SITE IMPROVEMENT PLANS

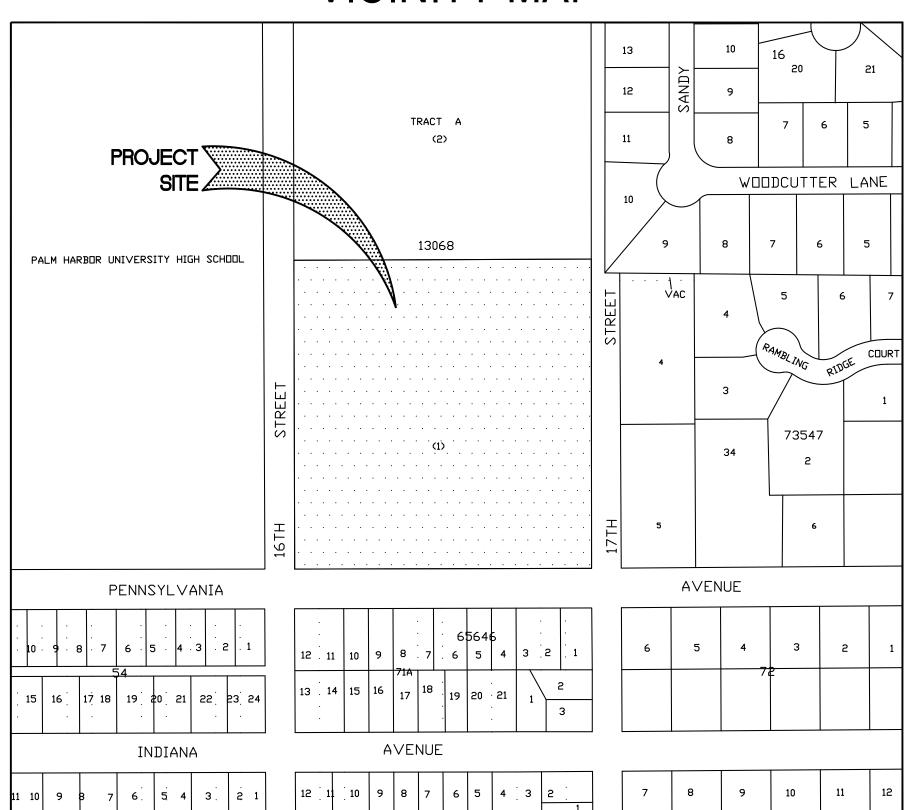
FOR



CSA PALM HARBOR RECREATIONAL FIELD

1550 16th STREET
PALM HARBOR, FL 34683
UNINCORPORATED PINELLAS COUNTY
PARCEL No. 01-28-15-13068-000-0010
SECTION 1, TOWNSHIP 28 S., RANGE 15 E.

VICINITY MAP



CONTACTS

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315 COURT STREET
CLEARWATER, FL 33756
(727) 464-3496

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(727) 771-6000
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CIVIL ENGINEER:
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4830 W. KENNEDY BLVD., SUITE 600

TAMPA, FL 33609 (813) 509-2403 CONTACT: JOSÉ MARTINEZ JMARTINEZ@BOWMANCONSULTING.COM

LOCAL / RIGHT-OF-WAY JURISDICTION: PINELLAS COUNTY 315 COURT STREET CLEARWATER, FL 33756 (727) 464-3377

WATER MANAGEMENT DISTRICT: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT 7601 U.S. HIGHWAY 301 TAMPA, FL 33637 (813) 985-7481

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PLAN STATUS

DATE DESCRIPTION

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DESIGN DRAWN CHKD

SCALE AS SHOWN

JOB No. 00000-00-000

DATE 12/01/2016

FILE COV.DWG

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GENERAL PROVISIONS

- 1. THE GENERAL NOTES PRESENTED HEREIN ARE INTENDED TO SERVE AS A GUIDE TO THE CONTRACTOR AND ARE NOT INTENDED TO SUPERCEDE GOVERNING JURISDICTIONAL CRITERIA THAT MAY APPLY. FOR SPECIFIC ITEMS NOT IDENTIFIED ON THE CONSTRUCTION PLANS, THE CONTRACTOR SHALL REQUEST INFORMATION FROM THE ENGINEER AND JURISDICTIONAL INSPECTOR PRIOR TO COMMENCEMENT OF WORK AND ORDERING OF APPLICABLE MATERIALS.
- PRIOR TO CONSTRUCTION WORK, THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE DEVELOPER FOR TIMING OF CONSTRUCTION TASKS THAT MAY AFFECT ADJACENT PROPERTY USERS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION OF ALL WORK SHOWN OR IMPLIED ON THE CONSTRUCTION PLANS AND SHALL INCLUDE COST TO PERFORM AND INSTALL WORK ITEMS ON BID.
- 4. $\,$ THE CONTRACTOR SHALL OBTAIN FROM THE DEVELOPER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS.
- 5. CONSTRUCTION ACTIVITIES THAT WILL RESULT IN THE DISTURBANCE OF ONE (1) OR MORE ACRES OF LAND ARE REQUIRED TO OBTAIN COVERAGE UNDER THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (CGP) IF STORMWATER FROM THE ACTIVITY HAS THE POTENTIAL TO ENTER A SURFACE WATER OF THE STATE OR A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4). A CGP NOTICE OF INTENT (NOI) FORM MUST BE FILED WITH THE AGENCY HAVING JURISDICTION OVER THE NPDES PROGRAM AT LEAST 2 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. COVERAGE WILL BE EFFECTIVE 48 HOURS AFTER THE POST-MARKED DATE OF THE COMPLETE NOI SUBMITTAL. THE OPERATOR OF THE PROJECT IS REQUIRED TO SIGN AND FILE THE NOI. THE OPERATOR IS THE ENTITY THAT OWNS OR OPERATES THE PROJECT AND HAS SUFFICIENT AUTHORITY TO ASSURE COMPLIANCE WITH THE PERMIT REQUIREMENTS. TYPICALLY, THE OPERATOR WILL BE THE OWNER, DEVELOPER, OR GENERAL CONTRACTOR. THE ARCHITECT/ENGINEER SHOULD NOT BE INDICATED AS THE OPERATOR AND SIGN THE NOI UNLESS THEY HAVE OPERATIONAL CONTROL OVER THE PROJECT. THE RESPONSIBLE AUTHORITY IS THE PERSON THAT HAS AUTHORITY TO SIGN THE NOI FOR THE OPERATOR. TO TERMINATE PERMIT COVERAGE, THE OPERATOR SHALL FILE A NOTICE OF TERMINATION (NOT) WITHIN 14 DAYS OF FINAL STABILIZATION OF THE SITE. THE CONTRACTOR SHALL KEEP ON SITE A COPY OF THE SWPPP, NOI, AND WATER MANAGEMENT DISTRICT PERMITS ISSUED, TOGETHER WITH THE INSPECTION REPORTS AND CURRENT PLANS, INCLUDING ANY MODIFICATIONS REQUIRED.
- UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE DEVELOPER OR DEVELOPER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- 1. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. FORESITE GROUP, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.
- . THE CONTRACTOR SHALL SUBMIT A COPY OF THE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL THOROUGHLY CHECK SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR COMPLETENESS AND FOR COMPLIANCE WITH THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS AND FIELD CONDITIONS PERTAINING TO THE SHOP DRAWINGS AND SHALL COORDINATE ANY RELATED WORK. AT THE TIME OF SUBMISSION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF DEVIATIONS IN SUBMITTALS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR'S RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMITTALS IS NOT RELIEVED BY THE ENGINEER'S REVIEW OF SUBMITTALS.
- 9. THE CONTRACTOR SHALL PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF A MARKER NEEDS TO BE REMOVED, IT SHALL BE REFERENCED BY A LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. MINIMUM TESTING SHALL INCLUDE, BUT NOT BE LIMITED TO: A) PIPING AND STRUCTURAL EXCAVATION, BEDDING, BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS: C) CONCRETE AND ASPHALT QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD-AND LAB-CURED STRENGTH SAMPLES AND TESTING.
- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY REGULATORY AGENCY SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL ASSOCIATED COSTS AND SHALL FURNISH THE DEVELOPER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.
- 12. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE DEVELOPER 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. 13. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS TO THE DEVELOPER AND ENGINEER
- 14. 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, AND ALL ADJACENT AREAS AFFECTED BY WORK. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE DEVELOPER.

EROSION AND SEDIMENT CONTROL

- EROSION AND SEDIMENT CONTROL MEASURES AS DESCRIBED ON THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK. MINIMUM SEDIMENT CONTROL CONSISTS OF SILT FENCING, HAY BALES, AND FLOATING TURBIDITY BARRIERS PER FDOT INDEX NO. 102 AND 103. MINIMUM EROSION CONTROL CONSISTS OF SEEDING AND MULCHING, SODDING, WETTING SURFACES, PLACEMENT OF COARSE AGGREGATE, AND
- MAINTAIN TEMPORARY EROSION CONTROL SYSTEMS AS DIRECTED BY OWNER, OR GOVERNING AUTHORITIES TO CONTROL EROSION AND SILTATION DURING CONSTRUCTION PERIOD. OWNER HAS AUTHORITY TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, TRENCHING, BORROW AND EMBANKMENT OPERATIONS. OWNER ALSO HAS AUTHORITY TO DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
- . CONTRACTOR SHALL RESPOND TO EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS AS SITE CONDITIONS WARRANT, AND IMPLEMENT ADDITIONAL MEASURES TO CONTROL EROSION ORDERED BY OWNER OR GOVERNING AUTHORITIES WITHIN FORTY-EIGHT (48) HOURS OR SOONER IF REQUIRED AT NO ADDITIONAL COST
- 1. CONTRACTOR WILL BE REQUIRED TO INCORPORATE PERMANENT EROSION CONTROL FEATURES INTO PROJECT AT EARLIEST PRACTICAL TIME TO MINIMIZE NEED FOR
- 5. 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.
- . GRASS ALL DISTURBED AREAS WITHIN SEVEN (7) DAYS OF INITIAL DISTURBANCE. TYPE OF GRASS 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 ON THE DRAWINGS OR SPECIFICATIONS.
- CONTRACTOR SHALL INSPECT EVERY TWO (2) WEEKS DURING CONSTRUCTION, REMOVE ANY SEDIMENT BUILD-UP, AND REPAIR AND REINSTALL ANY DAMAGED OR MISSING
- SEDIMENT CONTROL MEASURES. INSTALL ADDITIONAL MEASURES IF INSPECTION REVEALS ADDITIONAL SEDIMENTATION CONTROL IS NECESSARY 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 FORTY-EIGHT (48) HOURS AFTER INSTALLATION OF BASE COURSE. AREAS TO BE PAVED WITH CONCRETE SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN FORTY-EIGHT (48) HOURS OF INSTALLATION OF THE SUBGRADE. INSTALL FINAL SURFACE COURSES WITHIN FORTEEN (14)

MAINTENANCE OF TRAFFIC

DAYS AFTER REMOVAL OF EXISTING PAVEMENT.

- . THE CONTRACTOR SHALL BE 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, BARRICADES, AND OTHER DEVICES 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 AND TIMING SHALL BE CLOSELY COORDINATED WITH THE ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION.
- 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 CONTROL DEVICES (MUTCD). THE PLACEMENT OF THE SIGNING AND MARKINGS SHALL BE APPROVED IN THE FIELD BY M.O.T. CERTIFIED PERSONNEL 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. CONTRACTOR SHALL CONTACT PROPERTY OWNERS TO BE AFFECTED BY CONSTRUCTION AND SHALL COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING.
- MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.
- WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.
- 6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.
- THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.
- 8. IF WORK OCCURS WITHIN FIFTEEN (15) FEET OF ACTIVE ROAD TRAVEL LANES BUT NO CLOSER THAN TWO (2) FEET FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 600 AND 602.
- 9. TYPE I OR TYPE II BARRICADES AT 20-FEET 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-COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

SITE PREPARATION

- UNLESS OTHERWISE DIRECTED BY THE DEVELOPER OR ENGINEER, THE CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY (R.O.W.), 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 OR 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.
- . STAKE OUT THE CONSTRUCTION AREA, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.
- PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE R.O.W., EASEMENTS, AND OWNER-SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED
- I. WITHIN THE R.O.W., EASEMENTS, AND OWNER-SECURED PROPERTY, TREES AND SHRUBS SHALL REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN FIFTEEN (15) FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR
- HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD AREA. 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 AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.

FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15-FEET WIDE PATH, CENTERED ON THE PIPELINE.

TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT

- EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.
- CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON OR OTHERWISE OBSTRUCT THE WORK. 8. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN TWO (2) INCHES IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF
- NOT LESS THAN EIGHTEEN (18) INCHES BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND. 9. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE PROPERLY REMOVED TO LEGAL OFF-SITE DISPOSAL AREAS.
- 10. DAMAGED AREAS SHALL BE REPLACED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION PRIOR TO DISTURBANCE.

EARTHWORK

- 1. GRADING SHOWN ON THESE PLANS ARE PROVIDED TO THE CONTRACTOR FOR GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL 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 SMOOTH TRANSITION OF DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY BE CHANGED TO DRAIN
- POSITIVELY IN THE AREA OF INTERSECTIONS. THE CONTRACTOR SHALL ACCOMPLISH THE ABOVE AND CONSULT THE ENGINEER SO THAT THE ENGINEER MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.
- 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 REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES, AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE GRADER OPERATIONS.
- 4. SLOPE GRADES TO DRAIN AWAY FROM STRUCTURES AT A MINIMUM OF 1/4-INCH PER FOOT FOR TEN (10) FEET. FINISHED SURFACES ADJACENT TO PAVED AREAS AND WITHIN TEN (10) FEET OF STRUCTURES SHALL BE WITHIN ONE (1) INCH OF THE PROPOSED GRADE. ALL OTHER AREAS SHALL BE WITHIN THREE (3) INCHES OF THE PROPOSED GRADE.
- 5. NEWLY-GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES AND SLOPES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AT NO ADDITIONAL COST TO THE DEVELOPER.
- 6. THE CONTRACTOR SHALL NOTE THAT FILL AND COMPACTION REQUIREMENTS FOR EACH AREA OF THE SITE MAY DIFFER PER THE IMPROVEMENTS PROPOSED UPON THE RESPECTIVE SURFACE. PROPER FILL AND COMPACTION SHALL BE UTILIZED PER THE PLANS AND GEOTECHNICAL ANALYSIS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD FOR CLARIFICATION IF NECESSARY.
- 7. THE CONTRACTOR SHALL ENSURE THAT AREAS DESIGNATED FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) ARE CONSTRUCTED PER CURRENT GUIDELINES.

EXCAVATION, TRENCHING, AND FILL:

- 1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST REQUIRED TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT AND THE RESPOSIBILITY OF THE CONTRACTOR.
- 2. THE CONTRACTOR SHALL CONSULT THE GEOTECHNICAL REPORT FOR SOIL PREPARATION AND GENERAL EARTHWORK REQUIREMENTS.
- 4. FIELD DENSITY TESTING FREQUENCIES: A) ONE (1) TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING, WITH A MINIMUM OF TWO (2) TESTS FOR EACH LAYER; B) ONE (1) TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE (1) TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE (1) TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE

3. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE BEGINNING OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO THE PONDS TO MINIMIZE

- (1) TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, WITH A MINIMUM OF TWO (2) TESTS. 5. PREVIOUSLY-EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS SHALL BE UTILIZED WHEREVER POSSIBLE, UNLESS OTHERWISE DIRECTED BY
- GEOTECHNICAL REPORT: 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. B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM
- D2487 CLASSIFICATION GC, SC, ML, MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS.
- 5. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS. 6. 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 SAFE PASSAGE OF PEDESTRIANS AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO ADJOINING PROPERTY USERS.
- 7. 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, DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.
- 8. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT.
- 9. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES A MINIMUM OF TWO (2) FEET WHERE
- EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER-EXCAVATED MATERIAL WITH SUITABLE SOILS. 10. EXCEPT AS OTHERWISE INDICATED ON PLANS OR SPECIFICATIONS, EXCAVATE FOR PRESSURE PIPING SO TOP OF PIPING IS A MINIMUM OF THREE (3) FEET BELOW FINISHED
- 11. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO (2) FEET BELOW THE BOTTOM OF THE TRENCH
- 12. 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
- 13. MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T180): FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; POND AND ROAD EMBANKMENT FILL = 95 PERCENT; ALL OTHER AREAS = 90 PERCENT.

OR STRUCTURE.

- 1. DESIGN AND PROVIDE DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS, DOES NOT CAUSE INSTABILITY OR RAVELING OF EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. LOWER WATER LEVEL IN ADVANCE OF EXCAVATION BY UTILIZING WELLS, WELLPOINTS, OR SIMILAR POSITIVE CONTROL METHODS. MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF TWO (2) FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS IF DIRECTED BY THE ENGINEER TO DOCUMENT THAT THE GROUNDWATER LEVEL IS BEING MAINTAINED.
- BY ACCEPTABLE MEANS, CONTRACTOR SHALL CONTROL ALL WATER REGARDLESS OF SOURCE AND IS RESPONSIBLE FOR DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE, GROUNDWATER, OR ARTESIAN HEAD.
- 3. OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED, PROVIDED IT DOES NOT RESULT IN BOILS, LOSS OF FINES, SOFTENING OF THE GROUND, OR INSTABILITY OF SLOPES. SUMPS SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT WATER BODIES. DURING NORMAL PUMPING AND UPON DEVELOPMENT OF WELL(S), LEVELS OF FINE SAND OR SILT IN THE DISCHARGE WATER SHALL NOT EXCEED FIVE (5) PPM.
- 4. IF DEWATERING EQUIPMENT EXCEEDS ANY OF THE FOLLOWING: (1) 6-INCH PUMP VOLUTE, (2) 100,000 GPD TOTAL FOR 24-HOUR DEWATERING, AND (3) 1,000,000 GPD PUMP CAPACITY, THEN THE CONTRACTOR SHALL BE REQUIRED TO PERMIT THE DEWATERING SYSTEM WITH THE WATER MANAGEMENT DISTRICT.
- 5. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SIDE SLOPES, OR ADJACENT FACILITIES FROM FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.
- 6. WHEN CONSTRUCTION IS COMPLETE, PROPERYLY REMOVE ALL DEWATERING EQUIPMENT FROM THE SITE, INCLUDING WELLS AND RELATED TEMPORARY ELECTRICAL SERVICE.

STORM SEWER SYSTEMS

- 1. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ROUND RCP SHALL COMPLY WITH ASTM C76. ELLIPTICAL RCP SHALL COMPLY WITH ASTM C507. PIPE JOINTS AND O-RING GASKETS SHALL COMPLY ASTM C443.
- 2. RCP SHALL NOT BE SHIPPED FROM MANUFACTURER UNTIL THE COMPRESSIVE STRENGTH OF THE PIPE HAS REACHED 4000 PSI AND A MINIMUM OF FIVE (5) DAYS HAVE PASSED SINCE THE MANUFACTURING OR REPAIR OF THE PIPE HAS BEEN COMPLETED.
- 3. CORRUGATED POLYETHYLENE (PE) PIPE AND FITTINGS SHALL BE HIGH DENSITY, IN ACCORDANCE WITH ASTM D3350, CELL CLASSIFICATION 324420C (4 INCHES 10 INCHES) OR CELL CLASSIFICATION 335420C (12 INCHES - 36 INCHES). PIPE 4 INCES - 10 INCHES SHALL COMPLY WITH AASHTO M252, TYPE S. PIPE 12 INCHES -36 INCHES SHALL COMPLY WITH AASHTO M294, TYPE S. BELL JOINTS FOR 4 INCHES - 10 INCHES PIPE SHALL BE PUSH-ON SLEEVE. BELL JOINTS FOR 12 INCHES - 36 INCHES PIPE SHALL BE INTEGRALLY FORMED ON PIPE. GASKETS SHALL BE INSTALLED BY PIPE MANUFACTURER AND SHALL COMPLY WITH ASTM D1056, GRADE 2A2. FITTINGS SHALL COMPLY WITH AASHTO M294. 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 MINIMUM 12-INCH OVERLAP.
- 6. INSTALL POLYETHYLENE PIPE IN ACCORDANCE WITH ASTM D2321. BACKFILL AND COMPACT EVENLY ON EACH SIDE TO PREVENT DISPLACEMENT.
- 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 (4) 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 LEAKAGE BY EXFILTRATION. EXFILTRATION LEAKAGE TEST SHALL CONSIST OF ISOLATING THE PARTICULAR SECTION, FILLING WITH WATER TO A POINT FOUR (4) FEET ABOVE THE TOP OF THE PIPE AT THE UPPER MANHOLE OR INLET, AND ALLOWING IT TO STAND NOT LESS THAN FOUR (4) HOURS. THE SECTION SHALL THEN BE REFILLED WITH WATER UP TO THE ORIGINAL LEVEL AND AFTER TWO (2) HOURS THE DROP IN WATER SURFACE SHALL BE MEASURED. THE COMPUTED LEAKAGE SHALL NOT EXCEED 150 GALLONS PER INCH DIAMETER, PER 24 HOURS, PER MILE OF PIPE.

PRECAST STRUCTURES AND APPURTENANCES

- 1. ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48 INCHES FOR SEWER LINES 21 INCHES IN DIAMETER OR LESS.
- INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED. 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. RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478, MANUFACTURED USING SULFATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH
- GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE
- 5. UNLESS OTHERWISE INDICATED, CONE TOP SECTIONS SHALL BE PRECAST, ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAB TOPS WITH ECCENTRIC 24-INCH DIAMETER OPENING, UNLESS OTHERWISE INDICATED.
- 6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR INTO THE MANHOLE. THE RUBBER CONNECTOR SHALL COMPLY WITH ASTM C443 AND ASTM C923. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 316 STAINLESS, EXCLUDING THE WORM SCREW FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE TORQUED BY A BREAKAWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET FOR 60-70 INCH/LBS. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.
- FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE U.S. FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), OR EQUAL OR OTHERWISE NOTED ON THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE. RAISED LETTERING ON COVERS SHALL BE "STORM" OR "SEWER", OR AS DETAILED ON THE DRAWINGS.
- 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 EQUAL.

DIAMETER UNLESS OTHERWISE INDICATED AND SHALL HAVE A MINIMUM WALL THICKNESS OF FIVE (5) INCHES.

- 9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE. 10. MANHOLE COATINGS AND FINISHES SHALL BE:
- A. INTERIOR BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.
- B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT, FIBERGLASS LINER. C. EXTERIOR - BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.
- 11. AS-BUILT INFORMATION SHALL INCLUDE ALL RIM, TOP AND INVERT ELEVATIONS FOR ALL PRECAST STRUCTURES.

PLAN STATUS DATE | DESCRIPTION

JM JM DESIGN | DRAWN | CHKD CALE AS SHOWN JOB No. 00000-00-000 DATE 12/01/2016

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UTILITIES

GENERAL:

- THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED SOLELY BY OR IN COMBINATION WITH THE SURVEYOR, RESPECTIVE UTILITY PROVIDER, HISTORIC UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.
- 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 CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE VARIOUS UTILITIES AND TO COORDINATE PROTECTION AND ANY RELOCATIONS OF THESE UTILITIES. THE CONTRACTOR ASSUMES ALL COSTS ASSOCIATED WITH PROTECTION OR RELOCATION OF THE UTILITIES.
- 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 OWNER FOR PROPER INSTRUCTION.
- A UTILITY IDENTIFICATION SERVICE HAS BEEN CREATED FOR EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT (800-432-4770) OR 811 AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHALL ALSO CONTACT ALL NON-PARTICIPATING UTILITIES 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.
- REFER TO THE COVER SHEET OF THE CONSTRUCTION PLANS SET FOR UTILITIES THAT HAVE INDICATED THEIR FACILITIES MAY EXIST IN THE VICINITY OF THE CONSTRUCTION
- THE CONTRACTOR SHALL KEEP LOCATE TICKETS CURRENT AT ALL TIMES.
- ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION SHALL BE MAINTAINED IN SERVICE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. IF PIPE WORK REQUIRES INTERRUPTION OF SERVICE, THE CONTRACTOR SHALL FIRST COORDINATE WITH UTILITY OWNER, REGULATORY AGENCY, AND ANY AFFECTED USER OF THE UTILITY, AS APPROPRIATE.
- TYPICAL DETAILS AND SPECIFICATIONS ARE SHOWN TO ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE METHOD OF CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED THE CONTRACTOR OBTAINS FROM THE ENGINEER AND THE REGULATORY AGENCY, IF APPLICABLE, APPROVAL FOR AN ALTERNATE METHOD.
- 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. 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 APPROVED DRAWINGS, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES AND RELOCATIONS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE DEVELOPER.
- 10. 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 DEVELOPER IN WRITING AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRE-TESTING PRIOR TO NOTIFICATION

SANITARY SEWER SYSTEM

- . PVC SEWER PIPE SHALL BE TYPE PSM PVC PIPE CONFORMING TO ASTM D3034 AND SHALL BE SDR 35 FOR 4 INCHES THROUGH 15 INCHES, AND ASTM F 679, WALL THICKNESS T-1, FOR PIPE 18 INCHES THROUGH 27 INCHES.
- JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.
- 3. 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 THE PIPE MANUFACTURER.
- 4. PVC SEWER PIPE SHALL BE COLOR CODED GREEN AND STENCILED "SEWER LINE" (2-INCH LETTERING ON TWO (2) SIDES OF THE PIPE IN AT LEAST THREE (3) AREAS PER PIPE SECTION)
- 5. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, 6-INCH WIDTH, 1-INCH LETTER SIZE. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE" BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: 2 INCHES TO 8 INCHES DIAMETER PIPE CENTER ALONG TOP HALF OF PIPE; 10 INCHES TO 18 INCHES DIAMETER PIPE PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20 INCHES PIPE AND LARGER PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
- 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, TWO (2) FEET ABOVE PIPE, MINIMUM OF ONE (1) FOOT BELOW GRADE.
- 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.
- 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.
- 9. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

 10. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMP TESTING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, AND BETWEEN ADJACENT MANHOLES SHALL BE CONSIDERED UNSATISFACTORY UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS. SAID LINE SHALL
- BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.

 1. 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-INCH PIPE = 1 MIN 53 SEC; B) 6-INCH PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8-INCH
- PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10-INCH PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12-INCH PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.

 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 ONE (1) HOUR.

 13. 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 MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6-INCH SEWER = 5.45-INCH MANDREL; 8-INCH SEWER = 7.28-INCH MANDREL; 10-INCH SEWER = 9.08-INCH MANDREL; 12-INCH SEWER = 10.79-INCH MANDREL; 15-INCH SEWER = 13.20-INCH MANDREL; 18-INCH SEWER = 16.13-INCH MANDREL; 21-INCH SEWER = 19.00-INCH MANDREL; 24-INCH SEWER = 21.36-INCH MANDREL; 27-INCH SEWER = 24.06-INCH
- 4. 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 THE PIPE AND RE-TEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE RE-TESTED FOR LEAKAGE.

SEPARATION REQUIREMENTS:

MANDREL.

- THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH CURRENT REGULATORY STANDARDS. THE FOLLOWING SUMMARIZES MINIMUM SEPARATION REQUIREMENTS, WHICH SHALL BE VERIFIED BY THE CONTRACTOR FOR APPLICABILITY BY THE AGENCIES THAT HAVE REGULATORY AUTHORITY WHERE CONSTRUCTION OCCURS:
- HORIZONTAL SEPARATION:

 A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF THREE (3) FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN,
- VACUUM TYPE SANITARY SEWER, AND RECLAIMED WATER MAIN.

 B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF SIX (6) FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER.
- C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN (10) FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.
- VERTICAL SEPARATION:

 D. 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 (6) INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER SAID UTILITY, THEN THE WATER MAIN MAY CROSS UNDER SAID PIPE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST TWELVE (12) INCHES BELOW THE OUTSIDE OF CROSSING PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET
- FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST SIX (6) FEET FROM GRAVITY SANITARY SEWER JOINTS.

 E. 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 PIPELINES, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST TWELVE (12) INCHES FROM THE OUTSIDE OF SAID UTILITY. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3)
- FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST SIX (6) FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.

 2. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.
- 3. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST:
- A. THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.

 B. SIX (6) FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.
- C. TEN (10) FEET FROM ANY ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ON-SITE 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 MINIMUM SEPARATION REQUIREMENTS, AND ARE ONLY TO BE IMPLEMENTED UPON RECEIPT OF WRITTEN CONSENT FROM THE ENGINEER AND REGULATORY AGENCY. IMPLEMENTATION OF THESE VARIANCES WITHOUT WRITTEN CONSENT MAY RESULT IN REMOVAL AND REPLACEMENT OF THE INSTALLED ITEM BY THE CONTRACTOR AT NO COST TO THE DEVELOPER OR ENGINEER.
- A. WHERE A WATER MAIN IS LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE, OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE PLACING JOINTS 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 (4) INCHES THICK FOR EITHER PIPE.

 B. WHERE A WATER MAIN IS LESS THAN THREE (3) FEET HORIZONTALLY FROM ANOTHER PIPELINE OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE WITH LESS THAN

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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

(4) INCHES THICK FOR THE WATER MAIN AND FOR THE OTHER PIPELINE IF THE OTHER PIPELINE CONVEYS WASTEWATER OR RECLAIMED WATER.

- POTABLE AND RECLAIMED (REUSE/GRAY) WATER DISTRIBUTION SYSTEMS:
- 1. ALL WATER AND RECLAIMED MAIN PIPE SHALL BE EITHER DUCTILE IRON OR PVC, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- 2. 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-INCH DIAMETER AND SMALLER = PC 350; B) 14-INCH THROUGH 24-INCH DIAMETER = PC 250; C) 30-INCH THROUGH 64-INCH DIAMETER = PC 200.
- 3. EXPOSED PIPE FOUR (4) INCHES 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-INCH DIAMETER = TC 54; B) 6-INCH THROUGH 24-INCH DIAMETER = TC 53
- 4. DUCTILE IRON PIPE AND FITTINGS WITHIN TEN (10) FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/ASTM D1248.
- 5. PVC PIPE 4-INCH TO 12-INCH SHALL CONFORM TO AWWA C900. PIPE 14-INCH TO 36-INCH 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 HAVE RUBBER GASKETS 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.
- 6. 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 MINIMUM 250 PSI. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO MINIMUM 350 PSI.
- SHALL BE PRESSURE RATED TO MINIMUM 250 PSI. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO MINIMUM 350 PSI.

 7. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS ANSI A21.4 CEMENT MORTAR LINING AND BITUMINOUS SEAL COAT. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL HAVE AN ANSI A21.51 OR A21.10 BITUMINOUS COATING. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY-APPLIED, RUST-INHIBITING, EPOXY PRIMER, MINIMUM 3-MILS DRY-FILM THICKNESS. AFTER INSTALLATION, EXTERIOR
- AT MINIMUM 4-MILS DRY-FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS.

 8. MECHANICAL AND PUSH-ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL HAVE RUBBER GASKETS, CONFORMING TO ANSI/AWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.

SURFACES SHALL BE PAINTED WITH TWO (2) COATS TNEMEC SERIES 2 TNEME GLOSS, GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL,

- 9. 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 MANUFACTURER'S REQUIREMENTS OR AS SHOWN ON 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.
- 10. ALL SERVICE PIPING (½-INCH TO 3-INCH) 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.
- 11. 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 SHALL BE TYPE 304. NUTS SHALL BE TEFLON COATED. DUCTILE IRON BODY SHALL BE FUSION-BONDED NYLON COATING, MINIMUM THICKNESS 12 MILS. OUTLET OF SADDLE SHALL HAVE NPT THREADS.
- 12. ALL SERVICES SHALL INCLUDE CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS, AND SHALL CONFORM TO AWWA C800 AND C901. THE CONTRACTOR SHALL STAMP
 "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS. STAMP W'S AND V'S SHALL BE NEATLY HIGHLIGHTED WITH BLUE PAINT.
- 13. 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.
- 14. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO (2) INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES LARGER THAN TWO (2) INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.
- 15. VALVES FOUR (4) INCHES AND LARGER SHALL BE LINED AND COATED. INTERIOR OF VALVES SHALL BE COATED WITH A RUST-INHIBITING EPOXY PRIMER, FOLLOWED BY A COAL-TAR EPOXY, WITH TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS APPLIED AT THE FACTORY. EXTERIOR COATING ON BURIED VALVES SHALL BE RUST-INHIBITING EPOXY PRIMER, FOLLOWED BY A COAL-TAR EPOXY, WITH TOTAL MINIMUM DRY-FILM THICKNESS OF 16 MILS APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY-APPLIED RUST-INHIBITING EPOXY PRIMER WITH MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO (2) 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.
- 16. ALL VALVES TWELVE (12) INCHES AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES THREE (3) INCHES TO TWELVE (12) INCHES SHALL CONFORM TO AWWA C509. THE VALVES SHALL BE IRON BODY, CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, WITH NON-RISING STEM WITH O-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.
- 17. TAPPING VALVES AND SLEEVES SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509 FOR SIZE REQUIRED.
- 18. VALVES FOURTEEN (14) INCHES 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 JOINT 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 MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.
- 19. VALVE SEATS SHALL BE MECHANICALLY RESTRAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. O-RING SEATS ON VALVE DISCS SHALL NOT BE ACCEPTED. SEATS FOR VALVES FOURTEEN (14) INCHES DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS FOR THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.
- 20. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY FIVE (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, AND CONSIST 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 WITHOUT TRANSMITTING FORCES ONTO THE VALVE BOXY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH APPROXIMATELY EIGHTEEN (18) INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "WATER MANNE) OR PURPLE (RECLAIMED WATER MANNE). STENCE INVALED AND THE CAST WITH THE INSCRIPTION IN A APPLICABLE.
- 21. PVC PIPE SHALL BE COLOR-CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS), STENCIL "WATER LINE" OR "RECLAIMED WATER LINE" AS APPLICABLE (2-INCH LETTERING ON TWO (2) SIDES OF THE PIPE IN AT LEAST THREE (3) AREAS PER PIPE SECTION).
- 22. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH SIX (6) INCHES, LETTER SIZE ONE (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) OR BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS). PLACE TAPE AS FOLLOWS: 2-INCH TO 8-INCH PIPE: CENTER ALONG TOP HALF OF PIPE; 10-INCH TO 18-INCH PIPE: PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20-INCH PIPE AND LARGER: PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.
- 23. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED TWO (2) FEET ABOVE PIPE. TAPE SHALL BE SIX (6) INCHES 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", AS APPLICABLE.
- 24. 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 PRESSURIZED PIPELINES TWO (2) INCHES AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY FIVE HUNDRED (500) FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER JURISDICTIONAL
- REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.

 25. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE AS SPECIFIED BY MANUFACTURER, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
- 26. TEST PROCEDURES SHALL BE APPROVED BY THE JURISDICTIONAL AGENCY AND ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER,
 JURISDICTIONAL AGENCY, AND UTILITY COMPANY, AS APPROPRIATE. ENGINEER AND UTILITY COMPANIES SHALL BE NOTIFIED AT LEAST FORTY-EIGHT (48) HOURS BEFORE
 ANY WORK IS TO BE INSPECTED OR TESTED.
- 27. 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.
- 28. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.
- 29. APPLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS), OR 100 PSI (RECLAIMED WATER MAINS) FOR TEN (10) MINUTES AND FOR ANY ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE BEING TESTED. DO NOT EXCEED PIPE MANUFACTURER'S 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 SATISFACTORILY WITHSTAND THE TEST PRESSURE.
- 30. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 100 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO (2) HOURS MINIMUM, AND FOR ANY ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE BEING TESTED. LEAKAGE MEASUREMENTS SHALL NOT COMMENCE 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.
- BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.

 31. 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.
- 32. 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; N = NUMBER OF JOINTS ALONG LINE BEING TESTED; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.
- 33. ALL APPARENT LEAKS DISCOVERED WITHIN ONE (1) YEAR FROM THE DATE OF THE DEVELOPER'S FINAL ACCEPTANCE OF THE CONTRACTOR'S WORK SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.
- 34. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS.
- 35. 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 C651.

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 AND BRIDGE CONSTRUCTION, LATEST EDITION.
- 2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES, MATERIAL STABILITY, AND DENSITY REQUIREMENTS SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS AND THE GEOTECHNICAL REPORT.
- 3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE SIDEWALK SHALL BE CONSTRUCTED OF MINIMUM 4 INCHES OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. JOINTS SHALL BE EITHER TOOLED OR SAW CUT AT A MAXIMUM DISTANCE OF 5 FEET. ACCESSIBLE 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 MINIMUM 28-DAY COMPRESSION STRENGTH OF 2500 PSI. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10 FEET ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS 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 SUBGRADE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FEET WIDE STRIP, STAGGERED LEFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUBGRADE, BASE, AND ASPHALT IS PLACED IN ONE (1) DAY, PROVIDE MINIMUM OF ONE (1) TEST FOR EACH DAY'S CONSTRUCTION AT A 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 MINIMUM OF ONCE PER DAY).

 6. PAVING TIMING REQUIREMENTS ARE AS FOLLOWS:
- A. 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 COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT.
- B. 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 COURSE.
- C. 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.

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 (INDEX NO. 9535, 11860, 11862, 11865, 17302, 17346 AND 17349 APPLY). GENERALLY, ALL MARKINGS SHALL CONFORM TO THE
- FOLLOWING: 6-INCH EDGE LINES, 6-INCH LANE LINES, 6-INCH SINGLE CENTERLINES, AND 6-INCH DOUBLE LINE PATTERNS, UNLESS OTHERWISE NOTED ON THE PLANS.

 2. ALL ROADWAY PAVEMENT MARKINGS IN RIGHT-OF-WAY SHALL BE PAINTED OR THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 4" X 4"). AS INDICATED.
- 2. ALL ROADWAY PAVEMENT MARKINGS IN RIGHT-OF-WAY SHALL BE PAINTED OR THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 4" X 4"), AS INDICATED ON PLANS. RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH PLANS AND FDOT INDEX NO. 17352.
- PLANS. RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH PLANS AND FDOT INDEX NO. 17352.
 3. ON-SITE 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 RETRO-REFLECTIVE MATERIALS. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FARRICATION. THE FARRICATOR'S INITIALS. AND THE NAME OF THE SHEETING IN 3-INCH LETTERS.
- WITH THE DATE OF FABRICATION, THE FABRICATOR'S INITIALS, AND THE NAME OF THE SHEETING IN 3-INCH LETTERS.

 5. INTERNAL SITE TRAFFIC SIGNS ARE NOT REQUIRED TO BE RETRO-REFLECTIVE.
- THE CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH OF THE SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO FABRICATION.
 PRIOR TO FINAL PAVEMENT MARKING INSTALLATION, A CURE TIME OF THE ASPHALT PER THE MANUFACTURER'S SPECIFICATIONS IS REQUIRED.

ON TO FINALLY AVENUENT MARKING INSTALLATION, A SOME TIME OF THE ASTROLET FER THE MA

1. SITE IMPROVEMENTS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND THE FLORIDA ACCESSIBILITY CODE. THE CONTRACTOR SHALL FURNISH THE OWNER AND ENGINEER WITH PROOF THAT ALL APPLICABLE FEATURES AND AREAS OF THE SITE ARE IN COMPLIANCE WITH THE AFORMENTIONED CRITERIA.

AS-BUILT DRAWINGS

- 1. AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AT LEAST THREE (3) WEEKS PRIOR TO FINAL INSPECTION, INCLUSIVE OF THE FILE FORMAT
- NECESSARY FOR PROJECT CLOSEOUT. ALL AS-BUILT DATA SHALL BE PROVIDED BY A STATE-LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY THE RESPONSIBLE PARTY.

 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 CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.
- D. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC.
- E. 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.
- F. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.

 G. 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. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL
- DRIVE AISLES AND ISLANDS.

 H. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR ADA ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY
- REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.
- I. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS.J. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL
- HORIZONTAL LOCATION.

 K. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL MEASURED VERTICAL ELEVATION.
- L. BENCHMARKS

CONSTRUCTION ABANDONMENT PROCEDURE

IF CONSTRUCTION OF IMPROVEMENTS IS TERMINATED PRIOR TO COMPLETION PER THE APROVED CONSTRUCTION DOCUMENTS, THE OWNER SHALL REMOVE ANY
CONSTRUCTION AND STOCKPILED VEGETATIVE DEBRIS AND FILL AND DISPOSE OF SUCH MATERIALS AT A LEGALLY-APPROVED OFF-SITE LOCATION. DISTURBED LAND SHALL
BE ROUGH GRADED, SEEDED AND MULCHED.

FORTUITOUS FINDS

- 1. IF EVIDENCE OF THE EXISTENCE OF HISTORIC RESOURCES IS DISCOVERED OR OBSERVED AT THE SITE, ALL WORK SHALL CEASE IN THE AREA OF EFFECT, AND THE DEVELOPER, OWNER, CONTRACTOR, OR AGENT THEREOF SHALL NOTIFY THE APPRORPRIATE AGENCY IMMEDIATELY. EXAMPLES OF SUCH EVIDENCE INCLUDE WHOLE OR FRAGMENTARY STONE TOOLS, SHELL TOOLS, ABORIGINAL OR HISTORIC POTTERY, HISTORIC GLASS, HISTORIC BOTTLES, BONE TOOLS, HISTORIC BUILDING FOUNDATIONS, SHELL MOUNDS, SHELL MIDDENS, OR SAND MOUNDS. UPON THE AGENCY'S TIMELY ASSESSMENT OF THE SIGNIFICANCE OF THE FINDS, NOTIFICATION TO MITIGATE ANY ADVERSE EFFECTS SHALL BE ISSUED SO AS TO MINIMIZE DELAYS TO DEVELOPMENT ACTIVITIES.
- IF ANY HUMAN SKELETAL REMAINS OR ASSOCIATED BURIAL ARTIFACTS ARE DISCOVERED AT THE SITE, ALL WORK IN THE AREA MUST CEASE, AND THE PERMITTEE MUST IMMEDIATELY NOTIFY THE NEAREST LAW ENFORCEMENT OFFICE AND THE APPROPRIATE PERMITTING AGENCY. ACCORDING TO CHAPTER 872, FLORIDA STATUTES, IT IS UNLAWFUL TO DISTURB, VANDALIZE, OR DAMAGE A HUMAN BURIAL.

vd.

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GENERAL NOTES

CSA PALM HARBOR

RECREATIONAL FIELD

PALM HARBOR, FLORIDA

PLAN STATUS

DATE DESCRIPTION

JM JM JM

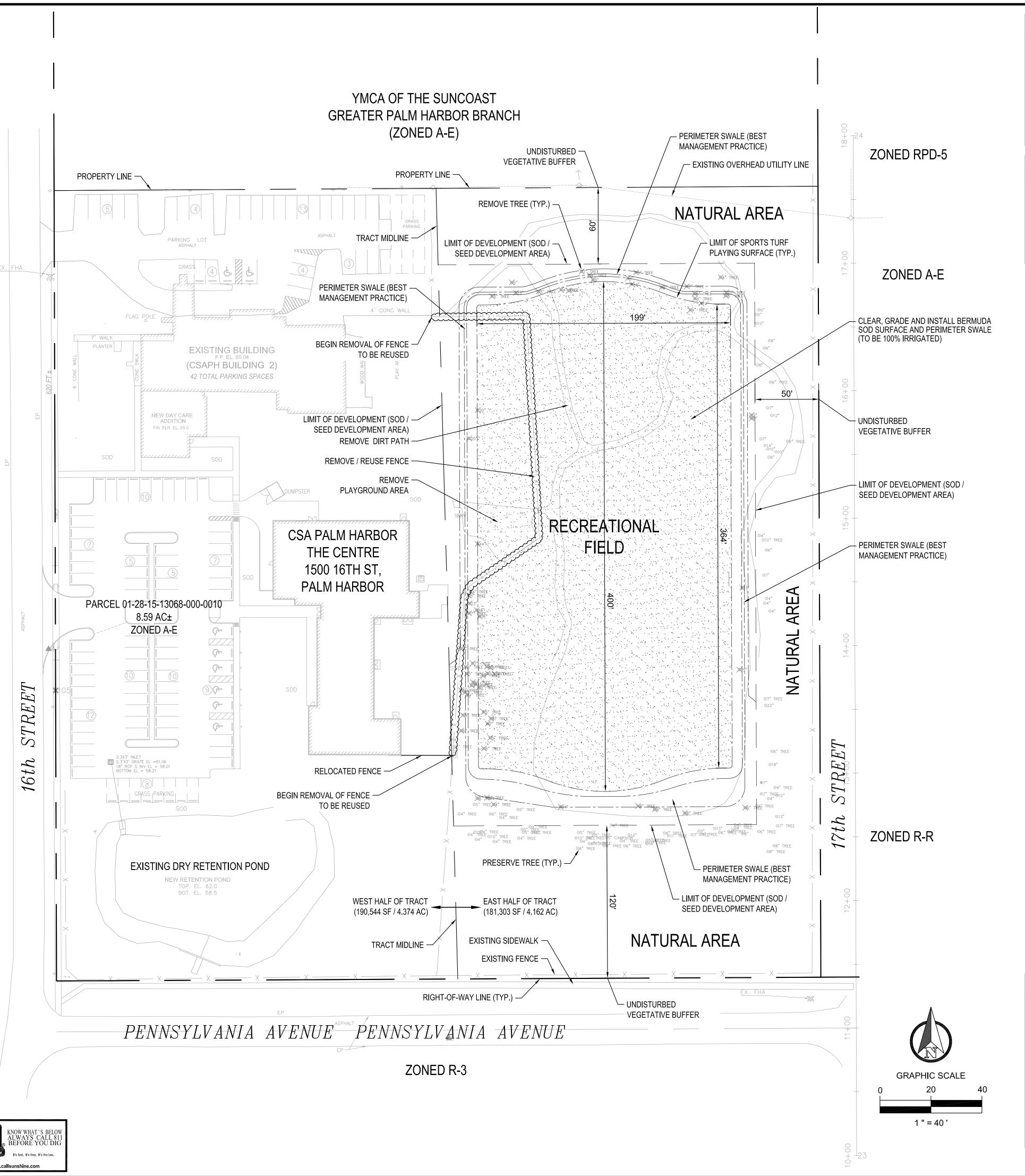
DESIGN DRAWN CHKD

JOB No. 00000-00-000

DATE 12/01/2016

FILE C1.0-GN.DWG

CALE AS SHOWN



LEGEND PROPERTY / RIGHT-OF-WAY LINE — — BUFFER LINE SPORTS TURF SURFACE SWALE CONTOUR LINE FENCE

ACCESSIBLE PARKING SPACE NUMBER OF CONTIGUOUS PARKING SPACES PRESERVED EXISTING TREE AND DIAMETER BREAST HEIGHT REMOVED EXISTING TREE AND DIAMETER BREAST HEIGHT

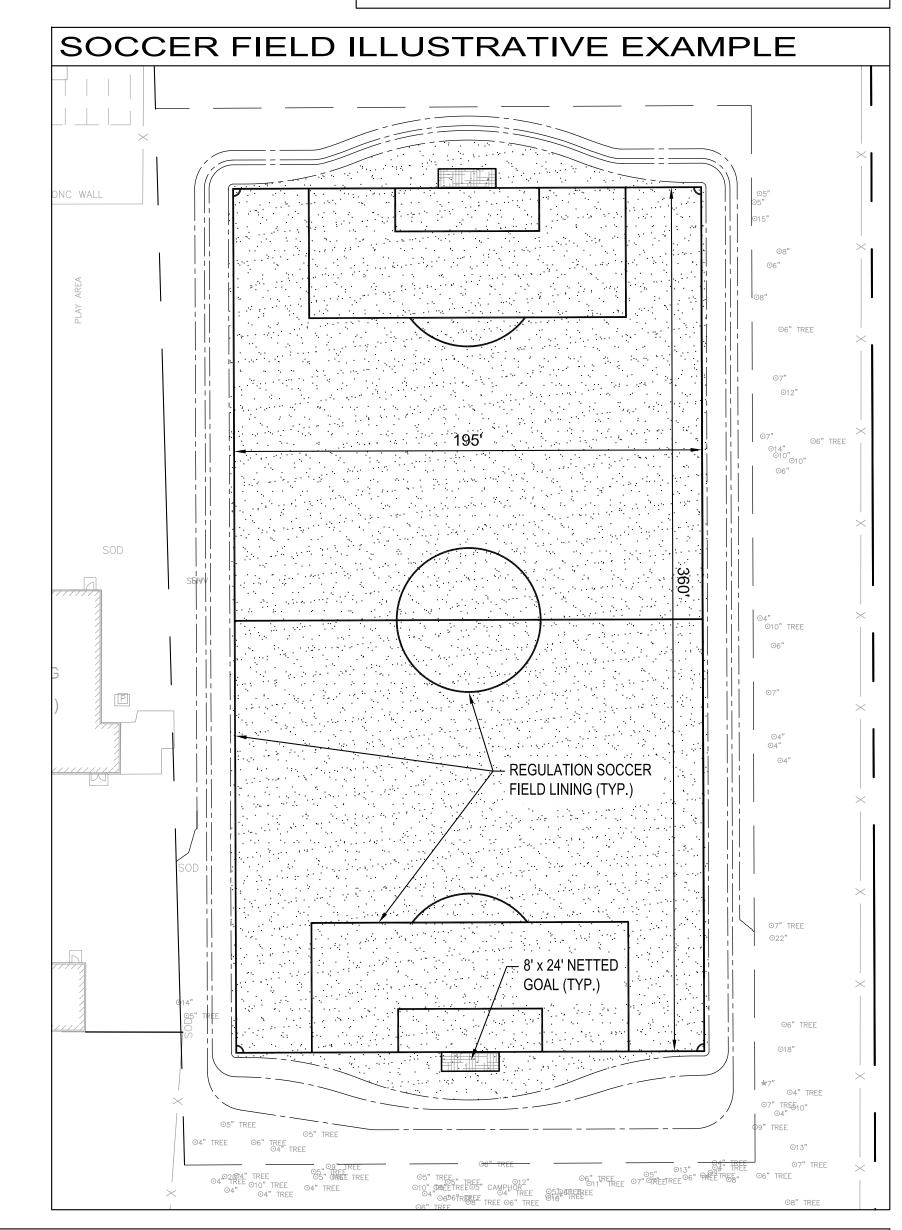
TREE REMOVAL SUMMARY

REES REMOVED DBH (INCHES) NU	MBER OF TREES REMOVED
1	12 ———	2
5	13 ———	2
1	15 ———	 1
	16 ———	2
	20 ———	2
	21 ———	1
	44 ———	1
TAL NUMBER OF TREES R	REMOVED = 65	
	1 5 1	12 ————————————————————————————————————

SITE DATA PARCEL AREA 8.536 AC (371,847 SF) * 01-28-15-13068-000-0010 PARCEL IDENTIFICATION NUMBER 1550 16TH ST, PALM HARBOR, FL 34683 ADDRESS A-E (AGRICULTURAL ESTATE RES. DISTRICT) ZONING DESIGNATION FUTURE LAND USE DESIGNATION I (INSTITUTIONAL) FEMA FLOOD ZONE DESIGNATION PROJECT AREA 106,990 SF (2.46 AC) **EXISTING USE** UNDEVELOPED (EAST HALF OF PROPERTY) PROPOSED USE RECREATIONAL FIELD NET ADDITIONAL IMPERVIOUS AREA PROPOSED BUILDING AREA 0 SF **BUILDING SETBACKS REQUIRED** VEGETATIVE / NATURAL BUFFERS: 60' *** SOUTH 120' **** EAST 50' **** WEST 125 (108 PAVED + 16 GRASS) **EXISTING VEHICULAR PARKING SPACES** EXISTING ACCESSIBLE PARKING SPACES

PER PINELLAS COUNTY SURVEY FILE No. 2097, PID No. 001851B

- PER FEMA FIRM No. 12103C0059G DATED SEPTEMBER 3, 2003. SELF-IMPOSED.
- SOURCE OF CSA PALM HARBOR IMPROVEMENTS SHOWN IS A PINELLAS COUNTY FEBRUARY 3, 2000.



NOTES

- REFER TO TOPOGRAPHIC SURVEY FOR ADDITIONAL INFORMATION AND EXISTING SYMBOL LEGEND
- IN GENERAL, ITEMS SHOWN AS BOLD LINEWORK REPRESENT PROPOSED FEATURES TO BE CONSTRUCTED AS PART OF THIS PROJECT, UNLESS NOTED OTHERWISE. SIMILARLY, SHADED

- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS IS ENCOUNTERED.

THE FINAL CONNECTION OF SERVICES.

PLAN STATUS

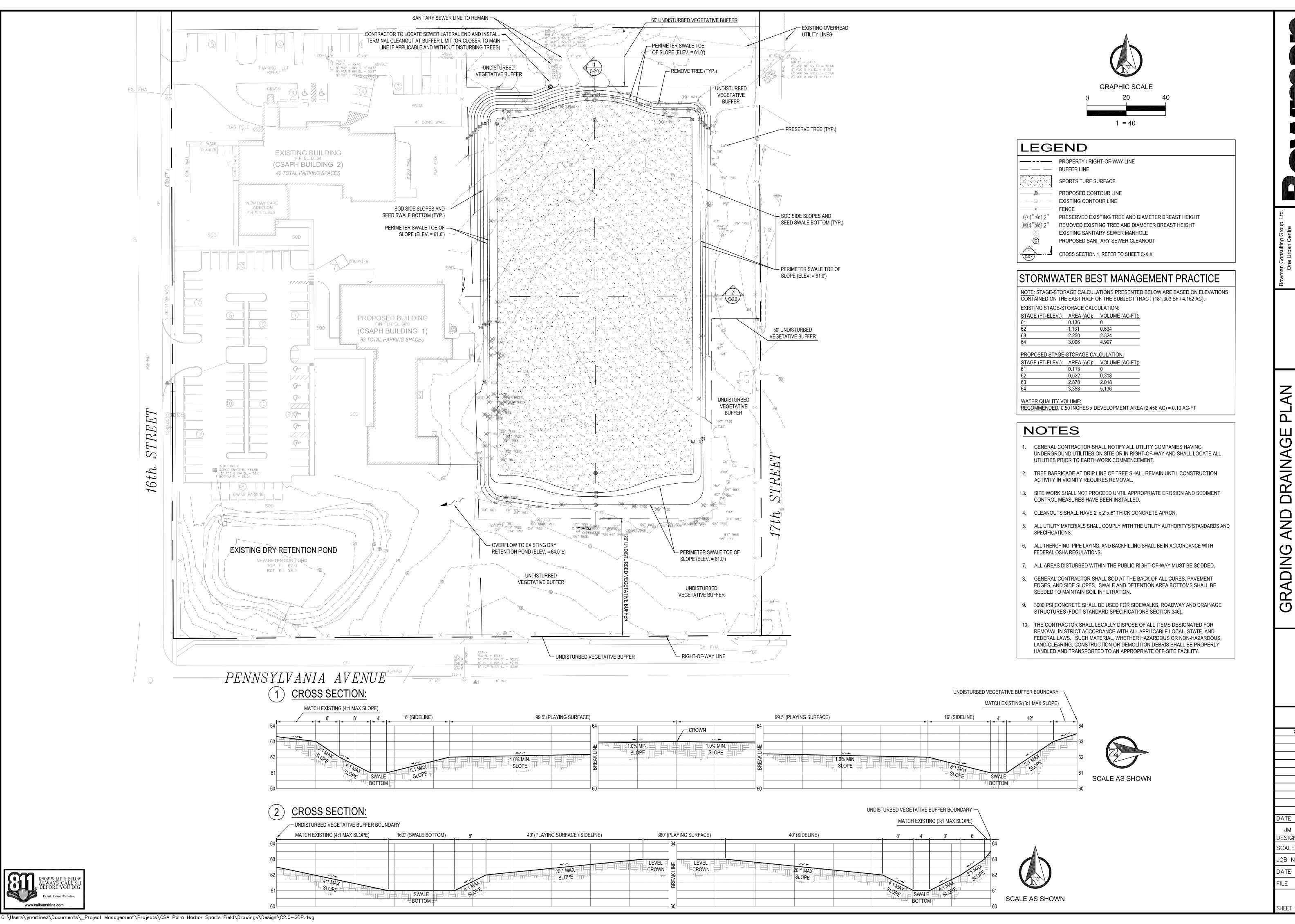
DATE DESCRIPTION

JM JM DESIGN DRAWN CHKD

SCALE AS SHOWN JOB No.00000-00-000

DATE 12/01/2016 FILE C1.0-SP.DWG

C-2.0



contificate of Authorization License No. 30462

4830 W. Kennedy Blvd.
Suite 600
Tampa, FL 33609
Phone: (813) 509-2403
www.bowmanconsulting.cor

CSA PALM HARBOR

RECREATIONAL FIELD

PALM HARBOR, FLORIDA

PLAN STATUS

DATE DESCRIPTION

DATE DESCRIPTION

JM JM JM

DESIGN DRAWN CHKD

SCALE AS SHOWN

SCALE AS SHOWN

JOB No. 00000-00-000

DATE 12/01/2016

FILE C2.0—GDP.DWG

C-3.0

SHEET INDEX

- COVER SHEET / VICINITY MAP / GRAPHIC SYMBOLS
- LAND SURVEYOR REPORT / ALIGNMENT / MONUMENTATION / ABBREVIATIONS
- TOPOGRAPHIC SURVEY

GRAPHIC SYMBOLS:

ELECTRIC POWER LINE/CABLE

DRAINAGE (STORM SEWER) PIPE

SECTION 01, TOWNSHIP 28 SOUTH, RANGE 15 EAST

AVENUE

BACKFLOW PREVENTER

BENCHMARK

GAS VALVE

GATE VALVE

GRATE INLET

CENTERLINE SANITARY SEWER GRAVITY LINE CONTOUR LINE FORCE MAIN (SANITARY SEWER) EXISTING TOPOGRAPHIC FEATURE GAS LINE SURFACE WATER/WETLAND BOUNDARY HOT OIL LINE SURVEY REFERENCE LINE RECLAIMED WATER LINE RIGHT-OF-WAY (EXISTING) POTABLE WATER RIGHT-OF-WAY LINE (PROPOSED) UNKNOWN UTILITY (EXISTING W/ ACQUISITION FOUND CONCRETE MONUMENT PROPERTY OR DEED LINE FOUND NAIL & DISC/CAP BRASS DISC EASEMENT LINE FOUND IRON ROD EASEMENT LINE (PROPOSED) FOUND IRON PIPE (EXISTING W/ ACQUISITION FOUND PINCH PIPE SECTION LINE SET CONCRETE MONUMENT ORIGINAL LOT LINE/FORMER OWNERSHIP LINE/ SET NAIL & DISC/CAP BRASS DISC SET IRON ROD VACATED EASEMENTS XCUT (FOUND) TREE LINE XCUT (SET) FENCE LINE SUB PARCEL NO. COMMUNICATION LINE TRAFFIC CONTROL LINE

BLOCK NUMBER

PROPOSED PARCEL

PROPERTY APPRAISER PARCEL NUMBER

00/00 P###

PENNSYLVANIA

INDIANA

CENTERLINE COMMUNICATIONS BOX COMMUNICATIONS MANHOLE DECIDUOUS TREE (OAK UNLESS OTHERWISE ANNOTATED) DELTA ANGLE DRAINAGE CLEAN OUT DRAINAGE MANHOLE ELECTRICAL EQUIPMENT ELECTRICAL OUTLET EVERGREEN TREE FIRE HYDRANT GAS METER

MONITOR WELL PEDESTRIAN SIGNAL POLE/POST POWER BOX PROPERTY LINE RECLAIMED WATER MANHOLE RECLAIMED WATER METER RECLAIMED WATER VALVE SANITARY SEWER CLEANOUT

GUY WIRE

HOSE BIB

LIGHT POLE

SEWER MANHOLE

MAILBOX

AVENUE

TRAFFIC SIGNAL POLE TRAFFIC SIGNAL PULL BOX UNDERDRAIN BOX UTILITY POLE WATER METER WATER VALVE

SHRUB

SPRINKLER HEAD

SURVEY LINE

SPRINKLER HEAD VALVE

Pinellas County Public Works Department Survey and Mapping Division 22211 U.S. Hwy. 19 North

Clearwater, Florida 33765 Phone: (727)464-8904 SURVEY REVISION DATE SURVEY FILE NO.: 2097 PID NO.: 001851B

Florida Registered Professional Surveyor and Mapper Certificate No. 6034

SHEET 1 OF 4

LAND SURVEYOR REPORT:

- Type of Survey: Topographic Survey (Chapter 5J-17.052 (10)(k) F.A.C.) to establish the geographic location of existing features to facilitate the PHCSA (Palm Harbor Community Services Agency) CSA RECREATION FIELDS AT NW CORNER OF 16TH STREET AND PENNSYLVANIA AVENUE (SFN 2097).
- 2. Survey Date: MAY 2016
- Date of Computations: MAY 2016
- 3. HORIZONTAL CONTROL COORDINATE values shown are based on the State Plane Coordinate System for the West Zone of Florida, North American Datum 1983, Adjustment 2011(NAD 83/2011). Horizontal control was established by a combination of traverse and Real Time Kinematic Global Positioning Systems (RTK GPS) methods. All control was set using the Florida Department of Transportation Permanent Reference Network (FPRN).
- 4. PARENT BENCHMARK is National Geodetic Survey Monument: "OZONA G", having an elevation of 16.35 feet, National American Vertical Datum, 1988 (Adjusted).
- 5. ACCURACY STATEMENT: All measurements, distances, elevations and features shown were performed in accordance with the Minimum Technical Standards set forth in Chapter 5J—17, F.A.C.
- 6. Control Points 1, 3, 4, 6, 7 and 105 serve as the Horizontal and Vertical Control for this survey. Said points are shown in the Monumentation and Control Point Coordinate table on sheet 2 of this survey.
- 7. Abbreviation legend appears on Sheet 2 of this survey. Abbreviations used in the stamping of found points are not shown in the abbreviations table of this survey.
- 8. INTENDED FEATURES: Topographical features such as sidewalks, curbs, drainage structures, sanitary structures, trees, dirt paths, fences, buildings and above ground utilities are shown, however, other utilities may exist.
- 9. The SURVEY REFERENCE LINE shown hereon is a calculated reference line and is not monumented.
- 10. SURVEY TECHNICIANS: Ellis, Lathrop & Yates
- 11. Not a Boundary Survey. Right—of—way, public easements, land lines and property lines shown hereon are calculated from record information as noted on map. Calculated line work was moved, trimmed and rotated to best—fit the found monumentation and record information. Private easements are not shown. The lines shown hereon are a graphic representation only.
- 12. Not based on an abstract of title. Record instruments were provided. Other easements and/or restrictions may exist that were not mapped.
- 13. RESPONSIBILITY: The undersigned, Susan C.V. Scholpp, P.S.M., is the responsible Surveyor and Mapper for all features and data contained on this Survey and Map.
- 14. Not valid without the Signature and the original raised Seal of a Florida Licensed Surveyor and Mapper.
- 15. Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without written consent of the signing party or parties.
- 16. Neither the map nor the report is full and complete without the other.
- 17. THE SURVEY DEPICTED HERE IS NOT COVERED BY PROFESSIONAL LIABILITY INSURANCE.

ALIGNMENT:

Alignment: SRL1

Description: N-S CENTERLINE SECTION 1-28-16

Tangent Data						
Description	Point #	PT Station	Northing	Easting		
Start:	23	10+00.000	1362773.893	412450.171		
End:	24	18+00.000	1363573.888	412447.375		
Length:			800 Course:	N 00° 12' 01.00" W		

MONUMENTATION/ CONTROL POINT COORDINATES:

Point	Northing	Easting	Elevation	Station	Offset	Description
1	1362865.7949	412130.2494	65.87	10+93.02		SET NAIL& PCSD TRAVERSE DISK
3	1362913.7559	412422.0420	64.82	11+39.96	-27.64	FND 4"x4" CM W/DISK "PLS 5612"
4	1363171.0924	411816.1359	63.25	13+99.41		SET NAIL& PCSD TRAVERSE DISK
6	1362910.8027	411822.3510	56.19	11+39.10	-627.34	FND NAIL&DISK IN SWLK
7	1363530.8290	411820.4407	54.06	17+59.13	-627.08	FND 4"x4" CM W/DISK "PLS 5612"
8	1359544.9519	409824.0256	25.79			FND NAIL&DISK "PSM6197" SW CORNER SEC 1-28-15 CC#105805
9	1359543.3379	409856.285 7	26.20			FND XCUT
10	1362268.8704	409785.2337	42.49			FND NAIL& DISK "LB6668"
11	1362133.3546	409785.5780	41.68			FND NAIL& DISK "LB6668"
12	1362200.9536	409811.2366	41.68			FND NAIL&DISK "PSM6197" W 1/4 SEC 1-28-15 CC#099400
13	1364819.7874	415089.0059	73.08			FND NAIL&DISK "PSM6197" NE CORNER SEC 1-28-15 CC#078816
14	1359487.0813	415127.4450	60.12			FND NAIL&DISK "PSM6197" SE CORNER SEC 1-28-15
15	1364843.1803	411813.5413	53.06			FND 4"x4" CM W/DISK "PLS 5612"
16	1364857.5692	409798.5995	18.57			FND NAIL&DISK "PLS5240" NW CORNER SEC 1-28-15 CC#099399
17	1362153.3714	415112.0288	61.27			FND NAIL&DISK "PLS6197" E 1/4 SEC 1-28-15 CC#102286
21	1362177.2467	412452.2567				CALC CENTER SECTION 1-28-15
22	1364838.6844	412442.9535				CALC N 1/4 SECTION 1-28-15
23	1362773.8928	412450.1711		10+00.00	0.00	CALC
	1363573.8879	412447.3747		18+00.00	0.00	CALC
105	1363138.7516	411821.6487	63.16	13+67.05	-627.24	SET XCUT
	1363534.1950	412419.7856	63.43	17+60.40	-27.73	FND CM W/DISK
	1362885.1024	412442.4772	64.72	11+11.24	-7.31	FND PK NAIL
1076	1362892.4441	412470.2127	64.68	11+18.48	20.46	FND NAIL&DISK "AYUSO BM-TP"
1077	1362885.8050	412453.3799	64.78	11+11.90	3.60	FND NAIL&DISK "KING 520"
	1362874.4001	412454.6155	64.99	11+00.49	4.80	FND NAIL&TIN TAB
	1362873.8285	412277.7928	65.97	11+00.54	-172.03	FND NAIL&TIN TAB
	1362869.1146	412021.9418	63.05	10+96.72	-427.89	FND NAIL& PCSD REFERENCE DISK
	1362866.5740	411924.2768	59.57	10+94.52	-525.57	FND NAIL& PCSD REFERENCE DISK
1082	1362869.7494	411794.0721	56.61	10+98.15	-655.76	FND NAIL&DISK "KING AT-16"

ABBREVIATIONS:

-	ML VIA HONS.						
(C)	CALCULATED DATA	DWGS	DRIVEWAY, GRASS	LT	L EFT	0014	
(M)	MEASURED (IN FIELD)	DWM	DRIVEWAY, MARL	MES	MITERED END SECTION	SCM SE	SET CONCRETE MONUMENT SOUTHEAST
(P)	PLAT DATA	DWS	DRIVEWAY, STONE	MH	MANHOLE MANHOLE	SEC ##-##-##	SECTION, TOWNSHIP, RANGE
(R)	RECURD DATA	Ē	EAST DR EASTING	MHW	MEAN HIGH WATER	SFN	SURVEY FILE NUMBER
60D	NAIL 60D	E-W	EAST-WEST	MISC	MISCELLANEOUS	SGP	SUBMERGED GROUND POINT
A	ARC	ECMP	ELLIPT CMP	MLW	MEAN LOW WATER	SH	SPRINKLER HEAD
A/C ADS	AIR CONDITIONER	EL	ELEVATION	MID-ORD	MIDDLE ORDINATE	I ZHA	SPRINKLER HEAD VALVE
ADSPF	AMERICAN DRAINAGE SYSTEMS	ELEV	ELEVATION	MDN	MUNUMENT	SIR	SET IRON ROD
AHD	AMERICAN DRAINAGE SYSTEMS PERFORATED AHEAD	ELLIPT	ELLIPTICAL	2TM	MINIMUM TECHNICAL STANDARDS	SL	SURVEY LINE
ASPH	ASPHALT	ENDW	ENDWALL	N	NORTH OR NORTHING	SNC	SET NAIL AND CAP
AUS	AUSTRALIAN	EP	EDGE OF PAVEMENT	N/A	NOT APPLICABLE	SND	SET NAIL AND DISK
AVE	AVENUE	EPA EPC	EDGE OF PAVEMENT, ASPHALT	N-S	NORTH-SOUTH	2N2	SET NAIL AND SHINER
BC	BACK OF CURB		EDGE OF PAVEMENT, CONCRETE	NE	NORTHEAST	SOC	SET DRANGE CAP
BC BE	BURIED ELECTRICAL	EQUIP	EQUATION EQUIPMENT	NO	NUMBER	SPLWY	SPILLWAY
BKL	BREAK LINE	ER	EDGE OF ROAD	NOS	NATIONAL OCEANIC SURVEY	SQ	SQUARE
BLDG	BUILDING	ERCP	ELLIPT RCP	NTS	NOT TO SCALE	SR	STATE RDAD
BLVD	BOULEVARD	ERD	EDGE OF ROAD, DIRT	NW	NORTHWEST	SRC	SET RED CAP
ВМ	BENCHMARK	ERG	EDGE OF ROAD, GRAVEL	D/A	OVERALL	SRD	STATE ROAD DEPARTMENT
BNCH	BENCH	ERM	EDGE OF ROAD, MARL	DAK C	DAK CLUSTER	SRL#	SURVEY REFERENCE LINE
BOXC	BOX CULVERT	ERSH	EDGE OF ROAD, SHELL	I DC	DRANGE CAP	SRWB	SURFACE WATER BOUNDARY
BRCD	BARRICADE	ES	EXISTING STORM	DD DD	DUTSIDE DIAMETER	TNVZZ	SANITARY SEWER VENT
BRG	BEARING	ESMT	EASEMENT	DH(#)	OVERHEAD UTILITY (NUMBER OF LINES)	<u>72</u>	STREET
BRUSH	BRUSH LINE	ESS	EXISTING SANITARY SEVER		ORDINARY HIGH WATER OPEN PIPE	STA	STATION
BTMSHOT	BOTTOM SHOT	ET AL	AND OTHERS			STY	STORY
C#	CURVE NUMBER	ET UX	AND WIFE/SPOUSE	UK 0/S	OFFICIAL RECORD OFFSET	SUBT	SUBDIVISION TIE
C/0	CARE OF	ETS	ENGINEERING AND TECHNICAL SUPPORT	PALM C	PALM CLUSTER	SW	SOUTHWEST
CALC	CALCULATED	EX	EXTERNAL	PB	PLAT BOOK	SWB SWBR	SIDEWALK, BACK
CB	CATCH BASIN	FAC	FLORIDA ADMINISTRATIVE CODE	PC	POINT OF CURVATURE	SWF	SIDEWALK, BRICK
CBS	CONCRETE BLOCK STRUCTURE	FCM	FOUND CONCRETE MONUMENT	PCC	PDINT OF COMPOUND CURVATURE	SWLK	SIDEWALK, FACE SIDEWALK
CC#####	CERTIFIED CORNER DOCUMENT NUMBER	FEN	FENCE	PCED	PINELLAS COUNTY ENGINEERING DEPT	SYC	SET YELLOW CAP
CH	CHORD	FF	FLOOR ELEV	PCRC	PINELLAS COUNTY RED CAP	T	TANGENT
CIP	CAST IRON PIPE	FIR	FOUND IRON ROD	PCSD	PINELLAS COUNTY SURVEY DIVISION	, TB	TOP OF BANK
CIR	CIRCLE	FL	FLOWLINE	PE	POLYETHYLENE	TBAR	T-BAR PROPERTY MONUMENT
CL	CENTERLINE	FM	FORCE MAIN	PG	PAGE	TERR	TERRACE
CLMED	CENTERLINE OF MEDIAN	FNC	FOUND NAIL AND CAP	PI	POINT OF INTERSECTION	TGT	TARGET
CLPI	CENTERLINE, PI OF	FNDK	FOUND NAIL AND DISK	PID	PROJECT IDENTIFICATION NUMBER	THRT	THROAT
CLRR CLSP	CENTERLINE OF RAILROAD	FND	FOUND	PINE C	PINE CLUSTER	TRAF	TRAFFIC
CM	CENTERLINE OF SPILLWAY	FNS	FOUND NAIL AND SHINER	PK	PK (TRADE MARK)	TS	TOE OF SLOPE
CMP	CONCRETE MONUMENT	FOC	FOUND DRANGE CAP	PL	PROPERTY LINE	TSTHOLE	TEST HOLE
	CORR METAL PIPE COUNTY	FOP	FOUND OPEN PIPE	PLNTR	PLANTER		UNDERDRAIN BOX
OMM O	CDMMUNICATIONS	FPPIPE	FOUND PINCHED PIPE	PLS	PROFESSIONAL LAND SURVEYOR	UNK	UNKNOWN
CONC	CONCRETE	FRC	FOUND RED CAP	PNT	POINT	UP####	UTILITY POLE NUMBER
	CONDOMINIUM	FRRS FRVT	FOUND RAILROAD SPIKE	PO	POST OFFICE	UTIL	UTILITY
TZNO	CONSTRUCTION		FOUND RIVET	POB	PDINT OF BEGINNING	VCP	VITRIFIED CLAY PIPE
□R	CORNER	FS FT	FLORIDA STATUTES	PDC	PDINT DN CURVE	VPIP	VERTICAL PIPE
CORR	CORRUGATED	FXDL	FEET FLEXIBLE DELINEATOR	POOLEQUIP	POOL EQUIPMENT, ETC	۷vh	VERIFIED VERTICAL AND HORIZONTA
R	COUNTY ROAD	FYC		POT	POINT ON TANGENT	W	WEST
)	DELTA	GALV	FOUND YELLOW CAP GALVANIZED	PPIPE	PINCHED PIPE	W/_	WITH
)B	DEED BOOK	GP GP	GROUND POINT	PRC	PDINT OF REVERSE CURVATURE	W/O	WITHOUT
ΕI	DEPARTMENT OF ENGINEERING AND INFRASTRUCTURE	GPR	GROUND PENETRATING RADAR	PSM PT	PROFESSIONAL SURVEYOR AND MAPPER	WB	WETLAND BOUNDARY
EM	DEPARTMENT OF ENVIRONMENTAL MANAGEMENT	GPS	GLOBAL POSITIONING SYSTEM	PVC	POINT OF TANGENCY POLYVINYL CHLORIDE	WBNCH	BENCH, WOOD
EP	DEPARTMENT OF ENVIRONMENTAL PROTECTION	GRAIL	GUARD RAIL	PWRBX	POWER BOX	WM	WATER MAIN
EPT	DEPARTMENT	GTANK	GAS TANK	PWRTRANS	POWER TRANSFORMER		CROSS WALK
ESC	DESCRIPTION	Н	HILLSBORDUGH	R	RADIUS		YELLOW BOOK
IA	DIAMETER	HB	HOSE BIB	R#	REVISION NUMBER		YELLOW CAP DEGREE
IP	DUCTILE IRON PIPE	HED	HEDGE	RC	RED CAP		MODE UD TESS COLUS DO MANOS
IPD	DUCTILE IRON PIPE, DRAINAGE	H20	WATER	RCP	REINFORCED CONC PIPE	,	MORE OR LESS (PLUS OR MINUS) INCHES (IN DISTANCES)
IPS	DUCTILE IRON PIPE, SEVER	HW	HEADWALL	RCW	RECLAIMED WATER	•	SECONDS (IN BEARINGS)
IP₩ NR	DUCTILE IRON PIPE, WATER	HWM	HIGH WATER MARK	RD	ROAD	,	FEET (IN DISTANCES)
DC	DEPARTMENT OF NATURAL RESOURCES	HWY	HIGHWAY	REF	REFERENCE	•	MINUTES (IN BEARINGS)
	DEGREE OF CURVE	ID	INSIDE DIAMETER	REINF	REINFORCED		MINOTES (IN DEAKINGS)
ы Р	DEPT OF TRANSPORTATION DITCH PAVEMENT	INV	INVERT	RLS	REGISTERED LAND SURVEYOR		
r R·	DRIVE	IP	IRON PIPE	RP	RADIUS POINT		
W .	DRIVEWAY	IR	IRON ROD	RPRP	RIPRAP		
WA	DRIVEWAY, ASPHALT	JB0X	JUNCTION BOX	RR	RAILROAD .		
WB	DRIVEWAY, BRICK	JR	JUNIOR	RRS	RAILROAD SPIKE		
MC MD	DRIVEWAY, CONCRETE	L	ARC LENGTH	RT	RIGHT		
WD	DRIVEWAY, DIRT	LABINS	LAND BOUNDARY INFORMATION SYSTEM	ROW	RIGHT-OF-WAY		
	DRAWING	LIFT	LIFT STATION	RVT	RIVET		
\WL	UKAWINU						
DWG DWGRVL	DRIVEWAY, GRAVEL	LL LN	LANE LINE LANE	R/W SB	RIGHT-DF-WAY STRONG BACK		

PINELLAS COUNTY, FLORIDA PUBLIC WORKS DEPARTMENT

SURVEY AND MAPPING DIVISION
22211 U.S. HWY. 19 NORTH
CLEARWATER, FLORIDA 33765
PHONE (727) 464-8904

PHSCA CSA
RECREATION FIELDS
AT NW CORNER 16TH STREET
TO PENNSYLVANIA AVENUE

SUSAN C. V. SCHOLPP, P.S.M. DATE
Professional Surveyor and Mapper
Certificate No. 6034

SURVEY FILE NO.:

PID NO.:

F2097-C3D-2015.dwg

NO.: 2097
NO.: 001851B

F2097-C3D-2015.dwg

SHEET 2 OF 4

