

UTILITY CONSTRUCTION NOTES FOR SITE WORK:

- REFER TO CIVIL, PLUMBING, AND ELECTRICAL DRAWING FOR ALL UTILITY SERVICES TO AND ON THE SITE.
- CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL & PLUMBING DRAWINGS TO VERIFY LOCATION AND SIZE OF ALL ROOF DRAINS, DOWN SPOUTS AND UTILITY CONNECTIONS. LIMITS OF PROPOSED SITE PLUMBING FACILITIES SHALL BE 5- FEET FROM EDGE OF BUILDING, UNLESS OTHERWISE NOTED.
- MAINTAIN 6-INCH MINIMUM VERTICAL CLEARANCE AT PIPE CROSSINGS UNLESS OTHERWISE NOTED ON THE DRAWING SHEETS.
- WHERE A SANITARY SEWER CROSSES A WATERLINE, CENTER ONE JOINT (MINIMUM 18-FT LENGTH) OF SANITARY SEWER PIPE AND WATER LINE AT THE CROSSING. WATER LINE SHOULD BE LAID OVER SANITARY LINE WITH 2' MINIMUM CLEARANCE.
- THE LENGTHS OF PROPOSED UNDERGROUND UTILITY LINES SHOWN ARE APPROXIMATE ONLY. LENGTHS OF LINES MAY VARY DUE TO FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR UTILITY LINES TO SERVE THEIR INTENDED PURPOSE AND SHALL BE RESPONSIBLE FOR THE ROUTING OF LINES OCCASIONED BY CONFLICTS WITH OTHER UTILITIES AND SITE FEATURES.
- CONTRACTOR SHALL CONSTRUCT ALL GRAVITY SEWER LINES COMMENCING AT THE LOWEST FLOW LINE ELEVATION AND PROCEED IN THE UPSTREAM DIRECTION. CONTRACTOR SHALL VERIFY CLEARANCES WITH ALL UNDERGROUND CONSTRUCTIONS BEFORE LAYING PIPE.
- TOP OF PROPOSED MANHOLES, INLETS, VALVE BOXES, ETC. SHALL BE SET TO MATCH FINISHED GRADE OR PROPOSED TOP OF PAVEMENT. TOP OF EXISTING MANHOLES, VALVE BOXES, ETC., SHALL BE ADJUSTED AS REQUIRED TO MATCH FINISHED GRADE OR PROPOSED TOP OF PAVEMENT. OUTSIDE OF PAVED AREAS SET MANHOLE RIMS AND TOP OF GRATE AT ELEVATIONS SHOWN ON THE PLANS OR 6" ABOVE THE FINISHED GRADE WHEN NOT SHOWN IN THE PLAN.
- ALL TRENCHES, INLETS, MANHOLES, CLEANOUTS, ETC., UNDER, OR WITHIN FIVE FEET OF PAVEMENT SHALL BE BACKFILLED WITH SELECT MATERIAL PLACED IN LOOSE LIFTS NOT EXCEEDING 8-INCHES IN DEPTH AND COMPACTED TO 95% STANDARD PROCTOR BACKFILL SEWER TRENCHES WITH COMPACTED CEMENT STABILIZED SAND TO A POINT ONE FOOT BELOW BOTTOM OF PAVEMENT IN LIEU OF SELECTED MATERIAL.
- ALL TRENCHES NOT UNDER, OR WITHIN FIVE FEET OF, PAVEMENT SHALL BE BACKFILLED WITH SELECT MATERIAL PLACED IN LOOSE LIFTS NOT EXCEEDING 12-INCHES IN DEPTH AND COMPACTED TO THE DENSITY OF NATURAL SURROUNDING SOIL, BUT NOT LESS THAN 90% STANDARD PROCTOR DENSITY (ASTM D698).

STORM WATER POLLUTION PREVENTION PLAN NOTES:

- PROTECT ALL STAGE 1 INLETS WITH FILTER FABRIC BARRIERS.
- PROTECT ALL INLETS IN PAVED ROADWAYS WITH STRAW BALE FENCES.
- PROTECT ALL DESIGNATED SPECIMEN TREES WITH PROTECTIVE FENCING.

GENERAL REQUIREMENTS FOR TPDES STORM WATER QUALITY

OBTAIN "TEXAS COMMISSION ON ENVIRONMENTAL QUALITY" (TCEQ) CONSTRUCTION GENERAL PERMIT (PERMIT NO. TXR150000) PREPARE AND SUBMIT A COPY OF "NOTICE OF INTENT" (NOI) TO TCEQ USING TCEQ'S FORM AT LEAST TWO (2) DAYS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. PREPARE AND SUBMIT A COPY OF "NOTICE OF TERMINATION" (NOT) TO TCEQ AT THE END OF CONSTRUCTION OR AFTER THE SITE HAS REACHED FINAL STABILIZATION. DEVELOP AND IMPLEMENT A "STORM WATER POLLUTION PREVENTION PLAN: (SWP3) PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. REFER TO SHEET NO. C10 FOR IMPLEMENTING SWPPP. "NOI" NEEDS TO BE POSTED AT THE CONSTRUCTION SITE IN LIEU OF A "CONSTRUCTION SITE NOTICE". PAY APPLICABLE FEES, BOTH TO TCEQ AND THE BRAZORIA COUNTY. NOTIFY TCEQ AND BRAZORIA COUNTY AT LEAST TWO (2) DAYS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

NOTES:

- EXECUTION AND CONSTRUCTION METHODS FOR STORM WATER POLLUTION PREVENTION PLAN SHALL BE IN CONFORMANCE WITH THE "STORM WATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES" BY BRAZORIA COUNTY/BRAZORIA COUNTY DRAINAGE DISTRICT 4 AND CITY OF MANVEL.
- CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION EXIT AT A LOCATION APPROVED BY OWNER. THE MINIMUM SIZE REQUIRED TO KEEP STREET CLEAN AND FREE OF MUD CARRIED BY CONSTRUCTION VEHICLES SHALL BE UTILIZED.
- SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO DISTURBING UPSTREAM AREAS AND SHALL REMAIN UNTIL PERMANENT SOIL STABILIZATION/COVER IS IN PLACE.
- CONTRACTOR SHALL PROTECT ALL STORM SEWER INLETS WITH INLET PROTECTION BARRIER (IPB).
- STORM SEWER INLETS NOT REQUIRED TO MAINTAIN DRAINAGE MAY BE TEMPORARILY CAPPED.

GENERAL CONSTRUCTION NOTES FOR SITE WORK:

- EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR TO FIELD VERIFY LOCATION OF ANY EXISTING UTILITIES AND OTHER FACILITIES BEFORE COMMENCING WORK. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL EXISTING FACILITIES.
- CONTRACTOR SHALL NOTIFY CITY OF MANVEL PUBLIC WORKS TELEPHONE AT 281-554-1444 AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK WITHIN CENTER STREET RIGHT-OF-WAY OR PUBLIC EASEMENTS.
- CONTRACTOR SHALL VERIFY THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION AND SHALL REPORT DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL PROTECT ALL EXISTING FACILITIES, PROPERTY, AND UNDERGROUND UTILITIES, AND SHALL REPAIR ANY DAMAGE TO THE SATISFACTION OF THE INJURED PARTY AT NO ADDITIONAL COST TO THE OWNER.
- ANY DAMAGE TO THE SURROUNDING IMPROVEMENTS PUBLIC OR PRIVATE BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS AND FOR NOTIFICATION OF ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE OR PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK.
- WATER METERS, UTILITY LINES AND APPURTENANCES, DRIVEWAYS, AND ALL OTHER ITEMS TO BE LOCATED WITHIN THE STREET RIGHT-OF-WAY OR A PUBLIC EASEMENT, ARE TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT GOVERNING CITY, COUNTY AND STATE STANDARDS.
- CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE FACILITIES TO DIRECT SURFACE DRAINAGE AWAY FROM TRENCHES AND TOWARDS OFF SITE DRAINAGE FACILITIES. PREVENT WATER FROM PONDING ON SITE AND DO NOT BLOCK DRAINAGE FROM OR DIRECT EXCESS DRAINAGE ON TO ADJACENT PROPERTY.
- CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL BARRICADES, WARNING SIGNS, FLASHING LIGHTS AND TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", (TEXAS M.U.T.C.D. MOST RECENT EDITION AS REVISED) DURING CONSTRUCTION.

- ALL OPEN EXCAVATIONS IN VEHICULAR TRAFFIC AREAS SHALL BE COVERED WITH ANCHORED STEEL PLATES CAPABLE OF SUPPORTING HS 20 LOADING AT END OF EACH DAYS WORK OR WHEN NOT IN USE.
- CONTRACTOR SHALL COMPLY WITH O.S.H.A. REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING AND SHORING. EXCAVATIONS OVER 5 FEET DEEP TO BE SHEETED AND PROTECTED AS REQUIRED BY STATE LAW AND O.S.H.A. FAILURE TO COMPLY WITH THE REQUIREMENTS HEREIN WILL CONSTITUTE AGREEMENT BY THE CONTRACTOR TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO COMPLY. ASSUME TYPE "C" SOIL.
- CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT ROOT SYSTEMS OF SHRUBS, PLANTS AND TREES ALONG THE AREA OF EXCAVATION.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

BENCHMARK

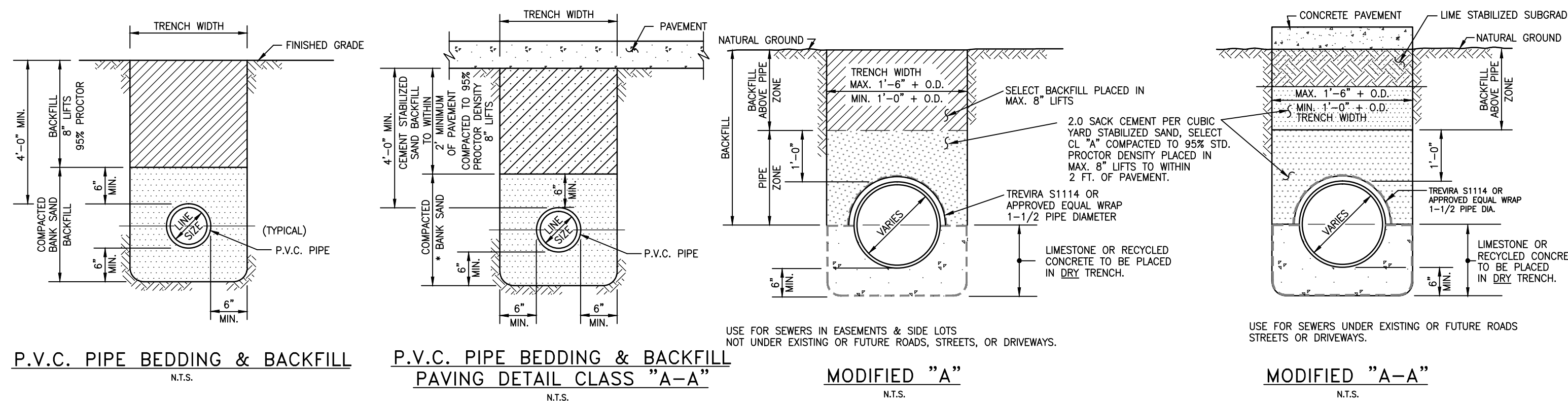
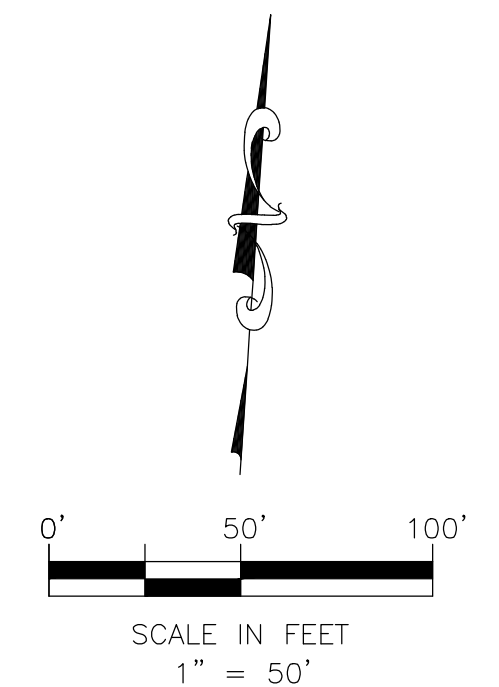
MONUMENT NAME 10 GPS MONU 1995 IS A BRASS CAP SET IN CONCRETE STAMPED "CITY OF PEARLAND 10 GPS MONU, 1995" LOCATED ON THE SOUTH BOUND HIGHWAY 288 APPROXIMATELY 2,400 FEET SOUTH OF F.M. 518 AND 21 FEET WEST FROM THE WEST EDGE OF ASPHALT. ELEV.=59.29' (NGVD 1929, 1987 ADJUSTMENT).

IBM A: BOX CUT ON H2-INLET LOCATED ON THE NORTH SIDE OF COUNTY ROAD 101 SOUTH OF THE SOUTHWEST CORNER OF THE PROPERTY, AS SHOWN. ELEVATION = 64.44'

IBM B: BOX CUT ON RCP LOCATED ON THE EAST SIDE OF COUNTY ROAD 94 NEAR THE EAST PORTION OF THE PROPERTY, AS SHOWN. ELEVATION = 61.48'

LEGEND

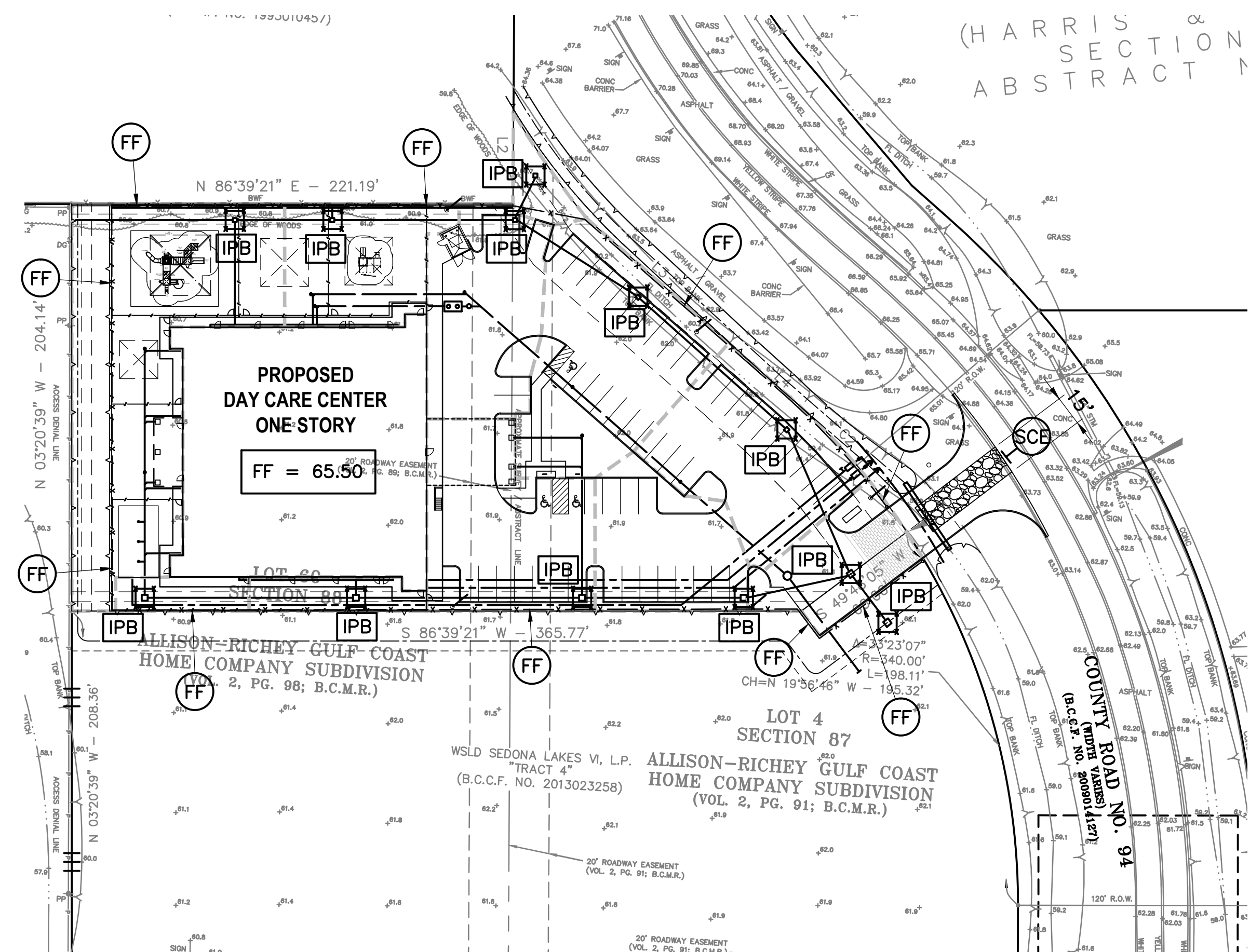
- FILTER FABRIC FENCE, MINIMUM 2 FEET BEHIND CURB
- STABILIZED CONSTRUCTION ACCESS/EXIT
- INLET PROTECTION BARRIER
- PROPOSED TYPE "A" INLET
- REINFORCED FILTER FABRIC BARRIER



SANITARY FORCE MAIN & WATER LINE BEDDING AND BACKFILL

- CONSTRUCTION NOTES**
- CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
 - LIMESTONE AND RECYCLED CONCRETE DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF ENGINEER.
 - LIMESTONE OR RECYCLED CONCRETE SHALL BE IN ACCORDANCE WITH "DOT" SPECIFICATION NO. 248 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
 - NO LIMESTONE SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1 (FT) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
 - ALL MATERIALS SHALL BE FROM THE APPROVED PRODUCTS LIST UNLESS SPECIFICALLY APPROVED BY ENGINEER.
 - SANITARY SEWER BEDDING FOR WET SAND CONDITIONS SHALL BE AS PER MODIFIED "A" OR "A-A".
 - ALL SAND BEDDING FOR WATER LINES SHALL BE CLEAN, MECHANICALLY COMPACTED BANK SAND.

GRAVITY SEWER BEDDING AND BACKFILL



REVISIONS AND ISSUANCE		
NO.	DATE	DESCRIPTION
1	8/13/18	PRICING

IVY KIDS EARLY LEARNING CENTER
 4434 CR 94
 MANVEL, TEXAS 77578

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 10370 RICHMOND AVE, #560
 HOUSTON, TEXAS 77042
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 [E] dzhuang@missioneng.com
 TPEF Registration No. F-11771

interim review only
 not for permit or
 construction
 YIFENG ZHUANG
 TX # 87950

08/13/2018
 DRAWING TITLE
SWPPP & DETAIL

DRAWN BY KN	CHECKED BY EL
DATE 08/13/2018	JOB NO. 1806251

DRAWING NO.
C6