

ADDENDUM 1

DATE: June 05, 2017
PROJECT: OCB Storm Drain System Modifications
ITB NO: 744-B1717-OCB Storm Drain System Modifications
OWNER: The University of Texas Health Science Center at Houston
TO: Prospective Proposers

This Addendum forms part of and modifies Proposal Documents dated, May 05, 2017, with amendments and additions noted below.

1. Questions, Clarifications submitted and Responses

- 1) Clarification: Please confirm this project is to follow the *University of Texas System OFPC Prevailing Wage Determination* included with Exhibit B – Special Conditions of the bid documents, and not the *Harris County Wage Rates*.

Response: Yes

- 2) Clarification: Please confirm a full time superintendent is require for the duration of the project.

Response: A capable representative of the company must be present on site all times. This person shall be properly safety trained, capable of directing work, and capable of making decisions regarding scope with ODR

- 3) Clarification: Please confirm there is no asbestos or other hazardous material abatement in this project's scope of work.

Response: Confirmed

- 4) Clarification: Please confirm all materials testing is by the Owner.

Response: Confirmed

- 5) Clarification: Please clarify if a building permit or a permit/fees for sidewalk and street closures will be required on this project.

Response: The Contractor is responsible for getting and paying all appropriate permits.

- 6) Clarification: Please provide details for both the City street and the non-City street concrete repairs.

Response: The details have been added to the private plans and to the City plans that still need to be signed, by the City.

- 7) Clarification: Please clarify if HDPE can be used in lieu of PVC.
Response: If HDPE is to be used, the contractor will have to backfill with concrete stabilized sand a minimum of 1' above the pipe.
- 8) Clarification: Please confirm work for this project will be able to be performed during normal business hours, and the contractor will have access to the entire area of renovation at one time (no phasing).
Response: Confirmed
- 9) Clarification: Please confirm striping and symbols that are disturbed during demolition are to be repainted.
Response: Confirmed
- 10) Clarification: The demolition and repair of the concrete will cause several parking spaces to be unavailable during the time of the renovation. Please clarify if high-early concrete is required to be used at these locations, or if the spaces can be out of service for the duration of the renovation in that area.
Response: No, high-early concrete is not required. We are good with allowing the spots to sit for 28 days while normal concrete sets up, no commercial trucks parking will be allowed.
- 11) Clarification: The existing opening referenced on P-300/5 appeared to be closed in during the site walk. Please confirm the contractor can core a new opening for the piping.
Response: Core new opening
- 12) Clarification: Please clarify if the coring of the opening for the plumbing pipe, and the work inside the building for the water pipe connection will be required to be after hours, or if this work can be performed during normal hours.
Response: Yes, after hours or on the weekend.
- 13) Clarification: Sheets P-100, P-200 & P-300 all indicate the documents are incomplete. Please clarify if completed pricing or construction documents will be released prior to the bid date.
Response: The plans have been signed by the engineer and are provided with this response.

14) Clarification: The proposed route for the 24" storm line on the plan west side of the building will run through a grouping of trees. Please clarify the route, and if any trees are to be relocated/replaced. The proposal route will require the removal of several of the existing trees.

Response: The plans have been revised to move the system out of the trees as discussed. The alignment will impact a concrete pad that the client's employees are using for a lunch area. The contractor will work with the Client to determine the new location (if different than the current location) for a new concrete pad of the same size.

15) Clarification: Please clarify if the traffic to the loading dock on the plan north-west part of the building can be redirected to come in the existing gravel drive from the west, instead of coming across the storm line during the replacement.

Response: Working on confirmation. For bidding purposes figure it will be redirected to come in the existing gravel drive.

16) Clarification: Note 6 on C-102 states to replace existing 15" RCP with new 15" RCP. This not does not reflect the profile plans which show the 15" RCP to be replaced with 18" PVC. Please clarify.

Response: To my knowledge there is one profile for this run of pipe. The plans provided to the contractor during the walk through has had corrections due to the new alignment on the west side of the site to avoid the existing trees. The 15" plan view and note 6 has been revised to show that the new pipe will be an 18" pipe.

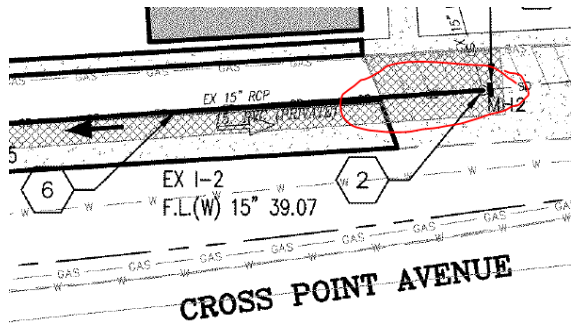
17) Clarification: Will the owner be providing an arborist for root pruning/trimming? The water vault and water line in Alternate 1 are surrounded by roots from existing trees and must be addressed by an arborist to prevent killing the existing trees.

Response: The water line looks like it would be better if it ran on the north side of the sidewalk to avoid trees on the south side of the sidewalk. The work around the vaults will be between the vaults and curb, which have no trees. Best practices should be used while working around the trees to preserve them.

18) Clarification: The proposed storm line to the north is currently located in the powerline easement. Please provide re-route to avoid easement.

Response: The existing system that is being rerouted is in the existing electrical easement and the route provides minimal costs of replacing paving and additional structures. The contractor will have to work with the electrical company to provide protection from the overhead power lines.

19) Clarification: Due to the existing canopy the contractors will not be able to access the existing storm line shown below. Please clarify if the canopy is to be removed and replaced with new after the storm line is installed, or if the storm line can be shifted south to avoid the canopy and tied into the existing manhole (an additional manhole will need to be installed). Shifting of the line will likely be the more cost efficient method.



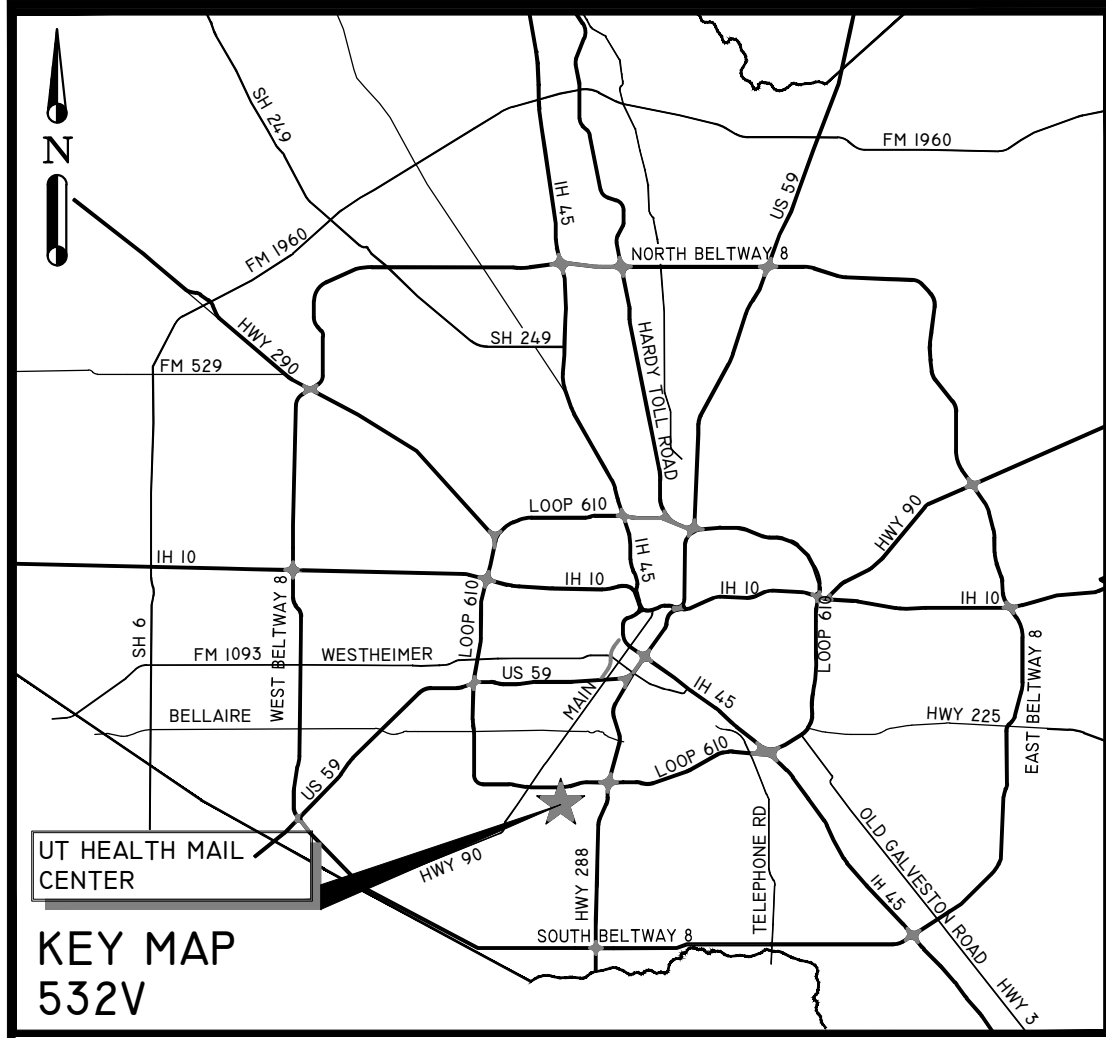
Response: A new manhole may be an option, but the as built information provided to us was minimal, so an addition a field visit may be required to see if there is any potential conflict prior to modifying the design. We tried to stay within the current alignment of the existing system to eliminate as many conflicts as possible.

20) Bid due date extended to Tuesday, June 13, 2017 at 2:00 PM C.S.T.

21) HUB Plan due date extended to Wednesday, June 14, 2017 at 2:00 PM C.S.T.

END OF ADDENDUM 1

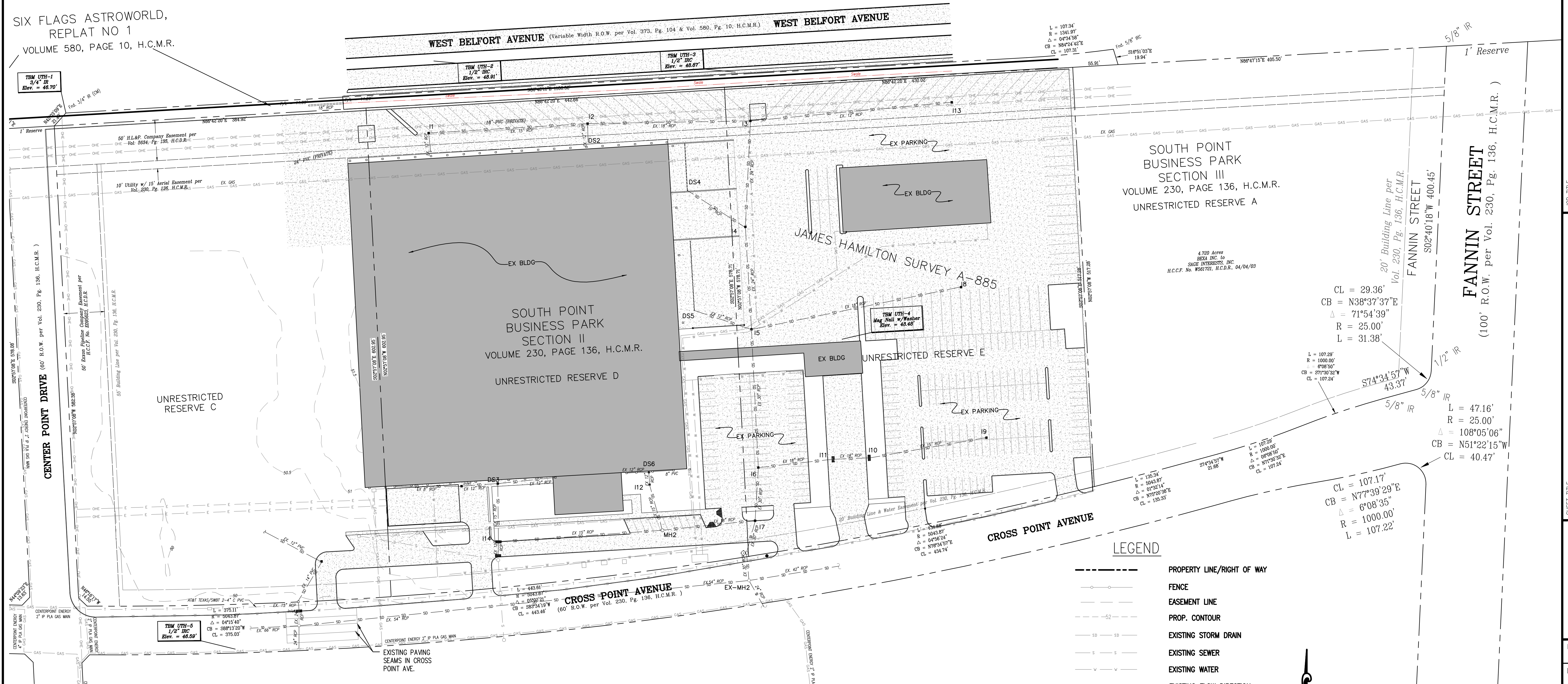
UT HEALTH MAIL CENTER STORM DRAIN SYSTEM MODIFICATION 1851 1/2 CROSSPOINT AVE. HOUSTON, TX 77054



GENERAL NOTES

- ALL METHODS AND MATERIALS SHALL COMPLY WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE; ANNA; APWA; AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL CODES, RULES, AND REGULATIONS.
- THE CONTRACTOR SHALL HAVE A RESPONSIBLE PARTY WHO SHALL HAVE THE AUTHORITY TO REPRESENT AND ACT FOR THE CONTRACTOR AT THE JOB SITE DURING ALL WORKING HOURS.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL MATERIALS REQUIRED FOR CONSTRUCTION OF THE IMPROVEMENTS SHOWN IN THIS PLAN SET.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TWO (2) DAYS NOTICE TO CITY/COUNTY ENGINEERING SERVICES PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY.
- CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE PROJECT SITE BEFORE STARTING WORK. IF THE CONTRACTOR DISCOVERS ANY DISCREPANCIES BETWEEN THE PLANS AND EXISTING CONDITIONS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER, SPOKANE COUNTY AND VERA WATER AND POWER.
- UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL BE RETURNED TO THE EQUIVALENT OF THEIR PRECONSTRUCTION CONDITION.
- ALL APPROVED DEVIATIONS FROM THESE PLANS SHALL BE RECORDED ON A SET OF "AS-BUILT" DRAWINGS WHICH SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO PROJECT COMPLETION AND ACCEPTANCE. DEVELOPER PROVIDE CONSTRUCTION INSPECTION DOCUMENTATION FOR SUBGRADE, BASE, PAVEMENT, AND CONCRETE TESTING FOR PUBLIC IMPROVEMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF SHORING AND BRACING NECESSARY TO PROTECT WORKERS, EXISTING BUILDINGS, STREETS, WALKWAYS, UTILITIES AND OTHER IMPROVEMENTS AND EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING EMBANKMENTS.
- SURVEY INFORMATION AND UNDERGROUND UTILITY LOCATIONS USED IN THE PREPARATION OF THESE DRAWINGS WERE FURNISHED BY OTHERS. INFRASTRUCTURE ASSOCIATES ASSUMES NO RESPONSIBILITY FOR THEIR COMPLETENESS OR ACCURACY.
- ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, DEPTH, SIZE, TYPE AND CONDITION OF UTILITIES SHOWN ON THESE DRAWINGS AND TO HAVE AN APPROVED LOCATING SERVICE (1-800-456-8000) LOCATE AND IDENTIFY UTILITIES WITHIN THE CONSTRUCTION AREA.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES AS REQUIRED TO PREVENT EROSION AND TO ENSURE THAT SEDIMENT-LOADED WATER DOES NOT LEAVE THE CONSTRUCTION SITE.
- EXISTING UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND SHALL BE INSPECTED BY THE ENGINEER OF RECORD.
- PIPE LENGTHS SHOWN ON PLANS ARE APPROXIMATE AND MAY CHANGE DUE TO FIELD CONDITIONS.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR CONSTRUCTION IDENTIFIED ON THESE PLANS.
- ALL DISTURBED SOIL AREAS SHALL BE SEEDED OR STABILIZED BY OTHER APPROVED METHODS FOR PREVENTION OF ON-SITE EROSION AFTER THE COMPLETION OF CONSTRUCTION.
- THE CONTRACTOR IS REQUIRED TO HAVE A COMPLETE SET OF THE APPROVED ROAD AND DRAINAGE PLANS ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- ALL SUBGRADE PREPARATION, COMPACTION, ROAD BASE, AND CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS.
- TO THE BEST OF OUR KNOWLEDGE, THESE PLANS COMPLY WITH THE CURRENT REGULATIONS OF THE FAIR HOUSING ACT AND THE A.D.A., WHERE APPLICABLE.

SIX FLAGS ASTROWORLD,
REPLAT NO 1
VOLUME 580, PAGE 10, H.C.M.R.



EXISTING SITE PLAN
SCALE: 1" = 60'

INFRASTRUCTURE ASSOCIATES, INC.
4017 TECHNOLOGY AVENUE, SUITE 200
HOUSTON, TEXAS 77056
(713) 862-8020 FAX (713) 862-8857 FAX
WWW.INFRASTRUCTURE.COM

REVISIONS		
NO.	DATE	DESCRIPTION

UTTHSPH PRIVATE STORM DRAIN
SYSTEM MODIFICATION
JOB TITLE

HOUSTON, TX
1851 1/2 CROSSPOINT AVE.

COVER SHEET
SHEET TITLE

STATE OF TEXAS
THOMAS LEE KING
91526
LICENSED PROFESSIONAL ENGINEER
Thomas L. King
1/1/2014

DATE	12-29-2016
DRAWN BY	MLH
DESIGN BY	MLH
JOB NO.	
SHEET NO.	

C-100

May 30, 2017 2:27AM New User
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K:\GIS\UTHealthMailCenter\1-01 - Private\DESIGN\100 Private.dwg
Plot Date: 12/29/2016 1:52:21 PM
Plot Scale: 1" = 60'

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS
MINIMUM AND 14 MAXIMUM
BEFORE YOU DIG

WATER LINE REPLACEMENT KEY NOTES

1. CONTRACTOR TO FIELD LOCATE EXISTING WATER LINE AND VERIFY DEPTH AND SIZE. CONNECT PROPOSED 6" WATER LINE TO EXISTING WATER LINE WITH TSKV OR WITH A TEE.
2. PROPOSED 6" C-900 WATER LINE. CONSTRUCT WATER LINE WITH A MINIMUM OF 3' OF COVER. CONTRACTOR TO CONSTRUCT WATER LINE TO CROSS OVER THE NEW STORM DRAIN SYSTEM.
3. PROVIDE PROPOSED WATER LINE UP TO WITHIN 5' OF THE BUILDING. SEE PROPOSED PLUMBING PLAN FOR CONNECTION LOCATION.
4. APPROXIMATE LOCATION OF WATER METER, CONTRACTOR TO FIELD LOCATE AND COORDINATE WITH UTH ONE WEEK PRIOR TO SHUT DOWN OF THE DOMESTIC WATER SERVICE TO BUILDING. SHUT DOWN TIMES WILL BE PERFORMED DURING OFF HOURS OR WEEKENDS UNLESS OTHERWISE APPROVED BY UTH.
5. PROPOSED STORM DRAINS SYSTEM TO BE REPLACED AND RE-ROUTED UNDER A SEPARATE PERMIT.

UTHPSP
 UTHS PRIVATE DOMESTIC WATER REPLACEMENT
 HOUSTON, TX
 1851 1/2 CROSSPOINT AVE.

REVISIONS	
NO.	DESCRIPTION

JOB TITLE
 UTHSPH PRIVATE DOMESTIC WATER REPLACEMENT
 HOUSTON, TX
 1851 1/2 CROSSPOINT AVE.

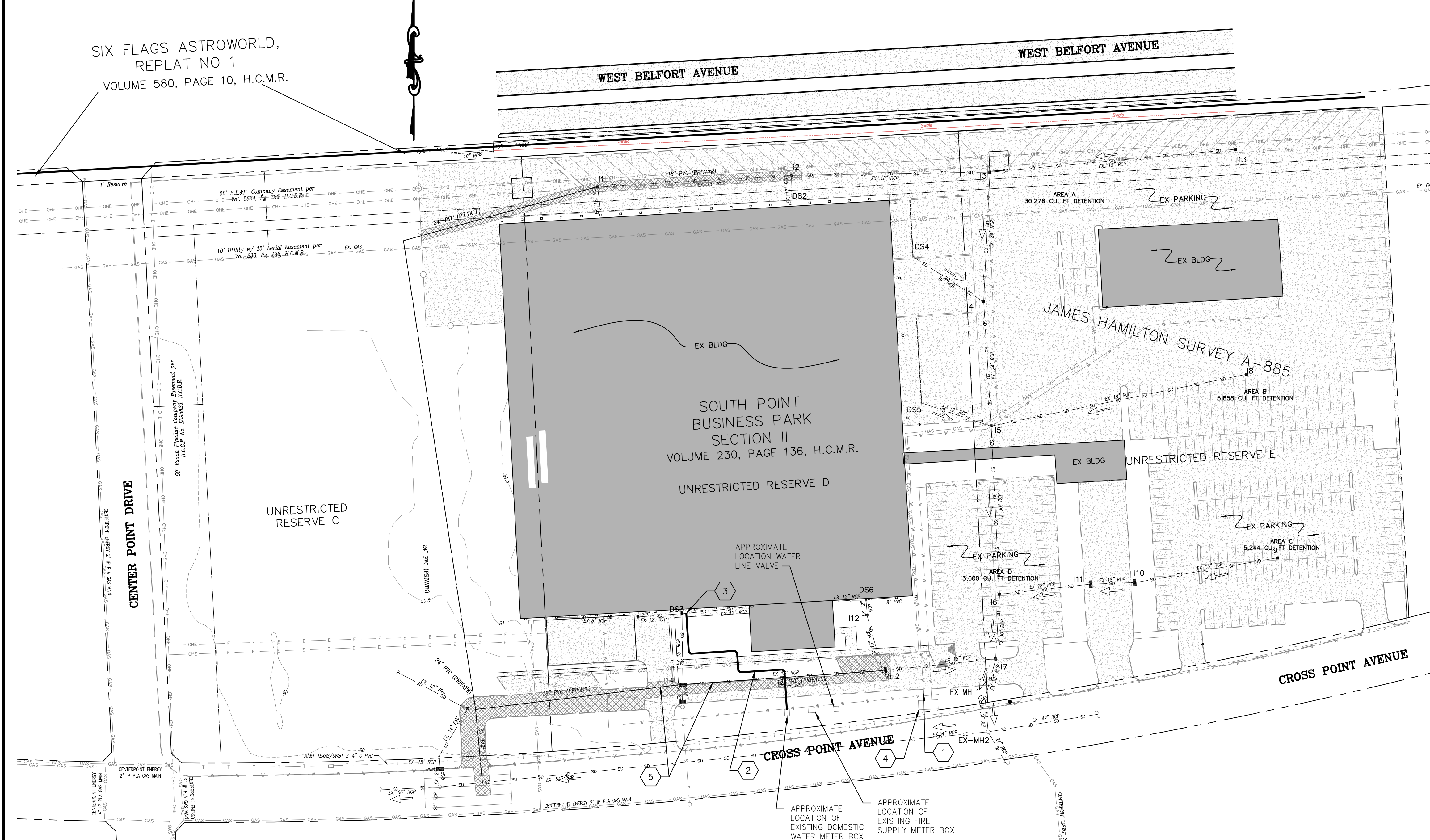
SHEET TITLE
 EXISTING DOMESTIC WATER REPLACEMENT PLAN



DATE	3-17-2016
DRAWN BY	MLH
DESIGN BY	MLH
JOB NO.	
SHEET NO.	

C-100(A)

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 REPLAT NO 1
 VOLUME 580, PAGE 10, H.C.M.R.



PROPOSED PRIVATE WATER SERVICE REPLACEMENT PLAN

SCALE: 1" = 60'

NOTES:

1. ANY DAMAGE TO IRRIGATION SYSTEMS, SIDEWALKS, CURBS, EXISTING UTILITIES, AND LANDSCAPING WILL NEED TO BE REPAIRED OR REPLACED AT THE CONTRACTORS EXPENSE.
2. CONTRACTOR TO PERFORM WORK DURING THE CONSTRUCTION OF PREVIOUSLY APPROVED STORM DRAIN SYSTEM. IF THE STORM DRAIN CONSTRUCTION CONTRACTOR IS DIFFERENT THAN THE WATER MAIN REPLACEMENT CONTRACT. BOTH CONTRACTORS WILL COORDINATE WORK ON A DAILY BASIS.
3. CONTRACTOR TO LOCATE ALL UTILITIES FOR THE LENGTH OF THE NEW WATERLINE PRIOR TO START OF CONSTRUCTION.
4. CONTRACTOR TO RELOCATE WATER LINE TO AVOID EXISTING TREES AND MINIMIZED DAMAGE TO ROOT SYSTEM.
5. THE EXISTING WATER LINE SUPPLIES WATER TO THE MAIN BUILDING AND THE ANNEX BUILDING. CONTRACTOR TO DETERMINE THE LOCATION OF ALL SERVICES CONNECTED TO THE EXISTING 4" DOMESTIC WATER LINE TO BE REPLACED, AND CONNECT THEM TO THE NEW 4" DOMESTIC WATERLINE TO ASSURE NO DISRUPTION TO ANY OF THE EXISTING SERVICES.
6. TO INSTALL UNDERGROUND WATERLINE PRIOR TO INSTALLING THE WATERLINE FROM THE PLUMBING PLANS.

LEGEND

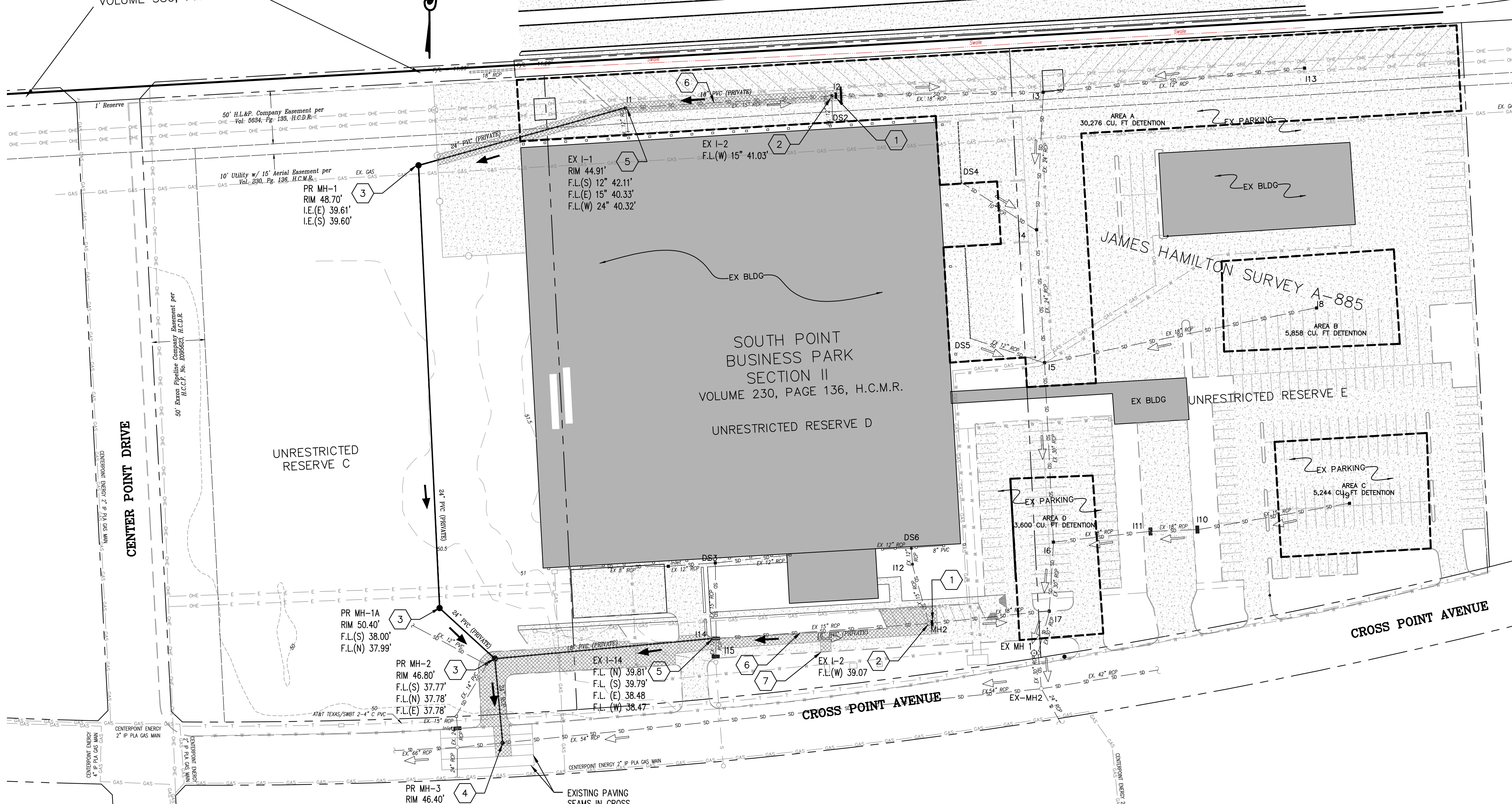
ROADWAY CENTERLINE		PROPOSED WATER LINE		EXISTING PAVING AND CURBING TO BE REMOVED AND REPLACED UNDER SEPARATE CONTRACT	
PLAT BOUNDARY		EXISTING CONTOUR			
EASEMENT LINE		EXISTING BUILDINGS			
EXISTING CURB		EXISTING PAVING			
EXISTING SEWER MAIN		EXISTING FLOW DIRECTION			
EXISTING WATER MAIN		PROPOSED FLOW DIRECTION			
EXISTING FIRE HYDRANT		EXISTING 100 YR DETENTION AREA			
EXISTING GAS MAIN					
PROPOSED CATCH BASIN					
EXISTING STORM DRAIN					

UNDERGROUND SERVICE ALERT
 ONE-CALL NUMBER
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 CALL TWO BUSINESS DAYS MINIMUM AND 14 MAXIMUM BEFORE YOU DIG

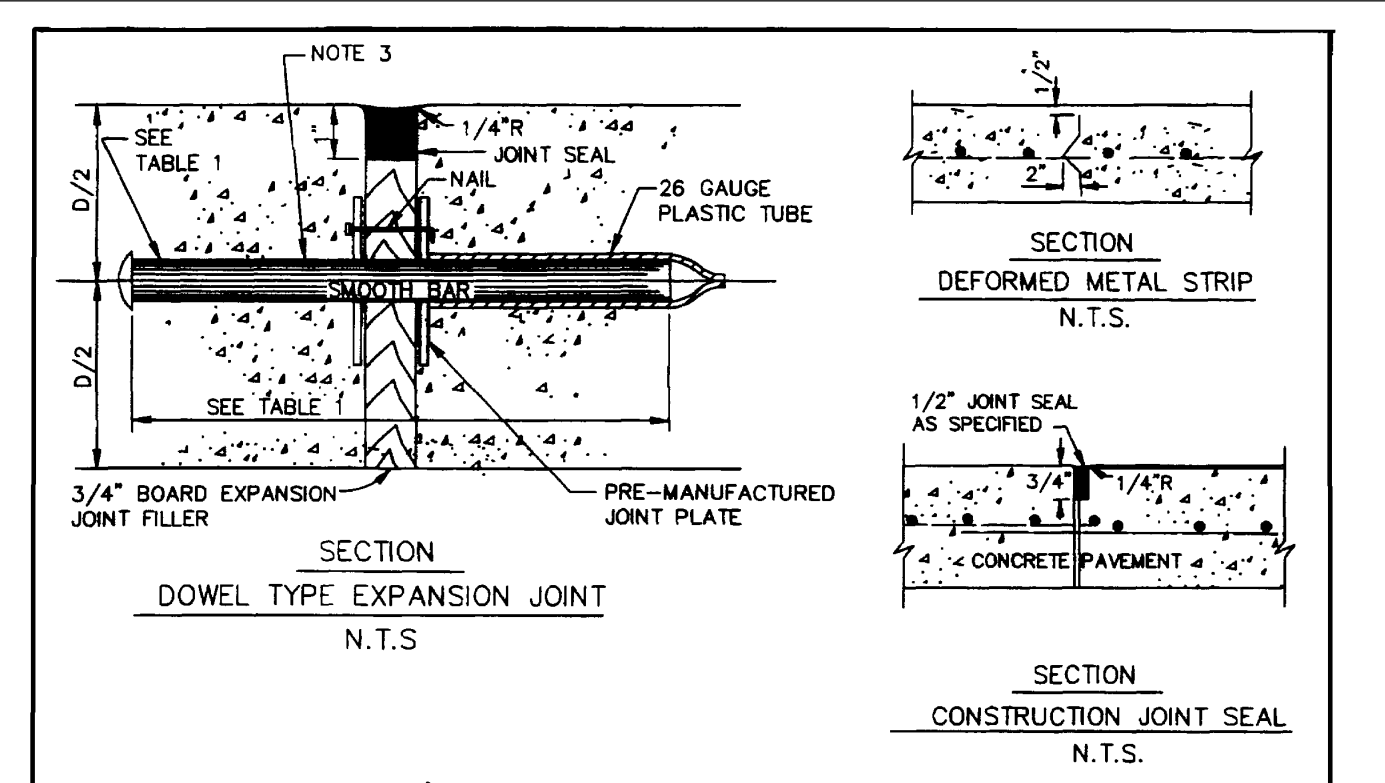
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 Plotter Model: HP DesignJet T7300PS
 Plotter Manufacturer: HP
 Plotter Version: HP DesignJet T7300PS
 Plotter Status: OK
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 Plotter Color: Color
 Plotter Paper Size: A
 Plotter Paper Weight: 100 lb
 Plotter Paper Type: Standard
 Plotter Paper Orientation: Landscape
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 Plotter Paper Height (meters): 0.4303
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 Plotter Paper Height (feet): 17.00
 Plotter Paper Length (feet): 17.00

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REPLAT NO 1
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WEST BELFORT AVENUE



- ### STORM DRAIN KEY NOTES
- CONTRACTOR TO CUT EXISTING STORM DRAIN PIPE AND INSTALL A CONCRETE PLUG IN THE END OF THE EXISTING PIPE AND REPAIR EXISTING STRUCTURE. DUE TO PIPE PENETRATION, ONCE COMPLETED BACKFILL BETWEEN THE EXISTING INLET OR MANHOLE AND PLUG.
 - EXISTING INLET OR MANHOLE TO REMAIN IN SERVICE.
 - PROPOSED STANDARD 4' MANHOLE.
 - CONTRACTOR TO INSTALL 5' DIAMETER 'C' TYPE MANHOLE OVER EXISTING 54" STORM DRAIN. CONTRACTOR TO USE CITY APPROVED PLANS TO WORK IN RIGHT OF WAY.
 - CONTRACTOR TO REPLACE EXISTING INLETS WITH LIKE INLETS PER DESIGN DEPTHS SHOWN.
 - CONTRACTOR TO REMOVE EXISTING 15" RCP AND REPLACE WITH 18" RCP SLOPED PER PLAN.
 - PROPOSED WATER REPLACEMENT CROSSING. SEE WATER REPLACEMENT PLANS FOR DETAILS AND LOCATION.



- ### NOTES:
- STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS. UNITS TO BE SPACED ON 12" CENTERS.
 - EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS.
 - CENTER DOWEL HORIZONTALLY ON JOINT.
 - CENTER DOWEL VERTICALLY IN CONCRETE BASE. EXTEND THICKENED CONCRETE AS NEEDED TO MAINTAIN 5" MIN. COVER.
 - CITY OF HOUSTON APPROVED PRODUCTS MAY BE USED AS JOINT PLATE ALTERNATIVE.

TABLE 1
DOWEL SIZES AND SPACINGS

PAVEMENT THICKNESS (IN)	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12
11	1 1/4	18	12
12	1 1/4	18	12

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION
PAVEMENT EXPANSION AND CONSTRUCTION JOINT DETAILS (NOT TO SCALE)
APPROVED BY: [Signature]
CITY ENGINEER
APPROVED BY: [Signature]
DIRECTOR OF PUBLIC WORKS AND ENGINEERING
BY DATE: June-01-2003 DWG NO: 02752-01

PROPOSED STORM DRAIN MODIFICATION PLAN

SCALE: 1" = 60'

Pipe Sizes (in.)	Area (sq. ft.)	Length (ft.)	Total Volume
12	0.79	272	214.88 c.f.
15	1.23	466	573.18 c.f.
18	1.77	910	1610.7 c.f.
24	3.14	1173	3683.2 c.f.
30	4.91	269	1320.79 c.f.
Total Detention Volume of pipe			7402.77 c.f.

Length of Existing and Proposed pipe	Diameter of pipe	12"	15"	18"	24"	30"
	245	198	128	168		
	13	144	261	124	63	
	14	56	90	194	38	
		69	41	200		
		197	112	480		
			208	47		
Total Length	272	466	910	1173	269	

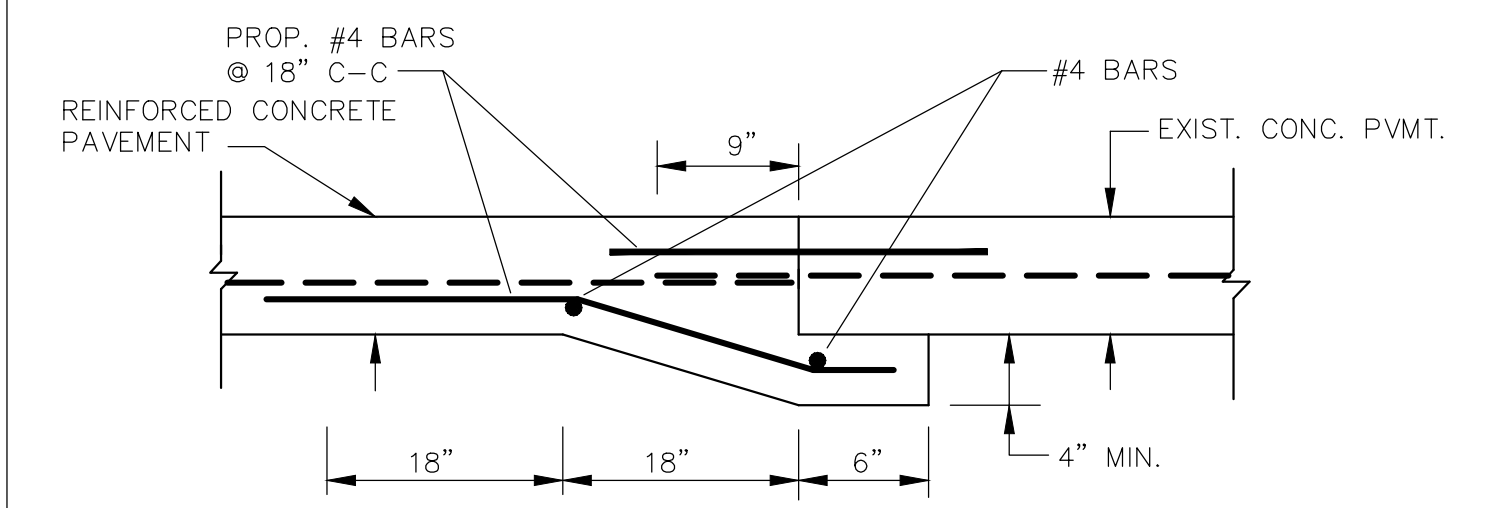
Detention and Restrictor Summary for Revised Drainage Area	Value
TOTAL SITE AREA	= 8.96 ACRES
TOTAL DEVELOPED SITE AREA EXISTING	= 5.09 ACRES
TOTAL DEVELOPED SITE AREA PROPOSED	= 0 ACRES
DETENTION VOLUME REQUIRED	= 9,238 CU.FT.
DETENTION VOLUME PROVIDED	= 60,999 CU.FT.
100-YEAR STORM W.S.E.L. (PER HGL AT EXISTING CITY MANHOLE WEST OF PROPOSED MANHOLE 3)	= 46.03 FT
OUTFALL PIPE DIAMETER	= 24 INCHES TO THE WEST AND 30 INCHES TO THE EAST
RESTRICTOR SIZE	= NOT REQUIRED PER 9.05.H.4.a.1

Detention Calculations	Value
VOLUME REQUIRED:	
Case e. (<1ac and >10ac)	
Vt=(43,560 x (0.5 x Aii) + (1815 x AeI)	
Aii= 0 ac. Aii= area increased imp cover	
AeI= 5.09 ac. AeI= area exist. Imp cover not detained	
Vt=	9,238 cu.ft.

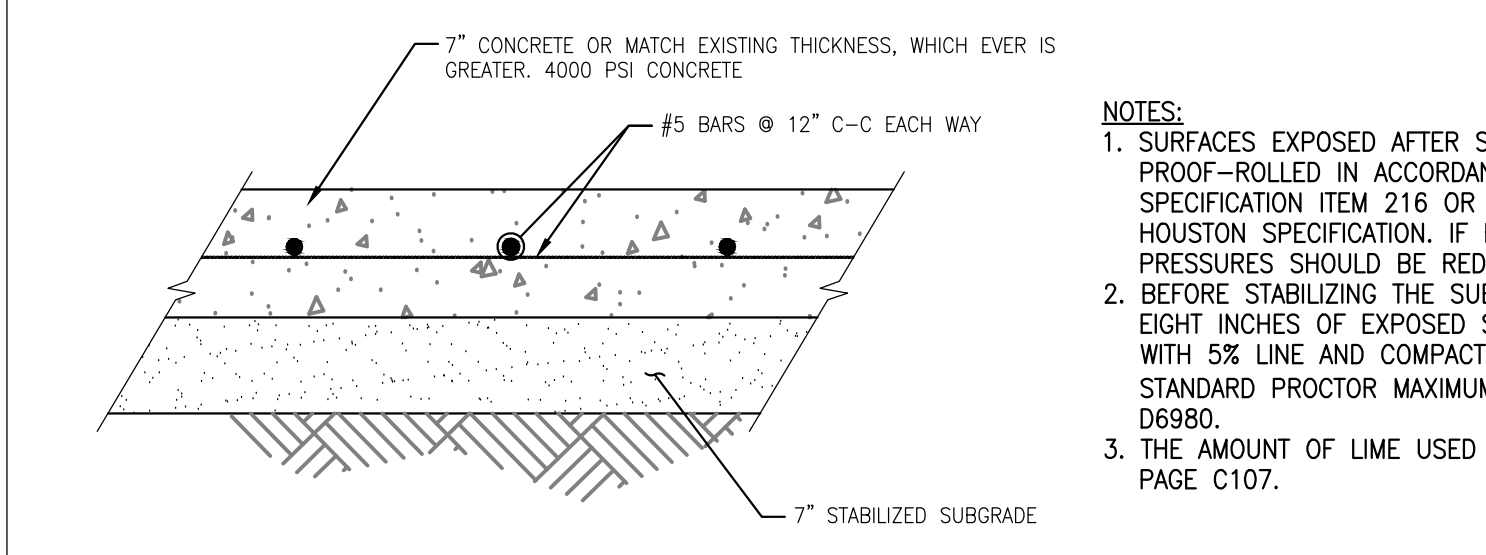
LEGEND

ROADWAY CENTERLINE	---	PROPOSED STORM DRAIN	---
PLAT BOUNDARY	---	EXISTING CONTOUR	---
EASEMENT LINE	---	EXISTING BUILDINGS	---
EXISTING CURB	---	EXISTING PAVING	---
EXISTING SEWER MAIN	---	EXISTING FLOW DIRECTION	---
EXISTING WATER MAIN	---	PROPOSED FLOW DIRECTION	---
EXISTING FIRE HYDRANT	---	EXISTING 100 YR DETENTION AREA	---
EXISTING GAS MAIN	---		
PROPOSED CATCH BASIN	---		
EXISTING STORM DRAIN	---		

NOTE: OWNER WILL NEED TO POST SIGNS IN THE PARKING AND LOADING AREAS STATING "THIS AREA IS SUBJECT TO FLOODING DURING RAINFALL EVENTS"



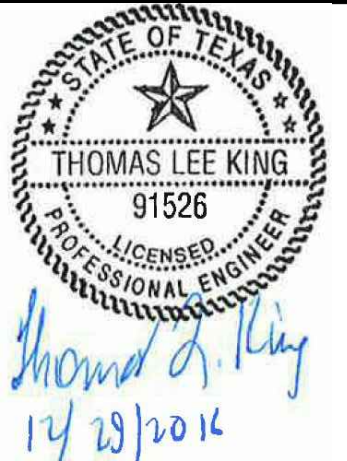
PAVEMENT HEADER N.T.S. 02



7" CONCRETE PVMT SECTION N.T.S. 03

UTTHSPH PRIVATE STORM DRAIN SYSTEM MODIFICATION HOUSTON, TX

EXISTING AND PROPOSED AND STORM DRAIN LAYOUT



DATE: 12-29-2016
DRAWN BY: MLH
DESIGN BY: MLH
JOB NO.:
SHEET NO.:

JUN 02 2017 10:20AM New User
 K:\GVA\UTTHSP\Map Center\...
 1/2" = 60'
 811
 CALL TWO BUSINESS DAYS MINIMUM AND 14 MAXIMUM BEFORE YOU DIG

SECTION 331000 - WATER DISTRIBUTION PART PART 1 - GENERAL

1.1SCOPE OF WORK

- A. This Section specifies the requirements for furnishing and installing water lines, laterals, stubs, and appurtenances for both potable and non-potable water distribution systems.

1.2RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 23 33 Trenching, Backfilling, and Compaction
B. Section 31 41 33 Trench Safety
C. Section 32 84 00 Planting Irrigation

1.3APPLICABLE PUBLICATIONS

- A. The following publications of the latest issues listed below, but referred to thereafter by basic designation only, form a part of these specifications to the extent indicated by reference thereto:

- 1. American Water Works Association (AWWA)
a. C 500 AWWA Standard for Metal-Seated Gate Valves for Water Supply Service.
b. C 900 AWWA Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings .4" through 12", for Water Transmission and Distribution.
c. C 151 AWWA Standard for Ductile Iron Pipe, Centrifugally Cast, for Water
d. C 110 AWWA Standard for Ductile-iron and Gray-Iron Fittings.
e. C 105 AWWA Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
f. C 104 AWWA Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
g. C 701-70 AWWA Standard for Cold-Water Meters-Turbine Type, for Customer Service
h. C 703-70 AWWA Standard for Cold Water Meters Fire Service Type

- 2. American Society for Testing and Materials Standards (ASTM) .
a. F 645 - Standard Guide for Selection, Design, and Installation of Thermoplastic Water-Pressure Piping Systems

- 3. National Fire Protection Association (NFPA)
a. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances
b. NFPA 70 - national electric code

- 4. National Sanitation Foundation International (NSF)
a. NSF 14 Plastics Piping System Components and Related Materials
b. NSF 61 Drinking Water System Components - Health Effects

1.4PROJECT/SITE CONDITIONS

- A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:

- B. Do not proceed with interruption of water-distribution service without prior approval and coordination with ODR/PM.

1.5SUBMITTALS

- A. Product Data: For each type of product indicated.
B. Shop Drawings: Detail precast concrete vault assemblies and indicate dimensions, method of field assembly, and components.
C. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations.
D. Field quality-control test reports.

1.6DEFINITIONS

- A. LLDPE: Linear, low-density polyethylene plastic.
B. PE: Polyethylene plastic.
C. PP: Polypropylene plastic.
D. PVC: Polyvinyl chloride plastic.

1.7QUALITY ASSURANCE

- A. Regulatory Requirements for potable water systems:

- 1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
2. Comply with standards of authorities having jurisdiction for potable-water-service piping , including materials, installation, testing, and disinfection.
3. Comply with standards of authorities having jurisdiction for fire-suppression water- service piping, including materials, hose threads, installation, and testing.

B. Regulatory Requirements for Non-potable water systems

- 1. The system shall be comprised of purple components. Use purple colored pipe, Pantone 522 embossed or integrally stamped/marked in English and in Spanish "CAUTION RECLAIMED WATER DO NOT DRINK" and "AGUA DE RECUPERACION - NO BEBER".
2. A minimum of an eight inch by eight inch sign, in English and Spanish, is prominently posted on/in the area that reads "Reclaimed Water - Do not drink" and "AGUA DE RECUPERACION - NO BEBER" on the storage tank of such non-potable system if within the construction site.

C. Piping materials shall bear label, stamp, or other markings of specified testing agency .

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- 1. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.
2. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.

PART 2 - PRODUCTS

2.1PIPE

A. For water line construction 9 feet or more from any existing or proposed sanitary sewer, all materials and equipment shall be:

- 1. New, or best grade and standard manufacture.
2. PVC pipe and joints shall conform to AWWA C-900, latest edition, schedule 40 for 150 PSI rated systems and schedule 80 for 200 PSI rated systems.
3. Ductile iron pipe shall conform to AWWA C 151, pipe class per Table 51.1, latest edition , standard outside coating with cement mortar lining to AWWA C 104 standards. All ductile iron pipe and fittings shall be wrapped with polyethylene per AWWA C 105 .
4. Fittings shall conform to AWWA C 110, latest edition, Pressure Rated 150 psi, 250 psi . 350 psi as directed by the engineer wrapped with polyethylene per AWWA C 105.

B. For construction within 9 feet of any existing or proposed sanitary sewer and all water services, all materials and equipment shall be:

- 1. New, or best grade and standard manufacture.
2. Ductile iron pipe shall conform to AWWA C 151, latest edition . standard outside coating with cement mortar lining to AWWA C104 standards. Wrap pipe with 8 mil polyethylene.
3. PVC pipe and joints shall conform to AWWA C-900 - 200 psi pressure pipe.
4. Fittings shall conform to AWWA C 110, latest edition, Pressure Rated 250 PSI, wrapped with polyethylene per AWWA C 105.

C. For offsets of water mains 6" and larger required to miss conflicts with other lines or objects, steel pipe shall be used meeting the requirements of AWWA 200, Schedule 40.

2.2VALVES

A. Line Valves:

- 1. Valves shall have a minimum working pressure of not less than 175 PSI.
2. The operating nut shall be 2-inch square and shall have an arrow, cast in the metal, indicating the counter-clockwise direction of opening.
3. Gate valves shall conform to AWWA C 500, latest edition, standard NRS bronze double disk type.
4. Valves shall have push-on or mechanical joint hubs.

B. Tapping Valves:

- 1. Tapping valves shall conform to AWWA Standard C 500, latest edition , standard NRS bronze double disc type water works valve.
2. The operating nut shall be 2-inch square and shall have an arrow, cast in the metal, indicating the counter-clockwise direction of opening.
3. Inlet shall be a Class 125 flange with a machined projection.
4. Outlet shall be a standard push-on or mechanical joint.
5. Valves shall have a minimum working pressure of not less than 175 psi.

C. Valves for Meter Installation:

- 1. Commercial meter valves shall meet the specifications for line valves except that they shall have a handwheel . Class 125 flanges and shall open counter-clockwise.
2. Fire flow meter valves shall be OS&Y double disc valves (line valves only) . Fire Marshall approved, clockwise to close with Class 125 flanges.

2.3VALVE BOXES

- A. Valve boxes shall be installed over each line and tapping valve except as otherwise noted.
B. Lids shall be cast with the word "Water".
C. Valve boxes shall be extension type with screw or locking slide adjustment with flapped base.

2.4FIRE HYDRANTS

- A. Fire hydrants shall be as manufactured by Mueller Company, or approved equal, AWWA type, No. A 24015, 3 way 5 1/4 inch valve opening, bury as shown to a depth shown, 6 inch MJ shoe, open left, 1 1/2 inch top operating nut, 2 1/2 inch hose coupling, 4 1/2 inch pumper connection with national standard threads.

2.5METERS

- A. For general purpose detector situations involving water and wastewater, reclaimed water, bi- directional flow applications, chemical, pharmaceutical, and food and beverage applications, meter shall be Badger Mag Meter M2000 (Basis of Design) or approved equal.

2.6WATER

- A. All water used for testing and sterilizing must be supplied by municipal supplies approved by the state's Department of Health.

PART 3 - EXECUTION

3.1LOWERING/RELOCATING EXISTING WATER LINES

- A. Water lines to be lowered/relocated shall not be shut down without prior approval of the local governing agency.
B. Contractor shall install necessary valves so as not to disrupt service outside limits of water lines to be lowered/relocated whether or not indicated on the plans.
C. Whether or not indicated on the plans, the lowered/relocated water line shall have minimum of four (4) feet of cover. Location shall be a minimum distance from existing location as necessary to facilitate construction.
D. If the lowered/relocated water lines are of potable water systems, they shall be required to meet same hydrostatic and sterilization test results as new water lines.
E. Installation of lowered/relocated water lines shall meet the same requirements of new water lines as in paragraph 3.2 below.

3.2INSTALLATION

- A. The interior of the pipe shall be thoroughly cleaned of all foreign matter before lowered into the trench, and shall be kept clean during these operations.
B. Pipes for potable water lines shall not be laid in water, or when trench or weather conditions are unsuitable for work.
C. For potable water line installation, when work is not in progress, open ends of pipes and fittings shall be securely closed so that water, earth, or other substances will not enter the pipes or fittings.
D. All bends, tees, valves, and plugs shall have thrust blocks installed in accordance with the details on the plans. Thrust blocking will be installed such that joints will be accessible for inspection and repair. Concrete used in thrust blocking shall have a compressive strength of at least 3,000 psi.
E. For potable water line installation, when a water line is to be installed such that it will cross over an existing or proposed sanitary sewer, a section of pipe at least 18' long of either ductile iron or PVC pipe C-900 (200 PSI) shall be installed such that it will be centered over the sanitary sewer. Water lines shall in no case be installed below a sanitary sewer.
F. For potable water line installation, when a water line is being installed parallel to a sanitary sewer, a horizontal distance of separation of nine (9) feet (outside to outside) must be maintained .
G. A minimum clearance of 6" must be maintained between water lines and all other utility lines.
H. When trenches exceed five feet in depth Contractor shall utilize trench safety measures per Section 31 41 33 Trench Safety.

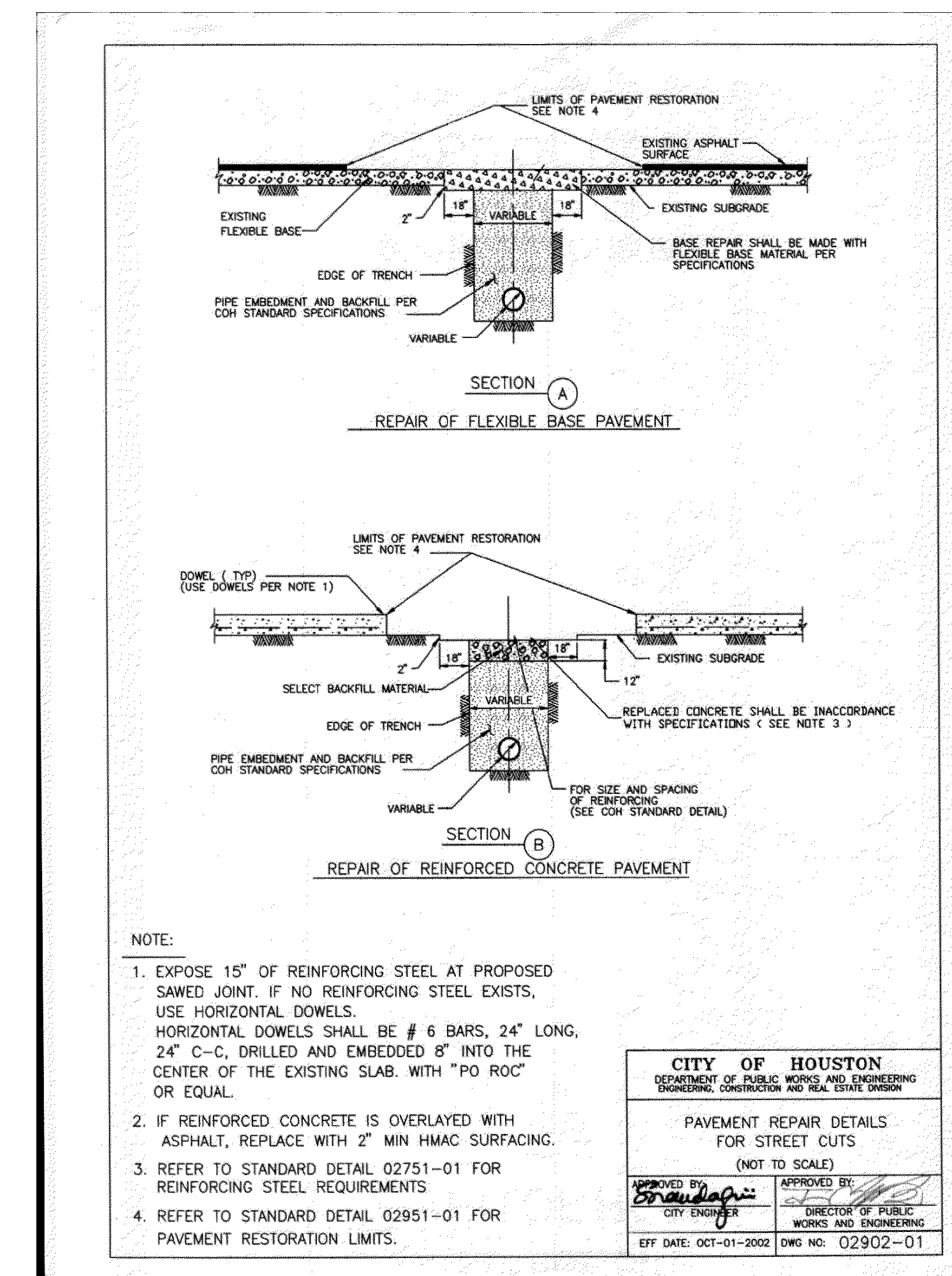
3.3TESTING

- A. All water lines to be installed shall be hydrostatic tested and all potable water lines shall also be sterilized.
B. Hydrostatic Test

- 1. General
a. After the pipe has been laid and initial backfill completed, the water line shall be subjected to a hydrostatic pressure of 150 psi. Joints shall remain exposed during testing whenever possible.
b. The Contractor shall furnish, install, and operate, at his expense, the necessary connections, pumps, meters, and gauges necessary to conduct the test. The meters used in the testing shall be tested, sealed and approved at the Contractor's expense prior to running any test.
2. Procedures
a. Before applying the specified pressure test, all air shall be expelled from the pipe by slowly filling each valved section of pipe with water and providing taps if necessary to expel trapped air.
b. All pipe, fittings, and joints will be examined during testing.
c. Any defective material shall be replaced with sound material and the test repeated until satisfactorily completed and approved.
d. Allowable leakage shall not exceed 25 gallons per inch of diameter per mile of pipe per 24 hours. Minimum duration of testing for each section shall be 2 hours when joints are exposed and 8 hours when joints are covered.
e. All visible leaks at exposed joints and all leaks evident on the surface where joints are covered, shall be replaced, regardless of total leakage shown.
f. Where practicable, pipe lines shall be tested in lengths between valves or plugs of no more than 1500 feet . Contractor must have written approval for test sections greater than 1500 feet.

C. Sterilization

- 1. General
a. After approved completion of the hydrostatic tests, the water distribution system shall be sterilized before acceptance for domestic operation.
2. Procedures
a. Distribution system shall be disinfected using chlorine or chlorine compounds added to the water resulting in 50 ppm (parts per million) chlorine.
b. After the water containing this amount of chlorine has been in contact with the pipe and appurtenances at least 24 hours, the water shall be replaced with water to be transported normally, and samples of water taken and tested to assure that the disinfection procedure was effective.
c. No main shall be placed in service or accepted until water samples are approved by applicable regulatory agency.
d. Prepare reports of purging and disinfecting activities.



UTHSPP PRIVATE DOMESTIC WATER REPLACEMENT HOUSTON, TX

Table with 3 columns: NO, DATE, DESCRIPTION. It is currently empty.

UTHSPP PRIVATE DOMESTIC WATER REPLACEMENT HOUSTON, TX

C-900 SPECIFICATIONS

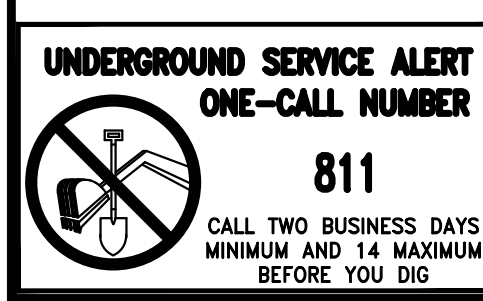


DATE 3-17-2016
DRAWN BY MLH
DESIGN BY MLH
JOB NO.

SHEET NO.

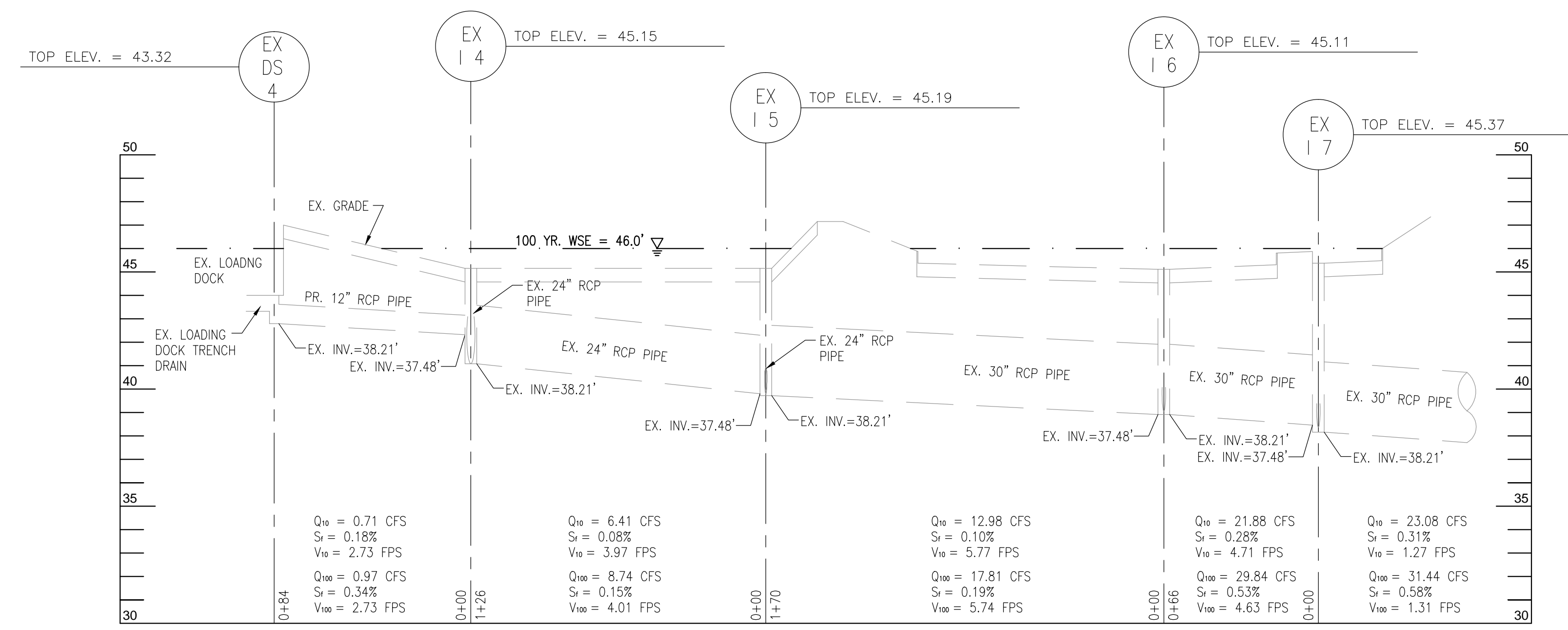
C-101(A)

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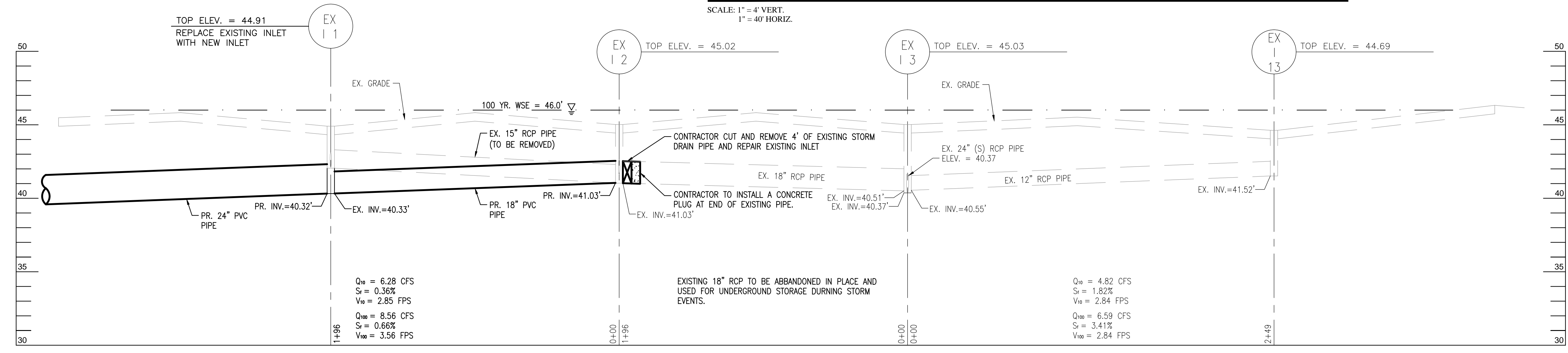
REVISIONS	
NO.	DESCRIPTION

JOB TITLE
UTTHSPH PRIVATE STORM DRAIN SYSTEM MODIFICATION
 HOUSTON, TX
 1851 1/2 CROSSPOINT AVE.



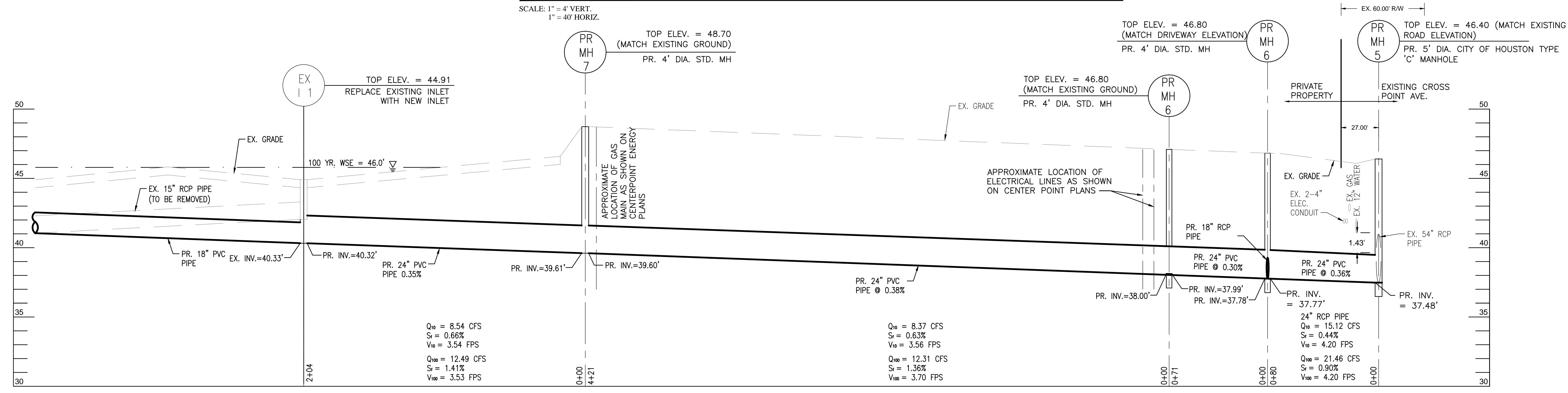
PROPOSED STORM WATER MANAGEMENT FACILITY PROFILE

SCALE: 1" = 4' VERT.
1" = 40' HORIZ.



PROPOSED STORM WATER MANAGEMENT FACILITY PROFILE

SCALE: 1" = 4' VERT.
1" = 40' HORIZ.



PROPOSED STORM WATER MANAGEMENT FACILITY PROFILE

SCALE: 1" = 4' VERT.
1" = 40' HORIZ.

May 30, 2017 9:25AM New User
 K:\GIS\UTTHSP\Map Center\...
 Houston, TX 77002

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
 CALL TWO BUSINESS DAYS
 MINIMUM AND 14 MAXIMUM
 BEFORE YOU DIG

SHEET TITLE



DATE 12-29-2016

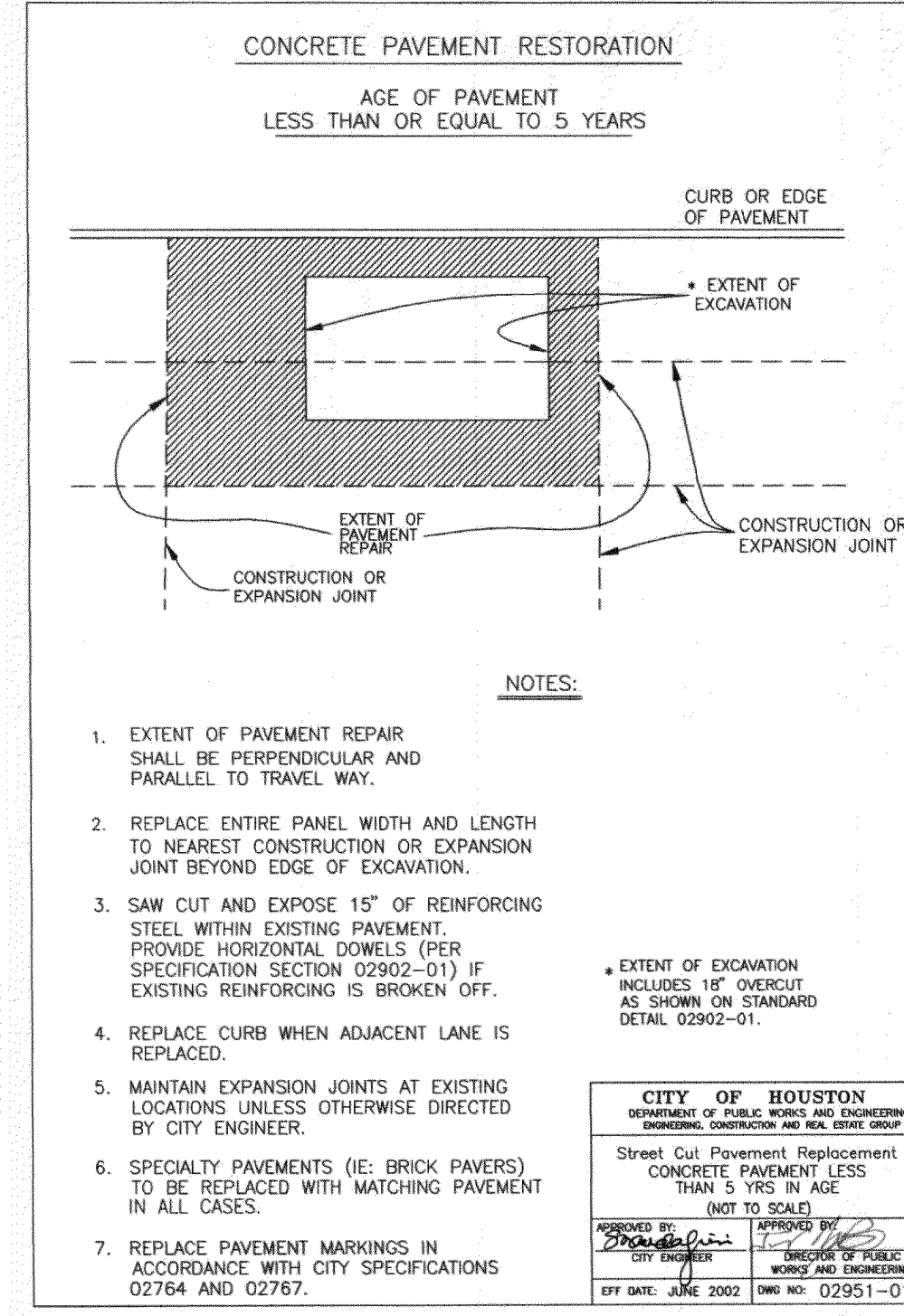
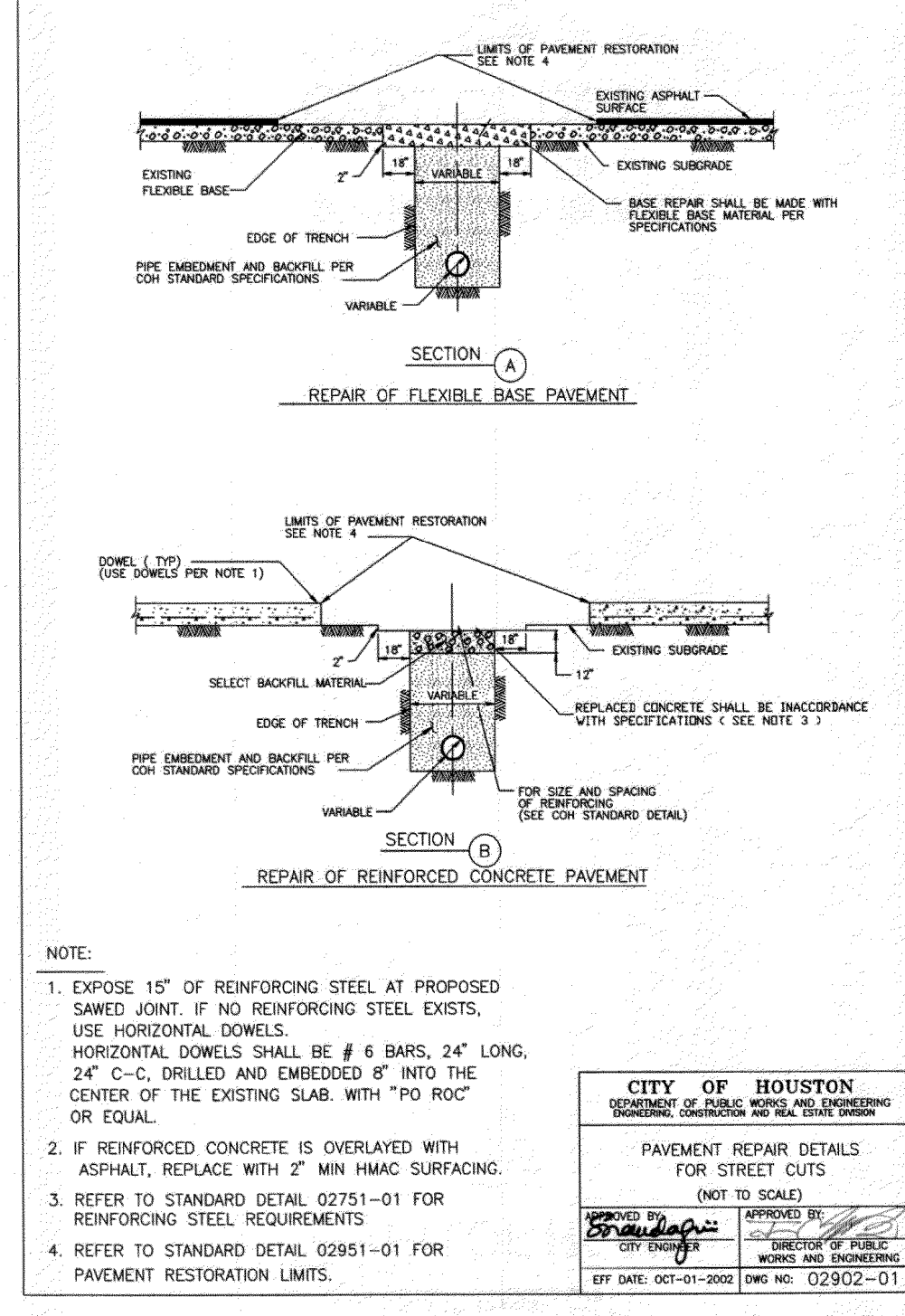
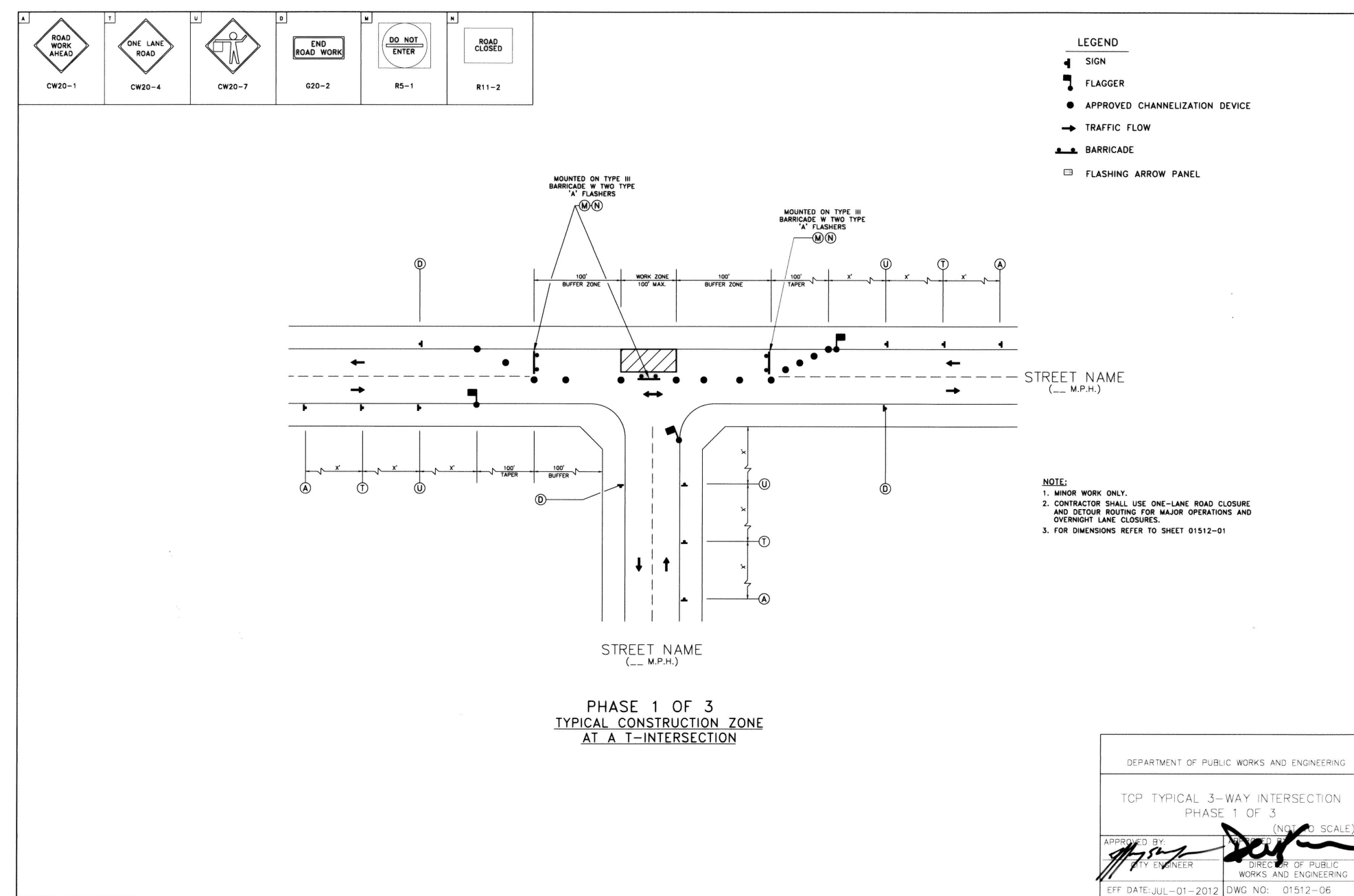
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DESIGN BY MLH

JOB NO.

SHEET NO.

C-102



**CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
STREET & BRIDGE NOTES**

- DEPARTMENT OF PUBLIC WORKS AND ENGINEERING'S "STANDARD CONSTRUCTION SPECIFICATIONS" AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN IS CONSISTENT WITH THE MINIMUM STANDARDS ESTABLISHED IN THE "INFRASTRUCTURE DESIGN MANUAL" REFERENCED AT http://documents.publicworks.houstontx.gov/document-center/cat_view/88-engineering-and-construction/90-design-manuals/364-city-of-houston-infrastructure-design-manual.html.
- FILL AREAS ON PLANS SHALL BE FILLED IN LAYERS NOT EXCEEDING 8" IN DEPTH AND EACH COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY PRIOR TO INSTALLATION OF WATER LINE AND FILL AREA SHALL BE SEEDED AND FERTILIZED WITHIN 10 WORKING DAYS.
- UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURBED INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
- CONTRACTOR SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE 1 CURB INLETS.
- EXISTING PAVEMENTS, CURBS, DRIVEWAYS, AND SIDEWALKS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF HOUSTON STANDARDS, WITH LATEST ADDENDA AND AMENDMENTS THERETO.
- CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY UPON COMPLETION OF JOB SHALL BE AS GOOD AS OR BETTER THAN PRIOR TO STARTING WORK.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO SATISFACTION OF THE OWNING AUTHORITY.
- EXPOSED 15" OF REINFORCING STEEL AT PROPOSED SAWED JOINT IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS 24" LONG 24" C-C DRILLED AND EMBEDDED 8" INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL.
- CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG AREAS OF EXCAVATION.
- CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING AND SHORING AS SPECIFIED IN CITY OF HOUSTON ORDINANCE #87-1457.
- WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOUSTON STANDARDS AT ALL INTERSECTIONS WHERE SIDEWALKS EXIST AND THE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
- WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING'S "STANDARD CONSTRUCTION SPECIFICATIONS" AND "STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING" UNLESS OTHERWISE NOTED AND APPROVED ON THESE PLANS. THE DESIGN SHOULD BE CONSISTENT WITH THE MINIMUM STANDARD ESTABLISHED IN THE "DESIGN MANUAL FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORMS DRAINAGE AND STREET PAVING".
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGES TO EXISTING WATER, WASTEWATER, STORM SEWER AND TRAFFIC SIGNAL CONDUITS, ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE CITY OF HOUSTON, DEPT. OF PUBLIC WORKS AND ENGINEERING "STANDARD CONSTRUCTION SPECIFICATIONS" WITH LATEST ADDENDA AND AMENDMENTS THERETO, AT NO COST TO THE CITY OF HOUSTON.
- PRIOR TO STREET CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AT (PHONE) 832-394-9098 OR 832-395-4424(FAX) AND COMPLY WITH ALL REQUIREMENTS FOR THE ISSUANCE OF NECESSARY PERMITS/WORK ORDERS FOR STREET CONSTRUCTION.
- DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED 6-INCHES OFFSET OF THE CENTERLINE OF ALL FIRE HYDRANT LOCATIONS BY THE PAVING CONTRACTOR. HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET.

**City of Houston
Department of Public Works and Engineering**

Traffic Notes

- Contractor shall provide and install traffic control devices in conformance with Part VI of the Texas Manual on Uniform Traffic Control Devices (Texas MUTCD), most recent edition with revisions) during construction.
- No traffic lanes shall be closed during the hours of 5:30AM to 7:00PM Monday thru Friday in Downtown/Midtown area.
- No lanes on major thoroughfares may be blocked from 6:00AM to 9:00AM and 4:00PM to 7:00PM unless outlined in the mobility permit.
- No traffic lanes shall be closed in all residential areas from 7:00PM to 7:00AM.
- Contractor shall maintain one lane of traffic in each direction during working hours.
- Contractor shall cover open excavations with steel plates anchored properly during on-working hours, and open the lanes for normal traffic flow.
- off-duty uniformed police officer(s)/flagger(s) is/are required to direct traffic when the lanes are blocked.
- In the event that no "Traffic Control Plans" exist as a part of contract drawings, contractor may prepare plans* and submit to the Plan Review Section for approval ten days prior to implementation.
- If the contractor chooses to use a different method of "Traffic Control Plans" during the construction than what is outlined in the contract drawings, he/she shall be responsible for preparing and submitting an alternate set of plans* to the Plan Review Section for approval ten working days prior to implementation.
- Approved copies of Traffic Control Plans and Mobility Permits shall be made available for inspection at the job site at all times. Contractors must secure mobility permits from the City's Traffic Management and Maintenance branch before closing a lane/sidewalk. The request must be made at least 10 days in advance of the closure. Note that working hours may be restricted or the request may be denied. Call 832-395-3020 for an application or logon to www.gims.houstontx.gov.

*These Plans shall be drawn to scale on reproducible Mylar and sealed by a licensed engineer in the State of Texas. Plans will become a part of the contract drawings.

Date: _____
Approved for AT&T TEXAS/SWBT underground conduit facilities only.
Signature valid for one year.

TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT AT 713-207-2222.

NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811

VERIFICATION OF PRIVATE UTILITY LINES

Date: _____
CenterPoint Energy/Natural Gas Facilities Verification ONLY.
(This signature verifies that you have shown CNP Natural Gas lines correctly - not to be used for conflict verification.) (Gas service lines are not shown) Signature valid for six months

Date: _____
CenterPoint Energy/UNDERGROUND Electric Facilities Verification ONLY.
(This signature verifies that existing underground facilities - not to be used for conflict verification.) Signature valid for six months

APP.	REVISIONS	DATE

INFRASTRUCTURE ASSOCIATES, INC.
6117 RICHMOND AVENUE, SUITE 200
HOUSTON, TEXAS 77057
TEPIC REGISTRATION NO. F-4506
(713) 622-0120 PH (713) 622-0557 FAX
WWW.IAHOUSTON.COM

**UT HEALTH MAIL CENTER
STORM DRAIN MODIFICATION
PAVING DETAILS AND NOTES**

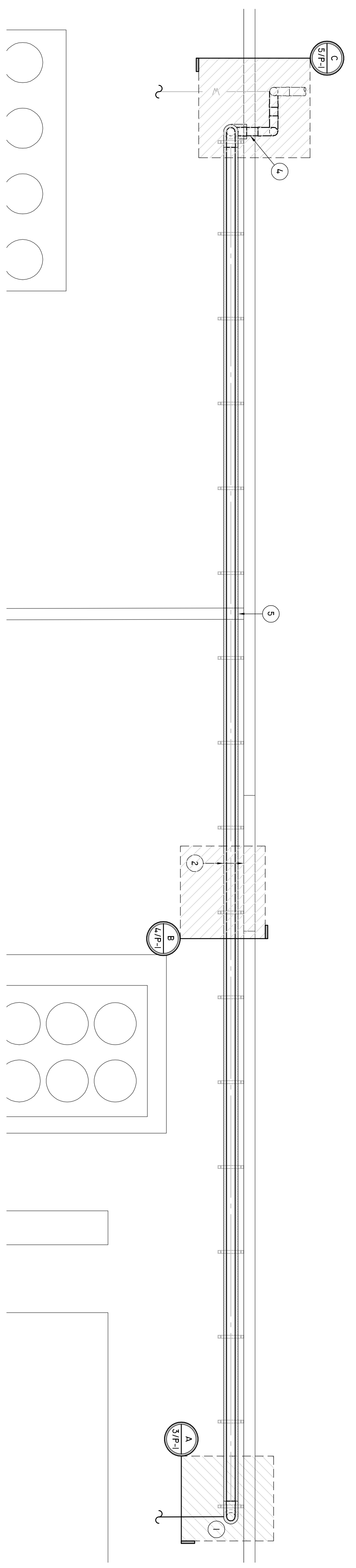
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

**CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING**

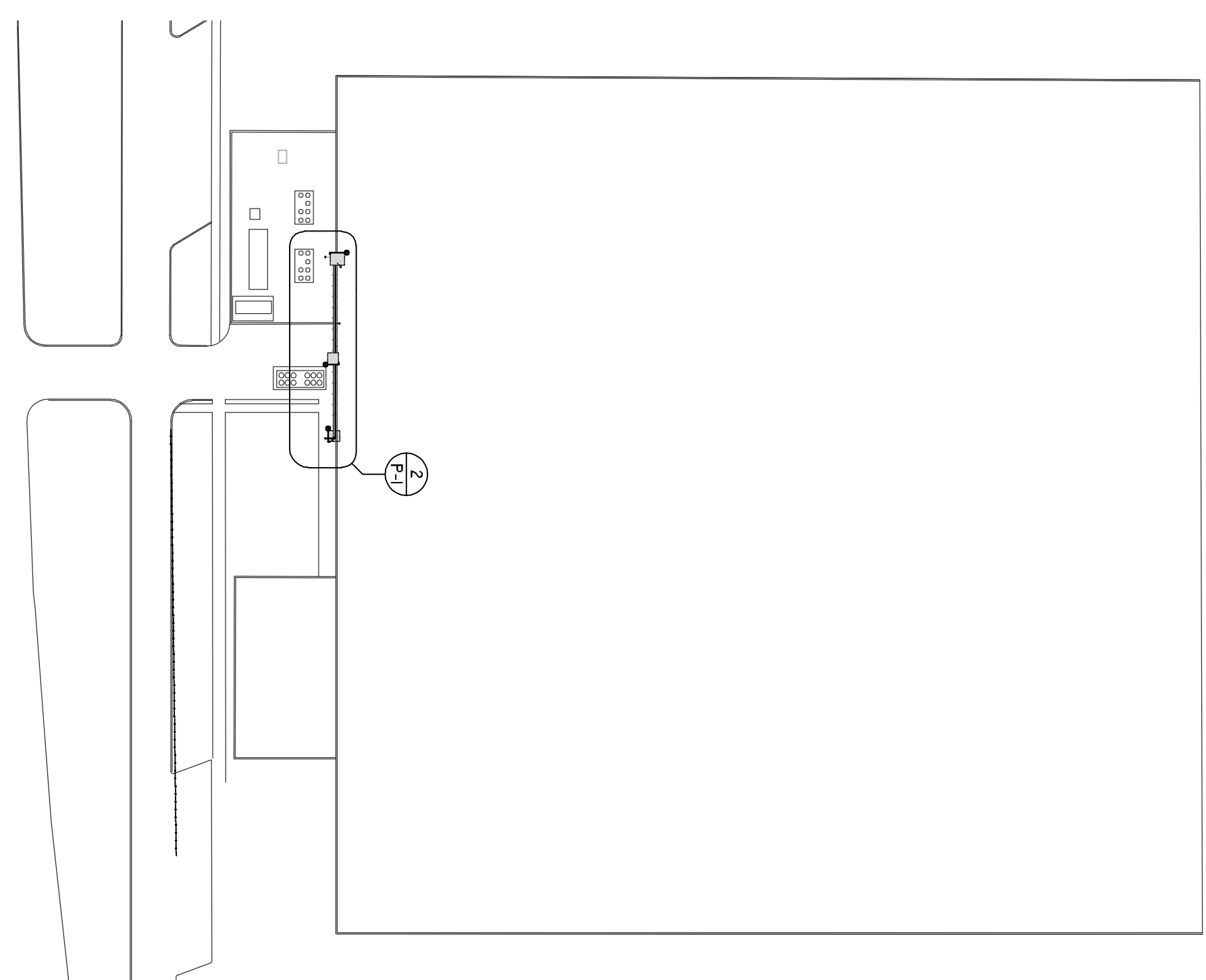
WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM	FACILITIES
STREET & BRIDGE	
FILE NO:	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	
HORIZ: N/A	
VERT: N/A	
SHEET NO. 4 OF 4	

UNDERGROUND SERVICE ALERT
 ONE-CALL NUMBER
 811
 CALL 24 HOURS BEFORE ANY EXCAVATION
 BEFORE YOU DIG

2 ENLARGED PLAN - PROPOSED WATER LINE
 SCALE: 1/4" = 1'-0"



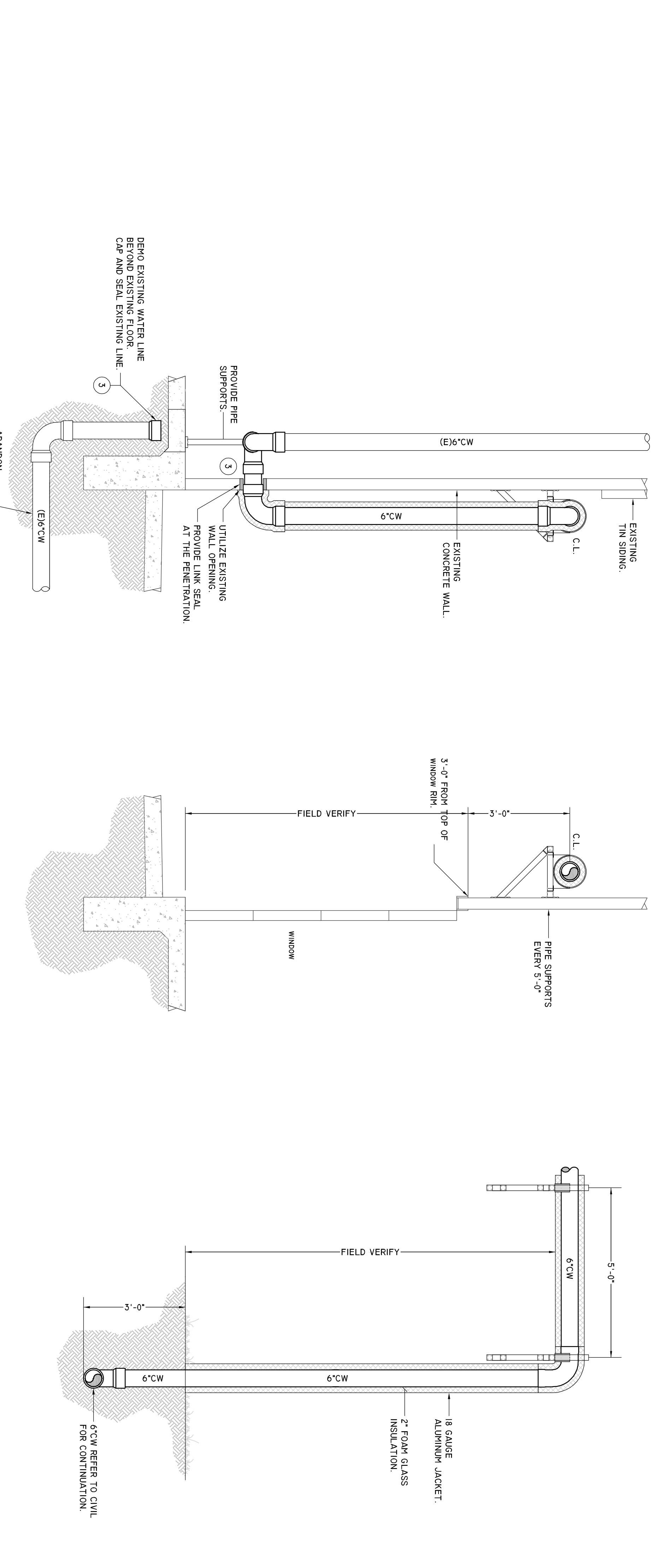
1 OVERALL PLAN
 SCALE: 1" = 40'



5 SECTION C
 SCALE: 1/4" = 1'-0"

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

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



- PIPING MATERIALS:**
- PORCELTAIN WATER UV PROTECTED SCHEDULE 40 PVC CONFORM TO ASTM D-1785 SOIL AND WASTE VENT PIPING FITTINGS SHALL BE COMPATIBLE MATERIAL WITH SOLVENT CEMENT TYPE JOINTS. PROVIDE 2" FOAM GLASS INSULATION WITH 18 GAUGE ALUMINUM JACKET.
- GENERAL NOTES:**
- PROVIDE WALL SUPPORTS EVERY 5'-0" AND EVERY AT ELBOW / CHANGE IN DIRECTION.
 - ALL OUTDOOR PORCELTAIN PIPING SHALL BE INSULATED WITH 2" FOAM GLASS INSULATION WITH 18 GAUGE ALUMINUM JACKET.
 - PROVIDE 3/4"X3" XIM BOL T 3 MECHANICAL ANCHORS WITH 3" PRECAST LENGTH FOR ALL STEEL BRACKET CONNECTION TO THE EXISTING CONCRETE WALL.
- KEYED NOTES:**
- ROUTE 6" CW LINE FROM BELOW GRADE VERTICAL ALONG EXTERIOR WALL TO 3'-0" ABOVE THE EXISTING DOOR / WINDOW.
 - ROUTE 6" CW FROM ABOVE WINDOW / EVEL DOWN EXTERIOR WALL TO APPROXIMATELY 2'-0" FROM FINISHED GRADE APPROXIMATELY AT THIS LOCATION. PENETRATE THRU EXTERIOR WALL TO CONNECT TO EXISTING WATER LINE INSIDE THE BUILDING.
 - DEMO EXISTING WATER LINE DOWN TO BELOW SLAB CAP AND SEAL PIPING PATCH AND REPAIR FLOORS, WALLS, ETC. TO MATCH EXISTING.
 - UTILIZE EXISTING WALL CORE OPENING, THEN EXISTING WALL APPROXIMATELY AT THIS LOCATION. FIELD VERIFY EXACT LOCATION PATCH AND REPAIR WALL AS NEEDED.
 - CORE A 1/2" HOLE THOUGH EXISTING CONCRETE WALL AT THIS LOCATION.

DATE: 3-17-2016
 DRAWN BY: MLH
 DESIGN BY: MLH
 JOB NO.:
 SHEET NO.: **P-300**

INTERIM REVIEW ONLY
 Document is Incomplete
 Not intended for permit or construction
 Engineer: Anwar Hassan
 PE License No: 64671 TX
 DATE: 17 MARCH 2017

JOB TITLE
UTHSPH PRIVATE DOMESTIC WATER REPLACEMENT
 1851 1/2 CROSSPOINT AVE. HOUSTON, TX

NO. DATE DESCRIPTION
 REVISIONS
 INFRASTRUCTURE ASSOCIATES, INC
 6117 RICHMOND AVENUE, SUITE 200
 HOUSTON, TEXAS 77056
 TEL: (281) 416-7600
 FAX: (281) 416-7601
 WWW.IAHOUSTON.COM