

I. GENERAL NOTES

A. APPLICABLE CODES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY, COUNTY AND STATE.
2. CONSTRUCTION SAFETY - ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER; SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.

3. THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH CHAPTER 90-96 OF THE LAWS OF FLORIDA (THE TRENCH SAFETY ACT) AND OSHA STANDARD 29 C.F.R. SECTION 1926.650 SUBPART P. THE CONTRACTOR SHALL SUBMIT WITH HIS CONTRACT A COMPLETED, SIGNED, AND NOTARIZED COPY OF THE TRENCH SAFETY ACT COMPLIANCE STATEMENT. THE CONTRACTOR SHALL ALSO SUBMIT A SEPARATE COST ITEM IDENTIFYING THE COST OF COMPLIANCE WITH THE APPLICABLE TRENCH SAFETY CODES.

4. NO CONSTRUCTION MAY COMMENCE UNTIL ALL THE APPROPRIATE PERMITS HAVE BEEN OBTAINED FROM ALL LOCAL, STATE AND FEDERAL AGENCIES.

B. PRECONSTRUCTION RESPONSIBILITIES

1. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, ALL AFFECTED UTILITY OWNERS, THE OWNER, THE ENGINEER AND HIMSELF.

2. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL OF FLORIDA CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO PRIOR TO BEGINNING ANY EXCAVATION.

3. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.

5. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

C. INSPECTIONS

1. THE OWNER, ENGINEER, AND LOCAL PERMITTING AGENCIES MAY MAKE INSPECTIONS OF THE WORK AT ANY TIME. THE CONTRACTOR SHALL COOPERATE FULLY WITH ALL INSPECTIONS.

D. SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT (5) FIVE SETS OF SHOP DRAWINGS FOR APPROVAL TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION FOR ALL MATERIALS USED ON THE PROJECT. APPROVED SHOP DRAWINGS FROM THE ENGINEER SHALL THEN BE SUBMITTED BY THE CONTRACTOR TO THE COUNTY OR CITY FOR THEIR APPROVAL. NO CONSTRUCTION SHALL COMMENCE UNTIL THE APPROVED SHOP DRAWINGS HAVE BEEN OBTAINED BY THE CONTRACTOR FROM THE ENGINEER, CITY, AND/OR COUNTY.

2. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOG LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.

E. TEMPORARY FACILITIES

1. TEMPORARY UTILITIES - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.

2. TRAFFIC REGULATION - MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MUTCD AND THE FDOT STANDARD SPECIFICATIONS.

3. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC. NO HOLES SHALL BE LEFT OPEN OVERNIGHT.

F. PROJECT SITE

1. DURING CONSTRUCTION THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEEP BROOM CLEAN.

2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, EMPLOYEES OR THOSE OF HIS SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED ALL NECESSARY HIGHWAY OR DRIVEWAY, WALK, AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.

3. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES, DRAINS, CATCH BASINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.

G. PROJECT RECORD DOCUMENTS

1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF WORK ITEMS COMPLETED, INFORMATION RELATIVE TO MANHOLES, VALVES, SERVICES, FITTINGS, LENGTH OF PIPE, INVERT ELEVATIONS, FINISHED GRADE ELEVATIONS AND THE LIKE, SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR. TOP ELEVATIONS @ 100' D.C.

2. PRIOR TO THE PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES, ALL DRAINAGE, WATER, AND SEWER IMPROVEMENTS. PAVING OPERATIONS SHALL NOT COMMENCE UNTIL THE ENGINEER HAS REVIEWED THE "AS-BUILTS" AND THE ENGINEER HAS APPROVED PAVING TO COMMENCE.

3. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PLACING LIMEROCK BASE MATERIAL.

4. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PLACING ASPHALT.

5. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER AND ANY APPLICABLE REVIEWING AGENCY THAT THE INFORMATION PROVIDES A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.

6. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD FIVE COMPLETE SETS OF "AS-BUILT" CONSTRUCTION DRAWINGS (PRINTS) AND ONE MYLAR ORIGINAL. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED BY THE CONTRACTOR.

7. ALL "AS-BUILT" INFORMATION ON ELEVATIONS OF PAVING, DRAINAGE, WATER, AND SEWER SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.

8. ALL AS-BUILT INFORMATION MUST BE PROVIDED IN AUTOCAD RELEASE 2000 FORMAT OR LATEST EDITION.

H. EARTHWORK

1. NONE OF THE EXISTING MATERIAL IS TO BE INCORPORATED IN THE LIMEROCK BASE.

2. ALL SUBGRADE UNDER PAVED AREAS SHALL HAVE A MINIMUM LBR VALUE OF 40 AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.

3. ALL FILL MATERIAL IN AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.

4. ALL MUCK, SILTY MATERIAL, CLAYEY MATERIAL, ORGANIC AND OTHER UNSUITABLE MATERIAL WITHIN THE PROJECT'S LIMITS SHALL BE COMPLETELY REMOVED.

5. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION OF AND REMOVAL OF ALL EXISTING, UNDESIGNATED DELETERIOUS MATERIAL FROM UNDER ALL BUILDING PADS AND CANPIES, SWALE, DRY RETENTION, PARKING LOT, SIDEWALK, BALLFIELD AND PLAY AREAS.

6. ALL DELETERIOUS MATERIAL SHALL BE REMOVED TO A DEPTH OF 15 FEET BELOW THE BOTTOM ELEVATION OF ANY SWALE OR DRY RETENTION AREA OR TO A DEPTH OF 2' BELOW THE DRY SEASON WATER TABLE, AS STATED BY THE ENGINEER OF RECORD, WHICH EVER IS HIGHEST IN ELEVATION.

7. ALL DELETERIOUS MATERIAL SHALL BE REMOVED BELOW ALL BUILDING PADS AND CANPIES TO A DEPTH STATED BY THE ARCHITECT OR STRUCTURAL OF RECORD.

I. PAVING

1. TESTING - REQUIRED, ASPHALT AND LIMEROCK TESTS SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER OR THE LOCAL GOVERNMENT AGENCY.

J. GENERAL UTILITY NOTES

1. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES AND TOPOGRAPHY HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED AND THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE EXACT LOCATION (VERTICAL & HORIZONTAL) OF ANY EXISTING UTILITIES AND TOPOGRAPHY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OR DISCREPANCIES OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS OF CONSTRUCTION DRAWINGS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING UTILITIES SHOWN OR FOR ANY EXISTING UTILITIES NOT SHOWN.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES IF APPLICABLE: FLORIDA POWER AND LIGHT COMPANY/SOUTHERN BELL LOCAL GAS COMPANY, LOCAL WATER AND SEWER UTILITY COMPANY(S), LOCAL CABLE TELEVISION COMPANY(S), LOCAL CITY ENGINEERING DEPARTMENT, FLORIDA DEPARTMENT OF TRANSPORTATION, SUNSHINE STATE ONE CALL OF FLORIDA - (1-800-492-4770) FOR STREET EXCAVATION OR CLOSING, TRAFFIC SARGENT FIRE DISPATCH

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF EXISTING PAVEMENT, PIPES, CONDUITS, CABLES, ETC., AND LANDSCAPED AREAS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS AND/OR THOSE OF HIS SUBCONTRACTORS, AND SHALL RESTORE THEM PROPERLY. THIS REPAIR SHALL BE DONE AT NO EXPENSE TO THE OWNER OF THE DAMAGED UTILITY OR PROPERTY.

4. COORDINATE CONSTRUCTION SCHEDULING FOR CONNECTION TO THE EXISTING WATER AND SEWER LINES WITH THE CITY UTILITY DEPARTMENT.

5. ALL PAVEMENT RESTORATION TO BE MADE IN ACCORDANCE WITH THE CITY, COUNTY OR STATE OF FLORIDA D.D.T. STANDARD SPECIFICATIONS, WHERE APPLICABLE.

6. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL SUPPLY THE ENGINEER OF RECORD WITH THE CERTIFICATION THAT ALL CONSTRUCTION AND MATERIALS MEET OR EXCEEDS THE DESIGN AND HAS BEEN INSTALLED PER THE DRAWINGS AND/OR AS-BUILT DRAWINGS.

7. THE CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS IN THE AREA AND ANY OTHER UNDERGROUND CONDUIT REQUIRED FOR FPL, SOUTHERN BELL, IRRIGATION SYSTEM, ETC. PRIOR TO BEGINNING SUBGRADE. THE CONTRACTOR SHALL COORDINATE RELOCATION OF ALL EXISTING UTILITIES WITH APPLICABLE UTILITY COMPANIES.

8. NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN OVERNIGHT WITHOUT WRITTEN PERMISSION OF THE CITY OR OWNER.

9. THE CONTRACTOR MUST NOTIFY MUNSON DESIGN AND CONSULTING, INC. PRIOR TO STARTING EACH PHASE OF ANY UNDERGROUND UTILITY WORK OR PAVING AND GRADING OPERATIONS SO THAT THE PROPER INSPECTIONS MAY BE SCHEDULED.

K. SURVEY INFORMATION

1. SURVEY DATA - ALL ELEVATIONS ON THE PLANS OR REFERENCED IN THE SPECIFICATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD.

2. SURVEY INFORMATION BASED ON SURVEY BY ACCURATE LAND SURVEYING, INC.

II. CONSTRUCTION SPECIFICATIONS

A. GENERAL

1. IT IS THE INTENT OF THESE SPECIFICATIONS TO DESCRIBE THE MINIMUM ACCEPTABLE TECHNICAL REQUIREMENTS FOR THE MATERIALS AND WORKMANSHIP FOR CONSTRUCTION OF SITE IMPROVEMENTS FOR THIS PROJECT. SUCH IMPROVEMENTS SHALL GENERALLY INCLUDE, BUT NOT BE LIMITED TO, CLEARING, GRADING, PAVING, REMOVAL OF EXISTING PAVEMENT, AND STORM DRAINAGE.

2. IT IS THE INTENT THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2000 TOGETHER WITH SUPPLEMENTAL SPECIFICATIONS TO THE 2000 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2000 BE USED WHERE APPLICABLE FOR THE VARIOUS WORK AND THAT WHERE SUCH WORDING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL, SUCH WORDING IS INTENDED TO BE REPLACED WITH THE WORDING WHICH WOULD PROVIDE PROPER TERMINOLOGY THEREBY MAKING SUCH STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS THE STANDARD SPECIFICATIONS FOR THIS PROJECT. IF WITHIN A PARTICULAR SECTION, ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE PART OF THE STANDARD SPECIFICATIONS ALSO. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL AND STATE LAWS, REGULATIONS AND BUILDING CODES WHICH HAVE JURISDICTION IN THE AREA.

3. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT AND PERFORM ALL OPERATIONS REQUIRED TO COMPLETE THE CONSTRUCTION OF A PAVING, DRAINAGE, WATER AND SEWER SYSTEM AS SHOWN ON THE PLANS. SPECIFIED HEREIN, OR BOTH, IT IS THE INTENT TO PROVIDE A COMPLETE AND OPERATING FACILITY IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE CONSTRUCTION DRAWINGS. THE MATERIAL AND EQUIPMENT SHOWN OR SPECIFIED SHALL NOT BE TAKEN TO EXCLUDE ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK.

4. ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE PLANS AND CONSTRUCTION SPECIFICATIONS AND THE MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS ADOPTED BY THE UNIT OF GOVERNMENT WHICH HAS JURISDICTION AND RESPONSIBILITY FOR THE CONSTRUCTION. WHERE CONFLICTS OR OMISSIONS EXIST, THE JURISDICTIONAL GOVERNMENT ENGINEERING DEPARTMENT'S STANDARDS SHALL GOVERN. SUBSTITUTIONS AND DEVIATIONS FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.

5. GUARANTEE - ALL MATERIALS AND EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR UNDER THIS CONTRACT, SHALL BE GUARANTEED FOR A PERIOD OF (1) ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE THEREOF, AGAINST DEFECTIVE MATERIALS, DESIGN AND WORKMANSHIP. UPON RECEIPT OF NOTICE FROM THE OWNER OF FAILURE OF ANY PART OF THE GUARANTEED EQUIPMENT OR MATERIALS, DURING THE GUARANTEE PERIOD, THE AFFECTED PART OR MATERIALS SHALL BE REPLACED PROMPTLY WITH NEW PARTS OR MATERIALS BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. IN THE EVENT THE CONTRACTOR FAILS TO MAKE NECESSARY REPLACEMENT OR REPAIRS WITHIN (7) SEVEN DAYS AFTER NOTIFICATION BY THE OWNER, THE OWNER MAY ACCOMPLISH THE WORK AT THE EXPENSE OF THE CONTRACTOR.

B. EARTHWORK

1. ALL AREAS WITHIN THE LIMITS OF WORK SHALL BE CLEARED AND GRUBBED PRIOR TO CONSTRUCTION. THIS SHALL CONSIST OF COMPLETE REMOVAL AND DISPOSAL OF ALL TREES, BRUSH, STUMPS, ROOTS, GRASS, WEEDS, RUBBISH AND ALL OTHER OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE EXISTING GROUND TO A DEPTH OF 1'. ITEMS DESIGNATED TO REMAIN OR TO BE RELOCATED OR TO BE ADJUSTED SHALL BE SO DESIGNATED ON THE DRAWINGS. NO WORK SHALL BE IN ACCORDANCE WITH SECTION 110 OF THE STANDARD SPECIFICATIONS.

2. FILL MATERIAL SHALL BE CLASSIFIED AS A-1, A-3, OR A-2-4 IN ACCORDANCE WITH AASHTO M-145 AND SHALL BE FREE FROM VEGETATION AND ORGANIC MATERIAL, NOT MORE THAN 5% BY WEIGHT OF FILL MATERIAL SHALL PASS THE NO. 200 SIEVE.

3. ALL MATERIAL OF CONSTRUCTION SHALL BE SUBJECT TO INSPECTION AND TESTING TO ESTABLISH CONFORMANCE WITH THE SPECIFICATIONS AND SUITABILITY FOR THE USES INTENDED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 24 HOURS PRIOR TO THE TIME HE WILL BE READY FOR AN INSPECTION OR TEST. THE CONTRACTOR SHALL FOLLOW CITY AND COUNTY INSPECTION PROCEDURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PHASE OF WORK DEPENDENT ON AN INSPECTION OR TEST UNTIL AN EARLIER PHASE OF WORK PRIOR TO THAT TEST OR INSPECTION PASSING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED MATERIAL TEST RESULTS TO THE ENGINEER OF RECORD PRIOR TO THE RELEASE OF FINAL CERTIFICATION BY THE ENGINEER. TEST RESULTS MUST INCLUDE, BUT MAY NOT BE LIMITED TO, DENSITIES FOR SUBGRADE AND LIMEROCK, UTILITIES, EXCAVATION, ASPHALT GRADATION REPORTS, CONCRETE CYLINDERS, ETC.

4. WHEN ENCOUNTERED, MUCK SHALL BE COMPLETELY REMOVED FROM THE CENTER LINE (10' TEN FEET BEYOND THE EDGE OF PAVEMENT EACH SIDE. ALL SUCH MATERIAL SHALL BE REPLACED BY APPROVED GRANULAR FILL, COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T-180).

5. WHEN ENCOUNTERED WITHIN DRAINAGE SWALES, HARDPAN OR MUCK SHALL BE REMOVED FOR A WIDTH OF (5) FIVE FEET AT THE INVERT AND REPLACED WITH GRANULAR MATERIALS.

6. ALL UNDERGROUND UTILITIES AND DRAINAGE INSTALLATIONS SHALL BE IN PLACE PRIOR TO SUBGRADE COMPACTION AND PAVEMENT CONSTRUCTION.

7. GROUND ADJACENT TO ROADWAY/PAVEMENT HAVING RUNOFF SHALL BE GRADED (2) TWO INCHES LOWER THAN THE EDGE OF PAVEMENT TO ALLOW FOR THE PLACEMENT OF SOD.

8. SITE GRADING ELEVATIONS SHALL BE WITHIN 0.1' OF THE REQUIRED ELEVATION AND ALL AREAS SHALL BE GRADED TO DRAIN WITHOUT PONDING.

9. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, FILL, EMBANKMENT AND GRADING TO ACHIEVE THE PROPOSED PLAN GRADES INCLUDING TYPICAL ROAD SECTIONS, SIDE SLOPES AND CANAL SECTIONS. ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 120 OF THE STANDARD SPECIFICATIONS. IF FILL MATERIAL IS REQUIRED IN EXCESS OF THAT GENERATED BY THE EXCAVATION, THE CONTRACTOR SHALL SUPPLY THIS MATERIAL AS REQUIRED FROM OFF-SITE.

C. DRAINAGE

1. INLETS - ALL INLETS SHALL BE THE TYPE DESIGNATED ON THE PLANS, AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FLORIDA D.D.T. SPECIFICATIONS, 2000, SECTION 425. ALL INLETS AND PITE SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT SILTATION IN THE DRAINAGE SYSTEMS BY WAY OF TEMPORARY PLUGS AND PLYWOOD OR PLASTIC COVERS OVER THE INLETS. THE ENTIRE DRAINAGE SYSTEM SHALL BE CLEARED OF ALL DEBRIS PRIOR TO FINAL ACCEPTANCE.

2. PIPE SPECIFICATIONS: THE MATERIAL TYPE IS SHOWN ON THE DRAWINGS BY ONE OF THE FOLLOWING DESIGNATIONS:
RCP = REINFORCED CONCRETE PIPE, ASTM DESIGNATION C-76, TABLE 111, F.D.D.T. SECTION 941.
CMP = CORRUGATED METAL (ALUMINUM) PIPE, ASTM DESIGNATION M-196.
CMP (SMOOTH LINED) = CORRUGATED METAL ALUMINUM PIPE, (SMOOTH LINED) ASTM DESIGNATION M-196.
SCP = SLOTTED CONCRETE PIPE, F.D.D.T. SECTIONS 941 AND 942.
PVC = POLYVINYL CHLORIDE PIPE.
PCMP = PERFORATED CMP, F.D.D.T. SECTION 945
HDPE = HIGH DENSITY POLYETHYLENE

3. PIPE BACKFILL - REQUIREMENTS FOR PIPE BACKFILL CROSSING ROADS OR PARKING AREAS SHALL BE AS DEFINED IN THE FLORIDA D.D.T. SPECIFICATIONS, 2000, SECTION 125-8. PIPELINE BACKFILL SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 100% OF THE STANDARD PROCTOR (AASHTO T-99 SPECIFICATIONS).
4. LOCATION OF DRAINAGE STRUCTURES SHALL GOVERN, AND PIPE LENGTH MAY HAVE TO BE ADJUSTED TO ACCOMPLISH CONSTRUCTION AS SHOWN ON THESE PLANS.

5. PLASTIC FILTER FABRIC SHALL BE MIRAFI OR EQUAL, STANDARD SPECIFICATIONS.

6. ALL DRAINAGE LINES SHALL BE LAMPED PRIOR TO FINAL ACCEPTANCE.

D. PAVING

1. WHERE NEW CONCRETE MEETS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE PRIOR TO REMOVING CURB OR GUTTER. THE ADJACENT ASPHALT SHALL BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE.

2. INTERNAL CONCRETE PAVING CONSTRUCTED ON EXISTING SANDY SOILS SHALL BE CONSTRUCTED WITH A 12" SUBGRADE, COMPACTED TO A MINIMUM DENSITY OF 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99. THE COMPACTED SUBGRADE SHALL BE CONSTRUCTED IN THE LIMITS SHOWN ON THE PLANS. ALL SUBGRADE SHALL HAVE AN LBR OF 60 UNLESS OTHERWISE NOTED.

3. ASPHALTIC CONCRETE SURFACE COURSE SHALL BE CONSTRUCTED TO THE LIMITS SHOWN ON THE PLANS. THE SURFACE COURSE SHALL CONSIST OF THE THICKNESS AND TYPE ASPHALTIC CONCRETE AS SPECIFIED IN THE PLANS. ALL ASPHALTIC CONCRETE SHALL BE IN ACCORDANCE WITH SECTIONS 320, 330, 331, 332, 333, 335, 337 AND 339 OF THE FDOT STANDARD SPECIFICATIONS.

4. LIMEROCK BASE SHALL BE PREPARED, COMPACTED AND GRADED AND SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2000 EDITION. ALL LIMEROCK SHALL BE COMPACTED TO 98% PER AASHTO T-180, AND HAVE NOT LESS THAN 70% OF CARBONATES OF CALCIUM AND MAGNESIUM UNLESS OTHERWISE DESIGNATED. SHALL LIMEROCK SHALL BE PRIMED. THE ENGINEER SHALL INSPECT THE COMPLETED BASE COURSE AND THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES AND CLEAN THE BASE COURSE PRIOR TO THE PLACEMENT OF THE PRIME COAT. A TACK COAT WILL ALSO BE REQUIRED IF THE ENGINEER FINDS THAT THE PRIMED BASE HAS BECOME EXCESSIVELY DIRTY OR THE PRIME COAT HAS CURED TO THE EXTENT OF LOSING BOUNDING EFFECT PRIOR TO PLACEMENT OF THE ASPHALTIC CONCRETE SURFACE COURSE. THE PRIME AND TACK COAT SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE STANDARD SPECIFICATIONS.

5. LIMEROCK BASE MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. BASES GREATER THAN 6" SHALL BE PLACED IN TWO EQUAL LIFTS.
6. ASPHALT EDGES THAT ARE NOT CURBED SHALL BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE TO THE DIMENSIONS SHOWN ON THE HORIZONTAL CONTROL PLAN.

E. CONSTRUCTION

1. CONCRETE SIDEWALK SHALL BE 4" THICK ON COMPACTED SUBGRADE, WITH 1/2" EXPANSION JOINTS PLACED AT A MAXIMUM OF 75' CRACK CONTROL JOINTS SHALL BE 5' ON CENTER. THE BACK OF SIDEWALK ELEVATION SHALL BE 3" HIGHER THAN THE EDGE OF PAVEMENT, UNLESS OTHERWISE SPECIFIED BY LOCAL CODES. AS SHOWN ON THE DRAWINGS, ALL CONCRETE SIDEWALKS THAT CROSS DRIVEWAYS SHALL BE 6" THICK AND HAVE A MINIMUM OF 3000 P.S.I. CONCRETE.

2. CONCRETE CURB SHALL BE CONSTRUCTED TO THE LIMITS SHOWN ON THE PLANS. THE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS AND SHALL BE IN ACCORDANCE WITH SECTION 345 OF THE STANDARD SPECIFICATIONS.

F. SIGNAGE AND PAVEMENT MARKINGS

1. THE ROADS AND PARKING AREAS SHALL BE STRIPED IN ACCORDANCE WITH THE PLANS. NO STRIPING SHALL BE LESS THAN THE SPECIFIED WIDTH. NOR SHALL IT EXCEED THE SPECIFIED WIDTH BY MORE THAN 1/2" INCH. STRIPING SHALL BE IN ACCORDANCE WITH SECTIONS 710 AND 971 OF THE STANDARD SPECIFICATIONS. ALL STRIPING WITHIN THE PUBLIC RIGHT-OF-WAY AND AT DRIVEWAY ACCESS POINTS SHALL BE THERMOPLASTIC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

2. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL AND MAINTAIN ADEQUATE TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS FOR THE PURPOSE OF PROTECTING THE TRAVELING PUBLIC, HIS WORKMEN AND THE WORK AREA IN GENERAL. SUCH TRAFFIC CONTROL SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT PERIOD, INCLUDING ANY TEMPORARY SUSPENSIONS OF THE WORK. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH SECTION 108 OF THE STANDARD SPECIFICATIONS AND THE STATE OF FLORIDA MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS.

3. ALL PAVEMENT MARKINGS ON-SITE SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.

4. ALL SIGNING AND MARKINGS SHALL CONFORM TO MUTCD AND BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS (LATEST EDITION).

G. SEWER SYSTEM NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LOCAL UTILITY DEPARTMENT MINIMUM STANDARDS AND APPLICABLE CODES.

2. THE CONTRACTOR SHALL FIELD VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF EXISTING SEWER LINES, MANHOLES, AND STUBOUTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF THE FIELD INFORMATION DIFFERS FROM THAT SHOWN ON THE PLANS.

3. ALL GRAVITY SEWER PIPE 4" & LARGER SHALL BE POLYVINYL CHLORIDE (PVC) ASTM 3034, SDR 26 FOR THE ON-SITE SANITARY. ASTM 3034, SDR 26 FOR OFF-SITE SHALL BE USED IN THE CITY R.O.W.

4. MINIMUM SLOPE SHALL BE 0.4% FOR 8" PIPE AND 1% FOR 6" SERVICE LATERALS.

5. DUCTILE IRON SEWER PIPE FOR GRAVITY MAINS SHALL BE CLASS 350 POLYLINE WITH A MINIMUM OF 30' OF COVER.

6. PVC LINES ENTERING OR LEAVING MANHOLES SHALL HAVE A NEOPRENE BOOT WITH STAINLESS STEEL ACCESSORIES.

7. CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNDER THE DIRECTION OF THE BCWS UTILITY DEPARTMENT.

8. CLEANOUTS SHALL BE INSTALLED AT ALL SEWER SERVICES EXCEEDING 75' IN LENGTH (EVERY 75') WITH A CLEANOUT AT THE PROPERTY LINE, EASEMENT LINE, OR 5' FROM A BUILDING. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF THE BUILDING CLEANOUT (5' FROM THE BUILDING) AND ELEVATION OF THE END OF THE SEWER SERVICE WITH THE BUILDING PLUMBING CONTRACTOR.

9. LIMITS OF INFILTRATION OR EXFILTRATION OR LEAKAGE FOR THE ENTIRE SYSTEM, INCLUDING SERVICE LINES, SHALL NOT EXCEED A RATE OF 0.1 GALLONS PER FOOT PER 24 HOURS FOR ALL SIZES OF PIPE THROUGHOUT THE SYSTEM. THE ALLOWABLE LIMITS OF INFILTRATION OR EXFILTRATION OF MANHOLES SHALL NOT EXCEED A RATE OF 4 GALLONS PER MANHOLE PER 24 HOURS.
11. THE ENTIRE SYSTEM SHALL BE CLEANED PRIOR TO LAMPING OF THE LINES. 12" SANITARY SEWER MUST BE TELEVIEWED @ CONTRACTORS EXPENSE. ALL DEFICIENCIES OBSERVED ON THE VIDEO TAPES SHALL BE CORRECTED PRIOR TO CITY CERTIFICATION TO ANY AGENCY.

12. PROVIDE ORANGE RPM @ CENTERLINE OF ROAD OF NEAREST DRIVING LANE FOR MANHOLES LOCATED IN GREEN AREAS.

H. WATER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE THE LOCAL UTILITY DEPARTMENT MINIMUM STANDARDS AND APPLICABLE CODES.

2. ALL WATER PIPE 4" AND LARGER SHALL CONFORM TO BROWARD COUNTY W.W. TECHNICAL STANDARDS. DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C-151/A21.51-02 AND LINED AND COATED PER ANSI/AWWA C-104/A21.4-03. 4" DIP SHALL BE CLASS 350, 6" AND 8" DIP SHALL BE CLASS 350, AND 10" DIP SHALL BE CLASS 350. MINIMUM DEPTH OF COVER IS 30" FOR DIP. ALL PIPE TO HAVE 150 PSI MINIMUM PRESSURE RATING. FITTINGS 4" AND LARGER SHALL BE DUCTILE IRON MEETING ANSI/AWWA C-110/A21.10-03. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER C-104/A21.4-03 PRESSURE RATING OF ALL FITTINGS SHALL BE 350 PSI. ALL WATER MAIN PIPES WITHIN THE CITIES RIGHT-OF-WAY OR EASEMENT SHALL BE DUCTILE IRON PIPE CLASS 350 AND SHALL BE COLORED IN ACCORDANCE WITH FAC 65.555.310 (10).

3. ALL WATER PIPE SMALLER THAN 4 INCHES SHALL CONFORM TO BROWARD COUNTY W.W.S. TECHNICAL STANDARDS.

4. THERE SHALL BE NO CONNECTION TO AN EXISTING WATER MAIN UNTIL PRESSURE AND BACTERIOLOGICAL TESTS HAVE BEEN RUN AND THE SYSTEM ACCEPTED BY THE CITY AND THE COUNTY HEALTH DEPARTMENT.

5. ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNDER THE DIRECTION OF THE BCWS UTILITY DEPARTMENT.

6. WATER METERS 2" OR SMALLER SHALL BE INSTALLED BY THE COUNTY. THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY UTILITY DEPARTMENT AND PROVIDE THE PROPER FITTINGS NECESSARY TO INSTALL THE METERS. ALL COSTS ASSOCIATED WITH THE METER INSTALLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

7. GATE VALVES, 4" OR LARGER, SHALL MEET AWWA C-509-01 STANDARD. BUTTERFLY VALVES, 16" OR LARGER, SHALL MEET AWWA C-504-00, CLASS 150B STANDARDS.

8. FIRE HYDRANTS SHALL BE TRAFFIC BREAK AWAY TYPE CONFORMING TO AWWA C-502-94 STANDARDS. FIRE HYDRANTS SHALL BE MUELLER MODEL A-425 OR CLOW MEDALLION 2546-5B.

9. ALL TRENCHING, PIPE LAYING, BACKFILLING, PRESSURE TESTING, AND DISINFECTING MUST COMPLY WITH ANSI/AWWA C-600-05 AND C-651-05 STANDARDS RESPECTIVELY.

10. DEFLECT WATER MAINS AS NECESSARY TO AVOID ANY CONFLICTS WITH OTHER UTILITIES. ALLOWABLE DEFLECTION SHALL NOT EXCEED AWWA STANDARDS.

11. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND ELEVATION OF THE ENDS OF THE WATER SERVICES WITH THE BUILDING PLUMBING CONTRACTOR.

12. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING WATER MAINS AND PROPOSED CONNECTION POINTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF THE FIELD INFORMATION DIFFERS FROM THAT SHOWN ON THE PLANS.

13. ALL WATER MAINS TO BE FLUSHED VIA POLY PIG.

14. THE CONTRACTOR MUST ARRANGE AND PAY FOR ANY TEMPORARY WATER REQUIRED FOR CONSTRUCTION, CLEANING, TESTING, ETC. .

13. TESTING

- A. ALL PIPE SHALL BE TESTED UNDER A CONSTANT PRESSURE OF 150 PSI (200 PSI FOR FIRE MAIN) FOR A MINIMUM TEST PERIOD OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE REQUIREMENTS AS PER ANSI/AWWA SPECIFICATIONS OF C-600-05 LEAKAGE FORMULA:

$$L = \frac{SD \sqrt{P}}{148,000}$$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR.
S = TOTAL LENGTH OF PIPE TESTED, FEET.
D = DIAMETER OF THE PIPE TESTED, INCHES.
P = AVERAGE TEST PRESSURE, PSI.

THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE OF THE CITY AND THE ENGINEER OF RECORD.

- B. DISINFECTION OF ALL WATER LINES SHALL COMPLY WITH ANSI/AWWA C-651-05. BACTERIOLOGICAL SAMPLING POINTS ARE SHOWN ON THE WATER AND SEWER PLAN A CHLORINE RESIDUAL OF .3 TO 1.5 PPM SHALL BE MAINTAINED. ALL STERILIZATION SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR. BACTERIOLOGICAL SAMPLES MUST BE APPROVED BY THE COUNTY PUBLIC HEALTH UNIT AND THE CITY PRIOR TO OPERATION OF THE SYSTEM.

14. ALL PVC PIPE SHALL BE INSTALLED WITH METALLIC LOCATOR TAPE 18" ABOVE THE TOP OF PIPE.

15. BACK FLOW PREVENTORS MUST BE APPROVED BY THE CITY AS TO TYPE AND LOCATION PRIOR TO INSTALLATION.

III. SPECIFIC SITE NOTES