



**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: 2017-17614

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:

X
X
X

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: XXXXXXXXXX

Amount: \$60,000.00

☐

Cashier's Check

Check No: _____

Amount: _____

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

Charles O. Ay

Permit Administrator

12/26/2017

Date

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

BOND NO [REDACTED]

THE STATE OF TEXAS §
COUNTY OF FORT BEND §

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, Gardner Capital Construction, LLC whose (address, phone) is 4803 S. National Avenue #200, Springfield, MO, 65810, hereinafter called the Principal, and Developers Surety and Indemnity Company, a Corporation existing under and by virtue of the laws of the state of California and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at (name/address/phone) 17771 Cowan #100, Irvine, CA 92623, 949-263-3300, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is CSC and whose address is 211 E. 7th Street, Suite 620, Austin, TX 78701, 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 Sixty Thousand and 00/100 Dollars (\$ 60,000.00) 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;

****Provision at West Bellfort, Per the attached email from the Development Coordinator at Fort Bend County Engineering**

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 6th day of December, 2017.

Gardner Capital Construction, LLC
PRINCIPAL

BY
Developers Surety and Indemnity Company

SURETY

BY

Melanie Ankeney, Attorney-In-Fact

**POWER OF ATTORNEY FOR
DEVELOPERS SURETY AND INDEMNITY COMPANY
INDEMNITY COMPANY OF CALIFORNIA**
PO Box 19725, IRVINE, CA 92623 (949) 263-3300

KNOW ALL BY THESE PRESENTS that except as expressly limited, DEVELOPERS SURETY AND INDEMNITY COMPANY and INDEMNITY COMPANY OF CALIFORNIA, do each hereby make, constitute and appoint:

Patrick R. Hedges, Jennifer Castillo, Melanie Ankeney, jointly or severally

as their true and lawful Attorney(s)-in-Fact, to make, execute, deliver and acknowledge, for and on behalf of said corporations, as sureties, bonds, undertakings and contracts of suretyship giving and granting unto said Attorney(s)-in-Fact full power and authority to do and to perform every act necessary, requisite or proper to be done in connection therewith as each of said corporations could do, but reserving to each of said corporations full power of substitution and revocation, and all of the acts of said Attorney(s)-in-Fact, pursuant to these presents, are hereby ratified and confirmed.

This Power of Attorney is granted and is signed by facsimile under and by authority of the following resolutions adopted by the respective Boards of Directors of DEVELOPERS SURETY AND INDEMNITY COMPANY and INDEMNITY COMPANY OF CALIFORNIA, effective as of January 1st, 2008.

RESOLVED, that a combination of any two of the Chairman of the Board, the President, Executive Vice-President, Senior Vice-President or any Vice President of the corporations be, and that each of them hereby is, authorized to execute this Power of Attorney, qualifying the attorney(s) named in the Power of Attorney to execute, on behalf of the corporations, bonds, undertakings and contracts of suretyship; and that the Secretary or any Assistant Secretary of either of the corporations be, and each of them hereby is, authorized to attest the execution of any such Power of Attorney;

RESOLVED, FURTHER, that the signatures of such officers may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures shall be valid and binding upon the corporations when so affixed and in the future with respect to any bond, undertaking or contract of suretyship to which it is attached.

IN WITNESS WHEREOF, DEVELOPERS SURETY AND INDEMNITY COMPANY and INDEMNITY COMPANY OF CALIFORNIA have severally caused these presents to be signed by their respective officers and attested by their respective Secretary or Assistant Secretary this 6th day of February, 2017.

By: *Daniel Young*
Daniel Young, Senior Vice-President

By: *Mark Lansdon*
Mark Lansdon, Vice-President



A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Orange

On February 6, 2017 before me, _____
Date

Lucille Raymond, Notary Public
Here Insert Name and Title of the Officer

personally appeared _____

Daniel Young and Mark Lansdon
Name(s) of Signer(s)

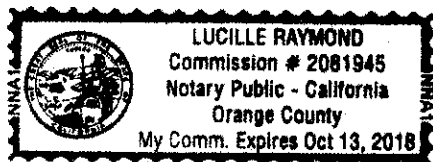
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

Lucille Raymond, Notary Public



Place Notary Seal Above

CERTIFICATE

The undersigned, as Secretary or Assistant Secretary of DEVELOPERS SURETY AND INDEMNITY COMPANY or INDEMNITY COMPANY OF CALIFORNIA, does hereby certify that the foregoing Power of Attorney remains in full force and has not been revoked and, furthermore, that the provisions of the resolutions of the respective Boards of Directors of said corporations set forth in the Power of Attorney are in force as of the date of this Certificate.

This Certificate is executed in the City of Irvine, California, this 6th day of December 2017

By: *Cassie J. Berrisford*
Cassie J. Berrisford, Assistant Secretary



SITE DEVELOPMENT PLANS FOR:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

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STORMWATER MANAGEMENT PLAN



VICINITY MAP
NOT TO SCALE
KEY MAP 528X

SITE DISTURBED AREA = 11.60 AC.

THE CONTRACTOR SHALL BE RESPONSIBLE
FOR THE DEVELOPMENT OF THE
STORMWATER POLLUTION PREVENTION PLAN
IN ACCORDANCE WITH TCEQ GENERAL
PERMIT TXR150000

CONTRACTOR TO CONTACT DISTRICT OPERATOR (REBECCA
MARCUCCI, MUNICIPAL DISTRICT SERVICES (MDS), 281.923.7538) AT
LEAST 48 HOURS BEFORE STARTING CONSTRUCTION. ALL
CONSTRUCTION SHALL COMPLY WITH THE DISTRICT'S RATE ORDER.

PROJECT DIRECTORY

DEVELOPER
GARDNER CAPITAL
2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538
CONTACT: MR. RUBEN ESQUEDA

CIVIL ENGINEER
FORESITE GROUP, INC.
1999 BRYAN STREET, SUITE 890
DALLAS, TX 75201
(214) 939-7123
CONTACT: MR. JOHN B. RHODES, JR., PE

ARCHITECT
CROSS ARCHITECTS
1255 W. 15TH STREET, SUITE 125
PLANO, TEXAS 75075
(972) 398-6644
CONTACT: MR. ADAM EVERETT

SURVEYOR
TERRA SURVEYING COMPANY
3000 WILCREST DRIVE, SUITE 210
HOUSTON, TEXAS 77042
(713) 993-0327
CONTACT: MR. GEORGE COLLISON, RPLS

GEOTECHNICAL ENGINEER
ECS TEXAS, LLP
1050 N. POST OAK ROAD, SUITE 130
HOUSTON, TEXAS 77055
(713) 955-1983
CONTACT: MR. SHAHED MANZUR, PHD, PE

LOCAL ISSUING AUTHORITY
FORT BEND COUNTY ENGINEERING
301 JACKSON STREET, 4TH FLOOR
RICHMOND, TEXAS 77489
(281) 633-7500
CONTACT: MR. NATHAN HATCHER

LOCAL ISSUING AUTHORITY
CITY OF HOUSTON
1002 WASHINGTON, 1ST FLOOR
HOUSTON, TEXAS 77002
(832) 394-8899
CONTACT: MR. MARK MCAVOY

UTILITY PROVIDERS

WATER SERVICE PROVIDER
CITY OF HOUSTON
PO BOX 2688
HOUSTON, TX 77252
(832) 394-8986
CONTACT: MR. RUDY MORENO, JR.

SANITARY SEWER SERVICE PROVIDER
CITY OF HOUSTON
PO BOX 2688
HOUSTON, TX 77252
(832) 394-8986
CONTACT: MR. RUDY MORENO, JR.

ELECTRICAL SERVICE PROVIDER
CENTERPOINT ENERGY
13300 W BELLFORT
HOUSTON, TX 77099
(281) 561-3218
CONTACT: MR. MC MARTIN

GAS SERVICE PROVIDER
CENTERPOINT ENERGY
PO BOX 231
ROSENBERG, TX 77471
(281) 341-4936
CONTACT: MR. IGNACIO GUERRERO

TELEPHONE SERVICE PROVIDER
WINDSTREAM COMMUNICATIONS
8306 HWY 90A
SUGAR LAND, TX 77478
CONTACT: MR. PETE MACEJEWSKI

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
D/B/A Foresite Consulting Group of Texas, Inc.

o | 214.939.7123
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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

AS SHOWN

TITLE:

COVER

SHEET NUMBER:

G-1

COMMENTS:

JOB/FILE NUMBER: 693.009

PREPARED BY:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
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Dallas, TX 75201
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24 HR CONTACT:
MR. JOHN B. RHODES, JR., PE
(214) 939-7123

ISSUED:
MARCH 8, 2017
693.009

GENERAL NOTES

- A. DESIGN DATA PROVIDED IN ELECTRONIC FORMAT IS FOR INFORMATION PURPOSES ONLY AND SHOULD BE USED AT YOUR OWN RISK, AND IS PROVIDED WITHOUT REPRESENTATIONS AND WARRANTIES, ANY CONFLICT BETWEEN THE INFORMATION REFLECTED ON THE LATEST REVISION OF THE SEALED PLAN SHEETS AND THAT PROVIDED VIA ELECTRONIC FORMAT SHALL BE RESOLVED IN FAVOR OF THE SEALED PLAN SHEETS.
- B. UTILITIES: THERE MAY BE ADDITIONAL EXISTING UTILITIES NOT SHOWN ON THESE PLANS. EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN. FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. NOTIFY THE OWNER AND ENGINEER IF DISCREPANCIES ARE FOUND THAT WILL AFFECT THE CONSTRUCTION PROJECT. PROTECT ALL EXISTING UTILITIES.
- C. TEMPORARY PROVISIONS: SEQUENCE THE WORK AND PROVIDE TEMPORARY MEASURES AS NEEDED TO MAINTAIN ACCESS TO THE SITE THROUGHOUT ALL TIMES DURING CONSTRUCTION. TEMPORARY PROVISIONS MAY INCLUDE, BUT ARE NOT LIMITED TO: BARRICADES, FLASHING LIGHTS, FLAGMAN, TEMPORARY PAVEMENT, AND DIRECTIONAL SIGNAGE.
- D. EQUIPMENT STORAGE: DO NOT PARK EQUIPMENT OR STORE MATERIALS IN STATE, COUNTY, OR CITY RIGHT-OF-WAY.
- E. NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH ANY NEW CONSTRUCTION.
- F. OBTAIN ALL REQUIRED CONSTRUCTION RELATED PERMITS, INCLUDING DEMOLITION PERMIT, BEFORE STARTING WORK. RETAIN COPIES OF ALL PERMITS AT THE PROJECT SITE AT ALL TIMES.
- G. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
- H. SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THE GENERAL DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ON-SITE SIGNAGE.
- I. NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ON THE SITE.
- J. COMPLY WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL BUILDING AND UTILITY INSTALLATION CODES. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS UNLESS DEPARTMENT OF TRANSPORTATION STANDARDS OR LOCAL EQUIPMENTAL STANDARDS ARE SPECIFICALLY STRAIGHT.
- K. DO NOT DEVIATE FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.
- L. WORK WITHIN D.O.T. RIGHT-OF-WAY:
1. ALL PAVEMENT MARKINGS WITHIN D.O.T. RIGHT-OF-WAY SHALL BE THERMOPLASTIC AND IN ACCORDANCE WITH D.O.T. SPECIFICATIONS.
 2. RE-ESTABLISH ALL RIGHT-OF-WAY AREA, WHICH IS DAMAGED OR DISTURBED, TO ORIGINAL CONDITION OR BETTER.
- M. ALL WORK IN D.O.T. RIGHT-OF-WAY SHALL COMPLY WITH D.O.T. SPECIFICATIONS.
- N. ARRANGE HIGH INTENSITY LIGHTING TO CONCEAL THE SOURCE OF LIGHT FROM PUBLIC VIEW AND PREVENT INTERFERENCE WITH TRAFFIC.
- O. ENSURE CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES BEFORE BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES EXIST.

TRAFFIC CONTROL

- A. IF DRAWINGS DO NOT INDICATE SITE SPECIFIC TRAFFIC CONTROL MEASURES, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A TEMPORARY TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.
- B. ALL TEMPORARY TRAFFIC CONTROL SIGNAGE AND MARKINGS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE MUTCD, LATEST EDITION.
- C. CONTACT PROPERTY OWNERS TO BE AFFECTED BY CONSTRUCTION AND COORDINATE TEMPORARY DRIVEWAY MEASURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.
- D. CONTROL DUST AS NECESSARY TO PREVENT INTERFERENCE WITH TRAFFIC.
- E. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.
- F. COORDINATE ALL LANE CLOSURES WITH THE LOCAL JURISDICTION HAVING AUTHORITY.

STRUCTURE & SITE DEMOLITION

- A. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING DEMOLITION OPERATIONS.
- B. VERIFY THAT HAZARDOUS MATERIALS HAVE BEEN REMEDIATED BEFORE PROCEEDING WITH BUILDING DEMOLITION OPERATIONS.
- C. ENVIRONMENTAL & GEOTECHNICAL: REVIEW ALL PROJECT ENVIRONMENTAL AND GEOTECHNICAL REPORTS AND BECOME FAMILIAR WITH ALL ISSUES BEFORE DEMOLITION.
- D. EXISTING UTILITIES: LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF INDICATED UTILITIES SERVING BUILDINGS AND STRUCTURES TO BE DEMOLISHED.
- E. ARRANGE TO SHUT OFF INDICATED UTILITIES WITH UTILITY COMPANIES.
- F. IF REMOVAL, RELOCATION, OR ABANDONMENT OF UTILITY SERVICES WILL AFFECT ADJACENT OCCUPIED BUILDINGS, THEN PROVIDE TEMPORARY UTILITIES THAT BYPASS BUILDINGS AND STRUCTURES TO BE DEMOLISHED AND THAT MAINTAIN CONTINUITY OF SERVICE TO OTHER BUILDINGS AND STRUCTURES.
- G. DO NOT COMMENCE DEMOLITION OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENT CONTROL AND PLANT-PROTECTION MEASURES ARE IN PLACE.
- H. OBTAIN THE DEMOLITION PERMIT FROM THE LOCAL AUTHORITY PRIOR TO STARTING DEMOLITION ACTIVITIES.
- I. EXISTING FACILITIES: PROTECT ADJACENT WALKWAYS, LOADING DOCKS, BUILDING ENTRIES, AND OTHER BUILDING FACILITIES DURING DEMOLITION OPERATIONS. MAINTAIN EXITS FROM EXISTING BUILDINGS. PROMPTLY REPAIR ANY FACILITIES DAMAGED BY CONSTRUCTION OPERATIONS TO OWNER'S SATISFACTION AT NO ADDITIONAL COST TO THE OWNER.
- J. EXISTING UTILITIES: MAINTAIN UTILITY SERVICES TO REMAIN AND PROTECT FROM DAMAGE DURING DEMOLITION OPERATIONS.
- K. TEMPORARY PROTECTION: ERECT TEMPORARY PROTECTION, SUCH AS WALKS, FENCES, RAILINGS, CANOPIES, AND COVERED PASSAGEWAYS, WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION AND AS INDICATED.
- L. REMOVE TEMPORARY BARRIERS AND PROTECTIONS WHERE HAZARDS NO LONGER EXIST, WHERE OPEN EXCAVATIONS OR OTHER HAZARDOUS CONDITIONS REMAIN, LEAVE TEMPORARY BARRIERS AND PROTECTIONS IN PLACE.
- M. REMOVE DEMOLITION WASTE MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. DO NOT BURN DEMOLISHED MATERIALS UNLESS SPECIAL WRITTEN PERMISSION IS OBTAINED FROM OWNER AND ENGINEER.
- N. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY BUILDING DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE BUILDING DEMOLITION OPERATIONS BEGAN.

SITE CLEARING

- 1.) PROJECT CONDITIONS
- A. TRAFFIC: MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
- B. ENVIRONMENTAL & GEOTECHNICAL: REVIEW ALL PROJECT ENVIRONMENTAL AND GEOTECHNICAL REPORTS AND BECOME FAMILIAR WITH ALL ISSUES BEFORE SITE CLEARING.
- C. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
- D. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION- AND SEDIMENTATION-CONTROL AND PLANT-PROTECTION MEASURES ARE IN PLACE.
- 2.) TEMPORARY EROSION AND SEDIMENTATION CONTROL
- A. PROVIDE TEMPORARY EROSION- AND SEDIMENTATION-CONTROL MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS, ACCORDING TO EROSION- AND SEDIMENTATION-CONTROL DRAWINGS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- B. VERIFY THAT FLOWS OF WATER REDIRECTED FROM CONSTRUCTION AREAS OR GENERATED BY CONSTRUCTION ACTIVITY DO NOT ENTER OR CROSS PROTECTION ZONES.
- C. INSPECT, MAINTAIN, AND REPAIR EROSION- AND SEDIMENTATION-CONTROL MEASURES DURING CONSTRUCTION UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED.
- D. REMOVE EROSION AND SEDIMENTATION CONTROLS WHEN SITE IS STABILIZED AND RESTORE AND STABILIZE AREAS DISTURBED DURING REMOVAL.
- 3.) TREE AND PLANT PROTECTION
- A. DO NOT REMOVE TREES, SHRUBS, AND OTHER VEGETATION INDICATED TO REMAIN OR BE RELOCATED THAT ARE DAMAGED BY CONSTRUCTION OPERATIONS, IN A MANNER APPROVED BY ENGINEER.
- 4.) EXISTING UTILITIES
- A. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP UTILITIES INDICATED TO BE REMOVED OR ABANDONED IN PLACE. ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
- B. INTERRUPTING EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED.
1. NOTIFY UTILITY OWNER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
2. DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT UTILITY OWNER'S WRITTEN PERMISSION.
- C. POT-HOLE EXISTING WATER LINES, UNDERGROUND ELECTRICAL LINES, GAS LINES, UNDERGROUND TELEPHONE LINES, FIBER OPTIC, AND ANY OTHER EXISTING UTILITY LINES WITHIN THE PROJECT LIMITS DURING SITE CLEARING AND DEMOLITION ACTIVITIES. SURVEY THE EXISTING UTILITY ELEVATIONS AND PROVIDE THE SURVEYED FIELD LOCATIONS AND DEPTHS TO THE ENGINEER FOR REVIEW. THESE EXISTING UTILITIES MAY REQUIRE RELOCATION.
- 5.) CLEARING AND GRUBBING
- A. REMOVE OBSTRUCTIONS, CONCRETE, ASPHALT, TREES, SHRUBS, AND OTHER VEGETATION TO PERMIT INSTALLATION OF NEW CONSTRUCTION.
- B. DO NOT REMOVE TREES, SHRUBS, AND OTHER VEGETATION INDICATED TO REMAIN OR TO BE RELOCATED.
- C. GRIND DOWN STUMPS AND REMOVE ROOTS, OBSTRUCTIONS, AND DEBRIS TO A DEPTH OF 12 INCHES BELOW EXPOSED SUBGRADE.
- D. USE ONLY HAND METHODS FOR GRUBBING WITH PROTECTION ZONES.
- E. THE SUBGRADE TO REMAIN SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY FOLLOWING CLEARING AND GRUBBING ACTIVITIES.
- 6.) TOPSOIL STRIPPING
- A. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
- B. STRIP TOPSOIL IN A MANNER TO PREVENT INTERMIXING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
- C. STOCKPILE TOPSOIL AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST AND EROSION BY WATER.
- D. DISPOSE OF SURPLUS TOPSOIL. SURPLUS TOPSOIL IS THAT WHICH EXCEEDS QUANTITY INDICATED TO BE STOCKPILED OR REUSED.

SITE WATER DISTRIBUTION

- 1.) GENERAL
- A. REGULATORY REQUIREMENTS:
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.
- B. PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.
- C. PRIOR TO INTERRUPTION OF EXISTING WATER-DISTRIBUTION SERVICE: NOTIFY OWNER AT LEAST 2 DAYS BEFORE INTERRUPTION OF EXISTING WATER SERVICES.
- D. COORDINATE WITH UTILITY COMPANY FOR REQUIRED INSPECTIONS AND FOR CONNECTION OF WATER MAIN AND SERVICES BEFORE STARTING CONSTRUCTION.
- 2.) COPPER TUBE AND FITTINGS
- A. SOFT COPPER TUBE: ASTM B 88, TYPE K, WATER TUBE, ANNEALED TEMPER.
- B. COPPER, PRESSURE-SEAL FITTINGS:
1. NPS 2 AND SMALLER: WROUGHT-COPPER FITTING WITH EPDM O-RING SEAL IN EACH END.
 2. NPS 2-1/2 TO NPS 4: BRONZE FITTING WITH STAINLESS-STEEL GRIP RING AND EPDM O-RING SEAL IN EACH END.
- C. BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT END. FURNISH CLASS 300 FLANGES IF REQUIRED TO MATCH PIPING.
- D. COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES, AND SOLDER-JOINT OR THREADED ENDS.
- 3.) DUCTILE-IRON PIPE AND FITTINGS
- A. MECHANICAL-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH MECHANICAL-JOINT BELL AND PLAIN SPIGOT ENDS, UNLESS GROOVED OR FLANGED ENDS ARE INDICATED.
1. MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.
2. GLANDS, GASKETS, AND BOLTS: AWWA C111, DUCTILE- OR GRAY-IRON GLANDS, RUBBER GASKETS, AND STEEL BOLTS.
- B. PUSH-ON-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH PUSH-ON-JOINT BELL AND PLAIN SPIGOT END UNLESS GROOVED OR FLANGED ENDS ARE INDICATED.
- C. LANCES: ASME 16.1, CLASS 125, CAST IRON.
- D. PVC PIPE AND FITTINGS
1. PVC, SCHEDULE 40 PIPE: ASTM D 1785, PVC, SCHEDULE 40 SOCKET FITTINGS: ASTM D 2466.
2. PVC AWWA PIPE: AWWA C900, CLASS 200, WITH BELL END WITH GASKET, AND WITH SPIGOT END.
- C. MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.
- 5.) GATE VALVES
- A. ALAINE VALVE: CAST-IRON GATE VALVES: NONRISING-STEM, RESILIENT-SEALED GATE VALVES. GRAY-OR DUCTILE-IRON BODY AND BONNET; WITH BRONZE OR GRAY-OR DUCTILE-IRON GATE, RESILIENT SEATS, BRONZE STEM, AND STEM NUT.
2. MINIMUM PRESSURE RATING: 250 PSIG.
- D. END CONNECTIONS: MECHANICAL JOINT.
4. INTERIOR COATING: COMPLYING WITH AWWA C550.
- 6.) GATE VALVE ACCESSORIES AND SPECIALTIES
- A. TAPPING-SLEEVE ASSEMBLIES: SLEEVE AND VALVE COMPATIBLE WITH DRILLING MACHINE.
1. STANDARD: MSS SP-60.
2. TAPPING-SLEEVE: CAST- OR DUCTILE-IRON OR STAINLESS-STEEL, TWO-PIECE BOLT SLEEVE WITH FLANGED OUTLET FOR NEW BRANCH CONNECTION. INCLUDE SLEEVE MATCHING SIZE AND TYPE OF PIPE MATERIAL, BEING TAPPED AND WITH RECESSED FLANGE FOR BRANCH VALVE.
3. VALVE: AWWA, CAST-IRON, NONRISING-STEM, RESILIENT-SEALED GATE VALVE WITH ONE RAISED FLANGE FLANGE MATING TAPPING-SLEEVE FLANGE.
- B. VALVE BOXES: COMPLY WITH AWWA M44 FOR CAST-IRON VALVE BOXES. INCLUDE TOP SECTION, ADJUSTABLE EXTENSION OF 10 INCH REQUIRED FOR DEPTH OF BURIAL OF VALVE, PLUG WITH LETTERING "WATER", AND BOTTOM SECTION WITH BASE THAT FITS OVER VALVE AND WITH A BARREL APPROXIMATELY 5 INCHES IN DIAMETER.
- 7.) BACKFLOW PREVENTERS
- A. DOUBLE-CHECK, DETECTOR-OR-ASSEMBLY BACKFLOW PREVENTERS:
1. STANDARDS: ASSE 1048 AND UL LISTED OR FMG APPROVED.
 2. OPERATION: CONTINUOUS-PRESSURE APPLICATIONS.
 3. PRESSURE LOSS: 5 PSIG MAXIMUM THROUGH MIDDLE 1/3 OF FLOW RANGE.
 4. BODY: CAST IRON WITH INTERIOR LINING COMPLYING WITH AWWA C550 OR THAT IS FDA APPROVED.
 5. END CONNECTIONS: FLANGED.
 6. CONFIGURATION: DESIGNED FOR HORIZONTAL, STRAIGHT THROUGH FLOW.
- 8.) WATER METER BOXES
- A. DESCRIPTION: CAST-IRON BODY AND COVER FOR DISC-TYPE WATER METER, WITH LETTERING "WATER METER" IN COVER, AND WITH SLOTTED, OPEN-BOTTOM BASE SECTION OF LENGTH TO FIT OVER SERVICE PIPING.
- 9.) CONCRETE VAULTS
- A. DESCRIPTION: CAST-IN-PLACE, REINFORCED-CONCRETE VAULT, DESIGNED FOR A-18 LOAD DESIGNATION ACCORDING TO ASTM C 857 AND MADE ACCORDING TO ASTM C 888.
1. LADDER: ASTM A 36/A 36M, STEEL OR POLYETHYLENE-ENCASED STEEL STEPS.
2. MANHOLE: ASTM A 48/A 48M CLASS NO. 35A MINIMUM TENSILE STRENGTH, GRAY-IRON TRAFFIC FRAME AND COVER.
- a. DIMENSION: 24-INCH MINIMUM DIAMETER, UNLESS OTHERWISE INDICATED.
3. DRAIN: ASME A112.6.3, CAST-IRON FLOOR DRAIN WITH OUTLET OF SIZE INDICATED. INCLUDE BODY ANCHOR FLANGE, LIGHT-DUTY CAST-IRON GRATE, BOTTOM OUTLET, AND INTEGRAL OR FIELD-INSTALLED DRAINAGE BALL OR CLAPPER-TYPE BACKWATER VALVE.
- 10.) FIRE HYDRANTS
- A. DRY-BARREL FIRE HYDRANTS: PRESTANDING, WITH ONE NPS 4-1/2 AND TWO NPS 2-1/2 OUTLETS, 5-1/4-INCH MAIN VALVE, DRAIN VALVE, AND NPS 6 MECHANICAL-JOINT INLET. INCLUDE INTERIOR COATING ACCORDING TO AWWA C550. HYDRANT SHALL HAVE CAST-IRON BODY, COMPRESSION-TYPE VALVE OPENING AGAINST PRESSURE AND CLOSING WITH PRESSURE.
1. STANDARD: AWWA C502.
2. PRESSURE RATING: 250 PSIG.
- 11.) FIRE DEPARTMENT CONNECTIONS
- A. FIRE DEPARTMENT CONNECTIONS: FREESTANDING, WITH CAST-BRONZE BODY, THREAD INLETS ACCORDING TO NFPA 1851 AND MATCHING LOCAL FIRE DEPARTMENT HOSE THREADS, AND THREADED BOTTOM OUTLET. INCLUDE LUGGED CAPS, GASKETS, AND CHAINS; LUGGED SWIVEL CONNECTION AND DROP CLAPPER FOR EACH HOSE-CONNECTION INLET; 18-INCH-HIGH BRASS SLEEVE, AND ROUND ESCUTCHION PLATE.
- 12.) VALVE APPLICATIONS
- A. DRAWINGS INDICATE VALVE TYPES TO BE USED. WHERE SPECIFIC VALVE TYPES ARE NOT INDICATED, THE FOLLOWING REQUIREMENTS APPLY:
1. UNDERGROUND VALVES, NPS 3 AND LARGER: AWWA, CAST-IRON, NONRISING-STEM, RESILIENT-SEALED GATE VALVES WITH VALVE BOX.
 2. USE THE FOLLOWING FOR VALVES IN VAULTS AND ABOVEGROUND:
 - a. GATE VALVES, NPS 2 AND SMALLER: BRONZE, NONRISING STEM.
 - b. GATE VALVES, NPS 3 AND LARGER: AWWA, CAST IRON, OS&Y RISING STEM, RESILIENT SEALED.
 - c. CHECK VALVES: AWWA C508, SWING TYPE.
- 13.) FIELD QUALITY CONTROL
- A. PIPING TESTS: CONDUCT PIPING TESTS BEFORE JOINTS ARE COVERED AND AFTER CONCRETE THRUST BLOCKS HAVE HARDENED SUFFICIENTLY. FILL PIPELINE 24 HOURS BEFORE TESTING AND APPLY TEST PRESSURE TO STABILIZE SYSTEM. USE ONLY POTABLE WATER.
- B. HYDROSTATIC TESTS: TEST AT NOT LESS THAN ONE-AND-ONE-HALF TIMES WORKING PRESSURE FOR TWO HOURS. INCREASE PRESSURE IN 50-PSIG INCREMENTS AND INSPECT EACH JOINT BETWEEN INCREMENTS. HOLD AT TEST PRESSURE FOR 1 HOUR. DECREASE TO 0 PSIG. SLOWLY INCREASE AGAIN TO TEST PRESSURE AND HOLD FOR 1 MORE HOUR. MAXIMUM ALLOWABLE LEAKAGE IS 2 QUARTS PER HOUR PER 100 JOINTS. REMAKE LEAKING JOINTS WITH NEW MATERIALS AND REPEAT TEST UNTIL LEAKAGE IS WITHIN ALLOWED LIMITS.
- C. DISINFECTION: CLEAN AND DISINFECT POTABLE WATER MAINS AS DIRECTED BY THE LOCAL AUTHORITY, OR, IF METHOD IS NOT PRESCRIBED BY THE LOCAL AUTHORITY, USE PROCEDURE DESCRIBED IN AWWA C651.
- D. PREPARE REPORTS OF TESTING ACTIVITIES AND SUBMIT TO THE ENGINEER FOR APPROVAL.
- 14.) IDENTIFICATION
- A. INSTALL CONTINUOUS UNDERGROUND DETECTABLE WARNING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND WATER-DISTRIBUTION PIPING. LOCATE BELOW FINISHED GRADE, DIRECTLY OVER PIPING.

SITE SANITARY SEWERS

- 1.) PROJECT CONDITIONS
- A. INTERRUPTION OF EXISTING SANITARY SEWERAGE SERVICE: COORDINATE AS REQUIRED WITH THE LOCAL SANITARY SEWER AUTHORITY BEFORE STARTING CONSTRUCTION.
- B. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE BEGINNING SANITARY SEWER INSTALLATION OPERATIONS. FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS BY POT-HOLING THE LINES. SURVEY EXISTING UTILITIES AND PROVIDE HORIZONTAL AND VERTICAL LOCATION INFORMATION TO THE ENGINEER TO DETERMINE OF ANY UTILITIES WILL CONFLICT WITH THE PROPOSED DESIGN.
- 2.) DUCTILE-IRON, GRAVITY SEWER PIPE AND FITTINGS
- A. PIPE: ASTM A 746, FOR PUSH-ON JOINTS.
- B. COMPACT FITTINGS: AWWA C163, DUCTILE IRON, FOR PUSH-ON JOINTS.
- C. GASKETS: AWWA C111, RUBBER.
- 3.) PVC PIPE AND FITTINGS
- A. PVC GRAVITY SEWER PIPING: ASTM F 679, 1-1 WALL THICKNESS, PVC GRAVITY SEWER PIPE WITH BELL-AND-SPIGOT ENDS AND WITH INTEGRAL ASTM F 477, ELASTOMERIC SEALS FOR GASKETED JOINTS.
- 4.) CLEANOUTS
- A. CAST-IRON CLEANOUTS:
1. DESCRIPTION: ASME A11.26.36, ROUND, GRAY-IRON HOUSING WITH CLAMPING DEVICE AND ROUND, SECURED, SCORATED, GRAY-IRON COVER. INCLUDE GRAY-IRON FERRULE WITH INSIDE GASK OR SPIGOT CONNECTION AND COUNTERSUNK, TAPERED-THREAD, BRASS CLOSURE PLUG.
 2. TOP-LOADING CLASSIFICATION: TRAFFIC RATED, HEAVY DUTY, IN ALL PAVED AREAS AND AREAS SUBJECT TO VEHICULAR TRAFFIC.
 3. SEWER PIPE FITTING AND RISER TO CLEANOUT: ASTM A 74, SERVICE CLASS, CAST-IRON SOIL PIPE AND FITTINGS.
- B. PVC CLEANOUTS: PVC BODY WITH PVC THREADED PLUG. INCLUDE PVC SEWER PIPE FITTING AND RISER TO CLEANOUT OF SAME MATERIAL AS SEWER PIPING. USE IN LIGHT DUTY APPLICATIONS WHERE THERE IS PEDESTRIAN TRAFFIC ONLY OR IN LANDSCAPED AREAS.
- 5.) MANHOLES
- A. STANDARD PRECAST CONCRETE MANHOLES:
1. DESCRIPTION: ASTM C 478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
 2. DIAMETER: 48-INCHES MINIMUM UNLESS OTHERWISE INDICATED.
 3. BALLAST: INCREASE THICKNESS OF PRECAST CONCRETE SECTIONS OR ADD CONCRETE TO BASE SECTION, AS REQUIRED TO PREVENT FLOTATION.
 4. BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH MINIMUM THICKNESS FOR RISER SECTION, WITH SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
 5. RISER SECTIONS: 4-INCH MINIMUM THICKNESS, OF LENGTH TO PROVIDE DEPTH INDICATED.
 6. TOP SECTION: ECCENTRIC-CONE TYPE UNLESS CONCENTRIC-CONE OR FLAT-SLAB-TOP TYPE IS INDICATED, WITH TOP OF CONE OF SIZE THAT MATCHES GRADE RINGS.
 7. JOINT SEALANT: ASTM C 990, BITUMEN OR BUTYL RUBBER.
 8. RESILIENT PIPE CONNECTORS: ASTM C 923, CAST OR FITTED INTO MANHOLE WALLS, FOR EACH PIPE CONNECTION.
 9. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF MANHOLE TO FINISHED GRADE IS LESS THAN 48 INCHES.
 10. ADJUSTING RINGS: INTERLOCKING HDPE RINGS, WITH LEVEL OR SLOPED EDGE IN THICKNESS AND DIAMETER MATCHING MANHOLE FRAME AND COVER, AND WITH HEIGHT AS REQUIRED TO ADJUST MANHOLE FRAME AND COVER TO INDICATED ELEVATION AND SLOPE. INCLUDE SEALANT RECOMMENDED BY RING MANUFACTURER.
 11. GRADE RINGS: REINFORCED-CONCRETE RINGS, 6- TO 8-INCH TOTAL THICKNESS, WITH DIAMETER MATCHING MANHOLE FRAME AND COVER, AND WITH HEIGHT AS REQUIRED TO ADJUST MANHOLE FRAME AND COVER TO INDICATED ELEVATION AND SLOPE.
- B. MANHOLE FRAMES AND COVERS:
1. DESCRIPTION: FERROUS, 24-INCH ID BY 7- TO 9-INCH RISER, WITH 4-INCH-MINIMUM-WIDTH FLANGE AND 26-INCH DIAMETER COVER. INCLUDE INDENTED TOP DESIGN WITH LETTERING "CAST INTO COVER, USING WORDING EQUIVALENT TO "SANITARY SEWER."
 2. MATERIAL: ASTM A 536, GRADE 60-40-18 DUCTILE IRON UNLESS OTHERWISE INDICATED.
- 6.) IDENTIFICATION
- A. ARRANGE FOR INSTALLATION OF GREEN WARNING TAPES DIRECTLY OVER PIPING AND AT OUTSIDE EDGES OF UNDERGROUND MANHOLES.
1. DEFECTS REQUIRING CORRECTION INCLUDE THE FOLLOWING:
- a. ALIGNMENT: LESS THAN FULL DIAMETER OF INSIDE OF PIPE IS VISIBLE BETWEEN STRUCTURES.
 - b. DEFLECTION: FLEXIBLE PIPING WITH DEFLECTION THAT PREVENTS PASSAGE OF BALL OR CYLINDER OF SIZE NOT LESS THAN 92.5 PERCENT OF PIPING DIAMETER.
 - c. DAMAGE: CRUSHED, BROKEN, CRACKED, OR OTHERWISE DAMAGED PIPING.
 - d. INFILTRATION: WATER LEAKAGE INTO PIPING.
 - e. EXFILTRATION: WATER LEAKAGE FROM OR AROUND PIPING.
2. REPLACE DEFECTIVE PIPING USING NEW MATERIALS, AND REPEAT INSPECTIONS UNTIL DEFECTS ARE WITHIN ALLOWANCES SPECIFIED.
3. REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.
- B. TEST NEW PIPING SYSTEMS, AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED, FOR LEAKS AND DEFECTS.
1. DO NOT ENCLOSE, COVER, OR PUT INTO SERVICE BEFORE INSPECTION AND APPROVAL.
 2. TEST COMPLETED PIPING SYSTEMS ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
3. SCHEDULE TESTS AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION WITH AT LEAST 24 HOURS ADVANCE NOTICE.
4. SUBMIT A SEPARATE REPORT FOR EACH TEST TO THE ENGINEER FOR APPROVAL.
5. AIR TESTS: TEST SANITARY SEWERAGE ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, UN-B-6, AND THE FOLLOWING:
- a. TEST PLASTIC GRAVITY SEWER PIPING ACCORDING TO ASTM F 1417.
6. MANHOLES: PERFORM HYDRAULIC TEST ACCORDING TO ASTM C 969.
- C. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
- D. REPLACE LEAKING PIPING USING NEW MATERIALS, AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

SITE STORM UTILITY DRAINAGE PIPING

- 1.) PIPE AND FITTINGS- GENERAL
- A. ALL STORMWATER PIPE, INLETS, HEADWALLS, AND RELATED APPURTENANCES SHALL MEET LOCAL D.O.T. STANDARDS.
- B. ALL STORMWATER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURERS INSTRUCTIONS.
- 2.) STEEL PIPE AND FITTINGS
- A. UTILITIES AND PIPE AND FITTINGS: ASTM A 760/A 760M, TYPE I WITH FITTINGS OF SIMILAR FORM AND CONSTRUCTION AS PIPE.
1. STANDARD-JOINT BANDS: CORRUGATED STEEL.
 2. COATING: ALUMINUM OR BITUMINOUS.
- 3.) PE PIPE AND FITTINGS
- A. CORRUGATED PE DRAINAGE PIPE AND FITTINGS NPS 3 TO NPS 10: AASHTO M 252M, NPS 12 TO NPS 48: AASHTO M 294M TYPE S, WITH SMOOTH WATERWAY FOR COUPLING JOINTS.
- B. SPLIT-THIGHT COUPLINGS: PE SLEEVE WITH ASTM D 1056, TYPE 2, CLASS A, GRADE 2 GASKET MATERIAL THAT MATES WITH TUBE AND FITTINGS.
- 4.) PVC CORRUGATED PIPE AND FITTINGS
- A. CORRUGATED PVC DRAINAGE PIPE AND FITTINGS NPS 4 TO NPS 36: SMOOTH INTERIOR, ASTM F949, 48 PSI STIFFNESS WHEN TESTED IN ACCORDANCE WITH ASTM D2412. PVC COMPOUND HAVING A MINIMUM CELL CLASSIFICATION OF 12454 AS DEFINED IN ASTM D1784. FITTINGS: SMOOTH INTERIOR, ASTM F949, SECTION 5.2.3 OR F794, SECTION 7.2.4. JOINTS SHALL BE MADE WITH INTEGRALLY-FORMED BELL AND SPIGOT GASKETED CONNECTIONS. MANUFACTURER SHALL PROVIDE DOCUMENTATION SHOWING NO LEAKAGE WHEN GASKETED PIPE JOINTS ARE TESTED IN ACCORDANCE WITH ASTM D3212. ELASTOMERIC SEALS (GASKETS) SHALL MEET ASTM F477.
- 5.) CONCRETE PIPE AND FITTINGS
- A. REINFORCED-CONCRETE SEWER PIPE AND FITTINGS: ASTM C 76, BELL-AND-SPIGOT OR TONGUE-AND-GROOVE ENDS AND GASKETED JOINTS WITH ASTM C 443, RUBBER GASKETS OR SEALANT JOINTS WITH ASTM C 990, BITUMEN OR BUTYL-RUBBER SEALANT, CLASS III, WALL B.
- B. CAST-IRON AREA DRAIN: ASME A112.6.3, GRAY-IRON ROUNDED WITH ANCHOR FLANGE AND ROUND GRATE. INCLUDE BOTTOM OUTLET WITH INSIDE GASK OR SPIGOT CONNECTION, OF SIZES INDICATED.
- 6.) STANDARD PRECAST CONCRETE MANHOLES:
1. DESCRIPTION: ASTM C 478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
 2. DIAMETER: 48-INCHES MINIMUM UNLESS OTHERWISE INDICATED.
 3. BALLAST: INCREASE THICKNESS OF PRECAST CONCRETE SECTIONS OR ADD CONCRETE TO BASE SECTION, AS REQUIRED TO PREVENT FLOTATION.
 4. BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH MINIMUM THICKNESS FOR RISER SECTION, WITH SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
 5. RISER SECTIONS: 4-INCH MINIMUM THICKNESS, AND LENGTHS TO PROVIDE DEPTH INDICATED.
 6. TOP SECTION: ECCENTRIC-CONE TYPE UNLESS CONCENTRIC-CONE OR FLAT-SLAB-TOP TYPE IS INDICATED, AND TOP OF CONE OF SIZE THAT MATCHES GRADE RINGS.
 7. JOINT SEALANT: ASTM C 990, BITUMEN OR BUTYL RUBBER.
 8. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF MANHOLE TO FINISHED GRADE IS LESS THAN 48 INCHES.
- B. MANHOLE FRAMES AND COVERS:
1. DESCRIPTION: FERROUS, 24-INCH ID BY 7- TO 9-INCH RISER WITH 4-INCH-MINIMUM WIDTH FLANGE AND 26-INCH DIAMETER COVER. INCLUDE INDENTED TOP DESIGN WITH LETTERING "CAST INTO COVER, USING WORDING EQUIVALENT TO "STORM SEWER."
 2. MATERIAL: ASTM A 536, GRADE 60-40-18 DUCTILE IRON UNLESS OTHERWISE INDICATED.
- 7.) INLET & JUNCTION BOXES
- A. STANDARD PRECAST CONCRETE:
1. DESCRIPTION: ASTM C 478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
 2. BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION, AND SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
 3. RISER SECTIONS: 4-INCH MINIMUM THICKNESS, 48-INCH DIAMETER, AND LENGTHS TO PROVIDE DEPTH INDICATED.
 4. TOP SECTION: ECCENTRIC-CONE TYPE UNLESS CONCENTRIC-CONE OR FLAT-SLAB-TOP TYPE IS INDICATED. TOP OF CONE OF SIZE THAT MATCHES GRADE RINGS.
 5. JOINT SEALANT: ASTM C 990, BITUMEN OR BUTYL RUBBER.
 6. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF CATCH BASIN TO FINISHED GRADE IS LESS THAN 48 INCHES.
 7. PIPE CONNECTORS: ASTM C 923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO BASE SECTION.
- 8.) STORMWATER DETENTION STRUCTURES
- A. CAST-IN-PLACE CONCRETE: STORMWATER DETENTION STRUCTURES: CONSTRUCTED OF REINFORCED-CONCRETE BOTTOM, WALLS, AND TOP, DESIGNED ACCORDING TO ASTM C 880 FOR A-18 (AASHTO HS20-44), HEAVY-TRAFFIC, STRUCTURAL LOADING, OF DEPTH, SHAPE, DIMENSIONS, AND APPURTENANCES INDICATED.
1. BALLAST: INCREASE THICKNESS OF CONCRETE AS REQUIRED TO PREVENT FLOTATION.
 2. GRADE RINGS: INCLUDE TWO OR THREE REINFORCED-CONCRETE RINGS, OF 6- TO 9-INCH TOTAL THICKNESS, THAT MATCH 24-INCH- DIAMETER FRAME AND COVER.
 3. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF STRUCTURE TO FINISHED GRADE IS LESS THAN 48 INCHES.
 4. FORM AND CAST WIERS AND PIPE OPENINGS AS INDICATED ON DRAWINGS.
- B. MANHOLE FRAMES AND COVERS: ASTM A 536, GRADE 60-40-18, DUCTILE-IRON CASTINGS DESIGNED FOR HEAVY-DUTY SERVICE.
- 9.) PIPE OUTLETS
- A. PRE-CAST HEAD WALLS: PRE-CAST REINFORCED CONCRETE, WITH APRON AND TAPERED SIDES.
- B. SLOPE PAVED HEAD WALLS: CAST-IN-PLACE REINFORCED CONCRETE AS SHOWN ON DRAWINGS.
- C. RIPRAP BASINS: BROKEN, IRREGULARLY SIZED AND SHAPED, GRADED STONE ACCORDING TO NSSGAS' QUARRIED STONE FOR EROSION AND SEDIMENT CONTROL." MINIMUM STONE SIZE AND DIMENSIONS AS SHOWN ON DRAWINGS.
- 10.) PIPING INSTALLATION
- A. INSTALL LOCATOR WIRE OR TAPE 6-INCHES ABOVE ALL NON-METALLIC PIPING.
- B. INSTALL BEDDING AND BACKFILL IN ACCORDANCE WITH PIPE MANUFACTURERS INSTRUCTIONS.
- C. BEGIN INSTALLATION AT DOWNSTREAM PIPING CONNECTION TO OUTFALL POINT.
- D. CONSTRUCT ALL HEADWALLS FLUSH WITH EXISTING AND PROPOSED EMBANKMENT SLOPES.
- 11.) CLEANING
- A. CLEAN INTERIOR OF PIPING OF DIRT AND SUPERFLUOUS MATERIALS.

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REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
	AS SHOWN

TITLE:

GENERAL NOTES

SHEET NUMBER:

G-2

COMMENTS:

JOB/FILE NUMBER:

693.009

Max
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE

EARTH MOVING

- 1.) PROJECT CONDITIONS
- A. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE BEGINNING EARTH MOVING OPERATIONS.
- B. DO NOT COMMENCE EARTH MOVING OPERATIONS UNTIL TEMPORARY EROSION- AND SEDIMENTATION-CONTROL MEASURES ARE IN PLACE.
- C. DO NOT COMMENCE EARTH MOVING OPERATIONS UNTIL PLANT-PROTECTION MEASURES ARE IN PLACE.
- D. DO NOT COMMENCE EARTH MOVING OPERATIONS WITHOUT REVIEWING AND MAKING PROVISIONS FOR ALL GEOTECHNICAL RECOMMENDATIONS MADE IN THE PROJECT GEOTECHNICAL REPORT. COMPLY WITH RECOMMENDATIONS IN THE GEOTECHNICAL REPORT REGARDING GENERAL SITE PREPARATION, BUILDING PAD PREPARATION, PAVEMENT SECTIONS, FILL, AND EXCAVATION.
- E. RETAIN A COPY OF THE PROJECT GEOTECHNICAL REPORT AT THE WORK SITE AT ALL TIMES. ANY DISCREPANCIES BETWEEN THESE SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT SHALL BE RESOLVED IN FAVOR OF THE PROJECT GEOTECHNICAL REPORT (GEOTECH REPORT BY RONE ENGINEERING, HOUSTON, TX, PROJECT NO. 15-20415, DATED SEPTEMBER 17, 2015).
- F. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FEATURES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, AND OTHER HAZARDS CREATED BY EARTH MOVING OPERATIONS.
- G. PROTECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS DURING EARTH MOVING OPERATIONS.
- 2.) DEWATERING
- A. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
- B. PROTECT SUBGRADES FROM SOFTENING, UNDERMINING, WASHOUT, AND DAMAGE BY RAIN OR WATER ACCUMULATION.
- C. DESIGN AND PROVIDE DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS. DOES NOT CAUSE INSTABILITY OR RAVELING OF EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. LOWER WATER LEVEL IN ADVANCE OF EXCAVATION BY UTILIZING WELLS, WELLPOINTS, OR SIMILAR POSITIVE CONTROL METHODS. MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF 2 (2) FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS AS DIRECTED BY THE ENGINEER TO DOCUMENT THAT THE GROUNDWATER LEVEL IS BEING MAINTAINED.
- D. BY ACCEPTABLE MEANS, CONTRACTOR SHALL CONTROL ALL WATER REGARDLESS OF SOURCE AND IS RESPONSIBLE FOR PROPER DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE, GROUNDWATER, OR ARTESIAN HEAD.
- E. OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED, PROVIDED IT DOES NOT RESULT IN BOILS, LOSS OF FINES, SOFTENING OF THE GROUND, OR INSTABILITY OF SLOPES. SUMPS SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT WATER BODIES. DURING NORMAL PUMPING AND UPON DEVELOPMENT OF WELLS), LEVELS OF FINE SAND OR SILT IN THE DISCHARGE OF WATER SHALL NOT EXCEED FIVE (5) PPM.
- F. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SLOPE SLOPES, OR ADJACENT FACILITIES FOR FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.
- G. WHEN CONSTRUCTION PROCEEDS TO REMOVAL OF EXISTING STRUCTURES, DEWATERING EQUIPMENT FROM THE SITE, INCLUDING WELLS AND RELATED TEMPORARY ELECTRICAL SERVICE.
- 3.) SUBGRADE
- A. NOTIFY PROJECT GEOTECHNICAL ENGINEER WHEN EXCAVATIONS HAVE REACHED REQUIRED SUBGRADE.
- B. IF PROJECT GEOTECHNICAL ENGINEER DETERMINES THAT UNSATISFACTORY SOIL IS PRESENT, CONTINUE EXCAVATION AND REPLACE WITH COMPACTED BACKFILL OR FILL MATERIAL AS DIRECTED.
- C. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH A PNEUMATIC-TIRED AND LOADED 10-WHEEL, TAND-AXLE DUMP TRUCK WEIGHING NOT LESS THAN 15 TONS TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES. EXCAVATE SOFT SPOTS, UNSATISFACTORY SOILS, AND AREAS OF EXCESSIVE PUMPING OR RUTTING, AS DETERMINED BY PROJECT GEOTECHNICAL ENGINEER, AND REPLACE WITH COMPACTED BACKFILL OR FILL AS DIRECTED.
- D. IN HEAVY DUTY PAVEMENT AREAS, THE GRAVEL AGGREGATE BASE SHALL BE EXTENDED UNDER THE CURB AND JOINT SECTION TO PROVIDE ADDITIONAL STABILITY FOR TRUCK TRAVEL.
- 4.) UTILITY TRENCH BEDDING AND BACKFILL
- A. PLACE AND COMPACT BEDDING COURSE ON TRENCH BOTTOMS AND WHERE INDICATED. SHAPE BEDDING COURSE TO PROVIDE CONTINUOUS SUPPORT FOR BELLS, JOINTS, AND BARRELS OF PIPES AND FOR JOINTS, FITTINGS, AND BODIES OF CONDUITS.
- B. USE CLASS B BEDDING UNDER ALL PVC PIPING.
- C. CAREFULLY COMPACT INITIAL BACKFILL UNDER PIPE HAUNCHES AND COMPACT EVENLY UP ON BOTH SIDES AND ALONG THE FULL LENGTH OF PIPING OR CONDUIT TO AVOID DAMAGE OR DISPLACEMENT OF PIPING OR CONDUIT.
- D. BACKFILL ALL UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SLOPE SLOPES, OR ADJACENT FACILITIES FOR FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.
- 5.) COMPACTION OF SOIL BACKFILLS AND FILLS
- A. PLACE BACKFILL AND FILL SOIL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
- B. PLACE BACKFILL AND FILL SOIL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE. COMPACT SOIL MATERIALS AS INDICATED ON DRAWINGS OR AS INDICATED IN THE PROJECT GEOTECHNICAL REPORT.
- C. PROVIDE CONSTRUCTION PHASE MONITORING AND TESTING AS RECOMMENDED IN THE PROJECT GEOTECHNICAL REPORT. PROVIDE TEST REPORTS TO THE ENGINEER FOR REVIEW AND APPROVAL.
- 6.) GRADING
- A. GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED.
1. PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRASSES AND NEW GRADES.
2. CUT OUT SOFT SPOTS, FILL LOW SPOTS, AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED SURFACE TOLERANCES.
- B. LANDSCAPE ISLANDS: FILL ALL CURBED ISLANDS TO TOP OF CURB WITH TOPSOIL AND APPLY SEED AND MULCH UNLESS DRAWINGS INDICATE OTHERWISE.
- C. SLOPES: DO NOT CREATE CUT OR FILL SLOPES STEEPER THAN 2H:1V WITHOUT OBTAINING SPECIAL WRITTEN PERMISSION FROM THE ENGINEER OF RECORD AND PROJECT GEOTECHNICAL ENGINEER.
- 7.) PROTECTION
- A. PROTECTING GRADED AREAS: PROTECT NEWLY GRADED AREAS FROM TRAFFIC, FREEZING, AND EROSION. KEEP FREE OF TRASH AND DEBRIS. SEE EROSION AND SEDIMENT CONTROL PLAN AND NOTES FOR FURTHER INFORMATION.

ASPHALT PAVING

- 1.) FIELD CONDITIONS
- A. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF SUBGRADE IS WET OR EXCESSIVELY DAMP, IF RAIN IS IMMINENT OR EXPECTED BEFORE TIME REQUIRED FOR ADEQUATE CURE, OR IF THE FOLLOWING CONDITIONS ARE NOT MET:
1. PRIME COAT: MINIMUM SURFACE TEMPERATURE OF 60 DEG F.
2. TACK COAT: MINIMUM SURFACE TEMPERATURE OF 60 DEG F.
3. SLURRY COAT: COMPLY WITH WEATHER LIMITATIONS IN ASTM D 3910.
4. ASPHALT BASE COURSE: MINIMUM SURFACE TEMPERATURE OF 40 DEG F AND RISING AT TIME OF PLACEMENT.
5. ASPHALT SURFACE COURSE: MINIMUM SURFACE TEMPERATURE OF 60 DEG F AT TIME OF PLACEMENT.
- 2.) ASPHALT MATERIALS
- A. REFER TO PROJECT GEOTECHNICAL REPORT AND PROJECT DRAWINGS FOR REQUIRED ASPHALT MATERIAL DESIGN.
- B. CONCRETE STRUCTURES SHALL MEET THE REQUIREMENTS OF THE LOCAL DEPARTMENT OF TRANSPORTATION.
- C. RECLAIMED ASPHALT PAVEMENT (RAP) SHALL NOT BE USED IN THE MIX DESIGN.
- 3.) PATCHING
- A. ASPHALT PAVEMENT: SAW CUT PERIMETER OF PATCH AND EXCAVATE EXISTING PAVEMENT SECTION TO SOUND BASE. EXCAVATE RECTANGULAR OR TRAPEZOIDAL PATCHES, EXTENDING 12 INCHES INTO PERIMETER OF ADJACENT SOUND PAVEMENT, UNLESS OTHERWISE INDICATED. CUT EXCAVATION FACES VERTICALLY. REMOVE EXCAVATED MATERIAL. RECOMPACT EXISTING UNBOUND-AGGREGATE BASE COURSE TO FORM NEW SUBGRADE.
- B. TACK COAT: BEFORE PLACING PATCH MATERIAL, APPLY TACK COAT UNIFORMLY TO VERTICAL ASPHALT SURFACES ADJUTING THE PATCH. APPLY AT A RATE OF 0.05 TO 0.15 GAL/SQ. YD.
1. ALLOW TACK COAT TO CURE UNDISTURBED BEFORE APPLYING HOT-MIX ASPHALT PAVING.
2. AVOID SMEARING OR STAINING ADJOINING SURFACES, APPURTENANCES, AND SURROUNDINGS. REMOVE SPILLAGES AND CLEAN AFFECTED SURFACES.
- C. PLACING PATCH MATERIAL: FILL EXCAVATED PAVEMENT AREAS WITH HOT-MIX ASPHALT BASE MIX FOR FULL THICKNESS OF PATCH AND, WHILE STILL HOT, COMPACT FLUSH WITH ADJACENT SURFACE.
- 4.) SURFACE PREPARATION
- A. GENERAL: IMMEDIATELY BEFORE PLACING ASPHALT MATERIALS, REMOVE LOOSE AND DELETERIOUS MATERIAL FROM SUBSTRATE SURFACES. ENSURE THAT PREPARED SUBGRADE IS READY TO RECEIVE PAVING. SAWCUT EXISTING PAVEMENT TO THE JOINED TO PROVIDE VERTICAL FACES BETWEEN NEW AND EXISTING SURFACES.
- B. EMULSIFIED ASPHALT PRIME COAT: APPLY UNIFORMLY OVER SURFACE OF COMPACTED UNBOUND-AGGREGATE BASE COURSE AT A RATE OF 0.10 TO 0.30 GAL/SQ. YD. PER INCH DEPTH. FILL EXCAVATED MATERIAL TO PENETRATE AND SEAL, BUT NOT FLOOD, SURFACE. ALLOW PRIME COAT TO CURE.
1. IF PRIME COAT IS NOT ENTIRELY ABSORBED WITHIN 24 HOURS AFTER APPLICATION, SPREAD SAND OVER SURFACE TO BLOT EXCESS ASPHALT. USE ENOUGH SAND TO PREVENT PICKUP UNDER TRAFFIC. REMOVE LOOSE SAND BY SWEEPING BEFORE PAVEMENT IS PLACED AND AFTER VOLATILES HAVE EVAPORATED.
2. PROTECT PRIMED SUBSTRATE FROM DAMAGE UNTIL READY TO RECEIVE PAVING.
- C. TACK COAT: APPLY UNIFORMLY TO SURFACES OF EXISTING PAVEMENT AT A RATE OF 0.02 TO 0.08 GAL/SQ. YD.
1. ALLOW TACK COAT TO CURE UNDISTURBED BEFORE APPLYING HOT-MIX ASPHALT PAVING.
2. AVOID SMEARING OR STAINING ADJOINING SURFACES, APPURTENANCES, AND SURROUNDINGS. REMOVE SPILLAGES AND CLEAN AFFECTED SURFACES.
- 5.) PLACING HOT-MIX ASPHALT
- A. MACHINE PLACEMENT: PLACE HOT-MIX ASPHALT ON PREPARED SURFACE. SPREAD UNIFORMLY, AND STRIKE OFF. PLACE ASPHALT MIX BY HAND IN AREAS INACCESSIBLE TO EQUIPMENT IN A MANNER THAT PREVENTS SEGREGATION OF MIX. PLACE EACH COURSE TO REQUIRED GRADE, CROSS SECTION, AND THICKNESS WHEN COMPACTED.
1. PLACE HOT-MIX ASPHALT BASE COURSE IN NUMBER OF LIFTS AND THICKNESSES INDICATED.
2. PLACE HOT-MIX ASPHALT SURFACE COURSE IN SINGLE LIFT.
3. SPREAD MIX AT A MINIMUM TEMPERATURE OF 250 DEG F.
4. BEGIN APPLYING MIX ALONG CENTERLINE OF CROWN FOR CROWNED SECTIONS AND ON HIGH SIDE OF ONE-WAY SLOPES UNLESS OTHERWISE INDICATED.
5. REGULATE PAYER MACHINE SPEED TO OBTAIN SMOOTH, CONTINUOUS SURFACE FREE OF PULLS AND TEARS IN ASPHALT-PAVING MAT.
- B. PLACE PAVING IN CONSECUTIVE STRIPS NOT LESS THAN 10 FEET WIDE UNLESS INFILL EDGE STRIPS OF A LESSER WIDTH ARE REQUIRED.
- 6.) JOINTS
- A. CONSTRUCT JOINTS TO ENSURE A CONTINUOUS BOND BETWEEN ADJOINING PAVING SECTIONS. CONSTRUCT JOINTS FREE OF DEPRESSIONS, WITH SAME TEXTURE AND SMOOTHNESS AS OTHER SECTIONS OF HOT-MIX ASPHALT COURSE.
- B. CONSTRUCT SMOOTH TRANSITIONS BETWEEN NEW AND EXISTING PAVING SECTIONS.
- 7.) COMPACTION
- A. GENERAL: BEGIN COMPACTION AS SOON AS PLACED HOT-MIX PAVING WILL BEAR ROLLER WEIGHT WITHOUT EXCESSIVE DISPLACEMENT. COMPACT HOT-MIX PAVING WITH HOT, HAND TAMPERERS OR WITH VIBRATORY-PLATE COMPACTORS IN AREAS INACCESSIBLE TO ROLLERS. COMPLETE COMPACTION BEFORE MIX TEMPERATURE COOLS TO 185 DEG F.
1. INITIAL LIFT: AVERAGE OF 92% OF MAXIMUM THEORETICAL DENSITY.
2. TOP SURFACE LIFT: AVERAGE OF 93% OF MAXIMUM THEORETICAL DENSITY.
3. TOLERANCE: -2.0% -1.0% OF ANY INDIVIDUAL TEST.
- B. FINISH ROLLING: FINISH ROLL PAVED SURFACES TO REMOVE ROLLER MARKS WHILE HOT-MIX ASPHALT IS STILL WARM.
- C. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC FOR AT LEAST 24 HOURS AFTER PLACEMENT FOR THE BINDER COURSE, AND AT LEAST 72 HOURS AFTER PLACEMENT FOR THE FINAL WEARING SURFACE.
- D. IF THE AMBIENT AIR TEMPERATURE IS IN EXCESS OF 90 DEGREES FAHRENHEIT DURING THE 72 HOUR PROTECTION PERIOD, THE PAVEMENT SURFACE SHALL BE FLOODED WITH WATER TO RAPIDLY COOL THE PAVEMENT AT LEAST ONCE PER DAY.
- 8.) FIELD QUALITY CONTROL
- A. TESTING AGENCY: ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS.
- B. CONDUCT TESTS AND REPORTS SPECIFIED IN THE PROJECT GEOTECHNICAL REPORT.
- C. TESTING AGENCY MUST INSPECT AND APPROVE THE SUBGRADE, EACH FILL LAYER, AND THE SUBGRADE AND BASE COURSE.
- D. PROMPTLY SEND TEST REPORTS TO THE ENGINEER FOR REVIEW AND APPROVAL.
- E. REMOVE AND REPLACE OR INSTALL ADDITIONAL HOT-MIX ASPHALT WHERE TEST RESULTS OR MEASUREMENTS INDICATE THAT IT DOES NOT COMPLY WITH SPECIFIED REQUIREMENTS.

CONCRETE PAVING

- 1.) PROJECT CONDITIONS
- A. TRAFFIC CONTROL: MAINTAIN ACCESS FOR VEHICULAR AND PEDESTRIAN TRAFFIC AS REQUIRED FOR OTHER CONSTRUCTION ACTIVITIES.
- 2.) STEEL REINFORCEMENT
- A. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A 185/A 185M, FABRICATED FROM AS-DRAWN STEEL WIRE INTO FLAT SHEETS.
- B. REINFORCING BARS: ASTM A 615/A 615M, GRADE 60, DEFORMED.
- C. JOINT DOWEL BARS: ASTM A 615/A 615M, GRADE 60 PLAIN-STEEL BARS. CUT BARS TRUE TO LENGTH WITH ENDS SQUARE AND FREE OF BURRS.
- D. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS, WELDED WIRE REINFORCEMENT, AND DOWELS IN PLACE. MANUFACTURE BAR SUPPORTS ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE" FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE OF GREATER COMPRESSIVE STRENGTH THAN CONCRETE SPECIFIED, AND AS FOLLOWS:
- 3.) CONCRETE MATERIALS
- A. CEMENTITIOUS MATERIAL: USE CEMENTITIOUS MATERIALS, OF SAME TYPE, BRAND, AND SOURCE THROUGHOUT PROJECT.
- B. NORMAL-WEIGHT AGGREGATES: ASTM C 33, UNIFORMLY GRADED. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
1. MAXIMUM COARSE-AGGREGATE SIZE: 1 INCH NOMINAL.
2. FINE AGGREGATE: FREE OF MATERIALS WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.
- 4.) RELATED MATERIALS
- A. JOINT FILLERS: ASTM D 1751, ASPHALT-SATURATED CELLULOSIC FIBER IN PREFORMED STRIPS.
- 5.) WHEEL STOPS
- A. WHEEL STOPS: PRECAST, AIR-ENTRAINED CONCRETE, 2500-PSI MINIMUM COMPRESSIVE STRENGTH. PROVIDE CHAMFERED CORNERS AND DRAINAGE SLOTS ON UNDERSIDE AND HOLES FOR ANCHORING TO SUBSTRATE.
- 6.) SIDEWALKS
- A. SIDEWALKS: SLOPE SIDEWALKS AWAY FROM BUILDING WITH A 1/4% CROSS-SLOPE UNLESS DRAWINGS INDICATE OTHERWISE.
- 7.) PREPARATION
- A. REMOVE LOOSE MATERIAL FROM COMPACTED SUBBASE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.
- 8.) STEEL REINFORCEMENT
- A. GENERAL: COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR FABRICATING, PLACING, AND SUPPORTING REINFORCEMENT.
- B. CLEAN REINFORCEMENT OF LOOSE RUST AND MILL SCALE, EARTH, ICE, OR OTHER BOND-REDUCING MATERIALS.
- C. ARRANGE, SPACE, AND SECURELY TIE THE BARS AND BAR SUPPORTS TO HOLD REINFORCEMENT IN POSITION DURING CONCRETE PLACEMENT. MAINTAIN MINIMUM COVER TO REINFORCEMENT.
- D. INSTALL WELDED WIRE REINFORCEMENT IN LENGTHS AS LONG AS PRACTICABLE. LAP ADJOINING PIECES AT LEAST ONE FULL MESH, AND LACE SPLICES WITH WIRE. OFFSET LAPS OF ADJOINING WIDTHS TO PREVENT CONTINUOUS LAPS IN EITHER DIRECTION.
- E. ZINC-COATED REINFORCEMENT: USE GALVANIZED-STEEL WIRE TIES TO FASTEN ZINC-COATED REINFORCEMENT. REPAIR CUT AND DAMAGED ZINC COATINGS WITH ZINC REPAIR ZINC COATED CONCRETE.
- 9.) JOINTS
- A. GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGES TRUE TO LINE, WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE UNLESS OTHERWISE INDICATED.
1. WHEN JOINING EXISTING PAVING, PLACE TRANSVERSE JOINTS TO ALIGN WITH PREVIOUSLY PLACED JOINTS UNLESS OTHERWISE INDICATED.
2. ENSURE FORMS CORRECTLY HORZONTAL AND VERTICAL. ALIGNMENT BETWEEN NEW AND EXISTING PAVEMENTS, SIDEWALKS, CURBS AND GUTTER, ETC.
- B. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVING AND AT LOCATIONS WHERE PAVING OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVING TERMINATES AT ISOLATION JOINTS.
1. CONTINUE STEEL REINFORCEMENT ACROSS CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED. DO NOT CONTINUE REINFORCEMENT THROUGH SIDES OF PAVING STRIPS UNLESS OTHERWISE INDICATED.
2. PROVIDE THE BARS AT SIDES OF PAVING STRIPS WHERE INDICATED.
3. KEYED JOINTS: PROVIDE PREFORMED KEYWAY-SECTION FORMS OR BULKHEAD FORMS WITH KEYS UNLESS OTHERWISE INDICATED. EMBED KEYS AT LEAST 1-1/2 INCHES INTO CONCRETE.
4. DOWELED JOINTS: INSTALL DOWEL BARS AND SUPPORT ASSEMBLIES AT JOINTS WHERE INDICATED. LUBRICATE OR COAT WITH ASPHALT ONE-HALF OF DOWEL LENGTH TO PREVENT CONCRETE BONDING TO ONE SIDE OF JOINT.
- C. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, OTHER FIXED OBJECTS, AND WHERE INDICATED.
1. LOCATE EXPANSION JOINTS AT INTERVALS OF 30 FEET UNLESS OTHERWISE INDICATED.
2. EXTEND JOINT FILLERS FULL WIDTH AND DEPTH OF JOINT.
3. TERMINATE JOINT FILLER NOT LESS THAN 1/2 INCH OR MORE THAN 1 INCH BELOW FINISHED SURFACE IF JOINT SEALANT IS INDICATED.
4. PLACE TOP OF JOINT FILLER FLUSH WITH FINISHED CONCRETE SURFACE IF JOINT SEALANT IS NOT INDICATED.
5. FURNISH JOINT FILLERS IN ONE-PIECE LENGTHS, WHERE MORE THAN ONE LENGTH IS REQUIRED, LACE OR CLIP JOINT-FILLER SECTIONS TOGETHER.
6. DURING CONCRETE PLACEMENT, PROTECT TOP EDGE OF JOINT FILLER WITH METAL, PLASTIC, OR OTHER TEMPORARY PREFORMED CAP. REMOVE PROTECTIVE CAP AFTER CONCRETE HAS BEEN PLACED ON BOTH SIDES OF JOINT.
- D. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS, AS FOLLOWS:
1. GROOVED JOINTS: FORM CONTRACTION JOINTS AFTER INITIAL FLOATING BY GROOVING AND FINISHING EACH EDGE OF JOINT WITH GROOVING TOOL TO A 1/4-INCH RADIUS. REPEAT GROOVING OF CONTRACTION JOINTS AFTER APPLYING SURFACE FINISHES. ELIMINATE GROOVING TOOL MARKS ON CONCRETE SURFACES.
2. SAWED JOINTS: FORM CONTRACTION JOINTS WITH POWER SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND-RIMMED BLADES. CUT 1/8-INCH- WIDE JOINTS INTO CONCRETE WHEN CUTTING ACTION WILL NOT TEAR, ABRADE, OR OTHERWISE DAMAGE SURFACE AND BEFORE DEVELOPING RANDOM CONTRACTION CRACKS.
3. DOWELED CONTRACTION JOINTS: INSTALL DOWEL BARS AND SUPPORT ASSEMBLIES AT JOINTS WHERE INDICATED. LUBRICATE OR COAT WITH ASPHALT ONE-HALF OF DOWEL LENGTH TO PREVENT CONCRETE BONDING TO ONE SIDE OF JOINT.
- E. EDGING: AFTER INITIAL FLOATING, TOOL EDGES OF PAVING, GUTTERS, CURBS, AND JOINTS IN CONCRETE WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE EDGING-TOOL MARKS ON CONCRETE SURFACES.

10.) FIELD QUALITY CONTROL

- A. TESTING AGENCY: ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS.
- B. PROMPTLY SEND TEST REPORTS TO THE ENGINEER FOR REVIEW AND APPROVAL.
- C. TESTING SERVICES: TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED BY THE GENERAL CONTRACTOR'S TESTING AGENCY ACCORDING TO THE FOLLOWING REQUIREMENTS:
1. TESTING FREQUENCY: OBTAIN AT LEAST ONE COMPOSITE SAMPLE FOR EACH 100 CU. YD. OR FRACTION THEREOF OF EACH CONCRETE MIXTURE PLACED EACH DAY. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIXTURE, TESTING SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED.
2. SLUMP: ASTM C 143/C 143M, ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.
3. AIR CONTENT: ASTM C 231, PRESSURE METHOD, ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.
4. CONCRETE TEMPERATURE: ASTM C 1064/C 1064M, ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW AND WHEN IT IS 80 DEG F AND ABOVE, AND ONE TEST FOR EACH COMPOSITE SAMPLE.
5. COMPRESSION TEST SPECIMENS: ASTM C 31/C 31M, CAST AND LABORATORY CURE ONE SET OF THREE STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.
6. COMPRESSIVE-STRENGTH TESTS: ASTM C 39/C 39M, TEST ONE SPECIMEN AT SEVEN DAYS AND TWO SPECIMENS AT 28 DAYS. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM TWO SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT 28 DAYS.
- D. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI.
- E. TEST RESULTS SHALL BE REPORTED IN WRITING TO ENGINEER, CONCRETE MANUFACTURER, AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, LOCATION OF CONCRETE BATCH IN WORK, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIXTURE PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7- AND 28-DAY TESTS.
- F. ADDITIONAL TESTS: TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ENGINEER.
- G. CONCRETE PAVING WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
- H. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.
- I. PREPARE TEST AND INSPECTION REPORTS.
- 11.) REPAIRS AND PROTECTION
- A. REMOVE AND REPLACE CONCRETE PAVING THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION. REMOVE WORK IN COMPLETE SECTIONS FROM JOINT TO JOINT UNLESS OTHERWISE APPROVED BY ENGINEER.
- B. DRILL TEST CORES, WHERE DIRECTED BY ENGINEER, WHEN NECESSARY TO DETERMINE MAGNITUDE OF CRACKS OR DEFECTIVE AREAS. FILL DRILLED CORE HOLES IN SATISFACTORY PAVING AREAS WITH PORTLAND CEMENT CONCRETE BONDED TO PAVING WITH EPOXY ADHESIVE.
- C. PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS AFTER PLACEMENT. WHEN CONSTRUCTION TRAFFIC IS PERMITTED, MAINTAIN PAVING AS CLEAN AS POSSIBLE BY REMOVING SURFACE STAINS AND SPILLAGE OF MATERIALS AS THEY OCCUR.
- D. MAINTAIN CONCRETE PAVING FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP PAVING NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETE INSPECTIONS.

PAVEMENT MARKINGS

- 1.) QUALITY ASSURANCE
- A. REGULATORY REQUIREMENTS: COMPLY WITH MATERIALS, WORKMANSHIP, AND OTHER APPLICABLE REQUIREMENTS OF STATE DOT OR LOCAL MUNICIPALITY FOR PAVEMENT-MARKING WORK.
- 2.) FIELD CONDITIONS
- A. ENVIRONMENTAL LIMITATIONS: PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES AND AT A MINIMUM AMBIENT OR SURFACE TEMPERATURE OF 40 DEG F FOR ALKYD MATERIALS, 55 DEG F FOR WATER-BASED MATERIALS, AND NOT EXCEEDING 95 DEG F.
- 3.) PAVEMENT-MARKING PAINT
- A. PAVEMENT-MARKING PAINT: ALKYD-RESIN TYPE. LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH AASHTO M 245. COLORS COMPLYING WITH PS T-1-P-192. COLOR, AS INDICATED.
- B. ALL PAVEMENT MARKING WITHIN D.O.T. RIGHT-OF-WAY SHALL BE THERMOPLASTIC AND IN ACCORDANCE WITH D.O.T. SPECIFICATIONS.
- C. PAVEMENT MARKING
- A. APPLY TEMPORARY PAVEMENT MARKING BEFORE TRAFFIC IS ALLOWED ON ANY NEWLY PAVED AREA OR AS SITE CONDITIONS DICTATE. ALLOW FINAL WEARING SURFACE TO AGE FOR A MINIMUM OF 30 DAYS BEFORE APPLYING FINAL PERMANENT PAVEMENT MARKING.
- 5.) PROTECTING AND CLEANING
- A. PROTECT PAVEMENT MARKINGS FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD.
- B. CLEAN SPILLAGE AND SOILING FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

CHAIN LINK FENCES AND GATES

- 1.) PROJECT CONDITIONS
- A. FIELD MEASUREMENTS: VERIFY LAYOUT INFORMATION FOR CHAIN-LINK FENCES AND GATES SHOWN ON DRAWINGS IN RELATION TO PROPERTY SURVEY AND EXISTING STRUCTURES. VERIFY DIMENSIONS BY FIELD MEASUREMENTS.
- 2.) WARRANTY
- A. SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH INSTALLER AGREES TO REPAIR OR REPLACE COMPONENTS OF CHAIN-LINK FENCES AND GATES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
- 3.) CHAIN-LINK FENCE FABRIC
- A. GENERAL: PROVIDE FABRIC IN ONE-PIECE HEIGHTS MEASURED BETWEEN TOP AND BOTTOM OF OUTER EDGE OF SELVAGE KNUCKLE OR TWIST. COMPLY WITH CLFM PRODUCT MANUAL AND WITH REQUIREMENTS INDICATED BELOW.
1. FABRIC HEIGHT: AS INDICATED ON DRAWINGS.
2. STEEL WIRE FABRIC: WIRE WITH A DIAMETER OF 0.148 INCH.
- a. MESH SIZE: 2 INCHES.
- b. POLYMER-COATED FABRIC: ASTM F 668, OVER ZINC-COATED STEEL WIRE. COLOR: BLACK, COMPLYING WITH ASTM F 654.
3. SELVAGE: TWISTED TOP AND KNUCKLED BOTTOM.
- 4.) FENCE FRAMING
- A. POSTS AND RAILS: COMPLY WITH ASTM F 1043 FOR FRAMING, INCLUDING RAILS, BRACES, AND LINE, TERMINAL, AND CORNER POSTS. PROVIDE MEMBERS WITH MINIMUM DIMENSIONS AND WALL THICKNESS ACCORDING TO ASTM F 1043 BASED ON THE FOLLOWING:
1. FENCE HEIGHT: AS INDICATED ON DRAWINGS.
2. MATERIAL
- a. LINE POST: 1.9 INCHES IN DIAMETER.
- b. END, CORNER AND PULL POST: 2.375 INCHES.
- c. HORIZONTAL FRAMEWORK MEMBERS: TOP RAILS COMPLYING WITH ASTM F 1043. TOP RAIL: 1.66 INCHES IN DIAMETER.
4. BRACE RAILS: COMPLY WITH ASTM F 1043.
5. METALLIC COATING FOR STEEL FRAMING
- A. GENERAL: COATING SHALL BE AT LEAST MINIMUM 2.0-OZ./SQ. FT. AVERAGE ZINC COATING PER ASTM A 123A 123M OR 4.0-OZ./SQ. FT. ZINC COATING PER ASTM A 653A 653M.
- 5.) TENSION WIRE
- A. METALLIC COATED STEEL WIRE: 0.177-INCH DIAMETER, MARCELLED TENSION WIRE COMPLYING WITH ASTM A 817 AND ASTM A 824, WITH THE FOLLOWING METALLIC COATING: TYPE II, ZINC COATED (GALVANIZED) BY HOT-DIP PROCESS, WITH THE FOLLOWING MINIMUM COATING WEIGHT: MATCHING CHAIN-LINK FABRIC COATING WEIGHT.
- 6.) SWING GATES
- A. GENERAL: COMPLY WITH ASTM F 900 FOR GATE POSTS AND SINGLE OR DOUBLE SWING GATE TYPES.
1. GATE LEAF WIDTH: AS INDICATED.
2. GATE FABRIC HEIGHT: AS INDICATED.
- B. PIPE AND TUBING
1. ZINC-COATED STEEL: COMPLY WITH ASTM F 1043 AND ASTM F 1083; PROTECTIVE COATING AND FINISH TO MATCH FENCE FRAMING.
2. GATE POSTS: ROUND TUBULAR STEEL.
3. GATE FRAMES AND BRACING: ROUND TUBULAR STEEL.
- C. GATE CORNER CONSTRUCTION: ASSEMBLED WITH CORNER FITTINGS.
- D. HARDWARE
1. HINGES: 360-DEGREE INWARD AND OUTWARD SWING.
2. LATCHES PERMITTING OPERATION FROM BOTH SIDES OF GATE WITH PROVISION FOR PADLOCKING AND FASTENERS: ASSEMBLED FROM BOTH SIDES OF GATE.
- 7.) FITTINGS
- A. GENERAL: COMPLY WITH ASTM F 626.
- B. CAPS: PROVIDE ONE FOR EACH POST. PROVIDE LINE POST CAPS WITH LOOP TO RECEIVE TENSION WIRE OR TOP RAIL.
- C. RAIL AND BRACE ENDS: FOR EACH GATE, CORNER, PULL, AND END POST.
- D. RAIL RAILINGS: PROVIDE THE FOLLOWING:
1. TOP RAIL: SLEEVES: PRESS-STEEL OR ROUND-STEEL TUBING NOT LESS THAN 6 INCHES LONG.
2. RAIL CLAMPS: LINE AND CORNER BOULEVARD CLAMPS FOR CONNECTING RAILS IN THE FENCE LINE TO LINE POSTS.
- E. TENSION AND BRACE BARS: PRESSED STEEL.
- F. TENSION BARS: STEEL, LENGTH NOT LESS THAN 2 INCHES SHORTER THAN FULL HEIGHT OF THICKNESS OF FABRIC AND FASTENERS: ACCORDING TO ASTM F 626. STANDARD ROUND WIRE TIES: FOR ATTACHING CHAIN-LINK FABRIC TO POSTS, RAILS, AND FRAMES, COMPLYING WITH THE FOLLOWING: HOT-DIP GALVANIZED STEEL, 0.148-INCH DIAMETER WIRE; GALVANIZED COATING COMPLYING WITH AASHTO M 245. COLORS COMPLYING WITH PS T-1-P-192. COLOR, AS INDICATED.
- H. THE WIRES, CLIPS, AND FASTENERS: ACCORDING TO ASTM F 626. STANDARD ROUND WIRE TIES: FOR ATTACHING CHAIN-LINK FABRIC TO POSTS, RAILS, AND FRAMES, COMPLYING WITH THE FOLLOWING: HOT-DIP GALVANIZED STEEL, 0.148-INCH DIAMETER WIRE; GALVANIZED COATING COMPLYING WITH AASHTO M 245. COLORS COMPLYING WITH PS T-1-P-192. COLOR, AS INDICATED.
- 9.) ADJUSTING
- A. GATES: ADJUST GATES TO OPERATE SMOOTHLY, EASILY, AND QUIETLY, FREE OF BINDING, WARP, EXCESSIVE DEFLECTION, DISTORTION, NONALIGNMENT, MISPLACEMENT, DISRUPTION, OR MALFUNCTION. THROUGHOUT ENTIRE OPERATION, CONFIRM THAT LATCHES AND LOCKS ENGAGE ACCURATELY AND SECURELY WITHOUT FORCING OR BINDING.

FORT BEND COUNTY 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 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PAVING AT CONSTRUCTION/FORTBENDCOUNTYTX.GOV.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR FORT BEND COUNTY PROJECTS CONCERNING 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 RADI AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.
6. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.
7. ALL CONCRETE PAVEMENT SHALL BE 5-1/2 SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS. TRAVERSE 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"X12" 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 INTERSECTIONS, TYPE 7 RAMPS SHALL BE PLACED 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 R-11 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.

NOTE: FORT BEND COUNTY NOTES SUPERSEDE ANY CONFLICTING NOTES.

IN SPECIFICATION. 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.

ENGINEER:

FORESITE
group

TFPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
D/B/A Foresite Consulting Group of Texas, Inc.

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DEVELOPER:

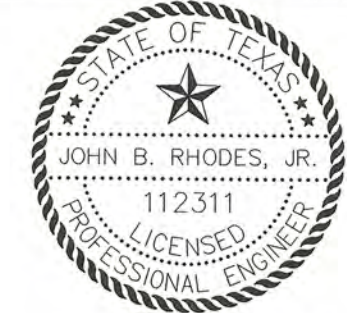
GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN
DRAWING BY: DK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
AS SHOWN

TITLE:

GENERAL NOTES

SHEET NUMBER:

G-2.1

COMMENTS:

JOB/FILE NUMBER:

693.009

May 11/17
FBC DEVELOPMENT COORDINATOR
DATE



CITY OF HOUSTON
Department of Public Works and Engineering

Sylvester Turner

Mayor

Karun Sreerama, MBA, PhD, PE
Director
P.O. Box 1562
Houston, Texas 77251-1562
T. 832-395-2500
www.houstontx.gov

April 24, 2017

Mr. Ruben Esqueda
Provision at West Bellfort, LP
4803 South National, Suite 200
Springfield, Missouri 65810

SUBJECT: Water Application

Dear Mr. Esqueda:

Reference is made to your application received on March 23, 2017 concerning the availability of City water facilities to 11.22 acres of land being situated in the Benjamin George Survey, Abstract 175, located at 13701 West Bellfort Street, where you propose the construction of six (6) duplexes, six (6) apartment buildings (each building will have twenty-four (24) units with washer/dryer connections) and a club house (to include leasing office, fitness center and mail room), or a development utilizing a total of 74.5728 service units per day of water capacity.

This site is located on Utility Record Map 4753C. The existing 12-inch water main in West Bellfort Street will provide service to the subject site.* A Water Impact Fee in the amount of \$45,423.94 and a \$27.95 Administrative Fee must be paid for 74.5728 service units prior to obtaining a building permit. Please note, the Impact Fee quoted above is based on the rates currently in effect. Houston City Council may review and revise related ordinances, which will change the above-quoted fee and/or the development criteria and design requirements for this project.

Furthermore, the City Engineer may, from time to time, revise the Department of Public Works Infrastructure Design Manual, resulting in changes to the design criteria and parameters that must be followed in the development of this site.

Water customers located outside the Corporate Limits of the City of Houston must obtain a plumbing permit prior to connection to the water system.

A copy of this letter and the Wastewater Capacity Reservation letter must be attached to your construction plans when applying for a building permit. If this project is not under construction within two (2) years from the date of this letter, a renewal request must be submitted. Plans must be approved by the Code Enforcement Branch of the Planning and Development Services Division prior to the issuance of a permit.

Council Members: Brenda Stardig Jerry Davis Ellen R. Cohen Dwight A. Boykins Dave Martin Steve Le Greg Travis Karla Cisneros
Robert Gallegos Mike Lastor Larry V. Green Mike Knox David W. Robinson Michael Kubosh Amanda Edwards Jack Christie
Controller: Chris Brown

Mr. Ruben Esqueda
Provision at West Bellfort, LP
April 24, 2017
Page 2

For any written inquiries regarding the above information please contact:

The Utility Analysis Section
P.O. Box 2688
Houston, Texas 77252-2688

For direct inquiries concerning this letter, please contact me at (832) 394-8986. You may also email questions to wertechs@houstontx.gov.

Cordially,

Rudy Moreno, Jr.
Deputy Assistant Director
Utility Analysis Section

For: Karun Sreerama, MBA, PhD, PE
Director
Department of Public Works and Engineering

KS:RM:mr F
WCR File Number 0034334-001
Log Number 2017032306
ILMS Project Number 17023847

*This information is based on the City of Houston Geographic Information Management System maps. These maps are prepared utilizing the best information available to the City and the City cannot warrant their accuracy or completeness. The exact size and location of all utility lines should be field verified.



CITY OF HOUSTON
Department of Public Works and Engineering

Sylvester Turner

Mayor

Karun Sreerama, MBA, PhD, PE
Director
P.O. Box 1562
Houston, Texas 77251-1562
T. 832-395-2500
www.houstontx.gov

April 24, 2017

Mr. Ruben Esqueda
Provision at West Bellfort, LP
4803 South National, Suite 200
Springfield, Missouri 65810

Subject: Wastewater Capacity Reservation Application

Dear Mr. Esqueda:

Reference is made to your application received on March 23, 2017 concerning the availability of City wastewater facilities to 11.22 acres of land being situated in the Benjamin George Survey, Abstract 175, located at 13701 West Bellfort Street.

This site is located on Utility Record Map 4753C (4753D) and would be served by the W.C.I.D. #111. Wastewater capacity is currently available for your proposed construction of six (6) duplexes, six (6) apartment buildings (each building will have twenty-four (24) units with washer/dryer connections) and a club house (to include leasing office, fitness center and mail room), or a development utilizing a maximum of 74.5728 service units per day of wastewater capacity.

An Impact Fee in the amount of \$86,940.63 and a \$27.95 Administrative Fee must be paid in order to receive a Wastewater Capacity Reservation. This amount includes a 2.0685 service unit credit for the removal of 17,095 square feet of warehouse space. This fee must be paid within six (6) months from the date of this letter and prior to the issuance of a building permit. Failure to pay the Impact Fee within six (6) months from the date of this letter will result in the expiration of this reservation.

The Impact Fee (made payable to the City of Houston) may be paid by mail or at 1002 Washington Avenue. Please note that a copy of the Impact Fee receipt and a copy of this letter must be submitted with your construction plans when applying for a building permit. Construction plans must be approved by the Code Enforcement Branch of the Planning and Development Services Division before a building permit can be issued.

Sanitary sewer connection must be made to the 36-inch sewer in West Bellfort Street.*

Council Members: Brenda Stardig Jerry Davis Ellen R. Cohen Dwight A. Boykins Dave Martin Steve Le Greg Travis Karla Cisneros
Robert Gallegos Mike Lastor Larry V. Green Mike Knox David W. Robinson Michael Kubosh Amanda Edwards Jack Christie
Controller: Chris Brown

Mr. Ruben Esqueda
Provision at West Bellfort, LP
April 24, 2017
Page 2

Please note, if the sanitary sewer line to which connection will be made is deeper than twenty feet (20'), or is larger than thirty-six inches (36") in pipe diameter, then the connection must be made to the nearest existing manhole of the sanitary sewer line. Please contact Mr. Simon Tung in the City Engineer's Office at (832) 394-9135 prior to engineering the plans for connection.

For discharge into the sanitary sewer system of any waste other than domestic waste, please contact the Industrial Wastewater Service at (832) 395-5800 for permitting requirements.

The granting of wastewater capacity for this project is in no manner meant to imply that the proposed development is in compliance with any local, state or federal requirements, subdivision restrictive covenants or deed restrictions that may be in force on the subject property. Please refer to City Ordinance No. 85-1180 (amending Section 10-3 of the Code of Ordinances) with regards to the rules and regulations concerning this matter.

For any written inquiries regarding the above information please contact:

The Utility Analysis Section
P.O. Box 2688
Houston, Texas 77252-2688

Questions or comments concerning this letter can be faxed to (832) 394-9607. Please forward a copy of this letter, or make reference to the Wastewater Capacity Reservation File Number located at the bottom of this letter. You may also email questions to wertechs@houstontx.gov. For direct inquiries, please contact me at (832) 394-8986.

Cordially,

Rudy Moreno, Jr.
Deputy Assistant Director
Utility Analysis Section

For: Karun Sreerama, MBA, PhD, PE
Director
Department of Public Works and Engineering

KS:RM:mr F
WCR File Number 0034334-001
Log Number 2017032306
ILMS Project Number 17023847

*This information is based on the City of Houston Geographic Information Management System maps. These maps are prepared utilizing the best information available to the City and the City cannot warrant their accuracy or completeness. The exact size and location of all utility lines should be field verified.



CITY OF HOUSTON
Department of Public Works and Engineering

Sylvester Turner

Mayor

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May 16, 2017

Provision at West Bellfort, LP
4803 South National, Suite 200
Springfield, Missouri 65810

Subject: STORM DRAINAGE CAPACITY RESERVATION LETTER #SW2017032306

Dear Applicant:

Reference is made to your application received on March 23, 2017, requesting access to City storm drainage facilities for your property located at 13701 West Bellfort Street, zip code 77498, with the tract size of **11.22 acres of land out of a larger 11.792 acre tract**. Your proposed project is the construction of an apartment complex with one hundred forty four (144) units and a 192,837 square foot parking lot with sidewalks and a detention pond.

Based on the location of your tract, please refer to the methodology outlined in the "Drainage Criteria Manual" published by the Fort Bend County Drainage District for the Stormwater detention rate. Any new private storm drainage system should not result in adverse impacts to the City's storm drainage system and must connect to the 24" pipe storm drainage system along West Bellfort Street (Fort Bend County Maintained). Furthermore, the City Engineer may, from time to time, revise the Department of Public Works Infrastructure Design Manual, resulting in changes to the design criteria and parameters that must be followed in the development of this site.

Due to the tract size and/or the location of the project site, you must obtain approval from the following groups before submitting your plans:

- City of Houston Storm Water Quality Office (832-394-9523)
- Fort Bend County Drainage District (FBCDD) (281-342-0141)

This tract is located in the Brays Bayou watershed which is subject to a drainage impact fee rate of \$8.63 per service unit (1 service unit = 1,000 sf of impervious area) of increased impervious area. These fees must be paid prior to issuance of a building permit. A copy of this letter must be attached to your construction plans when applying for a building permit. Plans must be approved by the Code Enforcement Branch of the Planning and Development Services Division prior to the issuance of a permit. This letter expires in 2 years. If you have any questions related to Storm Drainage Requirements for proposed development, please contact Jasmin Zambrano, P.E. at 832-394-8888 or e-mail us at SWALR@houstontx.gov.

Cordially,

For:

Rudy Moreno, Jr.
Deputy Assistant Director
Utility Analysis Section

For:

Karun Sreerama, MBA, PhD, PE
Director
Department of Public Works and Engineering

KS:RM:GDP:CM F
ILMS #17023847

Council Members: Brenda Stardig Jerry Davis Ellen R. Cohen Dwight A. Boykins Dave Martin Steve Le Greg Travis Karla Cisneros
Robert Gallegos Mike Lastor Larry V. Green Mike Knox David W. Robinson Michael Kubosh Amanda Edwards Jack Christie
Controller: Chris Brown

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878

Foresite Group, Inc.

1999 Bryan St.

Suite 890

Dallas, TX 75201

D/B/A Foresite Consulting Group of Texas, Inc.

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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501

DALLAS, TEXAS 75201

(417) 447-5538

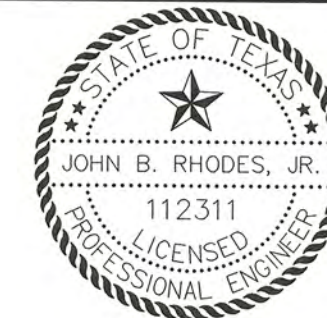
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



10/27/17

REVISIONS DATE

CITY COMMENTS 07/31/2017

CITY COMMENTS 08/16/2017

DRAINAGE DISTRICT COMMENTS 08/18/2017

CONSTRUCTION SET 10/27/2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

AS SHOWN

TITLE:

WCR LETTERS

SHEET NUMBER:

G-2.2

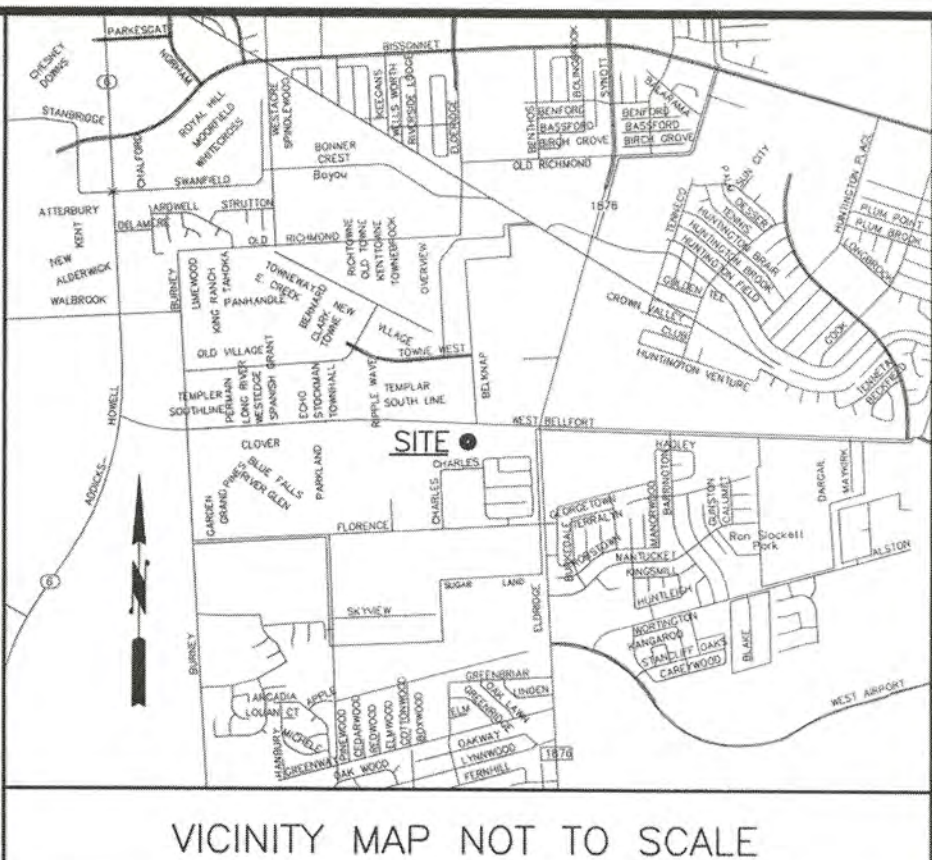
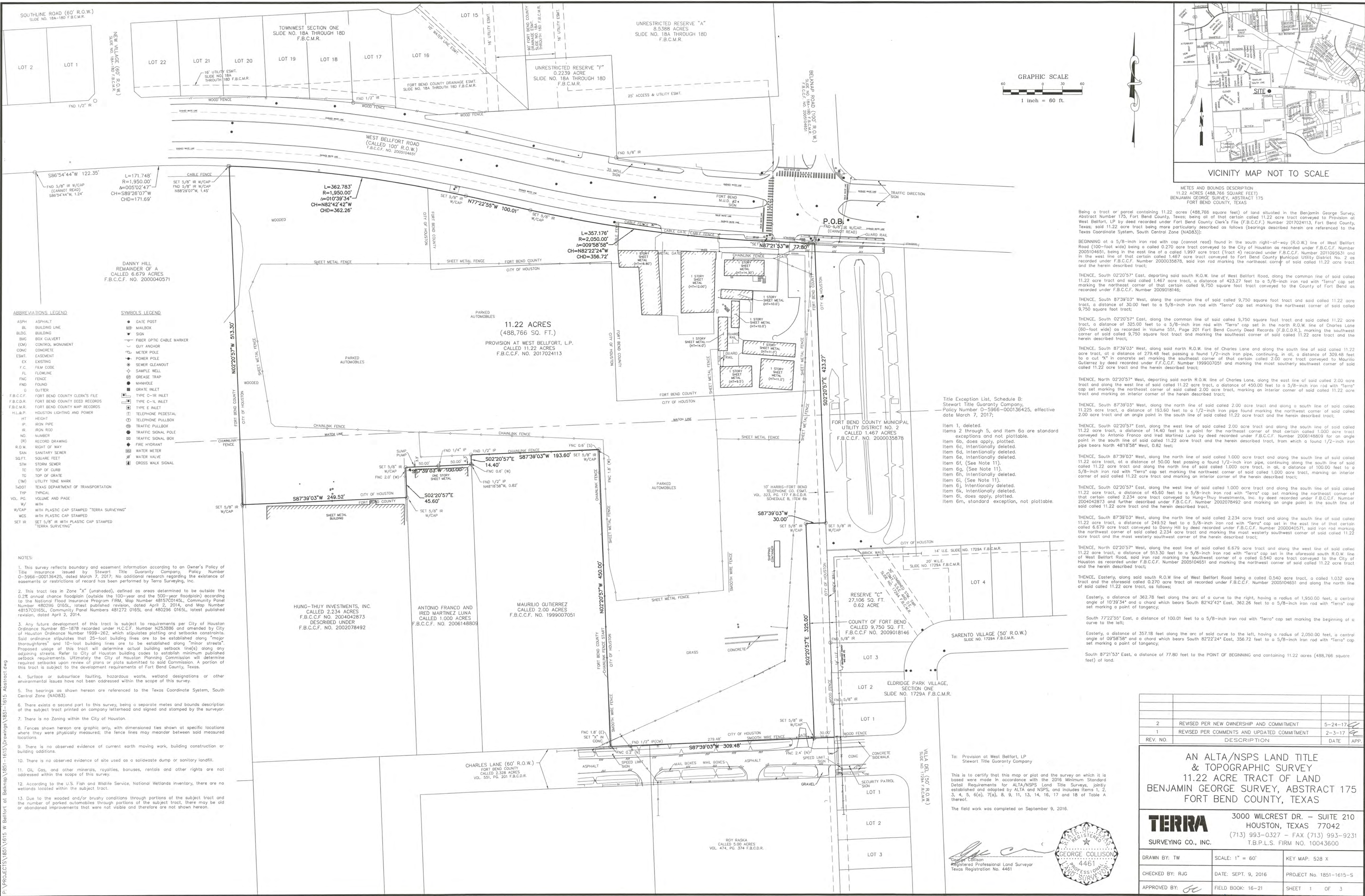
COMMENTS:

JOB/FILE NUMBER:

693.009

May 16, 2017
FBC DEVELOPMENT COORDINATOR

11/21/17
DATE



METES AND BOUNDS DESCRIPTION
11.22 ACRES (488,766 SQUARE FEET)
BENJAMIN GEORGE SURVEY, ABSTRACT 175
FORT BEND COUNTY, TEXAS

Being a tract or parcel containing 11.22 acres (488,766 square feet) of land situated in the Benjamin George Survey, Abstract Number 175, Fort Bend County, Texas, being all of that certain called 11.22 acre tract conveyed to Provision at West Bellfort, LP by deed recorded under Fort Bend County Clerk's File (F.B.C.C.F.) Number 2017024113, Fort Bend County, Texas, said 11.22 acre tract being more particularly described as follows (bearings described herein are referenced to the Texas Coordinate System, South Central Zone (NAD83)):

BEGINNING at a 5/8-inch iron rod with cap (cannot read) found in the south right-of-way (R.O.W.) line of West Bellfort Road (100-foot wide) being a called 0.270 acre tract conveyed to the City of Houston as recorded under F.B.C.C.F. Number 200105631, being in the east line of a called 1.997 acre tract (Tract 4) recorded under F.B.C.C.F. Number 201105631 and in the west line of that certain called 1.467 acre tract conveyed to Fort Bend County Municipal Utility District No. 2 as recorded under F.B.C.C.F. Number 2000035878, said iron rod marking the northeast corner of said called 11.22 acre tract and the herein described tract;

THENCE, South 02°20'57" East, departing said south R.O.W. line of West Bellfort Road, along the common line of said called 11.22 acre tract and said called 1.467 acre tract, a distance of 423.27 feet to a 5/8-inch iron rod with "Terra" cap set marking the northeast corner of that certain called 9,750 square foot tract conveyed to the County of Fort Bend as recorded under F.B.C.C.F. Number 2009018146;

THENCE, South 87°39'03" West, along the common line of said called 9,750 square foot tract and said called 11.22 acre tract, a distance of 30.00 feet to a 5/8-inch iron rod with "Terra" cap set marking the northeast corner of said called 11.22 acre tract, a distance of 30.00 feet to a 5/8-inch iron rod with "Terra" cap set marking the northeast corner of said called 11.22 acre tract;

THENCE, South 02°20'57" East, along the common line of said called 9,750 square foot tract and said called 11.22 acre tract, a distance of 325.00 feet to a 5/8-inch iron rod with "Terra" cap set in the north R.O.W. line of Charles Lane (60-foot wide) as recorded in Volume 551, Page 201 Fort Bend County Deed Records (F.B.C.D.R.), marking the southwest corner of said called 9,750 square foot tract and marking the southeast corner of said called 11.22 acre tract and the herein described tract;

THENCE, South 87°39'03" West, along said north R.O.W. line of Charles Lane and along the south line of said called 11.22 acre tract, at a distance of 279.48 feet passing a found 1/2-inch iron pipe, continuing, in oil, a distance of 309.48 feet to a cut "X" in concrete set marking the southeast corner of that certain called 2.00 acre tract conveyed to Mourio Gutierrez by deed recorded under F.B.C.C.F. Number 1999007051 and marking the most southerly southwest corner of said called 11.22 acre tract and the herein described tract;

THENCE, North 02°20'57" West, departing said north R.O.W. line of Charles Lane, along the east line of said called 2.00 acre tract and along the west line of said called 11.22 acre tract, a distance of 450.00 feet to a 5/8-inch iron rod with "Terra" cap set marking the northeast corner of said called 2.00 acre tract, marking an interior corner of said called 11.22 acre tract and marking an interior corner of the herein described tract;

THENCE, South 87°39'03" West, along the north line of said called 2.00 acre tract and along a south line of said called 11.225 acre tract, a distance of 193.60 feet to a 1/2-inch iron pipe found marking the northwest corner of said called 2.00 acre tract and an angle point in the south line of said called 11.22 acre tract and the herein described tract;

THENCE, South 02°20'57" East, along the west line of said called 2.00 acre tract and along the south line of said called 11.225 acre tract, a distance of 14.40 feet to a point for the northeast corner of that certain called 1.000 acre tract conveyed to Antonio Franco and Ired Martinez Luna by deed recorded under F.B.C.C.F. Number 2008148809 for an angle point in the south line of said called 11.22 acre tract and the herein described tract, from which a found 1/2-inch iron pipe bears North 48°18'58" West, 0.82 feet;

THENCE, South 87°39'03" West, along the north line of said called 1.000 acre tract and along the south line of said called 11.22 acre tract, at a distance of 50.00 feet passing a found 1/2-inch iron pipe, continuing along the south line of said called 11.22 acre tract and along the north line of said called 1.000 acre tract, in oil, a distance of 100.00 feet to a 5/8-inch iron rod with "Terra" cap set marking the northeast corner of said called 1.000 acre tract, marking an interior corner of said called 11.22 acre tract and marking an interior corner of the herein described tract;

THENCE, South 02°20'57" East, along the west line of said called 1.000 acre tract and along the south line of said called 11.22 acre tract, a distance of 45.60 feet to a 5/8-inch iron rod with "Terra" cap set marking the northeast corner of that certain called 2.234 acre tract conveyed to Hung-Thuy Investments, Inc. by deed recorded under F.B.C.C.F. Number 2004042873 and further described under F.B.C.C.F. Number 2002078492 and marking an angle point in the south line of said called 11.22 acre tract and the herein described tract;

THENCE, South 87°39'03" West, along the north line of said called 2.234 acre tract and along the south line of said called 11.22 acre tract, a distance of 249.52 feet to a 5/8-inch iron rod with "Terra" cap set in the east line of that certain called 6.679 acre tract conveyed to Danny Hill by deed recorded under F.B.C.C.F. Number 2000040571, said iron rod marking the northwest corner of said called 2.234 acre tract and marking the most westerly southwest corner of said called 11.22 acre tract and the most westerly southwest corner of the herein described tract;

THENCE, North 02°20'57" West, along the east line of said called 6.679 acre tract and along the west line of said called 11.22 acre tract, a distance of 513.30 feet to a 5/8-inch iron rod with "Terra" cap set in the aforesaid south R.O.W. line of West Bellfort Road, said iron rod marking the southwest corner of a called 0.540 acre tract conveyed to the City of Houston as recorded under F.B.C.C.F. Number 2005104651 and marking the northwest corner of said called 11.22 acre tract and the herein described tract;

THENCE, Easterly, along said south R.O.W. line of West Bellfort Road being a called 0.540 acre tract, a called 1.032 acre tract and the aforesaid called 0.270 acre tract all recorded under F.B.C.C.F. Number 2005104651 and along the north line of said called 11.22 acre tract, as follows;

Easterly, a distance of 362.78 feet along the arc of a curve to the right, having a radius of 1,950.00 feet, a central angle of 10°39'34" and a chord which bears South 82°42'42" East, 362.26 feet to a 5/8-inch iron rod with "Terra" cap set marking a point of tangency;

South 77°22'55" East, a distance of 100.01 feet to a 5/8-inch iron rod with "Terra" cap set marking the beginning of a curve to the left;

Easterly, a distance of 357.18 feet along the arc of said curve to the left, having a radius of 2,050.00 feet, a central angle of 09°58'58" and a chord which bears South 82°22'24" East, 356.72 feet to a 5/8-inch iron rod with "Terra" cap set marking a point of tangency;

South 87°21'53" East, a distance of 77.80 feet to the POINT OF BEGINNING and containing 11.22 acres (488,766 square feet) of land.

To: Provision at West Bellfort, LP
Stewart Title Guaranty Company

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, 2, 3, 4, 5, 6(a), 7(a), 8, 9, 11, 13, 14, 16, 17 and 18 of Table A thereof.

The field work was completed on September 9, 2016.

Debra Collins
Registered Professional Land Surveyor
Texas Registration No. 4461



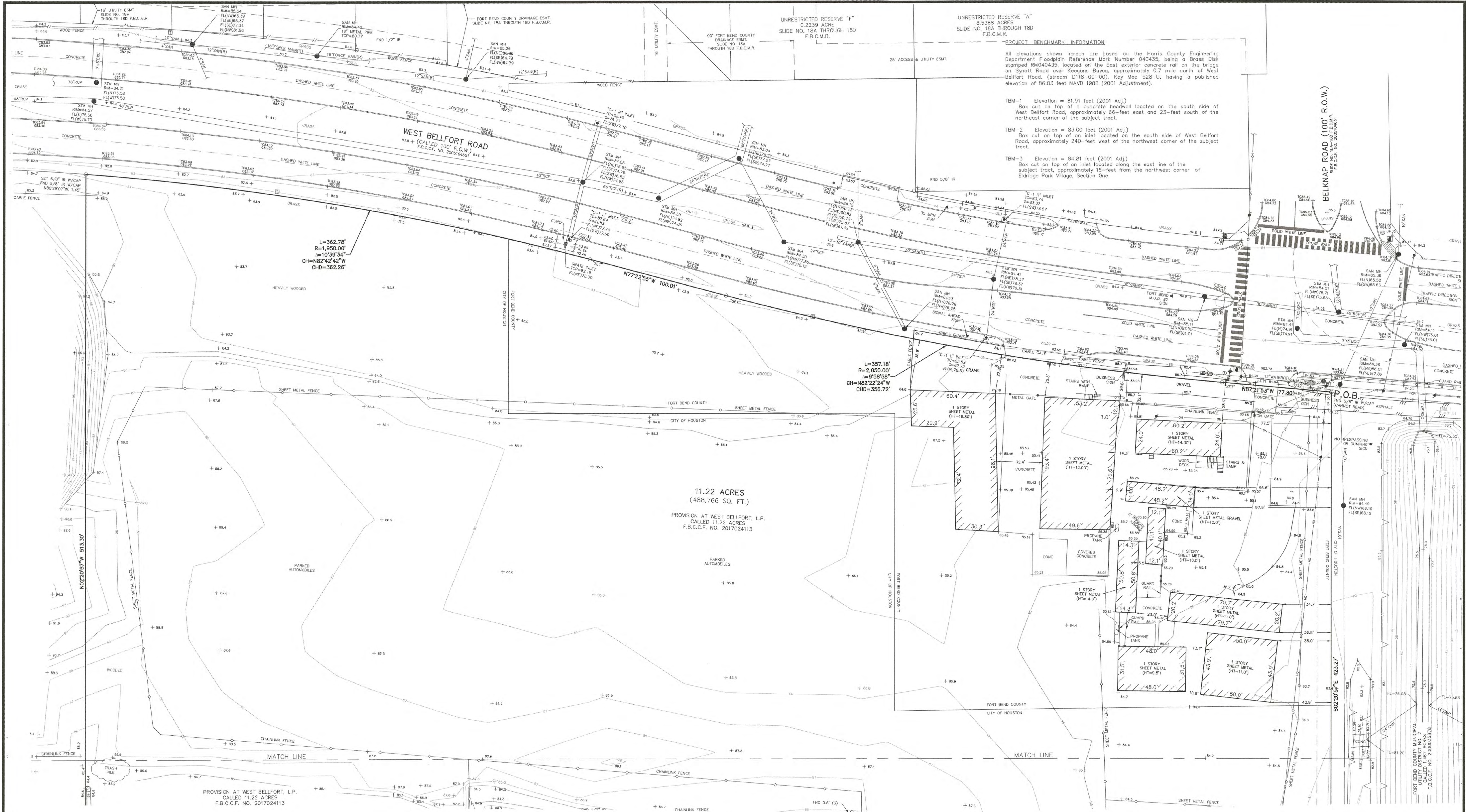
REV. NO.	DESCRIPTION	DATE	APP.
2	REVISED PER NEW OWNERSHIP AND COMMITMENT	5-24-17	
1	REVISED PER COMMENTS AND UPDATED COMMITMENT	2-3-17	

AN ALTA/NSPS LAND TITLE & TOPOGRAPHIC SURVEY
11.22 ACRE TRACT OF LAND
BENJAMIN GEORGE SURVEY, ABSTRACT 175
FORT BEND COUNTY, TEXAS

TERRA SURVEYING CO., INC.
3000 WILCREST DR. - SUITE 210
HOUSTON, TEXAS 77042
(713) 993-0327 - FAX (713) 993-9231
T.B.P.L.S. FIRM NO. 10043600

DRAWN BY: TW	SCALE: 1" = 60'	KEY MAP: 528 X
CHECKED BY: RJG	DATE: SEPT. 9, 2016	PROJECT No. 1851-1615-S
APPROVED BY: <i>Debra Collins</i>	FIELD BOOK: 16-21	SHEET 1 OF 3

Maggie 11/21/17



SYMBOLS LEGEND

● GATE POST	□ TYPE C-1R INLET	ASPH ASPHALT	F.B.C.C.F. FORT BEND COUNTY CLERK'S FILE
□ MAILBOX	□ TYPE C-1L INLET	BL BUILDING	F.B.C.D.R. FORT BEND COUNTY DEED RECORDS
▲ SIGN	□ TYPE E INLET	BLDG. BUILDING	F.B.C.M.R. FORT BEND COUNTY MAP RECORDS
○ FIBER OPTIC CABLE MARKER	□ TELEPHONE PEDESTAL	BXC BOX CULVERT	H.L.&P. HOUSTON LIGHTING AND POWER
○ GUY ANCHOR	□ TELEPHONE PULLBOX	(CM) CONTROL MONUMENT	HT HEIGHT
○ METER POLE	○ TRAFFIC PULLBOX	CONC CONCRETE	IP. IRON PIPE
○ POWER POLE	○ TRAFFIC SIGNAL POLE	ESMT. EASEMENT	IR. IRON ROD
○ SEWER CLEANOUT	○ TRAFFIC SIGNAL BOX	EX. EXISTING	NO. NO.
○ SAMPLE WELL	○ FIRE HYDRANT	F.C. FILM CODE	(R) RECORD DRAWING
○ SPRINKLER HEAD	○ WATER METER	FL FLOWLINE	R.O.W. RIGHT OF WAY
○ GREASE TRAP	○ WATER VALVE	FNC FENCE	SAN SANITARY SEWER
○ MANHOLE	○ CROSS WALK SIGNAL	FND FOUND	SQ.FT. SQUARE FEET
■ GRATE INLET		G GUTTER	STM STORM SEWER

ABBREVIATIONS LEGEND

TC TOP OF CURB	W/ WITH PLASTIC CAP STAMPED
TG TOP OF GRATE	W/ WITH PLASTIC CAP STAMPED
(TM) UTILITY TONE MARK	SET IR
TxDOT TEXAS DEPARTMENT OF TRANSPORTATION	
TYP TYPICAL	
VOL. PG. VOLUME AND PAGE	
W/ WITH	

GRAPHIC SCALE

1 inch = 30 ft.

PROJECT BENCHMARK INFORMATION

All elevations shown hereon are based on the Harris County Engineering Department Floodplain Reference Mark Number 040435, being a Brass Disk stamped RM040435, located on the East exterior concrete rail on the bridge on Synott Road over Keegans Bayou, approximately 0.7 mile north of West Bellfort Road. (stream D118-00-00). Key Map 528-U, having a published elevation of 86.83 feet NAVD 1988 (2001 Adjustment).

TBM-1 Elevation = 81.91 feet (2001 Adj.)
Box cut on top of a concrete headwall located on the south side of West Bellfort Road, approximately 66-feet east and 23-feet south of the northeast corner of the subject tract.

TBM-2 Elevation = 83.00 feet (2001 Adj.)
Box cut on top of an inlet located on the south side of West Bellfort Road, approximately 15-feet from the northwest corner of the subject tract.

TBM-3 Elevation = 84.81 feet (2001 Adj.)
Box cut on top of an inlet located along the east line of the subject tract, approximately 15-feet from the northwest corner of Eldridge Park Village, Section One.

AN ALTA/NSPS LAND TITLE & TOPOGRAPHIC SURVEY

11.22 ACRE TRACT OF LAND

BENJAMIN GEORGE SURVEY, ABSTRACT 175

FORT BEND COUNTY, TEXAS

2	REVISED PER NEW OWNERSHIP AND COMMITMENT	5-24-17
1	REVISED PER COMMENTS AND UPDATED COMMITMENT	2-3-17
REV. NO.	DESCRIPTION	DATE

TERRA

SURVEYING CO., INC.

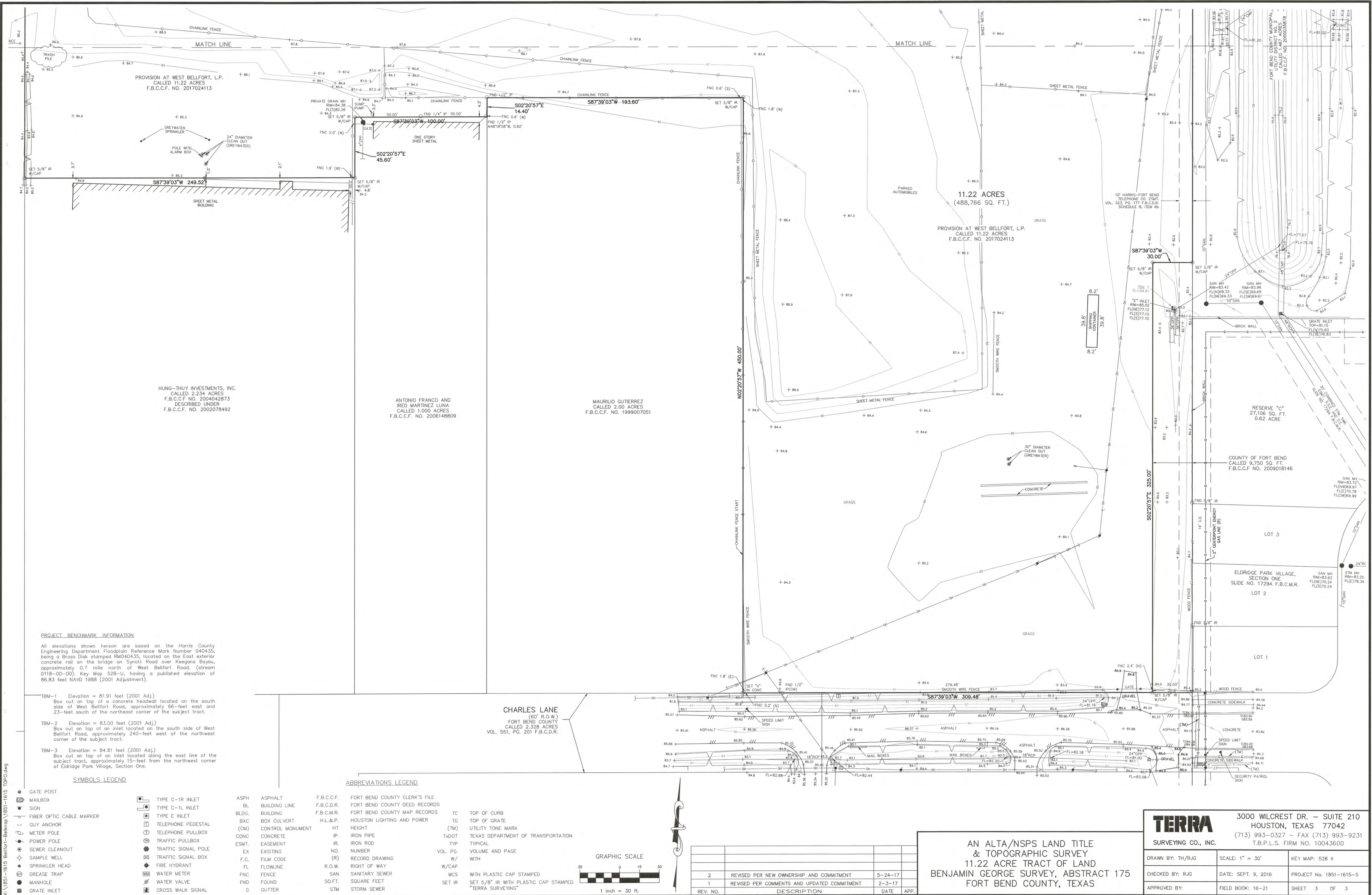
3000 WILCREST DR. - SUITE 210
HOUSTON, TEXAS 77042
(713) 993-0327 - FAX (713) 993-9321
T.B.P.L.S. FIRM NO. 10043600

DRAWN BY: TH/RJG
SCALE: 1" = 30'
KEY MAP: 528 X

CHECKED BY: RJG
DATE: SEPT. 9, 2016
PROJECT No. 1851-1615-S

APPROVED BY: [Signature]
FIELD BOOK: 16-21
SHEET 2 OF 3

X:\1851-1615-Bellfort-Belknap\1851-1615 TOPG.dwg



X:\1851-1615 Belfort-Belknap\1851-1615 TOPG.dwg

PROJECT BENCHMARK INFORMATION

All elevations shown hereon are based on the Harris County Engineering Department Floodplain Reference Mark Number 040435, being a Brass Disk stamped RMD0435, located on the East exterior concrete rail on the bridge on Synott Road over Keegans Bayou, approximately 0.7 mile north of West Belfort Road. (stream D118-00-00). Key Map 528-U, having a published elevation of 86.85 feet NAVD 1988 (2001 Adjustment).

TBM-1 Elevation = 81.91 feet (2001 Adj.)
Box cut on top of a concrete headwall located on the south side of West Belfort Road, approximately 66-feet east and 23-feet south of the northeast corner of the subject tract.

TBM-2 Elevation = 83.00 feet (2001 Adj.)
Box cut on top of an inlet located on the south side of West Belfort Road, approximately 240-feet west of the northwest corner of the subject tract.

TBM-3 Elevation = 84.81 feet (2001 Adj.)
Box cut on top of an inlet located along the east line of the subject tract, approximately 15-feet from the northwest corner of Eldridge Park Village, Section One.

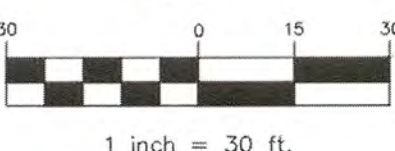
SYMBOLS LEGEND

- GATE POST
- MAILBOX
- SIGN
- FIBER OPTIC CABLE MARKER
- GUY ANCHOR
- METER POLE
- POWER POLE
- SEWER CLEANOUT
- SAMPLE WELL
- SPRINKLER HEAD
- GREASE TRAP
- MANHOLE
- GRATE INLET
- TYPE C-1R INLET
- TYPE C-1L INLET
- TYPE E INLET
- TELEPHONE PEDESTAL
- TELEPHONE PULLBOX
- TRAFFIC PULLBOX
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL BOX
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- CROSS WALK SIGNAL
- BL BUILDING LINE
- BLDG. BUILDING
- BXC BOX CULVERT
- CM CONTROL MONUMENT
- CONC CONCRETE
- EASEMENT
- EX EXISTING
- FL FLOWLINE
- FNC FENCE
- FND FOUND
- G GUTTER
- HT HEIGHT
- IP IRON PIPE
- IR IRON ROD
- NO. NUMBER
- (R) RECORD DRAWING
- R.O.W. RIGHT OF WAY
- SAN SANITARY SEWER
- SQ.FT. SQUARE FEET
- STM STORM SEWER
- TC TOP OF CURB
- TG TOP OF GRATE
- UTILITY TONE MARK
- TEXAS DEPARTMENT OF TRANSPORTATION
- TYP TYPICAL
- VOL. PG. VOLUME AND PAGE
- W/CAP WITH PLASTIC CAP STAMPED
- WCS WITH PLASTIC CAP STAMPED
- SET IR SET 5/8" IR WITH PLASTIC CAP STAMPED

ABBREVIATIONS LEGEND

- | | | | |
|------------|-------------------------------|----------|--------------------------------------|
| F.B.C.C.F. | FORT BEND COUNTY CLERK'S FILE | TC | TOP OF CURB |
| F.B.C.D.R. | FORT BEND COUNTY DEED RECORDS | TG | TOP OF GRATE |
| F.B.C.M.R. | FORT BEND COUNTY MAP RECORDS | (TM) | UTILITY TONE MARK |
| H.L.&P. | HOUSTON LIGHTING AND POWER | TxDOT | TEXAS DEPARTMENT OF TRANSPORTATION |
| HT | HEIGHT | TYP | TYPICAL |
| IP | IRON PIPE | VOL. PG. | VOLUME AND PAGE |
| IR | IRON ROD | W/CAP | WITH PLASTIC CAP STAMPED |
| NO. | NUMBER | WCS | WITH PLASTIC CAP STAMPED |
| (R) | RECORD DRAWING | SET IR | SET 5/8" IR WITH PLASTIC CAP STAMPED |
| R.O.W. | RIGHT OF WAY | | |
| SAN | SANITARY SEWER | | |
| SQ.FT. | SQUARE FEET | | |
| STM | STORM SEWER | | |

GRAPHIC SCALE



AN ALTA/NSPS LAND TITLE
& TOPOGRAPHIC SURVEY
11.22 ACRE TRACT OF LAND
BENJAMIN GEORGE SURVEY, ABSTRACT 175
FORT BEND COUNTY, TEXAS

TERRA
SURVEYING CO., INC.

3000 WILCREST DR. - SUITE 210
HOUSTON, TEXAS 77042
(713) 993-0327 - FAX (713) 993-9231
T.B.P.L.S. FIRM NO. 10043600

DRAWN BY: TH/RJG	SCALE: 1" = 30'	KEY MAP: 528 X
CHECKED BY: RJG	DATE: SEPT. 9, 2016	PROJECT NO. 1851-1615-S
APPROVED BY:	FIELD BOOK: 16-21	SHEET 3 OF 3

May 11/21/17

STATE OF TEXAS
COUNTY OF FORT BEND

We, PROVISION AT WEST BELLFORT, LP, a Texas Limited Partnership, acting by and through Laolu Yemitan, Sole Member/Authorized Representative of Five Woods, LLC, a Texas Limited Liability Company, the Member of Provision at West Bellfort GP, LLC, a Texas Limited Liability Company, the General Partner of said Provision at West Bellfort, LP, owner, hereinafter referred to as Owners of the 11.22 acre tract described in the above and foregoing map of PROVISION AT WEST BELLFORT, do hereby make and establish said subdivision and development plot of said property according to all lines, dedications, restrictions and notations on said maps or plot and hereby dedicate to the use of the public forever, all streets (except those streets designated as private streets), alleys, parks, water courses, drains, easements and public places shown thereon for the purposes and considerations therein expressed; and do hereby bind ourselves, our heirs and assigns to warrant and forever defend the title on the land so dedicated.

FURTHER, We have dedicated and by these presents do 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 the ground level upward, located adjacent to and adjoining said public utility easements that are designated with aerial easements (U.E. and A.E.) as indicated and depicted hereon, whereby the aerial easement totals twenty one feet, six inches (21' 6") in width.

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

FURTHER, We do hereby covenant and agree that all of the property within the boundaries of this plot is hereby 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, We do 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 and drainage ditches located in said subdivision, as easements for drainage purposes. Fort Bend County or any other governmental agency shall have the right to enter upon said easement at any and all times for the purposes of construction and maintenance of drainage facilities and structures.

FURTHER, We do hereby covenant and agree that all of the property within the boundaries of this plot and adjacent to any drainage easement, ditch, gully, creek or natural drainage way shall hereby be restricted to keep such drainage ways and easements clear of fences, buildings, 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, We do hereby acknowledge the receipt of the "Orders for Regulation of Outdoor Lighting in the Unincorporated Areas of Fort Bend County, Texas", and do 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 amendments.

IN TESTIMONY WHEREOF, the PROVISION AT WEST BELLFORT, LP, a Texas Limited Partnership, has caused these presents to be signed by Laolu Yemitan, Sole Member/Authorized Representative of Five Woods, LLC, a Texas Limited Liability Company, the Member of Provision at West Bellfort GP, LLC, a Texas Limited Liability Company, the General Partner of said Provision at West Bellfort, LP, this 16TH day of JUNE, 2017.

PROVISION AT WEST BELLFORT, LP, a Texas Limited Partnership

By: Provision at West Bellfort GP, LLC,
a Texas Limited Liability Company, its General Partner
By: Five Woods, LLC,
a Texas Limited Liability Company, its Member

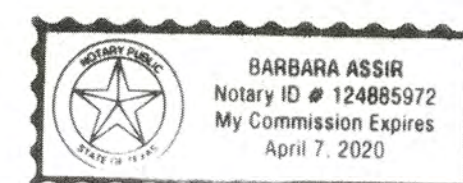
By: [Signature]
Laolu Yemitan
Its Sole Member/Authorized Representative

STATE OF TEXAS
COUNTY OF FORT BEND

BEFORE ME, the undersigned authority, on this day personally appeared Laolu Yemitan, Sole Member/Authorized Representative of Five Woods, LLC, a Texas Limited Liability Company, the Member of Provision at West Bellfort GP, LLC, a Texas Limited Liability Company, the General Partner of Provision at West Bellfort, LP, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

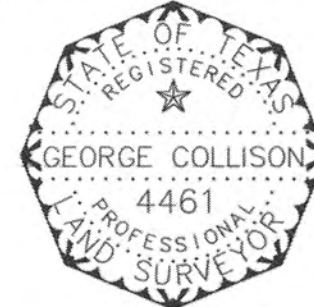
GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 16TH day of JUNE, 2017.

[Signature]
Notary Public in and for Fort Bend County, Texas
Print name
My Commission expires: APRIL 7, 2020



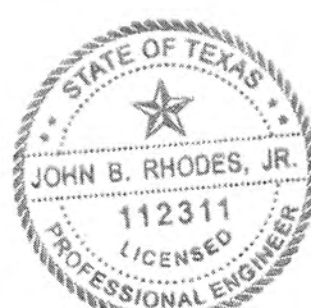
I, George Collison, am registered under the laws of the State of Texas to practice the profession of surveying and hereby certify that the above subdivision is true and accurate; was prepared from an actual survey of the property made under my supervision on the ground; that, except as shown all boundary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

[Signature]
George Collison
Registered Professional Land Surveyor
Texas Registration No. 4461



I, John B. Rhodes, Jr., a Professional Engineer registered in the State of Texas, do hereby certify that this plot meets all requirements of Fort Bend County to the best of my knowledge.

[Signature]
John B. Rhodes, Jr.
Registered Professional Engineer, No. 112311

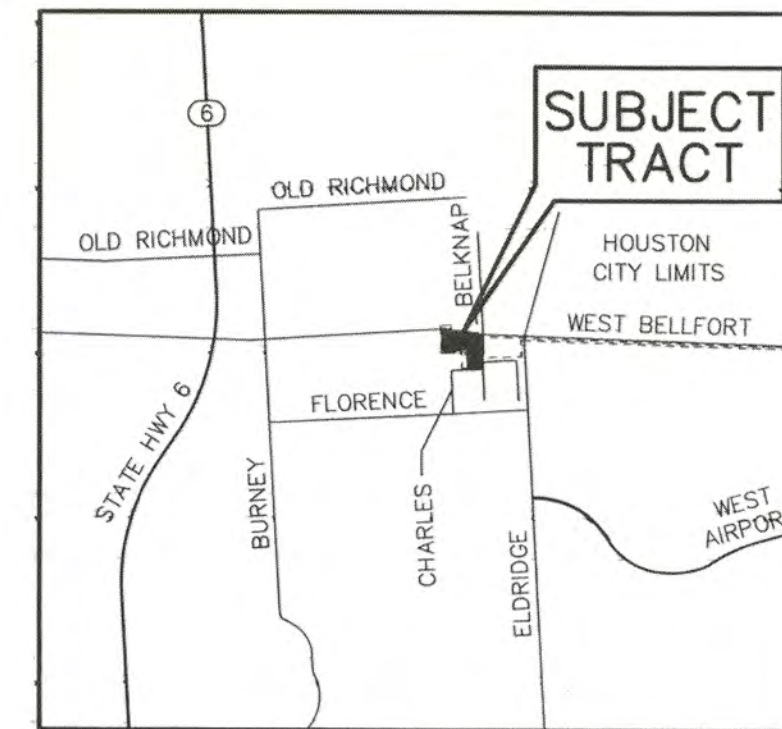


This is to certify that the Planning Commission of the City of Houston, Texas, has approved this plot (or instrument when appropriate) and subdivision of PROVISION AT WEST BELLFORT in conformance with the laws of the State of Texas and the ordinances of the City of Houston, as shown hereon, and authorizing the recording of this plot (or instrument when appropriate) this 30TH day of JUNE, 2017.

By: [Signature]
Martha L. Stein (or) M. Sonny Garza
Chair or Vice Chairman



By: [Signature]
Patrick Walsh, P.E.
Secretary



VICINITY MAP
KEY MAP: 528 X
N.T.S.

I, Richard W. Stolleis, P.E., 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 parent stream or on any other area or subdivision within the watershed.

[Signature]
Richard W. Stolleis, P.E.
Fort Bend County Engineer

APPROVED by Commissioners' Court of Fort Bend County, Texas, this the 25th day of JULY, 2017.

[Signature]
Precinct 1, County Commissioner
[Signature]
Grady Prestage
Precinct 2, County Commissioner

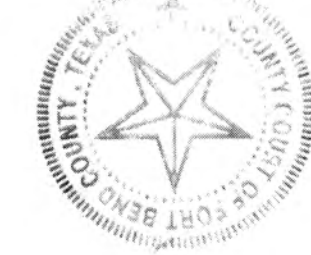
[Signature]
Robert E. Hebert
County Judge

[Signature]
W.A. Andy Meyers
Precinct 3, County Commissioner
[Signature]
James Patterson
Precinct 4, County Commissioner

I, Laura Richard, County Clerk in and for Fort Bend County, hereby certify that the foregoing instrument with its certificate of authentication was filed for recordation in my office on JUNE 25TH, 2017, at 2:56 o'clock P.M., in Plat Number 20170154 of the Plat Records of Fort Bend County, Texas.

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

[Signature]
Laura Richard, County Clerk
Fort Bend County, Texas
[Signature]
Deputy Elizabeth Rivera



27 PGS
PLAT ATTACH
2017082894

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS

[Signature]
Laura Richard, County Clerk
Fort Bend County, Texas
July 25, 2017 02:56:54 PM
FEE: \$294.00 ER
PLAT
20170154

PROVISION AT WEST BELLFORT

A SUBDIVISION OF 11.22 ACRES OF LAND
LOCATED IN THE
BENJAMIN GEORGE SURVEY, ABSTRACT NUMBER 175
CITY OF HOUSTON, FORT BEND COUNTY, TEXAS

~1 BLOCK ~1 RESERVE

OWNER:
PROVISION AT WEST BELLFORT, LP
4803 SOUTH NATIONAL, SUITE 200
SPRINGFIELD, MISSOURI 65810
417-447-5538

SURVEYOR:
TERRA SURVEYING COMPANY, INC.
3000 WILCREST DRIVE, SUITE 210
HOUSTON, TEXAS 77042
(713) 993-0327

DATE: JUNE, 2017 SCALE: 1"= 60' PROJECT NO.: 1851-1615- P

SHEET 1 OF 2

[Signature] 11/21/17

NEW VILLAGE (60' R.O.W.)
SLIDE NO. 18A-18D F.B.C.M.R.

TOWNWEST SECTION ONE
SLIDE NO. 18A - 18D F.B.C.M.R.

UNRESTRICTED RESERVE "A"
8.5388 ACRES
SLIDE NO. 18A-18D F.B.C.M.R.

UNRESTRICTED RESERVE "F"
0.2239 ACRE
SLIDE NO. 18A-18D F.B.C.M.R.

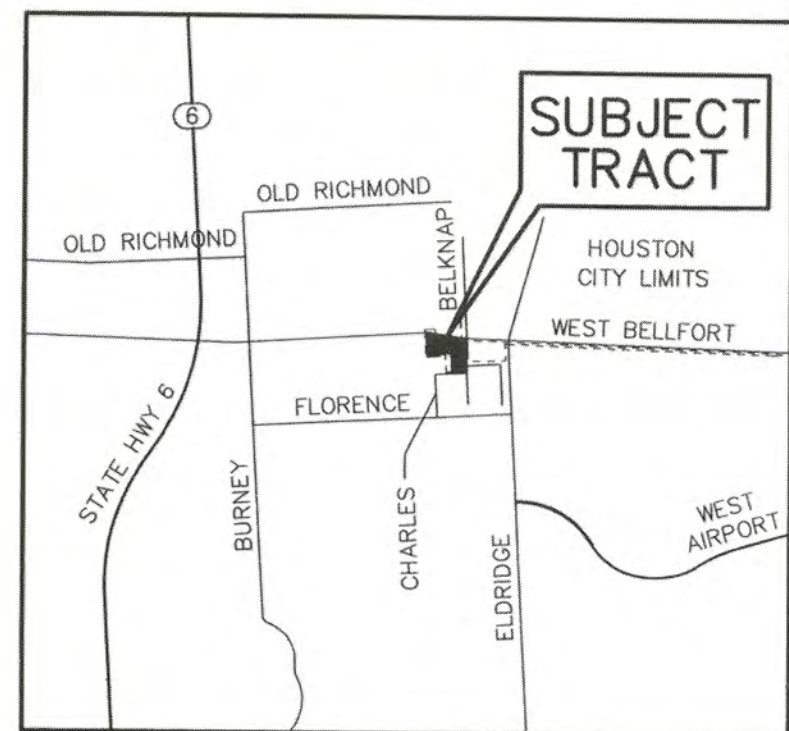
MICHELLE XIAO YUN KUANG
CALLED 0.286 ACRE
F.B.C.C.F. NO. 2011056410

MICHELLE XIAO YUN KUANG
CALLED 0.5481 ACRE
F.B.C.C.F. NO. 2011013850

JESSE AYALA
CALLED 1.0710 ACRES
F.B.C.C.F. NO. 2005086271

BELKNAP ROAD (100' R.O.W.)
SLIDE NO. 18A-18D F.B.C.M.R.

SCALE: 1" = 60'



VICINITY MAP
KEY MAP: 528 X
N.T.S.

NOTES:

- The coordinates shown hereon are Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD83) and may be brought to surface by applying the following combined scale: 0.999870017.
- All bearings based on the Texas State Plane Coordinate System, South Central Zone (NAD 83).
- This property is located in Park Sector number 18.
- Unless otherwise indicated, the building lines (B.L.), whether one or more, shown on this subdivision plot are established to evidence compliance with the applicable provisions of Chapter 42, Code of Ordinances, City of Houston, Texas, in effect at the time this plat was approved, which may be amended from time to time.
- If this plot is proposed to be multi-family residential, it is subject to the Parks and Open Space requirements of 42-251. A fee per unit will be assessed at the time of permitting at the then-current fee rate. If a private park is to be proposed or public park land is to be dedicated, park land reserves or land dedication must be shown on the face of plot at this time.
- Absent written authorization by the affected utilities, all utility and aerial easements must be kept unobstructed from any non-utility improvements or obstructions by the property owner. Any unauthorized improvements or obstructions may be removed by any public utility at the property owner's expense. While wooden posts and paneled wooden fences along the perimeter and back to back easements and alongside rear lots lines are permitted, they too may be removed by public utilities at the property owner's expense should they be an obstruction. Public Utilities may put said wooden posts and paneled wooden fences back up, but generally will not replace with new fencing.
- All non-perimeter easements on property lines are centered unless otherwise noted.
- This tract lies in Zone "X" (unshaded), designated as "Areas determined to be outside the 0.2% annual chance floodplain", as per the National Flood Insurance Program Panel Numbers 4815700145 L and 4815700165 L, published map revised date April 2, 2014.
- All property to drain into the drainage easement only through an approved drainage structure.
- All of the property subdivided in the foregoing plat is partially within the incorporated boundaries of the City of Houston, Texas and Houston ETJ.
- This property lies wholly within Fort Bend County.
- There are no known existing pipelines or pipeline easements within the subdivision.
- Sidewalks shall be built or caused to be built not less than 5 feet in width on both sides of all dedicated right-of-way within said plot and on the contiguous right-of-way of all perimeter roads surrounding said plot, in accordance with ADA requirements.
- The top of all floor slabs constructed hereafter shall be a minimum of 87.70 feet above mean sea level. In addition, the top of slab elevation at any point of the perimeter of the slab shall not be less than eighteen (18) inches above natural ground. Future development shall verify that slabs are at least 18" above the 100-year water surface elevation in the on-site detention pond, and 12" above the maximum ponding elevation within the parking lots and driveways.
- The drainage system for this subdivision is designed in accordance with the "City of Houston Drainage Criteria Manual" which allows street ponding with intense rainfall events.
- The Lighting Zone is LZ3.
- All drainage easements to be kept clear of fences, buildings, vegetation and other obstructions for the purpose of the operation and maintenance of the drainage facility.
- The contours shown hereon are per conditions prior to the addition of fill.
- This tract is subject to the terms, conditions and provisions as set out by the "Regulations of Fort Bend County for the Placement of Signs Visible from the Main-Traveled Way of a Toll Road", as adopted by Commissioner Court on January 24, 2006, and as amended on August 27, 2013.
- Ownership and maintenance for the On-site Detention Facility will be the responsibility of the present owner.

SUGAR LAND FUTURE HOLDING, LLC
CALLED 6.035 ACRES
F.B.C.C.F. NO. 2016101254

X: 3,039,962.99
Y: 13,803,358.23
SET 5/8" IR
W/CAP

S 02°20'57" E
45.60'

S 87°39'03" W
249.52'

HUNG-THUY INVESTMENTS, INC.
CALLED 2.234 ACRES
F.B.C.C.F. NO. 2004042873
DESCRIBED UNDER
F.B.C.C.F. NO. 2002078492

ANTONIO FRANCO AND
IRENE MARTINEZ LUNA
CALLED 0.00 ACRES
F.B.C.C.F. NO. 2005148809

MAURILIO GUTIERREZ
CALLED 2.00 ACRES
F.B.C.C.F. NO. 1999007051

10' HARRIS-FORT BEND
TELEPHONE CO. ESMT.
VOL. 323, PG. 177 F.B.C.D.R.

10' UTILITY ESMT.
VOL. 474, PG. 374 F.B.C.D.R.

COUNTY OF FORT BEND
CALLED 9,750 SQ. FT.
F.B.C.C.F. NO. 2009018146

RESERVE "C"
27,106 SQ. FT.
0.62 ACRE

SARENTO VILLAGE (50' R.O.W.)
SLIDE NO. 1729A F.B.C.M.R.

ELDRIDGE PARK VILLAGE,
SECTION ONE
SLIDE NO. 1729A F.B.C.M.R.

PROVISION AT WEST BELLFORT



27 PGS
PLAT ATTACH
2017062894

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS

Laura Richard
County Clerk
Fort Bend County, Texas
July 25, 2017 02:58:54 PM
FEE: \$344.00 ER
PLAT

A SUBDIVISION OF 11.22 ACRES OF LAND
LOCATED IN THE
BENJAMIN GEORGE SURVEY, ABSTRACT NUMBER 175
CITY OF HOUSTON, FORT BEND COUNTY, TEXAS

~1 BLOCK ~1 RESERVE

OWNER:

PROVISION AT WEST BELLFORT, LP
4803 SOUTH NATIONAL, SUITE 200
SPRINGFIELD, MISSOURI 65810
417-447-5538

SURVEYOR:

TERRA SURVEYING COMPANY, INC.
3000 WILCREST DRIVE, SUITE 210
HOUSTON, TEXAS 77042
(713) 993-0327

DATE: JUNE, 2017 SCALE: 1" = 60' PROJECT NO.: 1851-1615- P

May 11/2017

ABBREVIATIONS
AC. Acres
ADJ. Adjoining
A.E. Aerial easement
B.L. Building setback line
C.F.N. Clerk's File Number
D.R.F.B.C. Deed Records of Fort Bend County
ESMT. Easement
FND. Found
GND. Ground
H&AP. Houston Lighting & Power
I.R. Iron rod
NO. Number
O.P.R.F.B.C. Official Public Records of Fort Bend County
PG. Page
P.F.B.C. Plat Records of Fort Bend County
R.O.W. Right-of-way
SET. Set
SQ. FT. Square feet
U.E. Utility easement
VOL. Volume
W. With
W.L.E. Waterline easement
WTR. Waterline

GENERAL NOTES:

- 1) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE DEMOLITION PERMIT FROM CITY OF HOUSTON PRIOR TO DEMOLITION OF THE SITE.
- 2) ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY WORK INCLUDING DEMOLITION.
- 3) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- 4) THE CONTRACTOR SHALL REMOVE SHRUBS AND TREES AS NOTED. GRUB OUT ROOTS AND STUMPS AND LEGALLY DISPOSE OF DEBRIS.
- 5) THE CONTRACTOR SHALL COORDINATE WITH THE LANDOWNER AND REMOVE ALL DEBRIS PRESENT ON-SITE PRIOR TO LAND DISTURBANCE AND LEGALLY DISPOSE OF ALL DEBRIS.

DEMOLITION NOTES:

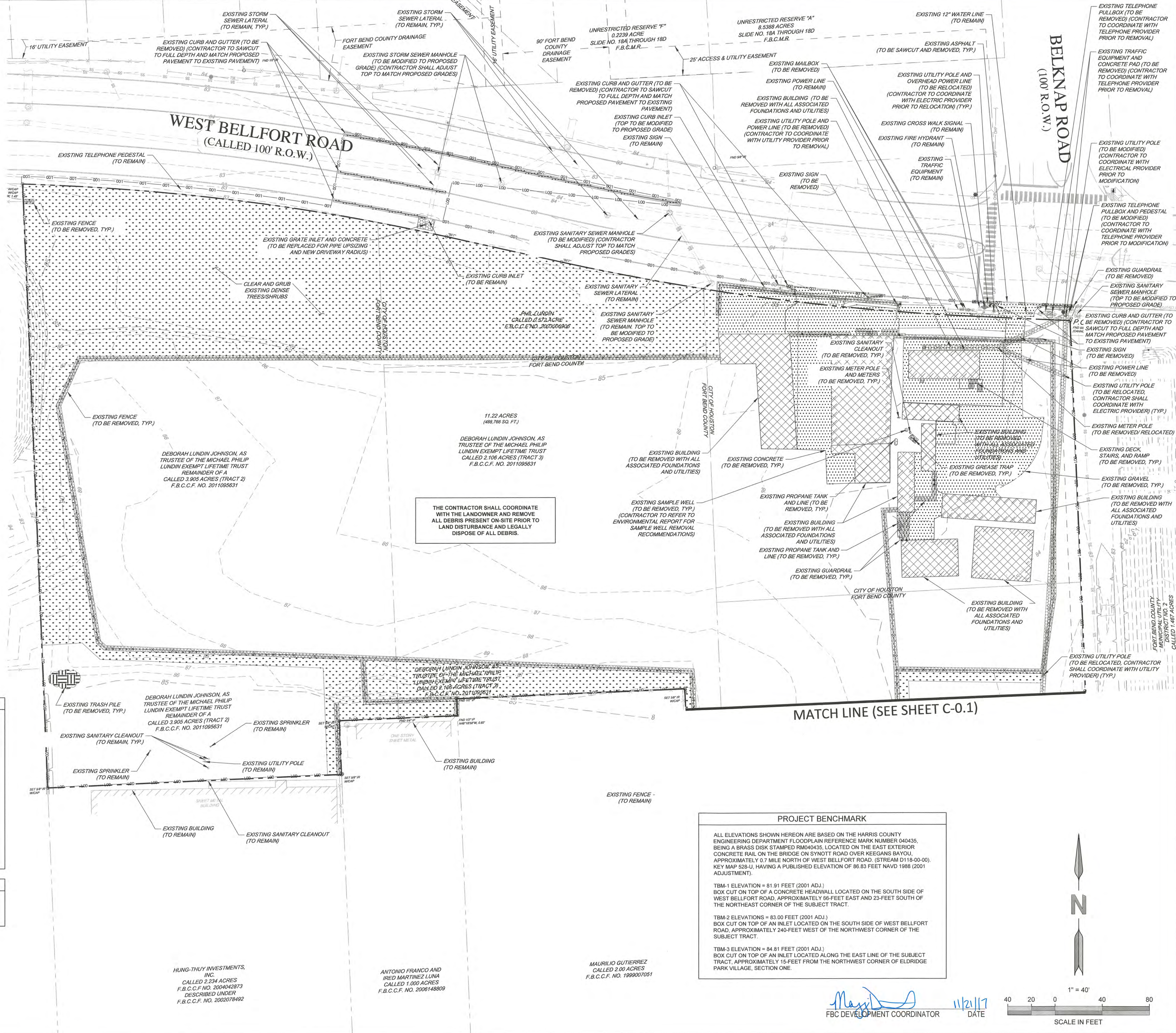
- 1) ALL NEW WORK SHOWN IN THESE SHEETS SHALL COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL BUILDING AND UTILITY INSTALLATION CODES.
- 2) ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH TxDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES EXCEPT IN CASES WHERE, WITHIN FORT BEND COUNTY JURISDICTION, THE COUNTY STANDARD SPECIFICATIONS ARE MORE STRINGENT.
- 3) THERE MAY BE ADDITIONAL UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND TO NOTIFY THE OWNER IN CASE OF DISCREPANCIES THAT AFFECT THE CONSTRUCTION PROJECT.
- 4) THE CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATION AND RELOCATION OF AND TIE-IN TO PUBLIC UTILITIES.
- 5) THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR TO ANY ADJACENT STRUCTURES OR PROPERTY, OR ANY EXISTING STRUCTURES WITHIN LIMITS OF CONSTRUCTION THAT ARE DESIGNATED ON THE PLANS TO REMAIN, AND SHALL REPAIR OR REPLACE SUCH DAMAGED PROPERTY TO THE PROPERTY OWNER'S SATISFACTION AT NO COST TO THE OWNER.
- 6) THE CONTRACTOR SHALL NOT DEVIATE FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER.
- 7) THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING CITY OF HOUSTON AND ALL EXISTING UTILITY PROVIDERS BEFORE REMOVING ANY/ALL UTILITIES FROM THEIR EXISTING LOCATION ON THE SITE. THE CONTRACTOR SHALL PERFORM ALL UTILITY DEMOLITION OR RELOCATION ACTIVITIES IN ACCORDANCE WITH THE EXISTING UTILITIES SPECIFICATIONS, MATERIALS, AND REQUIREMENTS.
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- 10) THE CONTRACTOR EQUIPMENT SHALL NOT BE PARKED IN COUNTY, CITY OR STATE RIGHT-OF-WAY, AND MUST BE STORED WITHIN SITE.
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- 12) APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY CITY OF HOUSTON OF ANY LAND DISTURBING ACTIVITIES WITHIN ITS JURISDICTION. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
- 13) ALL BUFFERS AND SAVE AREAS SHALL BE CLEARLY IDENTIFIED BY FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
- 14) THE CONTRACTOR SHALL DISPOSE OF ANY HAZARDOUS MATERIALS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
- 15) ALL ITEMS DESIGNATED FOR REMOVAL SHALL BE LEGALLY DISPOSED OF, OFF SITE.
- 16) THE CONTRACTOR SHALL CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION.
- 17) THE CONTRACTOR SHALL POT HOLE EXISTING WATER LINE, UNDERGROUND ELECTRICAL LINES, GAS LINE, UNDERGROUND TELEPHONE, FIBER OPTIC, AND ANY OTHER UTILITY LINES WITHIN THE RIGHT OF WAY DURING DEMOLITION ACTIVITIES AND COORDINATE FIELD LOCATIONS AND DEPTHS OF THESE UTILITIES WITH ENGINEER FOR PROPOSED UTILITY CROSSINGS AND PROPOSED PAVEMENT OVER EXISTING LINES. THESE LINES MAY REQUIRE RELOCATION.

EROSION CONTROL NOTES
(SEE ALSO EROSION CONTROL PLAN)

- 1) EROSION CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CLEARING OR EARTHWORK OPERATIONS AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ALL DISTURBED AREAS.
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- 4) THE CONTRACTOR SHALL BE FAMILIAR WITH AND FOLLOW ALL RECOMMENDATIONS GIVEN BY TERRACON CONSULTANTS, INC. IN THE PHASE I REPORT DATED 02/24/2016 AND GEOTECHNICAL REPORT BY EGS TEXAS, LLP DATED 01/16/2017 DURING DEMOLITION AND SITE CONSTRUCTION.

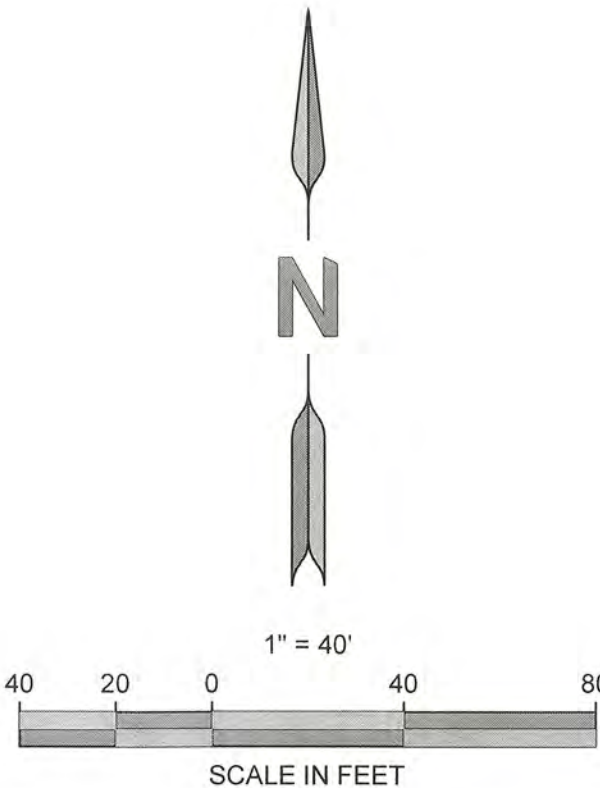
LEGEND	
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	FENCE, GUARDRAIL, AND/OR WALL TO BE REMOVED
	BUILDING AND/OR SIGN TO BE REMOVED
	ASPHALT, GRAVEL, CONCRETE, AND/OR CURB & GUTTER TO BE REMOVED
	DENSE TREES/SHRUBS TO BE REMOVED
	MISCELLANEOUS TO BE REMOVED
	EXISTING FENCE
	PROPERTY LINE
	LIMITS OF DISTURBANCE

EXISTING SITE DATA	
TOTAL SITE AREA =	11.22 AC.
EXISTING PERVIOUS AREA =	10.23 AC.
EXISTING IMPERVIOUS AREA =	0.99 AC.



PROJECT BENCHMARK	
ALL ELEVATIONS SHOWN HEREON ARE BASED ON THE HARRIS COUNTY ENGINEERING DEPARTMENT FLOODPLAIN REFERENCE MARK NUMBER 040435, BEING A BRASS DISK STAMPED RM040435, LOCATED ON THE EAST EXTERIOR CONCRETE RAIL ON THE BRIDGE ON SYNOTT ROAD OVER KEEGANS BAYOU, APPROXIMATELY 0.7 MILE NORTH OF WEST BELLFORT ROAD, (STREAM D118-00-00), KEY MAP 528-U, HAVING A PUBLISHED ELEVATION OF 86.83 FEET NAVD 1988 (2001 ADJUSTMENT).	
TBM-1 ELEVATION = 81.91 FEET (2001 ADJ.) BOX CUT ON TOP OF A CONCRETE HEADWALL LOCATED ON THE SOUTH SIDE OF WEST BELLFORT ROAD, APPROXIMATELY 66-FEET EAST AND 23-FEET SOUTH OF THE NORTHEAST CORNER OF THE SUBJECT TRACT.	
TBM-2 ELEVATIONS = 83.00 FEET (2001 ADJ.) BOX CUT ON TOP OF AN INLET LOCATED ON THE SOUTH SIDE OF WEST BELLFORT ROAD, APPROXIMATELY 240-FEET WEST OF THE NORTHWEST CORNER OF THE SUBJECT TRACT.	
TBM-3 ELEVATION = 84.81 FEET (2001 ADJ.) BOX CUT ON TOP OF AN INLET LOCATED ALONG THE EAST LINE OF THE SUBJECT TRACT, APPROXIMATELY 15-FEET FROM THE NORTHWEST CORNER OF ELDRIDGE PARK VILLAGE, SECTION ONE.	

11/21/17
FBC DEVELOPMENT COORDINATOR
DATE



ENGINEER:

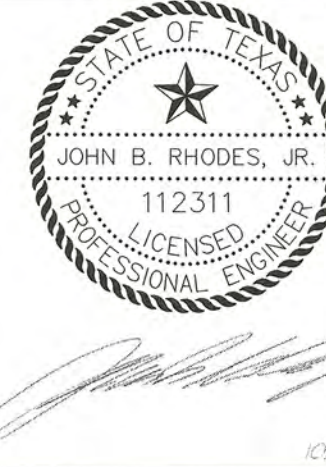
FORESITE
group
TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
o | 214.939.7123
f | 888.765.8135
w | www.fg-inc.net
D/B/A Foresite Consulting Group of Texas, Inc.

DEVELOPER:

GARDNER CAPITAL
2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

DEMOLITION PLAN

SHEET NUMBER:

C-0

COMMENTS:

JOB/FILE NUMBER:

693.009

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LEGEND

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	BUILDING AND/OR SIGN TO BE REMOVED
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	LIMITS OF DISTURBANCE

EXISTING SITE DATA

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EXISTING PERVIOUS AREA =	10.23 AC.
EXISTING IMPERVIOUS AREA =	0.99 AC.



Know what's below
Call before you dig

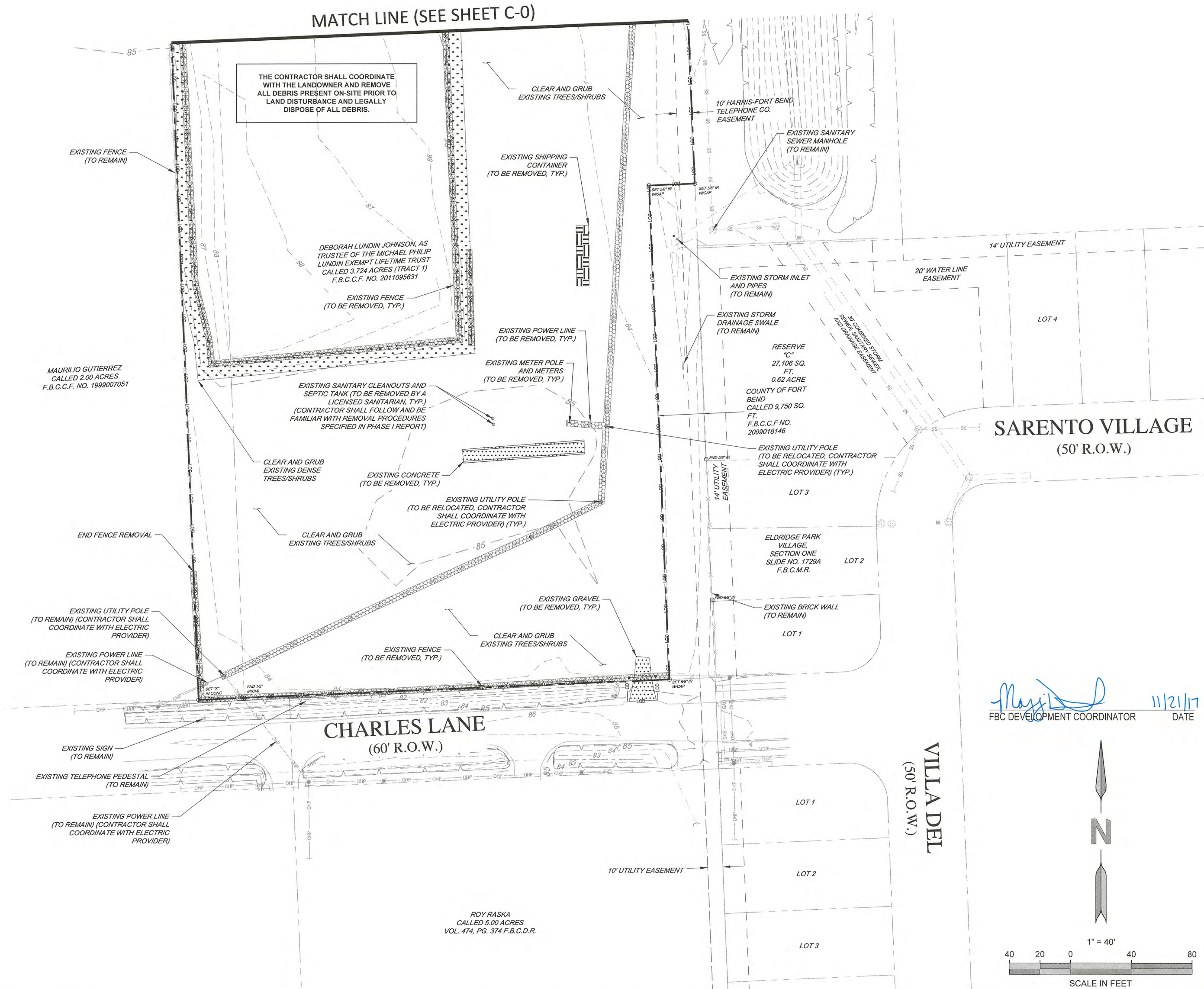
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BOX CUT ON TOP OF A CONCRETE HEADWALL LOCATED ON THE SOUTH SIDE OF WEST BELLFORT ROAD, APPROXIMATELY 66-FEET EAST AND 23-FEET SOUTH OF THE NORTHEAST CORNER OF THE SUBJECT TRACT.

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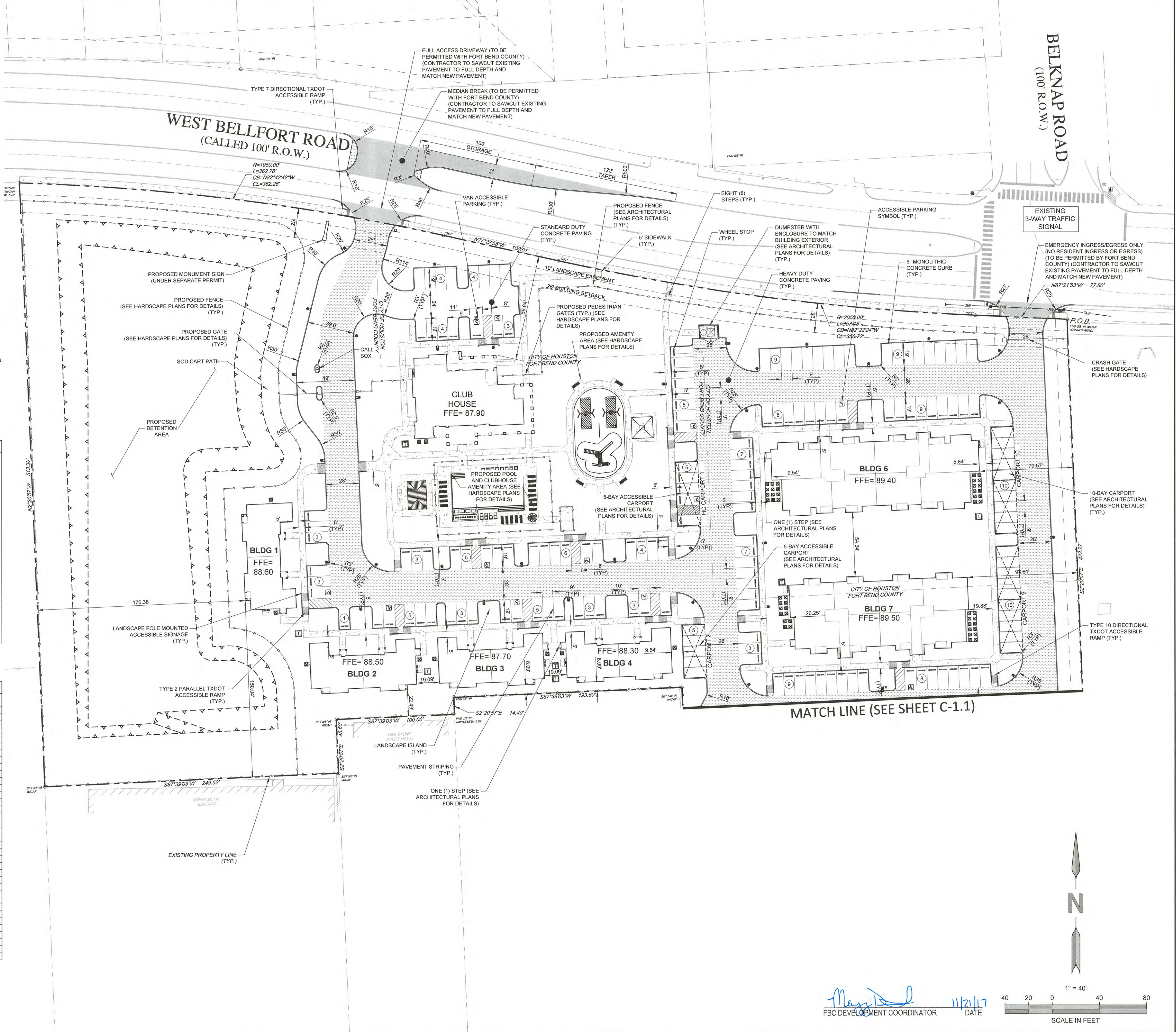


GENERAL NOTES:

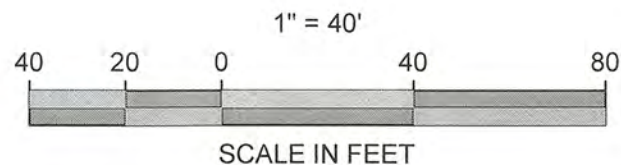
- 1) ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED PARKING LOT ARE SHOWN AT THE FACE OF CURB. ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED BUILDING LOCATION ARE GIVEN AT THE OUTSIDE FACE OF THE BUILDING CORNERS. ALL CURB RADI ARE GIVEN AT THE FACE OF CURB.
 - 2) THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH ANY NEW CONSTRUCTION.
 - 3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES.
- SITE NOTES:
- 1) TRACT IS ZONED: NO ZONING (CITY OF HOUSTON DOES NOT MAINTAIN A ZONING ORDINANCE)
 - 2) SEE ARCHITECTURAL PLANS FOR BUILDING FLOOR PLAN DIMENSIONS, DOOR LOCATIONS, SITE LIGHTING PLAN, AND OTHER ARCHITECTURAL DETAILS.
 - 3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ON THE SITE.
 - 4) HIGH INTENSITY LIGHTING FACILITIES SHALL BE SO ARRANGED THAT THE SOURCE OF ANY LIGHT IS CONCEALED FROM THE PUBLIC VIEW AND DOES NOT INTERFERE WITH TRAFFIC. (SEE PHOTOMETRICS PLAN IN ARCHITECTUAL PLANS).
 - 5) ALL BUFFERS, TREE SAVE AREAS, AND UNDISTURBED AREAS SHALL BE CLEARLY IDENTIFIED BY FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
 - 6) NO OUTSIDE STORAGE IS PROPOSED. THIS INCLUDES SUPPLIES, VEHICLE, EQUIPMENT, PRODUCTS, ETC.
 - 7) SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THIS DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ON-SITE SIGNAGE.
 - 8) ALL PAVEMENT MARKING WITHIN FORT BEND COUNTY RIGHT-OF-WAY SHALL BE THERMOPLASTIC AND ACCORDING TO TXDOT SPECIFICATIONS.
 - 9) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF THE OWNER, HOWEVER A CONTRACTOR/DEVELOPER CAN DO PERMITTING WITH AGENT AUTHORIZATION.
 - 10) CONSTRUCTION TRAILERS ARE TO BE PERMITTED THROUGH THE PERMITTING OFFICE OF CITY OF HOUSTON.
 - 11) ALL EROSION, SEDIMENT CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY GRADING.
 - 12) MAXIMUM CUT OR FILL SLOPE=2H:1V
 - 13) CITY OF HOUSTON ACCEPTS NO RESPONSIBILITY FOR THE AMERICANS WITH DISABILITIES ACT (ADA), EXCEPT FOR NOTIFICATION REQUIREMENT. THE OWNER/DEVELOPER IS SOLELY RESPONSIBLE FOR COMPLIANCE FOR SAID ACT.
 - 14) 24 HOUR CONTACT: MR. JOHN B. RHODES, JR., PE, (214) 939-7123
 - 15) THE CONTRACTOR SHALL COORDINATE WITH THE CITY/COUNTY JURISDICTION, WATER AND SEWER JURISDICTION, AND DEPARTMENT OF TRANSPORTATION INSPECTORS REGARDING ALL CERTIFICATE OF OCCUPANCY REQUIREMENTS AND COORDINATE WITH THE ENGINEER APPROXIMATELY 8 WEEKS PRIOR TO ANTICIPATED CERTIFICATE OF OCCUPANCY DATE REGARDING ANY ITEMS REQUIRING APPROVAL OR CERTIFICATIONS BY THE ENGINEER.

LEGEND	
	STANDARD DUTY CONCRETE PAVING
	5" THICK PORTLAND CEMENT WITH SUBGRADE
	HEAVY DUTY CONCRETE PAVING
	6" THICK PORTLAND CEMENT WITH SUBGRADE
	DUMPSTER AREA CONCRETE PAVING
	8" THICK PORTLAND CEMENT WITH SUBGRADE
	CONCRETE SIDEWALK PAVING
	FORT BEND COUNTY SPECIFICATION PAVING
	PROPERTY LINE
	PARKING COUNT
	TRAFFIC SIGN
	FENCE LINE

SITE DATA	
ZONING:	NO ZONING (CITY OF HOUSTON DOES NOT MAINTAIN A ZONING ORDINANCE)
FUTURE LAND USE DESIGNATION:	NOT SPECIFIED
PARCEL IDENTIFICATION NUMBER:	R42707, R42683, R42684, R42686, R42693
TOTAL SITE AREA:	11.22 AC
PROJECT SITE AREA:	11.22 AC
DISTURBED AREA:	11.60 AC
PERVIOUS SURFACE AREA:	5.96 AC
IMPERVIOUS SURFACE AREA:	5.36 AC
OPEN SPACE AREA REQUIRED:	1.14 AC
OPEN SPACE AREA EXISTING:	10.23 AC
OPEN SPACE AREA PROPOSED:	5.86 AC
BUILDING SETBACK - FRONT:	25 FT
BUILDING SETBACK - SIDE:	0 FT
BUILDING SETBACK - REAR:	10 FT
BUILDING 'A' - #6, #7, AND #8:	3 - STORY 21,396 S.F.
BUILDING 'B' - #5:	3 - STORY 24,960 S.F.
BUILDING 'C' - #9:	3 - STORY 12,480 S.F.
BUILDING 'D' - #1, #2, #3, AND #4:	1 - STORY 2,860 S.F.
CLUBHOUSE:	1 - STORY 4,235 S.F.
PARKING RATIO REQUIRED:	ONE BEDROOM 1.33 SPACES / UNIT
PARKING RATIO REQUIRED:	TWO BEDROOMS 1.67 SPACES / UNIT
PARKING RATIO REQUIRED:	THREE OR MORE BEDROOMS 2.00 SPACES / UNIT
PARKING REQUIRED:	197 SPACES
PARKING PROVIDED:	SURFACE PARKING 229 SPACES
PARKING PROVIDED:	CARPORT PARKING 60 SPACES
PARKING PROVIDED:	TOTAL PROVIDED PARKING 289 SPACES
ACCESSIBLE PARKING REQUIRED:	7 SPACES
ACCESSIBLE PARKING PROVIDED:	16 SPACES



Magee
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
o | 214.939.7123
f | 888.765.8135
w | www.fg-inc.net
D/B/A Foresite Consulting Group of Texas, Inc.

DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

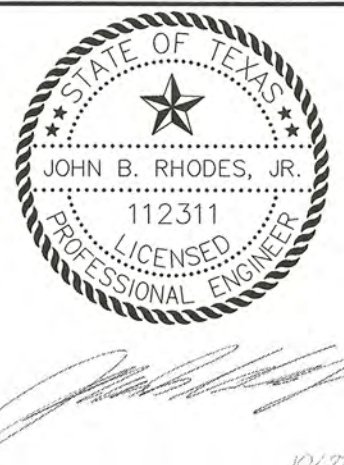
CONTACT: MR. RUBEN ESQUEDA

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	AS SHOWN

SITE & PAVING PLAN

SHEET NUMBER:

C-1

COMMENTS:

JOBFILE NUMBER:

693.009

GENERAL NOTES:

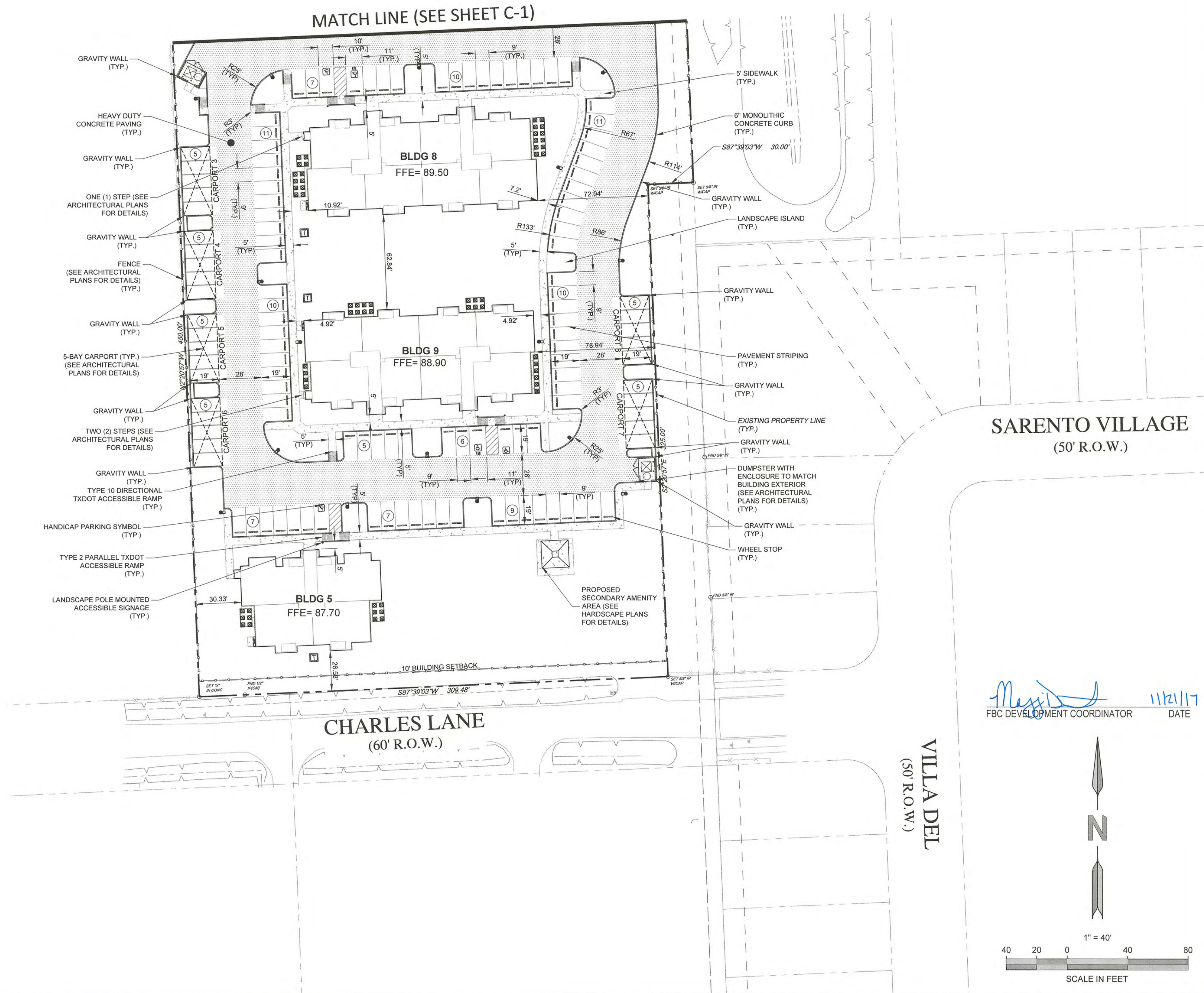
- 1) ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED PARKING LOT ARE SHOWN AT THE FACE OF CURB. ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED BUILDING LOCATION ARE GIVEN AT THE OUTSIDE FACE OF THE BUILDING CORNERS. ALL CURB RADI ARE GIVEN AT THE FACE OF CURB.
- 2) THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE SURVEY SHOWN ON THE PLANS BEFORE PROCEEDING WITH ANY NEW CONSTRUCTION.
- 3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT HORIZONTAL AND VERTICAL ALIGNMENT OF ALL TIES BETWEEN PROPOSED AND EXISTING PAVEMENTS, CURB AND GUTTER, SIDEWALKS, WALLS, AND UTILITIES.

SITE NOTES:

- 1) TRACT IS ZONED: NO ZONING (CITY OF HOUSTON DOES NOT MAINTAIN A ZONING ORDINANCE)
- 2) SEE ARCHITECTURAL PLANS FOR BUILDING FLOOR PLAN DIMENSIONS, DOOR LOCATIONS, SITE LIGHTING PLAN, AND OTHER ARCHITECTURAL DETAILS.
- 3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ON THE SITE.
- 4) HIGH INTENSITY LIGHTING FACILITIES SHALL BE SO ARRANGED THAT THE SOURCE OF ANY LIGHT IS CONCEALED FROM THE PUBLIC VIEW AND DOES NOT INTERFERE WITH TRAFFIC. (SEE PHOTOMETRICS PLAN IN ARCHITECTUAL PLANS).
- 5) ALL BUFFERS, TREE SAVE AREAS, AND UNDISTURBED AREAS SHALL BE CLEARLY IDENTIFIED BY FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
- 6) NO OUTSIDE STORAGE IS PROPOSED. THIS INCLUDES SUPPLIES, VEHICLE, EQUIPMENT, PRODUCTS, ETC.
- 7) SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THIS DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR ON-SITE SIGNAGE.
- 8) ALL PAVEMENT MARKING WITHIN FORT BEND COUNTY RIGHT-OF-WAY SHALL BE THERMOPLASTIC AND ACCORDING TO TxDOT SPECIFICATIONS.
- 9) ALL CONSTRUCTION RELATED PERMITS DURING THE CONSTRUCTION PHASE OF THIS PROJECT ARE THE RESPONSIBILITY OF THE OWNER, HOWEVER A CONTRACTOR/DEVELOPER CAN DO PERMITTING WITH AGENT AUTHORIZATION.
- 10) CONSTRUCTION TRAILERS ARE TO BE PERMITTED THROUGH THE PERMITTING OFFICE OF CITY OF HOUSTON.
- 11) ALL EROSION, SEDIMENT CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY GRADING.
- 12) MAXIMUM CUT OR FILL SLOPE=2H:1V
- 13) CITY OF HOUSTON ACCEPTS NO RESPONSIBILITY FOR THE AMERICANS WITH DISABILITIES ACT (ADA), EXCEPT FOR NOTIFICATION REQUIREMENT. THE OWNER/DEVELOPER IS SOLELY RESPONSIBLE FOR COMPLIANCE FOR SAID ACT.
- 14) 24 HOUR CONTACT: MR. JOHN B. RHODES, JR., PE, (214) 939-7123
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LEGEND	
	STANDARD DUTY CONCRETE PAVING 5" THICK PORTLAND CEMENT WITH SUBGRADE COMPACTED TO 95% ASTM D698, 3,500 PSI WITH #3 REBAR 18" O.C.E.W.
	HEAVY DUTY CONCRETE PAVING 6" THICK PORTLAND CEMENT WITH SUBGRADE COMPACTED TO 95% ASTM D698, 3,500 PSI WITH #3 REBAR 18" O.C.E.W.
	DUMPSTER AREA CONCRETE PAVING 8" THICK PORTLAND CEMENT WITH SUBGRADE COMPACTED TO 95% ASTM D698, 3,500 PSI WITH #3 REBAR 18" O.C.E.W.
	CONCRETE SIDEWALK PAVING
	FORT BEND COUNTY SPECIFICATION PAVING
	PROPERTY LINE
	PARKING COUNT
	TRAFFIC SIGN
	FENCE LINE

SITE DATA		
ZONING:	NO ZONING (CITY OF HOUSTON DOES NOT MAINTAIN A ZONING ORDINANCE)	
FUTURE LAND USE DESIGNATION:	NOT SPECIFIED	
PARCEL IDENTIFICATION NUMBER:	R42707, R42683, R42684, R42686, R42693	
TOTAL SITE AREA:	11.22 AC.	
PROJECT SITE AREA:	11.22 AC.	
DISTURBED AREA:	11.60 AC.	
PERVIOUS SURFACE AREA:	5.86 AC.	
IMPERVIOUS SURFACE AREA:	5.36 AC.	
OPEN SPACE AREA REQUIRED:	1.14 AC.	
OPEN SPACE AREA EXISTING:	10.23 AC.	
OPEN SPACE AREA PROPOSED:	5.86 AC.	
BUILDING SETBACK - FRONT:	25 FT	
BUILDING SETBACK - SIDE:	0 FT	
BUILDING SETBACK - REAR:	10 FT	
BUILDING 'A' - #6, #7, AND #8	3 - STORY	21,395 S.F.
BUILDING 'B' - #9	3 - STORY	24,950 S.F.
BUILDING 'C' - #9	3 - STORY	12,480 S.F.
BUILDING 'D' - #1, #2, #3, AND #4	1 - STORY	2,850 S.F.
CLUBHOUSE	1 - STORY	4,235 S.F.
PARKING RATIO REQUIRED:	ONE BEDROOM	1.33 SPACES / UNIT
	TWO BEDROOMS	1.67 SPACES / UNIT
	THREE OR MORE BEDROOMS	2.00 SPACES / UNIT
PARKING REQUIRED:		197 SPACES
PARKING PROVIDED:	SURFACE PARKING	229 SPACES
	CARPORT PARKING	60 SPACES
	TOTAL PROVIDED PARKING	289 SPACES
ACCESSIBLE PARKING REQUIRED:		7 SPACES
ACCESSIBLE PARKING PROVIDED:		16 SPACES



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
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Suite 890
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o | 214.939.7123
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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT: PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
112311
LICENSED PROFESSIONAL ENGINEER

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	AS SHOWN

SITE & PAVING PLAN

SHEET NUMBER: C-1.1

COMMENTS:

JOB/FILE NUMBER: 693.009

GENERAL NOTES:

- 1) ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED PARKING LOT ARE SHOWN AT THE FACE OF CURB. ALL PROPOSED DIMENSIONS USED TO SHOW THE GEOMETRIC LAYOUT OF THE PROPOSED BUILDING LOCATION ARE GIVEN AT THE OUTSIDE FACE OF THE BUILDING CORNERS. ALL CURB RADII ARE GIVEN AT THE FACE OF CURB.
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SITE NOTES:

- 1) TRACT IS NOT ZONED (THE CITY OF HOUSTON DOES NOT MAINTAIN ZONING ORDINANCE)
- 2) SEE ARCHITECTURAL PLANS FOR BUILDING FLOOR PLAN DIMENSIONS, DOOR LOCATIONS, SITE LIGHTING PLAN, AND OTHER ARCHITECTURAL DETAILS.
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- 16) THIS SUBDIVISION HAS A PRIVATE WATER SYSTEM. IT IS NOT A PUBLIC WATER SYSTEM, NOR WILL IT BE CONSTRUCTED WITH ANY PUBLIC FUNDS. THE WATER LINE AND FIRE HYDRANTS THAT WILL SERVE THIS SUBDIVISION ARE PRIVATE AND WILL BE MAINTAINED BY THE OWNER AND/OR OWNER'S MANAGEMENT ASSOCIATION.

LEGEND

- STANDARD DUTY CONCRETE PAVING
- HEAVY DUTY CONCRETE PAVING
- CONCRETE SIDEWALK PAVING
- FORT BEND DRIVEWAY PAVING
- PROPERTY LINE
- PARKING COUNT
- TRAFFIC SIGN
- FIRE HOSE LAY
- 5' UNOBSTRUCTED CLEAR ZONE AROUND BUILDING

Chapter 42 Section 230 Project Information

Number of separate buildings: 10 Number of stories: 3 Height of building: 32'

Total Number of Dwelling Units: 116 / Total Acreage of Development: 11.22 = Density: 10.34 DU/AC

Chapter 42 Section 234 Dwelling Units & Parking Analysis

Dwelling Units & Parking Information:	Total each use	Required each use	Provided each use
Efficiency	0	0	0
One bedroom	18	24	24
Two bedroom	72	120	228
Three or more bedroom	0	0	0
Special Residential Use	0	0	0
Redemption Community with kitchen(s)	0	0	0
Redemption Community without kitchen(s)	0	0	0
Total Parking:		180	252
Total ADA:		7	15
Number of Loading Berths:	0	0	0

Chapter 42 Section 236 Open Space

(For Multi Family Residential Developments in the ETJ Only)

For the purpose of this section, "open space" shall mean land within the multi-family residential development that is not covered by buildings, covered walkways, parking spaces, private streets or driveways.

"In this section, site applicable reduction(s) of aggregate open space requirement pursuant to Chapter 42 Section 236 (c) 1-2) or (d) 1-2)

Development Density	Reduction in Aggregate Open Space	Dwelling Unit Size/Square Feet of Open Space Required per Dwelling Unit
30-39 units per acre	10%	Efficiency - 200
40-49 units per acre	20%	1 Bedroom - 240
50-59 units per acre	30%	2 Bedroom - 320
60 units per acre or more	40%	3 Bedroom - 440
Proposed Units		Required Open Space (square feet)
Efficiency Units	0	0
1 Bedroom Units	18	4,320
2 Bedroom Units	72	29,040
3 Bedroom Units	0	11,440
Total Required Open Space (square feet)		34,800
Total Provided Open Space (square feet)		252,451

Chapter 42 Section 253 Parks Fees

1) No land is being established as Private Park or dedicated to the Public for Park purposes; 2) No building permit or other permit, except permits for construction of public improvements will be issued by the City of Houston, Texas, for construction within the subdivision until such time as the funds required under provisions of Section 42-253 of the Code of Ordinances of the City of Houston, Texas, has been submitted and accepted by the City; 3) This property is located in Park Sector 18; 4) This percentage is 100% shall be applied to the then current fee in lieu of dedication; 5) The then current fee in lieu of dedication shall be applied to this number 116, of dwelling units.

I hereby certify that the information provided herein is true

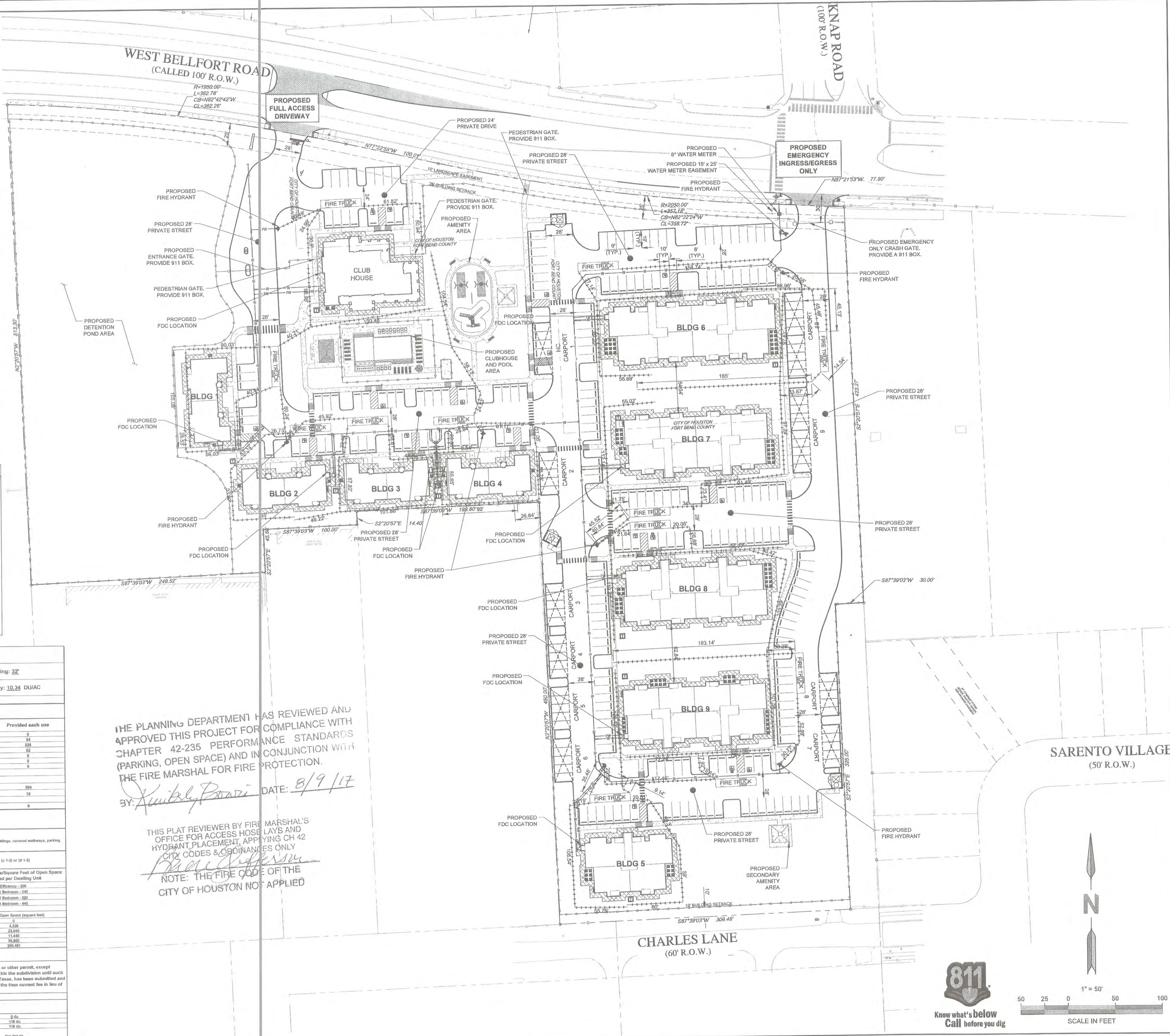
A	Number of Existing Dwelling Units	0 du
B	Number of Proposed Dwelling Units	116 du
C	Number of Incremental Dwelling Units (B-A)	116 du
Total Parks Fees to be applied to this development:		\$61,200.00

The following Parks Fees (based on the then current fee) will be collected at the time the building permit is issued for this development (current fee \$520.00)

THE PLANNING DEPARTMENT HAS REVIEWED AND APPROVED THIS PROJECT FOR COMPLIANCE WITH CHAPTER 42-235 PERFORMANCE STANDARDS (PARKING, OPEN SPACE) AND IN CONJUNCTION WITH THE FIRE MARSHAL FOR FIRE PROTECTION.

BY: *Kimberly Boaz* DATE: 8/9/17

THIS PLAT REVIEWER BY FIRE MARSHAL'S OFFICE FOR ACCESS HOSE LAYS AND HYDRANT PLACEMENT, APPLYING CH 42 CITY CODES & ORDINANCES ONLY
NOTE: THE FIRE CODE OF THE CITY OF HOUSTON NOT APPLIED



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
o | 214.939.7123
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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77488

SEAL:



REVISIONS	DATE
1) CITY COMMENTS	02-06-2017
2) CITY COMMENTS/ SITE CHANGES	07-24-2017
3) CITY COMMENTS	07-31-2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: FORT BEND COUNTY

DATE: 01-09-2017

1" = 50'

TITLE:

SITE PLAN

SHEET NUMBER:

1 OF 1

COMMENTS:

JOB/FILE NUMBER: 693.009



- 1) ALL SPOT ELEVATIONS SHOWN ARE AT THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- 2) ALL PROPOSED SIDEWALKS SHALL BE BUILT WITH A 1.5% CROSS-SLOPE AWAY FROM THE BUILDING.
- 3) ALL HEAD WALL SECTIONS SHALL BE CONSTRUCTED TO BE FLUSH WITH THE EXISTING DITCH BANK AND PROPOSED EMBANKMENT SLOPES.

- 1) THE CONTRACTOR SHALL CLEAN OUT ACCUMULATED SILT IN STORM WATER CONVEYANCE CHANNELS AND PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.
- 2) THE CONTRACTOR SHALL COORDINATE WITH CITY OF HOUSTON INSPECTIONS DURING CONSTRUCTION.
- 3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED.
- 4) THE CONTRACTOR SHALL CONSTRUCT EROSION CONTROL BARRIERS PER CITY OF HOUSTON INSPECTION AND MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- 5) THE CONTRACTOR SHALL RE-ESTABLISH ALL RIGHT OF WAY AREA WHICH IS DAMAGED OR DISTURBED TO ORIGINAL CONDITIONS OR BETTER DURING ANY AUTHORIZED WORK. ALL WORK IN CITY OF HOUSTON RIGHT OF WAY SHALL COMPLY WITH DOT SPECIFICATIONS.
- 6) ALL CURBED LANDSCAPE ISLANDS SHALL BE FILLED TO TOP OF CURB WITH TOPSOIL AND SEEDED.
- 7) MAXIMUM CUT OR FILL SLOPES IS 2H:1V.
- 8) TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING ACTIVITIES.
- 9) ALL STORM PIPE SHOWN ON THIS PLAN SHALL BE WRAPPED WITH LOCATION WIRE AND TAPE.

10) IN ALL AREAS OF FILL OR OTHERWISE DISTURBANCE OF EXISTING CONDITIONS, UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL FULLY AND COMPLETELY REMOVE AND LEGALLY DISPOSE OFF-SITE, ALL PLANT MATERIALS INCLUDING BUT NOT LIMITED TO ROOT SYSTEMS, CONCRETE, REINFORCED CONCRETE, ASPHALT DEBRIS, UNDERBRUSH, TOPSOIL, AND OTHER DELETERIOUS MATERIAL. THE SUBGRADE TO REMAIN SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY FOLLOWING FULL REMOVAL OF THESE MATERIALS.

11) THE CONTRACTOR SHALL REFER TO SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION REPORTS AS PROVIDED BY OWNER FOR RECOMMENDATIONS ASSOCIATED WITH: GENERAL SITE PREPARATION, BUILDING PAD PREPARATION, SUBGRADE PREP, AREAS TO RECEIVE FILL, AREAS TO BE OVER-EXCAVATED, PAVEMENT SECTIONS, FILL, SLOPES, ETC. THE CONTRACTOR SHALL PROVIDE A SUMMARY OF ALL TESTS AND RESULTS WITH REFERENCE AT ALL TIMES. CONTRACTOR SHALL PROVIDE EARTHWORK OPERATIONS AND CONSTRUCTION PHASE MONITORING TO ENSURE THAT ALL COMPACTION IS COMPLETED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. CONTRACTOR SHALL PROVIDE TESTING RESULTS TO THE OWNER, INCLUDING COMPACTION TESTING PER THE TESTING PROTOCOL IN THE GEOTECHNICAL REPORT.

12) COMPACTION OF FILL MATERIAL BETWEEN THE FRONT AND REAR BUILDING LINES TO BE 95% STANDARD PROCTOR MUST BE CERTIFIED BY STATE REGISTERED PROFESSIONAL SOILS ENGINEER PRIOR TO THE INSTALLATION OF CURB. THIS CERTIFICATION WILL BE SUBMITTED TO THE CHIEF DEVELOPMENT INSPECTIONS. LOTS WITH 2' OF FILL OR GREATER, AS DELINEATED ON THE CONSTRUCTION PLANS, WILL REQUIRE A COMPACTION CERTIFICATION PRIOR TO ISSUANCE OF BUILDING PERMIT. THE ENGINEER WILL ALSO PROVIDE LETTER LISTING THOSE LOTS THAT REQUIRE COMPACTION CERTIFICATION. THOSE LOTS THAT REQUIRE COMPACTION CERTIFICATION WILL BE INDICATED ON THE FINAL RECORDED PLAT.

13) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES. 24 HR. CONTACT: MR. JOHN B. RHODES, JR., PE (214) 939-7123

14) NO PORTION OF THIS PROPERTY LIES WITHIN A SPECIAL FLOOD HAZARD AREA PER
PANEL 48157C0165L DATED 04/02/2014

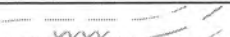

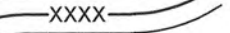




15) DETENTION FACILITIES AND EROSION CONTROL MEASURES ARE TO BE ACCOMPLISHED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

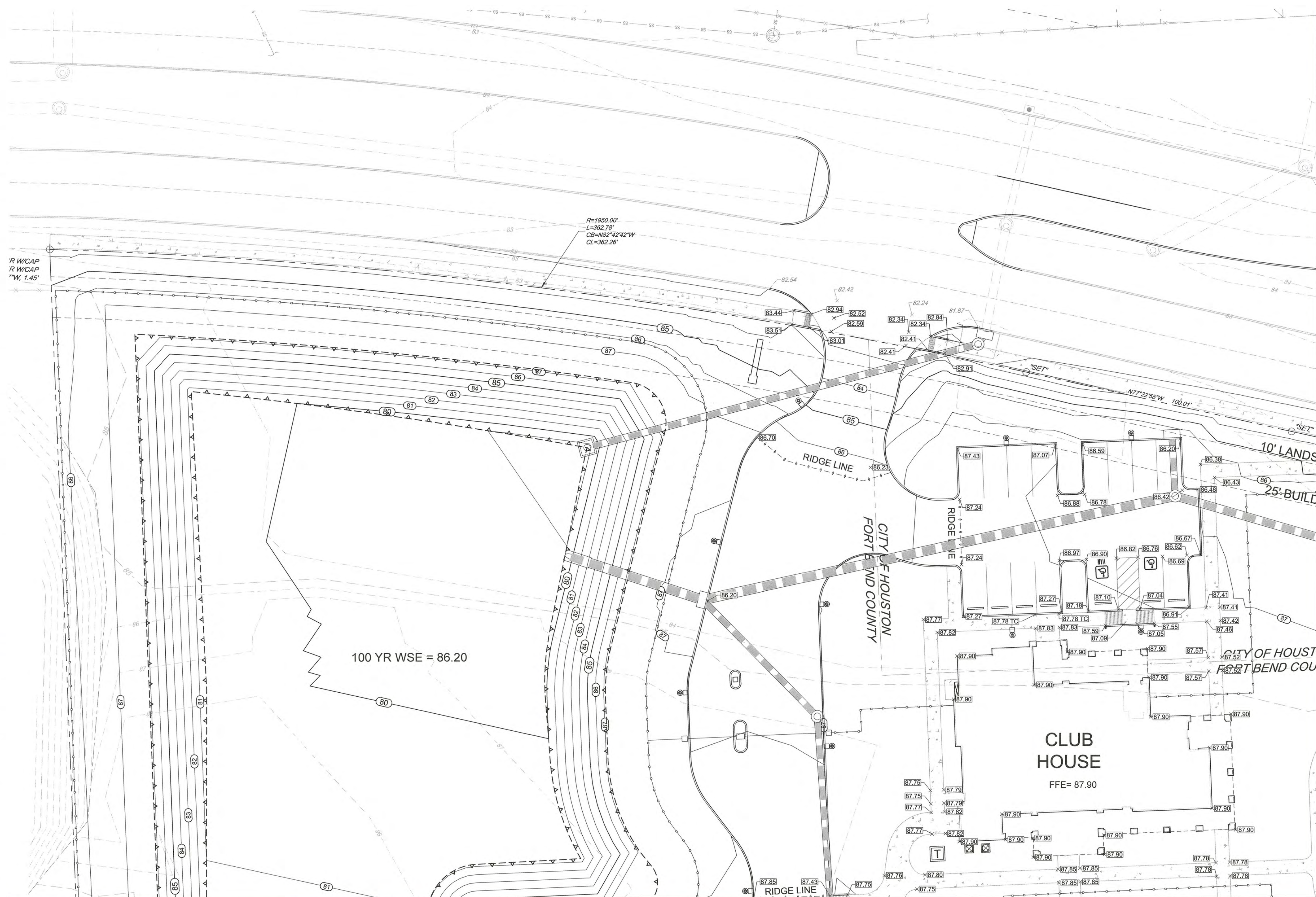
16) EXTREME CAUTION SHALL BE USED WHEN WORKING WITHIN THE VICINITY OF THE EXISTING OVERHEAD POWER LINES. CONTRACTORS SHALL NOTIFY/COORDINATE WITH CENTERPOINT ENERGY PRIOR TO CONSTRUCTION.

17) STORM WATER MANAGEMENT SHALL BE IN ACCORDANCE WITH COUNTY, STATE, AND OTHER APPROPRIATE ORDINANCES AND REGULATIONS IN EFFECT AT TIME OF CONSTRUCTION PLAN APPROVAL.

18) THE CONTRACTOR SHALL INSTALL DOWNSTREAM STORM PIPE CONNECTION IN THE RIGHT-OF-WAY PRIOR TO INSTALLATION OF ON-SITE STORM PIPING AND/OR STORM WATER DETENTION FACILITY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLING THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED INCLUDING HORIZONTAL AND VERTICAL LOCATION, AND THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT STORM DRAINAGE DESIGN.

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LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE
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	PROPOSED SPOT ELEVATION
	PROPOSED SPOT ELEVATION FOR TOP OF WALL / BOTTOM OF WALL AT FINISHED SURFACE GRADE (SEE STRUCTURAL FOR FOOTING ELEVATIONS)

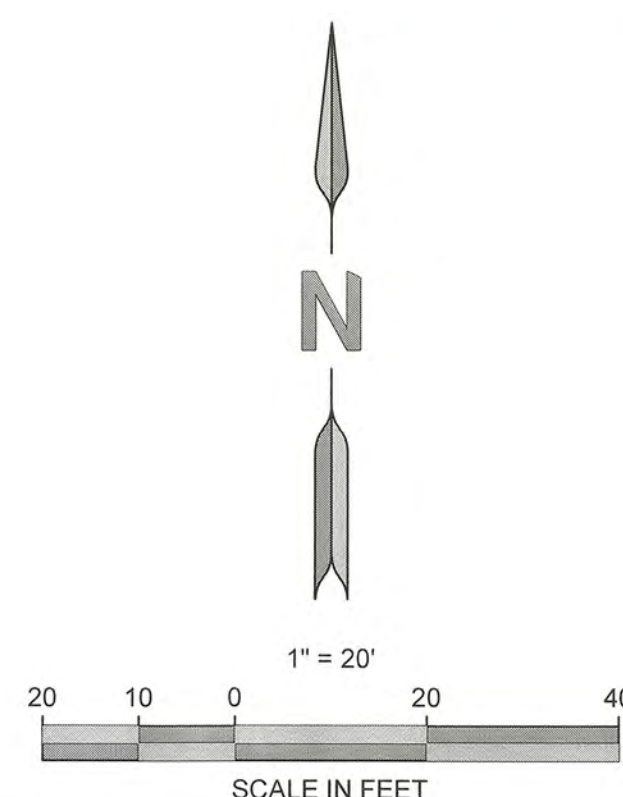


MATCH LINE (SEE SHEET C-2.1)



Maxine
FBC DEVELOPMENT COORDINATOR

11/21/17
DATE



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
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Suite 890
Dallas, TX 75201
D/B/A Foresite Consulting Group of Texas, Inc.

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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
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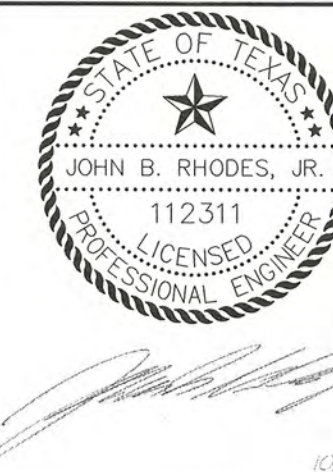
CONTACT: MR. RUBEN ESQUEDA

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVIEWS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: _____ DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

1" = 20'

TITLE: _____

GRADING PLAN

SHEET NUMBER

COMMENTS:

JOB/FILE NUMBER: 693 009

GENERAL NOTES:

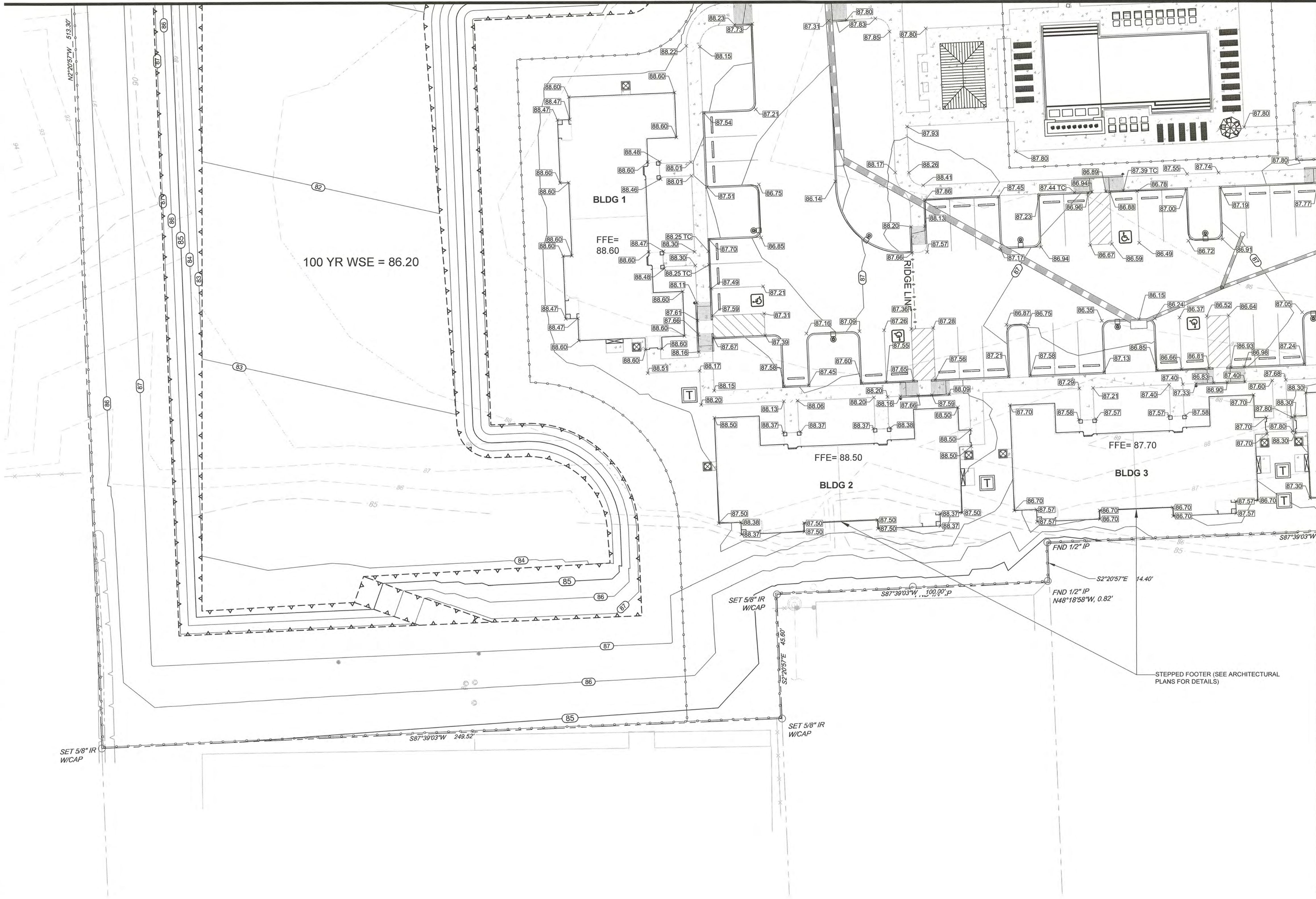
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- 3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED.
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- 6) ALL CURBED LANDSCAPE ISLANDS SHALL BE FILLED TO TOP OF CURB WITH TOPSOIL AND SEEDED.
- 7) MAXIMUM CUT OR FILL SLOPES IS 2:1V.
- 8) TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING ACTIVITIES.
- 9) ALL STORM PIPE SHOWN ON THIS PLAN SHALL BE WRAPPED WITH LOCATION WIRE AND TAPE.
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- 11) THE CONTRACTOR SHALL REFER TO SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION REPORTS AS PROVIDED BY OWNER FOR RECOMMENDATIONS ASSOCIATED WITH GENERAL SITE PREPARATION, BUILDING PAD PREPARATION, SUBGRADE PREP, AREAS TO RECEIVE FILL, AREAS TO BE OVER-EXCAVATED, PAVEMENT SECTIONS, FILL SLOPES AND EXCAVATION. CONTRACTOR SHALL HAVE THIS REPORT ON THE JOB SITE FOR REFERENCE AT ALL TIMES. CONTRACTOR SHALL PROVIDE EARTHWORK OPERATIONS AND CONSTRUCTION PHASE MONITORING TO ENSURE THAT ALL COMPACTION IS COMPLETED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. CONTRACTOR SHALL PROVIDE TESTING REPORTS TO THE OWNER REGARDING COMPACTION TESTING PER THE TESTING PROTOCOL IN THE GEOTECHNICAL REPORT.
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	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING STORM PIPE
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	PROPOSED SPOT ELEVATION
	PROPOSED SPOT ELEVATION FOR TOP OF WALL / BOTTOM OF WALL AT FINISHED SURFACE GRADE (SEE STRUCTURAL FOR FOOTING ELEVATIONS)

MATCH LINE (SEE SHEET C-2)



MATCH LINE (SEE SHEET C-2.2)

MATCH LINE (SEE SHEET C-2.3)

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
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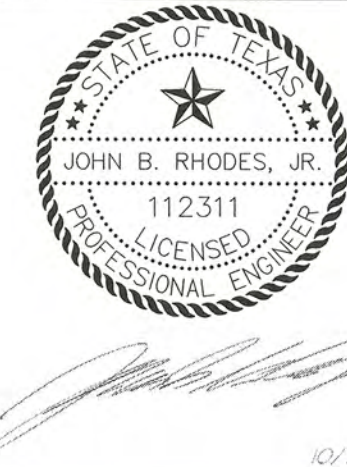
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PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 20'

GRADING PLAN

SHEET NUMBER:

C-2.1

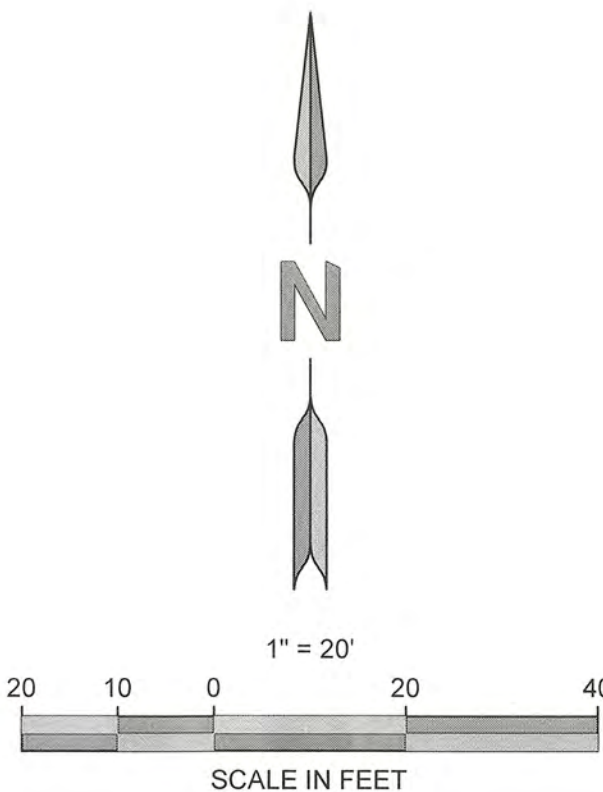
COMMENTS:

JOB/FILE NUMBER:

693.009



Maxi
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE



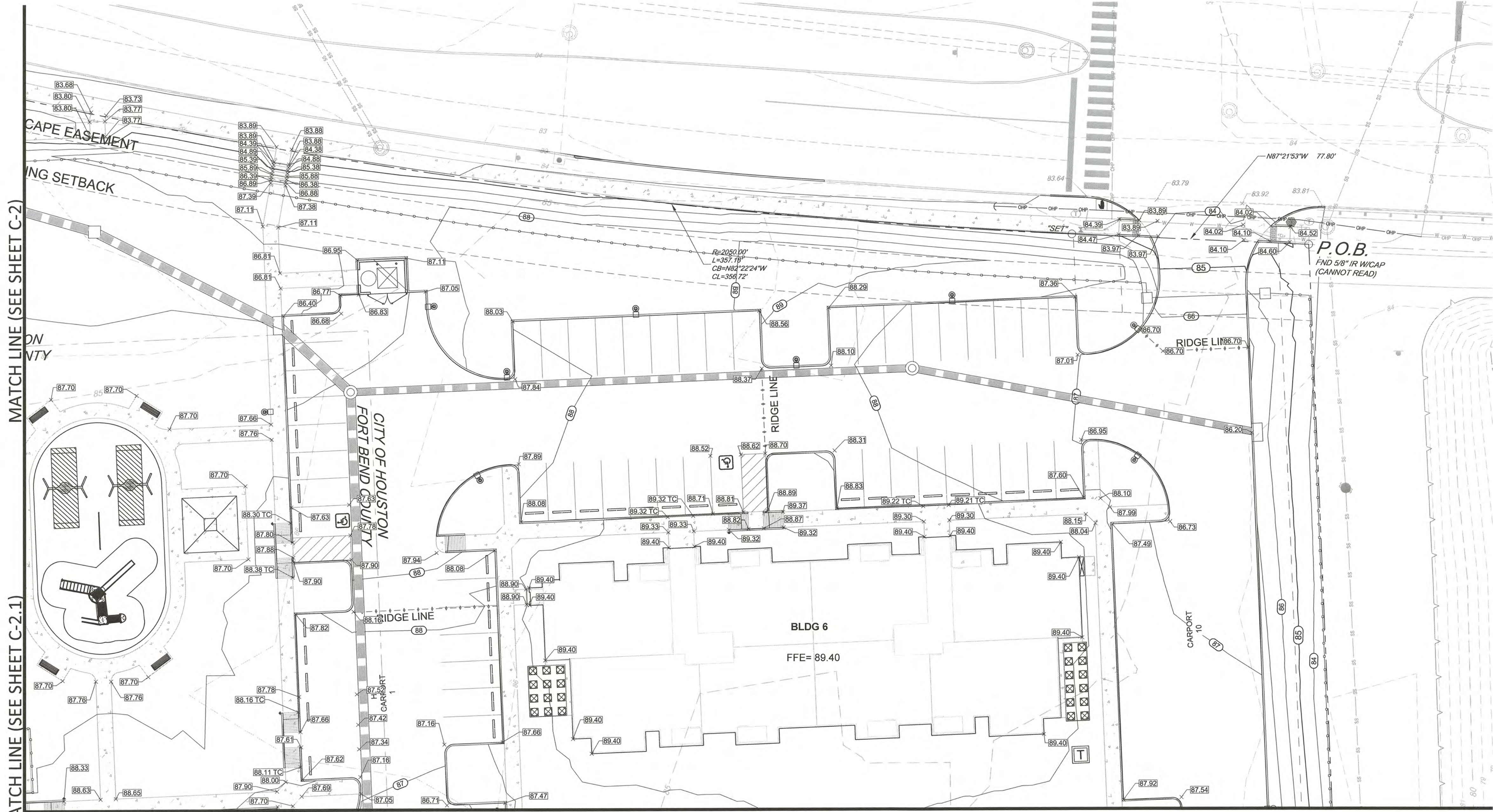
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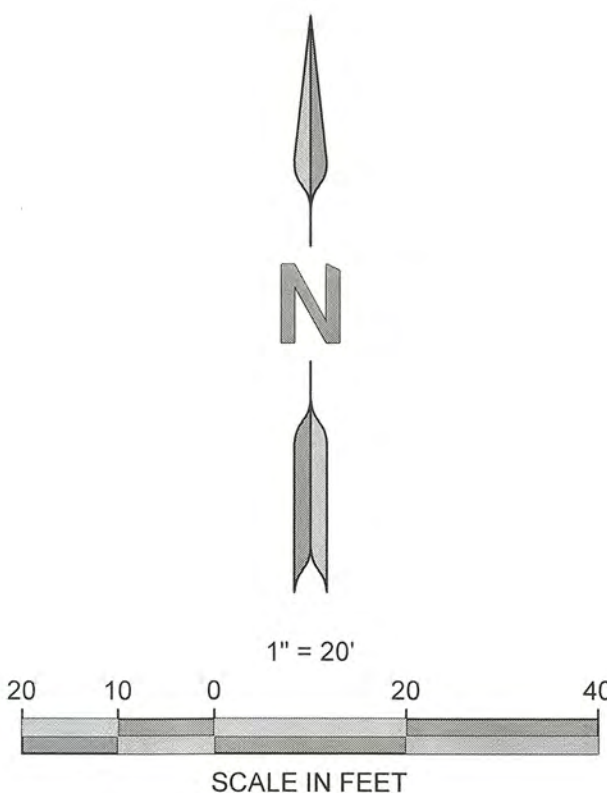
LEGEND	
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MATCH LINE (SEE SHEET C-2.3)



Max [Signature]
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE



ENGINEER:

FORESITE
group

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DEVELOPER:

GARDNER CAPITAL

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DALLAS, TEXAS 75201
(417) 447-5558

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 20'

GRADING PLAN

SHEET NUMBER:

C-2.2

COMMENTS:

JOB/FILE NUMBER: 693.009

GENERAL NOTES:

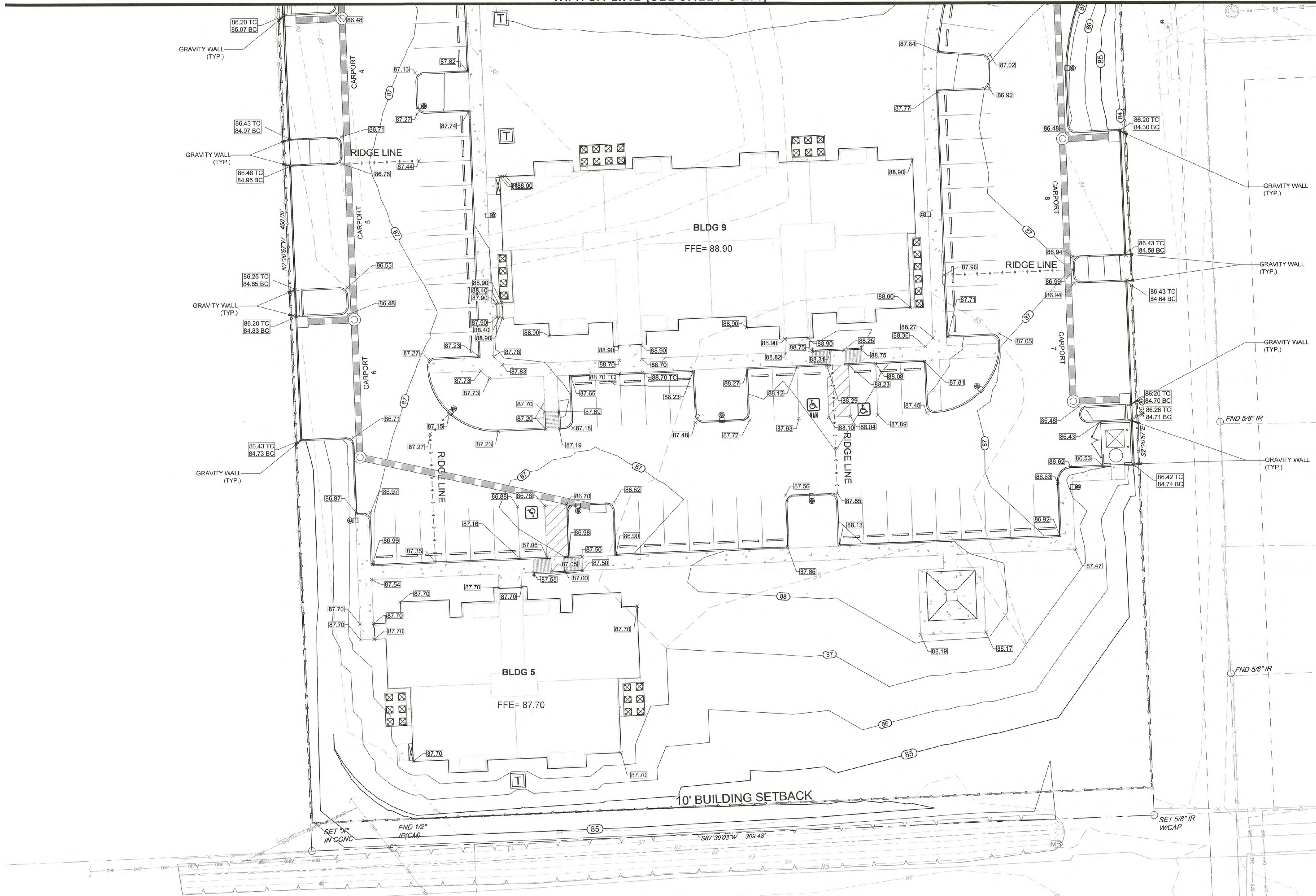
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LEGEND	
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	PROPOSED SPOT ELEVATION FOR TOP OF WALL / BOTTOM OF WALL AT FINISHED SURFACE GRADE (SEE STRUCTURAL FOR FOOTING ELEVATIONS)

MATCH LINE (SEE SHEET C-2.4)



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
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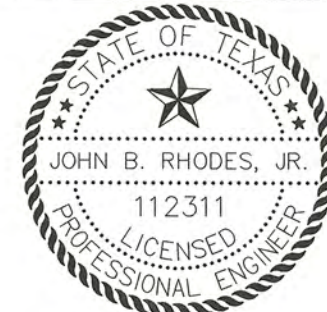
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
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GRADING PLAN

SHEET NUMBER:

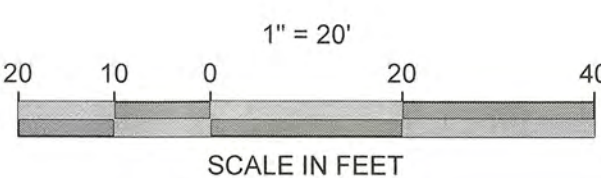
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COMMENTS:

JOB/FILE NUMBER: 693.009



Max Development Coordinator
11/21/17
DATE



LEGEND

XXXX

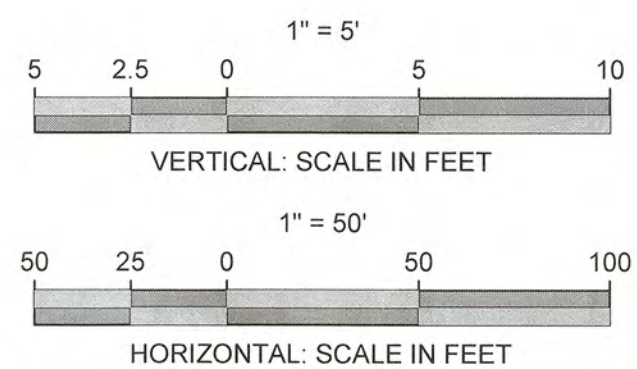
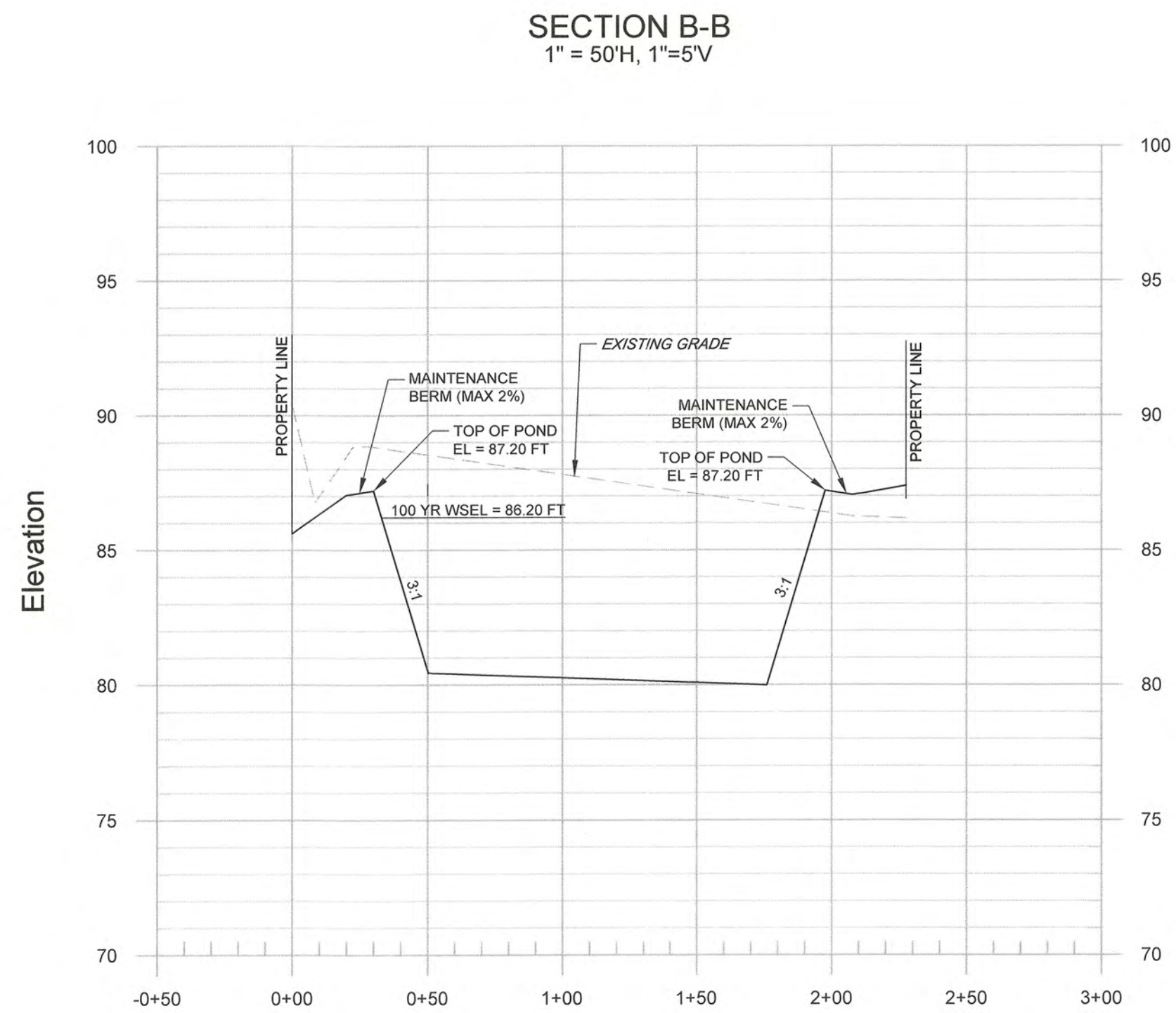
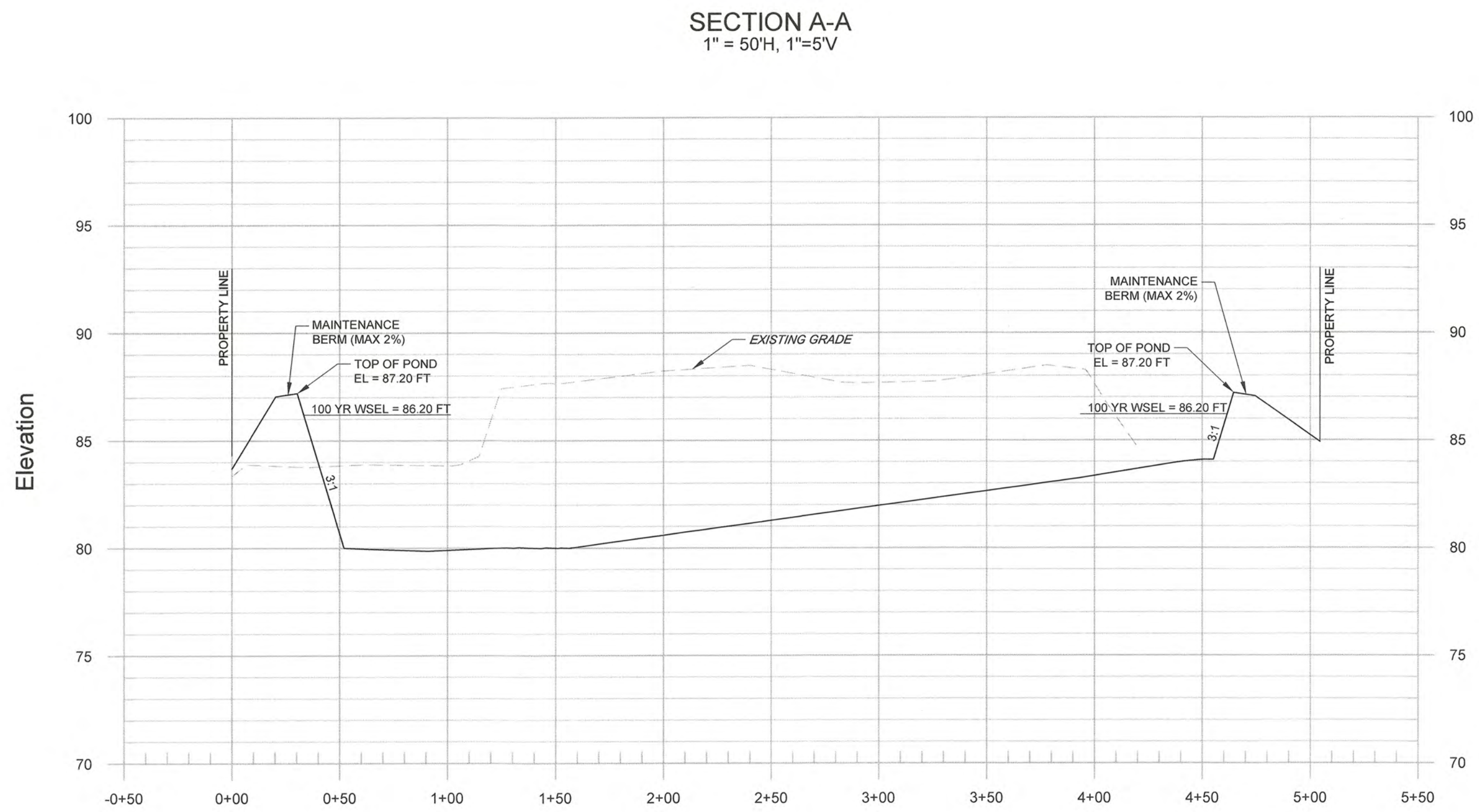
EXISTING CONTOURS

XXXX

PROPOSED CONTOURS

EXISTING STORM PIPE

PROPOSED STORM PIPE



Maggie D
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE

ENGINEER:

FORESITE

group

TBPE Firm No. F-12878

Foresite Group, Inc.

1999 Bryan St.

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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501

DALLAS, TEXAS 75201

(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELFORT

13701 W BELFORT STREET

SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS

JOHN B. RHODES, JR.

112311

PROFESSIONAL ENGINEER

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

AS SHOWN

TITLE:

DETENTION POND CROSS SECTIONS

SHEET NUMBER:

C-2.5

COMMENTS:

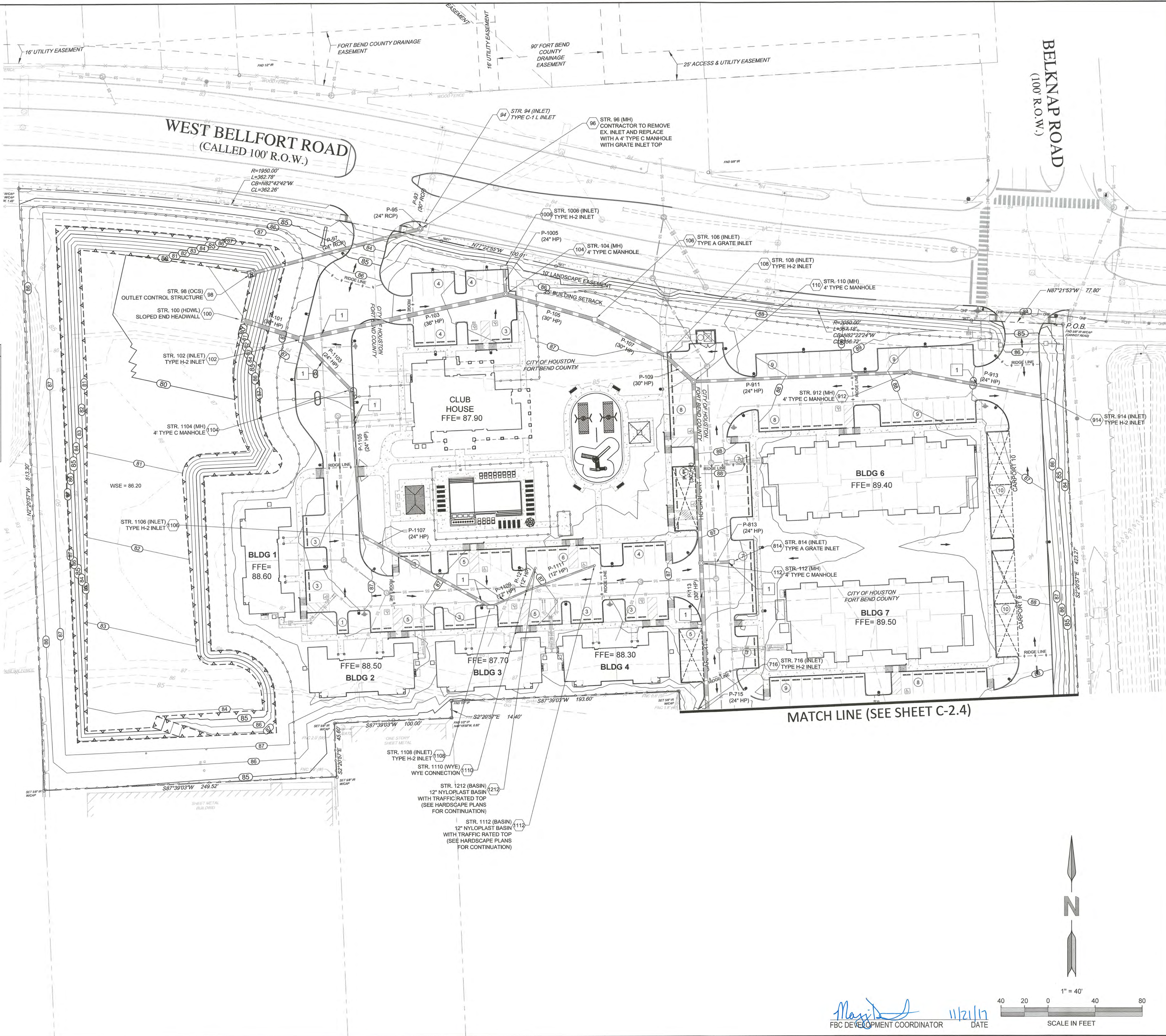
JOB/FILE NUMBER: 693.009

NOTES:

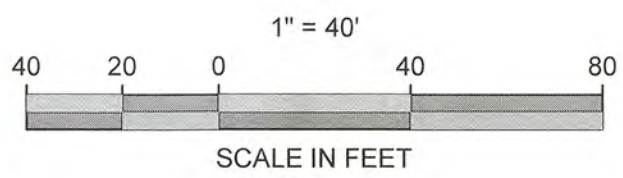
- 1) THE CONTRACTOR SHALL CLEAN OUT ACCUMULATED SILT IN STORM WATER CONVEYANCE CHANNELS AND PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.
- 2) THE CONTRACTOR SHALL COORDINATE WITH CITY OF HOUSTON INSPECTIONS DURING CONSTRUCTION.
- 3) NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED.
- 4) CONSTRUCT EROSION CONTROL BARRIERS PER THE APPROVED EROSION CONTROL PLAN, SWPPP, AND THE CITY OF HOUSTON INSPECTOR(S) AND MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- 5) THE CONTRACTOR SHALL RE-ESTABLISH ALL RIGHT OF WAY AREA WHICH IS DAMAGED OR DISTURBED TO ORIGINAL CONDITIONS OR BETTER DURING AUTHORIZED WORK. ALL WORK IN CITY OF HOUSTON RIGHT OF WAY SHALL COMPLY WITH CITY OF EULESS SPECIFICATIONS. ALL WORK IN THE TxDOT RIGHT OF WAY SHALL COMPLY WITH TxDOT SPECIFICATIONS.
- 6) ALL PLASTIC STORM PIPE SHOWN ON THIS PLAN SHALL BE WRAPPED WITH LOCATION WIRE AND TAPE.
- 7) ALL HDPE SHALL BE AASHTO TYPE "S" AND SHALL BE INSTALLED IN ACCORDANCE TO ASTM D2321 OR AASHTO SECTION 30 STANDARD PRACTICES AND AS RECOMMENDED BY THE MANUFACTURER. ALL RCP STORM PIPE SHALL BE CLASS III. ALL PVC PIPE SHALL BE SDR 35 PVC OR CONTECH A-2000 PVC PIPE WITH WATERTIGHT JOINTS.
- 8) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES. 24 HR. CONTACT: MR. JOHN B. RHODES, JR., PE (214) 939-7123
- 9) EROSION CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- 10) EXTREME CAUTION SHALL BE USED WHEN WORKING WITHIN THE VICINITY OF THE EXISTING OVERHEAD POWER LINES. CONTRACTORS SHALL NOTIFY/COORDINATE WITH CENTERPOINT ENERGY PRIOR TO CONSTRUCTION.
- 11) STORM WATER MANAGEMENT SHALL BE IN ACCORDANCE WITH COUNTY, STATE, AND OTHER APPROPRIATE ORDINANCES AND REGULATIONS IN EFFECT AT TIME OF CONSTRUCTION PLAN APPROVAL.
- 12) THE CONTRACTOR SHALL INSTALL DOWNSTREAM STORM PIPE CONNECTION IN THE RIGHT-OF-WAY PRIOR TO INSTALLATION OF ON-SITE STORM PIPING. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLEING THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION, AND THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT STORM DRAINAGE DESIGN.

LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE
	STORM STRUCTURE NUMBER
	FLOW ARROW

WATER CALLOUTS	
1	WATER CROSSING (SEE STORM DRAINAGE PROFILES FOR DETAILS)



Max D. FBC DEVELOPMENT COORDINATOR
11/21/17 DATE



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
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D/B/A Foresite Consulting Group of Texas, Inc.

DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
112311
LICENSED PROFESSIONAL ENGINEER

10/27/17

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/18/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

DRAINAGE PLAN





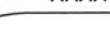

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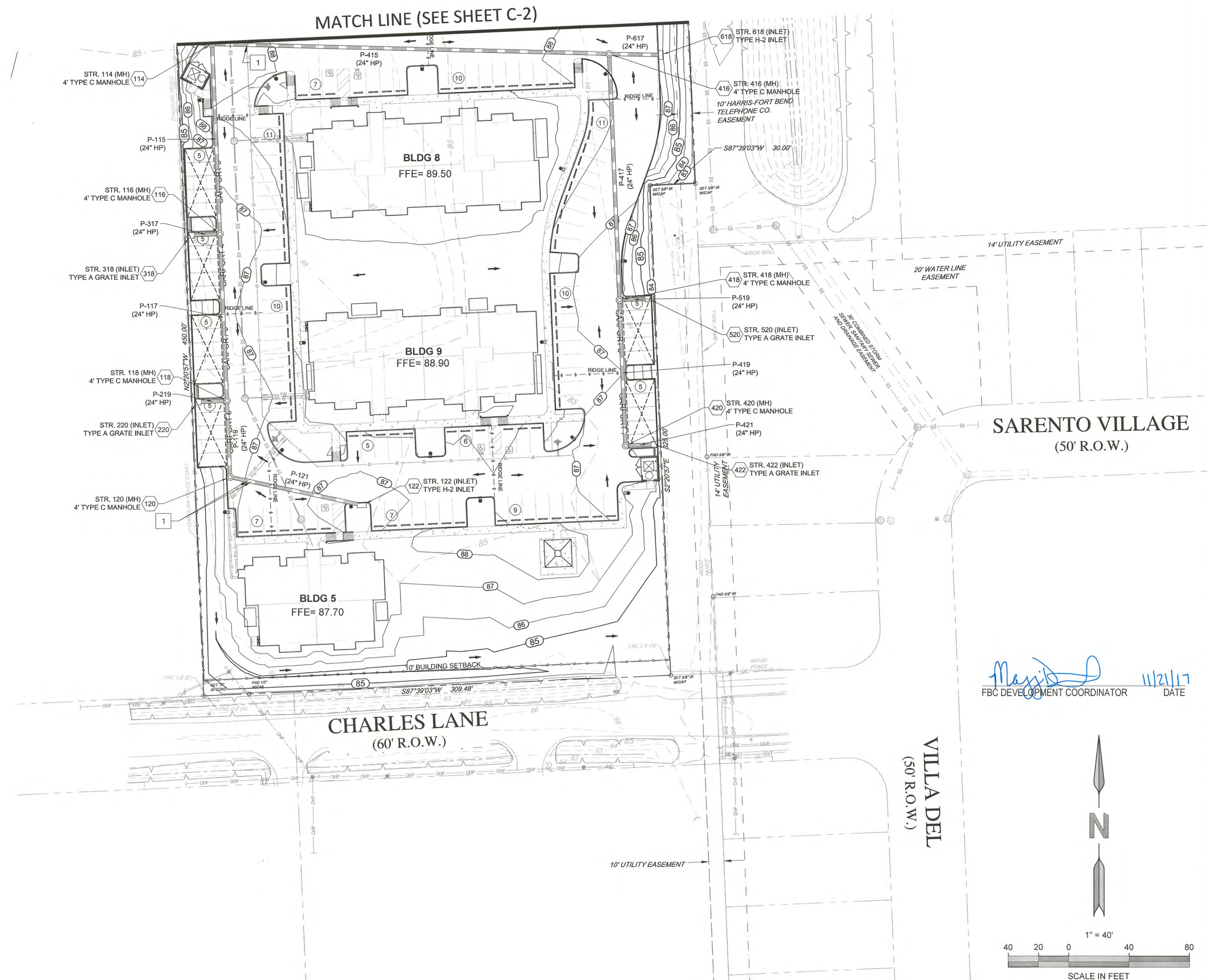
C-2.6

COMMENTS:

JOB/FILE NUMBER: 693.009

- 1) THE CONTRACTOR SHALL CLEAN OUT ACCUMULATED SILT IN STORM WATER CONVEYANCE CHANNELS AND PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.
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- 11) STORM WATER MANAGEMENT SHALL BE IN ACCORDANCE WITH COUNTY, STATE, AND OTHER APPROPRIATE ORDINANCES AND REGULATIONS IN EFFECT AT TIME OF CONSTRUCTION PLAN APPROVAL.

LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE
	STORM STRUCTURE NUMBER
	FLOW ARROW



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GARDNER CAPITAL

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DALLAS, TEXAS 75201
(417) 447-5538

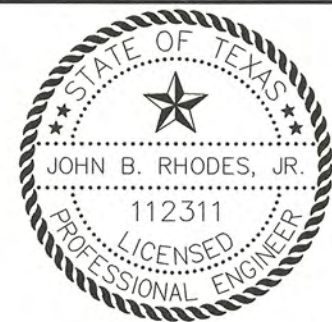
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: _____ DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

1* = 40

TITLE:

DRAINAGE PLAN

SHEET NUMBER

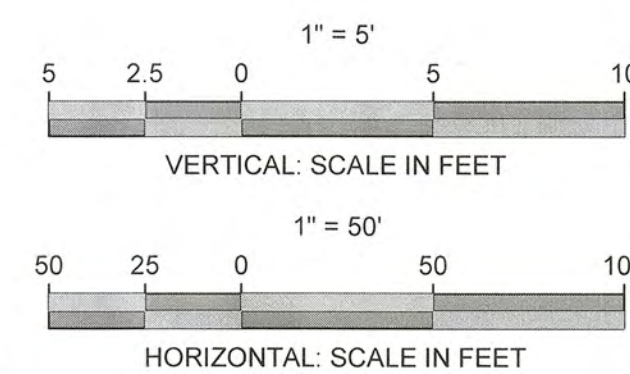
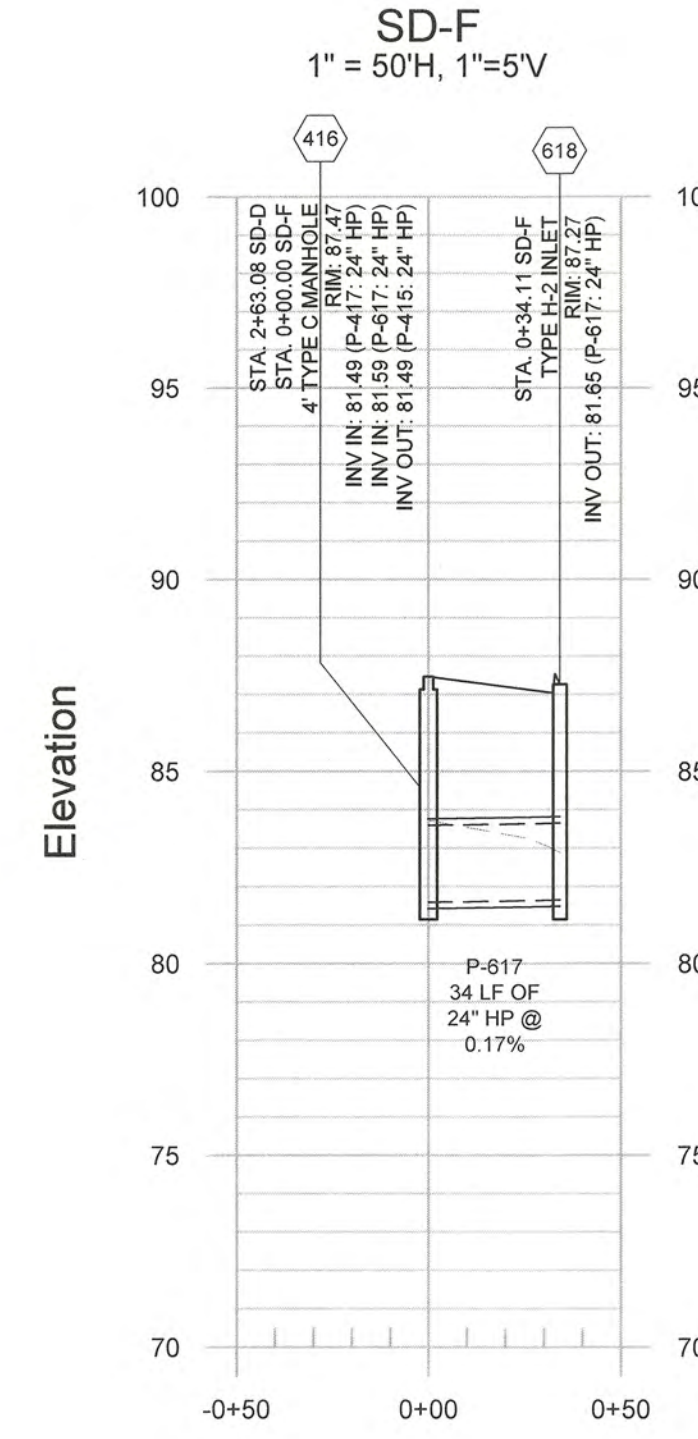
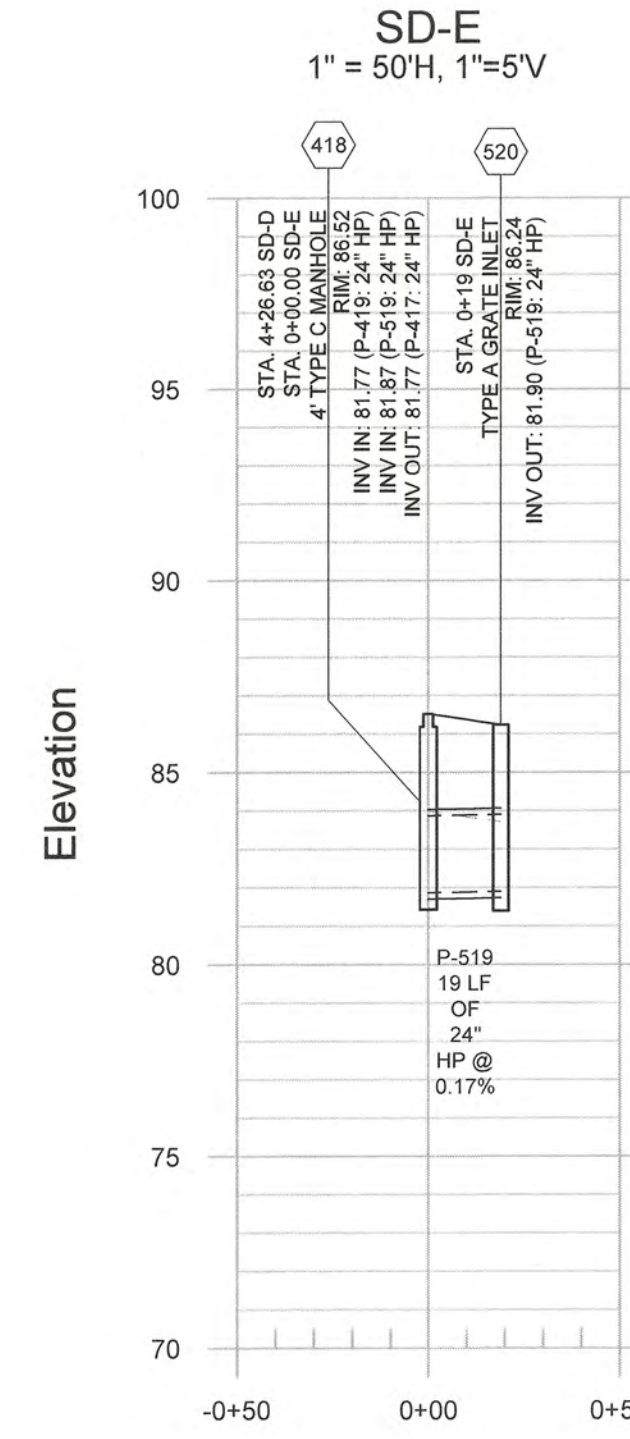
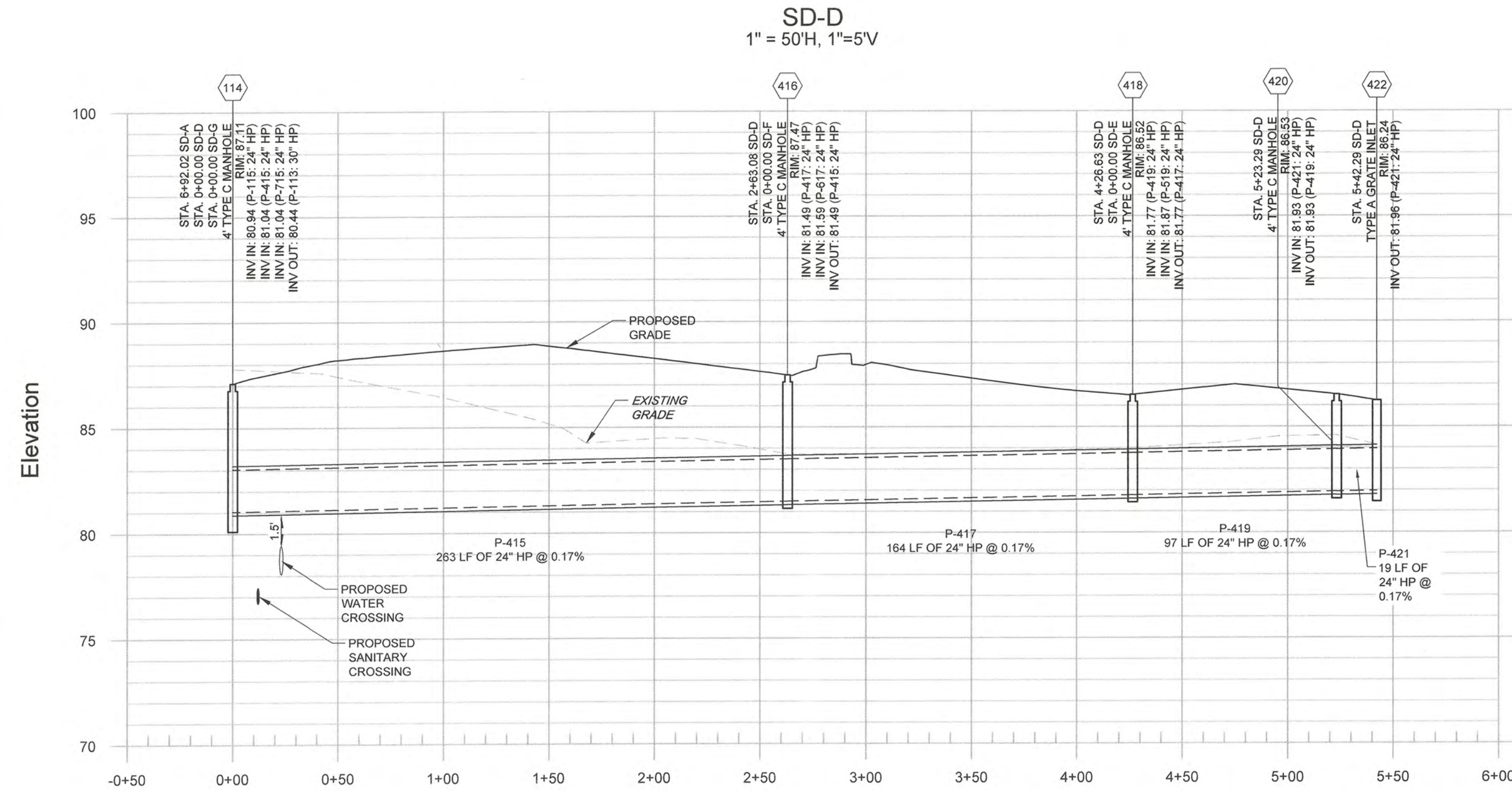
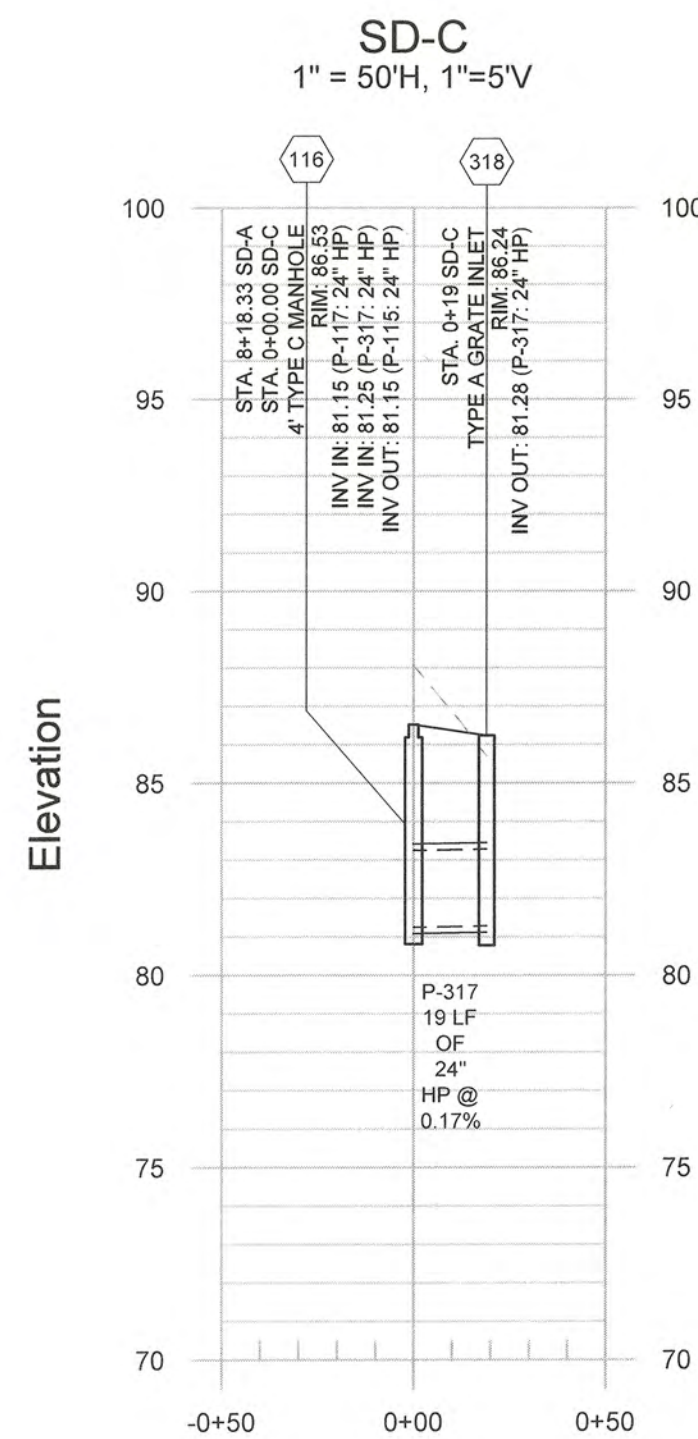
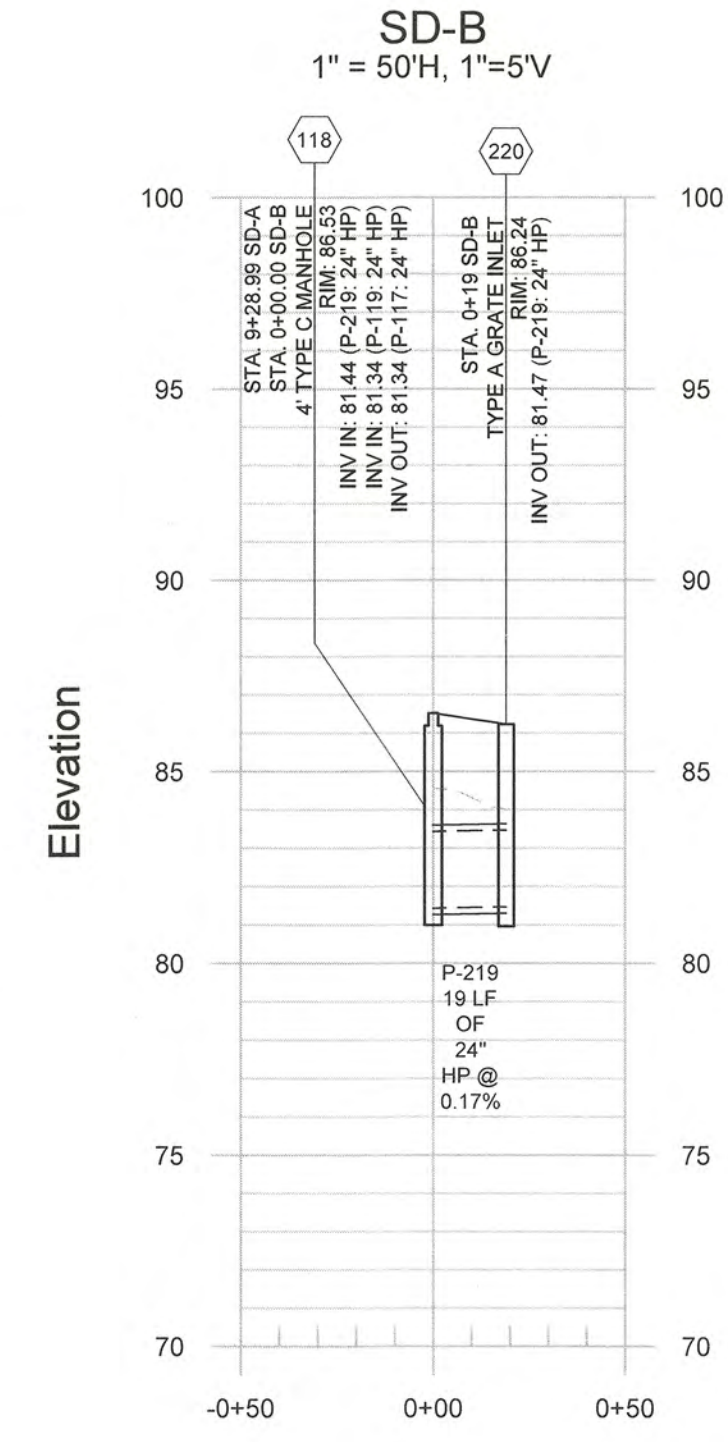
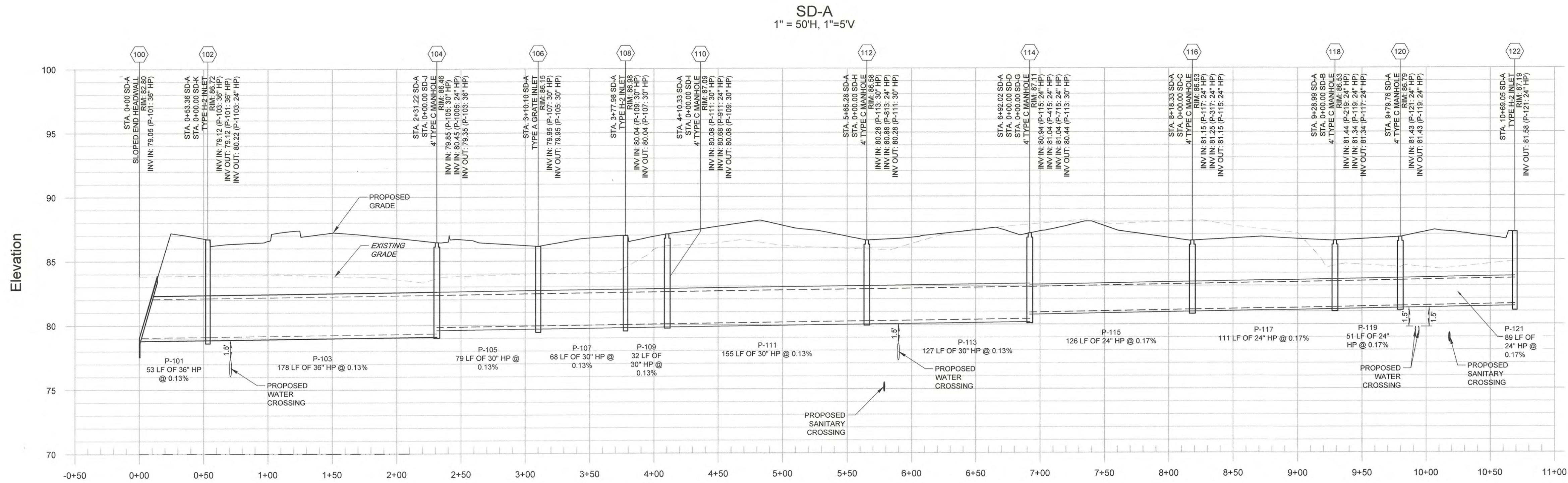
C-2.7

COMMENTS:

JOB/FILE NUMBER: 693.009

GENERAL NOTES:

- 1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- 2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.
- 3) THE CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT OF WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.



11/21/17
DATE

FBC DEVELOPMENT COORDINATOR

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
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(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN
DRAWING BY: DK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
TITLE: AS SHOWN

STORM DRAINAGE PROFILES

SHEET NUMBER:

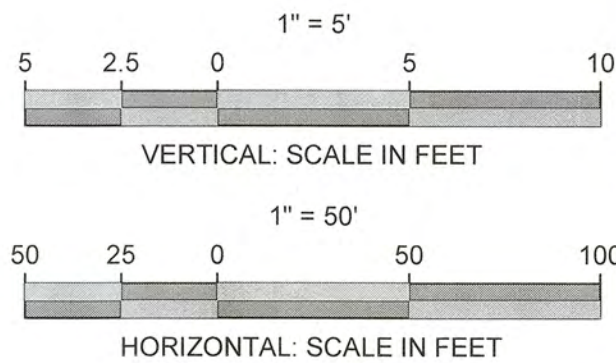
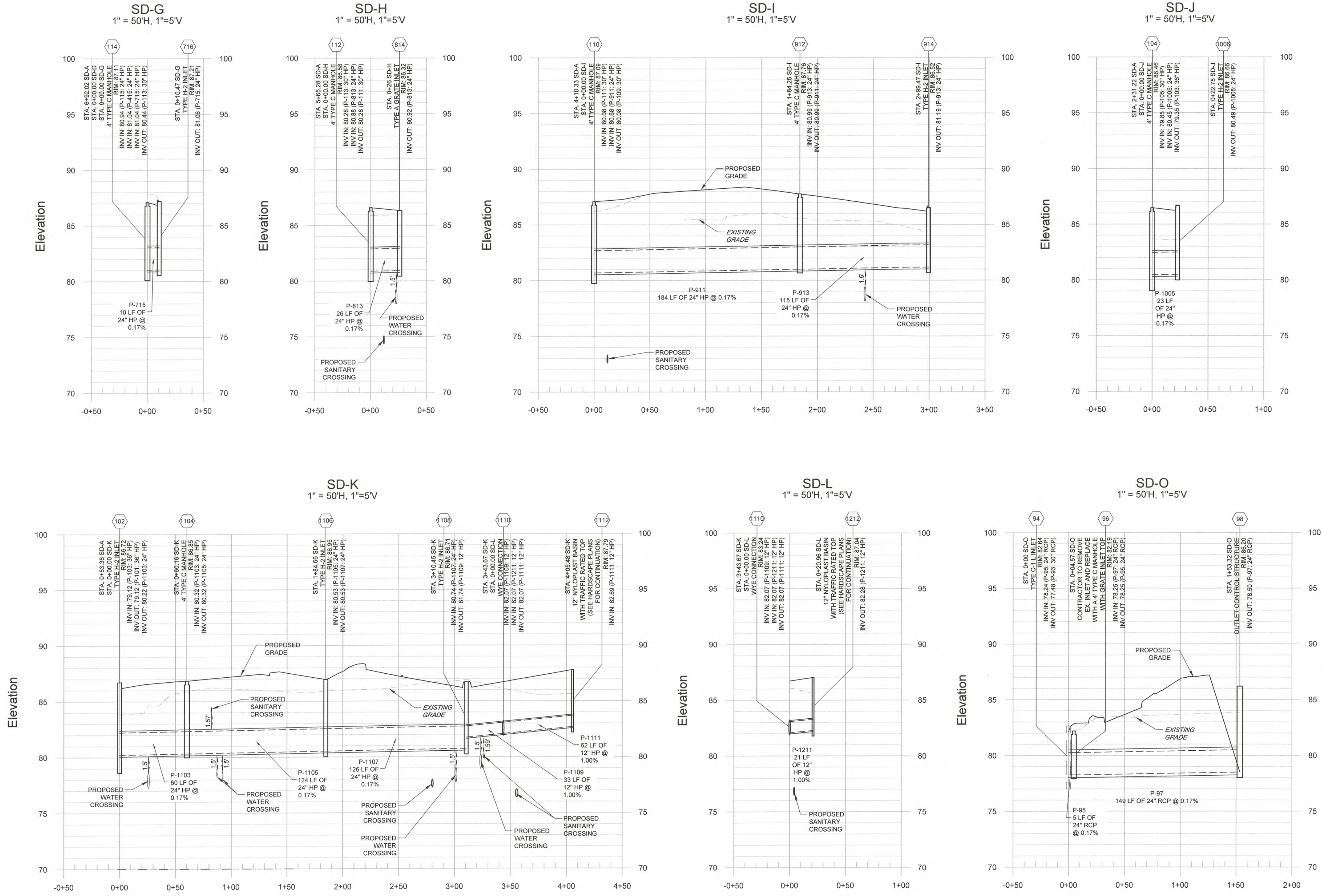
C-2.8

COMMENTS: _____

JOB/FILE NUMBER: 693.009

GENERAL NOTES:

- 1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
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- 3) THE CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT OF WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.



Max
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE

ENGINEER:

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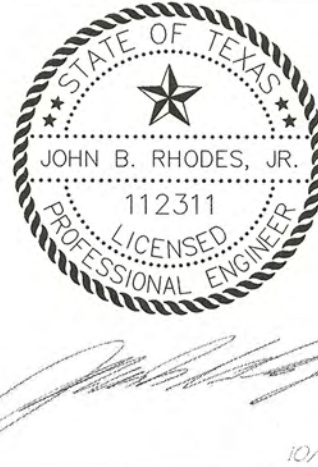
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	AS SHOWN

STORM DRAINAGE PROFILES

SHEET NUMBER:

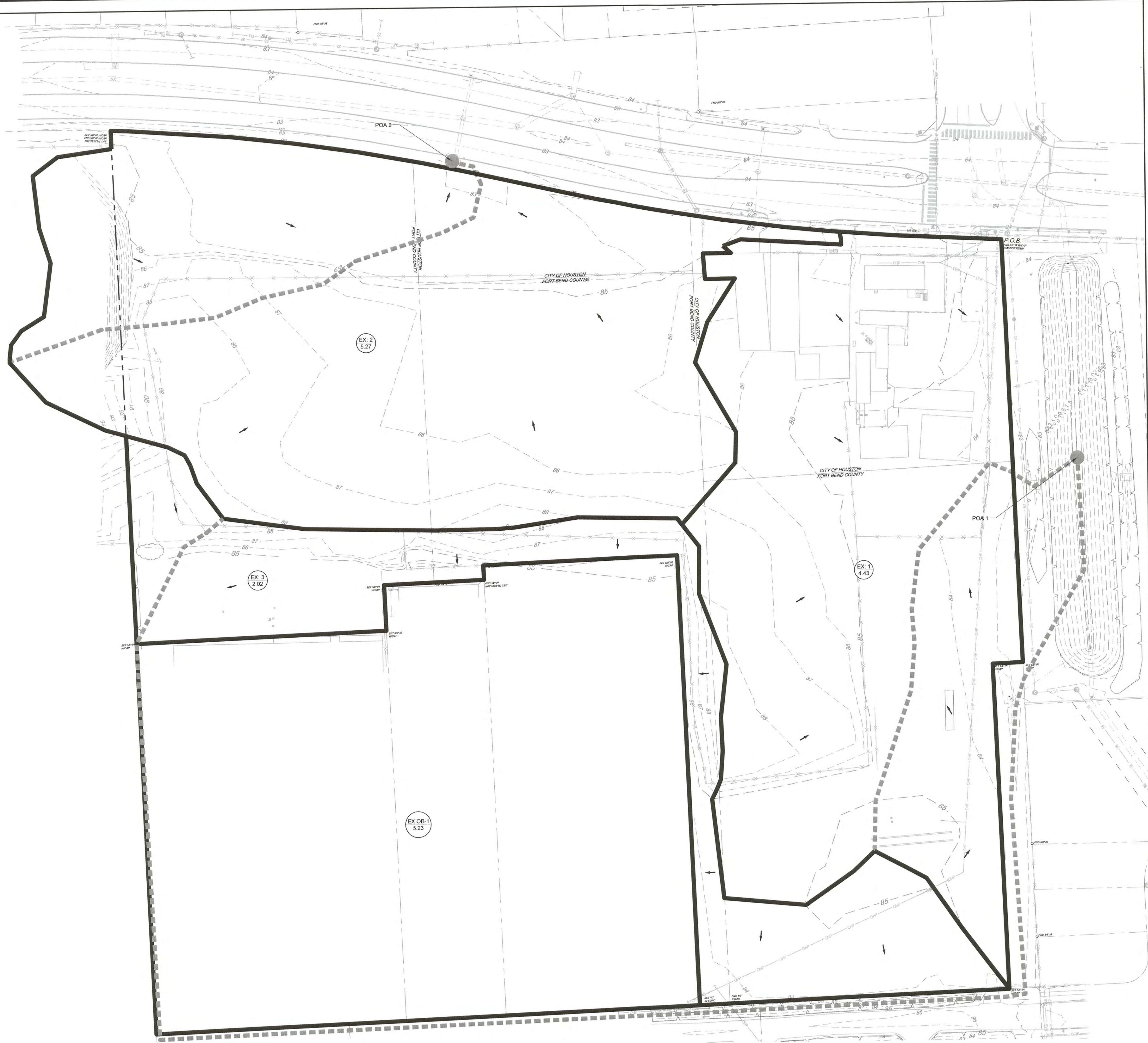
C-2.9

COMMENTS:

JOB/FILE NUMBER:

693.009

FLOW SUMMARY							
PARCEL	AREA	Q 2 (CFS)	Q 3 (CFS)	Q 5 (CFS)	Q 10 (CFS)	Q 25 (CFS)	Q 100 (CFS)
EX-1	4.43	9.81	10.89	12.81	14.51	16.89	20.42
EX-2	5.27	13.55	15.04	17.42	20.05	23.33	28.20
EX-3	2.02	4.12	4.56	5.28	6.06	7.04	8.50
EX OB-1	5.23	5.88	6.53	7.56	8.70	10.13	12.24
EX POA 1	11.68	18.12	20.11	23.30	26.82	31.23	37.76
EX POA 2	5.27	13.55	15.04	17.42	20.05	23.33	28.20



LEGEND

XXXXX EXISTING CONTOURS

XXXXX PROPOSED CONTOURS

XXXXX EXISTING STORM PIPE

XXXXX PROPOSED STORM PIPE

EXTREME EVENT OVERFLOW ROUTING

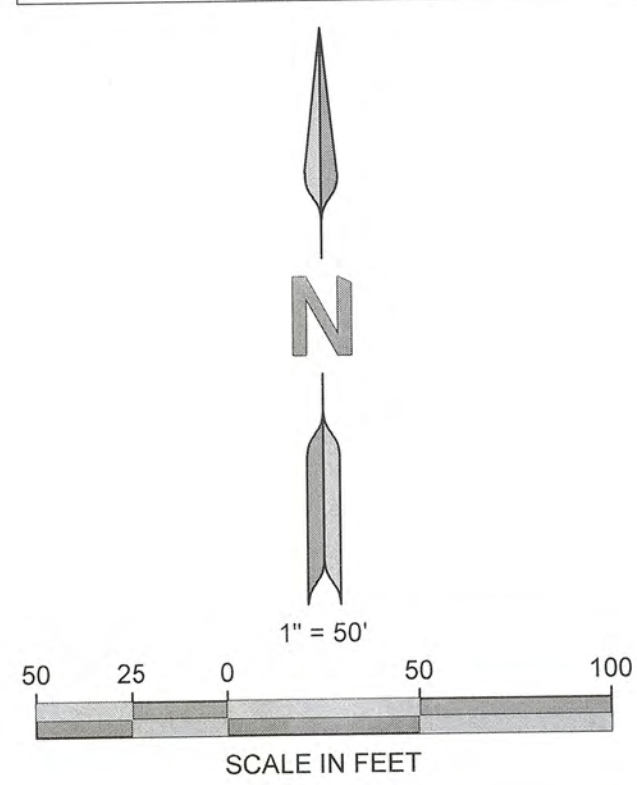
EXTREME EVENT PONDING DEPTH (ABOVE GUTTER)

FLOW PATH

DRAINAGE DIVIDE

ACRES DRAINAGE AREA LABEL

FLOW ARROW



Mus... 11/2/17
FBC DEVELOPMENT COORDINATOR DATE

ENGINEER:

FORESITE
group

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DEVELOPER:

GARDNER CAPITAL

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(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
11231
LICENSED PROFESSIONAL ENGINEER

10/27/17

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
	1" = 50'

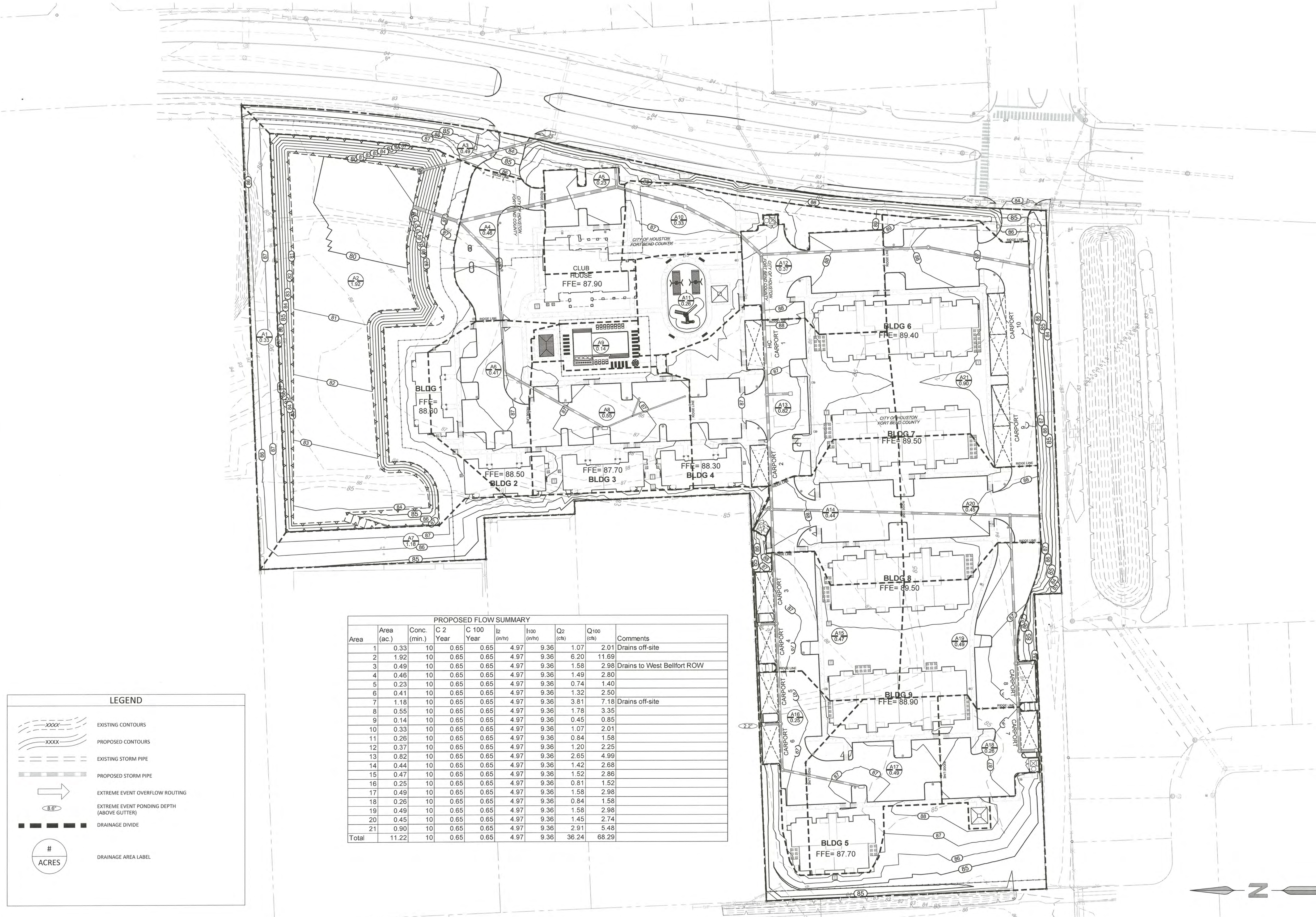
EXISTING DRAINAGE
AREA MAP

SHEET NUMBER:

C-2.10

COMMENTS:

JOB/FILE NUMBER: 693.009



PROPOSED FLOW SUMMARY									
Area	Area (ac.)	Conc. (min.)	C 2 Year	C 100 Year	I ₂ (in/hr)	I ₁₀₀ (in/hr)	Q ₂ (cfs)	Q ₁₀₀ (cfs)	Comments
1	0.33	10	0.65	0.65	4.97	9.36	1.07	2.01	Drains off-site
2	1.92	10	0.65	0.65	4.97	9.36	6.20	11.69	
3	0.49	10	0.65	0.65	4.97	9.36	1.58	2.98	Drains to West Bellfort ROW
4	0.46	10	0.65	0.65	4.97	9.36	1.49	2.80	
5	0.23	10	0.65	0.65	4.97	9.36	0.74	1.40	
6	0.41	10	0.65	0.65	4.97	9.36	1.32	2.50	
7	1.18	10	0.65	0.65	4.97	9.36	3.81	7.18	Drains off-site
8	0.55	10	0.65	0.65	4.97	9.36	1.78	3.35	
9	0.14	10	0.65	0.65	4.97	9.36	0.45	0.85	
10	0.33	10	0.65	0.65	4.97	9.36	1.07	2.01	
11	0.26	10	0.65	0.65	4.97	9.36	0.84	1.58	
12	0.37	10	0.65	0.65	4.97	9.36	1.20	2.25	
13	0.82	10	0.65	0.65	4.97	9.36	2.65	4.99	
14	0.44	10	0.65	0.65	4.97	9.36	1.42	2.68	
15	0.47	10	0.65	0.65	4.97	9.36	1.52	2.86	
16	0.25	10	0.65	0.65	4.97	9.36	0.81	1.52	
17	0.49	10	0.65	0.65	4.97	9.36	1.58	2.98	
18	0.26	10	0.65	0.65	4.97	9.36	0.84	1.58	
19	0.49	10	0.65	0.65	4.97	9.36	1.58	2.98	
20	0.45	10	0.65	0.65	4.97	9.36	1.45	2.74	
21	0.90	10	0.65	0.65	4.97	9.36	2.91	5.48	
Total	11.22	10	0.65	0.65	4.97	9.36	36.24	68.29	

ENGINEER:
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SUGAR LAND, FORT BEND COUNTY, TX 77498

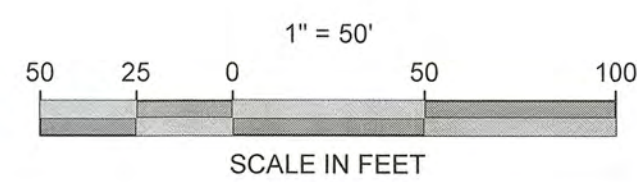


REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN
DRAWING BY: DK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
TITLE: 1" = 50'

PROPOSED DRAINAGE
AREA MAP
SHEET NUMBER:
C-2.11
COMMENTS:
JOB/FILE NUMBER: 693.009

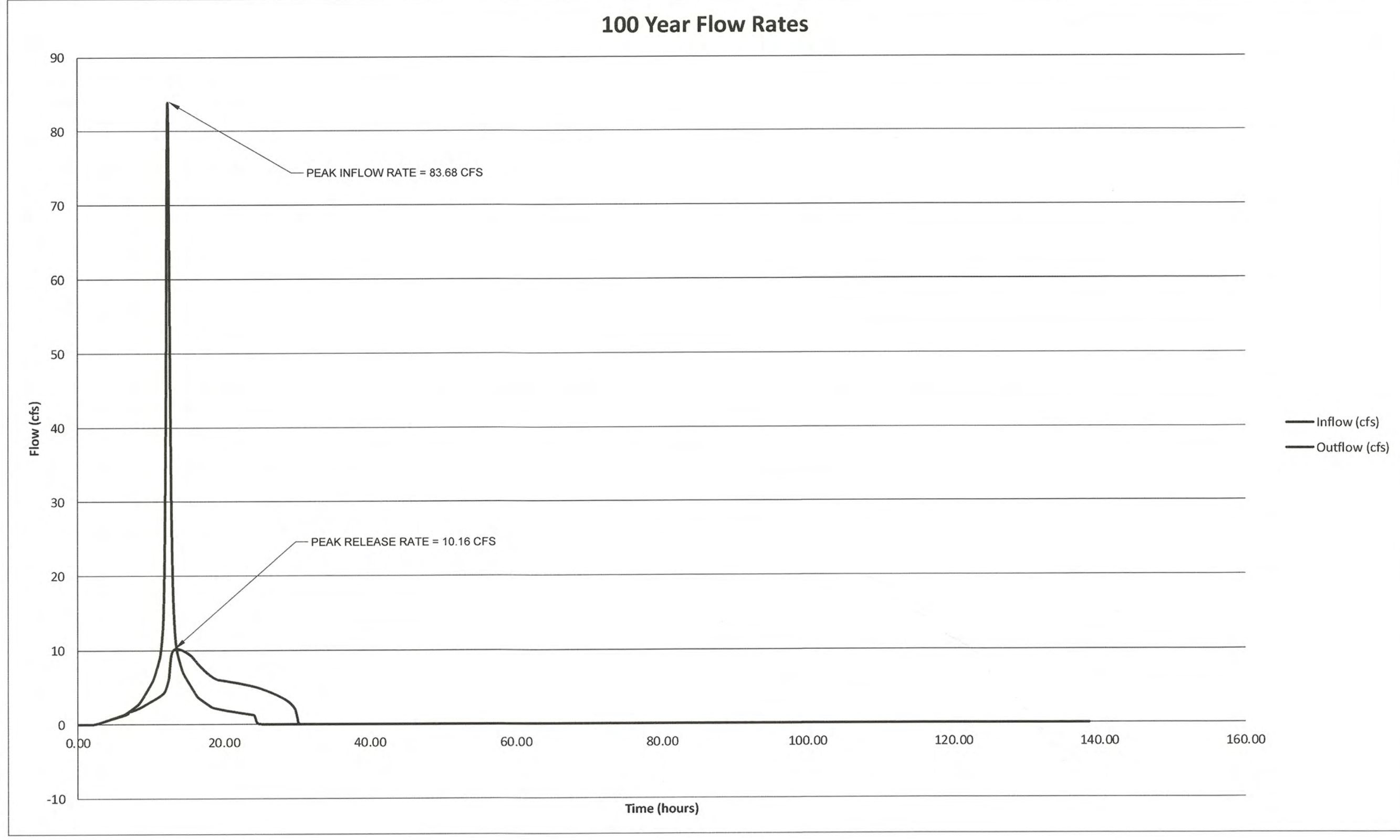
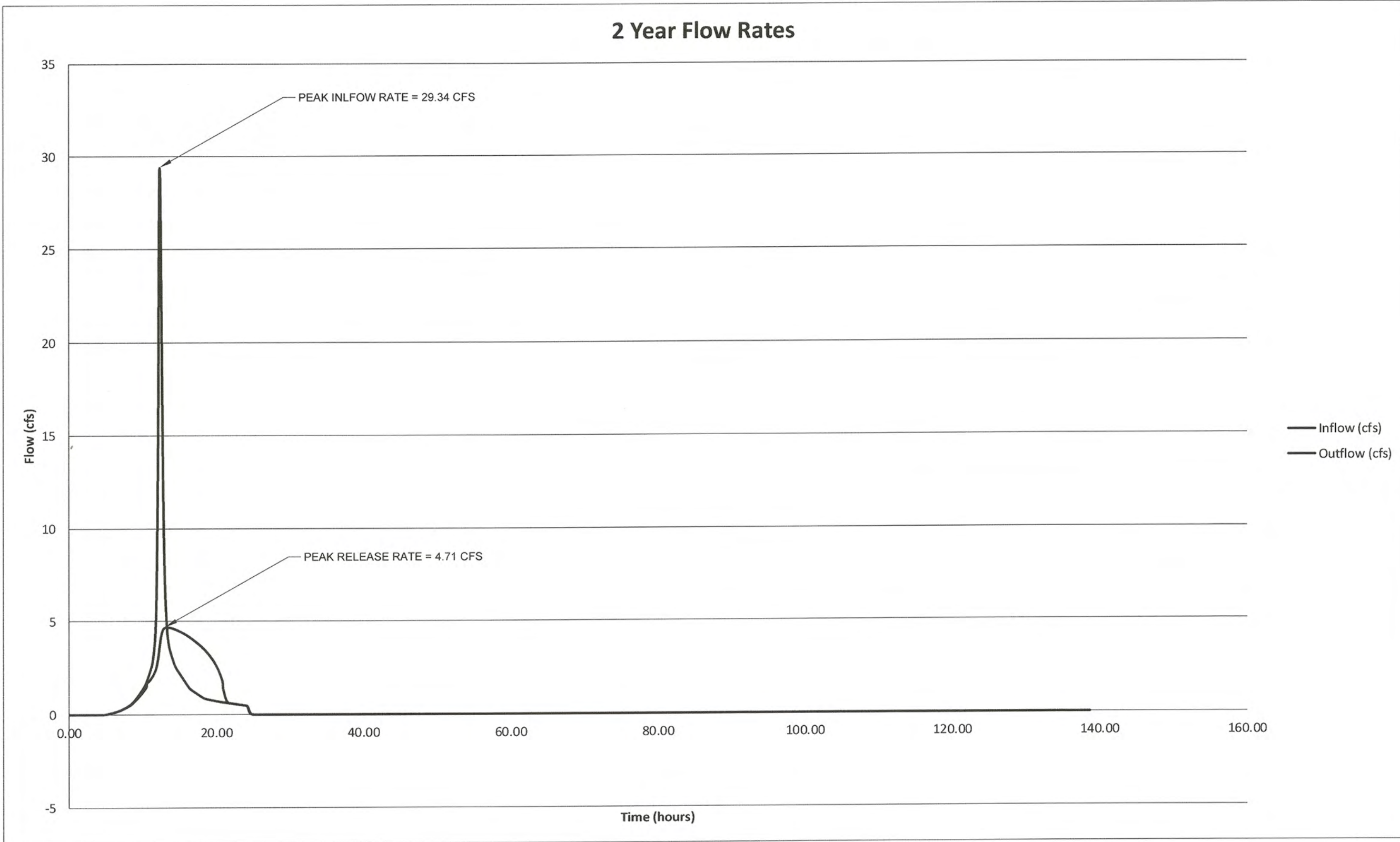
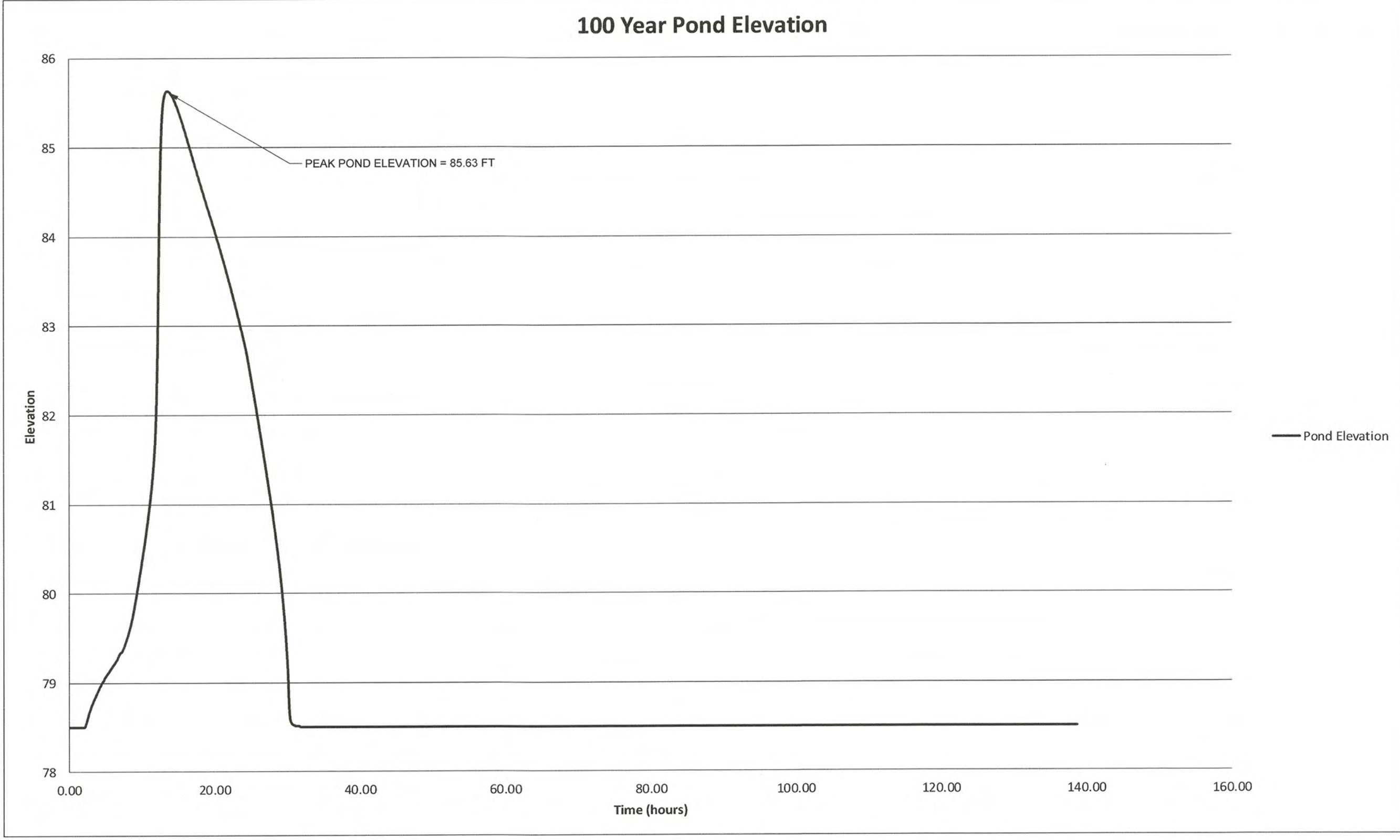
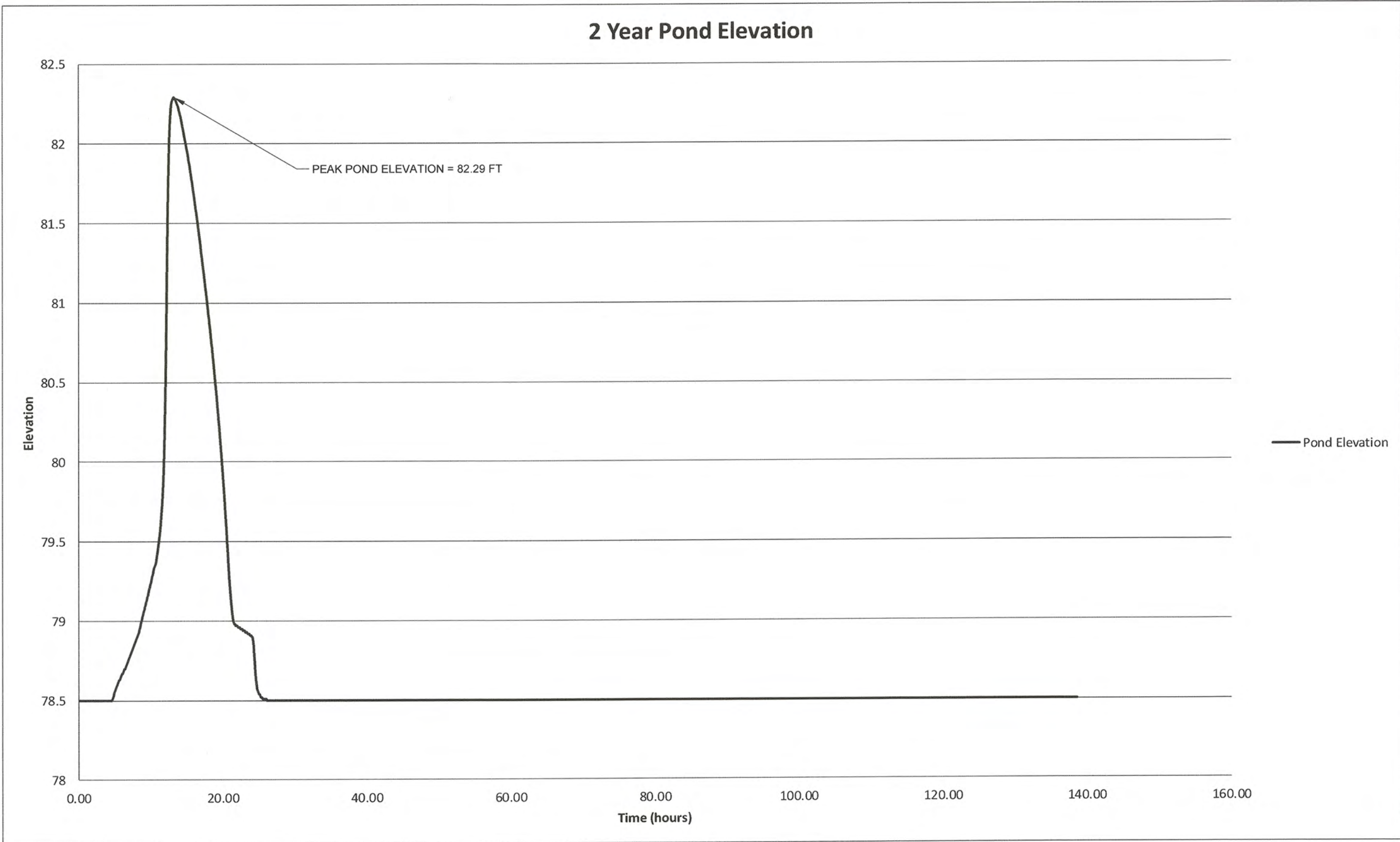
FB DEVELOPMENT COORDINATOR
DATE 11/21/17



2 YEAR HYDRAULIC CALCULATIONS																																	
	US STR.	DS STR.	US STA.	DS STA.	AREA	AREA (AC)	TOTAL AREA (AC)	RUNOFF COEFF. C	INCREMENTAL CA	TOTAL CA	DESIGN STORM (YEAR)	INTENSITY I (IN/HR)	Tc (MIN)	Q TOTAL (CFS)	REACH (FT)	LINE				FLOWLINE		V (FPS)	HGL SLOPE (FT/FT)	K	V1 (FPS)	V2 (FPS)	HEAD LOSS HL (FT)	UPSTREAM HGL (FT)	DOWNSTREAM HGL (FT)	INLET TC ELEV.	PONDING DEPTH (IN)	PONDING COMMENT	
																SIZE (IN)	MANN. CONST.	SLOPE (FT/FT)	Q CAPACITY (CFS)	UP-STREAM (FT)	DOWN-STREAM (FT)												
SD-A	122	120	10+69.05	9+79.76	17	0.49	0.49	0.65	0.32	0.32	2	3.49	23.82	1.11	89.29	24	0.015	0.0017	8.04	81.58	81.43	0.35	0.0000		0.00	0.35	0.00	83.05	83.05	86.59	0.0		
	120	118	9+79.76	9+28.99			0.49	0.65	0.00	0.48	2	4.29	15.00	2.06	50.77	24	0.015	0.0017	8.08	81.43	81.34	0.66	0.0001	0.50	0.35	0.66	0.01	83.05	83.04	86.79	0.0		
	118	116	9+28.99	8+18.33			0.49	0.65	0.00	0.79	2	4.29	15.00	3.38	110.66	24	0.015	0.0017	8.12	81.34	81.15	1.07	0.0003	0.50	0.66	1.07	0.01	83.04	83.01	86.53	0.0		
	116	114	8+18.33	6+92.02			0.49	0.65	0.00	1.85	2	4.29	15.00	7.95	126.31	24	0.015	0.0017	7.99	81.15	80.94	2.53	0.0016	0.50	1.07	2.53	0.09	83.01	82.80	86.53	0.0		
	114	112	6+92.02	5+65.28			0.49	0.65	0.00	2.39	2	4.29	15.00	10.24	126.74	30	0.015	0.0017	14.66	80.44	80.28	2.09	0.0008	0.50	2.53	2.09	0.02	82.80	82.70	87.11	0.0		
	112	110	5+65.28	4+10.33			0.49	0.65	0.00	2.97	2	4.29	15.00	12.75	154.95	30	0.015	0.0013	12.82	80.28	80.08	2.60	0.0013	0.50	2.09	2.60	0.07	82.70	82.50	86.58	0.0		
	110	108	4+10.33	3+77.98			0.49	0.65	0.00	2.97	2	4.29	15.00	12.75	32.35	30	0.015	0.0013	12.82	80.08	80.04	2.60	0.0013	0.50	0.35	2.60	0.10	82.50	82.46	87.09	0.0		
	108	106	3+77.98	3+10.10	12	0.37	0.86	0.65	0.24	3.21	2	3.52	23.39	11.31	67.88	30	0.015	0.0013	12.82	80.04	79.95	2.30	0.0010	0.50	2.60	2.30	0.03	82.46	82.39	86.98	0.0		
	106	104	3+10.10	2+31.22	10	0.33	1.19	0.65	0.21	3.58	2	3.53	23.23	12.63	78.88	30	0.015	0.0013	12.82	79.95	79.85	2.57	0.0013	0.50	2.30	2.57	0.06	82.39	82.29	86.15	0.0		
	104	102	2+31.22	0+53.36			1.19	0.65	0.00	4.46	2	4.29	15.00	19.14	177.86	36	0.015	0.0013	20.84	79.35	79.12	2.71	0.0011	0.50	2.57	2.71	0.06	82.29	82.09	86.46	0.0		
102	100	0+53.36	0+00.00	4	0.46	1.65	0.65	0.30	4.76	2	3.50	23.72	16.64	53.36	36	0.015	0.0013	20.84	79.12	79.05	2.35	0.0008	0.50	2.71	2.35	0.03	82.09	82.05	86.27	0.0			
SD-B	220	118	0+19.00	0+00.00	16	0.25	0.25	0.65	0.16	0.16	2	3.56	22.83	0.58	19.00	24	0.015	0.0017	8.08	81.47	81.44	0.18	0.0000	0.25	0.00	0.18	0.00	83.04	83.04	86.24	0.0		
SD-C	318	116	0+19.00	0+00.00	15	0.47	0.47	0.65	0.31	0.31	2	3.49	23.76	1.07	19.00	24	0.015	0.0017	8.08	81.28	81.25	0.34	0.0000	0.25	0.00	0.34	0.00	83.01	83.01	86.24	0.0		
SD-D	422	420	5+42.29	5+23.29	18	0.26	0.26	0.65	0.17	0.17	2	3.56	22.89	0.60	19.00	24	0.015	0.0017	8.08	81.96	81.93	0.19	0.0000	0.50	0.00	0.19	0.00	82.94	82.94	86.24	0.0		
	420	418	5+23.29	4+26.63			0.26	0.65	0.00	0.49	2	4.29	15.00	2.09	96.66	24	0.015	0.0017	7.98	81.93	81.77	0.67	0.0001	0.50	0.19	0.67	0.01	82.94	82.93	86.53	0.0		
	418	416	4+26.63	2+63.08			0.26	0.65	0.00	0.78	2	4.29	15.00	3.35	163.55	24	0.015	0.0017	8.11	81.77	81.49	1.07	0.0003	0.50	0.67	1.07	0.01	82.93	82.88	86.52	0.0		
	416	114	2+63.08	0+00.00			0.26	0.65	0.00	0.78	2	4.29	15.00	3.35	263.08	24	0.015	0.0017	8.11	81.49	81.04	1.07	0.0003	0.50	1.07	1.07	0.01	82.88	82.80	87.47	0.0		
SD-E	520	418	0+19.00	0+00.00	19	0.49	0.49	0.65	0.32	0.32	2	3.49	23.82	1.11	19.00	24	0.015	0.0017	8.08	81.90	81.87	0.35	0.0000	0.25	0.00	0.35	0.00	82.93	82.93	86.24	0.0		
SD-F	618	416	0+34.11	0+00.00	20	0.45	0.45	0.65	0.29	0.29	2	3.50	23.69	1.02	34.11	24	0.015	0.0017	8.08	81.65	81.59	0.33	0.0000	0.25	0.00	0.33	0.00	82.88	82.88	86.71	0.0		
SD-G	716	114	0+10.47	0+00.00	14	0.44	0.44	0.65	0.29	0.29	2	3.50	23.65	1.00	10.47	24	0.015	0.0017	8.08	81.06	81.04	0.32	0.0000	0.25	0.00	0.32	0.00	82.80	82.80	87.21	0.0		
SD-H	814	112	0+26.00	0+00.00	13	0.82	0.82	0.65	0.53	0.53	2	3.43	24.66	1.83	26.00	24	0.015	0.0017	8.08	80.92	80.88	0.58	0.0001	0.25	0.00	0.58	0.01	82.70	82.70	86.32	0.0		
SD-I	914	912	2+99.47	1+84.25	21	0.9	0.90	0.65	0.59	0.59	2	3.42	24.82	2.00	115.22	24	0.015	0.0017	8.08	81.18	80.99	0.64	0.0001	0.50	0.00	0.64	0.01	82.54	82.53	85.99	0.0		
	912	110	1+84.25	0+00.00			0.90	0.65	0.00	0.59	2	4.29	15.00	2.51	184.25	24	0.015	0.0017	8.04	80.99	80.68	0.80	0.0002	0.50	0.64	0.80	0.01	82.53	82.50	87.76	0.0		
SD-J	1006	104	0+22.75	0+00.00	5	0.23	0.23	0.65	0.15	0.15	2	3.57	22.72	0.53	22.75	24	0.015	0.0017	8.08	80.49	80.45	0.17	0.0000	0.25	0.00	0.17	0.00	82.29	82.29	86.43	0.0		
SD-K	1112	1110	3+96.53	3+43.67	11	0.26	0.26	0.65	0.17	0.26	2	3.56	22.89	0.93	52.86	12	0.015	0.0044	2.04	82.12	81.89	1.18	0.0009	0.50	0.00	1.18	0.02	82.25	82.21	87.65	0.0		
	1110	1108	3+43.67	3+10.45			0.26	0.65	0.00	0.26	2	4.29	15.00	1.12	33.22	12	0.015	0.0044	2.05	81.89	81.74	1.42	0.0013	0.50	1.18	1.42	0.02	82.21	82.16				
	1108	1106	3+10.45	1+84.66	8	0.55	0.81	0.65	0.36	0.62	2	3.48	24.00	2.15	125.79	24	0.015	0.0017	8.01	80.74	80.53	0.68	0.0001	0.50	1.42	0.68	-0.01	82.16	82.15	86.24	0.0		
	1106	1104	1+84.66	0+60.16	6	0.41	1.22	0.65	0.27	0.88	2	3.51	23.55	3.10	124.50	24	0.015	0.0017	8.05	80.53	80.32	0.99	0.0003	0.50	0.68	0.99	0.01	82.15	82.12	86.47	0.0		
	1104	102	0+60.16	0+00.00			1.22	0.65	0.00	0.88	2	4.29	15.00	3.79	60.16	24	0.015	0.0017	7.99	80.32	80.22	1.21	0.0004	0.50	0.99	1.21	0.02	82.12	82.09	86.84	0.0		
SD-L	1212	1110	0+20.96	0+00.00	9	0.14	0.14	0.65	0.09	0.09	2	3.62	22.07	0.33	20.96	12	0.015	0.0044	2.05	81.98	81.89	0.42	0.0001	0.25	0.00	0.42	0.00	82.21	82.21	87.04	0.0		
SD-0	98	96	1+53.32	0+04.57	DISCHAGE FROM DETENTION POND										4.71	148.75	24	0.015	0.0017	8.04	78.50	78.25	1.50	0.0006	0.50	0.00	1.50	0.03	Partial Flow	80.25			
	96	94	0+04.57	0+00.00											4.71	4.57	24	0.015	0.0017	8.08	78.25	78.24	1.50	0.0006	0.50	1.50	1.50	0.02	Partial Flow	80.24			

100 YEAR HYDRAULIC CALCULATIONS

	US STR.	DS STR.	US STA.	DS STA.	AREA	AREA (AC)	TOTAL AREA (AC)	RUNOFF COEFF. C	INCREMENTAL CA	TOTAL CA	DESIGN STORM (YEAR)	INTENSITY I (IN/HR)	Tc (MIN)	Q TOTAL (CFS)	REACH (FT)	LINE				FLOWLINE		V (FPS)	HGL SLOPE (FT/FT)	K	V1 (FPS)	V2 (FPS)	HEAD LOSS HL (FT)	UPSTREAM HGL (FT)	DOWNSTREAM HGL (FT)	INLET TC ELEV.	PONDING DEPTH (IN)	PONDING COMMENT
																SIZE (IN)	MANN. CONST.	SLOPE (FT/FT)	Q CAPACITY (CFS)	UP-STREAM (FT)	DOWN-STREAM (FT)											
SD-A	122	120	10+69.05	9+79.76	17	0.49	0.49	0.65	0.32	0.32	2	7.14	23.82	2.28	89.29	24	0.015	0.0017	8.04	81.58	81.43	0.72	0.0001		0.00	0.72	0.01	85.96	85.95	86.59	0.0	
	120	118	9+79.76	9+28.99			0.49	0.65	0.00	0.48	2	8.39	15.00	4.04	50.77	24	0.015	0.0017	8.08	81.43	81.34	1.29	0.0004	0.50	0.72	1.29	0.02	85.95	85.93	86.79	0.0	
	118	116	9+28.99	8+18.33			0.49	0.65	0.00	0.79	2	8.39	15.00	6.60	110.66	24	0.015	0.0017	8.12	81.34	81.15	2.10	0.0011	0.50	1.29	2.10	0.06	85.93	85.80	86.53	0.0	
	116	114	8+18.33	6+92.02			0.49	0.65	0.00	1.85	2	8.39	15.00	15.55	126.31	24	0.015	0.0017	7.99	81.15	80.94	4.95	0.0063	0.50	2.10	4.95	0.35	85.80	85.01	86.53	0.0	
	114	112	6+92.02	5+65.28			0.49	0.65	0.00	2.39	2	8.39	15.00	20.02	126.74	30	0.015	0.0017	14.66	80.44	80.28	4.08	0.0032	0.50	4.95	4.08	0.07	85.01	84.60	87.11	0.0	
	112	110	5+65.28	4+10.33			0.49	0.65	0.00	2.97	2	8.39	15.00	24.93	154.95	30	0.015	0.0013	12.82	80.28	80.08	5.08	0.0049	0.50	4.08	5.08	0.27	84.60	83.84	86.58	0.0	
	110	108	4+10.33	3+77.98			0.49	0.65	0.00	2.97	2	8.39	15.00	24.93	32.35	30	0.015	0.0013	12.82	80.08	80.04	5.08	0.0049	0.50	0.72	5.08	0.40	83.84	83.68	87.09	0.0	
	108	106	3+77.98	3+10.10	12	0.37	0.86	0.65	0.24	3.21	2	7.19	23.39	23.10	67.88	30	0.015	0.0013	12.82	80.04	79.95	4.71	0.0042	0.50	5.08	4.71	0.14	83.68	83.40	86.98	0.0	
	106	104	3+10.10	2+31.22	10	0.33	1.19	0.65	0.21	3.58	2	7.21	23.23	25.79	78.88	30	0.015	0.0013	12.82	79.95	79.85	5.25	0.0053	0.50	4.71	5.25	0.26	83.40	82.98	86.15	0.0	
	104	102	2+31.22	0+53.36			1.19	0.65	0.00	4.46	2	8.39	15.00	37.42	177.86	36	0.015	0.0013	20.84	79.35	79.12	5.29	0.0042	0.50	5.25	5.29	0.22	82.98	82.24	86.46	0.0	
102	100	0+53.36	0+00.00	4	0.46	1.65	0.65	0.30	4.76	2	7.16	23.72	34.05	53.36	36	0.015	0.0013	20.84	79.12	79.05	4.82	0.0035	0.50	5.29	4.82	0.14	82.24	82.05	86.27	0.0		
SD-B	220	118	0+19.00	0+00.00	16	0.25	0.25	0.65	0.16	0.16	2	7.26	22.83	1.18	19.00	24	0.015	0.0017	8.08	81.47	81.44	0.38	0.0000	0.25	0.00	0.38	0.00	85.93	85.93	86.24	2.2	
SD-C	318	116	0+19.00	0+00.00	15	0.47	0.47	0.65	0.31	0.31	2	7.15	23.76	2.18	19.00	24	0.015	0.0017	8.08	81.28	81.25	0.70	0.0001	0.25	0.00	0.70	0.01	85.80	85.80	86.24	0.0	
SD-D	422	420	5+42.29	5+23.29	18	0.26	0.26	0.65	0.17	0.17	2	7.26	22.89	1.23	19.00	24	0.015	0.0017	8.08	81.96	81.93	0.39	0.0000	0.50	0.00	0.39	0.00	85.52	85.52	86.24	0.0	
	420	418	5+23.29	4+26.63			0.26	0.65	0.00	0.49	2	8.39	15.00	4.09	96.66	24	0.015	0.0017	7.98	81.93	81.77	1.30	0.0004	0.50	0.39	1.30	0.03	85.52	85.48	86.53	0.0	
	418	416	4+26.63	2+63.08			0.26	0.65	0.00	0.78	2	8.39	15.00	6.55	163.55	24	0.015	0.0017	8.11	81.77	81.49	2.08	0.0011	0.50	1.30	2.08	0.05	85.48	85.30	86.52	0.0	
	416	114	2+63.08	0+00.00			0.26	0.65	0.00	0.78	2	8.39	15.00	6.55	263.08	24	0.015	0.0017	8.11	81.49	81.04	2.08	0.0011	0.50	2.08	2.08	0.03	85.30	85.01	87.47	0.0	
SD-E	520	418	0+19.00	0+00.00	19	0.49	0.49	0.65	0.32	0.32	2	7.14	23.82	2.28	19.00	24	0.015	0.0017	8.08	81.90	81.87	0.72	0.0001	0.25	0.00	0.72	0.01	85.48	85.48	86.24	0.0	
SD-F	618	416	0+34.11	0+00.00	20	0.45	0.45	0.65	0.29	0.29	2	7.16	23.69	2.09	34.11	24	0.015	0.0017	8.08	81.65	81.59	0.67	0.0001	0.25	0.00	0.67	0.01	85.30	85.30	86.71	0.0	
SD-G	716	114	0+10.47	0+00.00	14	0.44	0.44	0.65	0.29	0.29	2	7.16	23.65	2.05	10.47	24	0.015	0.0017	8.08	81.06	81.04	0.65	0.0001	0.25	0.00	0.65	0.01	85.01	85.01	87.21	0.0	
SD-H	814	112	0+26.00	0+00.00	13	0.82	0.82	0.65	0.53	0.53	2	7.05	24.66	3.76	26.00	24	0.015	0.0017	8.08	80.92	80.88	1.20	0.0004	0.25	0.00	1.20	0.02	84.61	84.60	86.32	0.0	
SD-I	914	912	2+99.47	1+84.25	21	0.9	0.90	0.65	0.59	0.59	2	7.03	24.82	4.11	115.22	24	0.015	0.0017	8.08	81.18	80.99	1.31	0.0004	0.50	0.00	1.31	0.03	84.01	83.96	85.99	0.0	
	912	110	1+84.25	0+00.00			0.90	0.65	0.00	0.59	2	8.39	15.00	4.91	184.25	24	0.015	0.0017	8.04	80.99	80.68	1.56	0.0006	0.50	1.31	1.56	0.02	83.96	83.84	87.76	0.0	
SD-J	1006	104	0+22.75	0+00.00	5	0.23	0.23	0.65	0.15	0.15	2	7.28	22.72	1.09	22.75	24	0.015	0.0017	8.08	80.49	80.45	0.35	0.0000	0.25	0.00	0.35	0.00	82.98	82.98	86.43	0.0	
SD-K	1112	1110	3+96.53	3+43.67	11	0.26	0.26	0.65	0.17	0.26	2	7.26	22.89	1.89	52.86	12	0.015	0.0044	2.04	82.12	81.89	2.40	0.0037	0.50	0.00	2.40	0.09	82.88	82.68	87.65	0.0	
	1110	1108	3+43.67	3+10.45			0.26	0.65	0.00	0.26	2	8.39	15.00	2.18	33.22	12	0.015	0.0044	2.05	81.89	81.74	2.78	0.0050	0.50	2.40	2.78	0.08	82.68	82.51			
	1108	1106	3+10.45	1+84.66	8	0.55	0.81	0.65	0.36	0.62	2	7.12	24.00	4.40	125.79	24	0.015	0.0017	8.01	80.74	80.53	1.40	0.0005	0.50	2.78	1.40	-0.03	82.51	82.45	86.24	0.0	
	1106	1104	1+84.66	0+60.16	6	0.41	1.22	0.65	0.27	0.88	2	7.18	23.55	6.34	124.50	24	0.015	0.0017	8.05	80.53	80.32	2.02	0.0010	0.50	1.40	2.02	0.05	82.45	82.32	86.47	0.0	
	1104	102	0+60.16	0+00.00			1.22	0.65	0.00	0.88	2	8.39	15.00	7.42	60.16	24	0.015	0.0017	7.99	80.32	80.22	2.36	0.0014	0.50	2.02	2.36	0.05	82.32	82.24	86.84	0.0	
SD-L	1212	1110	0+20.96	0+00.00	9	0.14	0.14	0.65	0.09	0.09	2	7.36	22.07	0.67	20.96	12	0.015	0.0044	2.05	81.98	81.89	0.85	0.0005	0.25	0.00	0.85	0.01	82.69	82.68	87.04	0.0	
SD-O	98	96	1+53.32	0+04.57	DISCHARGE FROM DETENTION POND										10.16	148.75	24	0.015	0.0017	8.04	78.50	78.25	3.23	0.0027	0.50	0.00	3.23	0.16	Partial Flow	80.25		
	96	94	0+04.57	0+00.00											10.16	4.57	24	0.015	0.0017	8.08	78.25	78.24	3.23	0.0027	0.50	3.23	3.23	0.08	Partial Flow	80.24		



MINIMUM DETENTION REQUIREMENT CALCULATIONS:

AREA BETWEEN 10 ACRES AND 50 ACRES
AREA OF EXISTING IMPERVIOUS COVER IS LESS THAN OR EQUAL TO 10 ACRES

$$V(T) = [43,560 * (0.50 * A(I))] + (1815 * A(E))$$

$$A(I) = 302,634 \text{ SQ.FT.} = (6.95 \text{ ACRES})$$
$$A(E) = 43,124 \text{ SQ.FT.} = (0.99 \text{ ACRES})$$

$$V(T) = [43,560 * (0.50 * 6.95)] + (1815 * 0.99)$$
$$V(T) = 153,168 \text{ CUBIC FEET}$$

PROPOSED POND STORAGE = 361,393 CUBIC FEET (AT 100 YR WSE)

STORMWATER DETENTION VOLUME DETERMINATION		
PARTICULARS	VALUE	UNITS
DETENTION POND VOLUME	365,048	CUBIC FEET
POND AREA	1.527	ACRES
DESIGN WATER SURFACE ELEVATION	86.20	FEET
LOWEST OVERFLOW ELEVATION	84.28	FEET
MAXIMUM PONDING DEPTH	0.00	INCHES
ALLOWABLE FLOW RATE	22.44	CFS
MAX RELEASE RATE	10.16	CFS

Pond Data		
Elevation	Contour Area (sf)	Volume (cf)
78.5	-	-
79.00	743	222
80.00	11,054	6,120.75
81.00	24,138	23,716.75
82.00	32,120	51,845.75
83.00	41,011	88,411.25
84.00	52,069	134,951.25
84.275	53,432	187,701.75
85.00	57,025	242,930.25
86.00	61,037	301,961.25
86.20	57,827	361,393.45

DETENTION CALCULATIONS BASED ON 24 HOUR TYPE III SCS STORM.

- CN VALUE OF 92 FOR TYPE D SOIL AND 60% IMPERVIOUS COVERAGE
- 100 YEAR RAINFALL OF 12.43 INCHES PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL
- 2 YEAR RAINFALL OF 7.40 INCHES PER CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL

Max J. D. 11/21/17
FBC DEVELOPMENT COORDINATOR DATE

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

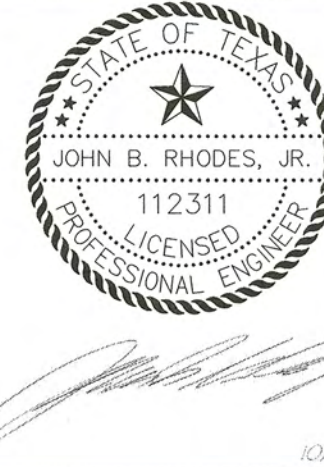
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
	AS SHOWN

TITLE:

DRAINAGE CALCULATIONS

SHEET NUMBER:

C-2.13

COMMENTS:

JOB/FILE NUMBER:

693.009

- 1) THE CONTRACTOR SHALL CONTRACT WITH CITY OF HOUSTON APPROVED CONTRACTOR TO TAP THE EXISTING WATER LINE AND INSTALL THE METERS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE WATER SERVICE LINE FROM THE WATER METER TO THE BUILDING.
- 2) THE CONTRACTOR SHALL CONTRACT WITH CITY OF HOUSTON APPROVED CONTRACTOR TO TAP THE EXISTING WATER LINE AND INSTALL THE METERS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE IRRIGATION LINES.
- 3) THE CONTRACTOR SHALL COORDINATE AS REQUIRED WITH CITY OF HOUSTON INSPECTIONS DURING CONSTRUCTION FOR REQUIRED INSPECTIONS.
- 4) THIS SITE INDICATES POTABLE WATER SERVICE AND SANITARY SEWER LATERALS. THIS WORK TO BE INSTALLED BY A LICENSED PLUMBER IF STATE LAW REQUIRES. ANY WORK MUST BE INSPECTED CITY OF HOUSTON CODES AND INSPECTION DEPARTMENT.
- 5) ALL ON-SITE PVP PIPE SHALL HAVE CLASS B BEDDING.
- 6) ALL CONDUIT, PIPE, AND CHASE PIPE SHALL BE WRAPPED WITH THE APPROPRIATE LOCATION WIRE AND TAPE.
- 7) NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRE LINES. ALL FIRE LINES ARE TO BE INSPECTED BY CITY OF HOUSTON FIRE SERVICE PRIOR TO COVERING.
- 8) THE CONTRACTOR SHALL NOTIFY WATER AND SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.
- 9) THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS INCLUDING ALL RIM ELEVATIONS, INVERT ELEVATIONS, PIPE SIZES, AND PIPE MATERIAL. FOR ALL PUBLIC MAINS TO THE ENGINEER AS SOON AS INSTALLATION IS COMPLETE.
- 10) OWNER SHALL BE RESPONSIBLE FOR ANY REPAIR OR REPLACEMENT OF ANY IMPROVEMENTS WITHIN THE SANITARY SEWER, WATER, DRAINAGE EASEMENT(S) DUE TO MAINTENANCE, WATER, AND SEWER WORK, AND/OR CITY OF HOUSTON.
- 11) THE CONTRACTOR SHALL INSTALL THE DOWNSTREAM SANITARY SEWER CONNECTION IN THE RIGHT OF WAY PRIOR TO THE INSTALLATION OF THE ON-SITE SERVICE LATERALS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLE THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED, INCLUDING ALL GASKETS AND JOINTS. THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT SANITARY SEWER DESIGN.
- 12) PVC WATER LINES LESS THAN 3" SHALL BE ASTM D 2241, SDR 21 WITH INTEGRALLY MOLDED BELT ENDS. ASTM D 2672, PVC WATER LINES 3" AND LARGER SHALL BE AWWA C300, RATED RD 18 (GS 150) WITH INTEGRALLY MOLDED BELT ENDS, ASTM D3339, DIP WATER LINES SHALL BE AWWA C151, THICKNESS CLASS 50.
- 13) PVC SANITARY SEWER LINES 6" AND SMALLER SHALL BE ASTM D 1765, SCH 40. PVC SANITARY SEWER LINES 8" AND LARGER SHALL BE ASTM D 3034, RATED SDR 35 WITH INTEGRALLY MOLDED BELT ENDS. ASTM D 3034, TABLE 2, WITH FACTORY SUPPLIED JOINTS. GASKETS AND JOINTS SHALL BE 150 PSI RATED SANITARY SEWER LINES SHALL BE ASTM A746, CLASS 50 WITH AWWA C111, RUBBER GASKET JOINT DEVICES.
- 14) DEMOLISHED UTILITIES NOT DEPICTED ON THIS SHEET REFER TO THE DEMOLITION PLAN ATTACHED.

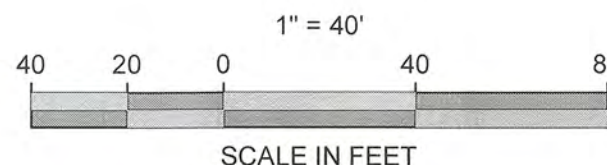
—S1— —S2— —S3— —S4—
 —CATV— —CATV—
 —FOC— —FOC— —FOC—
 —OWP— —OWP— —OWP—
 —UGS— —UGS—
 —UGT— —UGT—
 —GAS— —GAS— —GAS—
 —SS— —SS— —SS—
 —W— —W— —W—
 —CATV— —CATV—
 —FOC— —FOC— —FOC—
 —OWP— —OWP— —OWP—
 —UGS— —UGS—
 —UGT— —UGT—
 —GAS— —GAS— —GAS—
 —SS— —SS— —SS—
 —W— —W— —W—
 —FW— —FW— —FW—

EXISTING FENCE LINE
 PROPERTY LINE
 EXISTING CABLE TELEVISION LINE
 EXISTING FIBER OPTIC LINE
 EXISTING OVERHEAD POWER LINE
 EXISTING UNDERGROUND POWER LINE
 EXISTING UNDERGROUND TELEPHONE LINE
 EXISTING GAS LINE
 EXISTING SANITARY SEWER LINE
 EXISTING WATER LINE
 EXISTING STORM LINE
 PROPOSED CABLE TELEVISION LINE
 PROPOSED FIBER OPTIC LINE
 PROPOSED OVERHEAD POWER LINE
 PROPOSED UNDERGROUND POWER LINE
 PROPOSED UNDERGROUND TELEPHONE LINE
 PROPOSED GAS LINE
 PROPOSED SANITARY SEWER LINE
 PROPOSED WATER LINE
 PROPOSED FIRE WATER LINE
 PROPOSED STORM LINE

1	1-12"x8" MECHANICAL TAPPING SLEEVE 1-8" GATE VALVE
2	1-6" FIRE RATED DOMESTIC WATER METER
2A	1-8"x2" TEE 2" IRRIGATION SERVICE 1-2" 90° BEND 1-2" GATE VALVE 1-2" IRRIGATION METER
3	1-8"x6" TEE 1-FIRE HYDRANT ASSEMBLY 1-6" GATE VALVE
4	1-8" 45° BEND 4" FIRE WATER SERVICE
5	1-8"x4" TEE 1-4" GATE VALVE
6	1-4" 90° BEND 1-8"x1-1/4" TAPPING SADDLE 1-8" GATE VALVE
7	1-1-1/4" GATE VALVE 1-1/4" WATER SERVICE
8	1-2-1/2" 45° BEND 8"x2" TAPPING SLEEVE
9	1-8" GATE VALVE 1-2-1/2" GATE VALVE 2-1/2" WATER SERVICE
10	1-8"x6" TEE
11	1-4" 45° BEND 8"x1-1/4" TAPPING SADDLE
12	1-8" GATE VALVE 1-1-1/4" GATE VALVE 1-1/4" WATER SERVICE
13	1-1-1/4" 45° BEND 1-1-1/4" 90° BEND
14	1-8"x1-1/2" TAPPING SADDLE 1-8" GATE VALVE
15	1-1-1/2" GATE VALVE 1-1/2" WATER SERVICE
16	1-2-1/2" 45° BEND
17	WATER CROSSING (SEE SANITARY PROFILES FOR DETAILS)



DATE



693,009

PROVISION AT W BELLFORT

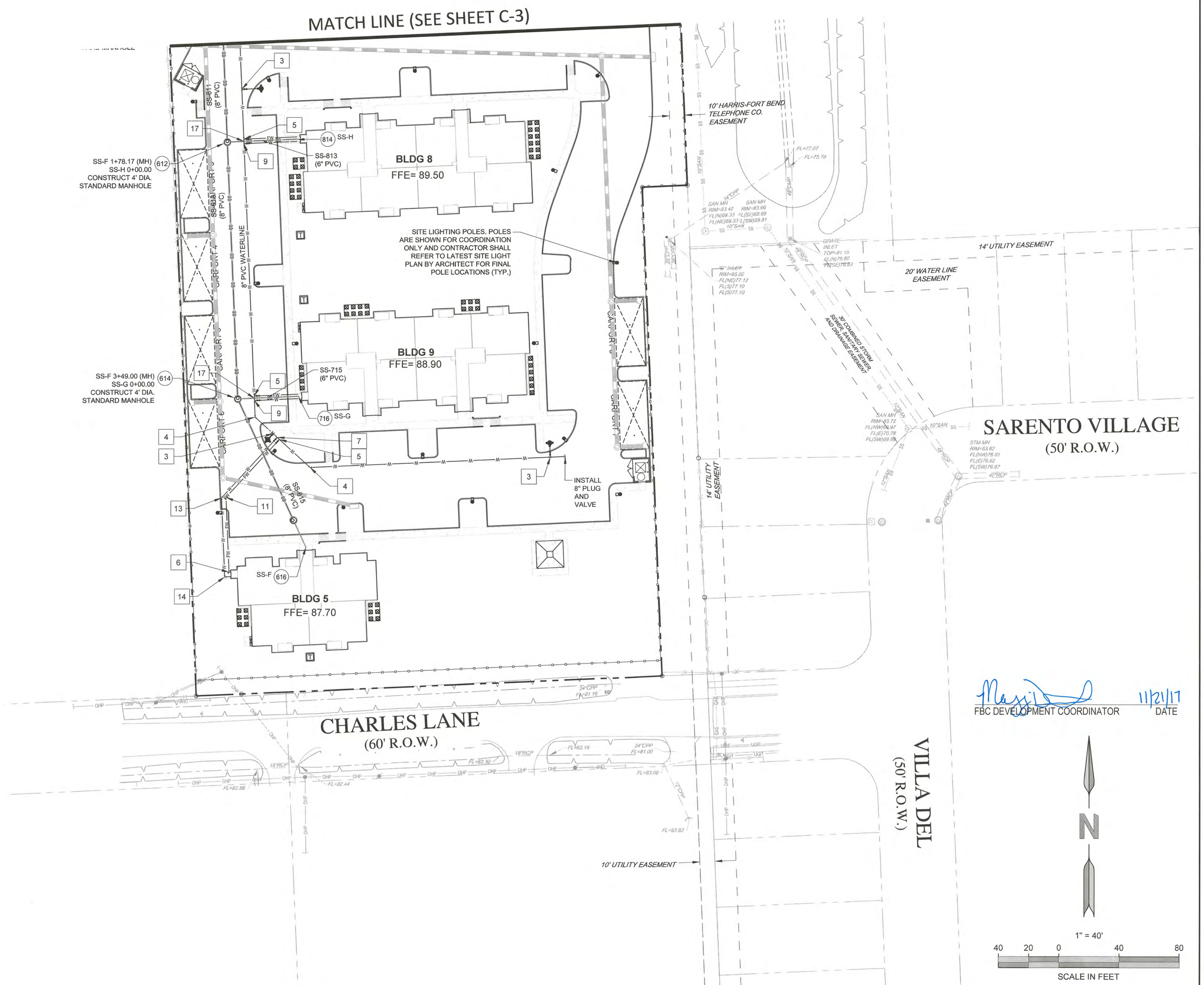
13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

UTILITY NOTES:

- 1) THE CONTRACTOR SHALL CONTRACT WITH CITY OF HOUSTON APPROVED CONTRACTOR TO TAP THE EXISTING WATER LINE AND INSTALL THE METERS. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE METER BOX, DOUBLE CHECK BACKFLOW PREVENTER AND ENCLOSURE, AND THE WATER SERVICE LINE FROM THE WATER METER TO THE BUILDING.
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- 5) ALL ON-SITE PVC PIPE SHALL HAVE CLASS B BEDDING.
- 6) ALL CONDUIT, PIPE, AND CHASE PIPE SHALL BE WRAPPED WITH THE APPROPRIATE LOCATION WIRE AND TAPE.
- 7) NO PRESSURE REDUCING VALVES ARE TO BE INSTALLED ON FIRE LINES. ALL FIRE LINES ARE TO BE INSPECTED BY CITY OF HOUSTON FIRE SERVICE PRIOR TO COVERING.
- 8) THE CONTRACTOR SHALL NOTIFY WATER AND SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.
- 9) THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS INCLUDING ALL RIM ELEVATIONS, PIPE SIZES, AND PIPE MATERIAL FOR ALL PUBLIC MAINS TO THE ENGINEER AS SOON AS INSTALLATION IS COMPLETE.
- 10) OWNER SHALL BE RESPONSIBLE FOR ANY REPAIR OR REPLACEMENT OF ANY IMPROVEMENTS WITHIN THE SANITARY SEWER, WATER, DRAINAGE EASEMENT(S) DUE TO MAINTENANCE OF SEWER, WATER, STORM DRAIN OF CITY OF HOUSTON.
- 11) THE CONTRACTOR SHALL INSTALL THE DOWNSTREAM SANITARY SEWER CONNECTION IN THE RIGHT OF WAY PRIOR TO THE INSTALLATION OF THE ON-SITE SERVICE LATERALS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES SHOWN ON THE PLANS BY POT HOLEING THE LINES. THE CONTRACTOR SHALL HAVE THE LINES SURVEYED, INCLUDING HORIZONTAL AND VERTICAL LOCATION, AND THE SURVEYED POINTS SENT TO THE PROJECT ENGINEER TO DETERMINE IF ANY UTILITY CONFLICTS WILL AFFECT THE CURRENT SANITARY SEWER DESIGN.
- 12) PVC WATER LINES LESS THAN 3" SHALL BE ASTM D 2241, SDR 21 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 2672. PVC WATER LINES 3" AND LARGER SHALL BE AWWA C900, RATED DR 18 (CLASS 150) WITH INTEGRALLY MOLDED BELL ENDS, ASTM D3139. DIP WATER LINES SHALL BE AWWA C151, THICKNESS CLASS 50.
- 13) PVC SANITARY SEWER LINES 6" AND SMALLER SHALL BE ASTM D 1785, SCH 40. PVC SANITARY SEWER LINES 8" AND LARGER SHALL BE ASTM D 3034, RATED SDR 35 WITH INTEGRALLY MOLDED BELL ENDS, ASTM D 3034, TABLE 2, WITH FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT. DIP SANITARY SEWER LINES SHALL BE ASTM A746, CLASS 50 WITH AWWA C111, RUBBER GASKET JOINT DEVICES.
- 14) DEMOLISHED UTILITIES NOT DEPICTED ON THIS SHEET. REFER TO THE DEMOLITION PLAN.

LEGEND	
	EXISTING FENCE LINE
	PROPERTY LINE
	EXISTING CABLE TELEVISION LINE
	EXISTING FIBER OPTIC LINE
	EXISTING OVERHEAD POWER LINE
	EXISTING UNDERGROUND POWER LINE
	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING GAS LINE
	EXISTING SANITARY SEWER LINE
	EXISTING WATER LINE
	EXISTING STORM LINE
	PROPOSED CABLE TELEVISION LINE
	PROPOSED FIBER OPTIC LINE
	PROPOSED OVERHEAD POWER LINE
	PROPOSED UNDERGROUND POWER LINE
	PROPOSED UNDERGROUND TELEPHONE LINE
	PROPOSED GAS LINE
	PROPOSED SANITARY SEWER LINE
	PROPOSED WATER LINE
	PROPOSED FIRE WATER LINE
	PROPOSED STORM LINE

CONTRACTOR TO CONTACT UTILITIES PROTECTION CENTER PRIOR TO ANY EXCAVATION	
WATER CALLOUTS	
1	1 - 12"x6" MECHANICAL TAPPING SLEEVE 1 - 8" GATE VALVE
2	1 - 6" FIRE RATED DOMESTIC WATER METER 1 - 8"x2" TEE 2" IRRIGATION SERVICE
2A	1 - 2" 90° BEND 1 - 2" GATE VALVE 1 - 2" IRRIGATION METER
3	1 - 8"x6" TEE 1 - FIRE HYDRANT ASSEMBLY 1 - 6" GATE VALVE
4	1 - 8" 45° BEND 4" FIRE WATER SERVICE
5	1 - 8"x4" TEE 1 - 4" GATE VALVE
6	1 - 4" 90° BEND 1 - 8"x1-1/4" TAPPING SADDLE 1 - 8" GATE VALVE
7	1 - 1-1/4" GATE VALVE 1-1/4" WATER SERVICE
8	1 - 2-1/2" 45° BEND 1 - 8"x3-1/2" TAPPING SLEEVE
9	1 - 8" GATE VALVE 1 - 2-1/2" GATE VALVE 2-1/2" WATER SERVICE
10	1 - 8"x8" TEE
11	1 - 4" 45° BEND 1 - 8"x1-1/4" TAPPING SADDLE 1 - 8" GATE VALVE
12	1 - 1-1/4" GATE VALVE 1-1/4" WATER SERVICE
13	1 - 1-1/4" 45° BEND
14	1 - 1-1/4" 90° BEND 1 - 8"x1-1/2" TAPPING SADDLE 1 - 8" GATE VALVE
15	1 - 1-1/2" GATE VALVE 1-1/2" WATER SERVICE
16	1 - 2-1/2" 45° BEND
17	WATER CROSSING (SEE SANITARY PROFILES FOR DETAILS)



Maxine
FBC DEVELOPMENT COORDINATOR

11/21/17
DATE

1" = 40'

SCALE IN FEET

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
D/B/A Foresite Consulting Group of Texas, Inc.

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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
112311
LICENSED PROFESSIONAL ENGINEER

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

UTILITIES PLAN

SHEET NUMBER:

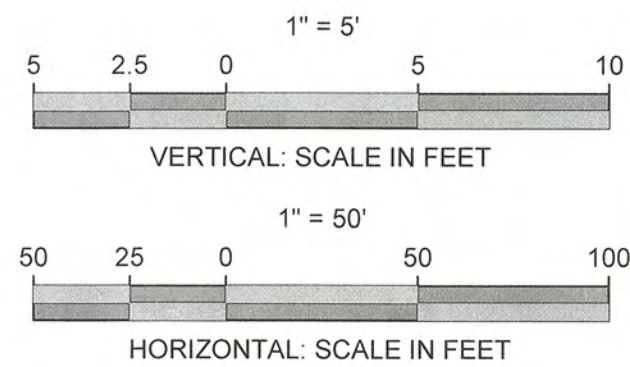
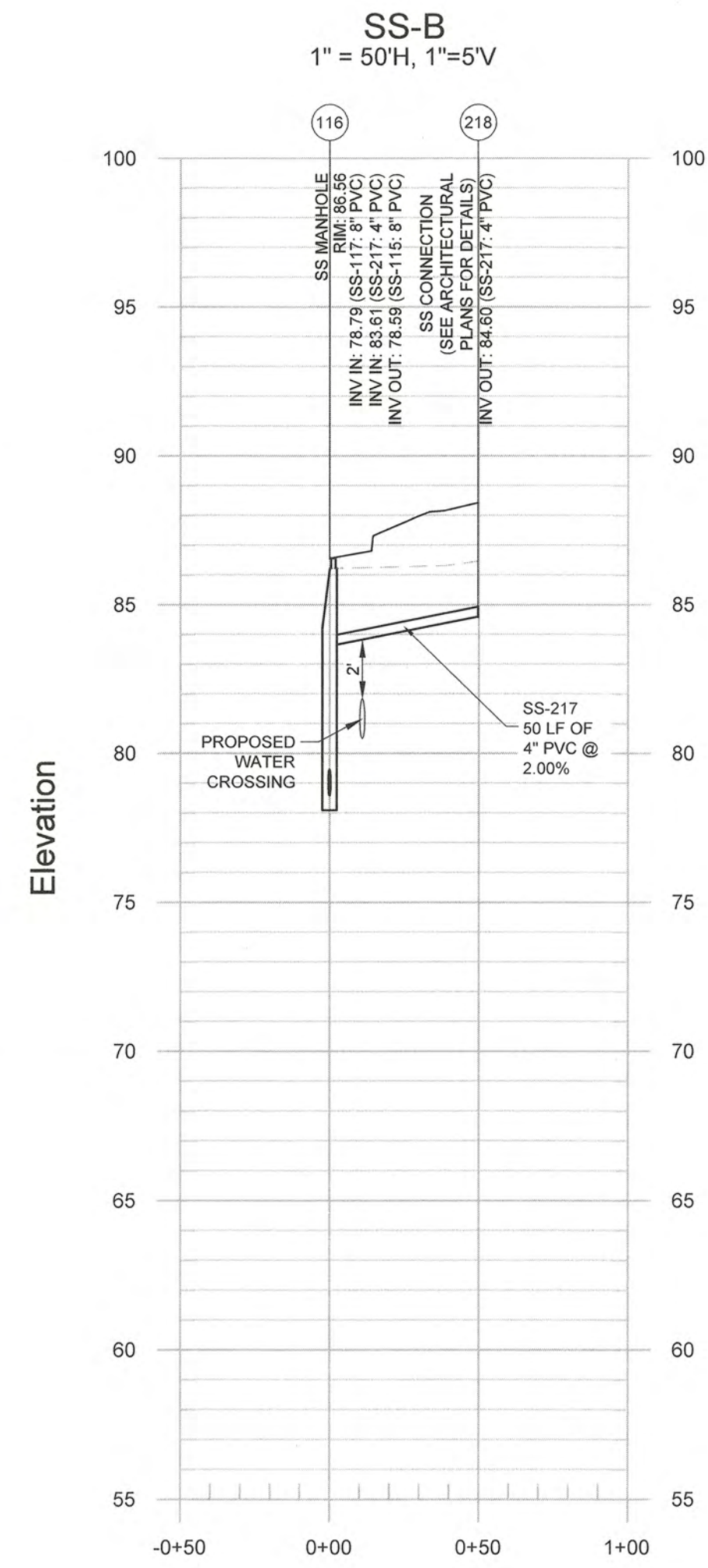
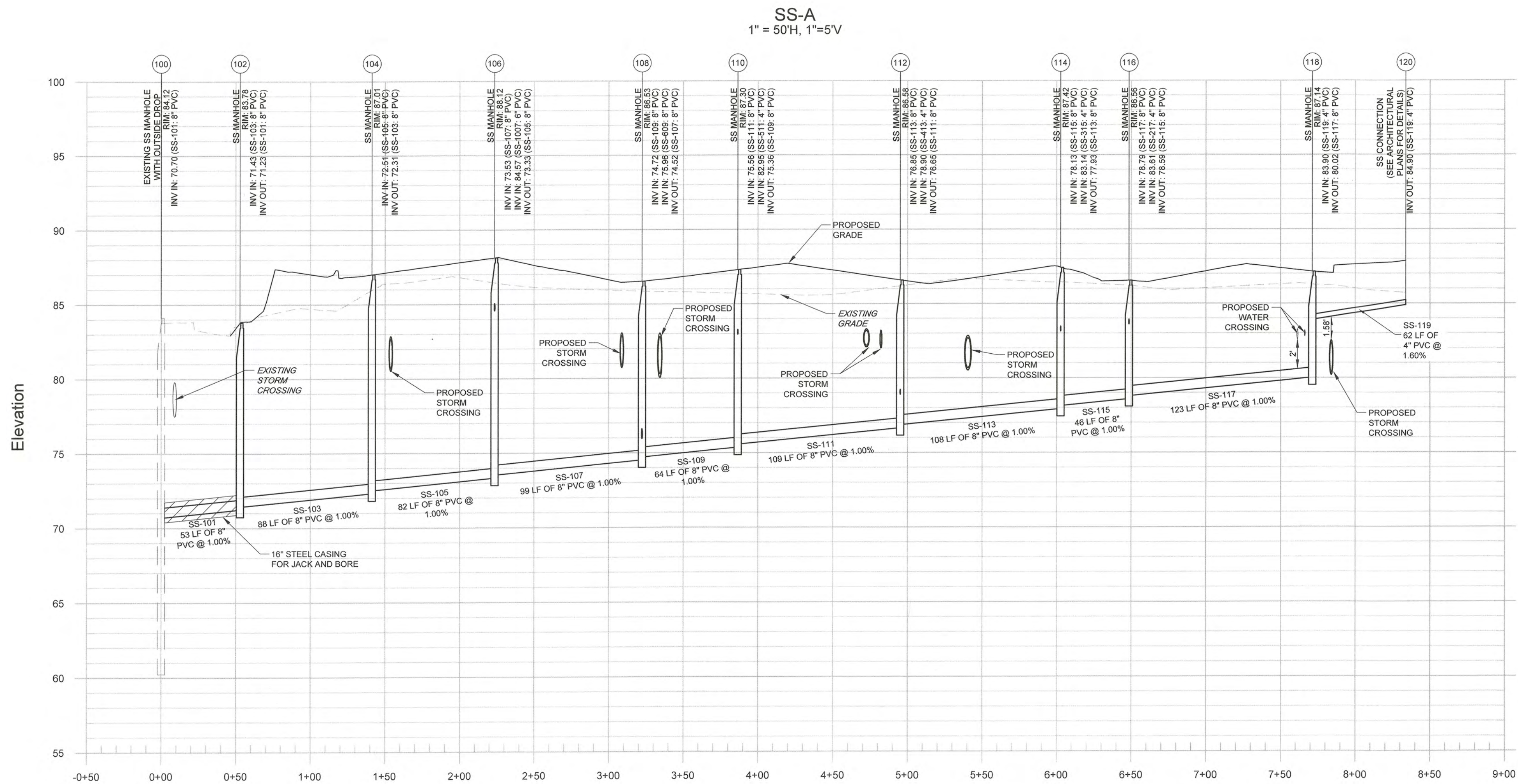
C-3.1

COMMENTS:

JOB/FILE NUMBER: 693.009

GENERAL NOTES:

- 1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- 2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.
- 3) THE CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT OF WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.



M. J. J. J.
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878
Foresite Group, Inc.
1999 Bryan St.
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DEVELOPER:

GARDNER CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
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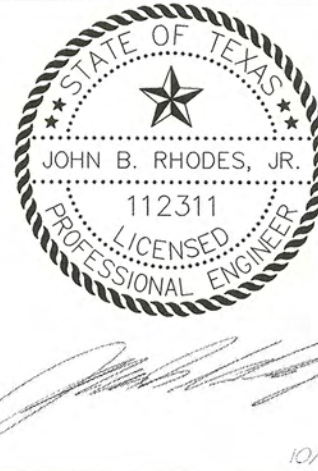
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN
DRAWING BY: DK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
AS SHOWN
TITLE:

SANITARY SEWER PROFILES

SHEET NUMBER:

C-3.2

COMMENTS:

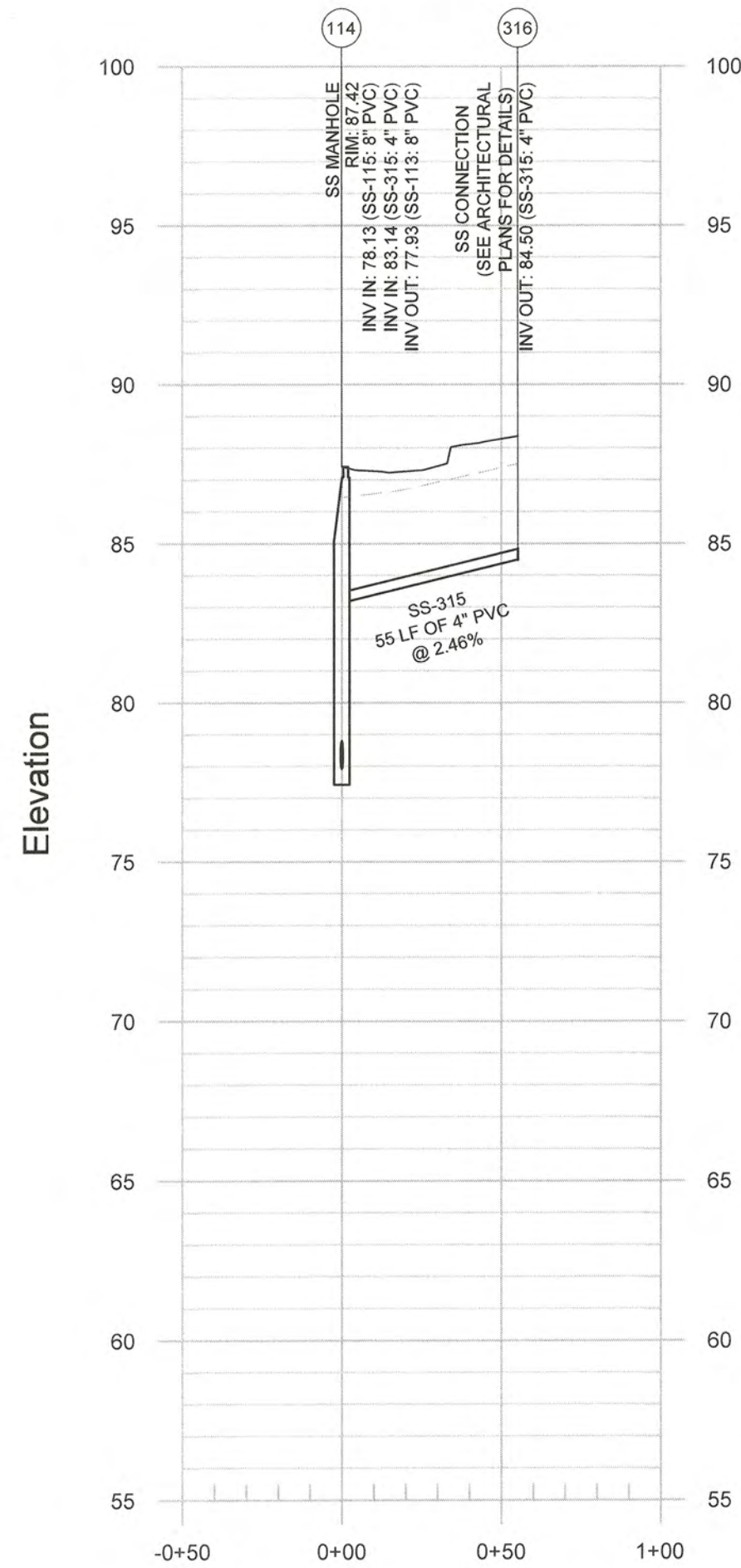
JOB/FILE NUMBER:

693.009

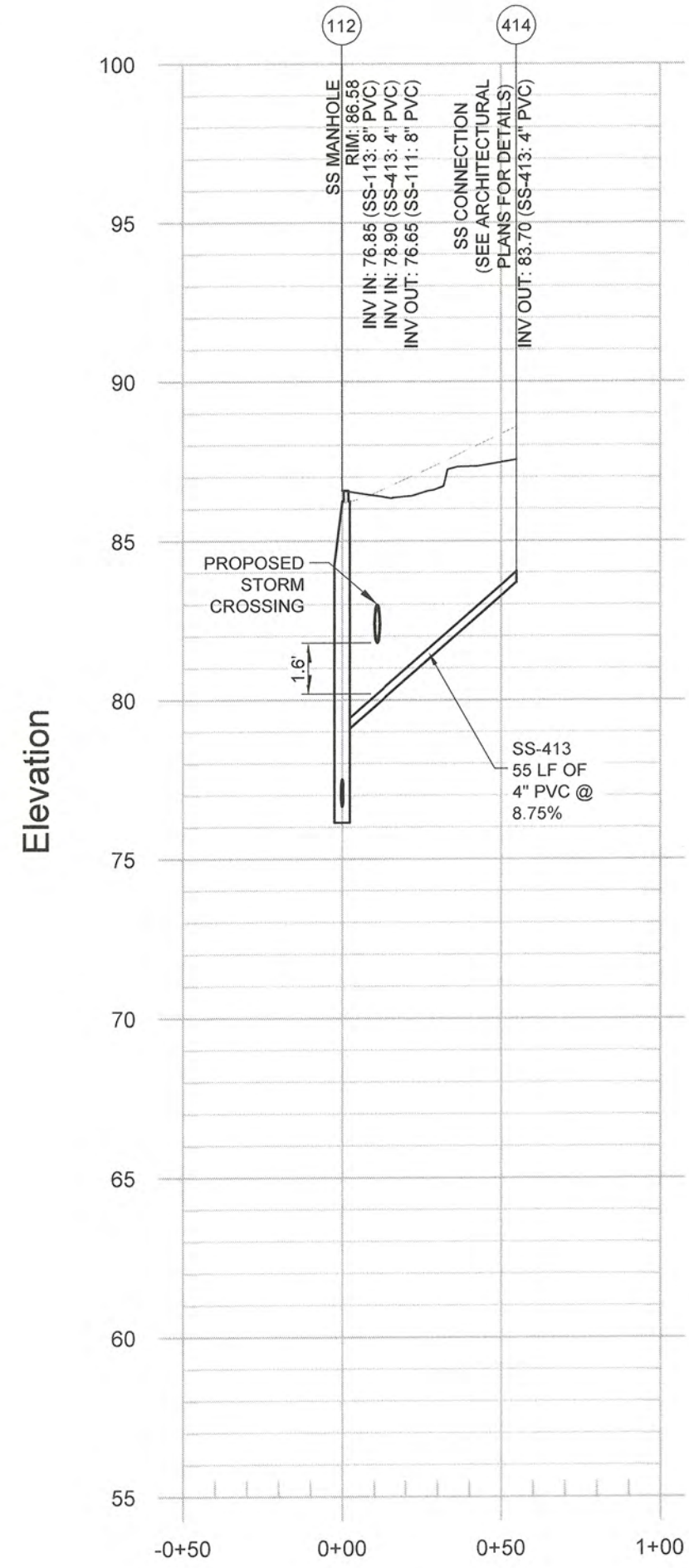
GENERAL NOTES:

- 1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- 2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.
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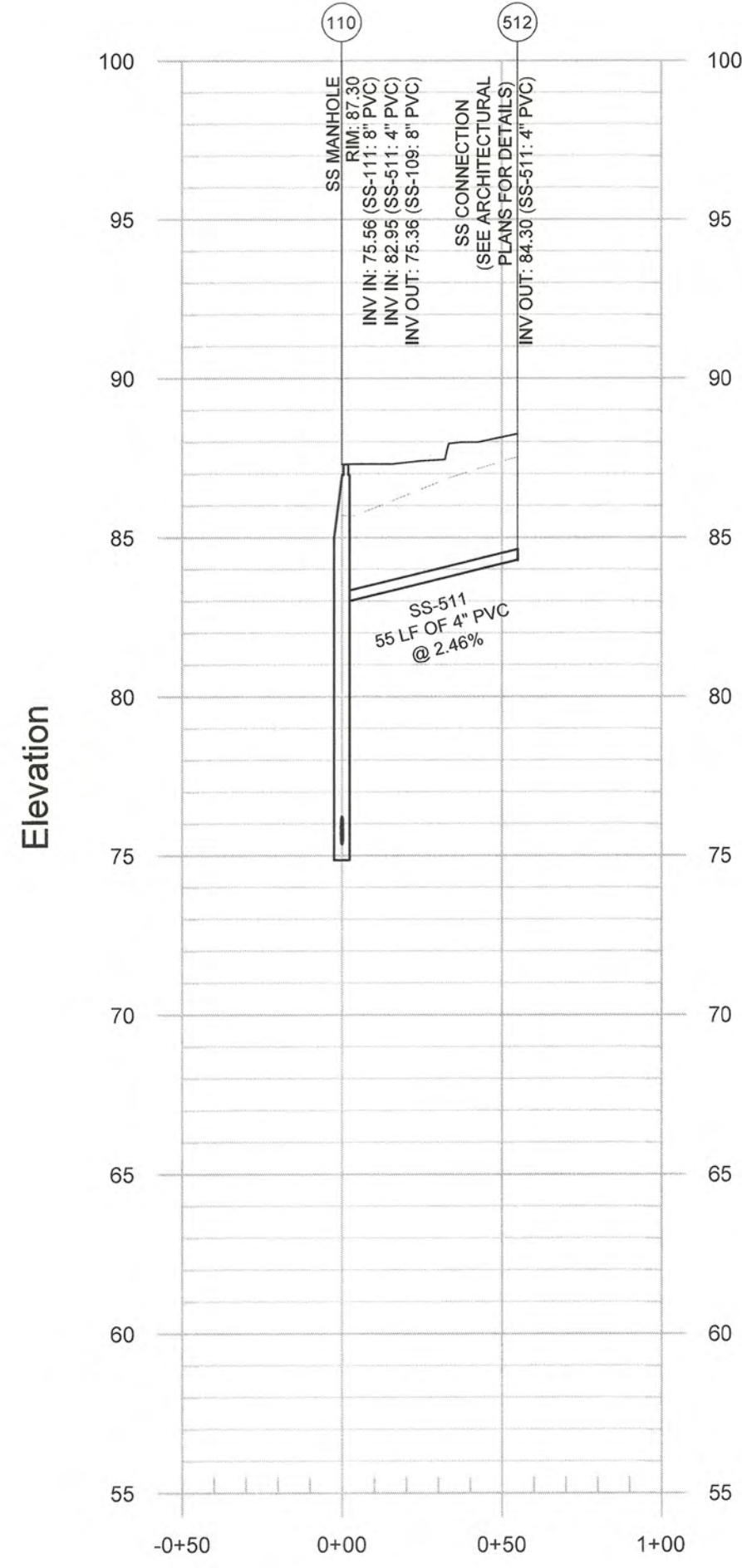
SS-C
1" = 50'H, 1"=5'V



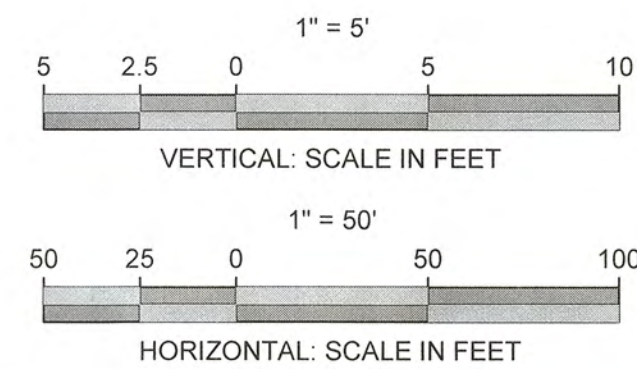
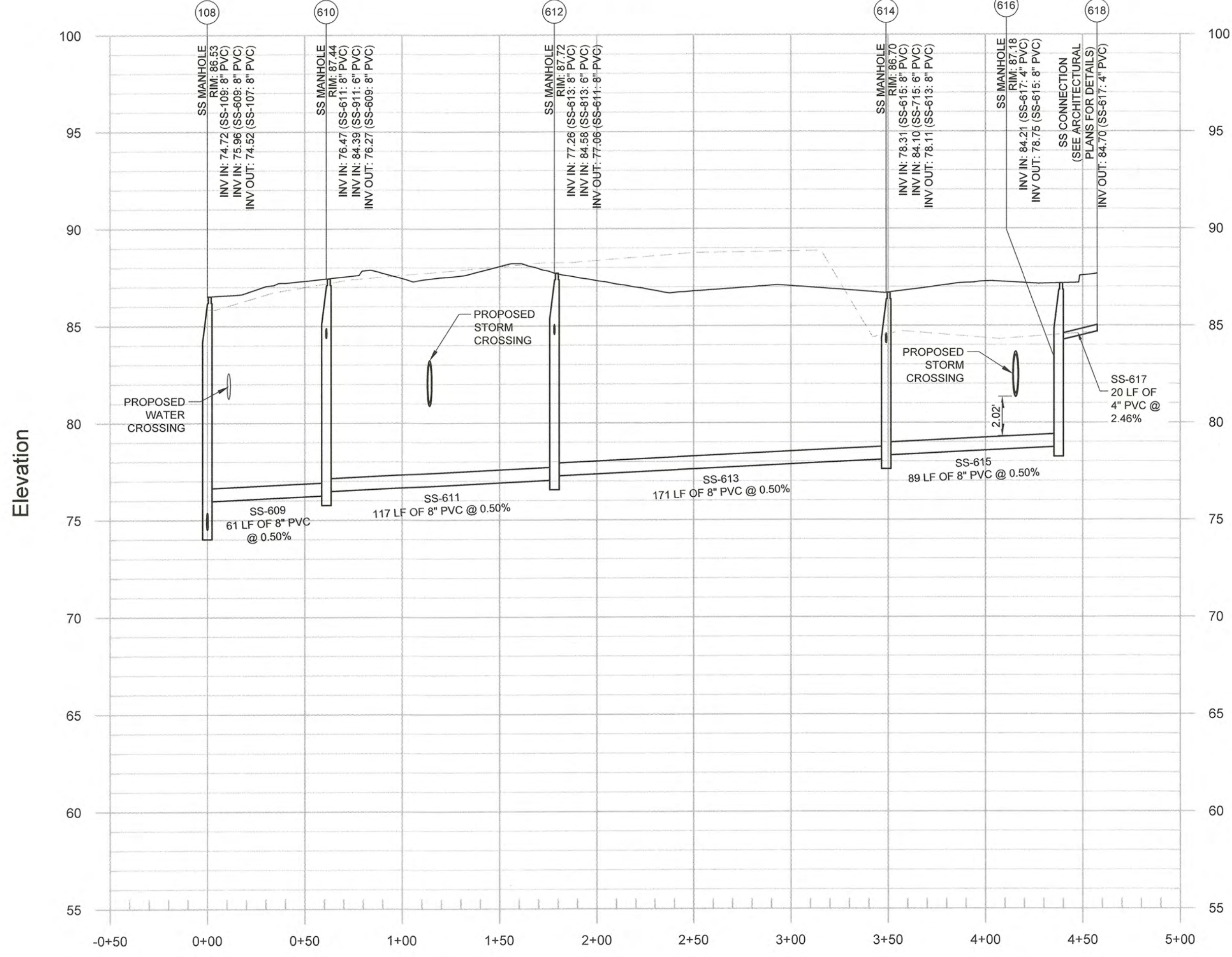
SS-D
1" = 50'H, 1"=5'V



SS-E
1" = 50'H, 1"=5'V



SS-F
1" = 50'H, 1"=5'V



11/21/17
FBC DEVELOPMENT COORDINATOR
DATE

ENGINEER:

FORESITE
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DEVELOPER:

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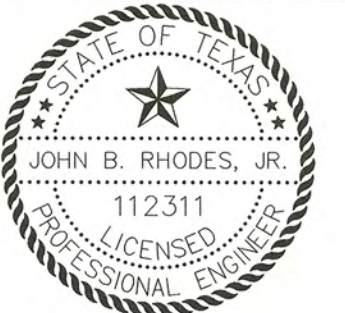
CONTACT: MR. RUBEN ESQUEDA

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/18/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

TITLE: AS SHOWN

TITLE:

SANITARY SEWER PROFILES

SHEET NUMBER:

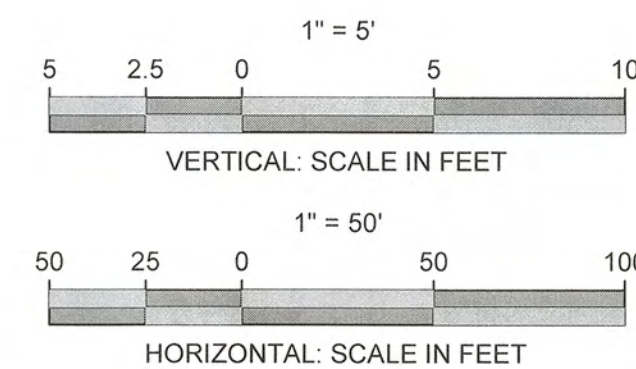
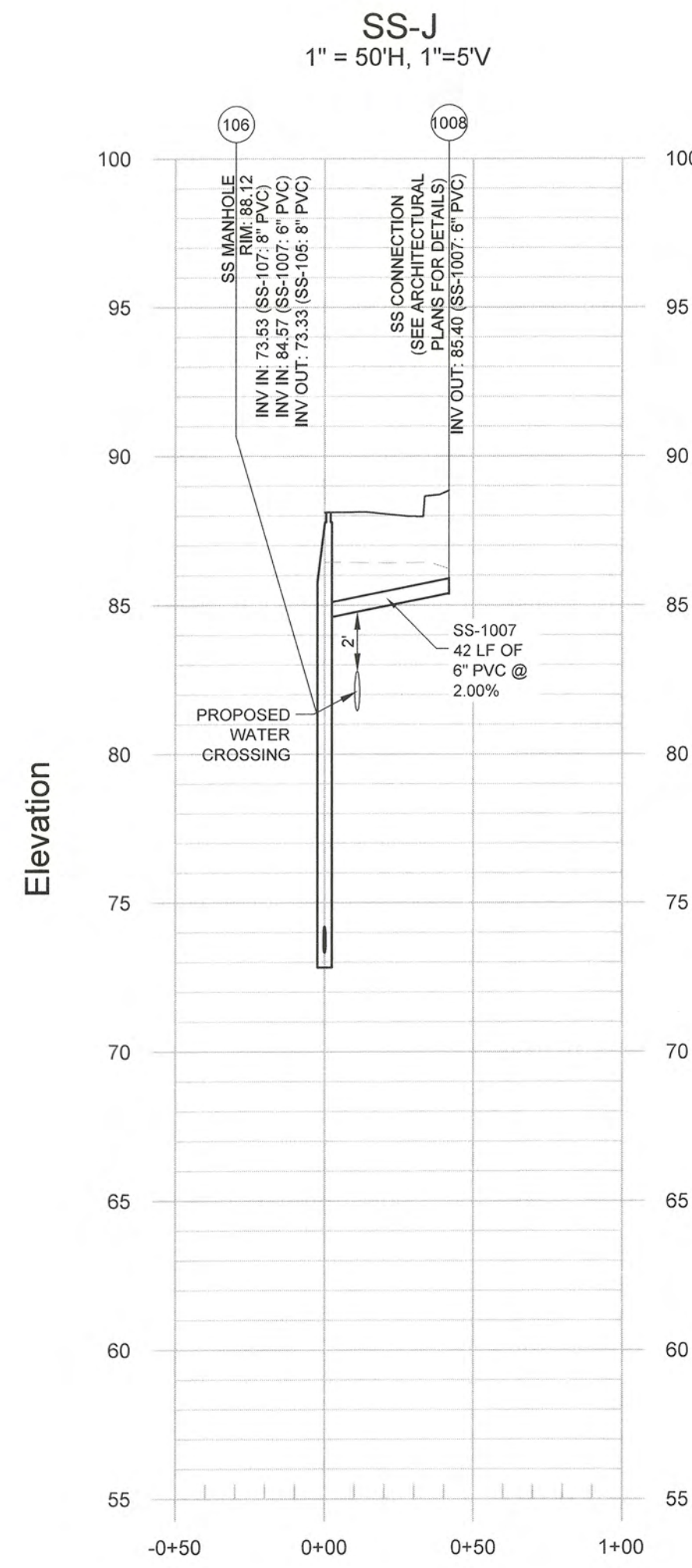
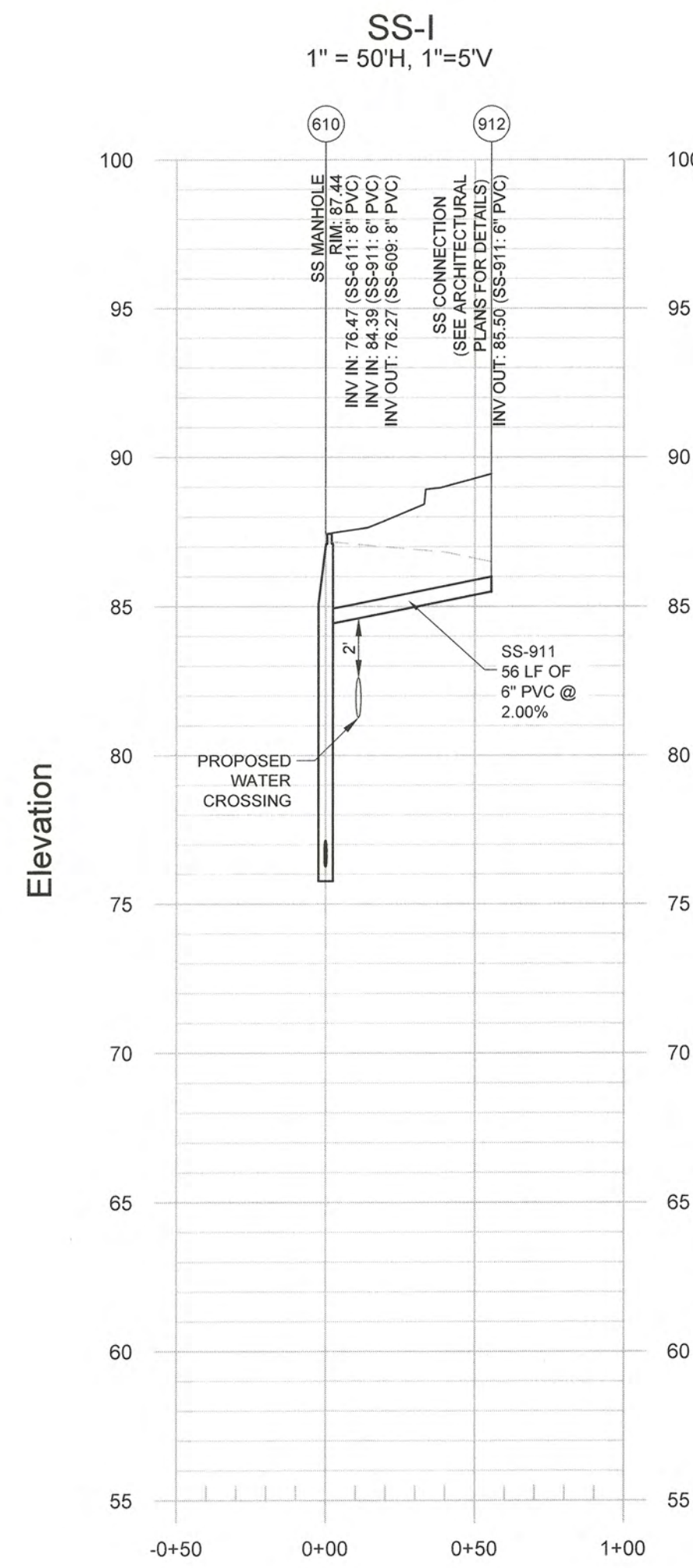
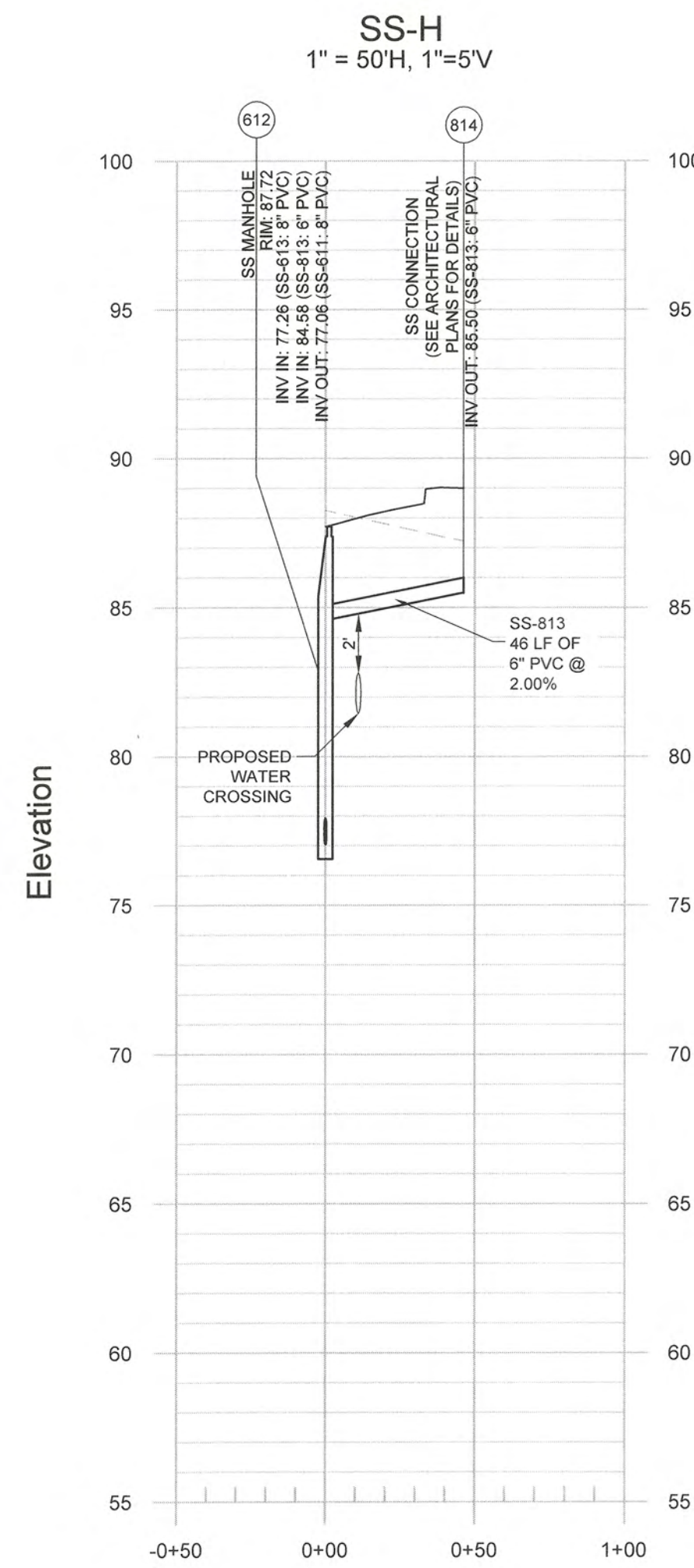
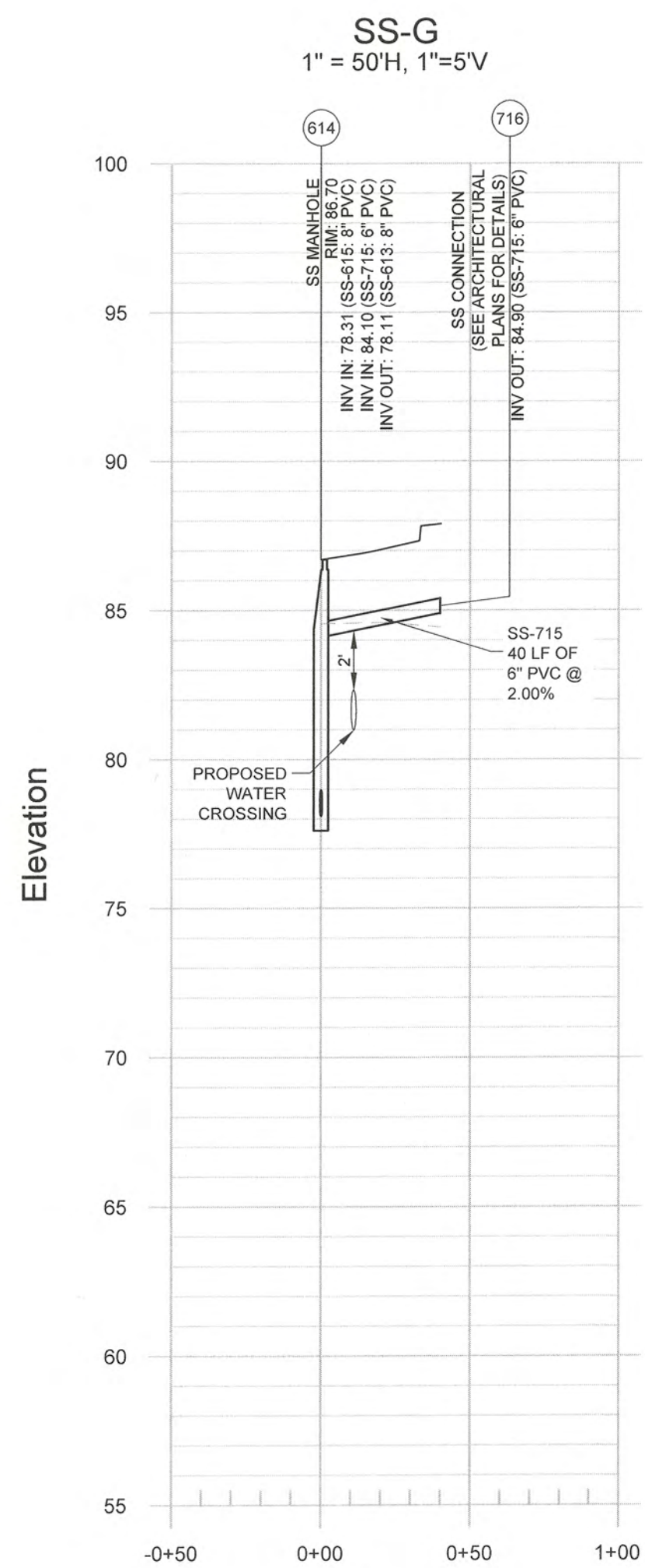
C-3.3

COMMENTS:

JOB/FILE NUMBER: 693.009

GENERAL NOTES:

- 1) PIPE LENGTHS REFLECT THE PIPES LINEAR LENGTH AND ARE SHOWN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- 2) EXISTING UTILITY DEPTHS ARE APPROXIMATED BASED ON 4 FT COVER FROM THE EXISTING GROUND SURFACE. PROPOSED UTILITY DEPTHS ARE BASED ON 4 FT OF COVER FROM THE PROPOSED GROUND SURFACE. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY DEPTHS AT CROSSING AND CONTACT ENGINEER IMMEDIATELY IF CONFLICTS ARE ENCOUNTERED.
- 3) THE CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATIONS OF UTILITIES IN RIGHT OF WAY TO AVOID CONFLICTS. CONTACT ENGINEER IMMEDIATELY IF FIELD ELEVATIONS DIFFER FROM THE DESIGN DRAWINGS.



Max
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE

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CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN
DRAWING BY: BK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
AS SHOWN
TITLE:

SANITARY SEWER PROFILES

SHEET NUMBER:

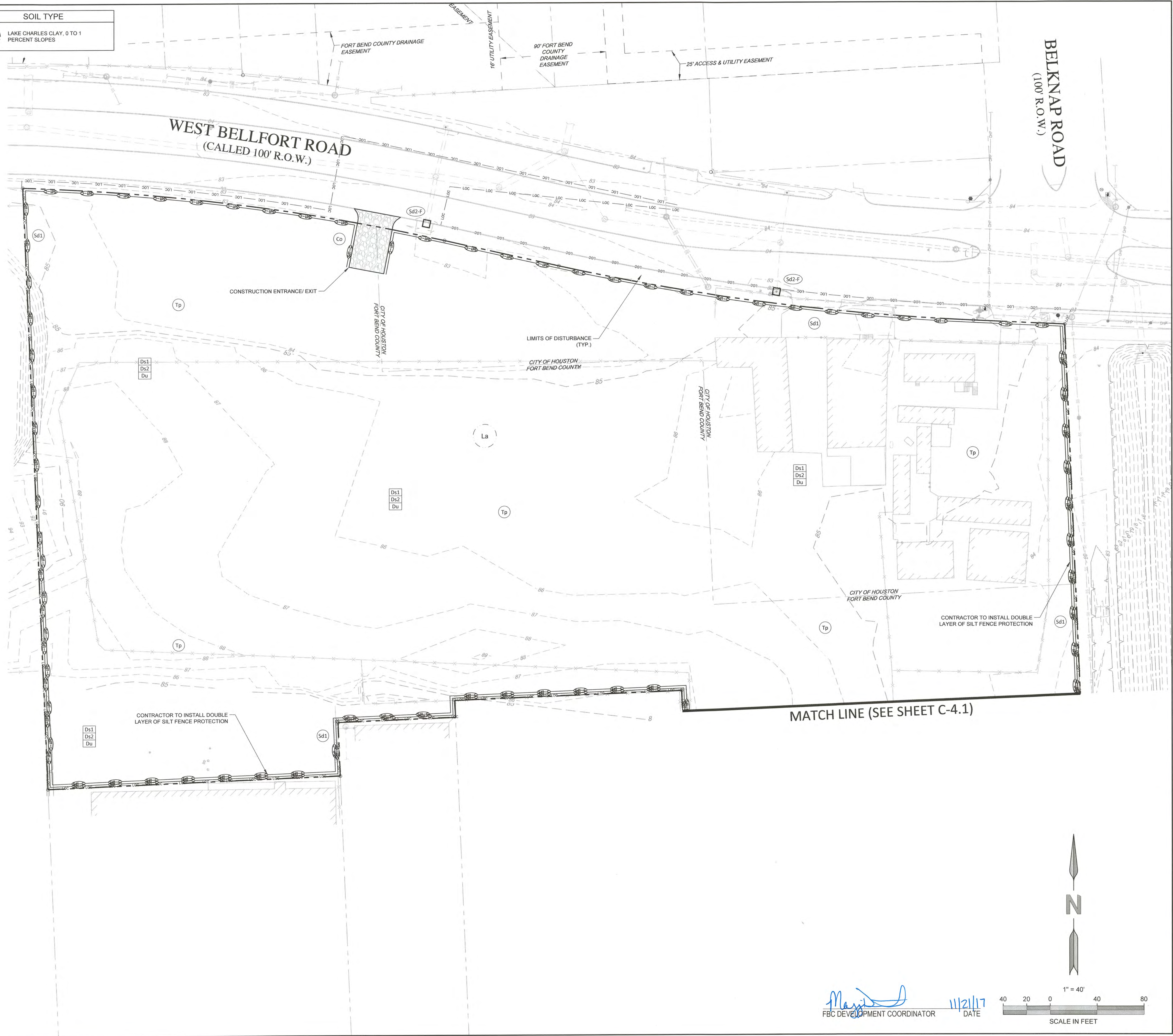
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COMMENTS:

JOB/FILE NUMBER: 693.009

EROSION AND SEDIMENT CONTROL LEGEND			
CODE	PRACTICE	DETAIL	MAP SYMBOL
Co	CONSTRUCTION ENTRANCE		Co
Sd1	SEDIMENT BARRIER		TYPE "C" SILT FENCE
Sd2-F	INLET SEDIMENT TRAP FILTER FABRIC WITH SUPPORTING FRAME		
Tp	TOPSOILING		Tp
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2
Du	DUST CONTROL ON DISTURBED AREAS		Du
	LIMITS OF CONSTRUCTION	N/A	LOC

SOIL TYPE	
La	LAKE CHARLES CLAY, 0 TO 1 PERCENT SLOPES



ENGINEER:

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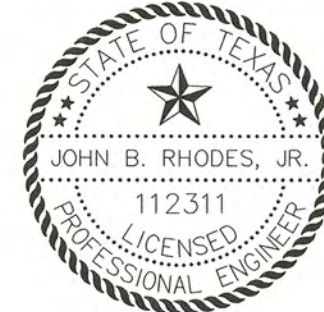
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PROJECT:
PROVISION AT W BELLFORT
13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
	1" = 40'
TITLE:	

INITIAL EROSION & SEDIMENT
CONTROL PLAN

SHEET NUMBER:

C-4

COMMENTS:

JOB/FILE NUMBER: 693.009

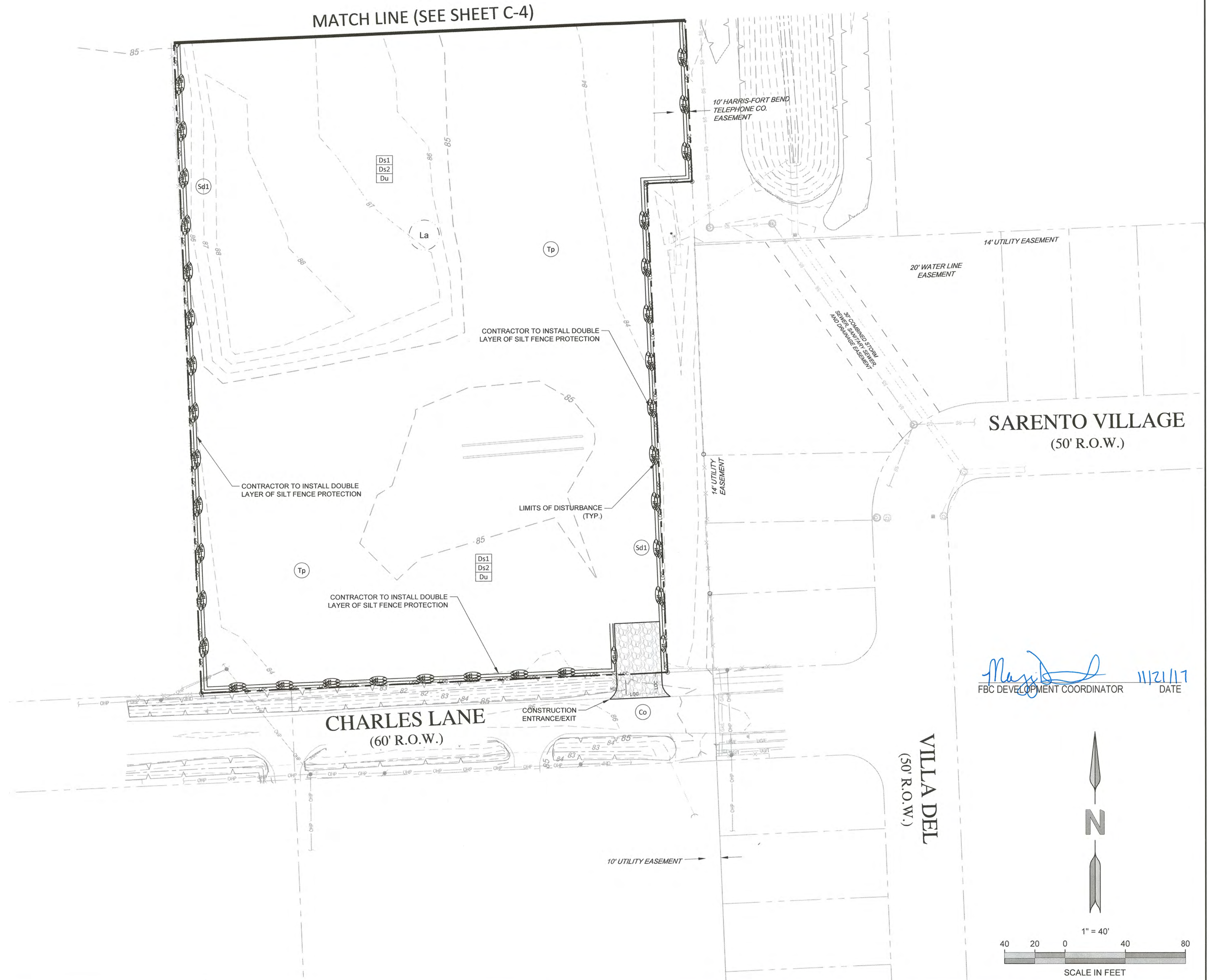


11/21/17
FBC DEVELOPMENT COORDINATOR
DATE

1" = 40'
SCALE IN FEET

EROSION AND SEDIMENT CONTROL LEGEND			
CODE	PRACTICE	DETAIL	MAP SYMBOL
Co	CONSTRUCTION ENTRANCE		
Sd1	SEDIMENT BARRIER		
Sd2-F	INLET SEDIMENT TRAP FILTER FABRIC WITH SUPPORTING FRAME		
Tp	TOPSOILING		
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		
Du	DUST CONTROL ON DISTURBED AREAS		
	LIMITS OF CONSTRUCTION	N/A	

SOIL TYPE	
La	LAKE CHARLES CLAY, 0 TO 1 PERCENT SLOPES



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PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

INITIAL EROSION & SEDIMENT
CONTROL PLAN

SHEET NUMBER:

C-4.1

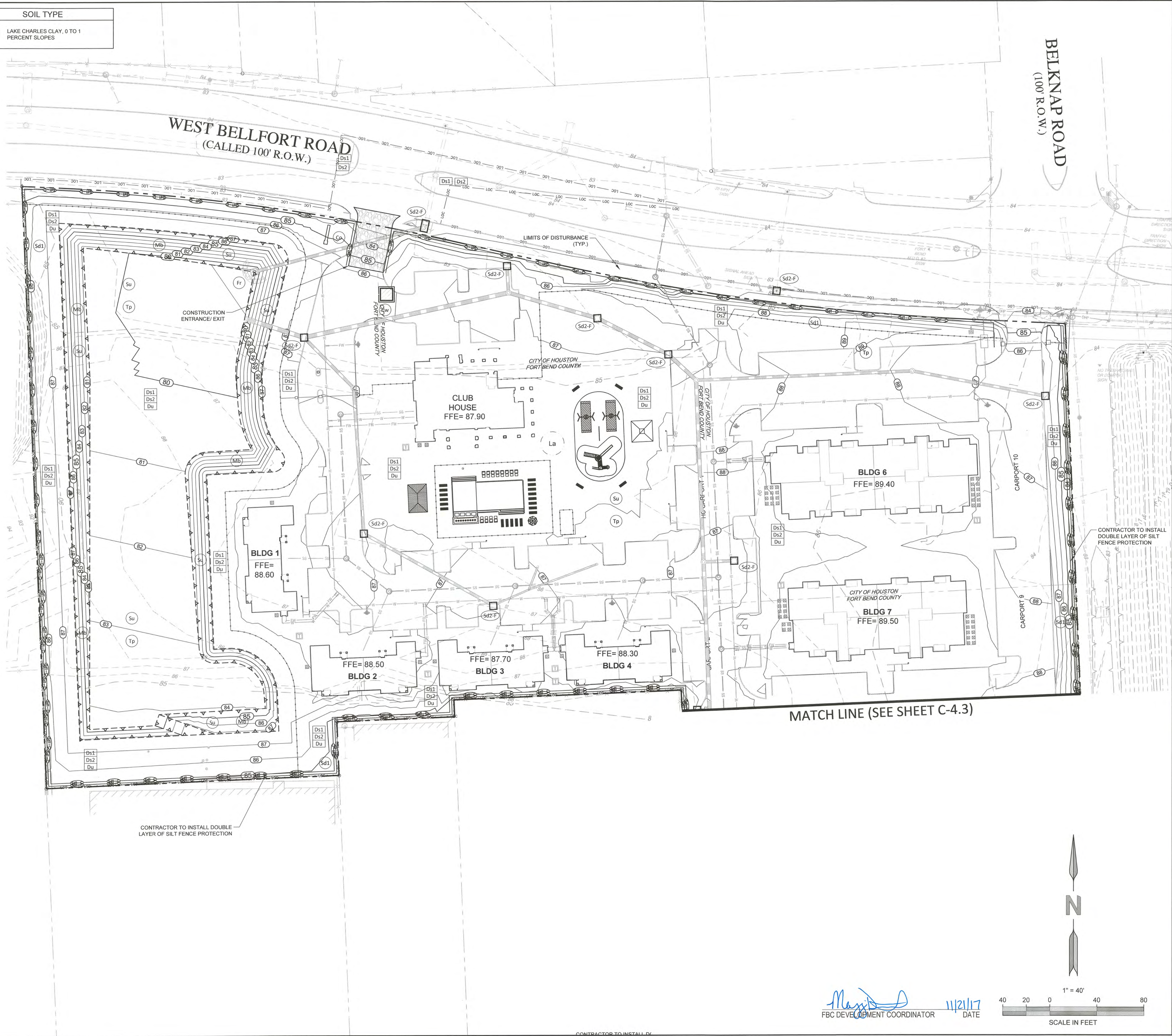
COMMENTS:

JOB/FILE NUMBER: 693.009



EROSION AND SEDIMENT CONTROL LEGEND			
CODE	PRACTICE	DETAIL	MAP SYMBOL
Co	CONSTRUCTION ENTRANCE		Co
Cw	CONCRETE WASHOUT AREA		Cw
Fr	FILTER RING		Fr
Sd1	SEDIMENT BARRIER		TYPE "C" SILT FENCE
Sd2-F	INLET SEDIMENT TRAP FILTER FABRIC WITH SUPPORTING FRAME		
Su	SURFACE ROUGHENING		Su
Tp	TOPSOILING		Tp
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2
Du	DUST CONTROL ON DISTURBED AREAS		Du
Mb	MATting AND BLANKETING		Mb
	LIMITS OF CONSTRUCTION	N/A	LOC

SOIL TYPE	
La	LAKE CHARLES CLAY, 0 TO 1 PERCENT SLOPES



ENGINEER:

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CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

INTERMEDIATE EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:

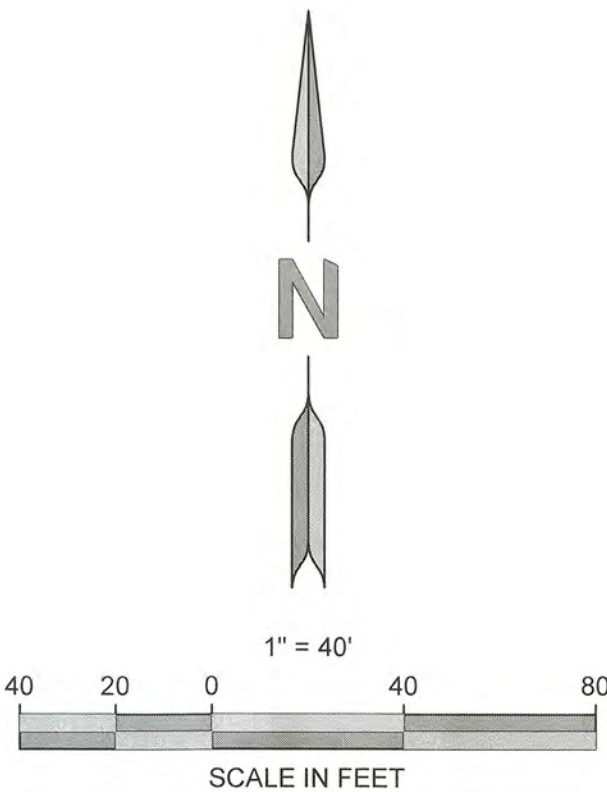
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COMMENTS:

JOB/FILE NUMBER: 693.009

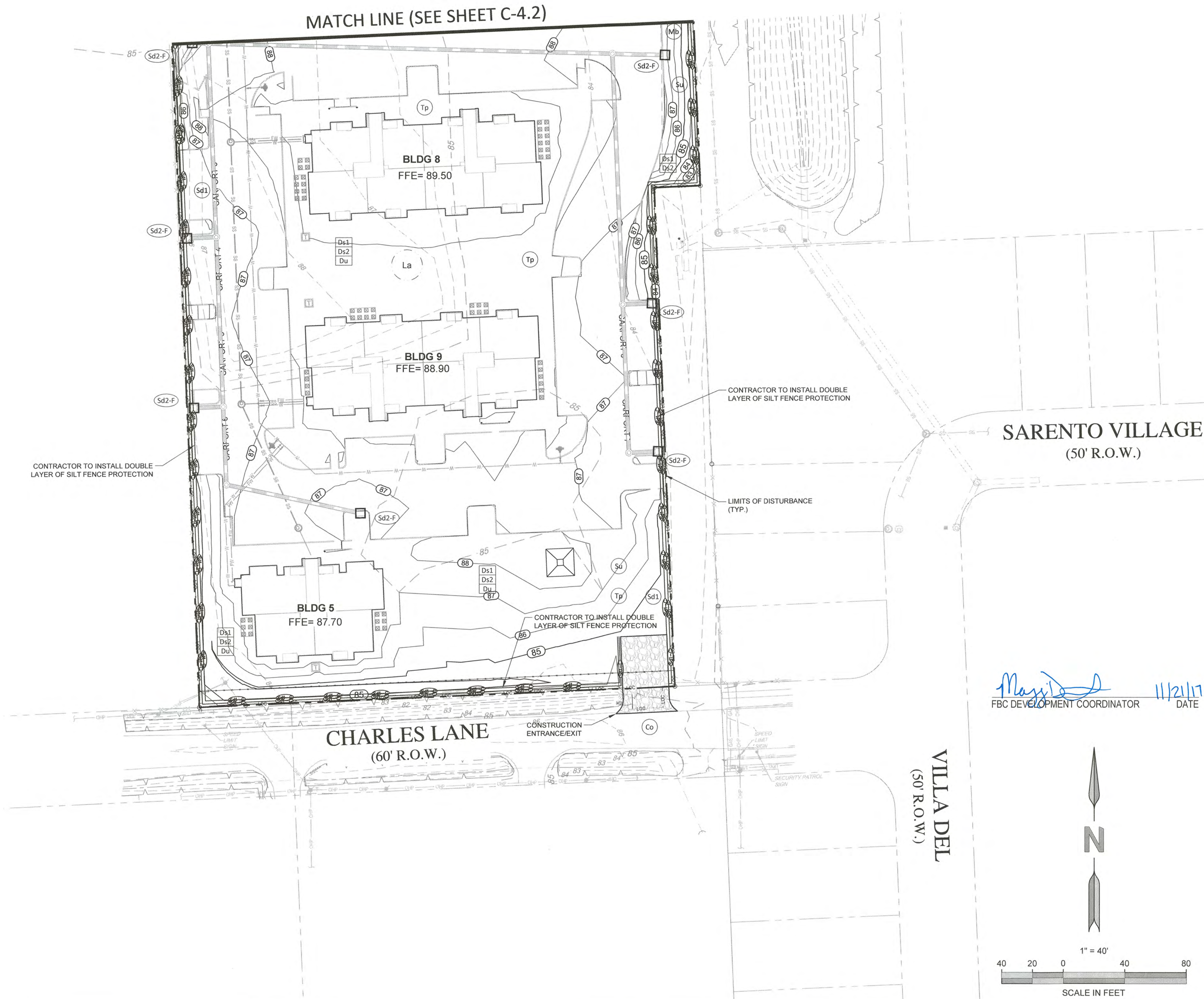


Mazda
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE



EROSION AND SEDIMENT CONTROL LEGEND			
CODE	PRACTICE	DETAIL	MAP SYMBOL
Co	CONSTRUCTION ENTRANCE		Co
Cw	CONCRETE WASHOUT AREA		Cw
Fr	FILTER RING		Fr
Sd1	SEDIMENT BARRIER		TYPE "C" SILT FENCE
Sd2-F	INLET SEDIMENT TRAP FILTER FABRIC WITH SUPPORTING FRAME		
Su	SURFACE ROUGHENING		Su
Tp	TOPSOILING		Tp
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2
Du	DUST CONTROL ON DISTURBED AREAS		Du
Mb	MATting AND BLANKETING		Mb
	LIMITS OF CONSTRUCTION	N/A	LOC

SOIL TYPE	
La	LAKE CHARLES CLAY, 0 TO 1 PERCENT SLOPES



ENGINEER:

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PROJECT:

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
112311
LICENSED PROFESSIONAL ENGINEER

10/27/17

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

INTERMEDIATE EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:

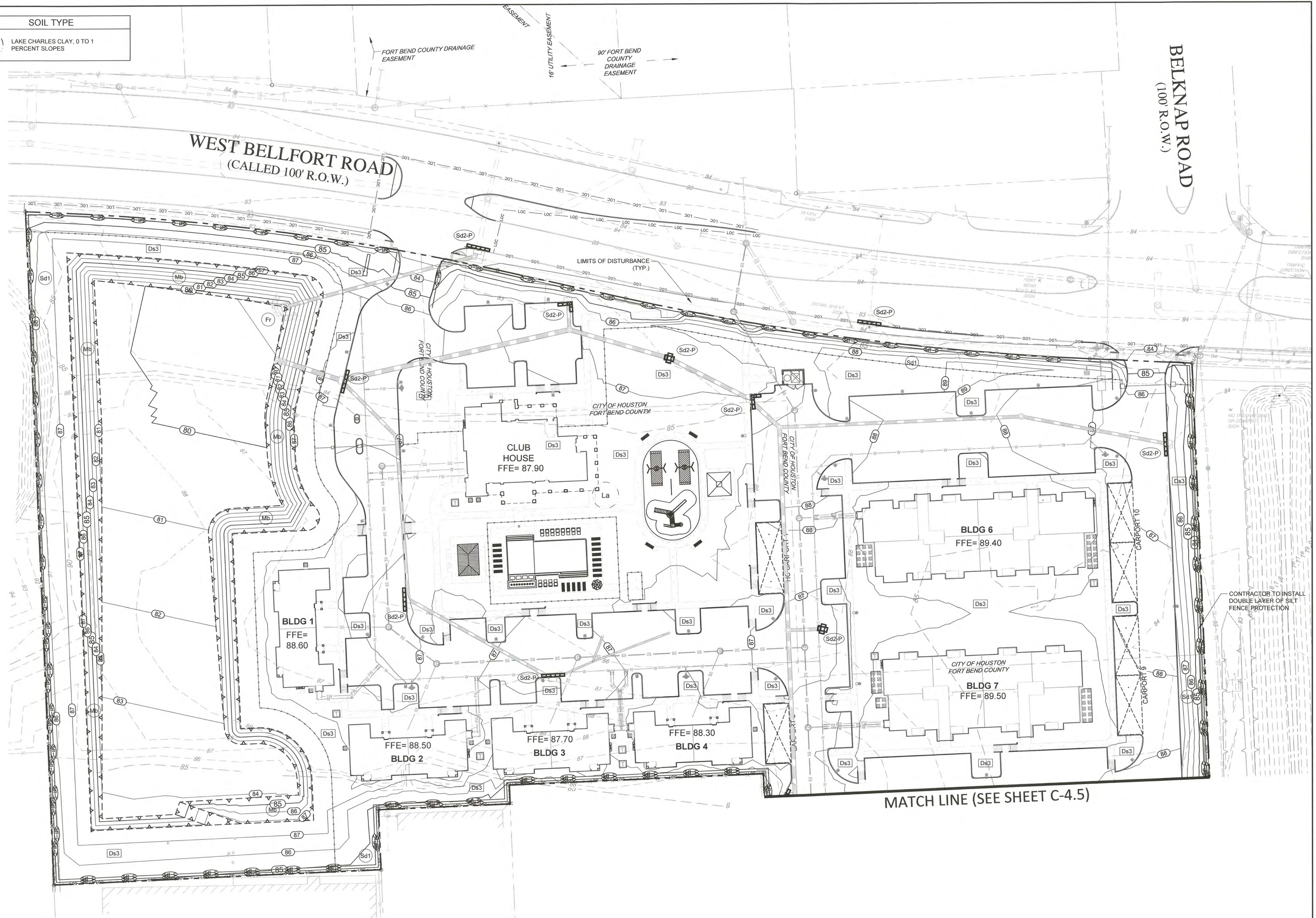
C-4.3

COMMENTS:

JOB/FILE NUMBER: 693.009

EROSION AND SEDIMENT CONTROL LEGEND			
CODE	PRACTICE	DETAIL	MAP SYMBOL
Fr	FILTER RING		Fr
Sd1	SEDIMENT BARRIER		TYPE "C" SILT FENCE
Sd2-P	INLET SEDIMENT TRAP CURB INLET PROTECTION		
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		Ds3
Mb	MATting AND BLANKETING		Mb
	LIMITS OF CONSTRUCTION	N/A	LOC

SOIL TYPE	
La	LAKE CHARLES CLAY, 0 TO 1 PERCENT SLOPES



ENGINEER:

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PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
112311
LICENSED PROFESSIONAL ENGINEER

10/27/17

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

FINAL EROSION & SEDIMENT
CONTROL PLAN

SHEET NUMBER:

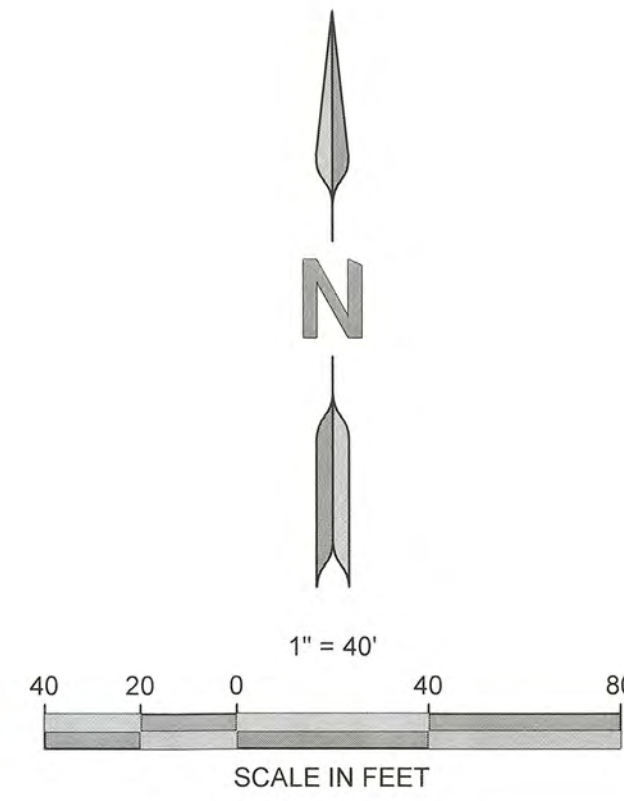
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COMMENTS:

JOB/FILE NUMBER: 693.009

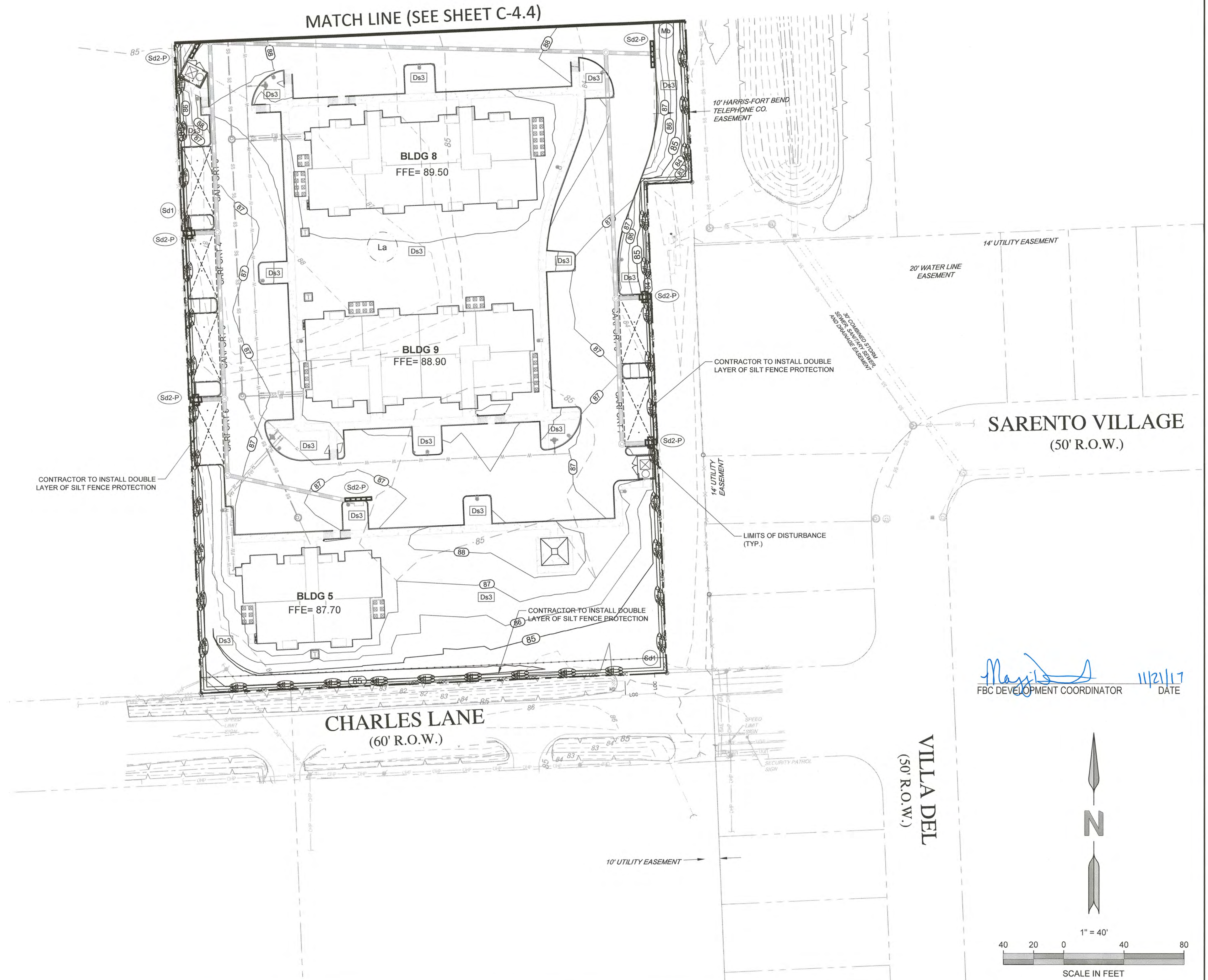


Max
FBC DEVELOPMENT COORDINATOR
11/2/17
DATE



EROSION AND SEDIMENT CONTROL LEGEND			
CODE	PRACTICE	DETAIL	MAP SYMBOL
Fr	FILTER RING		
Sd1	SEDIMENT BARRIER		
Sd2-P	INLET SEDIMENT TRAP CURB INLET PROTECTION		
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		
Mb	MATting AND BLANKETING		
	LIMITS OF CONSTRUCTION	N/A	

SOIL TYPE	
La	LAKE CHARLES CLAY, 0 TO 1 PERCENT SLOPES



ENGINEER:

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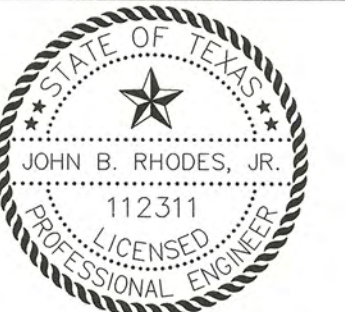
CONTACT: MR. RUBEN ESQUEDA

PROVISION AT W BELFORT

13701 W BELFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	1" = 40'

FINAL EROSION & SEDIMENT
CONTROL PLAN

SHEET NUMBER:

C-4.5

COMMENTS:

JOB/FILE NUMBER:

693.009



Know what's below
Call before you dig

EROSION CONTROL NOTES:

- 1) THE CONTRACTOR SHALL PREPARE AND MAINTAIN A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH TCEQ REGULATIONS.
- 2) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES 24 HR CONTACT: MR. JOHN B. RHODES, JR., PE (214) 939-7123. CONTRACTOR SHALL INFORM ENGINEER WHEN CONSTRUCTION BEGINS.
- 3) THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES SHALL TAKE PLACE PRIOR TO OR CONCURRENT WITH ALL LAND DISTURBING ACTIVITIES THROUGHOUT THE ENTIRE PROJECT.
- 4) ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
- 5) EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- 6) THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, ALL LAND DISTURBING ACTIVITIES THROUGHOUT THE ENTIRE PROJECT.
- 7) SEDIMENT STORAGE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, INDICATING THE 1/3 FULL VOLUME.
- 8) THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT WHEN THE ACCUMULATED SILT IS ONE-THIRD (1/3) FULL FOR ALL EROSION & SEDIMENT CONTROL STRUCTURES.
- 9) MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE PROPERTY OWNER.
- 10) A 25-FOOT UNDISTURBED BUFFER IS TO BE MAINTAINED ADJACENT TO ALL STREAMS.
- 11) DETENTION POND, DETENTION OUTLET STRUCTURES AND TEMPORARY SEDIMENT POND FEATURES ARE TO BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION.
- 12) ALL FILL SLOPES SHALL HAVE SILT FENCE PLACED AT THE SLOPE'S TOE.
- 13) CONCENTRATED FLOW AREAS AND ALL SLOPES STEEPER THAN 2.5:1 WITH A HEIGHT OF TEN FEET OR GREATER SHALL STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING.
- 14) THE PROFESSIONAL WHO SEALS THIS PLAN CERTIFIES UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY THE PROFESSIONAL OR THE PROFESSIONAL'S AUTHORIZED AGENT, UNDER THE PROFESSIONAL'S DIRECT SUPERVISION.
- 15) EROSION CONTROL DEVICES THAT ARE INSTALLED AS DIRECTED BY THE LAND DEVELOPMENT INSPECTOR BUT NOT SHOWN ON THE APPROVED PLAN AND WHICH ALSO SUBSEQUENTLY FAIL, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- 16) ALL TEMPORARY AND PERMANENT SEEDING MUST BE PERFORMED AT THE APPROPRIATE SEASON. ADDITIONAL PLANTINGS WILL BE NECESSARY IF A SUFFICIENT STAND OF GRASS FAILS TO GROW.
- 17) TOPSOIL SHALL BE STOCKPILED AND USED TO DRESS FINAL GRADES.
- 18) NO PORTION OF THE SUBJECT PROPERTY LIES WITHIN A 100 YEAR FLOOD HAZARD AREA PER FIRM MAP NUMBER 48157C0145L DATED 04/02/2014.
- 19) THE CONTRACTOR WILL CLEAN OUT ACCUMULATED SILT IN THE STORM DRAINAGE PIPES AT END OF CONSTRUCTION WHEN DISTURBED AREAS HAVE BEEN STABILIZED.
- 20) ALL LOTS WITH WET LAND OR WITHIN A DAM ZONE SHALL BE DENOTED WITH AN ASTERISK.
- 21) APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY CITY OF HOUSTON OR TCEQ OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS AND/OR WHICH MAY IMPACT ENDANGERED SPECIES. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULARITY AGENCY FOR APPROVAL OF ANY DISTURBANCE WHICH MAY HAVE THIS EFFECT.
- 22) ALL CONSTRUCTION SHALL COMPLY WITH THE SPECIFICATIONS AND PROCEDURES DETAILED IN THE CURRENT DEVELOPMENT REGULATIONS OF CITY OF HOUSTON.
- 23) TWO ROWS OF SILT FENCE SHALL BE INSTALLED ADJACENT TO STATE WATERS AND WILL PROTECT STATE WATERS FROM ANY LAND DISTURBING ACTIVITIES.
- 24) ALL SLOPES AND AREAS DISTURBED DURING CONSTRUCTION SHALL BE GRADED SMOOTH AND 4" OF TOPSOIL APPLIED. THE AREA SHALL THEN BE SEEDDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL A HEALTHY STAND OF PERMANENT VEGETATION HAS BEEN ESTABLISHED FOR ALL DISTURBED AREAS. SEEDS FOR GRASSED AREAS USE THE FOLLOWING MIXTURES.
- 25) ALL SILT BARRIERS MUST BE PLACED AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL TAKE PLACE UNTIL SILT BARRIER INSTALLATION IS COMPLETE.
- 26) SILT BARRIERS SHALL BE PLACED AS SHOWN AND/OR AS DIRECTED BY THE PROJECT ENGINEER AND/OR COUNTY INSPECTORS.
- 27) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES UNTIL CONSTRUCTION IS COMPLETE AND PERMANENT VEGETATION HAS BEEN ESTABLISHED.
- 28) ALL DISTURBED AREAS SHALL BE GRASSED AS SOON AS POSSIBLE AS PER THE SEEDING SCHEDULES AND RATES.
- 29) ALL OPEN DRAINAGE SWALES MUST BE GRASSED AND RIP-RAP PLACED AS REQUIRED TO PREVENT EROSION.
- 30) MAXIMUM SLOPES ON CUT OR FILL SECTIONS SHALL NOT EXCEED 2 TO 1.
- 31) ALL FILL AREAS AND DITCH WORK ON THIS SITE SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR.
- 32) ALL DRAINAGE STRUCTURES SHALL HAVE RING AND COVER ACCESS.
- 33) SECONDARY PERMITTEES SHALL BE RESPONSIBLE FOR RETURNING AREAS DISTURBED DURING THEIR ACTIVITIES TO THE CONDITION PRIOR TO THEIR DISTURBANCE (TO INCLUDE SEEDING, STRAW, OR OTHER PRE-EXISTING BMP CONTROLS APPLIED).
- 34) EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS.
- 35) INSPECTIONS ARE TO BE MADE AFTER EACH RAINFALL EVENT AND SILT ACCUMULATIONS SHALL BE REMOVED FROM ANY SEDIMENT BASINS AND PLACED AT A STABLE LOCATION WHERE IT IS TO BE SEEDDED AND MULCHED.
- 36) SEE EROSION CONTROL DETAIL SHEET FOR EROSION CONTROL DETAILS.
- 37) RED LINE COMMENTS ON WORKING SETS OF PLANS SHOULD BE MAINTAINED ON SITE FOR ANY CHANGES MADE TO EROSION CONTROL PLAN. COMMENTS SHOULD INCLUDE DATE AND JUSTIFICATION FOR CHANGES.
- 38) PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE. ANY MUD, DIRT, OR ROCK TRACKED FROM THE SITE WILL BE CLEANED AS NECESSARY. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE SHALL BE COVERED WITH A TARPULIN.
- 39) PRIOR TO COMMENCING LAND DISTURBING ACTIVITY, THE LIMITS OF DISTURBANCE SHALL BE CLEARLY AND ACCURATELY MARKED WITH STAKES, RIBBON OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
- 40) IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCE/EXITS, ALL PERIMETER EROSION CONTROL SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.

GENERAL NOTES:

- THIS PLAN INCLUDES, AS A MINIMUM, BEST MANAGEMENT PRACTICES, INCLUDING SOUND CONSERVATION AND ENGINEERING PRACTICES TO PREVENT AND MINIMIZE EROSION AND RESULTANT SEDIMENTATION.
- 1) STRIPPING OF VEGETATION, CUT AND FILL OPERATIONS, AND OTHER DEVELOPMENT ACTIVITIES WILL BE CONDUCTED IN A MANNER SO AS TO MINIMIZE EROSION.
- 2) DEVELOPMENT PLANS CONFORM TO TOPOGRAPHY AND SOIL TYPE, SO AS TO CREATE THE LOWEST PRACTICABLE EROSION POTENTIAL.
- 3) THE DISTURBED AREA AND THE DURATION OF EXPOSURE TO EROSION ELEMENTS WILL BE KEPT TO A PRACTICAL MINIMUM. WHENEVER FEASIBLE, NATURAL VEGETATION WILL BE RETAINED, PROTECTED, AND SUPPLEMENTED.
- 4) DISTURBED SOIL WILL BE STABILIZED AS QUICKLY AS PRACTICABLE.
- 5) TEMPORARY VEGETATION OR MULCHING WILL BE EMPLOYED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT AT A MINIMUM OF EVERY 7 DAYS IF THE SOIL HAS BEEN LEFT UNDISTURBED.
- 6) PERMANENT VEGETATION AND STRUCTURAL EROSION CONTROL MEASURES WILL BE INSTALLED AS SOON AS PRACTICABLE.
- 7) TO THE EXTENT NECESSARY, SEDIMENT IN RUN-OFF WATER WILL BE TRAPPED BY THE USE OF DEBRIS BASINS, SILT FENCE, SILT TRAPS, OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED.
- 8) ADEQUATE PROVISIONS SHALL BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACES OF FILLS.
- 9) CUTS AND FILLS WILL NOT ENDANGER ADJOINING PROPERTY.
- 10) FILLS WILL NOT ENCROACH UPON NATURAL WATER COURSES OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER PROPERTY OWNERS.
- 11) GRADING EQUIPMENT WILL CROSS FLOWING STREAMS BY THE MEANS OF BRIDGES OR CULVERTS, EXCEPT WHEN SUCH METHODS ARE NOT FEASIBLE, PROVIDED IN ANY CASE THAT SUCH CROSSINGS ARE KEPT TO A MINIMUM.
- 12) PROVISIONS ARE PROVIDED FOR TREATMENT OR CONTROL OF ANY SOURCE OF SEDIMENTS AND ADEQUATE SEDIMENTATION CONTROL FACILITIES TO RETAIN SEDIMENTS ON SITE OR PRECLUDE SEDIMENTATION OF ADJACENT WATERS BEYOND THE LEVELS TXR 150000, OR SPECIFIED IN THE GENERAL NPDES PERMIT NUMBER.
- 13) FOR COMMON DRAINAGE LOCATIONS A TEMPORARY (OR PERMANENT) SEDIMENT BASIN PROVIDING AT LEAST 67 CUBIC YARDS OF STORAGE PER ACRE DRAINED, OR EQUIVALENT CONTROL MEASURES, SHALL BE PROVIDED UNTIL FINAL STABILIZATION OF THE SITE. THE 67 CUBIC YARDS OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFF-SITE AREAS AND FLOWS FROM ON-SITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. FOR DRAINAGE LOCATIONS WHERE A TEMPORARY SEDIMENT BASIN PROVIDING AT LEAST 67 CUBIC YARDS OF STORAGE PER ACRE DRAINED, OR EQUIVALENT CONTROLS IS NOT ATTAINABLE, SEDIMENT TRAPS, SILT FENCES, OR EQUIVALENT SEDIMENT CONTROLS ARE REQUIRED FOR ALL SIDE SLOPE AND DOWN SLOPE BOUNDARIES OF THE CONSTRUCTION AREA. WHEN THE SEDIMENT FILLS TO A VOLUME AT MOST OF 22 CUBIC YARDS PER ACRE FOR EACH DRAINAGE AREA, THE SEDIMENT SHALL BE REMOVED TO RESTORE THE ORIGINAL DESIGN VOLUME. THIS SEDIMENT MUST BE PROPERLY DISPOSED. SEDIMENT BASINS MAY NOT BE APPROPRIATE AT SOME CONSTRUCTION PROJECTS.
- 14) NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
- 15) OFF SITE VEHICLE TRACKING OF DIRT, SOILS, AND SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED OR ELIMINATED TO THE MAXIMUM EXTENT PRACTICAL.
- 16) ALL DEVELOPMENT AREAS SHALL MAINTAIN COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.
- 17) A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
- 18) THERE SHALL BE NO ON-SITE STORAGE OF PETROLEUM. MOBILE PETROLEUM TRUCKS SHALL BE USED TO FUEL CONSTRUCTION EQUIPMENT ON-SITE. NOTHING IN THIS PERMIT SHALL BE CONSTRUED TO PRECLUDE THE INSTITUTION OF ANY LEGAL ACTION OR RELIEVE THE PERMITTEE FROM ANY RESPONSIBILITIES, LIABILITIES, OR PENALTIES TO WHICH THE PERMITTEE IS OR MAY BE SUBJECT UNDER SECTION 311 OF THE CLEAN WATER ACT OR SECTION 106 OF COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT.
- 19) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A "QUALIFIED PROFESSIONAL" INSPECT AND REPORT ALL DEFICIENCIES OF ALL EROSION CONTROL MEASURES AT A MINIMUM OF EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT.
- 20) AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- PERMITTEE REQUIREMENTS FOR INSPECTION:**
- 1) EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT; (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING; AND (C) MEASURE RAINFALL ONCE EACH 24 HOUR PERIOD AT THE SITE. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
- 2) CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00 PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE THAT HAVE NOT UNDERGONE FINAL STABILIZATION; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT UNDERGONE FINAL STABILIZATION; AND (C) STRUCTURAL CONTROL MEASURES, EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(3). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
- 3) BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION.
- 4) A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(4), OF THE PERMIT SHALL BE MADE AND RETAINED AT THE SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION PROJECT THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO TCEQ. SUCH REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE. WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN AND THIS PERMIT. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G. OF THIS PERMIT.

RETENTION OF RECORDS:

- 1) THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI:
- A) A COPY OF ALL NOTICES OF INTENT SUBMITTED TO TCEQ.
- B) A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT.
- C) A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THIS PERMIT.
- D) A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT, AND
- E) DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(1)(C) OF THIS PERMIT.
- 2) COPIES OF ALL NOIS, NOTS, REPORTS, PLANS, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATIVE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE TCEQ AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

WASTE DISPOSAL:

- 1) WASTE MATERIALS: ALL WASTE MATERIALS WILL BE COLLECTED AND STORED TO BE PROPERLY DISPOSED OF AT A LICENSED SOLID WASTE MANAGEMENT COMPANY. LOCATE WASTE COLLECTION AREAS AWAY FROM STREETS, GUTTERS, WATERCOURSES, AND STORM DRAINS. WASTE COLLECTION AREAS, SUCH AS DUMPSTERS, ARE OFTEN BEST LOCATED NEAR CONSTRUCTION SITE ENTRANCES TO MINIMIZE TRAFFIC ON DISTURBED SOIL. DISPOSAL SHALL BE PERIODICALLY AS NEEDED. NO CONSTRUCTION MATERIALS WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED CONCERNING WASTE DISPOSAL. THE CONTRACTOR WILL BE RESPONSIBLE FOR THIS INSTRUCTION, AND WILL BE RESPONSIBLE FOR SEEING THAT THESE INSTRUCTIONS ARE FOLLOWED.
- 2) HAZARDOUS WASTE: ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES, AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.
- 3) SANITARY WASTE: IF NEEDED, PORTABLE UNITS WILL BE USED TO COLLECT SANITARY WASTE. ALL SANITARY WASTE TO BE DISPOSED OF PROPERLY ACCORDING TO STATE AND FEDERAL CODE. A MINIMUM OF ONE SANITARY UNIT WILL BE PROVIDED FOR EVERY TEN (10) WORKERS ON SITE.

SPILL PREVENTION AND CONTROL NOTES:

- 1) PETROLEUM PRODUCTS: ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- 2) FERTILIZERS: FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A CLEAN, DRY PLACE. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
- 3) PAINTS: ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
- 4) AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- 5) ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS.
- 6) PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- 7) SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- 8) WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- 9) MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- 10) THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.
- 11) THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
- A) PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RE-SEALABLE.
- B) ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED.
- C) IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.
- 12) MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
- 13) MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS AS APPROPRIATE.
- 14) ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- 15) THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- 16) SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
- 17) THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RE-OCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
- 18) THE CONTRACTOR RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. ANY SPILL SHALL BE REPORTED TO HIM FOR IMMEDIATE ACTION AS SOON AS THE SPILL IS DISCOVERED.
- 19) THERE SHALL NOT BE A CONCRETE WASH AREA ON-SITE. IF SO, IT SHALL BE LOCATED IN AN UPLAND AREA AWAY FROM DRAINAGE AREAS FOR WASH FACILITY. CONTAIN WITH BARRICADES IF STORAGE IS CONDUCTED ON-SITE.
- 20) FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER) OR FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HRS., 1-800-426-2675.

SITE DETAILS:

- 1) NATURE OF THE CONSTRUCTION ACTIVITY = DEMOLITION, CLEARING & GRUBBING, AND MULTI-FAMILY DEVELOPMENT
- 2) CONSTRUCTION SCHEDULE = SEE G-1
- 3) TOTAL AREA OF THE SITE = 11.2 ACRES
- 4) TOTAL DISTURBED AREA OF THE SITE = 11.60 ACRES
- 5) PRE-DEVELOPMENT CURVE NUMBER = 80
- 6) POST-DEVELOPMENT CURVE NUMBER = 93
- 7) EXISTING TOPOGRAPHIC MAP = SEE SHEET SERIES V-1
- 8) PLAN INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER MAJOR GRADING ACTIVITIES = SEE SHEET C-2
- 9) PLAN INDICATING AREAS OF SOIL DISTURBANCE = SEE SHEET SERIES C-2
- 10) SEE SHEET SERIES C-4 FOR ALL STRUCTURAL AND NONSTRUCTURAL BMP'S.
- 11) IDENTIFICATION OF RECEIVING WATER(S) = KEEGANS BAYOU
- 12) BUFFERED STATE WATERS PRESENT ON SITE = N/A
- 13) WETLAND ACREAGE AT THE SITE = 0 ACRES TOTAL
- 14) NO PORTION OF THE SUBJECT PROPERTY LIES WITHIN A 100 YEAR FLOOD HAZARD AREA PER FIRM MAP NUMBER 48157C0145L DATED 04/02/2014.
- 15) NAMES AND ADDRESSES OF ALL SECONDARY PERMITTEES = N/A
- 16) DESCRIPTION OF APPROPRIATE CONTROLS AND MEASURES THAT WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE = SEE SHEET SERIES C-4

ENGINEER:

FORESITE

group

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Foresite Group, Inc.
1999 Bryan St.
Suite 890
Dallas, TX 75201
D/B/A Foresite Consulting Group of Texas, Inc.

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DEVELOPER:

GARDNER

CAPITAL

2501 N. HARWOOD STREET, SUITE 1501
DALLAS, TEXAS 75201
(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/19/2017
DRAINAGE DISTRICT COMMENTS	08/19/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	AS SHOWN

EROSION CONTROL NOTES

SHEET NUMBER:	C-4.6
COMMENTS:	----
JOBFILE NUMBER:	693.009

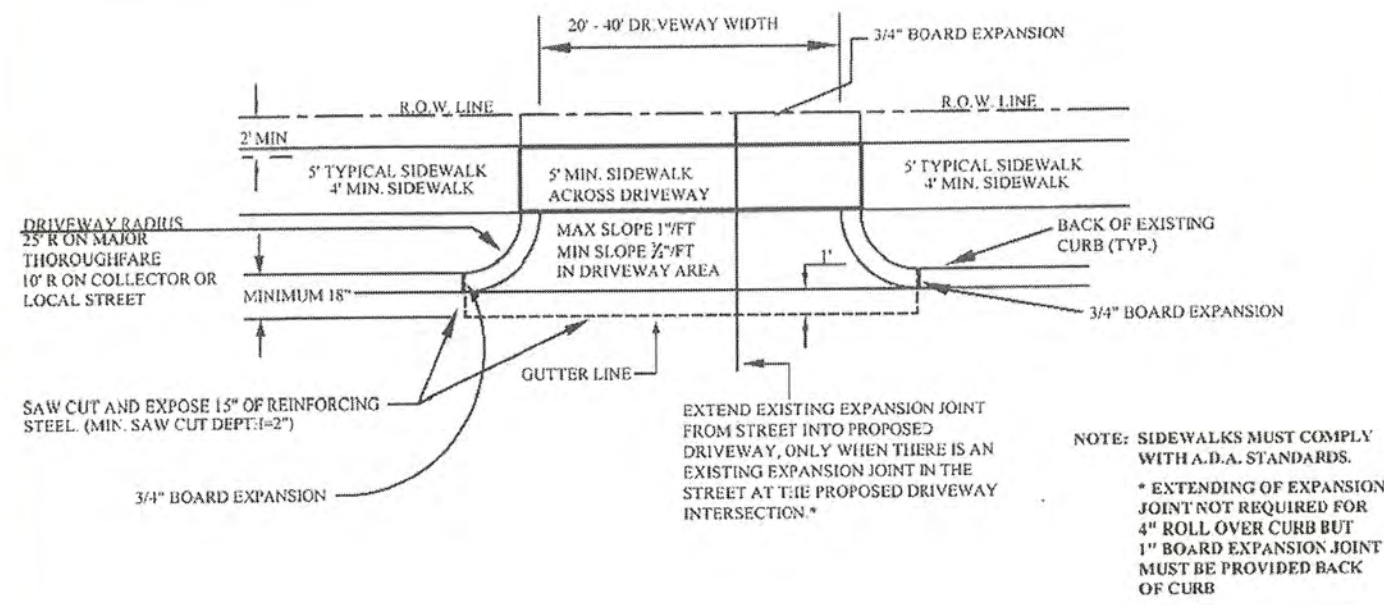


Know what's below
Call before you dig

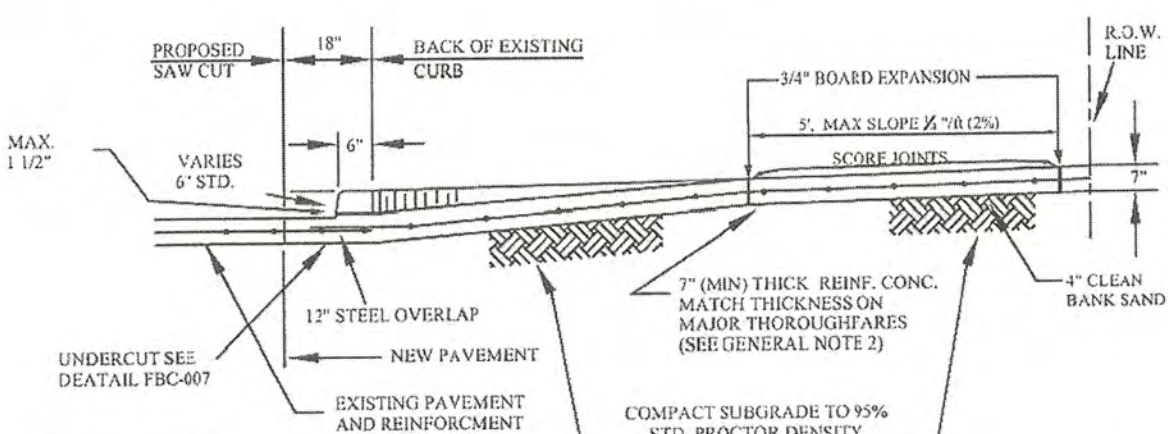
 11/21/17
FBC DEVELOPMENT COORDINATOR DATE

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



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 (+/- 2% 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\"/>
3. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 SACKS (980 POUNDS) OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 7\"/>
4. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT (5 SACKS (980 POUNDS) OF CEMENT PER CUBIC YARD OF CONCRETE), CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 4\"/>
5. FOR TYPICAL SIDEWALK DETAIL SEE FBC-025A.

SIDEWALKS & DRIVEWAYS ON

CURB TYPE STREETS

COMMERCIAL AREA

DRAWN BY: L. BRDECKA

DATE DRAWN: 2-1-94

APPROVED BY: L. HOOD

DATE: 2-1-94

REVISED BY: J. NETAROUS

DATE REVISED: 4-7-09

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\"/>
3. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT-OF-WAY LINE, COMPACT TO 95% OF STANDARD PROCTOR DENSITY (+/- 2% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
4. PLACE AND COMPACT 4\"/>
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\"/>
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

FORT BEND COUNTY ENGINEERING DEPARTMENT

DRAWN BY: L. BRDECKA

DATE DRAWN: 2-1-94

APPROVED BY: L. HOOD

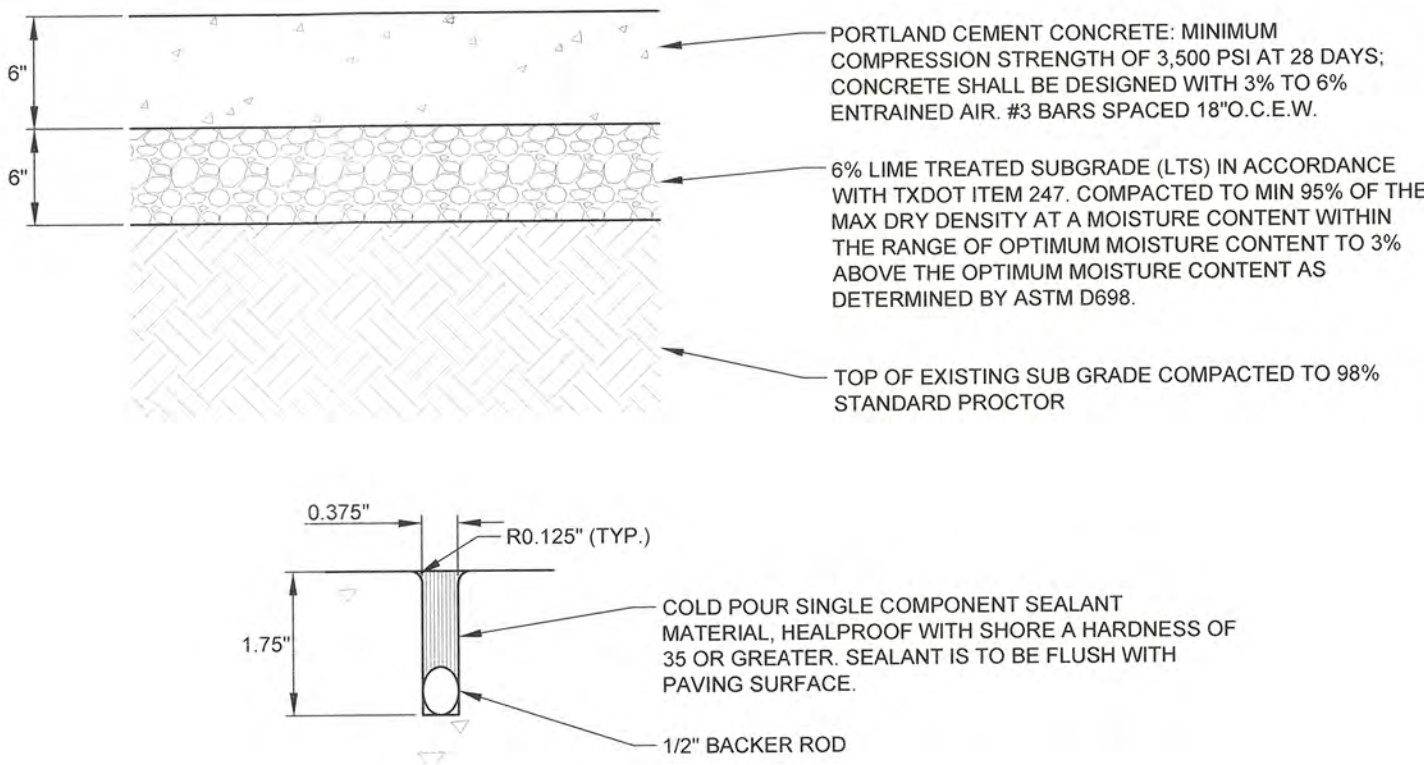
DATE: 2-1-94

DRAWING NO.

FBC-025B

REVISED BY: L. BRDECKA

DATE REVISED: 3-10-05

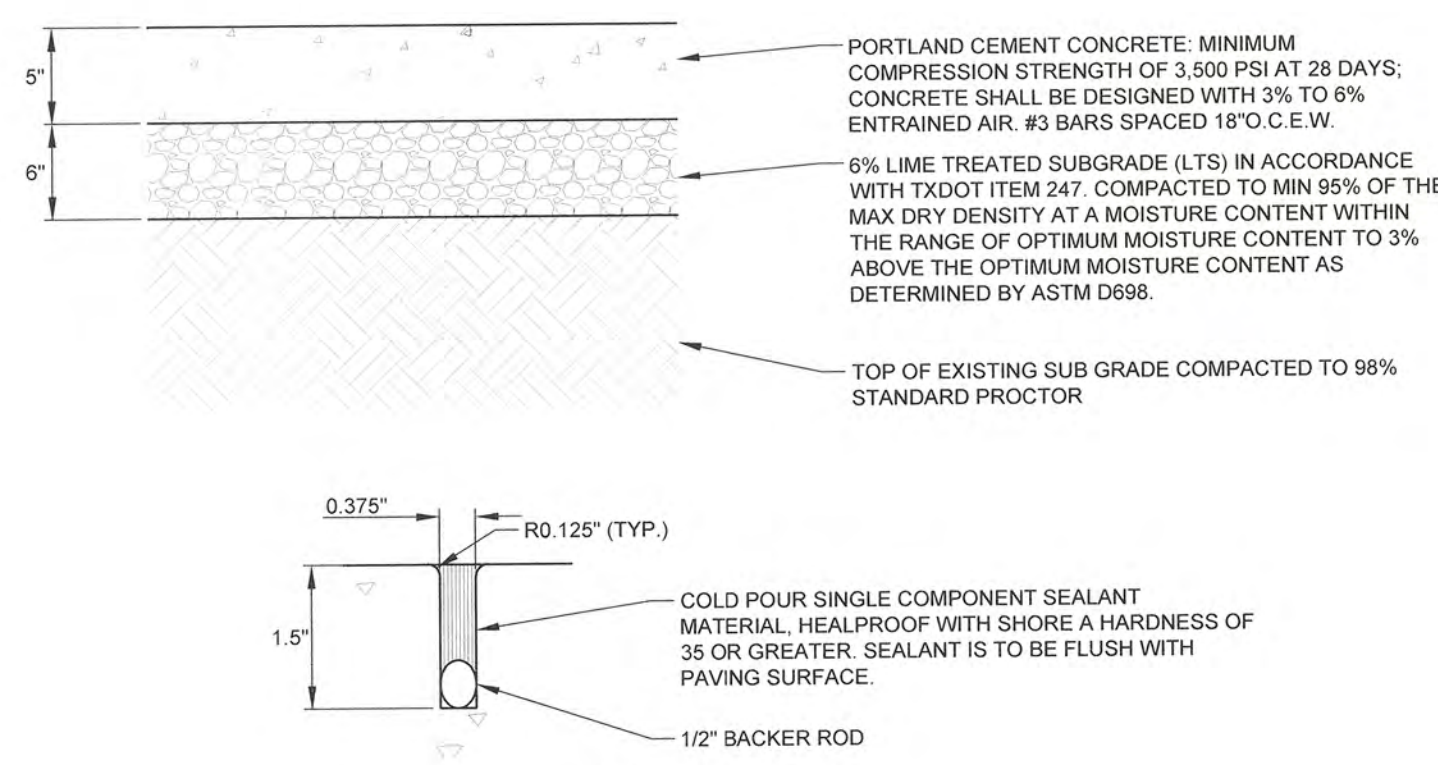


NOTE:

1. DETAIL REFLECTS HEAVY DUTY CONCRETE PAVING RECOMMENDATION BY PROJECT GEOTECHNICAL ENGINEER.
2. CONCRETE EXPANSION JOINTS SHALL BE LOCATED AT NO LESS THAN 15' ON CENTER. THE JOINTS SHALL EXTEND TO A DEPTH 1/4 OF THE SLAB THICKNESS. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN" AND AS SOON AFTER PLACEMENT AS THE EQUIPMENT CAN BE MOVED ONTO THE PAVEMENT WITHOUT DISTURBING THE CONCRETE FINISH.
3. ALL CONTROL JOINTS SHOULD BE FORMED OR SAWED TO A DEPTH OF AT LEAST 1/4 THE THICKNESS OF THE CONCRETE SLAB. SAWING OF CONTROL JOINTS SHOULD BEGIN AS SOON AS THE CONCRETE WILL NOT RAVEL, GENERALLY THE DAY AFTER PLACEMENT. CONTROL JOINTS MAY BE HAND FORMED OR FORMED BY USING A PREMOLDED FILLER. WE RECOMMEND THAT ALL LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS BE DOWELLED TO PROMOTE LOAD TRANSFER. EXPANSION JOINTS ARE NEEDED TO SEPARATE THE CONCRETE SLAB FROM FIXED OBJECTS SUCH AS DROP INLETS, LIGHT STANDARDS AND BUILDINGS. EXPANSION JOINT SPACINGS ARE NOT TO EXCEED A MAXIMUM OF 60 FT AND NO EXPANSION OR CONSTRUCTION JOINTS SHOULD BE LOCATED IN A SWALE OR DRAINAGE COLLECTION LOCATIONS.
4. A LIQUID MEMBRANE-FORMING CURING COMPOUND SHOULD BE APPLIED AS SOON AS PRACTICAL AFTER BROOM FINISHING THE CONCRETE SURFACE.

HEAVY DUTY CONCRETE PAVING

NOT TO SCALE



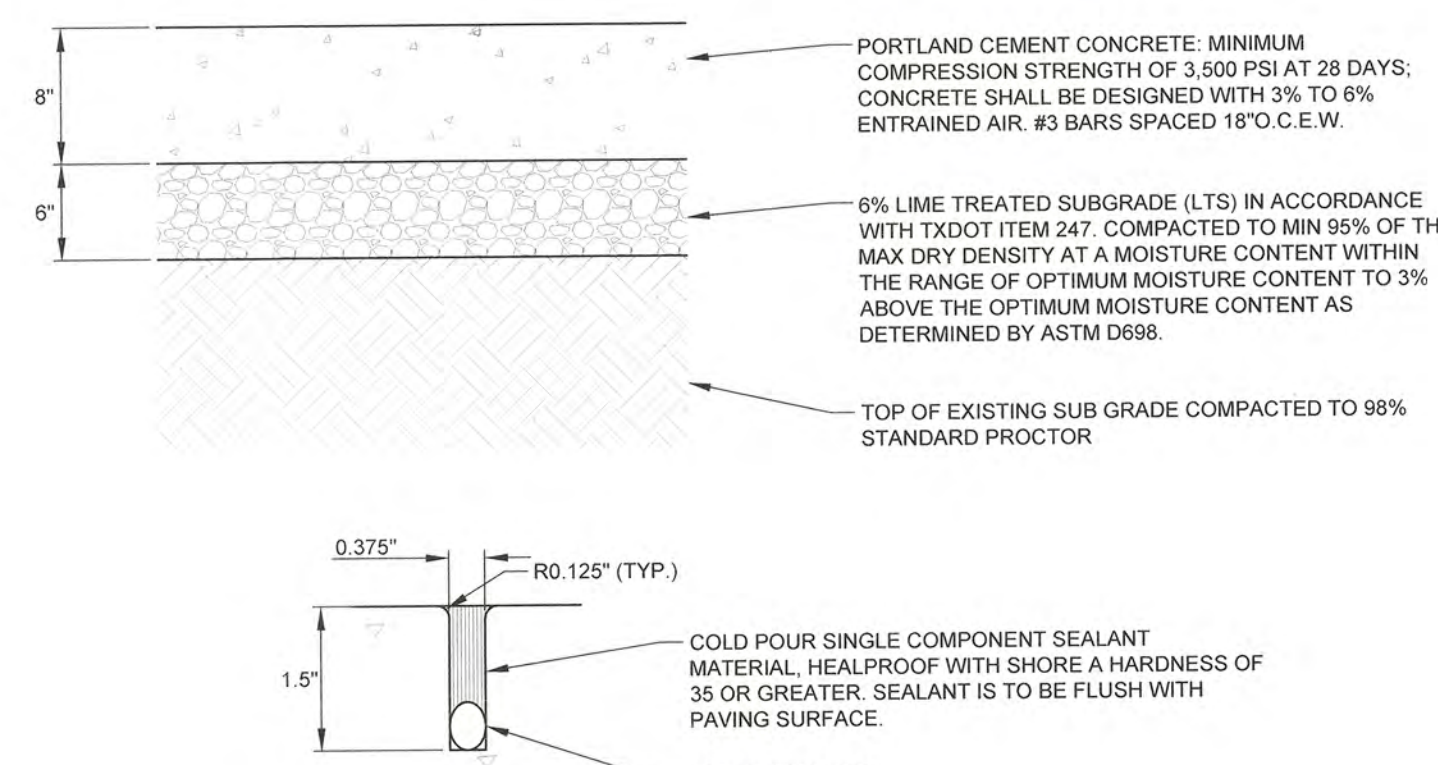
CONTROL JOINT

NOTE:

1. DETAIL REFLECTS MEDIUM DUTY CONCRETE PAVING RECOMMENDATION BY PROJECT GEOTECHNICAL ENGINEER.
2. CONCRETE EXPANSION JOINTS SHALL BE LOCATED AT NO LESS THAN 12.5' ON CENTER. THE JOINTS SHALL EXTEND TO A DEPTH 1/4 OF THE SLAB THICKNESS. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN" AND AS SOON AFTER PLACEMENT AS THE EQUIPMENT CAN BE MOVED ONTO THE PAVEMENT WITHOUT DISTURBING THE CONCRETE FINISH.
3. ALL CONTROL JOINTS SHOULD BE FORMED OR SAWED TO A DEPTH OF AT LEAST 1/4 THE THICKNESS OF THE CONCRETE SLAB. SAWING OF CONTROL JOINTS SHOULD BEGIN AS SOON AS THE CONCRETE WILL NOT RAVEL, GENERALLY THE DAY AFTER PLACEMENT. CONTROL JOINTS MAY BE HAND FORMED OR FORMED BY USING A PREMOLDED FILLER. WE RECOMMEND THAT ALL LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS BE DOWELLED TO PROMOTE LOAD TRANSFER. EXPANSION JOINTS ARE NEEDED TO SEPARATE THE CONCRETE SLAB FROM FIXED OBJECTS SUCH AS DROP INLETS, LIGHT STANDARDS AND BUILDINGS. EXPANSION JOINT SPACINGS ARE NOT TO EXCEED A MAXIMUM OF 60 FT AND NO EXPANSION OR CONSTRUCTION JOINTS SHOULD BE LOCATED IN A SWALE OR DRAINAGE COLLECTION LOCATIONS.
4. A LIQUID MEMBRANE-FORMING CURING COMPOUND SHOULD BE APPLIED AS SOON AS PRACTICAL AFTER BROOM FINISHING THE CONCRETE SURFACE.

STANDARD DUTY CONCRETE PAVING

NOT TO SCALE



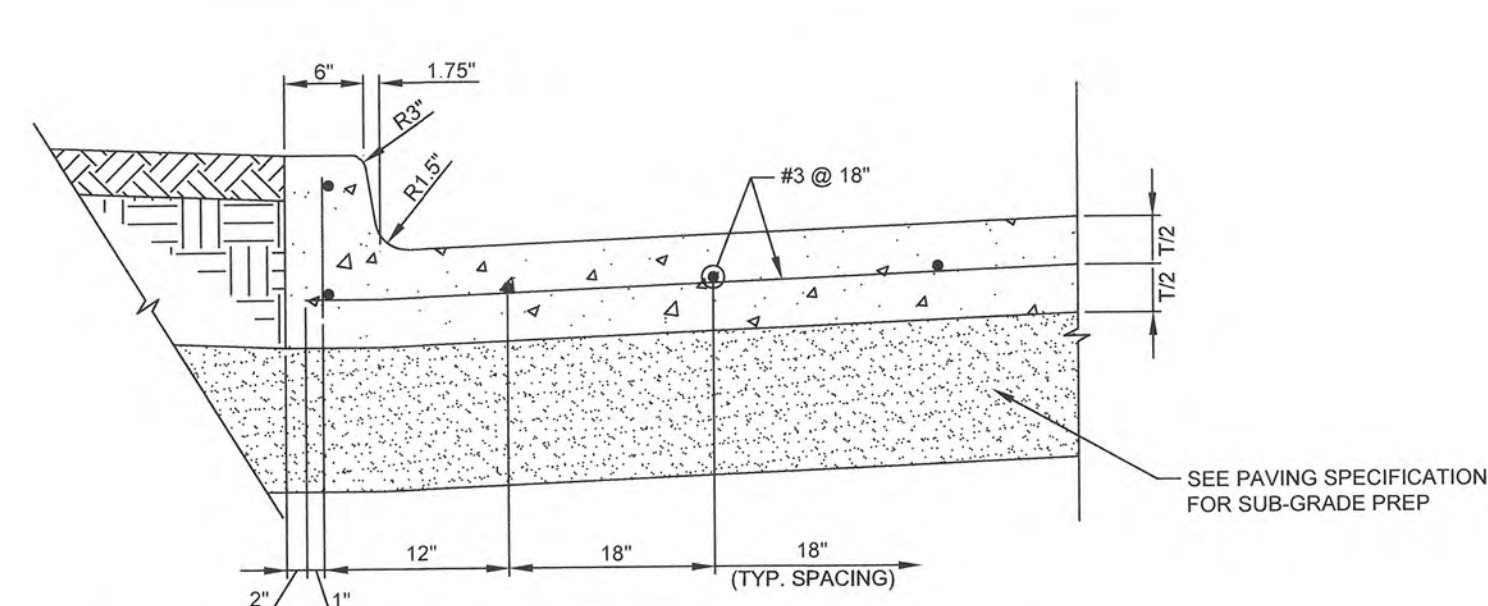
CONTROL JOINT

NOTE:

1. DETAIL REFLECTS TRASH DUMPSTER AREA CONCRETE PAVING RECOMMENDATION BY PROJECT GEOTECHNICAL ENGINEER.
2. CONCRETE EXPANSION JOINTS SHALL BE LOCATED AT NO LESS THAN 15' ON CENTER. THE JOINTS SHALL EXTEND TO A DEPTH 1/4 OF THE SLAB THICKNESS. IF SAW CUTTING THE JOINTS IS TO BE EMPLOYED, THE JOINTS SHOULD BE CUT WHILE THE CONCRETE IS STILL "GREEN" AND AS SOON AFTER PLACEMENT AS THE EQUIPMENT CAN BE MOVED ONTO THE PAVEMENT WITHOUT DISTURBING THE CONCRETE FINISH.
3. ALL CONTROL JOINTS SHOULD BE FORMED OR SAWED TO A DEPTH OF AT LEAST 1/4 THE THICKNESS OF THE CONCRETE SLAB. SAWING OF CONTROL JOINTS SHOULD BEGIN AS SOON AS THE CONCRETE WILL NOT RAVEL, GENERALLY THE DAY AFTER PLACEMENT. CONTROL JOINTS MAY BE HAND FORMED OR FORMED BY USING A PREMOLDED FILLER. WE RECOMMEND THAT ALL LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS BE DOWELLED TO PROMOTE LOAD TRANSFER. EXPANSION JOINTS ARE NEEDED TO SEPARATE THE CONCRETE SLAB FROM FIXED OBJECTS SUCH AS DROP INLETS, LIGHT STANDARDS AND BUILDINGS. EXPANSION JOINT SPACINGS ARE NOT TO EXCEED A MAXIMUM OF 60 FT AND NO EXPANSION OR CONSTRUCTION JOINTS SHOULD BE LOCATED IN A SWALE OR DRAINAGE COLLECTION LOCATIONS.
4. A LIQUID MEMBRANE-FORMING CURING COMPOUND SHOULD BE APPLIED AS SOON AS PRACTICAL AFTER BROOM FINISHING THE CONCRETE SURFACE.

TRASH DUMPSTER AREA CONCRETE PAVING

NOT TO SCALE

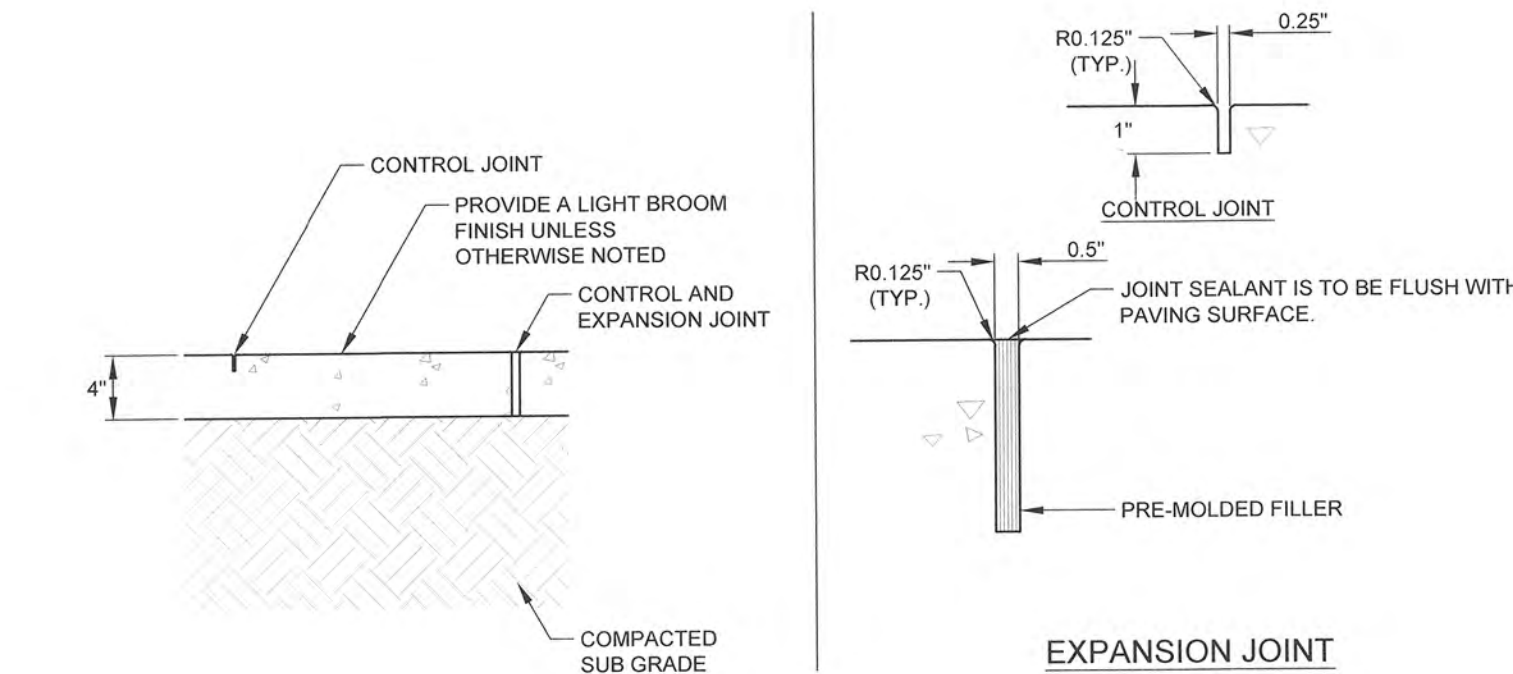


NOTE:

1. 1/2\"/>
2. MAXIMUM DISTANCE BETWEEN EXPANSION JOINTS = 40.0'
3. MAXIMUM DISTANCE DUMMY JOINTS = 12.5'
4. CONCRETE STRENGTH = 3,500 P.S.I.

CONCRETE CURB

NOT TO SCALE



NOTE:

1. UNLESS OTHERWISE INDICATED, PREFORMED EXPANSION JOINTS TO BE 40'-0\"/>
2. UNLESS OTHERWISE INDICATED, CONTROL JOINTS AT 5'-0\"/>
3. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1/4\"/>

CONCRETE SIDEWALK

NOT TO SCALE

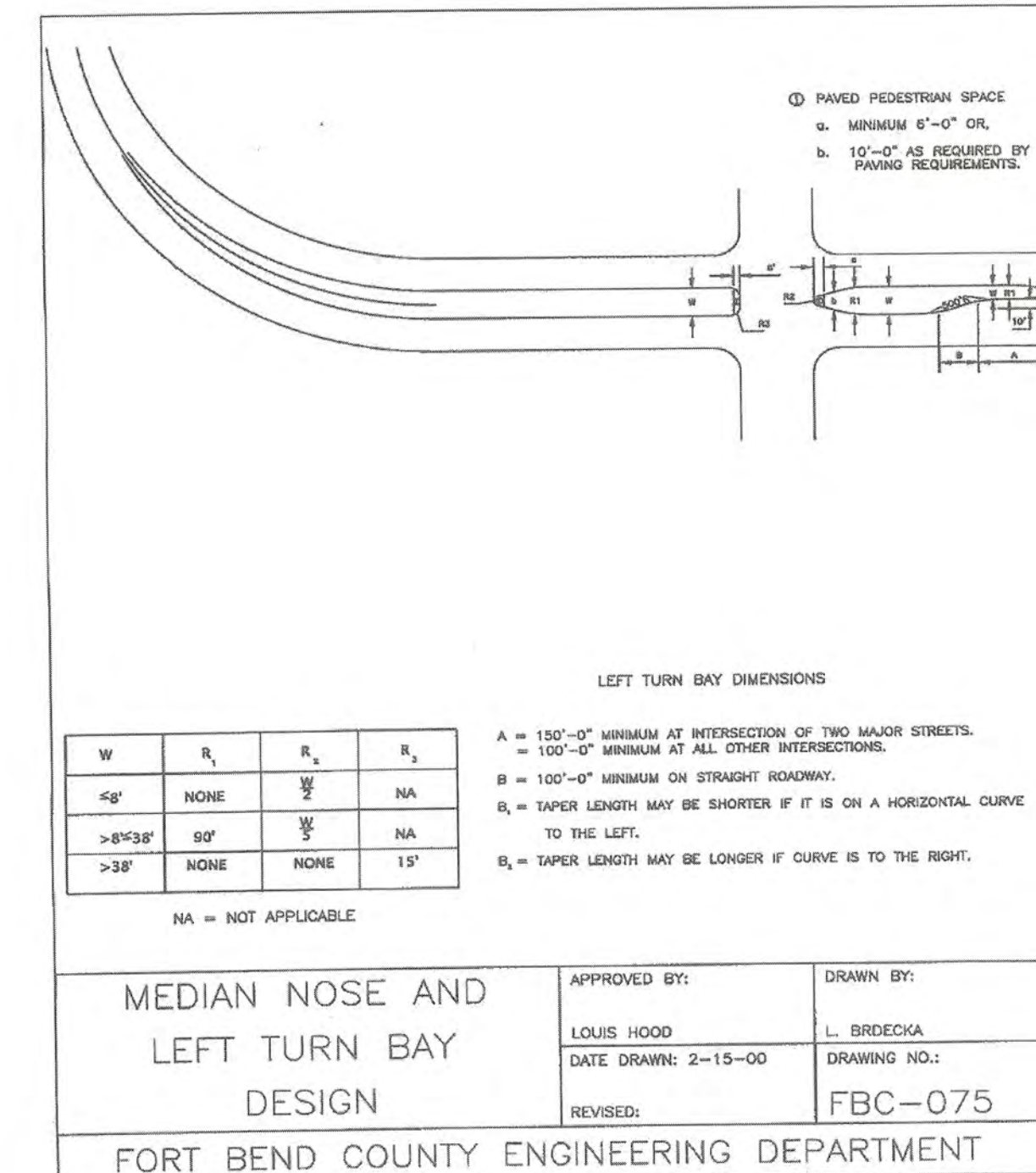
FORT BEND COUNTY

Permits for the Construction of Driveways & Culverts on County Easements and Right of Ways in Fort Bend County

SECTION 12 - PAVEMENT GEOMETRIC DESIGN DETAILS

Drawing: FBC-075

Median Nose and Left Turn Bay Design



W	R ₁	R ₂	R ₃
<5'	NONE	1/2"	NA
>5'-35'	50'	1/2"	NA
>35'	NONE	NONE	15'

NA = NOT APPLICABLE

MEDIAN NOSE AND LEFT TURN BAY DESIGN

FORT BEND COUNTY ENGINEERING DEPARTMENT

APPROVED BY:

LOUIS HOOD

DATE DRAWN: 2-15-00

REVISED:

DRAWN BY:

L. BRDECKA

DATE: 11-23-11

DRAWING NO.:

FBC-075

L:\WPDATA\Regulations\Driveway Regs\drivehcl04_d01.doc 19

REV 3/24/2014

FBC DEVELOPMENT COORDINATOR

DATE

ENGINEER:

FORESITE
group

TBPE Firm No. F-12878

Foresite Group, Inc.

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Dallas, TX 75201

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PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

PROJECT:

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

AS SHOWN

TITLE:

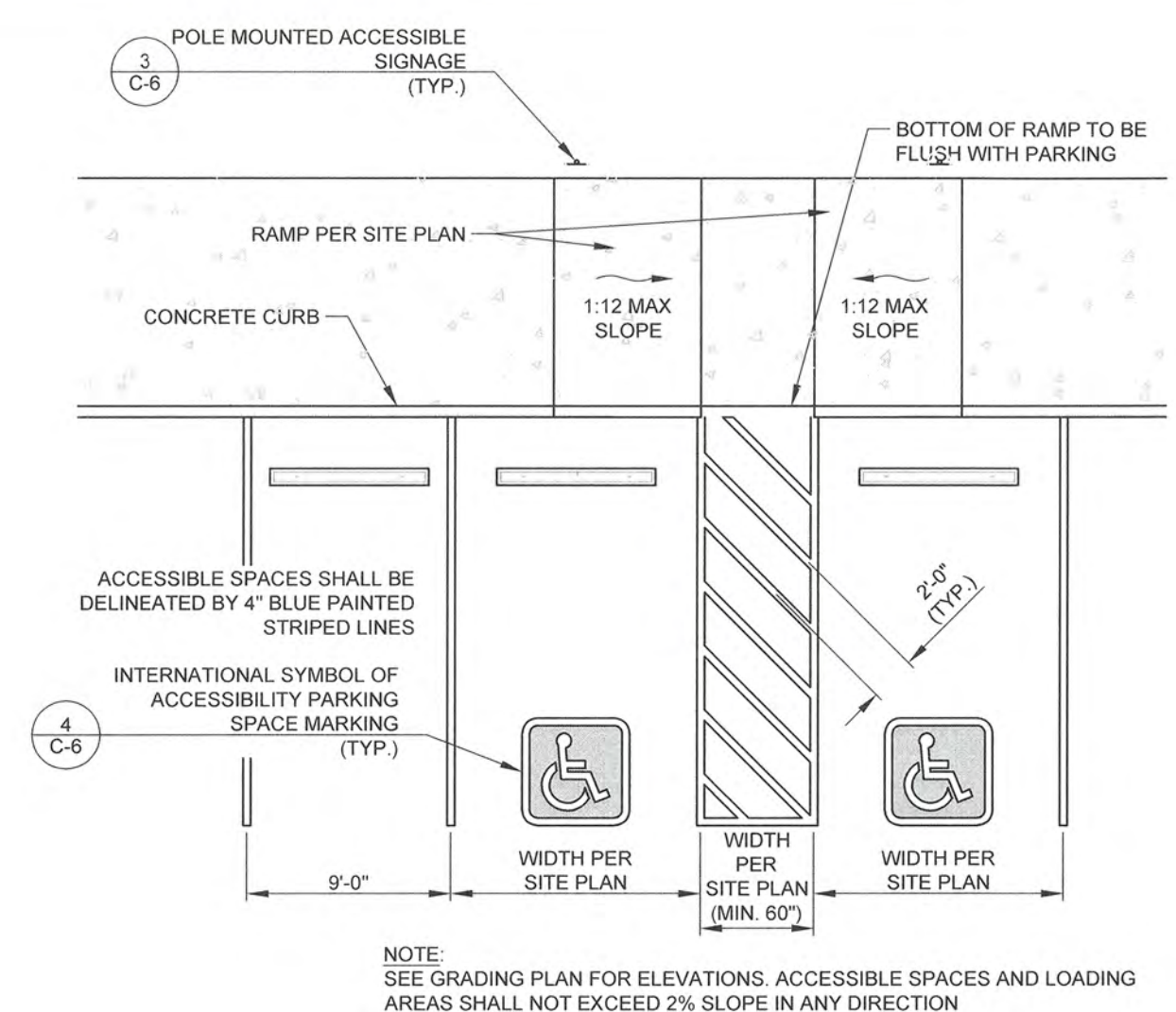
PAVING DETAILS

SHEET NUMBER:

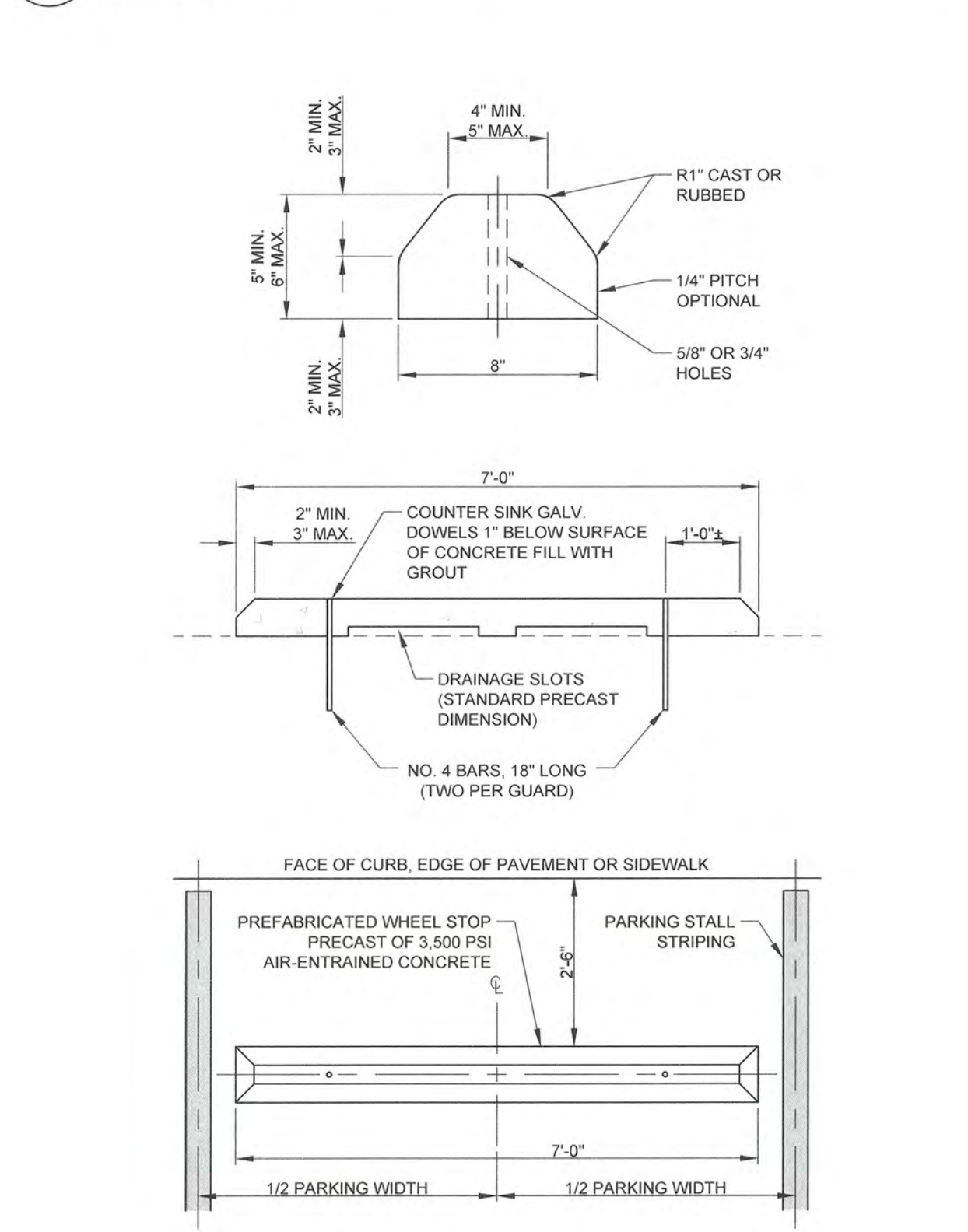
C-5

COMMENTS:

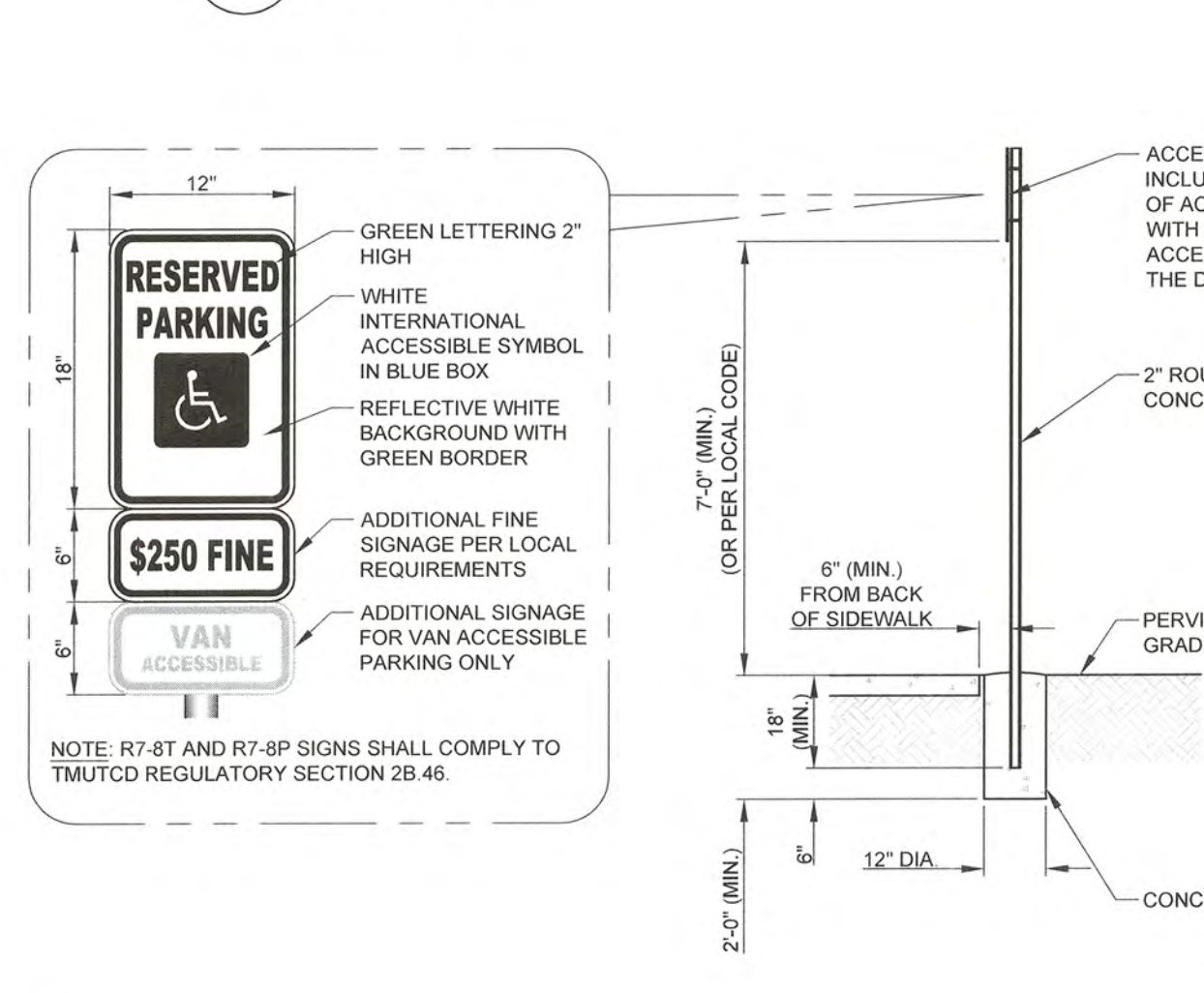
JOB/FILE NUMBER: 693.009



1 C-6 ACCESSIBLE PARKING
NOT TO SCALE



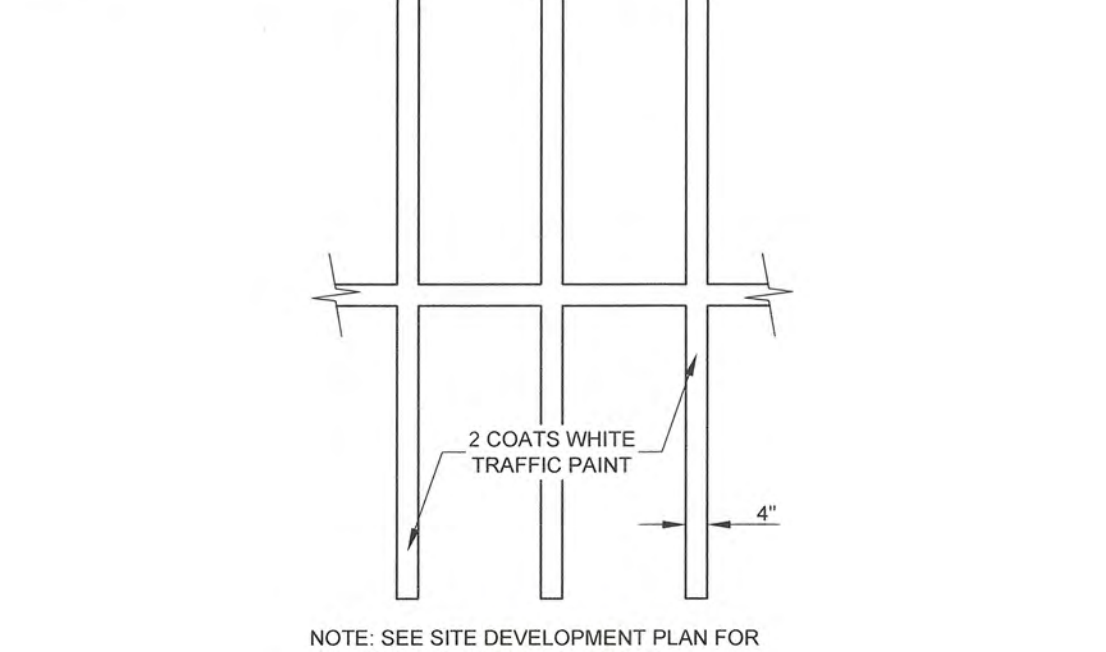
2 C-6 WHEEL STOP
NOT TO SCALE



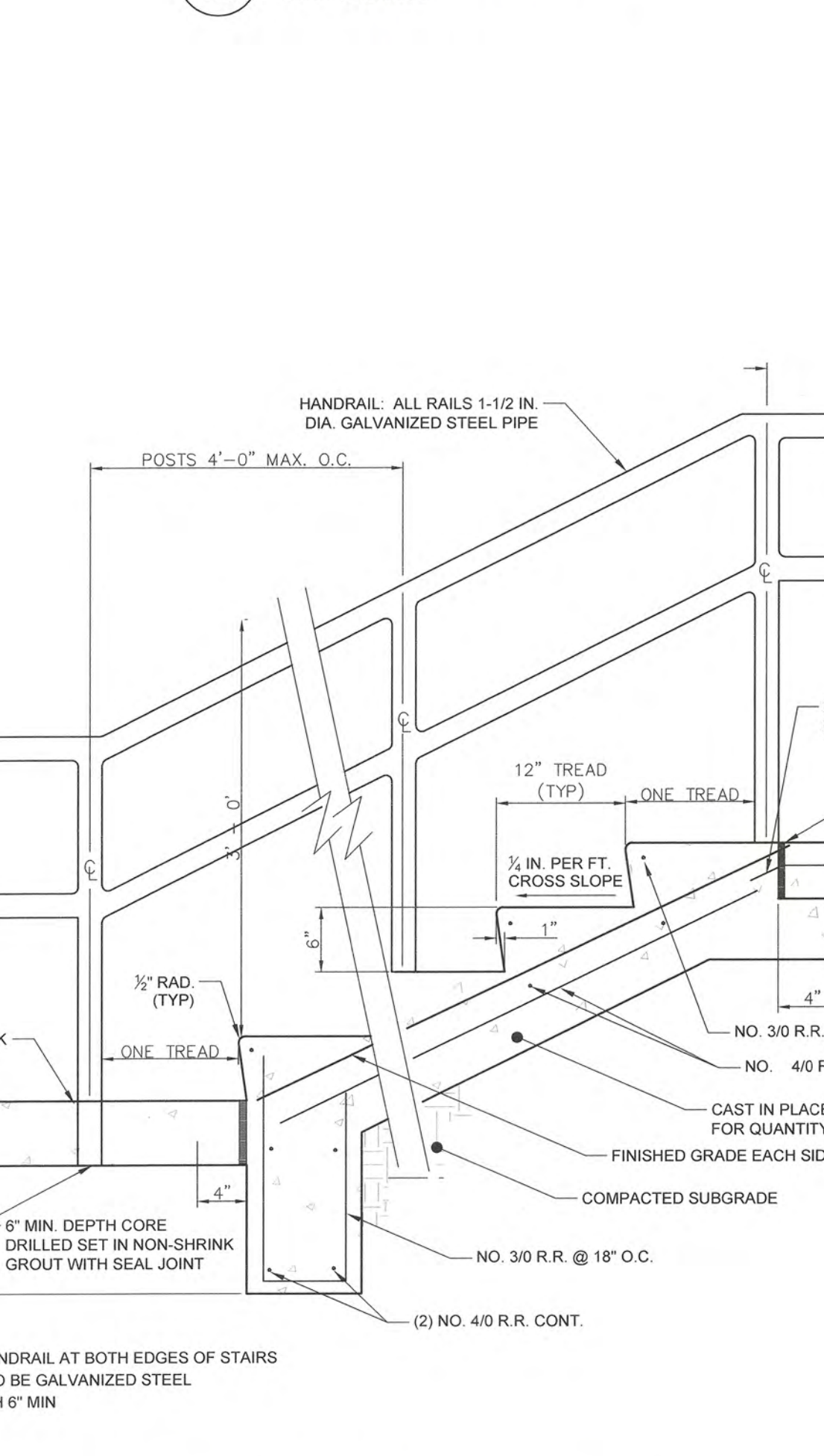
3 C-6 LANDSCAPE POLE MOUNTED ACCESSIBLE SIGNAGE
NOT TO SCALE



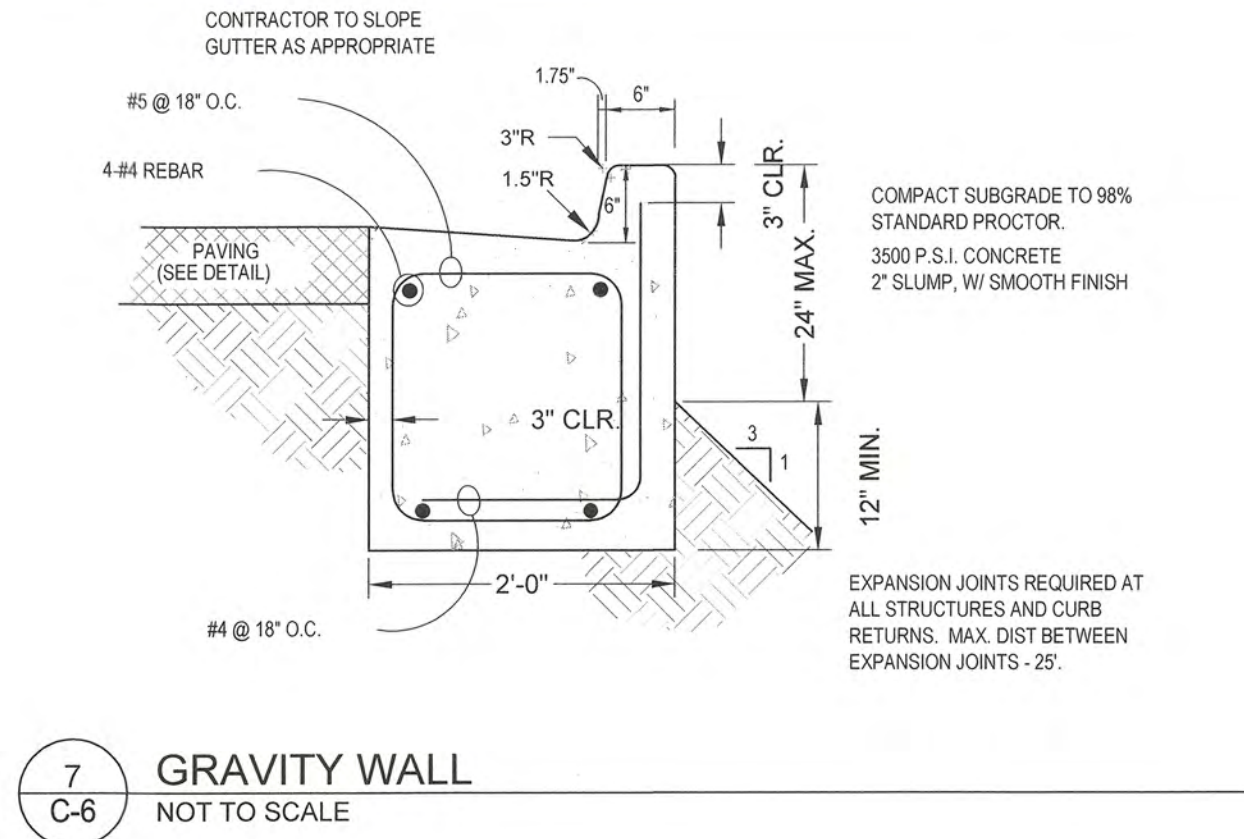
4 C-6 INTERNATIONAL SYMBOL OF ACCESSIBILITY
PARKING SPACE MARKING
NOT TO SCALE



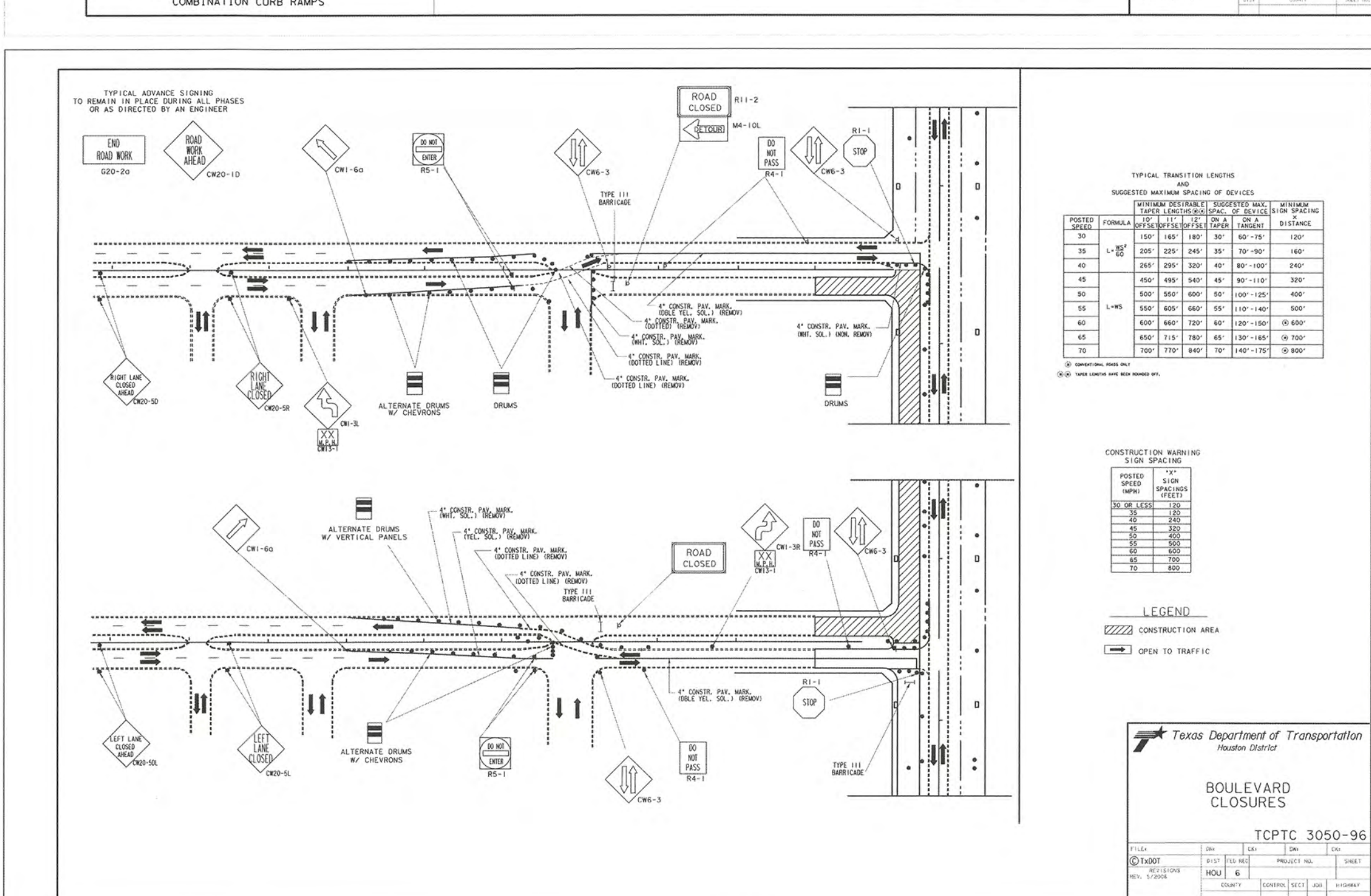
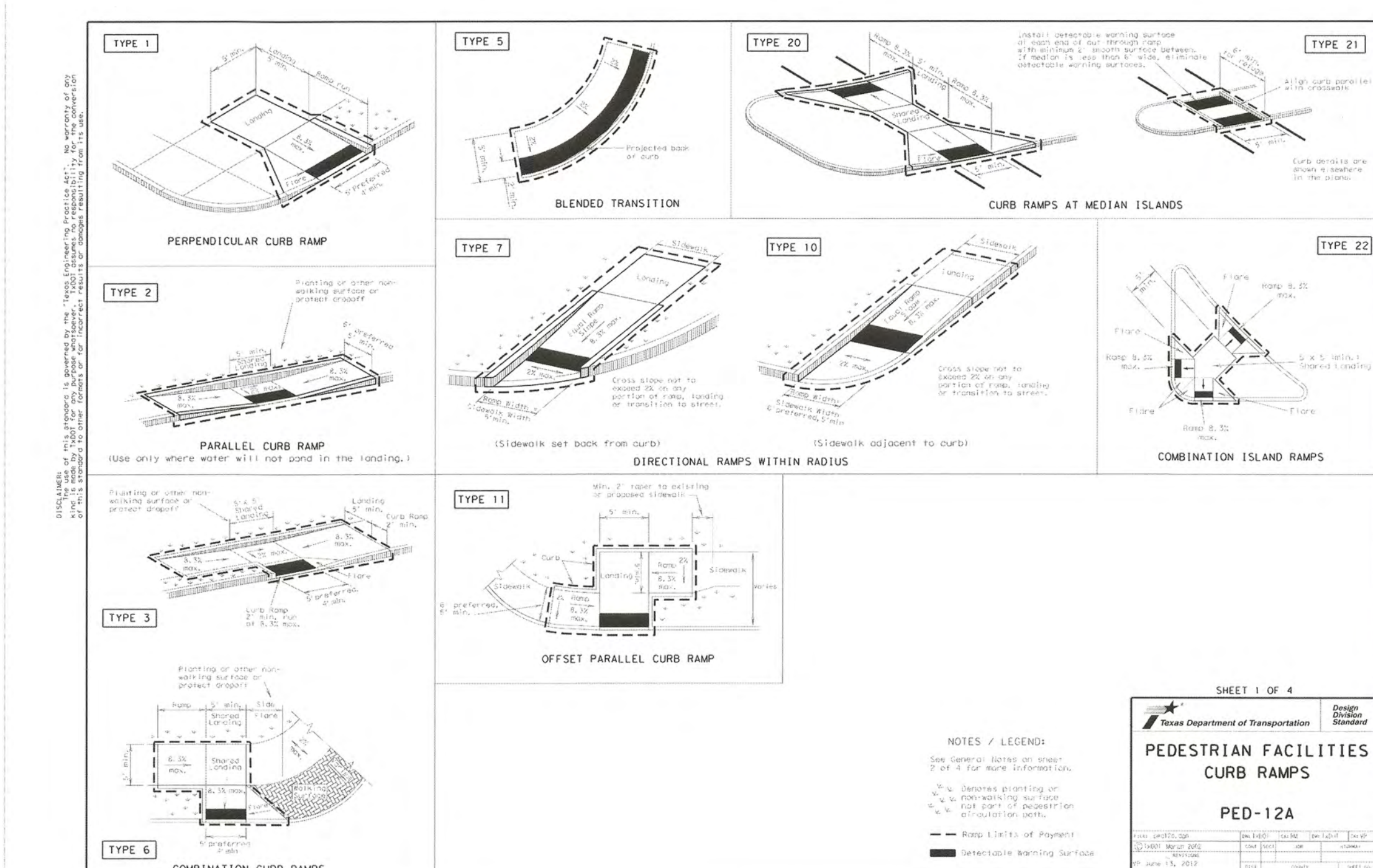
5 C-6 PAVEMENT STRIPING
NOT TO SCALE



6 C-6 CONCRETE STAIRS WITH HANDRAIL
NOT TO SCALE



7 C-6 GRAVITY WALL
NOT TO SCALE



9 C-6 BOULEVARD CLOSURES
NOT TO SCALE

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LICENSED PROFESSIONAL ENGINEER

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/18/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

TITLE:

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

AS SHOWN

MISCELLANEOUS DETAILS

SHEET NUMBER:

C-6

COMMENTS:

JOB/FILE NUMBER:

693.009

Max
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE

STORM SEWER DETAILS

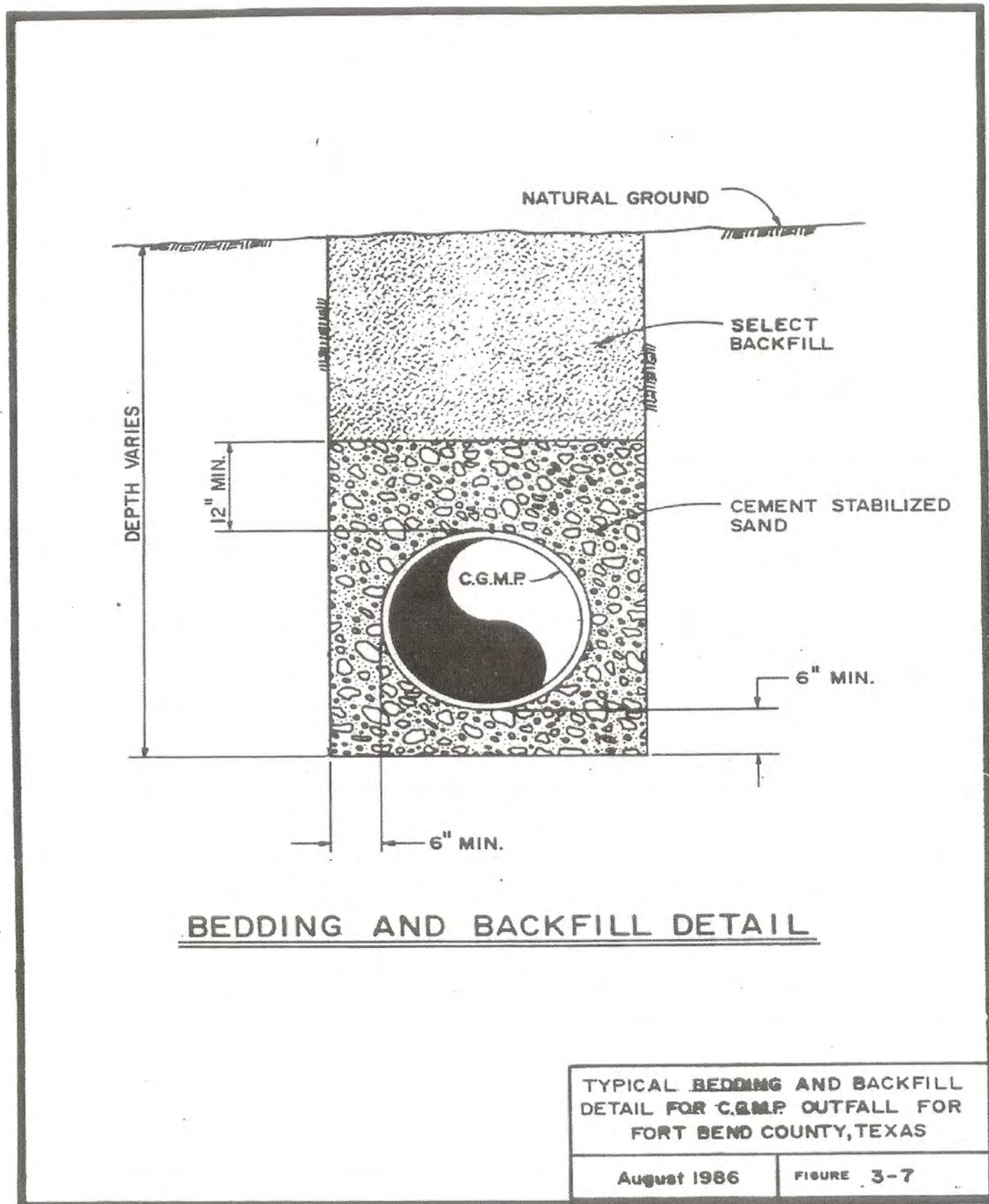
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C-7.2

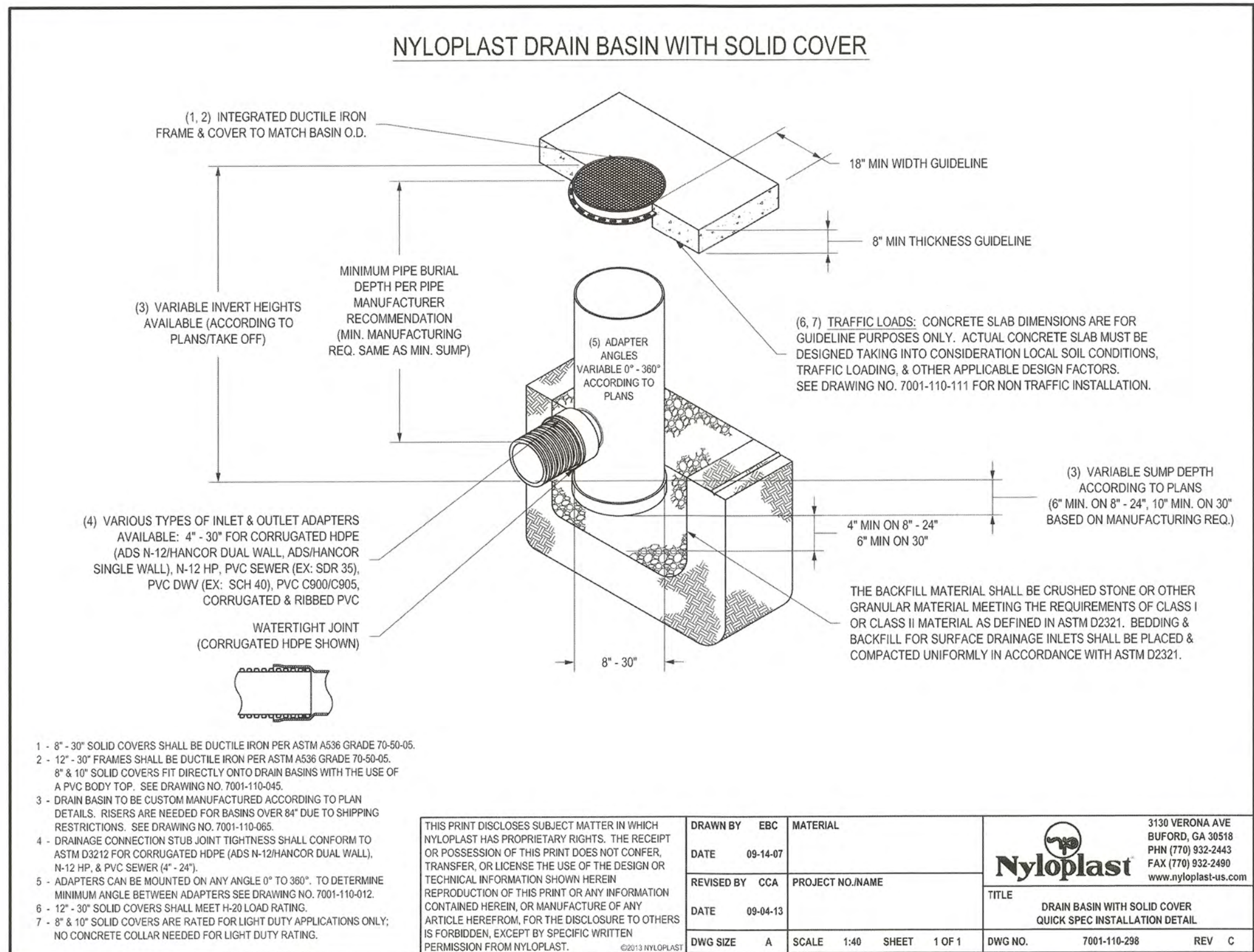
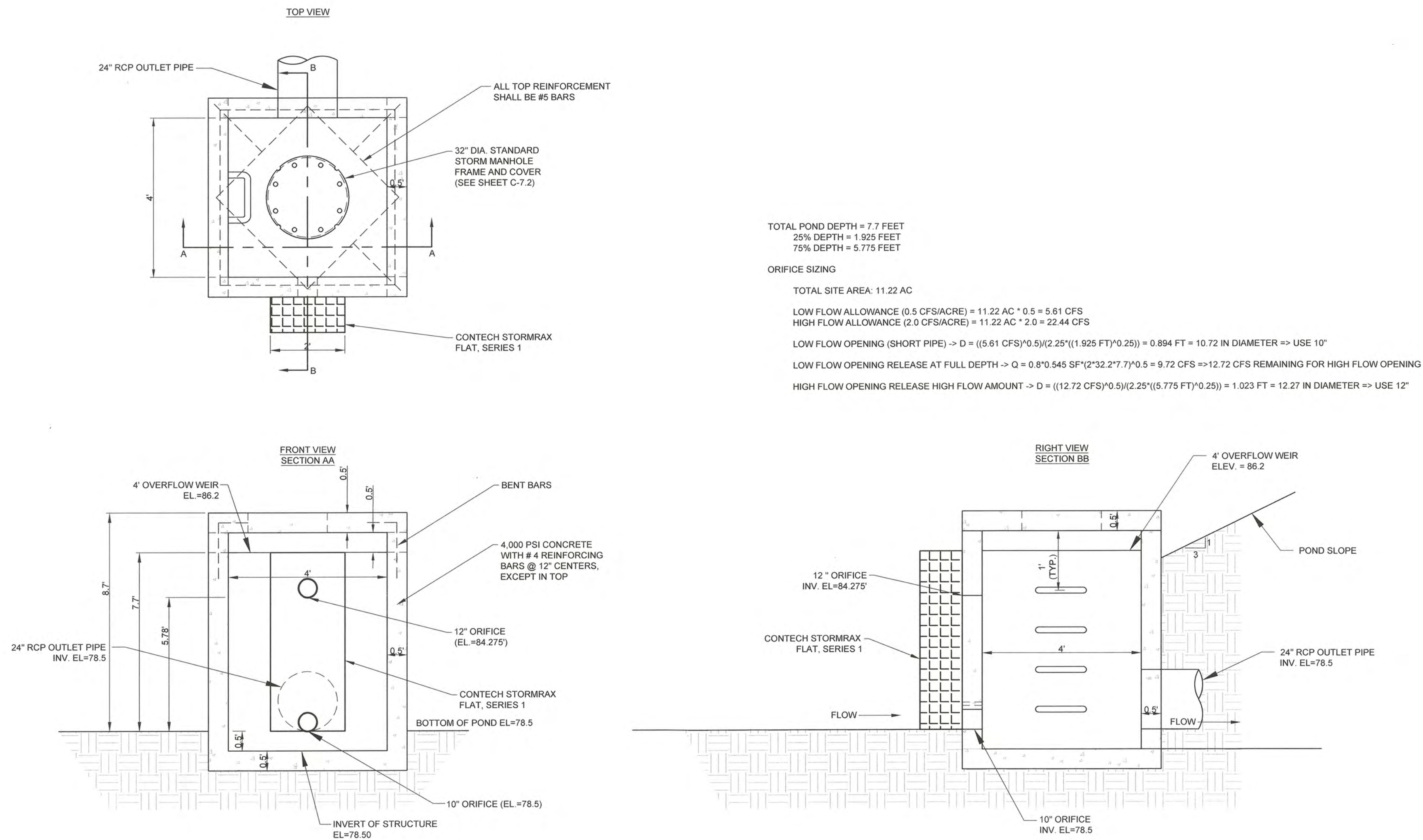
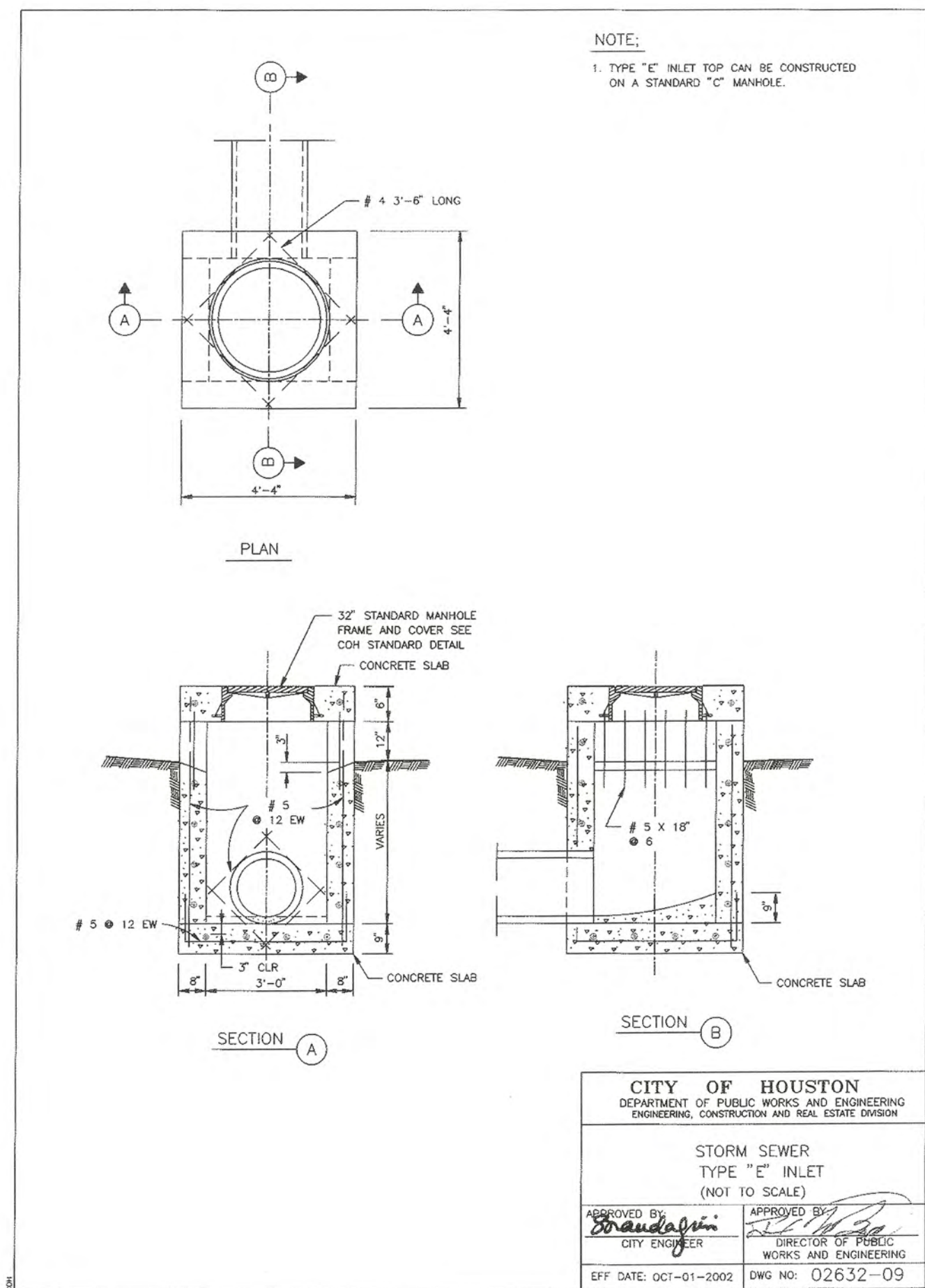
COMMENTS:

JOB/FILE NUMBER:

693.009



3-37



11/21/17
FBC DEVELOPMENT COORDINATOR DATE

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PROJECT:
PROVISION AT W BELLFORT
13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

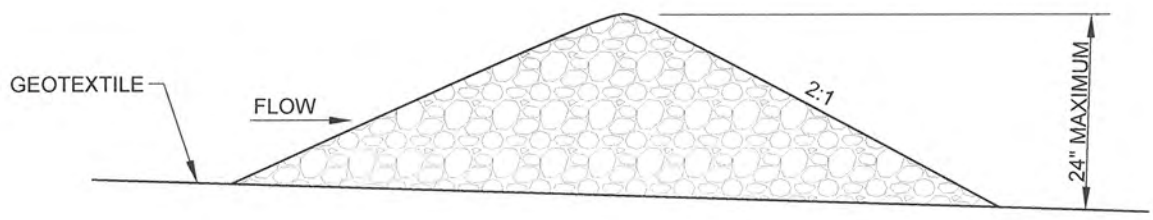
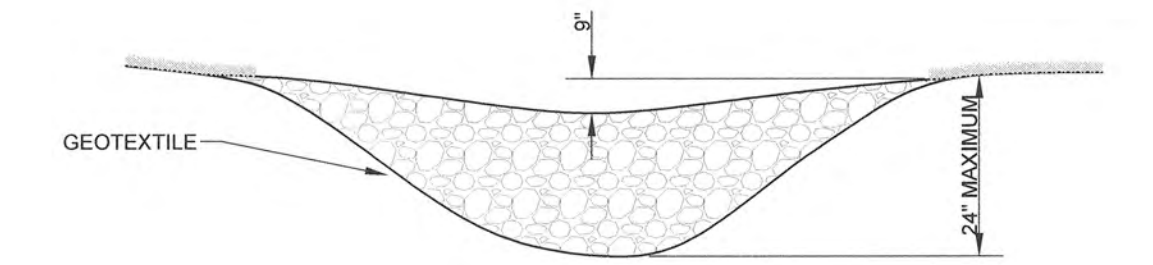
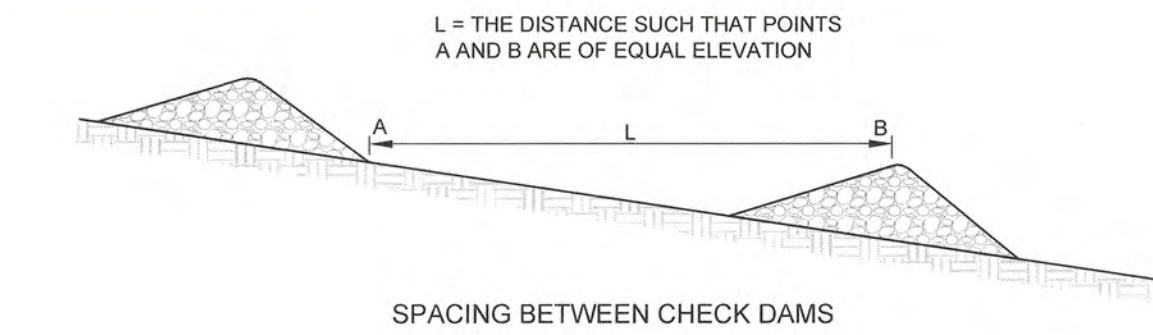
SEAL:

JOHN B. RHODES, JR.
112311
PROFESSIONAL ENGINEER

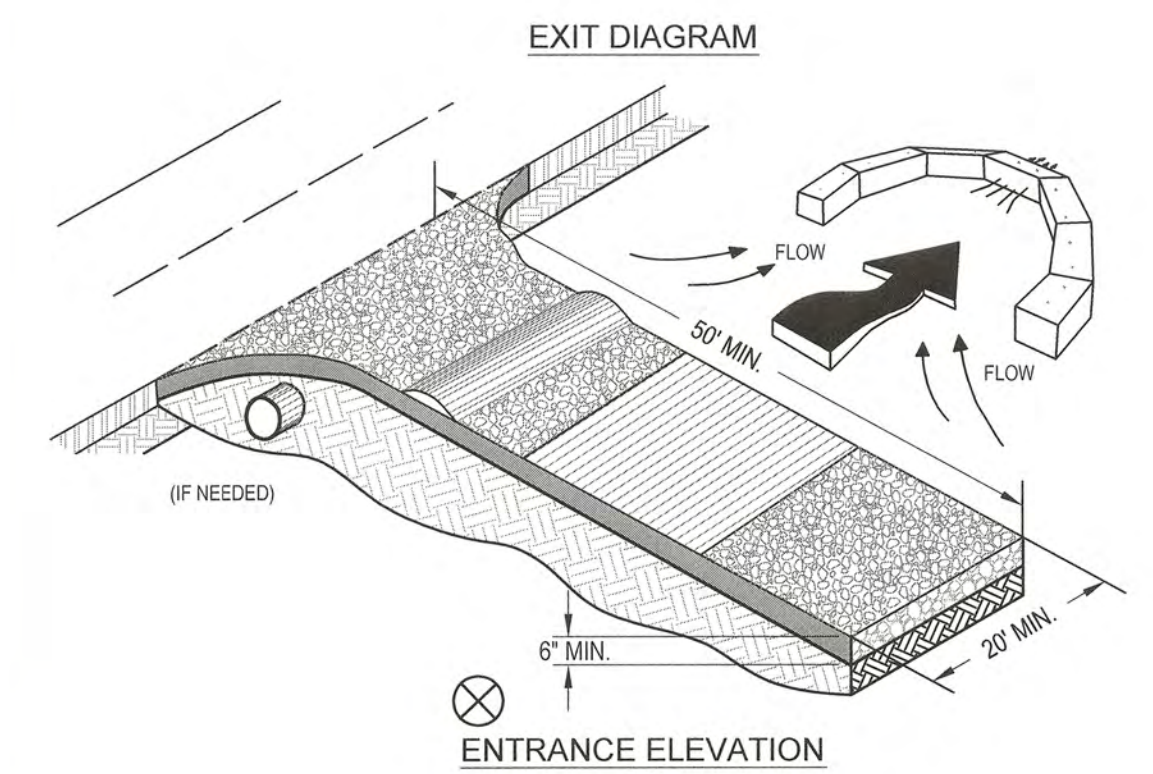
REVISIONS DATE
CITY COMMENTS 07/31/2017
CITY COMMENTS 08/18/2017
DRAINAGE DISTRICT COMMENTS 08/18/2017
CONSTRUCTION SET 10/27/2017

PROJECT MANAGER: DN
DRAWING BY: DK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
TITLE: AS SHOWN

STORM SEWER DETAILS
SHEET NUMBER:
C-7.3
COMMENTS:
JOB/FILE NUMBER: 693.009

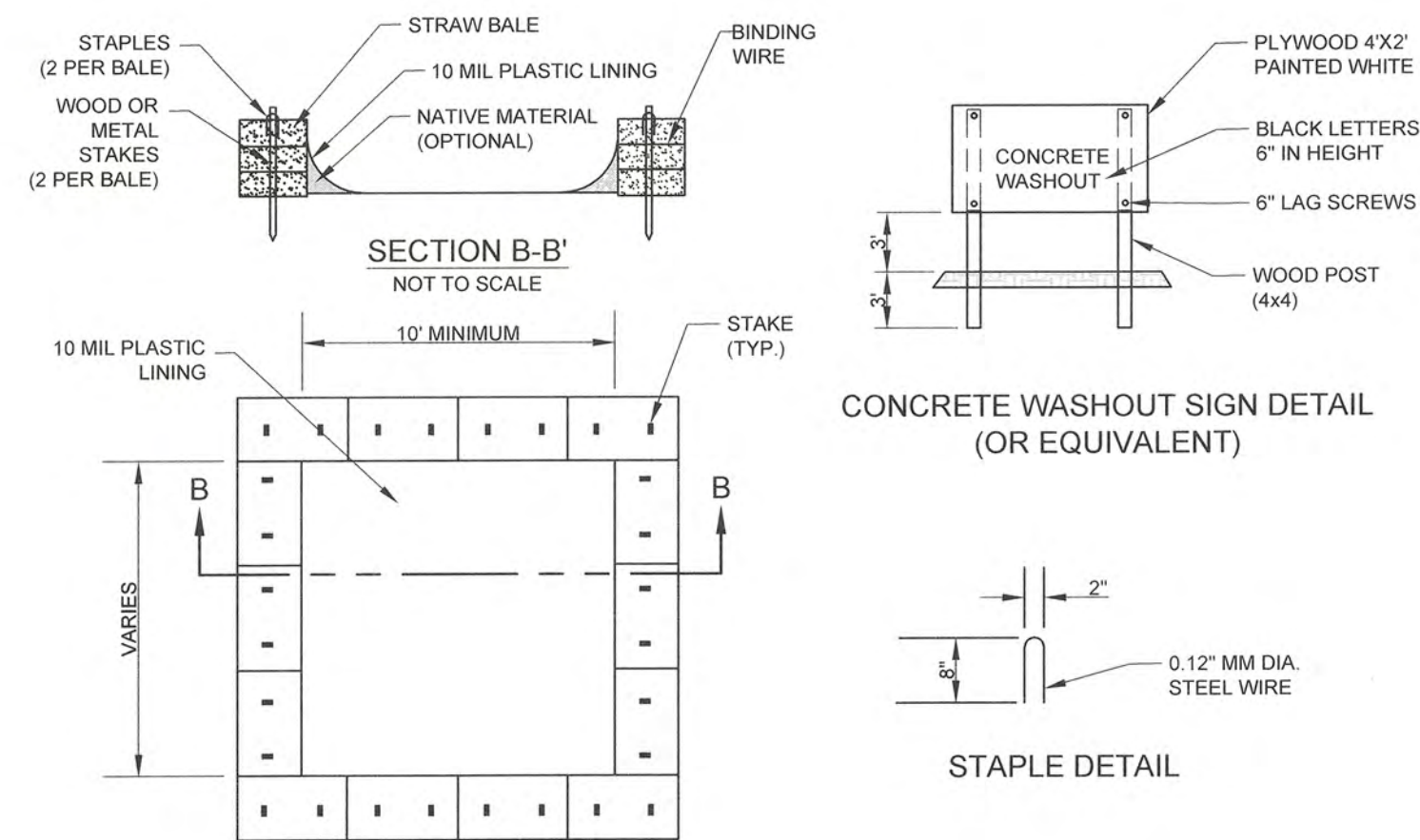


Cd-S STONE CHECK DAM
NOT TO SCALE



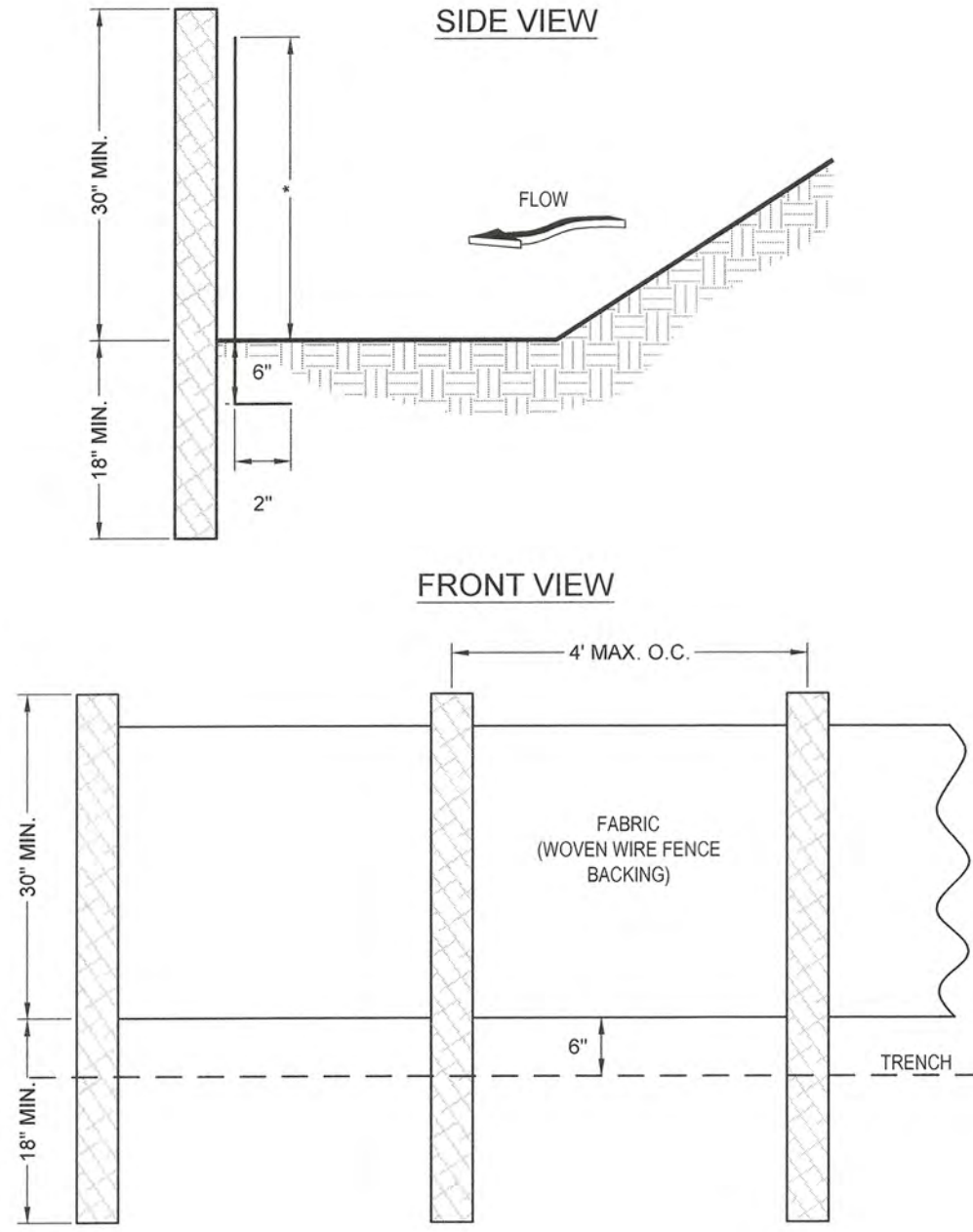
- NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
 5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
 6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
 7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
 8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAIN INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
 9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
 10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Co CRUSHED STONE CONSTRUCTION EXIT
NOT TO SCALE



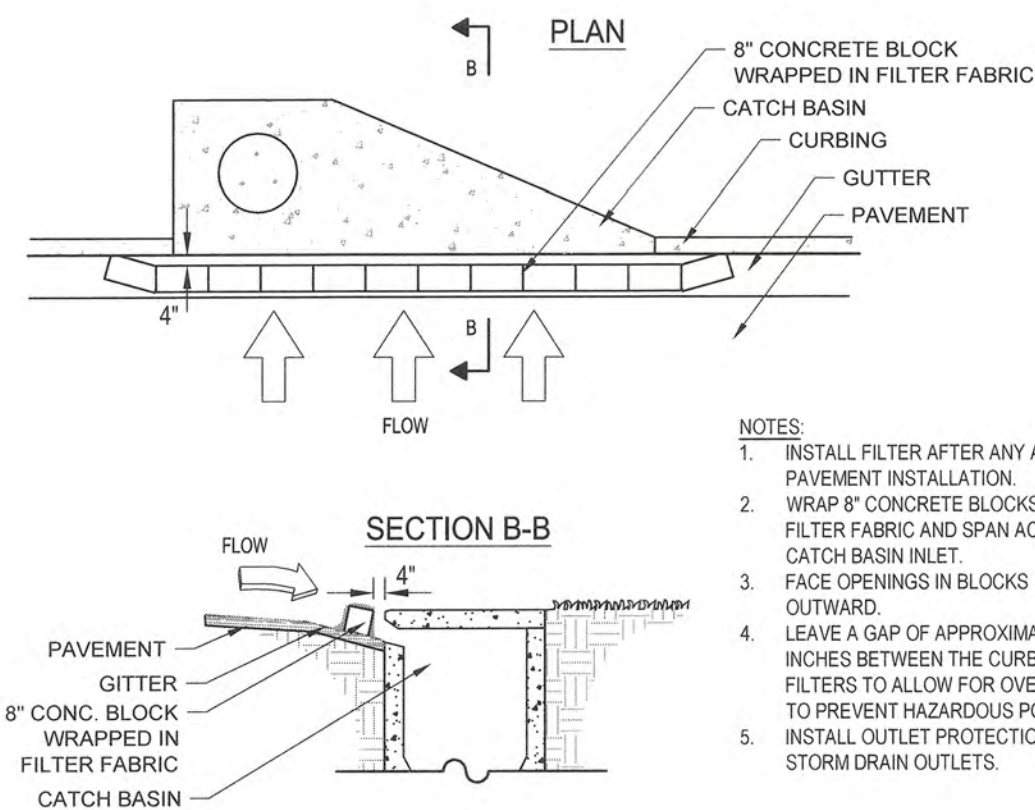
Cw CONCRETE WASHOUT
NOT TO SCALE

- NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
 2. THE CONCRETE WASHOUT SIGN (SEE FIG. 4-15) SHALL BE INSTALLED WITHIN 10' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

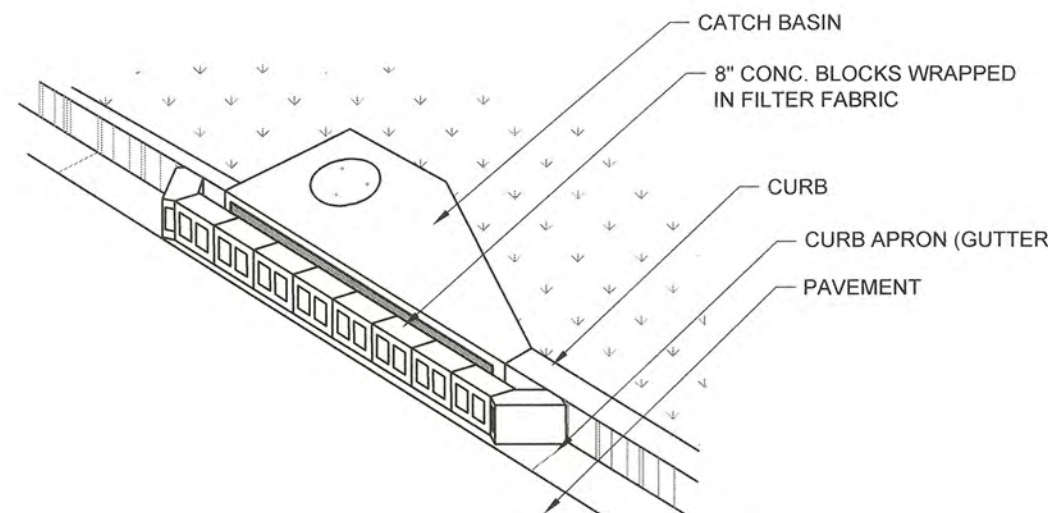


- NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 2. HEIGHT (") IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

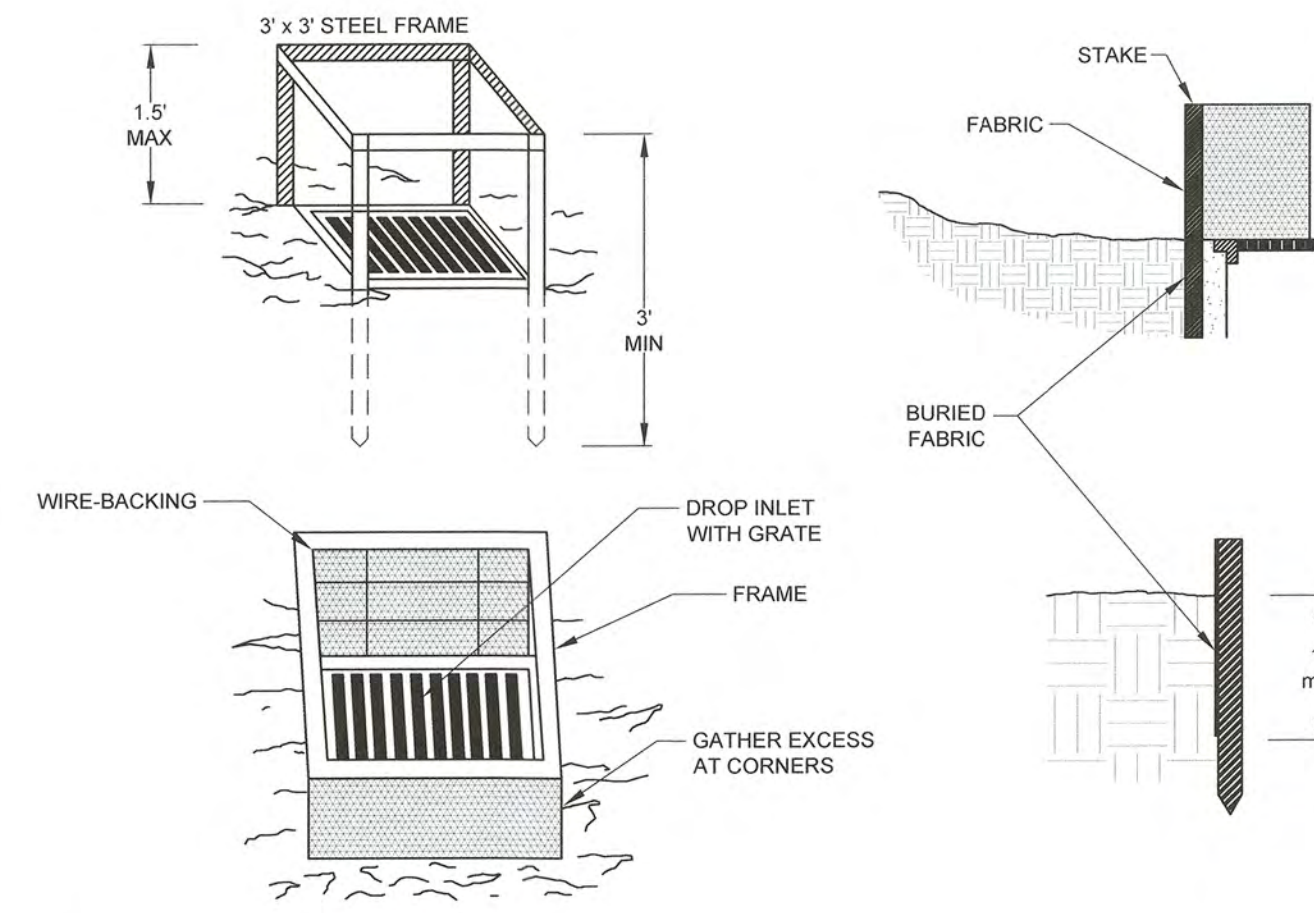
Sd1-S SILT FENCE -TYPE SENSITIVE
NOT TO SCALE



- NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
 2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
 3. FACE OPENINGS IN BLOCKS OUTWARD.
 4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
 5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.

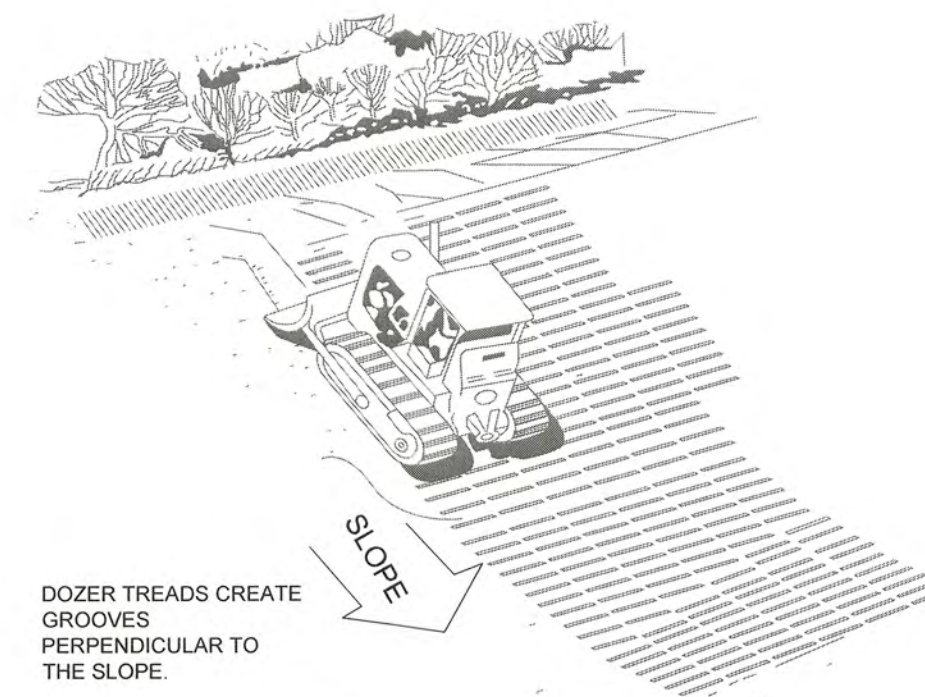


Sd2-P CURB INLET FILTER "PIGS IN BLANKET"
NOT TO SCALE

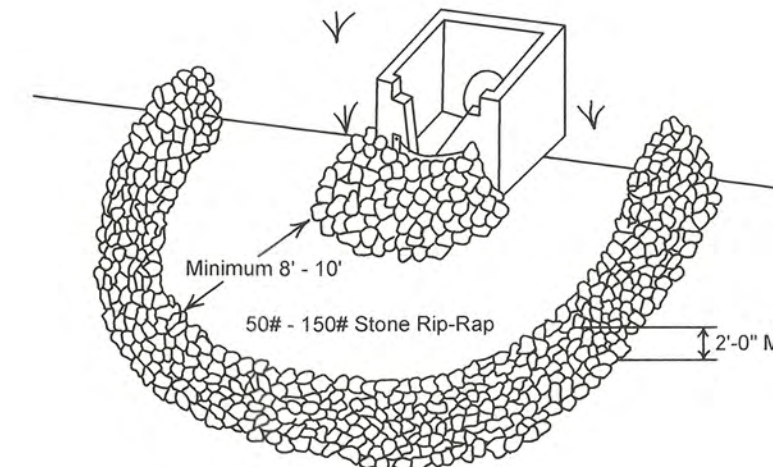


- NOTES:
1. FOR STAKES, USE STEEL WITH A MINIMUM LENGTH OF 3 FEET.
 2. SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART, AND SECURELY DRIVE THEM INTO THE GROUND, MINIMUM OF 18 INCHES DEEP.
 3. TO PROVIDE NEEDED STABILITY TO THE INSTALLATION, FRAME WITH 2 X 4 INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1.5 FEET ABOVE THE DROP INLET CREST.
 4. PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL THE TRENCH WITH CRUSHED STONE OR COMPACTED SOIL.
 5. FASTEN FABRIC SECURELY TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
 6. THE TOP OF THE FRAME AND FABRIC MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE FROM THE DROP INLET TO KEEP RUNOFF FROM BYPASSING THE INLET. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWN SLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW.

Sd2-F INLET SEDIMENT TRAP - FILTER FABRIC WITH SUPPORTING FRAME
NOT TO SCALE



Su SURFACE ROUGHENING - WITH TRACKING
NOT TO SCALE



Fr FILTER RING
NOT TO SCALE

May 11/21/17
FBC DEVELOPMENT COORDINATOR DATE

811
Know what's below
Call before you dig

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CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:

STATE OF TEXAS
JOHN B. RHODES, JR.
112311
LICENSED PROFESSIONAL ENGINEER

REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/18/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN
DRAWING BY: DK
JURISDICTION: CITY OF HOUSTON
DATE: 03/08/2017
TITLE: AS SHOWN

EROSION CONTROL DETAILS

SHEET NUMBER: C-8

COMMENTS:

JOB/FILE NUMBER: 693.009

Ss **SLOPE STABILIZATION**

ALL SLOPE STABILIZATION PRODUCTS MUST HAVE A DOCUMENTED "C" FACTOR OF 0.080 PER ASTM D6459.

- ROLLED EROSION CONTROL PRODUCT (RECP) CLASSIFICATIONS:
- SHORT TERM - FUNCTIONAL LONGEVITY OF 12 MONTHS
 - EXTENDED TERM - FUNCTIONAL LONGEVITY OF 24 MONTHS
 - LONG TERM - FUNCTIONAL LONGEVITY OF 36 MONTHS

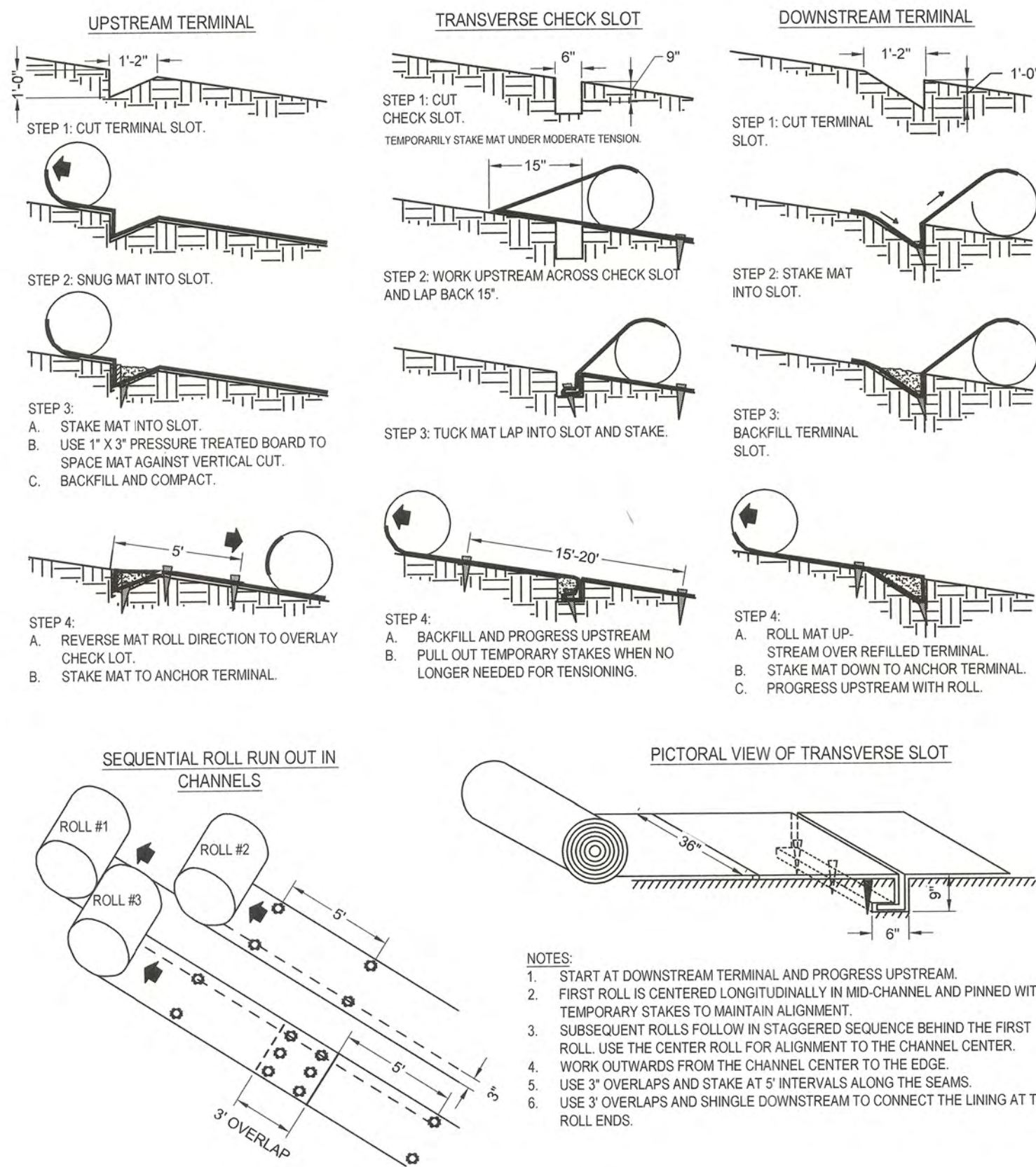
SITE PREPARATION

AFTER THE SITE HAS BEEN SHAPED AND GRADED TO DESIGN, PREPARE A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

MAINTENANCE

ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.

BLANKET AND MATTING CROSS-SECTIONS



Ss **TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)**
NOT TO SCALE

MULCHING FOR TEMPORARY STABILIZATION WITHOUT VEGETATION

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.

SITE PREPARATION

1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCH MATERIALS AND APPLICATION RATES	
MATERIAL	RATE
STRAW OR HAY	2-4" DEEP
WOOD WASTE, CHIPS, SAW DUST, OR BARK	2-3" DEEP (ABOUT 6-9 TONS/ACRE)
MATTING OR NETTING	ACCORDING TO MANUFACTURER RECOMMENDATIONS
POLYETHYLENE FILM	CAN BE LAID OVER SENSITIVE AREAS AND STOCKPILES, MUST BE SECURED.

APPLICATION

1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, ADD 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT.

ANCHORING MULCH

1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK" DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.
2. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE #6-8 OR SS-1, THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. TACKFERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TB - TACKFERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
4. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

GRADING AND SHAPING

1. EXCESSIVE WATER RUNOFF SHALL BE REDUCED BY PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, AND OTHERS.
2. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDING VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

SEEDBED PREPARATION

1. WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.
2. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER

1. SOIL TESTS MUST BE PERFORMED DETERMINE THE REQUIRED AMOUNTS OF FERTILIZER, LIME, AND OTHER AMENDMENTS. SOIL TESTS SHOULD INCLUDE RECOMMENDATIONS FOR APPLICATION RATES.
2. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR PH. QUICK ACTING LIME SHOULD BE INCORPORATED TO MODIFY PH DURING THE GERMINATION PERIOD.
3. ALL GRADED AREAS REQUIRE LIME APPLICATION UNLESS SOIL TEST INDICATE OTHERWISE.
4. BIOSTIMULANTS SHOULD ALSO BE CONSIDERED WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL.
5. FERTILIZER SHOULD BE APPLIED BEFORE SEEDBED PREPARATION AND INCORPORATED WITH A DISK, RIPPER, OR CHISEL ON SLOPES TOO STEEP FOR, OR INACCESSIBLE TO EQUIPMENT, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE.

DUST CONTROL ON DISTURBED AREAS

REFER TO THE POLLUTION CONTROL NOTES FOR RECOMMENDED SEQUENCE AND PRACTICE OF DUST CONTROL MEASURES.

TEMPORARY METHODS

1. APPLICATION OF MULCH (SEE D61)
2. TEMPORARY VEGETATIVE COVER (SEE D62)
3. SPRAY ON ADHESIVES (SEE T62)
4. TILLAGE - THE ROUGHENING OF SOIL AND BRING CLODS TO THE SURFACE. IT SHOULD BE USED AS AN EMERGENCY MEASURE BEFORE HIGH WIND EROSION POTENTIAL.
5. IRRIGATION - SPRINKLE WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.
6. BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, BALES OF HAY, AND SIMILAR MATERIALS TO BE PLACED TO RIGHT ANGLES OF PREVAILING CURRENTS. TO BE EFFECTIVE, BARRIERS MUST BE AT INTERVALS OF APPROX. 15 TIMES THEIR HEIGHT.
7. CALCIUM CHLORIDE APPLICATION - APPLY AS NEEDED TO KEEP SURFACE MOIST.

PERMANENT METHODS

1. PERMANENT VEGETATION - (SEE D63)
2. TOPSOILING - COVER WITH LESS ERODITIVE TOPSOIL.
3. STONE - COVER AREAS SUBJECT TO WIND EROSION AND HIGH TRAFFIC AREAS WITH CRUSHED STONE OR COARSE GRAVEL.

Mary D. 11/21/17
FBC DEVELOPMENT COORDINATOR DATE



ENGINEER:

FORESITE group

TBPE Firm No. F-12878

Foresite Group, Inc.

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DALLAS, TEXAS 75201

(417) 447-5538

CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER:	DN
DRAWING BY:	DK
JURISDICTION:	CITY OF HOUSTON
DATE:	03/08/2017
TITLE:	AS SHOWN

EROSION CONTROL DETAILS

SHEET NUMBER:

C-8.1

COMMENTS:

JOB/FILE NUMBER:

693.009

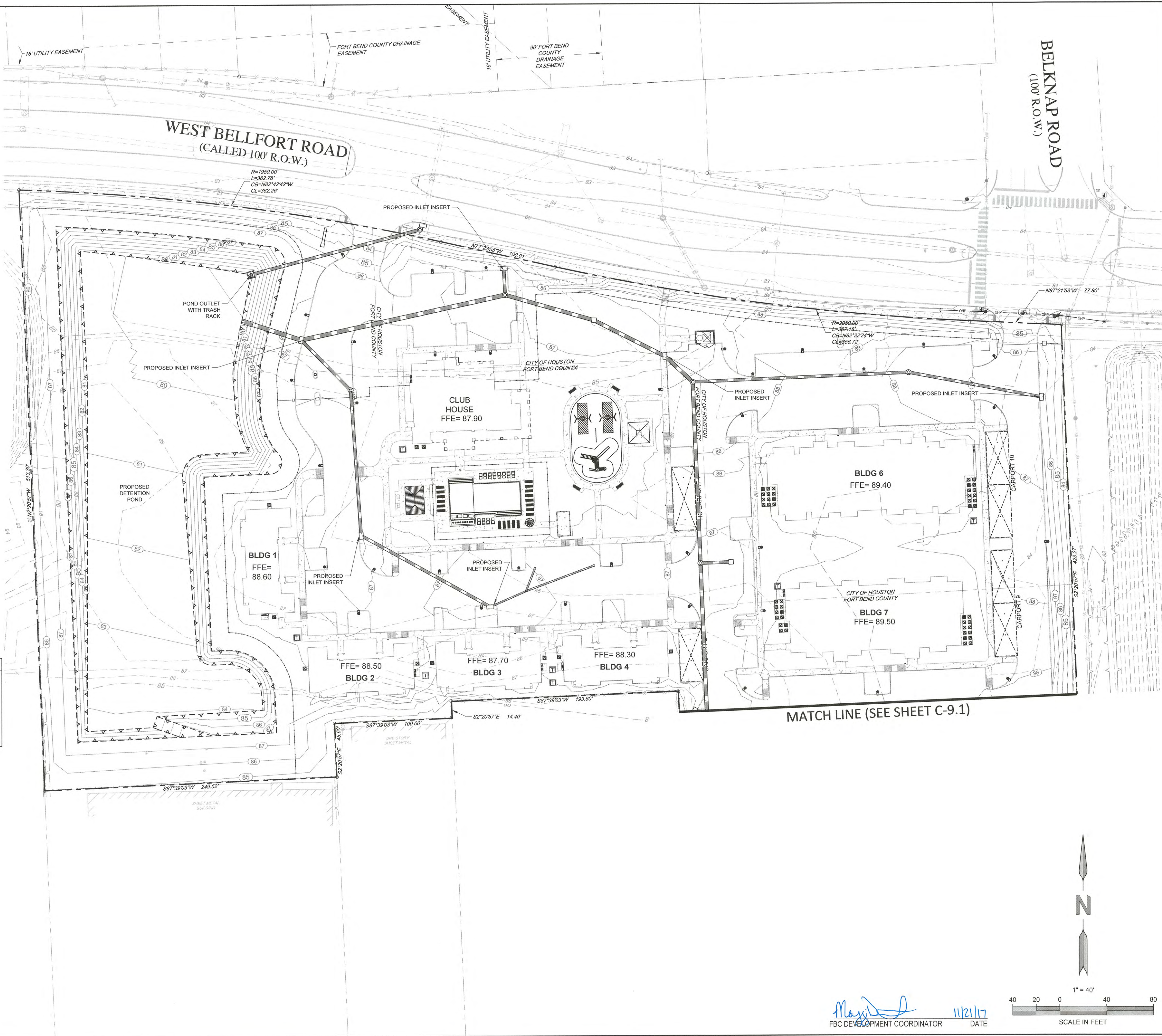
NOTES:

- 1) OWNER'S ENGINEER SHALL CERTIFY UPON COMPLETION OF CONSTRUCTION THAT THE STRUCTURAL BEST MANAGEMENT PRACTICES DEPICTED ON THESE PLANS HAVE BEEN IMPLEMENTED.
- 2) NOW, STRUCTURAL BEST MANAGEMENT PRACTICES APPROPRIATE FOR THIS DEVELOPMENT ARE LISTED AND DESCRIBED ON THIS SHEET.
- 3) OWNER HAS CERTIFIED THAT IT ACKNOWLEDGES THE RESPONSIBILITY TO IMPLEMENT, MAINTAIN AND INSPECT THE STORM WATER MANAGEMENT PLAN (SWMP).
- 4) OWNER SHALL HAVE AN ANNUAL INSPECTION AND ASSESSMENT OF THE SWMP AND ISSUE A CERTIFICATION OF PROPER MAINTENANCE TO THE CITY OF HOUSTON ENGINEER.

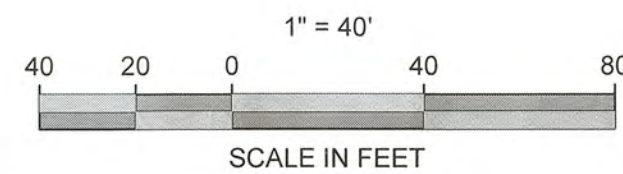


TRASH RACK

LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE



Max [Signature]
FBC DEVELOPMENT COORDINATOR
11/21/17
DATE



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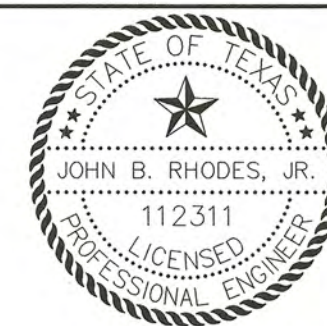
CONTACT: MR. RUBEN ESQUEDA

PROJECT:

PROVISION AT W BELLFORT

13701 W BELLFORT STREET
SUGAR LAND, FORT BEND COUNTY, TX 77498

SEAL:



REVISIONS	DATE
CITY COMMENTS	07/31/2017
CITY COMMENTS	08/16/2017
DRAINAGE DISTRICT COMMENTS	08/18/2017
CONSTRUCTION SET	10/27/2017

PROJECT MANAGER: DN

DRAWING BY: DK

JURISDICTION: CITY OF HOUSTON

DATE: 03/08/2017

1" = 40'

TITLE:

STORMWATER MANAGEMENT
PLAN

SHEET NUMBER:

C-9

COMMENTS:

JOBFILE NUMBER: 693.009

NOTES:

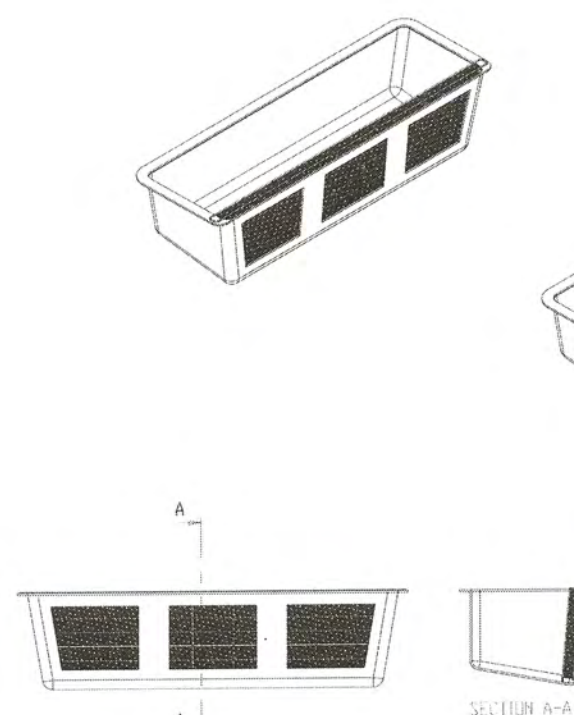
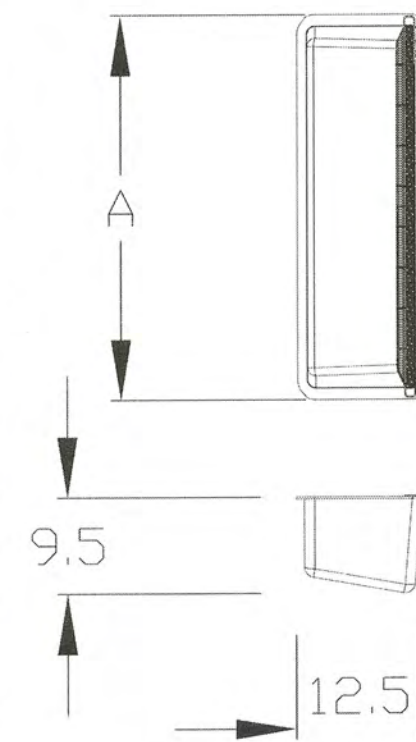
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LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING STORM PIPE
	PROPOSED STORM PIPE

- NOTES:
1. ALL DIMENSIONS ARE IN FEET. CUSTOM SIZES ALSO AVAILABLE.
 2. UNITS ARE CONSTRUCTED FROM HIGH DENSITY POLYETHYLENE PLASTIC WITH UV INHIBITORS. OVER 40% RECYCLED CONTENT.
 3. DISPOSABLE MEDIA-PAK IS CONSTRUCTED OF DURABLE GEOTEXTILE FABRIC, WOVEN WITH PERFORATED POLYPROPYLENE.
 4. MEDIA-PAK CAGE IS CONSTRUCTED USING 8 GAUGE TYPE 304 STAINLESS STEEL.
 5. FILTER BODY IS SECURED TO INSIDE WALL USING (2) 1/4" THICK BRACKETS PER SECTION, ATTACHED USING 3/8" X 3" EXPANSION ANCHOR BOLTS.
 6. OPTIONAL STORMWEB, DESIGNED FOR CAPTURING LARGER TRASH AND DEBRIS.
 7. FILTER MEDIA IS NON-HAZARDOUS PER EPA AND DSHA STANDARDS.
 8. FILTER SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
 9. PLEASE REFER TO MANUFACTURER RECOMMENDATIONS FOR AN APPROVED MAINTENANCE PROGRAM.

STANDARD DIMENSIONS

MODEL #	A*
-TRC2	2.00
-TRC2.5	2.50
-TRC3	3.00
-TRC3.5	3.50
-TRC4	4.00
-TRC5	5.00
-TRC6	6.00
-TRC7	7.00
-TRC8	8.00
-TRC9	9.00
-TRC10	10.00
-TRC12	12.00
-TRC14	14.00
-TRC21	21.00
-TRC28	28.00



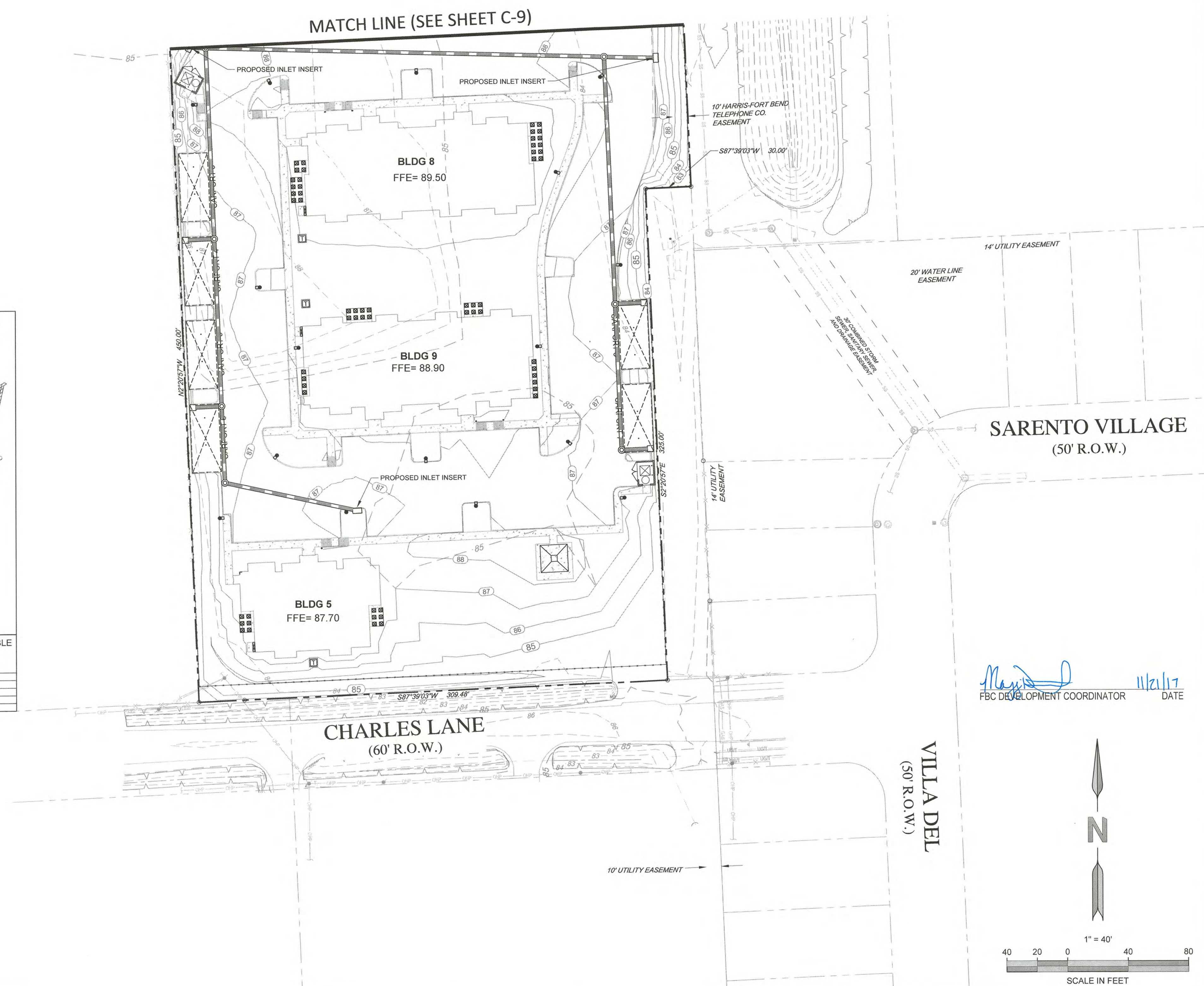
SECTION A-A

TYPICAL DETAIL WITH SIZING TABLE
CURB INLET
TRITON

REV	DESCRIPTION	REVISIONS

CONTECH
STORMWATER SOLUTIONS
contechstormwater.com

SCALE: NONE
DRAWN: JBE
CHECKED: WDG
FILE NAME: TRITON.TXD
DATE: 4/20/17



ENGINEER:

FORESITE
group

TBPE Firm No. F-12878

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PLAN

SHEET NUMBER:

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Know what's below
Call before you dig