

GENERAL:

1. ALL CONSTRUCTION, MATERIAL, INSTALLATION, AND TESTING SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, TOGETHER WITH THE COUNTY'S MINIMUM DESIGN STANDARDS AND SPECIFICATIONS AS APPLICABLE. IF F.D.O.T. MATERIAL IS SPECIFIED, IT SHALL IMPLY THAT THEIR CONSTRUCTION PROCEDURES SHALL BE FOLLOWED.

2. CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL OTHER PROPERTY AND SHALL BE RESPONSIBLE FOR ANY DAMAGES INCURRED DURING CONSTRUCTION AND SHALL REPAIR SAID DAMAGES AT HIS EXPENSE.

3. THE ENGINEER WILL HOLD A PRE-CONSTRUCTION MEETING PRIOR TO THE START OF ANY CONSTRUCTION AND INCLUDE A REPRESENTATIVE FROM THE RESPECTIVE ENGINEERING AND UTILITY DEPARTMENTS, THE CONTRACTOR, OWNER, AND OTHER APPLICABLE AGENCIES.

4. THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE LOCATION OF THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY; THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER UTILITIES (NOT SHOWN ON THE PLANS) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE "OTHER" UTILITIES, THE CONTRACTOR SHALL NOTIFY THE RESPECTIVE UTILITY OWNERS TO RESOLVE UTILITY CONFLICTS AND UTILITY ADJUSTMENTS, AS REQUIRED.

5. ALL DEVIATIONS FROM PLANS ARE TO BE APPROVED BY ENGINEER IN WRITING PRIOR TO CONSTRUCTION AND FOR ALL INSPECTIONS AND TESTING.

6. THE ENGINEER MUST BE GIVEN A MINIMUM 48 HOURS NOTICE PRIOR TO START OF CONSTRUCTION AND FOR ALL INSPECTIONS AND TESTING.

7. CONTRACTOR IS RESPONSIBLE TO PREPARE COMPLETE AS-BUILT PLANS WITH INFORMATION RELATIVE TO LOCATIONS AND ELEVATIONS OF VALVES, SERVICES, FITTINGS, LENGTHS, PIPE TOP OF WATER, MAIN ELEVATIONS, AND THE LIKE SHALL BE ACCURATELY RECORDED AND SUBMITTED TO THE DESIGN ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE WORK. ALL INFORMATION SHALL BE TAKEN BY A REGISTERED LAND SURVEYOR AND SHOWN ON A SEALED AS-BUILT PLAN ALONG WITH AN AS-BUILT DISK.

8. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES AND IMPROVEMENTS FROM DAMAGES, DISRUPTION OF SERVICE, OR DESTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.

9. WALL, REINFORCEMENT AND THICKNESS FOR PRECAST STRUCTURES SHALL BE IN ACCORDANCE WITH ASTM C478. MINIMUM WALL THICKNESS SHALL BE 8" AND MIN 6" BASE EXTENSION OUTSIDE OF MANHOLE WALL.

10. WORTAR, USED TO SEAL THE PIPE INTO THE WALLS OF THE PRECAST STRUCTURES WILL BE NON-SHRINK GROUT AND WILL NOT CAUSE LEAKAGE IN OR OUT OF THE STRUCTURES. THE MAXIMUM OPENING THROUGH WALLS FOR PIPES SHALL BE THE MAXIMUM REQUIRED OUTSIDE DIAMETER PLUS 1/8".

11. ALL MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE AND SHALL REST ON A FIRM CAREFULLY GRADED SUBGRADE WHICH SHALL PROVIDE UNIFORM BEARING UNDER BASE.

12. ALL JOINTS SHALL BE FURNISHED WATERTIGHT. NO PIPE SHALL BE COVERED UNTIL INSPECTED AND APPROVED BY THE ENGINEER AND OTHER APPLICABLE AUTHORITIES.

13. ALL PIPE SHALL BE LAID IN A DRY TRENCH; ALL MUCK OR OTHER UNSTABLE MATERIAL ENCOUNTERED IN TRENCH BOTTOM SHALL BE REMOVED AND BACKFILLED WITH GRANULAR MATERIAL COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD "C".

14. SHOP DRAWINGS FOR ALL STRUCTURES AND MATERIALS TO BE USED ON THE PROJECT SHALL BE SUBMITTED TO THE DESIGN ENGINEER AND THE RESPECTIVE ENGINEER AND UTILITY DEPARTMENTS FOR APPROVAL PRIOR TO CONSTRUCTION OR INSTALLATION.

15. CONTRACTOR TO CONTACT SUNSHINE STATE ONE-CALL OFFICE (1-800-432-4274) AND ALL LOCAL UTILITY COMPANIES FOR UNDERGROUND UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

16. EXISTING SECTION CORNERS AND OTHER LAND MARKERS OR MONUMENTS LOCATED WITHIN PROPOSED CONSTRUCTION SHALL BE MARKED BY THE CONTRACTOR AND / OR RESET AFTER CONSTRUCTION UNDER CERTIFICATION BY A REGISTERED SURVEYOR.

17. CONTRACTOR IS TO PREVENT INTRODUCTION OF DEBRIS OR DIRT INTO EXISTING STORM DRAIN AND / OR SANITARY SYSTEM AS A RESULT OF CONSTRUCTION ACTIVITIES. ALL LINES AND STRUCTURES SHALL BE CLEANED PRIOR TO FINAL INSPECTION AND ACCEPTANCE.

18. LOCATION OF DRAINAGE AND SANITARY SEWER STRUCTURES GOVERN, ADJUST PIPE LENGTHS AS REQUIRED.

19. THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" F.D.O.T. & B.C.T.E.D. STANDARDS SHALL BE USED CURRENT FOR THE SIGNAGE AND PAVEMENT MARKING REQUIREMENTS OF THE PROJECT.

20. ALL UNDERGROUND UTILITY MAINS AND STRUCTURES FOR WATER, SEWER, GAS, IRRIGATION, DRAINAGE, TELEPHONE, POWER, CABLE TV, AND OTHERS MUST BE INSTALLED, INSPECTED, TESTED, AND APPROVED PRIOR TO ANY SUBGRADE CONSTRUCTION.

21. ALL PERMANENT GRASS AREAS ARE TO RECEIVE A 4" MUCK BLANKET OR TOPSOIL TREATMENT.

22. ALL CURB AND GUTTER SHALL HAVE A LIMEROCK FOUNDATION OR "PAD" OF AT LEAST FOUR INCHES (4") THICKNESS, COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO (T-100).

23. A MINIMUM 10' SEPARATION BETWEEN ALL UTILITIES SHALL BE MAINTAINED.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING APPROPRIATE WEARY PRECAUTIONS DURING EXCAVATION AND TRENCHING OPERATIONS AS REQUIRED BY THE "TRENCH SAFETY ACT" AND THE O.S.H.A. PART 1910.

25. ALL INSTALLATIONS, MATERIALS, AND WORKMANSHIP IN THE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE B.C.E.D. "MINIMUM STANDARDS".

PAVING:

1. A PROCTOR SHALL BE PERFORMED ON ALL SUBGRADE AND LIMEROCK BASE MATERIAL AND SUBSEQUENT CHANGES IN MATERIAL. LABS ANALYSIS, ETC. SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO SCHEDULING DENSITY TESTS. ALL TESTS AND RESULTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD IN WRITING.

2. UNDERGROUND UTILITIES SHALL BE INSTALLED OR SLEEVING PROVIDED BEFORE ANY PAVEMENT CONSTRUCTION BEGINS, NO EXCEPTIONS.

3. FOR COMPACTED SUBGRADE, FOLLOW THE SPECIFICATIONS ON THE PAVING, GRADING, AND DRAINAGE DETAIL SHEET.

4. ALL PAVEMENT SUBGRADE MATERIAL SHALL HAVE AN LBR 40 AT 100% MAXIMUM DENSITY PER AASHTO T-99, METHOD "C" AND SHALL CONFORM TO THE REQUIREMENTS OF F.D.O.T. SPECIFICATIONS, SECTION 120. THE ENGINEER SHALL SPECIFY THE LOCATION AND NUMBER OF DENSITY TESTS REQUIRED. A MINIMUM OF ONE DENSITY TEST OVER EVERY TRENCH AND ONE DENSITY TEST EVERY 7000 SQUARE FEET OF PROPOSED PAVEMENT DEPENDING ON THE LENGTH. THE TEST RESULTS SHALL BE ACCEPTED BY THE ENGINEER PRIOR TO PLACEMENT OF BASE MATERIAL.

5. IF THE PLANS INDICATE A STABILIZED SUBBASE IS TO BE USED IT SHALL HAVE A MINIMUM LBR VALUE OF 40 AND SHALL BE IN ACCORDANCE WITH F.D.O.T. SECTION 160. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT TO THE ENGINEER FOR APPROVAL THE MATERIALS TO BE USED FOR THE SUBBASE AND THEIR PROPORTIONS, AND LABORATORY LBR, BEFORE DELIVERY. THE SITE QUALITY CONTROL LBSs MAY BE REQUIRED BY THE ENGINEER TO PROVE THE IN PLACE CONDITION.

6. IF THE PLANS INDICATE A LIMEROCK BASE, THE CONSTRUCTION AND THE MATERIALS FOR THE LIMEROCK BASE SHALL CONFORM TO THE REQUIREMENTS OF F.D.O.T. SPECIFICATIONS, SECTION 200. THE LIMEROCK BASE SHALL BE COMPACTED TO 98% MAXIMUM DENSITY AT OPTIMUM MOISTURE, AASHTO T-100. THE ENGINEER SHALL SPECIFY THE LOCATION AND NUMBER OF DENSITY TESTS REQUIRED. THE TEST RESULTS SHALL BE ACCEPTED BY THE ENGINEER PRIOR TO APPLICATION OF THE PRIME AND TACK COATS.

7. ALL GRADES SHOWN REFER TO FINISHED ASPHALT PAVEMENT UNLESS OTHERWISE NOTED.

8. FOR STABILIZING AT INTERSECTIONS, TURNOUTS, AND GRADED CONNECTIONS, SEE STANDARD INDEX NO. 515. SEE TYPICAL SECTION FOR DEPTH AND LBR.

9. LIMEROCK BASES SHALL BE A MINIMUM OF EIGHT INCHES (8") THICK OR AS OTHERWISE SPECIFIED ON PLANS. LIMEROCK OF THE SAME FORMATION SHALL BE USED AND SHALL HAVE A MINIMUM CARBONATE CONTENT OF 80%, A MINIMUM CALCIUM AND MAGNESIUM CONTENT OF 6%, AND A MINIMUM LBR OF 100. BASE MATERIAL SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-100.

10. A TACK COAT SHALL BE USED BETWEEN PAVING COURSES AND A PRIME COAT SHALL BE USED ON THE FINISHED BASE.

11. THE PRIME AND TACK COAT CONSTRUCTION AND MATERIALS FOR THE PRIME AND TACK COATS SHALL CONFORM TO THE REQUIREMENTS OF F.D.O.T. STANDARD SPECIFICATIONS, SECTION 300. THE PRIME AND TACK COATS SHALL BE APPLIED PRIOR TO CONSTRUCTION OF THE ASPHALT SURFACE COURSE, AND SHALL BE SANDY AND ROLLED IN ACCORDANCE WITH SECTION 300. APPLICATION RATES SHALL BE 0.25 GAL / SY FOR LIMEROCK BASE.

12. ASPHALTIC CONCRETE SURFACE COURSE SHALL BE AS SHOWN ON THE PLANS. THE MATERIALS FOR THE ASPHALT CONCRETE SURFACE COURSE SHALL CONFORM TO THE REQUIREMENTS OF F.D.O.T. STANDARD SPECIFICATIONS, SECTION 331 AND ALL OTHER LOCAL CODES THAT MAY APPLY.

13. ASPHALT CONCRETE SHALL BE OF MINIMUM THICKNESS AS NOTED ON PLANS AND SHALL BE TYPE 3-H OR AS OTHERWISE SPECIFIED ON THE PLANS.

14. RAISE OR LOWER SURVEY CONTROL POINTS TO FINAL GRADE OF PAVEMENT.

EARTHWORK:

1. THE CONTRACTOR'S BID FOR EARTHWORK SHALL INCLUDE THE EXCAVATION, REMOVAL, AND DISPOSAL OF ALL MATERIALS OF WHATEVER CHARACTER WITHIN THE LIMITS OF CONSTRUCTION. ALL TOPSOIL THAT IS SUITABLE FOR LANDSCAPING OR GRASSING OPERATIONS MAY BE STOCKPILED NEARBY FOR SUCH USE IF APPROVED BY OWNER. WHERE MUCK, ROCK, CLAY, OR OTHER MATERIAL WITHIN THE LIMITS OF CONSTRUCTION IS UNSUITABLE IN ITS ORIGINAL POSITION, THE CONTRACTOR SHALL EXCAVATE SUCH MATERIAL AND ITS ENTIRETY AND BACKFILL WITH UNBLENDED MATERIAL. SUCH MATERIAL SHALL BE COMPACTED IN PLACE TO CONFORM TO THE REQUIRED GRADES AND SECTIONS AS SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE UNSUITABLE MATERIAL PRESENT ON-SITE AND INCLUDE THE REMOVAL AND REPLACEMENT OF SAME IN HIS BID PRICE. THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE OF THE VOLUME OF MATERIAL ACTUALLY REQUIRED TO OBTAIN THE CROSS SECTIONS OR GRADES AS SHOWN ON THE PLANS.

2. IT IS THE CONTRACTORS RESPONSIBILITY TO PREPARE THE SITE IN ACCORDANCE WITH THE OWNERS GEOTECHNICAL REPORT AND SUBSURFACE EXPLORATION AND RECOMMENDATIONS.

3. THE ENTIRE WIDTH OF THE RIGHT-OF-WAY SHALL BE COMPLETELY DEMUCKED BEFORE CONSTRUCTION. THE ROADWAY BEGINS NO MATERIAL OF CLASSES A-5, A-7, OR A-8 SHALL BE ALLOWED. ALL MATERIAL SUPPORTING THE ROADWAY AND SHOULDERS SHALL BE STABILIZED TO HAVE A MINIMUM LBR OF 40. SUBGRADES SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY PER AASHTO T-99 METHOD "C".

4. WHEREVER EXCAVATIONS FOR UTILITIES ARE MADE BELOW THE GRADES INDICATED ON THE PLANS, GRANULAR MATERIAL FREE OF ORGANIC OR OTHER DELTERIOUS MATERIAL SHALL BE USED TO RESTORE THE AREA TO THE PROPER GRADE. PAVEMENT SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY PER AASHTO T-99 METHOD "C".

5. AREAS TO BE COMPACTED SHALL BE MOISTENED AND COMPACTED BY EITHER ROLLING, TAMPING, OR ANY OTHER METHOD APPROVED BY THE ENGINEER. THE CONTRACTOR TO OBTAIN THE DESIRED DENSITY. THE ENGINEER SHALL INSPECT ALL COMPACTED AREAS PRIOR TO FURTHER CONSTRUCTION OPERATIONS.

6. PRIOR TO BACKFILLING AROUND STRUCTURES, THE AREAS SHALL BE CLEAN OF ALL TRASH AND DEBRIS OF ANY KIND. ALL MATERIALS SHALL BE LABELED. THE ENGINEER TO BE LEFT IN PLACE, SUCH AS SHEETING AND BRACING.

7. THE EXISTING ELEVATIONS SHOWN HEREON ARE FOR THE PURPOSE OF INDICATING THE GROUND ELEVATION ONLY AT THE POSITION SHOWN AND IN NO WAY SHOULD INDICATE ELEVATION AT ANY POINT OTHER THAN THAT SHOWN.

DRAINAGE:

1. CATCH BASINS / INLETS / JUNCTION BOXES SHALL NOT BE LOCATED IN RESIDENTIAL DRIVEWAYS.

2. DRAINAGE PIPES SHALL BE REINFORCED CONCRETE PIPE UNLESS OTHERWISE SPECIFIED ON PLANS.

3. REINFORCED CONCRETE PIPE SHALL MEET THE REQUIREMENTS OF F.O.T. STANDARD SPECIFICATIONS SECTION 941. CONCRETE PIPE SHALL BE CLASS III OR AS SHOWN ON THE PLANS. PIPE GASKETS SHALL MEET F.D.O.T. STANDARD SPECIFICATIONS.

4. PRIOR TO BACKFILLING THE DRAINAGE SYSTEM, THE CONTRACTOR SHALL NOTIFY THE GOVERNING AGENCIES FOR INSPECTION.

5. BOTTOM OF ALL INLETS SHALL BE 12" BELOW THE LOWEST INLET INVERT, UNLESS OTHERWISE SPECIFIED.

6. CORRUGATED ALUMINUM PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M-254. CORRUGATED ALUMINUM PIPE SHALL BE MANUFACTURED BY HANCOCK INC. WITH SUELOC JOINTS OR A.S.D. WITH CLEATED BELL AND SPIGOT OR APPROVED EQUIVALENT.

7. HIGH DENSITY POLYETHYLENE (H.D.P.) COMPOSED OF CORRUGATED EXTERIOR AND SMOOTH INTERIOR SHALL BE IN ACCORDANCE WITH AASHTO M-254 AND M-254 TYPE A MANUFACTURED BY HANCOCK INC. WITH SUELOC JOINTS OR A.S.D. WITH CLEATED BELL AND SPIGOT OR APPROVED EQUIVALENT.

8. SEE LANDSCAPING PLANS FOR ADDITIONAL GRADING AND DRAINAGE INFORMATION FOR RECREATIONAL AMENITIES, POOL, POOL DECK, BERMING, ETC.

9. GRATE ELEVATION OF TYPE-10 / CURB AND GUTTER INLET STRUCTURES SHALL BE 12" ABOVE FINISHED GRADE.

10. SITE PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS ENGINEER'S SUBSURFACE EXPLORATION AND RECOMMENDATION REPORT.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND PREPARATION OF ALL EXISTING STORM DRAINAGE PIPE AND INLETS FOR TESTING AS REQUIRED FOR NEW CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETELY INSPECT EXISTING STORM DRAINAGE SYSTEM IN ADVANCE OF ANY NEW WORK AND NOTIFY THE ENGINEER OF ANY DEFICIENCIES. THE CONTRACTOR COMMENCE WORK WITHOUT FIRST INSPECTING THE EXISTING STORM DRAINAGE SYSTEM, THEN THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED REPAIRS.

12. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF TEMPORARY TURBIDITY SCREENS AT OUTFALL PIPES AND LAKE FROM TIME OF SUBGRADE CONSTRUCTION COMMENCEMENT UNTIL FINAL PAVING AND DRAINAGE INSPECTION.

13. ALL RAMPS, WALKS, AND PEDESTRIAN PATHWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "FLORIDA ACCESSIBILITY" CODE FOR BUILDING CONSTRUCTION. LATEST EDITION IN FORCE. THE CONTRACTOR SHALL RESOLVE ANY CONFLICTS BETWEEN THESE PLANS AND CODE, THE CODE WILL GOVERN.

14. TEMPORARY AND PERMANENT FIRE DEPARTMENT ACCESS ROADS SHALL BE FREE OF CONSTRUCTION MATERIALS, VEHICLES, ETC. DURING CONSTRUCTION.

15. YARD DRAINAGE SYSTEM MATERIALS SHALL BE BY ADVANCED DRAINAGE SYSTEMS, INC. OR APPROVED EQUIVALENT.

16. ALL EXISTING STORM DRAINAGE PIPING AND INLETS DESIGNATED FOR REMOVAL SHALL BE COMPLETELY REMOVED.

17. MINIMUM PARKING LOT LONGITUDINAL AND CROSS SLOPES SHALL BE .050% AND 1.0% RESPECTIVELY.

18. RESIDENTIAL PARCEL SIDEWALK TO BE CONSTRUCTED AT TIME OF BUILDING CONSTRUCTION, UNLESS OTHERWISE NOTED ON THE PLAN.

19. ALL LANDSCAPE ISLANDS TO BE CURBED, UNLESS OTHERWISE NOTED ON THE PLAN.

20. ALL ELEVATIONS REFER TO N.A.V.D.

21. CONTRACTOR TO REFER TO ARCHITECTURAL (PLUMBING) PLANS TO CONFIRM LOCATIONS AND ELEVATIONS OF BUILDING STORM / ROOF DRAINAGE CONNECTIONS.

22. CONTRACTOR TO PROTECT NEW AND EXISTING TORMWATER PIPING. BROWARD COUNTY REQUIRES A VIDEO INSPECTION PRIOR TO FINAL ACCEPTANCE.

GATE VALVES:

1. GATE VALVES 4" AND LARGER SHALL BE MECHANICAL JOINT TYPE AND COMPLY WITH AWWA / ANSI STANDARD C509-01.

2. MECHANICAL JOINTS SHALL CONFORM TO AWWA / ANSI C111/A21.11-00

3. ALL GATE VALVES ARE TO BE IRON BODY, BRONZE MOUNTED, DOUBLE DISK, NON-RISING STEM, RESILIENT SEAT TYPE, OPENING LEFT (COUNTER CLOCKWISE). THE INTERIOR LINING SHALL BE FUSION BONDED EPOXY APPROVED TO AWWA 550-01 AND AN EXTERIOR EPOXY COAT (BOTH 40 MILLS DFT).

4. GATE VALVES 4" TO 12" SHALL HAVE A MAXIMUM WORKING PRESSURE OF 200 PSI AND BE TESTED AT 400 PSI. GATE VALVES SHALL BE RESILIENT SEATED, MUELLER, CLOW, RESILIENT WEDE, M & H, OR APPROVED EQUIVALENT, WITH RESTRAINT JOINTS.

5. GATE VALVES UNDER 4" IN SIZE SHALL BE BRONZE GATE VALVES CONFORMING TO MSS STANDARD PRACTICE. THEY SHALL BE DOUBLE DISK, NON-RISING STEM, OPEN LEFT (COUNTER CLOCKWISE). OPERATING WHEEL PEWTER AND POT METAL OPERATING WHEELS SHALL NOT BE PERMITTED. GATE VALVES SHALL MEET AWWA C500-02 STANDARD.

6. GATE VALVES SHALL BE CAST IRON EXTENSION TYPE WITH NOT LESS THAN 5-1/4" DIAMETER SHAFT AND WITH COVERS MARKED "WATER", PAINTED BLUE, USF 7500 OR APPROVED EQUIVALENT.

7. GATE VALVES 18" AND LARGER WILL BE SUBSTITUTED WITH BUTTERFLY VALVES AS MANUFACTURED BY FRATTI, DEJURK, CLOW, OR APPROVED EQUIVALENT.

8. BUTTERFLY VALVES ARE TO BE CAST OR DUCTILE IRON BODY; ALLOY CAST IRON OR DUCTILE IRON DISK; BODY MOUNTED ADJUSTABLE SEAT, ONE-Piece, STAINLESS STEEL SHAFT; SHORT OR LONG BODY TYPE; WITH THE VALVE CLASH, SHAFT SIZE AND OTHER SPECIAL REQUIREMENTS SELECTED IN ACCORDANCE WITH THE SPECIFIC DESIGN AND ARE TO COMPLY WITH THE PROVISIONS OF AWWA C504-00, "RUBBER SEATED BUTTERFLY VALVES."

9. VALVE OPERATION IS TO BE APPROVED GEAR ACTUATORS, WITH SEALED ENCLOSURES FOR BURIED OR SUBMERGED SERVICE. POSITION INDICATORS WILL BE FURNISHED AS REQUIRED. UNITS ARE TO BE EQUIPPED WITH 2" ACTUATING NUTS, CAST IRON HANDWHEELS, OR CHAIN OPERATORS, WITH GALVANIZED STEEL CHAINS AS APPROPRIATE FOR THE INSTALLATION. APPURTENANCES ARE TO BE FURNISHED BY THE VALVE MANUFACTURER.

WATER SYSTEM:

1. ALL WORKMANSHIP AND MATERIAL SHALL CONFORM TO BCOWS STANDARDS, THE DESIGN AND CONSTRUCTION OF THE WATER MAINS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION AND REHABILITATION SERVICES STANDARDS. NO PHYSICAL CONNECTION OF NEW WATER MAINS TO EXISTING WATER MAINS SHALL BE ALLOWED. ALL NEW WATER MAINS SHALL BE INSTALLED AS A SINGLE RUN WITHOUT JOINTS.

2. JOINTS FOR TUBING SHALL BE OF THE COMPRESSION TYPE UTILIZING A TOTALLY CONFINED GRIP SEAL AND COUPLING NUT. STAINLESS STEEL TUBE STIFFENER INSERTS SHALL ALSO BE USED FOR TUBING SERVICES.

3. SERVICE LINES SHALL BE MARKED WITH 2" X 4" POST PAINTED BLUE.

4. ALL WATER SERVICES SHALL BE BEDDED AND BACKFILLED PER STANDARD TRENCH DETAIL.

5. PIPE DETECTION SHALL BE NO MORE THAN ONE HALF OF THE MANUFACTURER'S RECOMMENDATION.

6. MINIMUM COVER SHALL BE 24".

7. ALL WATER SERVICE LINES UNDER PAVED AREAS SHALL BE SLEEVED IN SCHEDULE 40 PVC AND SHALL BE OF ONE SINGLE LENGTH WITHOUT JOINTS.

8. FORD STAINLESS INSERTS ARE REQUIRED FOR PLASTIC PIPE.

WATER SERVICE FITTINGS:

1. METER VALVES (ASTM B-62 LATEST) SHALL BE FORD ANGLE STOPS. MODEL #WV43-342W FOR SINGLE SERVICES AND FORD MODEL #WV63-42W FOR DOUBLE SERVICES OR APPROVED EQUAL.

2. CURB STOPS SHALL BE OF THE INVERTED KEY WITH TEE-HEAD STOP. CURB STOPS SHALL BE MADE OF BRASS ALLOY IN ACCORDANCE WITH ASTM SPECIFICATION B62-82A.

3. METER VALVES AND CORPORATION STOPS (FORD BALL CORP. NO. FC 202) SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM SPECIFICATION B62-82A WITH EPOXY COATED DUCTILE IRON BODY. STAINLESS STEEL SERVICE VALVES BY FORD.

4. INLET THREAD FOR METER VALVES AND CURB STOPS SHALL BE AWWA TAPER THREAD IN ALL SIZES IN ACCORDANCE WITH ANSI / AWWA STANDARD C800-99. OUTLET CONNECTIONS SHALL HAVE A COMPRESSION TYPE FITTING SAME AS VALVES.

CONTRACTOR TO REVIEW WATER DETAILS TO DETERMINE EXTENT OF JURISDICTION OF WATER SERVICE AND METER MATERIALS (METERS, ETC.) SUPPLIED AND INSTALLED BY UTILITY.

FIRE HYDRANTS:

1. ALL FIRE HYDRANTS SHALL COMPLY WITH AWWA / ANSI STANDARD C502-94 AND THE FOLLOWING DESIGN STANDARDS:

2. THE FIRE HYDRANTS SHALL BE OF THE COMPRESSION TYPE, OPENING AGAINST THE PRESSURE AND CLOSING WITH THE LINE PRESSURE WITH (1)-5" VALVE OPENING. THE HYDRANT SHALL BE EQUIPPED WITH (2)-2" HOSE NOZZLES AND (1)-3/4" PUMPER NOZZLE.

3. FIRE HYDRANTS SHALL BE FURNISHED WITH A SEALED OIL OR GREASE RESERVOIR LOCATED IN THE BONNET SO THAT ALL THREADED AND BEARING SURFACES ARE AUTOMATICALLY LUBRICATED WHEN THE HYDRANT IS OPERATED. THE HYDRANT WILL BE DESIGNED FOR DISASSEMBLY BY USE OF A SHORT DISASSEMBLY WRENCH OR THE HYDRANT SHOE SHALL HAVE AN INTERNAL CAST BUSHING TO ALLOW THE HYDRANT TO BE DISASSEMBLED BY VALVE ASSEMBLY AND VALVE SEAT TO BE REMOVED WITHOUT DIGGING EARTH NEARBY. RESILIENT ALUMINUM BUSHING SHALL BE PROVIDED.

4. FIRE HYDRANTS SHALL BE FURNISHED WITH A BREAKABLE FEATURE THAT WILL BREAK CLEANLY UPON IMPACT. THIS SHALL CONSIST OF A TWO PART BREAKABLE SPECIAL FLANGE WITH A BREAKABLE STEEL COUPLING. THE UPPER AND LOWER BARRELS SHALL BE FLANGED ABOVE AND BELOW THE COUPLING AND THE SAFETY FLANGE OR HAVE AN EXTRA STRENGTH LOW BARREL.

5. THE FIRE HYDRANT INTERNAL VALVE SHALL BE 5" MINIMUM. THE NORMAL OPERATING NUTS AND THE CAP NUTS SHALL BE 1" POINT TO FLAT. DRAIN VALVE OUTLETS FOR THE HYDRANTS SHALL BE PLUGGED OR OMTTED.

6. THE HYDRANTS SHALL OPEN COUNTER CLOCKWISE AND THE DIRECTION OF OPENING SHALL BE CAST ON THE TOP THE BURY LENGTH, MEASURED FROM THE BOTTOM OF THE CONNECTING PIPE TO THE GROUND LINE. AT THE HYDRANT SHALL BE THREE FEET SIX INCHES (42") MINIMUM OR AS REQUIRED BY PLAN.

7. THE HYDRANT SHALL BE EQUIPPED WITH A 6" MINIMUM MECHANICAL JOINT SHALLET UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

8. FIRE HYDRANTS SHALL BE MUELLER PAINTED TRAFFIC YELLOW OR AS OTHERWISE SPECIFIED ON PLANS, OR AS REQUIRED BY THE LOCAL UTILITY COMPANY.

9. REFER TO WATER DETAILS FOR OTHER REQUIREMENTS / INFORMATION RELATED TO FIRE HYDRANTS.

SANITARY SEWER:

1. ALL WORKMANSHIP AND MATERIAL SHALL CONFORM TO STANDARDS OF THE BROWARD COUNTY BUILDING DEPARTMENT, LOCAL MUNICIPALITY AND THE WATER RESOURCES DIVISION, BROWARD COUNTY DEPARTMENT OF NATURAL RESOURCE PROTECTION.

2. UNLESS OTHERWISE NOTED OR APPROVED, ALL GRAVITY MAINS AND SERVICES UP TO 10" OUTSIDE OF BUILDING SHALL BE 8" UNPLASTICIZED CHLORIDE POLYVINYL CHLORIDE (PVC) PIPE. ALL 12" AND LARGER SHALL BE D3034 AND SDR 35 WITH INTEGRAL WALL BELL AND SPIGOT JOINTS FOR PUSH-ON GASKETED JOINTS. ALL JOINTS SHALL CONFORM TO ASTM D1869, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

3. PVC FITTINGS SHALL BE OF MONOLITHIC CONSTRUCTION OF THE TYPE SPECIFIED BY THE MANUFACTURER OF THE PIPE BEING USED. NO SOLVENT WELDS OR THREADED JOINTS WILL BE PERMITTED. ALL JOINTS SHALL BE COMPRESSION GASKET TYPE.

4. THE JOINING OF PIPE ON THE JOB SHALL BE DONE IN STRICT ACCORDANCE WITH THE PIPE MANUFACTURER'S INSTRUCTIONS AND SHALL BE DONE ENTIRELY IN THE TRENCH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

5. CONNECTION OF PVC PIPE TO MANHOLES SHALL BE MADE WITH "KOR-N-SEAL" MANHOLE COUPLINGS CORRESPONDING TO THE SIZE AND TYPE OF SEWER PIPE OR OTHER APPROVED AS MAY BE APPROVED BY THE UTILITY.

6. INFLUENT AND EFFLUENT SEWERS SHALL BE GROUDED IN PLACE USING A TYPE "II" WATERPROOF EXPANDING GROUT ACCEPTABLE TO THE ENGINEER. ALL OPENINGS AND JOINTS SHALL BE SEALED WATERTIGHT. REFER TO GENERAL NOTES FOR NON-SHRINK GROUT.

7. LIFT HOLES THROUGH PRECAST STRUCTURES ARE NOT PERMITTED.

8. A FLOW CHANNEL SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM, REFER TO DETAILS.

9. OUTSIDE DROP CONNECTIONS WILL BE REQUIRED WHEN THE VERTICAL DISTANCE BETWEEN PIPE INVERTS EXCEEDS TWO FEET (2'). DOWN CONNECTIONS, WHEN REQUIRED, SHALL BE CAST MONOLITHICALLY WITH THE MANHOLE ELEMENTS AS SHOWN ON DETAILS.

10. THE LID AND FRAME SHALL BE CAST OF CLOSE-GROUND GRAY IRON AND CONFORM TO ASTM A-48 CLASS 30 AND SHALL BE UNIFORM QUALITY, FREE OF BLOW HOLES, POROSITY, CRACKS, AND OTHER OBVIOUS VISUAL DEFECTS. THE COMBINED WEIGHT OF THE FRAME AND LID SHALL NOT BE LESS THAN 420 POUNDS, AND THE LID SHALL WEIGH A MINIMUM OF 160 POUNDS. THE SEATING SURFACES BETWEEN FRAMES AND COVERS SHALL BE MACHINED TO FIT TRUE, NO PLUGGING OR FILING WILL BE ALLOWED. CASTING PATTERNS SHALL CONFORM TO THOSE DESIGNATED BY THE GOVERNING UTILITY.

11. THE LID SHALL HAVE THE WORDS "PREFERABLY AS REQUIRED BY THE UTILITY" CAST IN ALL MANHOLE COVERS. CASTINGS SHALL BE CLEANED AND COATED WITH A COAL TAR GELT VARNISH WHICH IS TOUGH WHEN COLD BUT NOT TACKY OR BRITTLE. PICK TYPE LIFTING HOLES WILL BE CAST INTO LIDS, BUT SHALL NOT GO DEEP THROUGH THE LID.

12. MINIMUM COVER ON SANITARY SEWER PIPE SHALL BE 36" ABOVE PVC PIPE, AND 30" ABOVE D.I.P.

13. ALL MANHOLE LIDS SHALL BE PROVIDED WITH WATERTIGHT POLYETHYLENE MANHOLE INSERTS AS APPROVED BY THE UTILITY DEPARTMENT.

14. INSIDE SURFACES OF MANHOLES TO BE TREATED WITH TWO COATS KOPING BITUMASTIC LAMINUM OR EQUIVALENT. COATS SHALL BE APPLIED TO ALL MANHOLES SHALL BE CURED TWENTY-ONE (21) DAYS BEFORE COATING. MANHOLES SHALL BE PAINTED AT LEAST TWO COATS OF WHITE GELT WITH ONE COAT (BLACK) OUTSIDE OR AS REQUIRED BY THE UTILITY. FIRST COAT TO BE BLACK. SECOND COAT TO BE BLACK, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

15. THE ENGINEER AND UTILITY SHALL INSPECT INSIDE OF MANHOLE AFTER EACH APPLICATION / COAT OF PAINT.

WATER SERVICE LINES:

1. WATER SERVICES SHALL BE POLYETHYLENE TUBING (PE 3408), COMPLYING WITH APPLICABLE REQUIREMENTS FOR PE AWWA C902-01 HIGH DENSITY POLYETHYLENE PLASTIC MATERIAL ASTM D-2668, 250 PSI RATING (CTS-OD) SDR 35. WATER SERVICE PIPE SHALL BE INSTALLED AS A SINGLE RUN WITHOUT JOINTS.

2. JOINTS FOR TUBING SHALL BE OF THE COMPRESSION TYPE UTILIZING A TOTALLY CONFINED GRIP SEAL AND COUPLING NUT. STAINLESS STEEL TUBE STIFFENER INSERTS SHALL ALSO BE USED FOR TUBING SERVICES.

3. SERVICE LINES SHALL BE MARKED WITH 2" X 4" POST PAINTED BLUE.

4. ALL WATER SERVICES SHALL BE BEDDED AND BACKFILLED PER STANDARD TRENCH DETAIL.

5. PIPE DETECTION SHALL BE NO MORE THAN ONE HALF OF THE MANUFACTURER'S RECOMMENDATION.

6. MINIMUM COVER SHALL BE 24".

7. ALL WATER SERVICE LINES UNDER PAVED AREAS SHALL BE SLEEVED IN SCHEDULE 40 PVC AND SHALL BE OF ONE SINGLE LENGTH WITHOUT JOINTS.

8. FORD STAINLESS INSERTS ARE REQUIRED FOR PLASTIC PIPE.

WATER SERVICE FITTINGS:

1. METER VALVES (ASTM B-62 LATEST) SHALL BE FORD ANGLE STOPS. MODEL #WV43-342W FOR SINGLE SERVICES AND FORD MODEL #WV63-42W FOR DOUBLE SERVICES OR APPROVED EQUAL.

2. CURB STOPS SHALL BE OF THE INVERTED KEY WITH TEE-HEAD STOP. CURB STOPS SHALL BE MADE OF BRASS ALLOY IN ACCORDANCE WITH ASTM SPECIFICATION B62-82A.

3. METER VALVES AND CORPORATION STOPS (FORD BALL CORP. NO. FC 202) SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM SPECIFICATION B62-82A WITH EPOXY COATED DUCTILE IRON BODY. STAINLESS STEEL SERVICE VALVES BY FORD.

4. INLET THREAD FOR METER VALVES AND CURB STOPS SHALL BE AWWA TAPER THREAD IN ALL SIZES IN ACCORDANCE WITH ANSI / AWWA STANDARD C800-99. OUTLET CONNECTIONS SHALL HAVE A COMPRESSION TYPE FITTING SAME AS VALVES.

CONTRACTOR TO REVIEW WATER DETAILS TO DETERMINE EXTENT OF JURISDICTION OF WATER SERVICE AND METER MATERIALS (METERS, ETC.) SUPPLIED AND INSTALLED BY UTILITY.

FIRE HYDRANTS:

1. ALL FIRE HYDRANTS SHALL COMPLY WITH AWWA / ANSI STANDARD C502-94 AND THE FOLLOWING DESIGN STANDARDS:

2. THE FIRE HYDRANTS SHALL BE OF THE COMPRESSION TYPE, OPENING AGAINST THE PRESSURE AND CLOSING WITH THE LINE PRESSURE WITH (1)-5" VALVE OPENING. THE HYDRANT SHALL BE EQUIPPED WITH (2)-2" HOSE NOZZLES AND (1)-3/4" PUMPER NOZZLE.

3. FIRE HYDRANTS SHALL BE FURNISHED WITH A SEALED OIL OR GREASE RESERVOIR LOCATED IN THE BONNET SO THAT ALL THREADED AND BEARING SURFACES ARE AUTOMATICALLY LUBRICATED WHEN THE HYDRANT IS OPERATED. THE HYDRANT WILL BE DESIGNED FOR DISASSEMBLY BY USE OF A SHORT DISASSEMBLY WRENCH OR THE HYDRANT SHOE SHALL HAVE AN INTERNAL CAST BUSHING TO ALLOW THE HYDRANT TO BE DISASSEMBLED BY VALVE ASSEMBLY AND VALVE SEAT TO BE REMOVED WITHOUT DIGGING EARTH NEARBY. RESILIENT ALUMINUM BUSHING SHALL BE PROVIDED.

4. FIRE HYDRANTS SHALL BE FURNISHED WITH A BREAKABLE FEATURE THAT WILL BREAK CLEANLY UPON IMPACT. THIS SHALL CONSIST OF A TWO PART BREAKABLE SPECIAL FLANGE WITH A BREAKABLE STEEL COUPLING. THE UPPER AND LOWER BARRELS SHALL BE FLANGED ABOVE AND BELOW THE COUPLING AND THE SAFETY FLANGE OR HAVE AN EXTRA STRENGTH LOW BARREL.

5. THE FIRE HYDRANT INTERNAL VALVE SHALL BE 5" MINIMUM. THE NORMAL OPERATING NUTS AND THE CAP NUTS SHALL BE 1" POINT TO FLAT. DRAIN VALVE OUTLETS FOR THE HYDRANTS SHALL BE PLUGGED OR OMITTED.

6. THE HYDRANTS SHALL OPEN COUNTER CLOCKWISE AND THE DIRECTION OF OPENING SHALL BE CAST ON THE TOP THE BURY LENGTH, MEASURED FROM THE BOTTOM OF THE CONNECTING PIPE TO THE GROUND LINE. AT THE HYDRANT SHALL BE THREE FEET SIX INCHES (42") MINIMUM OR AS REQUIRED BY PLAN.

7. THE HYDRANT SHALL BE EQUIPPED WITH A 6" MINIMUM MECHANICAL JOINT SHALLET UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

8. FIRE HYDRANTS SHALL BE MUELLER PAINTED TRAFFIC YELLOW OR AS OTHERWISE SPECIFIED ON PLANS, OR AS REQUIRED BY THE LOCAL UTILITY COMPANY.

9. REFER TO WATER DETAILS FOR OTHER REQUIREMENTS / INFORMATION RELATED TO FIRE HYDRANTS.

SANITARY SEWER:

1. ALL WORKMANSHIP AND MATERIAL SHALL CONFORM TO STANDARDS OF THE BROWARD COUNTY BUILDING DEPARTMENT, LOCAL MUNICIPALITY AND THE WATER RESOURCES DIVISION, BROWARD COUNTY DEPARTMENT OF NATURAL RESOURCE PROTECTION.

2. UNLESS OTHERWISE NOTED OR APPROVED, ALL GRAVITY MAINS AND SERVICES UP TO 10" OUTSIDE OF BUILDING SHALL BE 8" UNPLASTICIZED CHLORIDE POLYVINYL CHLORIDE (PVC) PIPE. ALL 12" AND LARGER SHALL BE D3034 AND SDR 35 WITH INTEGRAL WALL BELL AND SPIGOT JOINTS FOR PUSH-ON GASKETED JOINTS. ALL JOINTS SHALL CONFORM TO ASTM D1869, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

3. PVC FITTINGS SHALL BE OF MONOLITHIC CONSTRUCTION OF THE TYPE SPECIFIED BY THE MANUFACTURER OF THE PIPE BEING USED. NO SOLVENT WELDS OR THREADED JOINTS WILL BE PERMITTED. ALL JOINTS SHALL BE COMPRESSION GASKET TYPE.

4. THE JOINING OF PIPE ON THE JOB SHALL BE DONE IN STRICT ACCORDANCE WITH THE PIPE MANUFACTURER'S INSTRUCTIONS AND SHALL BE DONE ENTIRELY IN THE TRENCH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

5. CONNECTION OF PVC PIPE TO MANHOLES SHALL BE MADE WITH "KOR-N-SEAL" MANHOLE COUPLINGS CORRESPONDING TO THE SIZE AND TYPE OF SEWER PIPE OR OTHER APPROVED AS MAY BE APPROVED BY THE UTILITY.

6. INFLUENT AND EFFLUENT SEWERS SHALL BE GROUDED IN PLACE USING A TYPE "II" WATERPROOF EXPANDING GROUT ACCEPTABLE TO THE ENGINEER. ALL OPENINGS AND JOINTS SHALL BE SEALED WATERTIGHT. REFER TO GENERAL NOTES FOR NON-SHRINK GROUT.

7. LIFT HOLES THROUGH PRECAST STRUCTURES ARE NOT PERMITTED.

8. A FLOW CHANNEL SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM, REFER TO DETAILS.

9. OUTSIDE DROP CONNECTIONS WILL BE REQUIRED WHEN THE VERTICAL DISTANCE BETWEEN PIPE INVERTS EXCEEDS TWO FEET (2'). DOWN CONNECTIONS, WHEN REQUIRED, SHALL BE CAST MONOLITHICALLY WITH THE MANHOLE ELEMENTS AS SHOWN ON DETAILS.

10. THE LID AND FRAME SHALL BE CAST OF CLOSE-GROUND GRAY IRON AND CONFORM TO ASTM A-48 CLASS 30 AND SHALL BE UNIFORM QUALITY, FREE OF BLOW HOLES, POROSITY, CRACKS, AND OTHER OBVIOUS VISUAL DEFECTS. THE COMBINED WEIGHT OF THE FRAME AND LID SHALL NOT BE LESS THAN 420 POUNDS, AND THE LID SHALL WEIGH A MINIMUM OF 160 POUNDS. THE SEATING SURFACES BETWEEN FRAMES AND COVERS SHALL BE MACHINED TO FIT TRUE, NO PLUGGING OR FILING WILL BE ALLOWED. CASTING PATTERNS SHALL CONFORM TO THOSE DESIGNATED BY THE GOVERNING UTILITY.

11. THE LID SHALL HAVE THE WORDS "PREFERABLY AS REQUIRED BY THE UTILITY" CAST IN ALL MANHOLE COVERS. CASTINGS SHALL BE CLEANED AND COATED WITH A COAL TAR GELT VARNISH WHICH IS TOUGH WHEN COLD BUT NOT TACKY OR BRITTLE. PICK TYPE LIFTING HOLES WILL BE CAST INTO LIDS, BUT SHALL NOT GO DEEP THROUGH THE LID.

12. MINIMUM COVER ON SANITARY SEWER PIPE SHALL BE 36" ABOVE PVC PIPE, AND 30" ABOVE D.I.P.

13. ALL MANHOLE LIDS SHALL BE PROVIDED WITH WATERTIGHT POLYETHYLENE MANHOLE INSERTS AS APPROVED BY THE UTILITY DEPARTMENT.

14. INSIDE SURFACES OF MANHOLES TO BE TREATED WITH TWO COATS KOPING BITUMASTIC LAMINUM OR EQUIVALENT. COATS SHALL BE APPLIED TO ALL MANHOLES SHALL BE CURED TWENTY-ONE (21) DAYS BEFORE COATING. MANHOLES SHALL BE PAINTED AT LEAST TWO COATS OF WHITE GELT WITH ONE COAT (BLACK) OUTSIDE OR AS REQUIRED BY THE UTILITY. FIRST COAT TO BE BLACK. SECOND COAT TO BE BLACK, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

15. THE ENGINEER AND UTILITY SHALL INSPECT INSIDE OF MANHOLE AFTER EACH APPLICATION / COAT OF PAINT.

16. UPON COMPLETION OF THE WORK A LAMPING INSPECTION SHALL BE MADE OF THE COMPLETED SYSTEM. THE INSPECTION MAY BE TELEVISION OR EXFILTRATION TEST. AFTER ALL TESTING INCLUDED IN THIS CONTRACT HAS BEEN COMPLETED, THE CONTRACTOR WILL PROVIDE A TELEVISION INSPECTION OF THE SEWER LINES PRIOR TO BEING ACCEPTED FOR USE AND A SECOND TELEVISION INSPECTION AND LAMPING PRIOR TO RELEASE OF ONE-YEAR MAINTENANCE BOND.

17. MANHOLE JOINTS WILL BE SEALED WITH RAMNEX OR APPROVED EQUAL AND ANTI-HYDRO CEMENT INSIDE AND OUT.

18. ALL SANITARY SEWER GRAVITY MAINS AND SERVICES SHALL BE BEDDED AND BACKFILLED PER STANDARD TRENCH DETAIL.

19. ALL WORKMANSHIP AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE GOVERNING AUTHORITY.

20. A MINIMUM OF 10-FOOT HORIZONTAL CLEARANCE IS REQUIRED BETWEEN ALL UTILITY PIPE AND BUILDING STRUCTURES, UNLESS OTHERWISE SHOWN ON THE PLANS.

21. LANDSCAPING SHALL NOT BE INSTALLED WITHIN A MINIMUM OF 6' OF ALL SANITARY SEWER MAINS AND LATERALS.

22. ALL SEWER LATERALS SHALL TERMINATE AT THE PROPERTY LINE AND / OR A MINIMUM OF 5' FROM BUILDING, UNLESS OTHERWISE SPECIFIED ON THE PLANS. APPROPRIATE CLEANOUT TYPE PER LOCATION IN OR OUT OF PAVEMENT SHALL BE INSTALLED BY THE CONTRACTOR.

23. SERVICE LATERALS SHALL HAVE CLEANOUTS INSTALLED AT A MAXIMUM OF 75' SPACING. CLEANOUTS IN PAVEMENT SHALL HAVE TRAFFIC BEARING LIDS.

24. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETELY INSPECT THE EXISTING SANITARY SEWER SYSTEM AND / OR LIFT STATION, IF APPLICABLE, IN ADVANCE OF ANY WORK AND NOTIFY THE ENGINEER IN ADVANCE OF ANY DEFICIENCIES. SHOULD THE CONTRACTOR DISCOVER ANY DEFICIENCIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS WITHOUT FIRST INSPECTING THE EXISTING SANITARY SEWER MAINS AND LATERALS AS REQUIRED FOR NEW CONSTRUCTION.

25. CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXISTING ON-SITE SANITARY SEWER COLLECTION SYSTEM UNTIL FINAL INSPECTION, CERTIFICATION, AND APPROVAL BY THE GOVERNING AUTHORITY. CONTRACTOR TO INCLUDE THE COST OF CLEANING, REPAIRING, AND TESTING EXISTING SEWER MAINS AND LATERALS AS REQUIRED FOR NEW CONSTRUCTION.

26. THE CONTRACTOR IS RESPONSIBLE FOR ANY FINAL GRADE ADJUSTMENTS OF EXISTING MANHOLES AND CLEANOUTS TO MEET PROPOSED FINISH GRADE CONDITIONS.

27. DEVELOPER IS RESPONSIBLE TO DEDICATE UTILITY EASEMENTS TO THE UTILITY FOR ALL PUBLIC SEWER MAINS AND MANHOLES THAT ARE TO ULTIMATELY OWNED AND MAINTAINED BY THE UTILITY. EASEMENTS TO BE GRANTED UPON CONCLUSION OF THE WORK FROM AS-BUILT PIPE LOCATIONS.

CONTRACTOR IS RESPONSIBLE TO DELIVER AS-BUILT SEWER PLANS, MYLAR, AND COMPUTER DISK TO THE ENGINEER PRIOR TO FINAL CERTIFICATION TO THE GOVERNING AUTHORITY. AS-BUILTS SHALL BE SIGNED AND SEALED BY A REGISTERED FLORIDA SURVEYOR.

SANITARY SEWER, POTABLE, AND RECLAIMED WATER SEPARATION NOTES:

1. THE FOLLOWING STATEMENTS MUST BE INCLUDED ON ALL PLANS FOR SEWAGE COLLECTION / TRANSMISSION SYSTEMS AND/OR RECLAIMED WATER MAINS TO INDICATE THE MINIMUM REQUIREMENTS OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE BROWARD COUNTY DEPARTMENT OF NATURAL RESOURCE PROTECTION.

2. VERTICAL CROSSINGS:

SANITARY SEWER SYSTEMS AND/OR RECLAIMED WATER MAINS SHALL CROSS UNDER POTABLE WATER MAINS AND/OR RECLAIMED WATER MAINS. CROSSING BELOW POTABLE WATER MAINS SHALL BE LAID TO THE INVERT OF THE POTABLE WATER MAIN. THE SEPARATION DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE POTABLE WATER MAIN AND THE CROWN OF THE LOWER PIPE, THIS CONFORMING TO THE MINIMUM VERTICAL CROSSINGS PARAGRAPH.

3. HORIZONTAL SEPARATIONS:

WHEREVER IT IS PHYSICALLY POSSIBLE:

1. SANITARY SEWER SYSTEMS SHALL HAVE A MINIMUM OF A 10-FOOT HORIZONTAL SEPARATION DISTANCE BETWEEN ANY POTABLE WATER MAIN IN PARALLEL INSTALLATIONS.

2. RECLAIMED WATER MAINS SHALL HAVE A MINIMUM OF A 5 FOOT CENTER TO CENTER (ABSOLUTE MINIMUM OF 3 FOOT OUTSIDE TO OUTSIDE OF HORIZONTAL SEPARATION DISTANCE BETWEEN ANY POTABLE WATER MAIN AND/OR A SANITARY SEWER SYSTEM IN PARALLEL INSTALLATIONS.

WHEREVER EITHER ARE NOT PHYSICALLY POSSIBLE, THEN THE POTABLE WATER MAIN SHALL BE LAID AT THE MAXIMUM PHYSICAL HORIZONTAL SEPARATION DISTANCE, POSSIBLE, AND EITHER LAID:

B) ON AN UNDISTURBED EARTH SHELF WITH A MINIMUM VERTICAL SEPARATION DISTANCE OF 18 INCHES PROVIDED BETWEEN THE INVERT OF THE POTABLE WATER MAIN AND THE CROWN OF THE LOWER PIPE, THIS CONFORMING TO THE MINIMUM VERTICAL CROSSINGS PARAGRAPH.

4. CONFLICTS:

WHEREVER IT IS NOT POSSIBLE TO MAINTAIN THE MINIMUM VERTICAL OR HORIZONTAL SEPARATION STANDARDS, THEN ALL PIPING MATERIAL SHALL BE DUCTILE IRON PIPE (D.I.P.) ALL D.I.P. SHALL BE CLASS 50, OR HIGHER, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN AND SITE CONDITIONS. ADDITIONALLY, ALL JOINTS ON THE POTABLE WATER MAIN, WITHIN 20 FEET OF THE CONFLICT, SHALL BE MECHANICALLY RESTRAINED. AN ABSOLUTE MINIMUM VERTICAL SEPARATION DISTANCE OF 6 INCHES SHALL BE PROVIDED BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE.

INSPECTIONS:

1. SUBGRADE (DENSITY TESTS SHALL BE APPROVED PRIOR TO THE PLACEMENT OF LIMEROCK).

2. LIMEROCK BASE (DENSITY TESTS AND AS-BUILTS MUST BE SUBMITTED WITH A CERTIFIED LETTER FROM THE GEOTECHNICAL FIRM TAKING THE TEST INDICATING THAT THE TEST CONFORMS WITH THE APPROVED PLANS AND SPECIFICATIONS PRIOR TO THE PLACEMENT OF ASPHALT.

3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE GOVERNING AUTHORITIES IN WRITING AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS:

1. DELIVERY OF MATERIALS

2. CLEARING AND EARTHWORK OPERATIONS

3. STORM SEWER:

A. LAMPING

B. STRUCTURE INSPECTIONS

4. PAVEMENT:

A. SURFACE INSPECTIONS

B. BASECOURSE INSPECTIONS

C. DENSITIES

D. ASPHALT PAVEMENT

5. WASTEWATER:

A. PRESSURE TESTING / FLUSHING

B. SANITARY SEWER LAMPING

C. MANHOLE PAINTING

D. LIFT STATION START-UPS

6. WATER:

A. PRESSURE TESTING

B. PIGGING / FLUSHING

C. TIE-INS / DISSECTION / SWABBING / VISUAL

7. WALK THROUGH:

1. PRELIMINARY / FINAL

REVISIONS: