

# NICHOLSON WATER & SEWER ASSOCIATION, INC

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112 LILAC DRIVE  
NICHOLSON, MS 39463

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PHONE (601) 798-9696

MAY 8, 2014

DAMMON ENGINEERING, INC  
554 OLD SPANISH TRAIL  
SLIDELL, LA 70458

RE: NICHOLSON WATER & SEWER ASSOCIATION, INC.  
LETTER OF INTENT TO SERVE DREAM LAND PARK

NICHOLSON WATER AND SEWER ASSOCIATION, INC. WILL PROVIDE WATER AND SEWER SERVICE TO DREAM LAND PARK, LOCATED ON EMMITT MEITZLER ROAD, ONCE ALL PLANS HAVE BEEN APPROVED BY THE MISSISSIPPI STATE DEPARTMENT OF HEALTH, THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY, THE PEARL RIVER COUNTY CODES DEPARTMENT AND NICHOLSON WATER AND SEWER ASSOCIATION, INC. CONSTRUCTION WILL BE COMPLETED AND INSPECTED BEFORE NICHOLSON WATER AND SEWER ASSOCIATION WILL PROVIDE SERVICE TO RESIDENCE. AFTER A FINAL INSPECTION BY THE PROJECT ENGINEER AND A REPRESENTATIVE OF NICHOLSON WATER AND SEWER ASSOCIATION, INC., SERVICE WILL BE PROVIDED.

  
JAMES E. DOWNES - PRESIDENT

NICHOLSON WATER AND SEWER ASSOCIATION IS A  
EQUAL OPPORTUNITY SERVICE PROVIDER.

# SEWER SPECIFICATION

## SANITARY SEWER - TECHNICAL SPECIFICATIONS

PIPES SHALL BE LAID TRUE TO GRADE AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER. THE GRADES AS SHOWN ON THE DRAWINGS ARE THE INVERT GRADES TO WHICH THE WORK SHALL CONFORM. CONTRACTOR AT HIS OWN EXPENSE SHALL REPLACE OR REPAIR ALL WORK NOT ON GRADE. CONTRACTOR ALSO AT HIS OWN EXPENSE SHALL PROVIDE TO OWNER RECORD INFORMATION AS TO THE EXACT INVERTS OF ALL SEWER FACILITIES WHICH SHALL BE VERIFIED BY A LICENSED PROFESSIONAL LAND SURVEYOR.

ALL SEWER PIPE 8" GRAVITY MAINS, 6" COLLECTION LINES AND 4" SERVICE LATERALS SHALL BE P.V.C. (POLY VINYL CHLORIDE) SEWER PIPE AND SHALL COMPLY WITH ASTM D3034 OR UNI-B-4. THE PIPE SHALL BE OF TYPE PSM POLY VINYL CHLORIDE WITH A STANDARD DIMENSION RATION (SDR) OF 35 (SDR 35). PIPE AND FITTING SHALL HAVE AN INTEGRAL BELL WITH ELASTROMERIC SEAL JOINTS. THE JOINS SHALL COMPLY WITH ASTM D3212 OR UNI-B-1. GASKETS SHALL COMPLY WITH ASTM F477. JOINT LUBRICANTS SHALL BE AS RECOMMENDED BY THE PIPE MANUFACTURER.

PVC. FITTINGS SHALL BE MANUFACTURED BY THE SAME COMPLANY THAT MANUFACTURED THE PIPE TO WHICH IT IS TO BE ATTACHED.

ALL PIPE, MANHOLES AND RELATED SEWER APPURTENANCES SHALL BE INSTALLED TRUE TO LINES, GRADES AND LOCATIONS AS SHOWN ON THE DRAWINGS. ANY DEVIATIONS MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION. CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL MODIVICATIONS REQUIRED DUE TO CHANGES MADE WITHOUT CONSENT OF THE ENGINEER.

ALL PIPE, FITTINGS, MANHOLES AND RELATED APPURTENANCES SHALL BE INSPECTED BY THE CONTRACTOR BEFORE INSTALLATION. ALL DEFECTIVE MATERIALS AS DETERMINED BY THE ENGINEER OR CONTRACTOR SHALL BE PULLED AND NOT INSTALLED. DEFECTIVE MATERIALS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

ALL MATERIALS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

ALL PIPE SHALL BE INSTALLED WITH THE BELL END FACING UPSTREAM.

THE INTERIOR AND ENDS OF ALL SEWER PIPES SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER BEFORE JOINING WITH THE NEXT SECTION OR FITTING. ALL MATERIALS SHALL BE CLEANED AND KEPT FREE OF FOREIGN MATTER THROUGHOUT THE CONSTRUCTION PROCESS.

PRECAST CONCRETE MANHOLE BASE, RISER AND ECCENTRIC TOP SECTIONS SHALL CONFORM TO THE SPECIFICATIONS FOR PRECAST REINFORCED MANHOLE SECTIONS, ASTM C478. MANHOLE SECTIONS SHALL BE A MINIMUM OF 48" INSIDE DIAMETER AND A MINIMUM WALL THICKNESS OF 5". MANHOLE SECTIONS SHALL HAVE TONGUE AND GROOVE JOINTS. JOINTS SHALL HAVE ROUND RUBBER GASKETS SET IN SPECIFICALLY PROVIDED INDENTATIONS. THE ROUND RUBBER "O" RING GASKET SHALL CONFORM TO ASTM C443 STANDARD SPECIFICATIONS.

PRECAST MANHOLES SHALL BE CONSTRUCTED WITH ASTM C150 TYPE 11 CEMENT.

THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER SHALL BE CLEARLY MARKED ON THE INSIDE OF EACH PRECAST SECTION.

SECTIONS SHALL BE SHOP CURED BY THE MANUFACTURER AND NOT SHIPPED UNTIL SUCH TIME AS TO ALLOW FOR COMPLETE CURING.

PRECAST FLAT SLAB TOP SECTIONS, WHERE REQUIRED FOR SHALLOW MANHOLES AS DETAILED, SHALL BE CAPABLE OF SUPPORTING THE OVERBURDEN PLUS A LIVE LOAD EQUIVALENT TO AASHTO H-20.

PRECAST BOTTOMS SHALL HAVE A THICKNESS OF EIGHT (8) INCHES FOR DEPTHS UNDER TWELVE (12) FEET AND TWELVE (12) INCHES FOR DEPTHS TWELVE (12) FEET AND OVER.

OPENINGS IN MANHOLES SIDES FOR SEWER MAIN PENETRATIONS SHALL UTILIZE FLEXIBLE NEOPRENE INFILTRATION BOOTS MECHANICALLY CLAMPED TO THE MANHOLE AND TO THE PIPE TO PROVIDE A WATER TIGHT SEAL AND PROVIDE FOR FLEXIBILITY IF SETTLEMENT OCCURS. THE INFILTRATION BOOTS SHALL BE AS DETAILED ON THE DRAWINGS.

MANHOLE COVERS AND FRAMES SHALL BE VULCAN FOUNDRY NO. V2480-1 WATERTIGHT WHEN DIRECTED BY ENGINEER ONLY, OR NORMALLY UNLESS DIRECTED OTHERWISE SHALL BE VULCAN FOUNDRY STANDARD V-1403 HEAVY DUTY TRAFFIC WEIGHT, OR APPROVED EQUAL.

ALL MANHOLE BASES SHALL BE INSTALLED ON AN AGGREGATE FOUNDATION (GRAVEL) MATERIAL CONFORMING TO LDOTD 1003.08(E)(1), 8" THICK MINIMUM.

PRECAST CONCRETE STRUCTURES SHALL BE INSTALLED TO WITHIN 1/4" TOLERANCES OUT OF PLUMB.

CONTRACTOR SHALL PAY FOR ALL SEWER SYSTEM TESTING INCLUDING INVERT AND SLOPE VERIFICATION, LAMPING, MANDREL PULLING OR ANY ADDITIONAL TESTING AS MAY BE REQUIRED TO INSURE SYSTEM CONFORMS TO STATE HEALTH REGULATIONS.

## LIFT STATION

### MINIMUM PUMP SPECIFICATIONS

1. ALL STATIONS MUST BE DUPLEX TYPE.
2. THE PUMPS SHALL BE MOUNTED ON STAINLESS STEEL RAILS, NON-CLOG VARIETY, AND USE A 90° ELBOW FOR HORIZONTAL DISCHARGING.
3. THE PUMPS MUST BE EQUIPPED WITH DOUBLE SEALS.
4. DISCHARGE PIPE SHALL BE DUCTILE IRON. SIZE SHALL BE DETERMINED BY PUMP DESIGN AND CAPACITY.
5. A GATE VALVE AND CHECK VALVE SHALL BE INSTALLED ON EACH DISCHARGE PIPE LOCATED IN THE ADJACENT VALVE PIT.
6. PUMP AND FLOAT CHORDS SHALL BE OF SUFFICIENT LENGTH TO REACH CONTROL PANEL.
7. MOTOR THERMAL OVERLOADS SHALL BE WIRED TO CONTROLLER.
8. THE PUMPS SHALL BE SIZED AND SPECIFIED BY A REGISTERED ENGINEER.
9. EACH PUMP SHALL BE EQUIPPED WITH 3/8" STAINLESS STEEL CABLE WITH A STAINLESS STEEL PULLING EYE ON BOTH ENDS.
10. ACCEPTABLE PUMP MANUFACTURERS: BARNES, HYDROMATIC, GOUPLDS, GORMAN RUPP, AND ZOELLER.

### MINIMUM WET WELL AND VALVE PIT SPECIFICATIONS

1. THE WET WELL AND VALVE BOX COVERS SHALL BE 1/4" ALUMINUM FLOOR PLATES WITH STAINLESS STEEL HARDWARE. COVERS SHALL BE DESIGNED FOR 300 POUNDS PER SQUARE FOOT LOADING AND SEALED TO ELIMINATE INFILTRATION. EACH COVER SHALL INCLUDE A LOCKING HASP FOR PADLOCK.
2. THE WET WELL SHALL BE VENTED AND SCREENED.

# WATER SPECIFICATION

## POTABLE WATER/FIRE SYSTEMS

### PIPE MATERIALS

POLYVINYL CHLORIDE PLASTIC PIPE (PVC) 2" THROUGH 12" SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C900 OR SDR 26 (LATEST EDITIONS) AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI AND HAVE A DR (DIMENSION RATIO) OF 18. ALL PVC PIPE SHALL BEAR THE NSF LOGO FOR POTABLE WATER. JOINTS SHALL BE OF THE PUSH-ON TYPE (BELL AND SPIGOT) AND COUPLINGS CONFORMING TO ASTM D3139 DR18 PIPE.

### VALVES

GATE VALVES SHALL BE RESILIENT SEAT AND SHALL CONFORM TO ANSI/AWWA C509. (LATEST EDITIONS) WITH A 2" SQUARE WRENCH NUT, EXTENSION STEMS AND OTHER APPURTENANCES AS REQUIRED. MANUFACTURER'S CERTIFICATION OF THE VALVES' COMPLIANCE WITH AWWA SPECIFICATION C509 AND TEST LISTED THEREIN WILL BE REQUIRED. VALVES SHALL BE CLOW, MUELLER, KENNEDY, M&H, AMERICAN, OR APPROVED EQUAL.

### FIRE HYDRANTS

FIRE HYDRANTS SHALL CONFORM TO AWWA C502 (LATEST EDITIONS) AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO, TWO AND ONE-HALF INCH (2-1/2") HOSE CONNECTIONS, AND ONE FOUR AND ONE-HALF INCH (4-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE-QUARTER INCH (5-1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1-1/2") PENTAGON OPERATING NUT. SHALL OPEN COUNTERCLOCKWISE, SHALL BE PAINTED IN CONFORMANCE WITH LOCAL FIRE DEPARTMENT REQUIREMENTS (COLORS BASED ON DELIVERED FIRE FLOW) WITH THE PRIMER PAINT BEING KOPPER'S "GLAMORTEX" NO. 622 RUST PRIMER, AND THE FINISH BEING KOPPER'S "GLAMORTEX" AND SHALL BE EITHER MUELLER SUPER CENTURION 250 (TRAFFIC MODEL A-423), OR AMERICAN DARLING B-84-B, NO SUBSTITUTES.

1. CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER, OWNER/OPERATOR AND LOCAL FIRE OFFICIAL.
2. THERE SHALL BE NO TREES, SHRUBS, ETC., PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.

## WATER SERVICES

UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS. UTILITY COMPANY SHALL MAKE FINAL DETERMINATION OF SIZE AND TYPE METER TO BE INSTALLED, REGARDLESS OF WHAT THIS DOCUMENT MAY SPECIFY (CHECK WITH UTILITY BEFORE ANY METERS ARE INSTALLED). CONTRACTOR SHALL CONSTRUCT WATER SERVICE THROUGH THE CURB STOP AND METER BOX AS SHOWN ON THE CONSTRUCTION PLANS.

POLYEHTYLENE (PE) PRESSURE PIPE FOR WATER SERVICES 3/4" THROUGH 2" SHALL BE ENDOT, ENDOPURE, BLVE PIPE, AND CONFORM TO AWWA C901 (LATEST EDITION), MIN 200 PSI.

## PIPE INSTALLATION

PIPE INSTALLATION OF PVC WATER MAIN SHALL BE IN CONFORMANCE WITH ASTM D2774 (LATEST EDITION). INSTALLATION OF DUCTILE IRON PIPE WATER MAIN SHALL BE IN CONFORMANCE WITH AWWA C600.87.

MINIMUM COVER OVER ALL PIPE SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.

ALL PLUGS, CAPS, TEES, BENDS, FIRE HYDRANTS, VALVES, ETC., SHALL BE PROVIDED WITH THRUST BLOCKS/RODDED RESTRAINTS. FOR THRUST BLOCK AND RESTRAINED JOINT CONSTRUCTION, REFER TO THE UTILITY DETAILS AND TABLES.

## DISINFECTION AND TESTING

ALL PIPE SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 (LATEST EDITION)

ALLOWABLE LEAKAGE FOR PVC PRESSURE MAINS WILL BE IN ACCORDANCE WITH AWWA M23.

THE CONTRACTOR SHALL PRIVDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC AND LEAKAGE TESTING. CONTRACTOR SHALL CONTACT THE UTILITY AND ENGINEER IN WRITTEN FORM, SEVENTY-TWO (72) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION. NO TESTING WILL BE SCHEDULED ON A MONDAY OR FRIDAY.

## FORCE MAIN

## OWNER/OPERATOR

WHERE THE UTILITY WILL OWN, OPERATE AND MAINTAIN THE FORCE MAIN CONSTRUCTION, THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL THE REQUIREMENTS OF THE UTILITY AND JURISDICTIONAL AGENCIES.

VALVES 4 INCHES IN DIAMETER AND SMALLER SHALL BE WRENCH NUT OPERATED. VALVES LARGER THAN 4 INCHES SHALL BE WORM GEAR OPERATED.

AIR RELEASE VALVE DESIGNED FOR SEWAGE SERVICE SHALL BE INSTALLED IN THE TOPS OF PIPES AS INDICATED ON THE DRAWINGS. VALVES SHALL BE DESIGNED TO PERMIT MANUAL RELEASE OF AIR FROM AN EMPTY PIPE DURING FILLING AND SHALL BE CAPABLE OF DISCHARGING ACCUMULATED AIR IN THE LINE WHILE THE LINE IS IN OPERATION AND UNDER PRESSURE. VALVES SHALL BE CAPABLE OF WITHSTANDING OPERATING PRESSURES OF 150 PSI. VALVES SHALL BE VENTED TO THE ATMOSPHERE. THE VALVES SHALL BE VALMATIC, OR APPROVED EQUAL.

#### CONSTRUCTION METHODS

TRENCHING SHALL BE IN ACCODANCE WITH THE TRENCHING DETAILS PROVIDED ON THE CONSTRUTION PLANS.

MINIMUM COVER OVER ALL PIPES SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.

THE FORCE MAIN SHALL BE INSTALLED AS NOTED ON THE PLANS. WHERE APPLICABLE, A HORIZONTAL SEPARATION OF AT LEAST 10' SHALL BE MAINTAINED BETWEEN WATER AND SEWER LINES. WHEN WATER AND SEWER LINES CROSS WITH LESS THAN AN 18" VERTICAL SEPARATION, THE PVC SEWER LINE SHALL BE ENCASED IN CONCREETE OR DUCTILE IRON PIPE USED IN LIEU OF PVC PIPE FOR A DISTANCE OF 10' EITHER SIDE OF THE CROSSING.

CONNECTIONS TO MANHOLE WITH FORCE MAINS SHALL BE MADE BY CORE BORE AND LINK SEAL OR OTHER APPROVED CONNECTION. CONNECTIONS SHALL BE MADE WATERTIGHT AND BE INSTALLED ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS.