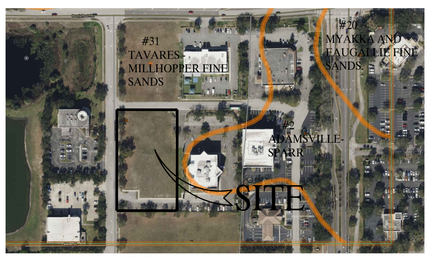
SITE PLANS FOR:

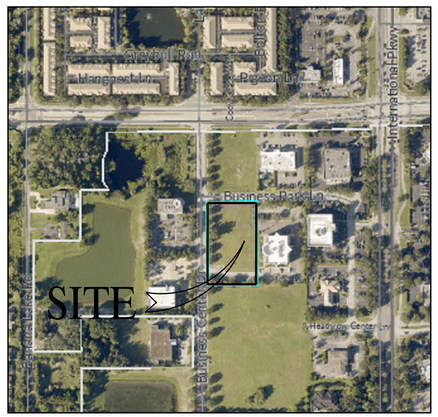
HEATHROW CENTRE

COMMERCIAL / OFFICE BUILDINGS

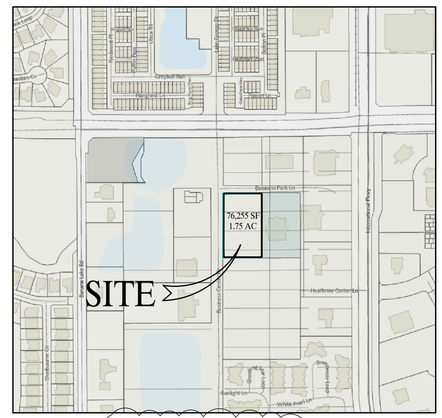
LAKE MARY, FLORIDA



SOILS MAP



AERIAL MAP
SCALE: 1" = 500'



LOCATION MAP
SCALE: 1" = 400'

PROJECT DIRECTORY:

PROPERTY OWNER: FRONTLINE LAND HOLDINGS LLC
500 INTERNATIONAL PKWY
LAKE MARY, FL 32746

APPLICANT : PROVIDENCE ONE PARTNERS
90 COLONIAL CENTER PARKWAY
LAKE MARY, FLORIDA 32746
MICHELLE PIERCE
PHONE: (407) 333 - 0900
EMAIL: mpierce@providence-one.com

CIVIL ENGINEER: AMERICAN CIVIL ENGINEERING
THOMAS H. SKELTON, PE
207 N. MOSS ROAD, SUITE 211
WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700
EMAIL: tomskelton468@gmail.com

SURVEYOR: ASSOCIATE LAND SURVEYING, INC.
1681 POWELL STREET
LONGWOOD, FLORIDA 32750
DAVID MCDERMOTT
PHONE: (407) 869 - 5002
FAX: (407) 869 - 8393
EMAIL: alsm@alsm.net

LANDSCAPE ARCHITECT: KIMLEY-HORN
GREGORY WITHERSPOON
200 SOUTH ORANGE AVE., STE. 600
ORLANDO, FLORIDA 32801
PHONE: (407) 849-2713
EMAIL:
Gregory.Witherspoon@kimley-horn.com

LEGAL DESCRIPTION:

A PORTION OF SECTION 6, TOWNSHIP 20 SOUTH, RANGE 30 EAST, SEMINOLE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHWEST CORNER OF THE NORTHWEST 1/4 OF SAID SECTION 6; THENCE RUN SOUTH 00°04'43" EAST, ALONG THE WEST LINE OF SAID NORTHWEST 1/4, A DISTANCE OF 373.82 FEET; THENCE DEPARTING SAID WEST LINE, RUN SOUTH 89°53'34" EAST, A DISTANCE OF 782.47 FEET FOR THE POINT OF BEGINNING; THENCE CONTINUE SOUTH 89°53'34" EAST, A DISTANCE OF 213.60 FEET; THENCE RUN SOUTH 00°06'26" WEST, A DISTANCE OF 357.00 FEET; THENCE RUN NORTH 89°53'34" WEST, A DISTANCE OF 213.60 FEET, TO THE EAST RIGHT OF WAY LINE OF BUSINESS CENTER DRIVE AS RECORDED IN OFFICIAL RECORDS BOOK 4324, PAGE 1938, PUBLIC RECORDS OF SEMINOLE COUNTY, FLORIDA; THENCE RUN NORTH 00°06'26" EAST, ALONG SAID EAST RIGHT OF WAY LINE, A DISTANCE OF 357.00 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH PRIVATE ACCESS EASEMENT AND DRAINAGE EASEMENT GRANTED UNDER DECLARATION OF EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED IN OFFICIAL RECORDS BOOK 5242, PAGE 393, AND CORRECTIVE SUPPLEMENT TO DECLARATION OF EASEMENTS, COVENANTS AND RESTRICTIONS RECORDED IN OFFICIAL RECORDS BOOK 6475, PAGE 1624 , AND DECLARATION OF EASEMENTS AND COVENANTS RECORDED IN OFFICIAL RECORDS BOOK 6353, PAGE 1852, PUBLIC RECORDS OF SEMINOLE COUNTY, FLORIDA.

PROPERTY AREA = 76,255 SF / 1.75 AC

POLICE - SECURITY NOTES:

1. PRIOR TO CONSTRUCTION, SAID PROPERTY NEEDS TO BE POSTED AS A DESIGNATED CONSTRUCTION SITE. THE SIGN, ACCORDING TO THE STATE STATUE, SHALL READ: "THIS AREA IS A DESIGNATED CONSTRUCTION SITE AND ANYONE WHO TRESPASSES ON THIS PROPERTY COMMITS A FELONY."

2. THE CONSTRUCTION SITE, MATERIAL AREAS AND CONSTRUCTION EQUIPMENT NEED TO BE SECURED BY FENCING OR OTHER MEANS TO KEEP ANY UNAUTHORIZED PERSONS FROM ACCESSING THE SITE.

3. THE POLICE DEPARTMENT ALSO REQUESTS THE NAME(S) AND PHONE NUMBER(S) OF AN EMERGENCY CONTACT PERSON FOR THE CONSTRUCTION PROJECT.

UTILITY COMPANIES

ELECTRICAL POWER: DUKE ENERGY
ATTN. EVA MCCONNELL
2801 W SR 426
OVIEDO, FLORIDA 32765
PHONE: (407) 359-4479

WATER/WASTEWATER:
RE-CLAIMED WATER: SEMINOLE COUNTY UTILITIES
UTILITIES ENGINEERING
500 W LAKE MARY BLVD
SANFORD, FL 32773
PHONE: (407) 665 - 2024

NATURAL GAS: FLORIDA PUBLIC UTILITIES
450 S. CHARLES RICHARD BEALL BLVD.
DEBARY, FLORIDA 32713
PHONE: (800) 427-7712

CABLE TELEPHONE: SPECTRUM
1064 GREENWOOD BLVD.
LAKE MARY, FL 32746
PHONE: (407) 792-1570

SOLID WASTE: WASTE PRO
TOM DALY
3705 ST JOHNS PARKWAY
SANFORD, FLORIDA 32771
PHONE: (321) 229-6605

FLOOD ZONE:

THE PROPERTY SHOWN HEREON LIES IN FLOOD ZONE "X", ACCORDING TO F.I.R.M. MAP 12117C0065 F, DATED SEPTEMBER 28, 2007.

SOILS TYPE:

#2 ADAMSVILLE-SPARR FINE SANDS
#31 TAVARES MILLHOPPER FINE SANDS

BUILDING NOTES:

PROJECT MUST COMPLY WITH ALL APPLICABLE BUILDING BUILDING, PLUMBING, MECHANICAL, ELECTRICAL, ENERGY AND HANDICAP ACCESSIBILITY CODES. IN ADDITION TO THESE REQUIREMENTS, THERE MAY BE ADDITIONAL RESTRICTIONS TO THIS PROPERTY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY, AND THERE MAY BE ADDITIONAL PERMITS REQUIRED FROM OTHER AGENCIES, WATER MANAGEMENT DISTRICTS, STATE AGENCIES OR FEDERAL AGENCIES

WETLAND:

THERE ARE NO JURISDICTIONAL WETLANDS ON SITE.

ADDRESSING NOTE:

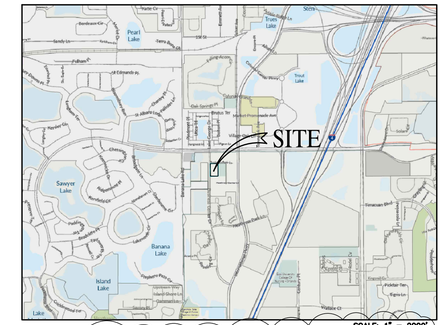
DEVELOPER TO CONTACT 911 ADMINISTRATION WHEN THE STREET SIGN FOR PROVIDENCE ONE HEADQUARTERS IS INSTALLED, BY EMAILING ADDRESSING@SEMINOLECOUNTYFL.GOV OR CALL 407-665-5190.
(A FIELD CHECK WILL NEED TO BE CONDUCTED BY THE CITY TO ENSURE ACCURACY AND/OR PHOTOS CAN BE EMAILED TO ADDRESSING FOR VERIFICATIONS. THE (2) SINGLE FAMILIES AT 561 & 563 N COUNTRY CLUB RD WILL NEED TO BE READDRESSED ON THE SAME DAY OF THE NEW STREET SIGN IS INSTALL).

STATEMENT OF USE:

The intended use of the site is a 3-building development consisting of attractive and consistent architecturethat will complement the adjacent sites. The individual buildings will have connectivity via sidewalks and ashared parking lot. The users of the buildings will consist of office, retail, and other tenants allowed by theexisting zoning.

PREPARED FOR:

PROVIDENCE ONE PARTNERS



VICINITY MAP

SEC. 06 TWP. 20 S RGE. 30 E

INDEX OF SHEETS

SHEET	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	FIRE TRUCK TURNING PLAN
4	BOUNDARY, TOPO & TREE SURVEY
5	STORMWATER POLLUTION PREVENTION PLAN
6	TREE REMOVAL PROTECTION PLAN
7	SITE PLAN
8	UTILITY PLAN
9	PAVING, GRADING & DRAINAGE PLAN
10	PAVING & GRADING DETAILS
11	PAVING & GRADING DETAILS
12	UTILITY STANDARD DETAILS
13	WATER DISTRIBUTION STANDARD DETAILS
L1.00	LANDSCAPE PLAN
L1.50	LANDSCAPE DETAILS
L1.51	LANDSCAPE SPECIFICATIONS
L2.00	IRRIGATION PLAN
L2.01	IRRIGATION SCHEDULE
L2.50	IRRIGATION DETAILS
L2.51	IRRIGATION SPECIFICATIONS
L4.00	PHOTOMETRIC PLAN
L4.50	PHOTOMETRIC SPECIFICATIONS

TAX PARCEL IDS #:
06-20-30-5UD-0000-0360

PROPERTY ADDRESS:
7151 BUSINESS PARK
LAKE MARY, FLORIDA 32746

03/06/2025 REVISED PER CITY OF LAKE MARY MDS THS

PREPARATION DATE: 12/19/2024

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX: (407) 327-0227
FLORIDA CERTIFICATE OF AUTHORIZATION NO.: 00008729
NORTH CAROLINA CERTIFICATE OF AUTHORIZATION NO.: C-4328

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

C-1

CONSTRUCTION NOTES GENERAL:

1. THE FOLLOWING GENERAL NOTES APPLY TO ALL CONSTRUCTION AS DEPICTED ON THE PLANS.
2. ALL PROPOSED SITE CONSTRUCTION SHALL BE PURSUANT TO INFORMATION SHOWN ON THESE PLANS AS APPROVED BY THE CITY OF LAKE MARY AND SEMINOLE COUNTY.
3. ALL CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE STATE, FEDERAL, AND LOCAL CODES. ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT THEIR EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND ARE IN HAND AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL CONDITIONS CONTAINED THEREIN. PERMITS INCLUDED (BUT NOT NECESSARILY LIMITED TO) ARE:
   - WATER MANAGEMENT DISTRICT STORM WATER
   - FDEP WATER DISTRIBUTION
   - FDEP SANITARY SEWER COLLECTION AND TRANSMISSION
   - FLORIDA DEPARTMENT OF TRANSPORTATION
   - LOCAL CONSTRUCTION PLAN APPROVAL
   - LOCAL RIGHT OF WAY USE
   - LOCAL UNDERGROUND UTILITIES
4. THE EXISTENCE AND LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT GUARANTEED AND SHALL BE INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO STARTING THE WORK. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ACCURACY OF LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS. 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 RELOCATION'S OF THESE UTILITIES WITH THE OWNER OF THE UTILITY.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COST WHICH MAY OCCUR DUE TO ANY DAMAGES CAUSED BY THE CONTRACTOR TO EXISTING UTILITIES STRUCTURES OR PROPERTY. THE CONTRACTOR SHALL BARE THE ENTIRE COSTS OF REPAIR AND/OR REPLACEMENT OF SAID DAMAGES.
6. THE CONTRACTOR SHALL PROVIDE COMPLETE "AS-BUILTS" INFORMATION TO THE ENGINEER RELATIVE TO THE LOCATION TO ALL WATER LINES, WATER SERVICES, VALVES, SEWER LINES, SEWER SERVICES, STORM SEWER LINES, INVERTS OF STRUCTURES, FINAL RETENTION AREAS, FINISH LOT GRADES AND CONSTRUCTION BENCH MARKS FOR VERIFICATION. THE "AS-BUILT" RECORDS SHALL BE KEPT AT THE JOB SITE AND UPDATED AS THE PROJECT PROGRESSES TWO (2) SETS OF RECORD DRAWINGS ARE TO BE PROVIDED TO THE CITY.
7. ALL HORIZONTAL LAYOUT FOR SITE CONSTRUCTION SHALL BE BASED ON THE APPROVED SITE PLAN AND VERIFIED BY THE CONTRACTOR'S SURVEY.
8. THE CONTRACTOR SHALL HIRE A PROFESSIONAL TESTING LABORATORY AS NECESSARY TO PERFORM ALL TESTS REQUIRED BY THIS CONSTRUCTION.
9. THE CONTRACTOR SHALL NOTIFY AMERICAN CIVIL ENGINEERING COMPANY 24 HOURS IN ADVANCE PRIOR TO ANY TESTING AS INDICATED IN ITEM No. 8 ABOVE.
10. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF THE PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS; INCLUDING BUT NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, GAS AND CABLE TV COMPANIES. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF UNDERGROUND CONDUITS PRIOR TO SUBBASE PREPARATION.
11. FLORIDA LAW (533.851) REQUIRES THAT PERSONS MAKING EXCAVATIONS IN PUBLIC OR PRIVATE STREETS, ALLEYS, RIGHT-OF-WAY OR UTILITY EASEMENTS WITH HAND TOOLS OR POWER EQUIPMENT MUST FIRST OBTAIN INFORMATION ON THE THE LOCATION OF UNDERGROUND GAS PIPE LINES. THE CONTRACTOR SHALL NOTIFY THE GAS UTILITY A MINIMUM OF 48 HOUR AND A MAXIMUM OF 5 DAYS PRIOR TO EXCAVATION.
12. ALL WORK SHALL SHALL BE OPEN TO AND SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF THE CITY, COUNTY, STATE, OWNER AND ENGINEER.
13. ANY PROPOSED FIELD CHANGES WHICH SUBSTANTIALLY DEVIATE FROM THIS PLAN SHALL BE APPROVED BY THE CITY, COUNTY AND THE ENGINEER PRIOR TO THE CHANGE BEING MADE IN THE FIELD.
14. UPON NOTICE FROM THE CONTRACTOR THAT THE CONSTRUCTION IS COMPLETE AND READY FOR ACCEPTANCE, THE ENGINEER SHALL MAKE FINAL INSPECTION AND NOTIFY THE CONTRACTOR AND OWNER OF ALL INCOMPLETE AND/OR DEFECTIVE WORK. THE CONTRACTOR SHALL CORRECT ALL SUCH ITEMS TO THE SATISFACTION OF THE ENGINEER AND OWNER. ALL REGULATORY AND GOVERNMENT-TAL AGENCIES WHICH REQUIRE FINAL INSPECTIONS SHALL HAVE BEEN CONTACTED BY THE CONTRACTOR AND HAVE INSPECTED AND APPROVED THE PROJECT PRIOR TO ACCEPTANCE BY THE OWNER.
15. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL DUST, MUD AND EROSION DURING CONSTRUCTION AND SHALL PROTECT ALL ADJACENT PROPERTIES AND RIGHTS-OF-WAY FROM DAMAGE BY EROSION, SEDIMENTATION OR OTHER POTENTIAL CONSTRUCTION RELATED CAUSES.
16. THE CONTRACTOR SHALL TAKE CARE DURING THE CONSTRUCTION TO AVOID DISTURBING ANY EXISTING SURVEY MONUMENTS. ANY MONUMENT DISTURBED BY THE CONTRACTOR SHALL BE RESET AT THE CONTRACTOR'S EXPENSE BY THE PROJECT SURVEYOR.
17. ALL IMPROVEMENTS SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH INFORMATION SHOWN ON THESE PLANS. ANY CONFLICTS WHICH RESULT IN CHANGES TO THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO FIELD CHANGES. MINOR ADJUST-MENTS CAUSED BY VARYING FIELD CONDITIONS, INCLUDING CHANGES AND DEPTHS OF BERMS AND SWALES MAY BE MADE WITH THE APPROVAL OF THE ENGINEER IF IT IS DETERMINED THAT THE BASIC DESIGN INTENT IS MET.
18. ALL LOCAL, AND STATE AND FEDERAL ORDINANCES, POLICIES AND OR OTHER REGULATIONS REGARDING TEMPORARY BARRICADES, LIGHTS, SIGNALS, SIGNAGE, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SAFE AND CONVENIENT MEANS OF ACCESS AND EGRESS TO ALL PARTS OF THE PROJECT SHALL BE MAINTAINED BY THE CONTRACTOR.

1

CONSTRUCTION NOTES SANITARY SEWER SYSTEM:

1. ALL SEWER COLLECTION SYSTEM RELATED ITEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEMINOLE COUNTY, AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
2. IF UNSUITABLE MATERIAL IN THE VICINITY OF SANITARY SEWER LINE ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHO WILL DIRECT THE CONTRACTOR TO REMOVE THE UNSUITABLE MATERIAL AND PREPARE THE TRENCH AND INSTALL THE SEWER LINES IN ACCORDANCE WITH ASTM D-2321.
3. ALL SEWER MAINS SHALL HAVE A MINIMUM OF 3 FEET OF COVER OVER THE PIPE TO FINISH GRADE.
4. ALL GRAVITY WASTEWATER MAINS SHALL BE SDR 35, ASTM 3034, ASTM D3212.
5. ALL WASTEWATER FORCE MAINS SHALL BE DR 21, CLASS 900 PVC PRESSURE CLASS 5750.
6. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER PRIOR TO COMMENCING CONSTRUCTION.
7. THE GRAVITY SANITARY SEWER LINES WILL BE VIDEO TAPED PRIOR TO CERTIFICATION OF THE LINES TO FDEP. COPIES OF THE TAPE ARE TO BE PROVIDED TO THE CITY UTILITY DEPARTMENT.

CONSTRUCTION NOTES GRADING:

1. EXISTING TOPOGRAPHY AND CONTOURS ARE BASED ON THE FOLLOWING:
   SURVEYOR: ASSOCIATED LAND SURVEYING & MAPPING
   JOB No.: 24029
   DATED: 11/25/2024
   REVISION DATE:
2. GEOTECHNICAL SERVICES HAVE BEEN PROVIDED AS REFERENCED BELOW. ANY CONFLICT BETWEEN INFORMATION WITHIN THE REPORT AND THESE CONSTRUCTION PLANS SHALL BE REPORTED TO THE ENGINEER UPON DISCOVERY. THE CONTRACTOR SHALL REVIEW THE BELOW REPORT PRIOR TO BIDDING.
   GEOTECHNICAL ENGINEER:
   REPORT No.(S):
   DATED:
3. EXISTING TREES, PLANTS AND SHRUBS WHICH ARE MARKED OR DESIGNATED AS PART OF THE LANDSCAPING SHALL BE CAREFULLY PROTECTED DURING CONSTRUCTION. WHERE TREES, PLANTS OR SHRUBS ARE ADJACENT TO THE CONSTRUCTION CARE SHALL BE TAKEN TO PROTECT AND RESTORE THE ORIGINAL CONDITIONS OF THE VEGETATION.
4. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND PROPER SOIL EROSION CONTROL MEASURES, AS NECESSARY.
5. ALL SITE CLEARING AND GRUBBING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 110 OF FLORIDA DEPARTMENT OF TRANSPIRATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
6. ALL EXCAVATION AND EMBANKMENT SHALL BE PERFORMED IN ACCORDANCE TO WITH SECTION 120 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. LATEST EDITION.
7. ALL FILL AREAS GREATER THAN 12 INCHES IN HEIGHT SHALL BE COMPACTED IN 12 INCH LIFTS (MEASURE PRIOR TO COMPACTION) TO 95% MAXIMUM DENSITY PER A.A.S.H.T.O. T-180.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED UNLESS OTHERWISE NOTED ON THESE PLANS. ALL GRASSING SHALL BE PERFORMED IN ACCOR-DANCE WITH SECTION 570 OF FLORIDA DEPARTMENT OF TRANSPIRATION SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
9. ALL DESIGNATED AREAS TO BE SODDED PER THE PLANS, SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 575 OF THE F.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
10. THE CONTRACTOR SHALL NOT COMPACT, STABILIZE, OR CONSTRUCT BASE COURSE WITHIN LANDSCAPE ISLANDS OR MEDIANS.
11. FINISH FLOOR ELEVATIONS ARE TYPICALLY 6 INCHES ABOVE DESIGN FINISHED GRADE AT OUTSIDE PERIMETER OF BUILDINGS EXCEPT AT ENTRIES AND WHERE OTHERWISE SHOWN ON THE GRADING PLAN.
12. THE CONTRACTOR SHALL COORDINATE THE INSTALLATIONS OF UTILITY CONDUITS (SLEEVES) UNDER PAVED AREAS WITH EACH UTILITY COMPANY PRIOR TO BASE INSTALLATION.
13. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING OF OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING DRAINAGE SYSTEM AND ADJACENT WATER BODIES AND WETLANDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT CONDITIONS RELATED TO SUCH MEASURES. METHODS MAY INCLUDE BUT ARE NOT LIMITED TO, FLOATING SILT BARRIERS, SEDIMENTATION BASINS, SEDIMENT CHECK DAMS, SILT FENCES, HAY BAILS. THE MEASURES SHOWN ON THESE PLANS SHALL BE CONSIDERED MINIMUM AND SHALL NOT DEVIATE THE CON-TRACTOR FROM THE RESPONSIBILITY TO IMPLEMENT ANY MEASURES NECESSARY TO PROVIDE PROTECTION FOR EROSION, SEDIMENTATION AND TURBIDITY.

CONSTRUCTION NOTES DRAINAGE:

1. ALL DRAINAGE RELATED CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ST. JOHNS RIVER WATER MANAGEMENT, PERMIT ISSUED FOR THIS PROJECT.
2. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
3. THE FOLLOWING F.D.O.T. CONSTRUCTION DETAILS ARE HEREBY INCORPORATED THESE PLANS BY REFERENCE:

INDEX NO.	DESCRIPTION
102	SILT FENCES
104	EROSION CONTROL
232	DITCH BOTTOM INLETS-TYPE "C" AND "E"
300	CURB & CURB AND GUTTER
500	EXCAVATION, EMBANKMENT AND GRADING
600	TRAFFIC CONTROL

4. PIPE LENGTHS SHOWN REPRESENT SCALED DIMENSIONS BETWEEN CENTER-LINES OF DRAINAGE STRUCTURES AND FROM INVERTS OF HEADWALLS AND MITERED END SECTIONS. BIDDERS SHALL ADJUST FOR PIPE LENGTHS WHEN BIDDING MITERED END SECTIONS.
5. ALL STORM WATER DRAINAGE PIPES SHALL BE REINFORCED CONCRETE PIPE (ASTM C-76, CLASS III) OR ALUMINIZED STEEL TYPE 2 C.M.P.

CONSTRUCTION NOTES EROSION & SEDIMENTATION CONTROL:

EROSION/SEDIMENT CONTROL:
THE CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, ON SITE WETLANDS, STREETS, STORM SEWERS AND WATERWAYS. IN ADDITION, CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC. THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES.

CONSTRUCTION SEQUENCE TO MINIMIZE EROSION AND SEDIMENTATION AT STORM WATER DISCHARGE POINTS.

1. CONTRACTOR TO INSTALL SILT FENCES AS SHOWN AND AS REQUIRED. CITY TO INSPECT AND ACCEPT.
2. CONTRACTOR TO CONSTRUCT POND AND CONNECTING DRAINAGE OUTFALLS AT INITIAL STAGES OF CONSTRUCTION.
3. ALL GRADING OPERATIONS SHALL BE PERFORMED WITHOUT DELAY OR PAUSE (CONTINUOUS OPERATION) UNTIL PROPOSED GRADES ARE MET. ALL EXPOSED EARTH SHALL BE SEEDED AND MULCHED OR SODDED SOON AFTER GRADING IS COMPLETE.

CONSTRUCTION NOTES DRAINAGE DURING CONSTRUCTION:

1. THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL SYSTEMS FOR CONFORMANCE WITH THE SITE CONSTRUCTIONS PLANS AND FIELD CHANGES. BANKS AND SLOPES OF RETENTION PONDS SHALL ALSO BE CHECKED AFTER RAINFALL EVENTS FOR EROSION PROBLEMS.
2. THE CONTRACTOR SHALL REPAIR ALL EROSION AND SEDIMENT CONTROL SYSTEMS AS REQUIRED FOR CONTINUED FUNCTION. RE-GRADE IF REQUIRED, TO MAINTAIN DESIGN CONFIGURATION. ADD SOD AND SILT FENCES AS REQUIRED TO PREVENT SILTATION FROM EXITING THE SITE.
3. MOW RETENTION AREAS REGULARLY TO MAINTAIN WEED AND OVERGROWTH CONTROL.
4. INSPECT RETENTION AREAS PERIODICALLY FOR ACCUMULATION OF DEBRIS AND TRASH. PROPERLY DISPOSE OF ALL DEBRIS AND TRASH IN RETENTION AREAS AND CONVEYANCE SWALES.
5. INSPECT RETENTION AREA BOTTOMS FOR DEPOSITS OF SAND AND/OR SILT AND REMOVE.
6. PERCOLATION PERFORMANCE SHALL BE EVALUATED YEARLY FOR EACH DRY RETENTION AREA. THE RETENTION AREAS SHALL PERCOLATE STORED WATER WITHIN 36 HOURS OF THE END OF THE DESIGN RAINFALL EVENT. BOTTOM MAINTENANCE SHALL BE PERFORMED BY EXERCISING THE FOLLOWING PROCEDURE:
   A. REMOVE 4 TO 6 INCHES OF RETENTION AREA BOTTOM MATERIAL AND SCARIFY EXCAVATED BOTTOM.
   B. REPLACE EXCAVATED MATERIAL WITH CLEAN SAND MATERIAL TO DESIGN GRAD AND SEED AND MULCH PER ORIGINAL DESIGN.

1

CONSTRUCTION NOTES WATER DISTRIBUTION:

1. ALL WATER DISTRIBUTION SYSTEM RELATED ITEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEMINOLE COUNTY, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND HEALTH DEPT. REQUIREMENTS OF ENVIRONMENTAL PROTECTION, AND HEALTH DEPT. REQUIREMENTS.
2. ALL MATERIALS FURNISHED BY THE CONTRACTOR UNDER THIS SECTION SHALL BE NEW, HIGH GRADE AND FREE FROM DEFECTS.
3. PRESSURE AND LEAKAGE TESTS FOR NEWLY-INSTALLED WATER DIST. SYSTEM PRESSURE PIPES AND APPURTENANCES SHALL BE PERFORMED IN CONFORMANCE WITH SEMINOLE COUNTY AND FDEP STANDARDS. POTABLE WATER TEST PRESSURES SHALL BE 150 PSI; DURATION OF TESTS IS TO BE 2 HOURS. TESTS TO BE CONDUCTED PURSUANT TO AWWA C600 DUCTILE IRON PIPE AND 90% OF THAT ALLOWABLE LEAKAGE FOR PVC PIPE.
4. DISINFECT POTABLE WATER MAINS IN ACCORDANCE WITH AWWA C651 STANDARD PROCEDURES FOR DISINFECTING WATER MAINS.
5. ALL PVC PIPE MUST BEAR THE NSF LOGO FOR POTABLE WATER USE.
6. ALL WATER LINES SHALL BE INSTALLED IN A DRY TRENCH.
7. PVC PIPE: FOUR (4) INCHES THROUGH THIRTY-SIX (36) INCHES SHALL BE AWWA C-900 OR C905, LATEST EDITION. THE PVC PIPE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 150 PSI AND SHALL HAVE A DIMENSION RATIO (DR) OF 18. PVC PIPE SHALL BE INTEGRAL BELL, PUSH-ON TYPE JOINTS.
8. DIP PIPE: FOUR (4) INCHES THROUGH FIFTY-FOUR (54) INCHES SHALL BE ANSI/AWWA A21.51/C151 WITH A MINIMUM WORKING PRESSURE CLASS 150 PIPE. ANY FITTINGS REQUIRED SHALL BE MECHANICAL JOINT DUCTILE IRON CONFORMING TO ANSI/AWWA A21.10/C110, 250 PSI MINIMUM PRESSURE RATING, OR DUCTILE IRON COMPACT FITTINGS FOUR (4) THROUGH TWELVE (12) INCHES IN ACCORDANCE WITH ANSI/AWWA A21.53/C153. JOINTS FOR DUCTILE IRON PIPE SHALL BE PUSH-ON OR MECHANICAL JOINTS CONFORMING TO ANSI/AWWA A21.11/C111. ABOVE GROUND JOINTS SHALL BE FLANGED WITH T5 CADMIUM PLATED BOLTS, NUTS AND WASHERS. FLANGED JOINTS SHALL CONFORM TO ANSI STANDARD B 16.1- 125 LB. WHERE DUCTILE IRON PIPE AND FITTINGS ARE TO BE BELOW GROUND OR INSTALLED IN A CASING PIPE THE COATING SHALL BE A MINIMUM 1.0 MIL THICK IN ACCORDANCE WITH ANSI/AWWA A21.51/C151. WHERE DUCTILE IRON PIPE AND FITTINGS ARE TO BE INSTALLED ABOVE GROUND, PIPE, FITTINGS AND VALVES SHALL BE THOROUGHLY CLEANED AND GIVEN ONE FIELD COAT (MINIMUM 1.5 MILS DRY THICKNESS) OF RUST INHIBITOR PRIMER. ALL DUCTILE IRON PIPE AND FITTINGS SHALL HAVE AN INTERIOR PROTECTIVE LINING OF CEMENT-MORTAR WITH A SEAL COAT OF ASPHALTIC MATERIAL IN ACCORDANCE WITH ANSI/AWWA A21.4/C104. THE PIPE SHALL BE POLYETHYLENE ENCASED (8 MIL) WHERE SHOWN ON THE DRAWINGS, IN ACCORDANCE WITH ANSI/AWWA A21.51/C105.
9. POLYETHYLENE PIPE: FOUR (4) INCHES THROUGH TWELVE (12) INCHES SHALL BE AWWA STANDARD C906, LATEST EDITION. THE POLYETHYLENE PIPE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 160 PSI AND SHALL HAVE A DIMENSION RATION (DR) OF 11. PIPE SHALL BE THE SAME OD AS DUCTILE IRON PIPE. POLYETHYLENE PIPE SHALL HAVE FUSION BONDED JOINTS. FITTINGS USED WITH POLYETHYLENE PIPE SHALL BE FUSION FITTINGS IN ACCORDANCE WITH AWWA STANDARD C906.
10. SERVICE PIPES: ALL SERVICE LINES SHALL BE 1", 1-1/2" OR 2" BLUE, PC200, DR9, POLYETHYLENE TUBING CONFORMING TO SPECIFICATIONS IN AWWA C901, PE3408. LARGER SERVICE PIPE SHALL BE PVCP, DIP OR POLYETHYLENE PIPE.
11. VALVES:
    * VALVES 24" AND SMALLER SHALL BE RESILIENT WEDGE GATE VALVES.
    * VALVES LARGER THAN 24" SHALL BE BUTTERFLY VALVES, UNLESS OTHERWISE SPECIFIED.
12. ALL UNDERGROUND BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION IN ACCORDANCE WITH SECTION 5-14.4.52, NFPA 13, 1995 EDITION.
13. ALL CONTROL VALVES THAT MIGHT INTERFERE WITH THE OPERATION OF THE SYSTEM AND/OR ALL WATER FLOW DETECTION DEVICES SHALL BE MONITORED IN ACCORDANCE WITH NFPA 72.
14. PRIVATE HYDRANTS MUST BE PAINTED IN ACCORDANCE WITH NFPA 291. FLOW AND COLOR WILL BE BASED ON ACTUAL FLOW TEST WITNESSED BY THE FIRE INSPECTOR. [(CITY FIRE CODE, CHAPTER 24, SECTION 24.27(f)(8)]
15. THE UNDERGROUND MAIN STARTING AT THE PUBLIC WATER UTILITY POINT OF CONNECTION HAS BEEN DESIGNED TO NFPA 24. INSTALLATION AND TESTING MUST BE IN ACCORDANCE WITH NFPA 24.
16. DURING CONSTRUCTION, WHEN COMBUSTIBLES ARE BROUGHT ONTO THE SITE IN SUCH QUANTITIES AS DEEMED HAZARDOUS, ACCESS ROADS AND A SUITABLE TEMPORARY SUPPLY OF WATER ACCEPTABLE TO THE FIRE DEPARTMENT SHALL BE PROVIDED. [NFPA 1: 29-2.3]
17. WHERE UNDERGROUND WATER MAINS AND HYDRANTS ARE TO BE PROVIDED, THEY SHALL BE INSTALLED, COMPLETED, AND IN SERVICE PRIOR TO CONSTRUCTION WORK. [NFPA 1: 29-2.3.2]
18. UNDERGROUND MAIN CONTRACTOR MUST APPLY FOR A FIRE PERMIT FOR THE INSTALLATION OF MAINS AND HYDRANTS PRIOR TO AN INSTALLATION. [FFPC/NFPA 1: 1-16.16]
19. THE PRIVATE UNDERGROUND WATER MAINS SHALL BE INSTALLED BY A LICENSED FIRE CONTRACTOR CLASS I, II, OR V. COMBINATION MAINS (SHARED DOMESTIC AND FIRE SUPPRESSION SERVICE) UP TO THE DEDICATED FIRE SUPPRESSION SYSTEM POINT OF CONNECTION CAN BE INSTALLED BY A LICENSED UNDERGROUND EXCAVATION OR SITE UTILITY CONTRACTOR. [FLORIDA STATUTES 633.021 AND 633.539]

CONSTRUCTION NOTES PAVING:

1. ALL PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF LAKE MARY AND SEMINOLE COUNTY CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR GRADING ALL PAVEMENTS TO DRAIN POSITIVELY. INTERSECTIONS SHALL BE TRANSITIONED TO PROVIDE SMOOTH DRIVING SURFACE WHILE MAINTAINING POSITIVE DRAINAGE. SHOULD ENGINEER PRIOR TO PAVING SO THAT RECOMMENDATIONS CAN BE MADE.
3. SPECIFICATIONS FOR THE INTERNAL ROADWAYS ARE AS FOLLOWS:
   SUBBASE REQUIREMENTS:
   THE SUBBASE SHALL BE STABILIZED TO A MINIMUM DEPTH OF 10 INCHES AND COMPACTED TO 98 PERCENT OF A.A.S.H.T.O. T-180 FBV 50 PSI.
   BASE REQUIREMENTS:
   LIMEROCK
   THE LIMEROCK MATERIAL (6" DEPTH) SHALL BE COMPACTED TO A MINIMUM DENSITY OF 98% OF THE MAXIMUM DENSITY OBTAINABLE UNDER A.A.S.H.T.O. METHOD T-180
   ALTERNATE BASE REQUIREMENTS:
   SOIL CEMENT
   THE SOIL CEMENT (6" DEPTH) SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY PRESCRIBED UNDER A.A.S.H.T.O. T-134.
   SURFACE COURSE:
   1 1\2" FDOT ASPHALT CONCRETE TYPE S-III WITH A STABILITY OF 1000 POUNDS.
   ALTERNATE PAVEMENT SPECIFICATION:
   CONCRETE:
   SUB-BASE REQUIREMENTS:
   COMPACT TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY ACCORDING TO ASTM D-1557 TO A DEPTH OF 2 FEET BELOW THE BOTTOM OF THE SLAB.
   SURFACE COURSE:
   a. LIGHT DUTY: 6" THICK W/ 10 FTX10 MAXIMUM CONTROL JOINT SPACING & 1 1/2" MINIMUM SAWCUT DEPTH.
   b. HEAVY DUTY: 8" THICK W/ 14 FTX14 FT MAXIMUM CONTROL JOINT SPACING & 2" MINIMUM SAWCUT DEPTH.

MINIMUM WATER MAIN/SANITARY SEWER/FORCE MAIN CONFLICT NOTES:

1. MINIMUM VERTICAL AND HORIZONTAL SEPARATION BETWEEN POTABLE WATER AND SANITARY SEWER MAINS TO COMPLY WITH RULES 62-604.400(2)(g)-(i), F.A.C., 62-604.400 (3), F.A.C., AND 62-555.314, AS NOTED BELOW.

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.
FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND
MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A. THROUGH D. BELOW.

A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.

B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).

C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.

D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

5) EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ALTERNATIVE CONSTRUCTION FEATURES THAT AFFORD A SIMILAR LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:

1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY- OR VACUUM-TYPE PIPELINE;
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:

1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND
2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

LEGEND:

- EXISTING PALM TREE
- EXISTING OAK TREE
- EXISTING CAMPHOR TREE
- PROPOSED CURVE DATA: Δ = 44°29'55" DELTA; R = 75.00' RADIUS; L = 58.25' ARC LENGTH
- PROPOSED STORM PIPE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN (WM)
- EXISTING FORCE MAIN
- PROPOSED FORCE MAIN (FM)
- PROPOSED LOT LINE
- PROPOSED SETBACK LINE
- PROPERTY LINE (P/L)
- RIGHT OF WAY (ROW) LINE
- EASEMENT LINE
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- EXISTING 5' CONTOUR LINE
- PROPOSED LIFT STATION (LS)
- PROPOSED SANITARY SERVICE
- PROPOSED SANITARY MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE
- PROPOSED DOUBLE 3/4" WATER SERVICE
- PROPOSED DOUBLE 1" WATER SERVICE
- PROPOSED FDOT P-2/P-4 INLET
- PROPOSED FDOT P-1/P-3 INLET
- PROPOSED MITERED END SECTION (MES)
- PROPOSED STORM MANHOLE
- PROPOSED SIDEWALK
- PROPOSED PAVEMENT AREA

DATE:	DECEMBER 19, 2024
SCALE:	N.T.S.
DESIGNED:	THS
DRAWN:	MDS
CHECKED BY:	THS
JOB NO:	24175
EMAIL:	tomskelton468@gmail.com

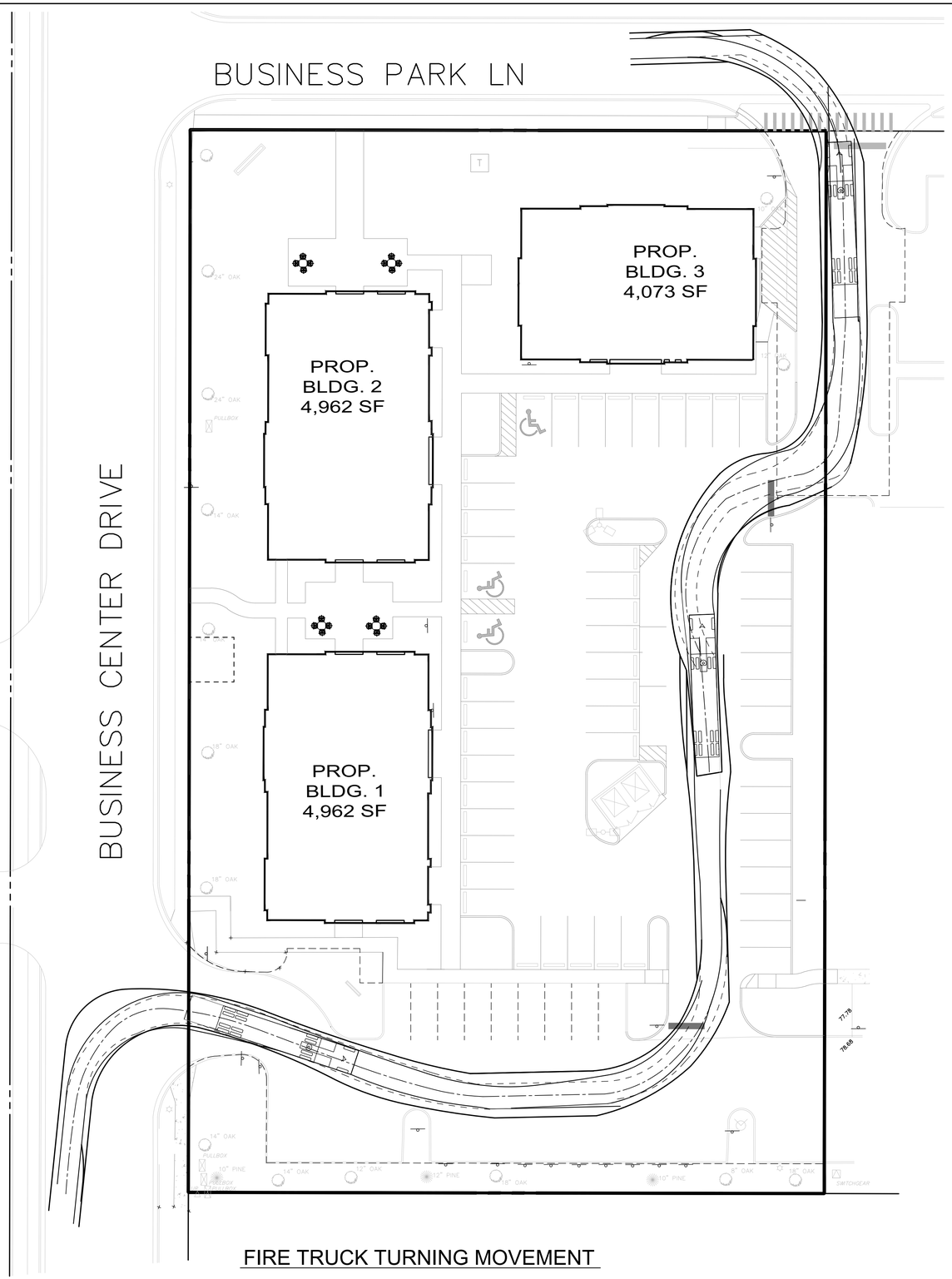
	DATE	REVISIONS	REVISED	CHECKED
1	03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700 FAX: (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO.: 00008729

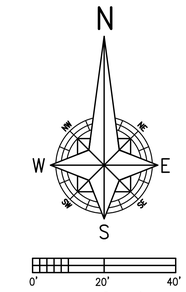
GENERAL NOTES
HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS
LAKE MARY, FLORIDA

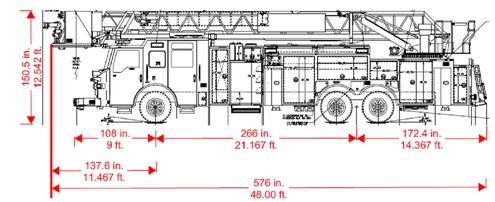
THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: C02



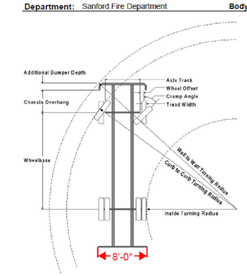
FIRE TRUCK TURNING MOVEMENT





Pierce **Turning Performance Analysis** 02/03/2022

Bid Number: 678
Department: Sanford Fire Department
Chassis: Velocity Chassis, PAP (Big Block), 2010
Body: Aerial, Platform 100', Alum Body



Parameters:

*Inside Cramp Angle:	40°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	16.3 in.
Chassis Overhang:	78 in.
Additional Bumper Depth:	26 in.
Front Overhang:	137.6 in.
Wheelbase:	266 in.

Calculated Turning Radii:

Inside Turn:	25 ft. 4 in.
Curb to curb:	41 ft. 1 in.
Wall to wall:	48 ft. 1 in.

Comments:
February 3rd, 2022

Category	Option	Description
Bumpers	0670592	Bumper, 26" Extended, Under Slung, Recessed Crosslays/Trays, Imp/Vel
Tires, Front	0899289	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply, Fire Service Load
Axle, Front, Custom	0508846	Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity
Wheels, Front	0819611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Aerial Devices	0784643	Aerial, 100' Pierce Platform, 35 MPH Wind Rating, 400lb Tip Load Allowance

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:

Inside CrampAngle	Maximum turning angle of the front inside fire.
Axle Track	King-pin to King-pin distance of front axle.
Wheel Offset	Offset from the center line of the wheel to the King-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Wheel	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicles front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures takes into account any front overhang due to chassis , bumper extensions and or aerial devices.

NOTE:

1. FIRE DEPARTMENT ACCESS ROADS PROVIDED AT THE START OF A PROJECT AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION (NFPA 1, 16.1.4).
2. A WATER SUPPLY FOR FIRE PROTECTION EITHER TEMPORARY OR PERMANENT, SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ACCUMULATES THIS APPLIES TO BOTH COMMERCIAL AND RESIDENTIAL DEVELOPMENTS. (NFPA 1, 16.4.3.1).
3. WHERE UNDERGROUND WATER MAINS AND HYDRANTS ARE TO BE PROVIDED, THEY SHALL BE INSTALLED, COMPLETED, AND IN SERVICE PRIOR TO CONSTRUCTION WORK. (NFPA 1, 16.4.3.1.3).
4. FIRE FLOW TESTING SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 291, RECOMMENDED PRACTICE FOR FIRE FLOW TESTING.
5. A 36 IN. CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF FIRE HYDRANTS AND A CLEAR SPACE OF NOT LESS THAN 60 IN. (1524 MM) SHALL BE PROVIDED IN FRONT OF EACH HYDRANT CONNECTION HAVING A DIAMETER GREATER THAN 2 1/2 IN. NFPA 1, 18.5.7.
6. HYDRANT SHALL BE MARKED WITH A BLUE REFLECTOR THAT IS PLACED 6" IN THE ROADWAY IN ACCORDANCE WITH NFPA 1, CHAPTER 18.5.10 (2015)

DATE:	DECEMBER 19, 2024		
SCALE:	1" = 20'		
DESIGNED:	THS		
DRAWN:	SGM		
CHECKED BY:	THS		
JOB NO.:	24175		
EMAIL: tomskelton4608@gmail.com			
		MDS	THS
		REVISED	CHECKED

DATE	REVISIONS
02/19/2025	REVISED PER CITY OF LAKE MARY

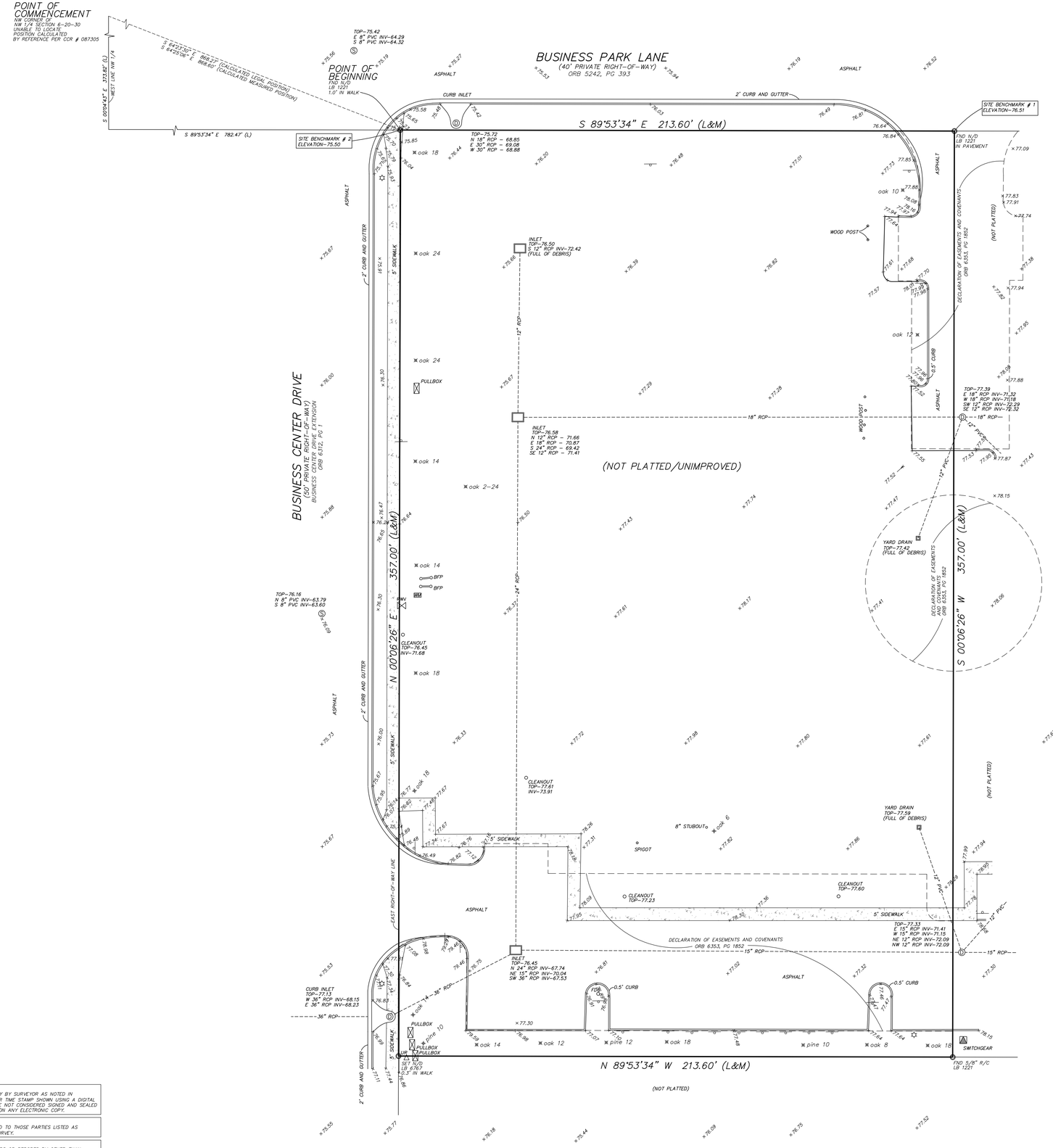
AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO.: 00006729

FIRE TRUCK TURNING PLAN

HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS
LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: 03



LEGEND

FND	FOUND
IR	IRON ROD
CM	CONCRETE MONUMENT
ORB	OFFICIAL RECORDS BOOK
PG	PAGE
(L)	LEGAL
(M)	MEASURED
(P)	PLAT
(C)	CALCULATED
IR	IRON ROD
PSM	PROFESSIONAL SURVEYOR AND MAPPER
LB	LICENSED BUSINESS
IP&C	IRON PIPE AND CAP
ID	IDENTIFICATION
N/D	NAIL AND 1" BRASS DISK
CLF	CHAIN LINK FENCE
WPF	WOOD PANEL FENCE
C&G	CURB AND GUTTER
OHL	OVERHEAD UTILITY LINE
CCR	CERTIFIED CORNER RECORD
DOC	DOCUMENT
N/D	NAIL AND 1" BRASS DISC
R/C	REBAR AND CAP
O.R.B.	OFFICIAL RECORDS BOOK
PG	PAGE
U.E.	UTILITY EASEMENT
A/C	AIR CONDITIONING UNIT
PRM	PERMANENT REFERENCE MONUMENT
BFP	BACKFLOW PREVENTER
FDC	FIRE DEPARTMENT CONNECTION
	UTILITY POLE
	SIGN
	LIGHT POLE
RWV	RECLAIMED WATER VALVE
WM	WATER METER
	HYDRANT
	TRANSFORMER
	UTILITY RISER
	STORM MANHOLE

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.

SURVEYOR'S REPORT/NOTES

1) SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

2) PROPERTY SHOWN HEREON LIES IN FLOOD ZONE "X" ACCORDING TO F.I.R.M. MAP PANEL No. 12117C0065 F, DATED SEPTEMBER 28, 2007. THE FLOOD INSURANCE RATE MAP IS NOT A SURVEY. FLOOD ZONE DETERMINATION IS AN OPINION ONLY.

3) DISTANCES SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

4) UNLESS NOTED OTHERWISE, NO UNDERGROUND IMPROVEMENTS, FOUNDATIONS,/FOOTERS OR ROOF OVERHANGS HAVE BEEN LOCATED. ENVIRONMENTAL CONDITIONS AND GOVERNMENTAL REQUIREMENTS NOT DETERMINED BY SURVEYOR. EXCEPT AS EXPRESSLY STATED ON THIS SURVEY

5) SYMBOLS NOT TO SCALE.

6) OWNERSHIP OF SUBJECT PROPERTY AND IMPROVEMENTS UNDETERMINED BY SURVEYOR. SURVEY PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT.

7) THIS MAP IS INTENDED TO BE DISPLAYED AT A SCALE OF 1" = 20'.

8) BUILDING TIES ARE NOT TO BE USED TO CONSTRUCT DEED OR PLATTED LINES

9) BEARINGS SHOWN HEREON ARE BASED ON THE SOUTH RIGHT-OF-WAY LINE OF BUSINESS PARK LANE, BEING S 89°53'34" E PER LEGAL DESCRIPTION,

10) POTENTIAL BOUNDARY INCONSISTENCIES OBSERVED: AS NOTED HEREON.

11) ELEVATIONS SHOWN HEREON ARE BASED ON SEMINOLE COUNTY BENCHMARK # 8172103, HAVING AN ELEVATION OF 71.426 (NAVD88 DATUM).

12) TREES 6" AND LARGER WERE LOCATED FOR THE PURPOSES OF THIS SURVEY.

LEGAL DESCRIPTION (ORB 7226, PG 0959)

A PORTION OF SECTION 6, TOWNSHIP 20 SOUTH, RANGE 30 EAST, SEMINOLE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHWEST CORNER OF THE NORTHWEST 1/4 OF SAID SECTION 6; THENCE RUN SOUTH 00°04'43" EAST, ALONG THE WEST LINE OF SAID NORTHWEST 1/4, A DISTANCE OF 373.82 FEET; THENCE DEPARTING SAID WEST LINE, RUN SOUTH 89°53'34" EAST, A DISTANCE OF 782.47 FEET FOR THE POINT OF BEGINNING; THENCE CONTINUE SOUTH 89°53'34" EAST, A DISTANCE OF 213.60 FEET; THENCE RUN SOUTH 00°06'26" WEST, A DISTANCE OF 357.00 FEET; THENCE RUN NORTH 89°53'34" WEST, A DISTANCE OF 213.60 FEET, TO THE EAST RIGHT OF WAY LINE OF BUSINESS CENTER DRIVE AS RECORDED IN OFFICIAL RECORDS BOOK 4324, PAGE 1938, PUBLIC RECORDS OF SEMINOLE COUNTY, FLORIDA; THENCE RUN NORTH 00°06'26" EAST, ALONG SAID EAST RIGHT OF WAY LINE, A DISTANCE OF 357.00 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH PRIVATE ACCESS EASEMENT AND DRAINAGE EASEMENT GRANTED UNDER DECLARATION OF EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED IN OFFICIAL RECORDS BOOK 5242, PAGE 393, AND CORRECTIVE SUPPLEMENT TO DECLARATION OF EASEMENTS, COVENANTS AND RESTRICTIONS RECORDED IN OFFICIAL RECORDS BOOK 6475, PAGE 1624, AND DECLARATION OF EASEMENTS AND COVENANTS RECORDED IN OFFICIAL RECORDS BOOK 6353, PAGE 1852, PUBLIC RECORDS OF SEMINOLE COUNTY, FLORIDA.

ELECTRONIC FILE:
IF THIS FILE WAS SIGNED ELECTRONICALLY BY SURVEYOR AS NOTED IN SIGNATURE BLOCK, ON THE DATE AND/OR TIME STAMP SHOWN USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPY.

LIMITATION OF LIABILITY:
RELIANCE ON THIS SURVEY IS RESTRICTED TO THOSE PARTIES LISTED AS "CERTIFIED TO" ON THE FACE OF THIS SURVEY.

NOTICE OF COPYRIGHT:
ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

BOUNDARY & TOPOGRAPHIC SURVEY
7151 BUSINESS CENTER DRIVE
SEMINOLE COUNTY, FLORIDA

11/25/2024	ADDED TOPOGRAPHIC LOCATIONS
04/02/2024	BOUNDARY SURVEY

PREPARED FOR:
PROVIDENCE ONE PARTNERS

Associated Land Surveying & Mapping, Inc.
1681 POWELL ST. LONGWOOD, FLORIDA 32750
PH. (407) 869-5002, FAX (407) 869-8393
OFFICE@ALSMFL.COM, LB# 6760

SCALE:	1" = 20'
DWG NO.	24029.DWG
JOB NO.	24029
SURVEY DATE:	11/25/2024

I CERTIFY THAT THIS SURVEY WAS MADE BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027,FLORIDA STATUES.
NOTE: THIS IS A BOUNDARY SURVEY, NOT A LAND DEVELOPMENT SURVEY.

☐ DAVID W. MACDWYATT, CERTIFICATE No. 4779
☐ JACK E. REED JR., CERTIFICATE No. 5107
LICENSED BUSINESS NUMBER 6760

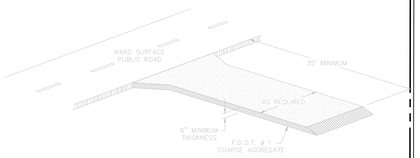
SHEET NO.
1 of 1

CONSTRUCTION NOTES EROSION & SEDIMENTATION CONTROL:

EROSION/SEDIMENT CONTROL:
THE CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, ON SITE WETLANDS, STREETS, STORM SEWERS AND WATERWAYS. IN ADDITION, CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC. THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES.

CONSTRUCTION SEQUENCE TO MINIMIZE EROSION AND SEDIMENTATION AT STORM WATER DISCHARGE POINTS.

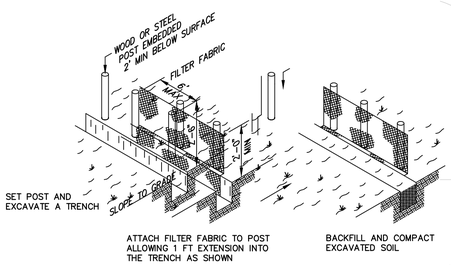
1. CONTRACTOR TO INSTALL SILT FENCES AS SHOWN AND AS REQUIRED.
2. CONTRACTOR TO CONSTRUCT POND AND CONNECTING DRAINAGE OUTFALLS AT INITIAL STAGES OF CONSTRUCTION.
3. ALL GRADING OPERATIONS SHALL BE PERFORMED WITHOUT DELAY OR PAUSE (CONTINUOUS OPERATION) UNTIL PROPOSED GRADES ARE MET. ALL EXPOSED EARTH SHALL BE SEEDED AND MULCHED OR SODDED SOON AFTER GRADING IS COMPLETE.
4. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING OF OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING DRAINAGE SYSTEM AND ADJACENT WATER BODIES AND WETLANDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT CONDITIONS RELATED TO SUCH MEASURES. METHODS MAY INCLUDE BUT ARE NOT LIMITED TO, FLOATING SILT BARRIERS, SEDIMENTATION BASINS, SEDIMENT CHECK DAMS, SILT FENCES, HAY BAILS. THE MEASURES SHOWN ON THESE PLANS SHALL BE CONSIDERED MINIMUM AND SHALL NOT DEVIATE THE CONTRACTOR FROM THE RESPONSIBILITY TO IMPLEMENT ANY MEASURES NECESSARY TO PROVIDE PROTECTION FOR EROSION, SEDIMENTATION AND TURBIDITY.



TEMPORARY GRAVEL DRIVEWAY

SEQUENCE OF MAJOR ACTIVITY AND IMPLEMENTATION

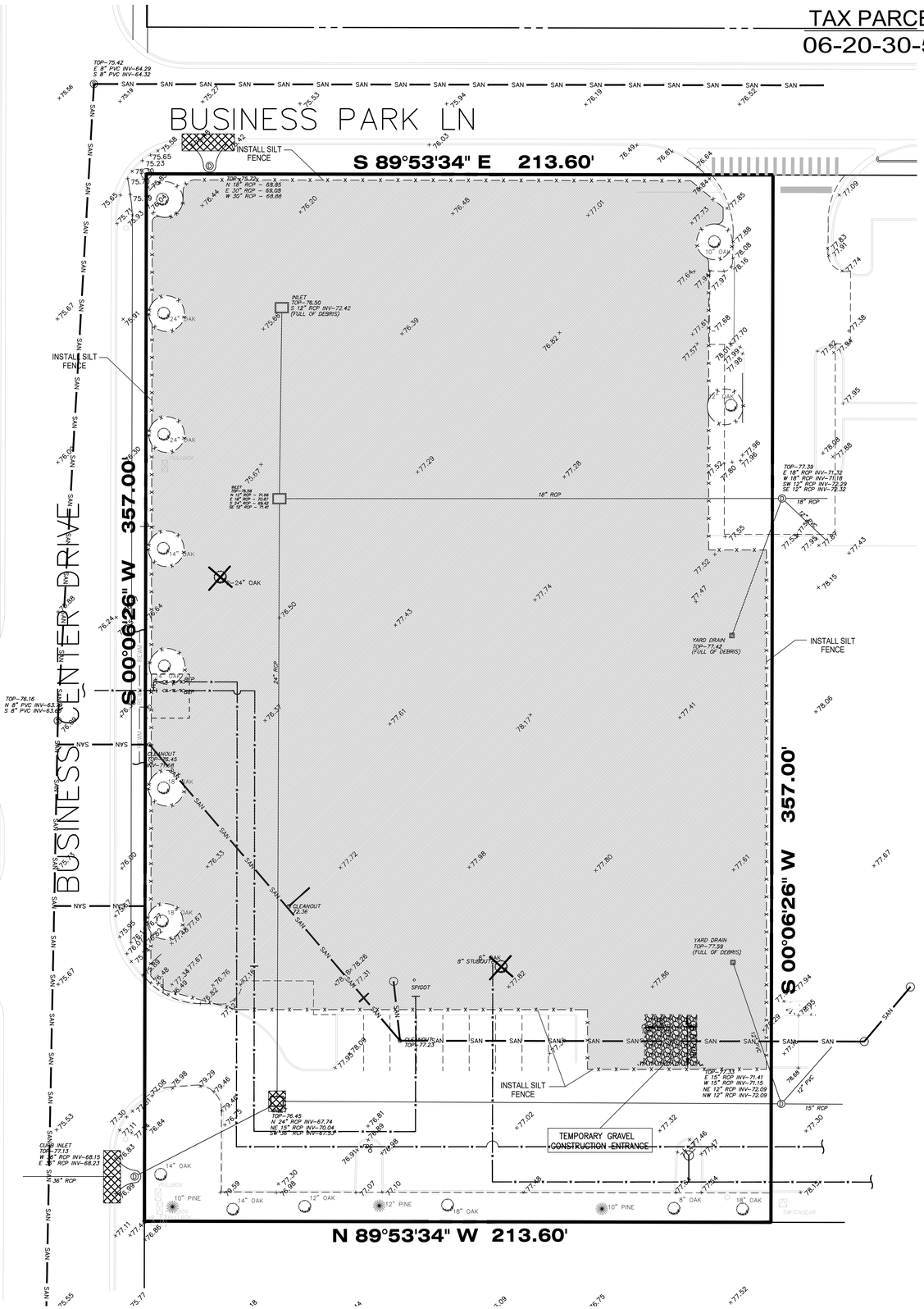
1. INSTALL EROSION AND POLLUTION CONTROL MEASURES. (i.e. SILT FENCE)
2. CLEAR REMAINING AREAS TO BE INCLUDED DURING THE DEVELOPMENT IMPROVEMENTS.
3. GRADE SITE, INCLUDING FILL.
4. STABILIZE TOP SOIL WITH SOD/SEED & MULCH ACCORDINGLY.

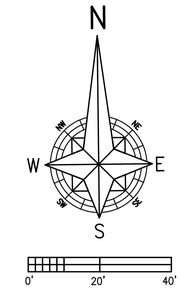


EROSION CONTROL NOTES:

1. MATERIALS, CONSTRUCTION METHODS AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DESIGN STANDARDS CURRENT EDITION.
2. CONTRACTOR SHALL PROVIDE SILT FENCES AND SYNTHETIC BALES AT ALL STORMWATER DISCHARGE POINTS FOR EROSION CONTROL AND SEDIMENT CONTROL DURING CONST.
3. CONTRACTOR SHALL ROUGH GRADE STORM-WATER SWALES AND RETENTION AREAS PRIOR TO CONSTRUCTION OF SITE IMPROVEMENTS.
4. CONTRACTOR SHALL MEET ALL PERMIT CONDITIONS AS ESTABLISHED BY SEMINOLE COUNTY AND ALL OTHER APPLICABLE AGENCIES, INCLUDING BUT NOT LIMITED TO CITY, COUNTY, FDOT, AND THE SJRWMD.
5. THERE WILL BE NO CHANGE IN DRAINAGE PATTERNS
6. ALL FINISHED SLOPES GREATER THAN 6:1 WILL BE SODDED. ALL OTHER DISTURBED AREAS WILL BE SEED & MULCHED.
7. THERE ARE NO WETLANDS OR SURFACE WATERS WITHIN THE PROJECT AREA.

SILT FENCE DETAIL
F.D.O.T. INDEX NO. 102





LEGEND

- AREA TO BE CLEARED
- LOCATION OF SILT FENCE
- LOCATION OF SOCKED PERFORATED PIPE OR INLET PROTECTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED

1. SITE DESCRIPTION

A. Construction Activity/Project Limits:
To develop a 1.75 acre commercial parcel located on the south side of Business Park Lane and the East side of Business Center Drive in Lake Mary, Florida.

B. Sequence of Major Activity and Implementation:

1. Install erosion and pollution control measures.
2. Clear, grub & excavate retention area.
3. Grade site, including excavating & filling.
4. Stabilize top soil with sod/seed & mulch accordingly.

C. Estimate of Total Project Area and Area to be Disturbed:

1. The project area is 1.75 acres. The area to be disturbed will be 1.31 acres.

D. Estimate of Runoff Coefficients and Existing Soil Data:

1. The estimated runoff coefficient prior to construction: C = 0.20
2. The estimated runoff coefficient after construction: C = 0.50 to attenuation pond, C = 0.20 from pond.
3. The estimated runoff coefficient during construction: C = 0.1 to 0.4
4. The existing soils are listed as Zolfo, Smyrna, Basinger and Ona per the USDA Soil Conservation Service Soil Survey of Lake Mary.

E. Site Map:

See cover sheet of construction plans.

F. Receiving Waters/Wetland Areas:
1. The site is discharging to the north that drains to the existing stormwater system.

2. CONTROLS

A. Erosion and Sediment Control:

During the construction operations, the following control measures will be used to prevent erosion and sedimentation:

1. Clearing & grubbing will be performed to minimize the impacts to the unprotected areas exposed to erosion forces. Construction is limited to areas of clearing.
2. Excavated materials will deposited in a manor to avoid washout from stormwater runoff. All stock piles will be protected by sediment containment devices.
3. All drainage structures will be protected during construction. See the erosion control and grading specifications listed on the approved construction plans for this project.

B. Stormwater Management:

The stormwater system will be handled through the existing stormwater system.

C. Other Controls:

The contractor, at all times, will:
1. Dispose of waste by appropriate means.
2. Limit off-site tracking and spillage.
3. Dispose of sanitary waste by appropriate means.
4. Hire only certified technicians to handle or dispense fertilizers and pesticides.
5. Stop work when encountering a spill, will not resume until directed by the project engineer and have the disposition of the hazardous waste be made in accordance with all regulating agencies.

D. Approved State and Local Plans or Permits:

The contractor is to adhere to the following stormwater permits that will be issued for this project:
1. St Johns River Water Management District
2. Seminole County

3. MAINTENANCE

The contractor shall be responsible for implementing and maintaining all pollution and erosion control devices on a daily manor. A report will be taken to record any deviations from permit compliance.

4. INSPECTION

The contractor shall inspect all pollution and erosion control devices weekly and within 24 hours after a rainstorm in excess of 0.25 inches. The contractor shall report all findings and list the corrective actions taken to correct the deficiencies. These reports will be submitted to the engineer for review.

5. REFERENCES

The construction plans with specifications for this project are hereby referenced and made a part of this plan.

DATE	REVISIONS	REVISED	CHECKED
03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS

DATE: DECEMBER 19, 2024
SCALE: 1" = 20'
DESIGNED: THS
DRAWN: SGM
CHECKED BY: THS
JOB NO.: 24175
EMAIL: tomskelton4680@gmail.com

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO. 00006729

STORMWATER POLLUTION PREVENTION PLAN
HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS
LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: 05

(4) Setbacks from trunks shall be measured from each individual tree in a group.

(5) Each tree protection area shall have a minimum of two signs (see illustration 2) securely attached to the fence barrier which shall face to the exterior of the tree protection area. The minimum size of a sign must be six square feet and each sign must have the following language legibly printed in characters a minimum of one and one-half inches high on its face.

"TREE PRESERVATION AREA. Machinery, dumping, construction, parking, or storage of any materials is PROHIBITED by City of Lake Mary Code. Violators are subject to municipal infraction citations of $100.00 per violation. Enforced by the City Community Development Department."

(6) Each sign must be made of rigid material such as wood, metal, or durable plastic. Non-rigid materials such as paper, cardboard, cellophane, or foil are not acceptable.

ILLUSTRATION #2

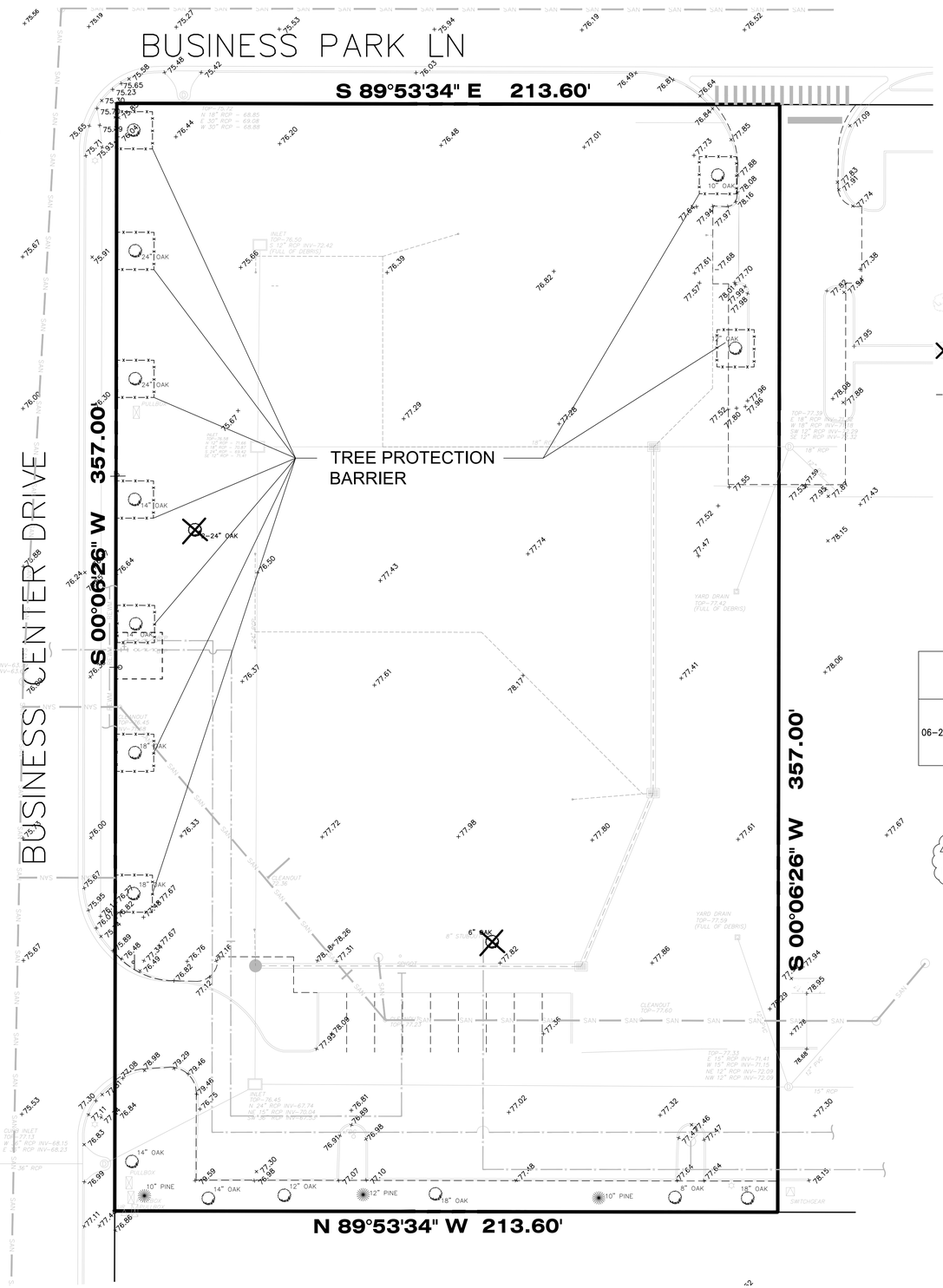
(3) (a) Protective posts and railings shall not be attached to or secured to the trees in the tree protection area (See Illustration 1).

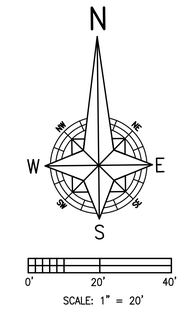
(b) Trees to be protected shall be located within a tree protection area that shall conform to the following minimum standards:

ILLUSTRATION #1

	Trees less than 12-inch caliper	*Trees 12-inch or greater caliper*
Setback from trunk	6 feet*	10 feet*
Area - single tree	250 square feet	800 square feet
Area - each additional tree in a group**	90 square feet	200 square feet
* Tree barricades shall be placed under the dripline of the trees.		
** The largest tree in any group shall be considered the first tree for counting purposes.		

TAX PARCEL ID #:
06-20-30-5UD-0000-0360





LEGEND

- Oak (9") — EXISTING TREE TO REMAIN
- X Oak (9") — EXISTING TREE TO BE REMOVED
- TREE PROTECTION BARRIER

TOTAL TREES ON SITE: 21

TOTAL TREES TO BE REMOVED: 3

TOTAL INCHES TO BE REMOVED: 54"

OAK : 54"

PARCEL ID	TREES TO BE REMOVED	REASON TO BE REMOVED
06-20-30-5UD-0000-0360	2-24" OAK, 6" OAK	COMMERCIAL / OFFICE BUILDING WILL BE TOO CLOSE TO ROOT SYSTEM. TREE WILL NOT SURVIVE. PARKING ISLANDS TO BE PROVIDED ELSEWHERE.

NOTE: ALL TREES 12" OR GREATER ARE HISTORIC TREES

DATE:	DECEMBER 19, 2017
SCALE:	1" = 20'
DESIGNED:	THS
DRAWN:	SGM
CHECKED BY:	THS
JOB NO.:	24175
EMAIL:	tomskelton4608@gmail.com

DATE	REVISIONS	REVISED	CHECKED
03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO.: 00006729

TREE REMOVAL & PROTECTION PLAN

HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS

SEMINOLE COUNTY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: 06

Table 1: Trip Generation Calculation Summary

ITE LUC	Land Use	Size (KSF) (1)	Daily Rate	Daily Trips	A.M. Peak Hour Rate	A.M. Peak Hour Enter	A.M. Peak Hour Exit	A.M. Peak Hour Total	P.M. Peak Hour Rate	P.M. Peak Hour Enter	P.M. Peak Hour Exit	P.M. Peak Hour Total
822	Retail	13.9	54.45	757	2.36	20	13	33	6.59	46	46	92
	Retail Pass-by (40%) (2)			303	--	8	5	13	--	18	18	36
			Net New Trips	**454**	--	**12**	**8**	**20**	--	**28**	**28**	**56**

(1) KSF = 1,000 square-feet (2) Pass-by rates obtained from ITE's TGM Appendices for LUC 821

POTABLE WATER SUPPLY:

THE SITE WILL BE SERVED BY A CENTRAL WATER SYSTEM. THE POTABLE WATER WILL BE PROVIDED BY SEMINOLE COUNTY.

PHASING:

THE SITE WILL BE CONSTRUCTED IN ONE PHASE.

NATURAL VEGETATION PROTECTION:

ALL EXISTING TREES THAT ARE LISTED TO REMAIN WILL BE PROTECTED DURING CONSTRUCTION.

SANITARY SEWER SUPPLY:

THE SITE WILL BE SERVED BY A CENTRAL SEWER SYSTEM. THE SANITARY SERVICE WILL BE PROVIDED BY SEMINOLE COUNTY.

RE-CLAIMED WATER SUPPLY:

THE SITE WILL BE SERVED BY A CENTRAL RE-CLAIMED WATER SYSTEM. THE RE-CLAIMED WATER SERVICE WILL BE PROVIDED BY SEMINOLE COUNTY.

PARKING STATEMENT:

PARKING SPACES WILL BE PROVIDED ACCORDING TO THE MINIMUM REQUIRED AS ESTABLISHED BY THE LDC .

ENVIRONMENTAL STATEMENT:

DEVELOPMENT OF THIS PROPERTY SHALL COMPLY WITH ALL STATE AND FEDERAL REGULATIONS REGARDING ENDANGERED OR THREATENED SPECIES OF SPECIAL CONCERN.

SIGNAGE:

SIGNAGE TO CONFORM WITH THE PUD REQUIREMENTS AND THE CITY OF LAKE MARY LDC.

STORMWATER RETENTION:

STORMWATER WILL BE HANDLED BY OFFSITE RETENTION.

WETLAND STATEMENT:

THERE ARE NO JURISDICTIONAL WETLANDS ON SITE.

FLU: HIPTI
ZONING: PUD

FIRE DEPARTMENT NOTES:

1. Visible numerical address must be posted on site.
2. A construction trailer requires a permit and inspection process.

PUD ENTITLEMENTS

TYPE	APPROVED	BUILT	PROPOSED (HEATHROW HILL)	PROPOSED (HEATHROW CENTRE)	PROPOSED (TOTAL)	REMAINING
OFFICE	2,720,230	1,712,349	8,640	13,977	22,617	985,264
RETAIL	104,138	0	0	0	0	0
HOTEL	429	0	0	0	0	0
MULTI-FAMILY	905	0	0	0	0	0
SCHOOL	860	0	0	0	0	0
DAY CARE	24,00	0	0	0	0	0

STATEMENT OF SERVICES

WATER DISTRIBUTION: SEMINOLE COUNTY

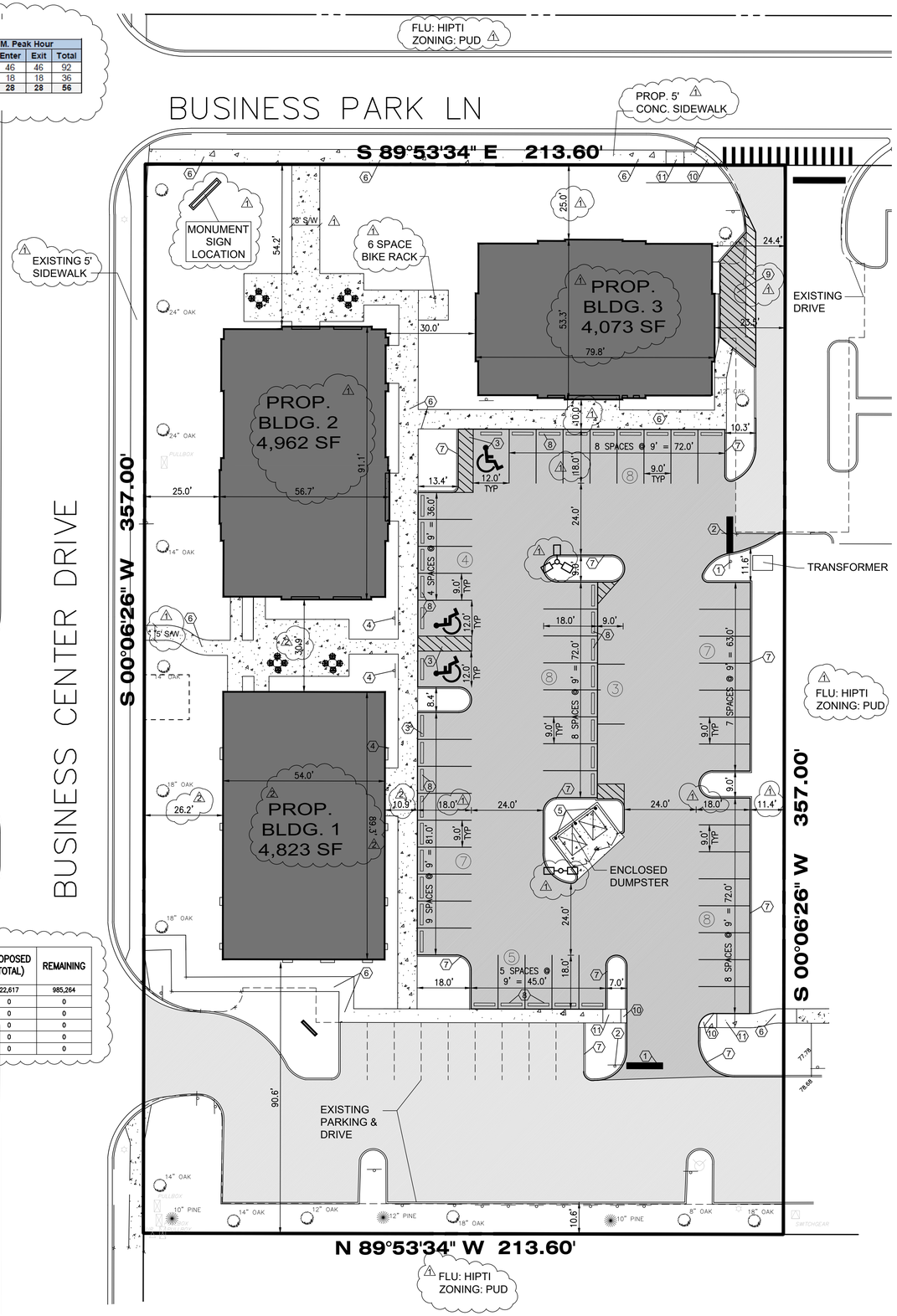
SEWER DISPOSAL: SEMINOLE COUNTY

STREET LIGHTING: DUKE ENERGY

TRASH / GARBAGE STORAGE: WASTE PRO

GAS: NOT AVAILABLE

FLU: HIPTI
ZONING: PUD



TAX PARCEL ID #:
06-20-30-5UD-0000-0360

STRIPING & SIGNAGE LEGEND

1. 30" STOP SIGN (R1-1), SEE DETAIL SHEET 10
2. 24" WIDE THERMOPLASTIC STOP BAR
3. HANDICAP SYMBOL & STRIPING
4. HANDICAP PARKING SIGN
5. BOLLARDS
6. CONCRETE SIDEWALK
7. 6" X 18" HEADER CURB
8. WHEEL STOPS
9. 12' X 25' LOADING AREA
10. ADA MAT
11. ADA SIDEWALK RAMP

N
W E
S

0' 20' 40'
SCALE: 1" = 20'

LEGEND

- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE
- PROPOSED BUILDING
- EXISTING DRIVE
- 706 / 79.6 EX. TREE AND SIZE TO REMAIN
- PROPOSED LIGHT POLE

PUD BUILDING SETBACKS

LOCATION	REQUIRED SETBACKS	PROVIDED SETBACKS
WEST	25 FEET	25 FEET
NORTH	25 FEET	25 FEET
EAST	10 FEET	23.5 FEET
SOUTH	10 FEET	90.6 FEET

PROJECT DATA:

TOTAL AREA:	76,255 SF (1.75 AC.)
EXISTING ZONING:	PUD
PROPOSED ZONING:	PUD
FUTURE LAND USE:	HIPTI
PROP. USE OF BUILDINGS:	COMMERCIAL / OFFICE
No. OF STORIES:	1 STORY (ALL 3 BLDGS)
TYPE OF CONSTRUCTION:	TYPE III-B
PROP. No. OF EMPLOYEES:	30
PROP. No. OF COMPANY VEHICLES TO BE KEPT ON SITE :	NONE
PROP. IMPERVIOUS AREA:	51,480 SF (1.181 AC) (67.5%)
PROP. BLDG. FOOTPRINT:	13,997 SF
PROP. PKG. / DRIVES:	20,570 SF
EX. PKG. / DRIVES	11,687 SF
PROP. CONCRETE:	5,226 SF
OPEN SPACE REQUIRED:	25% = 19,064 SF
OPEN SPACE PROVIDED:	24,755 SF (0.569AC) (32.5%)
MAX. BLDG HT. ALLOWED:	70 FEET
REQUIRED PARKING: (PER PUD)	(1/300 SF)*(13,997 SF) = 47 SPACES TOTAL SPACES: 47 SPACES
PROPOSED PARKING:	52 - 9' x 18' STD. SPACES 3 - 12' x 20' HCAP SPACES TOTAL PROVIDED: 55 SPACES
REQ'D BICYCLE PARKING:	1 SPACE / 2500 SF BLDG 13,997 SF / 2500 SF = 6 SPACES
BICYCLE PARKINGPROVIDED:	1 - 6 SPACE BIKE RACK

PUD PAVING SETBACKS

LOCATION	REQUIRED SETBACKS	PROVIDED SETBACKS
WEST	15 FEET	81.7 FEET
NORTH	15 FEET	88.5 FEET
EAST	10 FEET	10.9 FEET
SOUTH	10 FEET	10.9 FEET

PUD LANDSCAPE BUFFERS

LOCATION	REQUIRED SETBACKS	PROVIDED SETBACKS
WEST	15 FEET	25 FEET
NORTH	15 FEET	25 FEET
EAST	10 FEET	10.9 FEET
SOUTH	10 FEET	10.0 FEET

SITE DEVOLPMENT NOTES:

1. All Street Lightning shall be the responsibility of the HOA/Developer and to be noted on the plans.
2. 48-hour Inspection Notice shall be provided for infrastructure and observe Testing.
   Note: Testing shall be provided as part of the construction and shall be at no cost to the City. Testing shall be performed by an independent engineering testing laboratory certified in the State of Florida. All testing results shall be reported to the Public Works Director
3. Developer shall provide an accurate account of the following information:
   - Total lineal feet of roads, sidewalks, striping
   - Total number of crosswalks, ramps, ADA mats
   - Total number of sign assemblies
4. Equipment staging area needs to be identified.
5. Temporary Construction Entrance shall adhere to current City of Lake Mary Standard Details.
6. Project must comply with all Building, Plumbing, Mechanical, Electrical, Energy and Handicap Accessibility codes. In addition to these requirements, there may be additional restrictions to this property that may be found in the public records of this county, and there may be additional permits required from other agencies, water management districts, state agencies or federal agencies.
7. A separate Building Division issued permit is required for trash enclosures, landscape irrigation, site lighting, retaining walls, etc.
8. All proposed uses will conform to the permitted uses as listed in the PUD.
9. Minimum Setback for site light fixtures is 20 feet.
10. Condition of Approval: Mitigation is required at $1,250 per historic tree removed. To be applied for the two 24" to be removed.
11. Any rooftop mounted equipment will be screened. [Code Sec. 157.06(C)]
12. Conditional of Approval: A lighting inspection will be completed on site and the site lighting must meet 0.5 ft. candles at the property line prior to the issuance of a CO. [Code Sec. 154.22(B)(1)]

DATE:	DECEMBER 19, 2024
SCALE:	1" = 20'
DESIGNED:	THS
DRAWN:	SGM
CHECKED BY:	THS
JOB NO.:	24175
EMAIL: tomskelton4568@gmail.com	THS / MDS

DATE	REVISIONS	REVISED	CHECKED
10/07/2025	REVISED BUILDING #1	MDS	THS
03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO.: 00006729

SITE PLAN
HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS
LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: 07

Standard Fire Department Notes

General

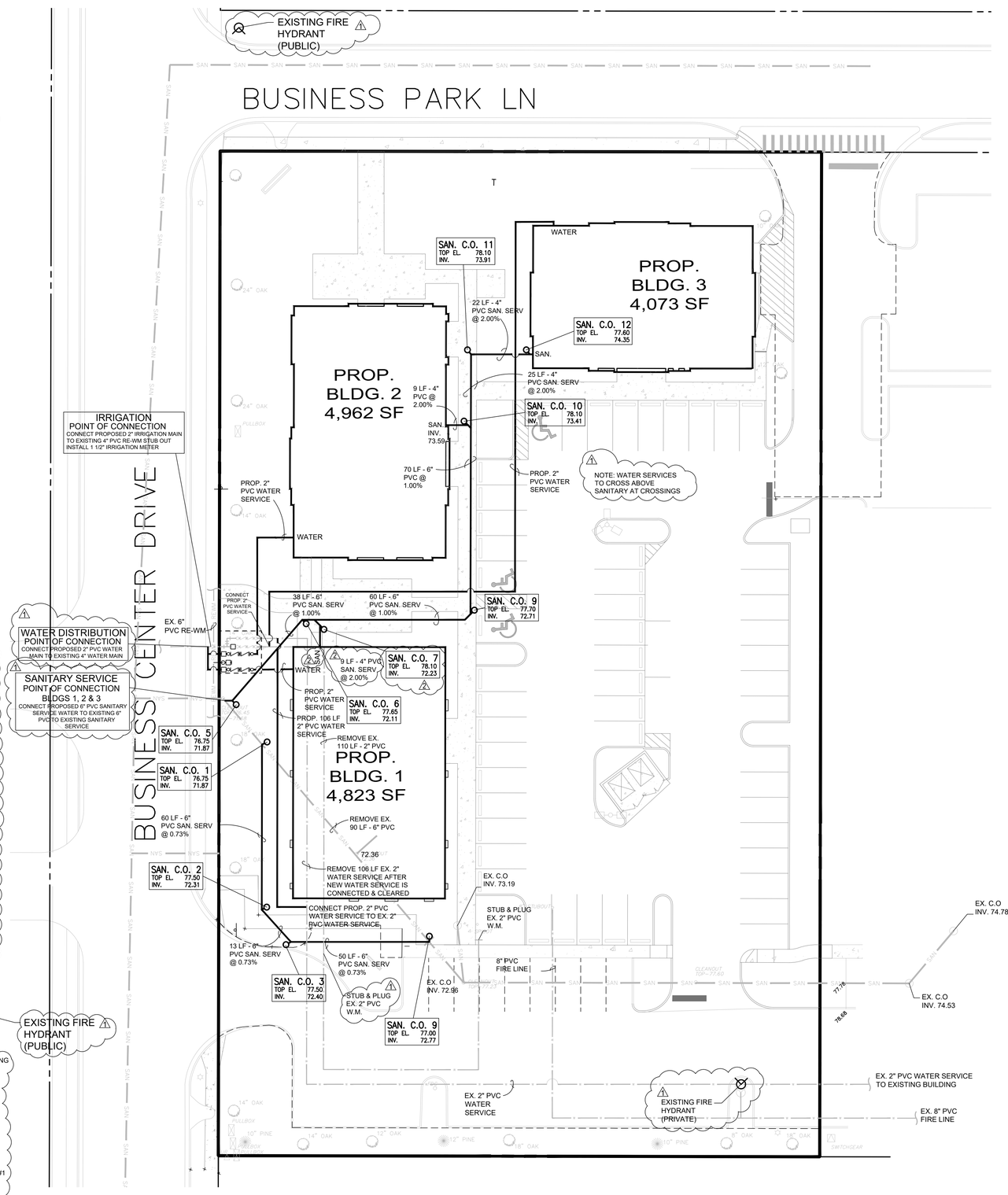
1. The square footage, height, number of stories and type construction of the buildings shall be noted on the plans per the Florida Fire Prevention Code, NFPA 1.1.14 and section 156.21.A.2.c of The City's Code of Ordinances.
2. An approved fire sprinkler system shall be installed in all buildings 5,000 square feet and over per Lake Mary Code of Ordinances Chapter 95.03. This system (including the backflow) is required to be monitored by a UL/FM Certificated Central Station Fire Alarm System as defined by NFPA 72.
3. If required by the Fire Marshal, the location of the fire lane(s) shall be indicated on the plans per the Florida Fire Prevention Code, NFPA 1.18.2.3.5.3 and section 156.21.A.3.i of the City's Code of Ordinances. Fire lanes shall be per Lake Mary standards; copy provided upon request.
4. Burning of debris and/or vegetation due to land clearing is **NOT** permitted per Lake Mary Code of Ordinances Chapter 95.01.A.2.f.
5. Address numbers shall be posted on site immediately after obtaining permit. They shall be a contrasting color and visible from the right-of-way.
6. All fire-related site issues shall be completed prior to the Fire Marshal signing off the building permit.
7. If requested by the Fire Marshal, it shall be the responsibility of the project applicant to provide the necessary information to ensure compliance regarding the turning radius of the roads in, out and throughout the project for fire truck access and maneuverability.
8. If gates are to be installed, a separate permit is required. Gates are required to be equipped with the Siren Operation System as well as with the ability for the Fire Department to program an access code determined by the Fire Chief. (Lake Mary Code of Ordinances, Chapter 95)

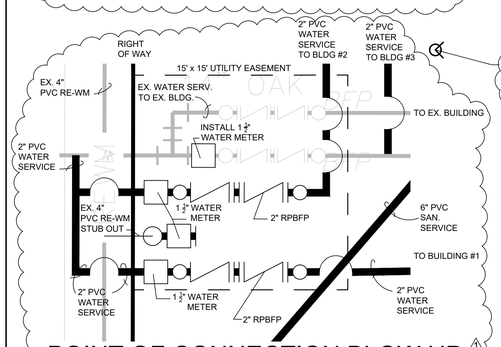
Hydrants

9. All portions of the building(s) shall be within a minimum of 250 feet, travel distance of a fire hydrant. This distance is measured as the fire truck would drive. Hydrant(s) complying with this provision shall be indicated. (Lake Mary Code of Ordinances Appendix E section 1.B.2.)
10. All new hydrants shall meet the design and fire flow requirements cited in Appendix E of the Lake Mary Code of Ordinances. The hydrants shall be installed on a minimum 8" pipe with a minimum flow of 1250 gpm at 20 PSI residual for commercial, and on a minimum 6" pipe with a minimum 500 gpm at 20 PSI residual for residential. Where reasonably possible, the water mains shall be looped.
11. Hydrants must be tested and in proper working order with documentation supplied to the Fire Marshal **PRIOR** to any combustible construction.
12. At all hydrant locations, install a blue reflective marker in the middle of the nearest traffic lane per Appendix D, section 74.B.4 of the City of Lake Mary Code of Ordinances.
13. An accessible and visible shutoff valve shall be located within five feet of the hydrant.
14. Fire hydrants shall be provided with a minimum clearance of seven and one half (7 ½') in front of and to the sides of with four (4') feet clearance to the rear of the hydrant. (Per Florida Fire Prevention Code, NFPA 1.18.3.4.1)
15. Hydrants shall be painted red.

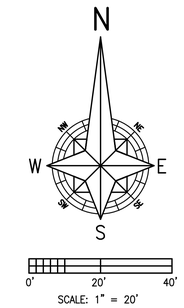
Fire Sprinkler System Related

16. A separate permit for the installation of the underground fire protection piping shall be obtained from the City of Lake Mary prior to the start of construction.
17. In accordance with FS 633.021(5), the selected underground contractor must provide documentation to the Fire Marshal that he or she holds a Class I, II, or V level certification issued by the State of Florida.
18. The fire line piping, from the point of service as defined by FS 633.021(18), shall be C-900 with DR-14. A two-hour 200 PSI test will be required per NFPA 24-9-2. Indicate the point of service on the utility plan. The definition of Point of service is as follows: **"Point-of-service" means the point at which the underground piping for a sprinkler system using water as the extinguishing agent becomes used exclusively for the sprinkler system. The point-of-service is designated by the engineer who sealed the plans for a system of 50 or more heads or by the contractor who designed the plans for a system of 49 or fewer heads.**
19. All underground fire line piping shall be restrained with mechanical restraints and be inspected by the Fire Department prior to cover.
20. Fire department sprinkler connections (FDC) shall be clearly visible and accessible but shall not be attached to the building. The FDC shall be painted red and identified by a sign that states "No Parking – Fire Department Connection. Sign shall meet Florida DOT standards. (Florida Fire Prevention Code, NFPA 1.18.3.4.3)
21. There shall be a fire hydrant located no more than (40) forty feet from the FDC, which shall not be counted as a required fire hydrant for the building. (Lake Mary Code of Ordinances, Appendix E.1.B.2)
22. All other fire protection related appliances shall be provided with seven and one half (7 1/2') feet of clear space in front and to the sides, per Florida Fire Prevention Code, NFPA 1.18.3.4.2.
23. Backflow preventer shall be painted red and electronically monitored by the fire alarm system.





POINT OF CONNECTION BLOW UP



LEGEND

- CONSERVATION AREA
- PROPOSED STORM PIPE
- PROPOSED STORM INLET
- PROPOSED SANITARY MAIN
- PROPOSED SANITARY SERVICE
- PROPOSED SANITARY MANHOLE
- PROPOSED EOP W/BOC
- EXISTING SANITARY MAIN
- EXISTING SANITARY MANHOLE
- PROPOSED WATER MAIN
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- EXISTING WATER MAIN
- PROPOSED RE-CLAIMED WATER MAIN
- PROPOSED NATURAL GAS LINE

FIRE HYDRANT NOTES:

1. FLOW TESTS OF ALL FIRE HYDRANTS SHALL BE CONDUCTED BY THE SEMINOLE COUNTY FIRE DEPARTMENT. FLOW TEST RESULTS WILL BE PROVIDED TO THE OWNER AND OTHER PARTIES.

FIRE FLOW CALCULATIONS:

CONSTRUCTION TYPE: TYPE II(111) PROTECTED, SPRINKLED

FIRE FLOW REQUIRED (PER TABLE 18.4.5.1.2): 1500 GPM

NO. OF FIRE HYDRANTS PROVIDED (PER NFPA 1, SECTION 18.5):
1. EXISTING PUBLIC FH (0'-300') = 1000 GPM
2. EXISTING PUBLIC FH (0'-300') = 1000 GPM
3. EXISTING PRIVATE FH (0'-300') = 1000 GPM

TOTAL PROVIDED = 3000 GPM

- DRINKING WATER DEMAND: 13,053 SF (6 GPD/100 SF) = 783 GPD
  PEAK FLOW = (783 GPD)(4)/(1440) = 2.2 GPM

FIRE DEPARTMENT NOTE:

1. THE PROPOSED BUILDING WILL NOT BE FIRE SPRINKLED.

SANITARY SERVICE CONSTRUCTION SERVICE

1. INSTALL PROPOSED 6" SANITARY SERVICE
2. CONNECT TO EXISTING SANITARY SEWER SERVICE
3. GROUT OR REMOVE EXISTING SANITARY SERVICE

TAX PARCEL ID #:

06-20-30-5UD-0000-0360

REVISIONS			
10/07/2025	REVISED BUILDING #1	MDS	THS
03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS
DATE	REVISIONS	REVISED	CHECKED

DATE: DECEMBER 19, 2024
SCALE: 1" = 20'
DESIGNED: THS
DRAWN: SCM
CHECKED BY: THS
JOB NO. 24175
EMAIL: tomskelton4608@gmail.com

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO.: 00006729

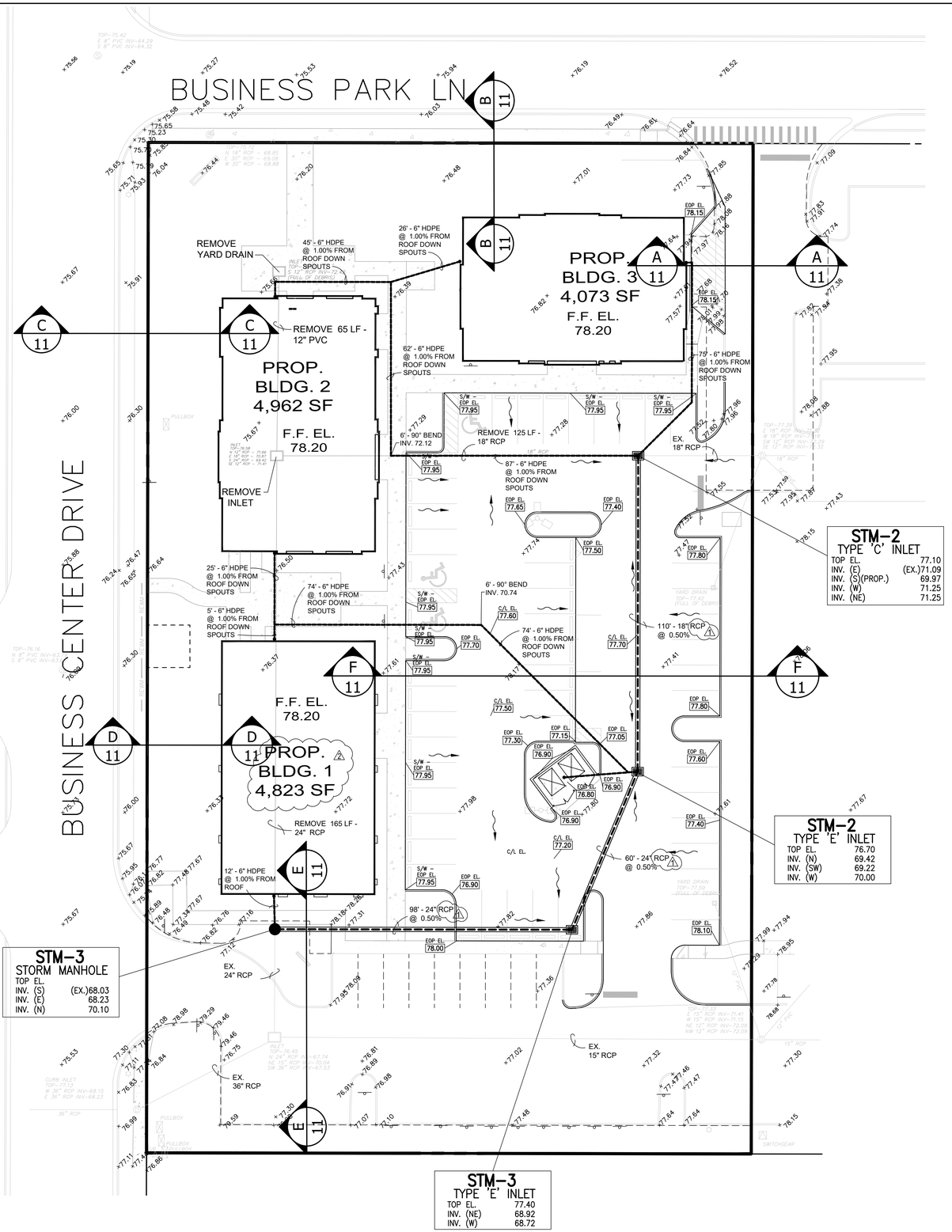
HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS

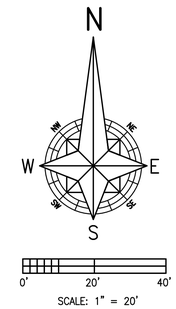
UTILITY PLAN
LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: 08

TAX PARCEL ID #:
06-20-30-5UD-0000-0360





LEGEND

- EXISTING ELEVATION
- PROPOSED ELEVATION
- EXISTING CONTOUR
- PROPOSED ELEVATION
- PROPOSED DRAINAGE FLOW
- PROPOSED STORM PIPE
- PROPOSED STORM INLET
- PROPOSED EOP W/BOC
- PROPOSED SITE LIGHTING
- EXISTING EOP

MASTER STORMWATER SYSTEM

PER MASTER STORMWATER PERMIT
SJRWMD PERMIT No. 4-117-0030M31 / MOD: 21670-2
ALLOWABLE IMPERVIOUS
AREA = 1.40 AC.
PROPOSED IMPERVIOUS AREA =
51,480 SF (1.18 AC.)
THERFORE, SITE CONFORMS TO
THE SJRWMD PERMIT CONDITIONS.

DATE:	DECEMBER 19, 2024
SCALE:	1" = 20'
DESIGNED:	THS
DRAWN:	SGM
CHECKED BY:	THS
JOB NO.:	24175
EMAIL:	tomskelton4608@gmail.com

DATE	REVISIONS	REVISED	CHECKED
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207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
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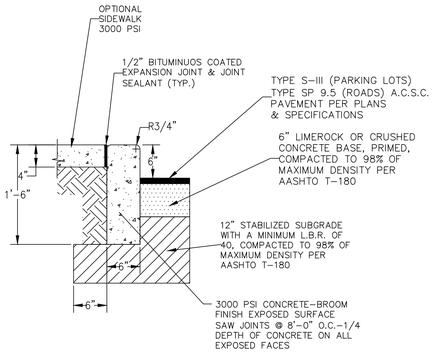
PAVING, GRADING & DRAINAGE PLAN
HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS
LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: 09

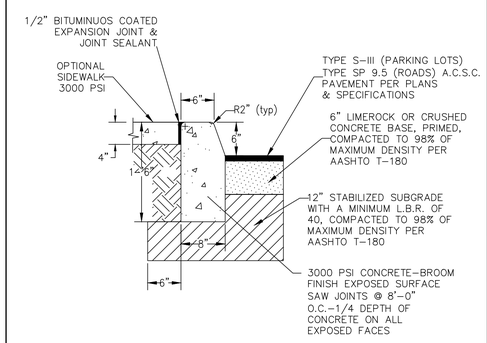


6" HEADER CURB DETAIL

NO SCALE

ISSUE DATE 03-28-03 NOT TO SCALE

REVISIONS	8-23-05	3-23-09	9-15-11					PAGE
6" HEADER CURB DETAIL								R-9

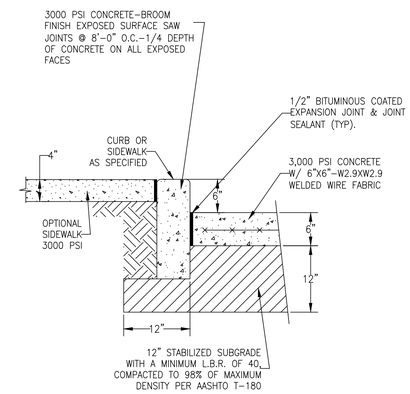


TYPE "D" CURB DETAIL

NO SCALE

ISSUE DATE 03-28-03 NOT TO SCALE

REVISIONS	8-23-03	10-5-04	3-23-09	9-15-11				PAGE
TYPE "D" CURB DETAIL								R-10



CONCRETE PAVEMENT DETAIL

NO SCALE

ISSUE DATE 03-28-03 NOT TO SCALE

REVISIONS	8-23-03	3-23-09						PAGE
CONCRETE PAVEMENT DETAIL								R-7

(a) Bicycle Parking Space Design. All bicycle parking spaces shall comply with the following standards:

(1) Minimum aisle width: 60 inches, to allow for access and maneuvering.

(2) Accessibility: Accessible to users without climbing or descending stairs.

(3) Safety: Separated from vehicle parking spaces by physical barriers, such as curbs, wheel stops, bollards or other similar features, to protect bicycles from damage.

(4) Site Coordination: Consistent with the design, color and character of the buildings, street furniture and other features on the building site, but clearly discernible as bicycle parking.

(5) Type: Enable users to lock the frame and both wheels.

(6) Construction: Anchored, so that they cannot be easily removed.

(7) Distance: Bicycle racks not be placed closer than thirty (30) inches from each other and not closer than thirty-six (36) inches from walls or any other obstructions.

(8) Style: The inverted "U" style bicycle rack that can hold two bicycles is the preferred type of rack (also known as a "staple", "hoop", or "U" rack). Bicycle racks that are prohibited in the City of Orlando are the wave, comb, schoolyard, coat hanger, wheel well, and bollard style as defined in the Association of Pedestrian and Bicycle Professionals', Essentials of Bike Parking, Rev. 1, 2015.

(b) Standard Bicycle Rack Design. All standard bicycle racks shall comply with the following standards:

(1) Maximum rack height: 36 inches.

(2) Minimum depth for each row of parked bicycles: 72 inches.

(3) Minimum tube diameter: 1.9 inches.

(4) Minimum separation between horizontal rows: 30 inches on center to allow enough room for 2 bicycles to be secured to each rack element.

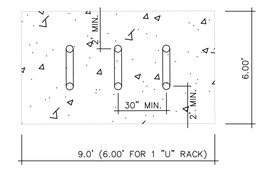
(5) Capacity: Designed to accommodate 2 bicycle parking spaces per rack.

(6) Finish: Powder coated, or other weather-proof surface, as approved by the Transportation Official.

(7) Function: Supports a bicycle frame at 2 points above the wheel hubs.

(8) Simplicity: Easy to understand and operate, with no moving parts.

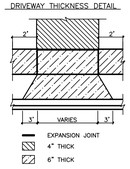
(9) Operation: Usable without lifting the bicycle onto the device. (Applies to Short-Term racks only).



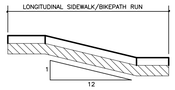
BIKE RACK DETAILS

BIKE RACK CONCRETE PADS TO BE 6" THICK, 3000 PSI. 1

DRIVEWAY THICKNESS DETAIL



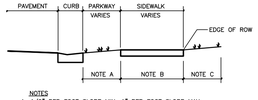
LONGITUDINAL SIDEWALK/BIKEPATH SLOPE DETAIL



GENERAL NOTES

1. ALL CONCRETE WITHIN ROW SHALL BE 3,000 PSI. (NO WELD WIRE FABRIC WITHIN ROW)
2. SIDEWALK/BIKEPATH SUBGRADE SHALL BE COMPACTED TO A MIN DENSITY OF 95% OF THE MAX DENSITY AS DETERMINED BY AASHTO T-180.
3. CURB BASE SHALL BE COMPACTED TO A MIN DENSITY OF 98% OF THE MAX DENSITY AS DETERMINED BY AASHTO T-180.
4. LENGTH OF SIDEWALK/BIKEPATH MAX SLOPE OF 12:1 AND 2.0% CROSS SLOPE, 4.0% MAX
5. DRIVEWAY AND APPROACH SUBGRADE TO BE COMPACTED TO A MIN DENSITY OF 98% OF THE MAX DENSITY AS DETERMINED BY AASHTO T-180.
6. EXPANSION MATERIAL:
   - BITUMINUS MATERIAL EXTENDING TO FULL DEPTH CONCRETE
   - 1/2" EXPANSION JOINT BETWEEN CURBS AND ABUTTING STRUCTURES
   - SIDEWALK/BIKEPATH TO HAVE EXPANSION JOINT AT A MAX OF 100'
   - PLACE EXPANSION JOINT AT DRIVEWAYS, SIDEWALK/BIKEPATH INTERSECTIONS, ALL INLETS, RADIUS POINTS, AND POINTS WHERE OPERATIONS CEASE FOR ANY CONSIDERABLE TIME.
7. TOOL/SAW JOINTS TO BE AT EVERY 5' FOR SIDEWALK/BIKEPATHS AND 10' FOR CURBS.
8. DRIVEWAYS AND APPROACHES TO BE A MIN OF 6" THICK (NO STEEL OR WIRE MESH).
9. SOD 1' ON EACH SIDE OF SIDEWALK/BIKEPATH AND OUTSIDE OF CURB OR EDGE OF PAYMENT.
10. VALVES, CAPS, AND CLEAN-OUTS SHALL BE APPROVED BY ENGINEER BEFORE POURING CONCRETE.
11. CHANGE FROM STANDARDS SHALL REQUIRE CITY ENGINEER'S APPROVAL.

POSITIVE LOT SLOPE DETAIL



NOTES

A. 1/2" PER FOOT SLOPE MIN, 1" PER FOOT SLOPE MAX
B. 1/4" PER FOOT SLOPE MIN
C. 1/2" PER FOOT SLOPE MIN, 1" PER FOOT SLOPE MAX
D. DETAIL APPLIES TO SIDEWALK AND BIKEPATH (SIDEWALK SHOWN).

GENERAL NOTES

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2. SIDEWALK/BIKEPATH SUBGRADE SHALL BE COMPACTED TO A MIN DENSITY OF 95% OF THE MAX DENSITY AS DETERMINED BY AASHTO T-180.
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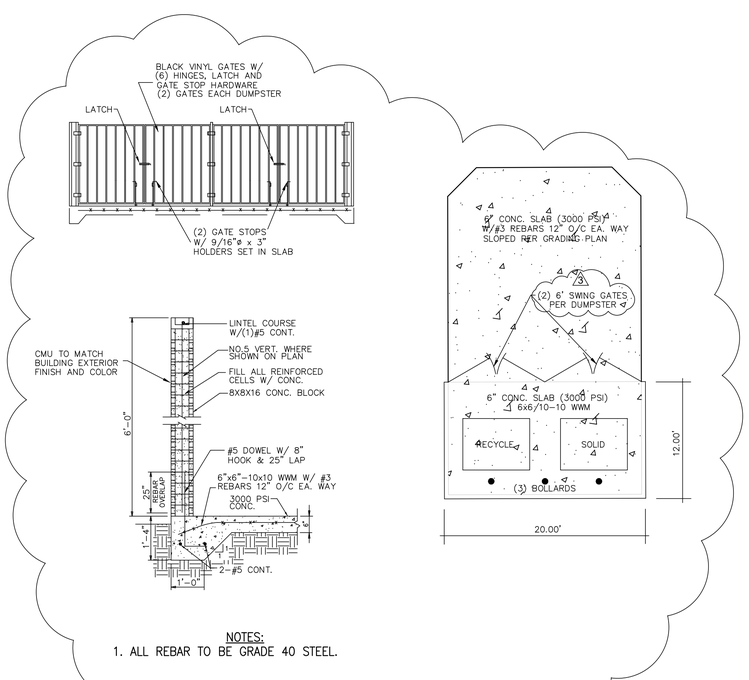
   - 1/2" EXPANSION JOINT BETWEEN CURBS AND ABUTTING STRUCTURES
   - SIDEWALK/BIKEPATH TO HAVE EXPANSION JOINT AT A MAX OF 100'
   - PLACE EXPANSION JOINT AT DRIVEWAYS, SIDEWALK/BIKEPATH INTERSECTIONS, ALL INLETS, RADIUS POINTS, AND POINTS WHERE OPERATIONS CEASE FOR ANY CONSIDERABLE TIME.
7. TOOL/SAW JOINTS TO BE AT EVERY 5' FOR SIDEWALK AND 10' FOR CURBS.
8. DRIVEWAYS AND APPROACHES TO BE A MIN OF 6" THICK.
9. SOD 1' ON EACH SIDE OF SIDEWALK/BIKEPATH AND OUTSIDE OF CURB OR EDGE OF PAYMENT.
10. VALVES, CAPS, AND CLEAN-OUTS SHALL BE APPROVED BY ENGINEER BEFORE POURING CONCRETE.
11. CHANGE FROM STANDARDS SHALL REQUIRE CITY ENGINEER'S APPROVAL.
12. LOCATION SHALL REQUIRE CITY ENGINEER'S APPROVAL.



NOTES:

1. ALL REBAR TO BE GRADE 40 STEEL.

1 FRONT END LOADED REFUSE CONTAINER DETAIL

1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES THAT HAVE FACILITIES WITHIN THE PROJECT AREA.

DATE:	DECEMBER 19, 2024
SCALE:	N.T.S.
DESIGNED:	THS
DRAWN:	MDS
CHECKED BY:	THS
JOB NO.	24175
EMAIL: tomskelton4608@gmail.com	

DATE	REVISIONS	REVISED	CHECKED
03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-6227
CERTIFICATE OF AUTHORIZATION NO.: 00006729

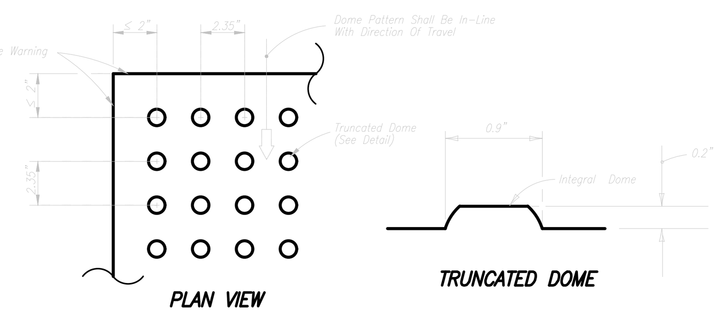
PAVING, GRADING & DRAINAGE DETAILS

HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS

LAKE MARY, FLORIDA

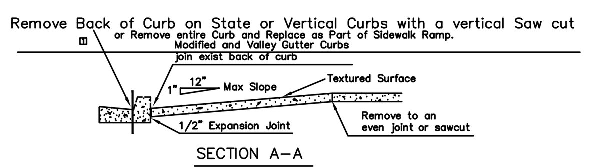
THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET C10



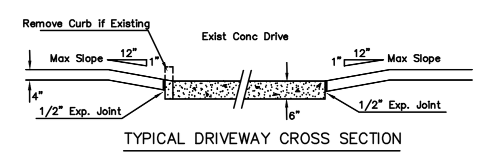
All sidewalk curb ramps shall have detectable warning surfaces that extend the full width of the ramp and in the direction of travel 24 inches (610 mm) from the back of curb.

CURB RAMP DETECTABLE WARNING SURFACE



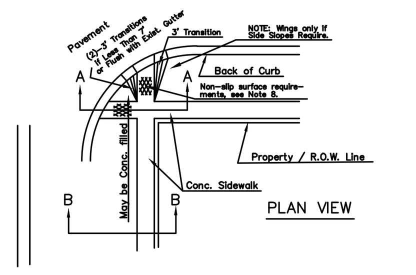
SECTION A–A

TYPE 'F' CURB



TYPICAL DRIVEWAY CROSS SECTION

*2% CROSS SLOPE MAX.



NOTES:

1. Provide Tooled Joints At Distances Matching The Width. Also Place Expansion Joints At Driveways.
2. If Some Physical Obstruction Exists Which Prevents The Placing Of Sidewalks As Shown, Contact The Engineering Division For Alternate Location.
3. Wooden And Other Spacers Will Not Be Permitted In Sidewalks Or Driveways.
4. No Coatings Of Any Kind Will Be Permitted On Concrete Sidewalks Or Driveways Without Specific Approval Of The City Engineer.
5. All Concrete Shall Be 3000 psi Min. @ 28 Days.
6. Concrete Surface to be Light Broom Finish.
7. Concrete Driveway Construction shall be 6" thick w 6x6/10x10 W.W.F..
8. Ramps Shall Have a Tactile Surface, Textured to a Depth Not Exceeding 1/8" by use of Tamp or roller In Conformance with Requirements of FDOT Roadway and Traffic Design Standards, Detail 304 Or Most Recent Modifications.
9. All ramps shall be in compliance with ADA requirements.

TYPICAL SIDEWALK CONSTRUCTION AND RAMP DETAIL

GENERAL NOTES

1. *Public sidewalk curb ramps shall be constructed in the public right of way at locations that will provide continuous unobstructed pedestrian circulation paths to pedestrian areas, elements and facilities in the public right of way and to accessible pedestrian routes on adjacent sites. Curbed facilities with sidewalks and those without sidewalks are to have curb ramps constructed at all street intersections and at turnouts that have curbed returns. Partial curb returns shall extend to the limit prescribed by Index No. 515 to accomodate curb ramps. Ramps constructed at locations without sidewalks shall have a landing constructed at the top of each ramp, see Sheet 5.*
2. *The location and orientation of curb ramps shall be as shown in the plans.*
3. *Curb ramp running slopes at unrestrained sites shall not be steeper than 1:12 and cross slope shall be 0.02 or flatter. Transition slopes shall not be steeper than 1:12.*

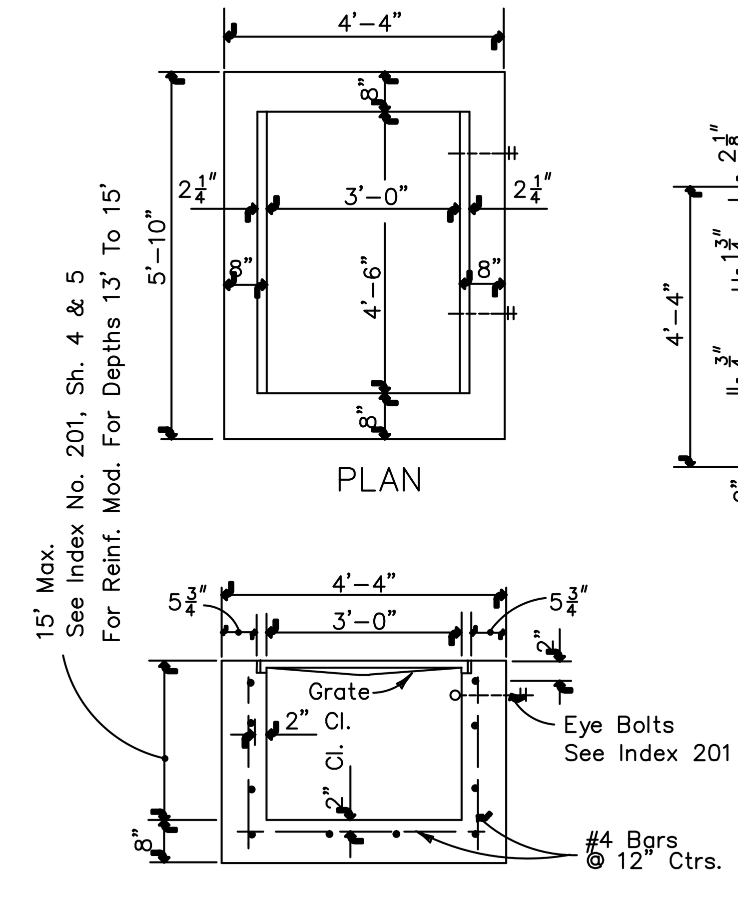
   When altering existing pedestrian facilities where existing site development precludes the accomodation of a ramp slope of 1:12, a running slope between 1:12 and 1:10 is permitted for a rise of 6" maxmimum and a running slope between 1:10 and 1:8 is permitted for a rise of 3" maximum. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided.

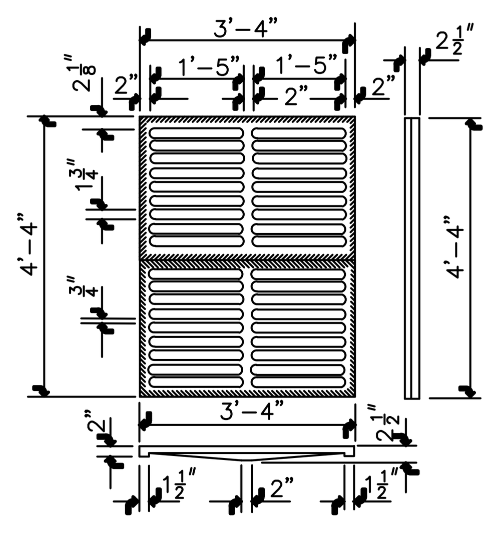
   Ramp running slope is not required to exceed 8' in length, except at sites where the plans specify a greater length.
4. *If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have a transition slopes to the ramp; the maximum slope of the transitions shall be 1:12. Ramps with curb returns may be used at locations where other improvements provide guidance away from that portion of curb perpendicular to the sidewalk; improvements for guidance are not required at curb ramps for linear pedestrian traffic.*
5. *Curb ramp detectable warning surfaces shall extend the full width of the ramp and in the direction of travel 24" from the back of curb. Detectable warning surfaces shall be constructed by texturing a truncated dome pattern in conformance with U.S. Department of Justice A.D.A. Standards for Accessible Design, A.D.A. Acessibility Guidelines, Section 4.29.2, (detail shown above left). Transition slopes are not to have detectable warnings.*
6. *Unless otherwise called out in the plans, the ramp detectable warning surface shall be colored in accordance with section 351 of the Standard Specifications.*
7. *Where a curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb or curb and gutter shall be removed to the nearest joint beyond the curb transitions or to the extent that no remaining section of curb or curb and gutter is less than 5' long. The existing sidewalk shall be removed to the nearest joint beyond the transition slope or sidewalk is less than 5' long.*
8. *Alpha–numeric identifications are for reference (plans, permits, etc.).*
9. *Public sidewalk curb ramps are to be paid for as follows:*
   Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings and sidewalk curbs are to be paid for under the contract unit price for Sidewalk Concrete, (__" Thick), SY. Curb transitions and reconstructed curbs are to be paid for under the contract unit price for the parent curb, i.e., Curb Conc., (Type __), LF or Curb and Gutter Conc., (Type __), LF.

   When a separate pay item for the removal and disposal of existing curb, curb and gutter, and/or sidewalk is not provided in the plans, the cost of removal and disposal of these features shall be included in the contract unit price for new curb, curb and gutter and/or sidewalk respectively.

DESIGN NOTES

1. *The color requirement in General Note 6 is to provide a dark–on–light visual contrast between the detectable warning surface and the adjacent walking surface. Where adjacent walking surfaces are colored or are constructed with materials other than standard Class I Portland Cement Concrete in accordance with Section 522 of the Standard Specifications, the plans must provide for detectable warning surface colors or materials that provide the necessary contrast, either dark–on–light or light–on–dark.*





TYPE E

Approx. Weight 465 Lbs.

TYPE E

Recommended Maximum Pipe Size:

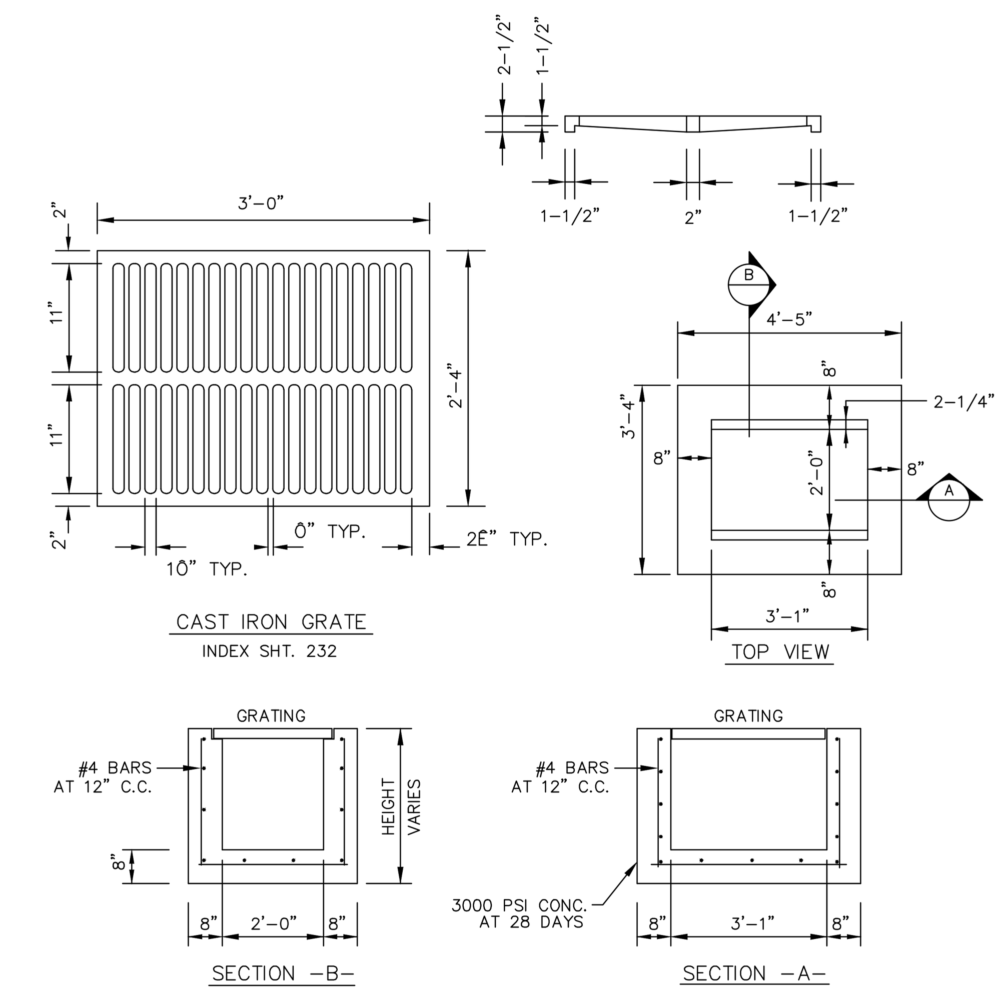
3'–0" Wall–24" Pipe
4'–6" Wall–42" Pipe

1. THESE DETAILS ARE A REPRODUCTION OF THOSE AS SPECIFIED IN THE D.O.T. STANDARD INDEX DRAWING No. 232 AND ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THAT INDEX DRAWING.
2. THESE INLETS ARE SUITABLE FOR BICYCLE AND PEDESTRIAN AREAS AND ARE TO BE USED IN DICHES, MEDIANS AND OTHER AREAS SUBJECT TO INFREQUENT TRAFFIC LOADINGS BUT ARE NOT TO BE PLACED IN AREAS SUBJECT TO ANY HEAVY WHEEL LOADS.
3. EITHER CAST IRON OR STEEL GRATES MAY BE USED ON INLETS WITHOUT SLOTS AND ON INLETS WITH NON–TRAVERSIBLE SLOTS. STEEL GRATES ARE REQUIRED ON INLETS WITH TRAVERSIBLE SLOTS AND ON INLETS WHERE BICYCLE TRAFFIC IS ANTICIPATED. WHEN ALTERNATE GRATE IS SPECIFIED IN THE PLANS, EITHER THE STEEL GRATE, HOT DIPPED GALVANIZED AFTER FABRICATION, OR THE CAST IRON GRATE MAY BE USED, UNLESS THE PLANS STIPULATE THE PARTICULAR TYPE.
4. RECOMMENDED MAXIMUM PIPE SIZE SHOWN ARE FOR CONCRETE PIPE. PIPE SIZES LARGER THAN THOSE RECOMMENDED MUST BE CHECKED FOR FIT.
5. ALL EXPOSED CORNERS AND EDGES OF CONCRETE ARE TO BE CHAMFERED 3/4".
6. FOR SUPPLEMENTARY DETAILS SET D.O.T. INDEX DRAWING No. 201.

F.D.O.T. TYPE E INLET

F.D.O.T. STD. INDEX NO. 232

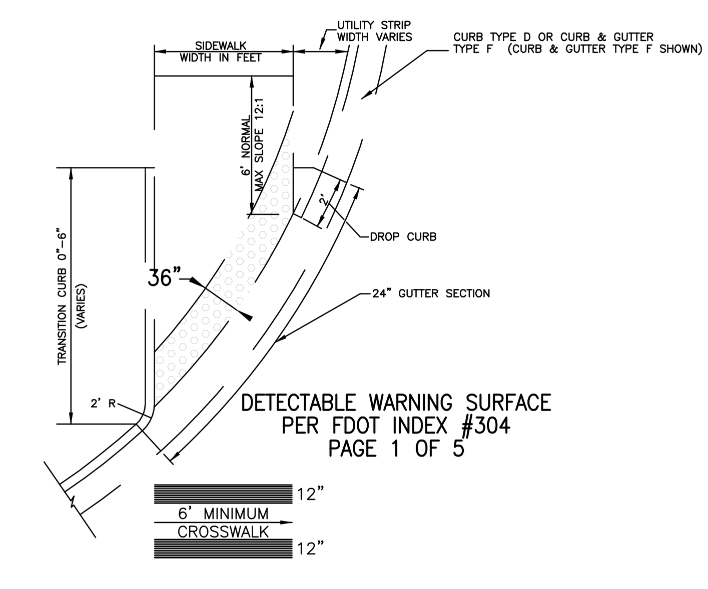
SCALE: NTS



NOTE:
* 6" THICK WALLS MAY BE PERMITTED, PROVIDING THAT THE INCREASED REINFORCEMENT IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 201 IS INSTALLED. THIS MUST BE REFLECTED ON THE DESIGN PLANS, SHOP DRAWINGS, AND AS–BUILTS.

F.D.O.T. TYPE C INLET

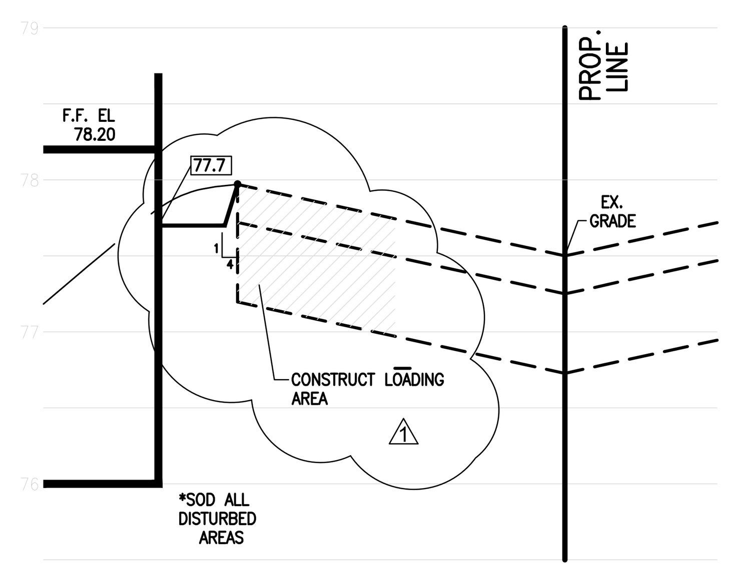
INDEX SHT. 232



PLAN VIEW

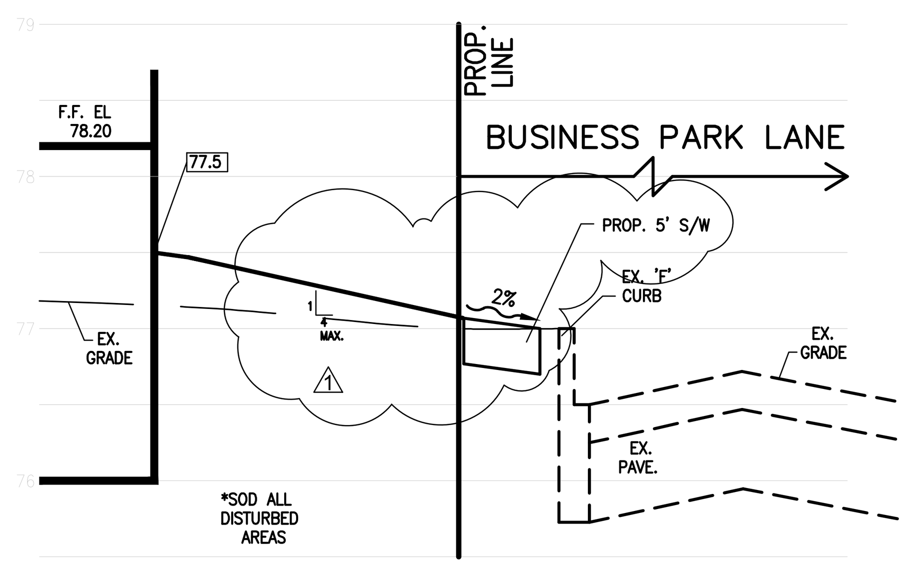
S/W RAMP DETAIL

1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES THAT HAVE FACILITIES WITHIN THE PROJECT AREA.



SECTION A-A

SCALE: 1" = 10' H, 1" = 1' V



SECTION B-B

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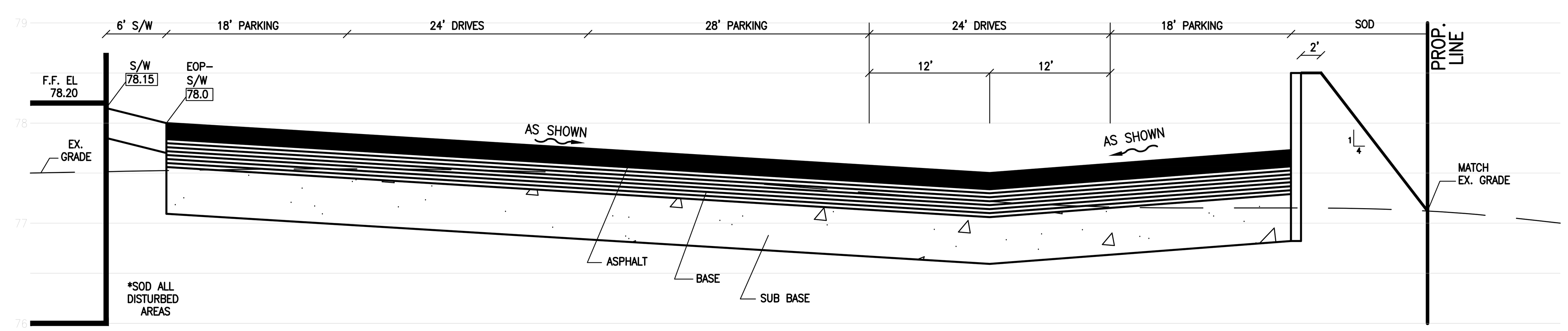
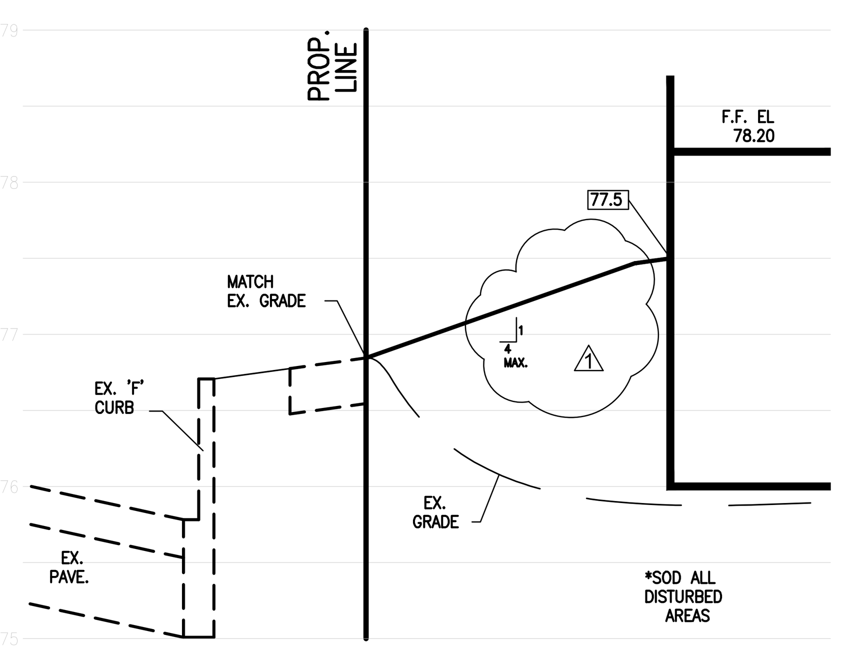


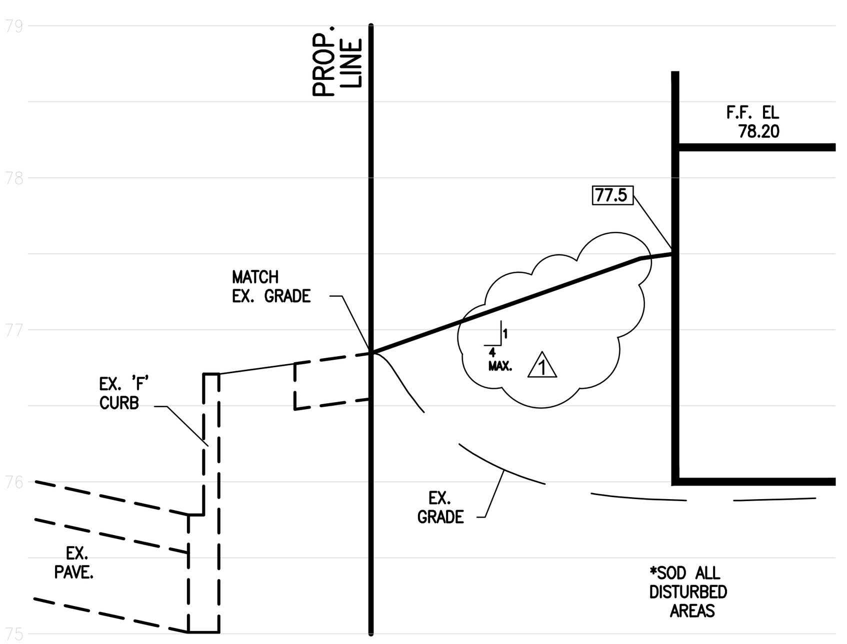
SECTION F-F

SCALE: 1" = 10' H, 1" = 1' V



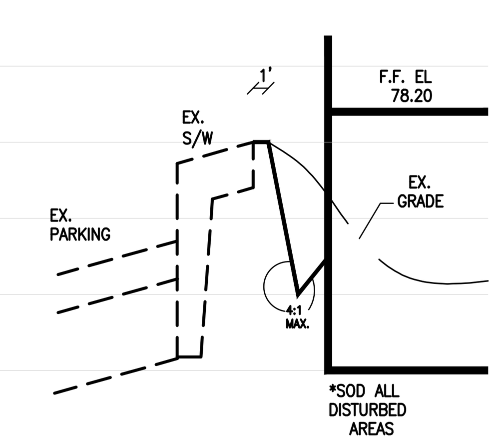
SECTION C-C

SCALE: 1" = 10' H, 1" = 1' V



SECTION D-D

SCALE: 1" = 10' H, 1" = 1' V



SECTION E-E

SCALE: 1" = 10' H, 1" = 1' V

03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS	
DATE	REVISIONS	REVISED	CHECKED	

DATE:	DECEMBER 19, 2024
SCALE:	N.T.S.
DESIGNED:	THS
DRAWN:	MDS
CHECKED BY:	THS
JOB NO.:	24175
EMAIL:	tomskelton468@gmail.com

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-0227
CERTIFICATE OF AUTHORIZATION NO.: 00008729

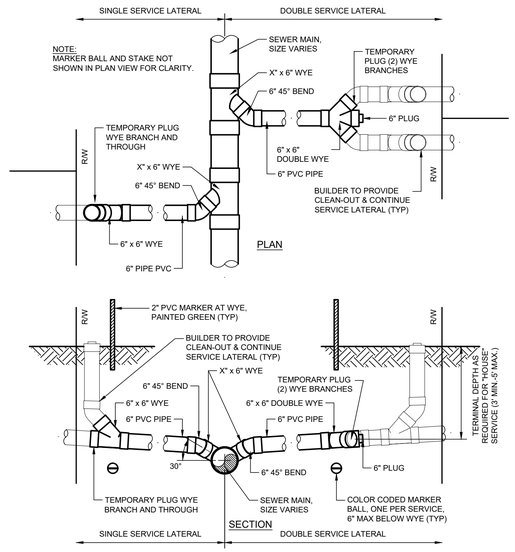
PAVING, GRADING & DRAINAGE DETAILS

HEATHROW CENTRE COMMERCIAL / OFFICE BUILDINGS

LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

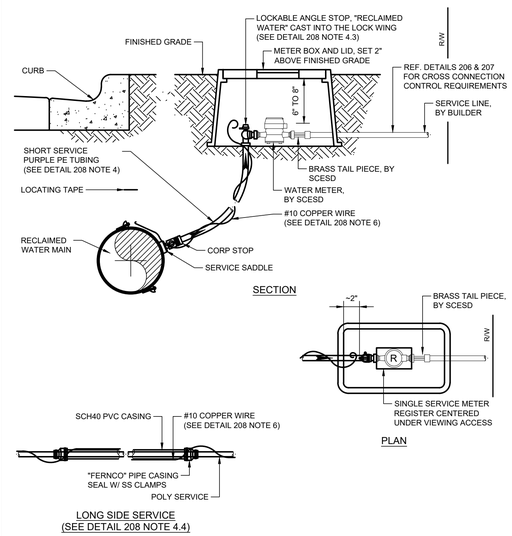
SHEET: C11



NOTES:
1. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SEWER MAINS' SPRING LINE.
2. SERVICE LATERAL SHALL BE TEMPORARILY PLUGGED AT TERMINAL WYE BY DEVELOPER.
3. LATERAL LOCATIONS SHALL BE MARKED BY ETCHING OR CUTTING A 3" WIDE X 6" HIGH "S" IN THE CONCRETE CURB AND PAINTING IT GREEN.
4. LATERAL SHALL BE IDENTIFIED WITH A REUSABLE ELECTRONIC MARKER BALL A MAXIMUM 6" DIRECTLY BELOW TERMINAL WYE.
5. BUILDER WILL REMOVE PLUG, INSTALL CLEAN-OUT AND CONNECTER SERVICE LATERAL TO THE STRUCTURE

05/18/21

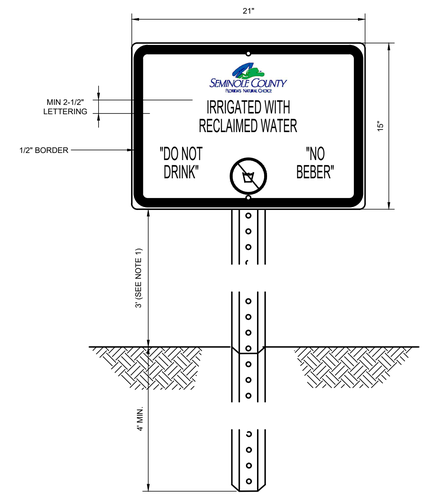
SANITARY SEWER SERVICE LAYOUT — **301**



NOTES:
1. THIS DETAIL IS INCOMPLETE WITHOUT DETAIL 208 - METER SET NOTES.
2. DETAIL APPLICABLE FOR SINGLE RESIDENTIAL AND COMMERCIAL RECLAIM METER SETS FROM 3/4" TO 2"

05/18/21

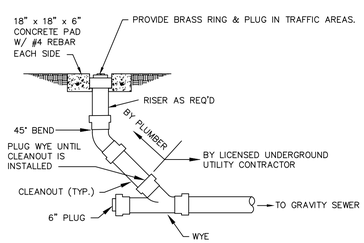
SINGLE RECLAIM METER — **504**



NOTES:
1. HEIGHT OF SIGN WILL DEPEND ON LOCATION AND SURROUNDING LANDSCAPE PLANT TYPES (MIN. HEIGHT SHALL BE 3').
   IN ALL CASES, THE SIGN SHALL BE VISIBLE TO THE PUBLIC.
2. BACKGROUND SHALL BE 3M SCOTCHLITE PROCESS COLOR 723 OR EQUIVALENT. (FEDERAL HIGHWAY SIGN COLOR)
3. SIGN LETTERS SHALL BE REFLECTIVE MATERIALS.
4. POST SHALL BE U CHANNEL, 2 LB. HOT ROLLED HIGH TENSILE RAIL OR BILLET STEEL WITH GALVANIZED FINISH PER ASTM A-123.
5. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
6. MINIMUM DEPTH OF BURIAL OF SIGN POST SHALL BE 4 FEET.
7. SIGN BLANK SHALL BE REFLECTIVE ALUMINUM WITH A THICKNESS OF 0.080 INCHES.

05/18/21

RECLAIM SIGN — **506**



NOTE:
1. ALL CLEANOUTS AND CONCRETE PADS TO BE FLUSH WITH FINISH GRADE.
2. UTILITY CONTRACTOR TO INSTALL & PRESSURE TEST WYE AND INSTALL PLUG. PLUMBER TO REMOVE PLUG, INSTALL CLEANOUT AND CONCRETE PAD.
3. INSTALL 2 1/2" CURB MARKER WHERE LATERAL CROSSES BENEATH CURB.
4. ALL COMMERCIAL AND RESIDENTIAL SINGLE LATERALS SHALL HAVE 6" CLEANOUTS.
5. ALL RESIDENTIAL DOUBLE LATERALS SHALL HAVE 4" CLEANOUTS.
6. MAINTAIN A MINIMUM OF 3' CLEARANCE FREE OF ALL PLANTINGS & STRUCTURES AROUND CLEANOUT.

SANITARY CLEANOUT DETAIL

DATE:	DECEMBER 19, 2024
SCALE:	N.T.S.
DESIGNED:	THS
DRAWN:	MDS
CHECKED BY:	THS
JOB NO.	24175
EMAIL:	tomskelton4608@gmail.com

DATE	REVISIONS	REVISED	CHECKED
03/06/2025	REVISED PER CITY OF LAKE MARY	MDS	THS

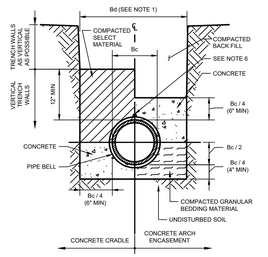
AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-6227
CERTIFICATE OF AUTHORIZATION NO. 00006729

UTILITY STANDARD DETAILS

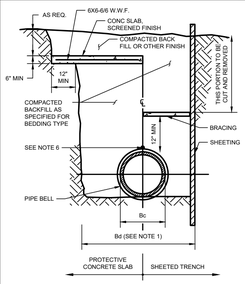
HEATHROW CENTRE
COMMERCIAL / OFFICE BUILDINGS
LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

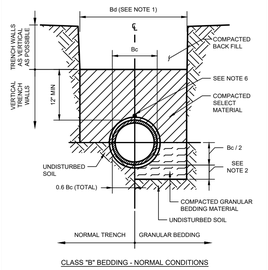
SHEET: C12



CLASS "A" BEDDING - SPECIAL CONDITIONS



SPECIAL DETAIL



CLASS "B" BEDDING - NORMAL CONDITIONS

NOTES:
1. Bc = PIPE O.D.
   Bd = TRENCH WIDTH AT TOP OF PIPE
   MAX Bd = Bc + 24"
   MIN Bd = MAX DIM. OF BELL + 8" (UNSHEETED TRENCH)
   MAX DIM. OF BELL + 12" (SHEETED TRENCH)
2. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION FOR NON-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. SHEETING SHALL BE DRIVEN BELOW THE UTILITY INVERT IF REQUIRED FOR LATERAL SUPPORT OR UNSUITABLE MATERIAL REMOVAL. WHERE DRIVEN BELOW PIPE INVERT, SHEETING SHALL BE CUT OFF A MINIMUM OF 12" ABOVE TOP OF PIPE, OR HIGHER AS AUTHORIZED BY THE ENGINEER, AND LEFT IN PLACE. IN NO CASE SHALL SHEETING LEFT IN PLACE EXTEND HIGHER THAN 30" BELOW SURFACE GRADE UNLESS SPECIFICALLY APPROVED. BRACING SHALL BE APPROVED AS REQUIRED.
4. PROTECTIVE CONCRETE SLABS ARE REQUIRED WHENEVER DEPTH OF COVER IS LESS THAN 36" AND IF APPROVED BY THE UTILITY.
5. BACKFILL TO BE COMPACTED TO 98% DENSITY OF AASHTO T180 MODIFIED PROCTOR IN AREAS TO BE PAVED AND 95% IN OTHERS.
6. REF. STANDARD DETAIL 109 - PIPE MATERIAL LOCATION FOR FULL LOCATION MATERIAL REQUIREMENTS.

05/18/21

TRENCHING AND BEDDING

101

PIPE RESTRAINT TABLE FOR PVC PIPE OR POLYWRAPPED DIP
MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

FITTINGS	PIPE DIAMETER (IN)									
	4	6	8	10	12	14	16	18	20	24
HORIZONTAL OR VERTICAL UP BEND										
11 ¼° BEND										
22 ½° BEND										
45° BEND										
90° BEND										
VERTICAL DOWN BEND										
11 ¼° BEND										
22 ½° BEND										
45° BEND										
90° BEND										
TEES, DEAD ENDS, VALVES										
TEE										
DEAD ENDS (VALVES, PLUGS)										

REDUCERS	LARGER MAIN (IN)	REDUCED PIPE DIAMTER (IN)								
		4	6	8	10	12	14	16	18	20
	6		-	-	-	-	-	-	-	-
	8			-	-	-	-	-	-	-
	10				-	-	-	-	-	-
	12					-	-	-	-	-
	14	-					-	-	-	-
	16	-						-	-	-
	18	-	-						-	-
	20	-	-	-						-
	24	-	-	-	-					

NOTES:
1. INSTALL FULL LENGTH JOINTS W/ TOTAL NUMBER OF JOINTS EQUAL TO OR GREATER THAN SHOWN IN THE TABLE & FOR THE TOTAL EQUIVALENT LENGTH REQ'D.
2. WHERE TWO OR MORE FITTINGS ARE TOGETHER USE FITTINGS WHICH YIELD THE GREATEST NUMBER OF RESTRAINED JOINTS.
3. ALL VALVES SHALL BE RESTRAINED AS DEAD ENDS.
4. ALL PIPE JOINTS UNDER PAVEMENT TO BE RESTRAINED UNLESS OTHERWISE APPROVED BY UTILITIES ENGINEERING DIVISION.
5. TEE RESTRAINTS SHOW IS FOR NON-REDUCING TEES. FOR REDUCING TEES, THE RESTRAINED LENGTH OF THE BRANCH HALL BE EITHER THE LENGTH BASED ON THE DIAMETER OF THE RUN OR THE TEE OR THE LENGTH REQUIRED FOR A REDUCER FITTING, WHICHEVER IS GREATER.
6. FOR ALL TEES THE TOTAL LENGTH BETWEEN THE FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF THE TEE (RUNS) SHALL BE A MIN. TOTAL DISTANCE OF 30 FT.
7. RESTRAINING SCHEDULE IS BASED ON ALL DESIGN CONSIDERATIONS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

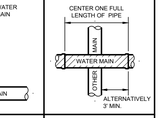
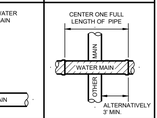
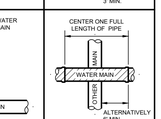
TYPE OF PIPE:	PVC PIPE	LAYING CONDITION:	TYPE 3
MAX TESTING PRESSURE:	150 psi	MIN. DEPTH OF COVER, H:	3.0 ft
SOIL CLASSIFICATION:	SAND-SILT	FACTOR OF SAFETY, S:	1.5

8. ENGINEER TO PROVIDE CALCULATIONS FOR REVIEW AT SEMINOLE COUNTY UTILITY ENGINEERING'S REQUEST.
9. ADJUSTED / ADDITIONAL TABLES TO BE COMPLETED BY DESIGN ENGINEER FOR OTHER PIPE MATERIALS, WORKING PRESSURES, OR LAYING CONDITIONS.
8. CONTRACTOR SHALL SUBMIT FOR REVIEW AND COMMENT, DRAWINGS FOR RESTRAINED JOINT SYSTEM. ENGINEER APPROVED SHOP DRAWINGS TO BE SUBMITTED TO THE COUNTY.

05/18/21

PVC PIPE RESTRAINED JOINT TABLE

104

OTHER MAIN	HORIZONTAL SEPARATION	CROSSING [1]	JOINT SPACING [2]
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER [3]			
VACUUM SANITARY SEWER			
GRAVITY SANITARY SEWER, PRESSURE SANITARY SEWER,SANITARY SEWER FORCE MAIN, RECLAIMED WATER [5]			
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10' MIN.	---	---

NOTES:
1. WATER MAIN SHOULD CROSS ABOVE ANY OTHER PIPE. WHEN WATER MAIN MUST BE BELOW ANOTHER PIPE, THE MINIMUM SEPARATION BETWEEN OUTSIDE OF WATER MAIN AND OUTSIDE OF OTHER PIPE IS 12".
2. AT ALL UTILITY CROSSINGS ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. SEE ALTERNATIVE ARRANGEMENTS.
3. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C.
4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C.
5. FOR STORM SEWER: 12" PREFERRED, 6" MIN
6. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6" ABOVE THE TOP OF THE GRAVITY SANITARY SEWER MAIN HORIZONTAL SEPARATION SHALL BE 3' MIN.
7. FOR GRAVITY SANITARY SEWER: 12" PREFERRED, 6" MIN.
8. NO WATER PIPE SHALL PASS THROUGH OR BE CONSTRUCTED TOUCHING ANY PART OF A SANITARY OR STORM WATER MANHOLE OR STRUCTURE.
9. PROP. OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS MUST BE AT LEAST 10 FEET FROM ANY EXISTING OR PROP. "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065 (2), F.S., AND RULE 64E-6.002, F.A.C.
10. WHERE IT IS NOT POSSIBLE TO MEET THE SEPARATION REQUIREMENTS, THE FOLLOWING ALTERNATIVE CONSTRUCTION VARIANCES ARE ACCEPTABLE ONLY WITH THE EXPRESSED WRITTEN CONSENT OF THE UTILITIES ENGINEERING DIVISION.
   10.1. WHERE A WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE AND/OR WHERE A WATER MAIN CROSSING HAS LESS THAN THE MINIMUM REQUIRED DISTANCE BETWEEN JOINTS:
   10.1.1. USE OF PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS, FOR A GRAVITY OR VACUUM TYPE PIPE LINE.
   10.1.2. USE OF WELDED, FUSED OR OTHERWISE RESTRAINED JOINTS FOR EITHER PIPE.
   10.1.3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST 6" PREFERRED, 4" MIN. THICK FOR EITHER PIPE. REFERENCE DETAIL 107.
   10.2. WHERE A WATER MAIN IS BEING LAID LESS THAN 3 FEET HORIZONTALLY FROM ANOTHER PIPE LINE AND/OR WHERE A WATER MAIN IS BEING LAID WITH LESS THAN THE REQUIRED MINIMUM VERTICAL SEPARATION:
   10.2.1. USE OF PIPE OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (AT LEAST EQUAL TO 0.25" THICK D.I.P.), ON CONCRETE ENCASEMENT AT 6" PREFERRED, 4" MIN. THICK FOR THE WATER MAIN AND THE OTHER PIPE LINE IF THE OTHER PIPE LINE CONVEYS WASTEWATER OR RECLAIMED WATER. REFERENCE DETAIL 107.
11. FOR PIPE CROSSING CONFLICTS REFERENCE DETAIL 106. CONFLICTS SHALL NOT BE RESOLVED BY DEFLECTING PIPE JOINTS.
12. THIS DETAIL IS PROVIDED FOR CONVENIENCE. REFERENCE FAC 62-555.314 FOR FULL REQUIREMENTS.

05/18/21

FAC 62-555.314 SEPARATION REQUIREMENTS

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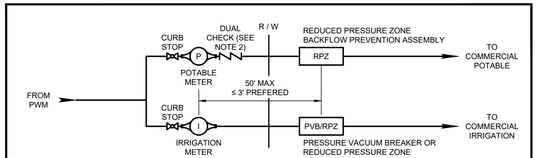
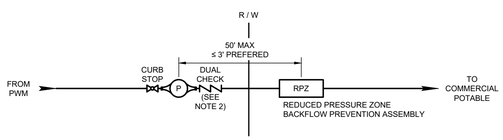
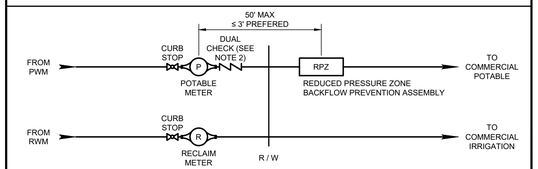


COMMERCIAL POTABLE SERVICE WITH POTABLE IRRIGATION



COMMERCIAL POTABLE SERVICE WITH ALTERNATE SOURCE FOR IRRIGATION



COMMERCIAL POTABLE SERVICE WITH RECLAIM FOR IRRIGATION

NOTES:
1. APPLICABLE FOR COMMERCIAL SERVICE INSTALLATIONS UP TO 2" IN SIZE.
2. DUAL CHECK DEVICE CAN BE OMITTED IF RPZ IS INSTALLED WITHIN 3' OF THE METER SET.
3. REF. METER SET DETAILS FOR DELINEATION OF RESPONSIBILITIES.
4. THE BACKFLOW PREVENTION DEVICES SHALL BE TESTED IN ACCORDANCE WITH SEMINOLE COUNTY ORDINANCE 2006-3, SECTION 9.13 BEFORE METER INSTALLATION CAN BE APPROVED FOR USE.

05/18/21

COMMERCIAL CROSS CONNECTION CONTROL (≤ 2" METER)

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TABLE ###.1 SINGLE POTABLE OR RECLAIM METER SERVICE MATERIALS

METER	SERVICE SADDLE		CORPORATION STOP	SERVICE LINE	CURB STOPS	
	PVC/DIP MAIN	HDPE MAIN			SHORT SERVICE	LONG SERVICE
SINGLE 3/4"	X" x 1" CC W/ DOUBLE STEEL STRAPS	X" x 1" CC W/ DOUBLE SS BANDS	1" CC x 1" PACKED JOINT CTS	1" DR9 PE3408/PE4710 TUBING	1" PACKED JOINT CTS x 5/8X3/4" MSN ANGLE STOP	1" PACKED JOINT CTS x 5/8X3/4" MSN STRAIGHT STOP
SINGLE 1"	X" x 1" CC W/ DOUBLE STEEL STRAPS	X" x 1" CC W/ DOUBLE SS BANDS	1" CC x 1" PACKED JOINT CTS	1" DR9 PE3408/PE4710 TUBING	1" PACKED JOINT CTS x 1" MSN ANGLE STOP	1" PACKED JOINT CTS x 1" MSN STRAIGHT STOP
SINGLE 1-1/2"	X" x 1-1/2" FIPT W/ DOUBLE STEEL STRAPS	X" x 1-1/2" FIPT W/ DOUBLE SS BANDS	1-1/2" MIPT x 1-1/2" PACKED JOINT CTS	1-1/2" DR9 PE3408/PE4710 TUBING	1-1/2" PACKED JOINT CTS x 1-1/2" MF ANGLE STOP	1-1/2" PACKED JOINT CTS x 1-1/2" MF STRAIGHT STOP
SINGLE 2"	X" x 2" FIPT W/ DOUBLE STEEL STRAPS	X" x 2" FIPT W/ DOUBLE SS BANDS	2" MIPT x 2" PACKED JOINT CTS	2" DR9 PE3408/PE4710 TUBING	2" PACKED JOINT CTS x 2" MF ANGLE STOP	2" PACKED JOINT CTS x 2" MF STRAIGHT STOP

TABLE ### 2 DOUBLE POTABLE / IRRIGATION METER SERVICE MATERIALS

METER	SERVICE SADDLE		CORPORATION STOP	SERVICE LINE	U-BRANCH	CURB STOPS	
	PVC/DIP MAIN	HDPE MAIN				SHORT SERVICE	LONG SERVICE
DOUBLE 3/4"	X" x 1-1/2" FIPT W/ DOUBLE STEEL STRAPS	X" x 1-1/2" FIPT W/ DOUBLE SS BANDS	1-1/2" MIPT x 1-1/2" PACKED JOINT CTS	1-1/2" DR9 PE3408/PE47 10 TUBING	1-1/2" PACKED JOINT CTS x 3/4" MIPT x 7-1/2"	3/4" FIPT x 5/8X3/4" MSN ANGLE STOP	3/4" FIPT x 5/8X3/4" MSN STRAIGHT STOP
DOUBLE 1"	X" x 1-1/2" FIPT W/ DOUBLE STEEL STRAPS	X" x 1-1/2" FIPT W/ DOUBLE SS BANDS	1-1/2" MIPT x 1-1/2" PACKED JOINT CTS	1-1/2" DR9 PE3408/PE47 10 TUBING	1-1/2" PACKED JOINT CTS x 1" MIPT x 7-1/2"	1" FIPT x 1" MSN ANGLE STOP	1" FIPT x 1" MSN STRAIGHT STOP

TABLE ###.3 DOUBLE RECLAIM METER SERVICE MATERIALS

METER	SERVICE SADDLE		CORPORATION STOP	SERVICE LINE	Y-BRANCH	CURB STOPS	
	PVC/DIP MAIN	HDPE MAIN				SHORT SERVICE	LONG SERVICE
DOUBLE 1"	X" x 1-1/2" FIPT W/ DOUBLE STEEL STRAPS	X" x 1-1/2" FIPT W/ DOUBLE SS BANDS	1-1/2" MIPT x 1-1/2" PACKED JOINT CTS	1-1/2" DR9 PE3408/PE47 10 TUBING	1-1/2" PACKED JOINT CTS x 1" PACKED JOINT CTS	1" PACKED JOINT CTS x 1" MSN ANGLE STOP	1" PACKED JOINT CTS x 1" MSN STRAIGHT STOP

NOTES:
1. GENERAL
   1.1. METER SET DETAILS ARE APPLICABLE FOR SINGLE METER SETS UP TO 2" AND DOUBLE METER SETS UP TO 1".
   1.2. RECLAIMED METERS MINIMUM OF 1" PER SCESD RECLAIMED DEPARTMENT.
   1.3. CROSS REFERENCE TABLE IN THIS DETAIL AND APPROVED MATERIALS LIST FOR SERVICE MATERIAL SPECIFICATIONS.
2. RESPONSIBILY
   2.1. RESIDENTIAL SERVICES UP TO 2", CONTRACTOR TO SET UP TO THE CURB STOP W/ METER BOX. METER BOXES SHALL BE ACQUIRED FROM SCESD.
   2.2. COMMERCIAL SERVICES UP TO 2", CONTRACTOR TO SET ALL SERVICE MATERIALS INCLUDING UP TO THE CURB STOP. METER, METER BOX, AND BACK FLOW PREVENTER UNDER THE WITNESS OF CROSS CONTROL SPECIALIST. METER, METER BOX, AND DUAL CHECK VALVE SHALL BE ACQUIRED FROM SCESD.
3. SERVICE SADDLES
   3.1. SERVICE SADDLES SHALL BE EPOXY COATED IRON / STEEL BODY. STRAPS / BANDS DEPENDING ON MAIN MATERIAL PER TABLES THIS DETAIL.
   3.2. TAPS SHALL BE A MINIMUM OF 18 INCHES FROM PIPE JOINTS. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18 INCHES APART.
4. SERVICE LINES AND CURB STOPS
   4.1. SERVICES LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP / Y-BRANCH / U-BRANCH WITH NO FITTINGS IN BETWEEN.
   4.2. PE TUBING BENDING RADIUS SHALL NOT BE LESS THAN WHAT IS RECOMMENDED BY MANUFACTURE OR WHAT IS REQUIRED TO EASILY WORK
   4.3. SHORT SIDE SERVICES SHALL UTILIZE ANGLED CURB STOPS. LONG SIDE SERVICES SHALL USE STRAIGHT CURB STOPS.
   4.4. LONG SIDE SERVICES & ROADWAY CROSSINGS:
      4.4.1. ALL LONG SIDE POLYETHYLENE SERVICE LINES SHALL BE INSTALLED IN A SCHEDULE 40 PVC CASING WITH A NOMINAL DIAMETER OF 1 INCH LARGER THAN THE SERVICE LINE DIAMETER, BUT NOT EXCEEDING 4 INCH NOMINAL DIAMETER.
      4.4.2. THE CASING SHALL EXTEND A MINIMUM OF 12 INCHES BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, WHICHEVER IS GREATER.
      4.4.3. THE DEPTH OF COVER OVER THE CASING SHALL BE A MINIMUM OF 24 INCHES BELOW THE ROAD BASE COURSE OR A TOTAL OF 36 INCHES BELOW THE TOP OF PAVEMENT, WHICHEVER IS GREATER.
      4.4.4. THE ANNULAR SPACE AT THE CASING ENDS SHALL BE SEALED WITH A "FERNCO" TYPE PIPE CASING SEAL WITH STAINLESS STEEL CLAMPS.
5. METER BOXES
   5.1. METER BOXES AND LIDS SHALL BE SET 2" ABOVE FINISHED GRADE, BE INSTALLED BETWEEN THE SIDEWALK AND CURB, DIRECTLY ADJACENT TO THE LOT LINE AND SHALL NOT BE INSTALLED IN SIDEWALKS, UNDER PAVED AREAS, CURBS OR OTHER STRUCTURES.
6. LOCATE MATERIALS
   6.1. TRACER WIRE SHALL BE RUN WITH ALL SERVICES A MINIMUM OF 1 FOOT BEYOND THE CURB STOP AND TIED INTO THE TRACER WIRE THAT RUNS WITH THE WATER MAIN.
   6.2. WIRE CONNECTIONS SHALL BE MADE WITH "DRYCONN" WATERPROOF CONNECTORS, MODEL # DB LUG AQUA.
   6.3. TRACER WIRE COLOR SHALL COORDINATE WITH SERVICE TYPE. REFERENCE APPROVED MATERIALS LIST.

05/18/21

METER SET NOTES AND MATERIALS

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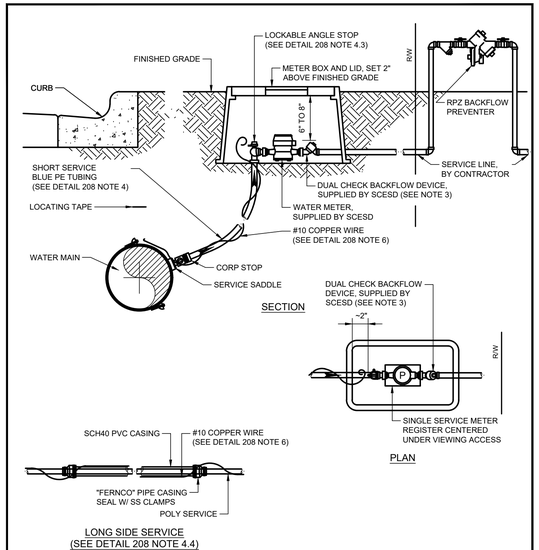

NOTES:
1. THIS DETAIL IS INCOMPLETE WITHOUT DETAIL 208 - METER SET NOTES.
2. DETAIL APPLICABLE FOR SINGLE COMMERCIAL POTABLE / IRRIGATION METER SETS FROM 3/4" TO 2".
3. DUAL CHECK CAN BE OMITTED ON POTABLE METERS IF RPZ IS WITHIN 3 FEET OF METER SET.
4. REFERENCE NOTE 2.2 DETAIL 208 FOR INSTALLATION RESPONSIBILITY.

05/18/21

SINGLE COMMERCIAL POTABLE METER

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DATE: DECEMBER 19, 2024
SCALE: N.T.S.
DESIGNED: THS
DRAWN: MDS
CHECKED BY: THS
JOB NO.: 24175
EMAIL: tomskelton4686@gmail.com

DATE	REVISED	CHECKED
03/06/2025	REVISED PER CITY OF LAKE MARY REVISIONS	THS

AMERICAN CIVIL ENGINEERING CO.
207 N. MOSS ROAD, SUITE 211 WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700, FAX (407) 327-6227
CERTIFICATE OF AUTHORIZATION NO.: 00006729

WATER DISTRIBUTION STANDARD DETAILS

HEATHROW CENTRE

COMMERCIAL / OFFICE BUILDINGS

LAKE MARY, FLORIDA

THOMAS H. SKELTON, PE
REGISTRATION NO. 42752

SHEET: C13