

GENERAL NOTES

- 1. THE LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS WAS TAKEN FROM AVAILABLE SURVEY INFORMATION AND/OR EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES MUST BE DETERMINED BY CONTRACTOR. IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF A DISCREPANCY AND/OR CONFLICT IS DISCOVERED. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES DURING CONSTRUCTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PUBLIC UTILITIES, PAVEMENT TO REMAIN, CURBS, SIDEWALKS, SIGNS, TREES, ETC., IN THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES. DURING CONSTRUCTION ALL DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE OWNING/OPERATING AUTHORITY, WITH NO COST TO THE CITY, COUNTY, PRIVATE UTILITY OWNERS, ENGINEER, OR THE OWNER.
3. CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITY LINES AND SHALL NOTIFY THE FOLLOWING AGENCIES 72 HOURS PRIOR TO EXCAVATING OR AUGERING NEAR EXISTING FACILITIES.
A. TEXAS ONE CALL SYSTEM AT 1-800-245-4545
B. LONE STAR NOTIFICATION CENTER AT 1-800-669-8344
C. TEXAS EXCAVATION SAFETY SYSTEM AT 1-800-344-8377
4. PRIOR TO ANY CONSTRUCTION ACTIVITY, CONTRACTOR IS TO ACQUIRE ALL REQUIRED CONSTRUCTION PERMITS FROM APPROPRIATE AUTHORITIES. CONTRACTOR SHALL GIVE AT LEAST 48 HOURS NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PUBLIC AND PRIVATE UTILITY LINES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
5. THE ENGINEER AND THE CITY/COUNTY OR MUD SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR CONNECTING TO ANY EXISTING UTILITY LINES.
6. NO CONNECTIONS SHALL BE MADE TO EXISTING PUBLIC WATER LINES OR PUBLIC SANITARY SEWERS UNTIL ALL PROPOSED WATER OR SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED (AS REQUIRED) AND APPROVED BY THE APPROPRIATE AUTHORITIES.
7. HORIZONTAL AND VERTICAL INFORMATION REGARDING UTILITY CONNECTIONS TO PROPOSED BUILDINGS ON THIS SET OF PLANS TERMINATE AT FIVE (5) FEET FROM THE NEAREST BUILDING WALL.
8. ALL MANHOLES, CLEAN-OUTS, VALVE BOXES, FIRE HYDRANTS, ETC MUST BE ADJUSTED TO PROPER LINE AND GRADE BY THE CONTRACTOR PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING CONSTRUCTION OF THE PAVING FOR THIS DEVELOPMENT.
9. ALL APPURTENANCES WILL BE ASSUMED TO BE IN GOOD CONDITION UNLESS OTHERWISE CONFIRMED IN WRITING PRIOR TO COMMENCEMENT OF WORK.
10. OVERHEAD LINES EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSON OR EQUIPMENT MAY COME WITHIN 6 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTORS ARE LEGALLY RESPONSIBLE FOR SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CIVIL AND CRIMINAL LIABILITY.
11. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL REGULATIONS OF UTILITY COMPANIES CONCERNING SAFETY AND HEALTH PRACTICES. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SITE TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY/COUNTY STANDARDS, TEXAS STATE LAW, AND O.S.H.A. STANDARDS FOR ALL EXCAVATION.
12. PRIOR TO THE START OF CONSTRUCTION, OWNER AND CONTRACTOR ARE RESPONSIBLE FOR SUBMITTING THE "NOTICE OF INTENT" (N.O.I.) AND ANY ADDITIONAL INFORMATION REQUIRED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). UPON COMPLETION OF THE PROJECT, OWNER AND CONTRACTOR ARE RESPONSIBLE FOR SUBMITTING THE "NOTICE OF TERMINATION" (N.O.T.).
13. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION
14. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED OR DROPPED ON THE EXISTING ROADWAY AT THE END OF EACH WORK DAY. MATERIAL THAT IS HAZARDOUS TO TRAFFIC OR OTHERWISE PRESENTS A SAFETY CONCERN, SHALL BE REMOVED IMMEDIATELY.
15. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL STATE AND LOCAL REGULATIONS RELATED TO STORM WATER POLLUTION AND QUALITY. REFER TO EROSION CONTROL PLAN.
16. CONTRACTOR SHALL REESTABLISH ALL TURF DISTURBED DURING CONSTRUCTION TO ACCEPTABLE OPERATING CONDITION, AS DETERMINED BY OWNER AND/OR REGULATORY AGENCIES.
17. CONTRACTOR SHALL MAINTAIN A WORKSITE FREE OF TRASH AND DEBRIS.
18. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES. NO TREE SHALL BE REMOVED OR ALTERED WITHOUT WRITTEN PERMISSION FROM OWNER OR ENGINEER. EQUIPMENT OR MATERIALS SHALL NOT BE STAGED UNDER THE DRIP LINE OF EXISTING TREES.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SET OF "AS BUILT" PLANS FOR ALL WORK PERFORMED ON AND OFF SITE. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE AS-BUILT PLANS IDENTIFYING ALL DEVIATIONS OR VARIATIONS FROM ORIGINAL PLANS TO THE OWNER AND THE ENGINEER.
20. ALL TRAFFIC CONTROL AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
21. ALL SIDEWALKS, RAMPS, AND HANDRAILS TO MEET OR EXCEED CITY/COUNTY, TAS, AND ADA REQUIREMENTS.
22. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY/COUNTY RULES AND REGULATIONS, CONSTRUCTION SPECIFICATIONS AND CONSTRUCTION DETAILS.
23. ALL SPOIL MATERIAL GENERATED FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE AND DISPOSED IN ACCORDANCE WITH LOCAL LAWS, RULES, AND REGULATIONS.
24. AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES, TO EQUAL TO BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. ALL FINISHED GRADES SHALL VARY UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN.
25. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING LANDSCAPING AND IRRIGATION. NO SEPARATE PAY.
26. PRIOR TO SUBMITTAL OF BID OR PROPOSAL, CONTRACTOR SHALL VISIT PROJECT SITE AND BECOME FAMILIAR WITH THE PROJECT AND THE EXISTING CONDITIONS ON THE SITE. NO ADDITIONAL CONSIDERATION WILL BE GIVEN FOR ADDITIONAL WORK CAUSED BY FIELD CONDITIONS VISIBLE ON SITE DURING BIDDING BUT NOT SHOWN ON THESE PLANS.
27. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID SECTION OF THE CONTRACT DOCUMENTS. INCLUDE COST OF SAME TO WHICH THIS WORK IS A COMPONENT PART.
28. IN THE EVENT OF A DISCREPANCY WITHIN THESE PLANS, OR BETWEEN THESE PLANS AND THE GEOTECHNICAL REPORT, THE MOST CONSERVATIVE CRITERIA SHALL APPLY.
29. ALL UTILITY TRENCHES BELOW PROPOSED OR FUTURE PAVING SHALL BE BACKFILLED WITH CEMENT SAND.
30. UTILITY TRENCHES ARE A COMMON SOURCE OF WATER INFILTRATION AND MIGRATION. ALL UTILITY TRENCHES THAT PENETRATE BENEATH THE BUILDING SHOULD BE EFFECTIVELY SEALED TO RESTRICT WATER INTRUSION AND FLOW THROUGH THE TRENCHES THAT COULD MIGRATE BELOW THE BUILDING. WE RECOMMEND CONSTRUCTING AN EFFECTIVE CLAY "TRENCH PLUG" THAT EXTENDS AT LEAST 5 FEET OUT FROM THE FACE OF THE BUILDING EXTERIOR. THE PLUG MATERIAL SHOULD CONSIST OF CLAY COMPACTED AT A WATER CONTENT AT OR ABOVE THE SOILS OPTIMUM WATER CONTENT. THE CLAY FILL SHOULD BE PLACED TO COMPLETELY SURROUND THE UTILITY LINE AND BE COMPACTED IN ACCORDANCE WITH RECOMMENDATIONS IN THIS REPORT.
31. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY TIE IN LOCATIONS FOR MATERIAL, SIZE, ELEVATION, AND FIELD CONDITIONS. IN THE EVENT THE PLANS DO NOT REPRESENT FIELD CONDITIONS, THE CONTRACTOR IS TO CONTACT THE ENGINEER AND OWNER IMMEDIATELY AND PRIOR TO PERFORMING ANY WORK.
32. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO CONFIRM POSSESSION OF LATEST DRAWINGS, INCLUDING ANY REVISIONS. IF THE DRAWINGS ARE NOT LABELED AS "CONSTRUCTION SET" ON THE COVER PAGE, CONTRACTOR TO CONTACT ENGINEER IMMEDIATELY.
33. CONTRACTOR TO OBTAIN ALL PERMITS. OWNER WILL PROVIDE PAYMENT AS NECESSARY AND REQUESTED BY CONTRACTOR.

PAVING AND STRIPING NOTES

- 1. PAVEMENT DESIGN AND SOIL PREPARATION RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT PROVIDED BY THE OWNER SHALL BE ADHERED TO FOR BOTH MATERIALS AND PRACTICE OF INSTALLATION.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND COUNTY STANDARDS.
3. CONTRACTOR SHALL FURNISH ALL PAVEMENT MARKINGS FOR FIRE LANES, ROADWAY LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, ACCESS AISLES, STOP BARS AND SIGNS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AS SHOWN ON THE PLANS.
4. ALL JOINTS SHALL BE SEALED PER COUNTY SPECIFICATIONS. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
5. THE MATERIALS AND PROPERTIES OF CONCRETE SHALL MEET THE APPLICABLE REQUIREMENTS IN THE A.C.I. (AMERICAN CONCRETE INSTITUTE) MANUAL OF CONCRETE PRACTICE AS WELL AS COUNTY STANDARDS.
6. ANY DAMAGED PAVEMENT, CURB AND/OR SIDEWALK WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER AND OWNER.
7. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER A.D.A. & T.A.S) EXIST TO AND FROM EVERY DOOR. IN NO CASE SHALL:
A. HANDICAP RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL.
B. SIDEWALK CROSS SLOPES EXCEED 2.0 PERCENT.
C. LONGITUDINAL SIDEWALK SLOPES EXCEED 5.0 PERCENT.
D. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVEMENT CONSTRUCTION IF ANY SLOPES EXCEED THE ABOVE LIMITS.
8. REINFORCING BAR SPLICES SHALL BE STAGGERED WITH NO MORE THAN 2 SPLICES ADJACENT TO EACH OTHER.
9. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 1 FOOT BEYOND EDGE OF ALL PAVEMENT, OR AS DIRECTED IN GEOTECHNICAL REPORT.
10. ALL CONCRETE PAVEMENT SHALL BE FLOAT FINISHED MECHANICALLY WITH APPROVED SELF-PROPELLED MACHINES. HANDING FLOATING SHALL BE PERMITTED ONLY IN AREAS INACCESSIBLE TO A FINISHING MACHINE. AFTER FLOATING, CONTRACTOR SHALL PROVIDE A FINE OR MEDIUM-COURSE "BROOM FINISH," UNLESS OTHERWISE INDICATED BY THE OWNER, FOR ALL EXTERIOR SIDEWALKS, EXTERIOR RAMPS, EQUIPMENT AND TRANSFORMER PADS, AND SITE PAVING. BROOMING SHALL BE DONE TRANSVERSELY TO THE DIRECTION OF MAIN TRAFFIC. ALL FINISHING SHALL CONFORM TO A.C.I.301. CONTRACTOR SHALL DETERMINE THE APPROPRIATE MEANS & METHODS TO PROTECT THE FINISHED CONCRETE FROM PRECIPITATION FOR A MINIMUM OF 24 HOURS.
11. CONTRACTOR SHALL PROTECT THE FINISHED CONCRETE PAVEMENT AGAINST LOSS OF MOISTURE FOR NO LESS THAN 72 HOURS IN CONFORMANCE WITH THE A.C.I. MANUAL OF CONCRETE PRACTICE.
12. UNLESS OTHERWISE SPECIFIED IN THE PLANS PAVEMENT STRIPING SHALL MEET THE FOLLOWING CRITERIA:
A. MARKING PAINT: HIGH SOLIDS, WATER BASED ACRYLIC PAINT CONTAINING ULTRAVIOLET RESISTANT PIGMENTS.
A.1. IC1 PAINTS; TRAFFIC MARKING PAINT, #4800
A.2. M.A.B. PAINTS; ZONE MARKING LATEX TRAFFIC PAINT, #072 LINE
A.3. BENJAMIN MOORE AND CO.; SAFETY AND ZONE MARKING LATEX, M58
A.4. PITTSBURGH PAINTS; ZONE & TRAFFIC MARKING PAINT, #11-23
A.5. PORTER PAINT CO.; PORTERGUARD ACRYLIC TRAFFIC PAINT, #2408
A.6. THE SHERWIN WILLIAMS CO.; PROMAR TRAFFIC MARKING PAINT, B29 SERIES
B. COLORS:
B.1. PARKING: WHITE
B.2. TRAFFIC LANES, DIRECTIONS, LETTERING, ETC.: ON PRIVATE PROPERTY, WHITE IN PUBLIC R.O.W.; PER LOCAL CODE
B.3. HANDICAPPED EMBLEMS: BLUE.
B.4. FIRE LANE: RED.

STORM SEWERS

- 1. STORM SEWER PIPE USED FOR CONNECTION TO STORM SEWER IN PUBLIC RIGHT-OF-WAY OR CONSTRUCTED WITHIN PUBLIC EASEMENTS SHALL BE REINFORCED CONCRETE PIPE ASTM C-76, CLASS III, WITH O-RING RUBBER GASKET JOINTS PER ASTM C-443 AND SHALL EXTEND TO FIRST PRIVATE INLET OR MANHOLE. ALL OTHER PRIVATE STORM SEWER MAY BE SELECTED PER THE FOLLOWING CRITERIA:
A. CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) (4 INCHES TO 48 INCHES IN DIAMETER): AASHTO M 294, DUAL WALL WITH WATER TIGHT (ASTM D3212) BELL-TO-BELL COUPLER, TRADE NAME N-12 BY ADS OR EQUAL
B. POLYVINYL CHLORIDE (PVC) CORRUGATED PIPE WITH SMOOTH INTERIOR PER ASTM F 949 (4 INCHES TO 36 INCHES (102-MM TO 914-MM)) WITH ELASTOMERIC GASKET JOINTS, TRADE NAME A-2000 BY CONTECH OR EQUAL
C. STEEL REINFORCED HIGH-DENSITY POLYETHYLENE (HDPE) (24 INCHES TO 48 INCHES IN DIAMETER): AASHTO M 294, HIGH PERFORMANCE JOINTS (ASTM D3212), TRADE NAME DUROMAXX OR EQUAL
D. REINFORCED CONCRETE PIPE (RCP): ASTM C76, CLASS III WITH O-RING RUBBER GASKET JOINTS PER ASTM C-443
2. STORM SEWERS IN PUBLIC R.O.W. OR PUBLIC EASEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST BRAZORIA COUNTY STANDARD CONSTRUCTION SPECIFICATIONS FOR STORM DRAINAGE INCLUDING ALL CURRENT AMENDMENTS THERETO. ALL STORM SEWER ON PRIVATE PROPERTY SHALL BE CONSTRUCTED PER SPECIFICATIONS AND DETAILS IN THESE DRAWINGS AND IN ACCORDANCE WITH THE PIPE MANUFACTURERS RECOMMENDATIONS.
3. ALL SEWERS UNDER PROPOSED OR FUTURE PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE BACKFILLED WITH 1 1/2 SACK CEMENT/C.Y. STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE. CEMENT STABILIZED SAND TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C33, LATEST EDITION
4. TRENCH BACKFILL SHALL BE SUITABLE EARTH MATERIAL PLACED IN 8 INCH LIFTS, WITH TESTS TAKEN AT 100 FOOT INTERVALS ON EACH LIFT. BACKFILL TO BE MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM DESIGNATION D-698/AASHTO 199). MOISTURE CONTENT OF BACKFILL SHALL BE WITHIN PARAMETERS ESTABLISHED BY THE PROCTOR TEST.
5. PROPOSED PIPE STUB-OUTS ARE TO BE PLUGGED WITH 8" BRICK WALLS, UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL NOTES

THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND OPERATION FOR ANY AND ALL TRAFFIC CONTROL MEASURES AS REQUIRED BY REGULATING AGENCIES OR FOR THE SAFE EXECUTION OF THE WORK SHOWN WITHIN THESE CONSTRUCTION DOCUMENTS. NO SEPARATE PAY.

SANITARY SEWERS

- 1. ALL SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST BRAZORIA COUNTY, MUD DISTRICT AND TCEQ CRITERIA AND BE SUBJECT TO A REQUIRED FIELD TESTING. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF SEWER LINE INCLUDED IN THE PROJECT. REQUIREMENTS OF TEXAS ADMINISTRATIVE CODE, TITLE 30 CHAPTER 217, "DESIGN CRITERIA FOR SEWERAGE SYSTEMS" SHALL GOVERN WHERE CONFLICTS EXIST EXCEPT WHERE CITY REQUIREMENTS ARE OF HIGHER STANDARDS.
2. SANITARY SEWER PIPE USED FOR CONNECTION TO SEWER IN PUBLIC RIGHT-OF-WAY SHALL BE C900 P.V.C. PIPE MEETING ASTM SPECIFICATION D3034 WITH RUBBER GASKET JOINTS. ALL OTHER PRIVATE SANITARY SEWER PIPE MATERIAL SHALL CONFORM TO THE FOLLOWING CRITERIA:
A) POLYVINYL CHLORIDE (PVC) SCHEDULE 40 TO BE USED FOR PIPE SIZES 6 INCHES AND SMALLER.
B) STANDARD DIMENSION RATIO (SDR) 35 PVC OR 26 PVC CAN BE USED FOR PIPE SIZES 8 INCHES AND LARGER. SEE NOTE 5 BELOW REGARDING SDR 26 FITTINGS.
3. ALL SANITARY SEWERS AND WATER LINES CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH BRAZORIA COUNTY AND TCEQ REGULATIONS.
4. ALL SANITARY SEWER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
5. SANITARY SEWER MANHOLE RIMS OUTSIDE OF PROPOSED PAVING WILL BE SET 3" - 6" ABOVE THE SURROUNDING LEVEL FINISHED GRADE AFTER PAVING AND GRADING OPERATIONS.
6. SDR 26 P.V.C. PIPE USES "FULL BODIED" SDR 26 P.V.C. FITTINGS OR D.I.P. FITTINGS WITH APPROPRIATE ADAPTERS. AWWA C-900 DR-18 P.V.C. PIPE USES EITHER AWWA C900 DR-18 P.V.C. FITTINGS OR D.I.P. FITTINGS.
7. DEFLECTION TEST: DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID SEWER PIPE BETWEEN MANHOLES. SERVICE LEADS SHALL NOT BE TESTED. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. THE DEFLECTION TEST SHALL USE A RIGID 7-SIDED MANDREL, WITH A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. NO MECHANICAL PULLING IS ALLOWED.
8. INFILTRATION, EXFILTRATION OR LOW-PRESSURE AIR TEST: EITHER OF THE FOLLOWING TESTS SHALL BE PERFORMED AS PER TAC, TITLE 30 217.2 WITHIN THE SPECIFIED TOLERANCES ON ALL GRAVITY SEWERS.
9. NO CONNECTIONS SHALL BE MADE TO THE EXISTING SANITARY SEWER LINES UNTIL ALL PROPOSED SEWER LINES HAVE BEEN THOROUGHLY CLEANED, TESTED AND APPROVED BY THE ENGINEER. THE ENGINEER AND MUD DISTRICT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR CONNECTING TO ANY EXISTING SEWER LINES.
10. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE COUNTY AT LEAST 48 HOURS PRIOR TO PRESSURE AND DEFLECTION TEST ON ALL SANITARY LINES.
11. ALL SEWER LINES ENTERING A MANHOLE AT A FLOWLINE HIGHER THAN 3.0' OR 36" ABOVE THE MANHOLE INVERT MUST BE PROVIDED WITH A DROP PIPE OUTSIDE OF THE MANHOLE.

WATER LINES

- 1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST BRAZORIA COUNTY, MUD DISTRICT AND TCEQ REGULATIONS, STANDARD SPECIFICATIONS, AND CONSTRUCTION DETAILS.
2. 4" THRU 12" WATER LINES SHALL BE P.V.C. CLASS 150, DR-18, AWWA C-900 AND 1" THRU 3" WATER LINES SHALL BE PVC SCHEDULE 40. 4" THRU 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE. PIPE SHALL BE LINED IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).
3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT, WHERE PREVENTING MOVEMENT OF 16" OR GREATER PIPE IS NECESSARY DUE TO THRUST. USE RESTRAINED JOINTS.
4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER TCEQ REGULATIONS.
6. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EACH 1,000 LINEAR FEET OF WATER LINE AND SHALL BE REPEATED IF CONTAMINATION PERSISTS.
8. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
9. 4" THRU 12" FITTINGS SHALL BE CEMENT MORTAR LINED COMPACT DUCTILE IRON PRESSURE FITTINGS PER ANSI A21.53, OR PUSH ON FITTINGS PER ANSI A21.10 PRESSURE RATED AT 250 PSIG.
10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST BRAZORIA COUNTY, MUD DISTRICT AND TCEQ REQUIREMENTS. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT.
11. ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEAR TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8" DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.
12. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
13. ALL FIRE LINES TO BE INSTALLED AND TESTED PER NFPA REGULATIONS.

GRADING NOTES

- 1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. BEFORE STARTING CONSTRUCTION, CONTRACTOR SHALL VERIFY BENCHMARK ELEVATION AND NOTIFY ENGINEER IF ANY DISCREPANCY AND/OR CONFLICT IS FOUND.
3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN PAVED AREAS, AND NOT NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.
4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
5. ALL EXISTING CONCRETE PAVING, SIDEWALK, AND CURB DEMOLITION SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR. DISPOSAL SHALL BE AT AN APPROVED OFF-SITE, LAWFUL LOCATION, UNLESS DIRECTED OTHERWISE BY THE OWNER.
6. FOR BUILDING PAD SUBGRADE PREPARATION AND GENERAL EARTHWORK OBSERVATIONS, REFER TO THE GEOTECHNICAL PROVIDED BY THE OWNER. ALL MATERIAL SPECIFICATIONS AND TESTING SHALL BE ADHERED TO AS OUTLINED IN THIS REPORT.

FRANCHISE UTILITY NOTES

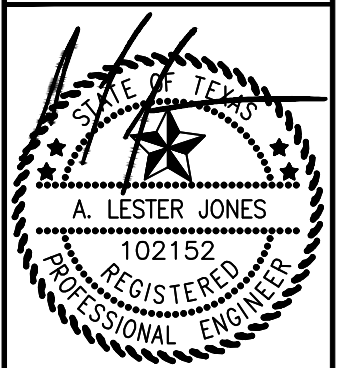
- 1. CONTRACTOR SHALL CALL THE TEXAS ONE CALL AND DIG-TESS AT LEAST 72 HOURS PRIOR TO COMMENCING DEMOLITION OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR BEARS SOLE RESPONSIBILITY FOR VERIFYING LOCATIONS OF EXISTING UTILITIES, SHOWN OR NOT SHOWN, AND FOR ANY DAMAGE TO THESE FACILITIES.
2. CONTRACTOR SHALL INSTALL LONG SWEEPS FOR DRY UTILITY CONDUITS WHERE A BEND IS GRAPHICALLY SHOWN.

BRAZORIA COUNTY CONSTRUCTION NOTES

- 1. WATER LINES, WASTEWATER COLLECTION SYSTEMS, AND STORM DRAINAGE SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF HOUSTON'S, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING "DESIGN MANUAL, STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE AND STREET PAVING", DATED (NOVEMBER 1, 2008).
2. REINFORCED CONCRETE (C76 CLASS III) STORM SEWERS SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE CITY OF HOUSTON'S DRAWINGS 02317-02, 02317-03, 02317-05, 02317-06, AND 02317-07 AS APPLICABLE.
3. ALL STORM SEWERS CONSTRUCTED IN SIDE LOT EASEMENTS SHALL BE R.C.P., MINIMUM TWENTY (20) FOOT WIDE EASEMENTS SHALL BE PROVIDED.
4. AN ALTERNATIVE TO CEMENT STABILIZED SAND MAY BE USED AS BACKFILL FOR PIPES FIFTY-FOUR (54) INCH AND LARGER, FROM 1-FOOT ABOVE THE TOP OF THE PIPE TO THE BOTTOM OF THE SUBGRADE. CONTRACTOR MAY BACKFILL WITH SUITABLE MATERIAL, PROVIDED THE BACKFILL MATERIAL IS PLACED IN EIGHT (8) INCH LIFTS AND MECHANICALLY COMPACTED TO NINETY-FIVE (95)% STANDARD PROCTOR DENSITY. TESTS SHALL BE TAKEN AT ONE HUNDRED (100) FOOT INTERVALS ON EACH LIFT. BEDDING AND BACKFILL TO ONE (1) FOOT ABOVE THE TOP OF THE PIPE SHALL BE CEMENT-STABILIZED SAND.
5. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH EIGHT (8) INCH BRICK WALLS UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR(S) SHALL NOTIFY BRAZORIA COUNTY PUBLIC INFRASTRUCTURE DEPARTEMENT - ARCHITECTURE AND ENGINEERING DIVISION - PERMIT OFFICE TWENTY-FOUR (24) HOURS IN ADVANCE OF COMMENCING UTILITY AND/OR PAVING CONSTRUCTION AT (713) 316-3562 AND WRITTEN NOTIFICATION FOURTY-EIGHT (48) HOURS IN ADVANCE OF COMMENCING CONSTRUCTION AT 10555 NORTHWEST FREEWAY, SUITE 120, HOUSTON, TX 77092.
7. PAVING SHALL BE IN ACCORDANCE WITH THE "REGULATIONS OF BRAZORIA COUNTY, TEXAS FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE" AND/OR AMENDMENTS OF THE SAME.
8. GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.
9. OWNER OR OWNER'S AGENT TO OBTAIN ALL PERMITS REQUIRED BY THE "REGULATIONS OF BRAZORIA COUNTY, TEXAS FOR FLOOD PLAN MANAGEMENT" PRIOR TO STARTING CONSTRUCTION.
10. OWNER OR OWNER'S AGENT TO OBTAIN ALL NOTIFICATIONS REQUIRED BY BRAZORIA COUNTY, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN BRAZORIA COUNTY AND BRAZORIA COUNTY FLOOD CONTROL DISTRICT RIGHTS-OF-WAY.

Table with columns for REVISION #1, REVISIONS, and DATE. Includes a revision entry for No.

ALJ Lindsey Civil Engineers, Inc. Suite 314 Houston, TX 77068 281.301.5655 FRN F-1126



07 AUGUST 2019

Table with columns for AL PROJECT NO, DATE, SCALE, DRAWN BY, and CHECKED BY. Values include 0081915V1067, AUGUST 2019, N/A, LFC, and OMR.

GENERAL NOTES

SEDONA LAKES RETAIL DEVELOPMENT 1875 CR 101 BRAZORIA COUNTY, TEXAS 77578