

FORT BEND COUNTY, TEXAS

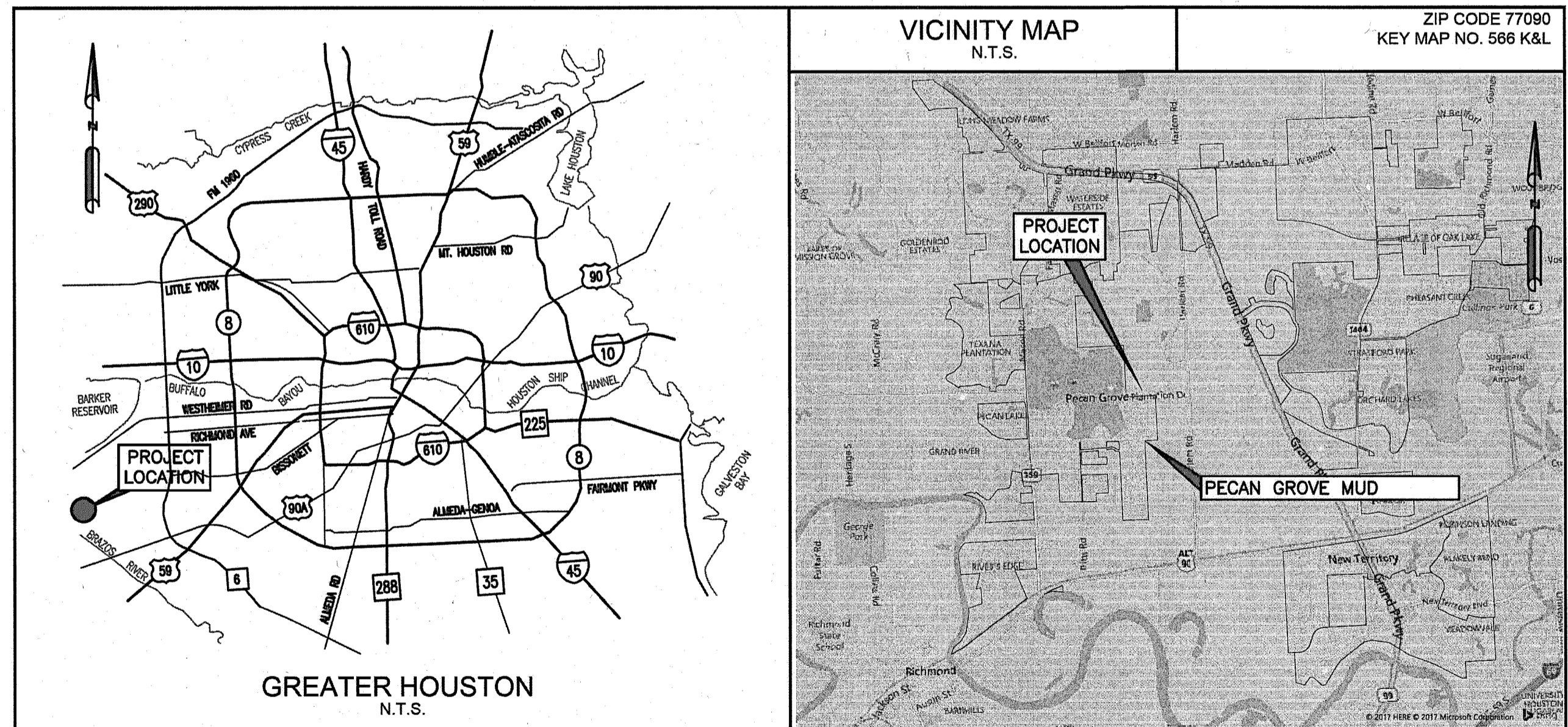
PECAN GROVE MUNICIPAL UTILITY DISTRICT

PROPOSED LEVEE EXTENSION TO SERVE

PECAN GROVE

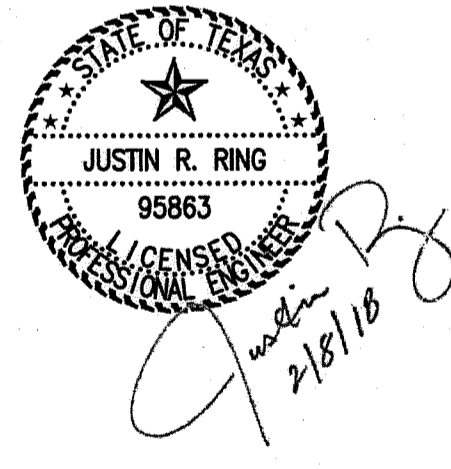
JOB NO. 17-020-100

PECAN GROVE LEVEE EXTENSION 17-020-100
1-17020100-01



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CALL BEFORE YOU DIG!
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48 HOURS NOTICE BEFORE YOU DIG, DRILL,
OR BLAST - STOP CALL
Texas One Call System
1-800-545-6005
(713)223-4567 (IN HOUSTON)

FORT BEND COUNTY ENGINEER
ENGINEER: Justin R. Ring, P.E.
for Richard W. Stolleis, P.E.
DATE: 3/2/18
THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN (1) YEAR FROM DATE OF APPROVAL.
APPROVED: Maggi
Development Coordinator
DATE: 3/2/18

APPROVED - Kelly Kelly 2/26/18
APPROVED
CITY OF RICHMOND
Terri Vela
CITY MANAGER
2/28/18
DATE
Terri Vela

FORT BEND COUNTY - GENERAL NOTES

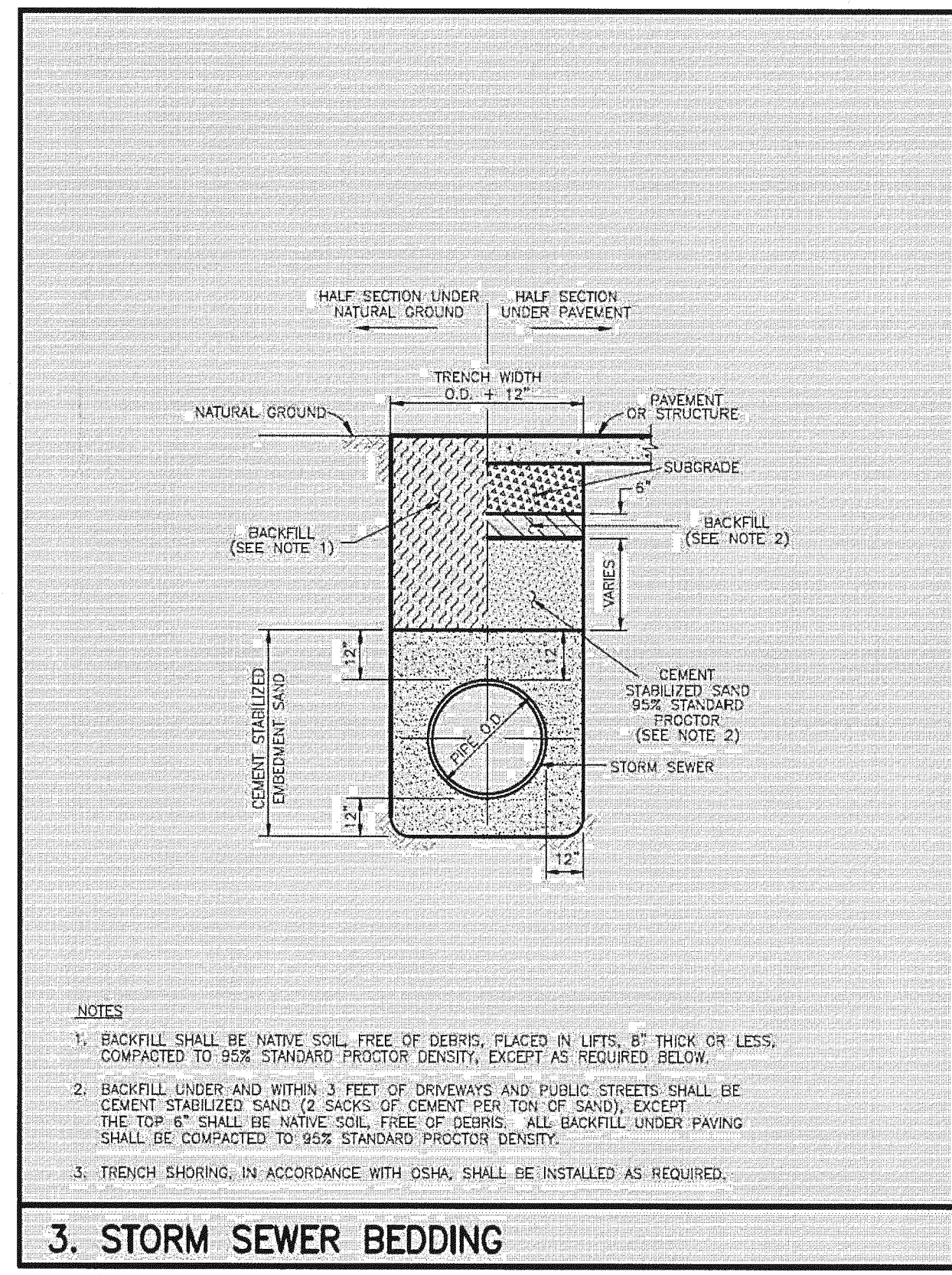
- FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 48 HOUR NOTICE TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PAVING AT CONSTRUCTION@FORTBENDCOUNTYTX.GOV.
- CONTRACTOR RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN COUNTY RIGHT OF WAY.
- 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.
- ALL ROAD WIDTHS CURB RADI AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.
- A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN ALL CURBS.
- ALL CONCRETE PAVEMENT SHALL BE 5 1/2 SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500PSI AT 28 DAYS. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 60FT.
- ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
- 4"x12" REINFORCED CONCRETE CURBS SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 8" REINFORCED CONCRETE CURB.
- AT ALL INTERSECTION LOCATIONS, 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.
- CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMPS, WITH NO CONSTRUCTION JOINT WITHIN 5' OF RAMPS.
- ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A.D.A. WHEEL CHAIR RAMPS INSTALLED.
- 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.
- ALL R1-1 STOP SIGNS SHALL BE 30"x30" WITH DIAMOND GRADE SHEETING PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 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 UPPER CASE OF 6" MINIMUM AND LOWERCASE LETTER OF 4.5 MINIMUM. THE LETTER SHALL BE REFLECTIVE WHITE. STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.
- A BLUE DOUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS. THE BUTTON SHALL BE PLACED 12 INCHES OFF THE CENTERLINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.
- 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 RECTIFY 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.

GENERAL NOTES (CITY OF RICHMOND)

- THE CONTRACTOR SHALL NOTIFY CITY OF RICHMOND (REFERRED TO AS THE "CITY") DIRECTOR OF PUBLIC WORKS AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK AT (281) 342-0559. CONTRACTOR SHALL ATTEND A PRECONSTRUCTION MEETING WITH CITY AND THE PROJECT ENGINEER PRIOR TO INITIATING CONSTRUCTION. PRECONSTRUCTION MEETINGS SHALL BE HELD AT 600 MORTON STREET OR AT A LOCATION APPROVED BY THE DIRECTOR OF PUBLIC WORKS.
- ALL PUBLIC INFRASTRUCTURE SHALL BE INSPECTED BY PUBLIC WORKS INSPECTOR(S) OR AUTHORIZED AGENTS(S). A FOLLOW-UP INSPECTION OF ALL PUBLIC INFRASTRUCTURE SHALL BE SCHEDULED WITHIN 60 DAYS OF THE INITIAL INSPECTION. A COMPLETE RE-INSPECTION WITH A NEW PUNCH LIST MAY BE REQUIRED AFTER THE 60 DAY PERIOD. THE CITY CONSTRUCTION INSPECTOR TO BE NOTIFIED A MINIMUM OF 24 HOURS, ON ALL PAVEMENT POURS, WATER, STORM AND SANITARY TESTING. TESTING WILL NOT BE DONE ON A SATURDAY, UNLESS PRIOR APPROVAL IS PROVIDED. COMPLETED WORK SHALL NOT BE BACKFILLED WITHOUT APPROVAL OF THE CITY.
- CONTRACTOR MUST OBTAIN ALL PERMITS AND SUPPLY ALL BONDS REQUIRED BY THE CITY, PRIOR TO BEGINNING CONSTRUCTION. ALL REQUIRED PERMITS MUST BE LISTED ON SITE, PLACED IN A WATERPROOF ENCASEMENT.
- UPON COMPLETION OF A PROJECT, THE CONTRACTOR AND/OR PROJECT ENGINEER SHALL PROVIDE THE DIRECTOR OF PUBLIC WORKS AND CITY ENGINEER DETAILED, "RECORD DRAWINGS" IN REPRODUCTIVE AND ELECTRONIC FORMAT.
- CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT AND LABOR FOR EXCAVATION, INSTALLATION AND BACKFILLING OF WATER, SANITARY AND STORM SEWER LINES AND RELATED APPURTENANCES AS SHOWN ON THE PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2004) AND REVISIONS THERETO.
- ALL WORK PERFORMED SHALL COMPLY WITH CURRENT NATIONAL SPECIFICATIONS AND STANDARD PRACTICES, APPROVED PROJECT PLANS AND SPECIFICATIONS AND ALL APPLICABLE CITY STANDARDS, CODES AND ORDINANCES.
- ALL CONSTRUCTION TRAFFIC CONTROL IN THE PROJECT AREA SHALL MEET THE REQUIREMENTS OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE APPROVED BY THE CITY FOR ALL PROJECTS WITHIN THE CITY LIMITS.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA PRIOR TO COMMENCING WORK IN ANY RIGHT-OF-WAY OR EXISTING EASEMENT. A VERIFICATION NUMBER FROM THE ONE-CALL UTILITY COORDINATING COMMITTEE IS REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION AND UNCOVER EXISTING UTILITIES AT ALL "POINTS OF CROSSING" TO DETERMINE IF CONFLICTS EXIST PRIOR TO COMMENCING ANY CONSTRUCTION. NOTIFY THE PROJECT ENGINEER, CITY ENGINEER AND DIRECTOR OF PUBLIC WORKS IMMEDIATELY OF ANY CONFLICT.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE SUCH UNDERGROUND FEATURES SUFFICIENTLY IN ADVANCE OF OPERATIONS TO PRECLUDE DAMAGE IN THE EVENT THAT UNDERGROUND FACILITIES NOT SHOWN ON THE DRAWINGS ARE ENCOUNTERED.
- IN THE EVENT OF DAMAGE TO UNDERGROUND FACILITIES, WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE THE NECESSARY REPAIRS TO REPLACE THE FACILITY BACK IN SERVICE. ALL SUCH REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE OWNER OF THE FACILITY.
- THE CONTRACTOR SHALL PROVIDE SHEETING, SHORING AND BRACING NECESSARY TO PROTECT WORKMEN AND EXISTING UTILITIES DURING ALL PHASES OF CONSTRUCTION AS MAY BE REQUIRED BY O.S.H.A., FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES.
- CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS ALONG EXISTING ROADWAYS AND WITHIN TRAFFIC AREAS.
- ALL TESTING FOR THIS PROJECT SHALL CONFORM TO THE CITY REQUIREMENTS. SHOULD ANY TEST RESULTS NOT MEET THE TESTING REQUIREMENTS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE OR REPLACE SUCH MATERIALS AND INSTALLATIONS, SO THAT THE TESTING REQUIREMENTS ARE MET.
- THE LOADING, UNLOADING AND HANDLING OF ALL PIPE, VALVES, HYDRANTS, FITTINGS, MANHOLES AND OTHER MATERIALS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIALS. THE CONTRACTOR SHALL LOCATE AND PROVIDE THE NECESSARY STORAGE AREAS FOR MATERIALS AND EQUIPMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS, UNTIL PROJECT COMPLETION.
- CONTRACTOR SHALL NOT UNLOAD ANY TRACK-TYPE CONSTRUCTION MACHINERY ON ANY EXISTING PAVEMENT OR CROSS OVER ANY EXISTING PAVEMENT OR CURB DURING ANY PROJECT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPERVISE AND COORDINATE ALL WORK TO INSURE THE PROPER EXECUTION. ALL WORK IS TO BE ACCOMPLISHED IN A NEAT, WORKMANLIKE MANNER, AND ALL EXCESS MATERIALS, TRASH AND DEBRIS, ETC., SHALL BE REMOVED FROM THE JOB BY THE CONTRACTOR, AT HIS EXPENSE.
- CONTRACTOR SHALL REMOVE DIRT AND/OR DEBRIS DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY ON A DAILY BASIS. ALL EQUIPMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AT THE END OF THE PROJECT.
- EXISTING ROADS, RIGHT-OF-WAYS, EASEMENTS AND PROPERTY DISTURBED DURING CONSTRUCTION SHALL BE RESTORED AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK.
- UNLESS OTHERWISE REQUIRED, ALL DISTURBED AREAS SHALL BE SEEDED WITH HYDROMULCH SEEDING AND PROVIDE WATERING UNTIL VEGETATION IS ESTABLISHED.
- ALL EXCESS AND/OR UNSUITABLE SOIL, AND DEBRIS AND/OR WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
- ADJUST MANHOLES, INLETS, FLUSHING VALVES AND WATER VALVE BOXES TO MATCH FINAL GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY.
- UTILITY SERVICE LINES
 - ALL UTILITY SERVICE LINES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTORS SHALL ANTICIPATE THAT SUCH SERVICE LINES EXIST AND REPAIR THEM IF DAMAGED DURING CONSTRUCTION. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS WITH THE OWNERS OF SUCH UTILITIES PRIOR TO WORKING IN THE AREA TO CONFIRM THEIR EXACT LOCATIONS AND/OR DEPTHS, AND TO DETERMINE WHETHER ANY ADDITIONAL UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS MAY BE PRESENT. THE CONTRACTOR SHALL DETERMINE IF ANY OF THESE UTILITIES ARE CLEAR, AND SHALL PRESERVE AND PROTECT ALL OF THESE UTILITIES SHOWN OR FOUND. IF CONFLICTS ARISE REGARDING PUBLIC UTILITIES, THE CONTRACTOR SHOULD IMMEDIATELY NOTIFY THE PROJECT ENGINEER.

STORM SEWER NOTES

- ALL STORM SEWERS SHALL MEET THE REQUIREMENTS OF THE CITY, FORT BEND COUNTY AND FORT BEND COUNTY DRAINAGE DISTRICT (WHEN APPLICABLE).
- ALL STORM SEWER MANHOLE AND INLET COVERS SHALL BE LABELED "STORM SEWER" IN ACCORDANCE WITH THE DETAILS.
- ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE, A.S.T.M. C-76, CLASS III (MINIMUM) INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE CITY DETAILS AND FORT BEND COUNTY DRAINAGE DISTRICT CRITERIA. ALL REINFORCED CONCRETE PIPE 42-INCH DIAMETER AND GREATER SHALL HAVE WATER-TIGHT RUBBER GASKET JOINTS. CONTRACTOR MAY USE TAL-COAT OR EQUAL FOR PIPE JOINTS WITH FIVE LESS THAN 42" DIAMETER. ALL STORM SEWER SHALL BE BACKFILLED WITH SELECT FILL MATERIAL COMPACTED TO 95% STANDARD PROCTOR COMPACTION ASTM D-698. IN ACCORDANCE WITH THE DETAILS. CONTRACTOR SHALL USE MECHANICAL ROLLER OR MECHANICAL TAMPER IN COMPACTING ALL BACKFILL FOR PROJECT.
- ALL STORM SEWER STRUCTURES SUCH AS MANHOLES AND INLETS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND. CEMENT STABILIZED SAND BACKFILL SHALL EXTEND A MINIMUM OF TWENTY-FOUR INCHES (24") FROM THE OUTSIDE WALL OF ALL STRUCTURES. (2 SACKS OF CEMENT PER TON OF SAND.)

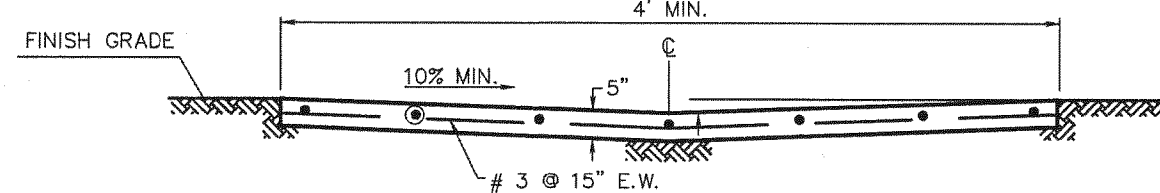


3. STORM SEWER BEDDING

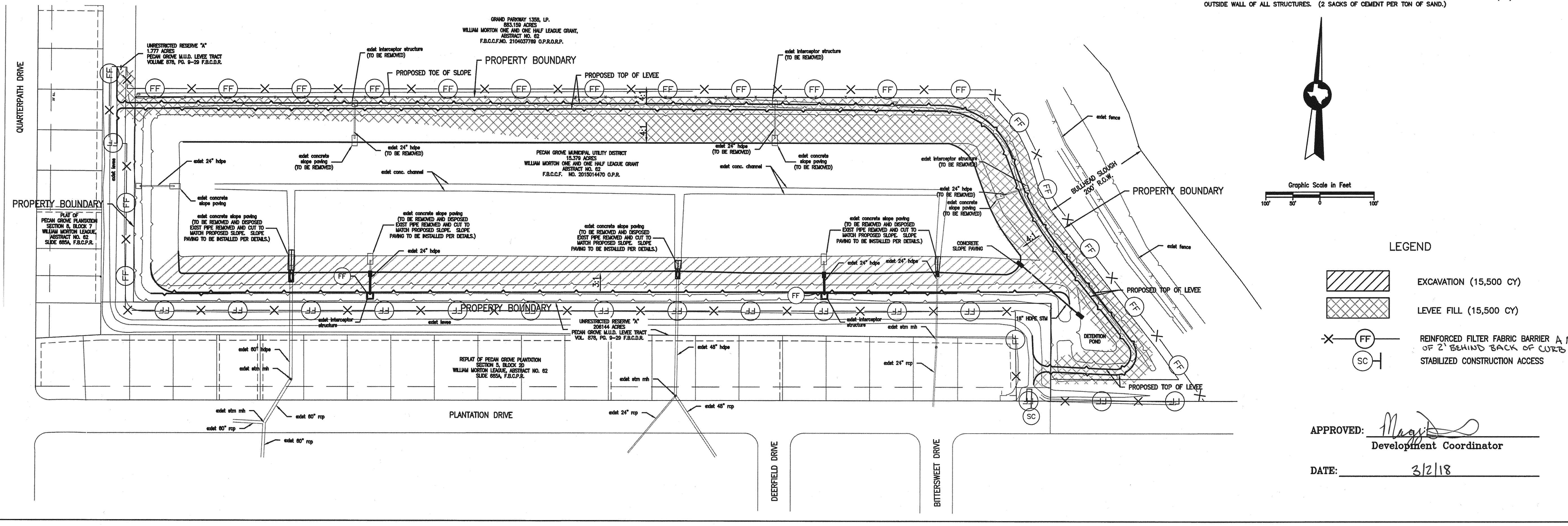
CITY OF RICHMOND, TEXAS STANDARD DETAIL
N.T.S.

LEEVE CONSTRUCTION NOTES:

- ALL FILL REQUIREMENTS FOR EMBANKMENT TO CONFORM TO MATERIAL REQUIREMENTS SET BY FORT BEND COUNTY FOR LEEVE CONSTRUCTION. MATERIAL SHALL BE CLASSIFIED AS CH OR CL AND SHALL HAVE THE FOLLOWING PROPERTIES:
 - LIQUID LIMIT GREATER THAN OR EQUAL TO 30
 - PLASTICITY INDEX GREATER THAN OR EQUAL TO 15
 - PERCENT PASSING No. 200 SIEVE GREATER THAN OR EQUAL TO 50
 MATERIAL MUST BE CONFIRMED, IN WRITING, BY CMT LAB AS DESIGNATED BY THE OWNER.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% USING THE STANDARD PROCTOR COMPACTION TEST PLUS OR MINUS 3% OPTIMUM MOISTURE CONTENT.
- EMBANKMENT MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12-INCHES THICK.



CONCRETE PILOT CHANNEL
N.T.S.



APPROVED: *[Signature]*
Development Coordinator

DATE: 3/2/18

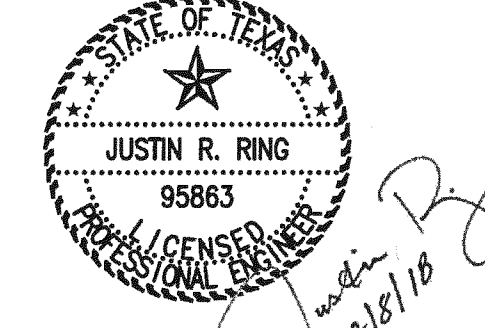
BENCHMARK(S) / FLOODPLAIN

CITY OF SUGARLAND MONUMENT SGR-RM018

ELEVATION=78.94 (NAVD88 2001)

100 YEAR FLOOD ELEV. 81.00 1988 ADJ. FIRM PANEL
FOR PROPERTY: 48157C0140L
DATED: APRIL 2, 2014

APPR.	REVISION	DATE



ODYSSEY
ENGINEERING GROUP

2500 Tanglewilde Street, Suite 240
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeng.com
TBPE No. F-17637

CITY OF RICHMOND
APPROVALS

DIRECTOR OF PUBLIC WORKS
HOWARD CHRISTIAN DATE

[Signature] 3/2/18
KELLY R. KALUZA & ASSOCIATES, INC. DATE

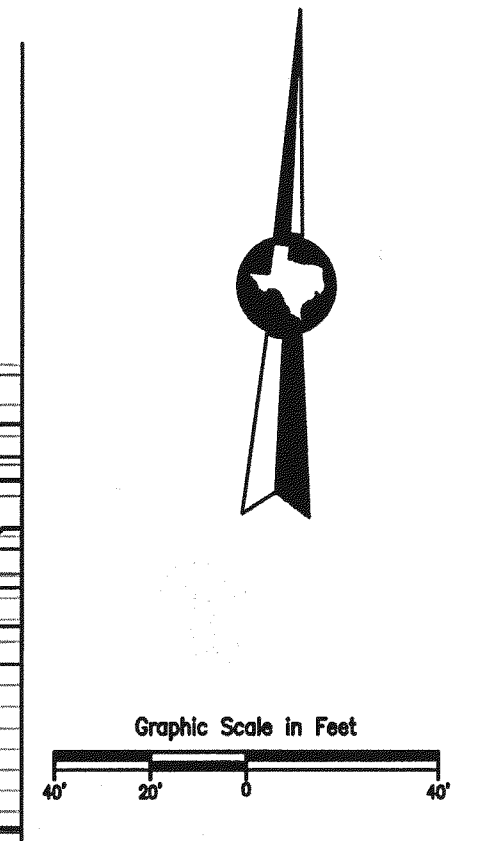
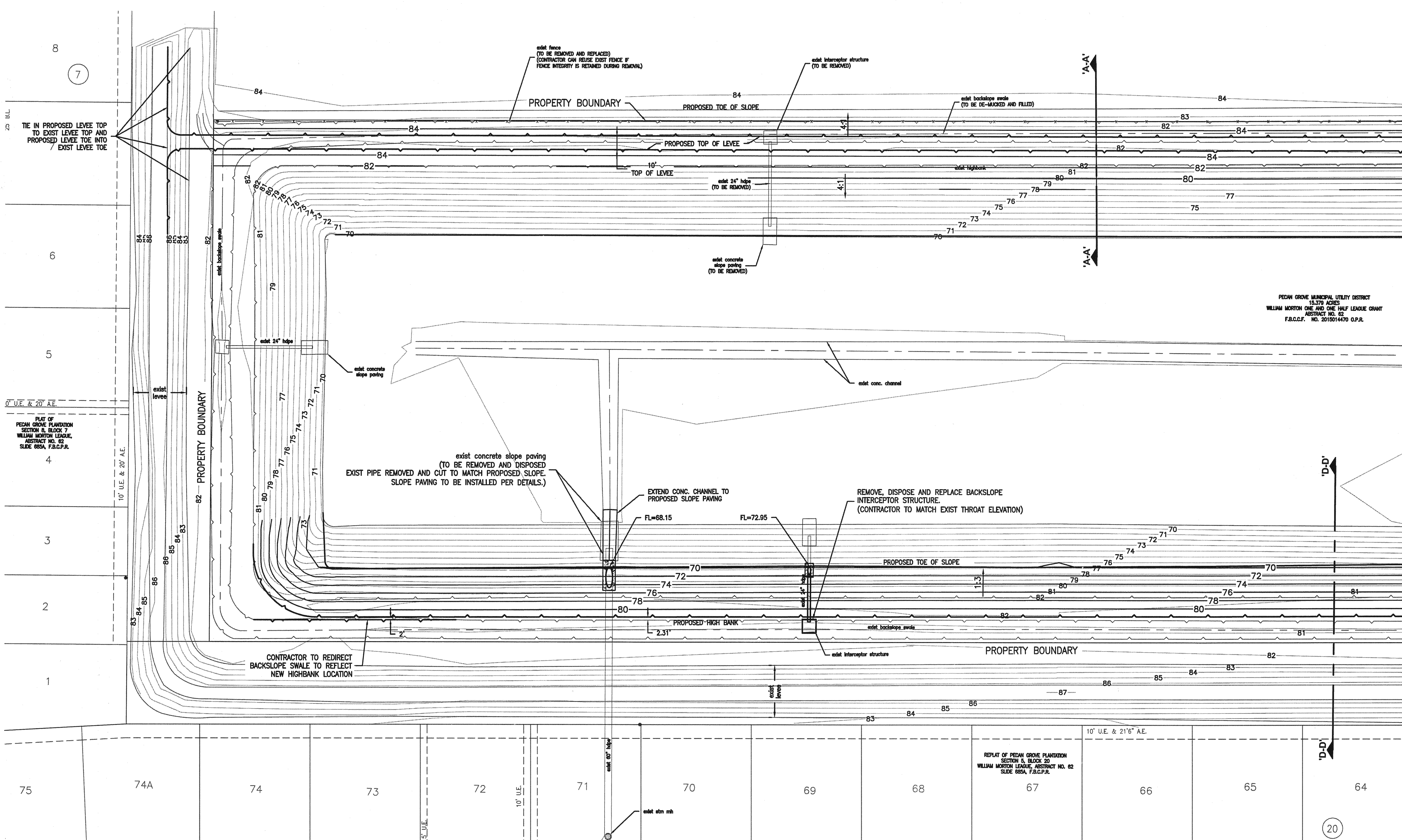
CITY OF RICHMOND
FORT BEND COUNTY, TEXAS
600 Morton
Richmond, Texas 77469
(281) 342-0559

PECAN GROVE M.U.D.
PECAN GROVE LEEVE EXTENSION

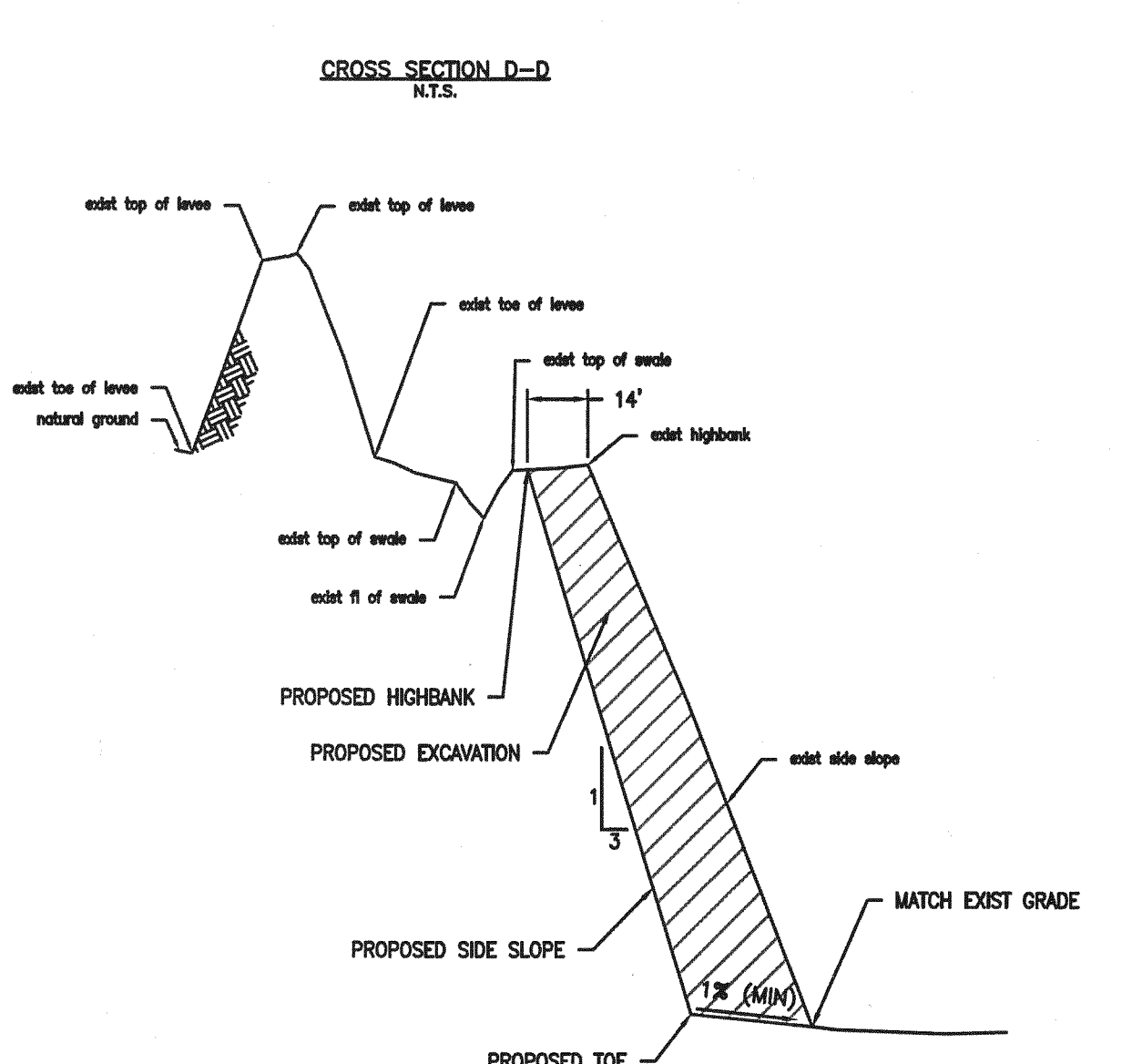
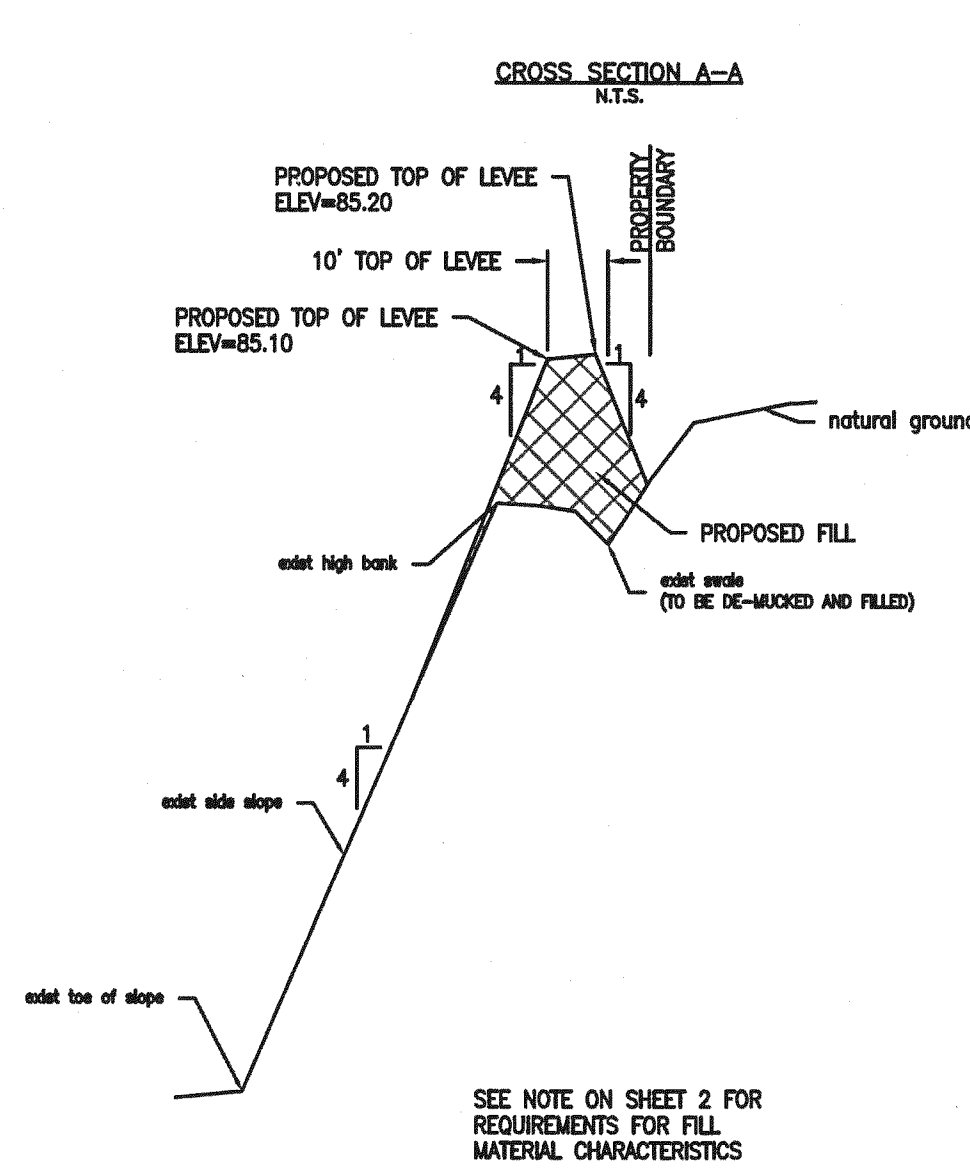
OVERALL LAYOUT AND
GENERAL NOTES

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APPR. _____	DATE _____	DWG. NO. _____
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VERT.	N/A	

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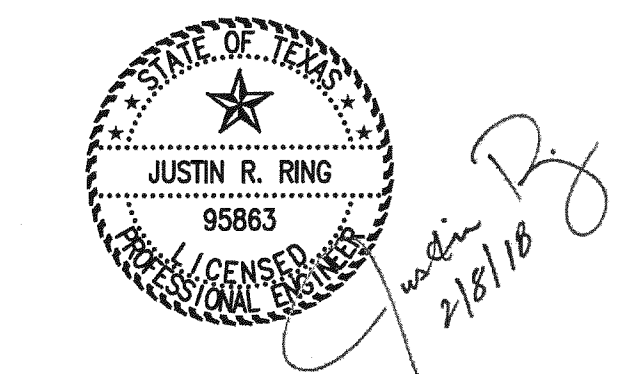
MATCHLINE SEE SHEET 4



APPROVED: *Magy*
Development Coordinator
DATE: 3/2/18

BENCHMARK(S) / FLOODPLAIN
CITY OF SUGARLAND MONUMENT SGR-RM018
ELEVATION=78.94 (NAVD88 2001)
100 YEAR FLOOD ELEV. 81.00 1988 ADJ. FIRM PANEL
FOR PROPERTY: 48157C0140L
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APPR.	REVISION	DATE



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CITY OF RICHMOND APPROVALS

DIRECTOR OF PUBLIC WORKS
HOWARD CHRISTIAN
Kelly R. Kaluzka
CITY ENGINEER
KELLY R. KALUZA & ASSOCIATES, INC.
DATE: 2/26/18

**CITY OF RICHMOND
FORT BEND COUNTY, TEXAS**
600 Morton
Richmond, Texas 77469
(281) 342-0559

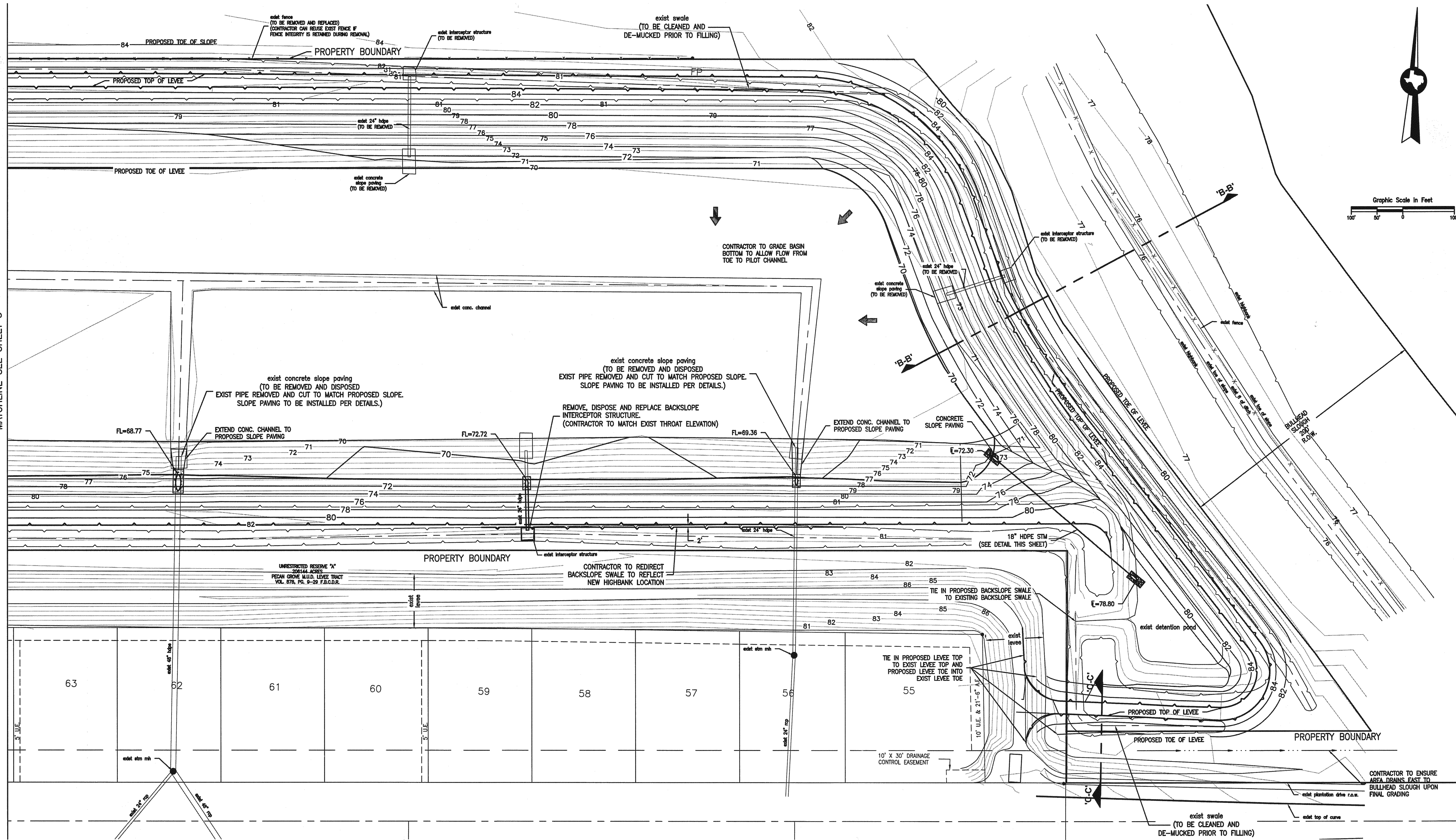
PECAN GROVE M.U.D.
PECAN GROVE LEVEE EXTENSION

LEVEE LAYOUT
SHT. 1 OF 2

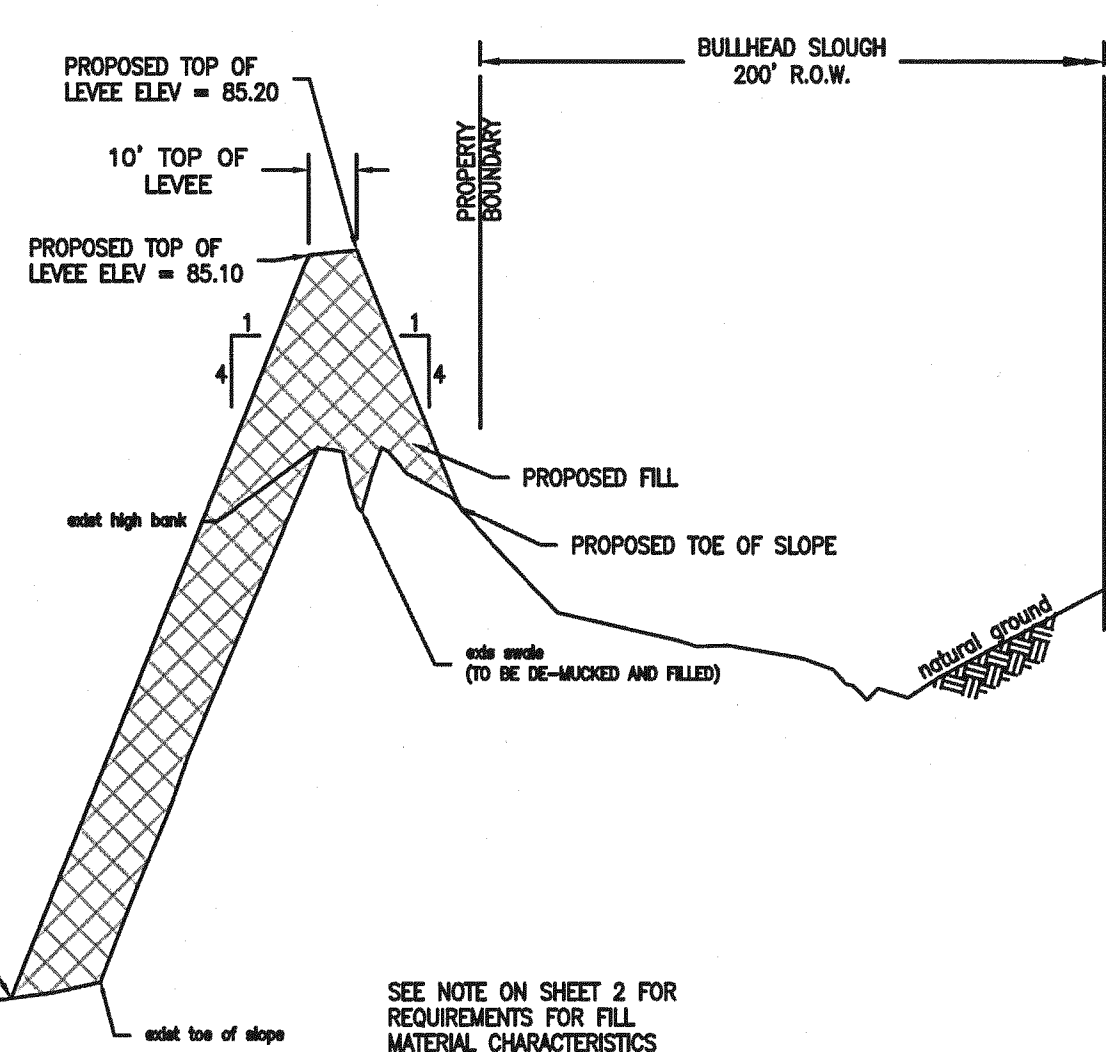
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SCALE:	1" = 40'	SHEET 3 OF 5 SHEETS
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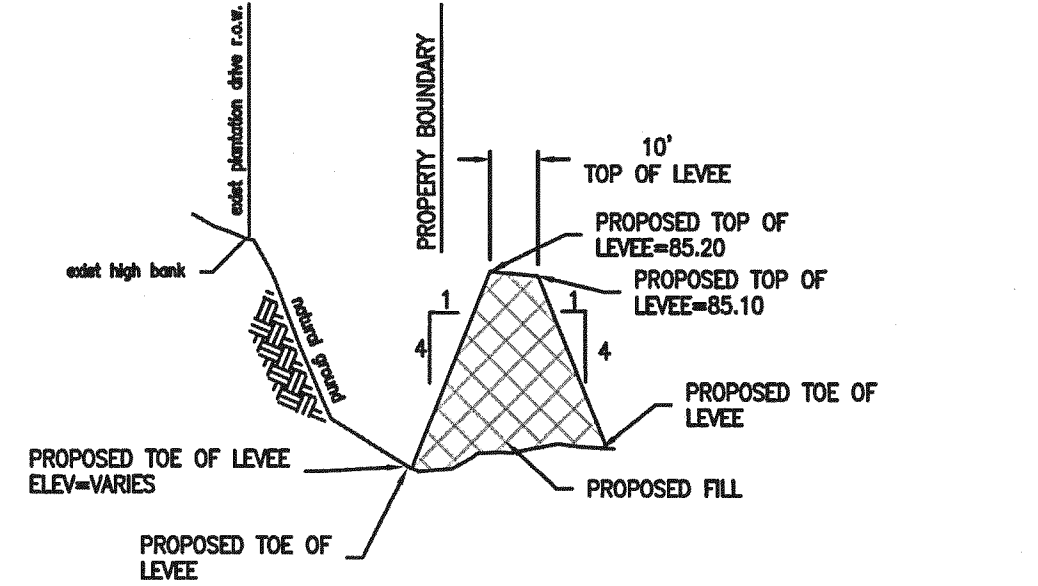
MATCHLINE SEE SHEET 3



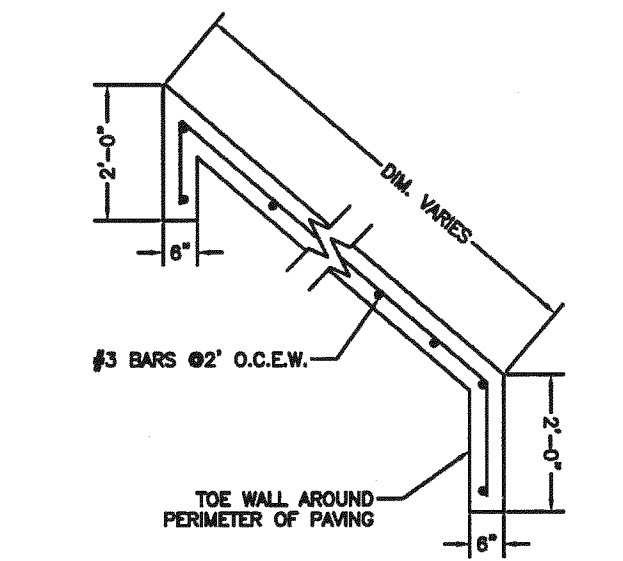
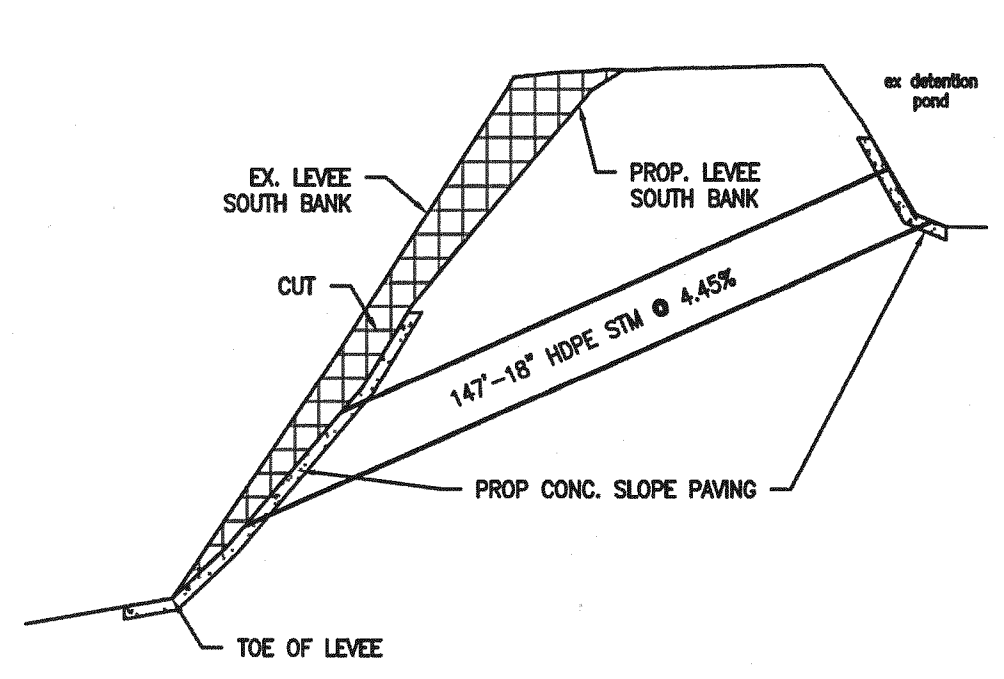
CROSS SECTION B-B
N.T.S.



CROSS SECTION C-C
N.T.S.



CONNECTOR PIPE
N.T.S.



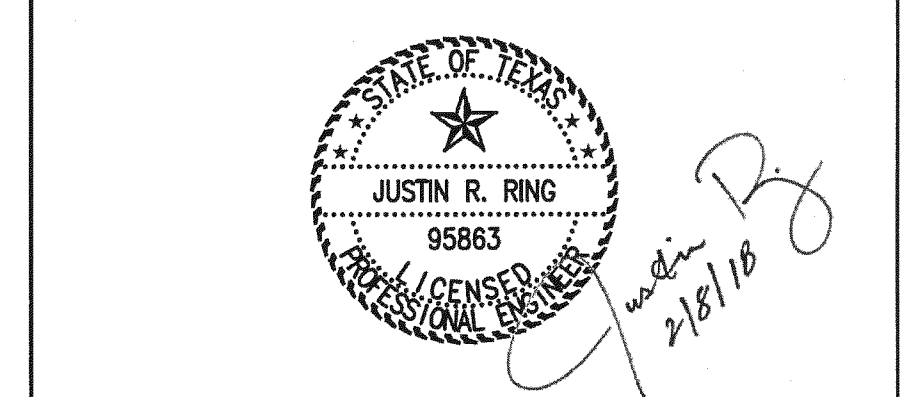
CONCRETE SLOPE PAVING DETAIL
N.T.S.

APPROVED: *Magno*
Development Coordinator
DATE: 3/2/18

BENCHMARK(S) / FLOODPLAIN
CITY OF SUGARLAND MONUMENT SGR-RM018
ELEVATION=78.94 (NAVD88 2001)
100 YEAR FLOOD ELEV. 81.00 1988 ADJ. FIRM PANEL FOR PROPERTY: 4815700140L DATED: APRIL 2, 2014

APPR.	REVISION	DATE

UNRESTRICTED RESERVE "A"
SPECIAL ADJUDICATORY PROCEDURE ACT
PECAN GROVE M.U.D. LEVEE TRACT
VOL. 878, PL. 9-29 F.B.C.D.R.



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Kelly R. Kelly
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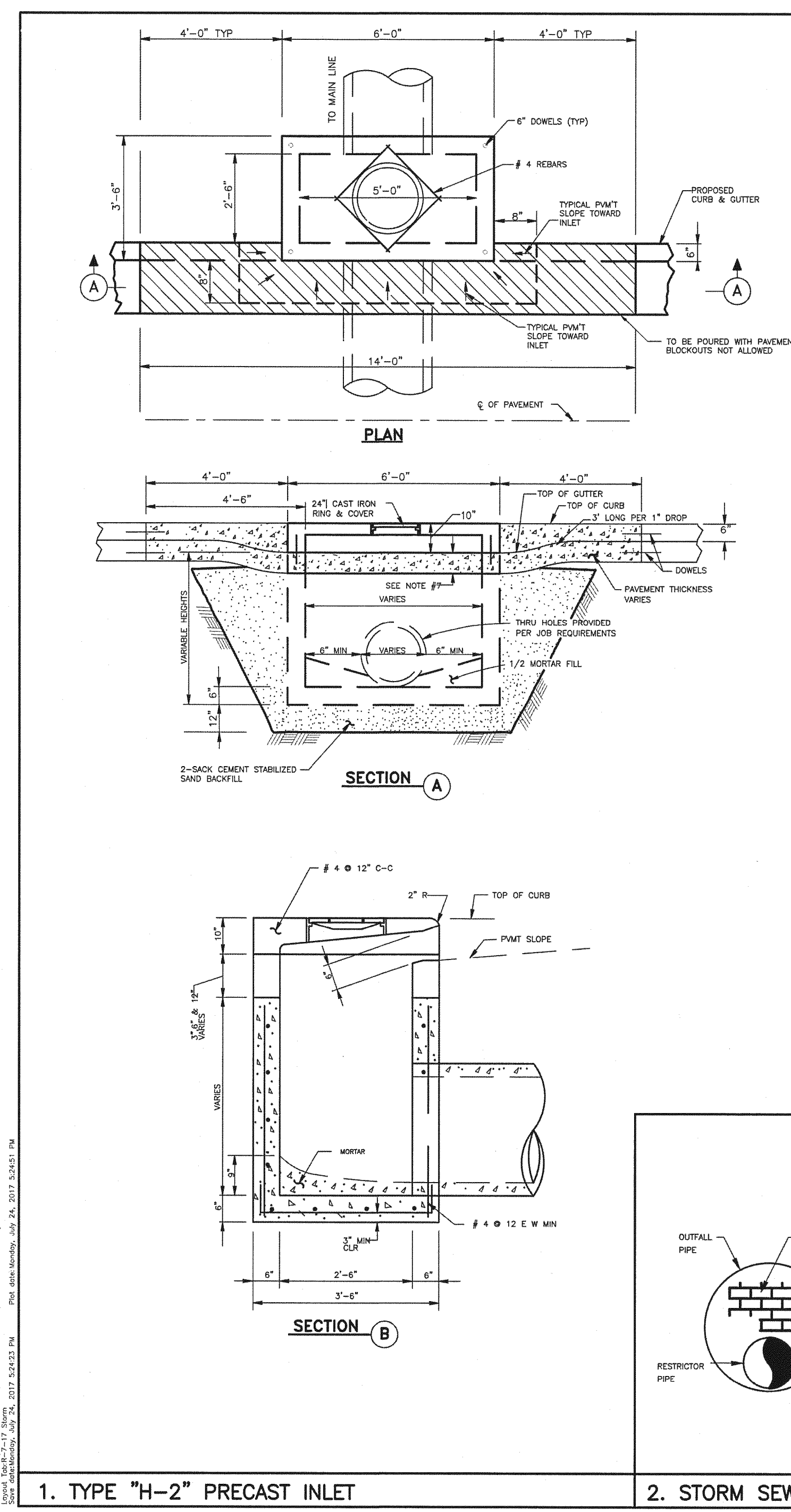
DATE: 2/26/18

CITY OF RICHMOND FORT BEND COUNTY, TEXAS
600 Morton
Richmond, Texas 77469
(281) 342-0559

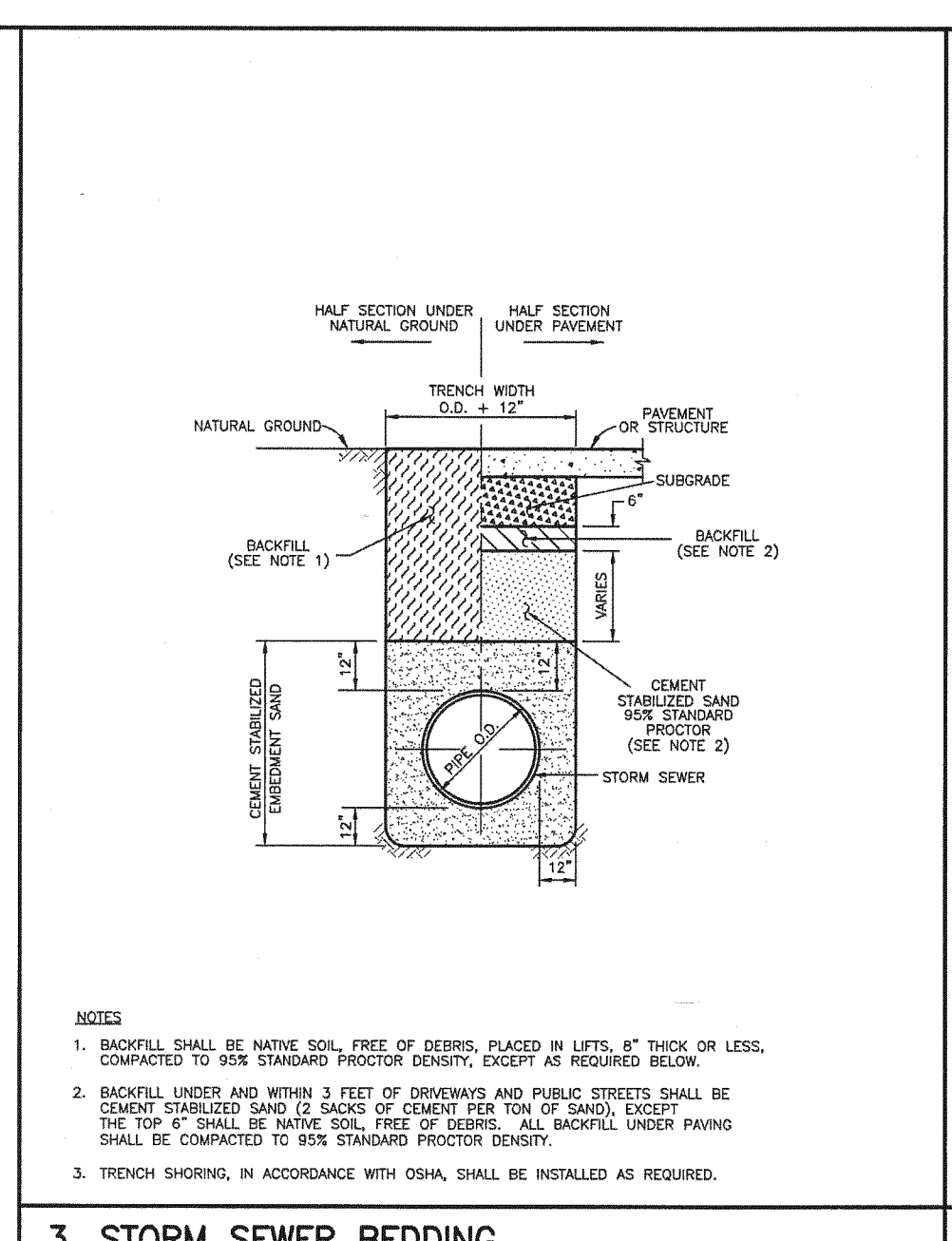
PECAN GROVE M.U.D. PECAN GROVE LEVEE EXTENSION
LEVEE LAYOUT
SHT. 2 OF 2

SURV. MDL	DATE 12/17	JOB NO. 17-020-100
DSGN. JMC	DATE 12/17	FILE: 170200100-LA-03.DWG
DWN. JER	DATE 12/17	PLOT SCALE: 1:1
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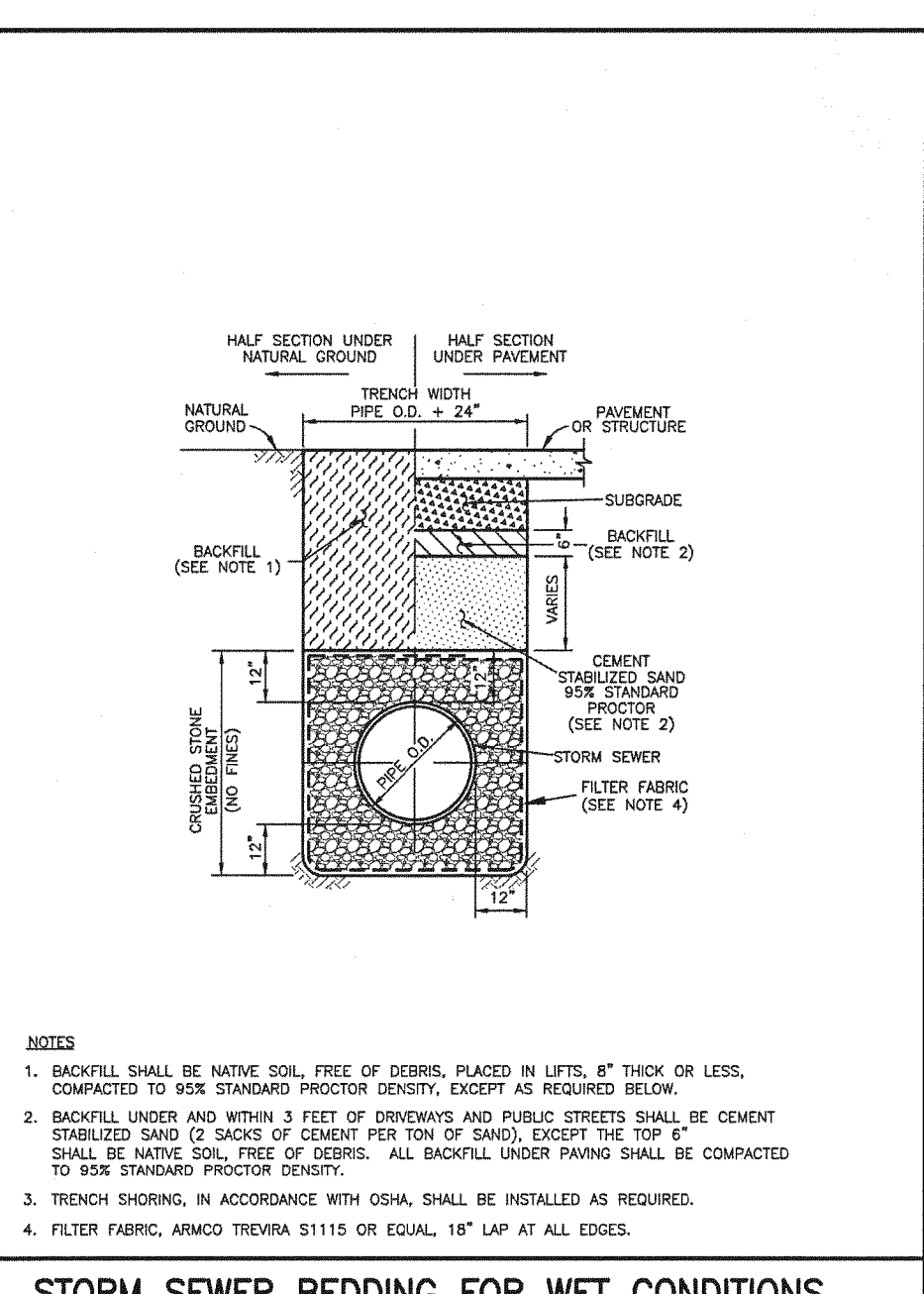
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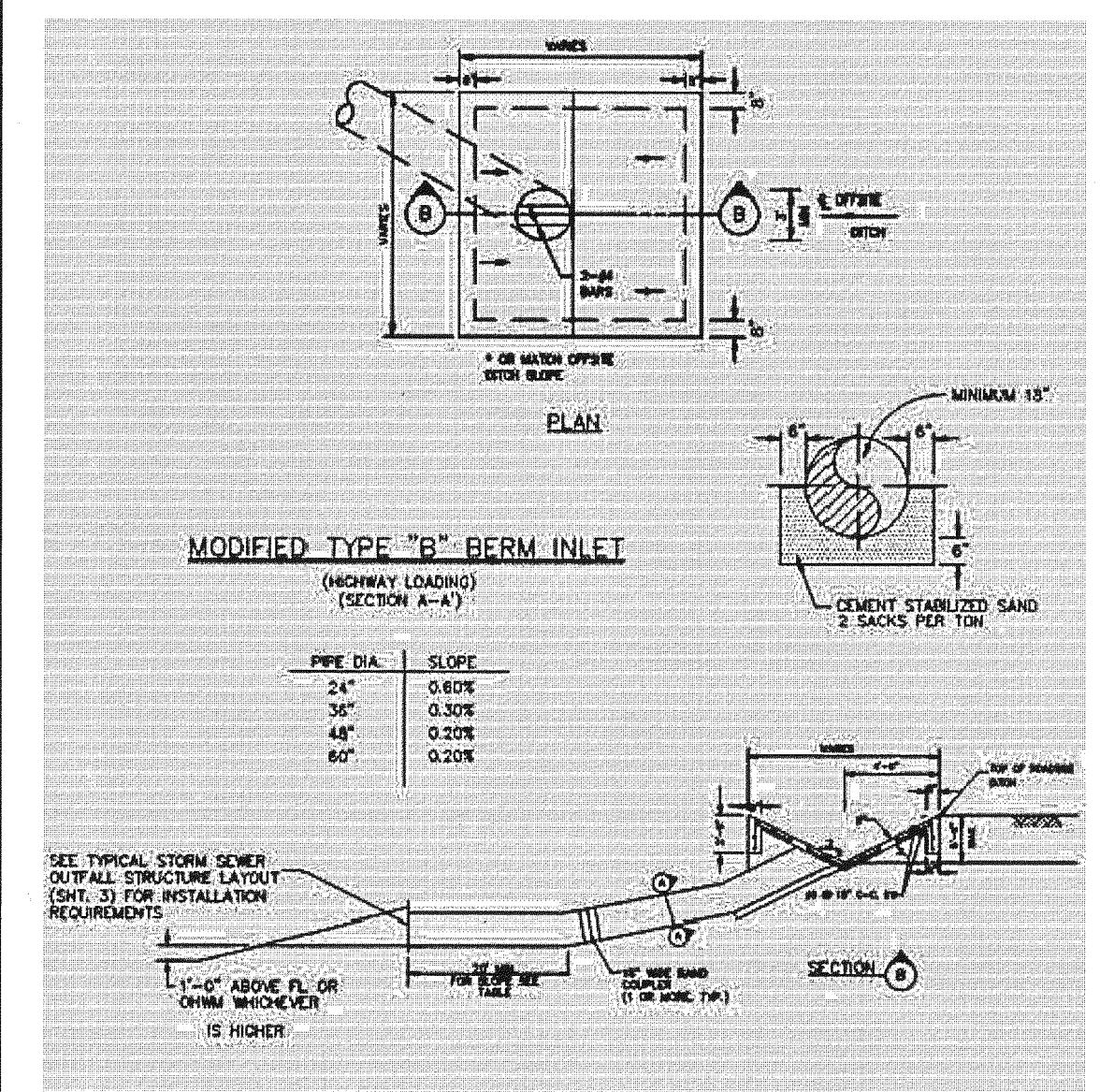
- NOTES:
1. INLET WALLS MAY BE EXTENDED USING PRECAST RISER SECTION.
 2. INLET TOPS MUST BE SECURED TO THE INLET WALL USING #6 DOWELS DRILLED AND GROUTED A MINIMUM DEPTH OF 5" INTO THE INLET WALL.
 3. INLET BACKFILL SHALL BE CEMENT STABILIZED SAND TO THE TOP OF INLET FIRST STAGE.
 4. GRADE 60 REINFORCED, #4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.
 5. PRECAST INLET MUST BE CONSTRUCTED TO SPECIFICATIONS REQUIRED BY APPROVED DRAWINGS.
 6. TOPS POURED-IN-PLACE REQUIRE #4 REBAR @ 12" C-C EACH WAY, 3500 PSI CONCRETE MINIMUM AND 3" THICK MINIMUM.
 7. PAVEMENT DEPTH AT INLET SHALL BE EQUAL TO OR GREATER THAN REQUIRED PAVEMENT DEPTH.
 8. DEPRESS



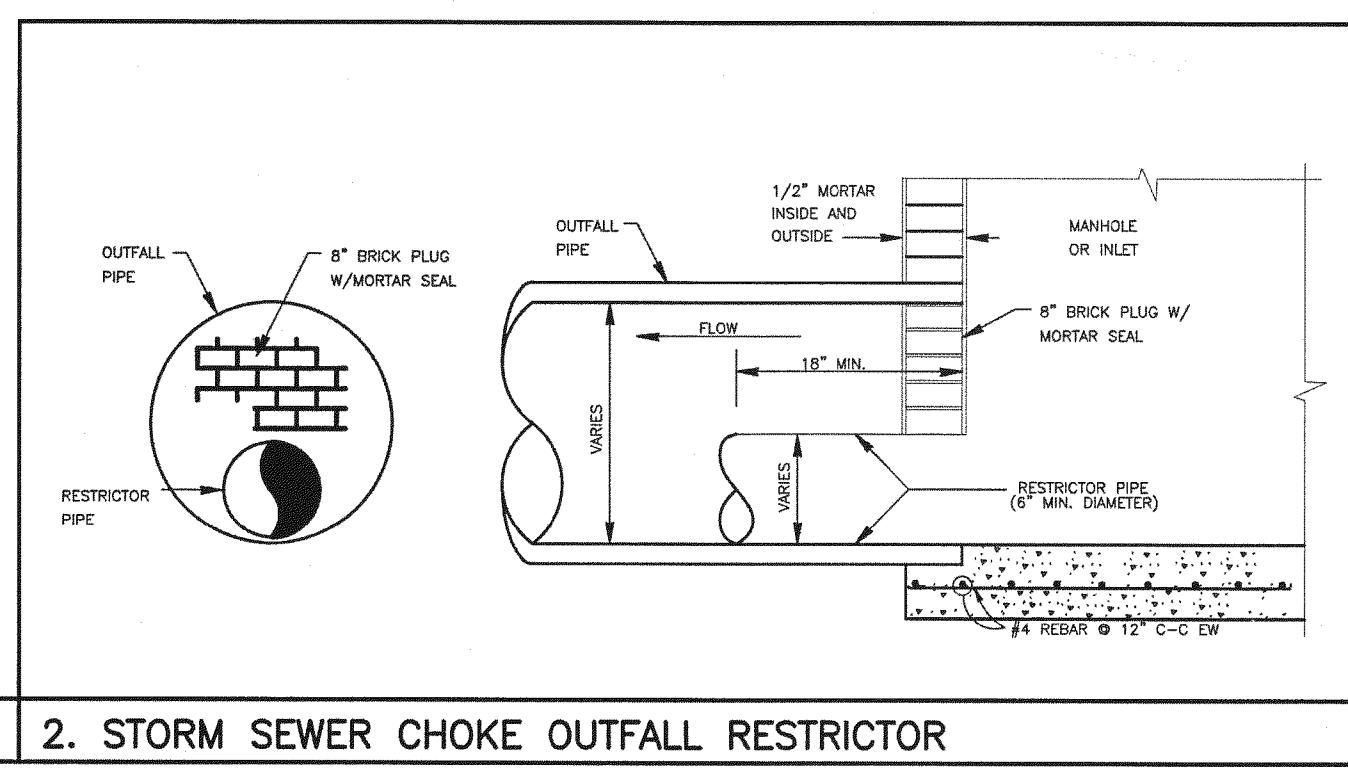
3. STORM SEWER BEDDING



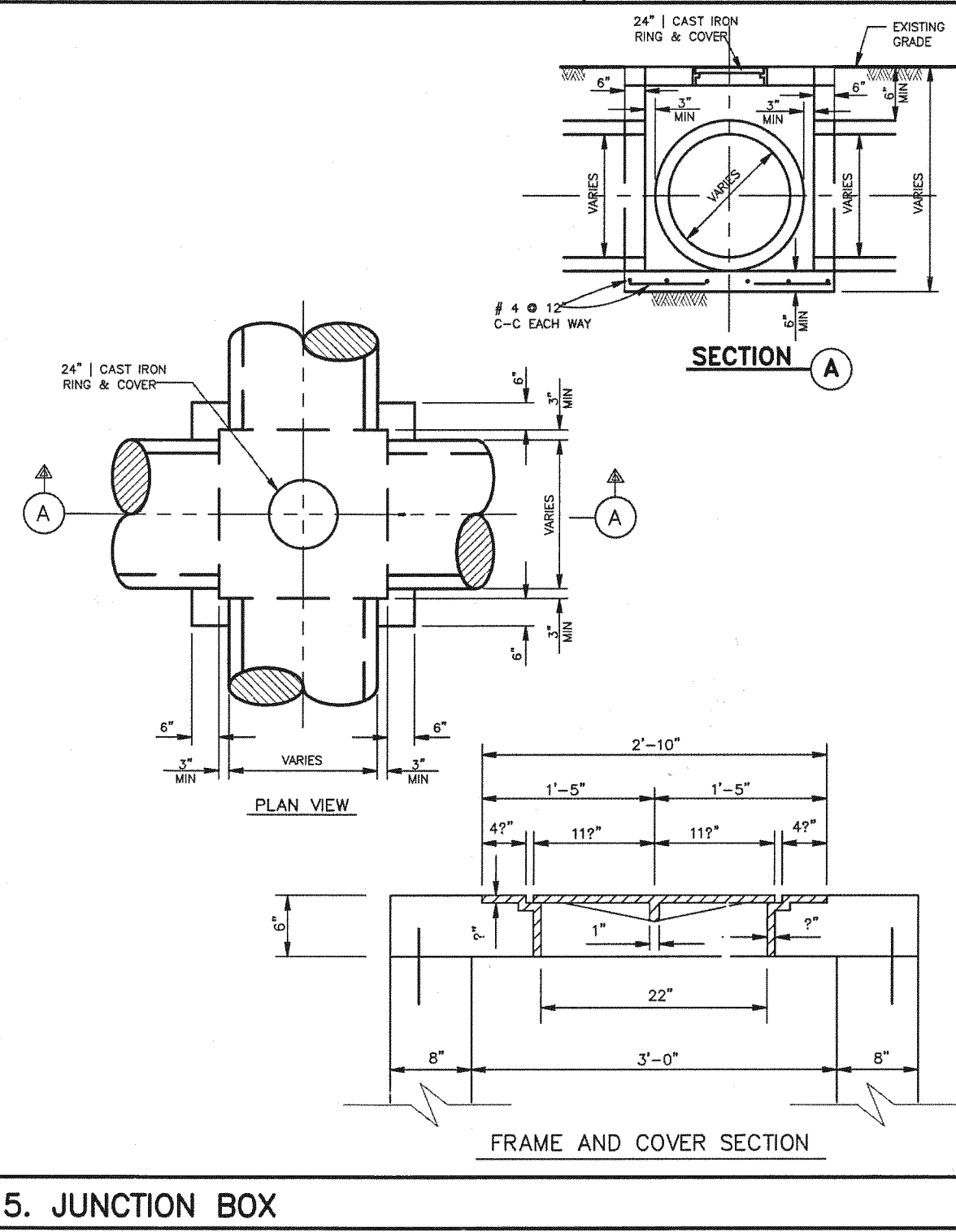
4. STORM SEWER BEDDING FOR WET CONDITIONS



1. TYPE "H-2" PRECAST INLET



2. STORM SEWER CHOKO OUTFALL RESTRICTOR



5. JUNCTION BOX

GENERAL CONSTRUCTION NOTES:

1. ALL CAST CONCRETE BASES SHALL HAVE #4 REBAR @ 12" C-C EW.
2. CONCRETE SHALL BE 3500 PSI MAX.
3. USE C.E.S. BEDDING AS PER DETAILS 2 SK, COMPACTED 9" LIFTS (MAX.), TO 95% STANDARD.

STORM MANHOLES AND INLETS SHALL BE PRECAST CONCRETE, REINFORCED IN PLACE. REINFORCED CONCRETE STRUCTURES MAY BE SUBSTITUTED WHEN THE PROPOSED CONSTRUCTION DETAIL IS SUBMITTED BY THE DESIGN ENGINEER FOR APPROVAL BY THE CITY.

A 4000 PSI COLLAR IS REQUIRED TO BRIDGE A 3" OR LARGER GAP, DEFLECTION OR CONNECTION OF DIFFERENT SIZE PIPES. THE COLLAR WILL BE 6" THICK 2 FT WIDE WITH #4 REBAR DOWELED INTO THE PIPE AND STRUCTURE. FOR A PIPE CONNECTION TO A MANHOLE OR BOX, THE COLLAR WILL BE 1 FOOT WIDE ON THE OUTSIDE OF THE STRUCTURE WITH NON-SHRINK GROUT.

NO.	DATE	REVISIONS	APP.

CITY OF RICHMOND
STANDARD CONSTRUCTION DETAILS
STORM SEWER-2

SCALE
HORIZONTAL 1" = 10'
VERTICAL 1" = 10'

DESIGNED BY: LLT
DRAWN BY: AJS
CHECKED BY: NPK
DATE: 7/24/17
JOB NO.:
DWG. NO.:
Sheet: **R-7-17**

BENCHMARK(S) / FLOODPLAIN
CITY OF SUGARLAND MONUMENT SGR-RM018

ELEVATION=78.94 (NAVD88 2001)

100 YEAR FLOOD ELEV. 81.00 1988 ADJ. FIRM PANEL FOR PROPERTY: 48157C0140L DATED: APRIL 2, 2014

APPR.	REVISION	DATE

APPR.	REVISION	DATE

APPR.	REVISION	DATE

STATE OF TEXAS
JUSTIN R. RING
95863
PROFESSIONAL ENGINEER
2/8/18

ODYSSEY ENGINEERING GROUP
2500 Tanglewilde Street, Suite 240
Houston, Texas 77063
t: 281.306.0240 | www.odysseyeg.com
TBP No. F-17637

CITY OF RICHMOND APPROVALS

DIRECTOR OF PUBLIC WORKS
HOWARD CHRISTIAN
DATE

Kelly R. Kalluza
KELLY R. KALLUZA & ASSOCIATES, INC.
DATE 2/2/18

CITY OF RICHMOND
FORT BEND COUNTY, TEXAS
600 Morton
Richmond, Texas 77469
(281) 342-0559

PECAN GROVE M.U.D.
PECAN GROVE LEVEE EXTENSION

SWPPP AND STORM DETAILS

SURV.	WDL	DATE	12/17	JOB NO. 17-020-100

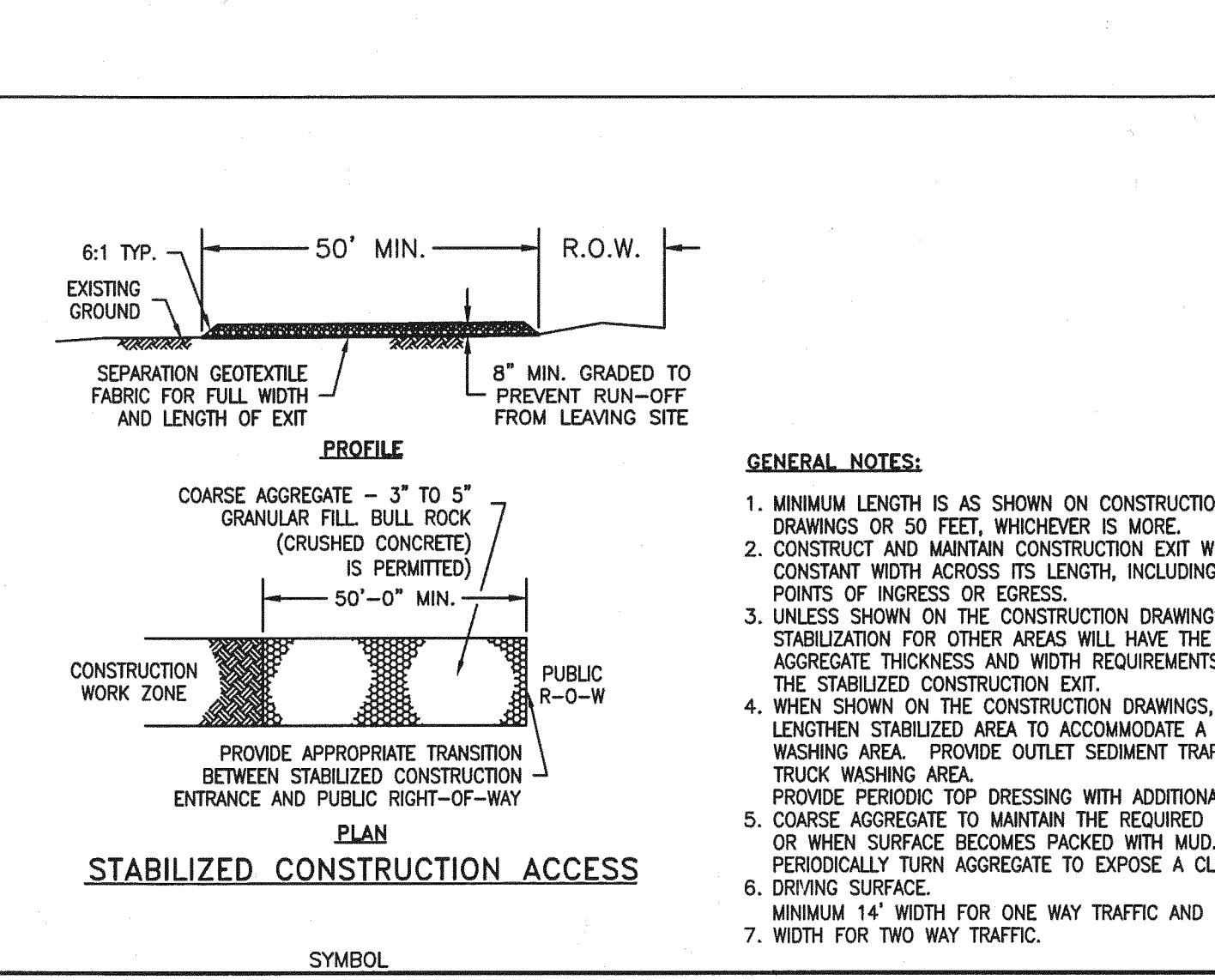
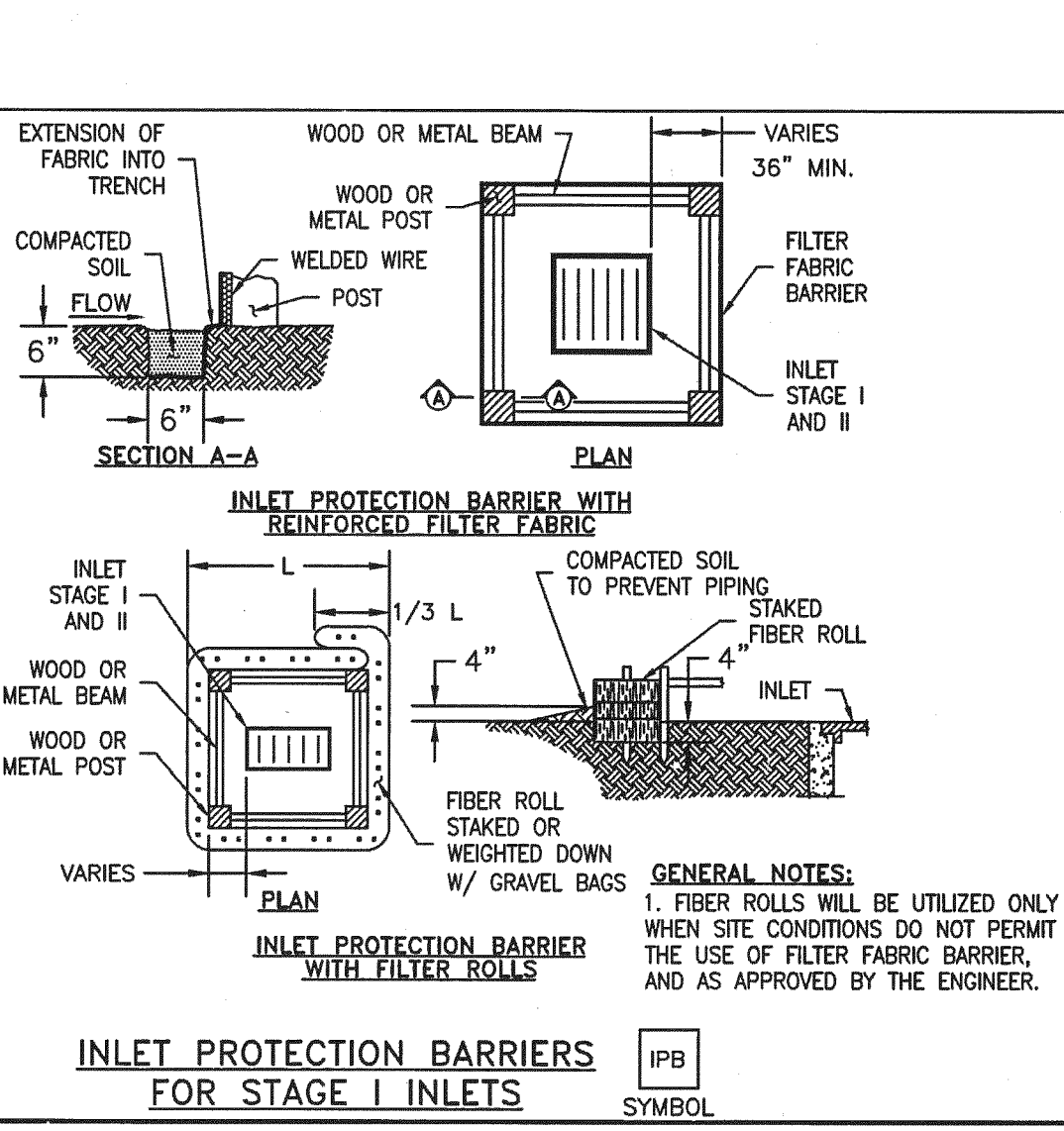
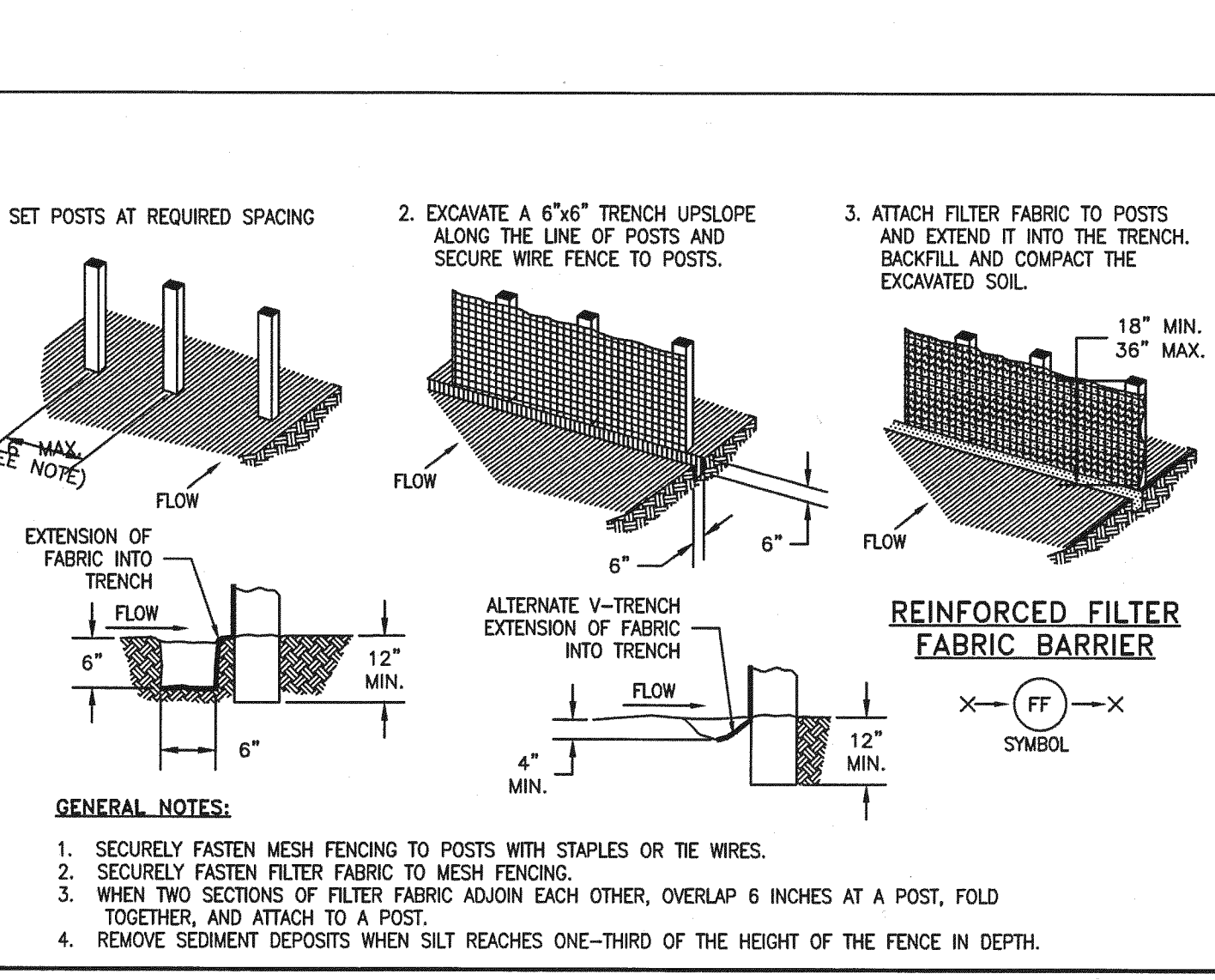
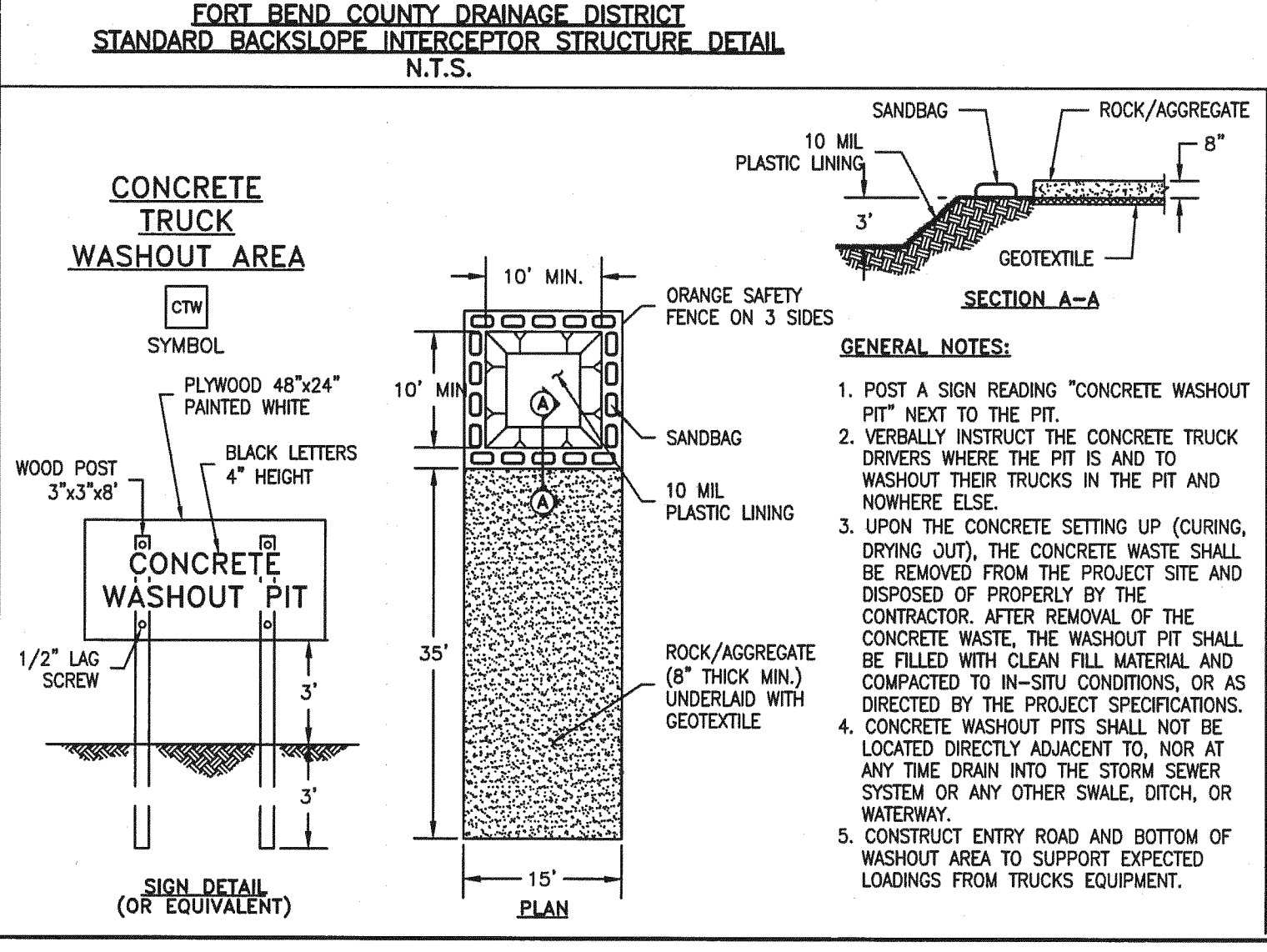
OWN.	M.C.R.	DATE	12/17	FILE: 170200100-DET-01.DWG

CHKD.	AWL	DATE	12/17	DATE SCALE 1:1

APPR.	JRB.	DATE	1/18	DWG. NO.

SCALE: HORIZ. NTS VERT. -

SHEET 5 OF 5 SHEETS



C:\17-020-100\Drawings\Details\170200100-DET-01.dwg Feb 07, 2018-3:20pm Edited by: Alex Wardlaw