GENERAL PROVISIONS

- 1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.
- 2. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERA PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES, IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOT) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES, FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT. THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND INTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
- 3 LINESS OTHERWISE NOTED ON THE PLANS THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS RENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNERS
- 4. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. SZAUER ENGINEERING, INC. NO
- 5. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. SZAUER ENGINEERING, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS
- 6. THE CONTRACTOR SHALL SUBMIT (6) COPIES OF SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL THOROUGHI CHECK SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR COMPLETENESS AND FOR COMPLIANCE WITH THE CONSTRUCTION PLANS AND SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AND SHALL COORDINATE THE SHOP

AWINGS WITH THE REQUIREMENTS FOR OTHER RELATED WORK. THE CONTRACTORS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMITTALS IS NOT RELIEVED BY THE ENGINEERS REVIEW OF SUBMITTALS. THE CONTRACTOR

- . PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
- 8. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION (COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR
- 9. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PLIBLIC RODY HAVING REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF
- 10. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER. APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF
- THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.
- 11. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.
- 12. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.

UTILITY GENERAL NOTES

1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.

SHALL NOTIFY THE ENGINEER, IN WRITING AT THE TIME OF SUBMISSION, OF DEVIATIONS IN SUBMITTALS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS

- 2. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY. COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR
- 3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES, THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) IRKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOUL FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION. PER FLORIDA STATUTE 553.851, THE CONTRACTOR OR EXCAVATOR IS REQUIRED TO NOTIFY THE GAS COMPANY TWO (2) WORKING DAYS PRIOR TO STARTING EXCAVATION.
- 4. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY
- 6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING ON WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENG
- 7. TYPICAL DETAILS AS SHOWN ARE TO ILLUSTRATE THE ENGINEERS INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE METHOD OF
- 8. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED
- 9. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC. LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

AS-BUILT DRAWING REQUIREMENTS

- AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER THREE WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY
- 2. AT THE COMPLETION OF THE WORK, DELIVER THE DRAWINGS DOCUMENTING AS-BUILT INFORMATION, MEASURED BY A LICENSED SURVEYOR, TO THE ENGINEER, IN GOOD CONDITION AND FREE FROM ANY EXTRANEOUS NOTATION, THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND STORM STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS
- B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES. C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND, AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY
- D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND SKIMMERS
- E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.
- F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC
- G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET. H. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.
- 1. PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS.
- J. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.
- K. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS. L. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.
- M. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL MEASURED VERTICAL ELEVATION.

EROSION AND SEDIMENT CONTROL

- . EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION, SEDIMENT CONTROL CONSISTS OF SILT FENCING AND FLOATING TURBIDITY BARRIERS PER FDOT INDEX NO. 102 AND 103. EROSION CONTROL CONSISTS OF SEEDING AND MULCHING, SODDING, WETTING SURFACES, PLACEMENT OF COARSE AGGREGATE, TEMPORARY PAVING
- . MAINTAIN TEMPORARY EROSION CONTROL SYSTEMS AS DIRECTED BY OWNER OR GOVERNING AUTHORITIES TO CONTROL EROSION AND SILTATION DURING LIFE OF CONTRACT. OWNER HAS AUTHORITY TO LIMIT SURFACE AREA OF LE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, TRENCHING, BORROW AND EMBANKMENT OPERATIONS. OWNER ALSO HAS AUTHORITY TO DIRECT CONTRACTOR TO PROVIDE IMMEDIATE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
- CONTRACTOR SHALL RESPOND TO EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS OR IMPLEMENT ADDITIONAL MEASURES TO CONTROL EROSION ORDERED BY OWNER OR GOVERNING AUTHORITIES WITHIN 48 HOURS OR SOONER IF REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- 4. CONTRACTOR WILL BE REQUIRED TO INCORPORATE PERMANENT EROSION CONTROL FEATURES INTO PROJECT AT EARLIEST PRACTICAL TIME TO MINIMIZE NEED FOR TEMPORARY CONTROLS.
- . THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REPRESENT A MINIMUM REQUIREMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NEEDED IN ORDER TO PREVENT THE TRANSFER OF SEDIMENT FROM THE PROJECT AREA AND PREVENT THE EROSION OF SURFACES DURING CONSTRUCTION, AS NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER BODIES
- 6. GRASS ALL DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. TYPE OF GRASSING SHALL BE AS FOLLOWS: TEMPORARY GRASSING TO BE SODDING AT ALL DRAINAGE STRUCTURES, RETENTION AREAS, SWALES AND DITCHES, AND WHERE SLOPES ARE STEEPER THAN 5:1. TEMPORARY GRASSING CAN BE SEED AND MULCH AT ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED IN THE DRAWINGS OR SPECIFICATIONS
- . INSPECT EVERY TWO WEEKS DURING CONSTRUCTION. REMOVE ANY SEDIMENT BUILD-UP. REPAIR AND REINSTALL ANY DAMAGED OR MISSING SEDIMENT CONTROL MEASURES. INSTALL ADDITIONAL MEASURES IF INSPECTION REVEALS
- 8. AREAS TO BE PAVED SHALL BE TREATED WITH A BITUMINOUS PRIME COAT AND SANDED TO MINIMIZE EROSION, WHERE PAVING IS SCHEDULED TO OCCUR MORE THAN 48 HOURS AFTER INSTALLATION OF BASE COURSE. AREAS TO RECEIVE

ETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF INSTALLATION OF THE SUBGRADE. INSTALL FINAL SURFACE COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT.

TRAFFIC CONTROL

- . THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. ALL PROPOSED ROADWAY AND DRIVEWAY LANE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.
- 2. ALL CONSTRUCTION SIGNING AND MARKINGS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH FDOT INDEX NO. 600 AND THE MANUAL ON UNIFORM TRAFFIC CONTRO
- DEVICES (MUTCD). THE PLACEMENT OF THE SIGNING AND MARKINGS SHALL BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO CONSTRUCTION
- 3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION 4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION
- 5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.
- 6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.
- 7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.
- 8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL LANES BUT NO CLOSER THAN 2-FT FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 600 AND 602, FOR A 2-LANE ROADWAY AND PER INDEX # 612 FOR A 4 LANE HIGHWAY
- 9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER DROP-OFFS OR OTHER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY

SITE PREPARATION

- 1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER. THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR C RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND
- 2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO NTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WOR
- 4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY. THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION ES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES

3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.

- 5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH 6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE
- 7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON OR OTHERWISE OBSTRUCT THE WORK.
- 8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES. 9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN T IN DIAMETER, AND MATTED ROOTS, REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE
- 10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.

AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE PATH, CENTERED ON THE PIPELINE.

- 1. GRADING SHOWN ON THESE PLANS ARE PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE, SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
- 2. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF
- 3. UNIFORMLY SMOOTH GRADE THE SITE, DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED, TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABL'
- 4. SLOPE GRADES TO DRAIN AWAY FROM STRUCTURES AT A MINIMUM OF 'A-INCH PER FOOT FOR 10 FEET. FINISHED SURFACES ADJACENT TO PAVED AREAS AND WITHIN 10 FEET OF STRUCTURES SHALL BE WITHIN 1 INCH OF THE

5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE_ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

- EXCAVATION, TRENCHING, AND FILL 1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY
- ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT 2. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO
- 3. POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES, ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTACTOR MAY BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER
- 4. FIELD DENSITY TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING, MINIMUM 2 TESTS EACH LAYER; B) ONE TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION
- REOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS. 5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE UTILIZED WHEREVER
- A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2-4, A-2-6; ASTM D2487 CLASSIFICATION GW, GP, GM, SM, SW, SP;
- UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS. NO MORE THAN 12% OF ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 200 SIEVE.
- MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS
- 6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS. 7. SIDEWALKS, ROADS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS, EXCEPT AS AUTHORIZED
- BY THE ENGINEER, IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS MUST BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS, AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO
- TENANTS OCCUPYING ADJOINING PROPER 8. FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP
- EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED
- 9. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT.
- 10.EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES
- A MINIMUM OF 2 FEET WHERE EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS. 11.EXCEPT AS OTHERWISE INDICATED, EXCAVATE FOR PRESSURE PIPING SO TOP OF PIPING IS MINIMUM 3 FEET BELOW FINISHED GRADE.
- 12. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE BOTTOM OF THE TRENCH OR STRUCTURE.
- 13. ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL. WHERE TRENCH OR EXCAVATION IS WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH.
- 14.MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T180): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS. STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS = 95 PERCENT; BACKFILL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT

UTILITY SEPARATION REQUIREMENTS

= 95 PERCENT: BACKFILL AND FILL PLACED IN ALL OTHER AREAS = 90 PERCENT.

- 1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND
- A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF THREE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND
- B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF SIX FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL RATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX
- C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIE
- 2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING: WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING
- GRAVITY SANITARY SEWER JOINTS. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS, WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 12 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEV FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST SIX FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS

HE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST SIX FEET FROM

3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE

OTHER PIPELINE IF THE OTHER PIPELINE COVEYS WASTEWATER OR RECLAIMED WATER.

- $4. \ \ NEW \ OR \ RELOCATED \ FIRE \ HYDRANTS \ SHALL \ BE \ LOCATED \ SUCH \ THAT \ THE \ UNDERGROUND \ DRAIN \ (WEEP HOLE) \ IS \ AT \ LEAST:$
- A. THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER. B. SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN
- C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES
- 5. THE FOLLOWING ARE ACCEPTABLE ALTERNATIVE CONSTRUCTION VARIANCES WHERE IT IS NOT POSSIBLE TO MEET THE SEPARATION REQUIREMENTS, AND ARE ONLY TO BE IMPLEMENTED UPON RECEIPT OF EXPRESSE WRITTEN CONSENT FROM THE ENGINEER. IMPLEMENTATION OF THESE MEASURES WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER COULD RESULT IN THE REQUIREMENT THAT THE INSTALLED UNAPPROVED
- A. WHERE A WATER MAIN IS LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE LESS
- THAN THE MINIMUM REQUIRED DISTANCE BETWEEN THE JOINTS IN THE OTHER PIPELINE:
- 1) USE OF PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS FOR A GRAVITY OR VACUUM TYPE PIPELINE
- 2) USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER PIPELINE. 3) USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER PIPE.
- B. WHERE A WATER MAIN IS LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE LESS THAN THE REQUIRED MINIMUM SEPARATION: 1) USE OF PIPE OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (AT LEAST EQUAL TO 0.25 INCH THICK DUCTILE IRON PIPE), OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN AND FOR THE

WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

- 1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER SYSTEMS SHOWN ON THESE PLANS IS THE CITY OF MIAMI BEACH. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF MIAMI BEACH FLORIDA.
- 2. ALL WATER AND RECLAIMED MAIN PIPE SHALL BE EITHER DUCTILE IRON OR PVC, UNLESS OTHERWISE INDICATED ON THE DRAWINGS
- 4. BURIED DUCTILE IRON PIPE SHALL CONFORM WITH ANSI/AWWA C150/A21.50 AND C151/ A21.51. AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI, BURIED PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.
- 5. EXPOSED PIPE 4" AND LARGER SHALL BE DUCTILE IRON FLANGED AND SHALL CONFORM WITH AWWA/ANSI C115/A21.15, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. FLANGED PIPE SHALL COMPLY WITH THE FOLLOWING THICKNESS CLASS (TC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 4" DIAMETER = TC 54; B) T THROUGH 24" DIAMETER = TC 53
- 6. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.
- 7. PVC PIPE 4* 17 SHALL CONFORM TO AWWA C900. PIPE 14* 36* SHALL CONFORM TO AWWA C905. PIPE SHALL CONFORM TO ASTM D1784, TYPE I, GRADE I, 4000 PSI DESIGN STRESS, AND SHALL BE NATIONAL SANITATION FEDERATION (NSF APPROVED. PIPE SHALL BE CLASS 150 (DR18) WITH MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.
- 8. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.
- 9. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104/A21.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPDXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO COATS TNEMEC SERIES 2 TNEME-GLOSS, GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL, AT MINIMUM 4 MILS DRY FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY
- 10.MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSI/AWWA C111/A21.11, LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.
- 1. ALL FITTINGS SHALL BE RESTRAINED IN ACCORDANCE WITH DIPRA, "THRUST RESTRAINT DESIGNED FOR DUCTILE IRON PIPE", PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE CTURERS REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER. DUCTILE IRON RESTRAINED JOINTS SHALL BE AMERICAN FAST GRIP GASKET, FLEX-RING, FIELD FLEX RING, LOK-RING, US PIPE TR-FLEX, EBAA MEGALUG, OR EQUAL. PVC PIPE JOINTS SHALL BE RESTRAINED USING MECHANICAL DEVICES, UNI-FLANGE BLOCK BUSTER SERIES 1350 OR ENGINEER APPROVED EQUAL.
- 12.ALL SERVICE PIPING (W -T) SHALL BE POLYETHYLENE. SDR-PR PE PIPE SHALL BE MANUFACTURED FROM PE3408 AND SHALL CONFORM TO AWWA C901. ALL PIPE SHALL BE DR9, PRESSURE CLASS 200 PSI. PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.
- 13. ALL SERVICE SADDLES SHALL CONSIST OF DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL TO BE TYPE 304. NUTS TO BE TEFLON COATED. DUCTILE IRON BODY TO BE FUSION BONDED NYLON COATING, MINIMUM THICKNESS 12 MILS.
- 14. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER
- 15.UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP.
- 16.UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED. 17. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. INTERIOR OF VALVES SHALL BE COATED WITH A RUST INHIBITING EPDXY PRIMER, FOLLOWED BY A COAL TAR EPDXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING ON BURIED VALVES SHALL BE RUST INHIBITING EPDXY PRIMER, FOLLOWED BY A COAL TAR EPDXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY APPLIED RUST INHIBITING EPDXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO COATS TNEMEC SERIES 2 TNEME-GLOSS,
- GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL, AT 4 MILS MINIMUM DRY FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS. 18. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509. THE VALVES SHALL BE GATE VALVES CHARLES INCHES TO 12 IN ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH 0-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.
- 19. TAPPING VALVES AND SLEEVES SHALL BE APPROVED AWWA TYPE OF THE SIZE REQUIRED. VALVES SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. 20. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVE BODY SHALL BE MECHANICAL IOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL
- 21. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. 0-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE. SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.
- 22 ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON, BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION V TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN
- 23.PVC PIPE SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS), STENCILED "WATER LINE" OR "RECLAIMED WATER LINE", AS APPLICABLE, (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).
- 4.INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON BLUE BACKGROUND (WATER MAINS), BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS), PLACE TAPE AS FOLLOWS: 7 - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10P - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
- 25.INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW", OR "CAUTION: RECLAIMED WATER MAIN BURIED BELOW", APPLICABLE. 26.INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES, WIRE SHALL BE COLOR-CODED 14 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS, INSTALL LOCATOR WIRE ALONG ALL RIZED PIPELINES 7 AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER CITY REQUIREMENTS.
- 27.ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE
- 28.TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED. 19. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO
- NOTICEABLE LEAKS. 30.ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "WATER' OR "RECLAIMED WATER

- 31 ADDLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS) 200 PSI (FIRE MAINS) OR 100 PSI (FIRE MAINS) FOR 100 MINI TES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURERS SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.
- 32 ADDLY LEAKAGE TEST PRESSLIRE OF 150 PSL (WATER MAINS) 200 PSL (FIRE MAINS) OR 100 PSL (RECLAIMED WATER MAINS). MAINTAIN PRESSLIRE AT A MAYIMLIM VARIATION OF 5% INLIRING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.
- 34. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/133200 (AWWA C-600 DUCTILE IRON MAINS), OR L = NDP/7400 (AWWAC-605 - PVC MAIN); WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR. THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; IN = IMMANISHME LEARNISHME LEARNIS AUTHORIZED TEST PRESSURE.

33.NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.

- 35.ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE. 36.DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS
- 37.ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C6
- COMBUSTIBLE CONSTRUCTION CANNOT OCCUR UNTIL PROPER DOCUMENTATION HAS BEEN SUBMITTED TO THE LOCAL FIRE MARSHAL, DOCUMENTATION SHALL SHOW THAT HYDRANTS HAVE BEEN INSTALLED, TESTED, AND ARE IN PROPER
- WORKING ORDER. 2. INSTALL ALL FIRE LINE PIPING AT A MINIMUM 36 INCHES OF COVER.
- 3. ALL FIRE LINE PIPING FROM POINT OF SERVICE AS DEFINED BY FS 633.021(16) SHALL BE C900 DR 14. THE FIRE LINE SHALL BE PRESSURE TESTED TO 200 PSI FOR A MINIMUM OF TWO HOURS, TESTED IN ACCORDANCE WITH NFPA 24-9-2. 4. THE CONTRACTOR INSTALLING THE UNDERGROUND FIRE PROTECTION PIPING SHALL HOLD A CLASS I, II, OR LEVEL V CERTIFICATION AS ISSUED BY THE STATE OF FLORIDA, AS REQUIRED BY FS 633.021(5).
- 5. ALL FIRE PROTECTION SPRINKLER SYSTEMS INSTALLED SHALL COMPLY WITH NFPA 13, AND SHALL BE MONITORED BY A COMPANY LISTED AS A CENTRAL STATION.
- 6. HYDRANTS SHALL CONFORM TO AWWA C502 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURERS CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE 7. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO-TWO AND A HALF INCH [(2) 2-1/2"] HOSE CONNECTIONS AND ONE-FOUR
- AND A 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. THE HYDRANTS SHALL OPEN COUNTERCLOCKWISE. 8. ALL HYDRANTS SHALL BE PAINTED IN AN APPROVED MANNER WITH THE PRIMER PAINT BEING KOPPER'S "GLAMORTEX" NO. 622 RUST PRIMER AND THE FINISH PAINT SHALL BE TWO COATS OF ENAMEL OR SPECIAL COATING TO COLOR AS
- 9. BLUE PAVEMENT REFLECTORS (CAT EYES) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF ALL FIRE HYDRANTS. THERE SHALL BE NO TREES, SHRUBS, OR LANDSCAPING PLANTED AROUND THE FIRE YDRANTS OR IN AREAS DESIGNATED AS FIRE LANES
- 10.NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST: THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER; SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN; AND TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

11.THE CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND THE UTILITY. HYDRANTS SHALL DELIVER A MINIMUM OF 1250 GPM WITH A RESIDUAL PRESSURE OF 20 PSI.

CHECK WIRE FOR ELECTRICAL CONTINUITY

FIRE PROTECTION SYSTEMS

- SANITARY SEWER SYSTEMS
- 1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS THE CITY OF MIAMI BEACH. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF MIAMI BEACH FLORIDA. 2. PVC SEWER PIPE SHALL BE TYPE PSM PVC PIPE CONFORMING TO ASTM D3034 AND SHALL BE SDR 35 FOR 4" THROUGH 15", AND ASTM F 679, WALL THICKNESS T-1, FOR PIPE 18" THROUGH 27".
- 3. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.
- 4. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.
- 5. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY
- 6. PVC SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2. LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).
- 7. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS. WIDTH 6 INCHES, LETTER SIZE 1 INCH, TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN ACKGROUND. PLACE TAPE AS FOLLOWS: -8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" -18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

- 8. INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW". INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE
- 9. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE. 10.PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND
- UTILITY, NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED 11.PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING
- 12. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE. BE CONSIDERED UNSATISFACTORY, UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS, AND SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION. 14. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS: A) 4" PIPE = 1 MIN 53 SEC; B) 6" PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8" PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED,
- 16. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 5%. MEASURE DEFLECTION BY MANUALLY PULLING A SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL 17. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE, REPLACE OR CORRECT

PRECAST STRUCTURES AND APPURTENANCES

- 1. ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED.
- AND SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES.

THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE RE-TESTED FOR LEAKAGE.

- 5 LINESS OTHERWISE INDICATED. CONF. TOP, SECTIONS SHALL BE PRECAST. ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAR OPS WITH ECCENTRIC 24 INCH DIAMETER OPENING, UNLESS OTHERWISE INDICATED 6. PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE, CONNECTION OF CONCRETE PIPE TO THE MANHOLE SHALL BE MADE WITH NON-SHRINK METALLIC GROUT, CONNECTION OF DUCTILE IRON OR VC PIPE TO THE MANHOLE SHALL PROVIDE A WATERTIGHT CONNECTION PER ASTM C923. WHERE CONNECTORS ARE USED, THEY SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER, THE USE OF ADHESIVES OR LUBRICANTS FOR INSTALLATION OF RUBBER CONNECTORS IS PROHIBITED.
- 8. PROVIDE CAST IRON INLETS, FRAMES, AND GRATES IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. ALL FRAMES AND INLET GRATES SHALL BE PRODUCTS OF U.S. FOUNDRY & MANUFACTURING CORPORATION, OR
- A. SANITARY SEWER MANHOLE INTERIOR BITUMINOUS EPDXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.
- B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT, FIBERGLASS LINER. LINER THICKNESS TO BE IN ACCORDANCE WITH THE DRAWINGS.

11. AS-BUILT INFORMATION SHALL INCLUDE ALL RIM, TOP AND INVERT ELEVATIONS FOR ALL PRECAST STRUCTURES.

- 1. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ROUND CONCRETE PIPE SHALL COMPLY WITH ASTM C76. ELLIPTICAL CONCRETE PIPE SHALL COMPLY WITH ASTM C507. PIPE JOINTS AND 0-RING GASKETS SHALL COMPLY ASTM C443. MINIMUM COVER OVER THE PIPE, INCLUDING COVER OVER THE BELL OF THE PIPE WHERE APPLICABLE, SHALL BE 30 INCHES.
- 3. CORRUGATED POLYETHYLENE (PE) PIPE AND FITTINGS SHALL BE HIGH DENSITY, IN ACCORDANCE WITH ASTM D3350, CELL CLASSIFICATION 324420C (4*-10") OR CELL CLASSIFICATION 335420C (17-36"). PIPE 4*-10" SHALL COMPLY WITH AASHTO M252, TYPE S. PIPE 12"-36" SHALL COMPLY WITH AASHTO M294, TYPE S. BELL JOINTS FOR 4"-10" PIPE SHALL BE PUSH-ON SLEEVE. BELL JOINTS FOR 12"-36" PIPE SHALL BE INTEGRALLY FORMED
- 4. UNDERDRAIN PIPE SHALL BE PERFORATED POLYVINYL CHLORIDE PIPE IN ACCORDANCE WITH ASTM F758. FILTER FABRIC UNDERDRAIN SOCK SHALL BE TYPE D-3 IN ACCORDANCE WITH FDOT INDEX NO. 199. 5. ALL PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC. FILTER FABRIC SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. 199, TYPE D-3, A.O.S. 70-100. INSTALL IN ACCORDANCE WITH FDOT INDEX NO. 280. PROVIDE
- WHICHEVER IS GREATER; B) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS MANUFACTURED AGGREGATES CLASS 1A OR 1B AS DEFINED IN ASTM D2321: MINIMUM COVER SHALL BE 30 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER.
- 7. INSTALL UNDERDRAINS IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 440. INSTALL CLEANOUTS AS SHOWN ON THE DRAWINGS 8. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND STRUCTURES. 9. ALL STORM PIPE SHALL BE SUBJECTED TO LEAKAGE TESTING. WHEN THE GROUND WATER LEVEL IS ABOVE THE TOP OF THE PIPE, AN INFILTRATION TEST SHALL BE PERFORMED BY SEALING OFF A LENGTH OF PIPE AND MEASURING THE DEPTH OF FLOW OVER A MEASURING WEIR, OR BY PUMPING THE INFILTRATED WATER INTO CONTAINERS FOR MEASUREMENT. TESTS SHALL BE CONDUCTED FOR A MINIMUM OF FOUR HOURS. INFILTRATION LEAKAGE SHALL NOT EXCEED 150 GALLONS PER 24 HOURS, PER INCH DIAMETER, PER MILE OF PIPE. WHEN THE GROUND WATER LEVEL IS BELOW THE TOP OF THE PIPE, THE PIPE SHALL BE TESTED FOR

MEASURED. THE COMPUTED LEAKAGE SHALL NOT EXCEED 150 GALLONS PER INCH DIAMETER, PER 24 HOURS, PER MILE OF PIPE.

- PAVING, SIDEWALKS, AND CURBING 1. MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD
- A. TYPE S ASPHALTIC CONCRETE: MINIMUM STABILITY 1500 LBS, COMPACTED TO A MINIMUM OF 95% OF THE MARSHALL DESIGN DENSITY. FOR OFFSITE PAVEMENT USE TYPE SP PAVEMENT PER THE FDOT STANDARDS

INLET, AND ALLOWING IT TO STAND NOT LESS THAN FOUR HOURS. THE SECTION SHALL THEN BE REFILLED WITH WATER UP TO THE ORIGINAL LEVEL AND AFTER TWO HOURS THE DROP IN WATER SURFACE SHALL BE

- OF 100) OR CONTROLLED LOW STRENGTH MATERIAL ("FLOWABLE FILL"), F'6 (28 DAY) = 100-125 PSI AT NO ADDITIONAL COST, PROVIDED STRUCTURAL NUMBER EQUALS OR EXCEEDS THAT OF THE SPECIFIED 3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE SIDEWALK SHALL BE CONSTRUCTED OF 4" OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSL.
- SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10:00 ON CENTER CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD PECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS. 5. FIELD COMPACTION DENSITY, STABILITY, AND THICKNESS TESTING FREQUENCIES OF SUB-BASE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FT WIDE STRIP, STAGGERED

- 2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 4" x 4"). RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH THESE PLANS AND FDOT INDEX
- 3. PARKING STALL PAVEMENT MARKINGS SHALL BE PAINTED. PAINT SHALL MEET THE REQUIREMENTS OF FDOT SPECIFICATION SECTION 971, NON-REFLECTIVE WHITE TRAFFIC PAINT. 4. ALL ROADWAY TRAFFIC SIGNS SHALL BE MANUFACTURED USING HIGH INTENSITY RETROREFLECTIVE MATERIALS. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, THE

6. THE CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH OF THE SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO FABRICATION.

COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMEN

- PAVING TIMING REQUIREMENTS I. INSTALL SUBGRADE AND BASE COURSE MATERIALS WITHIN 48 HOURS OF THE REMOVAL / OPEN CUTTING OF EXISTING PAVEMENT CONSISTING OF STREETS, DRIVEWAYS, OR SIDEWALK. INSTALL FINAL SURFACE
- 2. AREAS TO RECEIVE ASPHALT SHALL RECEIVE EROSION CONTROL MEASURES NO LATER THAN 48 HOURS AFTER ACCEPTANCE OF BASE COURSE. TEMPORARY EROSION CONTROL CONSISTS OF PLACEMENT OF A BITUMINOUS PRIME COAT AND SANDING THE SURFACE. PERMANENT EROSION CONTROL CONSISTS OF PLACEMENT OF THE STRUCTURAL COURS 3. AREAS TO RECEIVE CONCRETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF ACCEPTANCE OF THE SUBGRADE.

- 13. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMPING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, BETWEEN ADJACENT MANHOLES SHALL
- 15. CONDUCT LEAKAGE TESTING OF MANHOLES. PLUG INVERTS AND FILL MANHOLE WITH WATER. ALLOWABLE WATER DROP IN MANHOLE TO BE FIELD DETERMINED BY UTILITY AND ENGINEER. MINIMUM TEST DURATION IS MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6" SEWER = 5.45" MANDREL; 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12"

WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.

- 2. BASES SHALL BE ONE-PIECE PRECAST BASE SECTIONS CONSISTING OF INTEGRALLY CAST SLAB, BOTTOM RING SECTION AND CONCRETE FLOW CHANNELS. BASE SECTIONS SHALL HAVE INTEGRAL INVERTS WITH GASKETS TO MATCH THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL INVERT ANGLES. PROVIDE OUTLET STUBS WITH JOINTS TO MATCH THE PIPE.
- 3. RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478, MANUFACTURED USING SULFATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH DIAMETER UNLESS OTHERWISE INDICATE! 4. GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE INDICATED
- 7. FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE US FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), UNLESS OTHERWISE NOTED IN THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE, RAISED LETTERING ON COVERS SHALL BE "STORM", "SEWER", OR AS DETAILED ON THE DRAWINGS
- 9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE
- 10. MANHOLE COATINGS AND FINISHES SHALL BE:
- C. EXTERIOR BITUMINOUS EPDXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS
- 2. RCP PIPE SHALL NOT BE SHIPPED FROM MANUFACTURER UNTIL THE COMPRESSIVE STRENGTH OF THE PIPE HAS REACHED 4000 PSI AND A MINIMUM OF 5 DAYS HAVE PASSED SINCE THE MANUFACTURING OR REPAIR OF THE PIPE HAS BEEN COMPLETED.
- ON PIPE. GASKETS SHALL BE INSTALLED BY PIPE MANUFACTURER AND SHALL COMPLY WITH ASTM D1056, GRADE 2A2. FITTINGS SHALL COMPLY WITH AASHTO M29-
- MINIMUM 12" OVERLAP. 3. INSTALL POLYETHYLENE PIPE IN ACCORDANCE WITH ASTM D2321. BACKFILL AND COMPACT EVENLY ON EACH SIDE TO PREVENT DISPLACEMENT. MINIMUM COVER OVER POLYETHYLENE PIPE SHALL BE AS FOLLOWS: A) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS SUITABLE SOILS AS DEFINED IN THE GENERAL NOTES: MINIMUM COVER SHALL BE 36 INCHES OR ONE PIPE DIAMETER,
- LEAKAGE BY EXFILTRATION. EXFILTRATION LEAKAGE TEST SHALL CONSIST OF ISOLATING THE PARTICULAR SECTION, FILLING WITH WATER TO A POINT 4 FEET ABOVE THE TOP OF THE PIPE AT THE UPPER MANHOLE C
- 2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS. MATERIAL STABILITY AND DENSITY REQUIREMENTS ARE AS FOLLOWS:
- B LIMEROCK BASE: MINIMUM LRR OF 100 PLACED IN 6" MAXIMUM LIFTS. COMPACTED TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DRY DENSITY (AASTHO T-180). CONTRACTOR MAY SUBSTITUTE C. SUBGRADE: STABILIZE TO A MIN. LBR OF 40, COMPACT TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DRY DENSITY (AASTHO T-180). CONTRACTOR MAY SUBSTITUTE LIMEROCK SUBGRADE (MIN. LBR
- JOINTS SHALL BE EITHER TOOLED OR SAW CUT AT A DISTANCE OF 10'. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND SHALL BE IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, LATEST EDITION. 4. CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE FDOT CLASS "1" CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. ALL CURBS

EFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUB-BASE, BASE, AND ASPHALT IS PLACED IN ONE DAY, PROVIDE MIN. OF ONE TEST FOR EACH PER DAY'S CON LOCATION DESIGNATED BY THE ENGINEER. ASPHALT EXTRACTION GRADATION SHALL BE TESTED FROM GRAB SAMPLES COLLECTED ONCE EVERY 1800 SQUARE YARDS OF ASPHALT DELIVERED TO THE SITE (OR A

- SIGNS AND PAVEMENT MARKINGS 1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST IMPLEMENTED EDITION OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, STANDARD INDEX NO. 11200, 11860, 11862, 11863, 11864, 11865, 17302, 17344, 17346, 17349, AND 17355 APPLY. GENERALLY, ALL MARKINGS SHALL CONFORM TO THE FOLLOWING: 6" EDGE LINES, 6" LANE LINES, 6" SINGLE CENTERLINES, AND 6" DOUBLE LINE PATTERNS, UNLESS OTHERWISE NOTED ON THE PLANS.
- FABRICATOR'S INITIALS, AND THE NAME OF THE SHEETING IN THREE-INCH LETTERS. 5. INTERNAL SITE TRAFFIC SIGNS ARE NOT REQUIRED TO BE RETROREFLECTIVE.
- 7. ALL PAVEMENT MARKINGS REQUIRE LAYOUT APPROVAL IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION. 8. PRIOR TO FINAL PAVEMENT MARKING INSTALLATION, A TWO WEEK CURE TIME OF THE ASPHALT IS REQUIRED

JORGE M. SZAUER

FLA. REG. P.E. # 62579

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GENERAL EROSION & SEDIMENTATION CONTROL NOTES

- A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF
- B. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN, OR AS REQUIRED BY THE APPLICABLE GENERAL PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND / OR GRADING SHALL BE PERMITTED.
- GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERM ON DOWNSTREAM SIDES.
- F.ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR
- SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- DUST ON THE SITE SHALL BE MINIMIZED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGHOUT THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- J.ALL DENUDED f BARE AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE, MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY, WITH THE USE OF FAST-GERMINATING ANNUAL GRASS / GRAIN VARIETIES, STRAW / HAY MULCH WOOD CELLULOSE FIBERS,
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED. SODDED, AND / OR VEGETATED IMMEDIATELY, AND NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND / OR LANDSCAPE PLAN.
- LIF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE ONLY USE INGRESS / EGRESS LOCATIONS AS PROVIDED
- M. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- CONTRACTOR OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
- 0. 0N-SITE AND OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH **GENERAL PERMIT REQUIREMENTS.**
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT , THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.
- GENERAL CONTRACTOR IS TO DESIGNATE / IDENTIFY AREAS ON THE SITE MAPS, INSIDE OF THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND **DELIVERY AND MATERIAL STORAGE.**
- WHEN INSTALLATION OF SILT FENCE IS PERFORMED, THE CONTRACTOR SHALL STABILIZE THE DISTURBED AREA ALONG THE DOWNWARD SLOPE BY SEEDING OR MULCHING AS CONDITIONS WARRANT

BMP MAINTENANCE EROSION NOTES

- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
- ALL SEEDED \ SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED. WATERED, AND RESEEDED \ RESODDED AS NEEDED.
- SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
- 4. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.
- THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.
- 6. OUTLET STRUCTURES SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT
- BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. AND DEBRIS AND I OR SEDIMENT REACHING THE PUBLIC STREET

WASHING AREAS

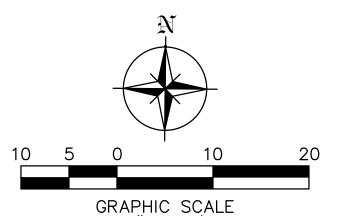
VEHICLES SUCH AS CEMENT OR DUMP TRUCKS AND OTHER CONSTRUCTION EQUIPMENT SHOULD NOT BE WASHED AT LOCATIONS WHERE THE RUNOFF WILL FLOW DIRECTLY INTO A WATERCOURSE OR STORM WATER CONVEYANCE SYSTEM. SPECIAL AREAS SHOULD BE DESIGNATED FOR WASHING VEHICLES. THESE AREAS SHOULD BE LOCATED WHERE THE WASH WATER WILL SPREAD OUT AND EVAPORATE OR INFILTRATE DIRECTLY INTO THE GROUND, OR WHERE RUNOFF CAN BE COLLECTED IN A TEMPORARY HOLDING OR SEEPAGE BASIN. WASH AREAS SHOULD HAVE GRAVEL BASES TO MINIMIZE MUD GENERATION.

SYMBOLS LEGEND

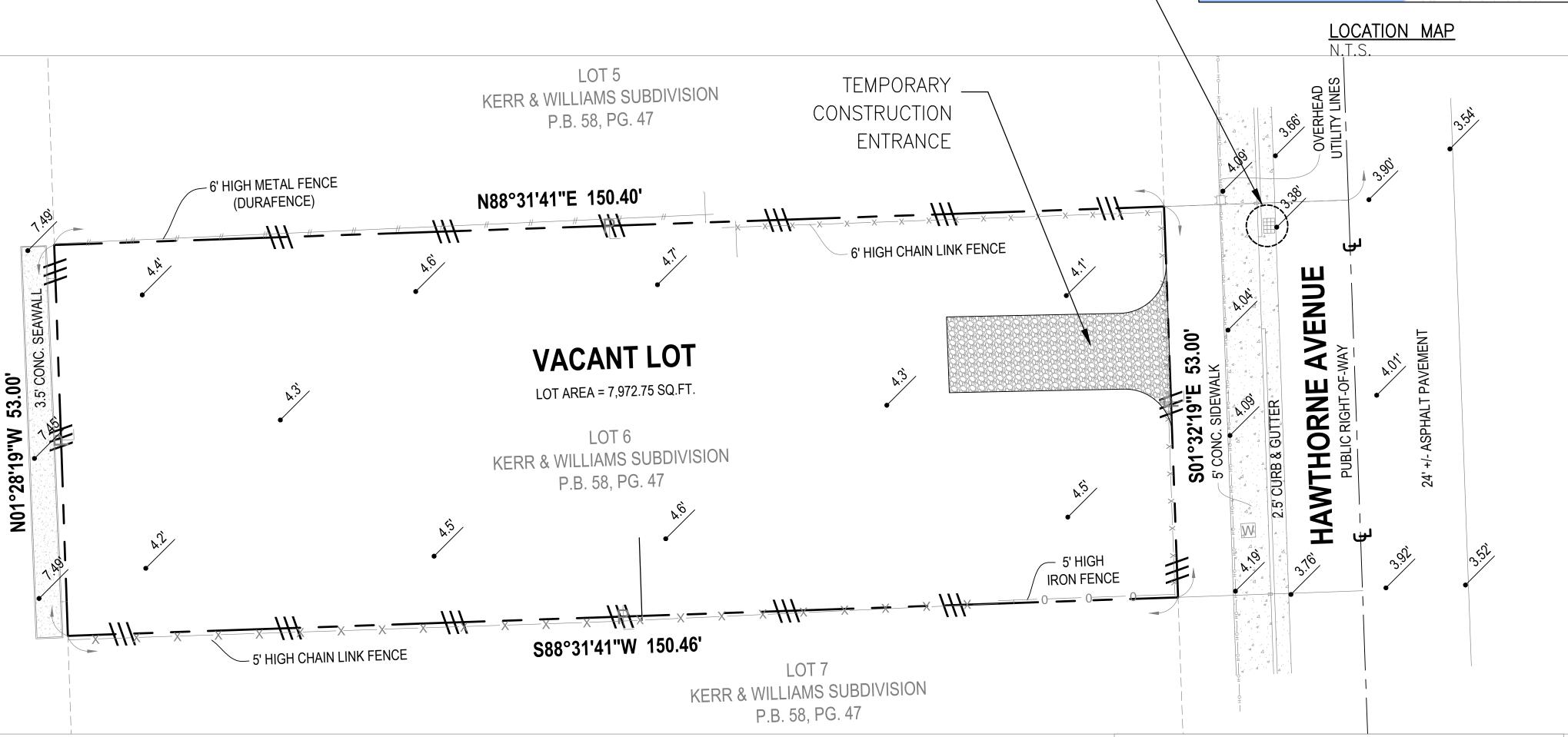
PROPERTY LINE/LIMITS OF DISTURBANCE

SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SEDIMENT INTRUSION INTO STORM WATER INLETS DURING CONSTRUCTION, WHEN APPLICABLE.

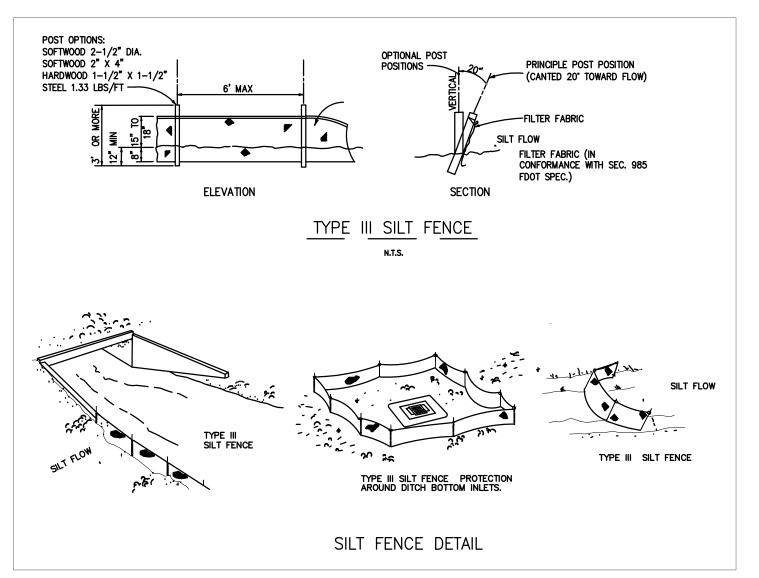


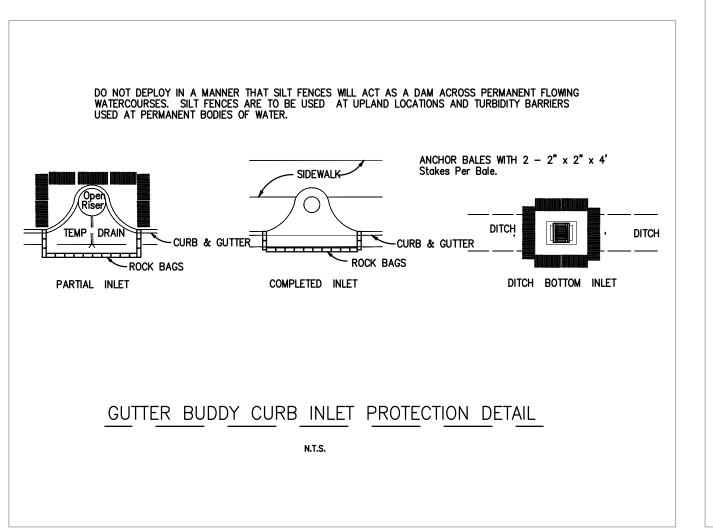


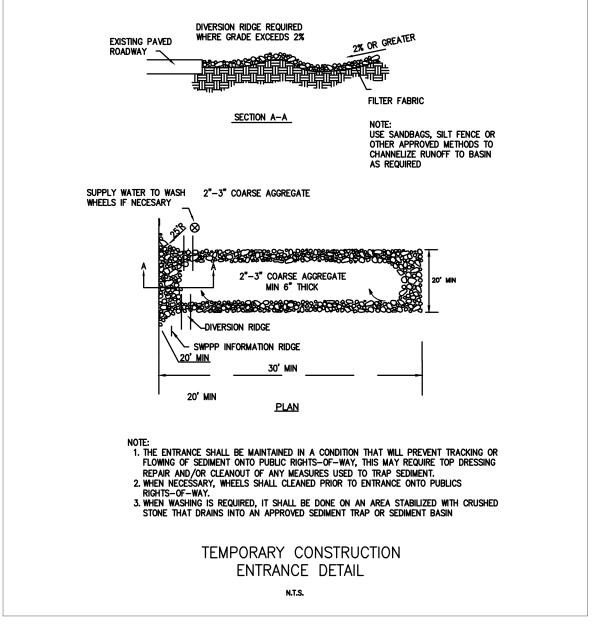


INTRUSION INTO STORM WATER

INLETS DURING CONSTRUCTION







S Biscayne Point Rd

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