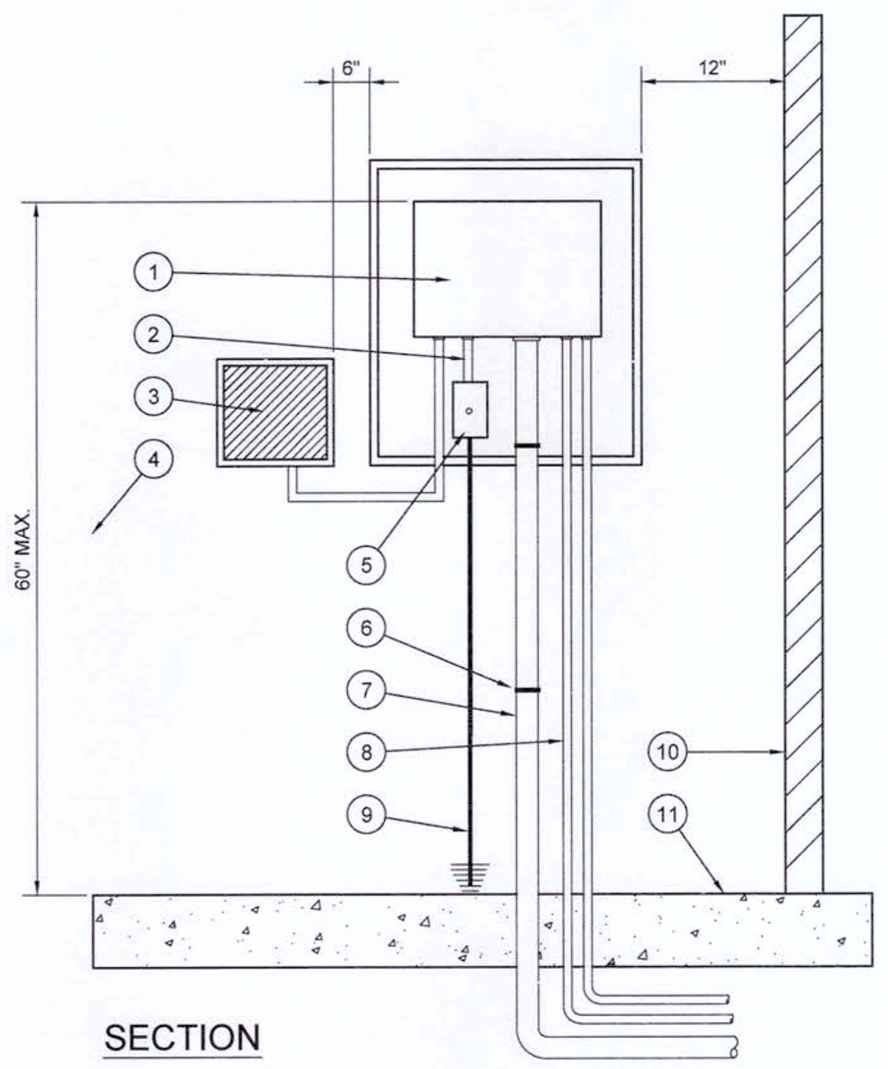
W. WARRANTY
  1. THE IRRIGATION SYSTEM SUPPLIED AND INSTALLED SHALL BE WARRANTED (LABOR AND MATERIALS) TO REMAIN OPERATIONAL FOR A PERIOD OF 12 MONTHS AFTER THE DATE OF FINAL ACCEPTANCE. DURING THIS PERIOD, THE CONTRACTOR SHALL ALSO REPAIR ANY SETTLEMENT OF THE IRRIGATION TRENCHES.
  2. BY THE END OF THE WARRANTY PERIOD, ANY IRRIGATION PART THAT IS EITHER NON-OPERATIONAL OR THAT IS OPERATING BELOW STANDARDS AS DETERMINED BY THE OWNER, SHALL BE REMOVED FROM THE SITE AND SHALL BE REPLACED. REPLACEMENTS SHALL BE OF THE SAME KIND AS SPECIFIED IN THE IRRIGATION LEGEND, AND SHALL BE INSTALLED AS ORIGINALLY SPECIFIED.
  3. IRRIGATION PARTS DAMAGED OR IMPAIRED DUE TO ACTS OF GOD, VANDALISM, AND/OR THE OWNER'S IMPROPER MAINTENANCE SHALL NOT BE COVERED BY THIS WARRANTY.



① 30-INCH LINEAR LENGTH OF WIRE, COILED
② WATERPROOF CONNECTION (ANY APPROVED)
③ REMOTE CONTROL VALVE ASSEMBLY
④ JUMBO PLASTIC VALVE BOX BY CARSON (OR EQUAL)
⑤ TOP OF MULCH
⑥ FINISHED GRADE-1" BELOW TOP OF BOX IN TURF AREAS, 2" IN SHRUB AREAS
⑦ PVC UNION (2)
⑧ PVC SCH 40 MALE ADAPTER (2)
⑨ PVC LATERAL PIPE
⑩ BRICK (1 OF 4)
⑪ 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
⑫ PVC MAINLINE PIPE
⑬ PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
⑭ SCH. 40 PVC ELL
⑮ SCH. 40 PVC TEE OR ELL
⑯ SCH. 40 PVC THREADED ELL

D DRIP CONTROL ZONE KIT

SCALE: NTS



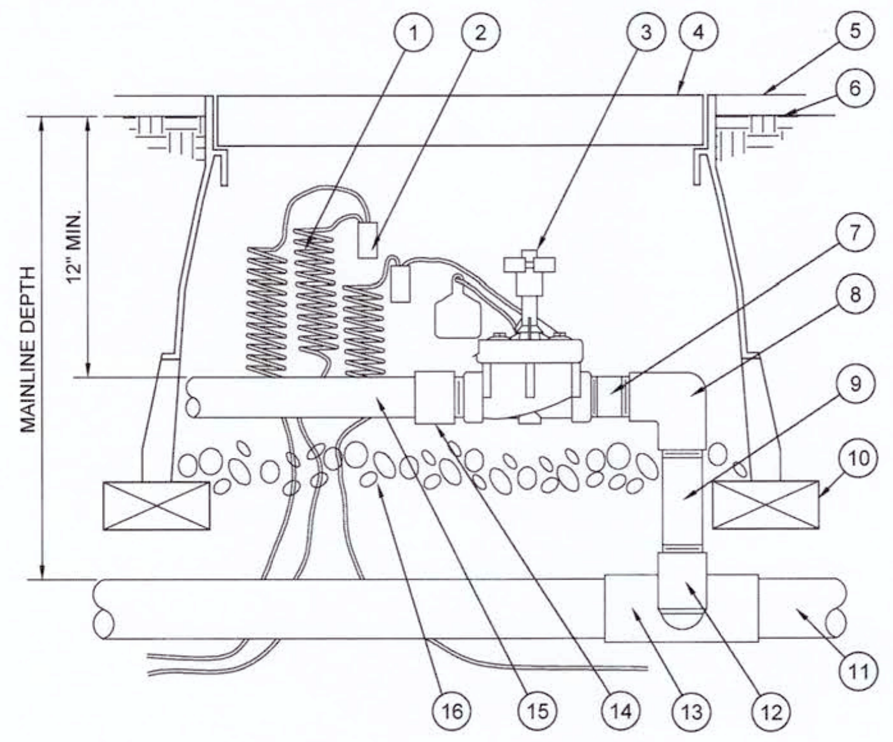
① CONTROLLER PER LEGEND
② 1/2" ELECTRICAL CONDUIT BETWEEN CONTROLLER AND ELECT. BOX CLAMP TO WALL
③ SENSOR MONITOR PANEL OR RECEIVER (WHERE OCCURS)
④ WALL
⑤ 120 VOLT SERVICE IN WATERPROOF JUNCTION BOX WITH DISCONNECT SWITCH, INSTALL INSIDE STAINLESS ENCLOSURE
⑥ C-CLAMPS (TYP.)
⑦ CONDUIT(S) FOR 24 VOLT CONTROL WIRES. CLAMP TO WALL. USE 1 CONDUIT FOR 0-24 STATIONS. USE 2 CONDUITS FOR 25-48 STATIONS
⑧ SENSOR CABLES IN CONDUITS (WHERE OCCURS)
⑨ GROUNDING PER MANUFACTURER
⑩ WALL
⑪ FINISH FLOOR SURFACE

SECTION

NOTES:
1) MOUNT CONTROLLER AND CABINET PER MANUFACTURER'S DIRECTIONS.
2) 120 V.A.C. POWER PROVIDED BY OTHERS. LANDSCAPE CONTRACTOR SHALL MAKE FINAL CONNECTION AT CONTROLLER. CONNECT TO ELECTRICAL SUPPLY PER NATIONAL ELECTRIC CODE AND LOCAL CODE.
3) LOCATE GROUND ROD 8' MIN. FROM CONTROLLER. VERIFY LOCATION OF GROUND ROD, CONTROLLER AND SOURCE OF ELECTRICITY WITH MANUFACTURER'S REPRESENTATIVE AND OWNER AS PART OF PRE CONSTRUCTION MEETING.

B CONTROLLER - WALL MOUNT, INDOOR

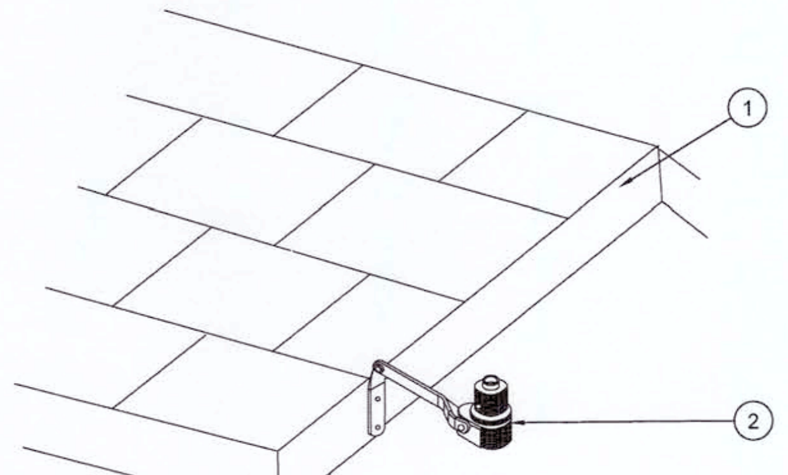
SCALE: NTS



① 30-INCH LINEAR LENGTH OF WIRE, COILED
② WATERPROOF CONNECTION (ANY APPROVED)
③ REMOTE CONTROL VALVE
④ JUMBO PLASTIC VALVE BOX BY CARSON (OR EQUAL)
⑤ TOP OF MULCH
⑥ FINISHED GRADE-1" BELOW TOP OF BOX IN TURF AREAS, 2" IN SHRUB AREAS
⑦ PVC SCH 80 NIPPLE (CLOSE)
⑧ PVC SCH 40 ELL
⑨ PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
⑩ BRICK (1 OF 4)
⑪ PVC MAINLINE PIPE
⑫ SCH. 40 PVC ELL
⑬ PVC SCH 40 TEE OR ELL
⑭ PVC SCH 40 MALE ADAPTER
⑮ PVC LATERAL PIPE
⑯ 3-INCH MINIMUM DEPTH OF $\frac{3}{4}$-INCH WASHED GRAVEL

C REMOTE CONTROL VALVE

SCALE: NTS



① PARAPET OR EAVE
② AUTOMATIC RAIN SENSOR - INSTALL PER MANUFACTURER'S INSTRUCTIONS

A RAIN SENSOR, ROOF MOUNT

SCALE: NTS

9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS
CS PROJECT NUMBER: 99715

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5/3/17

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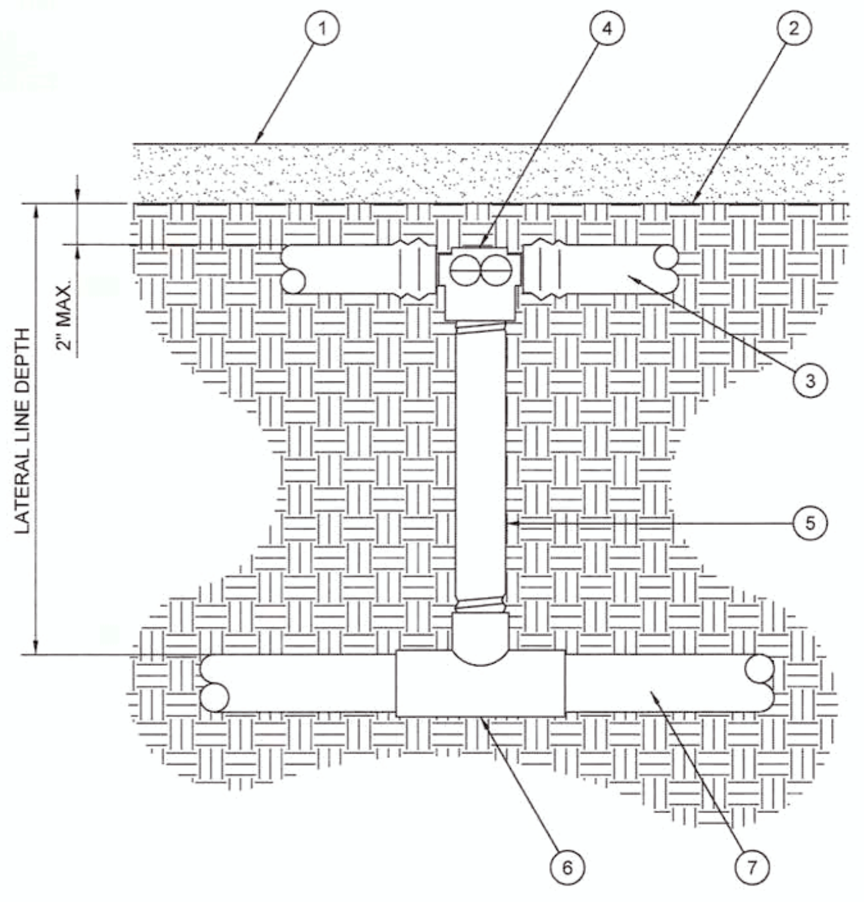
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

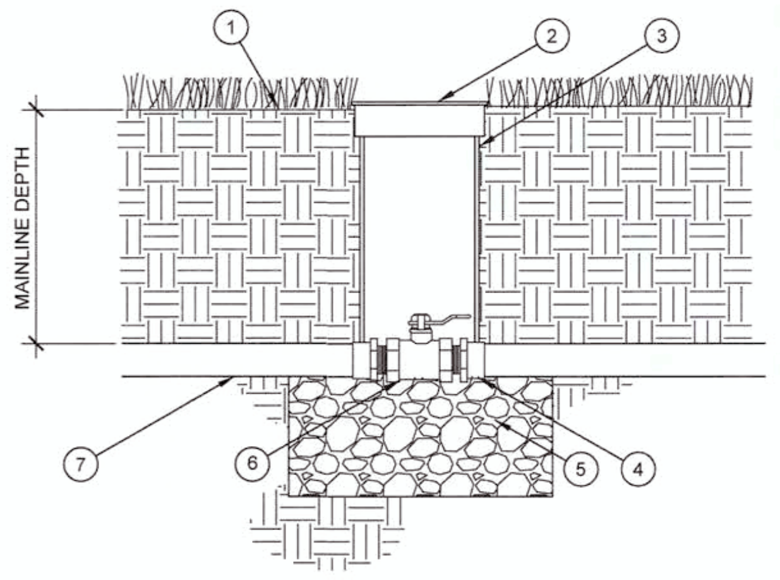
SCALE: (H) as (V) noted
DRAWN BY: DFR
DESIGNED BY: DFR
CHECKED BY: RM
DATE: 12/2/16
JOB No: 0469-16-197
TITLE: IRRIGATION SPECS & DETAILS
SHEET No: 14 OF 29
COMMENTS: THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 1



- ① TOP OF MULCH
- ② FINISH GRADE
- ③ DRIP LINE PER PLAN
- ④ INSERT TEE OR ELBOW
- ⑤ SCH. 80 PVC NIPPLE (LINE SIZE)
- ⑥ SCH. 40 PVC TEE (SST)
- ⑦ SCH. 40 PVC SUPPLY HEADER (SIZE PER PLAN)

H SUBSURFACE DRIPLINE CONNECTION

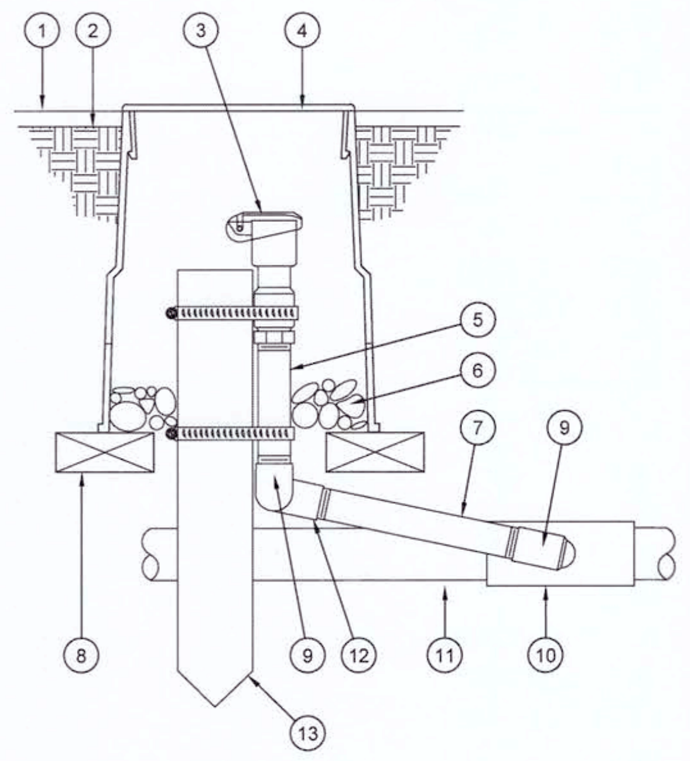
SCALE: NOT TO SCALE



- ① FINISH GRADE AT 1" BELOW TOP OF BOX IN TURF AREAS: 2" BELOW TOP OF BOX IN SHRUB/GROUNDCOVER AREAS
- ② 9" ROUND VALVE BOX WITH LOCKABLE LID
- ③ EXTENSION SECTION AS NECESSARY TO MEET GRADE
- ④ PVC MALE ADAPTER
- ⑤ 3-INCH MINIMUM DEPTH OF $\frac{3}{4}$-INCH WASHED GRAVEL
- ⑥ BRASS BALL VALVE (SIZED PER MAINLINE)
- ⑦ IRRIGATION MAINLINE

E BRASS BALL VALVE

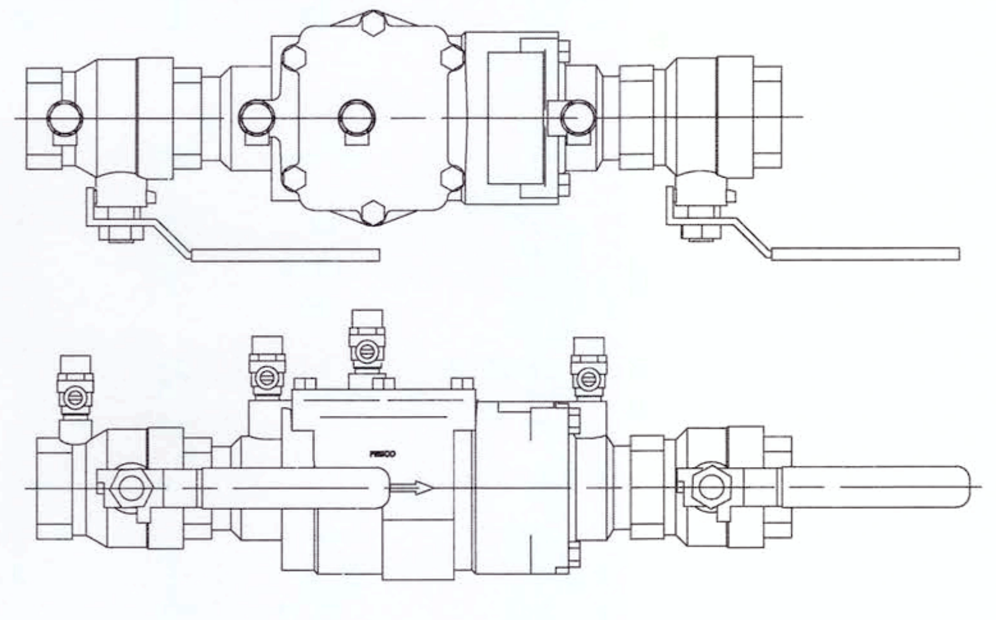
SCALE: NTS



- ① TOP OF MULCH
- ② FINISHED GRADE-1" BELOW TOP OF BOX IN TURF AREAS, 2" IN SHRUB AREAS
- ③ QUICK-COUPLING VALVE
- ④ 10" ROUND PLASTIC VALVE BOX BY CARSON (OR EQUAL)
- ⑤ 6" LONG BRASS NIPPLE
- ⑥ 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- ⑦ BRASS NIPPLE (LENGTH AS REQUIRED)
- ⑧ BRICK (1 OF 2)
- ⑨ PVC SCH 40 STREET ELL
- ⑩ PVC SCH 40 TEE OR ELL
- ⑪ PVC MAINLINE PIPE
- ⑫ PVC SCH 40 ELL
- ⑬ 2" x 2" REDWOOD STAKE WITH STAINLESS STEEL GEAR CLAMPS OR EQUIVALENT SUPPORT SYSTEM

B QUICK COUPLER

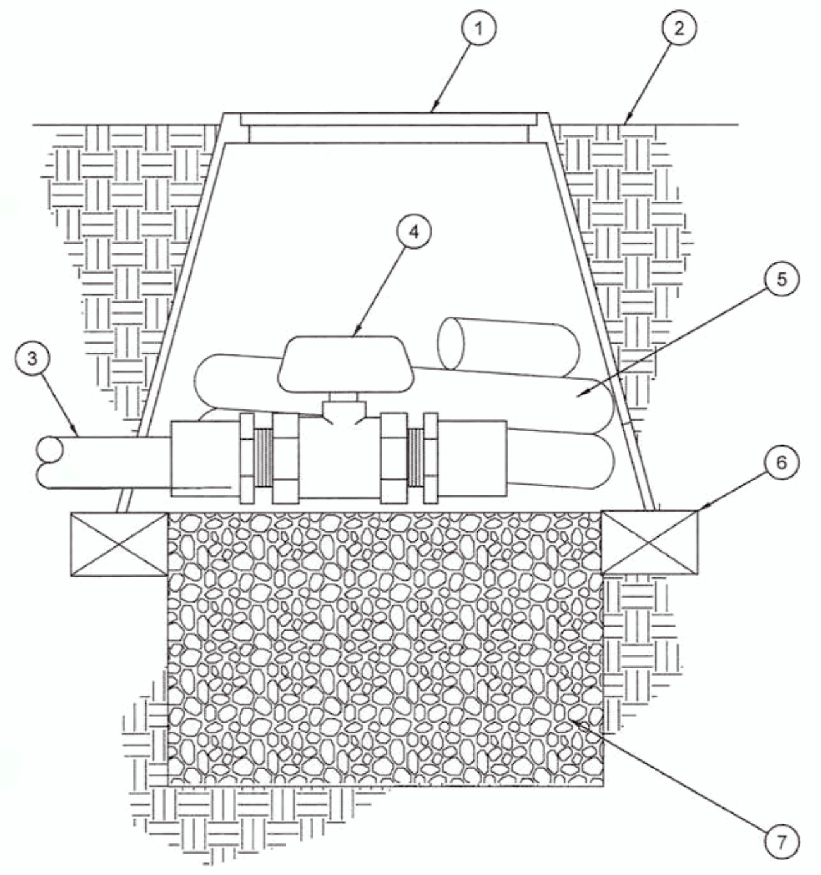
SCALE: NTS



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

A BACKFLOW PREVENTER (DCV)

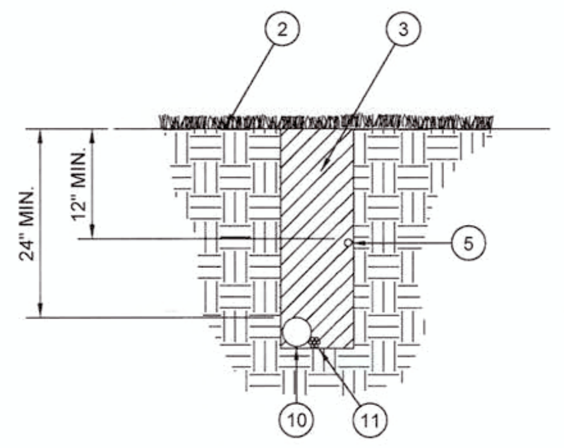
SCALE: NTS



- ① 10" ROUND PLASTIC VALVE BOX WITH LOCKABLE LID, "CARSON" OR APPROVED EQUAL
- ② FINISH GRADE - TOP OF VALVE BOX TO BE 2" ABOVE FINISH GRADE IN PLANTER AREAS
- ③ DRIP EXHAUST HEADER
- ④ BALL VALVE, LINE SIZE
- ⑤ 3' COILED LENGTH OF LINE SIZE FLEX HOSE. SOLVENT WELD TO VALVE
- ⑥ RED BRICK TYPICAL, 3 REQUIRED
- ⑦ 6" DEEP LAYER OF PEA GRAVEL

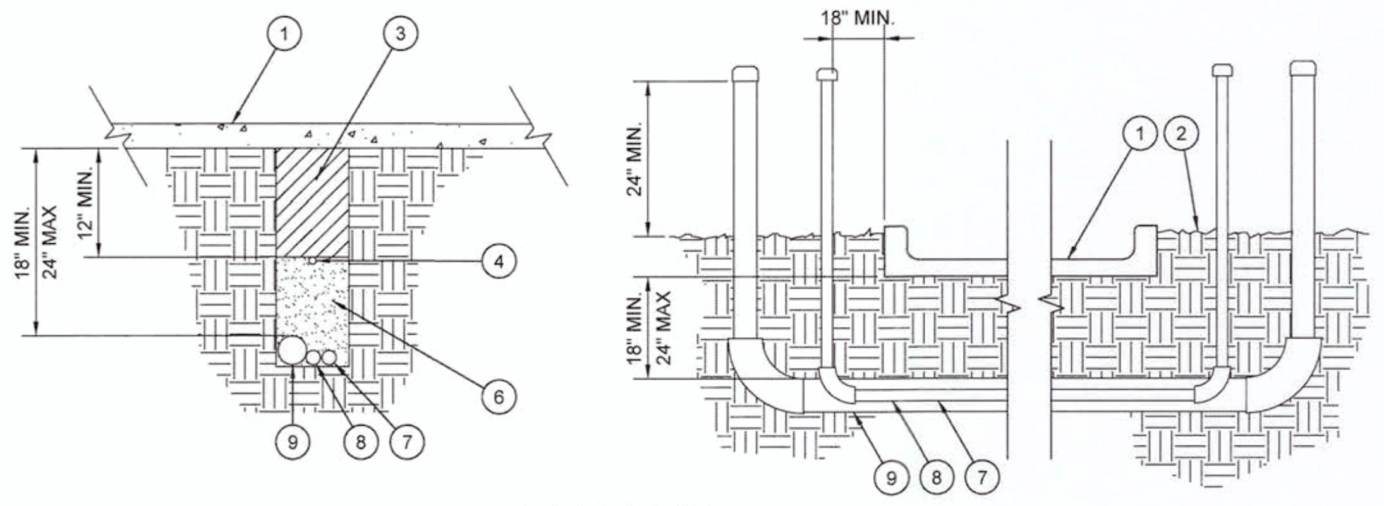
G FLUSH VALVE

SCALE: NTS



TRENCHING

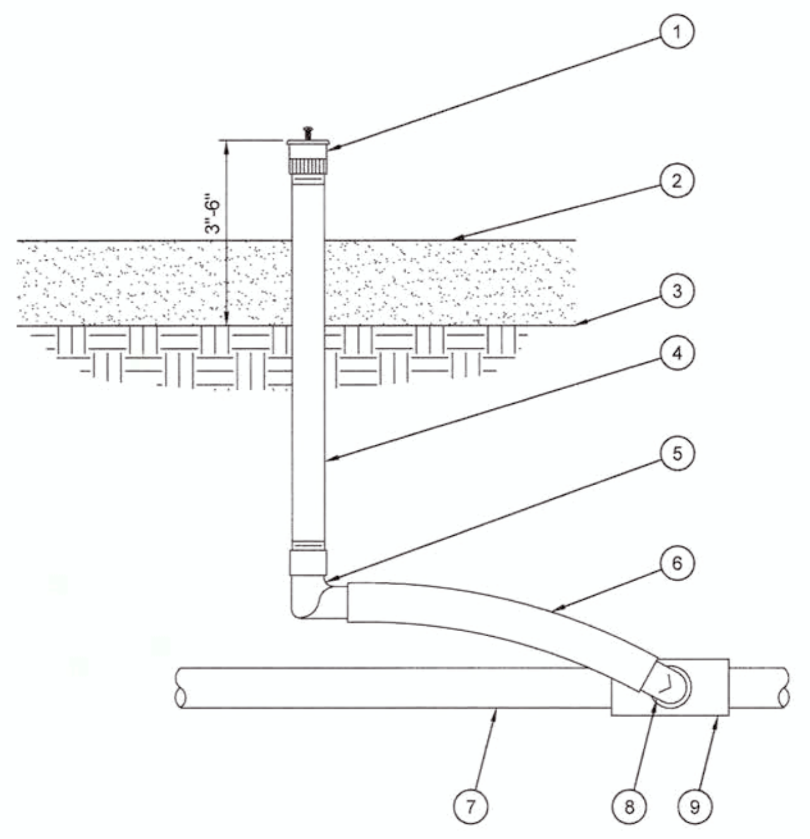
- ① PAVEMENT SURFACE
- ② FINISH GRADE
- ③ TRENCH BACKFILL
- ④ LOCATOR WIRE W/BURIED CAUTION TAPE
- ⑤ PVC IRRIGATION LATERAL - BURIED MIN. 12" BELOW GRADE
- ⑥ SAND BACKFILL
- ⑦ SCH. 40 PVC LATERAL SLEEVE - SEE PLANS FOR SIZE
- ⑧ SCH. 40 PVC WIRE SLEEVE FOR CONTROL WIRES, MIN. 2" DIA.
- ⑨ SCH. 40 PVC MAINLINE SLEEVE - SEE PLANS FOR SIZE
- ⑩ PVC IRRIGATION MAINLINE
- ⑪ CONTROL WIRES - TAPE TO MAINLINE AT 10' INTERVALS
- ⑫ PVC CAP, SOLVENT WELDED



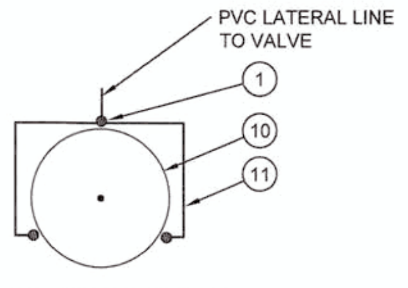
SLEEVING

D PIPE AND SLEEVE INSTALLATION

SCALE: NTS



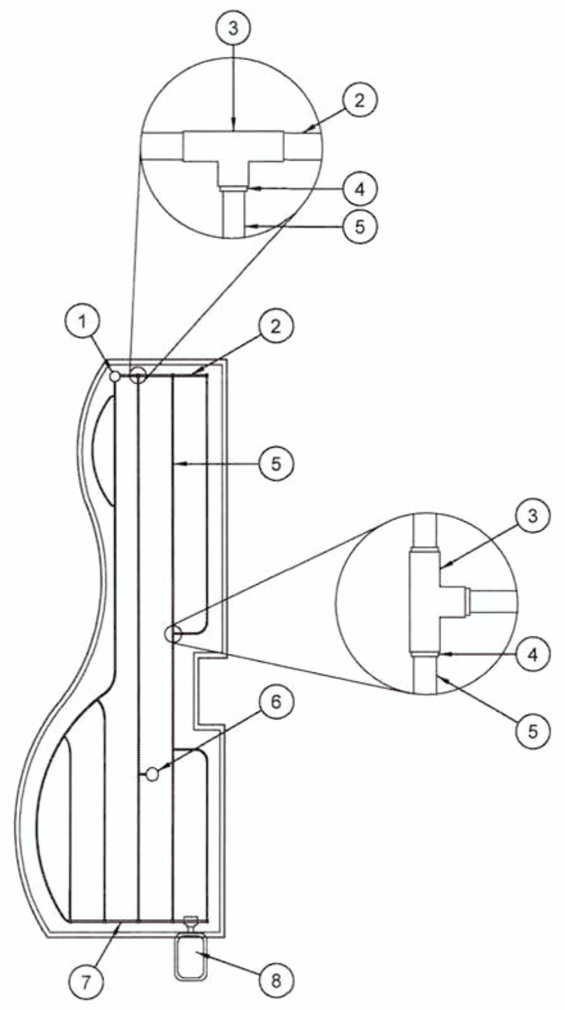
- ① BUBBLER PER LEGEND - 3 PER TREE
- ② MULCH
- ③ FINISH GRADE/TOP OF MULCH
- ④ UV RADIATION RESISTANT 1/2-INCH PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- ⑤ 1/2-INCH FEMALE NPT x 0.490-INCH BARB ELBOW
- ⑥ SWING PIPE, 12-INCH LENGTH
- ⑦ PVC LATERAL PIPE
- ⑧ 1/2-INCH MALE NPT x .490-INCH BARB ELBOW
- ⑨ SCH 40 TEE OR ELL
- ⑩ EDGE OF ROOTBALL
- ⑪ PVC LATERAL LINE - 3/4"



BUBBLER LAYOUT PLAN VIEW

F BUBBLER

SCALE: NTS



- ① FLUSH VALVE
- ② SCH. 40 PVC EXHAUST HEADER
- ③ SCH. 40 PVC TEE OR ELL
- ④ COMPRESSION ADAPTER
- ⑤ DRIP LINE
- ⑥ AIR RELIEF VALVE AT HIGH POINT OF SYSTEM (WHERE INDICATED ON PLANS)
- ⑦ SCH. 40 PVC SUPPLY HEADER
- ⑧ CONTROL VALVE

NOTE: SET DRIP LINES 3"-6" AWAY FROM HARDSCAPE

C SUBSURFACE DRIP LINE LAYOUT

SCALE: NOT TO SCALE

9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS
CS PROJECT NUMBER: 99715

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PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

SCALE: (H) as (V) noted
DRAWN BY: DFR
DESIGNED BY: DFR
CHECKED BY: RM
DATE: 12/2/16
JOB No: 0469–16–197

TITLE:
IRRIGATION SPECS & DETAILS

SHEET No: 15 OF 29

COMMENTS:
THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 1

Plotted: 05/03/17 – 6:20 PM, By: dondondon
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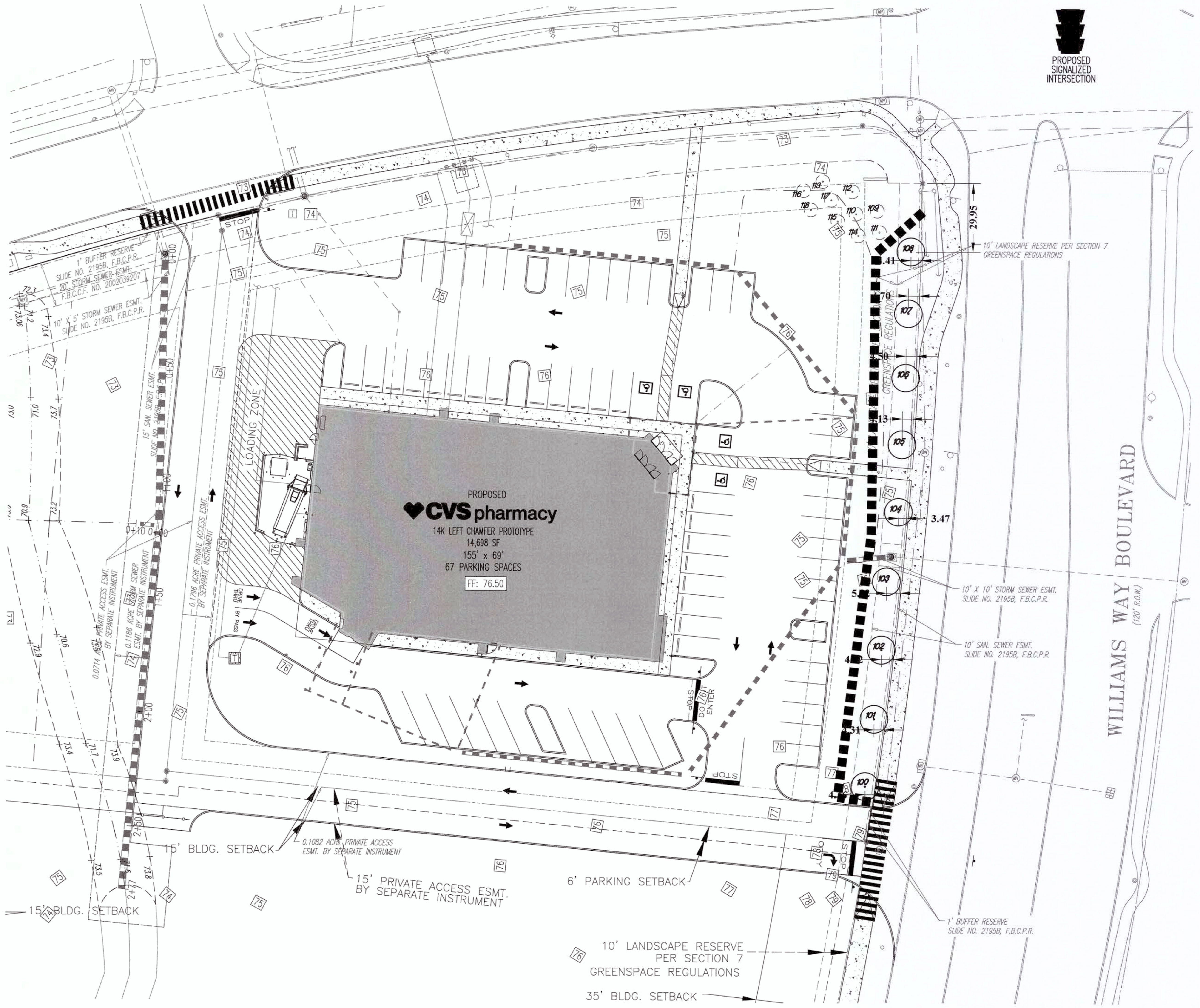

PROPOSED
SIGNALIZED
INTERSECTION
PROPOSED
CVS pharmacy
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
FF: 76.50
LOADING ZONE
DRIVE THRU
BY PASS
DO NOT ENTER
STOP
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT. F.B.C.C.F. NO. 2002039207
10' X 5' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B
0.0714 ACRE PRIVATE ACCESS ESMT. BY SEPARATE INSTRUMENT
0.1186 ACRE STORM SEWER ESMT. BY SEPARATE INSTRUMENT
0.1796 ACRE PRIVATE ACCESS ESMT. BY SEPARATE INSTRUMENT
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
10' X 10' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
15' BLDG. SETBACK
0.1082 ACRE PRIVATE ACCESS ESMT. BY SEPARATE INSTRUMENT
15' PRIVATE ACCESS ESMT. BY SEPARATE INSTRUMENT
6' PARKING SETBACK
15' BLDG. SETBACK
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
35' BLDG. SETBACK
29.95
3.47
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
0+00
0+50
1+00
1+50
2+00
2+50
2+77
73
74
75
76
77
78
79

TREE LIST

TAG #	DESCRIPTION	MITIGATION
100	12" OAK	NO
101	12" OAK	NO
102	12" OAK	NO
103	12" OAK	NO
104	12" OAK	NO
105	12" OAK	NO
106	12" OAK	NO
107	12" OAK	NO
108	12" OAK	NO
~~109~~	~~10" CHERRY LAUREL~~	~~YES~~
~~110~~	~~10" CHERRY LAUREL~~	~~YES~~
~~111~~	~~10" CHERRY LAUREL~~	~~YES~~
~~115~~	~~10" CHERRY LAUREL~~	~~YES~~
~~116~~	~~10" CHERRY LAUREL~~	~~YES~~
~~117~~	~~10" CHERRY LAUREL~~	~~YES~~
~~118~~	~~10" CHERRY LAUREL~~	~~YES~~

~~INDICATES TREE TO BE REMOVED~~

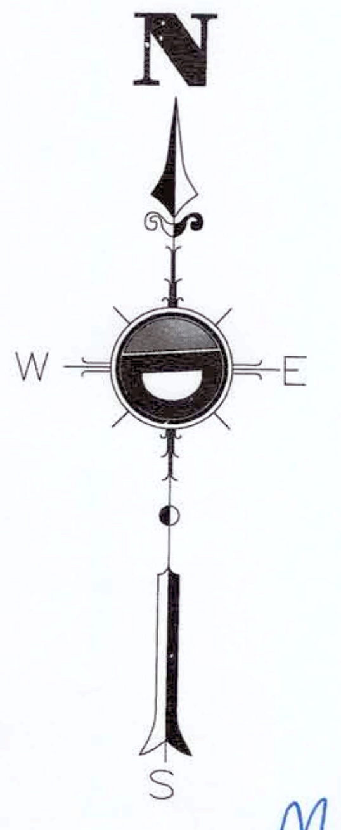
REF LP-1 FOR TREE REPLACEMENT INFORMATION

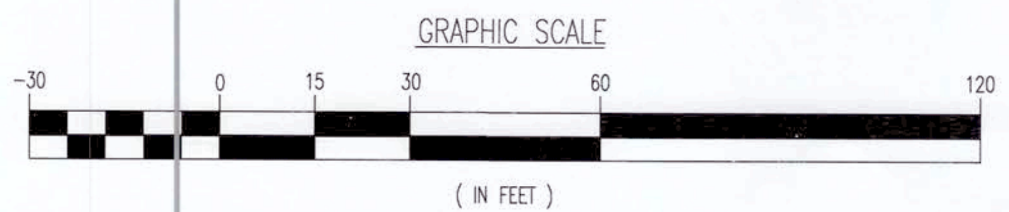
LEGEND

○ EXISTING TREE TO BE RETAINED

◌ EXISTING TREE TO BE REMOVED & REPLACED WITH EQUIVALENT REF. SHEET 12

▬ ▬ ▬ TREE PROTECTIVE FENCING




GRAPHIC SCALE
-30
0
15
30
60
120

(IN FEET)
1 INCH = 30 FT.

9/27/17

Plotted: 06/09/17 – 7:30 AM, By: dandandan
File: C:\Users\dandandan\Dropbox (Rodney)\EDG – Shared\2016\CVS at Richmond TX\CVS Richmond LP 2017-6-9.dwg, ---> 16

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

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CS PROJECT NUMBER: 99715

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6/9/17

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Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

SCALE: (H) noted (V) as
DRAWN BY: DFR
DESIGNED BY: DFR
CHECKED BY: RM
DATE: 12/2/2016
JOB No: 0469-16-197
TITLE: TREE SURVEY
SHEET No: 16 OF 29
COMMENTS: THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 2

Plotted: 05/03/17 – 5:44 PM, By: dandandan
File: C:\Users\dandandan\Dropbox (Rodney)\EDG – Shared\2016\CVS at Richmond TX\CVS Richmond LP 2017-5-3.dwg, ---> 17

TREE PROTECTION SPECIFICATIONS

MATERIALS

1. FABRIC: 4 FOOT HIGH ORANGE PLASTIC FENCING AS SHOWN ON THE PLANS AND SHALL BE WOVEN WITH 2 INCH MESH OPENINGS SUCH THAT IN A VERTICAL DIMENSION OF 23 INCHES ALONG THE DIAGONALS OF THE OPENINGS THERE SHALL BE AT LEAST 7 MESHES.
2. POSTS: POSTS SHALL BE A MINIMUM OF 72 INCHES LONG AND STEEL 'T' SHAPED WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAR FOOT.
3. TIE WIRE: WIRE FOR ATTACHING THE FABRIC TO THE T-POSTS SHALL BE NOT LESS THAN NO. 12 GAUGE GALVANIZED WIRE,
4. USED MATERIALS: PREVIOUSLY-USED MATERIALS, MEETING THE ABOVE REQUIREMENTS AND WHEN APPROVED BY THE OWNER, MAY BE USED.

CONSTRUCTION METHODS

ALL TREES AND SHRUBS (SHOWN TO REMAIN) WITHIN THE PROXIMITY OF THE CONSTRUCTION SITE SHALL BE PROTECTED PRIOR TO BEGINNING ANY DEVELOPMENT ACTIVITY.

EMPLOY THE SERVICES OF AN ISA (INTERNATIONAL SOCIETY OF ARBORICULTURE) CERTIFIED ARBORIST (AND OBTAIN ALL REQUIRED PERMITS) TO PRUNE THE EXISTING TREES FOR CLEANING, RAISING AND THINNING. ENSURE ALL TREES RECEIVE A COMMERCIAL-GRADE ROOT STIMULATOR APPLICATION AFTER PRUNING.

PROTECTIVE FENCING SHALL BE ERECTED OUTSIDE THE DRIPLINE AT LOCATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE LANDSCAPE CONSULTANT AND/OR CITY ARBORIST OR IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AT THE DRIP LINE OF TREES (ROOT PROTECTION ZONE, RPZ) AND/OR LANDSCAPE PLANT MATERIAL INCLUDING NATURAL AREAS. FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.

PROTECTIVE FENCE LOCATIONS IN CLOSE PROXIMITY TO STREET INTERSECTIONS OR DRIVES SHALL ADHERE TO THE APPLICABLE JURISDICTION'S SIGHT DISTANCE CRITERIA.

THE PROTECTIVE FENCING SHALL BE ERECTED BEFORE SITE WORK COMMENCES AND SHALL REMAIN IN PLACE DURING THE ENTIRE CONSTRUCTION PHASE.

THE INSTALLATION POSTS WILL BE PLACED EVERY 6 FEET AROUND THE DRIP LINE OR RPZ AND EMBEDDED TO 18 INCHES DEEP. FABRIC ATTACHMENT SHALL BE ATTACHED TO THE INSTALLATION POSTS BY THE USE OF SUFFICIENT WIRE TIES TO SECURELY FASTEN THE FABRIC TO THE 'T-POSTS' TO HOLD THE FABRIC IN A STABLE AND UPRIGHT POSITION.

1. DO NOT CLEAR, FILL OR GRADE IN THE RPZ OF ANY TREE.
2. DO NOT STORE, STOCKPILE OR DUMP ANY JOB MATERIAL, SOIL OR RUBBISH UNDER THE SPREAD OF THE TREE BRANCHES.
3. DO NOT PARK OR STORE ANY EQUIPMENT OR SUPPLIES UNDER THE SPREAD OF THE TREE BRANCHES.
4. DO NOT SET UP ANY CONSTRUCTION OPERATIONS UNDER THE SPREAD OF THE TREE BRANCHES (EX. PIPE CUTTING AND THREADING, MORTAR MIXING, PAINTING OR LUMBER CUTTING).
5. DO NOT NAIL OR ATTACH TEMPORARY SIGNS METERS, SWITCHES, WIRES, BRACING OR ANY OTHER ITEM TO THE TREES.
6. DO NOT PERMIT RUNOFF FROM WASTE MATERIALS INCLUDING SOLVENTS, CONCRETE WASHOUTS, ASPHALT TACK COATS (MC-30 OIL), ETC. TO ENTER THE RPZ. BARRIERS ARE TO BE PROVIDED TO PREVENT SUCH RUNOFF SUBSTANCES FROM ENTERING THE RPZ WHENEVER POSSIBLE, INCLUDING IN AN AREA WHERE RAIN OR SURFACE WATER COULD CARRY SUCH MATERIALS TO THE ROOT SYSTEM OF THE TREE.

ROUTE UNDERGROUND UTILITIES TO AVOID THE RPZ. IF DIGGING IS UNAVOIDABLE, BORE UNDER THE ROOTS, OR HAND DIG TO AVOID SEVERING THEM.

THE CONTRACTOR SHOULD AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATION OCCURS NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION.

REMOVE ALL TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS BY HAND.

TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED AT THE CONTRACTOR'S EXPENSE AND TO THE PROJECT OWNER'S SATISFACTION.

ANY TREE REMOVAL SHALL BE APPROVED BY THE OWNER PRIOR TO ITS REMOVAL.

COVER EXPOSED ROOTS AT THE END OF EACH DAY WITH SOIL, MULCH OR WET BURLAP.

IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DUING CONSTRUCTION AND WHERE HEAVY TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH EIGHT INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. THIS EIGHT INCH DEPTH OF MULCH SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

WATER ALL TREES, MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES, DEEPLY ONCE A WEEK DURING PERIODS OF HOT DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.

WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

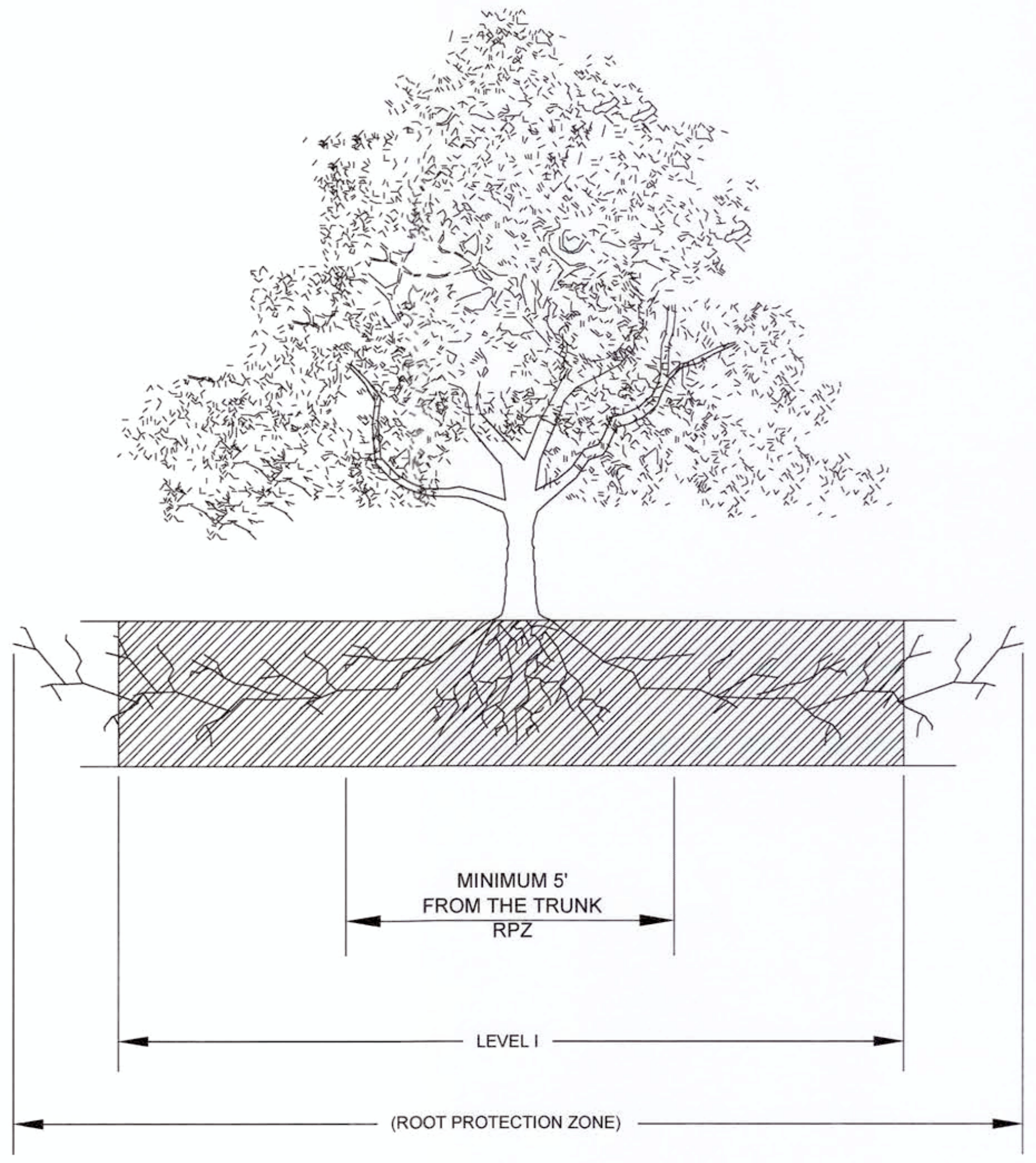
WHEN AN EXCAVATION OR EMBANKMENT IS PLACED WITHIN THE DRIPLINE OF ANY TREE GREATER THAN EIGHT INCHES IN DIAMETER, A TREE WELL SHALL BE CONSTRUCTED TO PROTECT THE TREE AS INDICATED, WHEN THE CUT OR FILL EXCEEDS EIGHT INCHES.

WHERE PAVING OR FILLING IS NECESSARY WITHIN THE DRIPLINE OF ANY TREE EIGHT INCHES OR GREATER, A PERMEABLE PAVEMENT AND AERATION SYSTEM MUST BE INSTALLED.

CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TREE PROTECTION FENCING WHEN ALL THREATS TO THE EXISTING TREES FROM CONSTRUCTION-RELATED ACTIVITIES HAVE BEEN REMOVED.

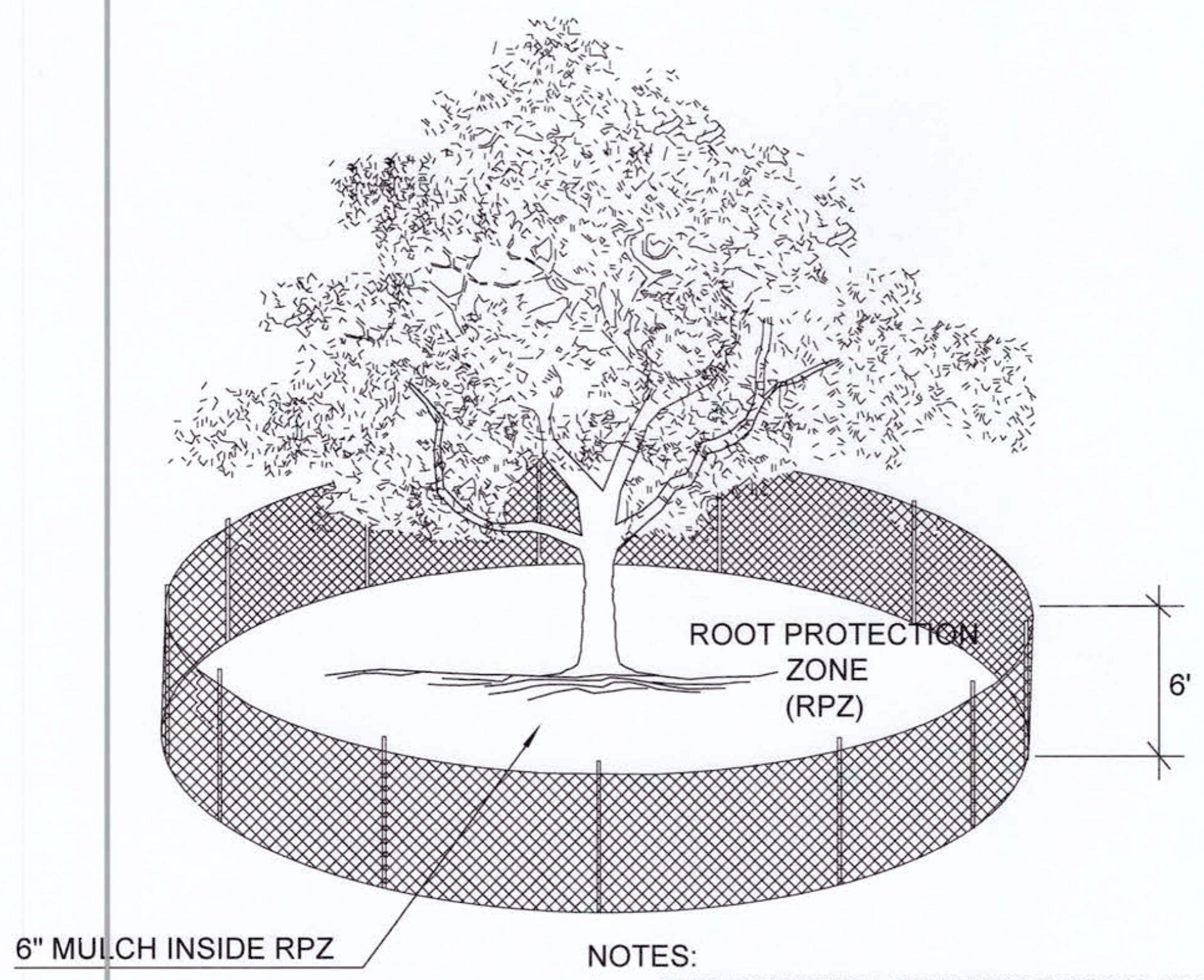
TREE PROTECTION REQUIREMENTS

1. A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR ANY VEGETATION TO BE PRESERVED. THE ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE (1) LINEAR FOOT FOR EACH INCH DIAMETER INCH AT BREAST HEIGHT (4.5') OF THE TREE. EXAMPLE: A 10-INCH DIAMETER TREE WILL HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE.
2. NO WORK SHALL BEGIN WERE TREE PROTECTION FENCING HAS NOT BEEN COMPLETED AND APPROVED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING CONSTRUCTION. THE FENCING WILL BE A MINIMUM OF 4' HEIGHT.
3. ALL ROOTS LARGER THAN ONE-INCH IN DIAMETER ARE TO BE CUT CLEANLY. FOR OAKS ONLY, ALL WOUNDS SHALL BE PAINTED WITH WOUND SEALER WITHIN 30 MINUTES.
4. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE WORK DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
5. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE. NO CLEAN-OUT AREAS WILL BE CONSTRUCTED SO THAT THE MATERIAL WILL BE IN OR MIGRATE TO THE ROOT PROTECTION ZONE.
6. NO GRADE CHANGE MORE THAN 3" IS ALLOWED WITHIN THE ROOT PROTECTION ZONE.
7. ROOTS OR BRANCHES IN CONFLICT WITH CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL WOUNDS SHALL BE PAINTED WITHIN 30 MINUTES TO PREVENT OAK WILT INFECTION (OAK TREES ONLY).
8. ANY TREE REMOVAL SHALL BE APPROVED BY THE LOCAL JURISDICTION'S ARBORIST.
9. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE REPLACED WITH TREE QUANTITIES AND SIZES ACCEPTABLE TO THE LOCAL JURISDICTION.
10. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE WATERING THE ROOT PROTECTION ZONE AND/OR WASHING FOLIAGE.
11. NO WIRES, NAILS OR OTHER MATERIALS MAY BE ATTACHED TO PROTECTED TREES.
12. THE ROOT PROTECTION ZONE SHALL BE PRESERVED AT NATURAL GRADE. NO CUTTING, FILLING, TRENCHING, ROOT DISTURBANCE, SOIL DISTURBANCE, OR CONSTRUCTION SHALL OCCUR CLOSER TO THE TRUNK THAN ONE-HALF (1/2) THE ROOT PROTECTION ZONE RADIUS EXCEPT IN PARKING AREAS, WHERE APPROVED ALTERNATIVE MATERIALS AND METHODS MAY BE USED AND CONSTRUCTION MAY OCCUR AS CLOSE AS FIVE (5) FEET FROM THE ROOT FLARES ON ONE SIDE OF THE TREE. NATIVE UNDERSTORY VEGETATION WITHIN THE ROOT PROTECTION ZONE SHALL BE PRESERVED, HOWEVER THE REQUIREMENT DOES NOT APPLY TO ROOT PROTECTION ZONE AREAS THAT HAVE BEEN LANDSCAPED. THE ROOT PROTECTION ZONE MAY BE SHIFTED AND CLUSTERED AS LONG AS THERE IS NO CONSTRUCTION CLOSER TO THE TRUNK THAN ONE-HALF (1/2) THE ROOT PROTECTION ZONE RADIUS. THE CONSTRUCTION OF SIDEWALKS SHALL BE ALLOWED IN THE ROOT PROTECTION ZONE, AS LONG AS EXCAVATION DOES NOT EXCEED THREE (3) INCHES.
13. DURING CONSTRUCTION ACTIVITY ON SITE, AT LEAST A SIX-INCH LAYER OF A COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE. THE IMPERVIOUS COVER MAY ENCROACH WITHIN THE ROOT PROTECTION ZONE IF SAID ENCROACHMENT IS APPROVED BY THE ARBORIST.



A TREE PROTECTION FENCE - ELEVATION

SCALE: NOT TO SCALE



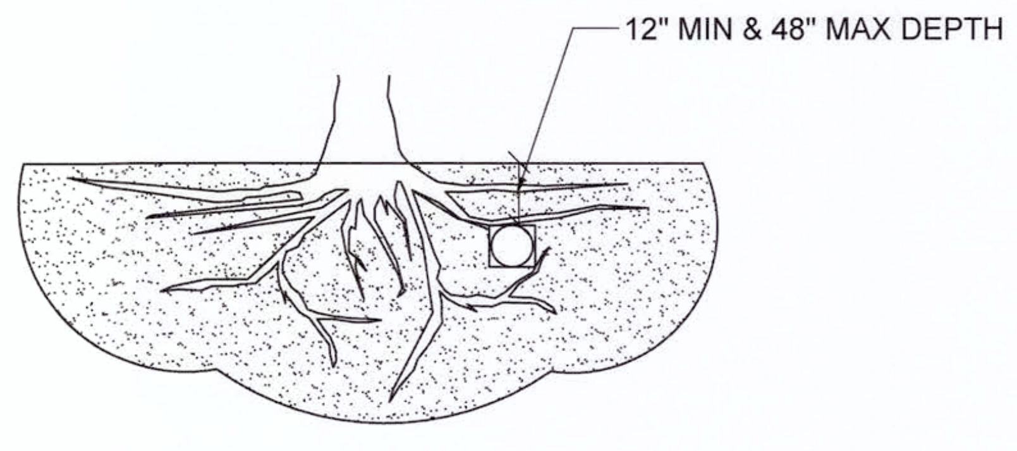
NOTES:
1. THE FENCING LOCATION SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND BE LIMITED TO PROJECT BOUNDARY. WHERE MULTIPLE ADJACENT TREES WILL BE ENCLOSED BY FENCING, THE FENCING SHALL BE CONTINUOUS AROUND ALL TREES.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

B TREE PROTECTION FENCE

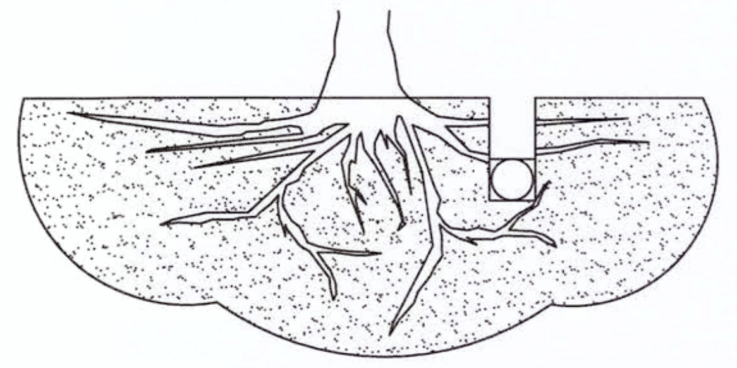
SCALE: NOT TO SCALE

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS TROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.



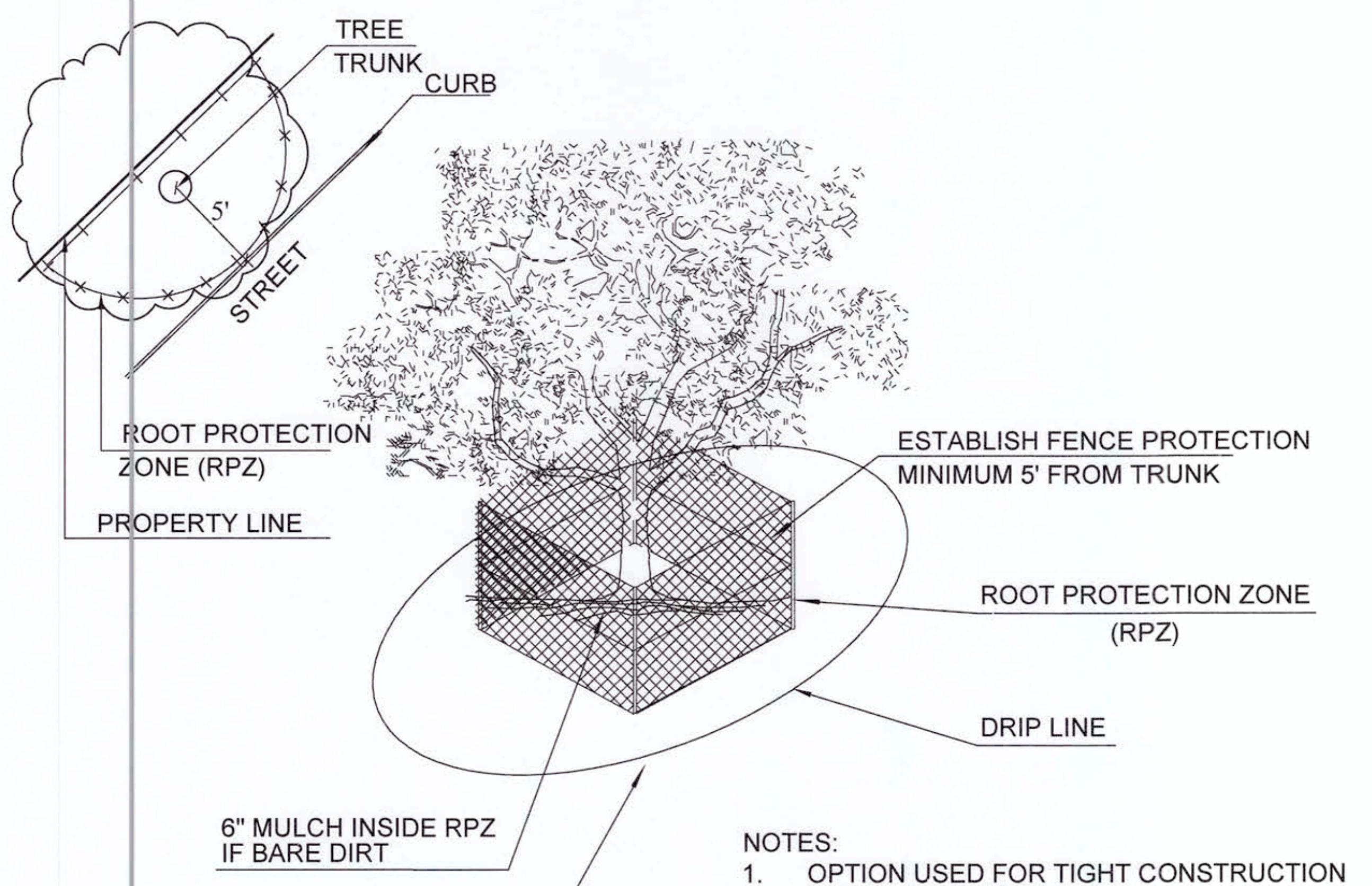
TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

D BORING THROUGH ROOT PROTECTION ZONE

SCALE: NOT TO SCALE



NOTES:
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

C TREE PROTECTION FENCE - LEVEL 2

SCALE: NOT TO SCALE

9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS
CS PROJECT NUMBER: 99715

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DANIEL REECE
5/3/17

EVERGREEN DESIGN GROUP

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MANCHESTER, CT 06042-2307
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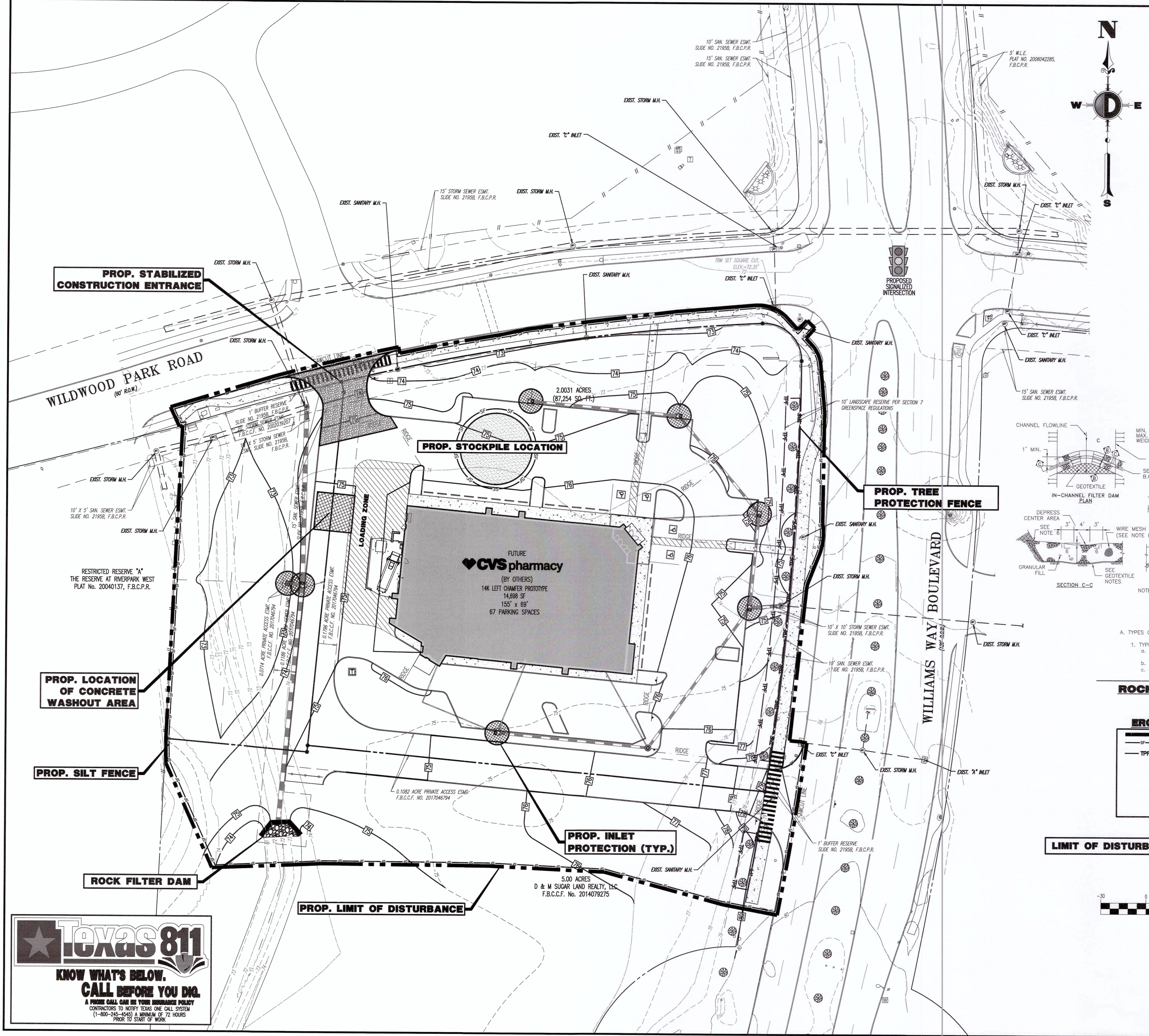
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	4/11/17	CITY COMMENTS	

SCALE: (H) as (V) noted
DRAWN BY: DFR
DESIGNED BY: DFR
CHECKED BY: RM
DATE: 12/2/16
JOB No: 0469–16–197
TITLE: TREE SURVEY SPECS & DETAILS
SHEET No: 17 OF 29
COMMENTS: THIS PLAN IS FOR CVS APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 1

Plotted: 07/18/17 – 5:19 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16–197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D469161975XEC3.dwg, ---> 18 EROSION CONTROL


N
W
E
S
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
5' W.L.E. PLAT NO. 2006042285, F.B.C.P.R.
EXIST. STORM M.H.
EXIST. "C" INLET
EXIST. SANITARY M.H.
15' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
TBM SET SQUARE CUT, ELEV.=72.35'
PROPOSED SIGNALIZED INTERSECTION
PROP. STABILIZED CONSTRUCTION ENTRANCE
WILDWOOD PARK ROAD
(60' R.O.W.)
SAWCUT LINE
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT. F.B.C.C.F. NO. 2002039207
10' X 5' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' X 5' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
2.0031 ACRES (87,254 SQ. FT.)
PROP. STOCKPILE LOCATION
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
RIDGE
LOADING ZONE
PROP. TREE PROTECTION FENCE
RESTRICTED RESERVE "A" THE RESERVE AT RIVERPARK WEST PLAT No. 20040137, F.B.C.P.R.
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
0.1796 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
10' X 10' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
EXIST. "A" INLET
PROP. LOCATION OF CONCRETE WASHOUT AREA
0.1082 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
PROP. SILT FENCE
PROP. INLET PROTECTION (TYP.)
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
5.00 ACRES D & M SUGAR LAND REALTY, LLC F.B.C.C.F. No. 2014079275
ROCK FILTER DAM
PROP. LIMIT OF DISTURBANCE
SF
TPF
73
74
75
76
77
78
79
80

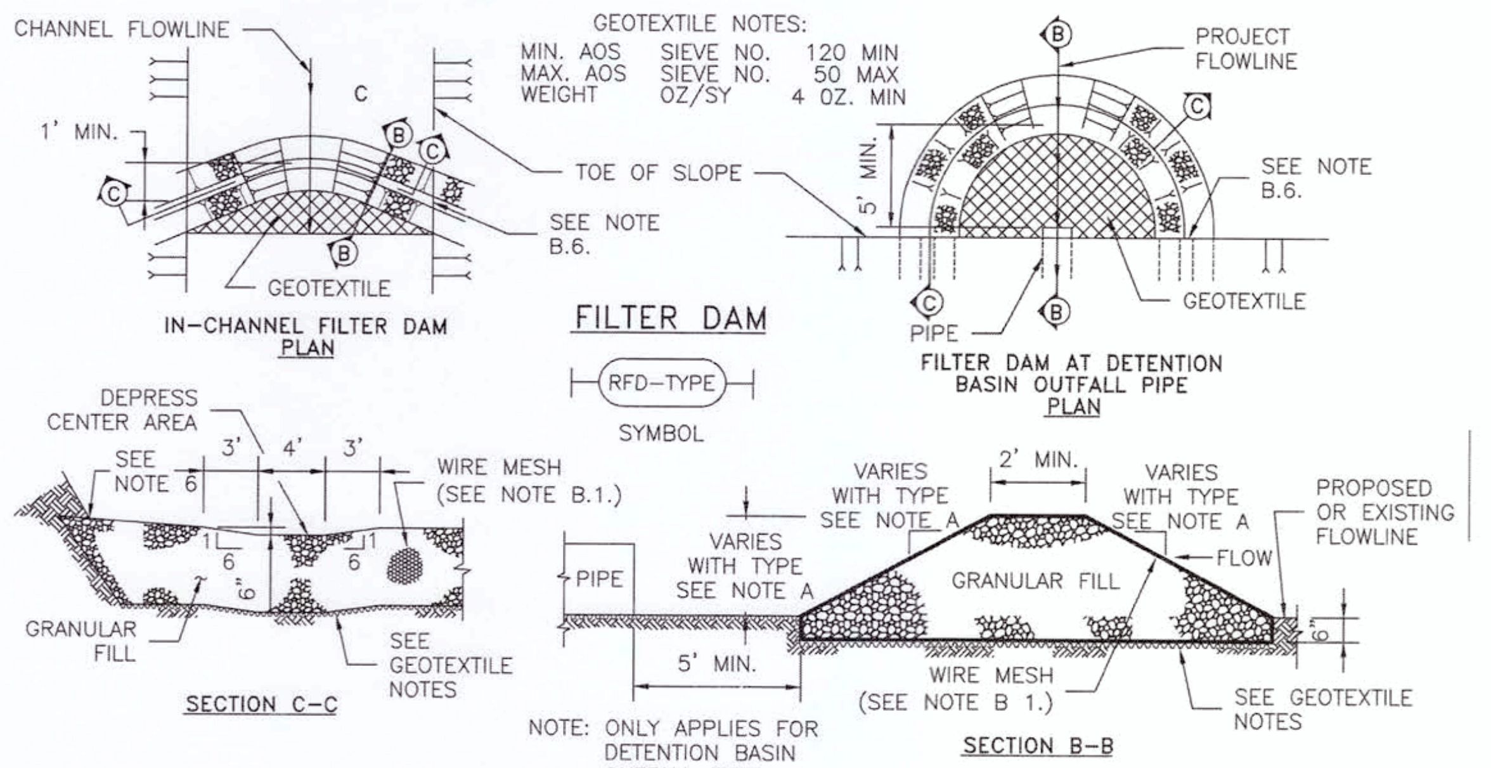
Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1–800–245–4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

NOTES

1. THE SURVEYOR HAS ABSTRACTED THE SUBJECT PROPERTY.
2. SURVEY WAS CREATED WITH THE BENEFIT OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY UNDER G.F. NO. FAH16003470, DATED JUNE 16, 2016.
3. BASIS OF BEARINGS FOR THE SURVEY IS THE DEED OF RECORD IN F.B.C.C.F. NUMBER 2014079275.
4. BY GRAPHIC PLOTTING ONLY, THE SUBJECT TRACT IS LOCATED IN ZONE "X"(SHADED ON THE FIRM MAP) WITH A SPECIAL NOTE, ZONE "X–SHADED" IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. THE SPECIAL NOTES READS AS FOLLOWS: "THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1–PERCENT–ANNUAL–CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE." AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 48157C0265 L, DATED APRIL 2, 2014.
5. CONTROL BENCHMARK: CITY OF SUGAR LAND BENCHMARK SGR–RM020, ELEV.=71.4059' NAVD88, 2001 ADJUSTMENT.
6. TBM "A": SQUARE CUT ON TOP OF A "C" INLET LOCATED NEAR THE NORTHEAST CORNER OF THE SUBJECT TRACT AS SHOWN HEREON, ELEV.=72.35'
7. UNDERGROUND UTILITIES SHOWN HEREON MARKED IN FIELD BY OTHERS.
8. SUBJECT TO BLANKET EASEMENT AGREEMENT BETWEEN SOUTHWEST 545, L.P., A TEXAS LIMITED PARTNERSHIP AND EN–TOUCH SYSTEMS, INC., A TEXAS CORPORATION OF RECORD IN F.B.C.C.F. NUMBER 2001088036, AND RE–RECORDED UNDER F.B.C.C.F. NUMBER 2001105426.
9. SUBJECT TO RESTRICTIONS OF RECORD IN F.B.C.C.F. NUMBER 2003071811.

GEOTEXTILE NOTES:

MIN. AOS	SIEVE NO.	120 MIN
MAX. AOS	SIEVE NO.	50 MAX
WEIGHT	OZ/SY	4 OZ. MIN


CHANNEL FLOWLINE
C
1' MIN.
B
C
TOE OF SLOPE
SEE NOTE B.6.
GEOTEXTILE
IN–CHANNEL FILTER DAM PLAN
FILTER DAM
RFD–TYPE
SYMBOL
PROJECT FLOWLINE
5' MIN.
SEE NOTE B.6.
GEOTEXTILE
PIPE
FILTER DAM AT DETENTION BASIN OUTFALL PIPE PLAN
DEPRESS CENTER AREA
SEE NOTE 6
3'
4'
3'
WIRE MESH (SEE NOTE B.1.)
1
6
6"
GRANULAR FILL
SEE GEOTEXTILE NOTES
SECTION C–C
PIPE
VARIES WITH TYPE SEE NOTE A
2' MIN.
GRANULAR FILL
FLOW
PROPOSED OR EXISTING FLOWLINE
5' MIN.
WIRE MESH (SEE NOTE B 1.)
SEE GEOTEXTILE NOTES
SECTION B–B

NOTE: ONLY APPLIES FOR DETENTION BASIN OUTFALL PIPE PROTECTION.

A. TYPES OF FILTER DAMS

1. TYPE 1 (NON–REINFORCED)
   - a. HEIGHT – 18–24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   - b. TOP WIDTH – 2 FEET (MINIMUM)
   - c. SLOPES – 2:1 (MAXIMUM).

ROCK FILTER DAM (TYPE 1)

NOT TO SCALE

EROSION CONTROL LEGEND

▬ ▪ ▪ ▬	PROP. LIMIT OF DISTURBANCE LINE
—SF—SF—SF—	PROP. SILT FENCE LINE
—TPF—TPF—	PROP. TREE PROTECTION FENCE LINE
▨	PROP. CONCRETE WASHOUT AREA
●	PROP. INLET PROTECTION

LIMIT OF DISTURBANCE = 146,805 SF. (3.30 Ac.)

GRAPHIC SCALE
-30 0 15 30 60 120
(IN FEET)
1 INCH = 30 FT.

APPROVED: Maggie D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP–OUT DRIVE–THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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07/19/17
JOSEPH G. JAWORSKI
120486

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PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

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FAX: (860) 646–8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30' (V)
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469–16–197

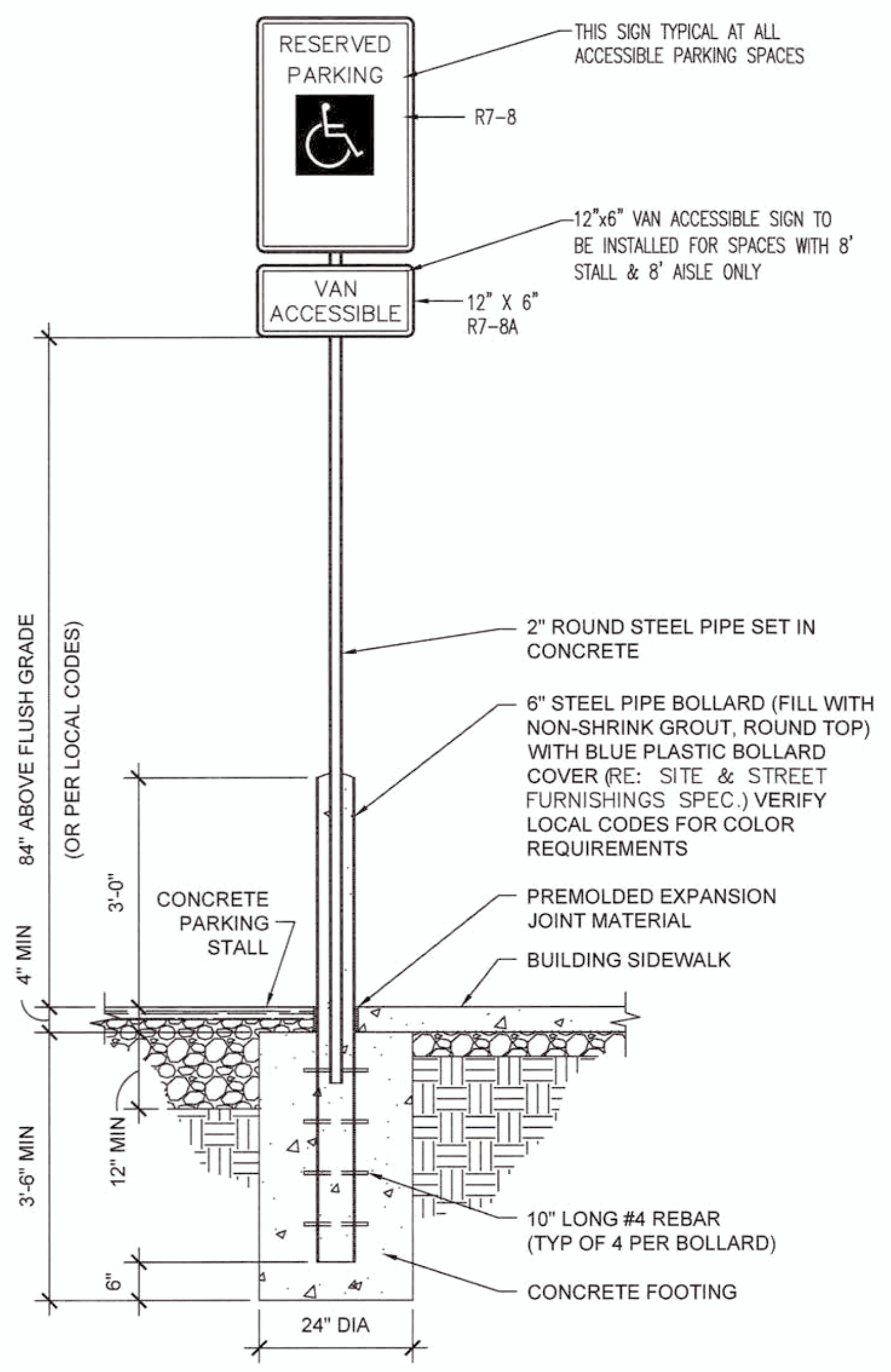
TITLE:
EROSION CONTROL PLAN

SHEET No: **18** OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

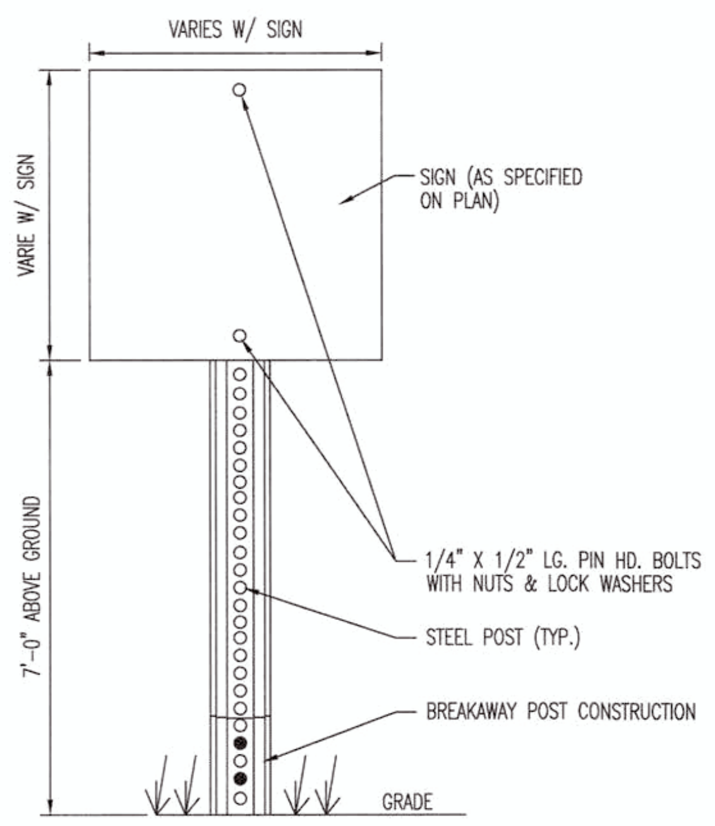
Rev. # 3

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


RESERVED PARKING
THIS SIGN TYPICAL AT ALL ACCESSIBLE PARKING SPACES
R7-8
12"x6" VAN ACCESSIBLE SIGN TO BE INSTALLED FOR SPACES WITH 8' STALL & 8' AISLE ONLY
VAN ACCESSIBLE
12" X 6" R7-8A
84" ABOVE FLUSH GRADE (OR PER LOCAL CODES)
2" ROUND STEEL PIPE SET IN CONCRETE
6" STEEL PIPE BOLLARD (FILL WITH NON-SHRINK GROUT, ROUND TOP) WITH BLUE PLASTIC BOLLARD COVER (RE: SITE & STREET FURNISHINGS SPEC.) VERIFY LOCAL CODES FOR COLOR REQUIREMENTS
3'-0"
CONCRETE PARKING STALL
PREMOLDED EXPANSION JOINT MATERIAL
BUILDING SIDEWALK
4" MIN
3'-6" MIN
12" MIN
6"
10" LONG #4 REBAR (TYP OF 4 PER BOLLARD)
CONCRETE FOOTING
24" DIA

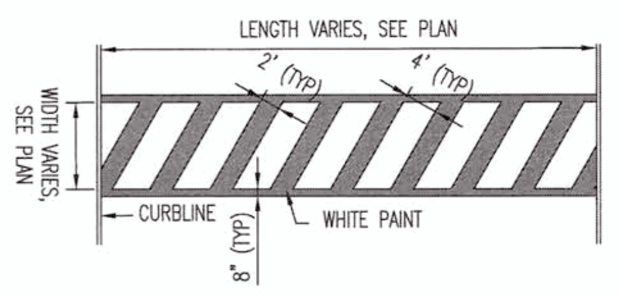
ACCESSIBLE PARKING SIGN W/ VAN ACCESSIBLE SIGN

NOT TO SCALE


VARIES W/ SIGN
VARIE W/ SIGN
SIGN (AS SPECIFIED ON PLAN)
7'-0" ABOVE GROUND
1/4" X 1/2" LG. PIN HD. BOLTS WITH NUTS & LOCK WASHERS
STEEL POST (TYP.)
BREAKAWAY POST CONSTRUCTION
GRADE

SIGN POST DETAIL

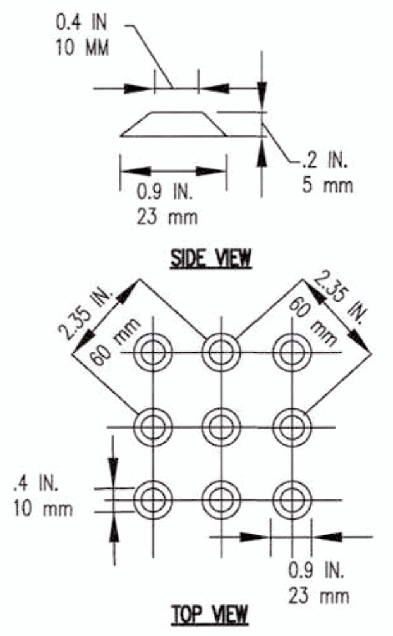
NOT TO SCALE


LENGTH VARIES, SEE PLAN
2' (TYP)
4' (TYP)
WIDTH VARIES, SEE PLAN
CURBLINE
WHITE PAINT
8" (TYP)

PAINTED CROSSWALK STRIPING DETAIL

NOT TO SCALE

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

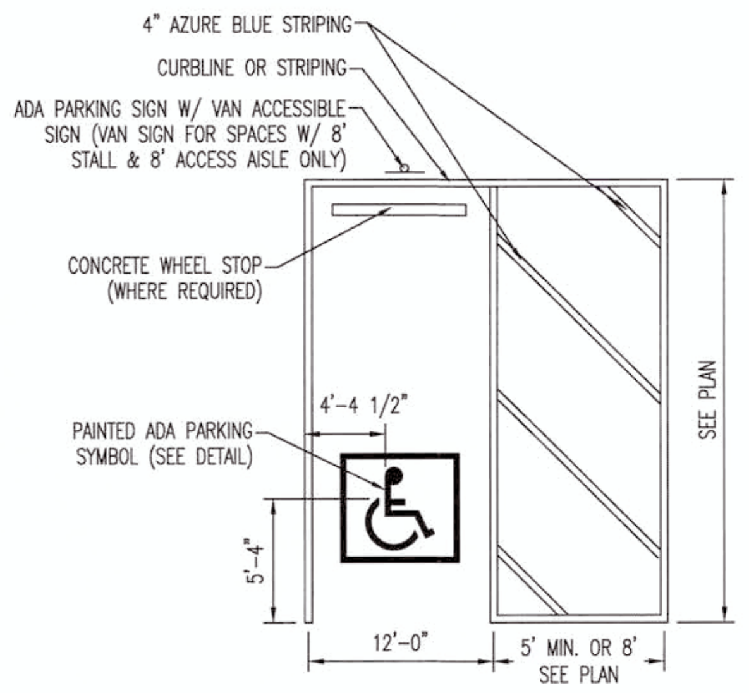

0.4 IN
10 MM
.2 IN.
5 mm
0.9 IN.
23 mm
SIDE VIEW
2.35 IN.
60 mm
.4 IN.
10 mm
TOP VIEW

NOTES:

1. DETECTABLE WARNINGS SHALL BE A PRE-MANUFACTURED ARMOUR TILE TACTILE SYSTEM OR APPROVED EQUIVALENT.
2. WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT ON DARK OR DARK ON LIGHT PER LATEST A.D.A. ACCESSIBILITY GUIDELINES.
3. CONTRACTOR TO COORDINATE SPECIFIC SYSTEM AND MATERIALS UTILIZED WITH THE ENGINEER TO ENSURE LOCAL, STATE AND A.D.A. COMPLIANCE PRIOR TO CONSTRUCTION.

TRUNCATED DOME PATTERN FOR A.D.A. DETECTABLE WARNING SURFACE

NOT TO SCALE

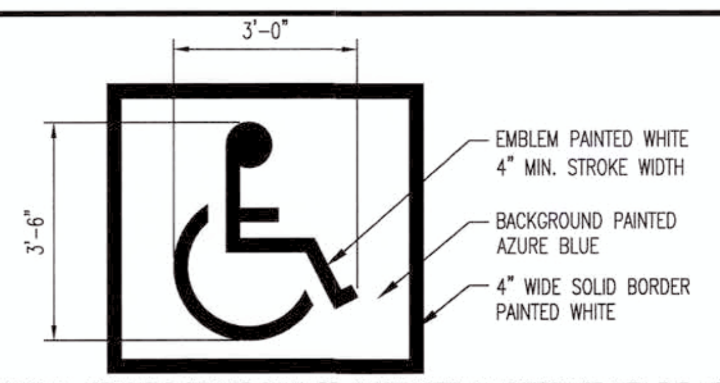

4" AZURE BLUE STRIPING
CURBLINE OR STRIPING
ADA PARKING SIGN W/ VAN ACCESSIBLE SIGN (VAN SIGN FOR SPACES W/ 8' STALL & 8' ACCESS AISLE ONLY)
CONCRETE WHEEL STOP (WHERE REQUIRED)
PAINTED ADA PARKING SYMBOL (SEE DETAIL)
4'-4 1/2"
5'-4"
12'-0"
5' MIN. OR 8' SEE PLAN
SEE PLAN

NOTES:

1. PAVEMENT STRIPING FOR ALL ADA PARKING SPACES SHALL BE PAINTED AZURE BLUE.
2. WHERE AN ADA PARKING STALL MEETS A STANDARD PARKING STALL, AN AZURE BLUE AND WHITE PAVEMENT STRIPE SHALL BE PAINTED.
3. ALL PAVEMENT STRIPING, MARKINGS AND SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADA ACCESSIBILITY GUIDELINES.

ADA STALL MARKINGS

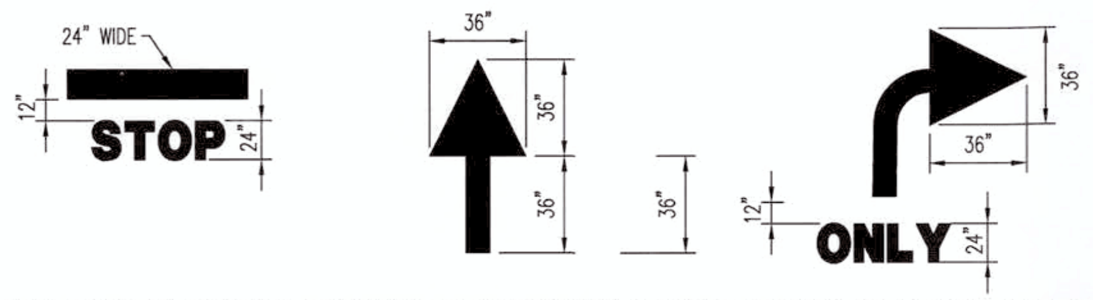
NOT TO SCALE


3'-0"
3'-6"
EMBLEM PAINTED WHITE 4" MIN. STROKE WIDTH
BACKGROUND PAINTED AZURE BLUE
4" WIDE SOLID BORDER PAINTED WHITE

NOTE: ALL PAVEMENT STRIPING, MARKINGS & APPLICABLE SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.D.A. ACCESSIBILITY GUIDELINES.

PAINTED A.D.A. PARKING SYMBOL DETAIL

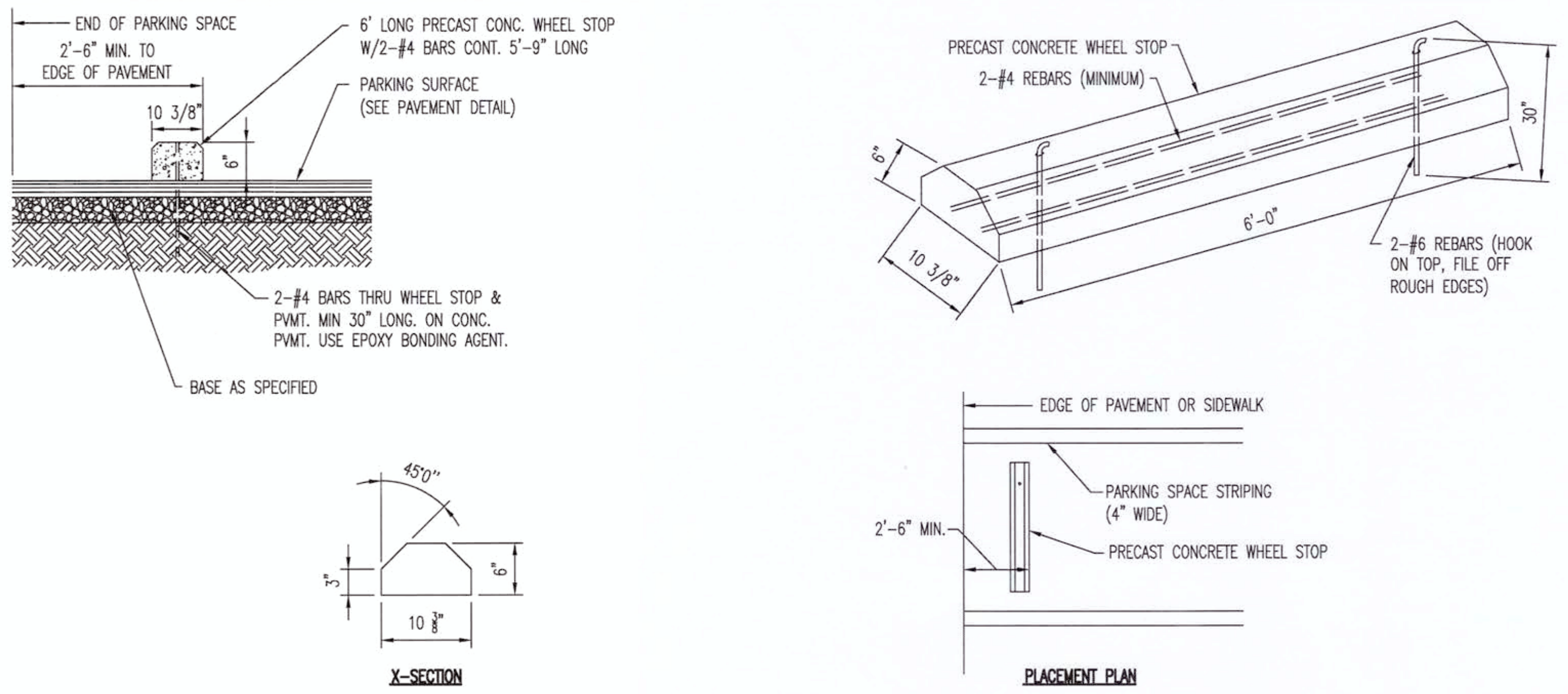
NOT TO SCALE


24" WIDE
12"
STOP
24"
36"
36"
36"
36"
12"
ONLY
24"
36"
36"

NOTE: ARROWS AND WORDS CAN BE ARRANGED IN OTHER COMBINATIONS THAN THOSE ILLUSTRATED HERE TO ACHIEVE DESIRED RESULT.

PAINTED MARKING DETAILS

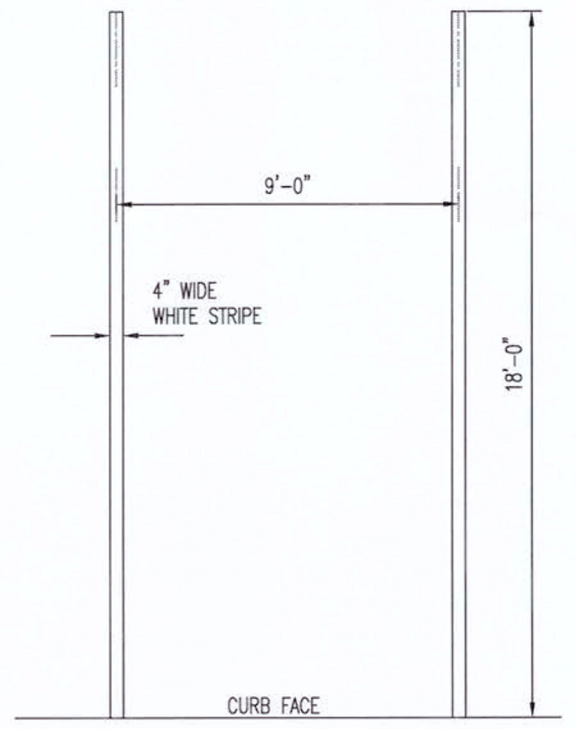
NOT TO SCALE


END OF PARKING SPACE
2'-6" MIN. TO EDGE OF PAVEMENT
10 3/8"
6"
6' LONG PRECAST CONC. WHEEL STOP W/2-#4 BARS CONT. 5'-9" LONG
PARKING SURFACE (SEE PAVEMENT DETAIL)
2-#4 BARS THRU WHEEL STOP & PVMT. MIN 30" LONG. ON CONC. PVMT. USE EPOXY BONDING AGENT.
BASE AS SPECIFIED
PRECAST CONCRETE WHEEL STOP
2-#4 REBARS (MINIMUM)
6"
10 3/8"
6'-0"
30"
2-#6 REBARS (HOOK ON TOP, FILE OFF ROUGH EDGES)
45.0"
3"
6"
10 3/8"
X-SECTION
EDGE OF PAVEMENT OR SIDEWALK
2'-6" MIN.
PARKING SPACE STRIPING (4" WIDE)
PRECAST CONCRETE WHEEL STOP
PLACEMENT PLAN

NOTE: WHEEL STOP TO BE USED ONLY WHERE SHOWN ON PLANS.

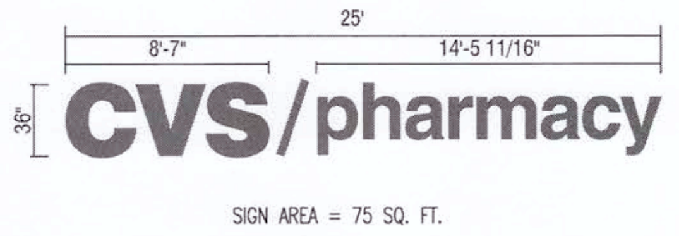
PRECAST CONCRETE WHEEL STOP DETAIL

NOT TO SCALE


9'-0"
4" WIDE WHITE STRIPE
18'-0"
CURB FACE

PARKING STALL STRIPING DETAIL

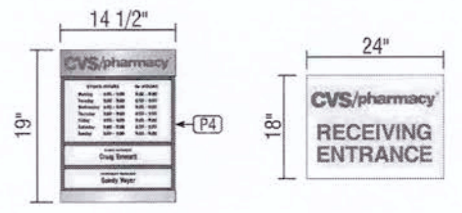
NOT TO SCALE


25'
8'-7"
14'-5 11/16"
36"
CVS/pharmacy

SIGN AREA = 75 SQ. FT.

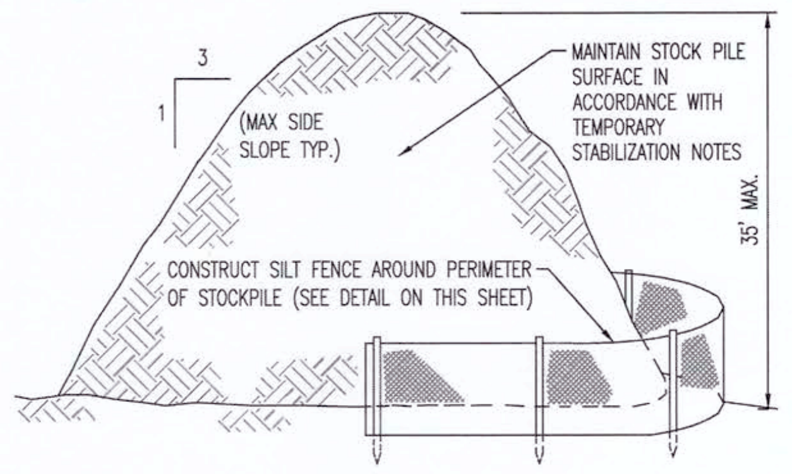
PROPOSED BUILDING MOUNTED SIGN DETAIL

NOT TO SCALE


14 1/2"
CVS/pharmacy
19"
P4
24"
18"
CVS/pharmacy
RECEIVING ENTRANCE

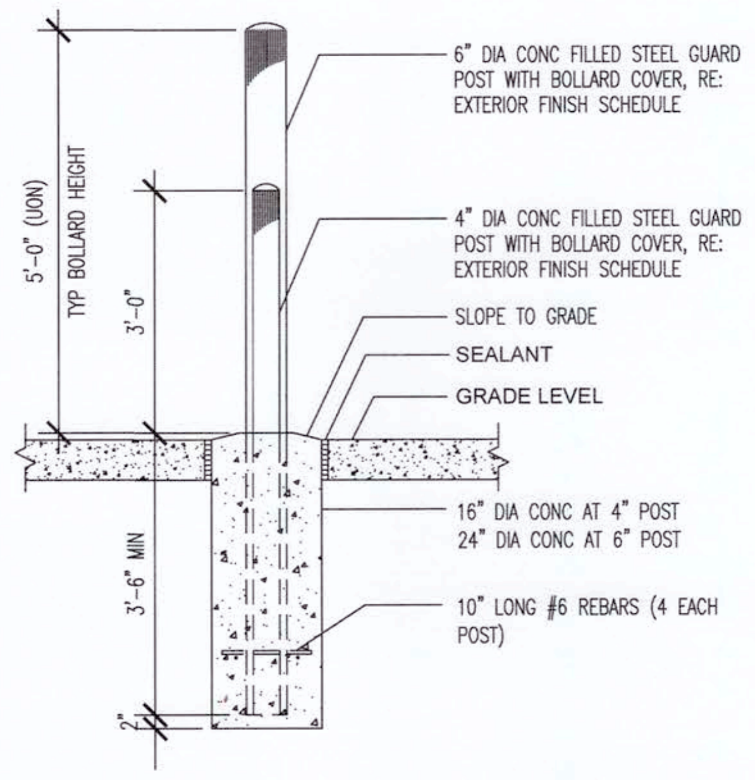
PROPOSED INFORMATIONAL SIGN DETAIL

NOT TO SCALE


3
1
(MAX SIDE SLOPE TYP.)
MAINTAIN STOCK PILE SURFACE IN ACCORDANCE WITH TEMPORARY STABILIZATION NOTES
35' MAX.
CONSTRUCT SILT FENCE AROUND PERIMETER OF STOCKPILE (SEE DETAIL ON THIS SHEET)

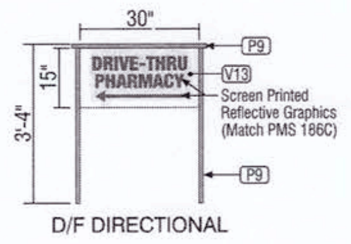
TEMPORARY STOCKPILE DETAIL

NOT TO SCALE


6" DIA CONC FILLED STEEL GUARD POST WITH BOLLARD COVER, RE: EXTERIOR FINISH SCHEDULE
4" DIA CONC FILLED STEEL GUARD POST WITH BOLLARD COVER, RE: EXTERIOR FINISH SCHEDULE
5'-0" (UON)
TYP BOLLARD HEIGHT
3'-0"
SLOPE TO GRADE
SEALANT
GRADE LEVEL
16" DIA CONC AT 4" POST
24" DIA CONC AT 6" POST
3'-6" MIN
10" LONG #6 REBARS (4 EACH POST)
2"

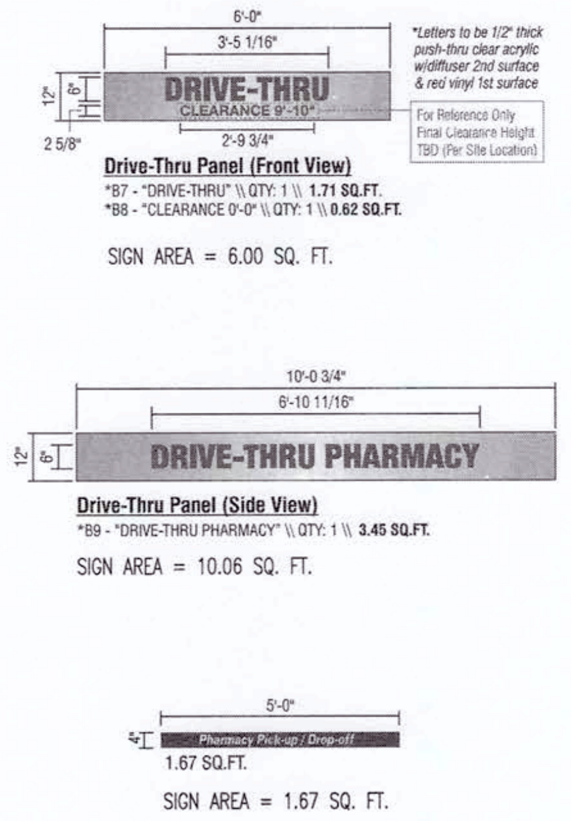
CVS EXTERIOR BOLLARD DETAIL

NOT TO SCALE


30"
P9
DRIVE-THRU PHARMACY
V13
Screen Printed Reflective Graphics (Match PMS 186C)
15"
3'-4"
P9
D/F DIRECTIONAL

PROPOSED DIRECTIONAL SIGN DETAIL

NOT TO SCALE


6'-0"
3'-5 1/16"
*Letters to be 1/2" thick push-thru clear acrylic w/diffuser 2nd surface & red vinyl 1st surface
12"
6"
DRIVE-THRU
CLEARANCE 9'-10"
For Reference Only Final Clearance Height TBD (Per Site Location)
2 5/8"
2'-9 3/4"
10'-0 3/4"
6'-10 11/16"
12"
6"
DRIVE-THRU PHARMACY
5'-0"
4"
Pharmacy Pick-up / Drop-off

Drive-Thru Panel (Front View)

*B7 - "DRIVE-THRU" \\ QTY: 1 \\ **1.71 SQ.FT.**

*B8 - "CLEARANCE 0'-0" \\ QTY: 1 \\ **0.62 SQ.FT.**

SIGN AREA = 6.00 SQ. FT.

Drive-Thru Panel (Side View)

*B9 - "DRIVE-THRU PHARMACY" \\ QTY: 1 \\ **3.45 SQ.FT.**

SIGN AREA = 10.06 SQ. FT.

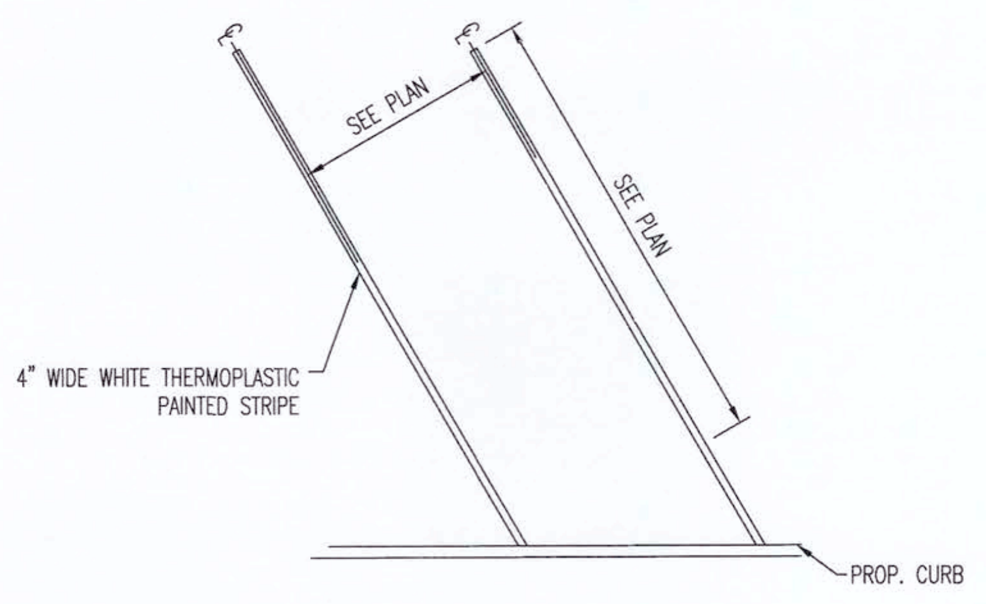
1.67 SQ.FT.

SIGN AREA = 1.67 SQ. FT.

PROPOSED DRIVE THRU BUILDING MOUNTED SIGN DETAILS

NOT TO SCALE

SIGN AREA = 34.17 SQ. FT.

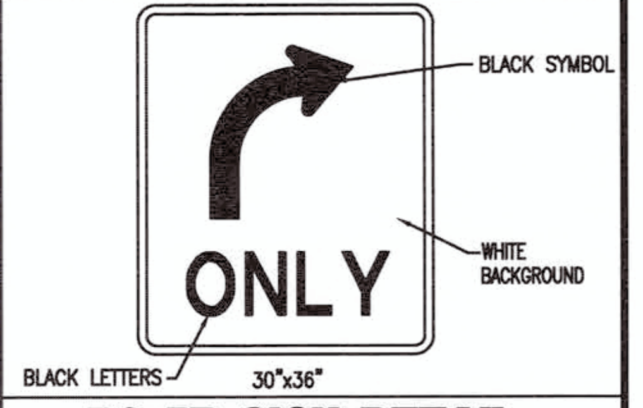

SEE PLAN
SEE PLAN
4" WIDE WHITE THERMOPLASTIC PAINTED STRIPE
PROP. CURB

60 DEGREE ANGLED PARKING STALL STRIPING DETAIL

NOT TO SCALE

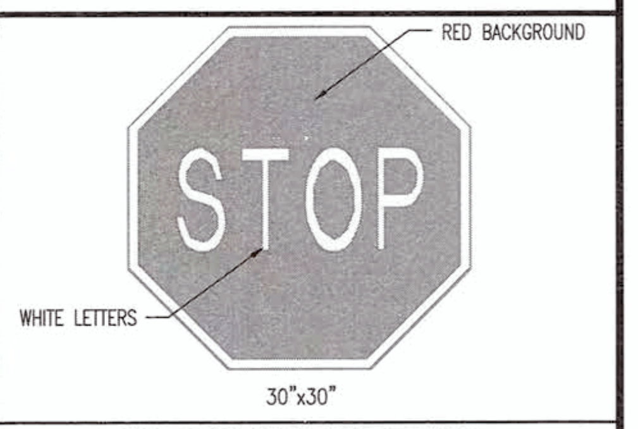
NOTE:

ALL SIGNS FOR THE SUBJECT SITE MUST BE APPROVED BY SEPERATE SIGN PERMIT.


BLACK SYMBOL
ONLY
WHITE BACKGROUND
BLACK LETTERS
30"x36"

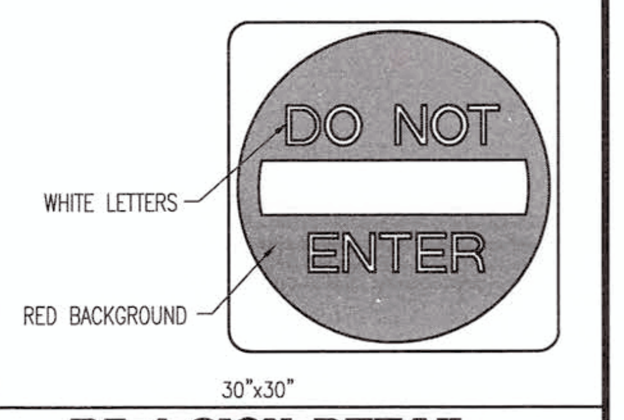
R3-5R SIGN DETAIL

NOT TO SCALE


RED BACKGROUND
STOP
WHITE LETTERS
30"x30"

R1-1 SIGN DETAIL

NOT TO SCALE


DO NOT ENTER
WHITE LETTERS
RED BACKGROUND
30"x30"

R5-1 SIGN DETAIL

NOT TO SCALE

APPROVED: Mazzi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER:99715

DYNAMIC ENGINEERING

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F: 732.974.3521

North NJ Office
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Chester, NJ 07930
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F: 732.974.3521

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Newtown, PA 18940
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1301 Central Expressway South - Suite 210
Allen, TX 75013
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Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
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901 Mopac Expressway South
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07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

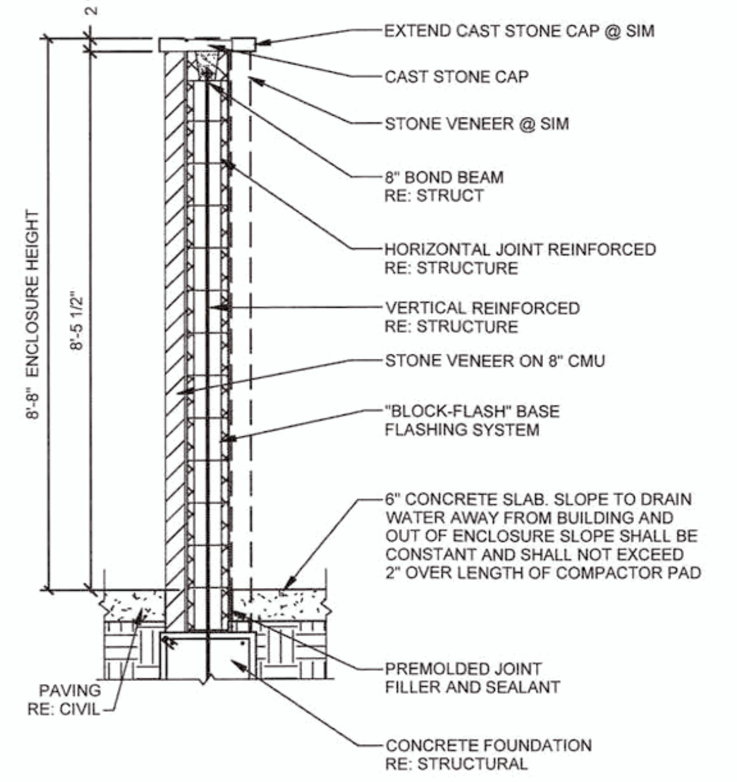
DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) AS (V) SHOWN
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: CONSTRUCTION DETAILS
SHEET No: 19 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

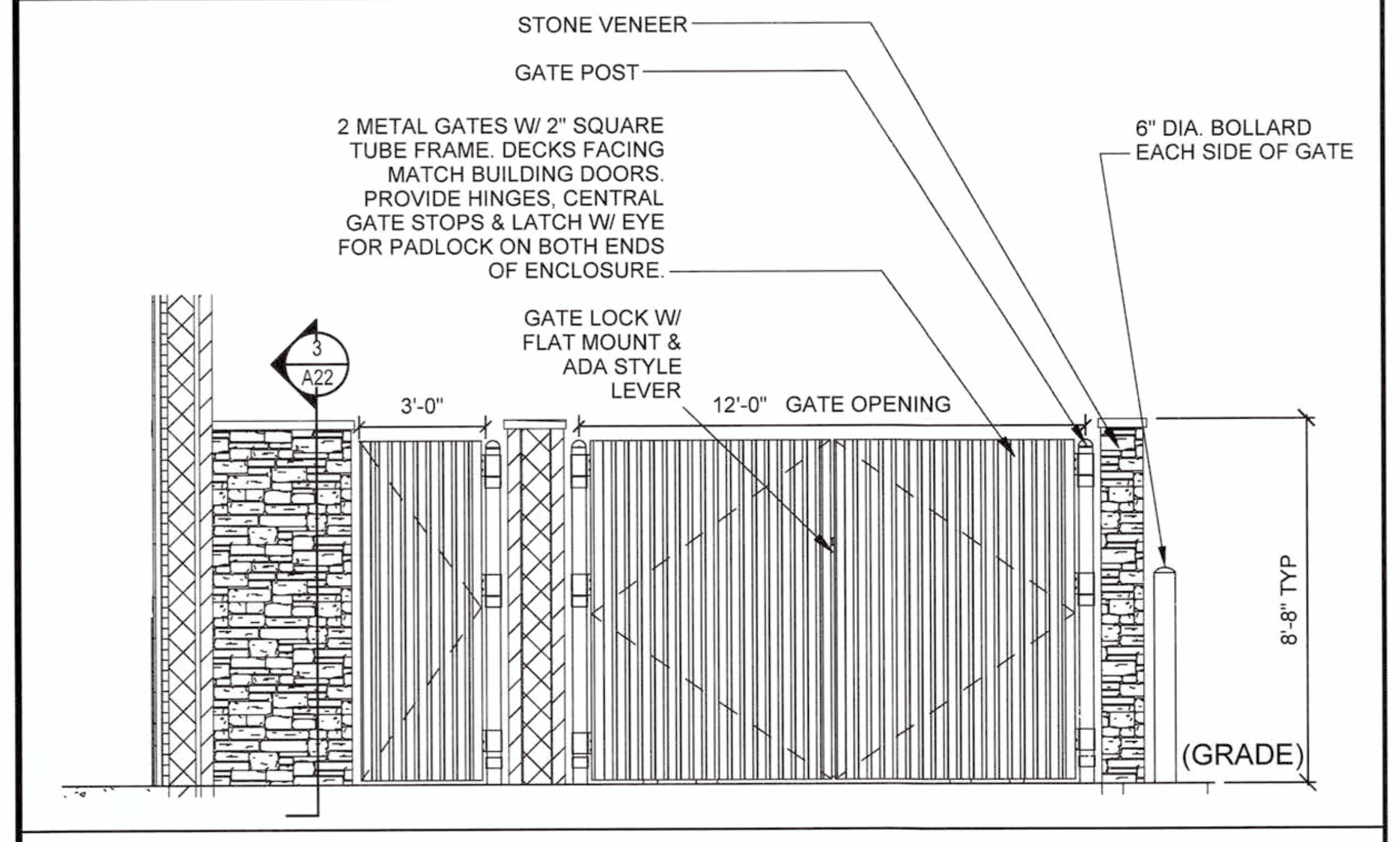
Plotted: 07/18/17 – 5:21 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SD3.dwg, ---> 19 CONSTRUCTION

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


2 1/2"
8'-8" ENCLOSURE HEIGHT
8'-5 1/2"
EXTEND CAST STONE CAP @ SIM
CAST STONE CAP
STONE VENEER @ SIM
8" BOND BEAM RE: STRUCT
HORIZONTAL JOINT REINFORCED RE: STRUCTURE
VERTICAL REINFORCED RE: STRUCTURE
STONE VENEER ON 8" CMU
"BLOCK-FLASH" BASE FLASHING SYSTEM
6" CONCRETE SLAB. SLOPE TO DRAIN WATER AWAY FROM BUILDING AND OUT OF ENCLOSURE SLOPE SHALL BE CONSTANT AND SHALL NOT EXCEED 2" OVER LENGTH OF COMPACTOR PAD
PAVING RE: CIVIL
PREMOLDED JOINT FILLER AND SEALANT
CONCRETE FOUNDATION RE: STRUCTURAL

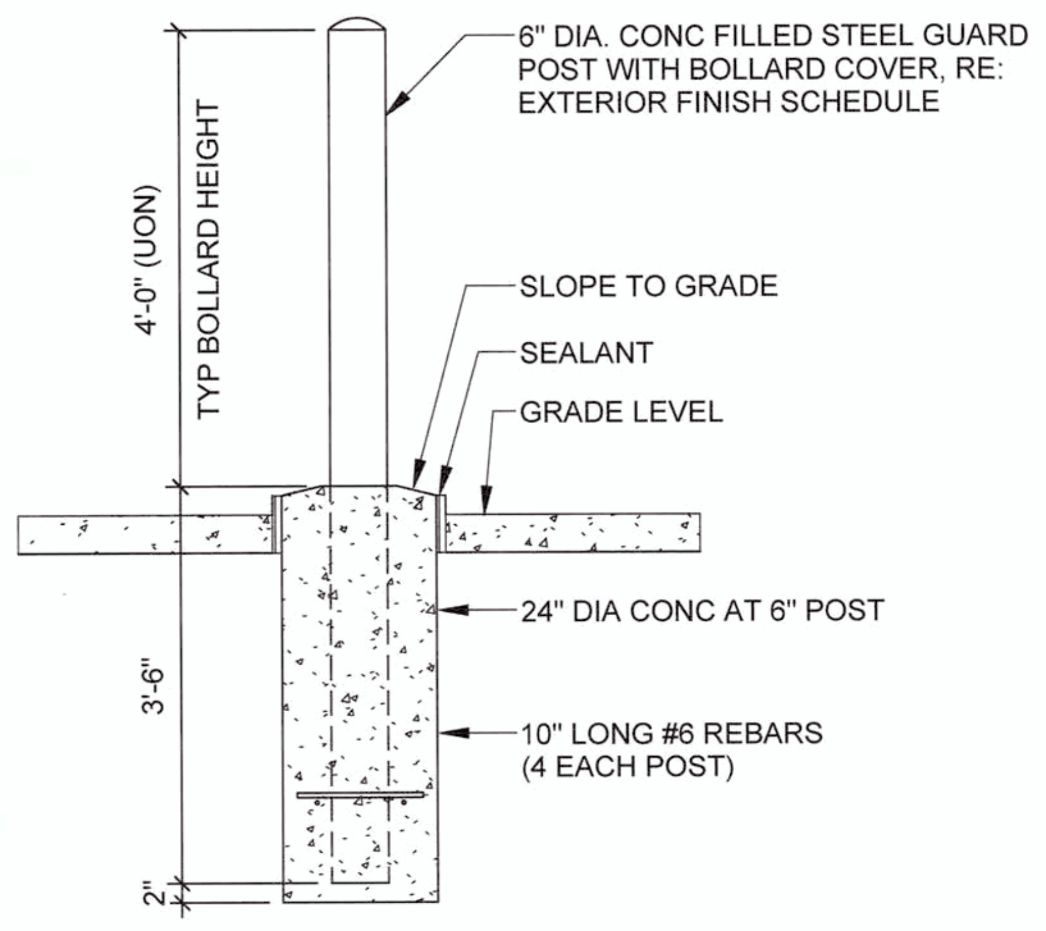
TRASH ENCLOSURE WALL SECTION DETAIL

NOT TO SCALE


STONE VENEER
GATE POST
2 METAL GATES W/ 2" SQUARE TUBE FRAME. DECKS FACING MATCH BUILDING DOORS. PROVIDE HINGES, CENTRAL GATE STOPS & LATCH W/ EYE FOR PADLOCK ON BOTH ENDS OF ENCLOSURE.
6" DIA. BOLLARD EACH SIDE OF GATE
GATE LOCK W/ FLAT MOUNT & ADA STYLE LEVER
3
A22
3'-0"
12'-0" GATE OPENING
8'-8" TYP
(GRADE)

TRASH ENCLOSURE / ACCESS GATE DETAIL

NOT TO SCALE


6" DIA. CONC FILLED STEEL GUARD POST WITH BOLLARD COVER, RE: EXTERIOR FINISH SCHEDULE
4'-0" (UON)
TYP BOLLARD HEIGHT
SLOPE TO GRADE
SEALANT
GRADE LEVEL
24" DIA CONC AT 6" POST
10" LONG #6 REBARS (4 EACH POST)
3'-6"
2"

6" DIA CONCRETE BOLLARD TYP.

NOT TO SCALE

Texas 811

KNOW WHAT'S BELOW.

CALL BEFORE YOU DIG.

A PHONE CALL CAN BE YOUR INSURANCE POLICY

CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM (1-800-245-4545) A MINIMUM OF 72 HOURS PRIOR TO START OF WORK

Plotted: 07/18/17 – 4:49 PM, By: mlopez
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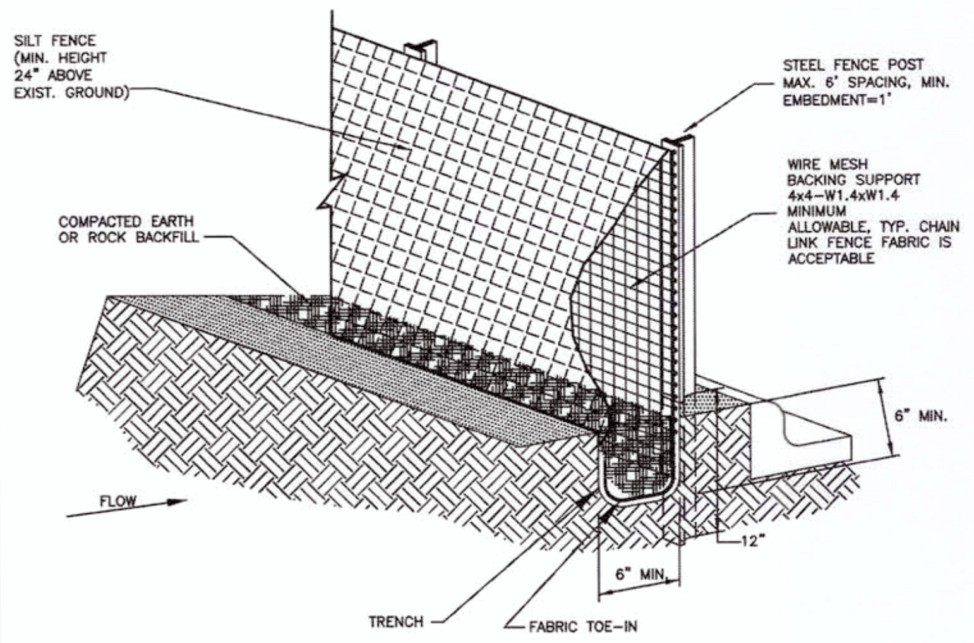
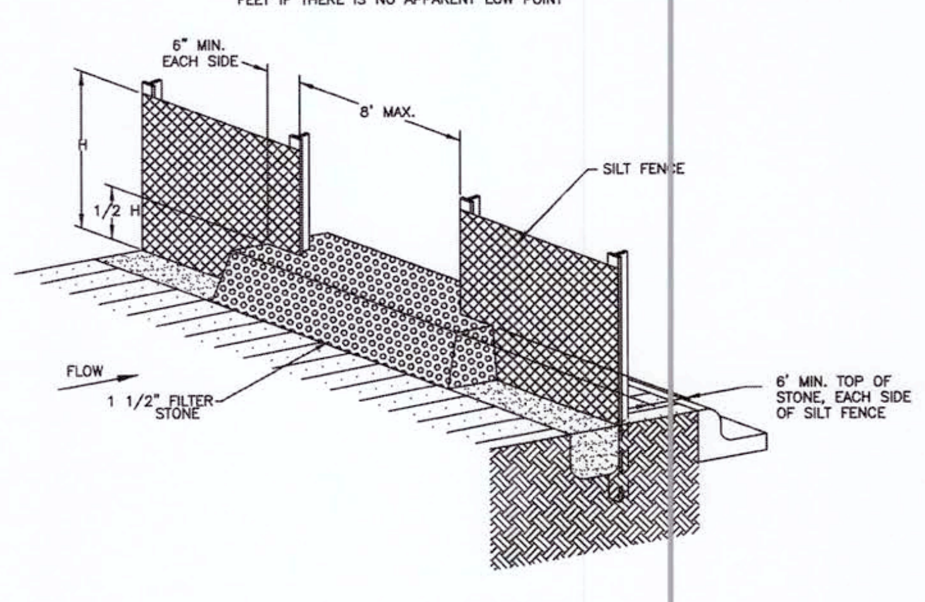

SILT FENCE (MIN. HEIGHT 24" ABOVE EXIST. GROUND)
STEEL FENCE POST MAX. 6' SPACING, MIN. EMBEDMENT=1'
WIRE MESH BACKING SUPPORT 4x4–W1.4xW1.4 MINIMUM ALLOWABLE, TYP. CHAIN LINK FENCE FABRIC IS ACCEPTABLE
COMPACTED EARTH OR ROCK BACKFILL
6" MIN.
FLOW
12"
6" MIN.
TRENCH
FABRIC TOE–IN

ISOMETRIC PLAN VIEW
N.T.S.

SILT FENCE GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

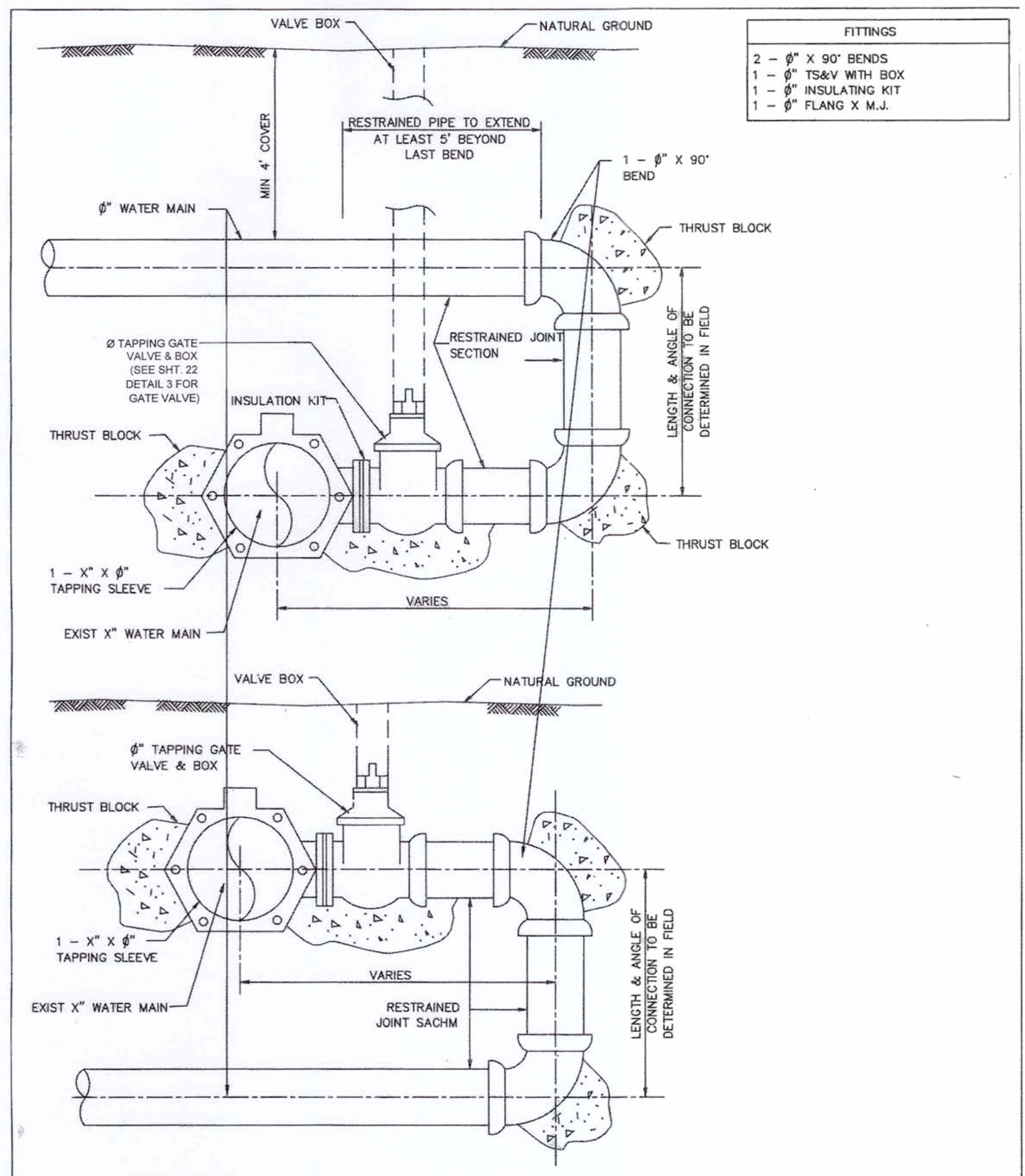
NOTE: STONE OVERFLOW STRUCTURES OF OTHER OUTLET CONTROL DEVICES SHALL BE INSTALLED AT ALL LOW POINTS ALONG THE FENCE OR EVERY 300 FEET IF THERE IS NO APPARENT LOW POINT


6" MIN. EACH SIDE
8' MAX.
H
1/2 H
SILT FENCE
FLOW
1 1/2" FILTER STONE
6' MIN. TOP OF STONE, EACH SIDE OF SILT FENCE

SILT FENCE
STONE OVERFLOW STRUCTURE
N.T.S.

SILT FENCE DETAIL

NOT TO SCALE


VALVE BOX
NATURAL GROUND
MIN 4' COVER
RESTRAINED PIPE TO EXTEND AT LEAST 5' BEYOND LAST BEND
1 – Ø" X 90° BEND
Ø" WATER MAIN
THRUST BLOCK
Ø TAPPING GATE VALVE & BOX (SEE SHT 22 DETAIL 3 FOR GATE VALVE)
INSULATION KIT
RESTRAINED JOINT SECTION
THRUST BLOCK
THRUST BLOCK
1 – X" X Ø" TAPPING SLEEVE
EXIST X" WATER MAIN
VARIES
LENGTH & ANGLE OF CONNECTION TO BE DETERMINED IN FIELD
VALVE BOX
NATURAL GROUND
Ø" TAPPING GATE VALVE & BOX
THRUST BLOCK
1 – X" X Ø" TAPPING SLEEVE
EXIST X" WATER MAIN
VARIES
RESTRAINED JOINT SACHM
LENGTH & ANGLE OF CONNECTION TO BE DETERMINED IN FIELD

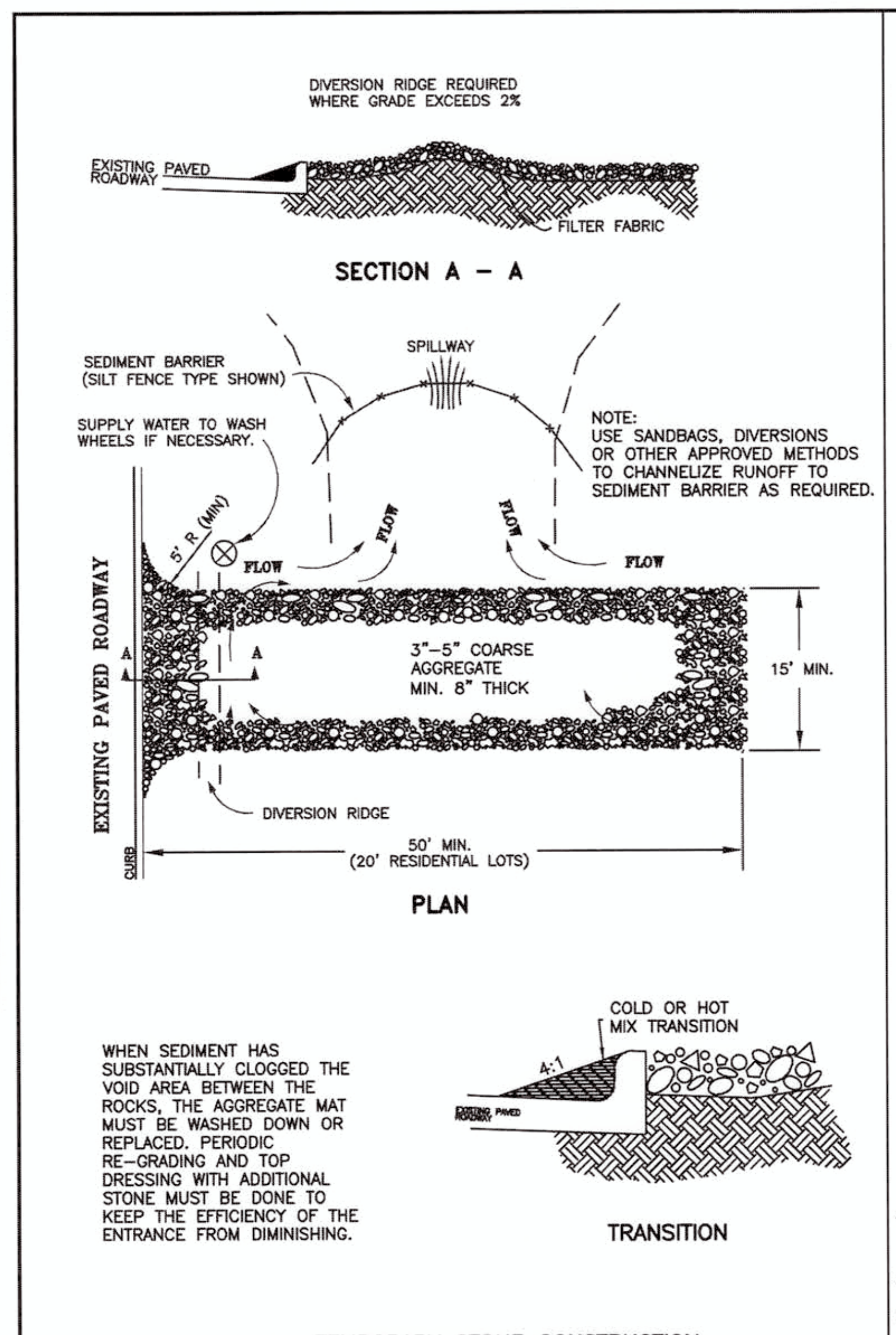
FITTINGS
2 – Ø" X 90° BENDS
1 – Ø" TS&V WITH BOX
1 – Ø" INSULATING KIT
1 – Ø" FLANG X M.J.

GENERAL NOTES:

1. X" AND Ø" DENOTE RUN AND BRANCH LINE SIZES RESPECTIVELY.
2. 90° BENDS ARE TO BE ROLLED TO PROVIDE CLEARANCE FOR VALVE BOX.
3. WATER MAIN ASSEMBLY FOR BACK TAP SAME FOR PROPOSED WATER MAIN UNDER EXISTING MAIN.
4. PROVIDE RESTRAINED JOINT PIPE AS SHOWN.
5. GATE VALVES SHALL BE COUNTER-CLOCKWISE OPEN.

BACK TAP ON EXIST. LINE DETAIL

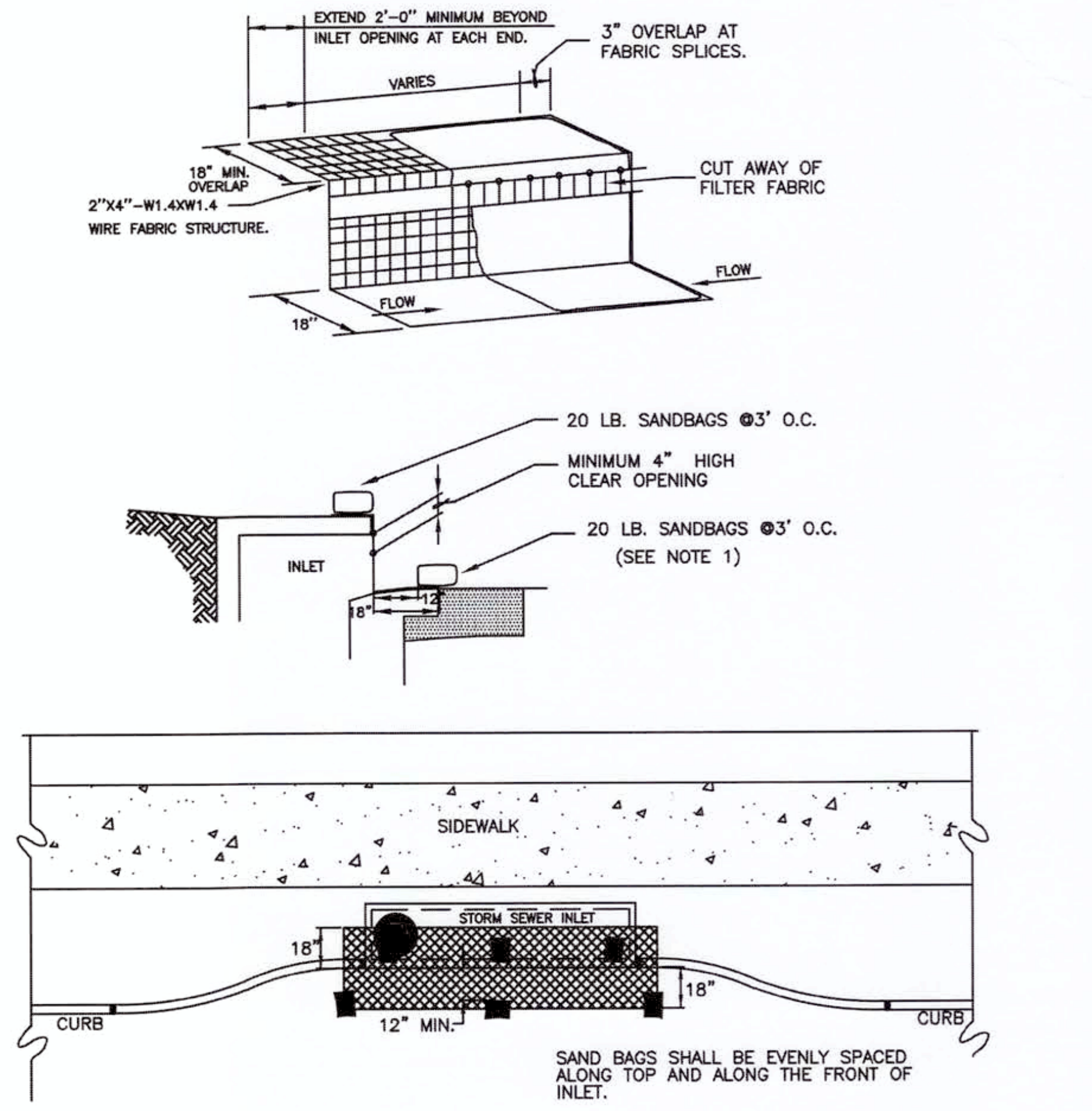
NOT TO SCALE


DIVERSION RIDGE REQUIRED WHERE GRADE EXCEEDS 2%
EXISTING PAVED ROADWAY
FILTER FABRIC
SECTION A – A
SEDIMENT BARRIER (SILT FENCE TYPE SHOWN)
SPILLWAY
SUPPLY WATER TO WASH WHEELS IF NECESSARY.
5' R (MIN)
FLOW
FLOW
FLOW
FLOW
EXISTING PAVED ROADWAY
A
A
3"–5" COARSE AGGREGATE MIN. 8" THICK
15' MIN.
DIVERSION RIDGE
CURB
50' MIN. (20' RESIDENTIAL LOTS)
PLAN
COLD OR HOT MIX TRANSITION
4:1
EXISTING PAVED ROADWAY
TRANSITION

NOTE:
USE SANDBAGS, DIVERSIONS OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO SEDIMENT BARRIER AS REQUIRED.

WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MAT MUST BE WASHED DOWN OR REPLACED. PERIODIC RE–GRADING AND TOP DRESSING WITH ADDITIONAL STONE MUST BE DONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING.

TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIT
N.T.S.


EXTEND 2'–0" MINIMUM BEYOND INLET OPENING AT EACH END.
3" OVERLAP AT FABRIC SPLICES.
VARIES
18" MIN. OVERLAP
2"X4"–W1.4XW1.4 WIRE FABRIC STRUCTURE.
CUT AWAY OF FILTER FABRIC
FLOW
FLOW
18"
20 LB. SANDBAGS @3' O.C.
MINIMUM 4" HIGH CLEAR OPENING
20 LB. SANDBAGS @3' O.C. (SEE NOTE 1)
INLET
18"
12"
SIDEWALK
STORM SEWER INLET
18"
18"
12" MIN.
CURB
CURB

SAND BAGS SHALL BE EVENLY SPACED ALONG TOP AND ALONG THE FRONT OF INLET.

CURB INLET PROTECTION DETAIL
N.T.S.

NOTES:

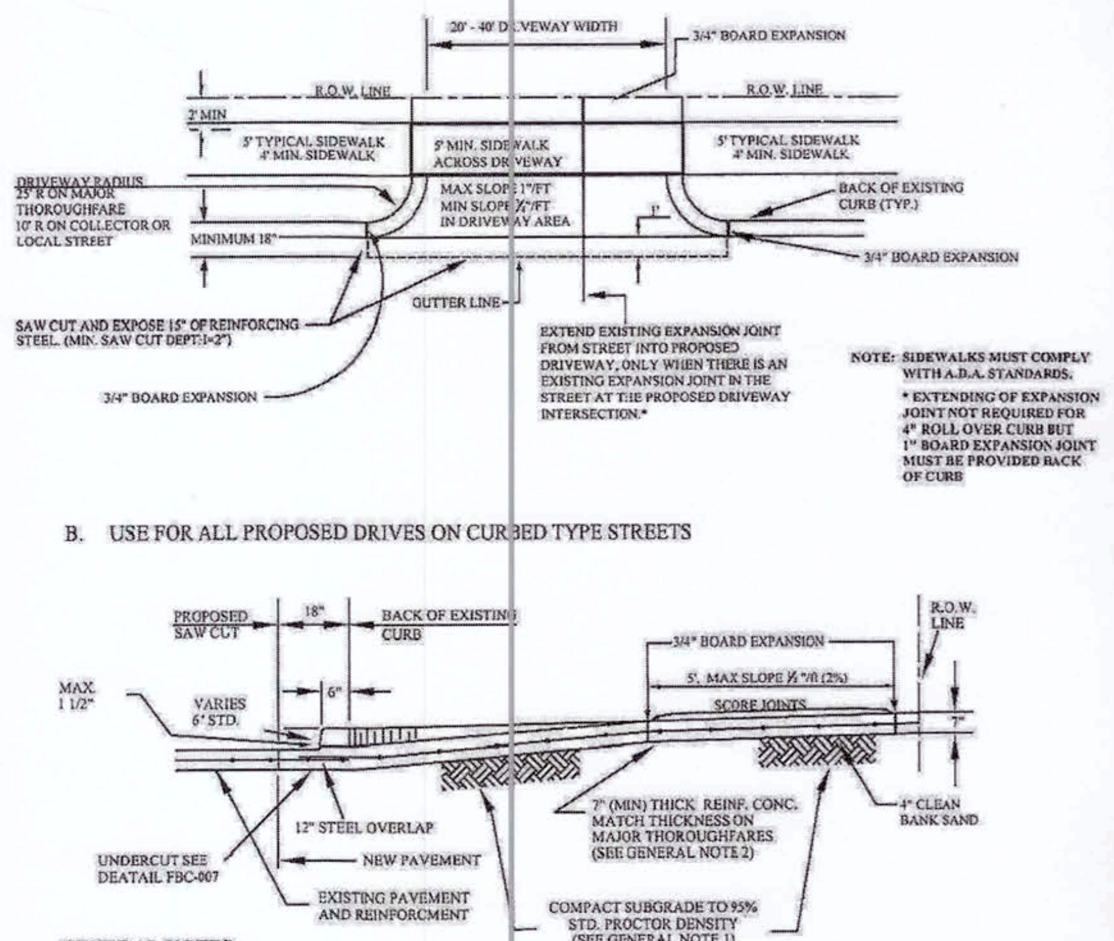
1. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL TO PROVIDE A 4" MINIMUM CLEAR OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION
2. INSPECTION SHALL BE MADE BY CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTION IF THE STORMWATER BEGINS TO OVERTOP THE CURB.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF THE SEDIMENT IS STABILIZED.

INLET OPENING	MINIMUM NUMBER OF SAND BAGS	
	TOP	FRONT
5'	2	3
10'	3	3
15'	3	4
20'	4	4

WHEN A COMMERCIAL SIDEWALK, DRIVEWAY, CURB OR GUTTER IS CONSTRUCTED, RECONSTRUCTED, REPAIRED OR REGRADED ON COUNTY RIGHT-OF-WAY. FOR USE WITH CONCRETE OR ASPHALT CURB TYPE STREETS, USE SECTIONS APPLICABLE.

A. USE FOR ALL PROPOSED EXISTING CURB REMOVAL FOR DRIVEWAYS (PLAN VIEW NOT TO SCALE)

B. USE FOR ALL PROPOSED DRIVES ON CURBED TYPE STREETS


20' - 40' DRIVEWAY WIDTH
3/4" BOARD EXPANSION
R.O.W. LINE
R.O.W. LINE
2' MIN
5' TYPICAL SIDEWALK 4' MIN. SIDEWALK
5' MIN. SIDEWALK ACROSS DRIVEWAY
5' TYPICAL SIDEWALK 4' MIN. SIDEWALK
DRIVEWAY RADIUS 25' R ON MAJOR THOROUGHFARE 10' R ON COLLECTOR OR LOCAL STREET
MAX SLOPE 1"/FT MIN SLOPE ¼"/FT IN DRIVEWAY AREA
BACK OF EXISTING CURB (TYP.)
1'
MINIMUM 18"
3/4" BOARD EXPANSION
GUTTER LINE
SAW CUT AND EXPOSE 15" OF REINFORCING STEEL. (MIN. SAW CUT DEPT:1=2")
3/4" BOARD EXPANSION
PROPOSED SAW CUT
18"
BACK OF EXISTING CURB
R.O.W. LINE
3/4" BOARD EXPANSION
5', MAX SLOPE ¼"/ft (2%)
SCORE JOINTS
MAX 1 1/2"
VARIES 6' STD.
6"
7"
12" STEEL OVERLAP
UNDERCUT SEE DEATAIL FBC-007
NEW PAVEMENT
EXISTING PAVEMENT AND REINFORCMENT
7" (MIN) THICK REINF. CONC. MATCH THICKNESS ON MAJOR THOROUGHFARES (SEE GENERAL NOTE 2)
COMPACT SUBGRADE TO 95% STD. PROCTOR DENSITY (SEE GENERAL NOTE 1)
4" CLEAN BANK SAND

EXTEND EXISTING EXPANSION JOINT FROM STREET INTO PROPOSED DRIVEWAY, ONLY WHEN THERE IS AN EXISTING EXPANSION JOINT IN THE STREET AT THE PROPOSED DRIVEWAY INTERSECTION.*

NOTE: SIDEWALKS MUST COMPLY WITH A.D.A. STANDARDS.

* EXTENDING OF EXPANSION JOINT NOT REQUIRED FOR 4" ROLL OVER CURB BUT 1" BOARD EXPANSION JOINT MUST BE PROVIDED BACK OF CURB

GENERAL NOTES:

1. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO R.O.W. LINE, COMPACT TO 95% OF STANDARD PROCTOR DENSITY(+/- 1% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
2. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 DEFORMED REINFORCING BARS (ASTM A615, GRADE 60, UNLESS NOTED) SPACED AT 24" C.C., EACH WAY, WITH 12" MINIMUM LAP FROM PROPOSED SAW CUT TO R.O.W. LINE.
3. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 SACKS (3000 PSI) OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICTION 03301), 7" THICK, FROM PROPOSED SAW CUT TO R.O.W. LINE.
4. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 SACKS (3000 PSI) OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICTION 03301), 4" THICK.
5. FOR TYPICAL SIDEWALK DEATAIL SEE FBC-011.

SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: J. NETARDUS DATE REVISED: 4-7-09
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-025A

FORT BEND COUNTY ENGINEERING DEPARTMENT

GENERAL NOTES FOR SIDEWALKS AND DRIVEWAYS

1. SAW CUT EXISTING CURB AT EACH END AND KNOCK OUT CURB FROM BEGINNING TO END OF PROPOSED DRIVEWAY.
2. SAW CUT EXISTING PAVEMENT A MINIMUM OF 18" INCHES AWAY FROM BACK OF CURB (GUTTER LINE) AND BREAK OUT TO EXPOSE EXISTING REINFORCEMENT STEEL.
3. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT–OF–WAY LINE, COMPACT TO 95% OF STANDARD PROCTER DENSITY (+/– 2% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
4. PLACE AND COMPACT 4" CLEAN BANK SAND.
5. MAINTAIN GUTTER LINE WITH FACE OF EXISTING CURB.
6. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE TIED TO EXISTING ROADWAY REINFORCING STEEL WITH A MINIMUM LAP OF 12 INCHES.
7. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 DEFORMED REINFORCING BARS (ASTM A615 GRADE 60, UNLESS NOTED) SPACED AT 24 INCHES C.C., EACH WAY, WITH 12 INCHES MINIMUM LAP (6" x 6" W6 x W6 AS ALTERNATE) FROM PROPOSED SAW CUT TO RIGHT–OF–WAY LINE.
8. PROPOSED DRIVEWAY, CURB, GUTTER LINE, AND GRADE SHALL MATCH EXISTING STREET.
9. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 7 INCHES THICK, FROM PROPOSED SAW CUT TO RIGHT–OF–WAY LINE (PROPERTY LINE).
10. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 4 INCHES THICK AND 4 FEET MINIMUM WIDTH. SEE DRAWING NO. FBC 24A FOR ADDITIONAL INFORMATION AND DETAILS.

CONSTRUCTION NOTES FOR SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BRDECKA DATE DRAWN: 2-1-94	REVISED BY: L. BRDECKA DATE REVISED: 3-10-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-025B

FORT BEND COUNTY ENGINEERING DEPARTMENT

APPROVED: Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP–OUT DRIVE–THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
8 Robbins Street - Suite 102
Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

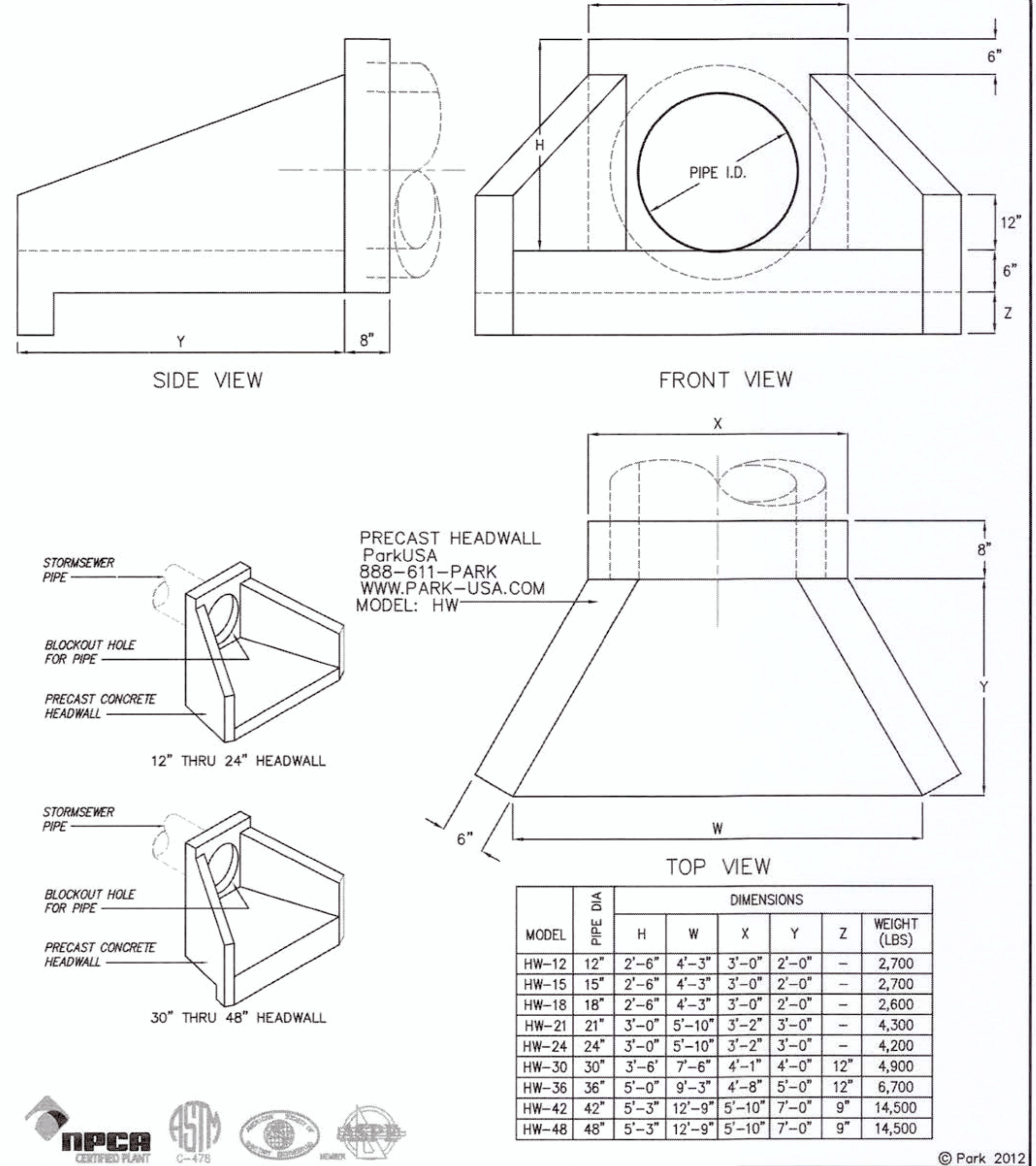
JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042–2307
TEL: (860) 646–6555
FAX: (860) 646–8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) AS (V) SHOWN
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469–16–197
TITLE: CONSTRUCTION DETAILS
SHEET No: 20 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


X
6"
H
PIPE I.D.
12"
6"
Z
Y
8"
SIDE VIEW
FRONT VIEW
X
8"
Y
6"
W
TOP VIEW
PRECAST HEADWALL
ParkUSA
888-611-PARK
WWW.PARK-USA.COM
MODEL: HW
STORMSEWER PIPE
BLOCKOUT HOLE FOR PIPE
PRECAST CONCRETE HEADWALL
12" THRU 24" HEADWALL
STORMSEWER PIPE
BLOCKOUT HOLE FOR PIPE
PRECAST CONCRETE HEADWALL
30" THRU 48" HEADWALL
NPCA CERTIFIED PLANT
ASTM C-478

MODEL	PIPE DIA	DIMENSIONS H	W	X	Y	Z	WEIGHT (LBS)
HW-12	12"	2'-6"	4'-3"	3'-0"	2'-0"	–	2,700
HW-15	15"	2'-6"	4'-3"	3'-0"	2'-0"	–	2,700
HW-18	18"	2'-6"	4'-3"	3'-0"	2'-0"	–	2,600
HW-21	21"	3'-0"	5'-10"	3'-2"	3'-0"	–	4,300
HW-24	24"	3'-0"	5'-10"	3'-2"	3'-0"	–	4,200
HW-30	30"	3'-6'	7'-6"	4'-1"	4'-0"	12"	4,900
HW-36	36"	5'-0"	9'-3"	4'-8"	5'-0"	12"	6,700
HW-42	42"	5'-3"	12'-9"	5'-10"	7'-0"	9"	14,500
HW-48	48"	5'-3"	12'-9"	5'-10"	7'-0"	9"	14,500

© Park 2012

SPECIFICATIONS

CONCRETE : Class II concrete with of design strength of 4500 PSI at 28 days. Unit is of monolithic construction including walls and floor.

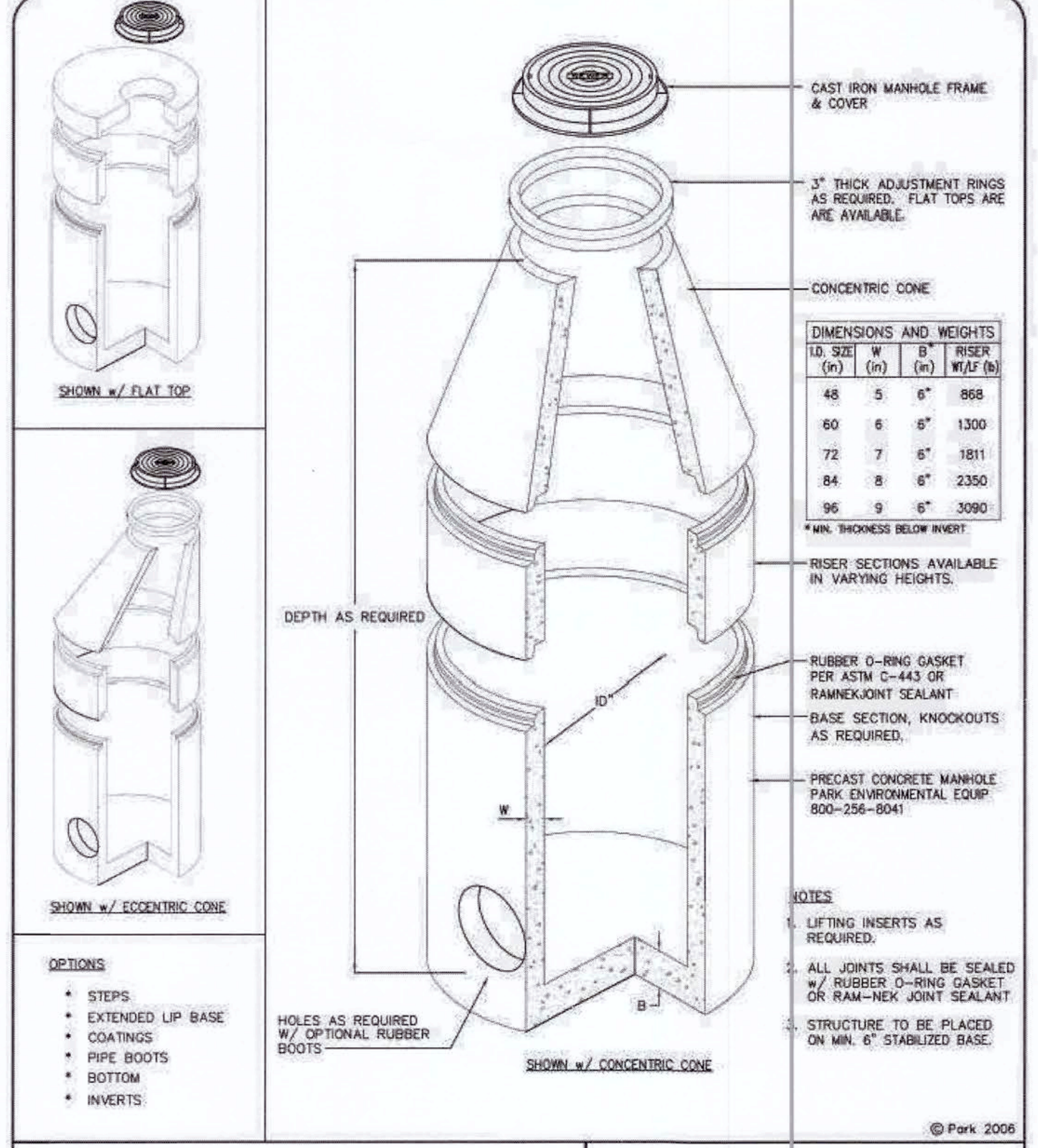
REINFORCEMENT: Grade 60 reinforced. No. 4 steel rebar to conform to ASTM A615 on required centers or equal.

888.611.7275
www.park-usa.com
PARK USA
Design for Water

HEADWALL FOR STORMWATER PIPING
MODEL HW - 12" THRU 48"

SCALE	DWG. NO.	REV.
NONE	HW-1	A
DATE 2012		

* OR APPROVED EQUAL


SHOWN w/ FLAT TOP
SHOWN w/ ECCENTRIC CONE
CAST IRON MANHOLE FRAME & COVER
3" THICK ADJUSTMENT RINGS AS REQUIRED. FLAT TOPS ARE ARE AVAILABLE.
CONCENTRIC CONE
RISER SECTIONS AVAILABLE IN VARYING HEIGHTS.
DEPTH AS REQUIRED
RUBBER O-RING GASKET PER ASTM C-443 OR RAMNEKJOINT SEALANT
BASE SECTION, KNOCKOUTS AS REQUIRED.
PRECAST CONCRETE MANHOLE PARK ENVIRONMENTAL EQUIP 800-256-8041
ID"
W
B
HOLES AS REQUIRED W/ OPTIONAL RUBBER BOOTS
SHOWN w/ CONCENTRIC CONE

DIMENSIONS AND WEIGHTS

I.D. SIZE (in)	W (in)	B* (in)	RISER WT/LF (lb)
48	5	6"	868
60	6	6"	1300
72	7	6"	1811
84	8	6"	2350
96	9	6"	3090

* MIN. THICKNESS BELOW INVERT

OPTIONS
- STEPS
- EXTENDED LIP BASE
- COATINGS
- PIPE BOOTS
- BOTTOM
- INVERTS

NOTES
1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED w/ RUBBER O-RING GASKET OR RAM-NEK JOINT SEALANT
3. STRUCTURE TO BE PLACED ON MIN. 6" STABILIZED BASE.

© Park 2006

Specifications

CONCRETE : Class 1 concrete with of design strength of 4500 PSI at 28 days. Rated for H-20 loading.

REINFORCEMENT: Structural reinforcement conforming to ASTM-C-478.

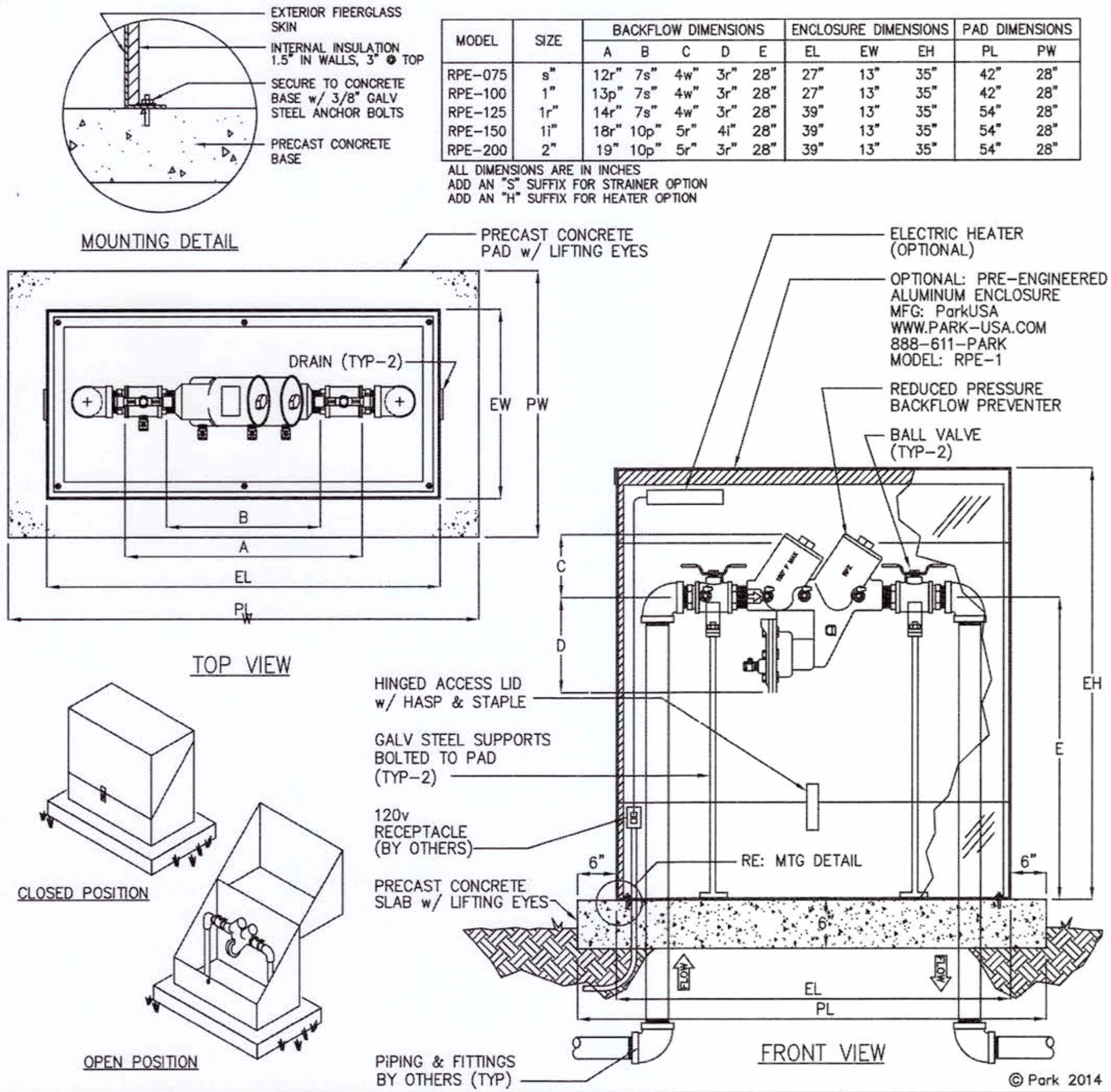
C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48-76 Class 35.

PARK ENVIRONMENTAL EQUIPMENT
888-611-PARK
www.park-USA.com
"Expect the Best"

PRECAST CONCRETE MANHOLE
FOR STORM SEWER

SCALE	DWG. NO.	REV.
NONE	PCMHST-1	A
DATE 10/06		

* OR APPROVED EQUAL


EXTERIOR FIBERGLASS SKIN
INTERNAL INSULATION 1.5" IN WALLS, 3" @ TOP
SECURE TO CONCRETE BASE w/ 3/8" GALV STEEL ANCHOR BOLTS
PRECAST CONCRETE BASE
MOUNTING DETAIL
PRECAST CONCRETE PAD w/ LIFTING EYES
DRAIN (TYP-2)
EW
PW
B
A
EL
PL
TOP VIEW
CLOSED POSITION
OPEN POSITION
HINGED ACCESS LID w/ HASP & STAPLE
GALV STEEL SUPPORTS BOLTED TO PAD (TYP-2)
120v RECEPTACLE (BY OTHERS)
PRECAST CONCRETE SLAB w/ LIFTING EYES
PIPING & FITTINGS BY OTHERS (TYP)
ELECTRIC HEATER (OPTIONAL)
OPTIONAL: PRE-ENGINEERED ALUMINUM ENCLOSURE MFG: ParkUSA WWW.PARK-USA.COM 888-611-PARK MODEL: RPE-1
REDUCED PRESSURE BACKFLOW PREVENTER
BALL VALVE (TYP-2)
C
D
E
EH
6"
RE: MTG DETAIL
6"
6"
FLOW
FLOW
EL
PL
FRONT VIEW

MODEL	SIZE	BACKFLOW DIMENSIONS A	B	C	D	E	ENCLOSURE DIMENSIONS EL	EW	EH	PAD DIMENSIONS PL	PW
RPE-075	s"	12r"	7s"	4w"	3r"	28"	27"	13"	35"	42"	28"
RPE-100	1"	13p"	7s"	4w"	3r"	28"	27"	13"	35"	42"	28"
RPE-125	1r"	14r"	7s"	4w"	3r"	28"	39"	13"	35"	54"	28"
RPE-150	1i"	18r"	10p"	5r"	4i"	28"	39"	13"	35"	54"	28"
RPE-200	2"	19"	10p"	5r"	3r"	28"	39"	13"	35"	54"	28"

ALL DIMENSIONS ARE IN INCHES
ADD AN "S" SUFFIX FOR STRAINER OPTION
ADD AN "H" SUFFIX FOR HEATER OPTION

© Park 2014

Specifications

CONCRETE : Class II concrete with design strength of 4500 PSI at 28 days.

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

Typical Applications

RP devices are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospital facilities, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

Engineering Data

The backflow assembly shall be factory assembled on pad & 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:

FM AWWA UL UPC NPCA CERTIFIED PLANT

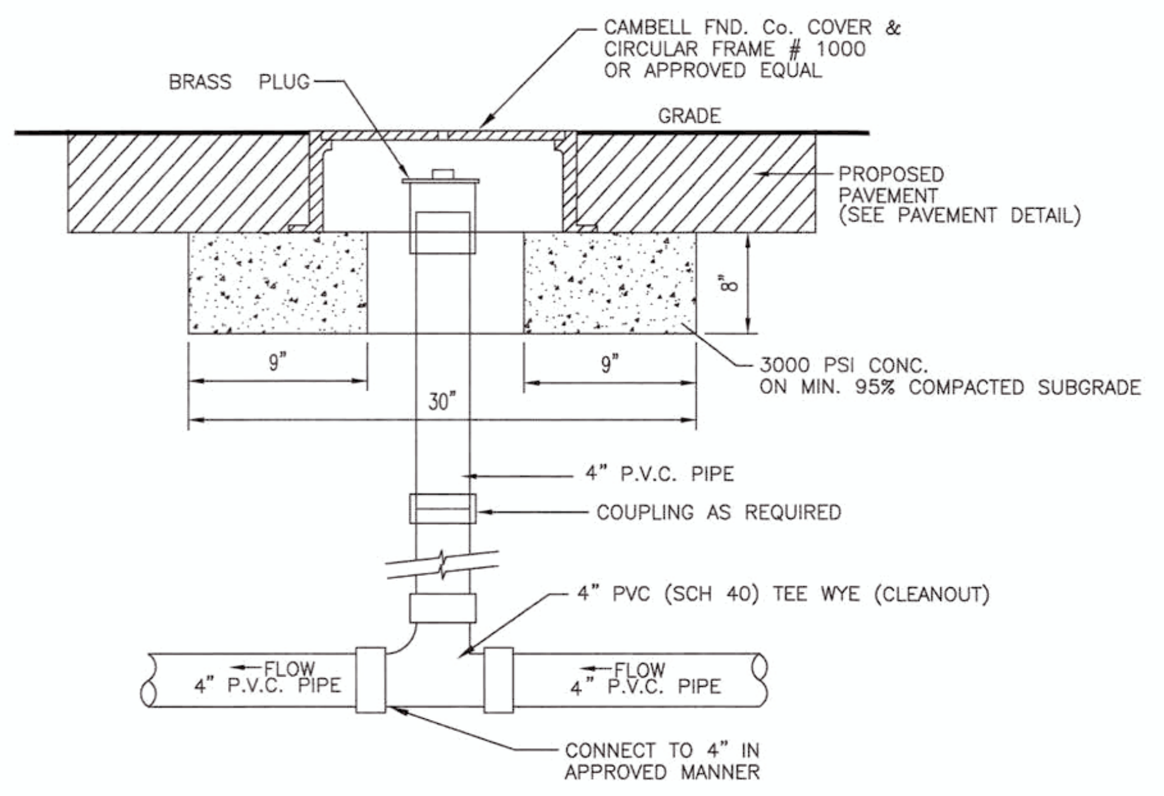
PROJECT :
CUSTOMER :
ARCHITECT :
ENGINEER :
ORDER # :
DATE :

888.611.7275
www.park-usa.com
PARK USA
Design for Water

REDUCED PRESSURE BACKFLOW PREVENTER w/ INSULATED ENCLOSURE
MODEL RPE – 3/4" THRU 2"

PM	DRN	ENG	DWG. NO.	REV.
DATE 2014			RPE-1	A

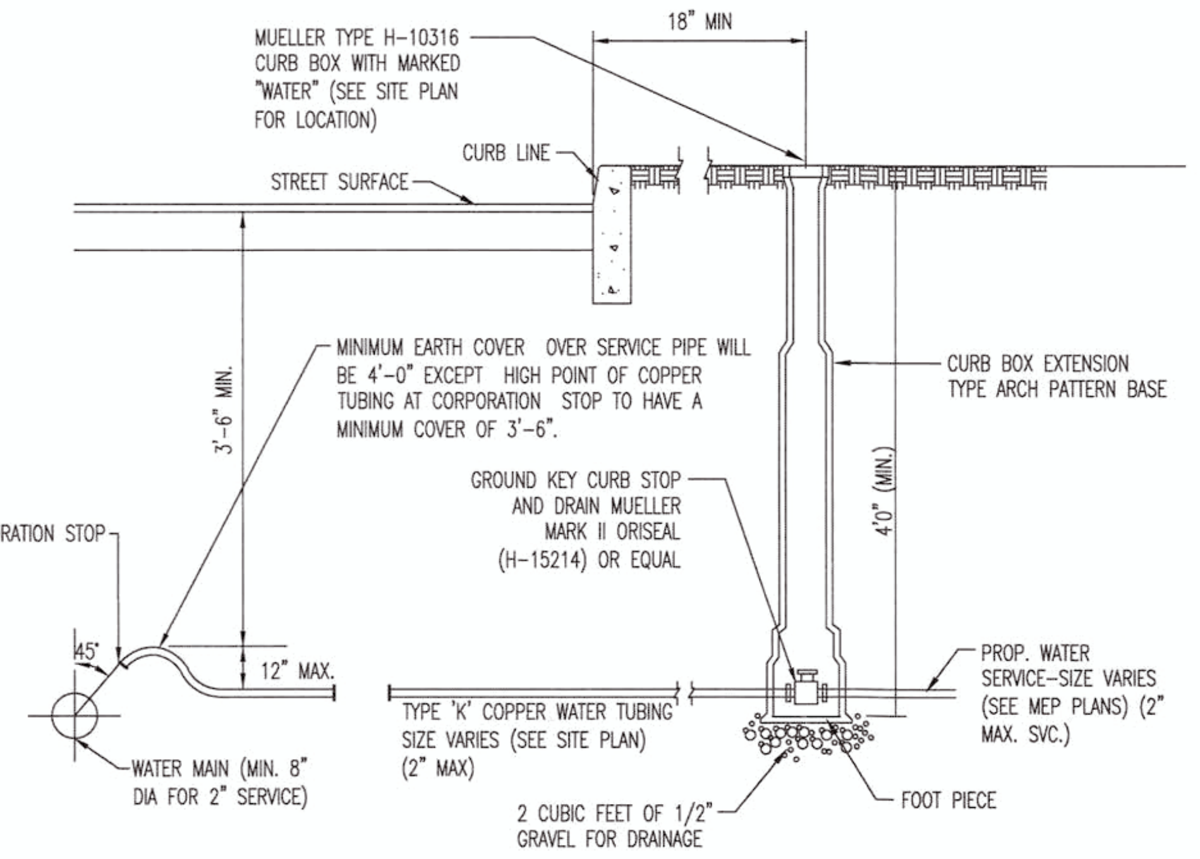
* OR APPROVED EQUAL


CAMBELL FND. Co. COVER & CIRCULAR FRAME # 1000 OR APPROVED EQUAL
BRASS PLUG
GRADE
PROPOSED PAVEMENT (SEE PAVEMENT DETAIL)
8"
9"
9"
30"
3000 PSI CONC. ON MIN. 95% COMPACTED SUBGRADE
4" P.V.C. PIPE
COUPLING AS REQUIRED
4" PVC (SCH 40) TEE WYE (CLEANOUT)
FLOW 4" P.V.C. PIPE
FLOW 4" P.V.C. PIPE
CONNECT TO 4" IN APPROVED MANNER

NOTES: 1. ALL SEWER PIPE IS TO BE SDR-35 UNLESS OTHERWISE NOTED.

SEWER CLEANOUT DETAIL WITHIN PAVED AREAS

NOT TO SCALE


18" MIN
MUELLER TYPE H-10316 CURB BOX WITH MARKED "WATER" (SEE SITE PLAN FOR LOCATION)
CURB LINE
STREET SURFACE
3'-6" MIN.
MINIMUM EARTH COVER OVER SERVICE PIPE WILL BE 4'-0" EXCEPT HIGH POINT OF COPPER TUBING AT CORPORATION STOP TO HAVE A MINIMUM COVER OF 3'-6".
CURB BOX EXTENSION TYPE ARCH PATTERN BASE
4'0" (MIN.)
GROUND KEY CURB STOP AND DRAIN MUELLER MARK II ORISEAL (H-15214) OR EQUAL
CORPORATION STOP
45°
12" MAX.
WATER MAIN (MIN. 8" DIA FOR 2" SERVICE)
TYPE 'K' COPPER WATER TUBING SIZE VARIES (SEE SITE PLAN) (2" MAX)
PROP. WATER SERVICE-SIZE VARIES (SEE MEP PLANS) (2" MAX. SVC.)
2 CUBIC FEET OF 1/2" GRAVEL FOR DRAINAGE
FOOT PIECE

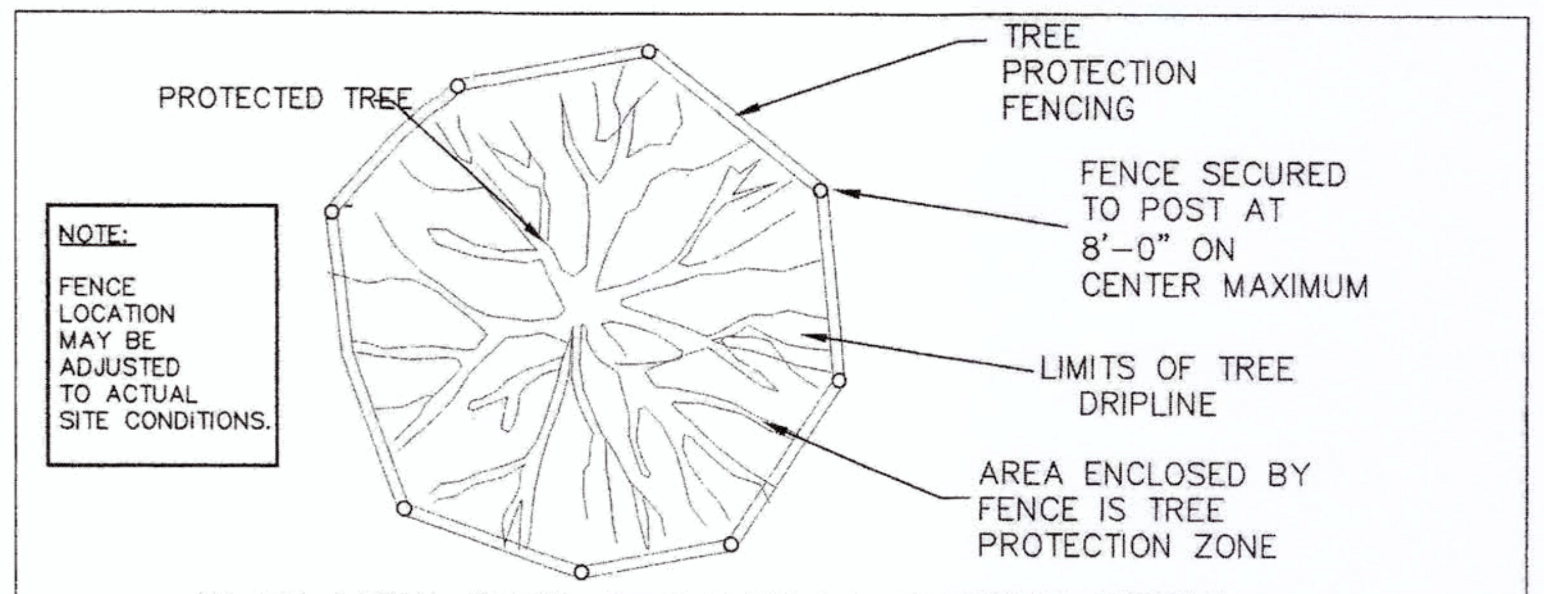
NOTE: CONTRACTOR TO VERIFY SIZE AND LOCATION OF UTILITY SERVICES WITH ARCHITECTURAL PLANS AND/OR M.E.P. DRAWINGS. WHERE CONFLICT EXISTS WITH THE SITE PLAN, ENGINEER TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.

WATER SERVICE CONNECTION

NOT TO SCALE

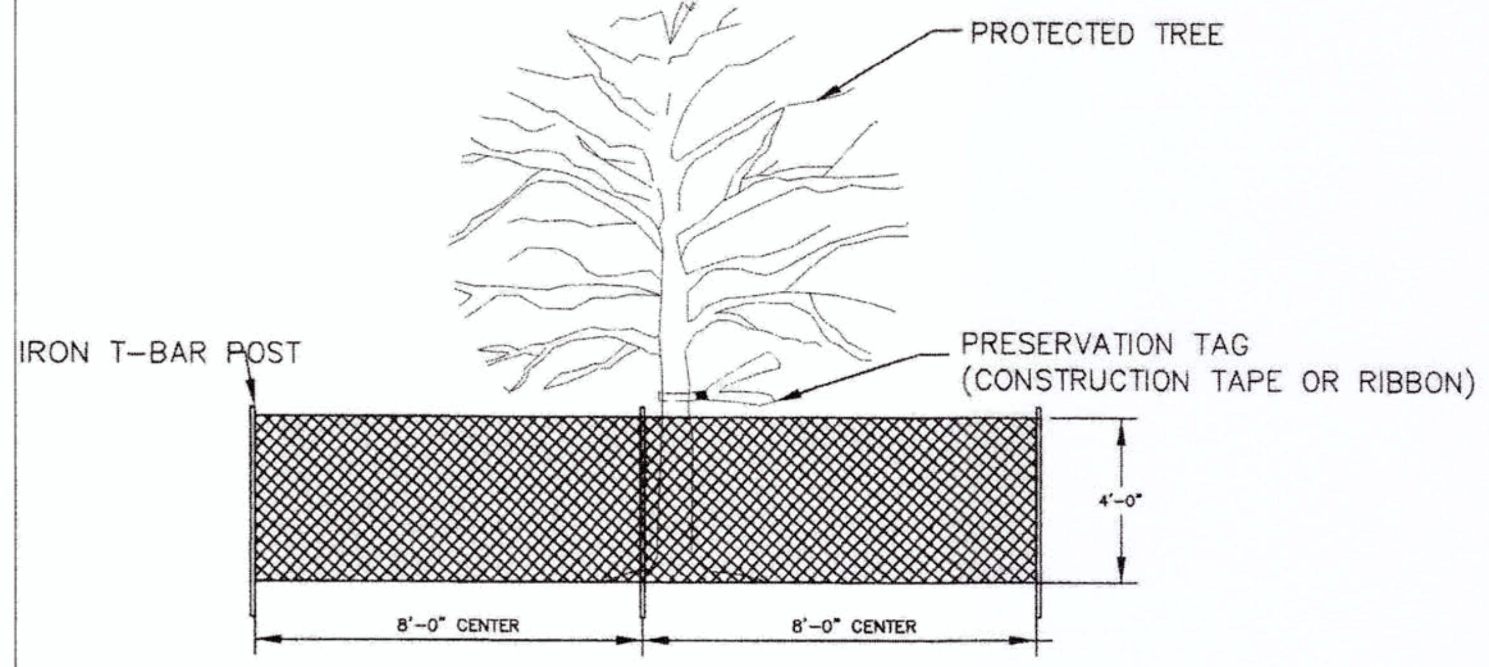
Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM (1-800-245-4545) A MINIMUM OF 72 HOURS PRIOR TO START OF WORK

Plotted: 07/18/17 – 5:21 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D4691619 7SD3.dwg, ---> 21 CONSTRUCTION

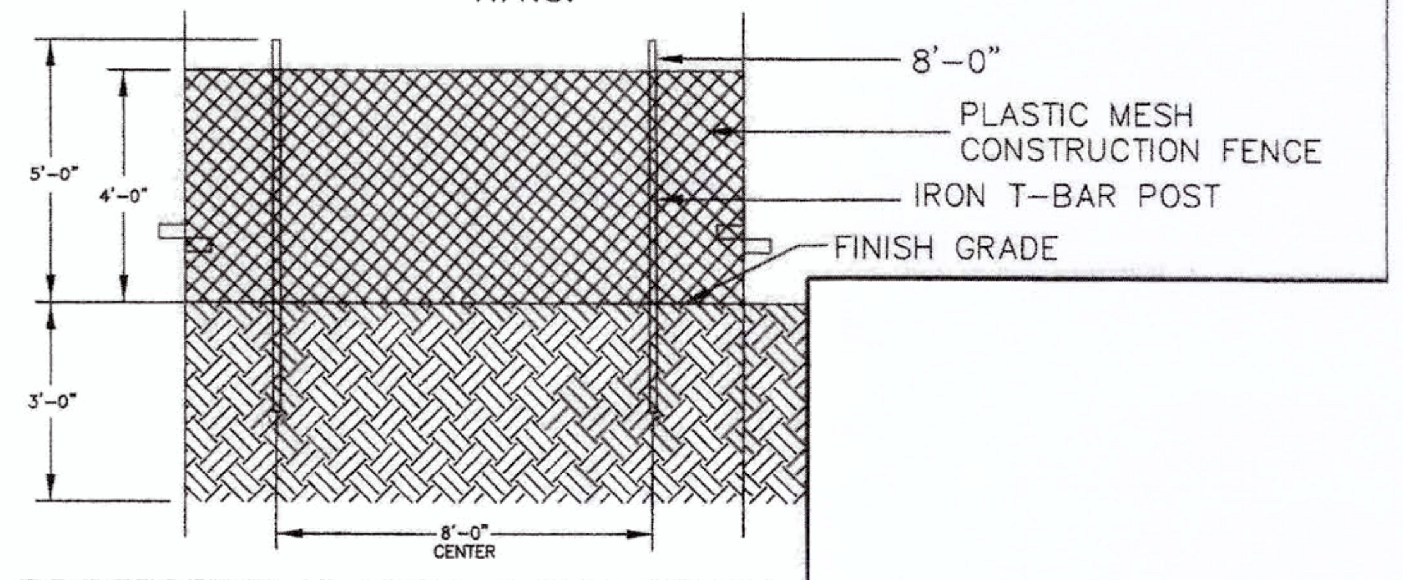

PROTECTED TREE
TREE PROTECTION FENCING
FENCE SECURED TO POST AT 8'-0" ON CENTER MAXIMUM
LIMITS OF TREE DRIPLINE
AREA ENCLOSED BY FENCE IS TREE PROTECTION ZONE

NOTE:
FENCE LOCATION MAY BE ADJUSTED TO ACTUAL SITE CONDITIONS.

PLAN VIEW–TREE PROTECTION FENCING DETAIL
N.T.S.

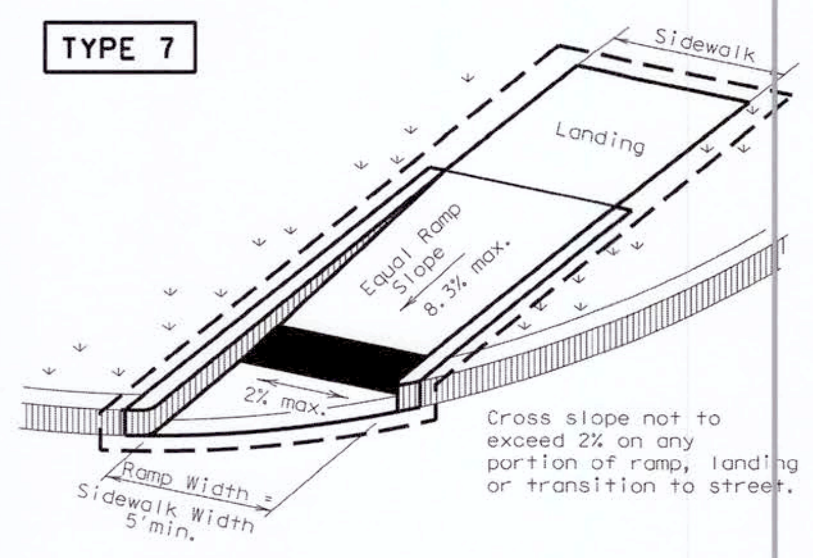

PROTECTED TREE
IRON T-BAR POST
PRESERVATION TAG (CONSTRUCTION TAPE OR RIBBON)
4'-0"
8'-0" CENTER
8'-0" CENTER

FRONT VIEW–TREE PROTECTION FENCING DETAIL
N.T.S.


8'-0"
PLASTIC MESH CONSTRUCTION FENCE
IRON T-BAR POST
FINISH GRADE
5'-0"
4'-0"
3'-0"
8'-0" CENTER

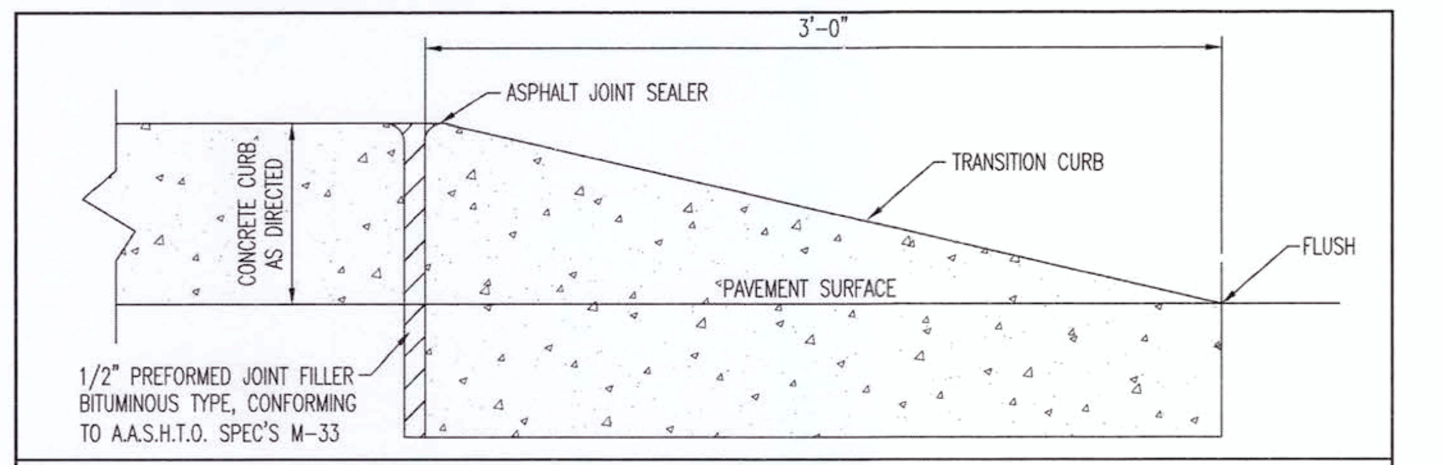
PROTECTIVE PLASTIC MESH FENCE
N.T.S.

TYPE 7


Sidewalk
Landing
Equal Ramp Slope 8.3% max.
2% max.
Ramp Width = Sidewalk Width 5'min.

Cross slope not to exceed 2% on any portion of ramp, landing or transition to street.

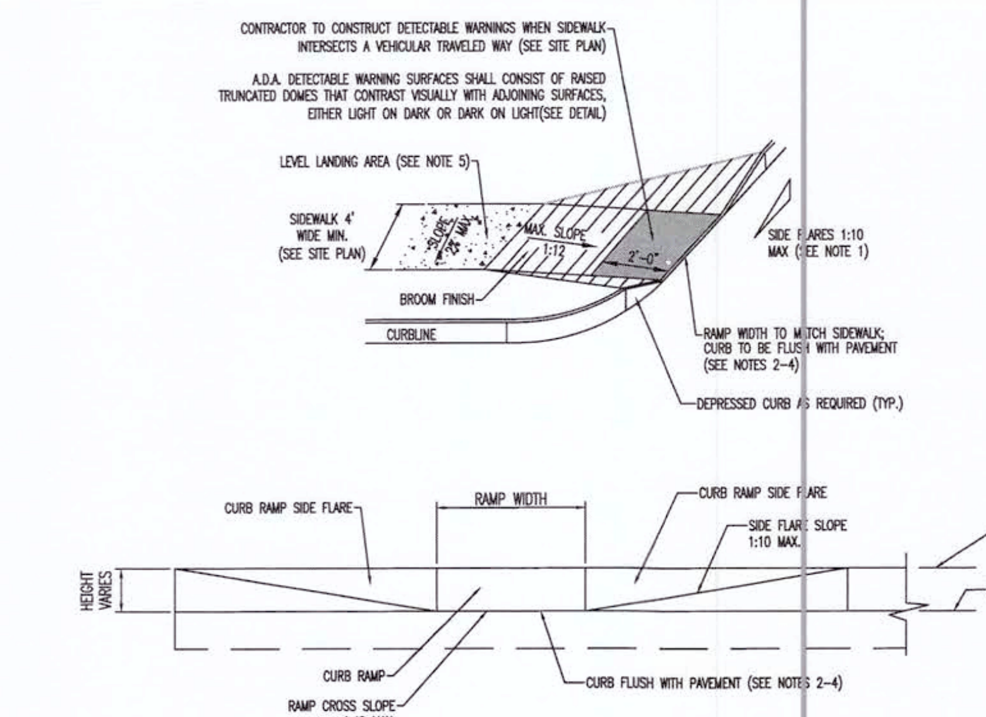
(Sidewalk set back from curb)


3'-0"
ASPHALT JOINT SEALER
TRANSITION CURB
CONCRETE CURB, AS DIRECTED
FLUSH
PAVEMENT SURFACE
1/2" PREFORMED JOINT FILLER BITUMINOUS TYPE, CONFORMING TO A.A.S.H.T.O. SPEC'S M-33

NOTE: SEE CURB DETAIL FOR MATERIAL SPECIFICATIONS, BEDDING REQUIREMENTS, ETC.

VERTICAL CURB TAPER DETAIL

NOT TO SCALE


CONTRACTOR TO CONSTRUCT DETECTABLE WARNINGS WHEN SIDEWALK INTERSECTS A VEHICULAR TRAVELED WAY (SEE SITE PLAN)
A.D.A. DETECTABLE WARNING SURFACES SHALL CONSIST OF RAISED TRUNCATED DOMES THAT CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT ON DARK OR DARK ON LIGHT(SEE DETAIL)
LEVEL LANDING AREA (SEE NOTE 5)
SIDEWALK 4' WIDE MIN. (SEE SITE PLAN)
SLOPE 2% MAX.
MAX. SLOPE 1:12
2'-0"
SIDE FLARES 1:10 MAX (SEE NOTE 1)
BROOM FINISH
CURBLINE
RAMP WIDTH TO MATCH SIDEWALK; CURB TO BE FLUSH WITH PAVEMENT (SEE NOTES 2-4)
DEPRESSED CURB AS REQUIRED (TYP.)
CURB RAMP SIDE FLARE
RAMP WIDTH
CURB RAMP SIDE FLARE
SIDE FLARE SLOPE 1:10 MAX.
TOP OF CURB
PAVEMENT SURFACE
HEIGHT VARIES
CURB RAMP
RAMP CROSS SLOPE 1:48 MAX.
CURB FLUSH WITH PAVEMENT (SEE NOTES 2-4)

TYPICAL ELEVATION FOR DEPRESSED CURB

NOTES:

1.) WHERE A PEDESTRIAN CIRCULATION PATH CROSSED THE CURB RAMP, FLARE SIDES SHALL BE PROVIDED AT A SLOPE NO STEEPER THEN 1:10.

2.) CONSTRUCT DEPRESSED CURB FOR CURB RAMPS FLUSH TO ADJACENT PAVEMENT. GRADE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL TURNING SPACES BEHIND DEPRESSED CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.

3.) CURB RAMPS MAY NOT EXTEND INTO ANY PORTION OF THE PARKING SPACE OR ASSOCIATED STRIPED ISLAND.

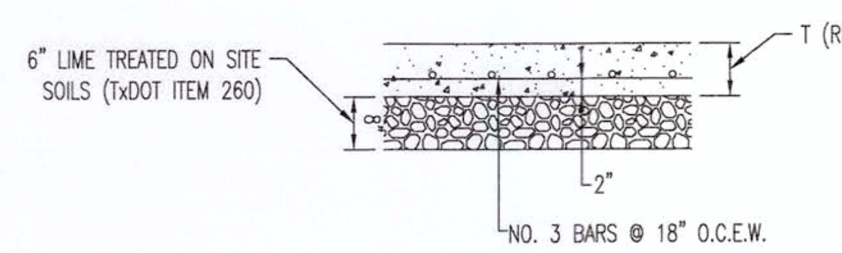
4.) COUNTER SLOPES OF ADJOINING GUTTERS AND PAVEMENT SHALL NOT BE STEEPER THAN 1:20 WITH A MAX. CROSS SLOPE OF 2%.

5.) A LEVEL LANDING AREA (MAX. SLOPE 2% IN ANY DIRECTION) SHALL BE PROVIDED AT THE TOP OF THE RAMP. THE LANDING CLEAR LENGTH SHALL BE 36" MIN AND THE CLEAR WIDTH SHALL BE AS WIDE AS THE RAMP.

6.) CURB RAMPS, PAVEMENT MARKINGS & APPLICABLE SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.D.A. ACCESSIBILITY GUIDELINES.

A.D.A. PERPENDICULAR CURB RAMP DETAIL (W/ FLARE SIDES)

NOT TO SCALE


6" LIME TREATED ON SITE SOILS (TxDOT ITEM 260)
T (REF CHART)
8"
2"
NO. 3 BARS @ 18" O.C.E.W.

PAVEMENT THICKNESS

HEAVY DUTY	7" 3,500 PSI
LIGHT DUTY	5" 3,500 PSI

NOTES:
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 600 POUNDS PER CUBIC YARD.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 5" TO WITHIN A TOLERANCE OF 1".
3. ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED, (4% WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
4. REINFORCING STEEL BARS SHALL BE A MINIMUM ASTM A615, GRADE 60, AND SHALL BE FIELD WIRED IN PLACE.
5. ALL FRAMEWORK, AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND REGULATIONS, AS WELL AS THE ACI AND UNIFORM BUILDING CODE.
6. EXPANSION JOINTS 1/2" WIDE OF PREMOULDED BITUMINOUS MATERIALS SHALL BE INSTALLED.
7. CITY OF RICHMOND PAVING DETAILS SHALL BE USED IN THE R.O.W.

NOTE: REFER TO GI REPORT BY RABA KISTNER CONSULTANTS DATED: 07/19/2016 REPORT #AHA16-042-00

CONCRETE PAVING DETAIL

NOT TO SCALE

APPROVED: Mary D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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07/19/17
JOSEPH G. JAWORSKI
120486

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TEXAS LICENSE No. 120486

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PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) AS (V) SHOWN
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197

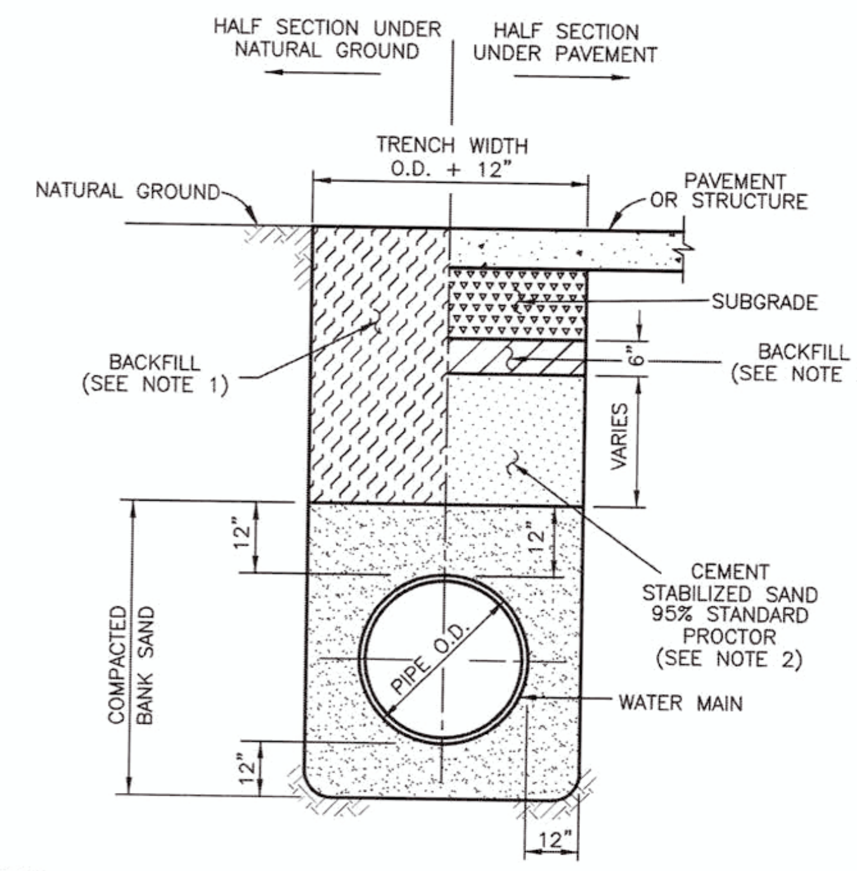
TITLE:
CONSTRUCTION DETAILS

SHEET No: 21 OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

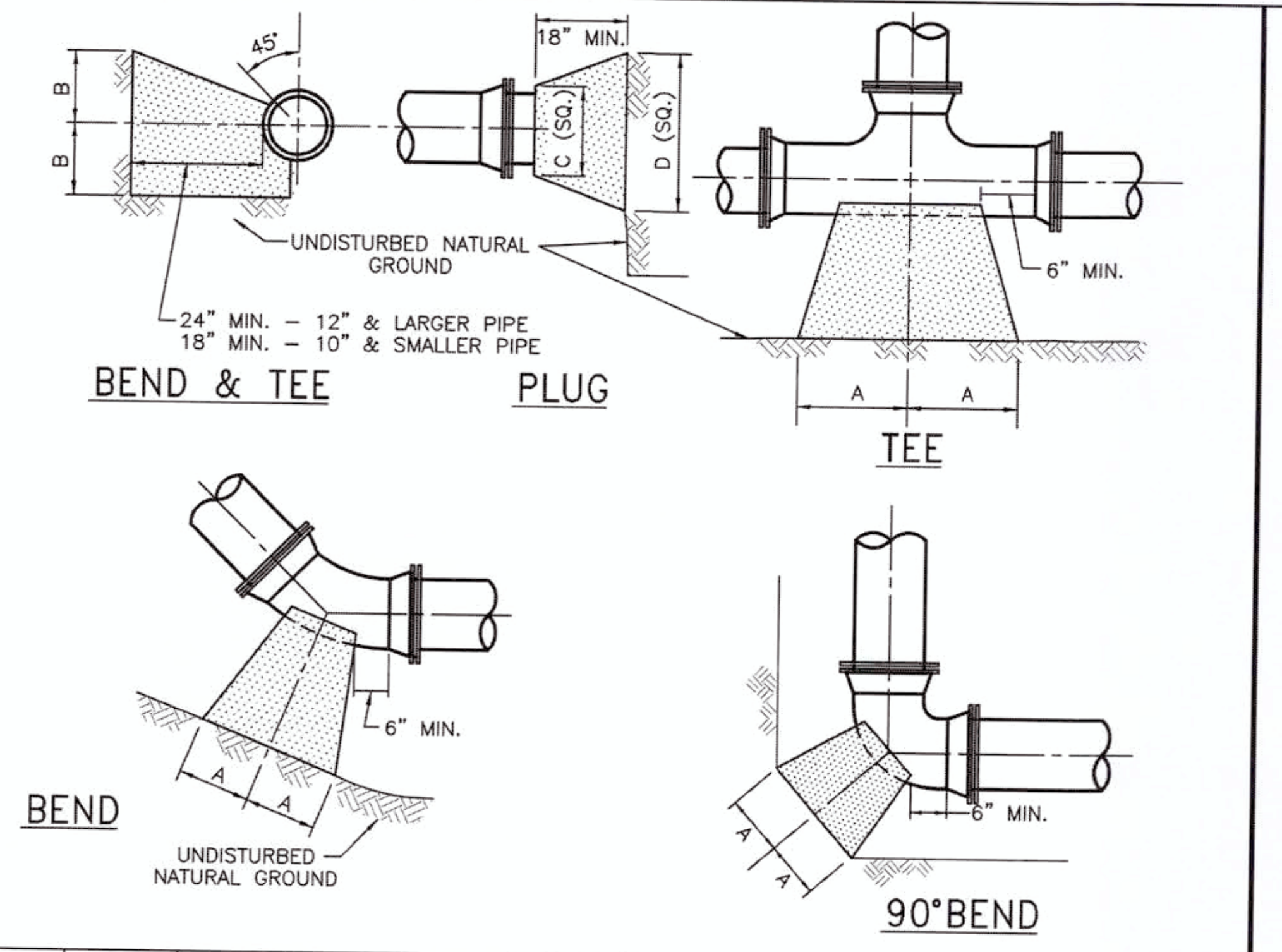
CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


HALF SECTION UNDER NATURAL GROUND
HALF SECTION UNDER PAVEMENT
TRENCH WIDTH O.D. + 12"
NATURAL GROUND
PAVEMENT OR STRUCTURE
SUBGRADE
BACKFILL (SEE NOTE 1)
BACKFILL (SEE NOTE 2)
6"
VARIES
12"
12"
CEMENT STABILIZED SAND 95% STANDARD PROCTOR (SEE NOTE 2)
COMPACTED BANK SAND
PIPE O.D.
WATER MAIN
12"
12"

NOTES

1. BACKFILL SHALL BE NATIVE SOIL, FREE OF DEBRIS, PLACED IN LIFTS, 8" THICK OR LESS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, EXCEPT AS REQUIRED BELOW.
2. BACKFILL UNDER AND WITHIN 3 FEET OF DRIVEWAYS AND PUBLIC STREETS SHALL BE CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND), EXCEPT THE TOP 6" SHALL BE NATIVE SOIL, FREE OF DEBRIS. ALL BACKFILL UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED AS REQUIRED.
4. ALL EXCAVATED MATERIAL WITH A P.I. OF 12 OR LESS MAY BE USED AS BACKFILL WITH FIELD APPROVAL BY THE CITY.

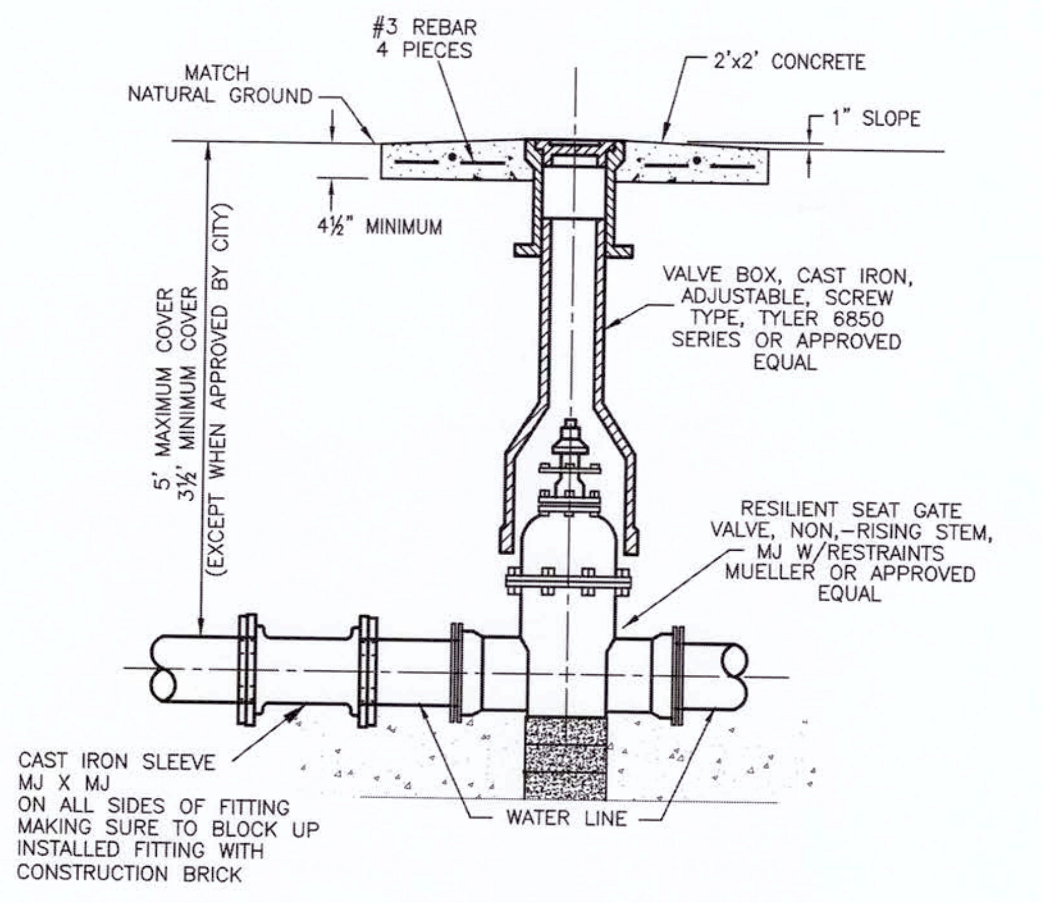
1. WATER LINE BEDDING


45°
B
B
18" MIN.
C (SQ.)
D (SQ.)
UNDISTURBED NATURAL GROUND
24" MIN. – 12" & LARGER PIPE
18" MIN. – 10" & SMALLER PIPE
6" MIN.
BEND & TEE
PLUG
A
A
TEE
6" MIN.
BEND
A
A
UNDISTURBED NATURAL GROUND
6" MIN.
A
A
90°BEND

SIZE	90° BEND		45° BEND		22½° BEND		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
2½"	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"	8"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"

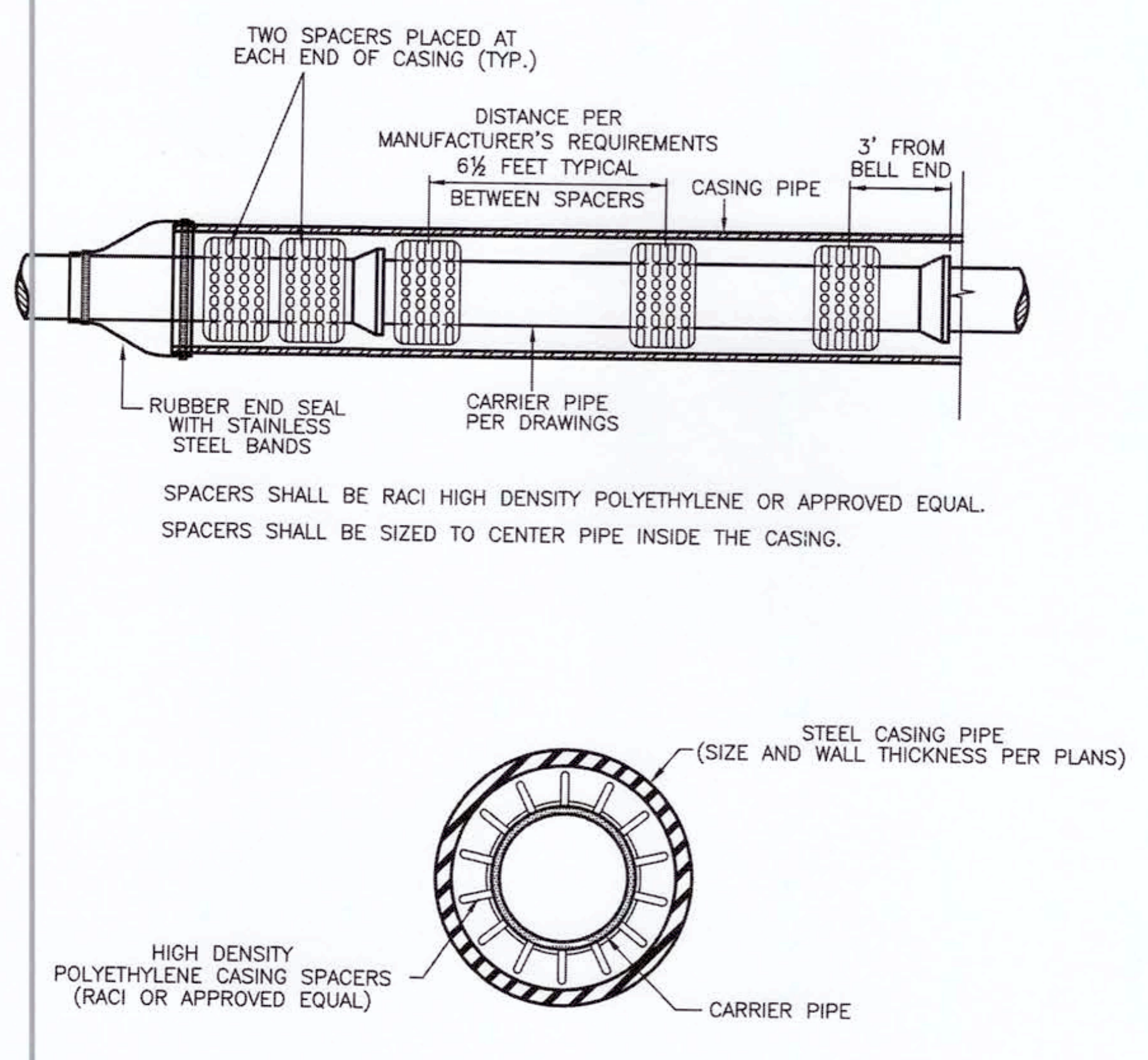
NOTES:
1. THRUST BLOCKS AT TRENCH FACE MUST HAVE A MINIMUM BEARING SURFACE OF 1.0 SQ. FOOT AND THE LEAST DIMENSION SHALL BE NO SMALLER THAN 1.5 TIMES PIPE DIAMETER, BUT NOT LESS THAN 1.0 FT.
2. ALL CONCRETE SHALL BE 3500 PSI AND BE PACKED AT ALL FITTINGS.
3. ALL FITTINGS SHALL BE M.J. RESTRAINED JOINT (EBAA IRON, SERIES 2000PV, OR APPROVED EQUAL) AND WRAPPED IN 8 MIL PLASTIC.

2. THRUST BLOCK


#3 REBAR 4 PIECES
2'x2' CONCRETE
1" SLOPE
MATCH NATURAL GROUND
4½" MINIMUM
5' MAXIMUM COVER 3½' MINIMUM COVER (EXCEPT WHEN APPROVED BY CITY)
VALVE BOX, CAST IRON, ADJUSTABLE, SCREW TYPE, TYLER 6850 SERIES OR APPROVED EQUAL
RESILIENT SEAT GATE VALVE, NON-RISING STEM, MJ W/RESTRAINTS MUELLER OR APPROVED EQUAL
CAST IRON SLEEVE MJ X MJ ON ALL SIDES OF FITTING MAKING SURE TO BLOCK UP INSTALLED FITTING WITH CONSTRUCTION BRICK
WATER LINE

NOTES:
1. PROVIDE OPERATING NUT EXTENSION, AS NEEDED, TO APPROXIMATELY THREE (3) FEET BELOW FINISHED GRADE.
2. VALVE BOX SHALL NOT TRANSMIT ANY LOAD DIRECTLY TO THE VALVE OR PIPE.
3. GATE VALVES SHALL BE COUNTER–CLOCKWISE OPEN.
4. TAPPING VALVES ARE NOT ALLOWED WHEN TAP IS SAME SIZE AS THE EXISTING MAIN EXCEPT WHEN APPROVED BY PUBLIC WORKS.
5. FOR CUT IN VALVES OR FITTINGS, PROVIDE CAST IRON SLEEVE WITH MJ X MJ ON ALL SIDES OF VALVE/FITTING. BLOCK UP INSTALLED FITTING WITH CONSTRUCTION BRICK(S).

3. GATE VALVE AND BOX


TWO SPACERS PLACED AT EACH END OF CASING (TYP.)
DISTANCE PER MANUFACTURER'S REQUIREMENTS 6½ FEET TYPICAL
BETWEEN SPACERS
CASING PIPE
3' FROM BELL END
RUBBER END SEAL WITH STAINLESS STEEL BANDS
CARRIER PIPE PER DRAWINGS
STEEL CASING PIPE (SIZE AND WALL THICKNESS PER PLANS)
HIGH DENSITY POLYETHYLENE CASING SPACERS (RACI OR APPROVED EQUAL)
CARRIER PIPE

SPACERS SHALL BE RACI HIGH DENSITY POLYETHYLENE OR APPROVED EQUAL.
SPACERS SHALL BE SIZED TO CENTER PIPE INSIDE THE CASING.

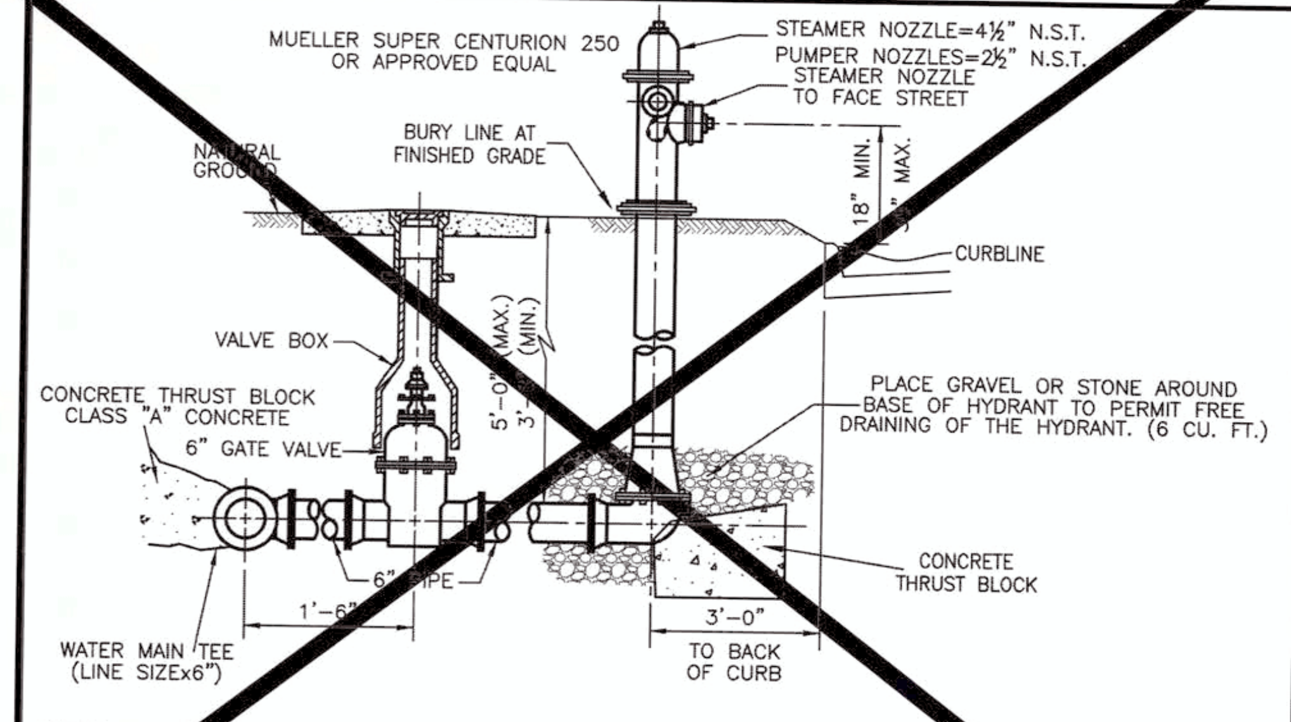
NOTES:

1. CASING SPACERS SHALL BE USED TO INSTALL THE CARRIER PIPE INSIDE THE ENCASEMENT PIPE TO PROVIDE SUPPORT AROUND THE PERIPHERY OF THE PIPE. MINIMUM CLEARANCE BETWEEN MAXIMUM O.D. OF CARRIER PIPE AND I.D. OF CASING SHALL BE ONE INCH.
2. SPACERS SHALL BE PROJECTION TYPE, WITH A MINIMUM NUMBER OF PROJECTIONS AROUND THE CIRCUMFERENCE EQUAL TO THE NUMBER OF DIAMETER INCHES OF THE CARRIER PIPE. CASING SPACERS SHALL BE TOTALLY NON–METALLIC SPACERS CONSTRUCTED OF INTERLOCKING PREFORMED SECTIONS OF HIGH DENSITY POLYETHYLENE. SPACERS SHALL BE ISO 9002 CERTIFIED FOR STRENGTH AND QUALITY.
3. THE ENDS OF THE CASING SHALL BE SEALED USING PWM MODEL 1 WA WRAP AROUND END SEAL MADE OF 1/8" THICKNESS RUBBER AND STAINLESS STEEL BANDS, OR APPROVED EQUAL.
4. EXTEND CASING A MINIMUM OF 5' BEYOND EDGE OF PAVEMENT.

PVC PIPE IN CASING

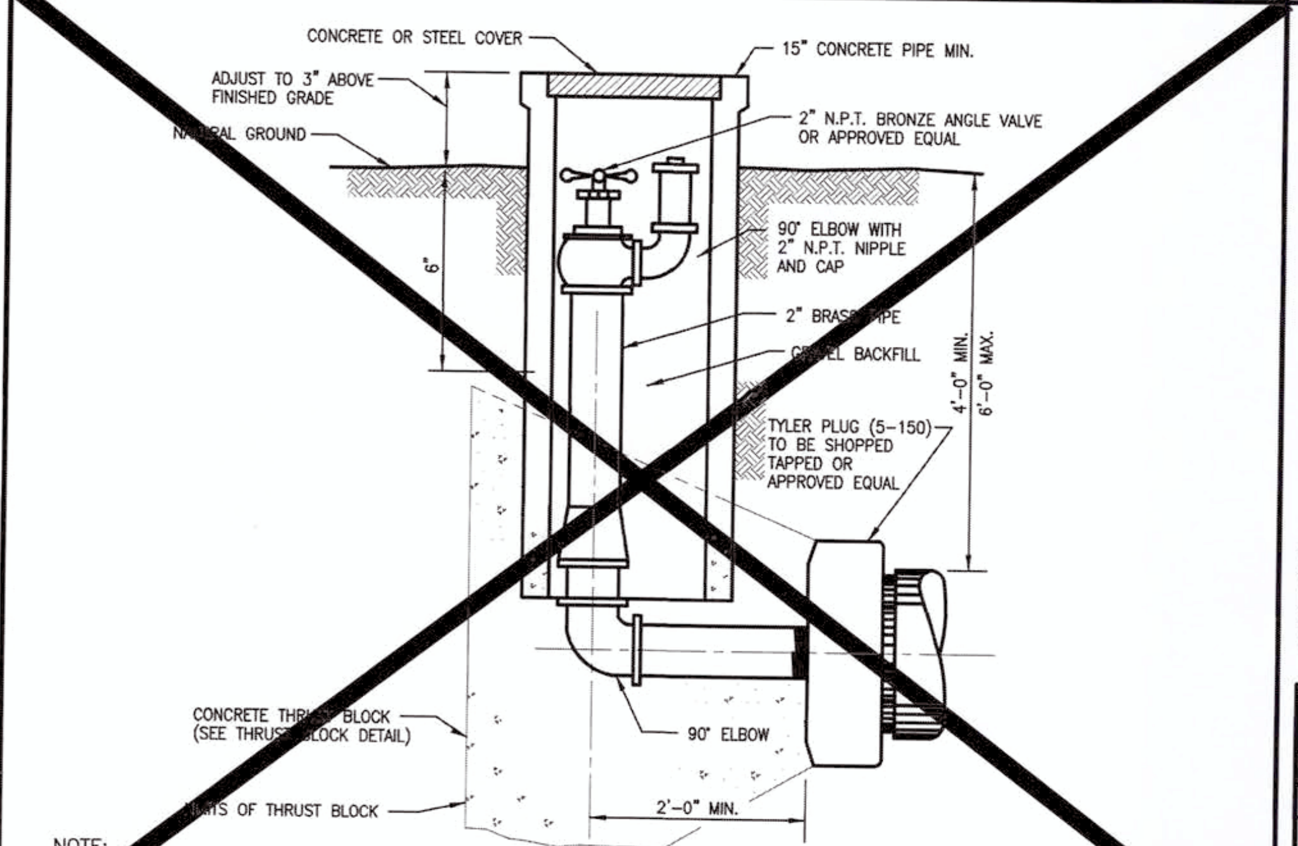
DR18 C900/C905 PVC PIPE	OD"	BELL OD"	STEEL CASING DIAMETER	RACI SPACERS MODEL*
4"	4.80"	6.38"	10"	2F 41
6"	6.90"	8.88"	12"	2F, 1G 41
8"	9.05"	11.38"	14"	3F, 1G 41
10"	11.10"	13.97"	16"	4F 41
12"	13.20"	16.34"	20"	5F 60
14"	15.30"	18.23"	22"	6F 60
16"	17.40"	20.58"	24"	7F 60
20"	21.60"	26.85"	30"	6M 90

7. WATER LINE CASING


MUELLER SUPER CENTURION 250 OR APPROVED EQUAL
STEAMER NOZZLE=4½" N.S.T.
PUMPER NOZZLES=2½" N.S.T.
STEAMER NOZZLE TO FACE STREET
NATURAL GROUND
BURY LINE AT FINISHED GRADE
18" MIN.
MAX.
CURBLINE
VALVE BOX
5'-0" (MAX.)
3' (MIN.)
CONCRETE THRUST BLOCK CLASS "A" CONCRETE
6" GATE VALVE
PLACE GRAVEL OR STONE AROUND BASE OF HYDRANT TO PERMIT FREE DRAINING OF THE HYDRANT. (6 CU. FT.)
6" PIPE
CONCRETE THRUST BLOCK
1'-6"
3'-0"
TO BACK OF CURB
WATER MAIN TEE (LINE SIZEx6")

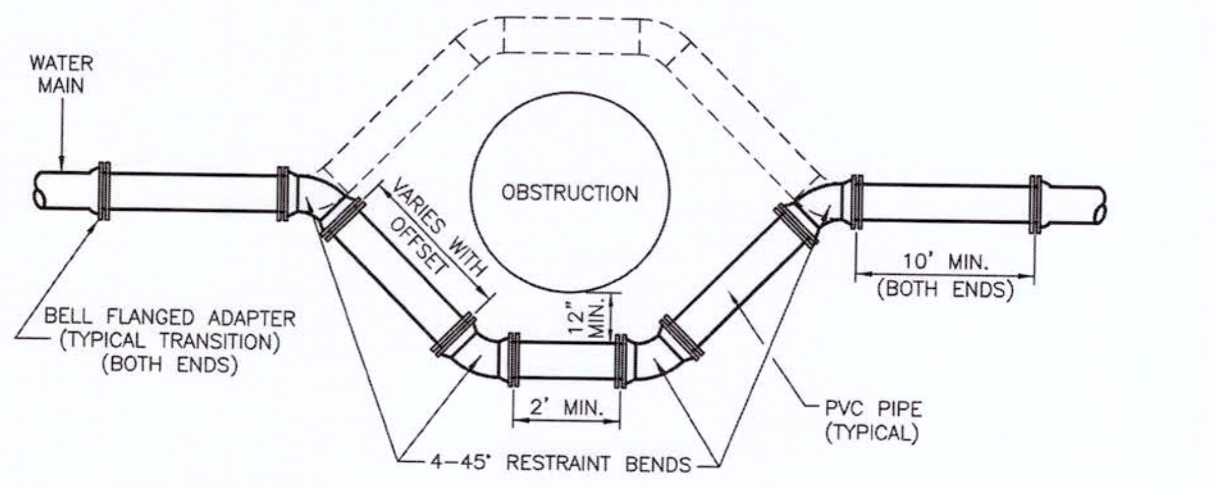
~~NOTES:~~
1. ~~5/8" ALL-THREAD IS TO BE USED TO TIE VALVE TO TEE AND VALVE TO HYDRANT.~~
2. ~~PROVIDE MECHANICAL RESTRAINED JOINTS (EBBA IRON, SERIES 2000PV, OR APPROVED EQUAL).~~
3. ~~PAINT ALL FIRE HYDRANT BARRELS GRAY. PAINT BONNET AND CAPS IN ACCORDANCE WITH CITY OF RICHMOND REQUIREMENTS BASED ON MAINLINE SIZE. (COLORS: YELLOW–6" AND LESS; WHITE–8"; GREEN–[illegible]" TO 20"; ORANGE–24" TO 60").~~

4. FIRE HYDRANT


CONCRETE OR STEEL COVER
15" CONCRETE PIPE MIN.
ADJUST TO 3" ABOVE FINISHED GRADE
NATURAL GROUND
2" N.P.T. BRONZE ANGLE VALVE OR APPROVED EQUAL
6"
90° ELBOW WITH 2" N.P.T. NIPPLE AND CAP
2" BRASS PIPE
GRAVEL BACKFILL
4'-0" MIN.
6'-0" MAX.
TYLER PLUG (5-150) TO BE SHOPPED TAPPED OR APPROVED EQUAL
CONCRETE THRUST BLOCK (SEE THRUST BLOCK DETAIL)
90° ELBOW
LIMITS OF THRUST BLOCK
2'-0" MIN.

~~NOTE:~~
1. ~~ON OPEN–DITCH ROADWAYS, SET THE FLUSHING HYDRANTS WITHIN 3 FEET OF ROAD RIGHT–OF–WAY LINE.~~
2. ~~ALL PIPING AND FITTINGS SHALL BE BRASS ALL THE WAY TO THE SADDLE.~~

5. 2" BLOWOFF VALVE ASSEMBLY

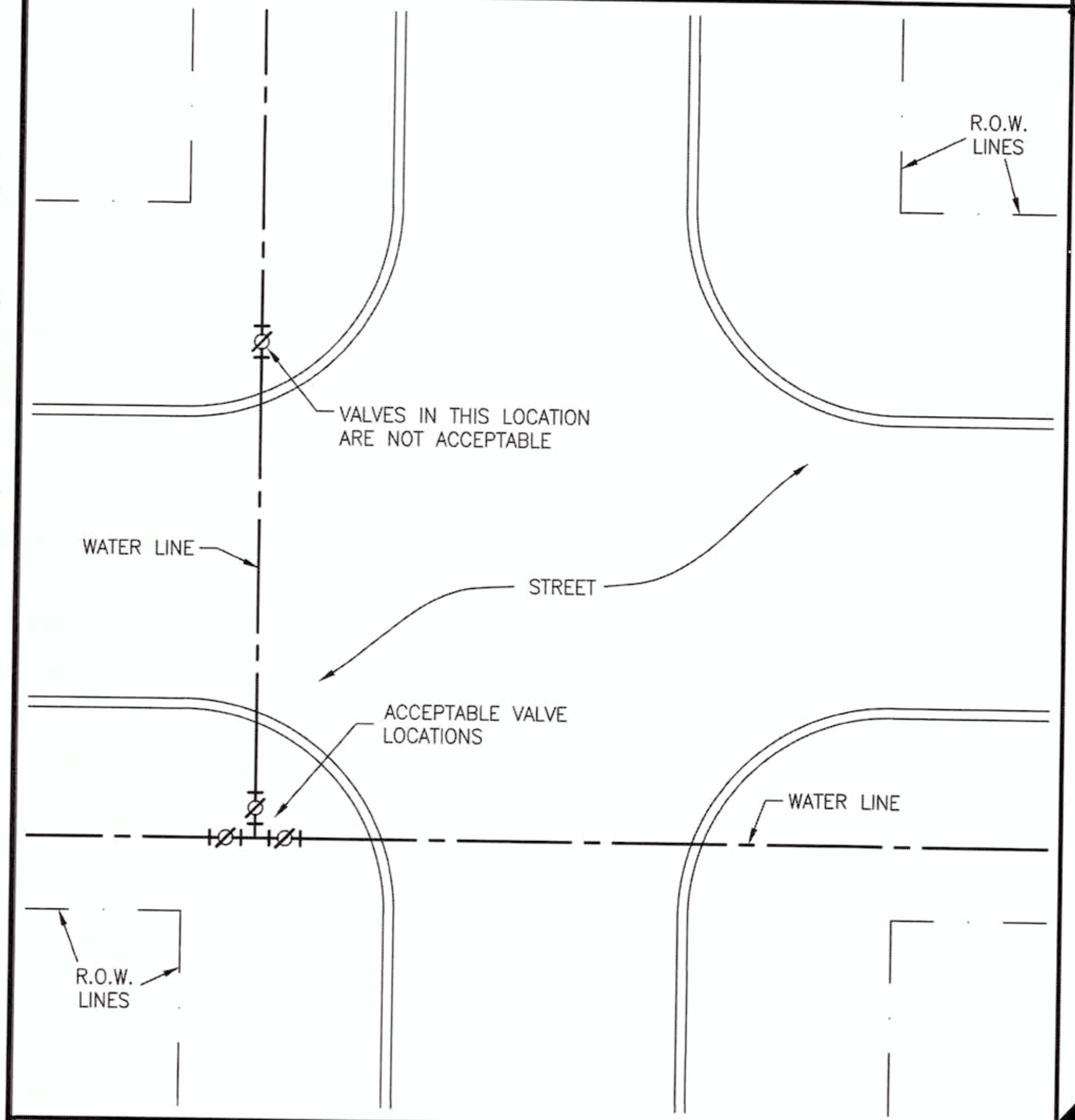

WATER MAIN
OBSTRUCTION
VARIES WITH OFFSET
10' MIN. (BOTH ENDS)
BELL FLANGED ADAPTER (TYPICAL TRANSITION) (BOTH ENDS)
12" MIN.
2' MIN.
PVC PIPE (TYPICAL)
4–45° RESTRAINT BENDS

FOR A LINE TO PASS OVER AN OBSTRUCTION RATHER THAN UNDER, IT MUST HAVE ADEQUATE COVER AND BE APPROVED BY DEPARTMENT OF PUBLIC WORKS.

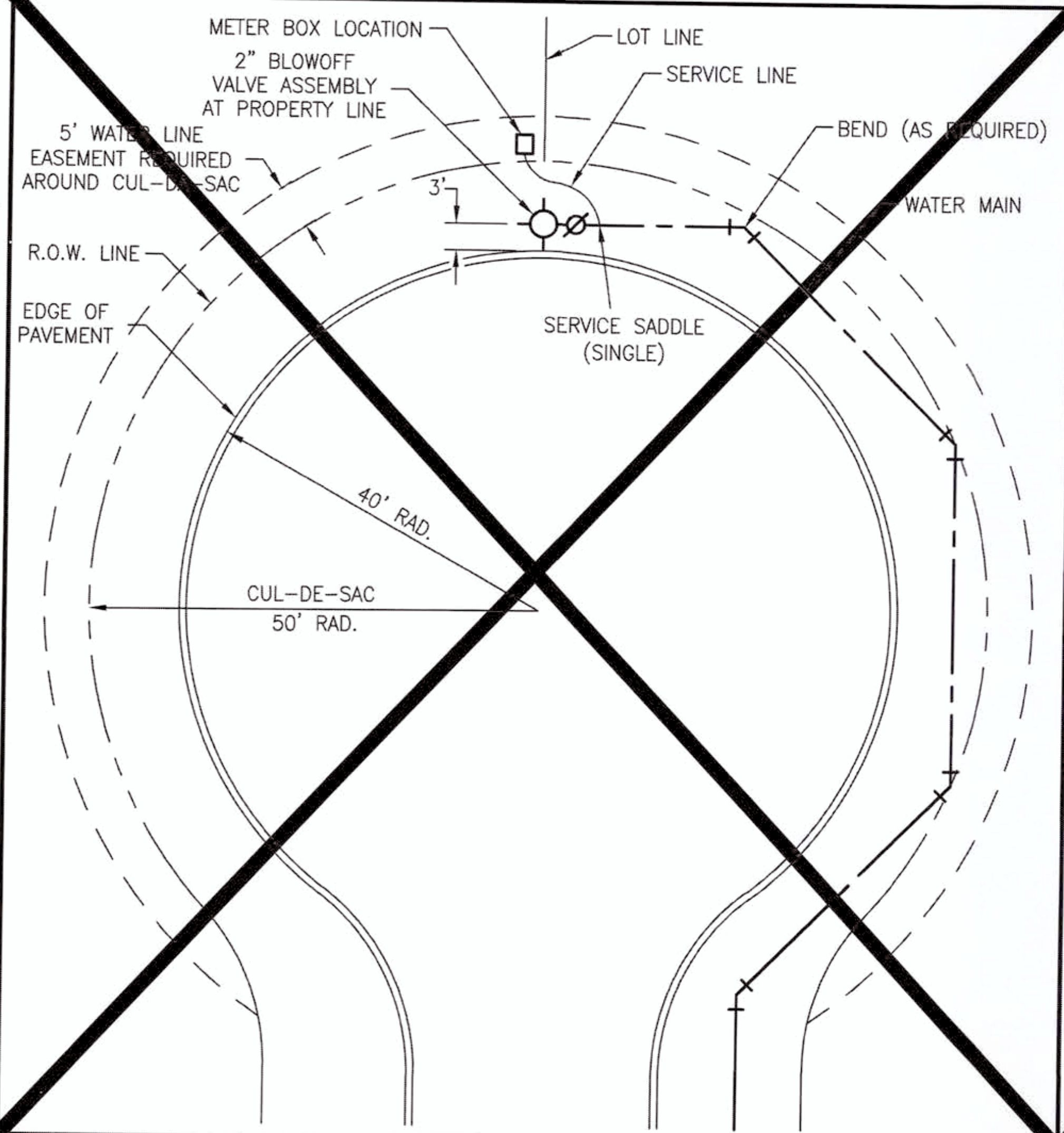
MIN. PIPE WALL THICKNESS	
4"	– 0.250"
6"	– 0.280"
8"	– 0.322"
12" AND LARGER	– 0.375"

NOTES:
1. PIPE MATERIAL SHALL BE AWWA C900 PVC, DR–14, 200 PSI WITH INTEGRAL PVC RESTRAINED JOINTS.
2. OFFSET ASSEMBLY MUST PASS OVER THE OBSTRUCTION AS LONG AS THE MINIMUM CLEARANCE IS MAINTAINED. SPECIFIC APPROVAL FROM THE UTILITIES DEPARTMENT MUST BE GRANTED FOR THE OFFSET TO PASS UNDER THE OBSTRUCTION.
3. MATERIAL AND COATINGS SHALL BE IN ACCORDANCE WITH WATER MAIN STANDARD SPECIFICATIONS.
4. RESTRAIN EXISTING PIPING BEYOND OFFSET SECTION AS REQUIRED TO PREVENT MOVEMENT.
5. ALL PVC PRODUCTS MUST BE LISTED ON CITY OF RICHMOND'S APPROVED PRODUCTS LIST.

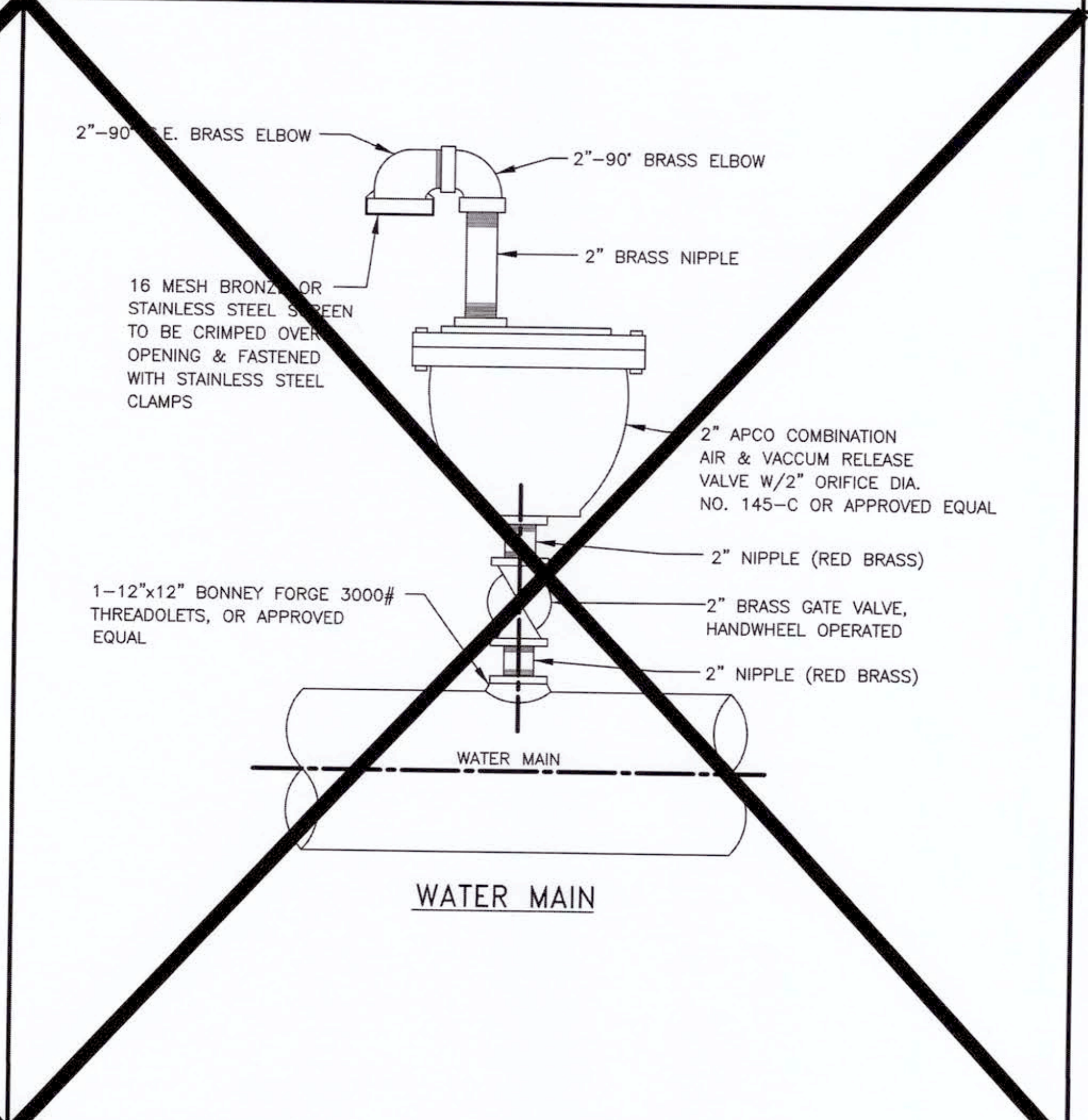
6. WATER PIPE OFFSET ASSEMBLY


R.O.W. LINES
VALVES IN THIS LOCATION ARE NOT ACCEPTABLE
WATER LINE
STREET
ACCEPTABLE VALVE LOCATIONS
WATER LINE
R.O.W. LINES

8. VALVE LOCATION PLAN


METER BOX LOCATION
2" BLOWOFF VALVE ASSEMBLY AT PROPERTY LINE
LOT LINE
SERVICE LINE
5' WATER LINE EASEMENT REQUIRED AROUND CUL-DE-SAC
BEND (AS REQUIRED)
WATER MAIN
3'
R.O.W. LINE
EDGE OF PAVEMENT
SERVICE SADDLE (SINGLE)
40' RAD.
CUL-DE-SAC 50' RAD.

9. BLOWOFF LOCATION PLAN


2"-90° E. BRASS ELBOW
2"-90° BRASS ELBOW
2" BRASS NIPPLE
16 MESH BRONZE OR STAINLESS STEEL SCREEN TO BE CRIMPED OVER OPENING & FASTENED WITH STAINLESS STEEL CLAMPS
2" APCO COMBINATION AIR & VACCUM RELEASE VALVE W/2" ORIFICE DIA. NO. 145-C OR APPROVED EQUAL
2" NIPPLE (RED BRASS)
1-12"x12" BONNEY FORGE 3000# THREADOLETS, OR APPROVED EQUAL
2" BRASS GATE VALVE, HANDWHEEL OPERATED
2" NIPPLE (RED BRASS)
WATER MAIN
WATER MAIN

10. AIR RELEASE VALVE

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
WATER–1

RICHMOND TEXAS 1837
COUNTY SEAT OF FORT BEND

SCALE		DESIGNED BY: LLT
HORIZONTAL	1" = NTS	DRAWN BY: AJS
VERTICAL	1" = NTS	CHECKED BY: KRK
		DATE: 12/01/16
		JOB NO:
		DWG. NO:
		R–2–16
		Sheet:

APPROVED: Maggi D[illegible]
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP–OUT DRIVE–THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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07/19/17
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120486

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TEXAS LICENSE No. 120486

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PROJECT CONTACT: JOHN TOIC

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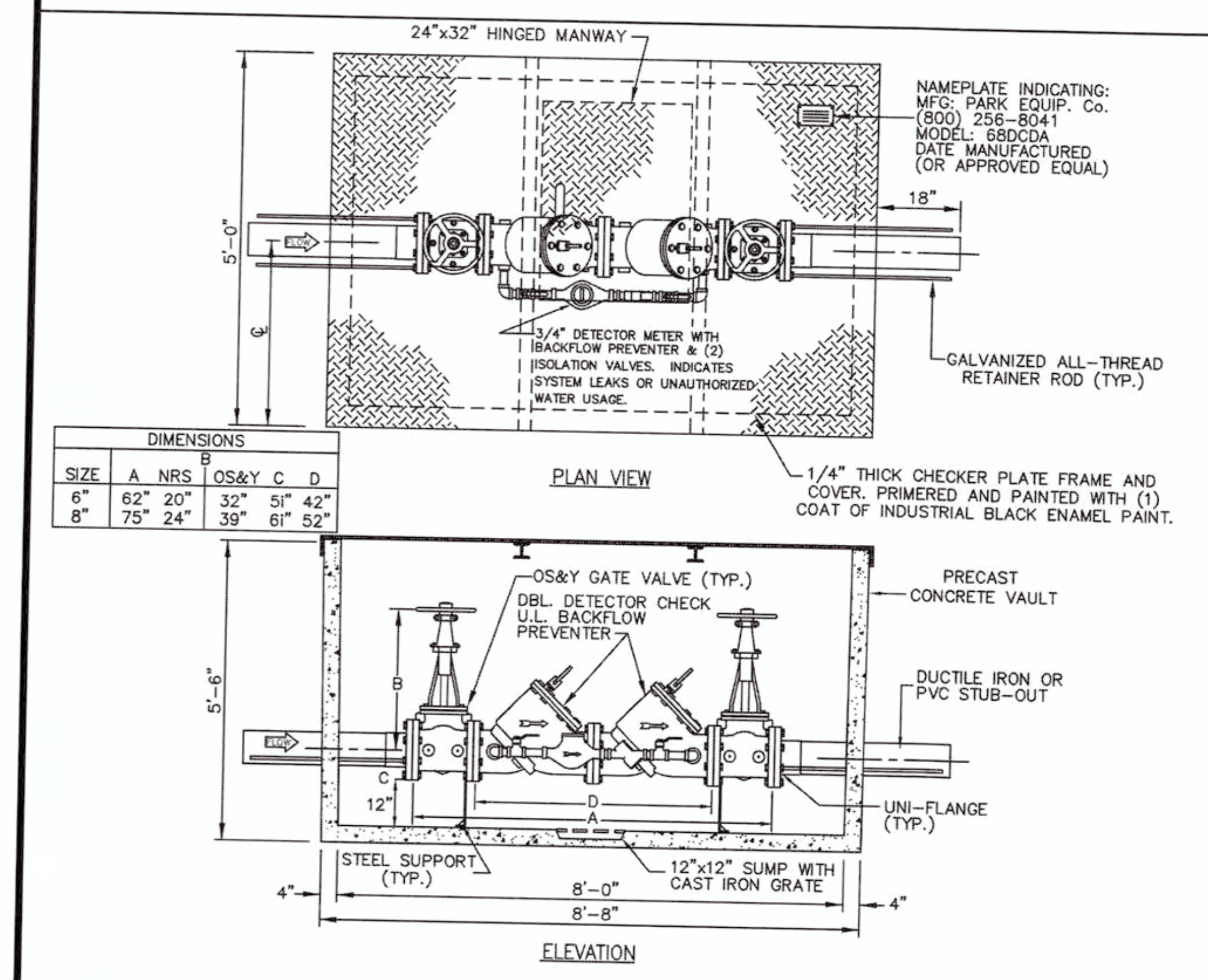
SCALE: (H) NOTE TO SCALE
(V)
DRAWN BY: DNH
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469–16–197
TITLE: CITY DETAILS
SHEET No: 22 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 – 5:23 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16–197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D469161975DD3.dwg, ---> 22 CITY

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


24"x32" HINGED MANWAY
NAMEPLATE INDICATING: MFG: PARK EQUIP. Co. (800) 256-8041 MODEL: 68DCDA DATE MANUFACTURED (OR APPROVED EQUAL)
18"
5'-0"
3/4" DETECTOR METER WITH BACKFLOW PREVENTER & (2) ISOLATION VALVES. INDICATES SYSTEM LEAKS OR UNAUTHORIZED WATER USAGE.
GALVANIZED ALL-THREAD RETAINER ROD (TYP.)
PLAN VIEW
1/4" THICK CHECKER PLATE FRAME AND COVER. PRIMERED AND PAINTED WITH (1) COAT OF INDUSTRIAL BLACK ENAMEL PAINT.
OS&Y GATE VALVE (TYP.)
DBL. DETECTOR CHECK U.L. BACKFLOW PREVENTER
PRECAST CONCRETE VAULT
DUCTILE IRON OR PVC STUB-OUT
5'-6"
UNI-FLANGE (TYP.)
STEEL SUPPORT (TYP.)
12"x12" SUMP WITH CAST IRON GRATE
4"
8'-0"
8'-8"
ELEVATION

DIMENSIONS

SIZE	A	B NRS	B OS&Y	C	D
6"	62"	20"	32"	5i"	42"
8"	75"	24"	39"	6i"	52"

Specifications

CONCRETE – Class 1 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. Gross empty weight of approximately 9,000 pounds.

REINFORCEMENT – Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

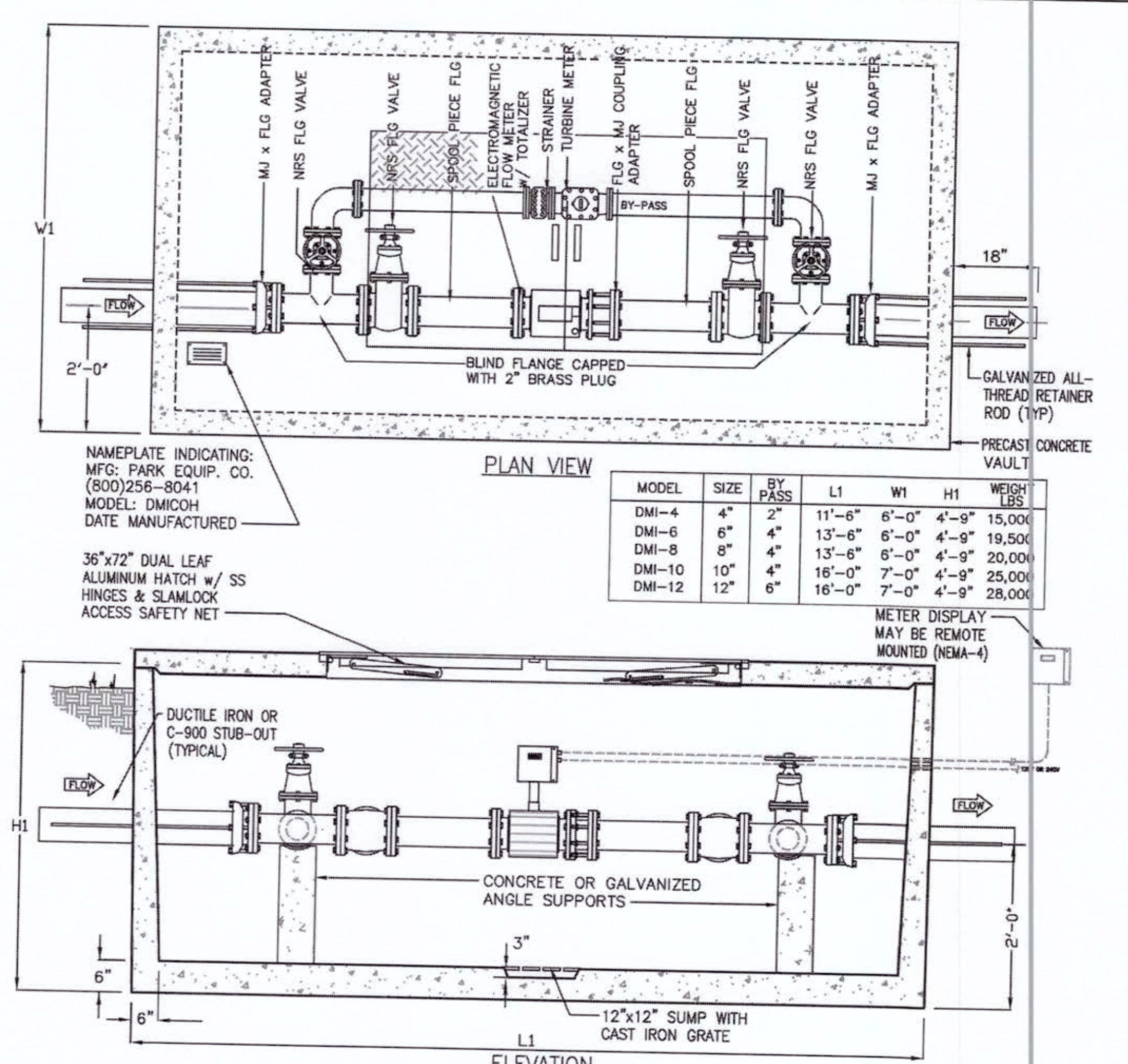
STEEL COVER – 1/4" steel skid-resistant floor plate welded to 3" angle frame with (2) 3"x2-3/8" I beam supports.

Notes:

Backflow assembly shall be factory assembled complete with concrete vault and be tested prior to setting in excavation. Manufacturer shall provide certified engineering data and buoyancy calculation.

All assembly vaults shall be backfilled with cement stabilized sand. Cement stabilized sand backfill shall extend a minimum of six inches (6") from the outside wall of all structures. (1½ sacks of cement per ton of sand.)

1. DOUBLE CHECK DETECTOR ASSEMBLY


MJ x FLG ADAPTER
NRS FLG VALVE
NRS FLG VALVE
SPOOL PIECE FLG
ELECTROMAGNETIC FLOW METER w/ TOTALIZER
STRAINER
TURBINE METER
FLG x MJ COUPLING ADAPTER
SPOOL PIECE FLG
NRS FLG VALVE
NRS FLG VALVE
MJ x FLG ADAPTER
BY-PASS
W1
18"
2'-0"
FLOW
BLIND FLANGE CAPPED WITH 2" BRASS PLUG
GALVANIZED ALL-THREAD RETAINER ROD (TYP)
PRECAST CONCRETE VAULT
NAMEPLATE INDICATING: MFG: PARK EQUIP. CO. (800)256-8041 MODEL: DMICOH DATE MANUFACTURED
PLAN VIEW
36"x72" DUAL LEAF ALUMINUM HATCH w/ SS HINGES & SLAMLOCK ACCESS SAFETY NET
METER DISPLAY MAY BE REMOTE MOUNTED (NEMA-4)
DUCTILE IRON OR C-900 STUB-OUT (TYPICAL)
H1
CONCRETE OR GALVANIZED ANGLE SUPPORTS
3"
6"
2'-0"
12"x12" SUMP WITH CAST IRON GRATE
L1
ELEVATION

MODEL	SIZE	BY PASS	L1	W1	H1	WEIGHT LBS
DMI-4	4"	2"	11'-6"	6'-0"	4'-9"	15,000
DMI-6	6"	4"	13'-6"	6'-0"	4'-9"	19,500
DMI-8	8"	4"	13'-6"	6'-0"	4'-9"	20,000
DMI-10	10"	4"	16'-0"	7'-0"	4'-9"	25,000
DMI-12	12"	6"	16'-0"	7'-0"	4'-9"	28,000

Specifications

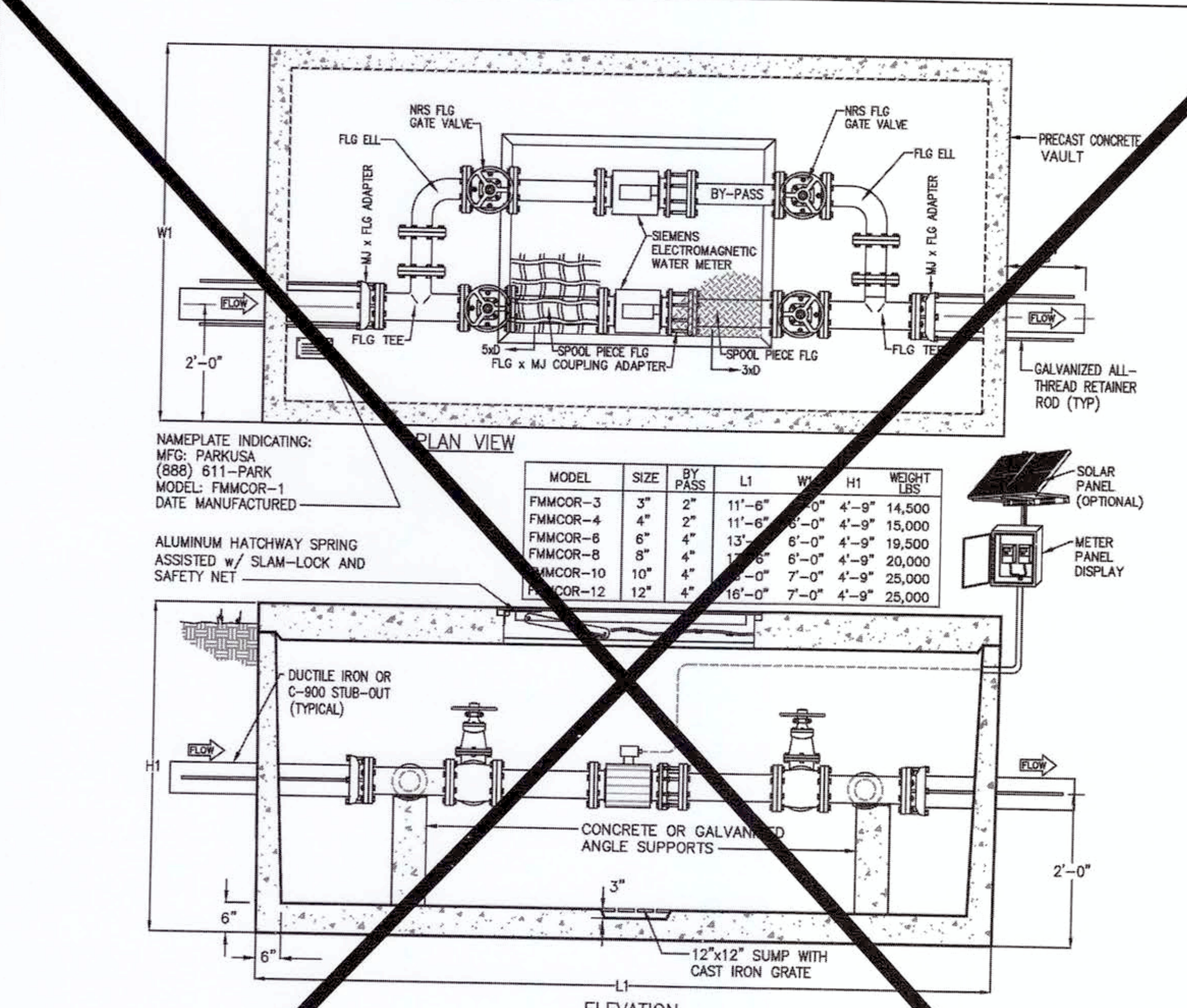
Concrete: Class II concrete with design strength of 4500 psi at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.

Reinforcement: Grade 60 reinforced. Steel rebar conforming to astm a615 on required centers or equal.

Hatchway: 1/4" aluminum diamond plate cover with extruded aluminum frame. Hatch to be furnished with 316 stainless steel snap lock & brass hinges.

Engineering data
The meter 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 the city. All assembly vaults shall be backfilled with cement stabilized sand. Cement stabilized sand backfill shall extend a minimum of six inches (6") from the outside wall of all structures. (1½ sacks of cement per ton of sand.)

2. ELECTROMATGNETIC WATER METER WITH METERED BY-PASS


NRS FLG GATE VALVE
FLG ELL
NRS FLG GATE VALVE
FLG ELL
PRECAST CONCRETE VAULT
MJ x FLG ADAPTER
BY-PASS
SIEMENS ELECTROMAGNETIC WATER METER
W1
2'-0"
FLOW
FLG TEE
5xD
SPOOL PIECE FLG
FLG x MJ COUPLING ADAPTER
SPOOL PIECE FLG
3xD
FLG TEE
GALVANIZED ALL-THREAD RETAINER ROD (TYP)
NAMEPLATE INDICATING: MFG: PARKUSA (888) 611-PARK MODEL: FMMCOR-1 DATE MANUFACTURED
PLAN VIEW
ALUMINUM HATCHWAY SPRING ASSISTED w/ SLAM-LOCK AND SAFETY NET
SOLAR PANEL (OPTIONAL)
METER PANEL DISPLAY
DUCTILE IRON OR C-900 STUB-OUT (TYPICAL)
H1
CONCRETE OR GALVANIZED ANGLE SUPPORTS
3"
6"
2'-0"
12"x12" SUMP WITH CAST IRON GRATE
L1
ELEVATION
© Park 2016

MODEL	SIZE	BY PASS	L1	W1	H1	WEIGHT LBS
FMMCOR-3	3"	2"	11'-6"	[illegible]	4'-9"	14,500
FMMCOR-4	4"	2"	11'-6"	6'-0"	4'-9"	15,000
FMMCOR-6	6"	4"	13'-[illegible]	6'-0"	4'-9"	19,500
FMMCOR-8	8"	4"	1[illegible]'-6"	6'-0"	4'-9"	20,000
[illegible]MCOR-10	10"	4"	[illegible]-0"	7'-0"	4'-9"	25,000
F[illegible]COR-12	12"	4"	16'-0"	7'-0"	4'-9"	25,000

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.

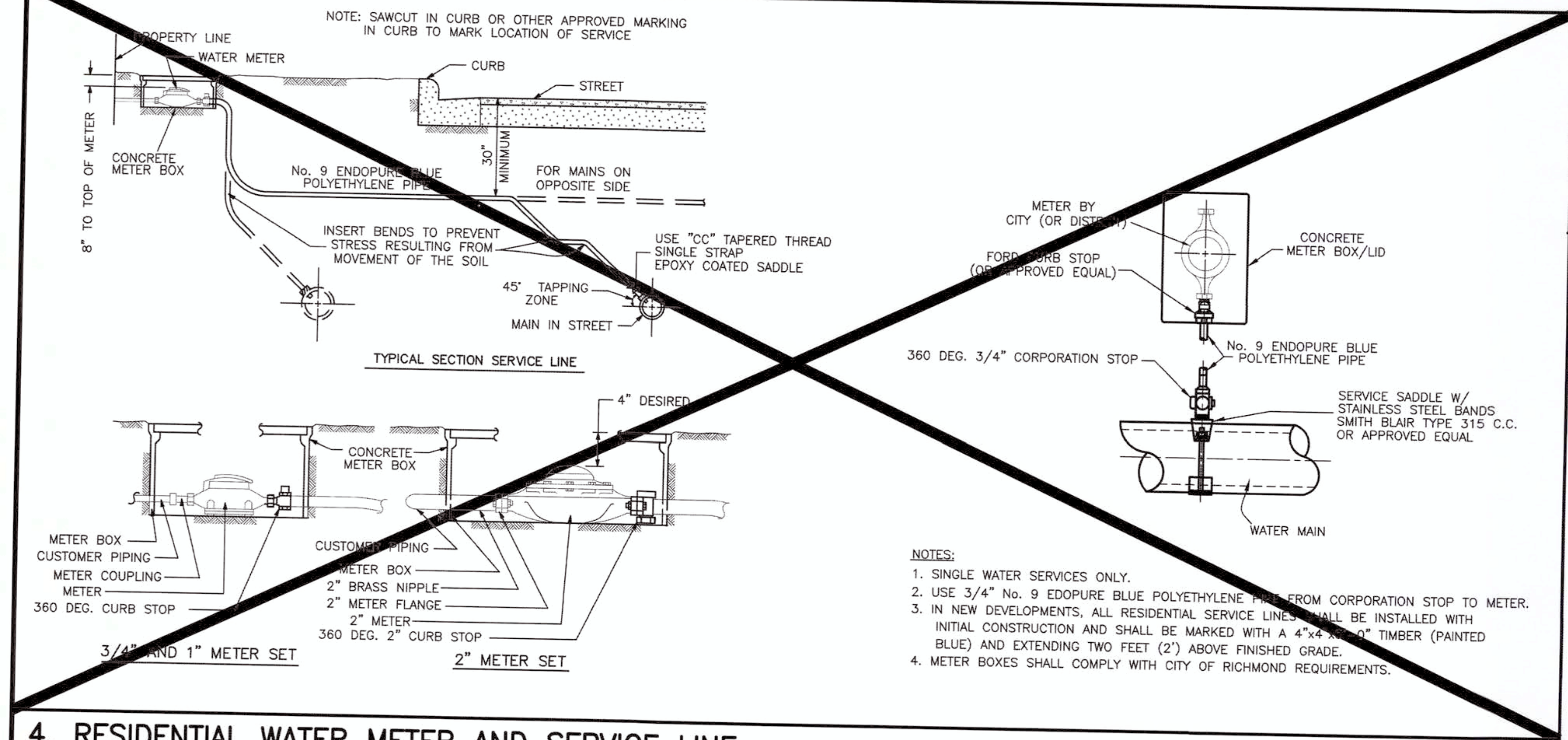
Reinforcement: Grade 60 reinforced. Steel rebar conforming to astm a615 on required centers or equal.

Hatchway: 1/4" aluminum (300 psf), diamond plate, with 1/4" extrudeed aluminum frame. Hatch to be furnished with 316 stainless steel snap lock & brass hinges.

Engineering data
The meter 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 the city. All assembly vaults shall be backfilled with cement stabilized sand. Cement stabilized sand backfill shall extend a minimum of six inches (6") from the outside wall of all structures. (1½ sacks of cement per ton of sand.)

3. FIRE/DOMESTIC WATER MAG METER ASSEMBLY 3" THRU 12"

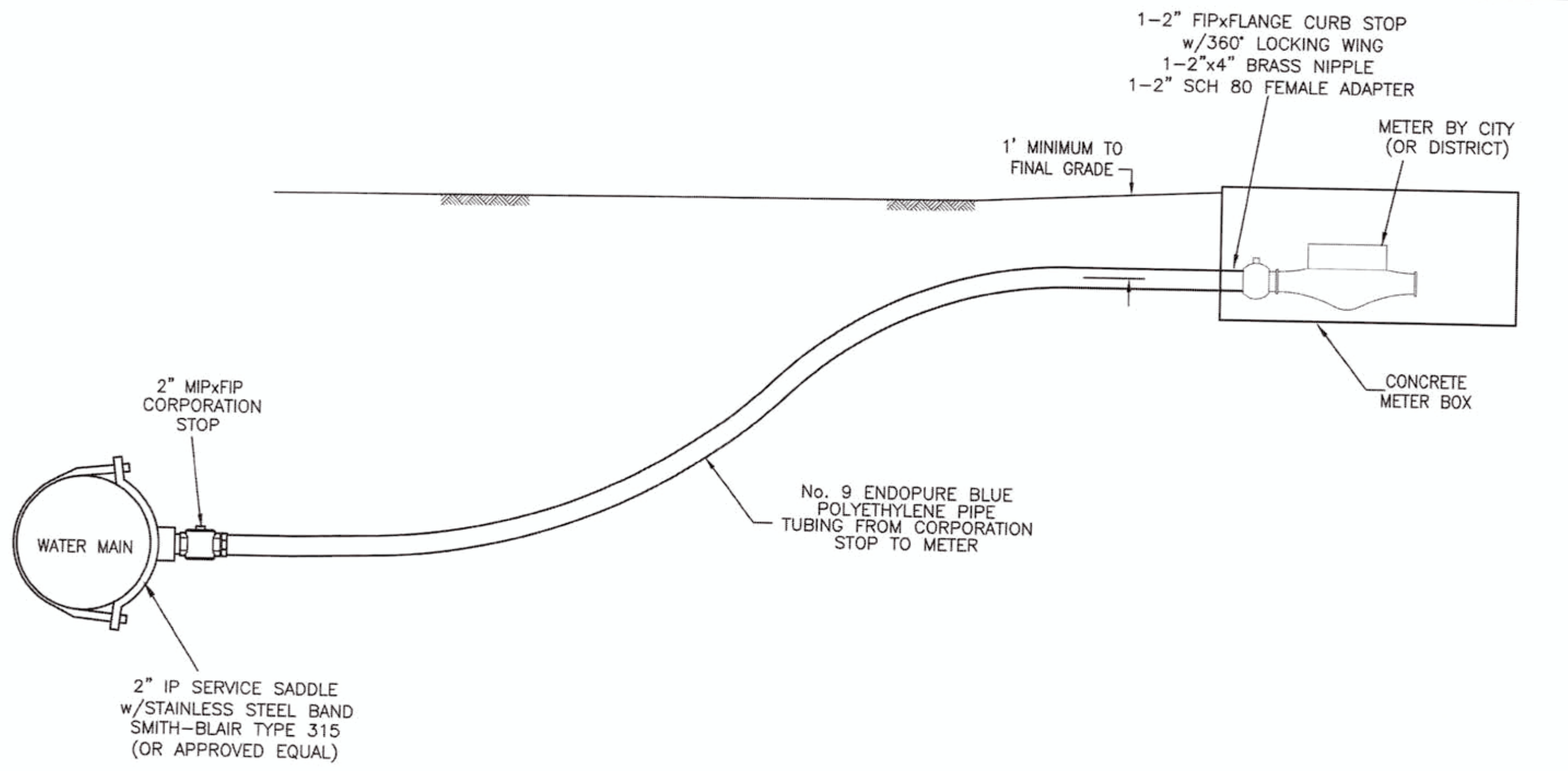
NOTE: SAWCUT IN CURB OR OTHER APPROVED MARKING IN CURB TO MARK LOCATION OF SERVICE


PROPERTY LINE
WATER METER
CURB
STREET
8" TO TOP OF METER
CONCRETE METER BOX
No. 9 ENDOPURE BLUE POLYETHYLENE PIPE
30" MINIMUM
FOR MAINS ON OPPOSITE SIDE
INSERT BENDS TO PREVENT STRESS RESULTING FROM MOVEMENT OF THE SOIL
USE "CC" TAPERED THREAD SINGLE STRAP EPOXY COATED SADDLE
45° TAPPING ZONE
MAIN IN STREET
TYPICAL SECTION SERVICE LINE
4" DESIRED
CONCRETE METER BOX
METER BOX
CUSTOMER PIPING
METER COUPLING
METER
360 DEG. CURB STOP
3/4" AND 1" METER SET
CUSTOMER PIPING
METER BOX
2" BRASS NIPPLE
2" METER FLANGE
2" METER
360 DEG. 2" CURB STOP
2" METER SET
METER BY CITY (OR DISTRICT)
FORD CURB STOP (OR APPROVED EQUAL)
CONCRETE METER BOX/LID
360 DEG. 3/4" CORPORATION STOP
No. 9 ENDOPURE BLUE POLYETHYLENE PIPE
SERVICE SADDLE W/ STAINLESS STEEL BANDS SMITH BLAIR TYPE 315 C.C. OR APPROVED EQUAL
WATER MAIN

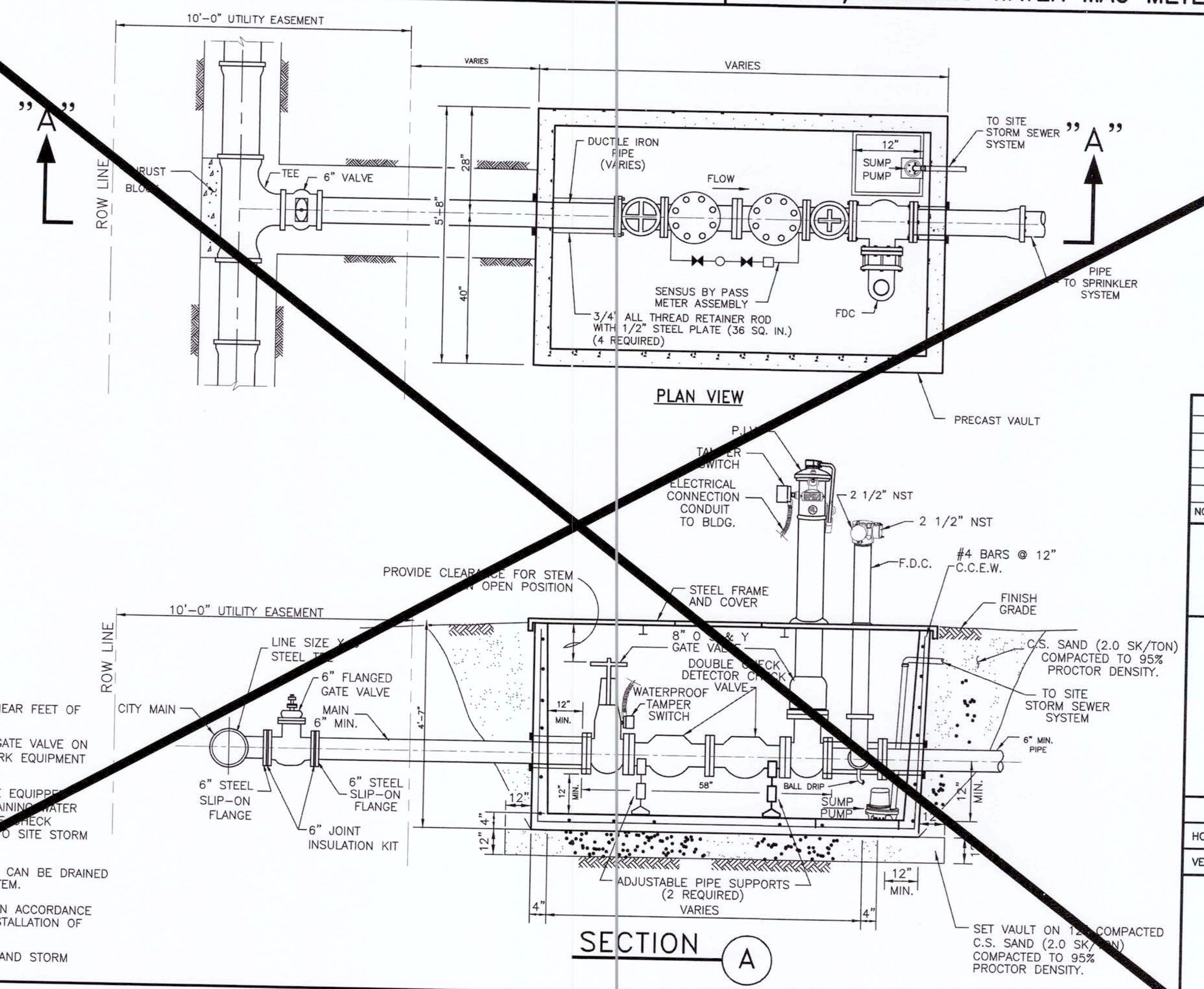
NOTES:

1. SINGLE WATER SERVICES ONLY.
2. USE 3/4" No. 9 EDOPURE BLUE POLYETHYLENE PIPE FROM CORPORATION STOP TO METER.
3. IN NEW DEVELOPMENTS, ALL RESIDENTIAL SERVICE LINES SHALL BE INSTALLED WITH INITIAL CONSTRUCTION AND SHALL BE MARKED WITH A 4"x4 X[illegible]-0" TIMBER (PAINTED BLUE) AND EXTENDING TWO FEET (2') ABOVE FINISHED GRADE.
4. METER BOXES SHALL COMPLY WITH CITY OF RICHMOND REQUIREMENTS.

4. RESIDENTIAL WATER METER AND SERVICE LINE


1-2" FIPxFLANGE CURB STOP w/360° LOCKING WING
1-2"x4" BRASS NIPPLE
1-2" SCH 80 FEMALE ADAPTER
1' MINIMUM TO FINAL GRADE
METER BY CITY (OR DISTRICT)
CONCRETE METER BOX
2" MIPxFIP CORPORATION STOP
WATER MAIN
No. 9 ENDOPURE BLUE POLYETHYLENE PIPE TUBING FROM CORPORATION STOP TO METER
2" IP SERVICE SADDLE w/STAINLESS STEEL BAND SMITH-BLAIR TYPE 315 (OR APPROVED EQUAL)

5. 2" WATER SERVICE CONNECTION


10'-0" UTILITY EASEMENT
VARIES
VARIES
"A"
"A"
ROW LINE
THRUST BLOCK
TEE
6" VALVE
DUCTILE IRON PIPE (VARIES)
FLOW
12"
SUMP PUMP
TO SITE STORM SEWER SYSTEM
28"
5'-8"
40"
SENSUS BY PASS METER ASSEMBLY
FDC
3/4" ALL THREAD RETAINER ROD WITH 1/2" STEEL PLATE (36 SQ. IN.) (4 REQUIRED)
PIPE TO SPRINKLER SYSTEM
PLAN VIEW
PRECAST VAULT
P.I.V.
TAMPER SWITCH
ELECTRICAL CONNECTION CONDUIT TO BLDG.
2 1/2" NST
2 1/2" NST
F.D.C.
#4 BARS @ 12" C.C.E.W.
PROVIDE CLEARANCE FOR STEM IN OPEN POSITION
STEEL FRAME AND COVER
FINISH GRADE
10'-0" UTILITY EASEMENT
ROW LINE
LINE SIZE X 6" STEEL TEE
6" FLANGED GATE VALVE
MAIN 6" MIN.
CITY MAIN
8" OS&Y GATE VALVE
DOUBLE CHECK DETECTOR CHECK VALVE
WATERPROOF TAMPER SWITCH
C.S. SAND (2.0 SK/TON) COMPACTED TO 95% PROCTOR DENSITY.
TO SITE STORM SEWER SYSTEM
6" MIN. PIPE
4'-7"
12" MIN.
58"
BALL DRIP
SUMP PUMP
6" STEEL SLIP-ON FLANGE
6" STEEL SLIP-ON FLANGE
6" JOINT INSULATION KIT
12"
4"
ADJUSTABLE PIPE SUPPORTS (2 REQUIRED)
VARIES
12" MIN.
SET VAULT ON 12" COMPACTED C.S. SAND (2.0 SK/TON) COMPACTED TO 95% PROCTOR DENSITY.
SECTION A

NOTES:

1. FIRE HYDRANT REQUIRED WITHIN 50' LINEAR FEET OF THE FIRE DEPARTMENT CONNECTION.
2. FIRE VALVE MAY BE SUBSTITUTED FOR GATE VALVE ON THE CUSTOMER SIDE. SUPPLIED BY PARK EQUIPMENT COMPANY, OR APPROVED EQUAL.
3. ALL FIRE DEPARTMENT VAULTS SHALL BE EQUIPPED WITH A SUMP PUMP CAPABLE OF MAINTAINING WATER LEVELS BELOW THE CENTER LINE OF THE CHECK VALVES. OUTLET SHALL BE CONNECTED TO SITE STORM SEWER SYSTEM.
4. SUMP PUMP MAY BE ELIMINATED IF BOX CAN BE DRAINED VIA GRAVITY TO SITE STORM SEWER SYSTEM.
5. ALL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 "STANDARDS FOR THE INSTALLATION OF SPRINKLER SYSTEMS".
6. REFER TO GENERAL NOTES, WATER LINE AND STORM SEWER NOTES.

6. TYPICAL FIRE SERVICE METER

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
WATER–2

SCALE			
HORIZONTAL	1" = NTS	DESIGNED BY:	LLT
VERTICAL	1" = NTS	DRAWN BY:	AJS
		CHECKED BY:	KRK
		DATE:	12/01/16
		JOB NO:	
		DWG. NO:	

R–3–16
Sheet:

APPROVED: Maggie D
Development Coordinator
DATE: 9/27/17

CVS pharmacy
14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
8 Robbins Street - Suite 102
Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

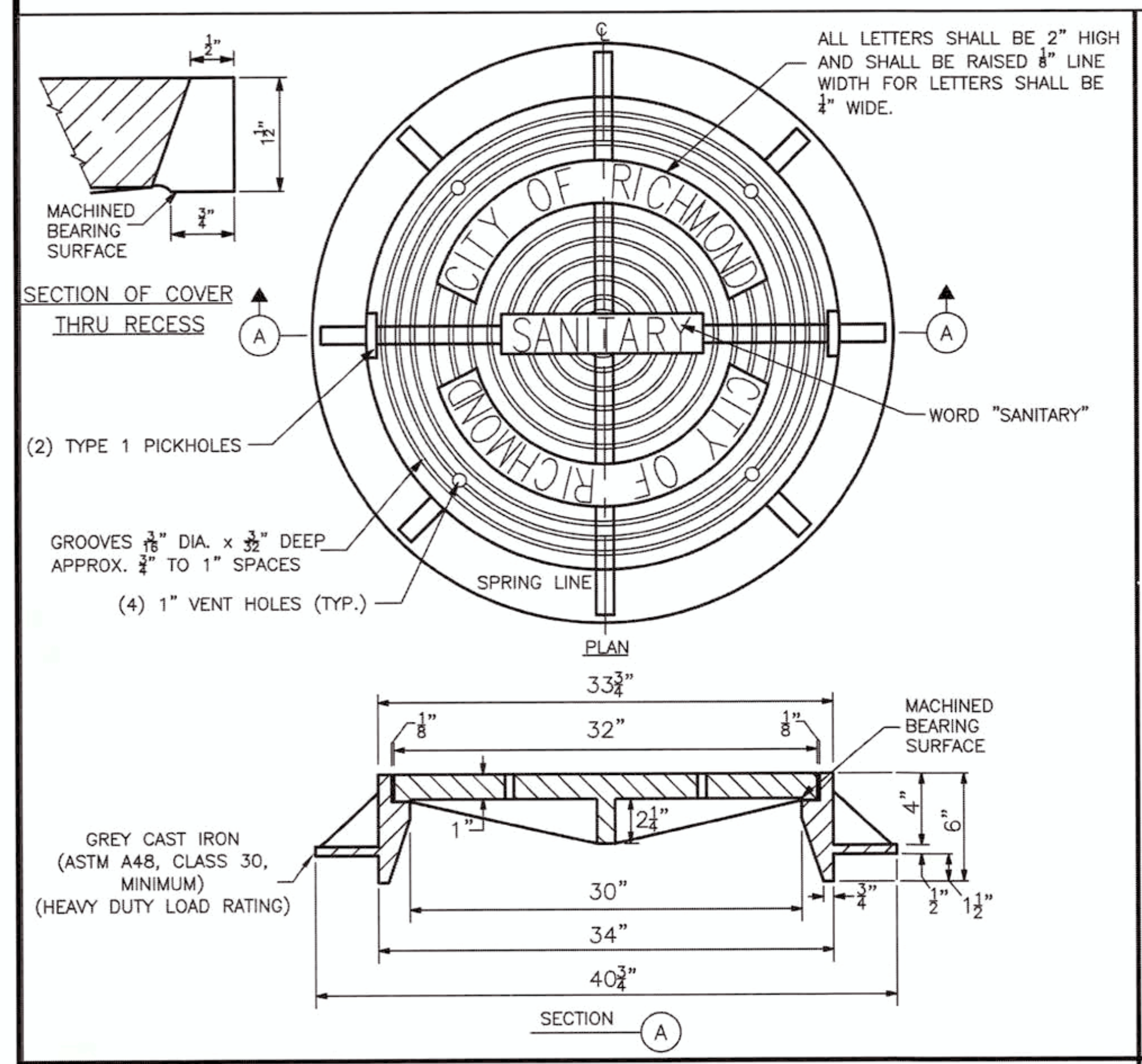
DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

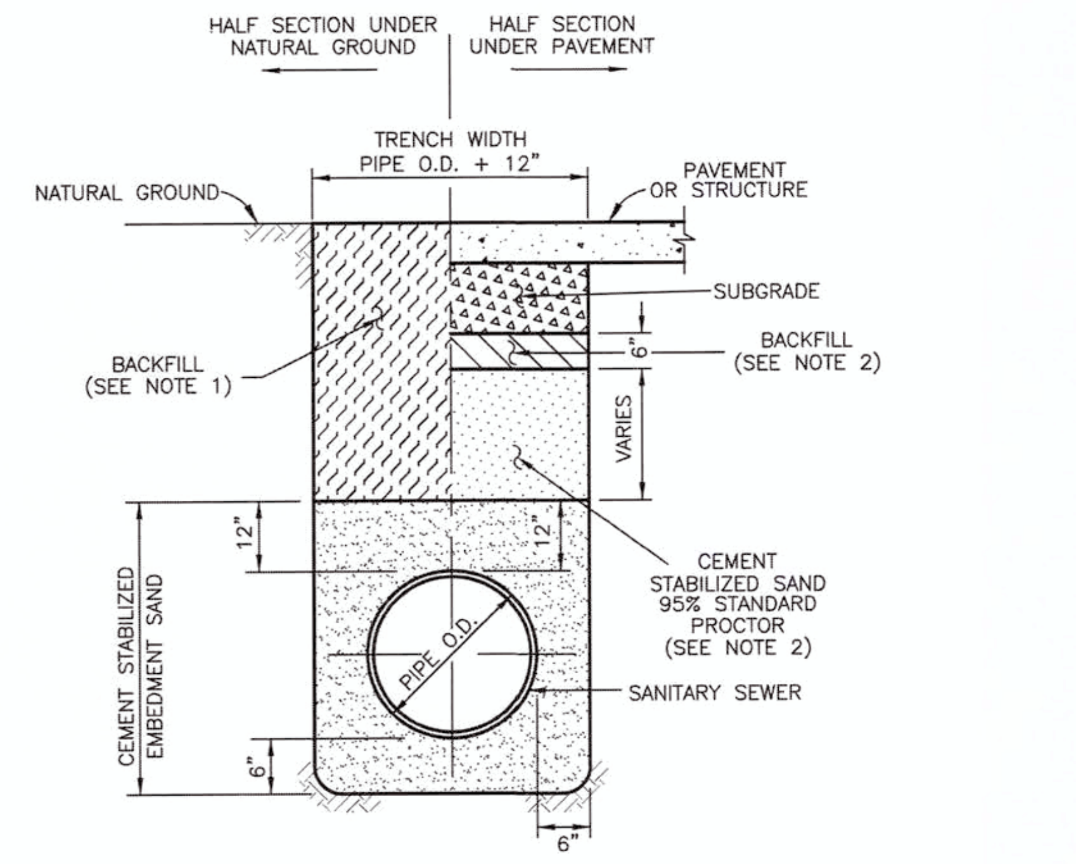
SCALE: (H) NOT TO SCALE (V)
DRAWN BY: DNH
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: CITY DETAILS
SHEET No: 23 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 – 5:23 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SDD3.dwg, ---> 23 CITY

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


ALL LETTERS SHALL BE 2" HIGH AND SHALL BE RAISED 1/8" LINE WIDTH FOR LETTERS SHALL BE 1/4" WIDE.
1/2"
1 1/2"
3/4"
MACHINED BEARING SURFACE
SECTION OF COVER THRU RECESS
A
℄
CITY OF RICHMOND
SANITARY
CITY OF RICHMOND
WORD "SANITARY"
(2) TYPE 1 PICKHOLES
GROOVES 3/16" DIA. x 3/32" DEEP APPROX. 3/4" TO 1" SPACES
(4) 1" VENT HOLES (TYP.)
SPRING LINE
PLAN
33 3/4"
32"
1/8"
1/8"
MACHINED BEARING SURFACE
GREY CAST IRON (ASTM A48, CLASS 30, MINIMUM) (HEAVY DUTY LOAD RATING)
1"
2 1/4"
4"
6"
30"
3/4"
1/2"
1 1/2"
34"
40 3/4"
SECTION A

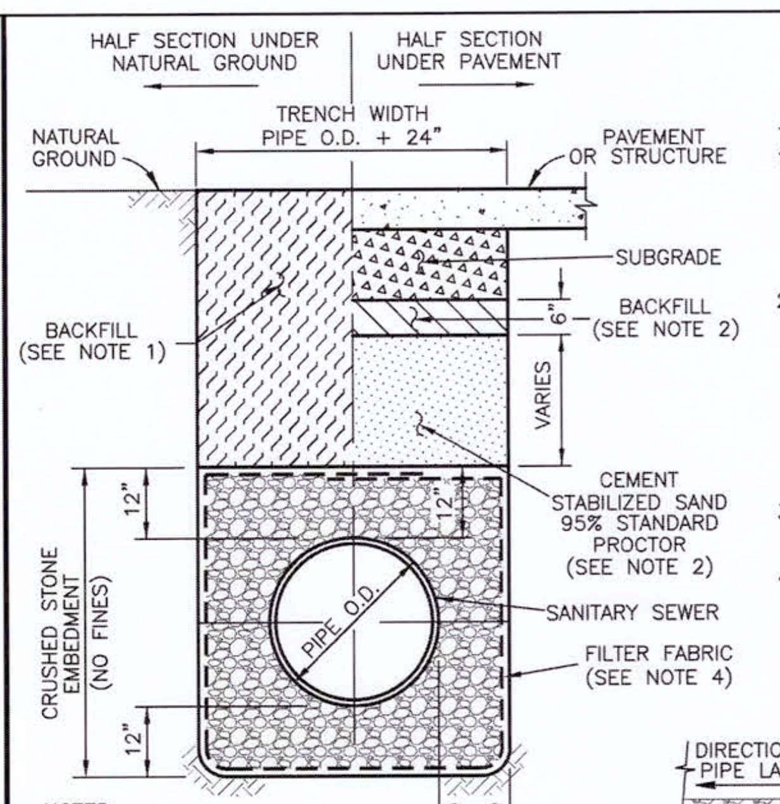
1. MANHOLE FRAME AND COVER


HALF SECTION UNDER NATURAL GROUND
HALF SECTION UNDER PAVEMENT
TRENCH WIDTH PIPE O.D. + 12"
NATURAL GROUND
PAVEMENT OR STRUCTURE
SUBGRADE
BACKFILL (SEE NOTE 2)
BACKFILL (SEE NOTE 1)
6"
VARIES
12"
12"
CEMENT STABILIZED SAND 95% STANDARD PROCTOR (SEE NOTE 2)
CEMENT STABILIZED EMBEDMENT SAND
PIPE O.D.
SANITARY SEWER
6"
6"

NOTES

1. BACKFILL SHALL BE NATIVE SOIL, FREE OF DEBRIS, PLACED IN LIFTS, 8" THICK OR LESS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, (CONTRACTOR TO USE PROPER COMPACTION EQUIPMENT TO ACHIEVE DESIRED DENSITY.) EXCEPT AS REQUIRED BELOW.
2. BACKFILL UNDER AND WITHIN 3 FEET OF DRIVEWAYS AND PUBLIC STREETS SHALL BE CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND), EXCEPT THE TOP 6" SHALL BE NATIVE SOIL, FREE OF DEBRIS. ALL BACKFILL UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED AS REQUIRED.

2. SANITARY SEWER BEDDING

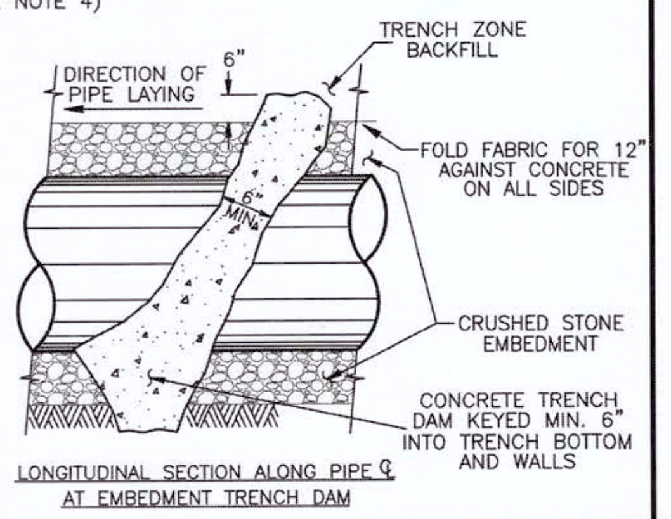

HALF SECTION UNDER NATURAL GROUND
HALF SECTION UNDER PAVEMENT
TRENCH WIDTH PIPE O.D. + 24"
NATURAL GROUND
PAVEMENT OR STRUCTURE
SUBGRADE
BACKFILL (SEE NOTE 2)
BACKFILL (SEE NOTE 1)
6"
VARIES
12"
12"
12"
CEMENT STABILIZED SAND 95% STANDARD PROCTOR (SEE NOTE 2)
CRUSHED STONE EMBEDMENT (NO FINES)
PIPE O.D.
SANITARY SEWER
FILTER FABRIC (SEE NOTE 4)
12"

NOTES

1. BACKFILL SHALL BE NATIVE SOIL, FREE OF DEBRIS, PLACED IN LIFTS, 8" THICK OR LESS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, EXCEPT AS REQUIRED BELOW.
2. BACKFILL UNDER AND WITHIN 3 FEET OF DRIVEWAYS AND PUBLIC STREETS SHALL BE CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND), EXCEPT THE TOP 6" SHALL BE NATIVE SOIL, FREE OF DEBRIS. ALL BACKFILL UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED AS REQUIRED.
4. FILTER FABRIC, ARMCO TREVIRA S1115 OR EQUAL, 18" LAP AT ALL EDGES.

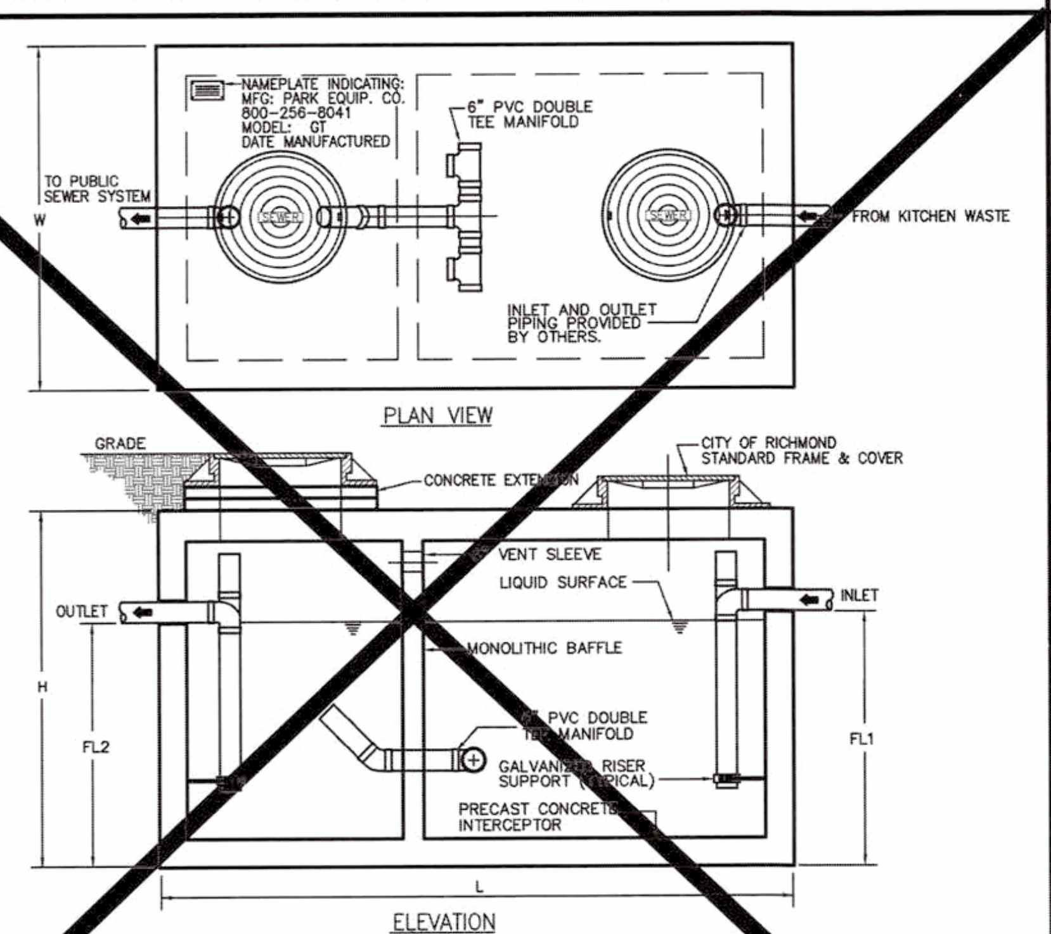
NOTES

1. TRENCH DAM MAY BE FORMED OR UNFORMED, ACTUAL SHAPE OR CONCRETE TRENCH DAM OR CROSS SECTION MAY BE DETERMINED IN FIELD, MEETING MINIMUM THICKNESS AND KEY DEPTH REQUIREMENTS.
2. TRENCH DAM SHALL BE PLACED AT LEAST 5 FT. AWAY FROM ANY STRUCTURE. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
3. PLACE TRENCH DAMS AT THE MIDPOINT OF LINE SEGMENTS LONGER THAN 100 FEET BETWEEN MANHOLES.
4. TRENCH DAM CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.


TRENCH ZONE BACKFILL
DIRECTION OF PIPE LAYING
6"
6" MIN.
FOLD FABRIC FOR 12" AGAINST CONCRETE ON ALL SIDES
CRUSHED STONE EMBEDMENT
CONCRETE TRENCH DAM KEYED MIN. 6" INTO TRENCH BOTTOM AND WALLS

LONGITUDINAL SECTION ALONG PIPE ℄ AT EMBEDMENT TRENCH DAM

3. SANITARY SEWER BEDDING FOR WET CONDITIONS


NAMEPLATE INDICATING: MFG: PARK EQUIP. CO. 800-256-8041 MODEL: GT DATE MANUFACTURED
6" PVC DOUBLE TEE MANIFOLD
TO PUBLIC SEWER SYSTEM
W
SEWER
SEWER
FROM KITCHEN WASTE
INLET AND OUTLET PIPING PROVIDED BY OTHERS.
PLAN VIEW
GRADE
CONCRETE EXTENSION
CITY OF RICHMOND STANDARD FRAME & COVER
VENT SLEEVE
LIQUID SURFACE
OUTLET
INLET
MONOLITHIC BAFFLE
H
FL2
FL1
6" PVC DOUBLE TEE MANIFOLD
GALVANIZED RISER SUPPORT (TYPICAL)
PRECAST CONCRETE INTERCEPTOR
L
ELEVATION

Specifications

CONCRETE : CLASS [illegible] CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. (AASHTO H-20 LOADING) UNIT IS MONOLITHIC CONSTURCTION AT FLOOR, FIRST STAGE OF WALL AND BAFFLE WITH SECTIONAL RISER TO REQUIRED DEPTH. (MONOLITHIC BAFFLE REQUIRED, SLIDE-IN TYPE IS NOT ACCEPTABLE).

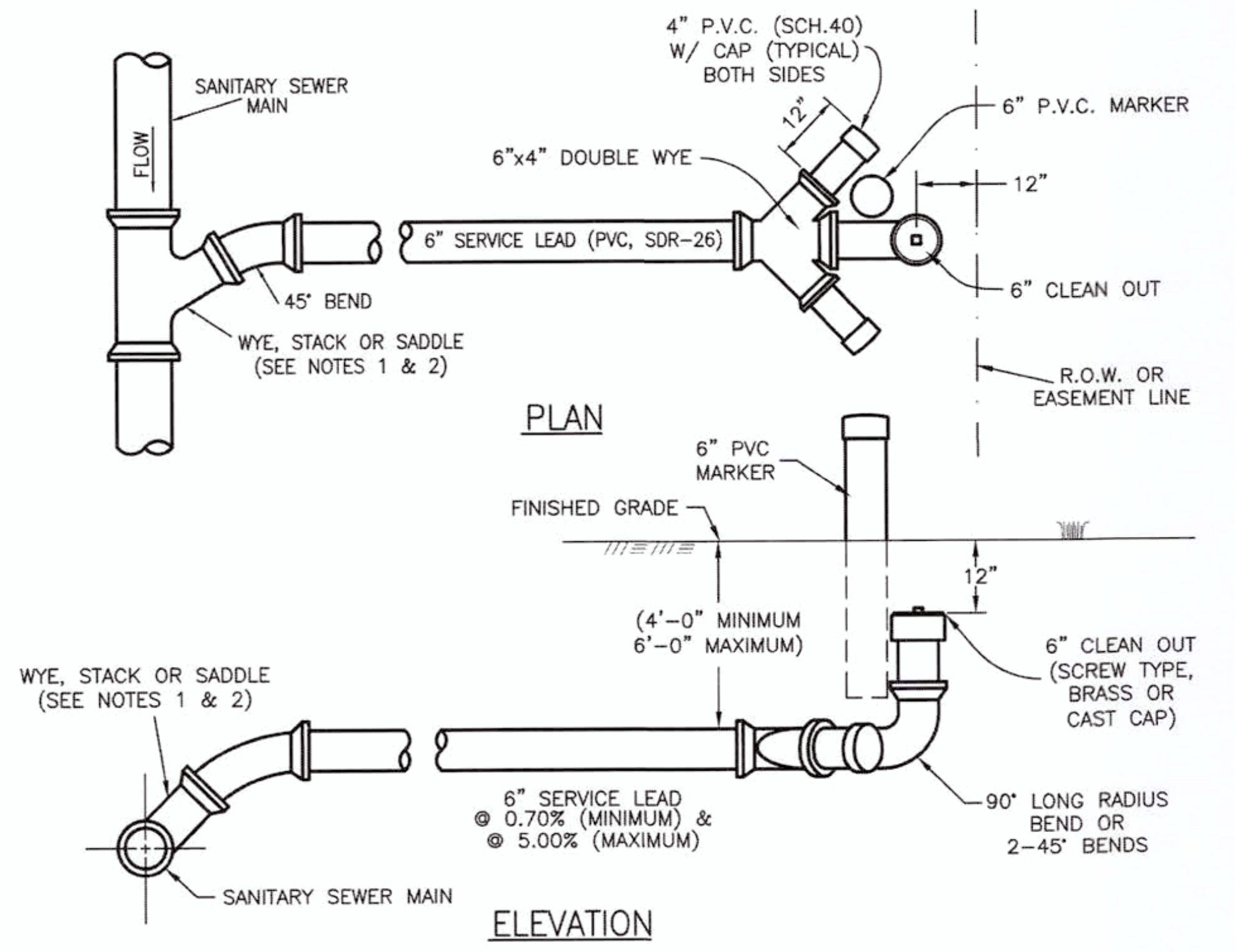
REINFORCEMENT: GRADE 60 REINFORCED WITH STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS: CITY OF RICHMOND STANDARD MANHOLE FRAME & COVERS. MANHOLE SHALL BE RATED FOR AASHTO H-20 LOADING.

GREASE INTERCEPTOR SCHEDULE

CAPACITY USGal	GREASE CAP. (LBS)	EMPTY WT (LBS)	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
500	1,200	7,000	7'-10"	[illegible]	4'-6"	3'-3"	3'-0"
750	4,900	10,000	7'-10"	4'-4"	[illegible]	4'-5"	4'-2"
1,000	6,600	13,200	8'-8"	5'-0"	[illegible]	4'-9"	4'-6"
1,500	10,300	20,000	9'-2"	5'-8"	[illegible]	5'-10"	5'-7"
2,000	15,000	24,000	13'-0"	7'-0"	6'-0"	[illegible]	4'-6"
2,500	17,500	27,000	13'-0"	7'-0"	7'-0"	[illegible]	5'-6"
3,000	21,400	30,000	13'-0"	7'-0"	8'-0"	6'-9"	6'-6"
3,500	24,000	33,000	13'-0"	7'-0"	9'-0"	7'-9"	[illegible]
4,000	26,400	36,000	13'-0"	7'-0"	10'-0"	8'-9"	[illegible]

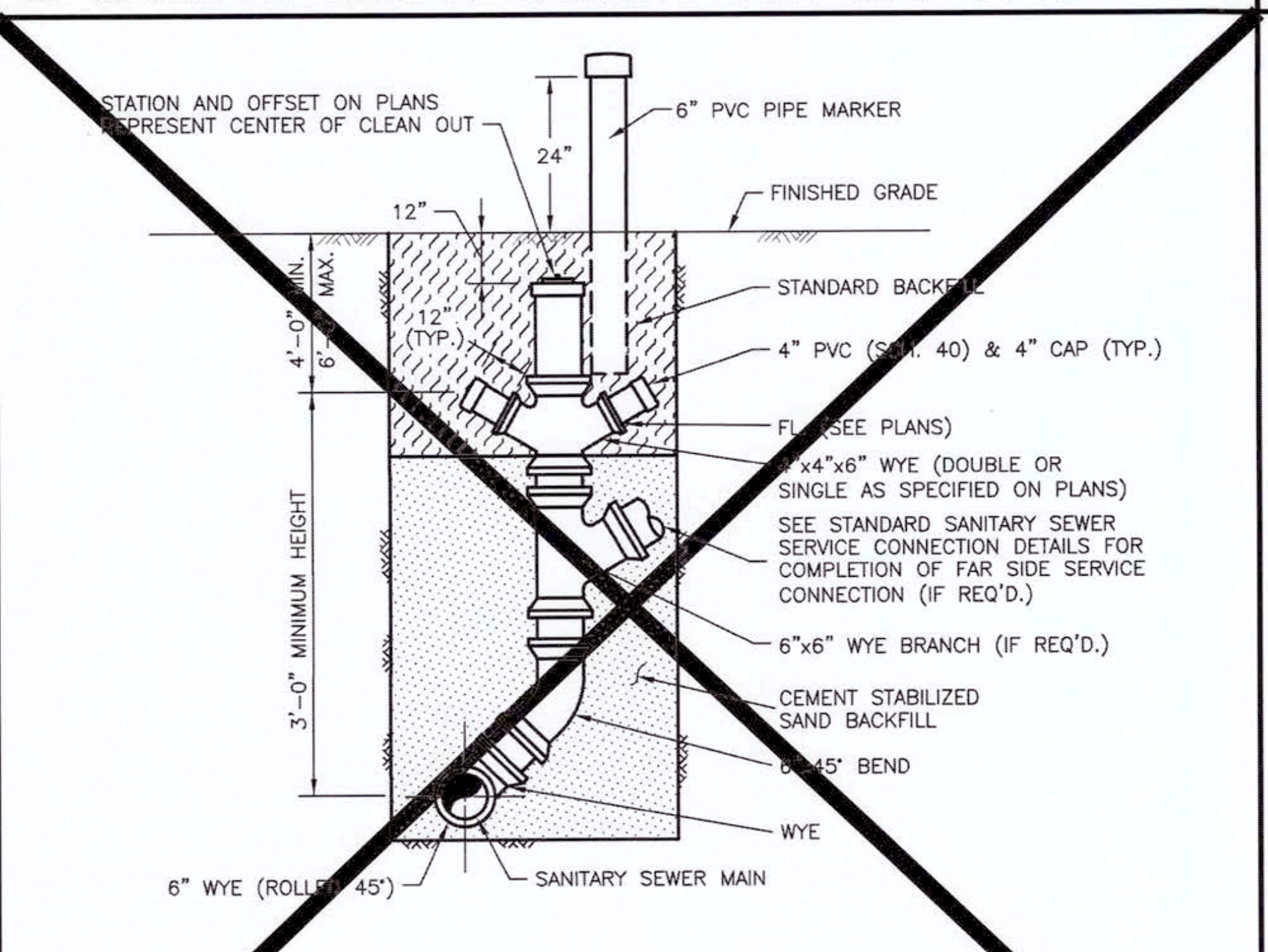
4. GREASE TRAP


4" P.V.C. (SCH.40) W/ CAP (TYPICAL) BOTH SIDES
SANITARY SEWER MAIN
FLOW
12"
6" P.V.C. MARKER
6"x4" DOUBLE WYE
12"
6" SERVICE LEAD (PVC, SDR-26)
6" CLEAN OUT
45° BEND
WYE, STACK OR SADDLE (SEE NOTES 1 & 2)
R.O.W. OR EASEMENT LINE
PLAN
6" PVC MARKER
FINISHED GRADE
12"
(4'-0" MINIMUM 6'-0" MAXIMUM)
6" CLEAN OUT (SCREW TYPE, BRASS OR CAST CAP)
WYE, STACK OR SADDLE (SEE NOTES 1 & 2)
6" SERVICE LEAD @ 0.70% (MINIMUM) & @ 5.00% (MAXIMUM)
90° LONG RADIUS BEND OR 2-45° BENDS
SANITARY SEWER MAIN
ELEVATION

NOTES:

1. FOR NEW CONSTRUCTION "IN-LINE" WYES OR SERVICE STACKS SHALL BE USED FOR SERVICE CONNECTIONS TO SANITARY SEWERS.
2. FOR SERVICE CONNECTIONS ON EXISTING SANITARY SEWERS, PROPER SIZED SADDLES AND DRILLED TAP SHALL BE USED.
3. PROVIDE DOUBLE SERVICE CONNECTION WHERE POSSIBLE.
4. DELETE DOUBLE WYE ON SINGLE CONNECTION.
5. PROVIDE CEMENT STABILIZED BEDDING AND BACKFILL PER DETAILS.
6. 6" PVC MARKER (WITH SOLVENT WELD CAP) SHALL EXTEND FROM ADJOINING THE WYE TO 2'-0" ABOVE FINISHED GRADE.

5. SANITARY SEWER SERVICE CONNECTION

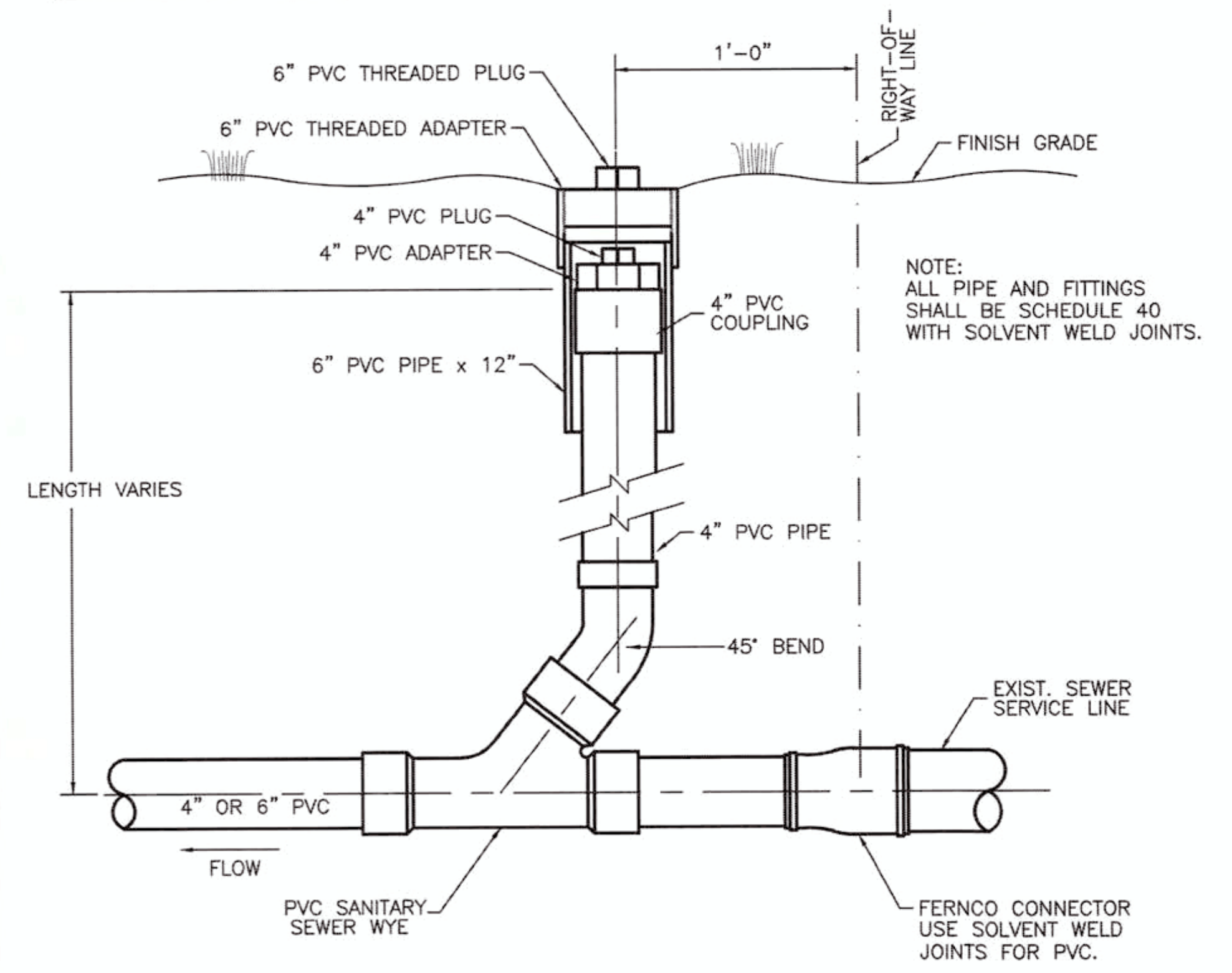

STATION AND OFFSET ON PLANS REPRESENT CENTER OF CLEAN OUT
6" PVC PIPE MARKER
24"
FINISHED GRADE
12"
4'-0" MIN.
6'-0" MAX.
12" (TYP.)
STANDARD BACKFILL
4" PVC (SCH. 40) & 4" CAP (TYP.)
FL (SEE PLANS)
6"x4"x6" WYE (DOUBLE OR SINGLE AS SPECIFIED ON PLANS)
SEE STANDARD SANITARY SEWER SERVICE CONNECTION DETAILS FOR COMPLETION OF FAR SIDE SERVICE CONNECTION (IF REQ'D.)
6"x6" WYE BRANCH (IF REQ'D.)
3'-0" MINIMUM HEIGHT
CEMENT STABILIZED SAND BACKFILL
6" 45° BEND
WYE
6" WYE (ROLLED 45°)
SANITARY SEWER MAIN

NOTES:

1. ALL STACK CONNECTIONS SHALL BE "IN-LINE" FITTINGS.
2. NO STACKS TO BE CONSTRUCTED ON EXISTING SANITARY SEWER LINES; LINES GREATER THAN 12' DEEP OR IN WET TRENCH CONDITIONS.
3. ALL FITTINGS TO BE PVC, SDR-26.
4. 6" PVC MARKER (WITH SOLVENT WELD CAP) SHALL EXTEND FROM ADJOINING THE WYE TO 2'-0" ABOVE FINISHED GRADE.

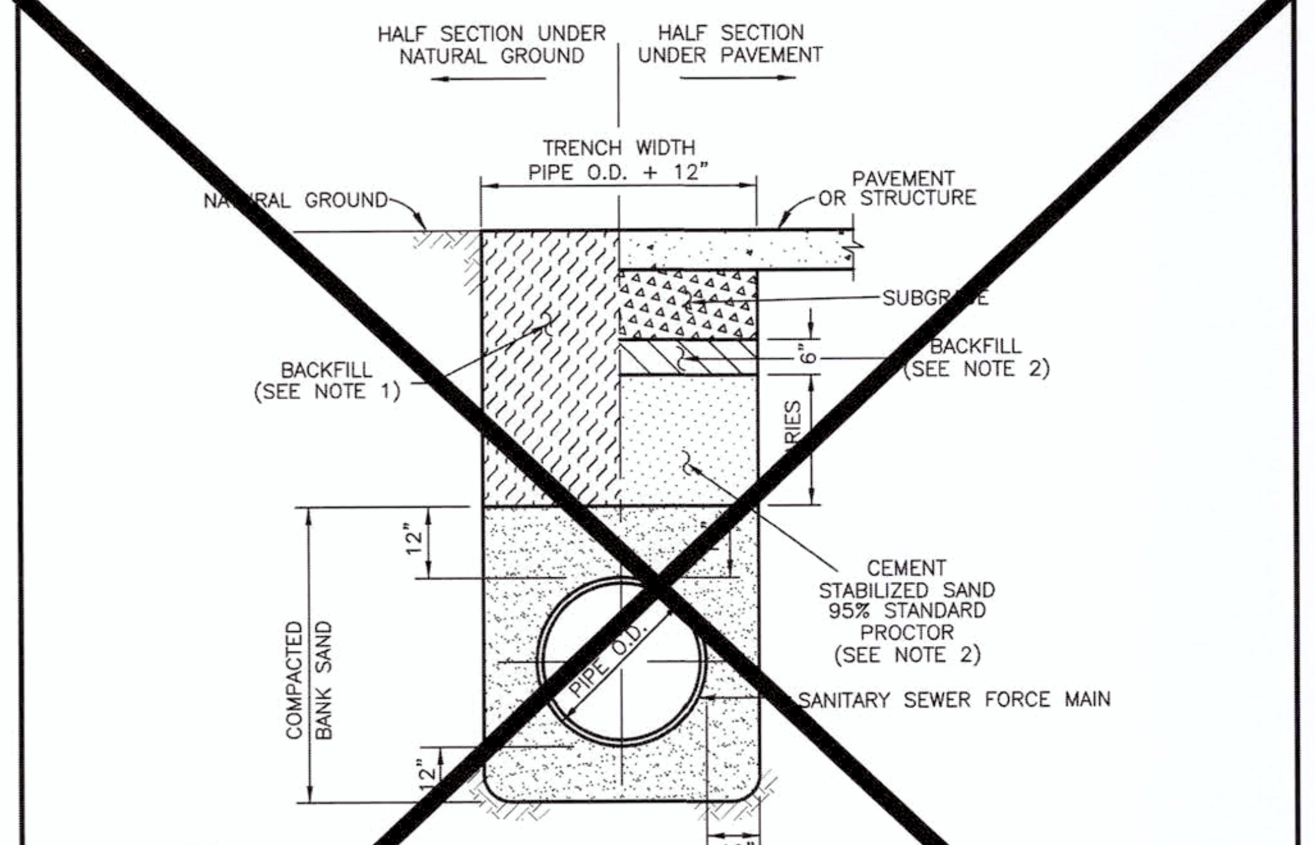
6. SANITARY SEWER STACK

CONTRACTOR TO INSTALL BOX TO BE FURNISHED BY CITY OVER CLEANOUT


6" PVC THREADED PLUG
1'-0"
RIGHT-OF-WAY LINE
6" PVC THREADED ADAPTER
FINISH GRADE
4" PVC PLUG
4" PVC ADAPTER
4" PVC COUPLING
6" PVC PIPE x 12"
LENGTH VARIES
4" PVC PIPE
45° BEND
EXIST. SEWER SERVICE LINE
4" OR 6" PVC
FLOW
PVC SANITARY SEWER WYE
FERNCO CONNECTOR USE SOLVENT WELD JOINTS FOR PVC.

NOTE:
ALL PIPE AND FITTINGS SHALL BE SCHEDULE 40 WITH SOLVENT WELD JOINTS.

7. SERVICE LINE CLEANOUT ASSEMBLY


HALF SECTION UNDER NATURAL GROUND
HALF SECTION UNDER PAVEMENT
TRENCH WIDTH PIPE O.D. + 12"
NATURAL GROUND
PAVEMENT OR STRUCTURE
SUBGRADE
BACKFILL (SEE NOTE 2)
BACKFILL (SEE NOTE 1)
VARIES
12"
12"
CEMENT STABILIZED SAND 95% STANDARD PROCTOR (SEE NOTE 2)
COMPACTED BANK SAND
PIPE O.D.
SANITARY SEWER FORCE MAIN
12"

NOTES

1. BACKFILL SHALL BE NATIVE SOIL, FREE OF DEBRIS, PLACED IN LIFTS, 8" THICK OR LESS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, (CONTRACTOR TO USE PROPER COMPACTION EQUIPMENT TO ACHIEVE DESIRED DENSITY.) EXCEPT AS REQUIRED BELOW.
2. BACKFILL UNDER AND WITHIN 3 FEET OF DRIVEWAYS AND PUBLIC STREETS SHALL BE CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND), EXCEPT THE TOP 6" SHALL BE NATIVE SOIL, FREE OF DEBRIS. ALL BACKFILL UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED AS REQUIRED.
4. ALL EXCAVATED MATERIAL WITH A P.I. OF 12 OR LESS MAY BE USED AS BACKFILL WITH FIELD APPROVAL BY THE CITY.

8. SANITARY SEWER FORCE MAIN BEDDING

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
SANITARY-1

RICHMOND TEXAS 1837

SCALE		
HORIZONTAL	1" = NTS	DESIGNED BY: LLT
VERTICAL	1" = NTS	DRAWN BY: AJS
		CHECKED BY: KRK
		DATE: 12/01/16
		JOB NO:
		DWG. NO:
		R-4-16
		Sheet:

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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Austin, TX 78746
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07/19/17

STATE OF TEXAS
JOSEPH G. JAWORSKI
120486
LICENSED PROFESSIONAL ENGINEER

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) NOTE TO SCALE
(V)

DRAWN BY: DNH

DESIGNED BY: JAK

CHECKED BY: SES

DATE: 02/17/17

JOB No: 0469-16-197

TITLE:
CITY DETAILS

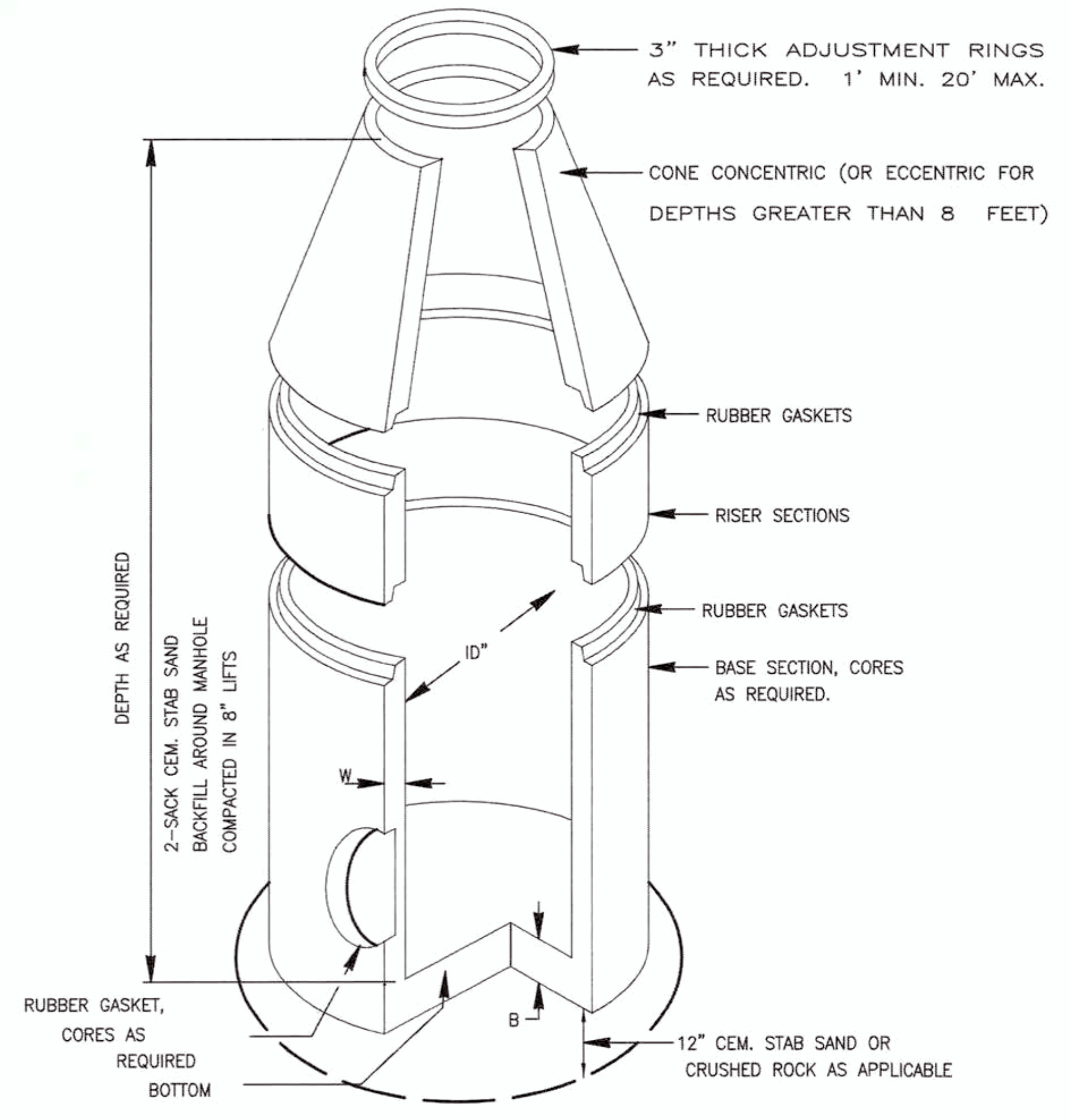
SHEET No:
24
OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

Plotted: 07/18/17 - 5:24 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX - SWC Williams Way\Dwg\Site Plans\D46916197SDD3.dwg, ---> 24 CITY

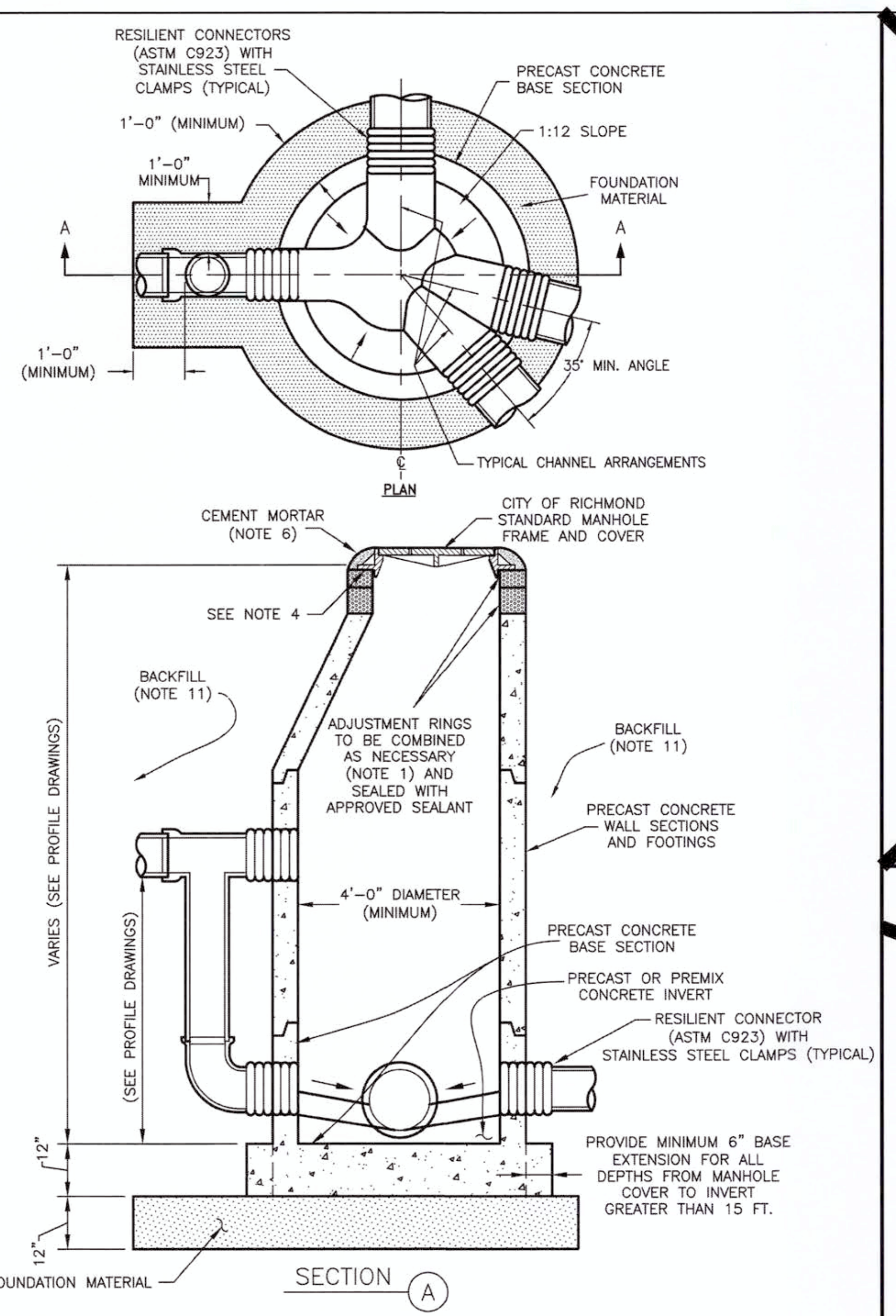
CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


3" THICK ADJUSTMENT RINGS AS REQUIRED. 1' MIN. 20' MAX.
CONE CONCENTRIC (OR ECCENTRIC FOR DEPTHS GREATER THAN 8 FEET)
RUBBER GASKETS
RISER SECTIONS
RUBBER GASKETS
BASE SECTION, CORES AS REQUIRED.
DEPTH AS REQUIRED
2-SACK CEM. STAB SAND BACKFILL AROUND MANHOLE COMPACTED IN 8" LIFTS
ID
W
B
RUBBER GASKET, CORES AS REQUIRED BOTTOM
12" CEM. STAB SAND OR CRUSHED ROCK AS APPLICABLE

NOTES

1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED RUBBER GASKET.
3. STRUCTURE TO BE PLACED ON 12" STABILIZED BASE.
4. C.S.S. SHALL BE BROUGHT TO WITHIN 2-FT OF TOP OF MANHOLE.
5. PRE-CAST MANHOLE SHALL BE IN COMPLIANCE WITH APPROVED PRODUCT LIST.
6. THANE COAT SHALL BE IN COMPLIANCE WITH APPROVED PRODUCT LIST.
7. INVERTS SHALL COMPLY WITH C.O.M.C., INFRASTRUCTURE DESIGN MANUAL SPECIFICATIONS.
8. INFLOW PROTECTORS REQUIRED ON ALL SANITARY MANHOLES.
9. REFER TO SANITARY MANHOLE LIDS, C.S.S. NOTES, MODIFIED BEDDING DETAILS AND NOTES.

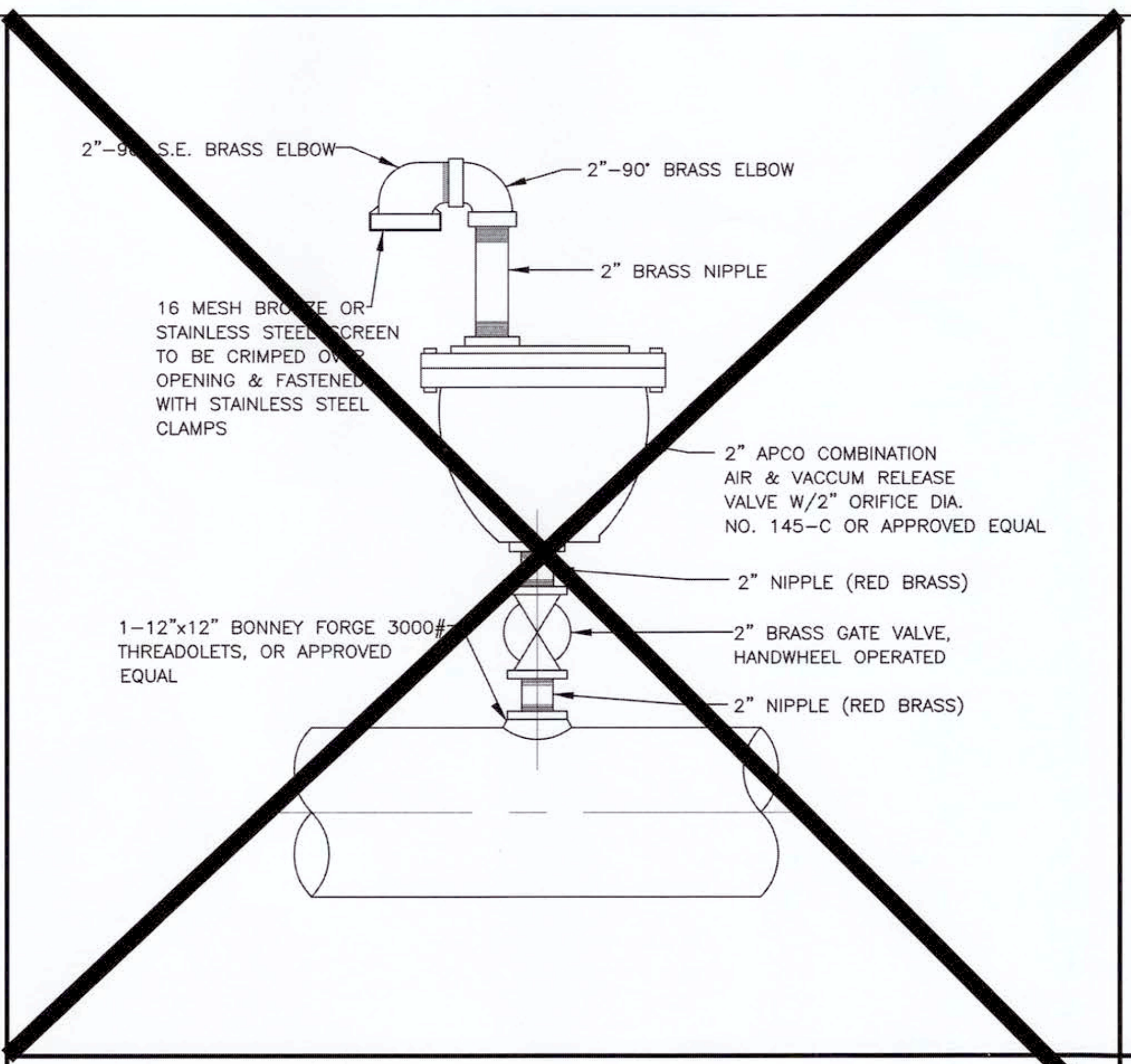
1. PRECAST SANITARY MANHOLE


RESILIENT CONNECTORS (ASTM C923) WITH STAINLESS STEEL CLAMPS (TYPICAL)
PRECAST CONCRETE BASE SECTION
1'-0" (MINIMUM)
1:12 SLOPE
1'-0" MINIMUM
FOUNDATION MATERIAL
A
A
1'-0" (MINIMUM)
35° MIN. ANGLE
TYPICAL CHANNEL ARRANGEMENTS
℄
PLAN
CEMENT MORTAR (NOTE 6)
CITY OF RICHMOND STANDARD MANHOLE FRAME AND COVER
SEE NOTE 4
BACKFILL (NOTE 11)
ADJUSTMENT RINGS TO BE COMBINED AS NECESSARY (NOTE 1) AND SEALED WITH APPROVED SEALANT
BACKFILL (NOTE 11)
PRECAST CONCRETE WALL SECTIONS AND FOOTINGS
VARIES (SEE PROFILE DRAWINGS)
(SEE PROFILE DRAWINGS)
4'-0" DIAMETER (MINIMUM)
PRECAST CONCRETE BASE SECTION
PRECAST OR PREMIX CONCRETE INVERT
RESILIENT CONNECTOR (ASTM C923) WITH STAINLESS STEEL CLAMPS (TYPICAL)
12"
12"
PROVIDE MINIMUM 6" BASE EXTENSION FOR ALL DEPTHS FROM MANHOLE COVER TO INVERT GREATER THAN 15 FT.
FOUNDATION MATERIAL
SECTION A

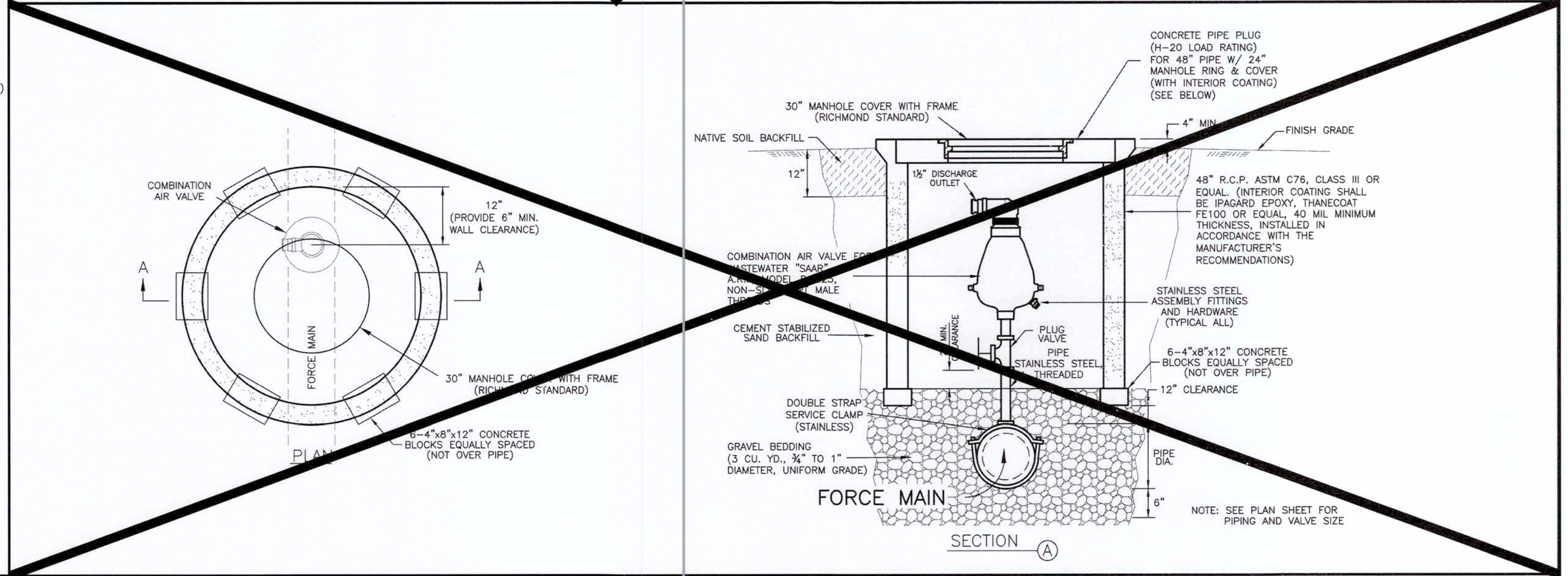
NOTES:

1. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 6". THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 12".
2. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET AASHTO H-20 LOADING AND SOIL CONDITIONS OR AS OTHERWISE REQUIRED. MINIMUM THICKNESS 5".
3. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED WHEN CALLED FOR IN PLAN AND PROFILE DRAWING AND WHEN THE DROP ON INCOMING PIPE IS GREATER THAN 30".
4. SEAT MANHOLE FRAME USING AN APPROVED SEALANT.
5. ECCENTRIC PRECAST CONCRETE MANHOLE RISER SHALL BE USED.
6. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
7. MINIMUM STEEL REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE #5 @ 8" CENTERS EACH WAY.
8. PRECAST CONCRETE MANHOLES TO MEET ASTM C-478, CURRENT.
9. ALL JOINTS SHALL BE SEALED WITH RUBBER GASKETS (ASTM C443) OR APPROVED EQUAL.
10. BASE SHALL INCLUDE A 12" THICK CEMENT STABILIZED SAND BASE BENEATH THE STRUCTURE. ALTERNATE: USE CRUSHED STONE AND FILTER FABRIC IN WET TRENCH CONDITIONS.
11. BACKFILL AROUND MANHOLE & DROP CONNECTION WITH 2 SACKS OF CEMENT PER TON OF SAND (100 P.S.I. MINIMUM).
12. USE STANDARD CAST IRON FRAME AND COVER WITH THE WORDS "SANITARY – CITY OF RICHMOND".
13. MINIMUM 4000 P.S.I. CONCRETE TO BE USED FOR CAST-IN-PLACE (C.I.P.) CONCRETE BASE.
14. GROUT INSIDE AND OUTSIDE OR EXTENSION RING(S) AND FRAME.
15. ALL INTERIOR SURFACES SHALL BE COATED WITH IPAGARD EPOXY, THANECOAT FE100 OR APPROVED EQUAL, APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION (40 MIL MINIMUM THICKNESS)
16. MANHOLES SHALL BE CONSTRUCTED USING PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, CONE AND BOTTOM. BRICK WILL NOT BE ALLOWED.

2. SANITARY SEWER MANHOLE


2"-90° S.E. BRASS ELBOW
2"-90° BRASS ELBOW
2" BRASS NIPPLE
16 MESH BRONZE OR STAINLESS STEEL SCREEN TO BE CRIMPED OVER OPENING & FASTENED WITH STAINLESS STEEL CLAMPS
2" APCO COMBINATION AIR & VACCUM RELEASE VALVE W/2" ORIFICE DIA. NO. 145-C OR APPROVED EQUAL
2" NIPPLE (RED BRASS)
1-12"x12" BONNEY FORGE 3000# THREADOLETS, OR APPROVED EQUAL
2" BRASS GATE VALVE, HANDWHEEL OPERATED
2" NIPPLE (RED BRASS)

3. AIR RELEASE VALVE


COMBINATION AIR VALVE
A
A
12" (PROVIDE 6" MIN. WALL CLEARANCE)
FORCE MAIN
30" MANHOLE COVER WITH FRAME (RICHMOND STANDARD)
6-4"x8"x12" CONCRETE BLOCKS EQUALLY SPACED (NOT OVER PIPE)
PLAN
CONCRETE PIPE PLUG (H-20 LOAD RATING) FOR 48" PIPE W/ 24" MANHOLE RING & COVER (WITH INTERIOR COATING) (SEE BELOW)
30" MANHOLE COVER WITH FRAME (RICHMOND STANDARD)
4" MIN.
FINISH GRADE
NATIVE SOIL BACKFILL
12"
1½" DISCHARGE OUTLET
48" R.C.P. ASTM C76, CLASS III OR EQUAL. (INTERIOR COATING SHALL BE IPAGARD EPOXY, THANECOAT FE100 OR EQUAL, 40 MIL MINIMUM THICKNESS, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS)
COMBINATION AIR VALVE FOR WASTEWATER "SAAR" A.R.I. MODEL D-025, NON-SLAM, 2" MALE THREADS
STAINLESS STEEL ASSEMBLY FITTINGS AND HARDWARE (TYPICAL ALL)
CEMENT STABILIZED SAND BACKFILL
MIN. CLEARANCE
PLUG VALVE
PIPE STAINLESS STEEL, THREADED
6-4"x8"x12" CONCRETE BLOCKS EQUALLY SPACED (NOT OVER PIPE)
12" CLEARANCE
DOUBLE STRAP SERVICE CLAMP (STAINLESS)
GRAVEL BEDDING (3 CU. YD., ¾" TO 1" DIAMETER, UNIFORM GRADE)
PIPE DIA.
FORCE MAIN
6"
SECTION A

NOTE: SEE PLAN SHEET FOR PIPING AND VALVE SIZE

4. SEWERAGE AIR RELEASE VALVE MANHOLE

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
SANITARY-2

SCALE		
HORIZONTAL	1" = NTS	
VERTICAL	1" = NTS	

DESIGNED BY: LLT
DRAWN BY: AJS
CHECKED BY: KRK
DATE: 12/01/16
JOB NO:
DWG. NO:
R-5-16
Sheet:

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

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07/19/17
JOSEPH G. JAWORSKI
120486

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TEXAS LICENSE No. 120486

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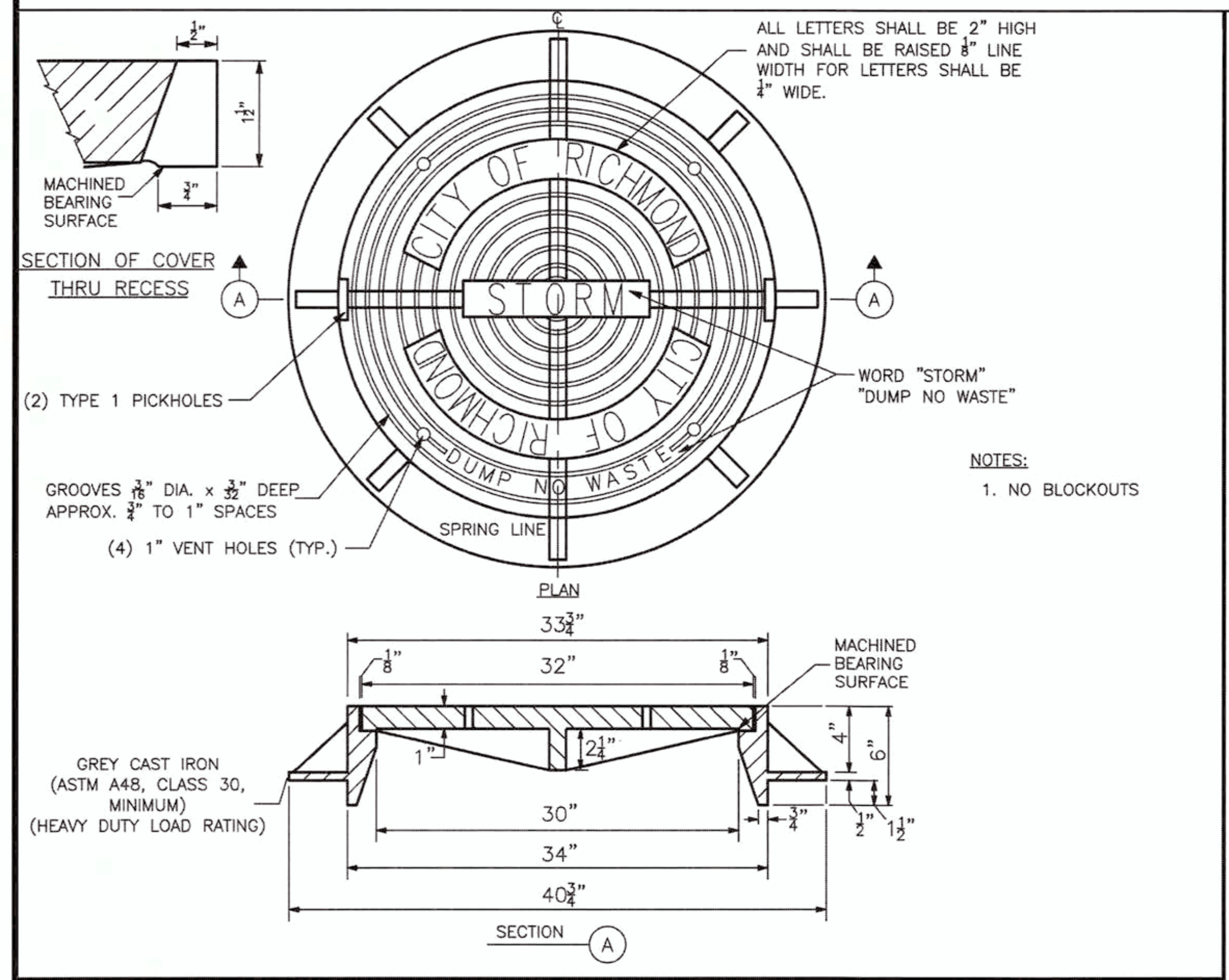
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) NOTE TO SCALE (V) .
DRAWN BY: DNH
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: CITY DETAILS
SHEET No: 25 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 – 5:24 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D469161975DD3.dwg, ---> 25 CITY

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.

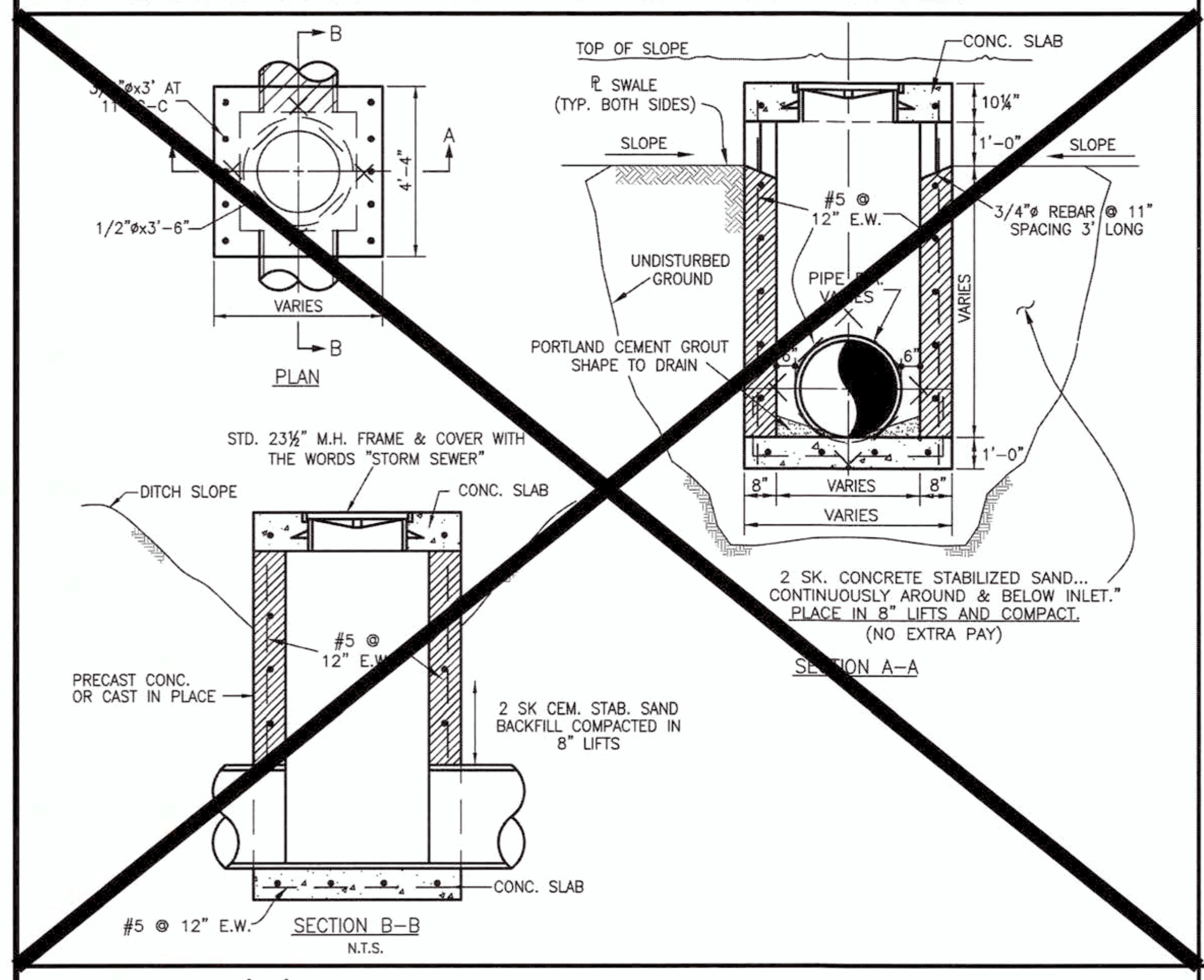


ALL LETTERS SHALL BE 2" HIGH AND SHALL BE RAISED 1/8" LINE WIDTH FOR LETTERS SHALL BE 1/4" WIDE.
MACHINED BEARING SURFACE
SECTION OF COVER THRU RECESS
CITY OF RICHMOND
STORM
DUMP NO WASTE
(2) TYPE 1 PICKHOLES
WORD "STORM" "DUMP NO WASTE"
GROOVES 3/16" DIA. x 3/32" DEEP APPROX. 3/4" TO 1" SPACES
(4) 1" VENT HOLES (TYP.)
SPRING LINE
PLAN
33 3/4"
32"
1/8"
MACHINED BEARING SURFACE
GREY CAST IRON (ASTM A48, CLASS 30, MINIMUM) (HEAVY DUTY LOAD RATING)
2 1/4"
1"
4"
6"
30"
34"
40 3/4"
3/4"
1/2"
1 1/2"
SECTION A

NOTES:

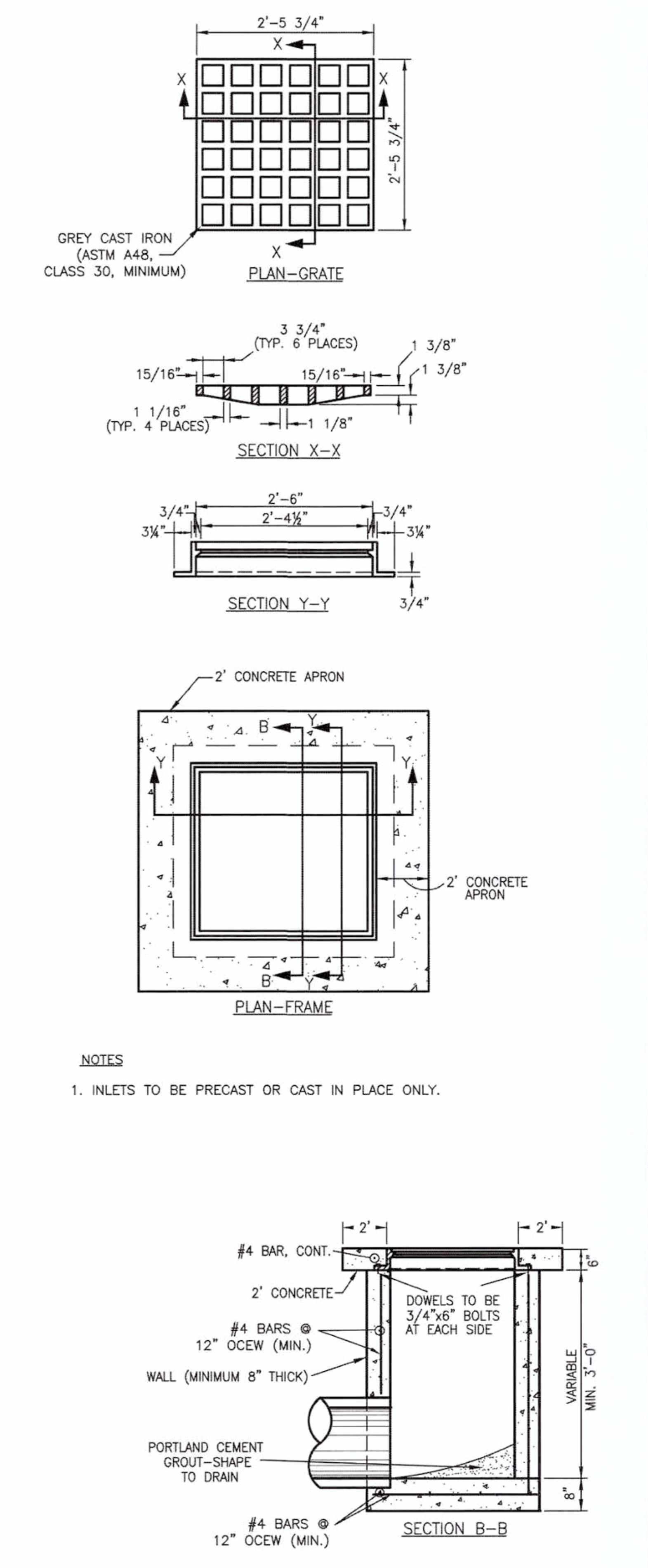
1. NO BLOCKOUTS

1. MANHOLE AND INLET FRAME AND COVER



B
PLAN
1/2"øx3'-6"
VARIES
TOP OF SLOPE
CONC. SLAB
℄ SWALE (TYP. BOTH SIDES)
SLOPE
10¼"
1'-0"
#5 @ 12" E.W.
3/4"ø REBAR @ 11" SPACING 3' LONG
UNDISTURBED GROUND
PIPE
PORTLAND CEMENT GROUT SHAPE TO DRAIN
VARIES
1'-0"
STD. 23¾" M.H. FRAME & COVER WITH THE WORDS "STORM SEWER"
DITCH SLOPE
CONC. SLAB
2 SK. CONCRETE STABILIZED SAND... CONTINUOUSLY AROUND & BELOW INLET." PLACE IN 8" LIFTS AND COMPACT. (NO EXTRA PAY)
SECTION A-A
PRECAST CONC. OR CAST IN PLACE
#5 @ 12" E.W.
2 SK CEM. STAB. SAND BACKFILL COMPACTED IN 8" LIFTS
CONC. SLAB
#5 @ 12" E.W.
SECTION B-B
N.T.S.

2. TYPE 'E' INLET

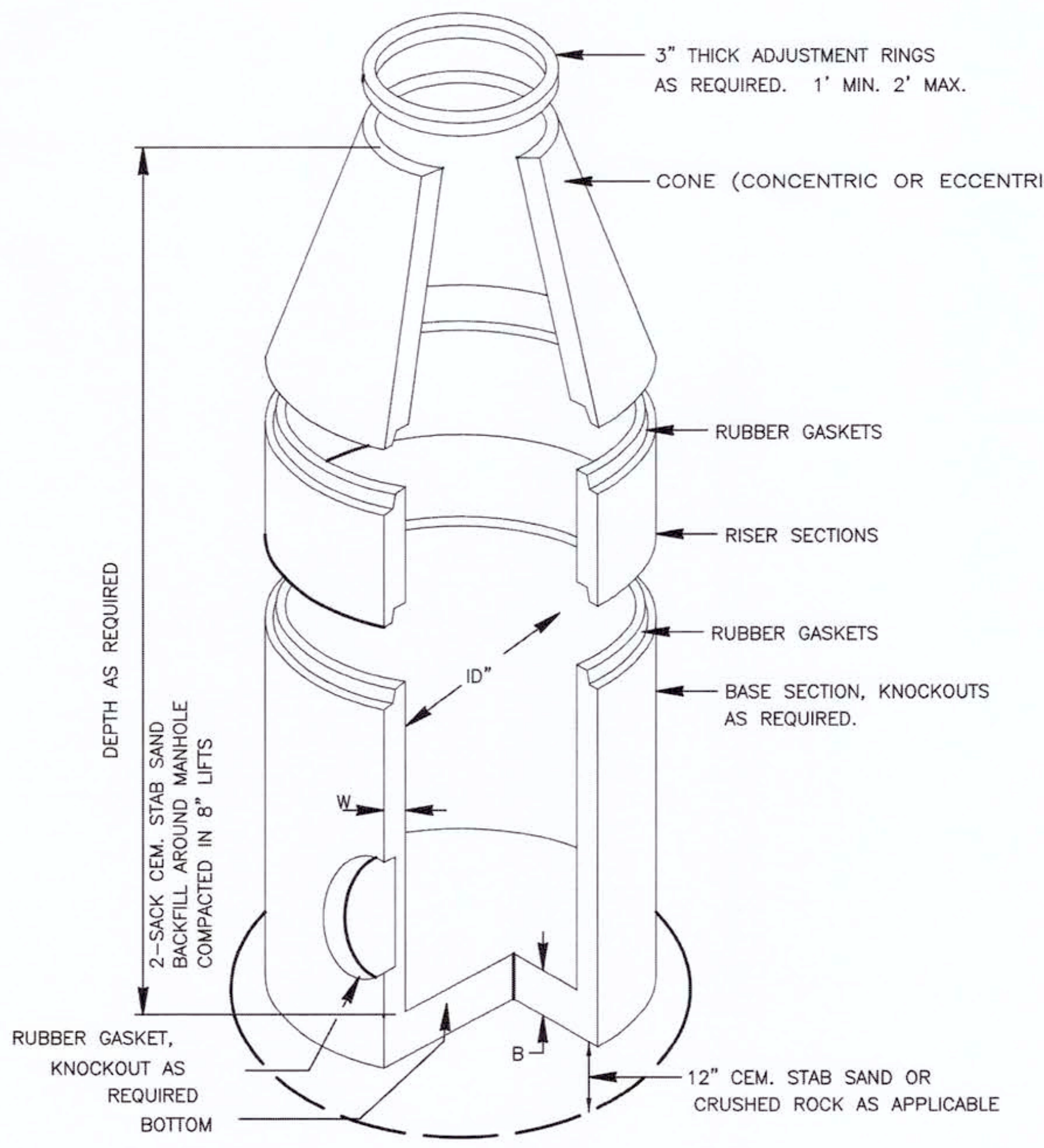


2'-5 3/4"
X
2'-5 3/4"
GREY CAST IRON (ASTM A48, CLASS 30, MINIMUM)
PLAN-GRATE
3 3/4" (TYP. 6 PLACES)
15/16"
1 3/8"
1 1/16" (TYP. 4 PLACES)
1 1/8"
SECTION X-X
2'-6"
2'-4½"
3/4"
3¼"
SECTION Y-Y
2' CONCRETE APRON
B
Y
PLAN-FRAME
2' CONCRETE APRON
#4 BAR, CONT.
2' CONCRETE
#4 BARS @ 12" OCEW (MIN.)
WALL (MINIMUM 8" THICK)
DOWELS TO BE 3/4"x6" BOLTS AT EACH SIDE
PORTLAND CEMENT GROUT-SHAPE TO DRAIN
#4 BARS @ 12" OCEW (MIN.)
VARIABLE MIN. 3'-0"
SECTION B-B

NOTES

1. INLETS TO BE PRECAST OR CAST IN PLACE ONLY.

3. TYPE 'A' INLET



3" THICK ADJUSTMENT RINGS AS REQUIRED. 1' MIN. 2' MAX.
CONE (CONCENTRIC OR ECCENTRIC)
RUBBER GASKETS
RISER SECTIONS
RUBBER GASKETS
BASE SECTION, KNOCKOUTS AS REQUIRED.
DEPTH AS REQUIRED
2-SACK CEM. STAB SAND BACKFILL AROUND MANHOLE COMPACTED IN 8" LIFTS
ID
W
B
RUBBER GASKET, KNOCKOUT AS REQUIRED
BOTTOM
12" CEM. STAB SAND OR CRUSHED ROCK AS APPLICABLE

SPECIFICATIONS:

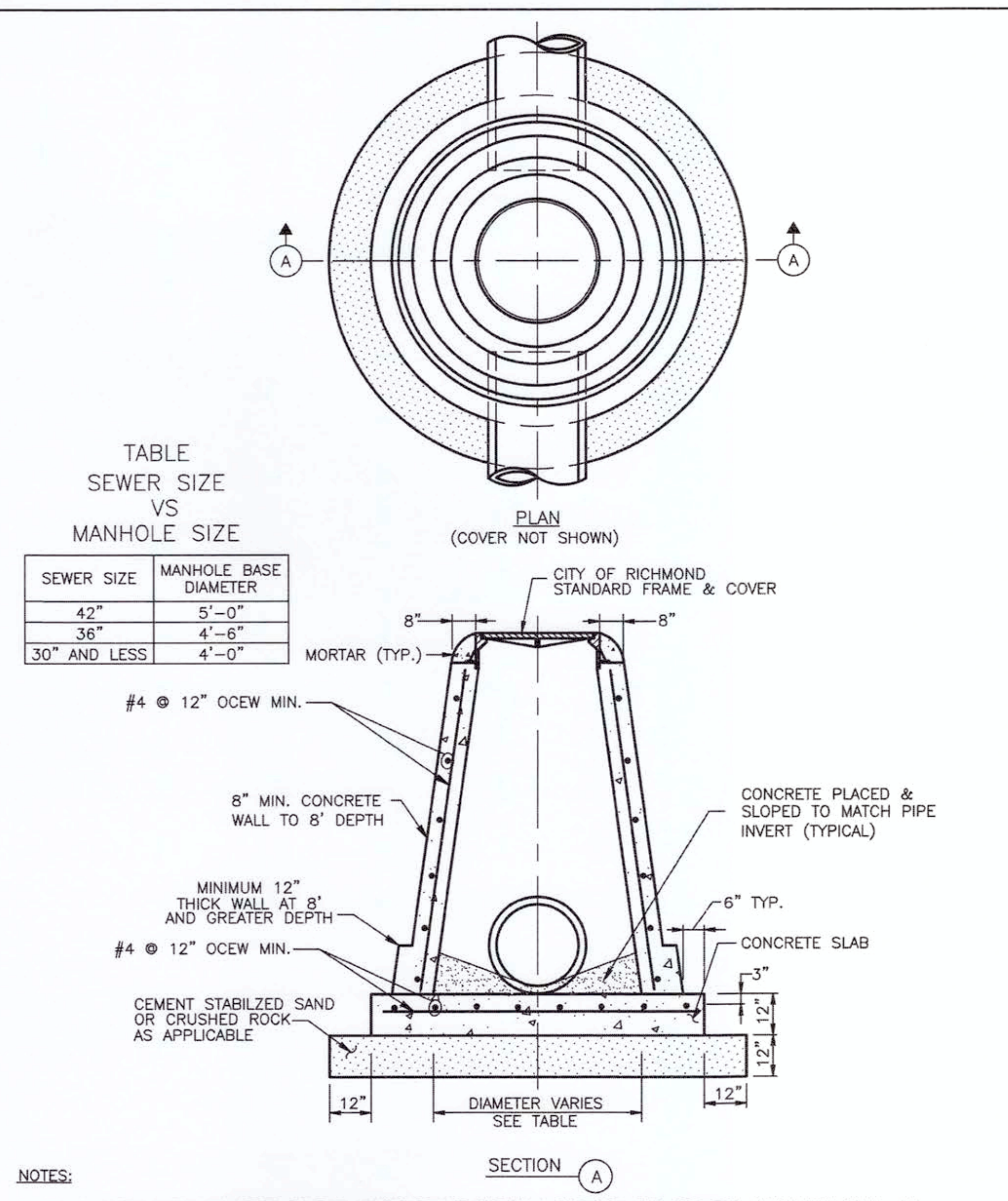
CONCRETE:	CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATES FOR H-20 LOADING.
REINFORCEMENT:	STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.
C.I. CASTINGS:	CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

DIMENSIONS AND WEIGHTS			
I.D. SIZE (in)	W (in)	B (in)	RISER WT/LF (lb)
48	5	6	868
60	6	8	1300
72	7	8	1811
96	9	8	3090

NOTES

1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED RUBBER GASKET
3. STRUCTURE TO BE PLACED ON 12" STABILIZED BASE.
4. C.S.S. SHALL BE BROUGHT TO WITHIN 2-FT OF TOP OF MANHOLE.

4. PRECAST CONCRETE MANHOLE



A
PLAN
(COVER NOT SHOWN)
CITY OF RICHMOND STANDARD FRAME & COVER
8"
MORTAR (TYP.)
#4 @ 12" OCEW MIN.
8" MIN. CONCRETE WALL TO 8' DEPTH
MINIMUM 12" THICK WALL AT 8' AND GREATER DEPTH
#4 @ 12" OCEW MIN.
CEMENT STABILZED SAND OR CRUSHED ROCK AS APPLICABLE
CONCRETE PLACED & SLOPED TO MATCH PIPE INVERT (TYPICAL)
6" TYP.
CONCRETE SLAB
3"
12"
DIAMETER VARIES SEE TABLE
SECTION A

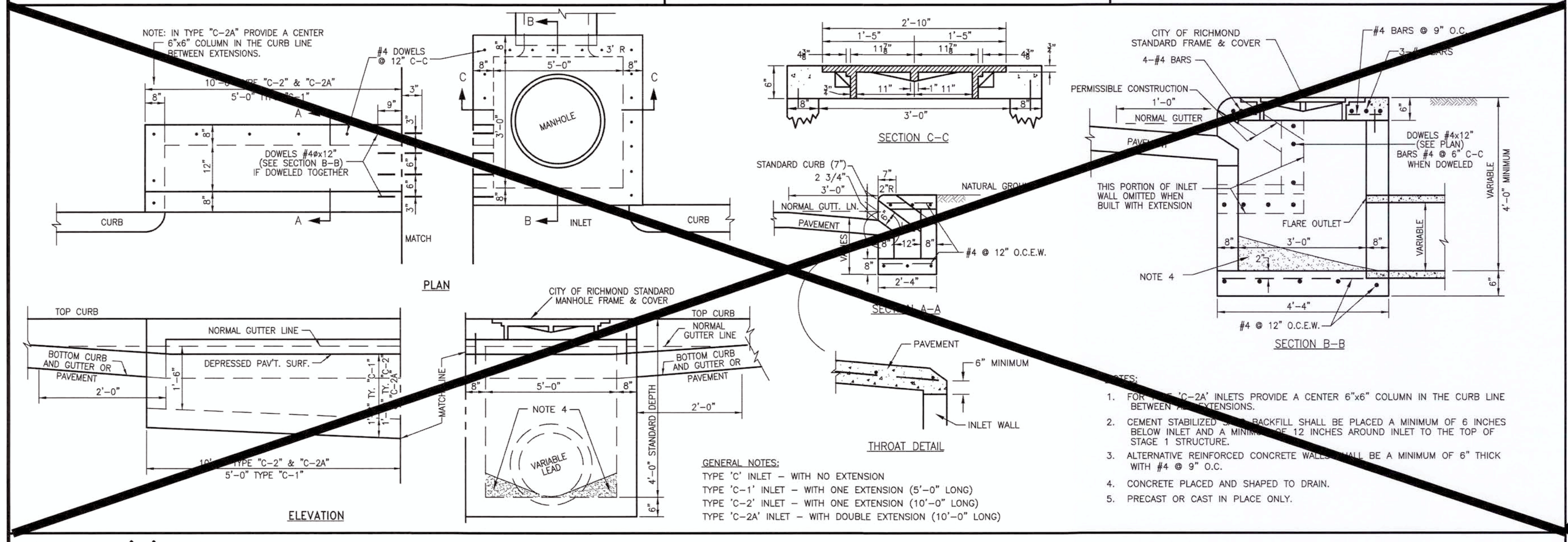
TABLE
SEWER SIZE
VS
MANHOLE SIZE

SEWER SIZE	MANHOLE BASE DIAMETER
42"	5'-0"
36"	4'-6"
30" AND LESS	4'-0"

NOTES:

1. ALL BACKFILL WITHIN 2 FEET OF THE MANHOLE AND WITHIN 4 FEET OF THE TOP RIM ELEVATION SHALL BE CEMENT STABILIZED SAND (SEE BEDDING DETAIL).
2. BACKFILL UNDER AND WITHIN 3 FEET OF PAVING SHALL MEET THE BACKFILL REQUIREMENTS FOR STORM SEWERS.
3. MANHOLE TO BE PRECAST OR CAST IN PLACE. BRICK MAY ONLY BE USED WITH CITY APPROVAL.

5. MANHOLE TYPE "C" FOR 42" DIA. R.C.P. AND SMALLER



NOTE: IN TYPE "C-2A" PROVIDE A CENTER 6"x6" COLUMN IN THE CURB LINE BETWEEN EXTENSIONS.
#4 DOWELS @ 12" C-C
10'-0" TYPE "C-2" & "C-2A"
5'-0" TYPE "C-1"
DOWELS #4x12" (SEE SECTION B-B) IF DOWELED TOGETHER
CURB
A
B
INLET
CURB
MATCH
MANHOLE
5'-0"
C
PLAN
2'-10"
1'-5"
3'-0"
SECTION C-C
STANDARD CURB (7")
2 3/4"
3'-0"
NORMAL GUTT. LN.
PAVEMENT
NATURAL GROUND
#4 @ 12" O.C.E.W.
2'-4"
SECTION A-A
CITY OF RICHMOND STANDARD FRAME & COVER
4-#4 BARS
PERMISSIBLE CONSTRUCTION
1'-0"
NORMAL GUTTER
PAVEMENT
THIS PORTION OF INLET WALL OMITTED WHEN BUILT WITH EXTENSION
#4 BARS @ 9" O.C.
DOWELS #4x12" (SEE PLAN) BARS #4 @ 6" C-C WHEN DOWELED
FLARE OUTLET
3'-0"
NOTE 4
4'-4"
#4 @ 12" O.C.E.W.
SECTION B-B
VARIABLE 4'-0" MINIMUM
TOP CURB
NORMAL GUTTER LINE
BOTTOM CURB AND GUTTER OR PAVEMENT
DEPRESSED PAV'T. SURF.
2'-0"
10'-0" TYPE "C-2" & "C-2A"
5'-0" TYPE "C-1"
MATCH LINE
CITY OF RICHMOND STANDARD MANHOLE FRAME & COVER
TOP CURB
NORMAL GUTTER LINE
BOTTOM CURB AND GUTTER OR PAVEMENT
NOTE 4
VARIABLE LEAD
4'-0" STANDARD DEPTH
2'-0"
ELEVATION
PAVEMENT
6" MINIMUM
INLET WALL
THROAT DETAIL

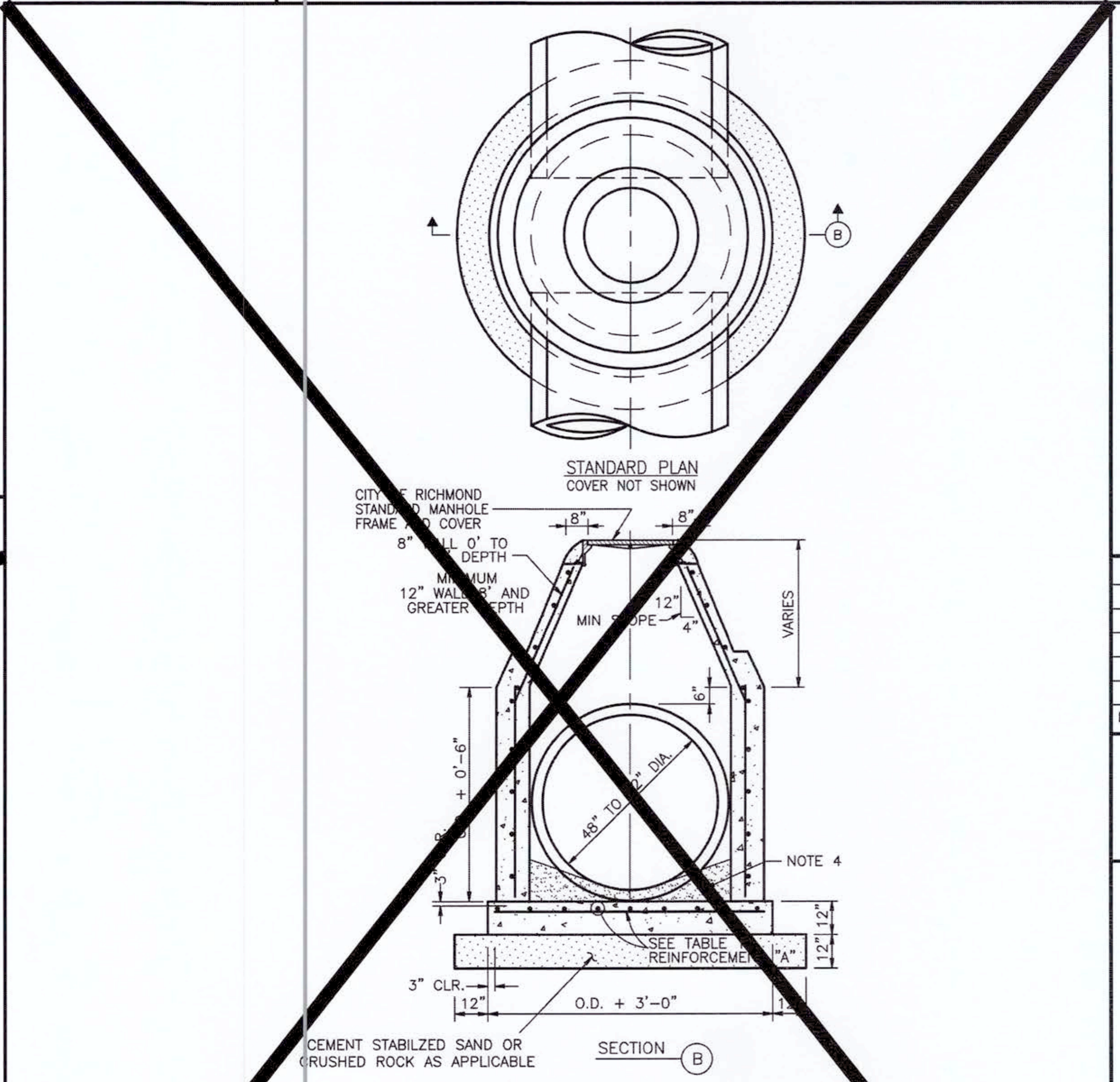
~~GENERAL NOTES:~~

~~TYPE 'C' INLET – WITH NO EXTENSION~~
~~TYPE 'C-1' INLET – WITH ONE EXTENSION (5'-0" LONG)~~
~~TYPE 'C-2' INLET – WITH ONE EXTENSION (10'-0" LONG)~~
~~TYPE 'C-2A' INLET – WITH DOUBLE EXTENSION (10'-0" LONG)~~

~~NOTES:~~

1. ~~FOR TYPE 'C-2A' INLETS PROVIDE A CENTER 6"x6" COLUMN IN THE CURB LINE BETWEEN ALL EXTENSIONS.~~
2. ~~CEMENT STABILIZED SAND BACKFILL SHALL BE PLACED A MINIMUM OF 6 INCHES BELOW INLET AND A MINIMUM OF 12 INCHES AROUND INLET TO THE TOP OF STAGE 1 STRUCTURE.~~
3. ~~ALTERNATIVE REINFORCED CONCRETE WALLS SHALL BE A MINIMUM OF 6" THICK WITH #4 @ 9" O.C.~~
4. ~~CONCRETE PLACED AND SHAPED TO DRAIN.~~
5. ~~PRECAST OR CAST IN PLACE ONLY.~~

6. TYPE 'C' INLET



B
STANDARD PLAN
COVER NOT SHOWN
CITY OF RICHMOND STANDARD MANHOLE FRAME AND COVER
8"
4'-0" TO DEPTH
MINIMUM 12" WALL AND GREATER DEPTH
MIN SLOPE
12"
VARIES
48" TO 72" DIA.
NOTE 4
SEE TABLE REINFORCEMENT "A"
3" CLR.
12"
O.D. + 3'-0"
12"
CEMENT STABILZED SAND OR CRUSHED ROCK AS APPLICABLE
SECTION B

TABLE 1
DATA FOR VARIOUS PIPE DIAMETERS

PIPE DIA. (INCHES)	MIN. DEPTH	REINFORCEMENT ("A")	REINFORCEMENT ("B")
48"	8'-0"	#5 @ 12 E.W.	2-#6
54"	9'-4"	#5 @ 10 E.W.	2-#6
60"	10'-7"	#5 @ 8 E.W.	2-#7
66"	11'-10"	#5 @ 7 E.W.	2-#7
72"	13'-2"	#5 @ 6 E.W.	2-#7

~~NOTES:~~

1. ~~ALL BACKFILL WITHIN 2 FEET OF THE MANHOLE AND WITHIN 4 FEET OF THE TOP RIM ELEVATION SHALL BE CEMENT STABILIZED BACKFILL (SEE BEDDING DETAIL).~~
2. ~~BACKFILL UNDER AND WITHIN 3 FEET OF PAVING SHALL MEET THE BACKFILL REQUIREMENTS FOR STORM SEWERS.~~
3. ~~PORTLAND CEMENT GROUT TO MATCH INVERT OF PIPE.~~
4. ~~CAST IN PLACE ONLY. BRICK MAY ONLY BE USED WITH CITY APPROVAL.~~

7. TYPE "C" MANHOLE FOR 48" TO 72" DIA. R.C.P.

GENERAL CONSTRUCTION NOTES:

1. ALL CAST CONCRETE BASES SHALL HAVE #4 REBAR @ 12" C-C EW.
2. CONCRETE SHALL BE 3500 PSI MIN.
3. USE C.S.S. BEDDING AS PER DETAILS 2 SK, COMPACTED 8" LIFTS (MAX.), TO 95% STANDARD.

NOTE:

STORM MANHOLES AND INLETS SHALL BE PRECAST CONCRETE. POURED IN PLACE, REINFORCED CONCRETE STRUCTURES MAY BE SUBSTITUTED WHEN THE PROPOSED CONSTRUCTION DETAIL IS SUBMITTED BY THE DESIGN ENGINEER FOR APPROVAL BY THE CITY.

A 4000 psi COLLAR IS REQUIRED TO BRIDGE A 3" OR LARGER GAP, DEFFLECTION OR CONNECTION OF DIFFERENT SIZE PIPES. THE COLLAR WILL BE 6" THICK 2 FT WIDE WITH #4 REBAR DOWELED INTO THE PIPE AND STRUCTURE. FOR A PIPE CONNECTION TO A MANHOLE OR BOX, THE COLLAR WILL BE 1 FOOT WIDE ON THE OUTSIDE OF THE STRUCTURE AND SEALED SMOOTHLY ON THE INSIDE OF THE STRUCTURE WITH NON-SHRINK GROUT.

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
STORM SEWER-1

SCALE		
HORIZONTAL	1" = NTS	DESIGNED BY: LLT
VERTICAL	1" = NTS	DRAWN BY: AJS
		CHECKED BY: KRK
		DATE: 12/01/16
		JOB NO:
		DWG. NO: R-6-16
		Sheet:

APPROVED: Maggy D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
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CS PROJECT NUMBER: 99715

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07/19/17
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120486

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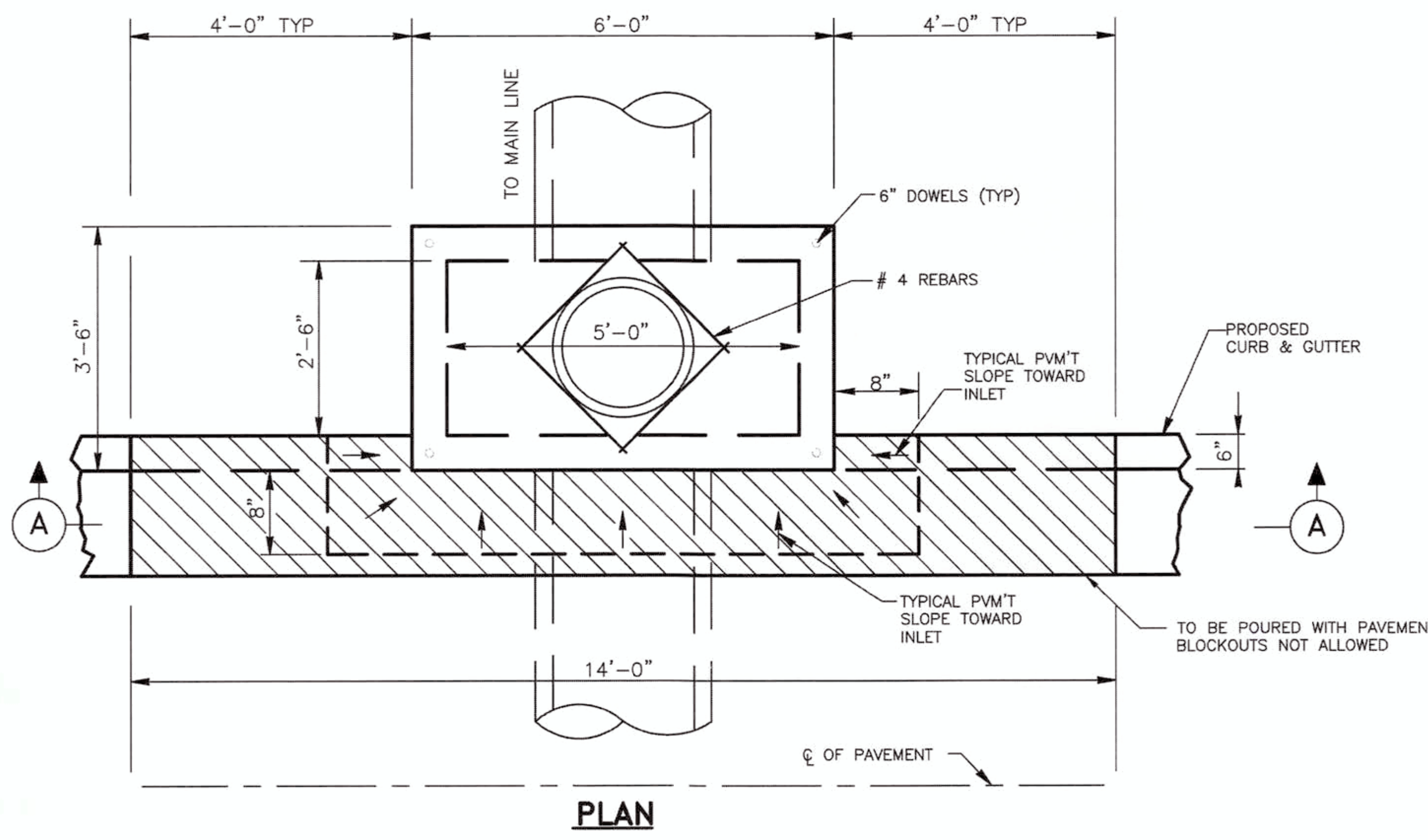
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

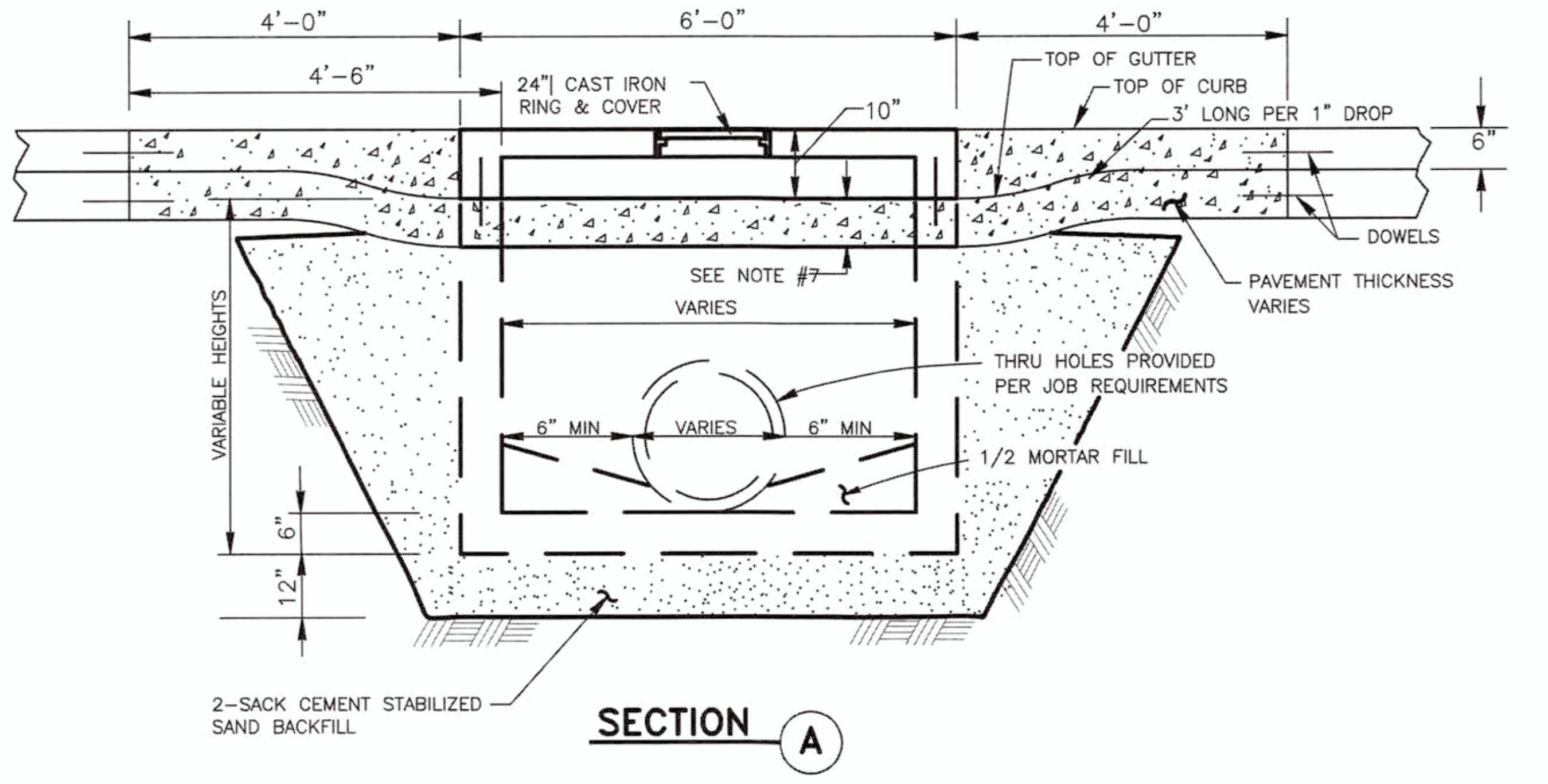
SCALE:	(H) NOTE TO SCALE (V)
DRAWN BY:	DNH
DESIGNED BY:	JAK
CHECKED BY:	SES
DATE:	02/17/17
JOB No:	0469-16-197
TITLE:	CITY DETAILS
SHEET No:	26 OF 36
COMMENTS:	THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. #	3

Plotted: 07/18/17 – 5:24 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SDD3.dwg, ---> 26 CITY

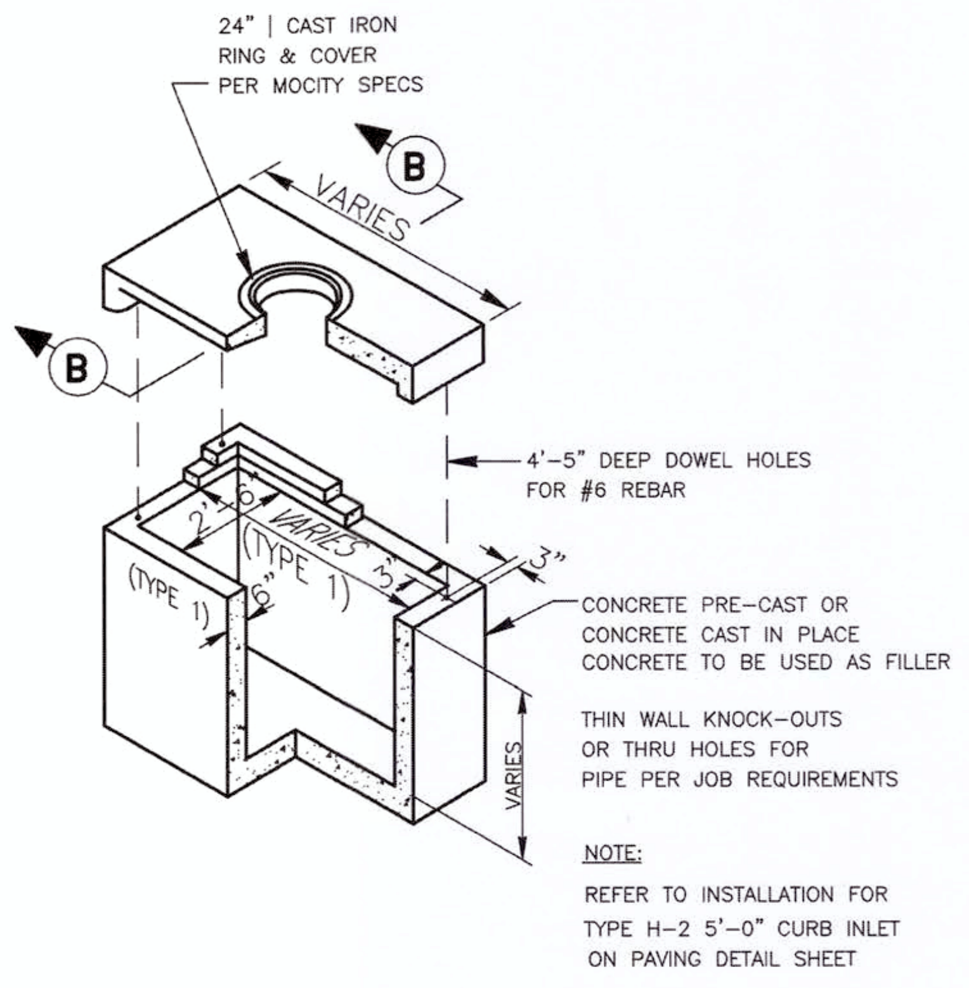
CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


4'-0" TYP
6'-0"
4'-0" TYP
TO MAIN LINE
6" DOWELS (TYP)
# 4 REBARS
5'-0"
3'-6"
2'-6"
8"
TYPICAL PVM'T SLOPE TOWARD INLET
PROPOSED CURB & GUTTER
6"
A
8"
TYPICAL PVM'T SLOPE TOWARD INLET
TO BE POURED WITH PAVEMENT. BLOCKOUTS NOT ALLOWED
14'-0"
℄ OF PAVEMENT

PLAN

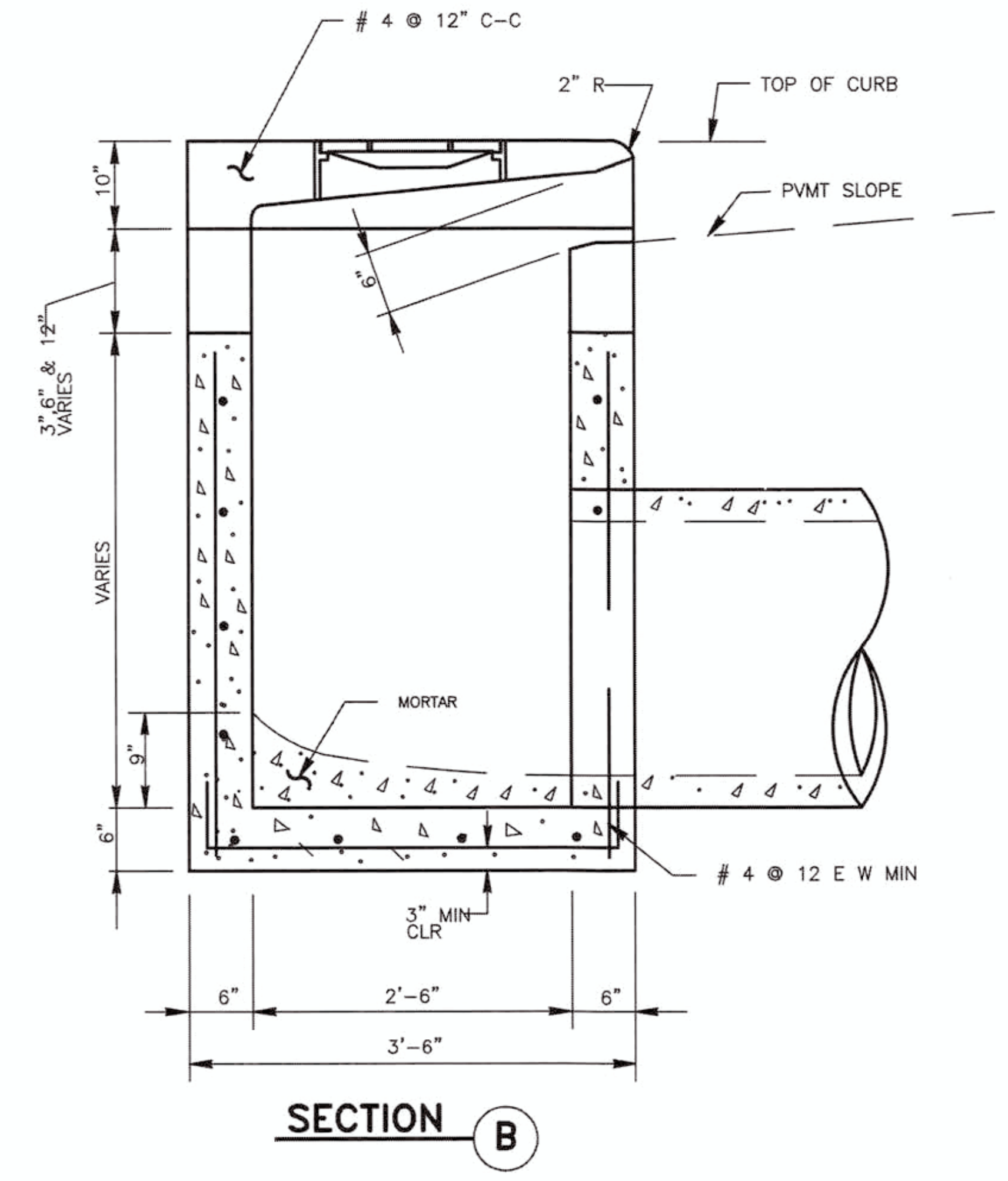

4'-0"
6'-0"
4'-0"
4'-6"
24" CAST IRON RING & COVER
10"
TOP OF GUTTER
TOP OF CURB
3' LONG PER 1" DROP
6"
DOWELS
SEE NOTE #7
VARIES
PAVEMENT THICKNESS VARIES
THRU HOLES PROVIDED PER JOB REQUIREMENTS
6" MIN
VARIES
6" MIN
1/2 MORTAR FILL
VARIABLE HEIGHTS
6"
12"
2-SACK CEMENT STABILIZED SAND BACKFILL

SECTION Ⓐ


24" | CAST IRON RING & COVER PER MOCITY SPECS
VARIES
B
B
4'-5" DEEP DOWEL HOLES FOR #6 REBAR
(TYPE 1)
(TYPE 1)
3"
VARIES
CONCRETE PRE-CAST OR CONCRETE CAST IN PLACE CONCRETE TO BE USED AS FILLER
THIN WALL KNOCK-OUTS OR THRU HOLES FOR PIPE PER JOB REQUIREMENTS

NOTE:

REFER TO INSTALLATION FOR TYPE H-2 5'-0" CURB INLET ON PAVING DETAIL SHEET

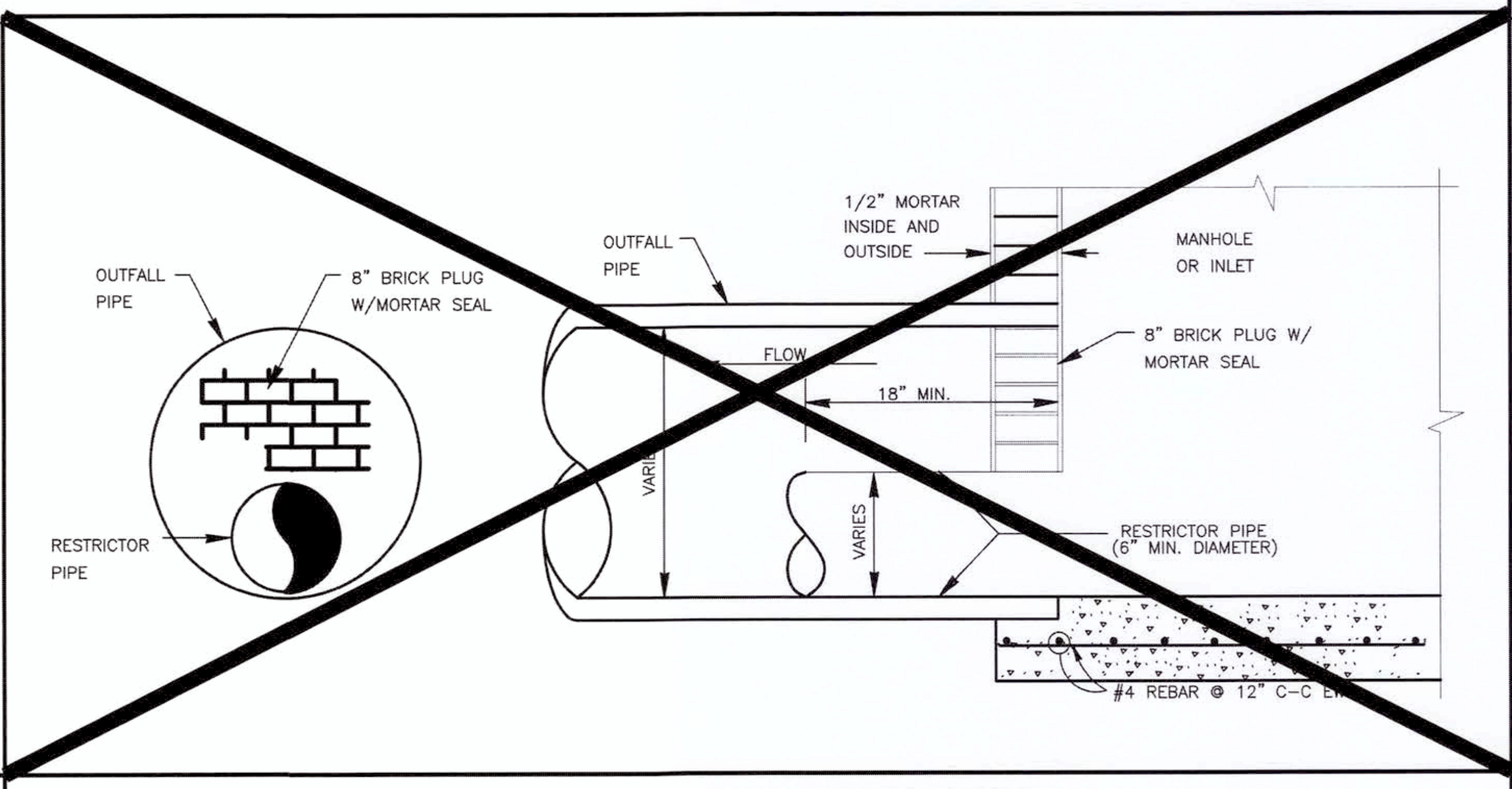

# 4 @ 12" C-C
2" R
TOP OF CURB
PVMT SLOPE
10"
3"-6" & 12" VARIES
VARIES
MORTAR
9"
6"
3" MIN CLR
# 4 @ 12 E W MIN
6"
2'-6"
6"
3'-6"

SECTION Ⓑ

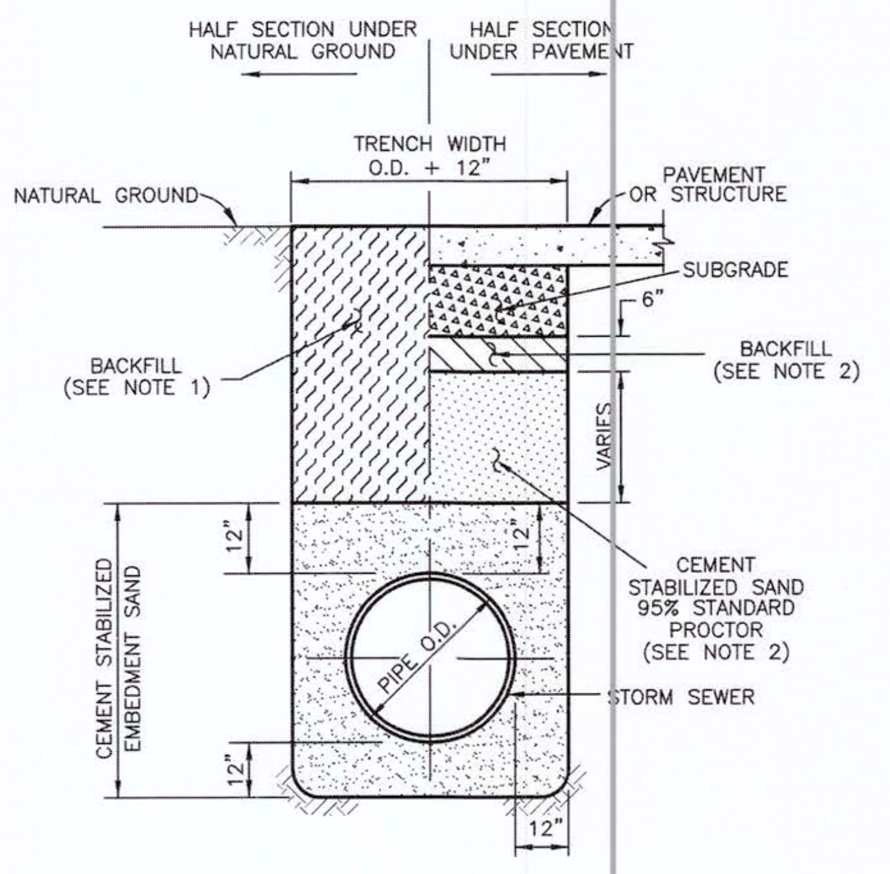
NOTES:

1. INLET WALLS MAY BE EXTENDED USING PRECAST RISER SECTION.
2. INLET TOPS MUST BE SECURED TO THE INLET WALL USING #6 DOWELS DRILLED AND GROUTED A MINIMUM DEPTH OF 5" INTO THE INLET WALL.
3. INLET BACKFILL SHALL BE CEMENT STABILIZED SAND TO THE TOP OF INLET FIRST STAGE.
4. GRADE 60 REINFORCED. #4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.
5. PRECAST INLET MUST BE CONSTRUCTED TO SPECIFICATIONS REQUIRED BY APPROVED DRAWINGS. (SEE GENERAL NOTES)
6. TOPS POURED-IN-PLACE REQUIRE #4 REBAR @ 12" C-C EACH WAY, 3,500 PSI CONCRETE MINIMUM AND 3" THICK MINIMUM.
7. PAVEMENT DEPTH AT INLET SHALL BE EQUAL TO OR GREATER THAN REQUIRED PAVEMENT DEPTH.
8. DEPRESS

1. TYPE "H-2" PRECAST INLET


OUTFALL PIPE
8" BRICK PLUG W/MORTAR SEAL
RESTRICTOR PIPE
OUTFALL PIPE
1/2" MORTAR INSIDE AND OUTSIDE
MANHOLE OR INLET
8" BRICK PLUG W/ MORTAR SEAL
FLOW
18" MIN.
VARIES
VARIES
RESTRICTOR PIPE (6" MIN. DIAMETER)
#4 REBAR @ 12" C-C EW

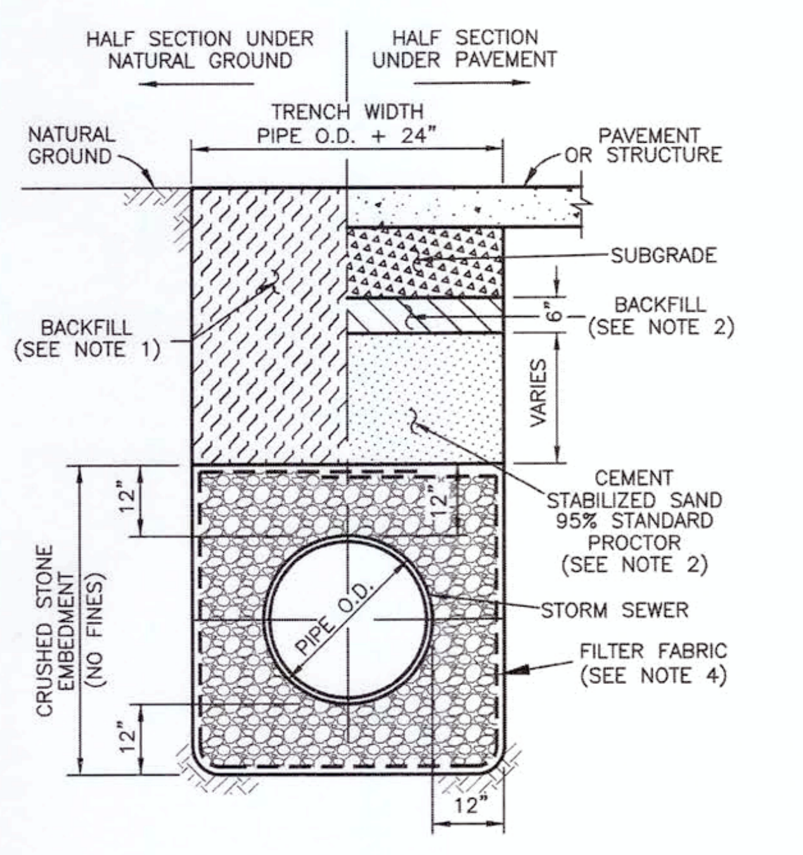
2. STORM SEWER CHOKE OUTFALL RESTRICTOR


HALF SECTION UNDER NATURAL GROUND
HALF SECTION UNDER PAVEMENT
TRENCH WIDTH O.D. + 12"
NATURAL GROUND
PAVEMENT OR STRUCTURE
SUBGRADE
6"
BACKFILL (SEE NOTE 1)
BACKFILL (SEE NOTE 2)
VARIES
12"
12"
CEMENT STABILIZED SAND 95% STANDARD PROCTOR (SEE NOTE 2)
CEMENT STABILIZED EMBEDMENT SAND
PIPE O.D.
STORM SEWER
12"
12"

NOTES

1. BACKFILL SHALL BE NATIVE SOIL, FREE OF DEBRIS, PLACED IN LIFTS, 8" THICK OR LESS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, EXCEPT AS REQUIRED BELOW.
2. BACKFILL UNDER AND WITHIN 3 FEET OF DRIVEWAYS AND PUBLIC STREETS SHALL BE CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND), EXCEPT THE TOP 6" SHALL BE NATIVE SOIL, FREE OF DEBRIS. ALL BACKFILL UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED AS REQUIRED.

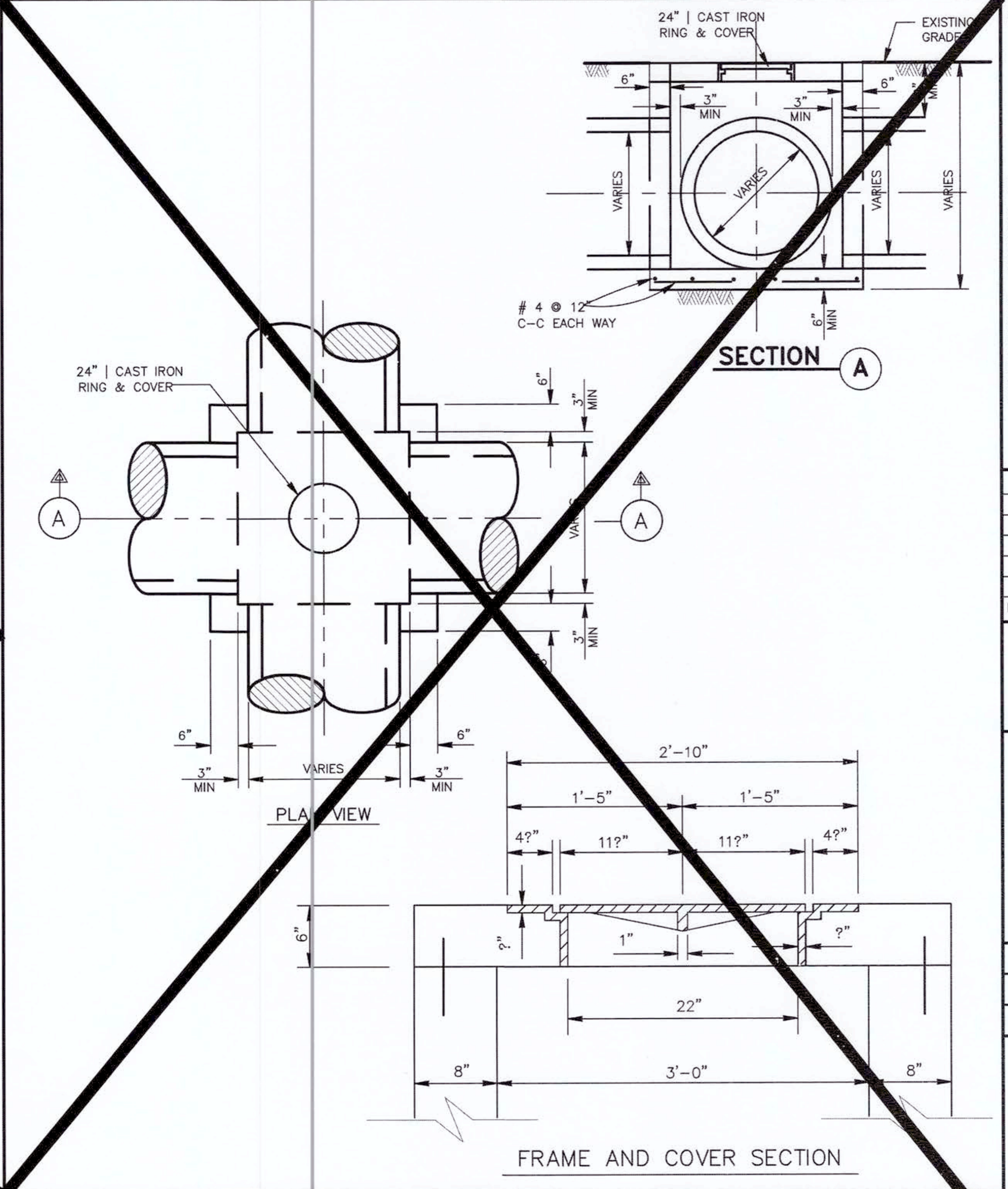
3. STORM SEWER BEDDING


HALF SECTION UNDER NATURAL GROUND
HALF SECTION UNDER PAVEMENT
TRENCH WIDTH PIPE O.D. + 24"
NATURAL GROUND
PAVEMENT OR STRUCTURE
SUBGRADE
BACKFILL (SEE NOTE 2)
BACKFILL (SEE NOTE 1)
6"
VARIES
CEMENT STABILIZED SAND 95% STANDARD PROCTOR (SEE NOTE 2)
12"
CRUSHED STONE EMBEDMENT (NO FINES)
PIPE O.D.
STORM SEWER
FILTER FABRIC (SEE NOTE 4)
12"
12"

NOTES

1. BACKFILL SHALL BE NATIVE SOIL, FREE OF DEBRIS, PLACED IN LIFTS, 8" THICK OR LESS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, EXCEPT AS REQUIRED BELOW.
2. BACKFILL UNDER AND WITHIN 3 FEET OF DRIVEWAYS AND PUBLIC STREETS SHALL BE CEMENT STABILIZED SAND (2 SACKS OF CEMENT PER TON OF SAND), EXCEPT THE TOP 6" SHALL BE NATIVE SOIL, FREE OF DEBRIS. ALL BACKFILL UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
3. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED AS REQUIRED.
4. FILTER FABRIC, ARMCO TREVIRA S1115 OR EQUAL, 18" LAP AT ALL EDGES.

4. STORM SEWER BEDDING FOR WET CONDITIONS


24" | CAST IRON RING & COVER
EXISTING GRADE
6"
8"
3" MIN
3" MIN
VARIES
VARIES
VARIES
# 4 @ 12" C-C EACH WAY
6" MIN
SECTION A
24" | CAST IRON RING & COVER
6"
3" MIN
A
A
VARIES
3" MIN
6"
6"
3" MIN
VARIES
3" MIN
PLAN VIEW
2'-10"
1'-5"
1'-5"
4?"
11?"
11?"
4?"
6"
1"
22"
8"
3'-0"
8"
FRAME AND COVER SECTION

5. JUNCTION BOX

GENERAL CONSTRUCTION NOTES:

1. ALL CAST CONCRETE BASES SHALL HAVE #4 REBAR @ 12" C-C EW.
2. CONCRETE SHALL BE 3500 PSI MIN.
3. USE C.S.S. BEDDING AS PER DETAILS 2 SK, COMPACTED 8" LIFTS (MAX.), TO 95% STANDARD.

NOTE:

STORM MANHOLES AND INLETS SHALL BE PRECAST CONCRETE. POURED IN PLACE, REINFORCED CONCRETE STRUCTURES MAY BE SUBSTITUTED WHEN THE PROPOSED CONSTRUCTION DETAIL IS SUBMITTED BY THE DESIGN ENGINEER FOR APPROVAL BY THE CITY.

A 4000 psi COLLAR IS REQUIRED TO BRIDGE A 3" OR LARGER GAP, DEFFLECTION OR CONNECTION OF DIFFERENT SIZE PIPES. THE COLLAR WILL BE 6" THICK 2 FT WIDE WITH #4 REBAR DOWELED INTO THE PIPE AND STRUCTURE. FOR A PIPE CONNECTION TO A MANHOLE OR BOX, THE COLLAR WILL BE 1 FOOT WIDE ON THE OUTSIDE OF THE STRUCTURE AND SEALED SMOOTHLY ON THE INSIDE OF THE STRUCTURE WITH NON-SHRINK GROUT.

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
STORM SEWER-2

SCALE		
HORIZONTAL	1" = NTS	DESIGNED BY: LLT
VERTICAL	1" = NTS	DRAWN BY: AJS
		CHECKED BY: KRK
		DATE: 12/01/16
		JOB NO:
		DWG. NO:
		R-7-16
		Sheet:

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER:99715

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Toms River, NJ 08753
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07/19/17
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120486

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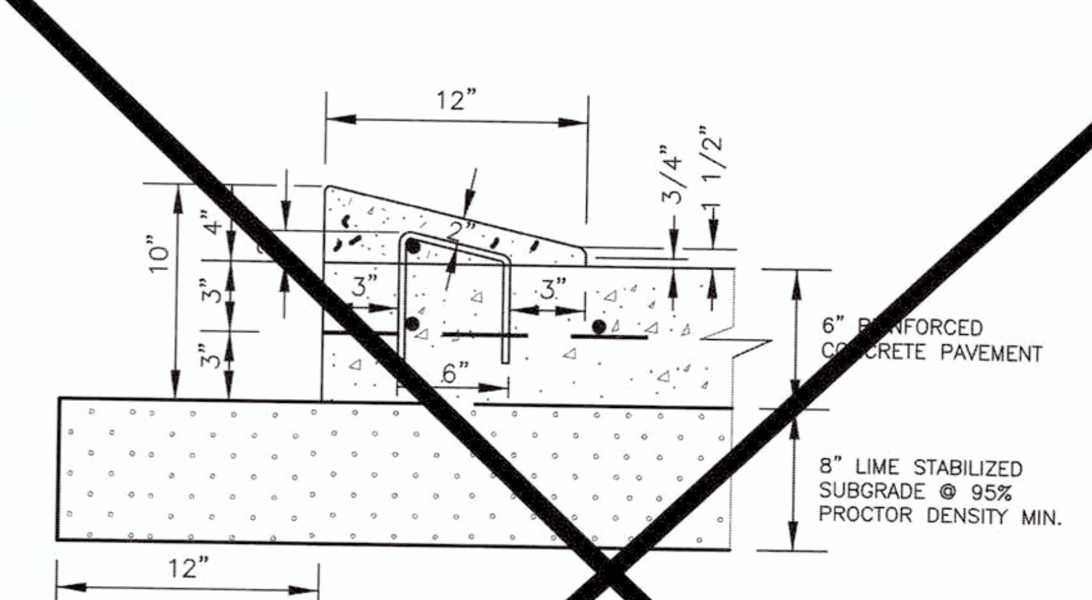
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) NOTE TO SCALE (V)
DRAWN BY: DNH
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: CITY DETAILS
SHEET No: 27 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 - 5:25 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX - SWC Williams Way\Dwg\Site Plans\D46916197SDD3.dwg, ---> 27 CITY

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


12"
3/4"
1 1/2"
10"
4"
3"
3"
2"
3"
3"
6"
6" REINFORCED CONCRETE PAVEMENT
8" LIME STABILIZED SUBGRADE @ 95% PROCTOR DENSITY MIN.
12"

~~NOTES:~~

~~1.) #3 RE-BAR STIRRUPS TO BE PLACED AT INTERVALS OF 2' (FT) C-C.~~
~~2.) #4 RE-BAR LONGITUDINAL SHALL BE TIED TO EACH STIRRUP~~
~~3.) MOUNTABLE CURB ONLY ALLOWED ON ≤ 41' (FT), UNDIVIDED, RESIDENTIAL ROADWAYS WITHIN SUBDIVISIONS.~~

1. 4"X12" MOUNTABLE CONCRETE CURB

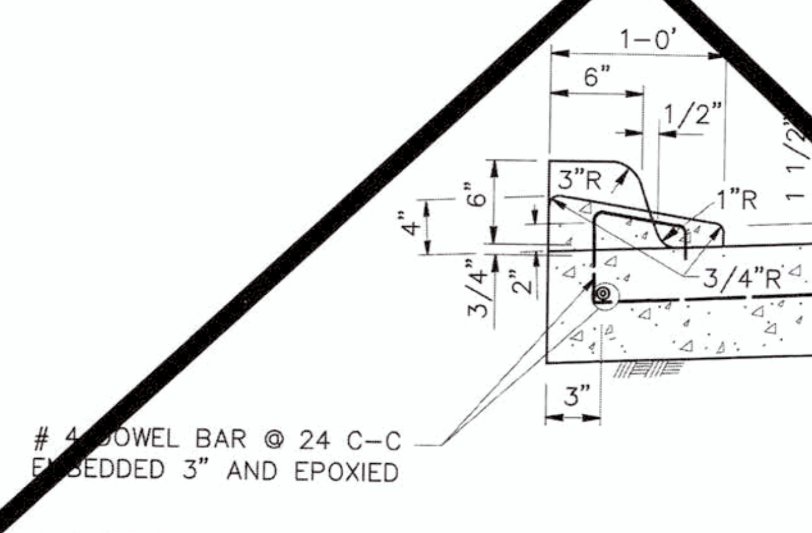
~~4"x12" MOUNTABLE CONCRETE CURB AND TRANSITION CURB NOTES:~~

~~1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH x 12-INCH CONCRETE CURB AS NOTED ON PLANS.~~

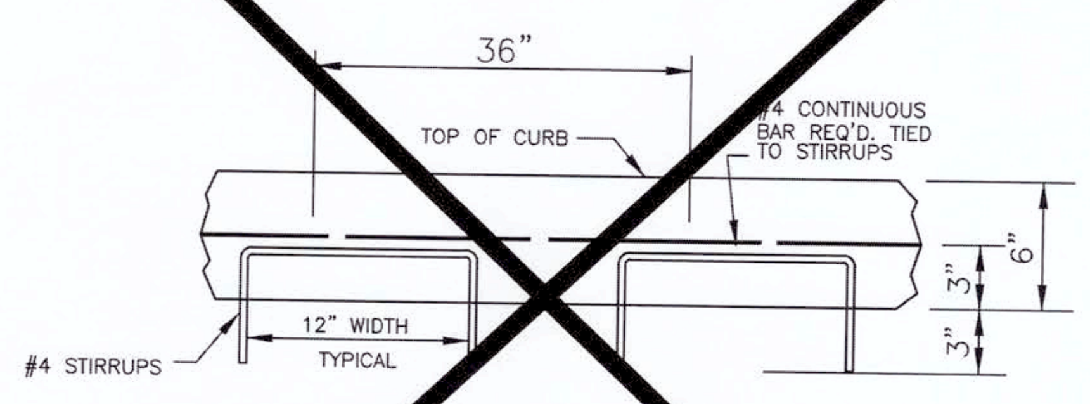
~~2. ALL 4-INCH x 12-INCH CONCRETE CURBS TO BE POURED SEPARATE FROM PROPOSED CONCRETE PAVEMENT.~~

~~3. TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 5 FEET (TYP.), UNLESS OTHERWISE SHOWN. REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" DETAIL IS TO BE INSTALLED.~~

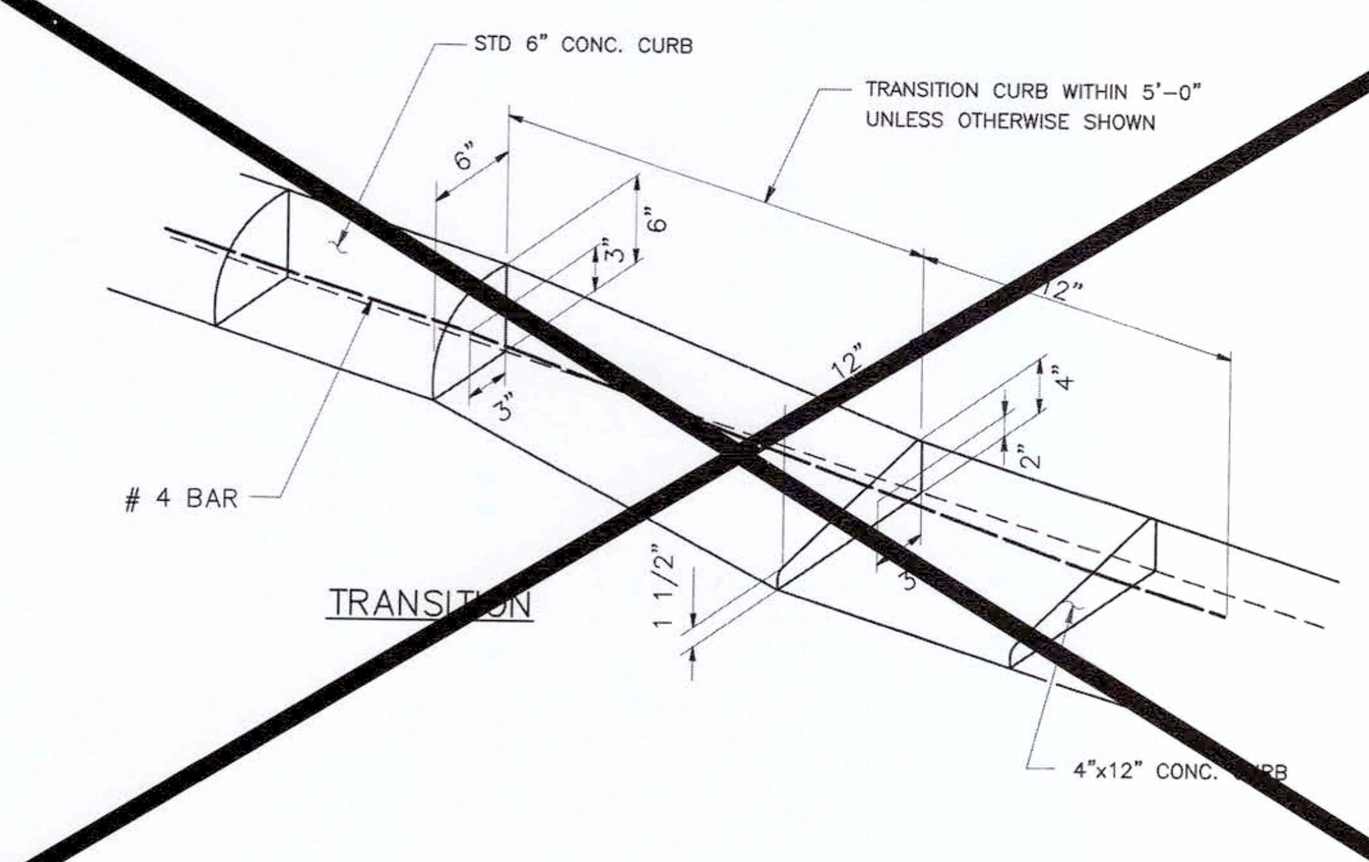
NOTES FOR DETAILS 1 & 2


1-0'
6"
1/2"
1 1/2"
3"R
1"R
3/4"R
6"
4"
3/4"
2"
3"
#4 DOWEL BAR @ 24 C-C EMBEDDED 3" AND EPOXIED

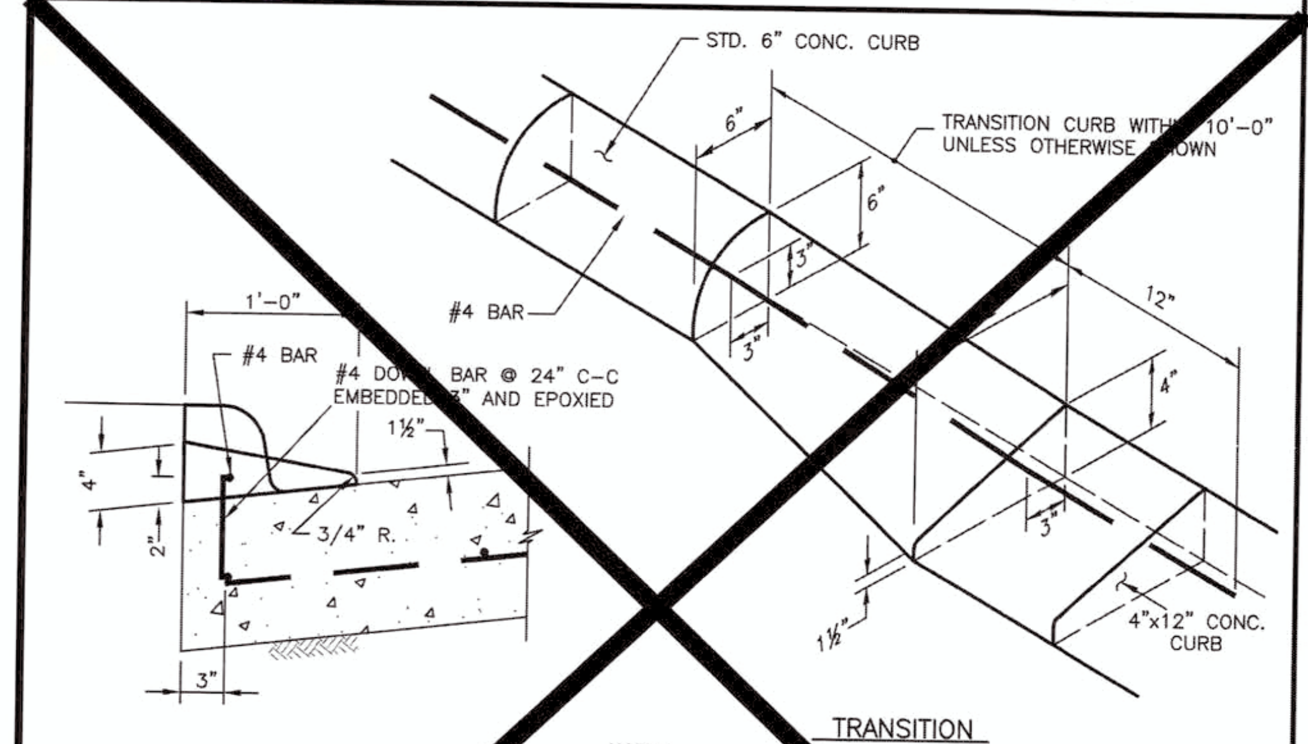
2. 4"X12" TRANSITION CURB

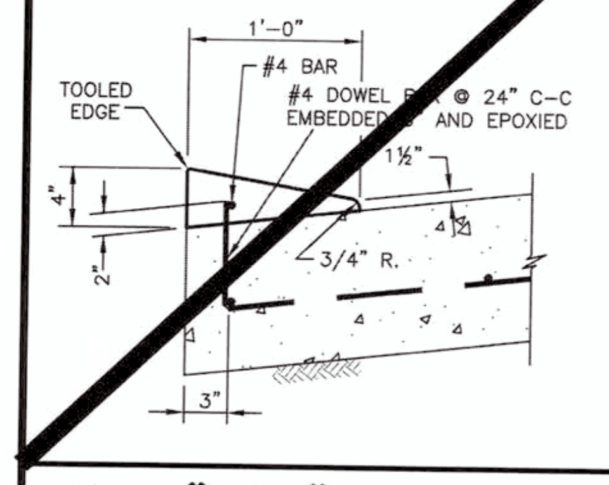

36"
TOP OF CURB
#4 CONTINUOUS BAR REQ'D. TIED TO STIRRUPS
12" WIDTH TYPICAL
#4 STIRRUPS
3"
6"
3"

3. TYPICAL CONCRETE CURB REINFORCING


STD 6" CONC. CURB
TRANSITION CURB WITHIN 5'-0" UNLESS OTHERWISE SHOWN
6"
6"
12"
4"
2"
3"
#4 BAR
TRANSITION
1 1/2"
4"x12" CONC. CURB

4. TYPICAL CURB TRANSITION


STD. 6" CONC. CURB
TRANSITION CURB WITHIN 10'-0" UNLESS OTHERWISE SHOWN
1'-0"
#4 BAR
#4 BAR
#4 DOWEL BAR @ 24" C-C EMBEDDED 3" AND EPOXIED
1½"
3/4" R.
4"
2"
3"
6"
6"
3"
12"
4"
1½"
4"x12" CONC. CURB
TRANSITION


1'-0"
#4 BAR
TOOLED EDGE
#4 DOWEL BAR @ 24" C-C EMBEDDED 3" AND EPOXIED
1½"
4"
2"
3/4" R.
3"

~~NOTES:~~

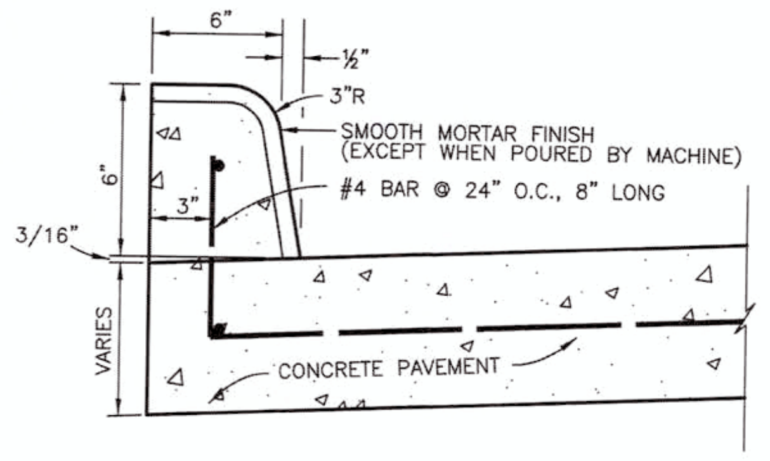
~~1. 6" CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6" CONCRETE CURB OR 4"x12" CONCRETE CURB AS NOTED ON DRAWINGS.~~

~~2. ALL 4"x12" CONCRETE CURBS TO BE POURED SEPARATE FROM PROPOSED CONCRETE PAVEMENT.~~

~~3. TRANSITIONS FROM 6" CONCRETE CURB TO 4"x12" CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET UNLESS OTHERWISE SHOWN. IF THIS 10 FOOT TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT, THEN REINFORCING STEEL AS SHOWN ABOVE IN TYPICAL DETAIL 4"x12" TRANSITION CURB IS TO BE INSTALLED.~~

~~4. ADJUST PAVEMENT ELEVATION AND SLOPE TO ASSURE PROPER DRAINAGE THROUGH THE TRANSITION.~~

5. 4"X12" TRANSITION CURB


6"
½"
3"R
SMOOTH MORTAR FINISH (EXCEPT WHEN POURED BY MACHINE)
#4 BAR @ 24" O.C., 8" LONG
6"
3"
3/16"
VARIES
CONCRETE PAVEMENT

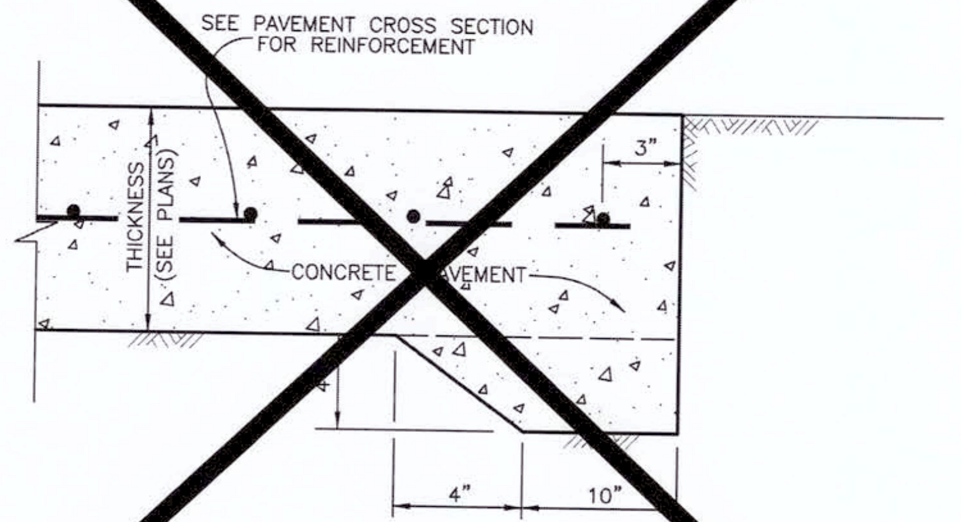
~~NOTES:~~

~~1. MORTAR FINISH NOT REQUIRED WHEN CURB IS POURED BY A MACHINE, BUT CURB SHALL HAVE THE SAME OUTSIDE DIMENSIONS.~~

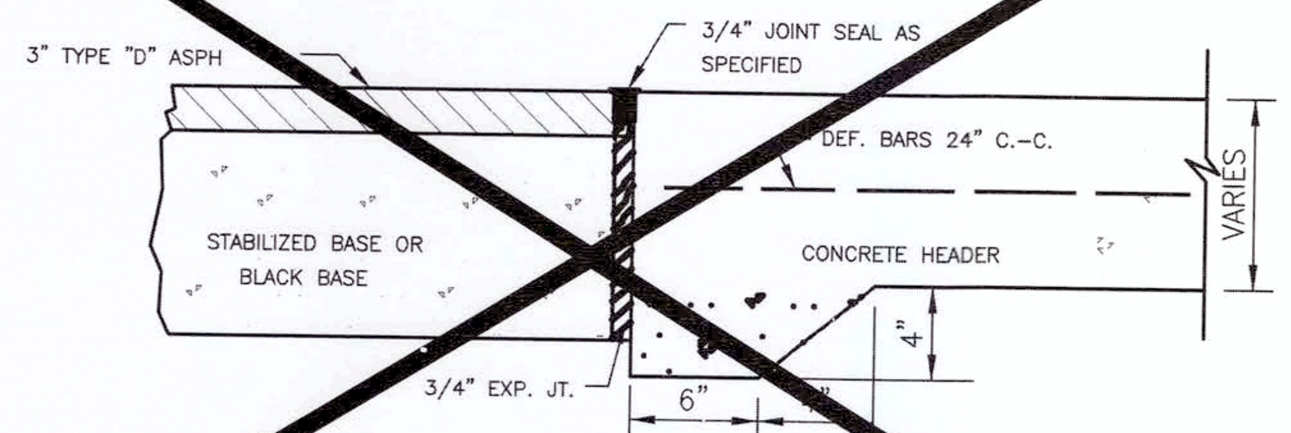
~~2. WHEN CONCRETE CURB IS TO BE PLACED ON EXISTING CONCRETE BASE, USE #4 DEFORMED BARS, 8" LONG, 24" O.C., DOWELLED, AND SET IN QUICK SETTING CEMENT GROUT.~~

~~3. REDWOOD EXPANSION JOINTS SHALL BE INSTALLED AT ALL PAVEMENT EXPANSION JOINTS.~~

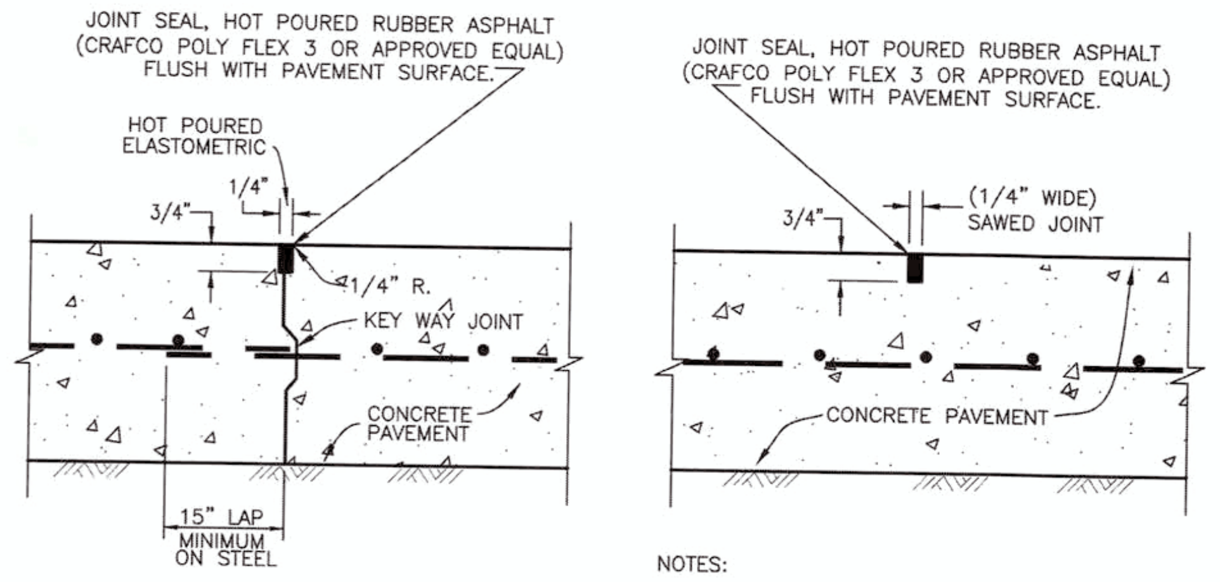
6. CONCRETE CURB


SEE PAVEMENT CROSS SECTION FOR REINFORCEMENT
3"
THICKNESS (SEE PLANS)
CONCRETE PAVEMENT
4"
10"

7. PAVEMENT HEADER


3" TYPE "D" ASPH
3/4" JOINT SEAL AS SPECIFIED
DEF. BARS 24" C.-C.
VARIES
STABILIZED BASE OR BLACK BASE
CONCRETE HEADER
4"
3/4" EXP. JT.
6"

8. PAVEMENT HEADER FOR CONNECTING CONCRETE TO ASPHALT


JOINT SEAL, HOT POURED RUBBER ASPHALT (CRAFCO POLY FLEX 3 OR APPROVED EQUAL) FLUSH WITH PAVEMENT SURFACE.
HOT POURED ELASTOMETRIC
1/4"
3/4"
1/4" R.
KEY WAY JOINT
CONCRETE PAVEMENT
15" LAP MINIMUM ON STEEL
JOINT SEAL, HOT POURED RUBBER ASPHALT (CRAFCO POLY FLEX 3 OR APPROVED EQUAL) FLUSH WITH PAVEMENT SURFACE.
3/4"
(1/4" WIDE) SAWED JOINT
CONCRETE PAVEMENT

NOTES:

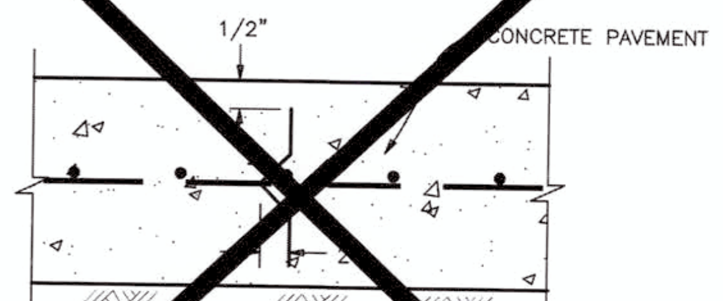
1. SAWCUT SHALL BE COMPLETED IN 6 TO 12 HOURS AFTER PLACEMENT OF CONCRETE.

2. MAXIMUM SPACING OF LATERAL SAWED JOINTS SHALL BE 20'0".

CONSTRUCTION

SAWED

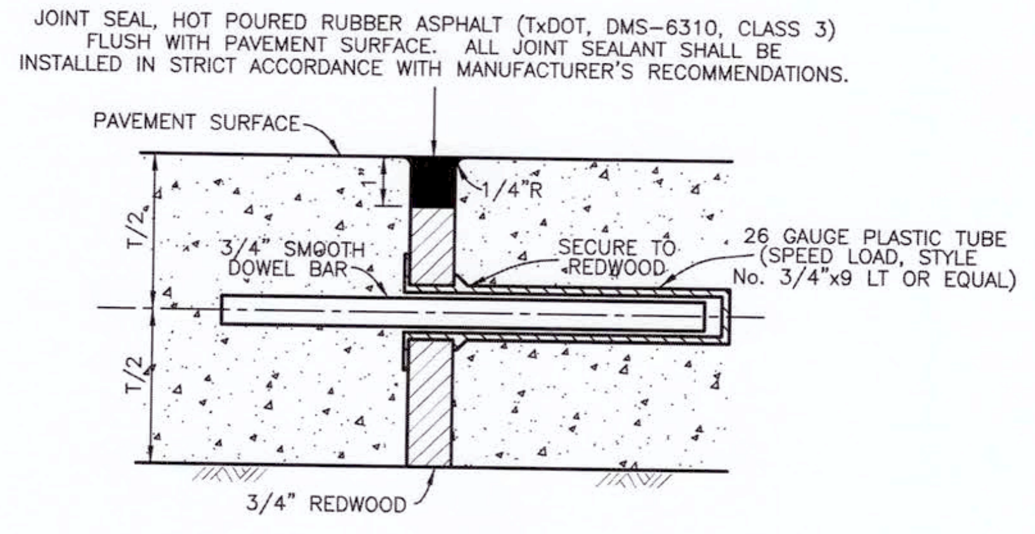
9. PAVEMENT JOINTS


1/2"
CONCRETE PAVEMENT

~~NOTES:~~

~~1. THE LOCATION OF DEFORMED STRIPS MAY BE VARIED, WITH THE APPROVAL OF THE CITY. MAXIMUM LONGITUDINAL SPACING FOR DEFORMED STRIPS SHALL BE 14'-0". DEFORMED METAL STRIPS SHALL BE PLACED VERTICALLY ALONG A STRAIGHT ALIGNMENT.~~

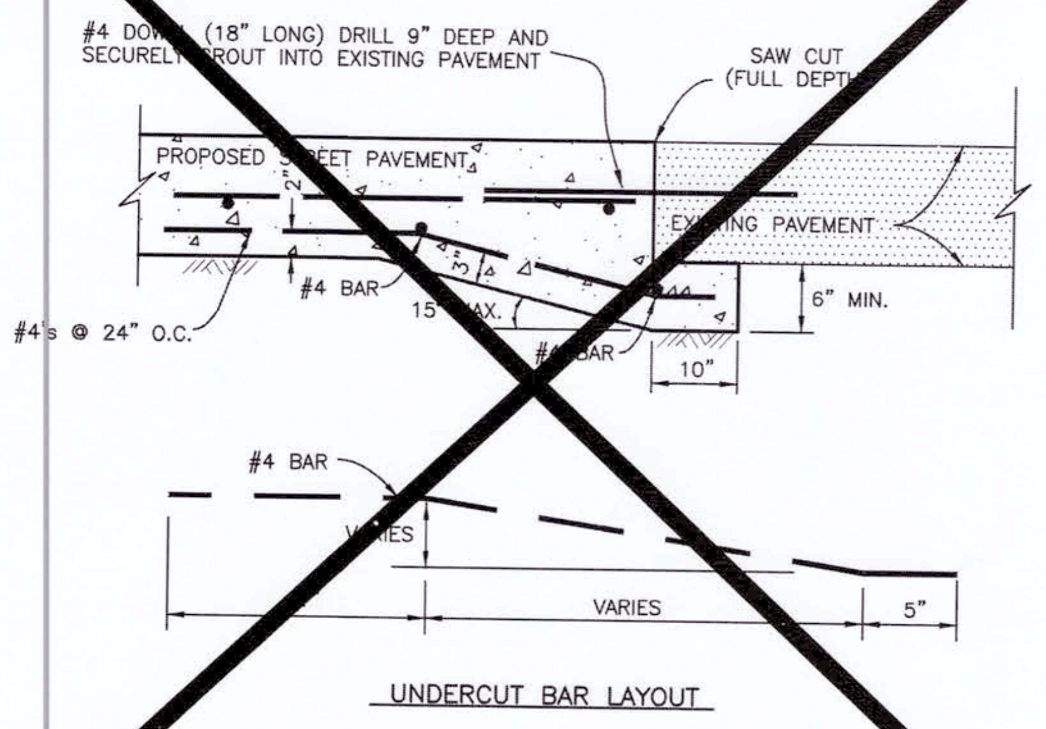
10. DEFORMED METAL STRIP


JOINT SEAL, HOT POURED RUBBER ASPHALT (TxDOT, DMS-6310, CLASS 3) FLUSH WITH PAVEMENT SURFACE. ALL JOINT SEALANT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
PAVEMENT SURFACE
1/4"R
T/2
T/2
3/4" SMOOTH DOWEL BAR
SECURE TO REDWOOD
26 GAUGE PLASTIC TUBE (SPEED LOAD, STYLE No. 3/4"x9 LT OR EQUAL)
3/4" REDWOOD

NOTES:

1. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED A MAXIMUM OF 60'-0" APART.
2. STAKES FOR TRANSVERSE JOINTS SHALL NOT BE PLACED CLOSER THAN 6" TO A LONGITUDINAL JOINT. THE TOP OF EACH STAKE SHALL NOT BE LESS THAN 2" BELOW THE FINISHED SURFACE.
3. DOWEL SHALL BE SECURED IN A HORIZONTAL ALIGNMENT PRIOR TO POURING CONCRETE.
4. INSTALL BACKER RODS (TxDOT, DMS-6310) IN ACCORDANCE WITH SEALANT MANUFACTURER'S RECOMMENDATIONS.
5. NO EXPANSION JOINT SHALL BE INSTALLED WITHIN TWO FEET (2') FROM AN INLET OPENING.

11. DOWEL TYPE EXPANSION JOINT


#4 DOWEL (18" LONG) DRILL 9" DEEP AND SECURELY GROUT INTO EXISTING PAVEMENT
SAW CUT (FULL DEPTH)
PROPOSED STREET PAVEMENT
2"
EXISTING PAVEMENT
3"
#4 BAR
15° MAX.
6" MIN.
#4's @ 24" O.C.
#4 BAR
10"
#4 BAR
VARIES
VARIES
5"
UNDERCUT BAR LAYOUT

~~NOTES:~~

~~1. PAVEMENT UNDERCUT TO BE USED WHEN NO SUBGRADE STABILIZATION EXIST UNDER EXISTING PAVEMENT.~~

12. PAVEMENT UNDERCUT

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
PAVING-1

SCALE			
HORIZONTAL	1" = NTS	DESIGNED BY:	LLT
VERTICAL	1" = NTS	DRAWN BY:	AJS
		CHECKED BY:	KRK
		DATE:	12/01/16
		JOB NO:	
		DWG. NO:	

R-9-16

Sheet:

APPROVED: Meg D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
8 Robbins Street - Suite 102
Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

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901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30'
(V)

DRAWN BY: DNH

DESIGNED BY: JAK

CHECKED BY: SES

DATE: 02/17/17

JOB No: 0469-16-197

TITLE:
CITY
DETAILS

SHEET No:
28
OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

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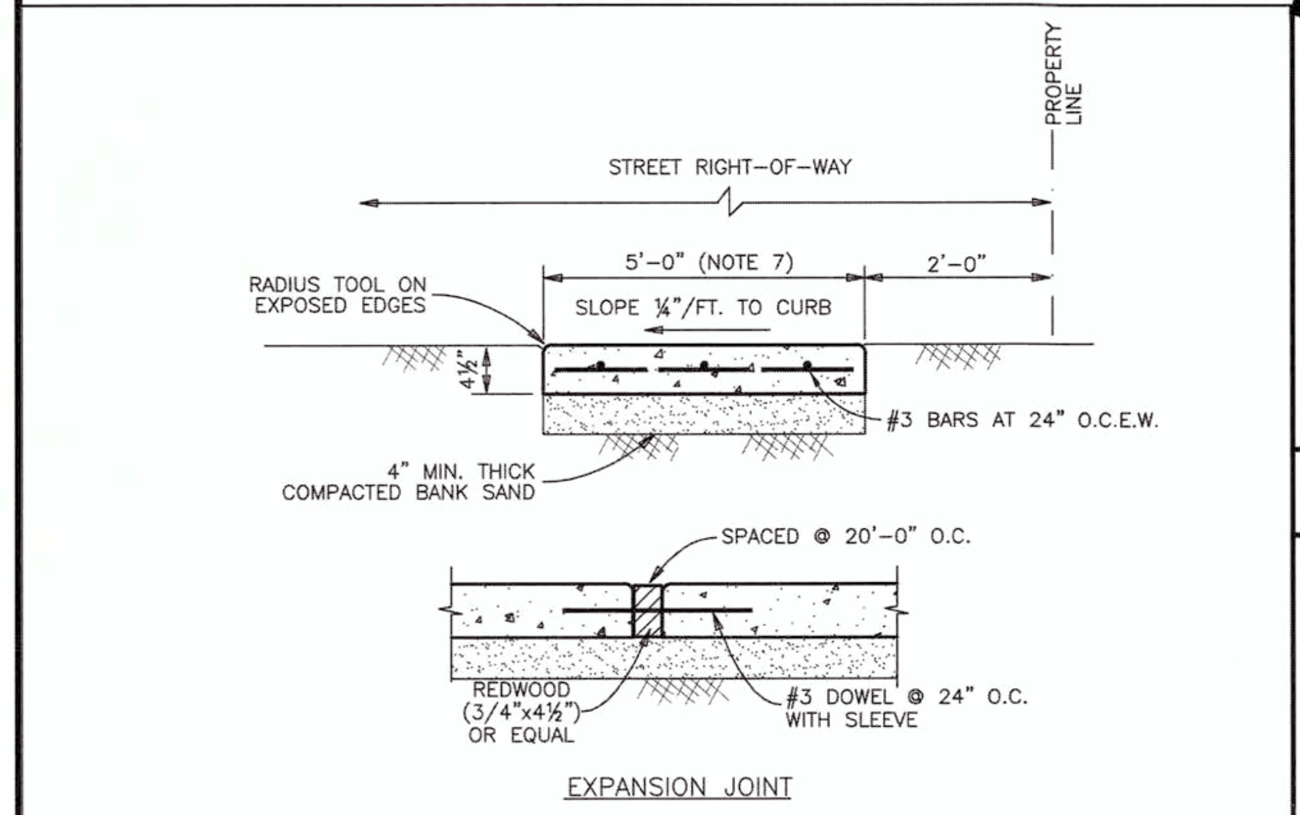
CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.

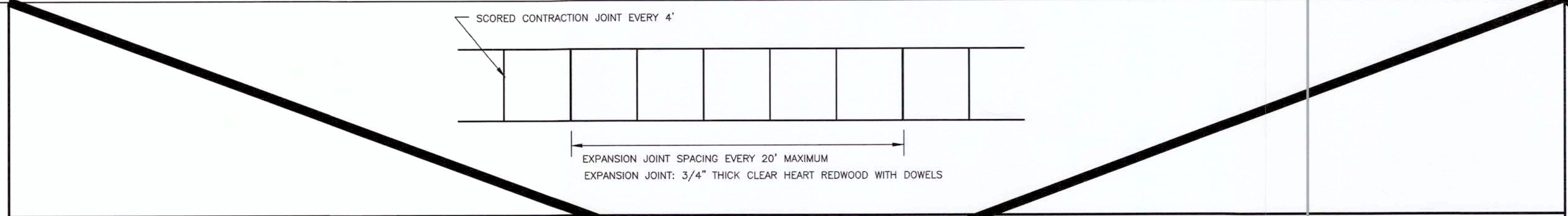


PROPERTY LINE
STREET RIGHT-OF-WAY
5'-0" (NOTE 7)
2'-0"
RADIUS TOOL ON EXPOSED EDGES
SLOPE ¼"/FT. TO CURB
4½"
#3 BARS AT 24" O.C.E.W.
4" MIN. THICK COMPACTED BANK SAND
SPACED @ 20'-0" O.C.
REDWOOD (3/4"x4½") OR EQUAL
#3 DOWEL @ 24" O.C. WITH SLEEVE
EXPANSION JOINT

NOTES:

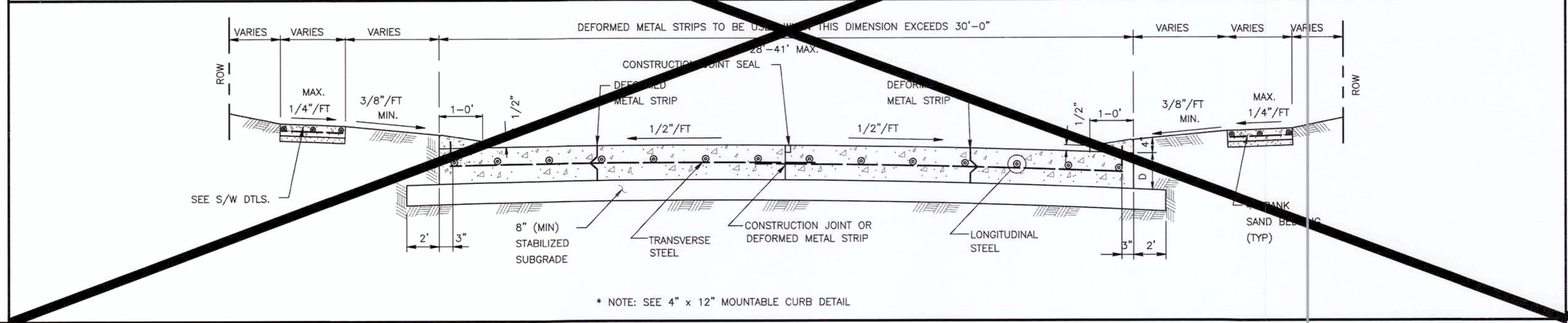
1. CONCRETE SHALL CONTAIN A MINIMUM OF FIVE AND ONE HALF (5½) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE, 3500 P.S.I. @ 28 DAYS.
2. TIE TO EXISTING STEEL IN CONNECTION TO EXISTING WALK.
3. FINISH CONCRETE IN ACCORDANCE WITH CITY REQUIREMENTS – LIGHT BROOM FINISH.
4. SCORED CONTRACTION JOINTS AT 4'-0" O.C. EXPANSION JOINT EVERY 20'-0" O.C.
5. MAXIMUM SLOPE ALONG LENGTH OF SIDEWALK AT ANY LOCATION IS 5%. MAXIMUM SLOPE ACROSS SIDEWALK AT ANY LOCATION IS 2%.
6. SIDEWALK THICKNESS AND REINFORCEMENT SHALL MATCH DRIVEWAY REQUIREMENTS WITHIN THE LIMITS OF A DRIVEWAY.
7. WIDTH MAY BE REDUCED TO 4'-0" IF A SIDEWALK PEDESTRIAN PLAN IS INCLUDED IN THE PLANS SHOWING 5'-0"x5'-0" PASSING AREAS AT A MAXIMUM SPACING OF 200 FEET.

1. CONCRETE SIDEWALK



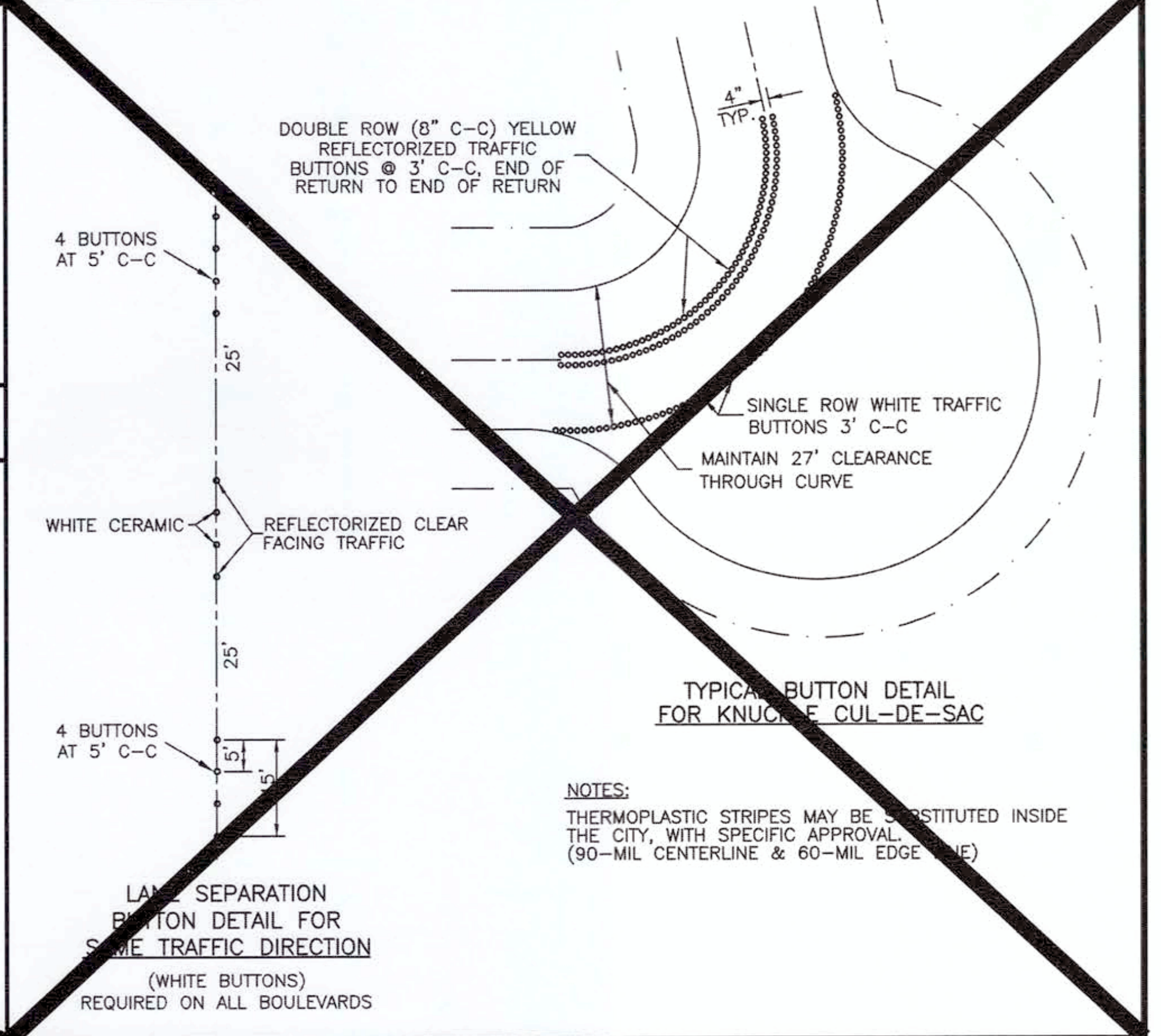
SCORED CONTRACTION JOINT EVERY 4'
EXPANSION JOINT SPACING EVERY 20' MAXIMUM
EXPANSION JOINT: 3/4" THICK CLEAR HEART REDWOOD WITH DOWELS

2. SIDEWALK JOINT DETAILS



VARIES
DEFORMED METAL STRIPS TO BE USED WHEN THIS DIMENSION EXCEEDS 30'-0"
28'-41' MAX.
CONSTRUCTION JOINT SEAL
DEFORMED METAL STRIP
ROW
MAX. 1/4"/FT
3/8"/FT MIN.
1'-0"
1/2"/FT
SEE S/W DTLS.
8" (MIN) STABILIZED SUBGRADE
TRANSVERSE STEEL
CONSTRUCTION JOINT OR DEFORMED METAL STRIP
LONGITUDINAL STEEL
BANK SAND
(TYP)
2"
3"
* NOTE: SEE 4" x 12" MOUNTABLE CURB DETAIL

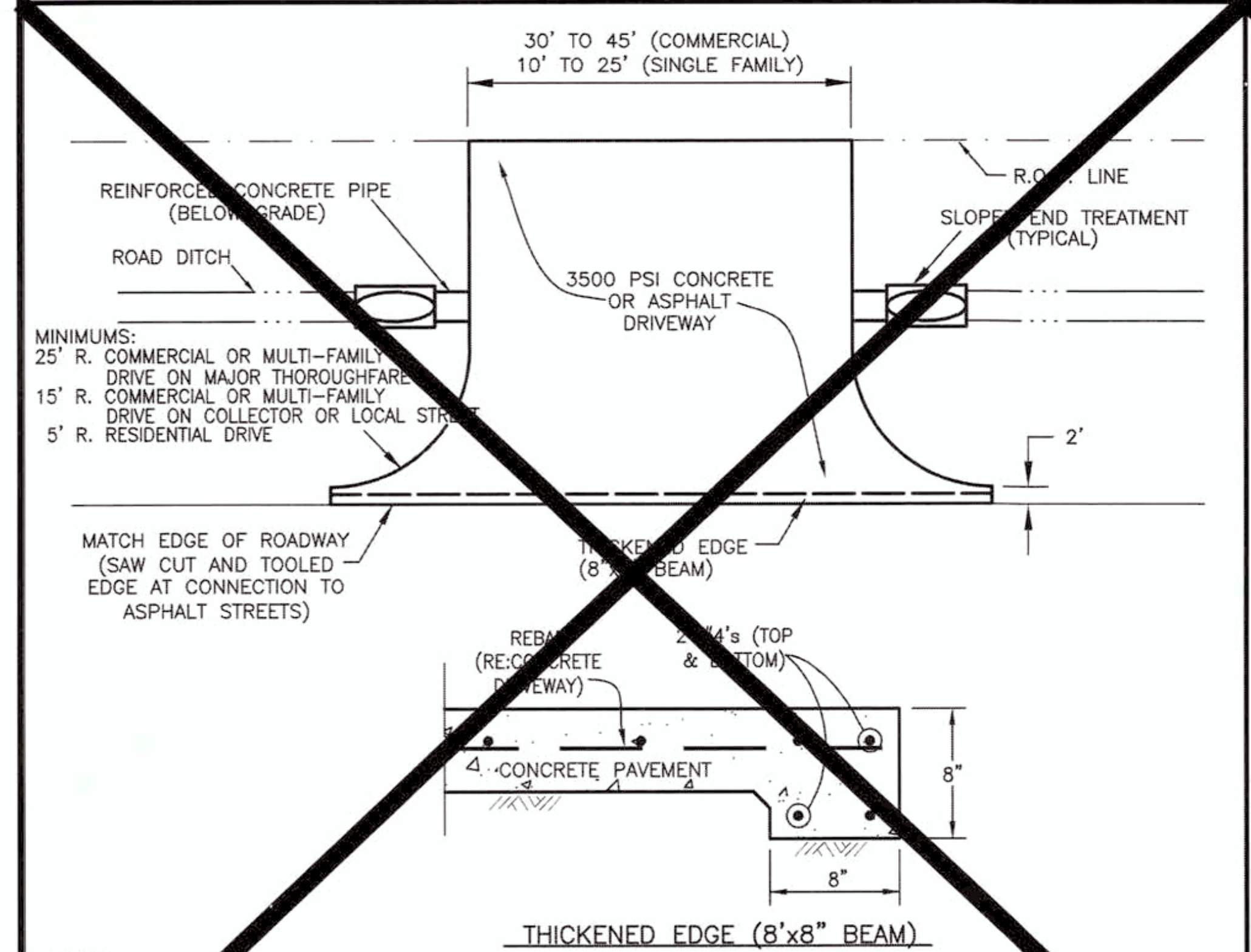
3. TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH 4"X12" CURB



DOUBLE ROW (8" C-C) YELLOW REFLECTORIZED TRAFFIC BUTTONS @ 3' C-C, END OF RETURN TO END OF RETURN
4" TYP.
4 BUTTONS AT 5' C-C
25'
WHITE CERAMIC
REFLECTORIZED CLEAR FACING TRAFFIC
SINGLE ROW WHITE TRAFFIC BUTTONS 3' C-C
MAINTAIN 27' CLEARANCE THROUGH CURVE
TYPICAL BUTTON DETAIL FOR KNUCKLE CUL-DE-SAC
LANE SEPARATION BUTTON DETAIL FOR SAME TRAFFIC DIRECTION
(WHITE BUTTONS) REQUIRED ON ALL BOULEVARDS

NOTES:
THERMOPLASTIC STRIPES MAY BE SUBSTITUTED INSIDE THE CITY, WITH SPECIFIC APPROVAL (90-MIL CENTERLINE & 60-MIL EDGE LINE)

4. TRAFFIC MARKINGS

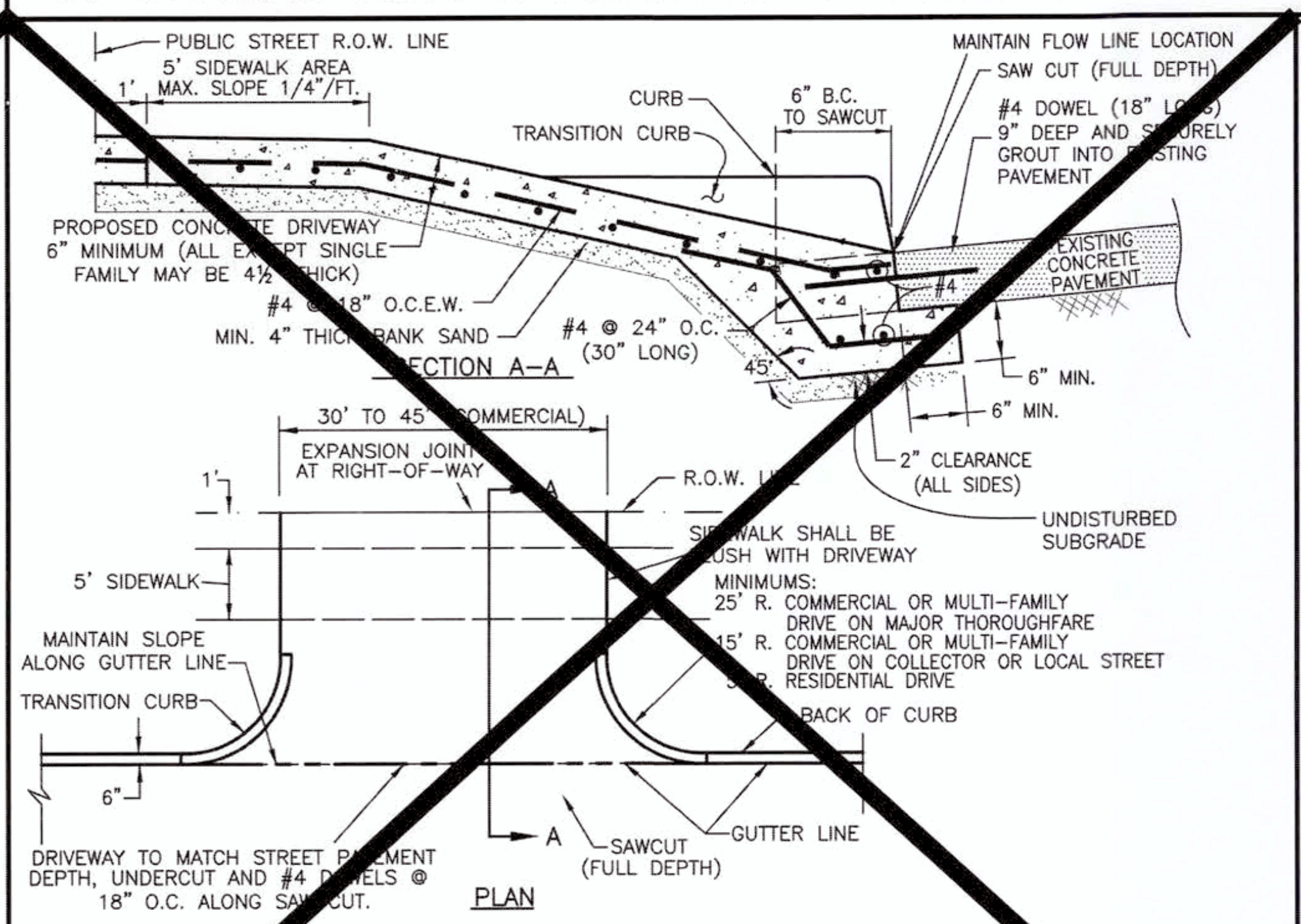


30' TO 45' (COMMERCIAL)
10' TO 25' (SINGLE FAMILY)
REINFORCED CONCRETE PIPE (BELOW GRADE)
ROAD DITCH
R.O.W. LINE
SLOPED END TREATMENT (TYPICAL)
3500 PSI CONCRETE OR ASPHALT DRIVEWAY
MINIMUMS:
25' R. COMMERCIAL OR MULTI-FAMILY DRIVE ON MAJOR THOROUGHFARE
15' R. COMMERCIAL OR MULTI-FAMILY DRIVE ON COLLECTOR OR LOCAL STREET
5' R. RESIDENTIAL DRIVE
2'
MATCH EDGE OF ROADWAY (SAW CUT AND TOOLED EDGE AT CONNECTION TO ASPHALT STREETS)
THICKENED EDGE (8"x8" BEAM)
#4's (TOP & BOTTOM)
CONCRETE PAVEMENT
8"
THICKENED EDGE (8'x8" BEAM)

NOTES:

1. CULVERT DIAMETER SHALL BE A MINIMUM OF 15" (IN CITY ONLY) OR 24" (IN ETJ).
2. SLOPED END TREATMENTS SHALL BE INSTALLED ON ALL CULVERTS. SLOPED END TREATMENTS ON CULVERTS WITHIN COLLECTOR OR RESIDENTIAL STREET RIGHT-OF-WAYS SHALL HAVE A MINIMUM SLOPE OF 3 TO 1. SLOPED END TREATMENTS ON CULVERTS WITHIN MAJOR THOROUGHFARE RIGHT-OF-WAYS SHALL HAVE A MINIMUM SLOPE OF 6 TO 1.
3. USE C/S #1.

5. DRIVEWAY WITH OPEN DITCH

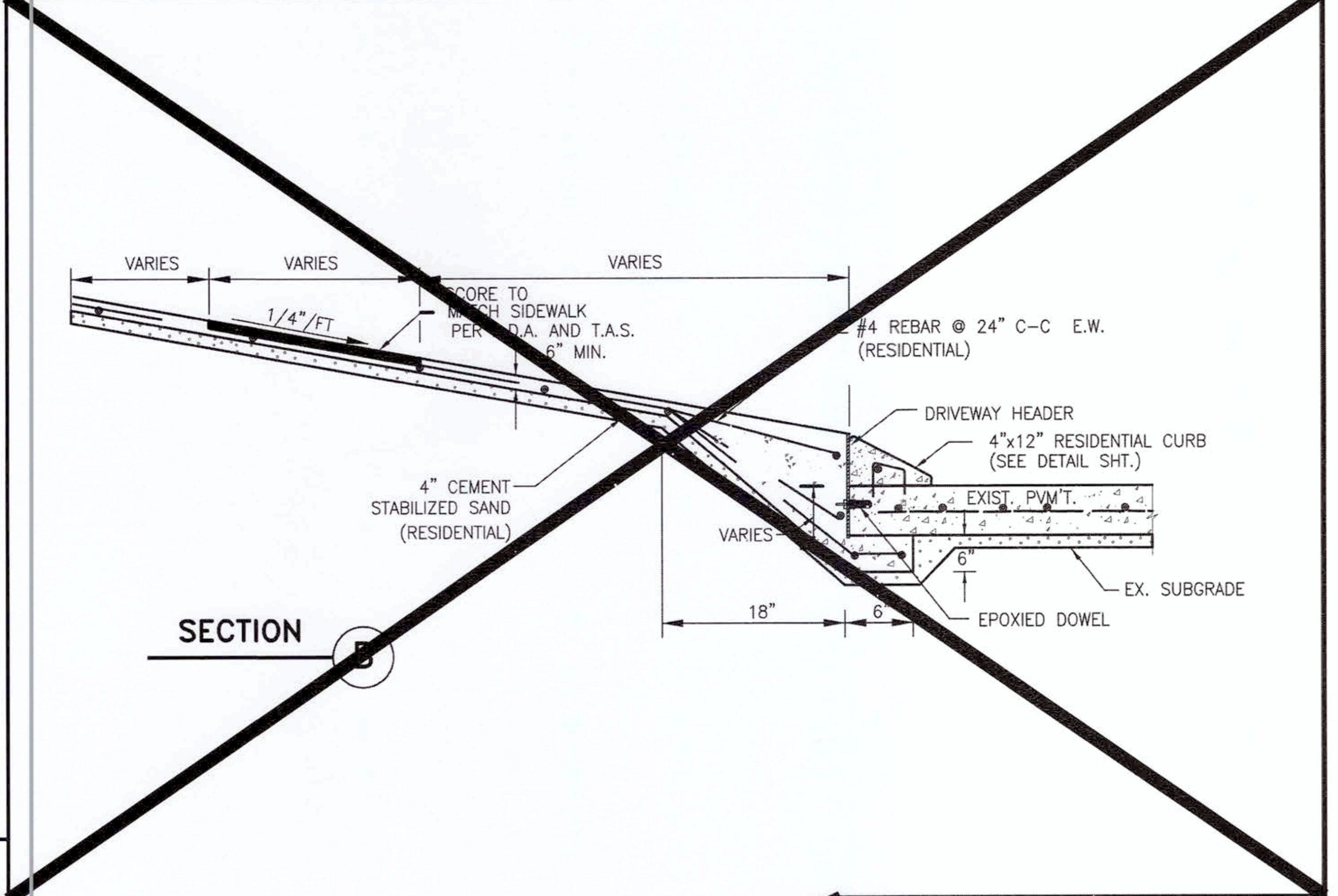


PUBLIC STREET R.O.W. LINE
5' SIDEWALK AREA
MAX. SLOPE 1/4"/FT.
CURB
TRANSITION CURB
6" B.C. TO SAWCUT
MAINTAIN FLOW LINE LOCATION
SAW CUT (FULL DEPTH)
#4 DOWEL (18" LONG) 9" DEEP AND SECURELY GROUT INTO EXISTING PAVEMENT
EXISTING CONCRETE PAVEMENT
PROPOSED CONCRETE DRIVEWAY 6" MINIMUM (ALL EXCEPT SINGLE FAMILY MAY BE 4½" THICK)
#4 @ 18" O.C.E.W.
MIN. 4" THICK BANK SAND
#4 @ 24" O.C. (30" LONG)
SECTION A-A
6" MIN.
2" CLEARANCE (ALL SIDES)
UNDISTURBED SUBGRADE
30' TO 45' (COMMERCIAL)
EXPANSION JOINT AT RIGHT-OF-WAY
R.O.W. LINE
5' SIDEWALK
SIDEWALK SHALL BE FLUSH WITH DRIVEWAY
MINIMUMS:
25' R. COMMERCIAL OR MULTI-FAMILY DRIVE ON MAJOR THOROUGHFARE
15' R. COMMERCIAL OR MULTI-FAMILY DRIVE ON COLLECTOR OR LOCAL STREET
5' R. RESIDENTIAL DRIVE
MAINTAIN SLOPE ALONG GUTTER LINE
TRANSITION CURB
BACK OF CURB
6"
A
SAWCUT (FULL DEPTH)
GUTTER LINE
DRIVEWAY TO MATCH STREET PAVEMENT DEPTH, UNDERCUT AND #4 DOWELS @ 18" O.C. ALONG SAWCUT.
PLAN

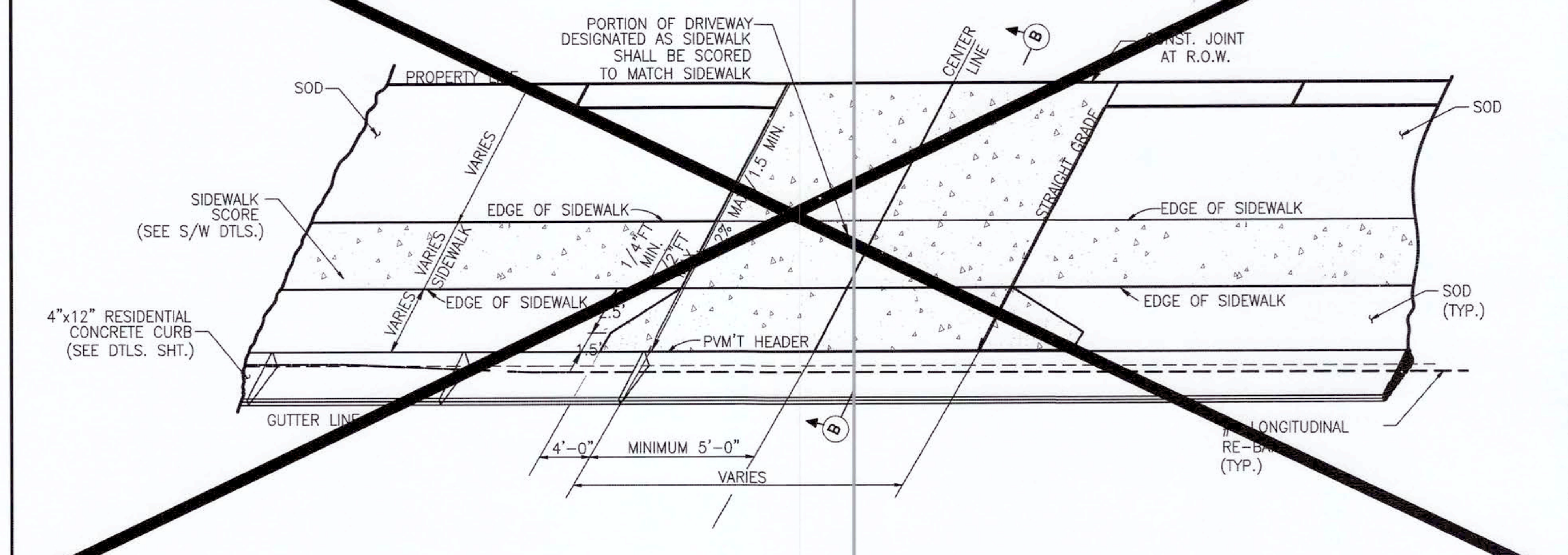
DRIVEWAY NOTES:

1. SAW CUT & BREAKOUT NO MORE THAN 48 HOURS PRIOR TO PROPOSED CONCRETE PLACEMENT.
2. UNACCEPTABLE SUBGRADE SHALL BE OVEREXCAVATED AND REPLACED WITH CONCRETE.
3. EDGE ALL SIDES WITH EDGING TOOL AND BROOM FINISH.
4. PROVIDE BARRICADES AND TRAFFIC WARNING DEVICES DURING CONSTRUCTION.
5. PORTLAND CEMENT CONCRETE CONTAIN A MINIMUM 5½ SACKS PER CUBIC YARD (3500 P.S.I. AT 28 DAYS).
6. REINFORCING SHALL BE ASTM A-615 GRADE WITH 10" MINIMUM OVERLAP AT JOINTS.
7. COMPACT SUBGRADE TO 95% OF STANDARD PROCTOR DENSITY (+/- 2% OF OPTIMUM MOISTURE).
8. EXTEND EXPANSION JOINT FROM STREET TO THE RIGHT-OF-WAY.

6. CONCRETE DRIVEWAY



VARIES
1/4"/FT
SCORE TO MATCH SIDEWALK PER A.D.A. AND T.A.S.
6" MIN.
#4 REBAR @ 24" C-C E.W. (RESIDENTIAL)
DRIVEWAY HEADER
4"x12" RESIDENTIAL CURB (SEE DETAIL SHT.)
EXIST. PVM'T.
4" CEMENT STABILIZED SAND (RESIDENTIAL)
6"
18"
EX. SUBGRADE
EPOXIED DOWEL
SECTION
B



PORTION OF DRIVEWAY DESIGNATED AS SIDEWALK SHALL BE SCORED TO MATCH SIDEWALK
CENTER LINE
B
EXP. JOINT AT R.O.W.
SOD
PROPERTY LINE
SIDEWALK SCORE (SEE S/W DTLS.)
VARIES
1.5 MIN.
STRAIGHT GRADE
EDGE OF SIDEWALK
4"x12" RESIDENTIAL CONCRETE CURB (SEE DTLS. SHT.)
SOD (TYP.)
PVM'T HEADER
GUTTER LINE
LONGITUDINAL RE-BAR (TYP.)
4'-0"
MINIMUM 5'-0"

7. 4"X12" CONCRETE CURB DRIVEWAY PLAN

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
PAVING-2

SCALE		
HORIZONTAL	1" = NTS	DESIGNED BY: LLT
VERTICAL	1" = NTS	DRAWN BY: AJS
		CHECKED BY: KRK
		DATE: 12/01/16
		JOB NO:
		DWG. NO:
		R-10-16
		Sheet:

APPROVED: Magi D
Development Coordinator
DATE: 9/27/17

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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1904 Main Street
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07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
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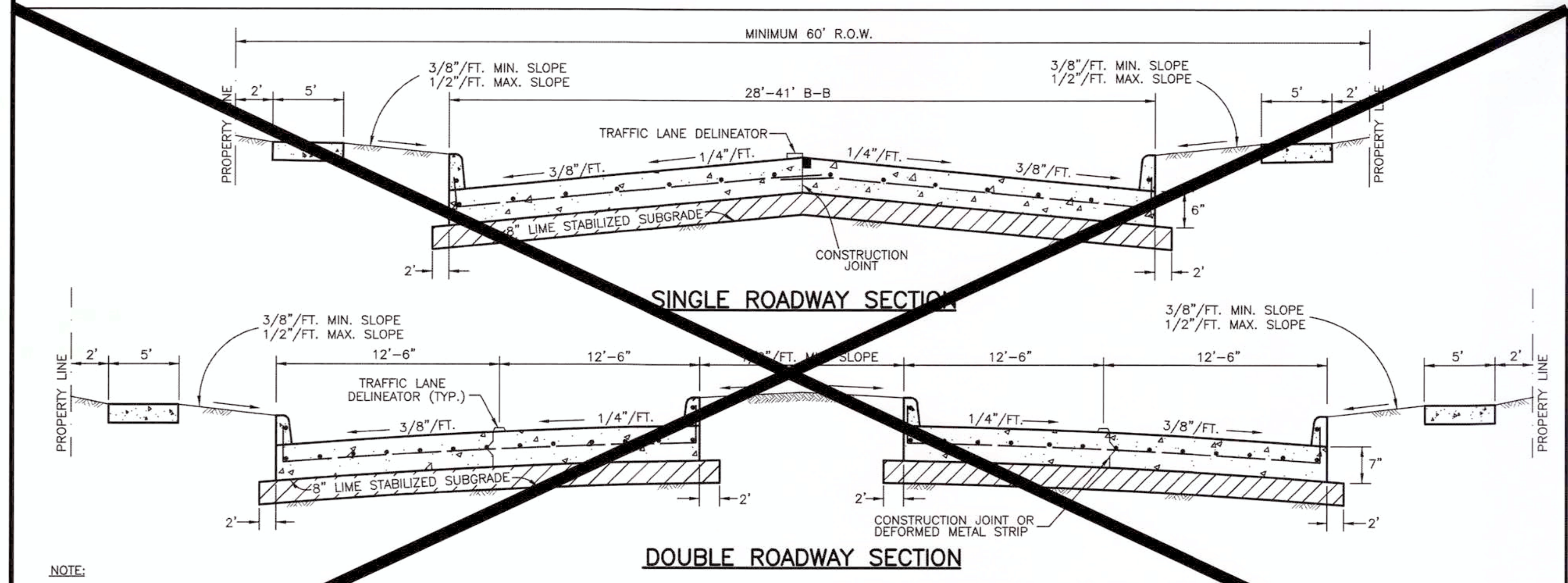
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30'
(V)
DRAWN BY: DNH
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197
TITLE: CITY DETAILS
SHEET No: 29 OF 36
COMMENTS: THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION
Rev. # 3

Plotted: 07/18/17 — 5:26 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX - SWC Williams Way\Dwg\Site Plans\0469161975D03.dwg. ----> 29 CITY

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


MINIMUM 60' R.O.W.
3/8"/FT. MIN. SLOPE
1/2"/FT. MAX. SLOPE
28'-41' B-B
TRAFFIC LANE DELINEATOR
1/4"/FT.
3/8"/FT.
8" LIME STABILIZED SUBGRADE
CONSTRUCTION JOINT
PROPERTY LINE
2'
5'
6"
12'-6"
TRAFFIC LANE DELINEATOR (TYP.)
CONSTRUCTION JOINT OR DEFORMED METAL STRIP
7"

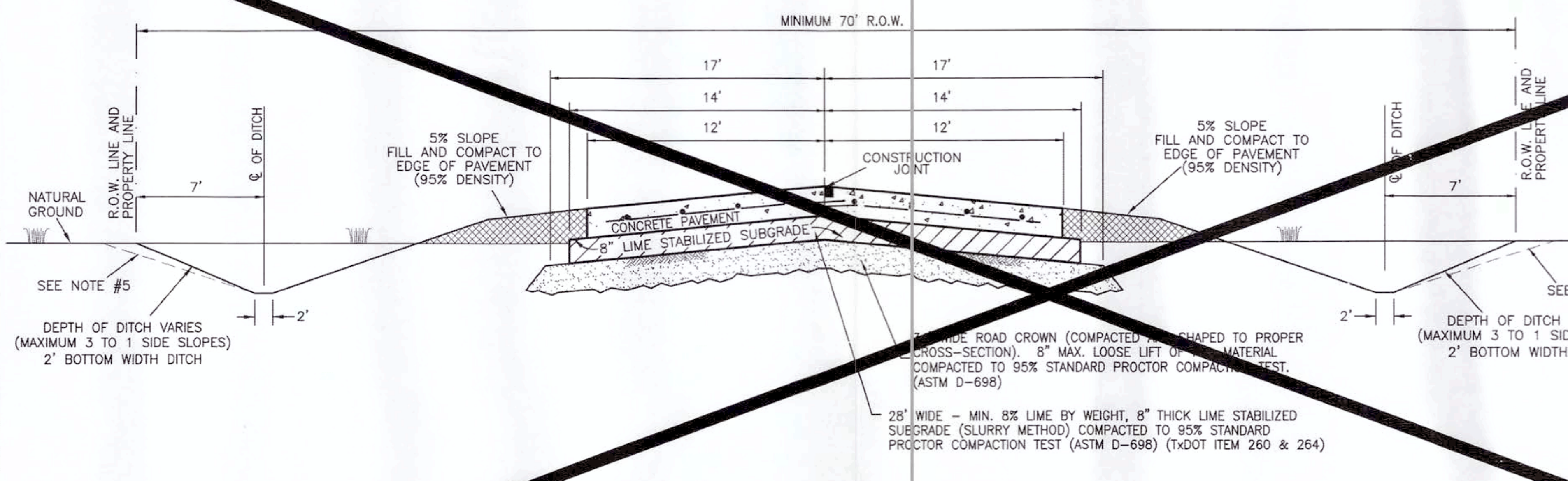
SINGLE ROADWAY SECTION

DOUBLE ROADWAY SECTION

~~NOTE:~~

1. ~~ALL REINFORCING STEEL SHALL CONFORM TO ASTM-615, CURRENT REVISION, GRADE 60. MINIMUM LAP AT ALL SPLICES SHALL BE FIFTEEN INCHES (15"). No. 4 BARS @ 18" O.C.E.W.~~
2. ~~CONCRETE SHALL HAVE A 3500 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND A MINIMUM 550 P.S.I. FLEXURAL STRENGTH AT 7 DAYS, AND SHALL CONTAIN A MINIMUM OF FIVE AND ONE HALF (5½) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.~~
3. ~~EXPANSION JOINTS SHALL BE SPACED AT 60'-0" O.C. (MAXIMUM) WITH LATERAL, SAWED JOINTS AT 20'-0" O.C. (MAXIMUM). ALL JOINTS SHALL BE SEALED. THE LOCATION OF CONSTRUCTION JOINTS AND DEFORMED METAL STRIPS MAY BE VARIED WITH CITY APPROVAL.~~
4. ~~8" LIME STABILIZED SUBGRADE SHALL BE A MINIMUM OF 8% LIME, UNLESS SPECIFICALLY APPROVED BY THE CITY.~~
5. ~~THE SLOPE BETWEEN PAVEMENT AND THE SIDEWALK/PROPERTY LINE MAY BE INCREASED, WITH APPROVAL FROM THE CITY.~~

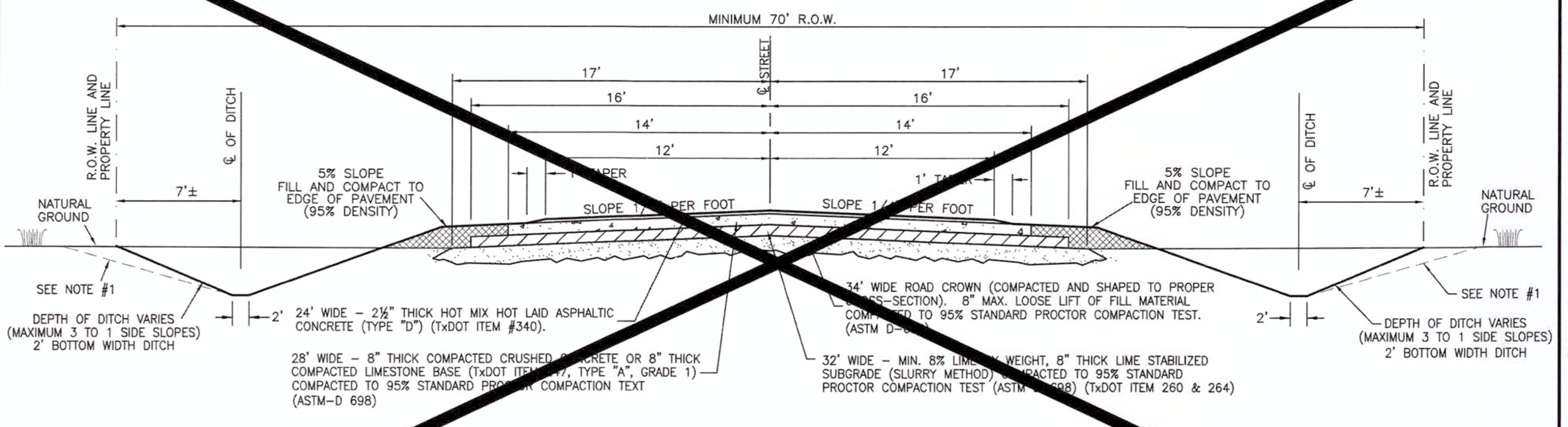
1. STANDARD CONCRETE CURB AND GUTTER STREET CROSS-SECTIONS


MINIMUM 70' R.O.W.
17'
14'
12'
R.O.W. LINE AND PROPERTY LINE
℄ OF DITCH
7'
NATURAL GROUND
5% SLOPE FILL AND COMPACT TO EDGE OF PAVEMENT (95% DENSITY)
CONSTRUCTION JOINT
CONCRETE PAVEMENT
8" LIME STABILIZED SUBGRADE
SEE NOTE #5
DEPTH OF DITCH VARIES (MAXIMUM 3 TO 1 SIDE SLOPES) 2' BOTTOM WIDTH DITCH
2'
WIDE ROAD CROWN (COMPACTED AND SHAPED TO PROPER CROSS-SECTION). 8" MAX. LOOSE LIFT OF MATERIAL COMPACTED TO 95% STANDARD PROCTOR COMPACTION TEST. (ASTM D-698)
28' WIDE – MIN. 8% LIME BY WEIGHT, 8" THICK LIME STABILIZED SUBGRADE (SLURRY METHOD) COMPACTED TO 95% STANDARD PROCTOR COMPACTION TEST (ASTM D-698) (TxDOT ITEM 260 & 264)

~~NOTE:~~

1. ~~ALL REINFORCING STEEL SHALL CONFORM TO ASTM-615, CURRENT REVISION, GRADE 60. MINIMUM LAP AT ALL SPLICES SHALL BE FIFTEEN INCHES (15"). No. 4 BARS @ 18" O.C.E.W.~~
2. ~~CONCRETE SHALL HAVE A 3500 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND A MINIMUM 550 P.S.I. FLEXURAL STRENGTH AT 7 DAYS, AND SHALL CONTAIN A MINIMUM OF FIVE AND ONE HALF (5½) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.~~
3. ~~EXPANSION JOINTS SHALL BE SPACED AT 60'-0" O.C. (MAXIMUM) WITH LATERAL, SAWED JOINTS AT 20'-0" O.C. (MAXIMUM). ALL JOINTS SHALL BE SEALED. THE LOCATION OF CONSTRUCTION JOINTS AND DEFORMED METAL STRIPS MAY BE VARIED WITH CITY APPROVAL.~~
4. ~~8" LIME STABILIZED SUBGRADE SHALL BE A MINIMUM OF 8% LIME, UNLESS SPECIFICALLY APPROVED BY THE CITY.~~
5. ~~PROVIDE DRAINAGE EASEMENT ADJOINING THE R.O.W. AND EXTEND BACK SLOPE OF DITCH WITHIN THE EASEMENT AS NECESSARY TO MAINTAIN 3 TO 1 SIDE SLOPE (TYP.).~~

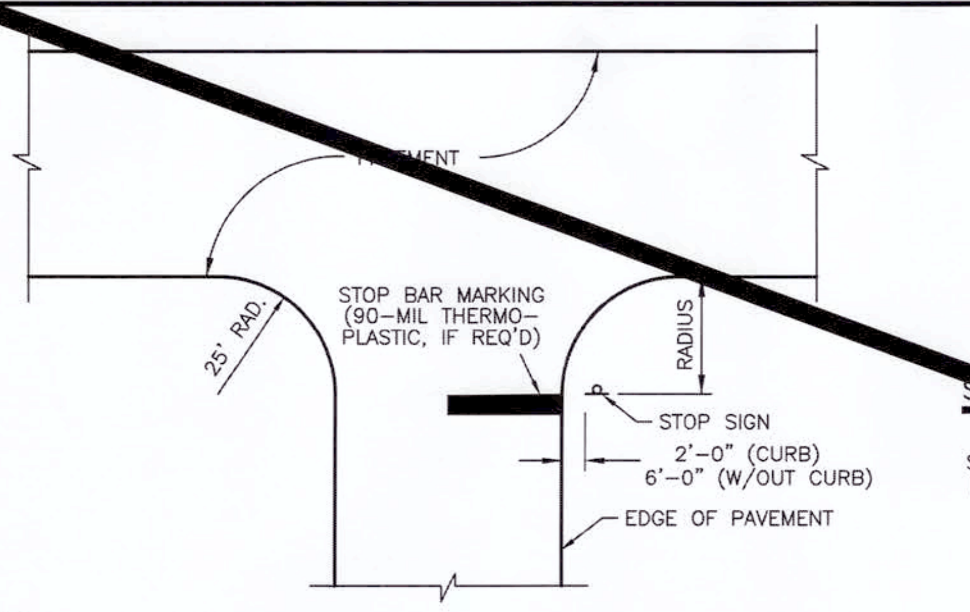
2. STANDARD CONCRETE PAVEMENT WITH OPEN DITCH CROSS-SECTION


MINIMUM 70' R.O.W.
℄ STREET
17'
16'
14'
12'
R.O.W. LINE AND PROPERTY LINE
℄ OF DITCH
7'±
NATURAL GROUND
5% SLOPE FILL AND COMPACT TO EDGE OF PAVEMENT (95% DENSITY)
SLOPE 1" TAPER PER FOOT
SEE NOTE #1
DEPTH OF DITCH VARIES (MAXIMUM 3 TO 1 SIDE SLOPES) 2' BOTTOM WIDTH DITCH
2'
24' WIDE – 2½" THICK HOT MIX HOT LAID ASPHALTIC CONCRETE (TYPE "D") (TxDOT ITEM #340).
28' WIDE – 8" THICK COMPACTED CRUSHED CONCRETE OR 8" THICK COMPACTED LIMESTONE BASE (TxDOT ITEM 247, TYPE "A", GRADE 1) COMPACTED TO 95% STANDARD PROCTOR COMPACTION TEXT (ASTM-D 698)
34' WIDE ROAD CROWN (COMPACTED AND SHAPED TO PROPER CROSS-SECTION). 8" MAX. LOOSE LIFT OF FILL MATERIAL COMPACTED TO 95% STANDARD PROCTOR COMPACTION TEST. (ASTM D-698)
32' WIDE – MIN. 8% LIME BY WEIGHT, 8" THICK LIME STABILIZED SUBGRADE (SLURRY METHOD) COMPACTED TO 95% STANDARD PROCTOR COMPACTION TEST (ASTM D-698) (TxDOT ITEM 260 & 264)

~~NOTES:~~

1. ~~PROVIDE DRAINAGE EASEMENT ADJOINING THE R.O.W. AND EXTEND BACK SLOPE OF DITCH WITHIN THE EASEMENT AS NECESSARY TO MAINTAIN 3 TO 1 SIDE SLOPE (TYP.).~~
2. ~~PAVING MARKINGS REQUIRED AS PER CITY OF RICHMOND (IN CITY) OR FORT BEND COUNTY SPECIFICATIONS.~~

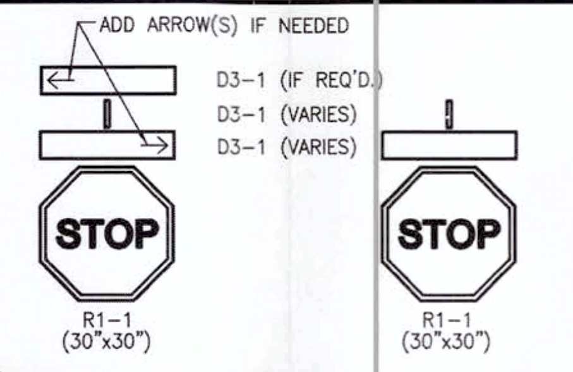
3. STANDARD ASPHALT PAVEMENT WITH OPEN DITCH CROSS-SECTION


PAVEMENT
25' RAD.
STOP BAR MARKING (90-MIL THERMO-PLASTIC, IF REQ'D)
RADIUS
STOP SIGN
2'-0" (CURB)
6'-0" (W/OUT CURB)
EDGE OF PAVEMENT

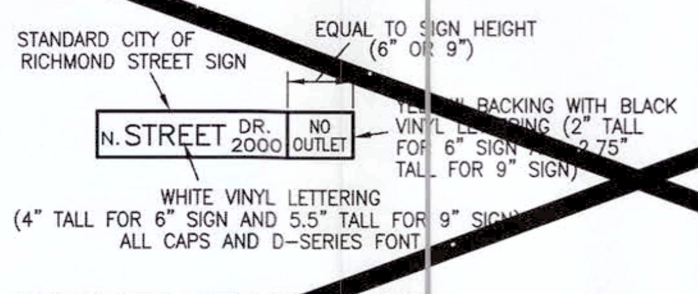
~~NOTE:~~

~~ALL COMBINATION STREET AND REGULATORY SIGNS SHALL BE LOCATED AT PAVEMENT RETURNS UNLESS OTHERWISE NOTED.~~

~~STOP SIGN LOCATION~~


ADD ARROW(S) IF NEEDED
D3-1 (IF REQ'D.)
D3-1 (VARIES)
D3-1 (VARIES)
STOP
STOP
R1-1 (30"x30")
R1-1 (30"x30")

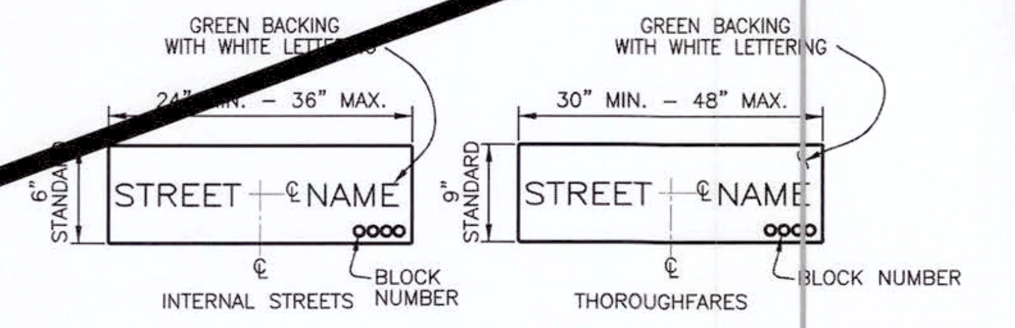
~~STOP SIGN WITH STREET SIGN~~


STANDARD CITY OF RICHMOND STREET SIGN
EQUAL TO SIGN HEIGHT (6" OR 9")
N. STREET DR. 2000
NO OUTLET
YELLOW BACKING WITH BLACK VINYL LETTERING (2" TALL FOR 6" SIGN AND 2.75" TALL FOR 9" SIGN)
WHITE VINYL LETTERING (4" TALL FOR 6" SIGN AND 5.5" TALL FOR 9" SIGN) ALL CAPS AND D-SERIES FONT

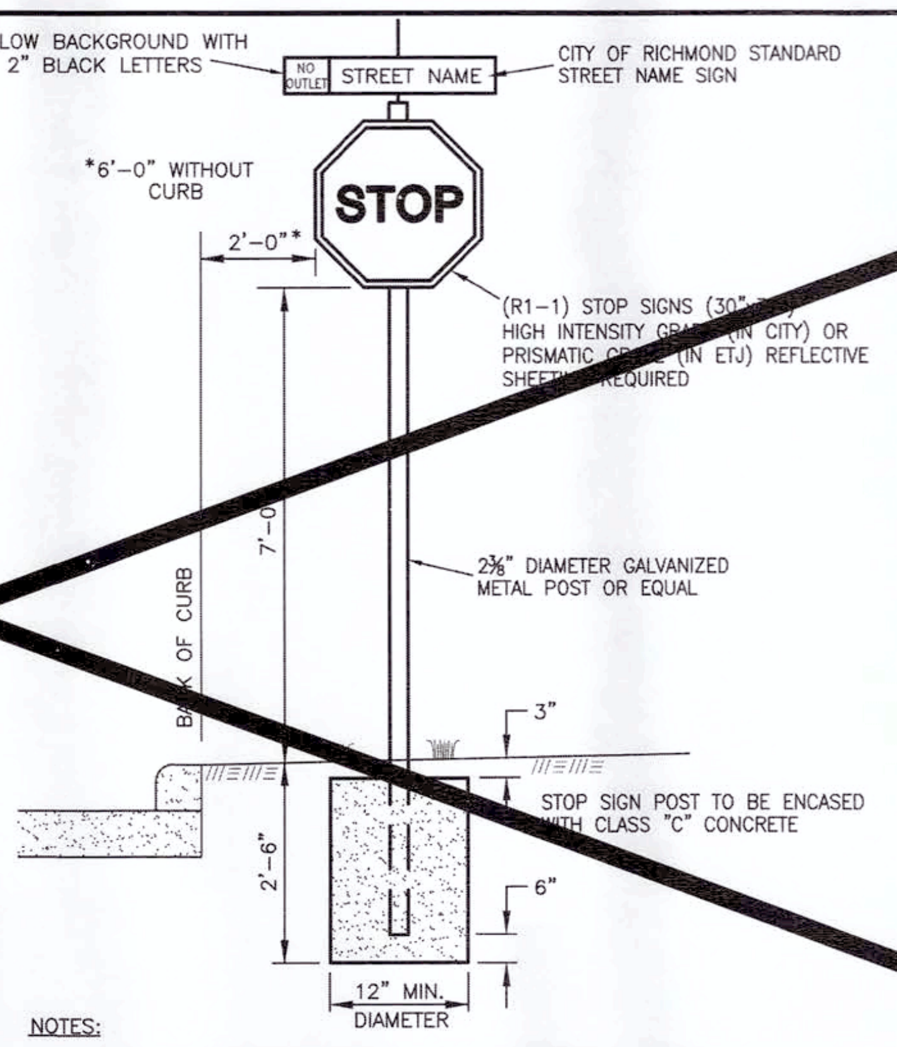
~~STREET SIGN WITH NO OUTLET~~

~~NOTES:~~

1. ~~ALUMINUM SIGNS MUST BE 0.080" BLANKS FLAT BLADED WITH ROUNDED CORNERS.~~
2. ~~SIGN DIMENSIONS FOR 6" TALL SIGNS: 6"x24", 6"x30", OR 6"x36".~~
3. ~~SIGN DIMENSIONS FOR 9" TALL SIGNS: 9"x30", 9"x36", 9"x42", OR 9"x48".~~
4. ~~STREETS WITHOUT OUTLET MUST HAVE NO OUTLET SIGN POSTED.~~
5. ~~HIGH INTENSITY GRADE (IN CITY) OR DIAMOND GRADE (IN ETJ) REFLECTIVE SHEETING REQUIRED.~~


GREEN BACKING WITH WHITE LETTERING
24" MIN. – 36" MAX.
6" STANDARD
STREET ℄ NAME
0000
℄
INTERNAL STREETS
BLOCK NUMBER
GREEN BACKING WITH WHITE LETTERING
30" MIN. – 48" MAX.
9" STANDARD
STREET ℄ NAME
0000
℄
THOROUGHFARES
BLOCK NUMBER

~~STREET NAME SIGN~~

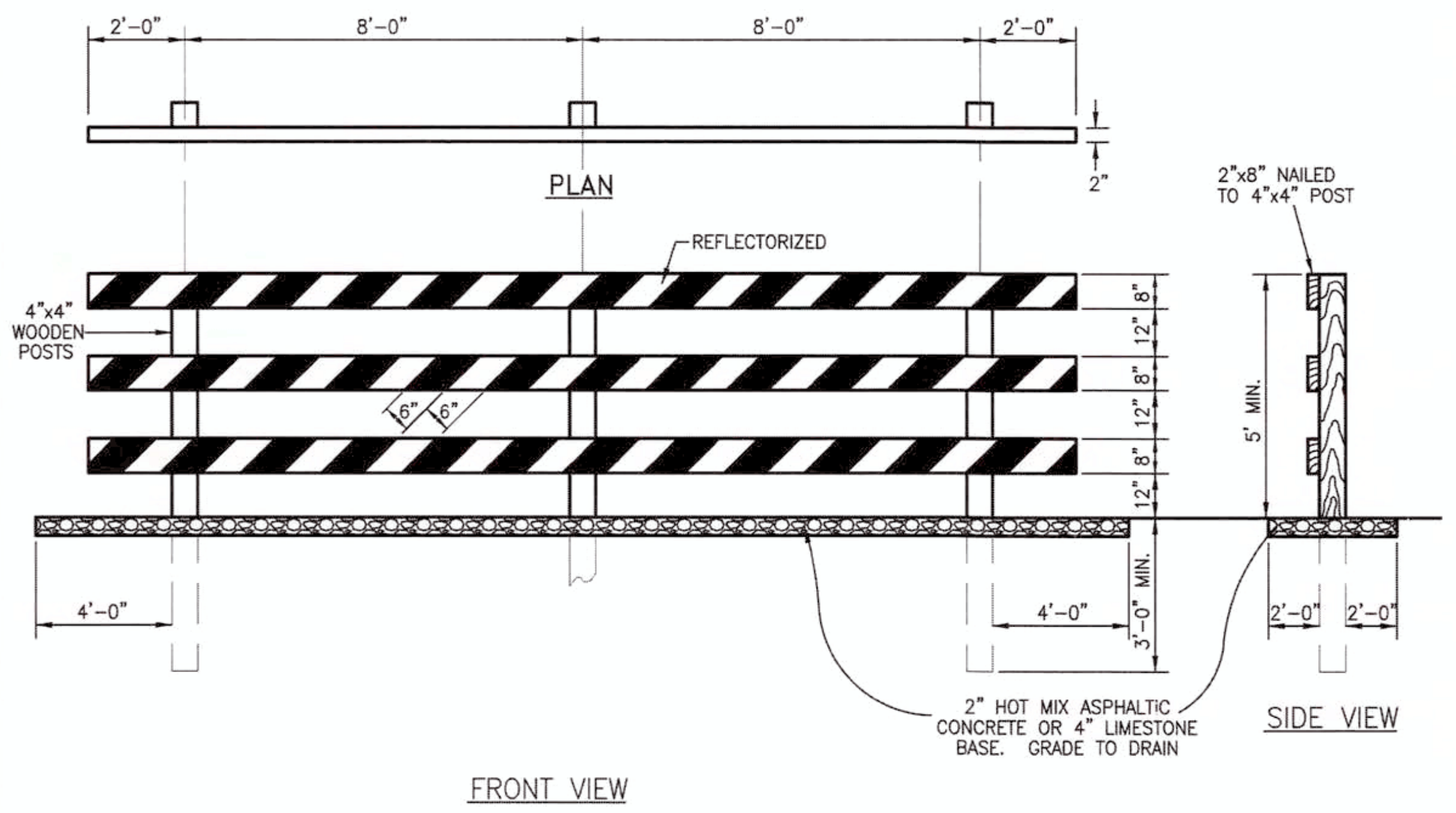

YELLOW BACKGROUND WITH 2" BLACK LETTERS
NO OUTLET
STREET NAME
CITY OF RICHMOND STANDARD STREET NAME SIGN
*6'-0" WITHOUT CURB
2'-0"*
STOP
(R1-1) STOP SIGNS (30"x30") HIGH INTENSITY GRADE (IN CITY) OR PRISMATIC GRADE (IN ETJ) REFLECTIVE SHEETING REQUIRED
7'-0"
BACK OF CURB
2⅜" DIAMETER GALVANIZED METAL POST OR EQUAL
3"
STOP SIGN POST TO BE ENCASED WITH CLASS "C" CONCRETE
2'-6"
6"
12" MIN. DIAMETER

~~NOTES:~~

1. ~~STREET NAME SIGNS AND STOP SIGNS TO BE INSTALLED AT INTERSECTION OF ALL STREETS. PROVIDE NO OUTLET SIGN ON DEAD END STREETS.~~
2. ~~UTILIZE SIGN MATERIALS, POST, FOUNDATION AND LOCATION FOR ALL SIGNAGE.~~

~~SIGN MOUNT~~

4. TRAFFIC SIGNAGE


2'-0"
8'-0"
8'-0"
2'-0"
2"
PLAN
REFLECTORIZED
4"x4" WOODEN POSTS
6"
6"
12"
8"
5' MIN.
3'-0" MIN.
4'-0"
4'-0"
2"x8" NAILED TO 4"x4" POST
2'-0"
2'-0"
2" HOT MIX ASPHALTIC CONCRETE OR 4" LIMESTONE BASE. GRADE TO DRAIN
FRONT VIEW
SIDE VIEW

NOTES:

BARRICADES SHALL BE CONSTRUCTED OF CLEAN SOUND LUMBER CUT TO THE NOMINAL DIMENSION SHOWN ON THESE DETAILS. BARRICADES SHALL BE OF FIRST CLASS WORKMANSHIP. ALL SURFACES ABOVE GROUND SHALL BE PAINTED WITH PRIME COAT AND TWO COATS OF AN APPROVED WHITE WHITE PAINT TO OBTAIN THOROUGH COVERAGE AND PROVIDE A UNIFORM WHITE COLOR. BARRICADE STRIPES SHALL SLOPE DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION OF TRAFFIC. PERMANENT BARRICADES SHALL HAVE RED AND WHITE STRIPING. TEMPORARY CONSTRUCTION BARRICADES SHALL HAVE ORANGE AND WHITE STRIPING. BARRICADES CONSTRUCTED OUTSIDE OF THE CITY LIMITS SHALL COMPLY WITH FORT BEND COUNTY REQUIREMENTS.

SIGNS FOR BARRICADES SHALL BE MADE FROM WOOD, HARDBOARD OR METAL CONFORMING WITH THESE REQUIREMENTS:

1. METAL – SIGN PLATES SHALL CONSIST OF STEEL, OR ALUMINUM ALLOY, OR PLASTIC TYPE OF SUFFICIENT THICKNESS TO RETAIN RIGIDITY UNDER NORMAL CONDITIONS.
2. WOOD – SIGN STOCK SHALL BE 2" STOCK B & B GRADE KILN-DRIED LUMBER, OR EQUAL, OR WATERPROOF RESIN-BONDED EXTERIOR GRADE PLYWOOD, DOUGLAS FIR PLYWOOD ASSOCIATION OR EQUAL. ALL WOODEN SIGNS CONSTRUCTED OF TWO OR MORE BOARDS SHALL HAVE A 1"x6" CLEAT FASTENED TO THE BACK OF THE SIGN AT EACH END AND EXTENDING THE FULL DEPTH OF THE SIGN. IN ADDITION TO CLEATS, THE BOARDS SHALL BE FASTENED TOGETHER WITH 1/2" CORRUGATED FASTENERS SPACED AT NOT MORE THAN 12" CENTERS DRIVEN FROM THE BACK OF THE SIGN. BARRICADE TYPE III SHALL BE TREATED WITH 8 LB. PENTACHLOROPHENOL WOOD PRESERVATIVE AND PAINTED WITH A PRIME COAT CONSISTING OF SPAR VARNISH VEHICLE ALUMINUM PAINT, FOLLOWED WITH TWO COAT APPROVED EXTERIOR PAINT. ALL WOOD PRESERVATIVES SHALL BE OF A TYPE WHICH PROHIBIT THE BLEEDING OF PRESERVATIVE.
3. HARDBOARD – SIGN STOCK SHALL BE TEMPERED DUOLUX, 3/8" NOMINAL THICKNESS, LAMINATED WITH WATERPROOF (ENCASE IN GLUE, OR EQUIVALENT).

REFLECTORIZATION SHALL CONSIST OF HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING OR AS REQUIRED BY FORT BEND COUNTY (OUTSIDE OF THE CITY).

ALL BARRICADES EXTENDING ACROSS MOVING LANES SHALL BE SUPPLEMENTED BY LIGHTS PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF REFLECTOR BUTTONS OR REFLECTORIZED SURFACES. THESE LIGHTS SHALL BE MAINTAINED IN CONTINUOUS OPERATION FROM SUNSET TO SUNRISE AND SHALL BE OF THE FLASHING ELECTRIC OR BUTANE TYPE, WITH THE RATE OF FLASHING BETWEEN 70 AND 120 FLASHES PER MINUTE. FLASHING ELECTRIC LIGHTS SHALL NOT BE CONNECTED IN SERIES. ALL LIGHTS SHALL BE OF THE COLOR YELLOW.

5. TYPE 'III' BARRICADE

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
PAVING–3

SCALE			
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		CHECKED BY:	KRK

DATE: 12/01/16
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DWG. NO:
R–11–16
Sheet:

APPROVED: Mary D
Development Coordinator
DATE: 9/27/17

Plotted: 07/18/17 – 5:26 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16–197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D469161975DD3.dwg, ---> 30 CITY

CVS pharmacy

14 K CORNER ENTRY
BUMP–OUT DRIVE–THRU (LEFT)
STORE NUMBER: 11096

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CS PROJECT NUMBER: 99715

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07/19/17
JOSEPH G. JAWORSKI
120486

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TEXAS LICENSE No. 120486

DEVELOPER:
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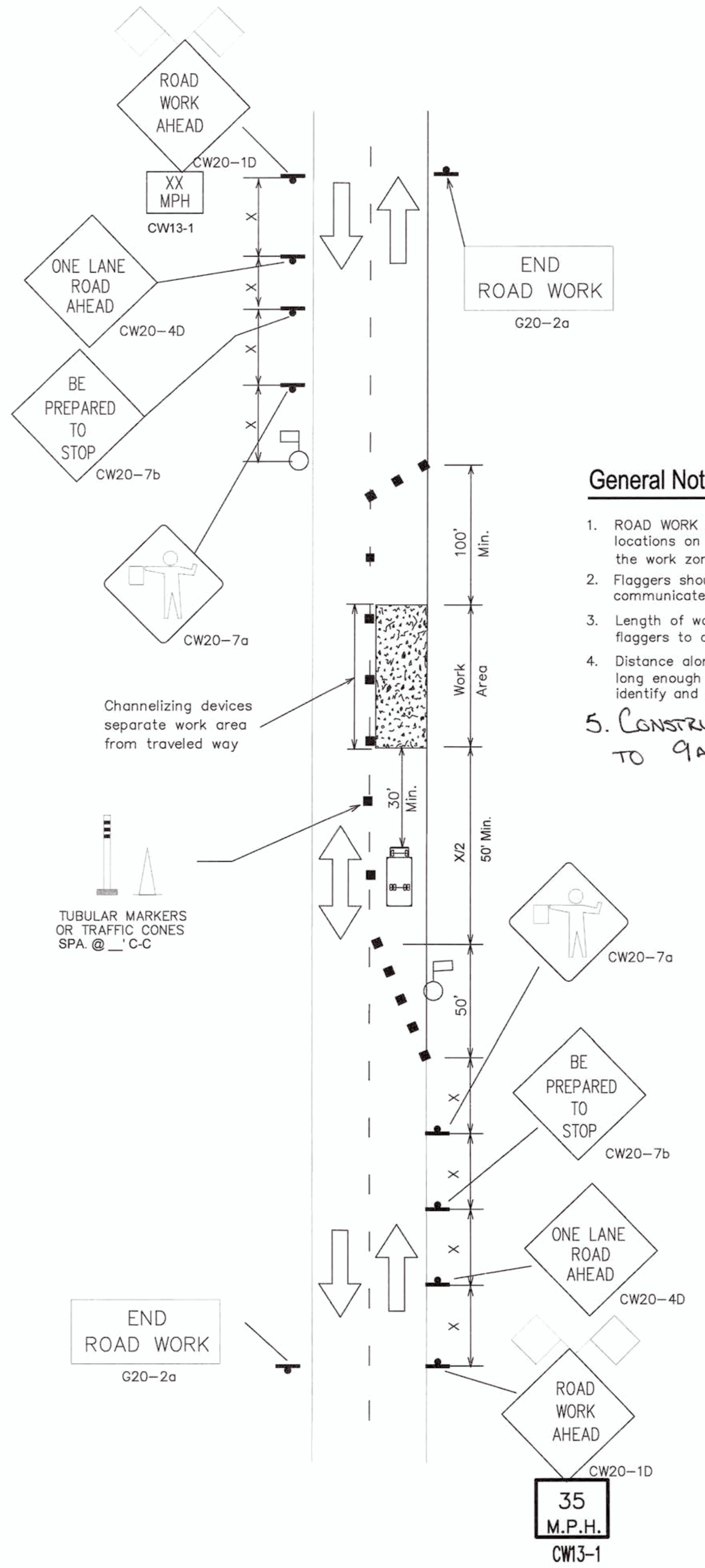
Rev. # 3

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.


ROAD WORK AHEAD
CW20-1D
XX MPH
CW13-1
ONE LANE ROAD AHEAD
CW20-4D
BE PREPARED TO STOP
CW20-7b
CW20-7a
END ROAD WORK
G20-2a
100' Min.
Work Area
Channelizing devices separate work area from traveled way
30' Min.
X/2
50' Min.
TUBULAR MARKERS OR TRAFFIC CONES SPA. @ __' C-C
50'
X
CW20-7a
BE PREPARED TO STOP
CW20-7b
ONE LANE ROAD AHEAD
CW20-4D
END ROAD WORK
G20-2a
ROAD WORK AHEAD
CW20-1D
35 M.P.H.
CW13-1

Minor Operation
Where One Lane Is Closed
With Adequate Field of View

WILD WOOD PARK ROAD

35 M.P.H.

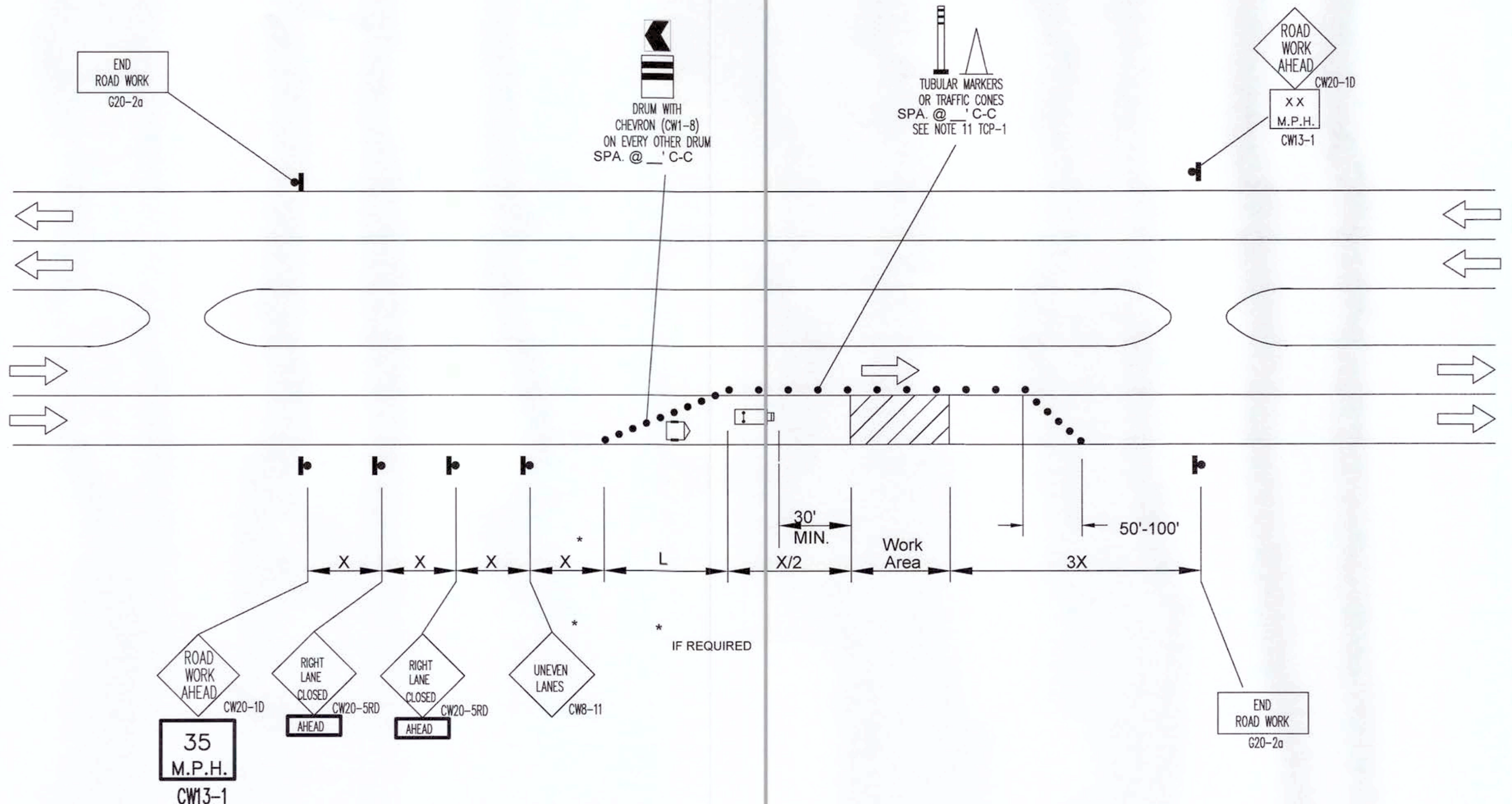
General Notes

1. ROAD WORK AHEAD Sign may be installed at two or more locations on the approach to the work zone if visibility or the work zone is less than 1500 feet.
2. Flaggers should use two-way radios or other method to communicate.
3. Length of work area should be based on the ability of flaggers to communicate.
4. Distance along curve or area of obstruction should be long enough to develop enough time for a motorist to identify and react to flagger signals.
5. CONSTRUCTION HOURS LIMITED TO 9AM - 4PM

TYPICAL TRANSITION LENGTHS AND SUGGESTED MAXIMUM SPACING OF DEVICES

		Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Device	
Posted Speed *	Formula	10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'
35		205'	225'	245'	35'	70'-90'
40		265'	295'	320'	40'	80'-100'
45	L=WS	450'	495'	540'	45'	90'-110'
50		500'	550'	600'	50'	100'-125'
55		550'	605'	660'	55'	110'-140'
60		600'	660'	720'	60'	120'-150'
65		650'	715'	780'	65'	130'-175'

* 85th Percentile Speed may be used on roads where traffic speeds normally exceed the posted speed limit.
** Taper lengths have been rounded off.


END ROAD WORK
G20-2a
DRUM WITH CHEVRON (CW1-8) ON EVERY OTHER DRUM
SPA. @ __' C-C
TUBULAR MARKERS OR TRAFFIC CONES
SPA. @ __' C-C
SEE NOTE 11 TCP-1
ROAD WORK AHEAD
CW20-1D
XX M.P.H.
CW13-1
30' MIN.
50'-100'
X
X
X
X
L
X/2
Work Area
3X
*
* IF REQUIRED
ROAD WORK AHEAD
CW20-1D
35 M.P.H.
CW13-1
RIGHT LANE CLOSED
AHEAD
CW20-5RD
RIGHT LANE CLOSED
AHEAD
CW20-5RD
UNEVEN LANES
CW8-11
END ROAD WORK
G20-2a

ONE LANE CLOSURE (FOR WILLIAM WAY BLVD)

35 M.P.H.

CONSTRUCTION WARNING SIGN SPACING

Posted Speed or 85% Speed (MPH)	X Min. Distance (feet)
30 or less	120
35	160
40	240
45	320
50	400
55	500
65	750

X=SIGN SPACING
L=TAPER

HEAVY WORK VEHICLE

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.
2. THE MINIMUM LANE WIDTH ALLOWED IS 10 FEET. THE MINIMUM BUFFER ZONE BETWEEN THE WORK ZONE AN ADJACENT TRAFFIC IS 2 FEET.
3. FLORESCENT ORANGE SHALL BE THE BACK GROUND COLOR ON ALL WORK ZONE SINGS.

LEGEND

▨	CONSTRUCTION AREA
→	OPEN TO TRAFFIC
▭	HEAVY WORK VEHICLE
▷	FLASHING ARROW BOARD
●	SIGN POST
•	TUBULAR MARKERS ,CONES OR DRUMS
•▭	FLAGGER

X = SIGN SPACING
L = TAPER LENGTH
XX = SPEED TO BE DETERMINED BY ENGINEER

APPROVED: Maggie D
Development Coordinator
DATE: 9/27/17

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
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Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
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Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
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Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
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Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) NOT TO SCALE (V) .
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197

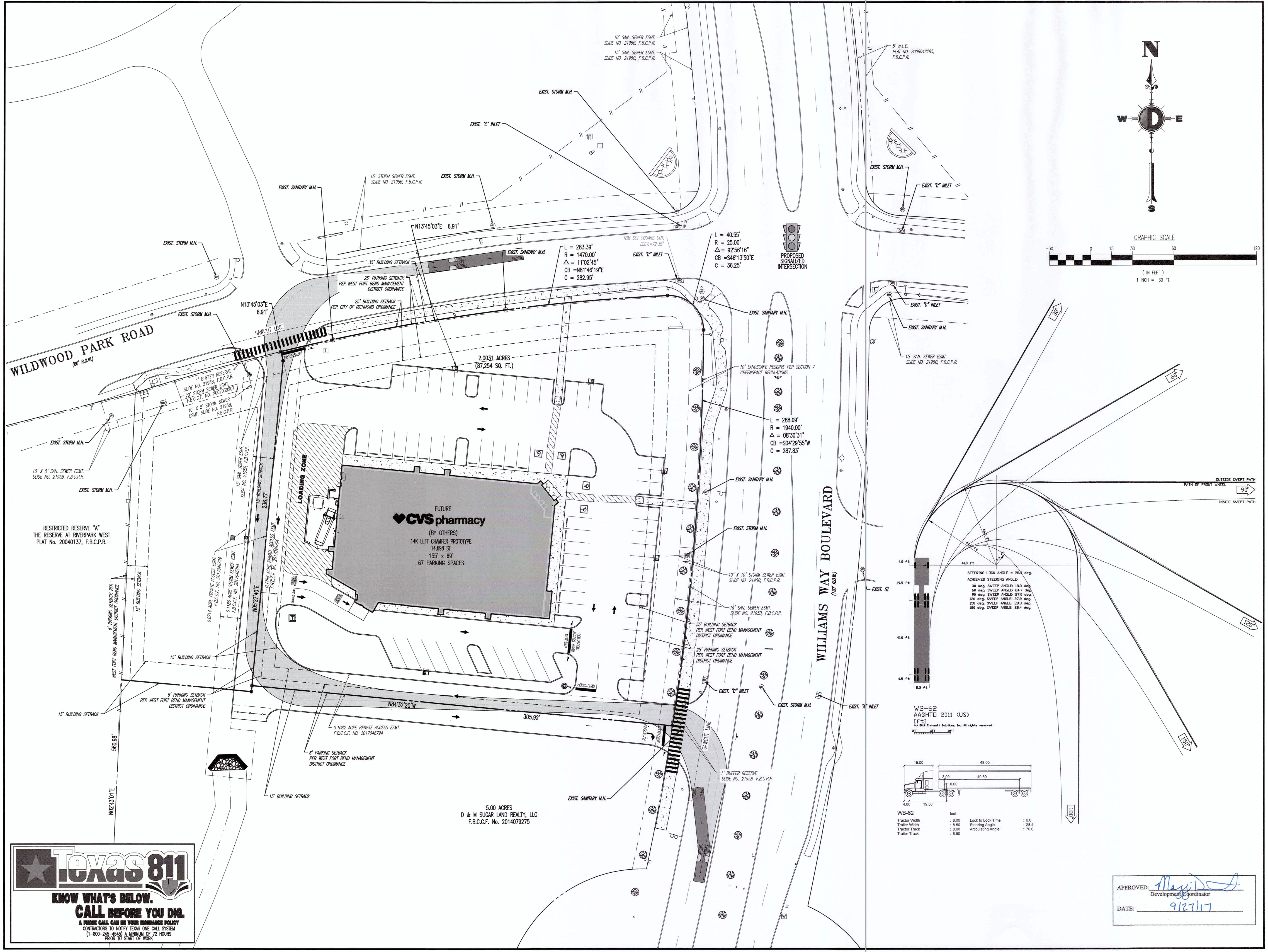
TITLE:
TRAFFIC CONTROL PLAN

SHEET No: **31** OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

Plotted: 07/18/17 - 5:22 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX - SWC Williams Way\Dwg\Site Plans\D4691619 7SD3.dwg, ---> 31 TRAFFIC CONTROL


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
PROPOSED SIGNALIZED INTERSECTION
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
LOADING ZONE
2.0031 ACRES
(87,254 SQ. FT.)
SAWCUT LINE
STOP
DRIVE THRU
BY PASS
25' BUILDING SETBACK PER CITY OF RICHMOND ORDINANCE
25' PARKING SETBACK PER WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
35' BUILDING SETBACK
15' BUILDING SETBACK
15' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
5' W.L.E. PLAT NO. 2006042285, F.B.C.P.R.
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
0.1796 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
0.1082 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. No. 2017046794
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
RESTRICTED RESERVE "A" THE RESERVE AT RIVERPARK WEST PLAT No. 20040137, F.B.C.P.R.
5.00 ACRES D & M SUGAR LAND REALTY, LLC F.B.C.C.F. No. 2014079275
EXIST. STORM M.H.
EXIST. SANITARY M.H.
EXIST. "C" INLET
EXIST. "A" INLET
TBM SET SQUARE CUT, ELEV.=72.35'
N13°45'03"E 6.91'
N05°27'40"E 236.77'
N84°32'20"W 305.92'
N02°43'01"E 560.98'
L = 283.39'
R = 1470.00'
Δ = 11°02'45"
CB = N81°46'19"E
C = 282.95'
L = 40.55'
R = 25.00'
Δ = 92°56'16"
CB = S46°13'50"E
C = 36.25'
L = 288.09'
R = 1940.00'
Δ = 08°30'31"
CB = S04°29'55"W
C = 287.83'
N
S
E
W
GRAPHIC SCALE
-30
0
15
30
60
120
(IN FEET)
1 INCH = 30 FT.
OUTSIDE SWEPT PATH
PATH OF FRONT WHEEL
INSIDE SWEPT PATH
30°
60°
90°
120°
150°
180°
4.0 ft
19.5 ft
41.0 ft
4.5 ft
8.5 ft
46.3 ft
44.8 ft
7.4 ft
41.0 ft
STEERING LOCK ANGLE = 28.4 deg.
ACHIEVED STEERING ANGLE:
30 deg. SWEEP ANGLE: 18.3 deg.
60 deg. SWEEP ANGLE: 24.7 deg.
90 deg. SWEEP ANGLE: 27.0 deg.
120 deg. SWEEP ANGLE: 27.9 deg.
150 deg. SWEEP ANGLE: 28.3 deg.
180 deg. SWEEP ANGLE: 28.4 deg.
WB-62
AASHTO 2011 (US)
[ft]
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0FT
10FT
20FT
15.00
48.00
3.00
40.50
0.00
4.00
19.50

WB-62

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

Texas 811

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CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

Plotted: 07/18/17 – 5:28 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D469161975V3.dwg, ---> 32 VEHICLE CIRCULATION

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
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MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

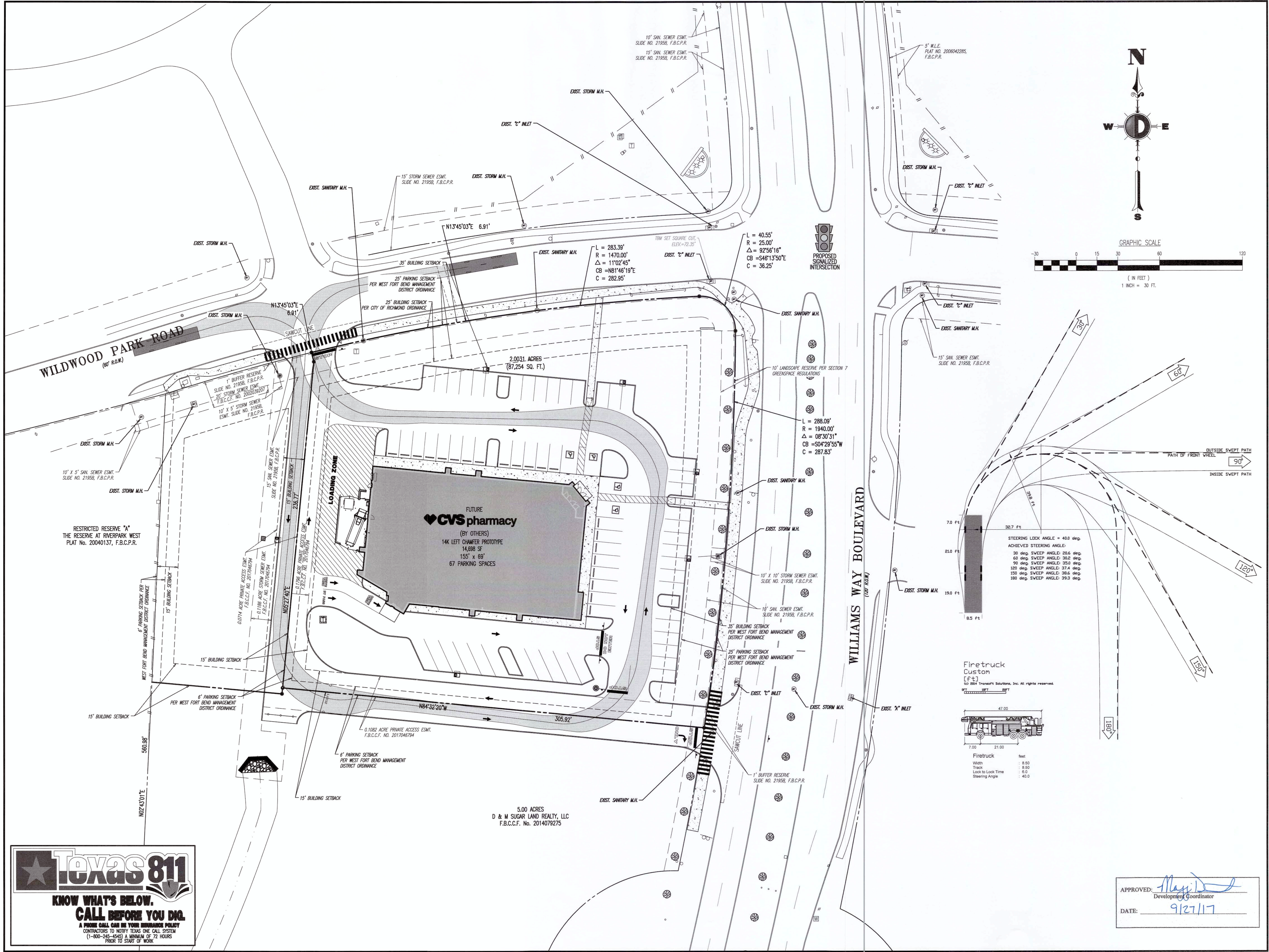
SCALE: (H) 1"=30' (V)
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197

TITLE:
VEHICLE CIRCULATION PLAN (WB-62)

SHEET No: **32** OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
10' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
EXIST. STORM M.H.
EXIST. "C" INLET
15' STORM SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
EXIST. SANITARY M.H.
N13°45'03"E 6.91'
35' BUILDING SETBACK
25' PARKING SETBACK
PER WEST FORT BEND MANAGEMENT
DISTRICT ORDINANCE
25' BUILDING SETBACK
PER CITY OF RICHMOND ORDINANCE
L = 283.39'
R = 1470.00'
Δ = 11°02'45"
CB =N81°46'19"E
C = 282.95'
TBM SET SQUARE CUT,
ELEV.=72.35'
L = 40.55'
R = 25.00'
Δ = 92°56'16"
CB =S46°13'50"E
C = 36.25'
PROPOSED
SIGNALIZED
INTERSECTION
5' W.L.E.
PLAT NO. 2006042285,
F.B.C.P.R.
N
W
E
S
GRAPHIC SCALE
-30
0
15
30
60
120
(IN FEET)
1 INCH = 30 FT.
SAWCUT LINE
STOP
1' BUFFER RESERVE
SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT.
F.B.C.C.F. NO. 2002039207
10' X 5' STORM SEWER
ESMT. SLIDE NO. 2195B,
F.B.C.P.R.
10' X 5' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
2.0031 ACRES
(87,254 SQ. FT.)
10' LANDSCAPE RESERVE PER SECTION 7
GREENSPACE REGULATIONS
L = 288.09'
R = 1940.00'
Δ = 08°30'31"
CB =S04°29'55"W
C = 287.83'
15' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
15' BUILDING SETBACK
236.77'
LOADING ZONE
RESTRICTED RESERVE "A"
THE RESERVE AT RIVERPARK WEST
PLAT No. 20040137, F.B.C.P.R.
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
0.0714 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
0.1186 ACRE STORM SEWER ESMT.
F.B.C.C.F. NO. 2017046794
0.1796 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
N05°27'40"E
6' PARKING SETBACK PER
WEST FORT BEND MANAGEMENT DISTRICT ORDINANCE
DO NOT ENTER
ONLY
10' X 10' STORM SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT.
SLIDE NO. 2195B, F.B.C.P.R.
35' BUILDING SETBACK
PER WEST FORT BEND MANAGEMENT
DISTRICT ORDINANCE
EXIST. "A" INLET
6' PARKING SETBACK
PER WEST FORT BEND MANAGEMENT
DISTRICT ORDINANCE
N84°32'20"W
305.92'
0.1082 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. NO. 2017046794
560.98'
N02°43'01"E
5.00 ACRES
D & M SUGAR LAND REALTY, LLC
F.B.C.C.F. No. 2014079275
30°
60°
90°
120°
150°
180°
OUTSIDE SWEPT PATH
PATH OF FRONT WHEEL
INSIDE SWEPT PATH
39.8 ft
7.0 ft
21.0 ft
19.0 ft
8.5 ft
32.7 ft
STEERING LOCK ANGLE = 40.0 deg.
ACHIEVED STEERING ANGLE:
30 deg. SWEEP ANGLE: 20.6 deg.
60 deg. SWEEP ANGLE: 30.2 deg.
90 deg. SWEEP ANGLE: 35.0 deg.
120 deg. SWEEP ANGLE: 37.4 deg.
150 deg. SWEEP ANGLE: 38.6 deg.
180 deg. SWEEP ANGLE: 39.3 deg.
Firetruck
Custom
[ft]
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0FT 10FT 20FT
47.00
7.00
21.00
Firetruck feet
Width : 8.50
Track : 8.50
Lock to Lock Time : 6.0
Steering Angle : 40.0

Texas 811

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CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

APPROVED: ______________
Development Coordinator

DATE: 9/27/17

Plotted: 07/18/17 – 5:28 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SXVF3.dwg, ---> 33 VEHICLE CIRCULATION

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER:99715

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TEL: (860) 646-6555
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PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30'
(V)

DRAWN BY: DNH/GRY

DESIGNED BY: JAK

CHECKED BY: SES

DATE: 02/17/17

JOB No: 0469-16-197

TITLE:
VEHICLE CIRCULATION PLAN (FIRE TRUCK)

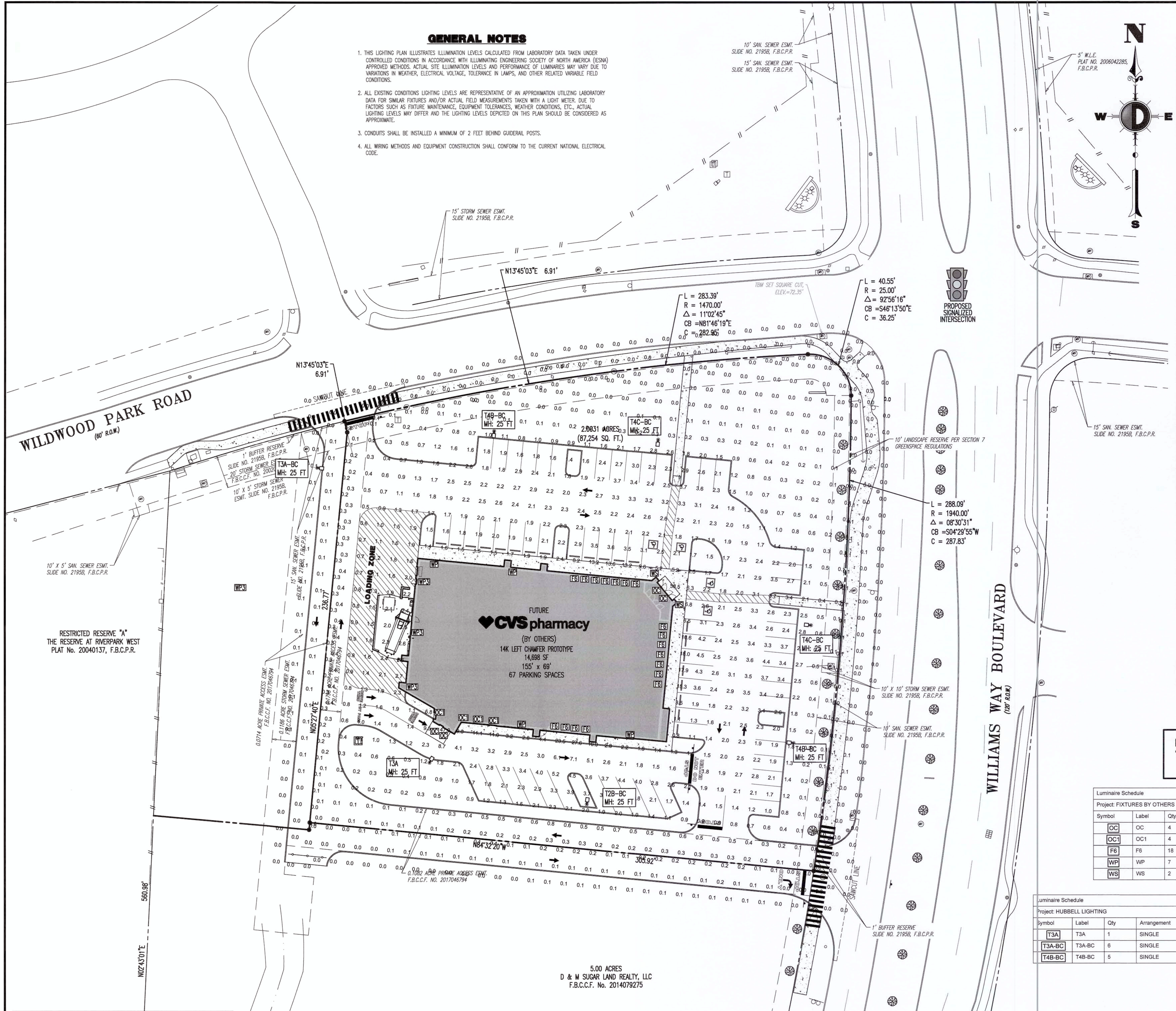
SHEET No: **33** OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

GENERAL NOTES

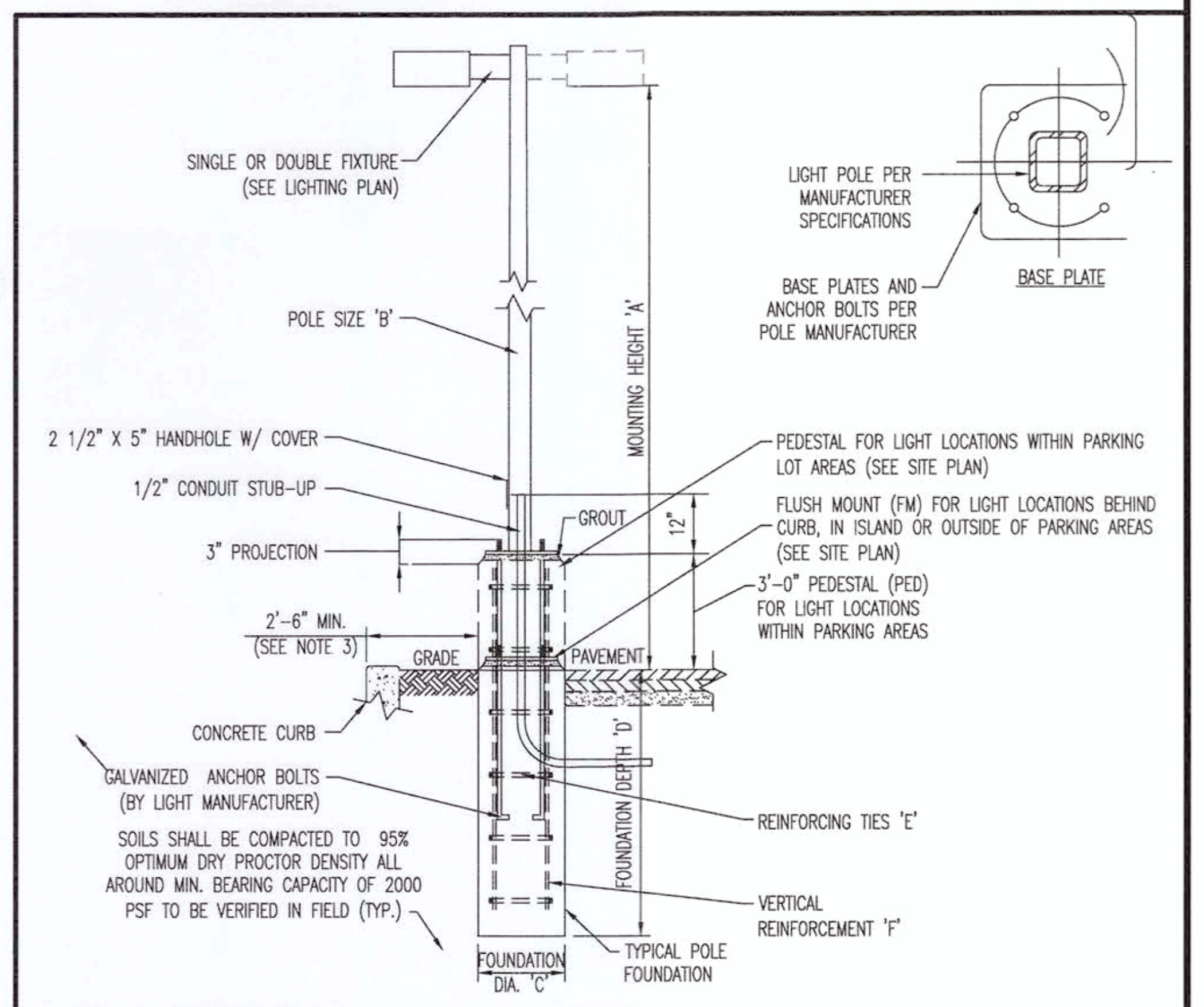
1. THIS LIGHTING PLAN ILLUSTRATES ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) APPROVED METHODS. ACTUAL SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINARIES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER RELATED VARIABLE FIELD CONDITIONS.
2. ALL EXISTING CONDITIONS LIGHTING LEVELS ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES AND/OR ACTUAL FIELD MEASUREMENTS TAKEN WITH A LIGHT METER. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC., ACTUAL LIGHTING LEVELS MAY DIFFER AND THE LIGHTING LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED AS APPROXIMATE.
3. CONDUITS SHALL BE INSTALLED A MINIMUM OF 2 FEET BEHIND GUIDERAIL POSTS.
4. ALL WIRING METHODS AND EQUIPMENT CONSTRUCTION SHALL CONFORM TO THE CURRENT NATIONAL ELECTRICAL CODE.


WILDWOOD PARK ROAD
(60' R.O.W.)
WILLIAMS WAY BOULEVARD
(120' R.O.W.)
N
W
E
S
10" SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
5' W.L.E. PLAT NO. 2006042285, F.B.C.P.R.
N13°45'03"E 6.91'
TBM SET SQUARE CUT, ELEV.=72.35'
L = 283.39'
R = 1470.00'
Δ = 11°02'45"
CB =N81°46'19"E
C = 282.95'
L = 40.55'
R = 25.00'
Δ = 92°56'16"
CB =S46°13'50"E
C = 36.25'
PROPOSED SIGNALIZED INTERSECTION
N13°45'03"E
6.91'
SAWCUT LINE
2.0031 ACRES
(87,254 SQ. FT.)
T4B-BC MH: 25 FT
T4C-BC MH: 25 FT
T3A-BC MH: 25 FT
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
20' STORM SEWER ESMT. F.B.C.C.F. NO. 20020...
10' X 5' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
L = 288.09'
R = 1940.00'
Δ = 08°30'31"
CB =S04°29'55"W
C = 287.83'
10' X 5' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
LOADING ZONE
FUTURE
CVS pharmacy
(BY OTHERS)
14K LEFT CHAMFER PROTOTYPE
14,698 SF
155' x 69'
67 PARKING SPACES
T4C-BC MH: 25 FT
10' X 10' STORM SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEWER ESMT. SLIDE NO. 2195B, F.B.C.P.R.
T4B-BC MH: 25 FT
T3A MH: 25 FT
T2B-BC MH: 25 FT
N05°27'40"E
236.77'
N84°32'20"W
305.92'
0.1082 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
0.0714 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. NO. 2017046794
1' BUFFER RESERVE SLIDE NO. 2195B, F.B.C.P.R.
SAWCUT LINE
RESTRICTED RESERVE "A"
THE RESERVE AT RIVERPARK WEST
PLAT No. 20040137, F.B.C.P.R.
560.98'
N02°43'01"E
5.00 ACRES
D & M SUGAR LAND REALTY, LLC
F.B.C.C.F. No. 2014079275

GRAPHIC SCALE
-30 0 15 30 60 120
(IN FEET)
1 INCH = 30 FT.

TEXAS 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM (1-800-245-4545) A MINIMUM OF 72 HOURS PRIOR TO START OF WORK

Plotted: 07/18/17 – 5:29 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SI3.dwg, ---> 34 LIGHTING


SINGLE OR DOUBLE FIXTURE (SEE LIGHTING PLAN)
POLE SIZE 'B'
MOUNTING HEIGHT 'A'
2 1/2" X 5" HANDHOLE W/ COVER
1/2" CONDUIT STUB-UP
GROUT
12"
3" PROJECTION
2'-6" MIN. (SEE NOTE 3)
GRADE
PAVEMENT
CONCRETE CURB
GALVANIZED ANCHOR BOLTS (BY LIGHT MANUFACTURER)
SOILS SHALL BE COMPACTED TO 95% OPTIMUM DRY PROCTOR DENSITY ALL AROUND MIN. BEARING CAPACITY OF 2000 PSF TO BE VERIFIED IN FIELD (TYP.)
FOUNDATION DEPTH 'D'
FOUNDATION DIA. 'C'
TYPICAL POLE FOUNDATION
LIGHT POLE PER MANUFACTURER SPECIFICATIONS
BASE PLATES AND ANCHOR BOLTS PER POLE MANUFACTURER
BASE PLATE
PEDESTAL FOR LIGHT LOCATIONS WITHIN PARKING LOT AREAS (SEE SITE PLAN)
FLUSH MOUNT (FM) FOR LIGHT LOCATIONS BEHIND CURB, IN ISLAND OR OUTSIDE OF PARKING AREAS (SEE SITE PLAN)
3'-0" PEDESTAL (PED) FOR LIGHT LOCATIONS WITHIN PARKING AREAS
REINFORCING TIES 'E'
VERTICAL REINFORCEMENT 'F'

NOTE: 1. CONTRACTOR TO CONFIRM ALL LIGHT POLE & FIXTURE DIMENSIONS PRIOR TO CONSTRUCTION.
2. PROPOSED POLE IN COMBINATION WITH CONCRETE PEDESTAL TO EQUAL MOUNTING HEIGHT 'A'. ACTUAL POLE HEIGHT TO BE ADJUSTED ACCORDINGLY.
3. PROPOSED CONCRETE FOUNDATION AND POLE TO BE CONSTRUCTED WITHIN SUBJECT PROPERTY UNLESS OTHERWISE NOTED. SETBACK FROM CURB IS PREFERRED BUT TO BE ADJUSTED AS NEEDED TO PREVENT ENCROACHMENT OVER PROPERTY LINE.

LIGHT POLE FOUNDATION SCHEDULE	
MOUNTING HEIGHT ABOVE GRADE 'A'	25'
POLE DIA. 'B'	6" SQUARE (OR PER MANUFACTURER)
# OF FIXTURES	SINGLE OR DOUBLE
FOUNDATION DIAMETER 'C'	24" DIA. ROUND
FOUNDATION DEPTH 'D'	7.0'
REINFORCING TIES 'E'	#4 @ 12" O.C.
VERTICAL REINFORCEMENT 'F'	(7) #6 BARS EQUALLY SPACED

SOIL NOTES

1. FOOTING DESIGN BASED ON ASSUMED MAXIMUM ALLOWABLE SOILS BEARING CAPACITY OF 2,000 SF PSF. CONTRACTOR RESPONSIBLE TO VERIFY ADEQUACY OF ASSUMED BEARING CAPACITY PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED IF INCONSISTENCIES EXIST.
2. SUBGRADE TO BE FREE OF ORGANICS AND BE SUITABLE, COMPACTED MATERIAL.

CONCRETE NOTES

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 600 POUNDS PER CUBIC YARD FOR ALL FOOTINGS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
3. ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED (WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
4. REINFORCING FRAMEWORK AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND REGULATIONS AS WELL AS THE ACI AND UNIFORM BUILDING CODE.

AREA LIGHT DETAIL

NOT TO SCALE

HUBBELL®
Hubbell Lighting, Inc.
701 MILLENNIUM BLVD
GREENVILLE, SC
29607

FOR PRICING & CUT SHEETS

WEIDENBACH-BROWN CO., INC.
315 NORWOOD PARK SOUTH
NORWOOD, MA 02062
TEL: 781-769-9868
EMAIL: cvssupport@wblight.com

NOTES:
1. ALL PARKING LOT LIGHTING AND WALL PACK LIGHTING SHALL BE FULL CUT-OFF.

Luminaire Schedule
Project: FIXTURES BY OTHERS - HUBBELL IS NOT RESPONSIBLE FOR THE PERFORMANCE OF LUMINAIRES MANUFACTURED BY OTHERS

Symbol	Label	Qty	Arrangement	Description	Lum. Lumens	LMF
OC	OC	4	SINGLE	SGV8LEDGV-55L-40K-E1-AR8710GV-SG-SO	3994	0.903
OC1	OC1	4	SINGLE	SGV6LEDGV-27L-40K-E1-AR6710GV-MW-SO	1540	0.903
F6	F6	18	GROUP	SSL-ECVLXWET-6-UNV-4K-3080	N.A.	0.903
WP	WP	7	SINGLE	DSXW1 LED 10C 1000 40K TFTM MVOLT	3944	0.903
WS	WS	2	SINGLE	CR670-AP5L-131-MS12	5187	0.903

Luminaire Schedule
Project: HUBBELL LIGHTING

Symbol	Label	Qty	Arrangement	Description	Lum. Lumens	LMF	Lum. Watts	Arr. Watts	Total Watts
T3A	T3A	1	SINGLE	CL1-30L-4K-3	7641	0.903	70	70	70
T3A-BC	T3A-BC	6	SINGLE	CL1-30L-4K-3-BC	5132	0.903	70	70	420
T4B-BC	T4B-BC	5	SINGLE	CL1-60L-4K-4-BC	12392	0.903	135	135	675

Calculation Summary
Project: HUBBELL LIGHTING

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
All CalcPts Extending Out To Zero Fc	Illuminance	Fc	1.99	48.6	0.0	N.A.	N.A.	10	10
Parking Areas	Illuminance	Fc	2.30	7.0	1.1	2.09	6.36	10	10
Property Line 20-Foot Offset	Illuminance	Fc	0.15	0.5	0.0	N.A.	N.A.	10	N.A.
Property Line	Illuminance	Fc	0.64	1.8	0.0	N.A.	N.A.	10	N.A.
Northwest Access Point - Fc Limited Area	Illuminance	Fc	1.05	1.5	0.7	1.50	2.14		
Southeast Access Point - Fc Limited Area	Illuminance	Fc	1.22	2.0	0.7	1.74	2.86		

APPROVED: ______________
Development Coordinator
DATE: 9/27/17

CVS pharmacy
14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
Lake Como, NJ 07719
T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
8 Robbins Street - Suite 102
Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
1301 Central Expressway South - Suite 210
Allen, TX 75013
T: 972.534.2100

Houston TX Office
TEXAS REGISTERED ENGINEERING FIRM NO. F-13660
14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) 1"=30'
(V) .
DRAWN BY: DNH/GRY
DESIGNED BY: JAK
CHECKED BY: SES
DATE: 02/17/17
JOB No: 0469-16-197

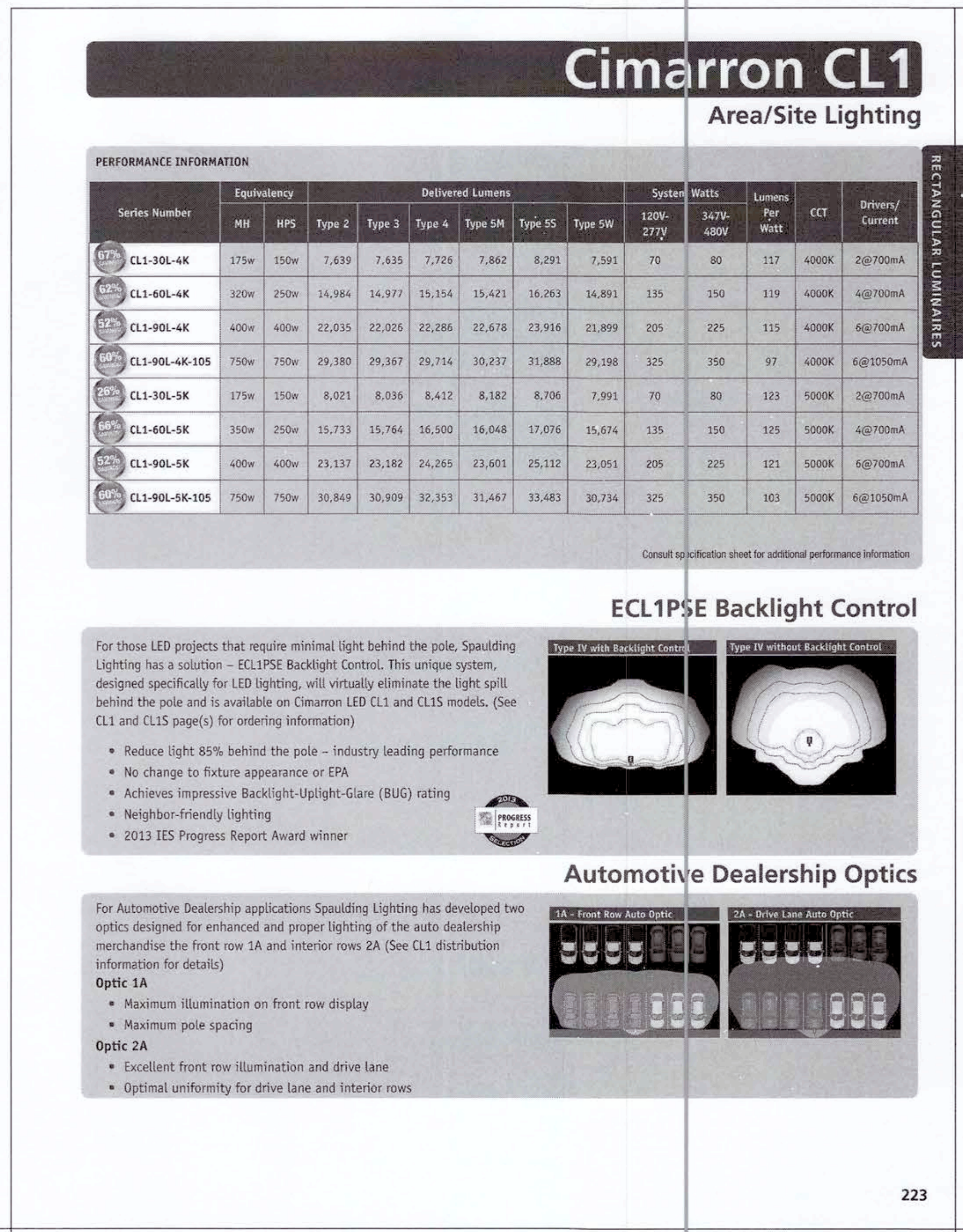
TITLE:
LIGHTING PLAN

SHEET No: **34** OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.



Cimarron CL1

Area/Site Lighting

RECTANGULAR LUMINAIRES

PERFORMANCE INFORMATION

Series Number	Equivalency		Delivered Lumens						System Watts		Lumens Per Watt	CCT	Drivers/ Current
	MH	HPS	Type 2	Type 3	Type 4	Type 5M	Type 5S	Type 5W	120V-277V	347V-480V			
67% CL1-30L-4K	175w	150w	7,639	7,635	7,726	7,862	8,291	7,591	70	80	117	4000K	2@700mA
62% CL1-60L-4K	320w	250w	14,984	14,977	15,154	15,421	16,263	14,891	135	150	119	4000K	4@700mA
52% CL1-90L-4K	400w	400w	22,035	22,026	22,286	22,678	23,916	21,899	205	225	115	4000K	6@700mA
60% CL1-90L-4K-105	750w	750w	29,380	29,367	29,714	30,237	31,888	29,198	325	350	97	4000K	6@1050mA
26% CL1-30L-5K	175w	150w	8,021	8,036	8,412	8,182	8,706	7,991	70	80	123	5000K	2@700mA
66% CL1-60L-5K	350w	250w	15,733	15,764	16,500	16,048	17,076	15,674	135	150	125	5000K	4@700mA
52% CL1-90L-5K	400w	400w	23,137	23,182	24,265	23,601	25,112	23,051	205	225	121	5000K	6@700mA
60% CL1-90L-5K-105	750w	750w	30,849	30,909	32,353	31,467	33,483	30,734	325	350	103	5000K	6@1050mA

Consult specification sheet for additional performance information

ECL1PSE Backlight Control

For those LED projects that require minimal light behind the pole, Spaulding Lighting has a solution – ECL1PSE Backlight Control. This unique system, designed specifically for LED lighting, will virtually eliminate the light spill behind the pole and is available on Cimarron LED CL1 and CL1S models. (See CL1 and CL1S page(s) for ordering information)

- Reduce light 85% behind the pole – industry leading performance
- No change to fixture appearance or EPA
- Achieves impressive Backlight-Uplight-Glare (BUG) rating
- Neighbor-friendly lighting
- 2013 IES Progress Report Award winner

Type IV with Backlight Control

Type IV without Backlight Control

Automotive Dealership Optics

For Automotive Dealership applications Spaulding Lighting has developed two optics designed for enhanced and proper lighting of the auto dealership merchandise the front row 1A and interior rows 2A (See CL1 distribution information for details)

Optic 1A

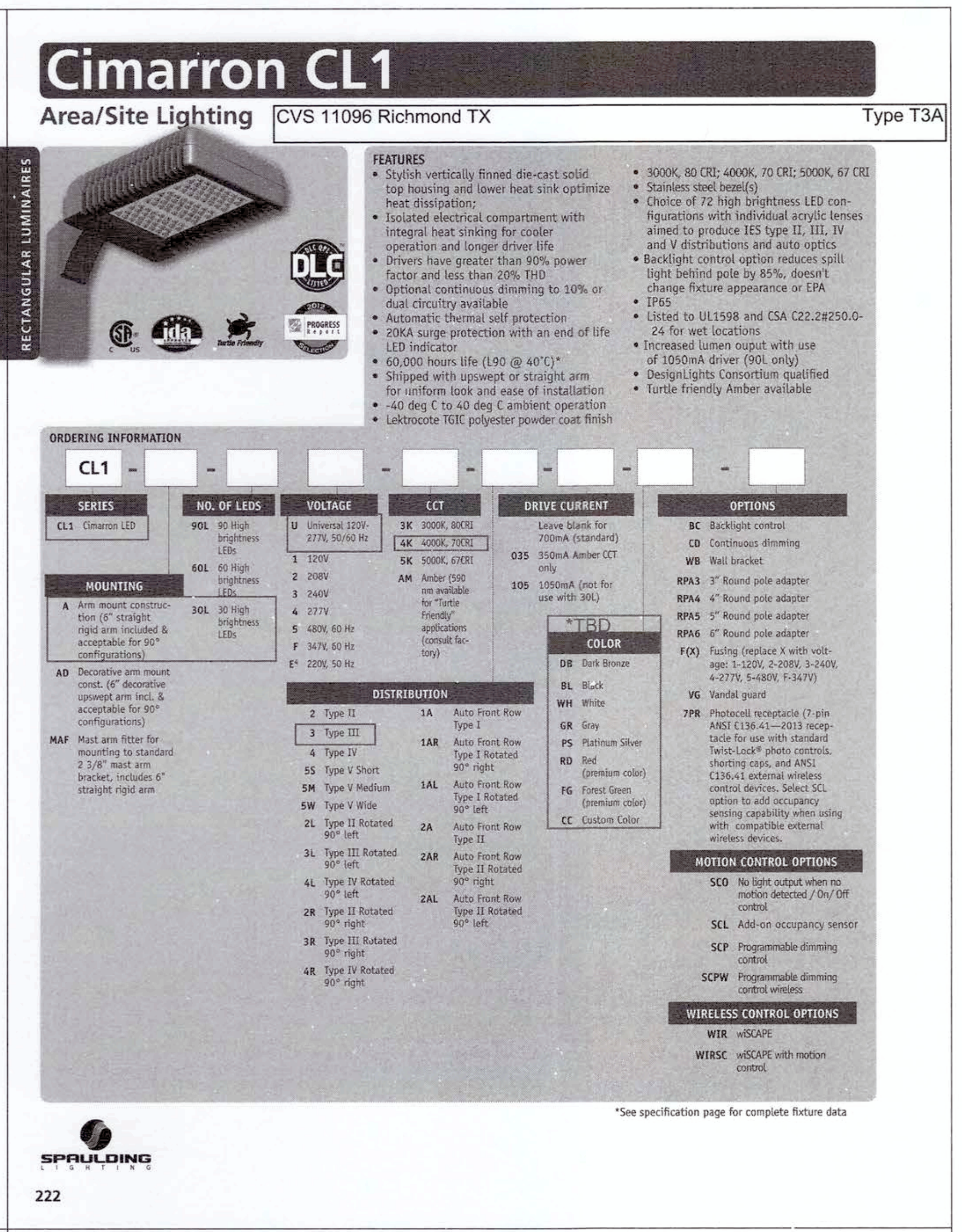
- Maximum illumination on front row display
- Maximum pole spacing

Optic 2A

- Excellent front row illumination and drive lane
- Optimal uniformity for drive lane and interior rows

1A - Front Row Auto Optic

2A - Drive Lane Auto Optic



Cimarron CL1

Area/Site Lighting

CVS 11096 Richmond TX — Type T3A

RECTANGULAR LUMINAIRES

FEATURES

- Stylish vertically finned die-cast solid top housing and lower heat sink optimize heat dissipation;
- Isolated electrical compartment with integral heat sinking for cooler operation and longer driver life
- Drivers have greater than 90% power factor and less than 20% THD
- Optional continuous dimming to 10% or dual circuitry available
- Automatic thermal self protection
- 20KA surge protection with an end of life LED indicator
- 60,000 hours life (L90 @ 40°C)*
- Shipped with upswept or straight arm for uniform look and ease of installation
- -40 deg C to 40 deg C ambient operation
- Lektrocote TGIC polyester powder coat finish
- 3000K, 80 CRI; 4000K, 70 CRI; 5000K, 67 CRI
- Stainless steel bezel(s)
- Choice of 72 high brightness LED configurations with individual acrylic lenses aimed to produce IES type II, III, IV and V distributions and auto optics
- Backlight control option reduces spill light behind pole by 85%, doesn't change fixture appearance or EPA
- IP65
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations
- Increased lumen ouput with use of 1050mA driver (90L only)
- DesignLights Consortium qualified
- Turtle friendly Amber available

ORDERING INFORMATION

CL1 - ☐ - ☐ ☐ - ☐ - ☐ - ☐ - ☐ - ☐

SERIES
- [✓ CL1 Cimarron LED]

MOUNTING
- [✓ A Arm mount construction (6" straight rigid arm included & acceptable for 90° configurations)]
- AD Decorative arm mount const. (6" decorative upswept arm incl. & acceptable for 90° configurations)
- MAF Mast arm fitter for mounting to standard 2 3/8" mast arm bracket, includes 6" straight rigid arm

NO. OF LEDS
- 90L 90 High brightness LEDs
- 60L 60 High brightness LEDs
- [✓ 30L 30 High brightness LEDs]

VOLTAGE
- [✓ U Universal 120V-277V, 50/60 Hz]
- 1 120V
- 2 208V
- 3 240V
- 4 277V
- 5 480V, 60 Hz
- F 347V, 60 Hz
- E^4 220V, 50 Hz

CCT
- 3K 3000K, 80CRI
- [✓ 4K 4000K, 70CRI]
- 5K 5000K, 67CRI
- AM Amber (590 nm available for "Turtle Friendly" applications (consult factory)

DRIVE CURRENT
- Leave blank for 700mA (standard)
- 035 350mA Amber CCT only
- 105 1050mA (not for use with 30L)

*TBD

COLOR
- DB Dark Bronze
- BL Black
- WH White
- GR Gray
- PS Platinum Silver
- RD Red (premium color)
- FG Forest Green (premium color)
- CC Custom Color

DISTRIBUTION
- 2 Type II
- [✓ 3 Type III]
- 4 Type IV
- 5S Type V Short
- 5M Type V Medium
- 5W Type V Wide
- 2L Type II Rotated 90° left
- 3L Type III Rotated 90° left
- 4L Type IV Rotated 90° left
- 2R Type II Rotated 90° right
- 3R Type III Rotated 90° right
- 4R Type IV Rotated 90° right
- 1A Auto Front Row Type I
- 1AR Auto Front Row Type I Rotated 90° right
- 1AL Auto Front Row Type I Rotated 90° left
- 2A Auto Front Row Type II
- 2AR Auto Front Row Type II Rotated 90° right
- 2AL Auto Front Row Type II Rotated 90° left

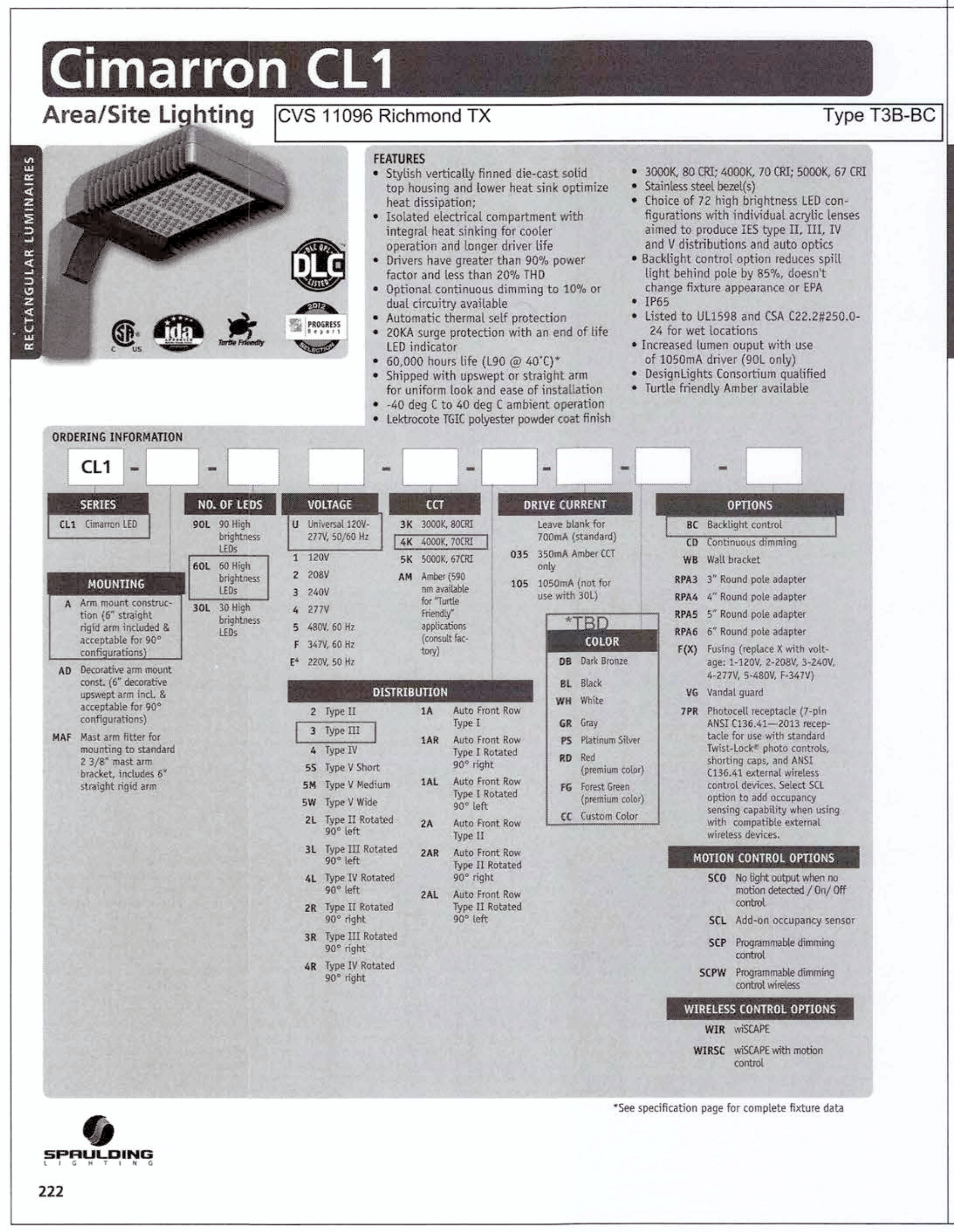
OPTIONS
- BC Backlight control
- CD Continuous dimming
- WB Wall bracket
- RPA3 3" Round pole adapter
- RPA4 4" Round pole adapter
- RPA5 5" Round pole adapter
- RPA6 6" Round pole adapter
- F(X) Fusing (replace X with voltage: 1-120V, 2-208V, 3-240V, 4-277V, 5-480V, F-347V)
- VG Vandal guard
- 7PR Photocell receptacle (7-pin ANSI C136.41—2013 receptacle for use with standard Twist-Lock® photo controls, shorting caps, and ANSI C136.41 external wireless control devices. Select SCL option to add occupancy sensing capability when using with compatible external wireless devices.

MOTION CONTROL OPTIONS
- SCO No light output when no motion detected / On/ Off control
- SCL Add-on occupancy sensor
- SCP Programmable dimming control
- SCPW Programmable dimming control wireless

WIRELESS CONTROL OPTIONS
- WIR wiSCAPE
- WIRSC wiSCAPE with motion control

*See specification page for complete fixture data

SPAULDING LIGHTING



Cimarron CL1

Area/Site Lighting

CVS 11096 Richmond TX — Type T3B-BC

RECTANGULAR LUMINAIRES

FEATURES

- Stylish vertically finned die-cast solid top housing and lower heat sink optimize heat dissipation;
- Isolated electrical compartment with integral heat sinking for cooler operation and longer driver life
- Drivers have greater than 90% power factor and less than 20% THD
- Optional continuous dimming to 10% or dual circuitry available
- Automatic thermal self protection
- 20KA surge protection with an end of life LED indicator
- 60,000 hours life (L90 @ 40°C)*
- Shipped with upswept or straight arm for uniform look and ease of installation
- -40 deg C to 40 deg C ambient operation
- Lektrocote TGIC polyester powder coat finish
- 3000K, 80 CRI; 4000K, 70 CRI; 5000K, 67 CRI
- Stainless steel bezel(s)
- Choice of 72 high brightness LED configurations with individual acrylic lenses aimed to produce IES type II, III, IV and V distributions and auto optics
- Backlight control option reduces spill light behind pole by 85%, doesn't change fixture appearance or EPA
- IP65
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations
- Increased lumen ouput with use of 1050mA driver (90L only)
- DesignLights Consortium qualified
- Turtle friendly Amber available

ORDERING INFORMATION

CL1 - ☐ - ☐ ☐ - ☐ - ☐ - ☐ - ☐ - ☐

SERIES
- [✓ CL1 Cimarron LED]

MOUNTING
- [✓ A Arm mount construction (6" straight rigid arm included & acceptable for 90° configurations)]
- AD Decorative arm mount const. (6" decorative upswept arm incl. & acceptable for 90° configurations)
- MAF Mast arm fitter for mounting to standard 2 3/8" mast arm bracket, includes 6" straight rigid arm

NO. OF LEDS
- 90L 90 High brightness LEDs
- [✓ 60L 60 High brightness LEDs]
- 30L 30 High brightness LEDs

VOLTAGE
- [✓ U Universal 120V-277V, 50/60 Hz]
- 1 120V
- 2 208V
- 3 240V
- 4 277V
- 5 480V, 60 Hz
- F 347V, 60 Hz
- E^4 220V, 50 Hz

CCT
- 3K 3000K, 80CRI
- [✓ 4K 4000K, 70CRI]
- 5K 5000K, 67CRI
- AM Amber (590 nm available for "Turtle Friendly" applications (consult factory)

DRIVE CURRENT
- Leave blank for 700mA (standard)
- 035 350mA Amber CCT only
- 105 1050mA (not for use with 30L)

*TBD

COLOR
- DB Dark Bronze
- BL Black
- WH White
- GR Gray
- PS Platinum Silver
- RD Red (premium color)
- FG Forest Green (premium color)
- CC Custom Color

DISTRIBUTION
- 2 Type II
- [✓ 3 Type III]
- 4 Type IV
- 5S Type V Short
- 5M Type V Medium
- 5W Type V Wide
- 2L Type II Rotated 90° left
- 3L Type III Rotated 90° left
- 4L Type IV Rotated 90° left
- 2R Type II Rotated 90° right
- 3R Type III Rotated 90° right
- 4R Type IV Rotated 90° right
- 1A Auto Front Row Type I
- 1AR Auto Front Row Type I Rotated 90° right
- 1AL Auto Front Row Type I Rotated 90° left
- 2A Auto Front Row Type II
- 2AR Auto Front Row Type II Rotated 90° right
- 2AL Auto Front Row Type II Rotated 90° left

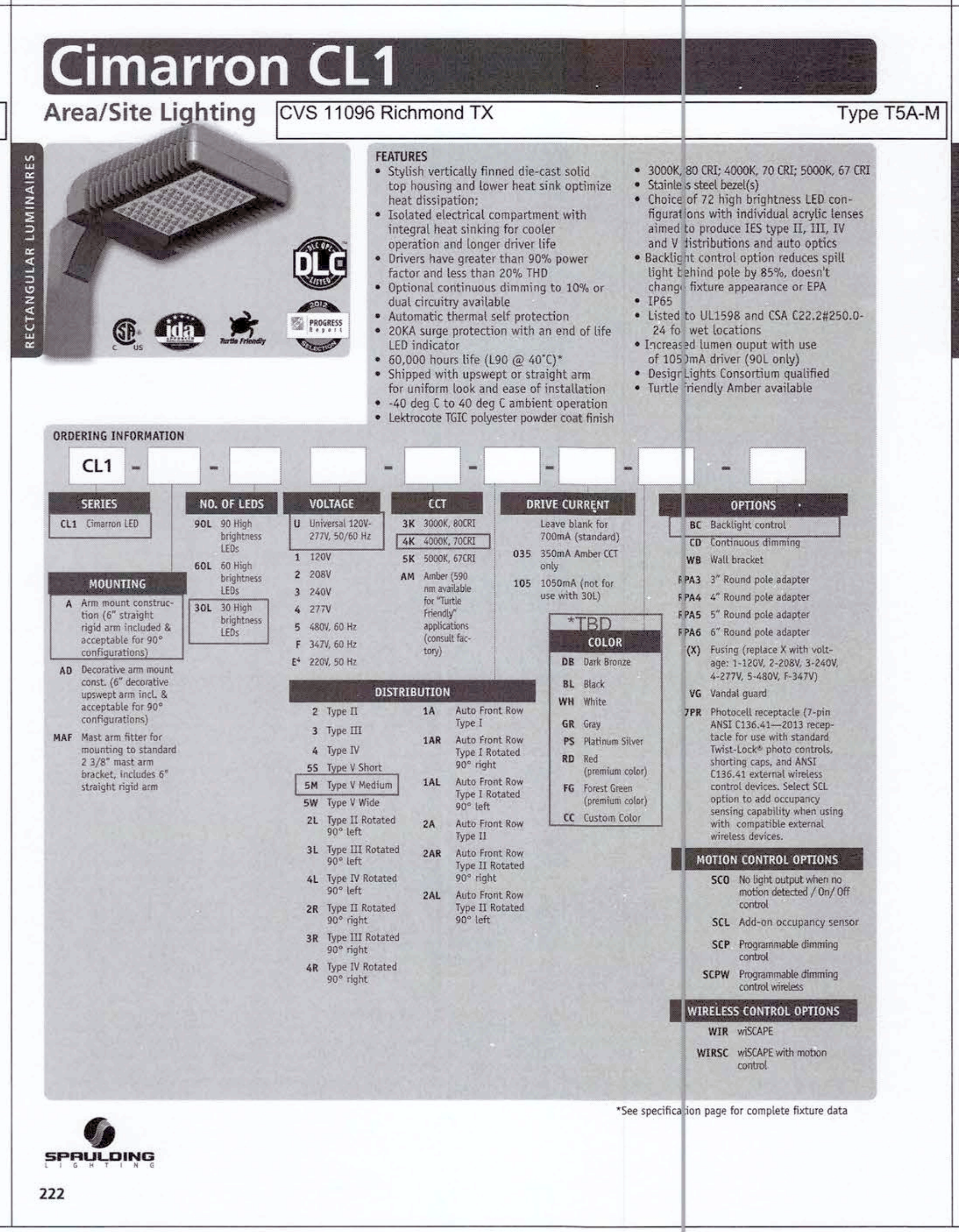
OPTIONS
- [✓ BC Backlight control]
- CD Continuous dimming
- WB Wall bracket
- RPA3 3" Round pole adapter
- RPA4 4" Round pole adapter
- RPA5 5" Round pole adapter
- RPA6 6" Round pole adapter
- F(X) Fusing (replace X with voltage: 1-120V, 2-208V, 3-240V, 4-277V, 5-480V, F-347V)
- VG Vandal guard
- 7PR Photocell receptacle (7-pin ANSI C136.41—2013 receptacle for use with standard Twist-Lock® photo controls, shorting caps, and ANSI C136.41 external wireless control devices. Select SCL option to add occupancy sensing capability when using with compatible external wireless devices.

MOTION CONTROL OPTIONS
- SCO No light output when no motion detected / On/ Off control
- SCL Add-on occupancy sensor
- SCP Programmable dimming control
- SCPW Programmable dimming control wireless

WIRELESS CONTROL OPTIONS
- WIR wiSCAPE
- WIRSC wiSCAPE with motion control

*See specification page for complete fixture data

SPAULDING LIGHTING



Cimarron CL1

Area/Site Lighting

CVS 11096 Richmond TX — Type T5A-M

RECTANGULAR LUMINAIRES

FEATURES

- Stylish vertically finned die-cast solid top housing and lower heat sink optimize heat dissipation;
- Isolated electrical compartment with integral heat sinking for cooler operation and longer driver life
- Drivers have greater than 90% power factor and less than 20% THD
- Optional continuous dimming to 10% or dual circuitry available
- Automatic thermal self protection
- 20KA surge protection with an end of life LED indicator
- 60,000 hours life (L90 @ 40°C)*
- Shipped with upswept or straight arm for uniform look and ease of installation
- -40 deg C to 40 deg C ambient operation
- Lektrocote TGIC polyester powder coat finish
- 3000K, 80 CRI; 4000K, 70 CRI; 5000K, 67 CRI
- Stainless steel bezel(s)
- Choice of 72 high brightness LED configurations with individual acrylic lenses aimed to produce IES type II, III, IV and V distributions and auto optics
- Backlight control option reduces spill light behind pole by 85%, doesn't change fixture appearance or EPA
- IP65
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations
- Increased lumen ouput with use of 1050mA driver (90L only)
- DesignLights Consortium qualified
- Turtle friendly Amber available

ORDERING INFORMATION

CL1 - ☐ - ☐ ☐ - ☐ - ☐ - ☐ - ☐ - ☐

SERIES
- [✓ CL1 Cimarron LED]

MOUNTING
- [✓ A Arm mount construction (6" straight rigid arm included & acceptable for 90° configurations)]
- AD Decorative arm mount const. (6" decorative upswept arm incl. & acceptable for 90° configurations)
- MAF Mast arm fitter for mounting to standard 2 3/8" mast arm bracket, includes 6" straight rigid arm

NO. OF LEDS
- 90L 90 High brightness LEDs
- 60L 60 High brightness LEDs
- [✓ 30L 30 High brightness LEDs]

VOLTAGE
- [✓ U Universal 120V-277V, 50/60 Hz]
- 1 120V
- 2 208V
- 3 240V
- 4 277V
- 5 480V, 60 Hz
- F 347V, 60 Hz
- E^4 220V, 50 Hz

CCT
- 3K 3000K, 80CRI
- [✓ 4K 4000K, 70CRI]
- 5K 5000K, 67CRI
- AM Amber (590 nm available for "Turtle Friendly" applications (consult factory)

DRIVE CURRENT
- Leave blank for 700mA (standard)
- 035 350mA Amber CCT only
- 105 1050mA (not for use with 30L)

*TBD

COLOR
- DB Dark Bronze
- BL Black
- WH White
- GR Gray
- PS Platinum Silver
- RD Red (premium color)
- FG Forest Green (premium color)
- CC Custom Color

DISTRIBUTION
- 2 Type II
- 3 Type III
- 4 Type IV
- 5S Type V Short
- [✓ 5M Type V Medium]
- 5W Type V Wide
- 2L Type II Rotated 90° left
- 3L Type III Rotated 90° left
- 4L Type IV Rotated 90° left
- 2R Type II Rotated 90° right
- 3R Type III Rotated 90° right
- 4R Type IV Rotated 90° right
- 1A Auto Front Row Type I
- 1AR Auto Front Row Type I Rotated 90° right
- 1AL Auto Front Row Type I Rotated 90° left
- 2A Auto Front Row Type II
- 2AR Auto Front Row Type II Rotated 90° right
- 2AL Auto Front Row Type II Rotated 90° left

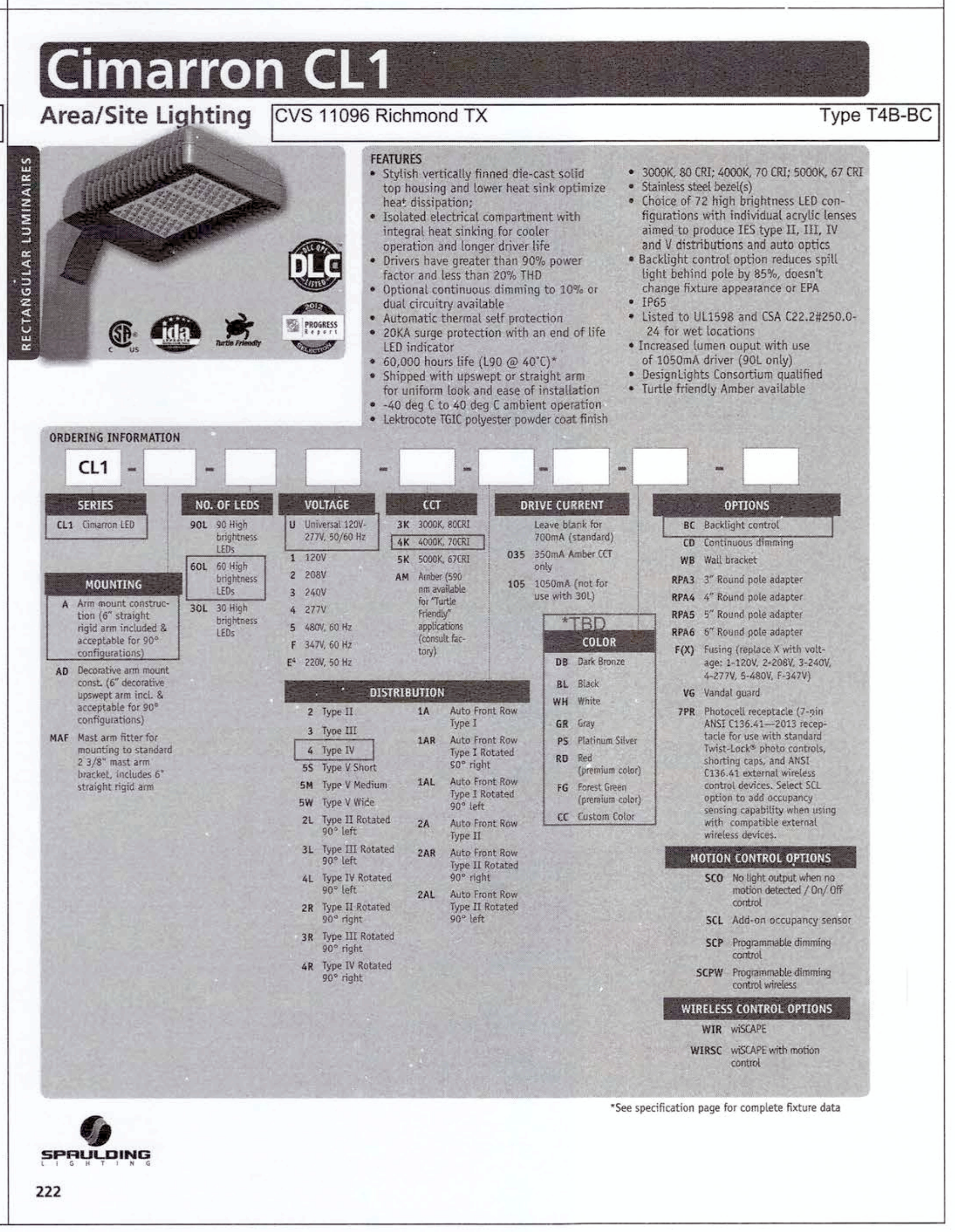
OPTIONS
- [✓ BC Backlight control]
- CD Continuous dimming
- WB Wall bracket
- RPA3 3" Round pole adapter
- RPA4 4" Round pole adapter
- RPA5 5" Round pole adapter
- RPA6 6" Round pole adapter
- F(X) Fusing (replace X with voltage: 1-120V, 2-208V, 3-240V, 4-277V, 5-480V, F-347V)
- VG Vandal guard
- 7PR Photocell receptacle (7-pin ANSI C136.41—2013 receptacle for use with standard Twist-Lock® photo controls, shorting caps, and ANSI C136.41 external wireless control devices. Select SCL option to add occupancy sensing capability when using with compatible external wireless devices.

MOTION CONTROL OPTIONS
- SCO No light output when no motion detected / On/ Off control
- SCL Add-on occupancy sensor
- SCP Programmable dimming control
- SCPW Programmable dimming control wireless

WIRELESS CONTROL OPTIONS
- WIR wiSCAPE
- WIRSC wiSCAPE with motion control

*See specification page for complete fixture data

SPAULDING LIGHTING



Cimarron CL1

Area/Site Lighting

CVS 11096 Richmond TX — Type T4B-BC

RECTANGULAR LUMINAIRES

FEATURES

- Stylish vertically finned die-cast solid top housing and lower heat sink optimize heat dissipation;
- Isolated electrical compartment with integral heat sinking for cooler operation and longer driver life
- Drivers have greater than 90% power factor and less than 20% THD
- Optional continuous dimming to 10% or dual circuitry available
- Automatic thermal self protection
- 20KA surge protection with an end of life LED indicator
- 60,000 hours life (L90 @ 40°C)*
- Shipped with upswept or straight arm for uniform look and ease of installation
- -40 deg C to 40 deg C ambient operation
- Lektrocote TGIC polyester powder coat finish
- 3000K, 80 CRI; 4000K, 70 CRI; 5000K, 67 CRI
- Stainless steel bezel(s)
- Choice of 72 high brightness LED configurations with individual acrylic lenses aimed to produce IES type II, III, IV and V distributions and auto optics
- Backlight control option reduces spill light behind pole by 85%, doesn't change fixture appearance or EPA
- IP65
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations
- Increased lumen ouput with use of 1050mA driver (90L only)
- DesignLights Consortium qualified
- Turtle friendly Amber available

ORDERING INFORMATION

CL1 - ☐ - ☐ ☐ - ☐ - ☐ - ☐ - ☐ - ☐

SERIES
- [✓ CL1 Cimarron LED]

MOUNTING
- [✓ A Arm mount construction (6" straight rigid arm included & acceptable for 90° configurations)]
- AD Decorative arm mount const. (6" decorative upswept arm incl. & acceptable for 90° configurations)
- MAF Mast arm fitter for mounting to standard 2 3/8" mast arm bracket, includes 6" straight rigid arm

NO. OF LEDS
- 90L 90 High brightness LEDs
- [✓ 60L 60 High brightness LEDs]
- 30L 30 High brightness LEDs

VOLTAGE
- [✓ U Universal 120V-277V, 50/60 Hz]
- 1 120V
- 2 208V
- 3 240V
- 4 277V
- 5 480V, 60 Hz
- F 347V, 60 Hz
- E^4 220V, 50 Hz

CCT
- 3K 3000K, 80CRI
- [✓ 4K 4000K, 70CRI]
- 5K 5000K, 67CRI
- AM Amber (590 nm available for "Turtle Friendly" applications (consult factory)

DRIVE CURRENT
- Leave blank for 700mA (standard)
- 035 350mA Amber CCT only
- 105 1050mA (not for use with 30L)

*TBD

COLOR
- DB Dark Bronze
- BL Black
- WH White
- GR Gray
- PS Platinum Silver
- RD Red (premium color)
- FG Forest Green (premium color)
- CC Custom Color

DISTRIBUTION
- 2 Type II
- 3 Type III
- [✓ 4 Type IV]
- 5S Type V Short
- 5M Type V Medium
- 5W Type V Wide
- 2L Type II Rotated 90° left
- 3L Type III Rotated 90° left
- 4L Type IV Rotated 90° left
- 2R Type II Rotated 90° right
- 3R Type III Rotated 90° right
- 4R Type IV Rotated 90° right
- 1A Auto Front Row Type I
- 1AR Auto Front Row Type I Rotated 90° right
- 1AL Auto Front Row Type I Rotated 90° left
- 2A Auto Front Row Type II
- 2AR Auto Front Row Type II Rotated 90° right
- 2AL Auto Front Row Type II Rotated 90° left

OPTIONS
- [✓ BC Backlight control]
- CD Continuous dimming
- WB Wall bracket
- RPA3 3" Round pole adapter
- RPA4 4" Round pole adapter
- RPA5 5" Round pole adapter
- RPA6 6" Round pole adapter
- F(X) Fusing (replace X with voltage: 1-120V, 2-208V, 3-240V, 4-277V, 5-480V, F-347V)
- VG Vandal guard
- 7PR Photocell receptacle (7-pin ANSI C136.41—2013 receptacle for use with standard Twist-Lock® photo controls, shorting caps, and ANSI C136.41 external wireless control devices. Select SCL option to add occupancy sensing capability when using with compatible external wireless devices.

MOTION CONTROL OPTIONS
- SCO No light output when no motion detected / On/ Off control
- SCL Add-on occupancy sensor
- SCP Programmable dimming control
- SCPW Programmable dimming control wireless

WIRELESS CONTROL OPTIONS
- WIR wiSCAPE
- WIRSC wiSCAPE with motion control

*See specification page for complete fixture data

SPAULDING LIGHTING

Texas 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
A PHONE CALL CAN BE YOUR INSURANCE POLICY
CONTRACTORS TO NOTIFY TEXAS ONE CALL SYSTEM
(1-800-245-4545) A MINIMUM OF 72 HOURS
PRIOR TO START OF WORK

Plotted: 07/18/17 – 5:30 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D469161975ID3.dwg, ---> 35 LIGHTING

APPROVED: Maggi D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

Central NJ Office
1904 Main Street
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T: 732.974.0198
F: 732.974.3521

North NJ Office
245 Main Street - Suite 110
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F: 908.879.0222

South NJ Office
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Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
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Newtown, PA 18940
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F: 267.685.0361

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Allen, TX 75013
T: 972.534.2100

Houston TX Office
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14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
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www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE: (H) NOT TO SCALE
(V)

DRAWN BY: DNH/GRY

DESIGNED BY: JAK

CHECKED BY: SES

DATE: 02/17/17

JOB No: 0469-16-197

TITLE:
LIGHTING
CONSTRUCTION DETAILS

SHEET No: 35 OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

CITY, COUNTY AND MUD DETAILS TO SUPERCEDE DYNAMIC ENGINEERING DETAILS WHERE APPLICABLE.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	Performance Package	System Watts	Dist. Type	40K (4000K, 70 CRI) Lumens	B	U	G	LPW	50K (5000K, 65 CRI) Lumens	B	U	G	LPW
10C (10 LEDs)	530	10C 530 --K	20 W	T2S	1,724	1	0	1	86	1,807	1	0	1	90
				T2M	1,729	1	0	1	86	1,812	1	0	1	91
				T3S	1,709	1	0	1	85	1,792	1	0	1	90
				T3M	1,753	1	0	1	88	1,838	1	0	1	92
				T4M	1,753	1	0	1	88	1,837	1	0	1	92
				TFTM	1,766	1	0	1	88	1,851	1	0	1	93
	700	10C 700 --K	27 W	T2S	2,234	1	0	1	83	2,341	1	0	1	87
				T2M	2,241	1	0	1	83	2,349	1	0	1	87
				T3S	2,216	1	0	1	82	2,322	1	0	1	86
				T3M	2,272	1	0	1	84	2,381	1	0	1	88
				T4M	2,272	1	0	1	84	2,381	1	0	1	88
				TFTM	2,289	1	0	1	85	2,399	1	0	1	89
	1000	10C 1000 --K	40 W	T2S	2,992	1	0	1	75	3,136	1	0	1	78
				T2M	3,001	1	0	1	75	3,146	1	0	1	79
				T3S	2,967	1	0	1	74	3,110	1	0	1	78
				T3M	3,043	1	0	1	76	3,189	1	0	1	80
				T4M	3,043	1	0	1	76	3,189	1	0	1	80
				TFTM	3,066	1	0	1	77	3,213	1	0	1	80
20C (20 LEDs)	530	20C 530 --K	36 W	T2S	3,545	1	0	1	98	3,715	1	0	1	103
				T2M	3,556	1	0	1	99	3,727	1	0	1	104
				T3S	3,515	1	0	1	98	3,685	1	0	1	102
				T3M	3,606	1	0	2	100	3,779	1	0	2	105
				T4M	3,605	1	0	1	100	3,779	1	0	1	105
				TFTM	3,632	1	0	1	101	3,807	1	0	1	106
	700	20C 700 --K	47 W	T2S	4,357	1	0	1	93	4,566	1	0	1	97
				T2M	4,370	1	0	1	93	4,580	1	0	1	97
				T3S	4,320	1	0	1	92	4,528	1	0	1	96
				T3M	4,431	1	0	2	94	4,644	1	0	2	99
				T4M	4,430	1	0	1	94	4,644	1	0	2	99
				TFTM	4,464	1	0	1	95	4,678	1	0	1	100
	1000	20C 1000 --K	75 W	T2S	5,745	2	0	2	77	6,020	2	0	2	80
				T2M	5,763	1	0	2	77	6,039	2	0	2	81
				T3S	5,697	1	0	1	76	5,970	1	0	2	80
				T3M	5,843	1	0	2	78	6,123	2	0	2	82
				T4M	5,843	1	0	2	78	6,123	1	0	2	82
				TFTM	5,887	1	0	2	78	6,169	1	0	2	82

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

Electrical Load

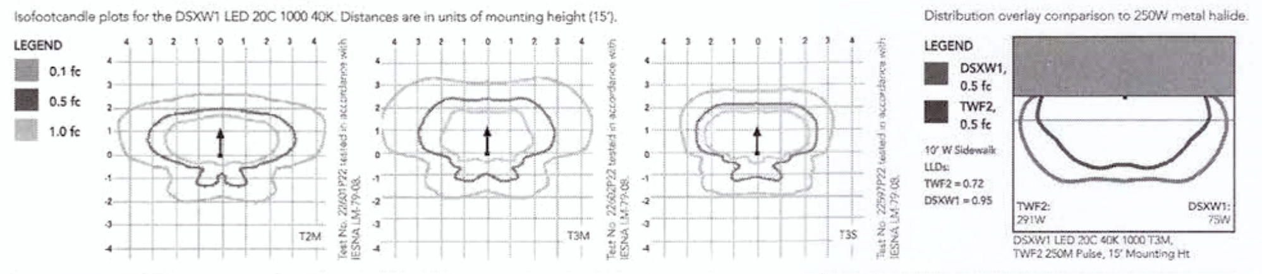
LEDs	Drive Current (mA)	System Watts	Current (A) 120	208	240	277	347	480
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	25 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	-	-
	1000	75 W	0.69	0.40	0.35	0.30	-	-

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 1 homepage.

Isofootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').

Distribution overlay comparison to 250W metal halide.



DSXW1 LED 20C 40K 1000 T3M, TWF2 250M Pulse, 15' Mounting Ht

FEATURES & SPECIFICATIONS

INTENDED USE

The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION

Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000K (80 min. CRI), 4000K (70 min. CRI) or 5000K (65 min. CRI) configurations.

ELECTRICAL

Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION

Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS

CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY

Five year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Specifications subject to change without notice.

LITHONIA LIGHTING

One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com

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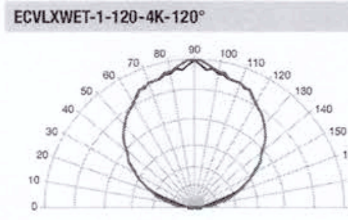
DSXW1-LED
Rev. 12/04/13

SSL solid state luminaires

PHOTOMETRY

ECVLXWET-1-120-4K-120°



Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	140	25%
0-40	233	42%
0-60	418	75%
60-90	130	24%
0-90	548	99%
90-180	7	1%
0-180	555	100%

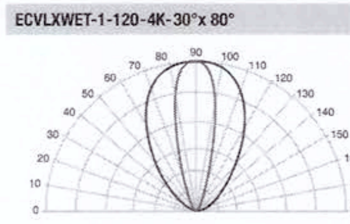
Efficiency Total: 98%

Illuminance at a Distance

	center beam fc	beam width	
8 ft	3 fc	25 ft	25 ft
4 ft	12 fc	12 ft	13 ft
1ft	189 fc	3 ft	3 ft

– beam spread: 115°

ECVLXWET-1-120-4K-30°x 80°



Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	378	67%
0-40	477	85%
0-60	545	97%
60-90	14	3%
0-90	560	99%
90-180	1	1%
0-180	561	100%

Efficiency Total: 99%

Illuminance at a Distance

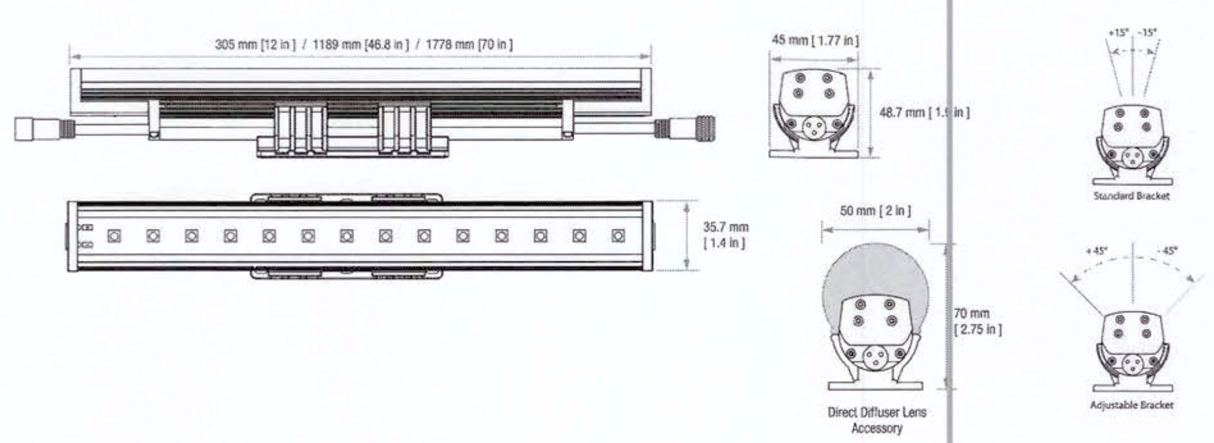
	center beam fc	beam width	
8 ft	11 fc	6 ft	9 ft
4 ft	47 fc	3 ft	5 ft
1ft	747 fc	1 ft	1 ft

PERFORMANCE

Model	Connected Wattage	Delivered Lumens 2700K	3000K	4000K
ECVLXWET-1	6.5	530	538	555
ECVLXWET-4	26	2120	2152	2220
ECVLXWET-6	39	3180	3228	3330

DIMENSIONS

Available in 4 lengths



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3609 swenson ave., st. charles, il 60174. **www.solidstateluminaires.com**

BB Rev. **814**

CVS 11096 Richmond TX — Type F6

SSL solid state luminaires

Fixture:
Project:

eCOVELINE XL WET

The **eCOVELINE XL WET** is a powerful and versatile interior / exterior cove luminaire. **eCOVELINE XL WET** comes in a 1 ft, 4 ft or 6 ft nominal lengths and 2700K, 3000K or 4000K color temperatures. The housing is constructed of extruded aluminum with tooled end caps and is IP66 rated for interior & exterior use. Features IP68 line voltage Plug N' Play connectors for easy installation. Power supply is integral, no remote driver required. Universal orientation fixture; up, down, horizontal or vertical positioning and 2 optical solutions. Flicker free dimmable to 3% full brightness with ELV leading & trailing edge dimming.

SPECIFICATION

color temperature	2400K (consult factory)	2700K	3000K	4000K
beam spread	30° x 80° - 120°			
lumen output		530 per foot	538 per foot	555 per foot
LEDs per foot	14			
color consistency	3-step MacAdam Ellipse			
lifetime	> 70,000 hours / L70 or better			
input voltage	Universal 120–277V AC			
power consumption	6.5 W per foot			
dimensions [L x W x H]	12.25" x 1.77" x 1.9"	47" x 1.77" x 1.9"	70.25" x 1.77" x 1.9"	
weight	1.3 lbs. per foot			
housing	extruded aluminum housing with tooled end caps			
lens	etched polycarbonate			
mounting	surface mounting with (+/– 15°) adjustable brackets (ADB option +/– 45°)			
operating temperature	-10°C to 40°C			
junction temperature	66°C @ Tᵃ 25°C			
interface	dimmable to 3% full brightness, electronic low-voltage (ELV) leading & trailing edge, synchronized w/ soft shut-off			
power supply	integral Class II, electronic high-power factor >94%			
certification	ETL / cETL or CE			
standards	UL-Class I / IES LM-79 / LM-80			
environment	wet, exterior location / IP66 (Connectors IP68)			
warranty	5 year limited warranty (refer to website for details)			

Due to continuous development and improvements, specifications are subject to change without notice.

CATALOG NUMBER

ECVLXWET

model		length		temperature		optics		accessories	
ECVLXWET	eCOVELINE XL WET	1	305 mm [12 in.]	24K	2400K*	3060	30° x 80° beam	BL	Black Louvre
		4	1189 mm [46.8 in.]	27K	2700K	120	120° x 120° beam	SC10W	10 ft. Starter Connection Cord
		6	1778 mm [70 in.]	3K	3000K			EC12W	12 in. Extension Cord
				4K	4000K			EC24W	24 in. Extension Cord
								EC60W	60 in. Extension Cord
								TCAPW	Terminator Cap
								DDL	Direct Diffuser Lens

*Consult factory (minimum order required)

REQUIRED: Starter Cable (SC6) and Terminator Cap (TCAP) for every run.

Maximum Run Length = 100 feet

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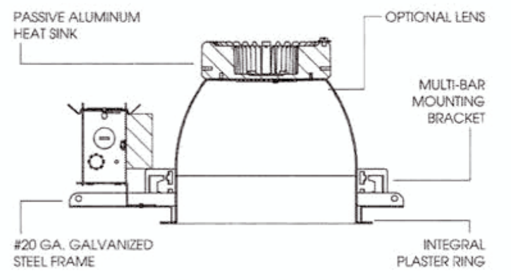
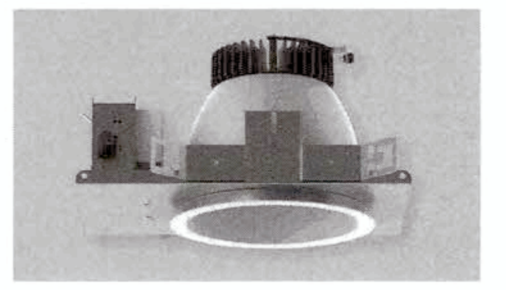
3609 Swenson Ave., St. Charles, IL 60174. **www.solidstateluminaires.com**

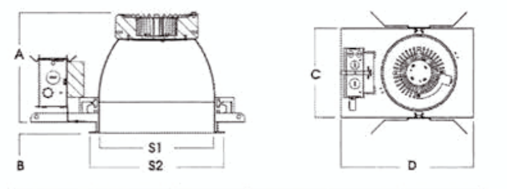
BB Rev. **814**

CVS 11096 Richmond TX — Type OC



PASSIVE ALUMINUM HEAT SINK
OPTIONAL LENS
MULTI-BAR MOUNTING BRACKET
#20 GA. GALVANIZED STEEL FRAME
INTEGRAL PLASTER RING





A	B	C	D	S1	S2
7.06 179.32 mm	.625 15.88 mm	9.38 238.25 mm	14.0 355.6 mm	7.5 190.5 mm	8.88 225.55 mm

8" ROUND DEEP CUTOFF LED DOWNLIGHT

GV SERIES / 5500 LUMENS MAX

recessed fixtures

SGV8LEDGV - TRIM FLANGE / NON-IC RATED

APPLICATION

8" Round aperture recessed LED downlight with deep cutoff for general illumination.

FEATURES

Single stage optical system with deep reflector design delivers smooth glare-free general illumination. Tool-less LED module, driver, and J-Box access. Multi-Bar mounting brackets. BH27 Standard mounting bars included. Posi-lock trim retention springs. Integral 0.625" collar, with Deep Ceiling Extension (PR), consult factory.

TRIM FINISH

A variety of architectural powdercoat and anodized finishes are available. Matte White self-flange is standard.

ELECTRONICS

GV LED system features high brightness white Samsung LED's, 3 step MacAdam Ellipse binning. Standard CRI: 85+. Higher CRI, R9 and custom LED configurations are available; consult factory. A variety of electronic 120v/277v and dimming drivers available.

CONSTRUCTION

Housing/frame constructed of #20 ga. galvanized steel to resist corrosion. Self-flanged one piece trim spun from 0.063" thick high purity aluminum and finished to specification. Passive machined aluminum heatsink.

CODE COMPLIANCE

ARRA Compliant. Non-IC rated. ETL listed for damp locations. Manufactured and tested to UL standards No. 1598/8750.

WATTAGE TO LUMENS UPDATE

CURRENT PART NUMBER EXAMPLE	PREVIOUS PART NUMBER EXAMPLE	SOURCE LUMENS[1]	DELIVERED LUMENS[2]	SYSTEM WATTS	LPW/LER
SGV8LEDGV15L	SGV8LEDGV14W	1500	1237	13.3	93
SGV8LEDGV27L	SGV8LEDGV26W	2700	2236	22.3	100
SGV8LEDGV37L	SGV8LEDGV37W	3700	3020	29.1	104
SGV8LEDGV55L	SGV8LEDGV55W	5500	4465	42.6	105

RECESSED HOUSING SPECIFICATION / TRIM SPECIFICATION

SERIES	LUMENS[1]	CCT	DRIVER / VOLTAGE[3]		OPTIONS[4]	TRIM / FINISH[7]	TRIM OPTIONS
SGV8LEDGV	15L 1500 Lm 27L 2700 Lm 37L 3700 Lm 55L 5500 Lm	27K 2700° K 30K 3000° K 35K 3500° K 40K 4000° K 50K 5000° K	E_ Electronic Driver DS10_ 10% 0-10V Dimming DO10_ 1% 0-10V Dimming DS2W1 ELV MLV 1% Phase Dimming, 120v Only DLTE1 Lutron ELV/MLV 1% Phase Dimming, 120v Only DL33_ Lutron Hi Lume 1% Dimming DL3E_ Lutron ECO System 1% Dimming LDE1_ Lutron ECO System 1% Fade to Black Dimming EL10_ 1% ELDO LED Dimming ED01_ 0.1% ELDO LED Dimming DALI_ DALI Control Dimming DMX_ DMX Control Dimming	1 120v 2 277v	BH27[5] 27" Bar Hangers H12 Expandable Bar Hangers, 12" - 24" H06 Expandable Bar Hangers, 6" - 12" CB24 C-Channel Bars for Grid Ceiling EM Emergency Battery Pack FS Fusing EB Black Housing CR Corrosion Resistant PR[6] Deep Ceiling Extension GR Goof Ring AMB Anti Microbial Finish	AR8710GV[8] SG[9] Semi-Diffuse HZ Haze Full Diffuse MW Matte White MB Matte Black AC Anodic Champagne AS Anodic Sapphire PT Platinum Silver OB Oil Rubbed Bronze CH Charcoal AS Anodic Sapphire AM Anodic Malachite SN Sun Gold CO Copper Metallic GH Graphite AMB Anti Microbial Finish CC Custom Color PF[10] Polished Flange	SO Micro Prism Solite™ Lens FG Frosted Glass Lens GS Gasket for Flange WB White Micro-Groove Baffle BB Black Micro-Groove Baffle

EXAMPLE: SGV8LEDGV15L35KE1/BH27/AR8710GVMW

NOTES:
1 Nominal Source Lumens at 3500°K 2 Nominal Delivered Lumens at 3500°K with SG 3 Contact Factory for Additional Options 4 See Product Options Page For Details 5 Standard Bar Hangers 6 Contact Factory 7 Contact Factory for Special Finishes 8 Matte White Flange Standard 9 Standard Finish 10 Flange Same Finish as Reflector

SAMSUNG — 5 YEAR WARRANTY — MADE IN THE USA

Dimensions and values shown are nominal. Spectrum Lighting continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

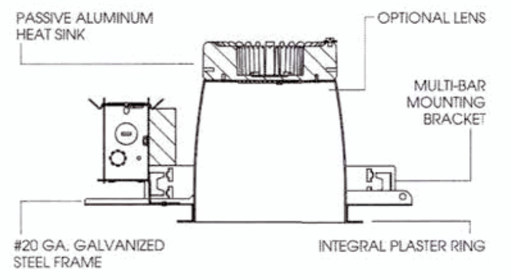
PROJECT:	TYPE:
CAT. NO.:	

SPECTRUM LIGHTING INC.

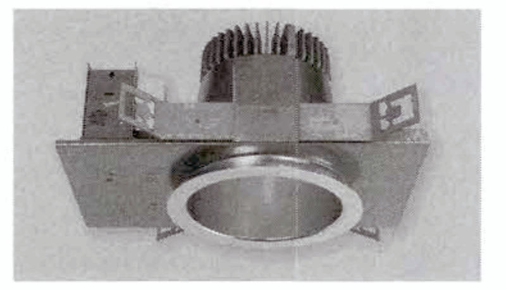
WWW.SPECLIGHT.COM • 994 JEFFERSON STREET, FALL RIVER, MA 02721 • 508.678.2303 FAX 508.678.2260

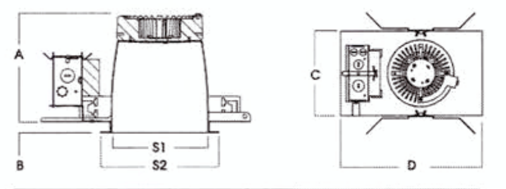
1602

CVS 11096 Richmond TX — Type OC 1



PASSIVE ALUMINUM HEAT SINK
OPTIONAL LENS
MULTI-BAR MOUNTING BRACKET
#20 GA. GALVANIZED STEEL FRAME
INTEGRAL PLASTER RING





A	B	C	D	S1	S2
6.75 171.45 mm	.625 15.88 mm	7.88 200.15 mm	13.25 336.55 mm	6.05 152.67 mm	7.50 190.5 mm

6" ROUND DEEP CUTOFF LED DOWNLIGHT

GV SERIES / 5500 LUMENS MAX

recessed fixtures

SGV6LEDGV - TRIM FLANGE / NON-IC RATED

APPLICATION

6" Round aperture recessed LED downlight with deep cutoff for general illumination.

FEATURES

Single stage optical system with deep reflector design delivers smooth glare-free general illumination. Tool-less LED module, driver, and J-Box access. Multi-Bar mounting brackets. BH27 Standard mounting bars included. Posi-lock trim retention springs. Integral 0.625" collar, with Deep Ceiling Extension (PR), consult factory.

TRIM FINISH

A variety of architectural powdercoat and anodized finishes are available. Matte White self-flange is standard.

ELECTRONICS

GV LED system features high brightness white Samsung LED's, 3 step MacAdam Ellipse binning. Standard CRI: 85+. Higher CRI, R9 and custom LED configurations are available; consult factory. A variety of electronic 120v/277v and dimming drivers available.

CONSTRUCTION

Housing/frame constructed of #20 ga. galvanized steel to resist corrosion. Self-flanged one piece trim spun from 0.063" thick high purity aluminum and finished to specification. Passive machined aluminum heatsink.

CODE COMPLIANCE

ARRA Compliant. Non-IC rated. ETL listed for damp locations. Manufactured and tested to UL standards No. 1598/8750.

WATTAGE TO LUMENS UPDATE

CURRENT PART NUMBER EXAMPLE	PREVIOUS PART NUMBER EXAMPLE	SOURCE LUMENS[1]	DELIVERED LUMENS[2]	SYSTEM WATTS	LPW/LER
SGV6LEDGV15L	SGV6LEDGV14W	1500	1168	13.3	88
SGV6LEDGV27L	SGV6LEDGV26W	2700	2110	22.3	95
SGV6LEDGV37L	SGV6LEDGV37W	3700	2828	29.1	97
SGV6LEDGV55L	SGV6LEDGV55W	5500	4181	42.6	98

RECESSED HOUSING SPECIFICATION / TRIM SPECIFICATION

SERIES	LUMENS[1]	CCT	DRIVER / VOLTAGE[3]		OPTIONS[4]	TRIM / FINISH[7]	TRIM OPTIONS
SGV6LEDGV	15L 1500 Lm 27L 2700 Lm 37L 3700 Lm 55L 5500 Lm	27K 2700° K 30K 3000° K 35K 3500° K 40K 4000° K 50K 5000° K	E_ Electronic Driver DS10_ 10% 0-10V Dimming DO10_ 1% 0-10V Dimming DS2W1 ELV MLV 1% Phase Dimming, 120v Only DLTE1 Lutron ELV/MLV 1% Phase Dimming, 120v Only DL33_ Lutron Hi Lume 1% Dimming DL3E_ Lutron ECO System 1% Dimming LDE1_ Lutron ECO System 1% Fade to Black Dimming EL10_ 1% ELDO LED Dimming ED01_ 0.1% ELDO LED Dimming DALI_ DALI Control Dimming DMX_ DMX Control Dimming	1 120v 2 277v	BH27[5] 27" Bar Hangers H12 Expandable Bar Hangers, 12" - 24" H06 Expandable Bar Hangers, 6" - 12" CB24 C-Channel Bars for Grid Ceiling EM Emergency Battery Pack FS Fusing EB Black Housing CR Corrosion Resistant PR[6] Deep Ceiling Extension GR Goof Ring AMB Anti Microbial Finish	AR6710GV[8] SG[9] Semi-Diffuse HZ Haze Full Diffuse MW Matte White MB Matte Black AC Anodic Champagne AS Anodic Sapphire PT Platinum Silver OB Oil Rubbed Bronze CH Charcoal AS Anodic Sapphire AM Anodic Malachite SN Sun Gold CO Copper Metallic GH Graphite AMB Anti Microbial Finish CC Custom Color PF[10] Polished Flange	SO Micro Prism Solite™ Lens FG Frosted Glass Lens GS Gasket for Flange WB White Micro-Groove Baffle BB Black Micro-Groove Baffle

EXAMPLE: SGV6LEDGV27L35KE1BH27/AR6710GVMW

NOTES:
1 Nominal Source Lumens at 3500°K 2 Nominal Delivered Lumens at 3500°K with SG 3 Contact Factory for Additional Options 4 See Product Options Page For Details 5 Standard Bar Hangers 6 Contact Factory 7 Contact Factory for Special Finishes 8 Matte White Flange Standard 9 Standard Finish 10 Flange Same Finish as Reflector

SAMSUNG — 5 YEAR WARRANTY — MADE IN THE USA

Dimensions and values shown are nominal. Spectrum Lighting continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

PROJECT:	TYPE:
CAT. NO.:	

SPECTRUM LIGHTING INC.

WWW.SPECLIGHT.COM • 994 JEFFERSON STREET, FALL RIVER, MA 02721 • 508.678.2303 FAX 508.678.2260

1602

CVS 11096 Richmond TX — Type WP

D-Series Size 1

LED Wall Luminaire

Catalog Number
Notes
Type

Hit the Tab key or mouse over the page to see all interactive elements.

d"series

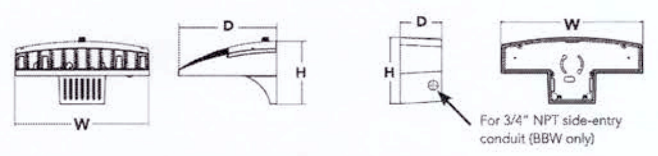
Specifications

Luminaire

Width:	13-3/4" (34.9 cm)	Weight:	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)		
Height:	6-3/8" (16.2 cm)		

Back Box (BBW, ELCW)

Width:	13-3/4" (34.9 cm)	BBW Weight:	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	ELCW Weight:	10 lbs (4.5 kg)
Height:	6-3/8" (16.2 cm)		



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED — *TBD

Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options	Other Options	Finish (required)
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines)	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A)	30K 3000K 40K 4000K 50K 5000K	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	MVOLT[1] 120[1] 208[1] 240[1] 277[1]	Shipped included (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry)[2]	Shipped installed PE Photoelectric cell, button type[3] DMG 0-10V dimming driver (no controls) PIR 180° motion/ambient light sensor, <15' mtg ht[4,6] PIRH 180° motion/ambient light sensor, 15-30' mtg ht[5,6] ELCW Emergency battery backup (includes external component enclosure)[7]	Shipped installed SF Single fuse (120, 277V)[8] DF Double fuse (208, 240V)[8] HS House-side shield[9] SPD Separate surge protection[10] Shipped separately BSW Bird-deterrent spikes[9] WG Wire guard[9] VG Vandal guard[9]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

NOTES
1 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
2 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
3 Photocontrol (PE) requires 120, 208, 240 or 277 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
4 Specifies the Sensor Switch SBR-10-ODP control; see Motion Sensor Guide for details. Includes ambient light sensor. Not available with "PE" option (button type photocell). Dimming driver standard.
5 Specifies the Sensor Switch SBR-6-ODP control; see Motion Sensor Guide for details. Includes ambient light sensor. Not available with "PE" option (button type photocell). Dimming driver standard.
6 Not available with 20 LED/1000 mA configuration (DSXW1 LED 20C 1000).
7 Not compatible with conduit entry applications. Not available with BBW mounting option.
8 Single fuse (SF) requires 120 or 277 voltage option. Double fuse (DF) requires 208 or 240 voltage option.
9 Also available as a separate accessory; see Accessories information.
10 See the electrical section on page 2 for more details.

Accessories

Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXW1WG U	Wire guard accessory
DSXW1VG U	Vandal guard accessory

LITHONIA LIGHTING

One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com

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GALILEO FAMILY—CR867 Series—Apollo with Shield

SPECIFICATIONS

- BACKPLATE — 16 Ga. aluminum (AL)
- SHIELD — Solid Aluminum Top and Front Shield. Clear Bottom.
- DIFFUSER — White translucent, fully enclosed non-yellowing 100% virgin acrylic, .125 Thick (1/8").
- FASTENERS— Stainless steel tamperproof screws —(2) To secure lens in place.
- FINISH — Corrosion and Weather resistant, extremely durable pre-treated oven baked polyester powder.
- GASKETING — High temp., Non-aging black EPDM and/or neoprene rubber around the entire lens perimeter & rear wire entrance hole to protect against dust, moisture, outside contaminants
- MOUNTING — Surface Wall Mount.
- COMPLIANCE — Built to UL1598 & UL8750 compliance for UL/ULC for U.S. and Canadian Safety Standards. Suitable for Wet Locations.
- WARRANTY — Standard 5 Years, defects and workmanship.
  Consult Factory for Extended Conditional Warranty

	Series	Size	Lamp/Wattage	Color Temp	Voltage	Finish	Options
ORDERING GUIDE:	CR867-AP	XL2	LEDD30	4K	EBU	PNA	ATS-CB-SHLD

SERIES
CR867-AP = Custom Apollo Series
Aluminum Top Shield, Partial Front Shield
Clear Bottom

SIZE
XL2 = 12¼"W x 26¼"H x 7¼"D

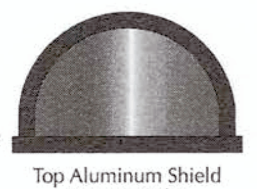
LAMP/WATTAGE
LEDD30 = 30 Watt LED Downlight

COLOR TEMPERATURE
4K = ±4000K Color Range (132 Initial LPW)

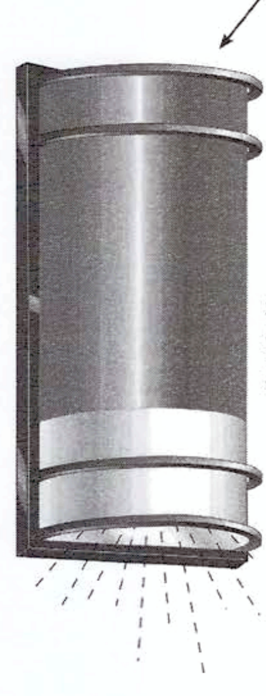
VOLTAGE
EBU = Universal Volt (120~277V)

OPTIONS
ATS = Aluminum Top Shield
CB = Clear Bottom
SHLD = Aluminum Front Shield (Partial)

FINISH
PNA = Painted Natural Aluminum



Top Aluminum Shield
(No Up Light)



CR867 Custom Apollo Series
Aluminum Top Shield and
Partial Aluminum Front Shield
with Clear Bottom

We reserve the right to revise the design or components of any product without notice.

CATALOG #		TYPE
PROJECT/LOCATION		
APPROVED BY		

We reserve the right to revise the design or components of any product due to parts availability or change in UL standards, without assuming any obligation or liability to modify any products previously manufactured and without notice. This literature depicts a product DESIGN that is the SOLE and EXCLUSIVE PROPERTY of ECLIPSE LIGHTING, INC.—An Illinois Corporation. In compliance with U.S. COPYRIGHT and PATENT requirements, notification is hereby presented in this form that this literature, or the product it depicts, is NOT to be copied, altered or used in any manner without the express written consent of, or contrary to the best interests of, ECLIPSE LIGHTING, INC.—05/04/1994

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CR867_AP 75
Rev. 4/26/2016

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Plotted: 07/18/17 – 5:30 PM, By: mlopez
File: P:\DECPC PROJECTS\0469 First Hartford\16-197 Richmond TX – SWC Williams Way\Dwg\Site Plans\D46916197SID3.dwg, ---> 36 LIGHTING

APPROVED: Maji D
Development Coordinator
DATE: 9/27/17

CVS pharmacy

14 K CORNER ENTRY
BUMP-OUT DRIVE-THRU (LEFT)
STORE NUMBER: 11096

4110 WILLIAMS WAY BOULEVARD
CITY OF RICHMOND, FORT BEND COUNTY, TEXAS, 77469
CS PROJECT NUMBER: 99715

DYNAMIC ENGINEERING

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T: 732.974.0198
F: 732.974.3521

North NJ Office
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Chester, NJ 07930
T: 908.879.9229
F: 908.879.0222

South NJ Office
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Toms River, NJ 08753
T: 732.974.0198
F: 732.974.3521

PA Office
790 Newtown Yardley Road - Suite 425
Newtown, PA 18940
T: 267.685.0276
F: 267.685.0361

Dallas Texas Office
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Allen, TX 75013
T: 972.534.2100

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14521 Old Katy Road - Suite 250
Houston, TX 77079
T: 281.789.6400

Austin Texas Office
901 Mopac Expressway South
Austin, TX 78746
T: 512.646.2646
www.dynamicec.com

07/19/17
JOSEPH G. JAWORSKI
120486

JOSEPH G. JAWORSKI
PROFESSIONAL ENGINEER
TEXAS LICENSE No. 120486

DEVELOPER:
FIRST HARTFORD REALTY CORPORATION
149 COLONIAL ROAD
MANCHESTER, CT 06042-2307
TEL: (860) 646-6555
FAX: (860) 646-8572
PROJECT CONTACT: JOHN TOIC

Rev.	Date	Comments	By
1	05/11/17	REV. PER AGENCY COMMENTS	DNH
2	05/15/17	REV. PER CITY COMMENTS	DNH
3	07/19/17	REV. PER CITY COMMENTS	MAL

SCALE:	(H) NOT TO SCALE (V)
DRAWN BY:	DNH/GRY
DESIGNED BY:	JAK
CHECKED BY:	SES
DATE:	02/17/17
JOB No:	0469-16-197

TITLE:
LIGHTING
CONSTRUCTION DETAILS

SHEET No:
36
OF 36

COMMENTS:
THIS PLAN IS FOR APPROVAL PROCESS ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev. # 3

GRAPHIC SCALE: 1" = 40'

Schedule B:

c. A sanitary sewer easement, 15 feet in width along the Northerly property line and 10 feet in width along the Easterly property line, as shown on the recorded plat of Riverpark West Section 1, Amending Plat recorded in/under Slide No. 2195B of the Plat Records of Fort Bend County, Texas. (plotted) (15' affects both tracts) (10' affects tract 1).

d. A storm sewer easement, 10 feet by 10 feet, located along a portion of the Easterly property line, as shown on the recorded plat of Riverpark West Section 1, Amending Plat recorded in/under Slide No. 2195B of the Plat Records of Fort Bend County, Texas. (plotted) (affects tract 1).

e. A one (1) foot reserve dedicated to the public, in fee, as a buffer separation between the side or end of streets in subdivision plats where such streets abut adjacent acreage tracts, the condition of such dedication being that when the adjacent property is subdivided in a recorded plat, the one-foot reserve shall thereupon become vested in the public for street right-of-way purposes and the title fee thereto shall revert to and revest in the dedicator, his heirs, assigns or successors, as set forth on the plat recorded in Slide No. 21958 of the Plat Records of Fort Bend County, Texas. (plotted) (affects tract 1).

f. A sanitary sewer easement, 10 feet by 5 feet, located adjacent to the 15 foot wide sanitary sewer easement along the Northerly property line, as shown on the recorded plat of Riverpark West Section 1, Amending Plat recorded in/under Slide No. 2195B of the Plat Records of Fort Bend County, Texas. (plotted) (does not affect). (intentionally deleted)

g. All terms, conditions, and provisions of that certain Memorandum of Telecommunications Network Agreement by and between Southwest 545, LP., a Texas limited partnership and En-Touch Systems, Inc., a Texas corporation recorded in/under County Clerk's File No. 2001088036, and rerecorded in/under County Clerk's File No. 2001105426 of the Official Public Records of Fort Bend County, Texas. (not plottable) (affects both tracts). (see note 7).

h. Assessments, charges and liens as set forth in the document

Entitled: DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR RIVERPARK WEST (COMMERCIAL PROPERTIES)
Recording Date:May 30, 2003
Recording No: Fort Bend County Clerk's File No. 2003071811 (not plottable) (affects both tracts). (intentionally deleted)

i. Royalty interest in minerals as set forth in instrument

Recording No.: Vol. 183, Page 262, F.B.C.D.R.

Said mineral interest not traced subsequent to the date of the above-cited instrument. (not plottable) (not survey related)

j. Royalty interest in minerals as set forth in instrument Recording No.: Volume 226, Page 342 of the Deed Records of Fort Bend County, Texas. Said mineral interest not traced subsequent to the date of the above-cited instrument. (not survey related)

k. Royalty interest in minerals as set forth in instrument Recording No.: Volume 226, Page 350 of the Deed Records of Fort Bend County, Texas. Said mineral interest not traced subsequent to the date of the above-cited instrument. (not survey related)

l. Royalty interest in minerals as set forth in instrument Recording No.: Volume 1481, Page 634, and corrected in/under Volume 1656, Page 683 of the Official Records of Fort Bend County, Texas. Said mineral interest not traced subsequent to the date of the above-cited instrument. (not survey related)

CURVE TABLE:

Curve	Radius	Length	Delta	Chord	Chord Bear.
C1	1470.00'	101.24'	03°56'45"	101.22'	N74°16'34" E
C2	1470.00'	283.39'	11°02'45"	282.95'	N81°46'19" E
C3	30.00'	38.92'	74°20'16"	36.25'	S46°13'50" E
C4	1940.00'	288.09'	08°30'31"	287.83'	S04°29'55" W

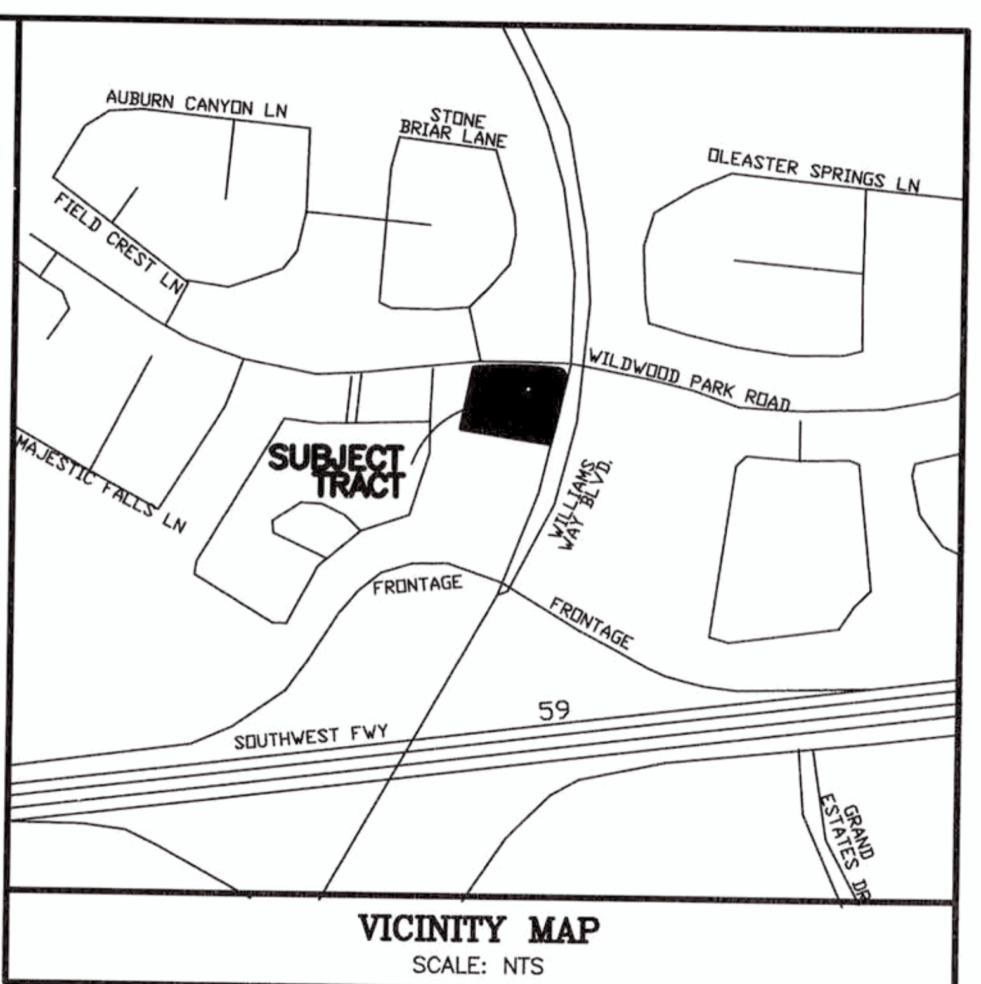
m. Terms, conditions and stipulations of Declaration of Access and Storm Drainage Easement Agreement dated April 27, 2017, recorded on May 1, 2017, in Document No. 2017046543, refiled on May 2, 2017 under Document No. 2017046794. (plotted) (affects both tracts)

n. A 20' wide Storm Sewer Easement filed for record in Clerk's File No. 2002039207, Official Public Records, Fort Bend County, Texas. (plotted) (affects Tract 2)

o. Terms, conditions and stipulations of that certain City of Richmond, Texas Ordinance No. 2017-04 recorded in Fort Bend County Clerk's File No. 2017031968 and being amended in Fort Bend County Clerk's File No. 2017006972. (not plottable) (affects both tracts)

LINE TABLE:

LINE	Bearing	Distance
L1	N72°18'12"E	8.38'
L2	N13°45'03"W	6.91'
L3	S13°45'03"E	6.91'



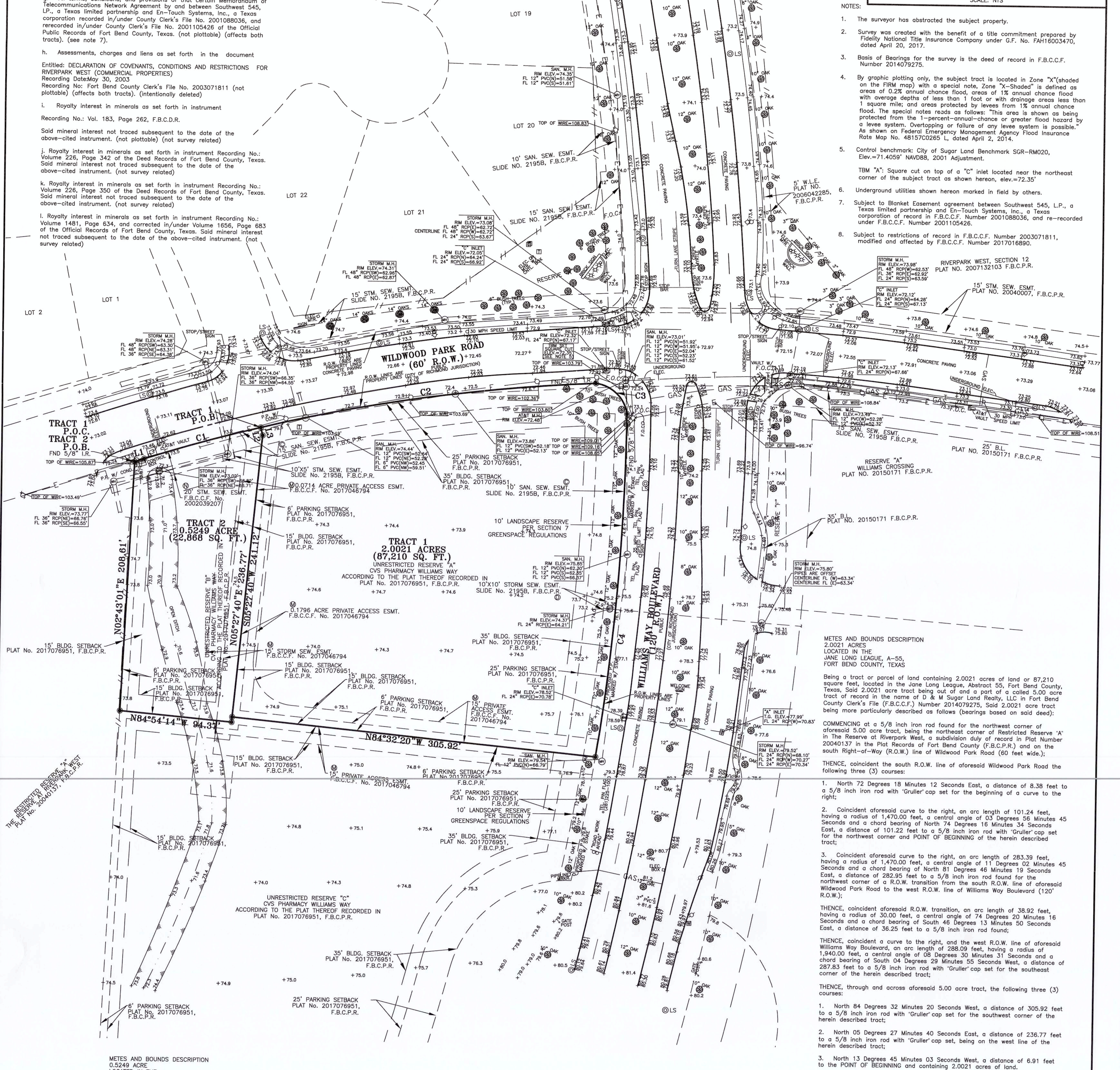
AUBURN CANYON LN
STONE BRIAR LANE
OLEASTER SPRINGS LN
FIELD CREST LN
WILDWOOD PARK ROAD
SUBJECT TRACT
MAJESTIC FALLS LN
WILLIAMS WAY BLVD
FRONTAGE
SOUTHWEST FWY
59
GRAND ESTATES DR

VICINITY MAP
SCALE: NTS

NOTES:

1. The surveyor has abstracted the subject property.
2. Survey was created with the benefit of a title commitment prepared by Fidelity National Title Insurance Company under G.F. No. FAH16003470, dated April 20, 2017.
3. Basis of Bearings for the survey is the deed of record in F.B.C.C.F. Number 2014079275.
4. By graphic plotting only, the subject tract is located in Zone "X"(shaded on the FIRM map) with a special note, Zone "X-Shaded" is defined as areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. The special notes reads as follows: "This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system. Overtopping or failure of any levee system is possible." As shown on Federal Emergency Management Agency Flood Insurance Rate Map No. 48157C0265 L, dated April 2, 2014.
5. Control benchmark: City of Sugar Land Benchmark SGR-RM020, Elev.=71.4059' NAVD88, 2001 Adjustment.

   TBM "A": Square cut on top of a "C" inlet located near the northeast corner of the subject tract as shown hereon, elev.=72.35'
6. Underground utilities shown hereon marked in field by others.
7. Subject to Blanket Easement agreement between Southwest 545, L.P., a Texas limited partnership and En-Touch Systems, Inc., a Texas corporation of record in F.B.C.C.F. Number 2001088036, and re-recorded under F.B.C.C.F. Number 2001105426.
8. Subject to restrictions of record in F.B.C.C.F. Number 2003071811, modified and affected by F.B.C.C.F. Number 2017016890.



LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LOT 1
LOT 2
WILDWOOD PARK ROAD (60' R.O.W.)
WILLIAMS WAY BOULEVARD (120' R.O.W.)
TRACT 1 P.O.B.
TRACT 1 P.O.C.
TRACT 2 P.O.B.
FND 5/8" I.R.
TRACT 1
2.0021 ACRES
(87,210 SQ. FT.)
UNRESTRICTED RESERVE "A"
CVS PHARMACY WILLIAMS WAY
ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT No. 2017076951, F.B.C.P.R.
TRACT 2
0.5249 ACRE
(22,868 SQ. FT.)
UNRESTRICTED RESERVE "B"
UNRESTRICTED RESERVE "C"
CVS PHARMACY WILLIAMS WAY
ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT No. 2017076951, F.B.C.P.R.
N84°32'20"W 305.92'
N84°54'14"W 94.37'
N02°43'01"E 208.61'
N05°27'40"E 236.77'
S05°27'40"W 241.12'
C1
C2
C3
C4
L1
L2
L3
RESERVE "A"
WILLIAMS CROSSING
PLAT No. 20150171 F.B.C.P.R.
RIVERPARK WEST, SECTION 12
PLAT NO. 2007132103 F.B.C.P.R.
THE RESERVE AT RIVERPARK WEST
RESTRICTED RESERVE "A"
PLAT No. 20040137, F.B.C.P.R.
15' SAN. SEW. ESMT. SLIDE NO. 2195B, F.B.C.P.R.
10' SAN. SEW. ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' STM. SEW. ESMT. SLIDE NO. 2195B, F.B.C.P.R.
15' STM. SEW. ESMT. PLAT NO. 20040007, F.B.C.P.R.
10'X10' STORM SEW. ESMT. SLIDE NO. 2195B, F.B.C.P.R.
20' STM. SEW. ESMT. F.B.C.C.F. No. 2002039207
0.0714 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. No. 2017046794
0.1796 ACRE PRIVATE ACCESS ESMT. F.B.C.C.F. No. 2017046794
15' PRIVATE ACCESS ESMT. F.B.C.C.F. No. 2017046794
35' BLDG. SETBACK PLAT No. 2017076951, F.B.C.P.R.
25' PARKING SETBACK PLAT No. 2017076951, F.B.C.P.R.
15' BLDG. SETBACK PLAT No. 2017076951, F.B.C.P.R.
6' PARKING SETBACK PLAT No. 2017076951, F.B.C.P.R.
10' LANDSCAPE RESERVE PER SECTION 7 GREENSPACE REGULATIONS
25' B.L. PLAT No. 20150171 F.B.C.P.R.
5' W.L.E. PLAT NO. 2006042285, F.B.C.P.R.
CONCRETE PAVING
TURN LANE STRIPE
OPEN DITCH
30 MPH SPEED LIMIT
STOP/STREET SIGN
UNDERGROUND ELEC.
GAS
STORM M.H.
SAN. M.H.
"C" INLET
"A" INLET
10" OAK
12" OAK
14" OAKS

METES AND BOUNDS DESCRIPTION
2.0021 ACRES
LOCATED IN THE
JANE LONG LEAGUE, A-55,
FORT BEND COUNTY, TEXAS

Being a tract or parcel of land containing 2.0021 acres of land or 87,210 square feet, located in the Jane Long League, Abstract 55, Fort Bend County, Texas, Said 2.0021 acre tract being out of and a part of a called 5.00 acre tract of record in the name of D & M Sugar Land Realty, LLC in Fort Bend County Clerk's File (F.B.C.C.F.) Number 2014079275, Said 2.0021 acre tract being more particularly described as follows (bearings based on said deed):

COMMENCING at a 5/8 inch iron rod found for the northwest corner of aforesaid 5.00 acre tract, being the northeast corner of Restricted Reserve "A" in The Reserve at Riverpark West, a subdivision duly of record in Plat Number 20040137 in the Plat Records of Fort Bend County (F.B.C.P.R.) and on the south Right-of-Way (R.O.W.) line of Wildwood Park Road (60 feet wide.);

THENCE, coincident the south R.O.W. line of aforesaid Wildwood Park Road the following three (3) courses:

1. North 72 Degrees 18 Minutes 12 Seconds East, a distance of 8.38 feet to a 5/8 inch iron rod with "Gruller" cap set for the beginning of a curve to the right;

2. Coincident aforesaid curve to the right, an arc length of 101.24 feet, having a radius of 1,470.00 feet, a central angle of 03 Degrees 56 Minutes 45 Seconds and a chord bearing of North 74 Degrees 16 Minutes 34 Seconds East, a distance of 101.22 feet to a 5/8 inch iron rod with "Gruller" cap set for the northwest corner and POINT OF BEGINNING of the herein described tract;

3. Coincident aforesaid curve to the right, an arc length of 283.39 feet, having a radius of 1,470.00 feet, a central angle of 11 Degrees 02 Minutes 45 Seconds and a chord bearing of North 81 Degrees 46 Minutes 19 Seconds East, a distance of 282.95 feet to a 5/8 inch iron rod found for the northwest corner of a R.O.W. transition from the south R.O.W. line of aforesaid Wildwood Park Road to the west R.O.W. line of Williams Way Boulevard (120' R.O.W.);

THENCE, coincident aforesaid R.O.W. transition, an arc length of 38.92 feet, having a radius of 30.00 feet, a central angle of 74 Degrees 20 Minutes 16 Seconds and a chord bearing of South 46 Degrees 13 Minutes 50 Seconds East, a distance of 36.25 feet to a 5/8 inch iron rod found;

THENCE, coincident a curve to the right, and the west R.O.W. line of aforesaid Williams Way Boulevard, an arc length of 288.09 feet, having a radius of 1,940.00 feet, a central angle of 08 Degrees 30 Minutes 31 Seconds and a chord bearing of South 04 Degrees 29 Minutes 55 Seconds West, a distance of 287.83 feet to a 5/8 inch iron rod with "Gruller" cap set for the southeast corner of the herein described tract;

THENCE, through and across aforesaid 5.00 acre tract, the following three (3) courses:

1. North 84 Degrees 32 Minutes 20 Seconds West, a distance of 305.92 feet to a 5/8 inch iron rod with "Gruller" cap set for the southwest corner of the herein described tract;

2. North 05 Degrees 27 Minutes 40 Seconds East, a distance of 236.77 feet to a 5/8 inch iron rod with "Gruller" cap set, being on the west line of the herein described tract;

3. North 13 Degrees 45 Minutes 03 Seconds West, a distance of 6.91 feet to the POINT OF BEGINNING and containing 2.0021 acres of land.

METES AND BOUNDS DESCRIPTION
0.5249 ACRE
LOCATED IN THE
JANE LONG LEAGUE, A-55,
FORT BEND COUNTY, TEXAS

Being a tract or parcel of land containing 0.5249 acre of land or 22,868 square feet, located in the Jane Long League, Abstract 55, Fort Bend County, Texas, Said 0.5249 acre tract being out of and a part of a called 5.00 acre tract of record in the name of D & M Sugar Land Realty, LLC in Fort Bend County Clerk's File (F.B.C.C.F.) Number 2014079275, Said 0.5249 acre tract being more particularly described as follows (bearings based on said deed):

BEGINNING at a 5/8 inch iron rod found for the northwest corner of aforesaid 5.00 acre tract, being the northeast corner of Restricted Reserve "A" in The Reserve at Riverpark West, a subdivision duly of record in Plat Number 20040137 in the Plat Records of Fort Bend County (F.B.C.P.R.) and on the south Right-of-Way (R.O.W.) line of Wildwood Park Road (60 feet wide.);

THENCE, coincident the south R.O.W. line of aforesaid Wildwood Park Road the following two (2) courses:

1. North 72 Degrees 18 Minutes 12 Seconds East, a distance of 8.38 feet to a 5/8 inch iron rod with "Gruller" cap set for the beginning of a curve to the right;

2. Coincident aforesaid curve to the right, an arc length of 101.24 feet, having a radius of 1,470.00 feet, a central angle of 03 Degrees 56 Minutes 45 Seconds and a chord bearing of North 74 Degrees 16 Minutes 34 Seconds East, a distance of 101.22 feet to a 5/8 inch iron rod with "Gruller" cap set for the northeast corner of the herein described tract;

THENCE, through and across aforesaid 5.00 acre tract, the following three (3) courses:

1. South 13 Degrees 45 minutes 03 Seconds East, a distance of 6.91 feet to a 5/8 inch iron rod with "Gruller" cap set;

2. South 05 Degrees 27 Minutes 40 Seconds West, a distance of 241.12 feet to a 5/8 inch iron rod with "Gruller" cap set for the southeast corner of the herein described tract;

3. North 84 Degrees 54 Minutes 14 Seconds West, a distance of 94.37 feet to a 5/8 inch iron rod with "Gruller" cap set for the southwest corner of the herein described tract, being on the west line of aforesaid 5.00 acre tract;

THENCE, coincident the west line of aforesaid 5.00 acre tract, North 02 Degrees 43 Minutes 01 Seconds East, a distance of 208.61 feet to the POINT OF BEGINNING and containing 0.5249 acre of land.

LEGEND

●	*IRON ROD SET/FIND*
	POWER POLE
←	*GUY ANCHOR*
(MH)	*MANHOLE*
(MW)	*MONITORING WELL*
⊗	*CLEANOUT*
	GATE VALVE & BOX
	FIRE HYDRANT
W	*WATER METER*
T	*TELEPHONE PEDESTAL*
C	*CABLE EQUIPMENT*
◎LS	*LIGHT STANDARD*
☼	*LIGHT*
	TRAFFIC SIGN
❀	*TREE*
•	*PIPE BOLLARD*
F.O.C.	*FIBER OPTIC CABLE*
M.H.	*MANHOLE*
I.C.V.	*IRRIGATION CONTROL VALVE*
	CURB LINE
	CURB INLET
▦	*AREA INLET*
///////	*EDGE OF BUILDING*
45.67	*TOP OF CURB ELEVATION*
+45.17	*GUTTER ELEVATION*
WOOD FENCE	—— // —— // ——
CHAIN LINK FENCE	—— X —— X ——
WROUGHT IRON FENCE	
OVERHEAD ELECTRIC	—— E —— E ——
WATERLINE	—— WL —— WL ——
GAS LINE	— GAS —— GAS —— GAS —
TELEPHONE LINE	—— T —— T ——
CENTER OF SWALE	—— . . —— . . ——
TOP OF BANK	
+45.6	*EXIST. NATURAL GROUND ELEVATION*
+45.67	*EXIST. ASPHALT OR CONCRETE ELEVATION*

9/27/17

To: CVS Pharmacy, Inc. and CVS Health Corporation, their affiliates and subsidiaries and their successors, nominees, and assigns, First Hartford Realty Corporation, Fidelity National Title Insurance Company and Seyfarth Shaw LLP.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 3, 4, 5, 6(b), 8, 11, 13, 14, 16, 17 & 18 of Table A thereof. The field work was completed on 07-07-2016.

KENNETH A. GRULLER
5476

Kenneth A. Gruller
Texas Registered Professional Land Surveyor No. 5476

PLAT OF SURVEY

BOUNDARY AND TOPOGRAPHY
OF A 2.0021 ACRE (87,210 SQ. FT.) TRACT
AND A 0.5249 ACRE (22,868 SQ. FT.) TRACT
OUT OF AND A PART OF A
5.00 ACRE TRACT
F.B.C.C.F. No. 2014079275
LOCATED IN
JANE LONG LEAGUE, A-55,
FORT BEND COUNTY, TEXAS

REVISED 07-19-2017: APPLIED RECORDED PLAT
REVISED 06-20-2017: ADDRESSED COMMENTS
REVISED 05-10-2017: APPLIED NEW TITLE COMMITMENT
REVISED 05-08-2017: ADDRESSED COMMENTS
REVISED 04-06-2017: ADDRESSED COMMENTS
REVISED 08-25-2016: METES AND BOUNDS TRACT 2
REVISED 08-19-2016: ADDRESSED COMMENTS
REVISED 08-15-2016: ADD PROPOSED ACCESS ESMT.
REVISED 08-08-2016: ADDRESSED COMMENTS

Gruller Surveying, LLC

PROFESSIONAL LAND SURVEYING
5599 SAN FELIPE, SUITE 1420
HOUSTON, TEXAS 77056

SCALE: 1"=40'	*FIELD BOOK:2016-CL*	*DATE:07-13-2016*
G.F. No. FAH16003470		
PHONE: (713) 333-1466 FAX: (713) 782-3755	*DWG. NO. 45-1674.dwg*	

STATE OF TEXAS
COUNTY OF FORT BEND

WE, D & M SUGAR LAND REALTY, LLC, A TEXAS LIMITED LIABILITY COMPANY ACTING BY AND THROUGH, Shoukat Dhanani, President, AND ________, Witness, OWNERS HEREINAFTER REFERRED TO AS OWNER OF THE 5.0000 ACRE TRACT DESCRIBED IN THE ABOVE AND FOREGOING MAP OF CVS PHARMACY WILLIAMS WAY, DOES 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 DEDICATES TO THE USE OF THE PUBLIC FOREVER, ALL STREETS, ALLEYS, PARKS, WATER COURSES, DRAINS, EASEMENTS AND PUBLIC PLACES SHOWN THEREON FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND DOES HEREBY BIND ITSELF, ITS HEIRS, SUCCESSORS AND ASSIGNS TO WARRANT AND FOREVER DEFEND THE TITLE TO THE LAND SO DEDICATED.

FURTHER, OWNER HAS DEDICATED AND BY THESE PRESENTS DOES DEDICATE TO THE USE OF THE PUBLIC FOR PUBLIC UTILITY PURPOSES 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 GROUND LEVEL UPWARD, LOCATED ADJACENT TO AND ADJOINING SAID PUBLIC UTILITY EASEMENTS THAT ARE DESIGNED 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, OWNER HAS DEDICATED AND BY THESE PRESENTS DOES 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 DESIGNED 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, OWNER DOES HEREBY COVENANT AND AGREE THAT ALL OF THE PROPERTY WITHIN THE BOUNDARIES OF THIS PLAT SHALL BE RESTRICTED TO PREVENT THE DRAINAGE OF ANY SEPTIC TANKS INTO ANY PUBLIC OR PRIVATE STREET, ROAD OR ALLEY OR ANY DRAINAGE DITCH EITHER DIRECTLY OR INDIRECTLY.

FURTHER, OWNER DOES HEREBY DEDICATE TO THE PUBLIC A STRIP OF LAND TWENTY (20) FEET 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, FORT BEND 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, OWNER DOES HEREBY COVENANT AND AGREE THAT ALL OF THE PROPERTY WITHIN THE BOUNDARIES OF THIS PLAT AND ADJACENT TO ANY DRAINAGE EASEMENTS, DITCH, GULLY, CREEK OR NATURAL DRAINAGE WAY SHALL HEREBY BE RESTRICTED TO KEEP SUCH DRAINAGE WAYS AND EASEMENTS CLEAR OF FENCES, BUILDINGS, PLANTING 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, OWNER DOES HEREBY ACKNOWLEDGE THE RECEIPT OF THE "ORDERS FOR REGULATION OF OUTDOOR LIGHTING IN THE UNINCORPORATED AREAS OF FORT BEND COUNTY, TEXAS", AND DOES HEREBY COVENANT AND AGREE AND SHALL COMPLY WITH THIS ORDER AS ADOPTED BY FORT BEND COUNTY COMMISSIONERS COURT ON MARCH 23, 2004 AND ANY SUBSEQUENT AMENDMENT.

STATE OF TEXAS
COUNTY OF FORT BEND

IN TESTIMONY WHEREOF, D & M SUGAR LAND REALTY, LLC HAS CAUSED THESE PRESENTS TO BE SIGNED BY Shoukat Dhanani, President, THEREUNTO AUTHORIZED, ATTESTED BY, ________, Witness AND ITS COMMON SEAL HEREUNTO

AFFIXED THIS 9th DAY OF June, 2017.

D & M SUGAR LAND REALTY, LLC

BY: GLOBAL NEW MILLENNIUM PARTNERS, LTD., A TEXAS LIMITED PARTNERSHIP, ITS SOLE MANAGER

BY: GLOBAL NEW MILLENNIUM, INC., A TEXAS CORPORATION, ITS SOLE GENERAL PARTNER

BY: ________

Shoukat Dhanani, President
NAME TITLE

ATTEST: Noela Garcia
Noela Garcia, Witness
NAME TITLE

STATE OF TEXAS
COUNTY OF FORT BEND
BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY

APPEARED Shoukat Dhanani, AND ________, 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, AND IN THE CAPACITY THEREIN AND HEREIN STATED, AND AS THE ACT AND DEED OF SAID CORPORATION.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS 9th DAY OF June 2017

Vanessa Bautista
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS
PRINT NAME:

MY COMMISSION EXPIRES May 05, 2018

VANESSA BAUTISTA
Notary Public, State of Texas
Comm. Expires 05-05-2018
Notary ID 125955685

STATE OF TEXAS
COUNTY OF FORT BEND
THIS PLAT OF CVS PHARMACY WILLIAMS WAY IS APPROVED ON 4-17-17 BY THE CITY OF RICHMOND CITY COMMISSION, AND SIGNED THIS 17th DAY OF April, 2017 PROVIDED, HOWEVER, THIS APPROVAL SHALL BE INVALID, NULL AND VOID, UNLESS THIS PLAT IS FILED WITH THE COUNTY CLERK OF FORT BEND COUNTY, TEXAS WITHIN (1) YEAR HEREAFTER

Evalyn Moore
Evalyn Moore, Mayor

Laura Scarlato, City Secretary

STATE OF TEXAS
COUNTY OF FORT BEND
THIS PLAT OF CVS PHARMACY WILLIAMS WAY SUBDIVISION APPROVED BY THE CITY MANAGER OF THE CITY OF RICHMOND, TEXAS THIS 17th DAY OF April, 2017.

Terri Vela
Terri Vela, City Manager

I, STEVE E. STACY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS DO HEREBY CERTIFY THIS PLAT MEETS ALL REQUIREMENTS OF FORT BEND COUNTY.

Steve E. Stacy, P.E.
LICENSED PROFFESIONAL ENGINEER
TEXAS LICENSE No. 80294

STEVE E. STACY
80294
6/7/17

WE, INTEGRITY BANK, HOLDER OF A LIEN AGAINST THE PROPERTY DESCRIBED IN THE PLAT KNOWN AS CVS PHARMACY WILLIAMS WAY, SAID LIEN BEING EVIDENCED BY INSTRUMENT OF RECORD IN THE CLERK'S FILE NUMBER 2014079276 OF THE O.P.R.O.R.P. OF HARRIS COUNTY, TEXAS, DO HEREBY IN ALL THINGS SUBORDINATE OUR INTEREST IN SAID PROPERTY TO THE PURPOSES AND EFFECTS OF SAID PLAT AND THE DEDICATIONS AND RESTRICTIONS SHOWN HEREIN TO SAID SUBDIVISION PLAT AND WE HEREBY CONFIRM THAT WE ARE THE PRESENT OWNER OF SAID LIEN AND HAVE NOT ASSIGNED THE SAME NOR ANY PART THEREOF.

BY: ________

PRINTED NAME: Chris Springer

TITLE: AVP

STATE OF TEXAS)

COUNTY OF HARRIS)

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED Shenaye Montgomery, KNOWN TO ME TO BE THE PERSON WHOSE NAMES IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGMENT TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN AND HEREIN STATED, AND AS THE ACT AND DEED OF SAID CORPORATION.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS 7TH DAY OF June, 2017.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS
PRINT NAME:

MY COMMISSION EXPIRES: 04/16/18

SHENAYE N MONTGOMERY
My Commission Expires
April 16, 2018

NOTES:

1. B.L. denotes Building Line, U.E. denotes Utility Easement, S.S.E. denotes Sanitary Sewer Easement, D.E. denotes Drainage Easement, ESM'T. denotes easement, R.O.W. denotes right-of-way, F.B.C.D.R. denotes Fort Bend County Deed Records, F.B.C.P.R. denotes Fort Bend County Plat Records, F.B.C.C.F. denotes Fort Bend County Clerk's File, VOL. denotes Volume, PG. denotes Page, P.A.E. denotes Private Access Easement.

2. The plat was prepared to meet City of Richmond and Fort Bend County Requirements.

3. The 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 combined scale of 0.999878.

4. This plat lies wholly within Fort Bend County Municipal Utility District No. 121, Fort Bend County Subsidence District, the City of Richmond ETJ, Fort Bend County Drainage District and Fort Bend County.

5. Control benchmark: City of Sugar Land Benchmark SGR-RM020, Elev.=71.4059' NAVD88, 2001 Adjustment.

TBM "A": Square cut on top of a "C" inlet located near the northeast corner of the subject tract as shown hereon, elev.=72.35'

6. By graphic plotting only, the subject tract is located in Zone "X"(shaded on the FIRM map) with a special note, Zone "X-Shaded" is defined as areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. The special notes reads as follows: "This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system. Overtopping or failure of any levee system is possible." As shown on Federal Emergency Management Agency Flood Insurance Rate Map No. 48157C0265 L, dated April 2, 2014.

7. The drainage system for this subdivision shall be designed to meet the requirements of the Fort Bend County Drainage Criteria Manual which allows street ponding during intense rainfall events.

8. Five eights inch (5/8") iron rod three feet (3') in length set on all perimeter boundary corners, unless otherwise noted.

9. All drainage easements to be kept clear of fences, buildings, vegetation and other obstructions to the operation and maintenance of the drainage facility.

10. All property to drain into the drainage easement only through an approved drainage structure.

12. There are no pipelines or pipeline easements within the limits of this plat.

13. This plat lies within lighting zone: LZ3.

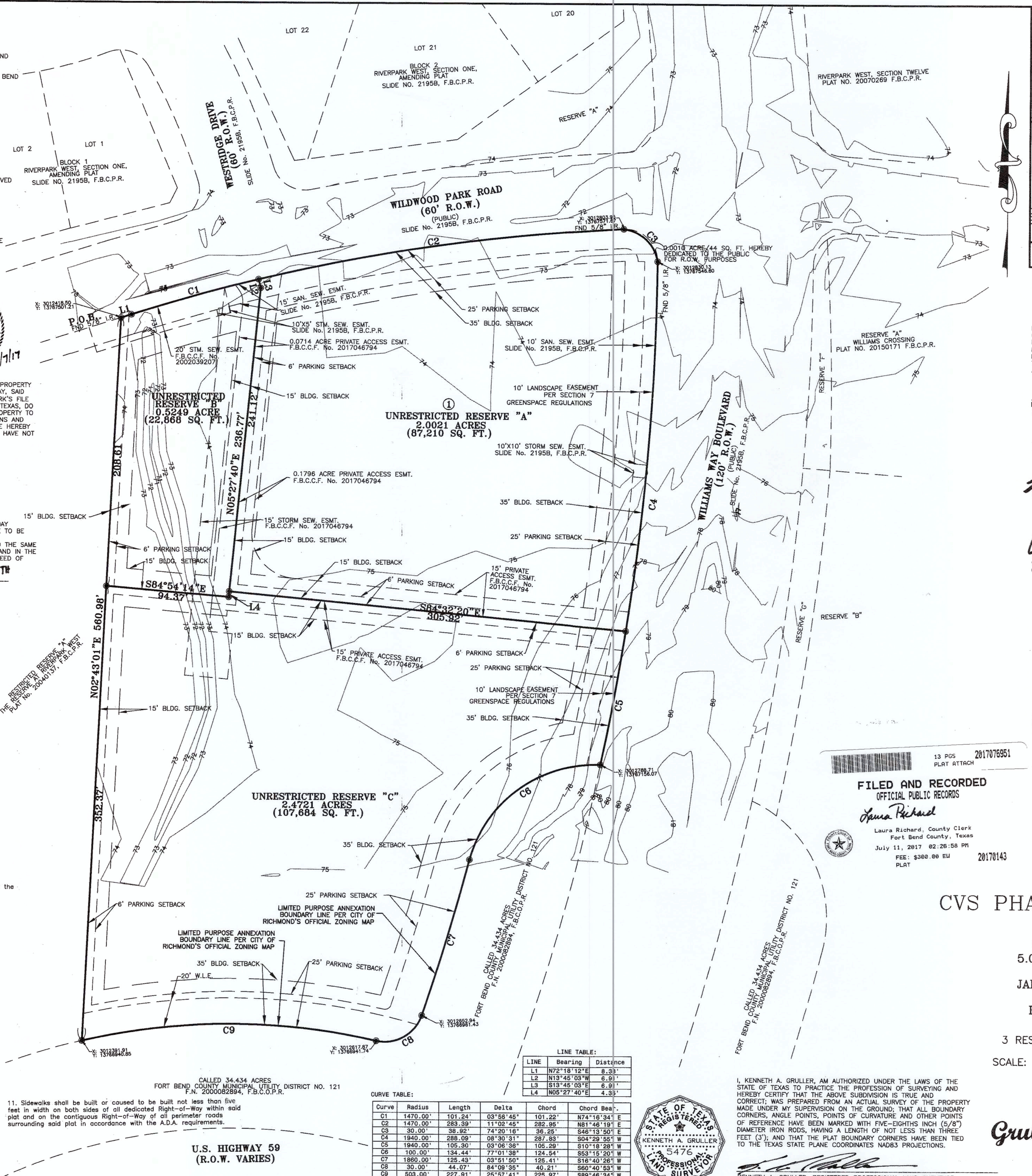
14. Ownership and maintenance responsibility of the regional detention facility is vested in Fort Bend County Municipal Utility District No. 121

15. Elevations used for delineating contour lines are based on 2001 Adjustment.

16. Ditch located in Reserve "B" to be abandoned by F.B.C.C.F. No. 2017046794 in conjunction with the storm sewer easement, headwall, and storm sewer pipe installation.

17. The top of floor slabs shall be a minimum of 76.5 feet above mean seal level. The top of slab elevation at any point on the perimeter of the slab shall not be less than eighteen (18) inches above natural ground.

18. 10 foot landscape easement is required by Fort Bend County based on the Fort Bend County Regulations of Subdivisions: Section 7-Green Space Regulations which states that a minimum of 10 feet of land is required to be dedicated when adjacent to or surrounds a Fort Bend County major thoroughfare.


LOT 22
LOT 21
LOT 20
BLOCK 2
RIVERPARK WEST, SECTION ONE, AMENDING PLAT
SLIDE NO. 2195B, F.B.C.P.R.
RESERVE "A"
RIVERPARK WEST, SECTION TWELVE
PLAT NO. 20070269 F.B.C.P.R.
LOT 2
LOT 1
BLOCK 1
RIVERPARK WEST, SECTION ONE, AMENDING PLAT
SLIDE NO. 2195B, F.B.C.P.R.
WESTRIDGE DRIVE (60' R.O.W.)
SLIDE No. 2195B, F.B.C.P.R.
WILDWOOD PARK ROAD (60' R.O.W.)
(PUBLIC)
SLIDE No. 2195B, F.B.C.P.R.
X: 3012803.93
Y: 13767571.87
FND 5/8" I.R.
C1
C2
C3
L1
L2
L3
L4
0.0010 ACRE/44 SQ. FT. HEREBY DEDICATED TO THE PUBLIC FOR R.O.W. PURPOSES
X: 3012418.50
Y: 13767501.21
P.O.B.
FND 5/8" I.R.
15' SAN. SEW. ESMT.
SLIDE No. 2195B, F.B.C.P.R.
10'X5' STM. SEW. ESMT.
SLIDE No. 2195B, F.B.C.P.R.
0.0714 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. No. 2017046794
20' STM. SEW. ESMT.
F.B.C.C.F. No. 2002039207
6' PARKING SETBACK
15' BLDG. SETBACK
25' PARKING SETBACK
35' BLDG. SETBACK
10' SAN. SEW. ESMT.
SLIDE No. 2195B, F.B.C.P.R.
10' LANDSCAPE EASEMENT PER SECTION 7 GREENSPACE REGULATIONS
FND 5/8" I.R.
RESERVE "A"
WILLIAMS CROSSING
PLAT NO. 20150171 F.B.C.P.R.
UNRESTRICTED RESERVE "B"
0.5249 ACRE
(22,868 SQ. FT.)
208.61'
241.12'
N05°27'40"E 236.77'
①
UNRESTRICTED RESERVE "A"
2.0021 ACRES
(87,210 SQ. FT.)
10'X10' STORM SEW. ESMT.
SLIDE No. 2195B, F.B.C.P.R.
0.1796 ACRE PRIVATE ACCESS ESMT.
F.B.C.C.F. No. 2017046794
WILLIAMS WAY BOULEVARD (120' R.O.W.)
(PUBLIC)
SLIDE No. 2195B, F.B.C.P.R.
C4
15' STORM SEW. ESMT.
F.B.C.C.F. No. 2017046794
15' PRIVATE ACCESS ESMT.
F.B.C.C.F. No. 2017046794
S84°54'14"E
94.37'
S84°32'20"E
305.92'
N02°43'01"E 560.98'
352.37'
RESTRICTED RESERVE "A"
THE RESERVE AT RIVERPARK WEST
PLAT No. 20040137, F.B.C.P.R.
RESERVE "B"
RESERVE "C"
C5
X: 3012788.71
Y: 13767156.07
C6
UNRESTRICTED RESERVE "C"
2.4721 ACRES
(107,684 SQ. FT.)
LIMITED PURPOSE ANNEXATION BOUNDARY LINE PER CITY OF RICHMOND'S OFFICIAL ZONING MAP
20' W.L.E.
C7
CALLED 34.434 ACRES
FORT BEND COUNTY MUNICIPAL UTILITY DISTRICT NO. 121
F.N. 2000082894, F.B.C.O.P.R.
X: 3012652.94
Y: 13766961.43
X: 3012617.87
Y: 13766941.74
C8
C9
X: 3012391.91
Y: 13766940.85
U.S. HIGHWAY 59
(R.O.W. VARIES)

11. Sidewalks shall be built or caused to be built not less than five 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. requirements.

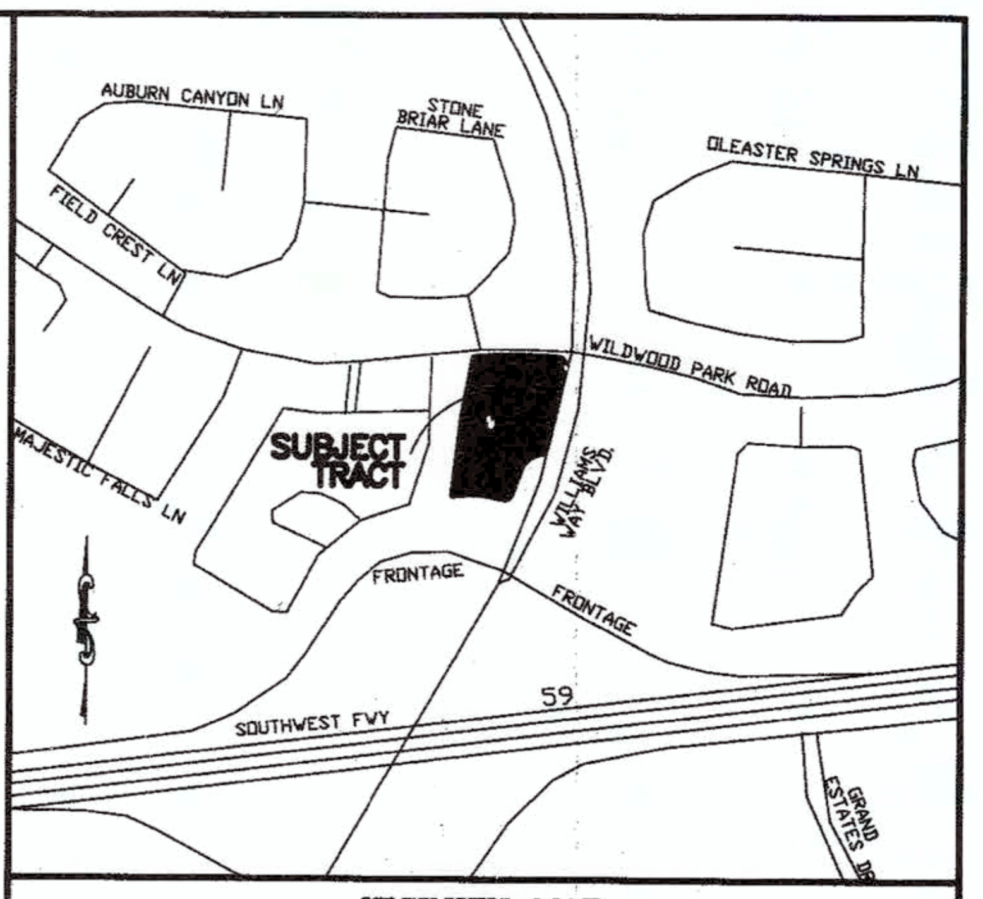
LINE TABLE:

LINE	Bearing	Distance
L1	N72°18'12"E	8.33'
L2	N13°45'03"W	6.91'
L3	S13°45'03"E	6.91'
L4	N05°27'40"E	4.35'

CURVE TABLE:

Curve	Radius	Length	Delta	Chord	Chord Bear.
C1	1470.00'	101.24'	03°56'45"	101.22'	N74°16'34" E
C2	1470.00'	283.39'	11°02'45"	282.95'	N81°46'19" E
C3	30.00'	38.92'	74°20'16"	36.25'	S46°13'50" E
C4	1940.00'	288.09'	08°30'31"	287.83'	S04°29'55" W
C5	1940.00'	105.30'	03°06'36"	105.29'	S10°18'28" W
C6	100.00'	134.44'	77°01'38"	124.54'	S53°15'20" W
C7	1860.00'	125.43'	03°51'50"	125.41'	S16°40'26" W
C8	30.00'	44.07'	84°09'35"	40.21'	S60°40'53" W
C9	503.00'	227.91'	25°57'41"	225.97'	S89°46'34" W

KENNETH A. GRULLER
5476


AUBURN CANYON LN
STONE BRIAR LANE
OLEASTER SPRINGS LN
FIELD CREST LN
WILDWOOD PARK ROAD
MAJESTIC FALLS LN
SUBJECT TRACT
WILLIAMS WAY BLVD.
FRONTAGE
FRONTAGE
59
SOUTHWEST FWY
GRAND ESTATES DR

VICINITY MAP
SCALE: NTS KEY MAP: 606L

40 20 0 40 80 120
● = SET 5/8" I.R., UNLESS OTHERWISE NOTED.

I, RICHARD W. STOLLEIS, FORT BEND COUNTY ENGINEER, DO HEREBY CERTIFY THAT THE PLAT OF THIS SUBDIVISION COMPLIES WITH ALL OF 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 INTERCEPTING DRAINAGE ARTERY OR PARENTSTREAM OR ANY OTHER AREA OR SUBDIVISION WITHIN THE WATERSHED.

RICHARD W. STOLLEIS, P.E,
FORT BEND COUNTY ENGINEER

APPROVED BY THE COMMISSIONERS' COURT OF FORT BEND COUNTY, TEXAS, THIS 11 DAY OF July, 2017

VINCENT M. MORALES, JR.
COMMISSIONER, PRECINCT 1

GRADY PRESTAGE
COMMISSIONER, PRECINCT 2

ROBERT E. HEBERT
COUNTY JUDGE

W.A. "ANDY" MEYERS
COMMISSIONER, PRECINCT 3

JAMES PATTERSON
COMMISSIONER, PRECINCT 4

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 RECOGNITION IN MY OFFICE

ON July 11, 2017, AT 2:26 O'CLOCK P.M., IN PLAT NUMBER 20170143 OF THE PLAT RECORDS OF SAID FORT BEND COUNTY, TEXAS.

WITNESS MY HAND AND SEAL OF OFFICE, AT RICHMOND, TEXAS. THE DAY AND DATE LAST ABOVE WRITTEN.

Laura Richard
LAURA RICHARD, COUNTY CLERK
FORT BEND COUNTY, TEXAS

BY, Erica Wise ERICA WISE
DEPUTY

13 PGS 2017076951
PLAT ATTACH

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS
Laura Richard
Laura Richard, County Clerk
Fort Bend County, Texas
July 11, 2017 02:26:58 PM
FEE: $300.00 EW 20170143
PLAT

CVS PHARMACY WILLIAMS WAY
FINAL PLAT

BEING A SUBDIVISION OF
5.0000 ACRES (217,806 sq. ft.)
LOCATED IN THE
JANE H. LONG LEAGUE, A-55,
CITY OF RICHMOND, ETJ
FORT BEND COUNTY, TEXAS

3 RESERVES **0 LOTS** 1 BLOCK

SCALE: 1" = 40' JUNE 2017

OWNER: D & M SUGAR LAND REALTY, LLC
ADDRESS: 1310 Meadow Bay Court
Sugar Land, TX 77479
281-789-6400

I, KENNETH A. GRULLER, 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 CORRECT; WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION ON THE GROUND; THAT ALL BOUNDARY CORNERS, ANGLE POINTS, POINTS OF CURVATURE AND OTHER POINTS OF REFERENCE HAVE BEEN MARKED WITH FIVE-EIGHTHS INCH (5/8") DIAMETER IRON RODS, HAVING A LENGTH OF NOT LESS THAN THREE FEET (3'); AND THAT THE PLAT BOUNDARY CORNERS HAVE BEEN TIED TO THE TEXAS STATE PLANE COORDINATES NAD83 PROJECTIONS.

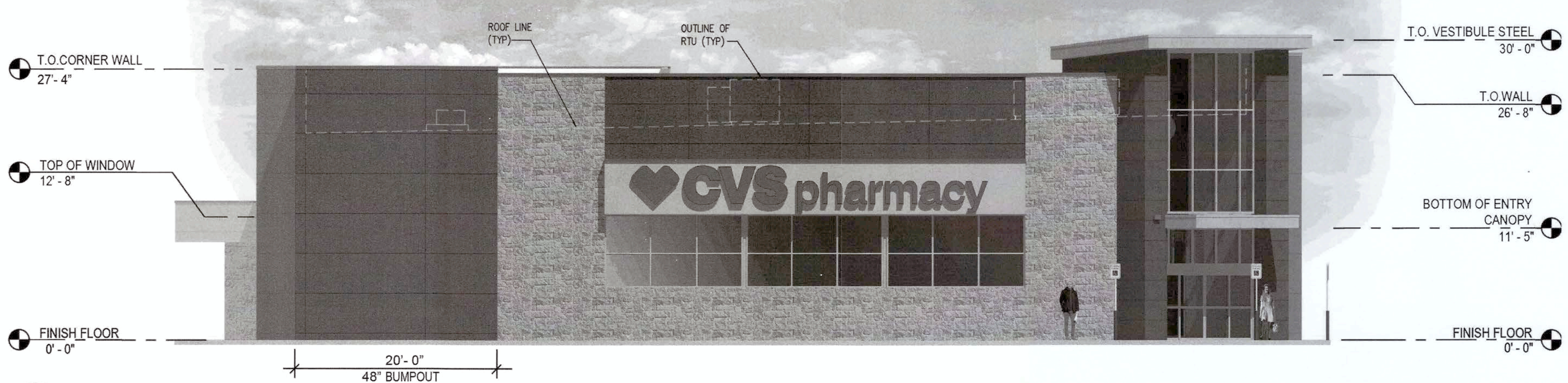
KENNETH A. GRULLER, REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 5476

SURVEYOR:

Gruller Surveying, LLC

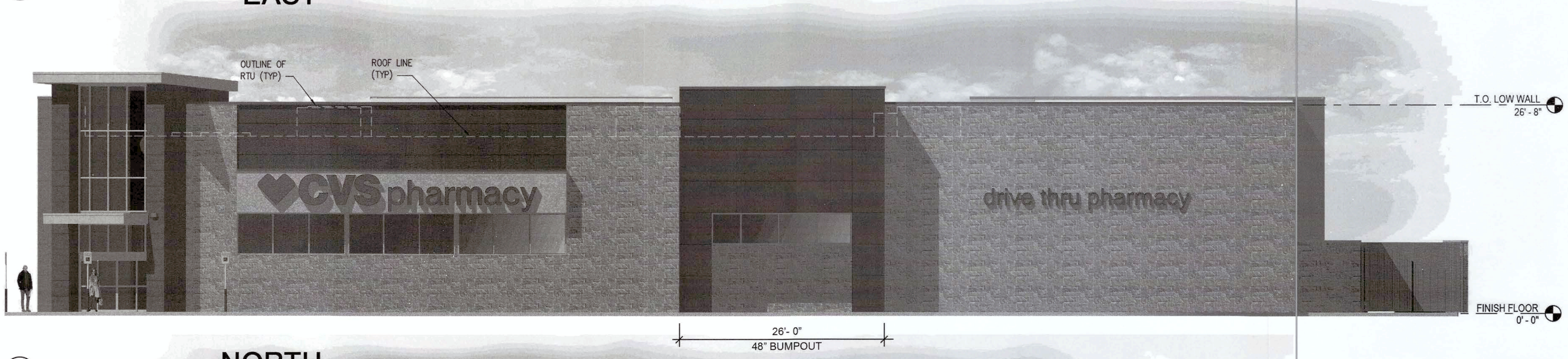
PROFESSIONAL LAND SURVEYING
5599 SAN FELIPE, STE. 1420
HOUSTON, TEXAS 77056
PH/713-333-1466 - FAX/713-782-3755
Job. 45-1674.dwg

Maggi D 9/27/17


ROOF LINE (TYP)
OUTLINE OF RTU (TYP)
T.O. VESTIBULE STEEL 30' - 0"
T.O.CORNER WALL 27' - 4"
T.O.WALL 26' - 8"
TOP OF WINDOW 12' - 8"
BOTTOM OF ENTRY CANOPY 11' - 5"
CVS pharmacy
FINISH FLOOR 0' - 0"
FINISH FLOOR 0' - 0"
20' - 0"
48" BUMPOUT

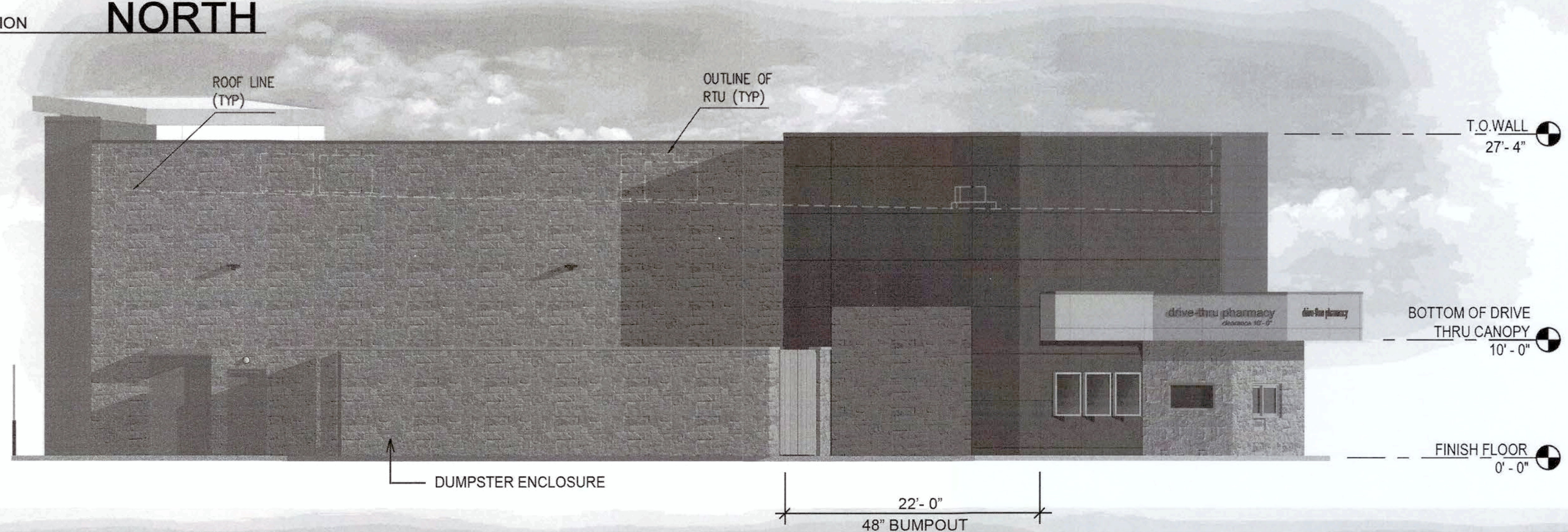
1 A5 FRONT SIDE ELEVATION 1/8" = 1'-0"

EAST


OUTLINE OF RTU (TYP)
ROOF LINE (TYP)
T.O. LOW WALL 26' - 8"
CVS pharmacy
drive thru pharmacy
FINISH FLOOR 0' - 0"
26' - 0"
48" BUMPOUT

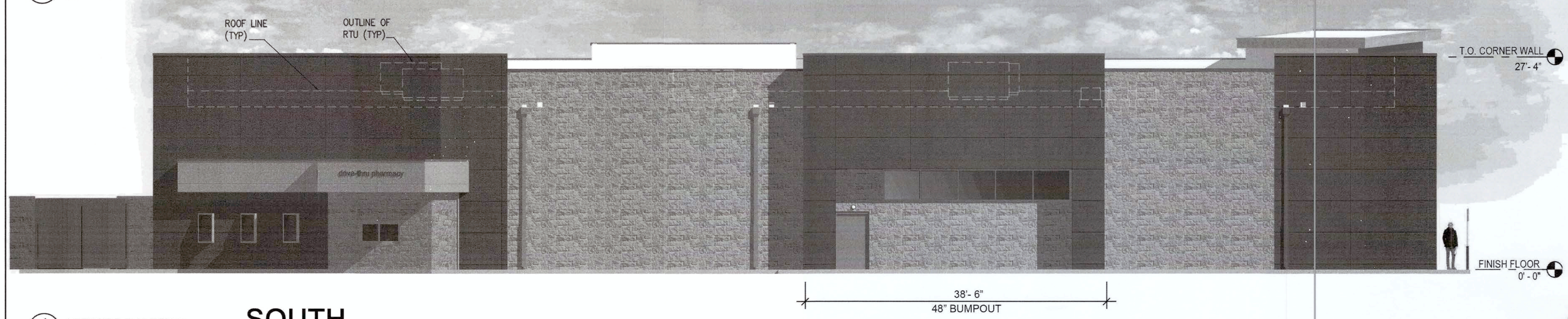
2 A5 RIGHT SIDE ELEVATION 1/8" = 1'-0"

NORTH


ROOF LINE (TYP)
OUTLINE OF RTU (TYP)
T.O WALL 27' - 4"
drive-thru pharmacy
BOTTOM OF DRIVE THRU CANOPY 10' - 0"
FINISH FLOOR 0' - 0"
DUMPSTER ENCLOSURE
22' - 0"
48" BUMPOUT

3 A5 REAR SIDE ELEVATION 1/8" = 1'-0"

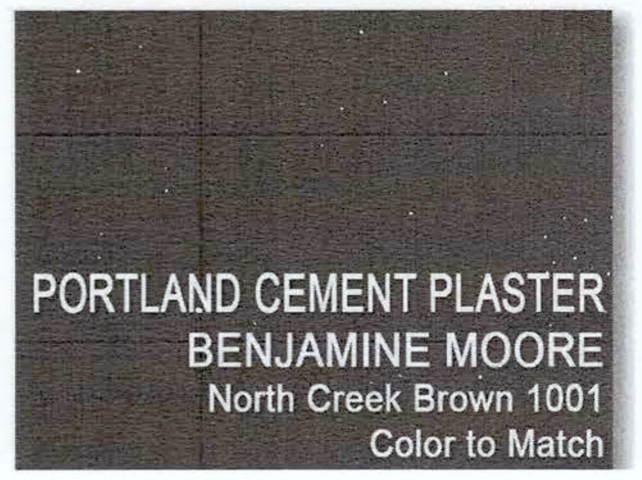
WEST

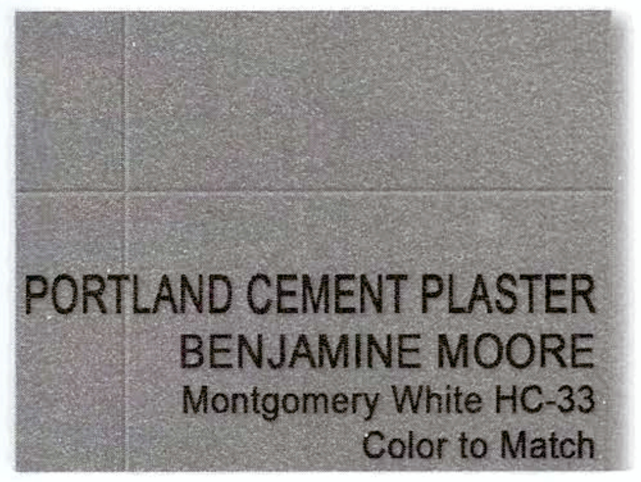

ROOF LINE (TYP)
OUTLINE OF RTU (TYP)
T.O. CORNER WALL 27' - 4"
drive-thru pharmacy
FINISH FLOOR 0' - 0"
38' - 6"
48" BUMPOUT

4 A5 LEFT SIDE ELEVATION 1/8" = 1'-0"

SOUTH

STONE VENEER
ACME Natural Stone
Santa Maria Chopped Leuders


PORTLAND CEMENT PLASTER
BENJAMINE MOORE
North Creek Brown 1001
Color to Match


PORTLAND CEMENT PLASTER
BENJAMINE MOORE
Montgomery White HC-33
Color to Match

FRONT/ EAST ELEVATION	
- PCP (NORTH CREEK BROWN):	44.66%
- PCP (MONTGOMERY WHITE):	09.54%
- STONE VENEER:	32.68%
- GLAZING + DOOR:	13.12%

RIGHT/ NORTH ELEVATION	
- PCP (NORTH CREEK BROWN):	25.02%
- PCP (MONTGOMERY WHITE):	05.68%
- STONE VENEER:	61.80%
- GLAZING + DOOR:	07.50%

REAR/ WEST ELEVATION	
- PCP (NORTH CREEK BROWN):	18.15%
- PCP (MONTGOMERY WHITE):	02.39%
- STONE VENEER:	75.95%
- GLAZING + DOOR:	03.51%

- THE BUILDING DESIGN COMPLIES WITH ALL STANDARDS OF SECTION 5.1.200, NONRESIDENTIAL AND MIXED-USED DESIGN STANDARDS.
- THE BUILDING DESIGN IS IN COMPLIANCE WITH SCREENING REQUIREMENTS PER SECTON 5.1.202, MECHANICAL EQUIPMENT AND METERS, OF THE UDC.
- ALL SIGNAGE SHALL BE APPROVED THROUGH A SIGN PERMIT APPLICATION PROCESS.

CITY APPROVAL

LEFT/ SOUTH ELEVATION	
- PCP (NORTH CREEK BROWN):	53.33%
- PCP (MONTGOMERY WHITE):	02.40%
- STONE VENEER:	40.56%
- GLAZING + DOOR:	03.71%

SCALE BAR 0' 1' 2' 5' 10' 30'

CVS pharmacy

14K - RL
RIGHT HAND ENTRY
LEFT BUMPOUT DRIVE-THRU
STORE NUMBER: 11096
4110 WILLIAMS WAY BLVD.
RICHMOND, TX 77469
PROJECT TYPE: NEW STORE
DEAL TYPE: FEE FOR SERVICE
CS PROJECT NUMBER: 99715

ARCHITECT OF RECORD:
GENESIS DESIGN GROUP, INC.
421 W. HARWOOD ROAD
SUITE 100
HURST, TX 76054
TEL (817) 285-7444
FAX (817) 285-7318

STRUCTURAL ENGINEER:

MEP ENGINEER:

DEVELOPER:

SEAL:

REVISIONS

DRAWING BY: DW
DATE: MAY-24-2017
JOB NUMBER: 16-035
TITLE:
EXTERIOR ELEVATIONS
SHEET NUMBER:
A5
COMMENTS:
ISSUE FOR CITY REVIEW

Maggi D 9/27/17