

**GENERAL NOTES:**

- ALL WORK MUST CONFORM TO THE REQUIREMENTS OF ST. BERNARD PARISH DEPARTMENT OF PUBLIC WORKS AND OTHER SUCH PARISH OR STATE STANDARDS THAT MIGHT BE APPLICABLE.
- REFER TO APPROVED SUBDIVISION PLAN FOR ALL SERVITUDES, GEOMETRIC AND DIMENSIONAL INFORMATION NECESSARY FOR LAYOUT OF IMPROVEMENTS.
- CONSTRUCTION OF STREETS AND DRAINAGE IMPROVEMENTS PRIOR TO APPROVAL OF SUBDIVISION PLAN BY COUNCIL ORDINANCE SHALL BE AT THE DEVELOPER'S OWN RISK.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL CAREFULLY VERIFY SAME AND TAKE THE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO THE EXISTING UTILITIES.
- CONTRACTOR SHALL VERIFY TOP OF CASTING ELEVATIONS PRIOR TO ORDERING MANHOLES.
- DAMAGES TO EXISTING STREETS, DRAINAGE, OTHER UTILITY STRUCTURES, AND RESIDENT PROPERTIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR TO ORIGINAL AND/OR BETTER CONDITIONS TO THE SATISFACTION OF THE OWNERS.
- CONTRACTOR SHALL NOT DAMAGE TREES TO REMAIN. IF DAMAGED, CONTRACTOR SHALL REPLACE AT HIS OWN COST. THE CONTRACTOR SHALL PROVIDE A LOUISIANA LICENSED ARBORIST TO PERFORM NECESSARY TREE TRIMMING, ROOT PRUNING, OR RECOMMENDATION OF REMOVAL OF ANY TREE GREATER THAN 12" CALIPER PRIOR TO BEGINNING EXCAVATION. CONTRACTOR SHALL USE A CHAIN SAW TO CUT ROOTS OF TREES EXPOSED DURING EXCAVATION AND COORDINATE WITH OWNER. CONTRACTOR SHALL NOT BREAK ROOTS BY PULLING THEM WITH DIGGING MACHINES. ROOTS AND BRANCH PROTECTANT SHALL BE SPRAYED OR PAINTED ON BRANCHES OR ROOTS WHICH HAVE BEEN CUT.
- PROTECT ALL EXISTING TREES, PLANTING AND LAWNS FROM DAMAGE. ALL STREET SIGNS, FENCES, SHRUBBERY, ETC. RELOCATED DURING CONSTRUCTION SHALL BE RETURNED TO THEIR ORIGINAL LOCATION AND IN ORIGINAL CONDITIONS. PARISH STREET RIGHT OF WAY AND ALL SERVITUDES SHALL BE CLEARED OF ALL TREES AND OBSTRUCTIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN SERVICES, SUPPLYING MATERIALS, AND LABOR NECESSARY TO PROVIDE SHEETING, SHORING AND BRACING OR SUPPORTS AS REQUIRED TO PROVIDE A SAFE WORKING CONDITION FOR CONTRACTOR'S PERSONNEL AND TO PROVIDE FOR PROTECTION OF UTILITIES, BUILDINGS, LEVEES, AND STRUCTURES. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH THESE REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE SYSTEM TO WITHSTAND LATERAL PRESSURE. SHEET DESIGN AND INSTALLATION SHALL BE INCLUDED IN THE COST OF THE PIPE OR STRUCTURAL INSTALLATION.
- CONTRACTOR SHALL REGRADE ALL AREAS AFFECTED BY CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE. WORK SHALL BE IN A WORKMAN LIKE MANNER AND IN ACCORDANCE WITH A/E REQUIREMENTS. IF CONTRACTOR DETERMINES THAT ANY AREAS AFFECTED BY CONSTRUCTION CANNOT BE REGRADED TO DRAIN, CONTRACTOR SHALL DOCUMENT (I.E., TAKE ELEVATIONS, PICTURES, ETC.) EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- ALL DRIVEWAYS DISRUPTED BY EXCAVATION SHALL BE RESTORED USING LIKE MATERIAL TO ORIGINAL OR BETTER CONDITION.
- CONTRACTOR SHALL MAINTAIN A 6" RIDING SURFACE OF BASE COURSE MATERIAL FOR ALL STREETS AND DRIVEWAYS DISRUPTED UNTIL SAME IS PAVED WITH LIKE MATERIAL.
- CONTRACTOR SHALL GIVE THOSE AFFECTED BY CONSTRUCTION 24 HOURS NOTICE PRIOR TO DISRUPTION OF DRIVEWAYS. DRIVEWAYS AND STREETS SHALL NOT REMAIN CLOSED OVERNIGHT.
- CONTRACTOR SHALL NOTIFY THOSE AFFECTED BY CONSTRUCTION 24 HOURS PRIOR TO DISRUPTION OF WATER, SEWER OR OTHER UTILITY SERVICE. UTILITY SERVICES SHALL BE PROMPTLY REPAIRED AND NOT REMAIN OUT OF SERVICE OVERNIGHT.
- CONTRACTOR SHALL AT ALL TIMES CONDUCT HIS OPERATIONS AS TO INSURE THE LEAST INCONVENIENCE TO THE GENERAL PUBLIC AND ADJACENT PROPERTY OWNERS.
  - CONTRACTOR SHALL PROVIDE ACCESS TO COMMERCIAL/INDUSTRIAL PROPERTIES AT ALL TIMES.
  - CONTRACTOR SHALL PROVIDE ACCESS TO RESIDENTIAL PROPERTIES AT ALL TIMES. VEHICULAR ACCESS SHALL BE PROVIDED AS DIRECTED BY ENGINEER. UPON APPROVAL BY ENGINEER, VEHICULAR ACCESS MAY BE LIMITED DURING PAVING OF DRIVEWAYS. CONTRACTOR SHALL CONTACT AND ADVISE ALL AFFECTED PROPERTY OWNERS.
- CONTRACTOR SHALL COORDINATE AND PAY FOR THE DE-ENERGIZING AND RE-ENERGIZING OF POWER LINES FOR CONSTRUCTION PURPOSES AS REQUIRED BY LOCAL, STATE, AND FEDERAL AGENCIES.
- CONTRACTOR SHALL BRACE ENTERTY AND BELL SOUTH POLES ADJACENT TO EXCAVATION. BRACING SHALL REMAIN IN PLACE AFTER BACKFILLING UNTIL COMPACTION STANDARDS HAVE BEEN MET. COMPLETE WORK PROMPTLY ONCE EXCAVATION HAS BEGUN ADJACENT TO POLES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE DIRECTLY WITH THE APPROPRIATE UTILITY COMPANIES TO HAVE THE UTILITIES RELOCATED.
- BACKFILL ALL UTILITY CROSSINGS, EXCAVATIONS UNDER THE ROADWAY AND SHOULDER WITH GRANULAR MATERIAL.
- CONTRACTOR IS HEREBY INSTRUCTED TO FILE FOR A NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT AND A STORM WATER POLLUTION PREVENTION PERMIT.
- PRIOR TO PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL VERIFY EXISTING INVERTS AT TIE-INS. IF DISCREPANCIES ARE FOUND, PLANS MUST BE REVISED.
- PRE-CONSTRUCTION CONFERENCE: PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION CONFERENCE. THE CONTRACTOR SHALL BE REPRESENTED AT THE CONFERENCE BY HIS PROJECT SUPERINTENDENT OR ANY OTHER CONCERNED PERSONNEL.
- ALL ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.).
- ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE HYDRO SEEDED, SODDED, OR APPROVED EQUAL UNTIL SATISFACTORY STAND. FOR PURPOSES OF GRASSING, A SATISFACTORY STAND OF GRASS IS HEREIN DEFINED AS A FULL LAWN COVER OVER AREA TO BE SEED, WITH GRASS FREE OF WEEDS, ALIVE AND GROWING. LEAVE NO BARE SPOTS LARGER THAN 3/4 SQUARE YARD WITHIN A RADIUS OF 10 FEET. SEEDING AND FERTILIZING SHALL BE APPLIED IN ACCORDANCE TO SECTIONS 717.04-717.08 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION, BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT.

**PAVING NOTES:**

- PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH SECTIONS 801 & 901 OF THE DOTD STANDARD SPECIFICATIONS FOR ROADS & BRIDGES (LATEST EDITION) AND SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- PAVEMENT SHALL NOT BE OPENED TO TRAFFIC UNTIL 28 DAYS AFTER PLACEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
- ALL DRAINAGE AND SEWER STRUCTURES IN PAVEMENT SHALL BE BOXED OUT.
- BASE COURSE SHALL CONSIST OF ASHITO A-4 OR BETTER SOILS LIMITED TO A MAXIMUM LIQUID LIMIT OF 25 AND A MAXIMUM PLASTICITY INDEX OF 6, "PUMPED" RIVER SAND GENERALLY MEETS THIS REQUIREMENT. BASE SHALL BE A MINIMUM OF 12" THICKNESS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- AN APPROVED TESTING LABORATORY, SELECTED BY THE ENGINEER, SHALL BE RETAINED BY THE OWNER AND SHALL PROVIDE ALL REQUIRED TESTING. TEST REPORT MUST BE FURNISHED TO THE DEPARTMENT OF PUBLIC WORKS, MEYER ENGINEERS, LTD. AND THE CONTRACTOR. (PAID BY OWNER)
- NO CONCRETE/ASPHALT SHALL BE POURED WITHOUT THE SERVICES OF THE TESTING LAB TECHNICIAN TO WITNESS THE POUR, MAKE SLUMP TESTS AND MAKE TEST CYLINDERS.
- ANY CONCRETE POURED WITHOUT THE SERVICES OF THE TESTING LAB TECHNICIAN SHALL BE SUBJECT TO DISCRETIONARY TESTING ORDERED BY THE DEPARTMENT OF PUBLIC WORKS AT THE EXPENSE OF THE CONTRACTOR. SUBDIVISION STREETS WILL NOT BE ACCEPTED FOR MAINTENANCE IF CONTRACTOR HAS NOT PAID TESTING LABORATORY FOR THE DISCRETIONARY TESTING.
- CONTRACTOR MUST NOTIFY THE TESTING LAB AND THE ENGINEERING DEPARTMENT, AT LEAST 48 HOURS PRIOR TO POURING CONCRETE.
- CONCRETE PAVEMENT REMOVED FOR TIE-INS AND FOR UTILITY CROSSINGS SHALL BE REMOVED FROM JOINT TO JOINT AND REPLACED WITH CONCRETE CONTAINING A MINIMUM OF 7 SACKS OF CEMENT PER CUBIC YARD, AND HAVING A 4" MAXIMUM SLUMP.
- IMMEDIATELY AFTER COMPLETION OF FINISHING OPERATIONS AND AS SOON AS MARRING OF CONCRETE WILL NOT OCCUR, THE PAVEMENT SURFACE SHALL BE CURED BY OVERLAYING WITH A WHITE PIGMENTED CURING COMPOUND IN CONFORMANCE WITH DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES LATEST EDITION.
- CONTRACTOR SHALL USE THE NECESSARY SAND BASE TO OBTAIN THE ROADWAY GRADES SHOWN ON THE PLANS. THIS MAY REQUIRE MORE THAN THE MINIMUM SAND BASE.
- JOINT SEALER SHALL BE IN ACCORDANCE WITH SECTION 1005.02 OF DOTD STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2000 EDITION. THE SEALANT AND BACKER MATERIALS SHALL BE APPROVED PRODUCTS LISTED IN DOTD'S QUALIFIED PRODUCT LIST 67.
- JOINTS ENDING AT CURVES SHALL BE CARRIED INTO THE CURB AND PAVEMENT AT RIGHT ANGLES TO THE TANGENT AT THAT POINT.

**WATER DISTRIBUTION SYSTEM:**

- THE CONTRACTOR SHALL FURNISH ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, SERVICES AND PERMITS NECESSARY TO CONSTRUCT THE WATER DISTRIBUTION SYSTEM AS SHOWN ON THE PLANS.
- PRIOR TO SUBMITTING A BID THE CONTRACTOR SHALL OBTAIN THE REQUIREMENTS OF THE WATER AUTHORITY (ST. BERNARD PARISH), OR DISTRICT IN WHICH THE WORK IS TO BE PERFORMED AND, INCLUDE THE COSTS OF THESE REQUIREMENTS IN THE PRICE BID FOR THE WORK. THE TYPE OF MATERIALS AND THE MANUFACTURER'S BRAND OF PIPE, VALVES, HYDRANTS, ETC., REQUIRED BY THE WATER AUTHORITY WILL BE USED, WHENEVER, THE REQUIREMENTS OF THE WATER AUTHORITY ARE MORE STRINGENT THAN THESE SPECIFICATIONS, THEY WILL BE FOLLOWED.
- INCLUDED IN THE WORK SHALL BE A COMPLETE DISTRIBUTION SYSTEM INCLUDING ALL FITTINGS, VALVES, TIE-INS, CONNECTIONS, THRUST BLOCKS, CHLORINATION AND, PRESSURE TESTING. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL OF THE FITTINGS AND LENGTHS OF PIPE NECESSARY TO AVOID CONFLICTS WITH OTHER UTILITIES AND, STRUCTURES.
- WATER MAINS TO BE POLYVINYL CHLORIDE GASKET JOINT CLASS 150 (C-900) WITH "FLUID TITE" COUPLINGS CONFORMING TO ASTM D1784, RUBBER GASKETS TO BE ASTM D1869, UNLESS OTHERWISE NOTED ON PLANS. ALL POLYETHYLENE(PE) PLASTIC TUBING 3/4" THROUGH 2" SHALL BE PS 3408 CONFORMING TO ASTM D2737. USE APPROPRIATE BRASS FITTINGS FOR CONNECTIONS.
- FITTINGS SHALL BE MANUFACTURED BY AND/OR RECOMMENDED FOR USE ON THE PIPE BY THE PIPE MANUFACTURER.
- USE NECESSARY FITTINGS TO AVOID CONFLICTS WITH OTHER UTILITIES.
- THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" PLAN SHOWING THE LOCATION OF ALL VALVES, HYDRANTS, TEES, BENDS, ETC., AND, DISTANCES BETWEEN AND TO THE BUILDINGS LINES.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
- THE CONTRACTOR SHALL USE APPROVED 8" FITTINGS TO PROVIDE 18" VERTICAL CLEARANCE AND 6" HORIZONTAL CLEARANCE BETWEEN SEWER AND WATER LINES. SEWER LINE SHALL BE LOWER IN ELEVATION THAN WATER LINE.
- THE WATER LINES SHALL PASS A HYDROSTATIC PRESSURE TEST OF 100 PSI FOR ONE HOUR AND LEAKAGE SHALL NOT EXCEED 20 GALLONS/DAY/MILE IN DIAMETER OF PIPE. ST. BERNARD PARISH REPRESENTATIVES SHALL BE PRESENT FOR TESTING AND CHLORINATION. THE CONTRACTOR SHALL PROVIDE THE EQUIPMENT NECESSARY FOR THE PRESSURE TEST. TEST SHALL BE REVIEWED BY INDEPENDENT TESTING LAB.
- ALL CUTS UNDER STREETS TO BE BACK-FILLED WITH SAND OR OTHER SUITABLE MATERIAL APPROVED BY ENGINEER AND COMPACTED TO 95% STD. PROCTOR, PRIOR TO REPAVING.
- ALL WATER LINES ARE TO BE STERILIZED IN ACCORDANCE WITH AWWA STD C-601 AND APPROVED BY THE LOUISIANA DEPARTMENT OF HEALTH AND HOSPITAL BEFORE BEING PLACED IN SERVICE.
- CONTRACTOR SHALL INSTALL A PLASTIC BONDED SOLID 16 GAUGE COPPER WIRE ON THE TOP OF ALL NEWLY CONSTRUCTED WATER MAINS. THE WIRE IS TO BE CONTINUOUS ALONG THE ENTIRE LENGTH OF THE PIPE AND GROUNDED TO GATE VALVES, FIRE HYDRANTS OR FLUSHING VALVES. ADDITIONALLY, BLUE, 2" WARNING TAPE SHALL BE PLACED 12 INCHES OVER AND ABOVE ALL WATER LINES.
- ALL TRENCHES UNDER EXISTING OR PROPOSED ROADS SHALL BE COMPACTED TO 95% (ASTM D-988). THE MAXIMUM WIDTH OF TRENCH SHALL NOT EXCEED THE OUTSIDE DIAMETER OF THE PIPE TO BE LAID PLUS TWO (2) FEET.
- ALL VALVES SHALL HAVE A THREE PIECE CAST IRON VALVE BOX INSTALLED AND ADJUSTED TO FINISH GRADE. VALVE BOXES SHALL BE MANUFACTURED BY TYLER CORPORATION, SERIES 6850 OR APPROVED EQUAL.
- EACH VALVE BOX SHALL HAVE A 24" SQUARE OR 24" ROUND BY 4" THICK CONCRETE PAD, EITHER POURED IN PLACE OR PREFABRICATED AND PLACED. PREFABRICATED PADS MUST BE BY SOUTHERN METER BOX, INC., ALEXANDRIA, LOUISIANA OR APPROVED EQUAL.
- ALL GATE VALVES 3" OR LARGER SHALL CONFORM WITH AWWA C-509-94, RESILIENT-SEATED GATE VALVES WITH 200 PSI WORKING PRESSURE FOR WATER SUPPLY SERVICE. GATE VALVES SHALL BE STAINLESS STEEL MUELLER SERIES 2360. TAPPING SLEEVES FOR PVC, AC, AND DI SHALL BE STAINLESS STEEL WITH A STAINLESS STEEL FLANGE AS MANUFACTURED BY MUELLER, CLOW, M&H OR KENNEDY.
- ALL MATERIALS NOT LIMITED TO SADDLES, BRASS FITTINGS, STOPS, VALVES, AND HYDRANTS SHALL BE MANUFACTURED BY MUELLER.

**WATER DISTRIBUTION CONT.:**

- ALL FIRE HYDRANTS SHALL BE OF A TYPE AS APPROVED BY THE WATER SYSTEM'S UTILITY COMPANY AND/OR AS APPROVED BY THE LOCAL FIRE DISTRICT. THE CONTRACTOR TO CONFIRM TYPE PRIOR TO INSTALLATION. IF NONE IS SPECIFIED, THEN FIRE HYDRANTS TO BE MUELLER SUPER CENTURION 250/HS, MEETING AWWA C-502-94.
- FIRE HYDRANTS SHALL BE PAINTED RED. HYDRANTS SHALL BE OF HIGH SECURITY WITH INTEGRAL CHECK VALVE AS MANUFACTURED BY MUELLER. FIRE HYDRANT SHALL BE MARKED WITH A BLUE REFLECTOR IN THE CENTER OF THE STREET.
- ALL FIRE HYDRANTS SHALL HAVE AT LEAST THREE OUTLETS PER HYDRANT. ONE SHALL BE A STREAMER CONNECTION TO ALLOW FIRE APPARATUS TO PROVIDE WATER FROM HYDRANT TO THE APPARATUS AND THERE SHALL BE AT LEAST TWO 2.5 INCH OUTLETS WITH NATIONAL STANDARD THREADS.
- CONTRACTOR IS RESPONSIBLE FOR THE COST OF ALL TESTING AND CHLORINATION ASSOCIATED WITH VERIFYING THAT CONSTRUCTION IS IN COMPLIANCE WITH PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL MAKE THE TAP TO THE EXISTING WATER MAIN WITH REPRESENTATIVE OF WATER DEPT. PRESENT.
- THREE JOINTS OF PIPE SHALL BE RESTRAINED AT FITTINGS AND DEAD ENDS WITH PIPE TO PIPE AND PIPE TO FITTING RESTRAINTS.

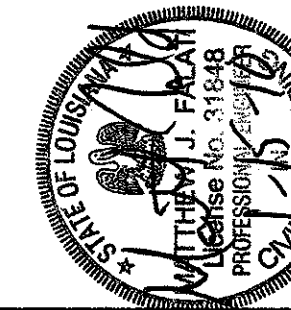
**DRAINAGE NOTES:**

- PLASTIC PIPE SHALL BE RIBBED POLYVINYL CHLORIDE CULVERT PIPE AND SHALL CONFORM TO ASTM F794, SERIES 46. ONLY PIPE ON THE STATE OF LOUISIANA QUALIFIED PRODUCTS LIST 66 WILL BE PERMITTED WITH TYPE 3 JOINTS.
- ALL PIPE JOINTS SHALL BE WRAPPED WITH A 36" WIDE PIECE OF PLASTIC FILTER CLOTH (LA D.O.T.D. SPECIFICATIONS FOR ROADS AND BRIDGES 2000 EDITION, SECTION 1019) CENTERED ON THE JOINT AND LAPPED 36".
- TRENCHES WITHIN STREET RIGHT-OF-WAY SHALL BE BACKFILLED WITH PUMPED RIVER SAND. OTHER TRENCHES MAY BE BACKFILLED WITH SELECT MATERIAL FROM EXCAVATION.
- DRAIN DITCHES CROSSING THE RIGHT-OF-WAY SHALL BE MUCKED OUT (MINIMUM OF 24") OR UNTIL GOOD SOIL IS REACHED WHICHEVER IS GREATER AND FILLED WITH PUMPED RIVER SAND. WHERE DITCHES CROSS THE LOTS, IT SHALL BE MUCKED OUT AND FILLED WITH SELECT MATERIAL AND MATERIAL FROM EXCAVATION.
- THE CONTRACTOR SHALL PREPARE AND FURNISH THE ENGINEER WITH AN AS-BUILT DRAINAGE PLAN SHOWING STREET GRADES. ALL STRUCTURES MUST BE LOCATED BY STATIONS TIED TO A KNOWN POINT SUCH AS A PROPERTY CORNER OR CROSSIES AT CENTERLINE OF THE STREETS. CONTRACTOR MUST OBTAIN TOP OF CASTING ELEVATIONS AND INVERTS OF ALL DRAINAGE STRUCTURES.
- CONTRACTOR TO USE PROPER PIPE PULLER DEVICES (MECHANICAL DEVICE) FOR TIGHTENING JOINTS FOR 36" DIAMETER RCP AND LARGER.
- BEDDING FOR ALL DRAIN PIPE SHALL CONFORM TO THE PIPE MANUFACTURER'S REQUIREMENTS.
- BACKFILL MATERIAL SHALL BE THOROUGHLY COMPACTED UNDER HAUNCHES AND THEN COMPACTED IN LAYERS NOT EXCEEDING 12 INCHES COMPACTED THICKNESS. EACH LAYER SHALL BE COMPACTED BY APPROVED METHODS TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY PRIOR TO PLACEMENT OF A SUBSEQUENT LAYER. EXPOSED SLOPES AT THE CONDUIT ENDS SHALL BE COVERED BY AT LEAST 6 INCHES COMPACTED THICKNESS OF PLASTIC SOIL BLANKET.
- A DENSITY TEST WILL BE REQUIRED AT 200 FEET INTERVALS, PER LAYER, ALONG A CONTINUOUS DRAIN LINE THAT MAY VARY IN SIZE, ALTERNATING FROM ONE SIDE OF THE PIPE TO THE OTHER. FOR PIPE LENGTHS LESS THAN 200 FEET, ONE TEST WILL BE REQUIRED PER LAYER.
- PVC DRAIN PIPES BENEATH PROPOSED ROADWAYS SHALL HAVE A MINIMUM DEPTH OF COVER OF TWO (2) FEET DURING CONSTRUCTION. MATERIAL SHALL BE ADDED AS REQUIRED TO MAINTAIN THE MINIMUM 2 FEET OF COVER PRIOR TO PLACEMENT OF CONCRETE.
- THE MINIMUM DEPTH OF COVER BENEATH PAVEMENT SHALL BE ONE (1) FOOT AT THE COMPLETION OF CONSTRUCTION. COVER FOR PIPE BENEATH PAVEMENT SHALL BE MEASURED FROM THE TOP OF PIPE TO THE BOTTOM OF CONCRETE. THE MINIMUM DEPTH OF COVER FOR PIPE LOCATED BEHIND BACK OF CURB SHALL BE 24 INCHES.
- THE PARISH RESERVES THE RIGHT AT ANY TIME DURING CONSTRUCTION TO EXCAVATE, AT THE PARISH'S EXPENSE, ANY SECTION OF PIPE TO MONITOR COMPLIANCE WITH MANUFACTURER'S BEDDING REQUIREMENTS. SHOULD THE EXPOSED PIPE REVEAL IMPROPER BEDDING, THE ENTIRE JOB OR A PORTION THEREOF AT THE DIRECTOR'S DISCRETION SHALL BE EXCAVATED AT THE OWNER'S EXPENSE AND ANY DIFFERENCES CORRECTED.
- PROPOSED PLASTIC PIPE (RIBBED) FOR DRAIN TIE-IN SHALL USE ONE STANDARD DOUBLE GASKET, POSITIONED ON THE PIPE IN THE CENTER OF THE MANHOLE WALL.
- CORRUGATED METAL PIPE SHALL CONFORM TO LADOTD SPECIFICATIONS.
- 21-INCH OR SMALLER DIAMETER SHALL HAVE 14 GAUGE THICKNESS AND 24-INCH OR LARGER DIAMETER SHALL HAVE 12 GAUGE THICKNESS.

**SEWER NOTES:**

- THE CONTRACTOR SHALL FURNISH ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, SERVICES AND, PERMITS NECESSARY TO CONSTRUCT THE SEWER DISTRIBUTION SYSTEM AS SHOWN ON THE PLANS.
- THE SLOPE OF ALL SEWER MAINS TO BE A MINIMUM OF 0.004 FT./FT., OR AS OTHERWISE SHOWN ON PLAN.
- PRE-CAST CONCRETE MANHOLES (ASTM A48, CLASS 20) MAY BE USED AS APPROVED BY THE ENGINEER. ZYPEX ADDITIVE SHALL BE INCLUDED IN MIX.
- EXFILTRATION SHALL NOT EXCEED 15 GAL./IN. DIA./MILE PIPE/24 HOUR PERIOD.
- THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH AN "AS-BUILT" PLAN SHOWING THE DISTANCE FROM THE NEAREST MANHOLE TO EACH HOUSE CONNECTION, DEPTH OF MANHOLE, ETC.
  - DISTANCE OF HC FROM DOWNSTREAM MANHOLES. THIS DISTANCE SHALL BE MEASURED ALONG THE CENTERLINE OF THE MAIN AND SHALL BE EQUAL TO THE DISTANCE FROM THE CENTER OF THE DOWNSTREAM MANHOLE TO THE PROJECTION POINT OF EACH HC (HC AT PROPERTY LINE) ONTO THE MAIN.
  - ELEVATION OF SERVICE CONNECTIONS AT THE PROPERTY LINE.
  - THE INVERT AND TOP OF CASTING ELEVATIONS AND DEPTHS OF EACH MANHOLE.
  - PIPE INVERTS AT MANHOLES.
  - THE CENTER TO CENTER DISTANCES OF CONSECUTIVE MANHOLES.
- ALL CUTS UNDER DRIVEWAYS OR STREETS TO BE BACK-FILLED WITH SIMILAR MATERIAL AS EXISTING FOR THE DRIVE SURFACE, AND OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER AND COMPACTED TO 95% STD. PROCTOR. BORING BENEATH ROADWAYS IS AN ACCEPTABLE ALTERNATIVE. CONTRACTOR TO ASSUME ALL LIABILITY FOR STREET DAMAGE RESULTING FROM EXCAVATION OR BORING ACTIVITY AND SHALL REPAIR AND PERPAVE ANY DAMAGE RESULTING FROM HIS CONSTRUCTION ACTIVITIES.
- ALL SEWER PIPES SHALL BE CHECKED FOR ALIGNMENT.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CONTROLLING THE STABILITY OF ALL EXCAVATIONS, AND PROVIDE SAFE WORKING CONDITIONS FOR HIS EMPLOYEES AND SUBCONTRACTORS.
- THE CONTRACTOR SHALL USE TIMBER SHEETING OR TRENCH BOX, WHEN NECESSARY TO CONTROL THE WIDTH AND STABILITY OF EXCAVATION AND TO PROVIDE SAFE WORKING CONDITIONS FOR HIS WORKMEN. NO EXTRAS SHALL BE PAID FOR THIS ITEM.
- MANHOLES SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM A48. MANHOLE RISERS AND TOPS CONFORMING TO ASTM C-478 WITH JOINTS OF "RAM-NEK" PERFORMED PLASTIC ROPE AS MANUFACTURED BY K.T. SYNDER, HOUSTON, TEXAS OR ASTM C-443 RUBBER GASKET.
- DROP SEWER MANHOLES SHALL BE INSTALLED WHEN THE VERTICAL DISTANCE FROM THE MANHOLE INVERT TO THE SEWER MAIN INVERT EXCEEDS THREE (3) FEET.
- ALL MANHOLE TOPS SHALL BE CONSTRUCTED AT LEAST ONE FOOT ABOVE THE HIGHEST FLOODWATER ELEVATION. IF THIS IS NOT FEASIBLE, MANHOLE FRAME AND COVER TO BE WATER TIGHT SHALL BE EQUAL TO NEENAH FOUNDRY CO. R-1916-D.
- ALL MANHOLE FRAMES, COVERS, AND STEPS SHALL BE ASPHALT COATED.
- FORCE MAIN CONNECTIONS TO A PROPOSED MANHOLE 8' OR LESS IN DEPTH SHALL BE MADE FROM UNDERNEATH THROUGH THE BOTTOM CENTER OF THE MANHOLE. CONNECTIONS TO PROPOSED MANHOLES OVER 8' IN DEPTH AND TO EXISTING MANHOLES SHALL BE MADE THROUGH THE SIDE AT THE SPECIFIED ELEVATION.
- SEWER PIPE SHALL BE PVC PIPE AND SHALL CONFORM TO ASTM D-3034. SDR 35 (THICK WALL EXTRA HEAVY SERIES), OR APPROVED EQUAL SEWER GRAVITY LINE SHALL BE GREEN IN COLOR. SEWER FORCE MAIN SHALL BE WHITE OR BLACK IN COLOR. FORCEMAIN SHALL BE C-900 OR HDPE DR 21 (PE 3408) AND CONFORM TO ASTM D-1248. FORCEMAIN SHALL BE MARKED WITH FIBERGLASS MARKER AT 1000 FOOT INTERVALS.
- THE CONTRACTOR IS RESPONSIBLE TO CHECK WITH THE UTILITY OWNER OR HIS REPRESENTATIVE FOR COORDINATION OF ALL TESTING NECESSARY TO SECURE APPROVAL FROM THE UTILITY OWNER FOR HIS WORK. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF ALL TESTING ASSOCIATED WITH VERIFYING THAT CONSTRUCTION IS IN COMPLIANCE WITH PLANS AND SPECIFICATIONS.
- SEWER SERVICE/HOUSE CONNECTIONS CONNECTED TO A TERMINAL MANHOLE SHALL BE CONNECTED AT THE INVERT OF THE TERMINAL MANHOLE.
- SEWER AND WATER MAINS SHALL BE LAID IN SEPARATE TRENCHES NOT LESS THAN SIX (6) FEET APART HORIZONTALLY, WHEN INSTALLED IN PARALLEL. CROSSING WATER AND SEWER MAINS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF EIGHTEEN (18") INCHES. THE SEWER LINE SHALL BE LAID LOWER IN ELEVATION THAN THE WATER LINE.
- STEPS WILL NOT BE INSTALLED UNLESS DIRECTED BY THIS UTILITY OPERATOR AND DETAILS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY WHEN DEEMED NEEDED BY THE UTILITY OPERATOR.
- THE CONTRACTOR SHALL FURNISH A HOSE DOWN WATER LINE, MIN. 1" IN DIAMETER WITH HOSE BIB TO EACH SEWER LIFT STATION AND/ OR SEWER TREATMENT PLANT AREA.
- IDENTIFICATION OR TRACER WIRE SHALL BE BURIED IN THE TRENCH ABOVE THE PIPE.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
- INFILTRATION SHALL NOT EXCEED 15 GAL./INCH OF DIAMETER/MILE OF PIPE/24 HOURS.
- MANHOLE CONNECTIONS (CONNECTION OF SEWER PIPES TO MANHOLES) SHALL BE WATERTIGHT. CONNECTION OF PVC SEWER PIPE TO MANHOLES WITH CONCRETE GROUT, WITHOUT SOME FORM OF APPROVED MANHOLE CONNECTOR OR WATER STOP, SHALL NOT BE PERMITTED.
- PROVIDE RESTRAINED JOINT FITTINGS ON ALL FORCE MAIN JOINTS WITHIN 20' OF ANY BENDS FOR PVC OR DUCTILE IRON PIPE.

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**MEYER ENGINEERS, LTD.**  
**ENGINEER & ARCHITECT**

**GENERAL NOTES**  
**VAL RIESS PARK**  
**MULTI-PURPOSE BUILDING**  
**ST. BERNARD PARISH, OWNER**

sheet no. **C3.0**  
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