Marion County
Board of County Commissioners

Office of the County Engineer

412 SE 25th Ave.
Ocala, FL 34471
Phone: 352-671-8686
Fax: 352-671-8687

DEVELOPMENT REVIEW COMMITTEE WAIVER REQUEST FORM

Date: 11/5/2024 Parcel Number(s): 48347-000-00 Permit Number: AR#30516

A. PROJECT INFORMATION: Fill in below as applicable:

Project Name: Heritage Oaks Commercial ☐ Residential ☑
Subdivision Name (if applicable): _____
Unit_____ Block_____ Lot_____ Tract_____

B. PROPERTY OWNER'S AUTHORIZATION: The property owner's signature authorizes the applicant to act on the owner's behalf for this waiver request. The signature may be obtained by email, fax, scan, a letter from the property owner, or original signature below.

Name (print): Southeast 73rd Ave LLC
Signature: _____
Mailing Address: 208 Florida Ave City: Coleman
State: Fl Zip Code: 33521 Phone # _____
Email address: _____

C. APPLICANT INFORMATION: The applicant will be the point of contact during this waiver process and will receive all correspondence.

Firm Name (if applicable): Tillman & Associates Engineering, LLC Contact Name: Timothy C. Brooker, P.E.
Mailing Address: 1720 SE 16th Ave., Bldg 100 City: Ocala
State: FL Zip Code: 34471 Phone # (352) 387-4540
Email address: permits@tillmaneng.com

D. WAIVER INFORMATION:
Section & Title of Code (be specific): 6.12.12 - Sidewalks
Reason/Justification for Request (be specific): Waiver requested to not construct sidewalk along SE 73rd Avenue and to pay fee in lieu of as there are is no existing sidewalk along SE 73rd Avenue.

DEVELOPMENT REVIEW USE:
Received By:_____ Date Processed:_____ Project #_____ AR #_____

ZONING USE: Parcel of record: Yes ☐ No ☐ **Eligible to apply for Family Division: Yes ☐ No ☐**
Zoned:_____ ESOZ:_____ P.O.M._____ Land Use:_____ **Plat Vacation Required: Yes ☐ No ☐**
Date Reviewed:_____ Verified by (print & initial):_____

Revised 6/2021

IMPROVEMENT PLANS
HERITAGE OAKS

SECTION 29,
TOWNSHIP 17 SOUTH, RANGE 23 EAST
MARION COUNTY, FLORIDA

THIS SITE CONTAINS:
RESIDENTIAL LOTS = 161
TOTAL MILES OF ROADWAY = 1.38 MILES
PROJECT AREA = 39.95 ±AC.
PARCELS: PORTION OF #48347-000-00
ZONING - PUD
LAND USE - MEDIUM DENSITY RESIDENTIAL (MR)
AVERAGE DAILY TRIPS = 1611 TRIPS (210)
PEAK HOUR TRIPS = 160 TRIPS (210)
PROPOSED IMPERVIOUS AREA = 17.98 ±AC

PERMITS:

1. MARION COUNTY - IMPROVEMENT PLAN - PENDING
2. SJRWMD - E.R.P. - PENDING
3. FDEP - POTABLE WATER - PENDING
4. FDEP - SANITARY SEWER - PENDING
5. FDEP - NPDES (By Others)

UTILITY COMPANIES:

WATER/SEWER	MARION COUNTY UTILITIES	CUSTOMER SERVICE 24/7/365	352-307-6000
ELECTRIC	SUMTER ELECTRIC CO-OP	JANET COX	352-569-9612
FIBER / TELEPHONE/CABLE	CENTURY LINK	BILL MCCLOUD	850-999-1411

REQUESTED WAIVERS:

-

NOTES:

1. BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY PANEL NO. 12083C0308H D, EFFECTIVE DATE OF AUGUST 28, 2008, THE PROPERTY DESCRIBED HEREON LIES WITHIN FLOOD ZONE "X" AN AREA OF MINIMAL FLOOD HAZARD.
2. ALL UTILITIES UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE SLEEVED IN ACCORDANCE WITH SECTION B.2.6A OF THE MARION COUNTY LAND DEVELOPMENT CODE.
3. THIS PROJECT IS LOCATED IN THE SECONDARY SPRINGS PROTECTION ZONE.
4. SIGHT DISTANCE AT DRIVEWAYS COMPLIES WITH FDOT REQUIREMENTS.
5. VERTICAL DATUM IS BASED ON NATIONAL GEODETIC SURVEY CONTROL POINT U 753, ELEVATION 102.57' (NAVD 1988).
6. DESIGN SPEED = 30 M.P.H. TO BE POSTED AT 25 M.P.H. EXCEPT FOR CURVES WITH RADII LESS THAN 100'.
7. THIS PROPOSED PROJECT HAS NOT BEEN GRANTED CONCURRENCY APPROVAL AND/OR GRANTED AND/OR RESERVED ANY PUBLIC FACILITY CAPACITIES. FUTURE RIGHTS TO DEVELOP THE PROPERTY ARE SUBJECT TO A DEFERRED CONCURRENCY DETERMINATION, AND FINAL APPROVAL TO DEVELOP THE PROPERTY HAS NOT BEEN OBTAINED. THE COMPLETION OF CONCURRENCY REVIEW AND/OR APPROVAL HAS BEEN DEFERRED TO LATER DEVELOPMENT REVIEW STAGES, SUCH AS, BUT NOT LIMITED TO IMPROVEMENT PLAN, FINAL PLAT, OR BUILDING PERMIT REVIEW.
8. ALL PROPOSED ROADS ARE TO BE LOCAL SUBDIVISION WITH PRIVATE ROAD STATUS.
9. NO CHANGE TO THE WORK AS SHOWN ON THE APPROVED PLANS SHALL BE MADE WITHOUT NOTIFICATION TO AND APPROVAL BY THE OFFICE OF THE COUNTY ENGINEER.
10. ORIENTATION FOR THE IMPROVEMENTS SHOWN HEREON SHOULD NOT BE USED TO RECONSTRUCT BOUNDARY LINES.

BASIS OF BEARING:

BEARINGS AND COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STAE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83), WITH 2011 ADJUSTMENT AS DERIVED FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE STATION NETWORK.

BENCHMARK:

TEMPORARY BENCHMARK ("A"): SET 5/8" IRON ROD & CAP (LB 8071) ELEVATION= 67.54' (NAVD 1988)
N 1690183.7 890 E 648595.3820

TEMPORARY BENCHMARK ("A"): SET 5/8" IRON ROD & CAP (LB 8071) ELEVATION= 75.57' (NAVD 1988)
N 1691713.52 E 649601.66

LEGAL DESCRIPTION :

LEGAL DESCRIPTION

(PER OFFICIAL RECORDS BOOK 4777, PAGE 39)

THE NW1/4 OF THE SW1/4 OF THE NE1/4 AND NE1/4 OF THE SE1/4 OF THE NW1/4, EXCEPT THE SOUTH 622.52 FEET OF THE WEST 46.75 FEET THEREOF, AND THE NORTH 40.00 FEET OF THE NW1/4 OF THE SE1/4 OF THE NW1/4 EXCEPT THE WEST 25.00 FEET THEREOF FOR ROAD RIGHT OF WAY, ALL IN SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST. AND EXCEPT THE NORTH 210 FEET OF THE EAST 210 FEET OF NW1/4 OF THE SW1/4 OF THE NE1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST.

(PER OFFICIAL RECORDS BOOK 2804, PAGE 1714)

THE NW1/4 OF THE SE1/4 OF THE NW1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, EXCEPT THE NORTH 40.00 FEET AND EXCEPT THE WEST 25.00 FEET THEREOF.

AND

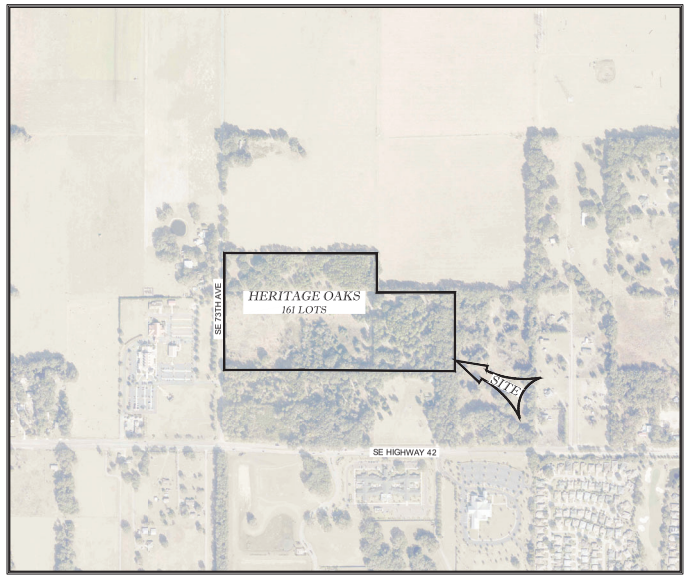
THE SOUTH 622.52 FEET OF THE WEST 46.75 FEET OF THE NE1/4 OF THE SE1/4 OF THE NW 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA.

(PER OFFICIAL RECORDS BOOK 2268, PAGE 1829)

THE NORTH 210.00 FEET OF THE EAST 210.00 FEET OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA; TOGETHER WITH A NON EXCLUSIVE EASEMENT ON AND ACROSS THE NORTH 40.00 FEET OF NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA; EXCEPT THE WEST 25.00 FEET FOR RIGHT OF WAY

(PER OFFICIAL RECORDS BOOK 2015 PAGE 1336)

THE SOUTH 1/4 OF THE NE 1/4 OF THE NW 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA. EXCEPT THE WEST 25.00 FEET THEREOF FOR ROAD RIGHT OF WAY.



VICINITY MAP
1" = 500'

Marion County Approval Stamp

811 Know what's below. Call before you dig.

Call 48 Hours before you dig. It's the Law! 1-800-432-4770 Sunshine State One Call of Florida, Inc.

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1-3	BOUNDARY & TOPOGRAPHIC SURVEY (PREPARED BY JCH CONSULTING GROUP, INC)

OWNER'S SIGNATURE

I HEREBY CERTIFY THAT I, MY SUCCESSORS, AND ASSIGNS SHALL PERPETUALLY MAINTAIN THE IMPROVEMENTS AS SHOWN ON THIS PLAN.

PATRICK A. McLAUGHLIN
SOUTHEAST 73rd AVE., LLC

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS AND CALCULATIONS WERE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF THE MARION COUNTY LAND DEVELOPMENT CODE (LDC), EXCEPT AS WAIVED.

TIMOTHY BROOKER JR., P.E.
Registered Engineer No. 79239
STATE OF FLORIDA

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE SURVEY REPRESENTED HEREON IS IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF THE LDC AND MEETS THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS.

JCH CONSULTING GROUP, INC
CHRISTOPHER J. HOWSON
Registered Land Surveyor No. 6651
STATE OF FLORIDA

OWNER/DEVELOPER
SOUTHEAST 73rd AVE., LLC
PATRICK A. McLAUGHLIN
208 FLORIDA AVE.
COLEMAN, FLORIDA 33521

CIVIL ENGINEER:
TILLMAN AND ASSOCIATES ENGINEERING, LLC
TIMOTHY BROOKER JR., P.E.
1720 SE 16th AVE., BLDG. 100
OCALA, FLORIDA 34471
PH: (352) 387-4540

SURVEYOR:
JCH CONSULTING GROUP, INC.
CHRISTOPHER J. HOWSON, P.S.M., CFM
426 SW 15TH STREET
OCALA, FLORIDA 34471
PH: (352) 405-1482

GEOTECHNICAL CONSULTANT:
GEO - TECH, INC.
CRAIG HAMPY
1016 S.E. 3RD AVENUE
OCALA, FLORIDA 34471
PHONE (352) 694-7711

Tillman & Associates ENGINEERING, LLC
CIVIL ENGINEERING • PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

COVER

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 01.01

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF SIZE AND LOCATION OF ALL EXISTING UTILITIES AND RELATED CONSTRUCTION PRIOR TO COMMENCEMENT OR WORK.CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1-800-432-4770, IN ACCORDANCE WITH CHAPTER 556, FLORIDA STATUTES.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST STANDARDS OF ***MARION COUNTY*** AND FDOT.
3. PAVEMENT STRIPING TO BE IN ACCORDANCE WITH ***MARION COUNTY*** SPECIFICATIONS AND WITH THE FLORIDA D.O.T. ROADWAY & TRAFFIC STANDARDS, INDEX 17346.
4. ALL TRAFFIC CONTROL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. WHERE MUCK OR OTHER ORGANIC MATERIAL IS FOUND, IT SHALL BE REMOVED AND REPLACED BY GOOD QUALITY BACKFILL MATERIAL OBTAINED FROM THE GRADING OPERATIONS OR OTHER SOURCE APPROVED BY THE ENGINEER. THE ORGANIC MATERIAL SHALL BE THEN USED AS TOP DRESSING WHEN MIXED WITH CLEAN SANDY SOIL.
6. ALL FINISHED GRADES AND ELEVATIONS ARE AS DENOTED BY THE APPLICABLE LEGEND.
7. AS PART OF THE CLEARING AND GRUBBING OPERATION, THE CONTRACTOR IS TO REMOVE EXISTING FACILITIES AND / OR FENCING FROM THE SITE AS SHOWN ON PLANS.
8. THE CONTRACTOR SHALL NOTIFY ***MARION COUNTY*** ENGINEERING DIVISION AND TILLMAN AND ASSOCIATES ENGINEERING, LLC AT LEAST ONE WEEK BEFORE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR SHALL OBTAIN A MARION COUNTY R/W PERMIT PRIOR TO COMMENCING WORK WITHIN MARION COUNTY R/W's.
9. A MINIMUM SEPARATION OF 1.5 FEET BETWEEN THE LIMEROCK BASE AND THE HIGHEST GROUNDWATER ELEVATION SHALL BE MAINTAINED WITHIN THE RIGHT-OF-WAY. CONTRACTOR TO NOTIFY ENGINEER IF 1.5 FEET OF SEPARATION IS NOT ACHIEVED.
10. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. PER SECTION 82-371, CODE OF ORDINANCES: FOR ANY WORK WITHIN PUBLIC RIGHT OF WAYS, A RIGHT OF WAY UTILIZATION PERMIT MUST BE OBTAINED FROM THE ENGINEERING DEPARTMENT A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
12. THE CONTRACTOR SHALL SUBMIT THREE (3) SETS OF STANDARD SHOP DRAWINGS AND MANUFACTURER'S CATALOGS WITH THE MODEL NUMBER OR TYPE OF THE ITEM ENCIRCLED OR OTHERWISE DESIGNATED. THE SUBMITTALS SHALL BEAR THE APPROVAL OF THE UNDERGROUND UTILITY CONTRACTOR. ALL UTILITY SHOP DRAWINGS AND MANUFACTURER'S CATALOGS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND MARION COUNTY PRIOR TO CONSTRUCTION.
13. ALL AS-BUILTS SHALL COMPLY WITH THE CURRENT LDC, SECTION 6.14.8 AND RETURNED IN NAD83 W. FORMAT WITH NORTHING AND EASTING COORDINATES FOR ALL ITEMS UNDER WATER AND WASTEWATER COMPONENTS.
14. MCU PERSONNEL ARE TO INSPECT ANY WORK PERFORMED ON OR AROUND EXISTING MCU INFRASTRUCTURE. A PRE-CONSTRUCTION MEETING IS REQUIRED TO BE HELD A MINIMUM OF 48 HOURS PRIOR TO START OF ANY CONSTRUCTION. IF THE PRE-CONSTRUCTION MEETING IS NOT COMPLETED, ANY WORK MAY BE HALTED. TO SCHEDULE, CONTACT MCU'S CONSTRUCTION OFFICER AT 352-307-6163.

PAVING AND DRAINAGE NOTES

1. PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCE BETWEEN CENTERLINES OF DRAINAGE STRUCTURES.
2. ALL PAVEMENT RETURN RADII SHALL BE 28' AND MEASURED FROM THE INTERFACE OF THE CONCRETE CURB AND PAVEMENT SURFACE UNLESS OTHERWISE NOTED.
3. DITCH BOTTOM AND CONTROL STRUCTURE INLET GRATES SHALL BE SECURED WITH CHAIN AND EYEBOLT.
4. FIVE (5) FEET OF SOD IS REQUIRED AROUND ALL DITCH BOTTOM INLETS, MANHOLES, HEADWALLS AND MITERED END SECTIONS.
5. TOP ELEVATIONS OF MANHOLES IN GRASSED AREAS SHALL BE LOCATED AT FINISHED GRADE ELEVATION.
6. AS AN ALTERNATIVE, CONTRACTOR MAY USE ALTERNATIVE PIPE MATERIALS IN LIEU OF RCP. HOWEVER, CONTRACTOR MUST RECEIVE APPROVAL OF ALTERNATIVE PIPE MATERIALS IN WRITING BY ***MARION COUNTY*** AND TILLMAN & ASSOCIATES ENGINEERING, LLC PRIOR TO CONSTRUCTION.
7. TOP SOIL WHICH HAS BEEN STRIPPED AND STOCK PILED DURING THE COURSE OF CONSTRUCTION SHALL BE REDISTRIBUTED ON ALL REGRADED SURFACES SO AS TO PROVIDE AT LEAST FOUR INCHES OF EVEN COVER TO ALL DISTURBED AREAS OF THE DEVELOPMENT AND SHALL BE STABILIZED BY SEEDING OR PLANTING
8. ALL DISTURBED AREAS WITH SLOPES UP TO 6:1 SHALL BE SEEDED AND MULCHED. SLOPES STEEPER THAN 6:1 SHALL BE SODDED AND SLOPES 3:1 OR STEEPER SHALL HAVE THE SOD PEGGED.
9. SEE TABLE 2.0 FOR REQUIRED STORM PIPE COVER BENEATH AN UNPAVED SECTION.
10. SEE TABLE 3.0 FOR REQUIRED STORM PIPE COVER BENEATH RIGID PAVEMENT.
11. SEE TABLE 4.0 FOR REQUIRED STORM PIPE COVER BENEATH FLEXIBLE PAVEMENT
12. THE TABULATED VALUES ARE RECOMMENDED MINIMUM DIMENSIONS TO WITHSTAND ANTICIPATED HIGHWAY TRAFFIC LOADS. ADDITIONAL COVER MAY BE REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT LOADS OR HIGHWAY TRAFFIC LOADS BEFORE PAVEMENT IS COMPLETED. SOME SIZE THICKNESS COMBINATIONS MAY REQUIRE MINIMUM COVER GREATER THAN THOSE LISTED ABOVE. SEE FDOT INDEX 205, SHEETS 1-6.
13. ALL RCP STORM WATER PIPE SHALL MEET THE COVER & CLASS CRITERIA AS OUTLINED IN FDOT INDEX 205.
14. ALL STORM PIPE JOINTS SHALL BE WRAPPED AS SPECIFIED IN FDOT INDEX 280.
15. THE LAST FOOT OF STORM WATER POND SHALL NOT BE EXCAVATED UNTIL ALL DISTURBED AREAS ARE STABILIZED.
16. ANY FILL MATERIAL MUST BE APPROVED BY ENGINEER IN WRITING PRIOR TO PLACEMENT.
17. SIGNIFICANT CARE MUST BE TAKEN WHEN GRADING RETENTION PONDS TO ENSURE THAT POND BOTTOMS DO NOT BECOME COMPACTED DURING CONSTRUCTION OR SEALED BY CONSTRUCTION SEDIMENT. IF SEDIMENTATION OR COMPACTION OF A POND BOTTOM OCCURS, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE THE DESIGN HYDRAULIC CONDUCTIVITY.

SANITARY SEWER NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE ***MARION COUNTY*** LDC FOR WASTEWATER CONSTRUCTION.
2. ALL SANITARY SEWER CONSTRUCTION AND MATERIALS WITHIN R/W OR EASEMENT TO BE OWNED AND MAINTAINED BY MARION COUNTY UTILITIES.
3. ALL MANHOLES SHALL BE 4 FT. INSIDE DIAMETER.
4. PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCES BETWEEN MANHOLE CENTERLINE.
5. ALL SANITARY SERVICE LATERALS SHALL BE 6 INCH DIAMETER, UNLESS SPECIFIED OTHERWISE ON PLANS.
6. INVERTS OF SANITARY SERVICE LATERALS AT THEIR CONNECTION TO SANITARY MANHOLES SHALL BE NO MORE THAN ONE (1) FOOT ABOVE THE MANHOLE INVERT.
7. MINIMUM AS BUILT 8" PVC SEWER LINE SLOPE WILL BE 0.40% MINIMUM SLOPE OR WILL BE RELAID BY CONTRACTOR TO MEET THE MINIMUM SLOPE REQUIREMENT AT NO ADDITIONAL COST.
8. MARK LATERALS BY ETCHING AN "S" INTO CURBING.
9. PIPE MATERIAL IS ASTM D3034, SDR-26 UNLESS OTHERWISE NOTED.
10. A MINIMUM 1.04% SLOPE SHALL BE MAINTAINED ON THE SANITARY SEWER SERVICE LATERALS. AT NO TIME SHALL A SANITARY SEWER LATERAL HAVE A SLOPE OF 15% OR GREATER.
11. SANITARY SEWER GRAVITY MAINS ARE TO BE UPGRADED IN MATERIAL TO WATER MAIN STANDARDS AND HYDROSTATICALLY PRESSURE TESTED WITH WATER TO ENSURE JOINT TIGHTNESS IF EITHER OF THE HORIZONTAL OR VERTICAL MINIMUM REQUIRED CLEARANCE FROM A WATER MAIN CANNOT BE MAINTAINED OR IF THE SEWER MAIN IS ABOVE THE WATER MAIN. UPGRADE TO MATERIAL CANNOT BE MADE WITHOUT PRIOR APPROVAL FROM FDEP.
12. SANITARY SEWER GRAVITY MAINS ARE TO BE UPGRADED IN MATERIAL TO WATER MAIN STANDARDS AND HYDROSTATICALLY PRESSURE TESTED WITH WATER TO ENSURE JOINT TIGHTNESS IF EITHER OF THE HORIZONTAL OR VERTICAL MINIMUM REQUIRED CLEARANCE FROM A WATER MAIN CANNOT BE MAINTAINED OR IF THE SEWER MAIN IS ABOVE THE WATER MAIN.
13. LEAKAGE TEST ARE SPECIFIED REQUIRING THAT
    - A) THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM.
    - B) EXFILTRATION OR INFILTRATION TESTS BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.
    - C) AIR TESTS, AS MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURES, AIR TESTING, IF SPECIFIED FOR CONCRETE SEWER MANHOLES, CONFORMS TO THE TEST PROCEDURES DESCRIBED IN ASTM C-1244.
14. DEFLECTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES, CHAPTER 33.85, FOR ALL GRAVITY SANITARY SEWER LINES. TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.TESTING REQUIREMENTS SPECIFY:
    - 1) NO PIPE SHALL EXCEED A DEFLECTION OF 5%.
    - 2) USING A RIGID BALL OR MANDREL FOR THE PIPE DEFLECTION TESTS WITH A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED.
    - 3) PERFORMING THE TEST WITHOUT MECHANICAL PULLING DEVICES.
15. TESTING OF THE SEWAGE COLLECTION SYSTEM IS AS FOLLOWS:
    - A. ALL GRAVITY SEWER MAINS REQUIRE LOW PRESSURE AIR TESTING IN ACCORDANCE WITH THE LATEST UNI-BELL STANDARD FOR LOW PRESSURE AIR TESTS. AIR TEST, AS A MINIMUM, SHALL CONFORM TO THE TEST PROCEDURES DESCRIBED IN ASTM SPECIFICATIONS, ASTM F1417 FOR PLASTIC PIPE.
    - B. ALL SEWER MAINS SHALL BE LAMPED BY IN THE PRESENCE OF A ***MARION COUNTY*** REPRESENTATIVE.
    - C. ALL MANHOLES SHALL BE INSPECTED FOR INFILTRATION, ALIGNMENT, FLOW CHANNEL CONSTRUCTION AND COAL TAR EPOXY PAINT THROUGHOUT.
    - D. HYDRO-STATIC TESTS CONSISTING OF A HYDROSTATIC PRESSURE TEST AND HYDROSTATIC LEAKAGE TEST SHALL BE CONDUCTED ON ALL NEWLY INSTALLED SEWER FORCE MAIN SYSTEM PRESSURE PIPES AND APPURTENANCES IN ACCORDANCE WITH AWWA C600 OR M23 AS APPLICABLE. THE PRESSURE SHALL BE 150 PSI FOR TWO (2) HOURS.
    - E. DEFLECTION TEST ARE REQUIRED FOR ALL FLEXIBLE PIPE EXCLUDING FORCE MAINS. TESTS SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.D MEASURED FROM THE INTERFACE TO THE CONCRETE CURB AND PAVEMENT SURFACE UNLESS OTHERWISE NOTED.
16. SANITARY SEWER SERVICES SHALL BE INSTALLED 10' FROM BACK OF CURB.
17. THE CONTRACTOR SHALL SUBMIT THREE (3) SETS OF COMPLETE DETAILED SHOP DRAWINGS FOR ALL SANITARY MANHOLES, WET WELLS, OTHER CASTINGS, AND PUMPS. THE SUBMITTALS SHALL BEAR THE APPROVAL OF THE UNDERGROUND UTILITY CONTRACTOR ON EACH SHEET. A COMPLETE SET OF THE LIFT STATION ELECTRICAL SHOP DRAWINGS IS ALSO REQUIRED IF APPLICABLE. ALL UTILITY SHOP DRAWINGS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND ***MARION COUNTY*** PRIOR TO CONSTRUCTION.

WATER MAIN CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN COMPLIANCE WITH AWWA STANDARDS AS WELL AS THE ***MARION COUNTY*** LDC FOR WATER MAIN CONSTRUCTION.
2. ALL WATER MAIN CONSTRUCTION AND MATERIALS WITHIN R/W OR EASEMENT TO BE OWNED AND MAINTAINED BY MARION COUNTY UTILITIES.
3. SEPARATION REQUIREMENTS (SEE TABLE 1.0-UTILITY SEPARATIONS)

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

3.1.1. NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST 3' BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

3.1.2. NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST 3' AND PREFERABLY 10' BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

3.1.3. NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST 6' AND PREFERABLY 10' 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 3' WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6" ABOVE THE TOP OF THE SEWER.

3.2. VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS OR RECLAIMED WATER PIPELINES:

3.2.1. NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY GRAVITY OR VACUUM-TYPE SANITARY SEWER PIPE SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 6" AND PREFERABLY 12" ABOVE OR AT LEAST 12" BELOW THE OUTSIDE OF THE OTHER PIPE. IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

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

3.2.3. AT THE UTILITY CROSSINGS DESCRIBED IN THE ABOVE PARAGRAPHS, 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 3' FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST 6' 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.

3.3. NO WATER MAIN SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE OR A STORM SEWER MANHOLE.

3.4. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST 3' FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AT LEAST 3' BUT PREFERABLY 10' 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 10' FROM ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT OR DISPOSAL SYSTEM AS DEFINED IN SECTION 381.0065(2), F.S. AND RULE 64E-6.002, F.A.C..

3.5. EXCEPTIONS / MITIGATION:
ADHERENCE TO THE ABOVE CONSTRAINTS AND SEPARATIONS IN THE ABOVE ITEMS SHALL BE COMPLIED WITHOUT EXCEPTION. IF FOR SOME REASON WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE THAT THE ABOVE ITEMS CANNOT BE COMPLIED WITH, CONTRACTOR IS TO STOP WORK AND NOTIFY THE ENGINEER OF RECORD FOR THE APPROPRIATE SOLUTION. THE SOLUTION WILL BE SUBMITTED TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR APPROVAL PRIOR TO WORK COMMENCEMENT.

4. PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCES BETWEEN FITTINGS OF BRANCHES AND MAINS.
5. DEFLECTIONS AT PIPE JOINTS SHALL NOT EXCEED THOSE RECOMMENDED BY THE PIPE MANUFACTURER.
6. ALL GATE VALVES SHALL BE EQUIPPED WITH AN ADJUSTABLE CAST IRON VALVE BOX WITH COVER, WITH THREADED EXTENSION WHERE NEEDED.
7. ALL PUBLIC WATER SYSTEMS COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT SHALL BE INSTALLED UNDER THIS PROJECT, AND THAT SHALL COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF INTERNATIONAL STANDARD 61 AND SHALL BE MARKED WITH NSF SEAL OF APPROVAL.
8. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL BE COLOR CODED MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(b)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. ALL DUCTILE IRON WATER MAINS SHALL BE MARKED WITH A CONTINUOUS STRIPE LOCATED WITHIN THE TOP 90 DEGREES OF THE PIPE. SAID STRIPE SHALL BE A MINIMUM 2 INCHES IN WIDTH AND SHALL BE BLUE IN COLOR IF PAINT IS USED INSTEAD OF TAPE. BACKFILL SHALL NOT BE PLACED FOR 30 MINUTES FOLLOWING PAINT APPLICATION. FOR PIPE WITH AN INTERNAL DIAMETER OF 24" OR GREATER, TAPE OR PAINT SHALL BE APPLIED IN CONTINUOUS LINES A LONG EACH SIDE OF THE PIPE AS WELL AS A LONG THE TOP OF THE PIPE.
9. ALL NON-METALLIC WATER MAINS SHALL BE INSTALLED WITH A CONTINUOUS, INSULATED 14 GAUGE COPPER WIRE INSTALLED DIRECTLY ON TOP OF THE PIPE FOR LOCATION PURPOSES. SEE STANDARD DRAWINGS. IN ADDITION, ALL PVC WATER MAINS SHALL BE A SOLID BLUE COLOR.
10. MARK DRINKING WATER SERVICES BY ETCHING A "W" INTO CURBING.
11. PIPE MATERIALS: ALL PIPES, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIRE HYDRANTS, AND METERS INSTALLED UNDER THIS PROJECT SHALL CONFORM TO APPLICABLE AWWA STANDARDS.
    - A. PVC WATER MAINS 4 INCHES TO 12 INCHES SHALL BE IN ACCORDANCE WITH AWWA C900, LATEST EDITION AND SHALL BE DR18. PVC WATER MAINS 14 INCHES TO 36 INCHES SHALL BE IN ACCORDANCE WITH AWWA C905, LATEST EDITION AND SHALL BE DR18. PVC PIPES LESS THAN 4 INCHES ARE NOT ALLOWED IN MARION COUNTY. IN OTHER JURISDICTIONS, THEY SHALL BE IN ACCORDANCE WITH ASTM D1785 (SCHEDULE 40, 80, 120) OR ASTM D2241 SDR 21. MINIMUM WORKING PRESSURE FOR ALL PVC SHALL BE 150 PSI. ALL PVC PIPE SHALL HAVE THE SAME O.D. AS DUCTILE IRON PIPE. PVC PIPE JOINTS SHALL BE IN ACCORDANCE WITH ASTM D3139 AND AWWA STANDARDS.
    - B. DUCTILE IRON PIPE SHALL CONFORM TO ANSI A21.51/AWWA C151 AND SHALL BE A MINIMUM OF CLASS 50. DUCTILE IRON JOINTS SHALL BE IN ACCORDANCE WITH ANSI A21.11 AND AWWA C111.
    - C. ALL SERVICES SHALL BE POLYETHYLENE TUBING, CLASS 160 AND SHALL BE IN ACCORDANCE WITH AWWA C901.
12. WATER MAIN CONNECTION SHALL BE MADE UNDER THE SUPERVISION OF THE ***MARION COUNTY***. ALL VALVES SHALL BE OPERATED BY ***MARION COUNTY*** PERSONNEL ONLY. WATER MAINS ARE TO BE DISINFECTED PER ANSI/WWA C651-92 AND MARION COUNTY LAND DEVELOPMENT CODE OF STANDARDS AND SPECIFICATIONS FOR WASTEWATER AND WATER MAIN CONSTRUCTION SECTION 51.6 WHICH INCLUDES A FULL FLUSH.
13. ALL VALVES SHALL BE LOCATED IN NON PAVED AREAS, UNLESS SPECIFIED ON PLANS.
14. FIRE HYDRANT LEADS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 6" AND SHALL INCLUDE AN AUXILIARY VALVE.
15. IF AGGRESSIVE SOIL CONDITIONS ARE FOUND DURING CONSTRUCTION, WATER MAINS SHALL BE PROTECTED THROUGH THE USE OF CORROSION RESISTANT MATERIALS, THROUGH ENCASEMENT OF THE WATER MAINS IN POLYETHYLENE, OR THROUGH PROVISION OF CATHODIC PROTECTION.
16. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHAL BE "LEAD FREE" AS DEFINED IN THE LATEST VERSION OF THE SAFE WATER DRINKING ACT.
17. WHERE NEW OR ALTERED DEAD-END WATER MAINS INCLUDED IN THIS PROJECT CANNOT BE AVOIDED, THEY SHALL BE PROVIDED WITH A FIRE FLUSHING HYDRANT OR BLOW-OFF FOR FLUSHING PURPOSES.
18. ALL FIRE HYDRANTS THAT WILL BE INSTALLED UNDER THIS PROJECT SHALL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., OR VACUUM - TYPE SANITARY SEWER; AT LEAST SIX 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.
19. PROPOSED FIRE HYDRANTS CONNECTED TO THE POTABLE WATER MAIN, FOR THIS PROJECT, SHALL BE PAINTED PER NFPA AND AWWA STANDARDS. FIRE HYDRANTS CONNECTED TO THE DESIGNATED FIRE LINE SHALL BE PAINTED PER JURISDICTION.
20. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(b)3,F.A.C, USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPED APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.) [FAC 62-555.320(21)(b)3]
21. THE OPEN END OF THE AIR RELIEF PIPE FROM ALL AUTOMATIC AIR RELIEF VALVES WILL BE EXTENDED TO AT LEAST ONE FOOT ABOVE GRADE AND WILL BE PROVIDED WITH A SCREENED, DOWNWARD-FACING ELBOW. [FAC 62-555.320(21)(b)3, AND RSWW 8.4.2]
22. A CONTINUOUS AND UNIFORM BEDDING WILL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE; BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE; AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE. [FAC 62-555.320(21)(b)3, AND RSWW 8.5.2]
23. ALL WATER MAIN TEES, BENDS, PLUGS, AND HYDRANTS WILL BE PROVIDED WITH THRUST BLOCKS OR RESTRAINED JOINTS TO PREVENT MOVEMENT. [FAC 62-555.320(21)(b)3, AND RSWW 8.5.4]
24. NEW OR ALTERED WATER MAIN INSTALLATION AND PRESSURE AND LEAKAGE TESTING, SHALL BE PROVIDED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS. PVC WATER MAIN INSTALLATION AND TESTING SHALL CONFORM TO AWWA C605. DUCTILE IRON WATER MAIN INSTALLATION AND TESTING SHALL CONFORM TO AWWA C600.
25. NEW OR ALTERED WATERMAINS, INCLUDING FIRE HYDRANT LEADS AND SERVICE LINES THAT WILL BE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER, SHALL BE DISINFECTED AND BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH AWWA C651.
26. THE MINIMUM COVER TO BE PROVIDED OVER POTABLE WATER LINES SHALL BE 3'. RSWW 8.7.3
27. WATER SERVICES SHALL BE INSTALLED 10' FROM BACK OF CURB.

FORCE MAIN NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN COMPLIANCE WITH THE ***MARION COUNTY*** LDC FOR FORCE MAIN CONSTRUCTION.
2. ALL FORCE MAIN CONSTRUCTION AND MATERIALS TO BE OWNED AND MAINTAINED BY ***MARION COUNTY***.
3. PIPE LENGTHS SHOWN IN REPRESENT SCALED DISTANCES BETWEEN FITTINGS OF BRANCHES AND MAINS.
4. DEFLECTIONS AT PIPE JOINTS SHALL NOT EXCEED THOSE RECOMMENDED BY THE PIPE MANUFACTURER.
5. VALVES SHALL BE EQUIPPED WITH AN ADJUSTABLE CAST IRON VALVE BOX WITH COVER, WITH THREADED EXTENSIONS WHERE NEEDED, UNLESS OTHERWISE NOTED.
6. ALL PVC FORCE MAIN SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS, MARKED WITH THE SEAL OF APPROVAL OF THE NATIONAL SANITATION FOUNDATION (NSF).
7. ALL NON-METALLIC FORCE MAINS SHALL BE INSTALLED WITH A CONTINUOUS, INSULATED 14 GAUGE COPPER WIRE INSTALLED DIRECTLY ON TOP OF THE PIPE FOR LOCATION PURPOSES. SEE STANDARD DRAWINGS. IN ADDITION, ALL PVC FORCE MAINS SHALL BE EITHER A SOLID GREEN COLOR OR WHITE WITH GREEN LETTERING. ALL LETTERING SHALL APPEAR LEGIBLY ON PIPE AND SHALL RUN THE ENTIRE LENGTH OF THE PIPE. LETTERING SHALL READ AS IS ACCEPTABLE FOR THE INTENDED USE.
8. HYDROSTATIC & LEAKAGE TESTING OF THE FORCE MAIN SHALL BE DONE IN ACCORDANCE WITH THE AWWA STANDARDS. HYDROSTATIC TESTING TO BE DONE IN ACCORDANCE WITH AWWA C-600.
9. PIPE MATERIALS:
PVC - SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARD C900, LATEST EDITION. THE PVC SHALL HAVE A MINIMUM WORKING PRESSURE OF 100 PSI AND SHALL HAVE A DIMENSION RATIO (DR) OF 25 UNLESS OTHERWISE NOTED. PIPE SHALL BE THE SAME O.D. AS DUCTILE IRON PIPE. PVC JOINT - SHALL BE IN ACCORDANCE WITH ASTM D3139. DUCTILE IRON JOINT - SHALL BE IN ACCORDANCE WITH ANSI A21.11 AND AWWA C111.
10. AIR RELEASE VALVES SHALL BE REQUIRED AT ALL HIGH POINTS IN THE PROPOSED FORCE MAIN, AS SHOWN ON PLANS. HIGH POINTS IN THE FORCE MAIN ARE DEFINED AS A CHANGE IN ELEVATION TWICE THE DIAMETER OF THE PIPE.
11. ALL FORCE MAINS TO BE CONSTRUCTED WITH A MINIMUM OF 4' FEET OF COVER.
12. TESTING OF THE SEWAGE COLLECTION SYSTEM IS AS FOLLOWS:
HYDRO-STATIC TESTS CONSISTING OF A HYDROSTATIC PRESSURE TEST AND HYDROSTATIC LEAKAGE TEST SHALL BE CONDUCTED ON ALL NEWLY INSTALLED SEWER FORCE MAIN SYSTEM PRESSURE PIPES AND APPURTENANCES IN ACCORDANCE WITH AWWA C600 OR M23 AS APPLICABLE. THE PRESSURE SHALL BE 150 PSI FOR TWO (2) HOURS.

FIRE DEPARTMENT

1. THE STRUCTURES BEING CONSTRUCTED ON THE PROPERTY WILL BE CONSTRUCTED UNDER THE 7th EDITION OF FLORIDA FIRE PREVENTION CODE.
2. PER ***MARION COUNTY*** CRITERIA:
FIRE HYDRANTS MUST BE LOCATED SO AS NOT TO REQUIRE THE LAYING OF MORE THAN FIVE-HUNDRED (400) FEET OF HOSE CONNECTED TO SUCH HYDRANT, ALONG THE NEAREST PUBLIC RIGHT-OF-WAY, TO THE CENTER OF ANY BUILDABLE LOT OR PARCEL IN THE DEVELOPMENT.
3. ANY NEW HYDRANTS MUST BE ABLE TO SUPPLY 1000 G.P.M. OF WATER AT 20 P.S.I. AT ANY TIME OF THE DAY. ANY NEW HYDRANTS SHALL BE TESTED BY THE CONTRACTOR IN THE PRESENCE OF THE FIRE DEPARTMENT PRIOR TO APPROVAL OF THE FIRE HYDRANTS BY THE FIRE DEPARTMENT.(7TH EDITION OF FLORIDA FIRE PREVENTION CODE)
4. EACH NEW FIRE HYDRANT SHALL HAVE TOPS AND BONNETS POWDER COATED FROM FACTORY, SAFETY BLUE.
5. WHERE UNDERGROUND WATER MAINS AND HYDRANTS ARE TO BE PROVIDED, THEY SHALL BE INSTALLED, COMPLETED, AND IN SERVICE PRIOR TO CONSTRUCTION WORK. (7TH EDITION OF FLORIDA FIRE PREVENTION CODE)
6. THE ACCESS ROADS SHALL REMAIN CLEAR OF VEHICULAR OBSTRUCTIONS TO ALLOW ACCESS OF FIRE DEPARTMENT UNITS WHILE THE BUILDINGS ARE BEING CONSTRUCTED. (7TH EDITION OF FLORIDA FIRE PREVENTION CODE)
7. IF LAND CLEARING OPERATIONS REQUIRE BURNING, A BURN PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF FORESTRY PRIOR TO BURNING ANY MATERIAL.
8. ONCE ALL NEW HYDRANTS HAVE BEEN INSTALLED, TESTED, AND PAINTED PER NFPA 291 BY A THIRD PARTY CONTRACTOR. PLEASE PROVIDE THE MARION COUNTY FIRE PREVENTION OFFICE WITH A COPY OF THE HYDRANT FLOW DATA.
9. FIRE HYDRANT LOCATIONS SHALL BE INDICATED BY PLACEMENT OF A BLUE REFLECTOR IN THE MIDDLE OF THE ROADWAY LANE CLOSEST TO THE HYDRANT.

REUSE NOTES

1. ALL IRRIGATION, REUSE AND EFFLUENT REUSE PIPING TO BE OWNED AND MAINTAINED BY ***MARION COUNTY*** SHALL BE A SOLID PURPLE COLOR.
2. REUSE AND EFFLUENT REUSE MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12", pipes 14" & LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
3. DEPTH OF REUSE AND EFFLUENT REUSE LINES TO BE 36" BELOW FINISHED GRADE.
4. REUSE AND EFFLUENT REUSE MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
5. ALL REUSE AND EFFLUENT REUSE MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON PIPE AND SHALL EXTEND 5' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB.
6. ALL IRRIGATION SLEEVING UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB.

EROSION CONTROL NOTES

1. DURING CONSTRUCTION, THE CONTRACTORS SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING SURFACE WATERS. SUCH MEASURES SHALL BE APPROVED BY THE PROJECT ENGINEER AND MAY INCLUDE, BUT NOT LIMITED TO, CONSTRUCTION OF TEMPORARY EROSION CONTROL STRUCTURES SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, OR SILT BARRIERS.
2. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN.
3. SODDING OF DETENTION PONDS SHOULD BE ACCOMPLISHED WITHIN 14 DAYS OF POND GRADING TO MINIMIZE EROSION POTENTIAL.
4. AT A MINIMUM, THE RETENTION/DETENTION STORAGE AREA MUST BE EXCAVATED WITHIN ONE FOOT PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACE WITHIN THE AREA TO BE SERVED BY THOSE FACILITIES, TO PREVENT REDUCTION IN STORAGE VOLUME AND PERCOLATION RATES. ALL ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE STORAGE AREA PRIOR TO FINAL GRADING AND STABILIZATION.
5. IF DURING CONSTRUCTION, THE PROPOSED EROSION SYSTEM DOES NOT PERFORM SATISFACTORILY, ALTERNATIVES AND ADDITIONAL METHODS OF PROTECTION SHALL BE IMPLEMENTED BY THE CONTRACTOR IN ORDER TO COMPLY WITH ***S.W.F.W.M.D.*** AND ***MARION COUNTY*** EROSION CONTROL COSTS INCLUDING ANY COSTS ASSOCIATED WITH COMPLIANCE ISSUES AND ENFORCEMENT ACTIONS.
6. A 2' STRIP OF SOD SHALL BE PLACED BEHIND BACK OF CURB.
7. ALL SODDED AND/OR SEEDED AREAS MUST BE WATERED AS NECESSARY DURING CONSTRUCTION AND 2 MONTHS AFTER COMPLETION OF CONSTRUCTION IN ORDER TO ENSURE STABILIZATION AND SURVIVAL.

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

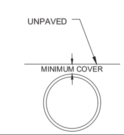
OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	Water Main; 3 ft. minimum	Water Main; 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	ALTERNATE 3 FT. MINIMUM; Water Main
VACUUM SANITARY SEWER	Water Main; 10 ft. preferred 3 ft. minimum	Water Main; 12 inches is preferred 6 inches minimum	ALTERNATE 3 FT. MINIMUM; Water Main
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (2)	Water Main; 10 ft. preferred 6 ft. minimum (3)	Water Main; 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	ALTERNATE 6 FT. MINIMUM; Water Main
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 ft. minimum	—	—

1. WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

AS-BUILT NOTES

1. THE CONTRACTOR SHALL SUBMIT A CERTIFIED SET OF RECORD DRAWINGS TO THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING INFORMATION ON THE APPROVED PLANS CONCURRENTLY WITH CONSTRUCTION PROGRESS. RECORD DRAWINGS SUBMITTED TO THE ENGINEER AS PART OF THE PROJECT ACCEPTANCE SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS.
    - A. DRAWINGS SHALL BE LEGIBLY MARKED TO RECORD ACTUAL CONSTRUCTION.
    - B. DRAWINGS SHALL SHOW ACTUAL LOCATION OF ALL UNDERGROUND AND ABOVE GROUND STORM DRAINAGE, WATER, REUSE AND WASTEWATER PIPING AND RELATED APPURTENANCES. ALL PIPING LOCATIONS INCLUDING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES AND APPURTENANCES SHALL BE CLEARLY SHOWN AND REFERENCED TO PERMANENT SURFACE IMPROVEMENTS. DRAWINGS SHALL ALSO SHOW ACTUAL INSTALLED PIPE MATERIAL, CLASS, ETC.
    - C. DRAWINGS SHALL CLEARLY SHOW ALL FIELD CHANGES OF DIMENSION AND DETAIL INCLUDING CHANGES MADE BY FIELD ORDER OR BY CHANGE ORDER.
    - D. DRAWINGS SHALL CLEARLY SHOW ALL DETAILS NOT ON ORIGINAL CONTRACT DRAWINGS, BUT CONSTRUCTED IN THE FIELD. ALL EQUIPMENT AND PIPING RELOCATION SHALL BE CLEARLY SHOWN.
    - E. LOCATION OF ALL INLETS AND MANHOLES, HYDRANTS, VALVES AND VALVE BOXES SHALL BE SHOWN. ALL VALVES SHALL BE REFERENCED FROM AT LEAST TWO PREFERABLY THREE PERMANENT POINTS.
    - F. DIMENSIONS BETWEEN ALL INLETS AND MANHOLES SHALL BE VERIFIED AND SHOWN. THE INVERTS AND GRADE ELEVATIONS OF ALL INLETS, CONTROL STRUCTURES AND MANHOLES SHALL BE SHOWN.
    - G. CONTRACTOR SHALL PROVIDE AS-BUILT SURVEY FOR POND GRADING. SPOT ELEVATIONS SHALL BE TAKEN AT TOP OF BANK, POND BOTTOM, AND ALL GRADE BREAKS AT 50' INTERVALS.
    - H. DRAWINGS SHALL CLEARLY INDICATE VERTICAL AND HORIZONTAL SEPARATION BETWEEN WATER MAIN AND STORM DRAINAGE/SANITARY SEWER/RECLAIM WATER MAINS AT POINTS OF CROSSING IN ACCORDANCE WITH FDEP CRITERIA.
    - I. WHERE THE WATER MAIN CROSSES OTHER UTILITIES (STORM, GRAVITY SEWER, FORCE MAIN AND RECLAIMED WATER), THE CERTIFIED AS-BUILT DRAWINGS SHALL CLEARLY INDICATE THE CONSTRUCTED ELEVATIONS IN SUCH A WAY THAT THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND OTHER UTILITIES MAY BE VERIFIED BY THE ENGINEER. FAILURE TO PROVIDE THIS INFORMATION WILL RESULT IN THE CONTRACTOR EXCAVATING AND SURVEYING THE UTILITIES AT NO ADDITIONAL COST TO THE OWNER.
    - J. WHERE THE WATER MAIN CROSSES OTHER UTILITIES (STORM, GRAVITY SEWER, FORCE MAIN AND RECLAIMED WATER), THE CERTIFIED AS-BUILT DRAWINGS SHALL CLEARLY INDICATED THE LOCATIONS OF PIPE JOINTS IN SUCH A MANNER AS TO DEMONSTRATE THE PIPE IS CENTERED AT ALL THE CROSSING. FAILURE TO PROVIDE THIS INFORMATION WILL RESULT IN THE CONTRACTOR EXCAVATING AND SURVEYING THE UTILITIES AT NO ADDITIONAL COST TO THE OWNER.
2. EACH SHEET OF THE PLANS SHALL BE SIGNED, SEALED AND DATED BY REGISTERED SURVEYOR WITH A NOTE READING "THESE AS-BUILT DRAWINGS ACCURATELY DEPICT THE ACTUAL IMPROVEMENTS AS CONSTRUCTED".

TABLE 2.0 - STORM PIPE COVER (UNPAVED)



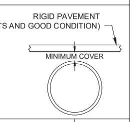
PIPE TYPE/SIZE & SHAPE	COMMERCIAL	NON-COMMERCIAL
CONCRETE *		
ROUND & ELLIPTICAL	12"	3"
CORRUGATED STEEL		
12" - 30" ROUND	18" [15"]	12" [12"]
36"- 48" ROUND	18" (12") [15"]	12" (12") [12"]
54" - 72" ROUND	18" (12") [15"]	15" (12") [12"]
78" - 96" ROUND	(18") [27"]	(12") [12"]
102" & LARGER ROUND	24" [33"]	18" [21"]
15" - 30" ARCH EQUIVALENT	18" [18"]	12" [12"]
36" - 48" ARCH EQUIVALENT	24" (12") [21"]	18" (12") [15"]
54" - 72" ARCH EQUIVALENT	30" (18") [24"]	24" (12") [18"]
78" - 96" ARCH EQUIVALENT	(24") [27"]	(18") [21"]
102" & LARGER ARCH EQUIVALENT	(30")	(24")
CORRUGATED ALUMINUM		
12" - 24" ROUND	21" [21"]	15" [15"]
30" - 48" ROUND	24" (18") [21"]	18" (12") [15"]
54" - 72" ROUND	30" (24") [27"]	24" (18") [21"]
78" - 102" ROUND	(30") [33"]	(24") [27"]
108" & LARGER ROUND	36"	30"
15" - 24" ARCH EQUIVALENT	27" [24"]	24" [21"]
30" - 48" ARCH EQUIVALENT	33" (21") [27"]	27" (15") [21"]
54" - 72" ARCH EQUIVALENT	36" (24") [30"]	30" (18") [24"]
78" - 90" ARCH EQUIVALENT	(30") [36"]	(24") [30"]
96" - 102" ARCH EQUIVALENT	(36")	(30")
CORRUGATED POLYETHYLENE		
15" - 48" ROUND	21"	15"
POLYVINYL CHLORIDE		
15" - 48" ROUND	21"	15"

VALUES SHOWN IN PARENTHESIS ( ) ARE FOR 3" X 1" CORRUGATIONS WHICH MUST BE SPECIFIED TO UTILIZE THE LESSER COVER.
VALUES SHOWN IN BRACKETS [ ] APPLY TO TYPE 1-R (SPIRAL RIB) PIPE WHICH MUST BE SPECIFIED TO UTILIZE THE LESSER COVER.
*FOR PIPE CLASS "S" WITH DIAMETERS OF 12" TO 30", THE MINIMUM HEIGHT OF FILL IS 3'.

CLEARANCES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING 90 DAYS PRIOR TO THE ANTICIPATED COMPLETION OF CONSTRUCTION AND/OR CERTIFICATION OF COMPLETION APPROVAL DATE.
2. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SIGNED AND SEALED AS-BUILTS OF ALL UTILITY IMPROVEMENTS, PRESSURE TESTS, BACTERIOLOGICAL TESTS, AND ANY OTHER INFORMATION NECESSARY FOR THE CLEARANCE APPROVALS WITH ***F.D.E.P.*** AND THE LOCAL UTILITY PROVIDER. THIS INFORMATION SHALL BE PROVIDED TO THE ENGINEER 60 DAYS PRIOR TO THE ANTICIPATED COMPLETION OF CONSTRUCTION AND/OR CERTIFICATION OF COMPLETION APPROVAL DATE.
3. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SIGNED AND SEALED AS-BUILTS OF ALL STORM WATER SYSTEM IMPROVEMENTS AND ANY OTHER INFORMATION NECESSARY FOR THE CLEARANCE APPROVALS WITH ***S.W.F.W.M.D.*** AND THE LOCAL UTILITY PROVIDER. THIS INFORMATION SHALL BE PROVIDED TO THE ENGINEER 60 DAYS PRIOR TO THE ANTICIPATED COMPLETION OF CONSTRUCTION AND/OR CERTIFICATION OF COMPLETION APPROVAL DATE.

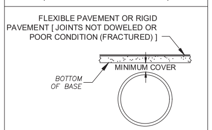
TABLE 3.0 -STORM PIPE COVER (RIGID PAVEMENT)



PIPE TYPE/SIZE & SHAPE	MINIMUM COVER
CONCRETE *	
ROUND & ELLIPTICAL	9"
CORRUGATED STEEL *	
15"-72" ROUND & ARCH EQUIVALENT	9"
78" & LARGER ROUND AND ARCH EQUIVALENT	15"
CORRUGATED ALUMINUM	
15" - 72" ROUND AND ARCH EQUIVALENT	9"
78" - 102" ROUND AND ARCH EQUIVALENT	15"
108" & LARGER ROUND	18"
CORRUGATED POLYETHYLENE	
15" - 48" ROUND	9"
POLYVINYL CHLORIDE	
15" - 48" ROUND	9"

*FOR PIPE CLASS "S" WITH DIAMETERS OF 12" TO 30", THE MINIMUM HEIGHT OF FILL IS 3'.

TABLE 4.0 -STORM PIPE COVER (FLEXIBLE PAVEMENT)



PIPE TYPE/SIZE & SHAPE	MINIMUM COVER
CONCRETE *	
ROUND & ELLIPTICAL	7"
CORRUGATED STEEL *	
12"-30" ROUND	12" [12"]
36"-48" ROUND	18" (12") [15"]
54"-72" ROUND	21" (15") [18"]
78"-96" ROUND	(18") [27"]
102 & LARGER ROUND	(24") [33"]
15"-30" ARCH EQUIVALENT	18" [18"]
36"-48" ARCH EQUIVALENT	24" (12") [18"]
54"-72" ARCH EQUIVALENT	27" (15") [24"]
78"-96" ARCH EQUIVALENT	(18") [30"]
102" & LARGER ARCH EQUIVALENT	(24")
CORRUGATED ALUMINUM	
12"-24" ROUND	15" [12"]
30"-48" ROUND	18" (12") [18"]
54"-72" ROUND	24" (18") [24"]
78"-102" ROUND	(24") [30"]
108" & LARGER	(30")
15"-24" ARCH EQUIVALENT	24" [21"]
30"-48" ARCH EQUIVALENT	27" (15") [24"]
54"-72" ARCH EQUIVALENT	30" (18") [27"]
78"-90" ARCH EQUIVALENT	(24") [30"]
96"-102" ARCH EQUIVALENT	(30")
CORRUGATED POLYETHYLENE	
15" - 30" ROUND	15"
POLYVINYL CHLORIDE	
15" - 30" ROUND	15"

VALUES SHOWN IN PARENTHESIS ( ) ARE FOR 3" X 1" CORRUGATIONS WHICH MUST BE SPECIFIED TO UTILIZE THE LESSER COVER.
VALUES SHOWN IN BRACKETS [ ] APPLY TO TYPE 1-R (SPIRAL RIB) PIPE WHICH MUST BE SPECIFIED TO UTILIZE THE LESSER COVER.
*FOR PIPE CLASS "S" WITH DIAMETERS OF 12" TO 30", THE MINIMUM HEIGHT OF FILL IS 3'.

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

Marion County Approval Stamp

REVISIONS	DATE

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

GENERAL NOTES

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 02.01

Marion County Approval Stamp

150 75 0 150 300

SCALE IN FEET
1" = 150'

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ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVISION/RETAIL
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Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE	

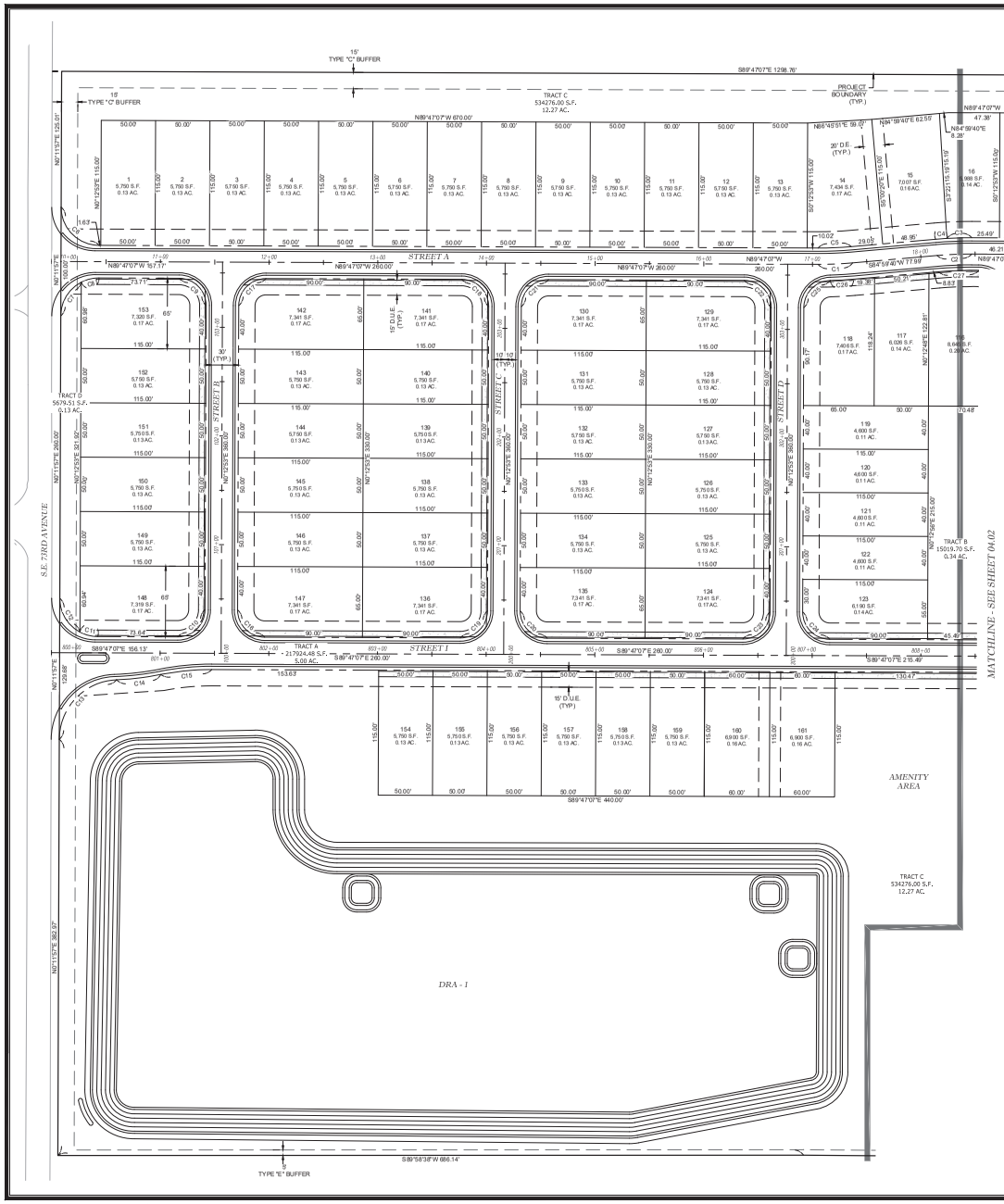
IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

AERIAL PHOTOGRAPH

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

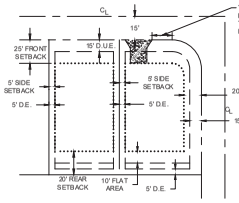
SHT. 03.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER



NOTES:

1. ALL RIGHT-OF-WAY RADII AT INTERSECTIONS TO BE 25'.
2. PRIVATE ROAD STATUS WITH 30' RIGHT-OF-WAY WIDTH TOGETHER WITH 15.00' UTILITY EASEMENT.
3. TRACTS A,B, C & D ARE RESERVED FOR LANDSCAPING, RECREATION, DRAINAGE & UTILITIES, MAINTENANCE, INGRESS, EGRESS, INGRESS, SIGNAGE AND SUCH OTHER PURPOSES THAT ARE LEGALLY PERMITTED.
4. STREET RIGHT-OF-WAYS, DELINEATED AS TRACT (A) ARE COMMON AREAS.
5. ALL LOTS IN THIS SUBDIVISION WILL BE SERVED BY CENTRAL WATER AND SEWER.
6. ALL LOTS/TRACTS IN THIS SUBDIVISION SHALL USE THE INTERNAL SUBDIVISION ROADWAYS FOR DRIVEWAY/VEHICLE ACCESS.
7. ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN THE MARION COUNTY LAND DEVELOPMENT CODE.
8. HOME OWNERS ASSOCIATION IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF BOTH NEW AND REPLACEMENT QUADRANT STREET SIGNS.
9. WATER/ SEWER UTILITIES PROVIDED BY MARION COUNTY UTILITIES DEPARTMENT.
10. H.O.A. IS RESPONSIBLE FOR THE STORM WATER MAINTENANCE.
11. ACCESSORY STRUCTURES (SCREEN ENCLOSURES, ETC.) SHALL CONFORM TO THE BUILDING SETBACKS AS DETAILED.
12. ADDITIONAL PERMITS WILL BE REQUIRED FOR MONUMENT SIGNAGE.



TYPICAL LOT DETAILS

N.T.S

D.U.E. = DRAINAGE, UTILITY, & ACCESS EASEMENT
D.E. = DRAINAGE EASEMENT
CL = CENTERLINE OF RIGHT OF WAY

BUFFERS:

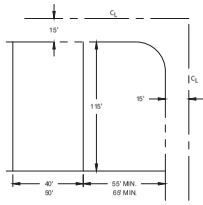
TYPE 'E' BUFFER: BUFFER SHALL CONSIST OF A 5-FOOT WIDE LANDSCAPE STRIP WITHOUT A BUFFER WALL. THE BUFFER SHALL CONTAIN AT LEAST FOUR SHADE TREES FOR EVERY 100 LINEAL FEET OR FRACTIONAL PART THEREOF. SHRUBS SHALL BE PLANTED IN A DOUBLE-STAGGERED ROW AND BE CAPABLE OF REACHING A MAINTAINED HEIGHT OF SIX FEET WITHIN THREE YEARS. GROUND COVERS AND/OR TURFGRASS SHALL NOT BE USED IN THIS BUFFER.

TYPE 'C' BUFFER: C-TYPE BUFFER SHALL CONSIST OF A 15-FOOT WIDE LANDSCAPE STRIP WITHOUT A BUFFER WALL. THE BUFFER SHALL CONTAIN AT LEAST TWO SHADE TREES AND THREE ACCENT/ORNAMENTAL TREES FOR EVERY 100 LINEAL FEET OR FRACTIONAL PART THEREOF. SHRUBS AND GROUNDCOVERS, EXCLUDING TURFGRASS, SHALL COMPRISE AT LEAST 50 PERCENT OF THE REQUIRED BUFFER AND FORM A LAYERED LANDSCAPE SCREEN WITH A MINIMUM HEIGHT OF THREE FEET ACHIEVED WITHIN ONE YEAR.

Summary

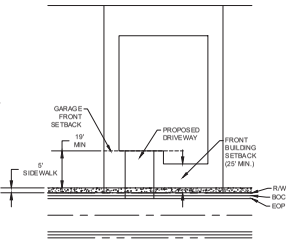
FUTURE LAND USE.....MEDIUM DENSITY RESIDENTIAL SINGLE-FAMILY
TOTAL SINGLE FAMILY LOTS....161 LOTS
PROJECT AREA.....39.95 ACRES
TOTAL RESIDENTIAL AREA.....22.22 ACRES
RESIDENTIAL R/W.....5.00 ACRES (TRACT A)
TOTAL TRACTS.....4 TRACTS
GROSS DENSITY.....4.03 UNITS / ACRE
ZONING.....PUD
ROAD LENGTH.....1.38 MILES
WATER SUPPLY.....CENTRAL
SEWAGE DISPOSAL SYSTEM...CENTRAL

Marion County Approval Stamp



TYPICAL LOT DIMENSIONS

N.T.S



LOT ADJACENT TO SIDEWALK DETAIL

N.T.S

C/L CURVE DATA					
SEGMENT	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING
C1	5°13'13"	350.00'	31.89'	31.88'	S87°36'16"W
C2	5°13'13"	350.00'	31.89'	31.88'	S87°36'16"W

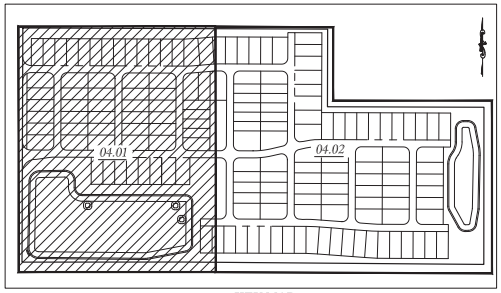
CURVE DATA					
SEGMENT	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING
C3	3°35'49"	365.00'	22.91'	22.91'	S88°24'58"W
C4	1°37'24"	365.00'	10.34'	10.34'	S85°48'22"W
C5	5°13'13"	335.00'	30.52'	30.51'	S87°36'16"W
C6	89°59'03"	35.00'	54.97'	49.49'	N44°47'35"W
C7	62°16'29"	35.00'	38.04'	36.20'	N31°20'16"E
C8	27°44'23"	35.00'	16.95'	16.78'	N76°20'42"E
C9	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C10	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C11	27°52'12"	35.00'	17.02'	16.86'	N75°51'01"W
C12	62°08'52"	35.00'	37.94'	36.11'	N30°51'29"W
C13	87°25'00"	55.00'	83.91'	76.01'	S43°54'27"W
C14	8°52'46"	265.00'	41.07'	41.03'	S83°10'34"W
C15	11°28'42"	235.00'	47.08'	47.00'	S84°28'32"W
C16	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W
C17	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C18	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C19	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C20	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W
C21	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C22	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C23	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C24	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W
C25	88°09'42"	25.00'	38.47'	34.78'	N44°17'44"E
C26	3°22'55"	365.00'	21.54'	21.54'	N86°41'07"E
C27	6°22'06"	335.00'	37.23'	37.22'	N88°10'43"E

TYPE		MINIMUM		MINIMUM SETBACKS			
		WIDTH	AREA	FRONT	REAR	SIDE	HEIGHT
SFR	STANDARD - PRINCIPLE STRUCTURE	40' 50'	4,600 SF	25'	20'	5'	60'
	ACCESSORY STRUCTURE	N/A		25'	20'	5'	60'

ACCESSORY STRUCTURE = E.G. POOL, POOL SCREEN ENCLOSURE, ADD-ON SCREEN ENCLOSURE, OR STORAGE SHED, ETC
N/A/ = NOT APPLICABLE X = MISSING OR NOT PROVIDED

REQUIRED OPEN SPACE CALCULATIONS
(20% OF PROJECT AREA AS MINIMUM OPEN SPACE)
PROJECT AREA = 39.95 AC.
MINIMUM REQUIRED OPEN SPACE = 0.20 X 39.95 = 7.99 AC.

PROVIDED OPEN SPACE CALCULATIONS						
TRACT	TOTAL TRACT AREA (ACRES)	TOP OF BANK (ACRES)	TRACT OPEN SPACE (TOTAL TRACT MINUS DRA) (ACRES)	ALLOWED RETENTION AREA OPEN SPACE (20% OF DRA) (ACRES)	TOTAL OPEN SPACE (ACRES)
B	0.34	N/A	0.34	N/A	0.34
C	12.27	5.72	6.55	1.31	7.86
D	0.13	N/A	0.13	N/A	0.13
				TOTAL	8.33



KEY MAP

1" = 250' SCALE

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26795

REVISIONS

DATE

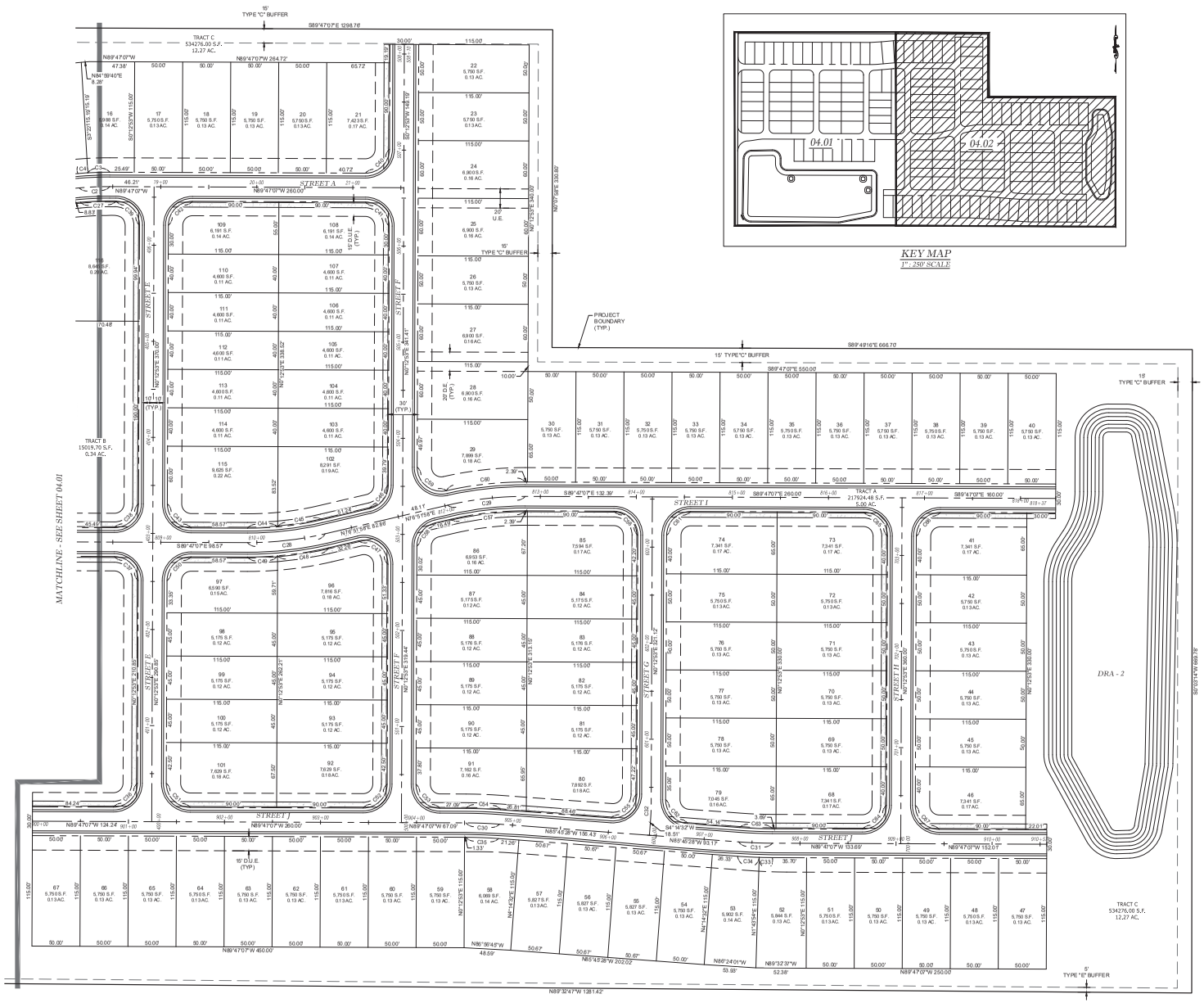
IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

GEOMETRY PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 04.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER



KEY MAP
1" = 250' SCALE

SCALE IN FEET
1" = 50'

LEGEND
D.U.E. = DRAINAGE, UTILITY AND ACCESS EASEMENT
D.E. = DRAINAGE EASEMENT
U.E. = UTILITY EASEMENT
CL= CENTERLINE

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C/L CURVE DATA					
SEGMENT	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING
C28	13°20'55"	350.00'	81.54'	81.36'	N83°33'25"E
C29	13°20'55"	350.00'	81.54'	81.36'	N83°33'25"E
C30	4°01'39"	500.00'	35.10'	35.14'	N87°46'18"W
C31	4°01'39"	500.00'	35.10'	35.14'	N87°46'18"W
C32	4°01'39"	180.00'	12.65'	12.65'	S2°13'42"W

CURVE DATA					
SEGMENT	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING
C33	1°33'10"	515.00'	13.64'	13.64'	S89°01'36"E
C34	2°30'37"	515.00'	22.56'	22.56'	S87°00'47"E
C35	4°01'39"	485.00'	34.09'	34.08'	S87°46'18"E
C36	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C37	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C38	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C39	88°51'07"	25.00'	38.77'	35.00'	S44°12'41"E
C40	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C41	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C42	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C43	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W
C44	5°22'58"	335.00'	31.47'	31.46'	S87°31'24"W
C45	7°57'57"	335.00'	46.57'	46.54'	S80°50'56"W
C46	76°39'05"	25.00'	33.46'	31.01'	S36°32'28"W
C47	103°20'55"	25.00'	45.09'	39.22'	S51°27'35"E
C48	8°24'34"	365.00'	53.57'	53.52'	N81°04'15"E
C49	4°56'21"	365.00'	31.47'	31.46'	N87°44'42"E
C50	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C51	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W
C52	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C53	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W
C54	4°01'39"	515.00'	36.20'	36.19'	N87°46'18"W
C55	94°01'39"	25.00'	41.03'	36.58'	S47°13'42"W
C56	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C57	13°20'55"	335.00'	78.05'	77.87'	N83°33'25"E
C58	76°39'05"	25.00'	33.46'	31.01'	N38°32'28"E
C59	102°58'56"	25.00'	44.93'	39.13'	N51°16'38"W
C60	12°58'56"	365.00'	82.70'	82.53'	S83°43'28"W
C61	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C62	85°58'21"	25.00'	37.51'	34.09'	N42°46'18"W
C63	4°01'39"	485.00'	34.09'	34.08'	N87°46'18"W
C64	90°00'00"	25.00'	39.27'	35.36'	S45°12'53"W
C65	90°00'00"	25.00'	39.27'	35.36'	S44°47'07"E
C66	90°00'00"	25.00'	39.27'	35.36'	N45°12'53"E
C67	90°00'00"	25.00'	39.27'	35.36'	N44°47'07"W

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVISION/INSTALL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26795

REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

GEOMETRY PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

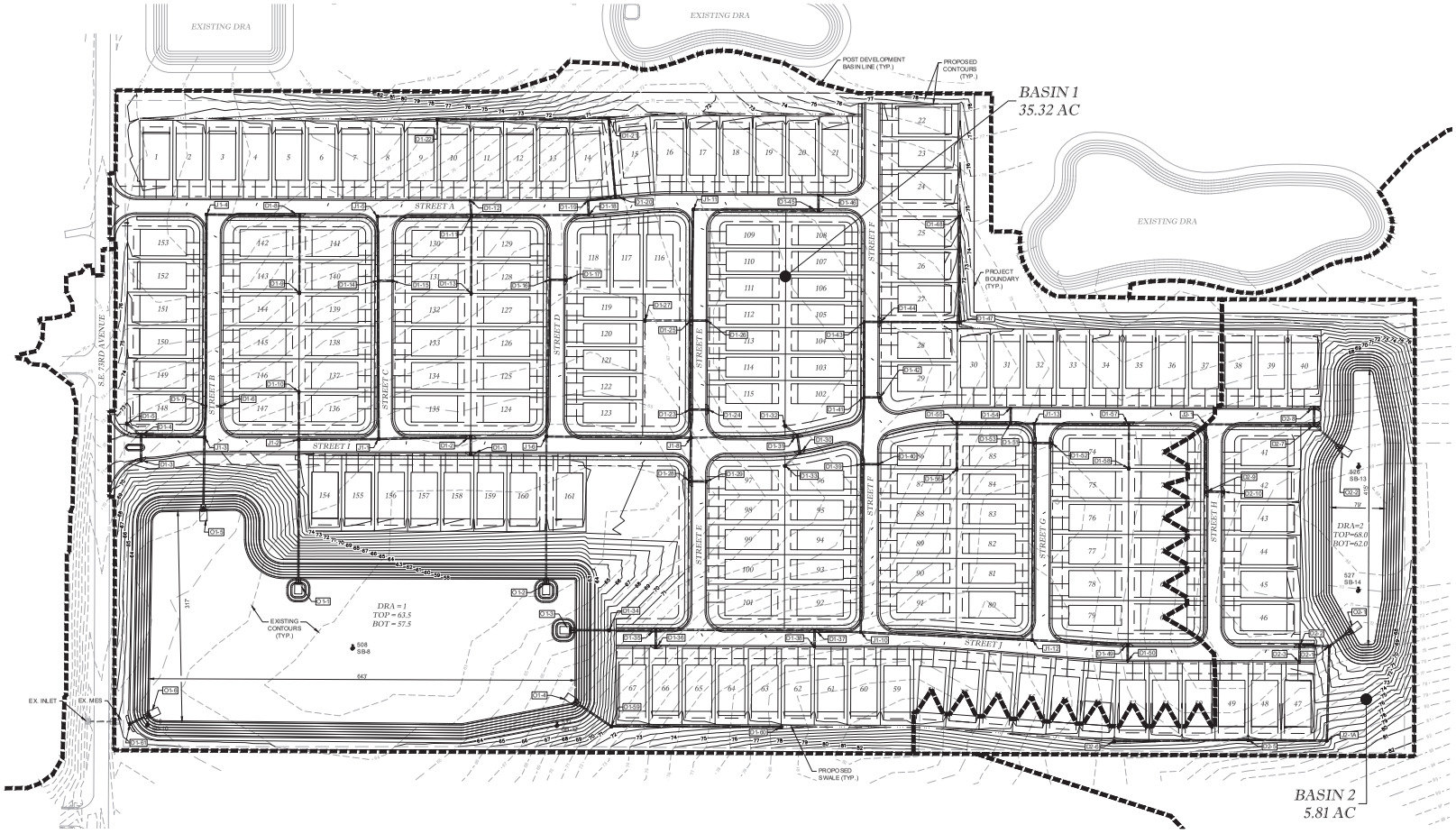
SHT. 04.02

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

GRADING LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED STORM PIPE
- PROPOSED FLOW DIRECTION
- PROPOSED SWALE BOTTOM
- D-22 PROPOSED STRUCTURE ID
- DROP CURB INLET

NOTES:
1. PLEASE REFER TO POST DEVELOPMENT BASIN MAP IN STORMWATER REPORT FOR EXTENTS OF POST BASINS.



Marion County Approval Stamp

8' 4' 0 8' 16'
SCALE IN FEET
1" = 8'

REVISIONS

DATE

Wilson & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING • PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

MASTER DRAINAGE PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 05.01

NOTES:

1. A METERED JUMPER CONNECTION WITH AN RP BACKFLOW PREVENTION ASSEMBLY IS REQUIRED BETWEEN THE EXISTING WATER MAIN AND NEWLY INSTALLED WATER MAIN UNTIL ALL CLEARANCES HAVE BEEN APPROVED AND ACCEPTED BY THE DISTRICT. THE VALVE (OR VALVES) BETWEEN EXISTING AND PROPOSED SHALL REMAIN OFF UNTILL AUTHORIZED PERSONNEL OF MARION COUNTY DEEM APPROPRIATE TO PLACE INTO SERVICE. WATER UTILIZED DURING CONSTRUCTION SHALL BE BILLED TO THE OWNER/APPLICANT LISTED ON THE IMPROVEMENT PLANS. PLEASE ACKNOWLEDGE.
2. ALL FIRE HYDRANTS TO BE INSTALLED, TESTED, AND PAINTED ACCORDING TO FLOW RATES AND NFPA 291 BY A THIRD PARTY. A THIRD PARTY CONTRACTOR WILL PROVIDE THE MARION COUNTY FIRE PREVENTION OFFICE WITH A COPY OF THE HYDRANT FLOW DATA.
3. ALL FIRE HYDRANTS TO BE PAINTED ACCORDING TO FLOW RATES AND NFPA 291 STANDARDS
4. REFER TO DETAIL UT-09 FOR UTILITIES OUTSIDE OF ROADWAY.
5. MINIMUM 8' SEPARATION BETWEEN WATER MAIN AND SIGNS TO ALLOW FOR REPAIR AND MAINTENANCE OF UTILITIES.
6. ALL PROPOSED SERVICES FOR IRRIGATION WILL REQUIRE A 17x30 DFW METER BOX INSTALLED TO GRADE WITH THE SERVICE BURIED AT METER INSTALLATION DEPTH.

CONTRACTOR TO FIELD VERIFY ALL UTILITY LOCATIONS AND DEPTHS

ALL PROPOSED POTABLE WATER AND SANITARY SEWER INFRASTRUCTURE SHALL COMPLY WITH THE LATEST MARION COUNTY SPECIFICATIONS.

WATER LEGEND:

- WATER MAIN
- FIRE HYDRANT ASSEMBILY (FHA)
- TEE
- BEND
- DOUBLE SERVICE
- SINGLE SERVICE
- GATE VALVE & BOX
- REDUCER
- BLOW OFF ASSEMBLY
- FH # — FIRE HYDRANT NUMBER

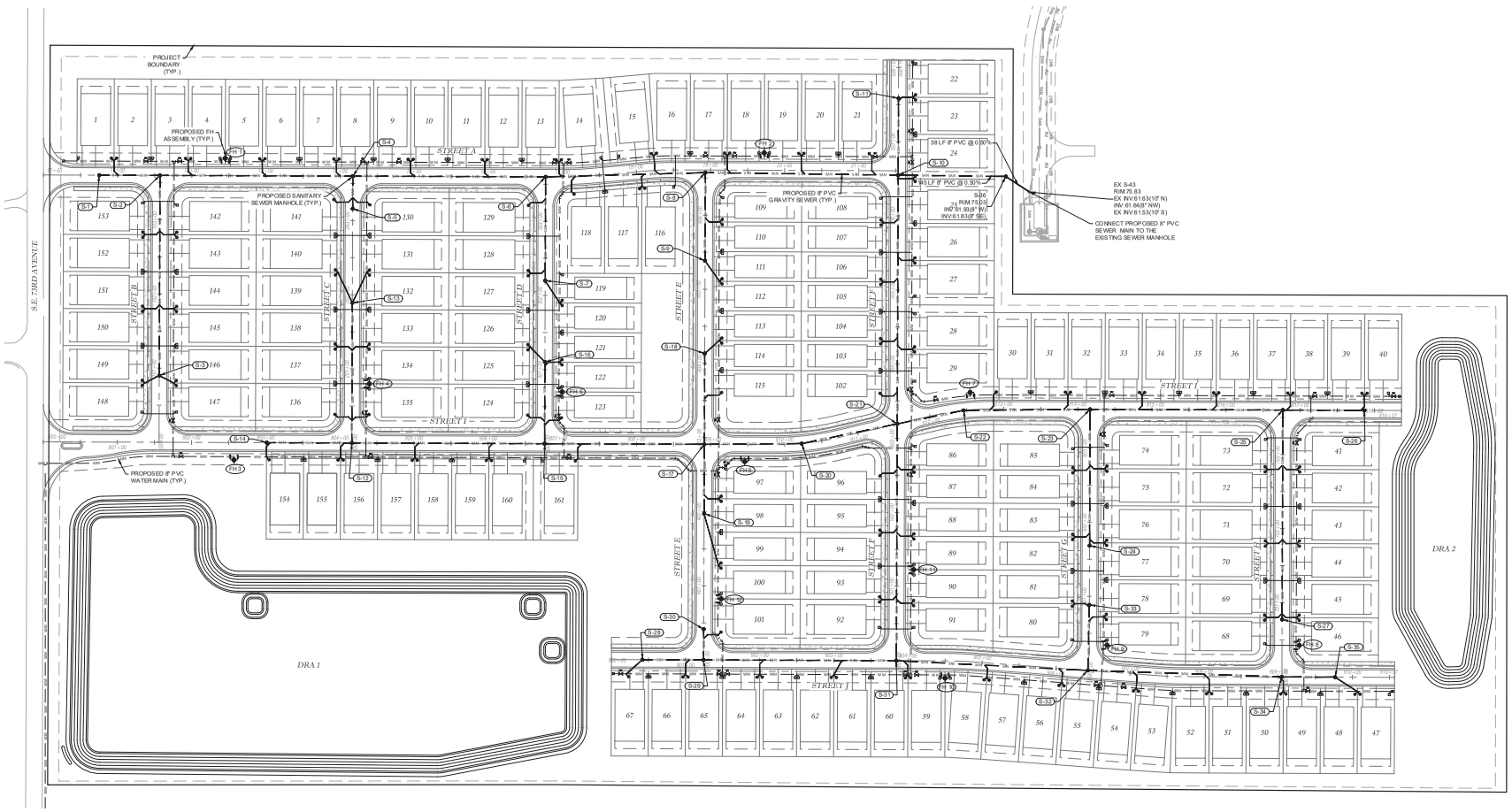
SANITARY SEWER LEG END:

- SANITARY SEWER
- MANHOLE
- S-15 — SANITARY MANHOLE NUMBER
- DOUBLE SERVICE
- SINGLE SERVICE

70 35 0 70 140

SCALE IN FEET
1" = 70'

Marion County Approval Stamp



SEE OFFSITE UTILITY PLAN SHEET (06.02)

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ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

MASTER UTILITY PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 06.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

WATER LEGEND:

- WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- DOUBLE SERVICE
- SINGLE SERVICE
- GATE VALVE & BOX
- REDUCER
- BLOW OFF ASSEMBLY
- FH 8 — FIRE HYDRANT NUMBER

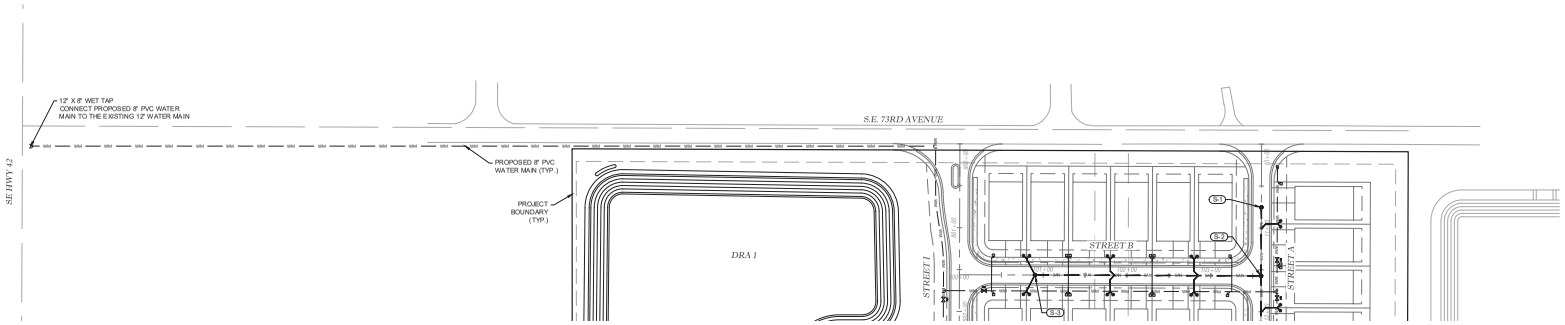
SANITARY SEWER LEG END:

- SANITARY SEWER
- MANHOLE
- S-15 — SANITARY MANHOLE NUMBER
- DOUBLE SERVICE
- SINGLE SERVICE

Marion County Approval Stamp

70 35 0 70 140

SCALE IN FEET
1" = 70'



SEE MASTER UTILITY
PLAN SHEET 06.01

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
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CERTIFICATE OF AUTHORIZATION # 26756

DATE	REVISIONS

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

OFFSITE UTILITY PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 06.02

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NOTE

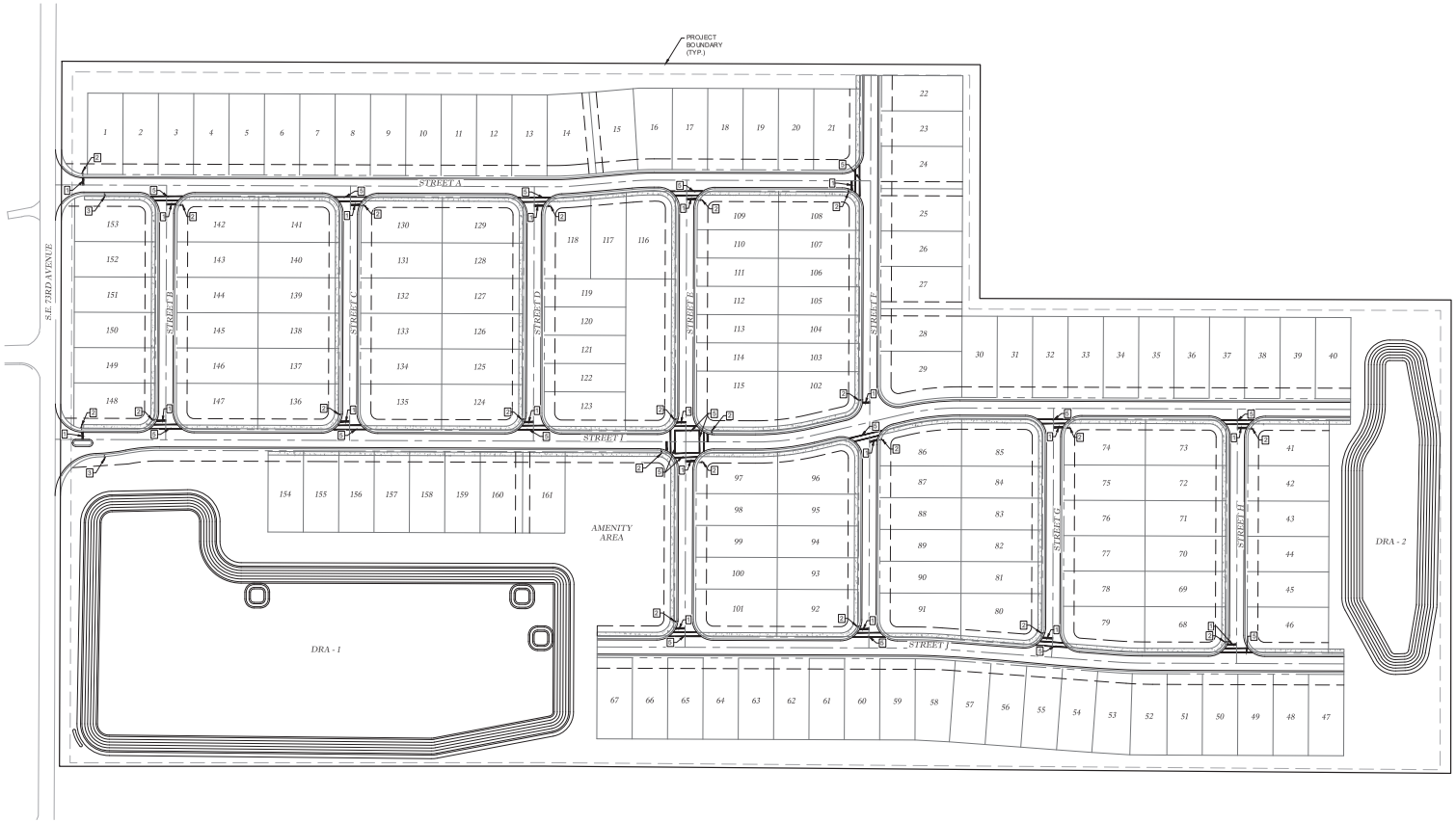
1. ALL STREET NAME SIGNAGE PER 911 MANAGEMENT PLAN (STREET RN.01)

C/L RADIUS	DESIGN	POSTED
107'-197'	20	20
50'-106'	15	15
19'-49'	10	15

LEGEND:

1. 24" WHITE STOP BAR
2. "STOP" SIGN (R1-1) w/COMBINED STREET SIGNS
3. "SPEED LIMIT 25MPH" SIGN (R2-1)
4. SOLID WHITE DIRECTIONAL ARROWS
5. 12" WHITE SOLID CROSSWALK (6'-LONG)
6. 6" SOLID YELLOW LINE
7. 6" SOLID DASHED WHITE LINE
8. CURVE WARNING SIGNS (W1-1L OR W1-1R) w/ADVISORY SPEED PLAQUE 15MPH (W13-1P)

Marion County Approval Stamp



80 40 0 80 160
SCALE IN FEET
1" = 80'

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CERTIFICATE OF AUTHORIZATION #28795

REVISIONS

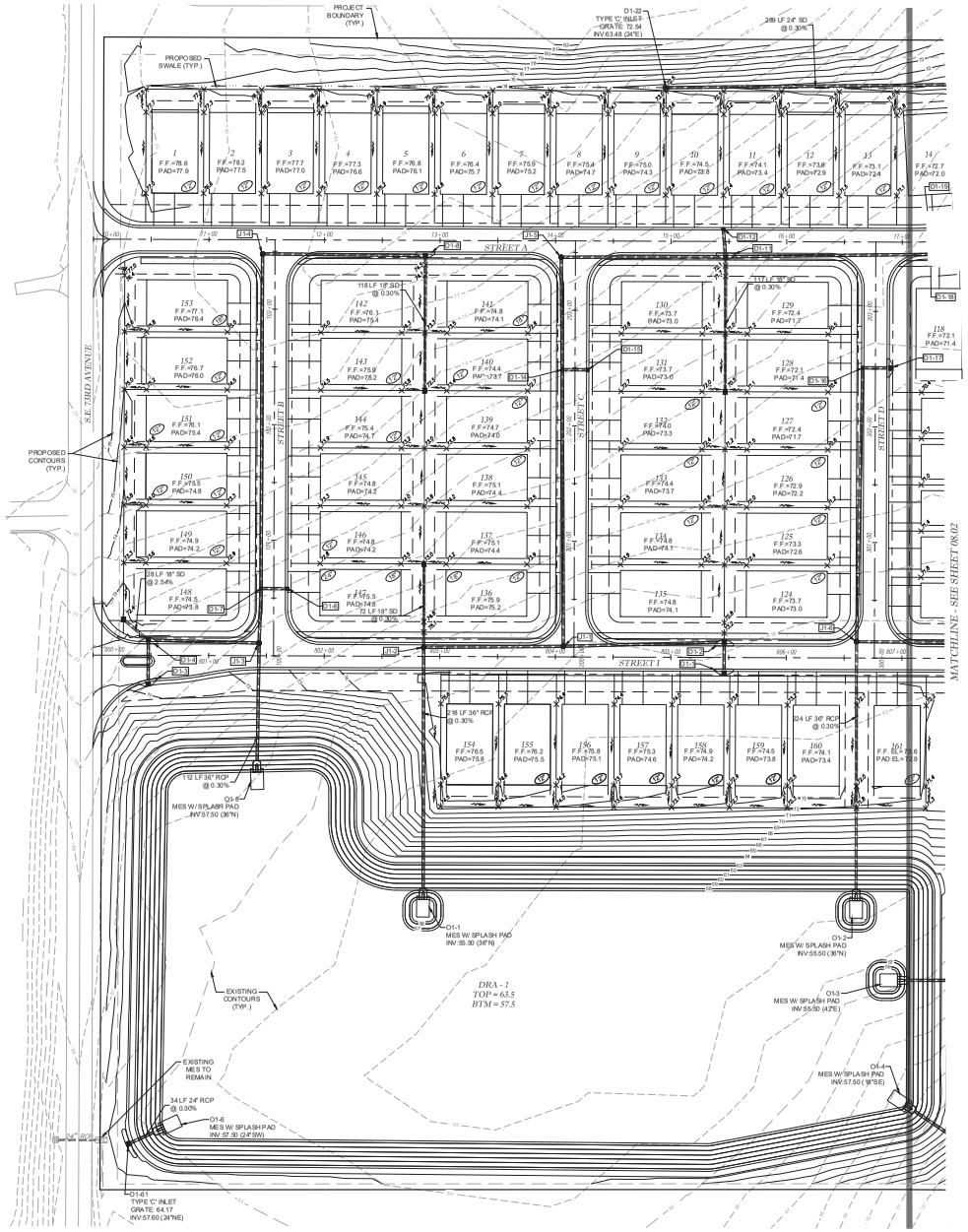
DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

SIGNAGE & STRIPING PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 07.01



GENERAL:

- 1% MINIMUM GRADE ALONG LOT LINES UNLESS OTHERWISE DENOTED.
- 25% MAXIMUM SLOPE ANYWHERE ON SITE, UNLESS OTHERWISE DENOTED.
- 8" (0.7') DIFFERENCE FROM PAD TO FINISHED FLOOR.
- MINIMUM 1% SLOPE FROM PAD TO ADJACENT LOT CORNER UNLESS OTHERWISE DENOTED.
- IF FINAL PRODUCT FALLS OUTSIDE OF PRESCRIBED, ENGINEER MUST REVIEW AND ADDITIONAL STEM WALLS AND STEP DOWNS MAY BE REQUIRED.

DRIVEWAYS:

- RESTRICT DRIVEWAYS TO HIGH SIDE OF LOT IF STEEPER THAN 8% (BASED ON 25' DRIVEWAY).

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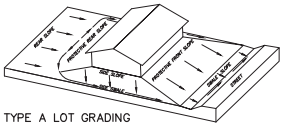
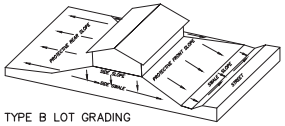
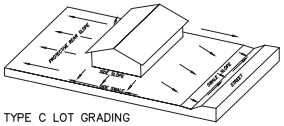


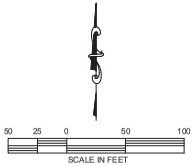
TYPE A LOT GRADING
ALL DRAINAGE TO STREET

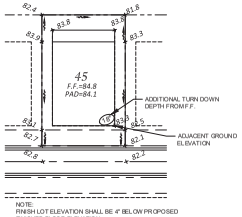


TYPE B LOT GRADING
(GRADE BREAK NEAR REAR OR CENTER OF BUILDING PAD)

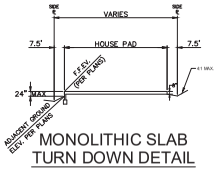


TYPE C LOT GRADING
(GRADE BREAK AT FRONT OF BUILDING PAD)





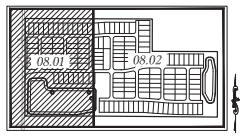
LOT GRADING DETAIL
N.T.S.



MONOLITHIC SLAB TURN DOWN DETAIL
N.T.S.

GRADING LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED STORM PIPE
- PROPOSED FLOW DIRECTION
- PROPOSED SWALE BOTTOM
- D-22 PROPOSED STRUCTURE ID
- DROP CURB INLET
- VALLEY GUTTER INLET



KEY MAP
1" = 600' SCALE

Tillman & Associates
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Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

LOT GRADING PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 08.01

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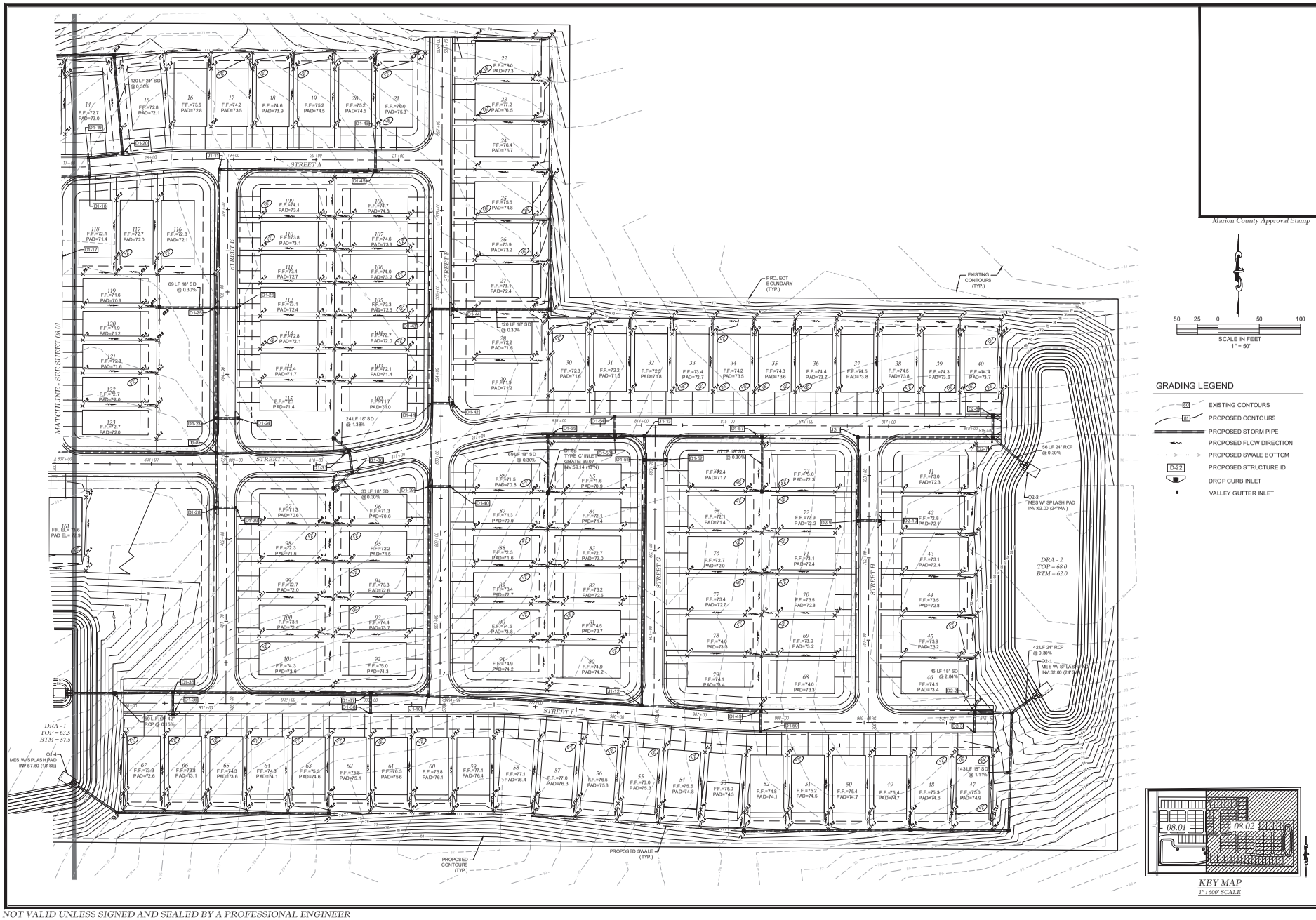

Marion County Approval Stamp

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CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE	

LOT GRADING PLAN

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 08.02

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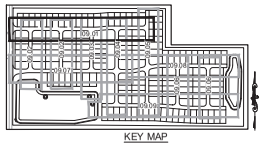


KEY MAP
SCALE: 1" = 500'

WATER LEGEND:

- WM — WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FH # — FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

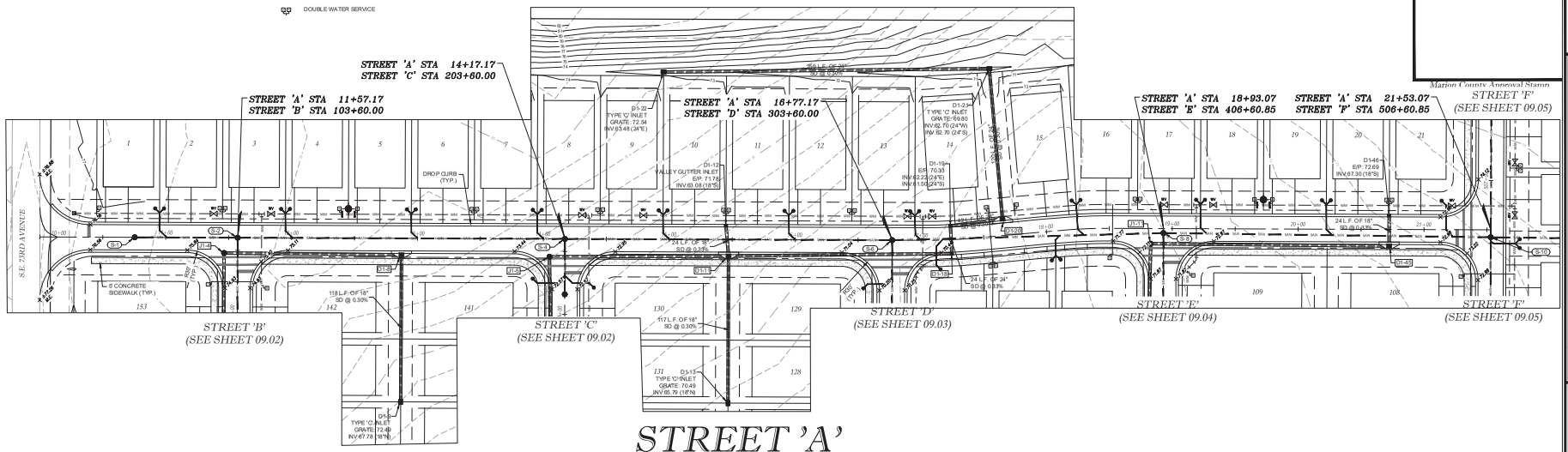
SANITARY SEWER LEGEND:

- SANITARY SEWER
- MANHOLE
- S-10 — MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

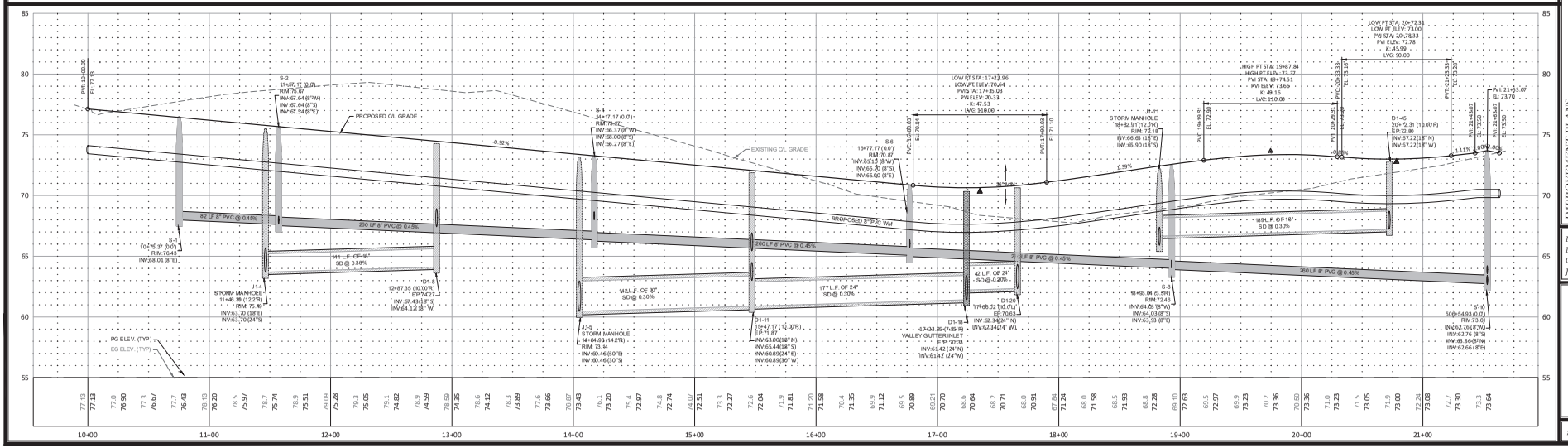
- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- D2-14 — STORM STRUCTURE ID

40 20 0 40 80
SCALE IN FEET
1" = 40'



STREET 'A'

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



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1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION # 28795

REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'A'

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 09.01

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KEY MAP
SCALE: 1" = 500'

WATER LEGEND:

- WM — WATER MAIN
- WM — FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FH # — FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

SANITARY SEWER LEGEND:

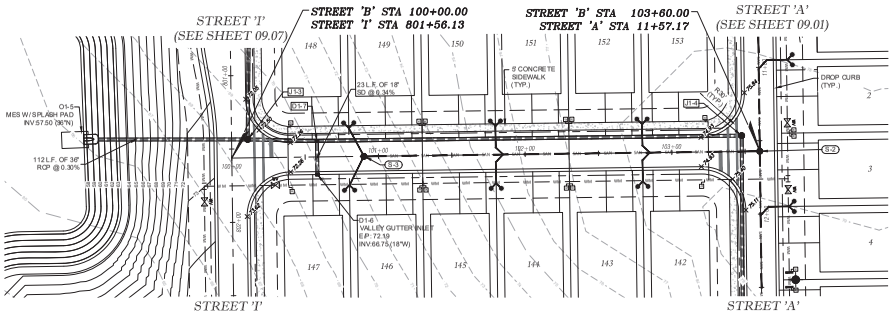
- SS — SANITARY SEWER
- MANHOLE
- S-10 — MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- D2-14 — STORM STRUCTURE ID

40 20 0 40 80
SCALE IN FEET
1" = 40'

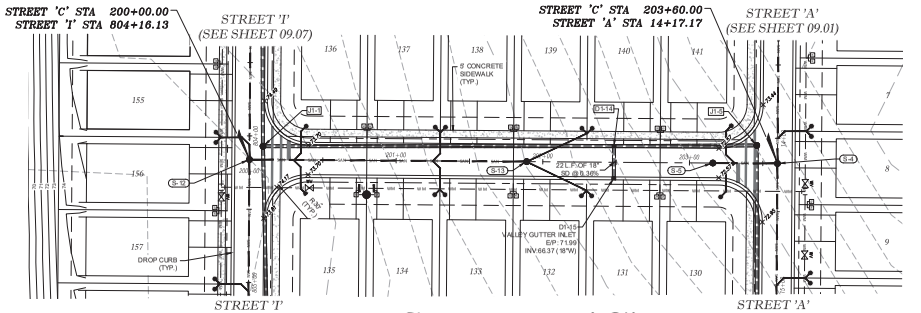
Marion County Approval Stamp



STREET 'I'
(SEE SHEET 09.07)

STREET 'B'

STREET 'A'
(SEE SHEET 09.01)

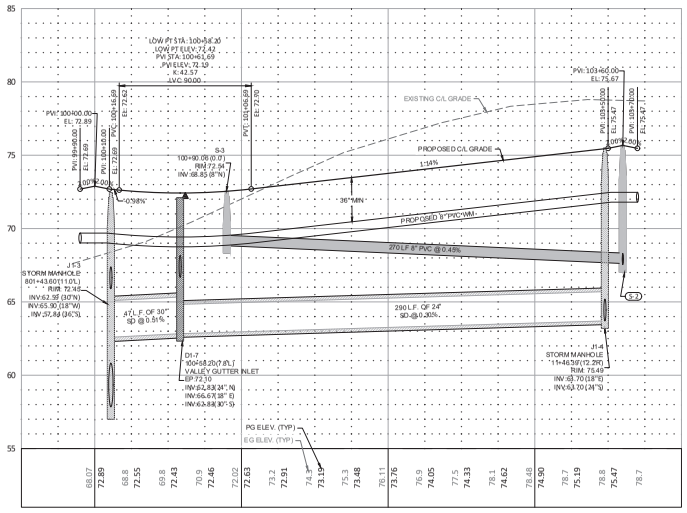


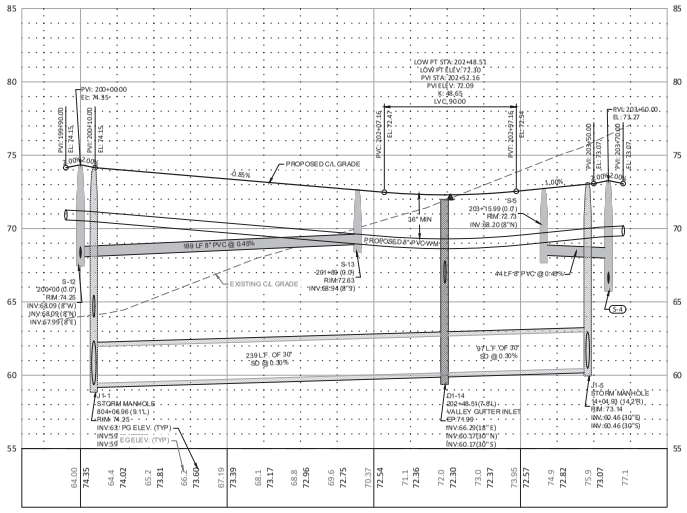
STREET 'I'
(SEE SHEET 09.07)

STREET 'C'

STREET 'A'
(SEE SHEET 09.01)

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'





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Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION # 28795

REVISIONS

DATE

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'B' & 'C'

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 09.02

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KEY MAP
SCALE: 1" = 800'

WATER LEGEND:

- WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FH# FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

SANITARY SEWER LEGEND:

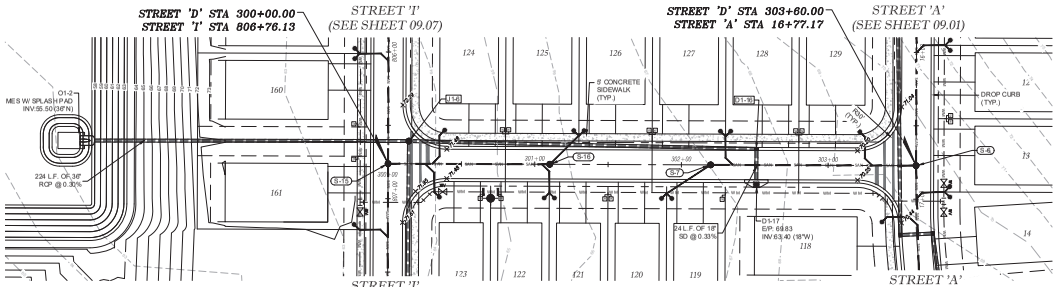
- SANITARY SEWER
- MANHOLE
- S-10 MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- 22-34 STORM STRUCTURE ID

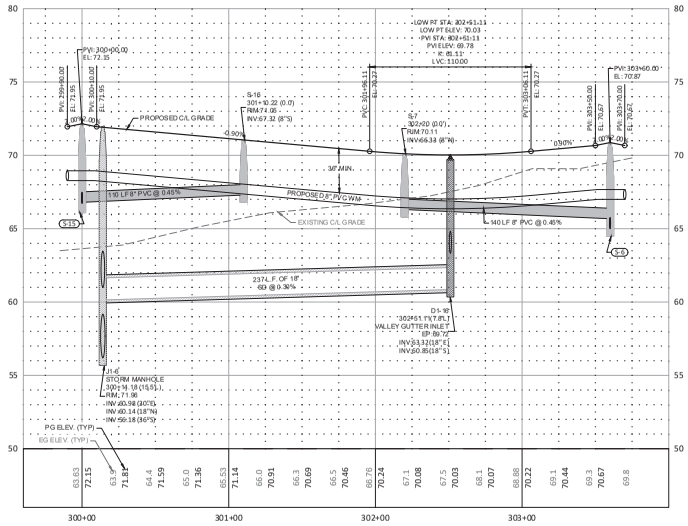
40 20 0 40 80
SCALE IN FEET
1" = 40'

Marion County Approval Stamp



STREET 'D'

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



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Office: (352) 387-4540 Fax: (352) 387-4545
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REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'D'

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 09.03

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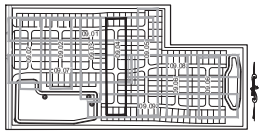


KEY MAP
SCALE: 1" = 500'

WATER LEGEND:

- WM — WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FH 8 — FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

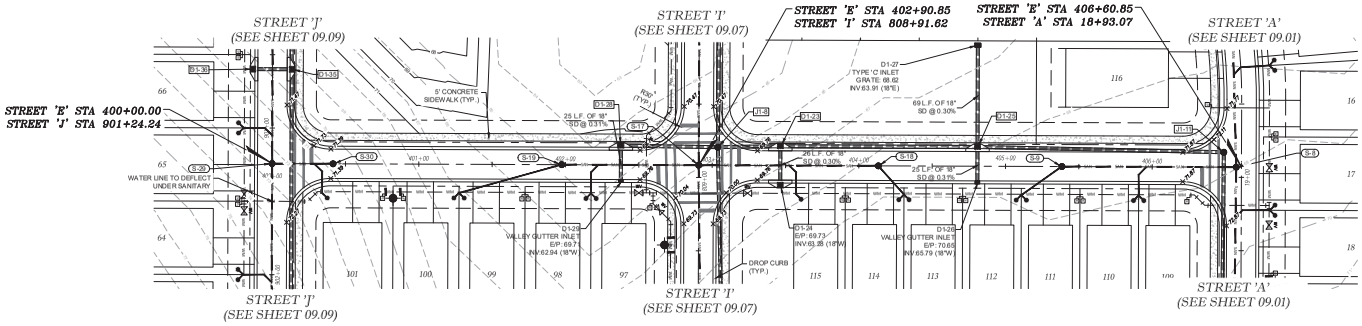
SANITARY SEWER LEGEND:

- SS — SANITARY SEWER
- MANHOLE
- S-10 — MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

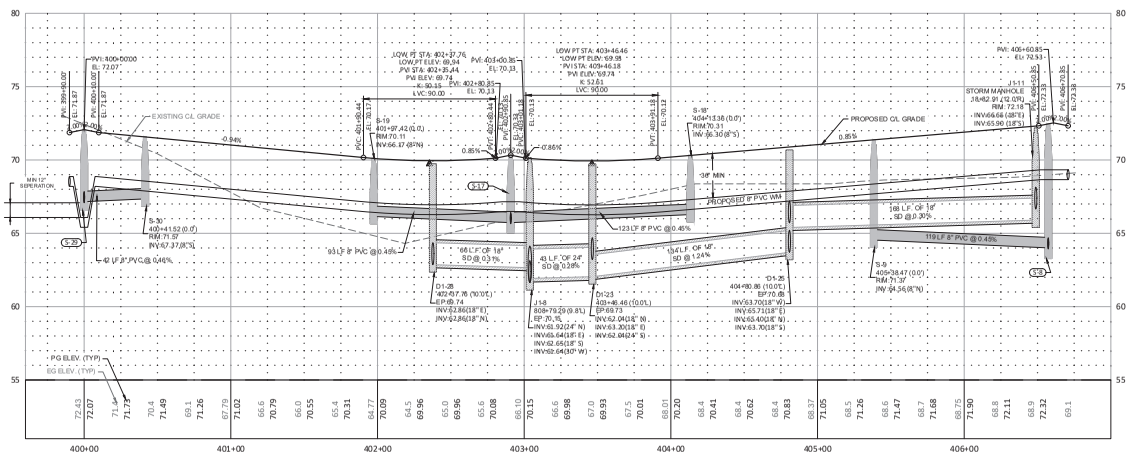
- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- 22-14 — STORM STRUCTURE ID

40 20 0 40 80
SCALE IN FEET
1" = 40'



STREET 'E'

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



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CERTIFICATE OF AUTHORIZATION #2975

Marion County Approval Stamp

REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'E'

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 09.04

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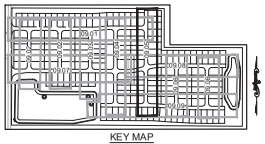


WATER LEGEND:

- WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FH # FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

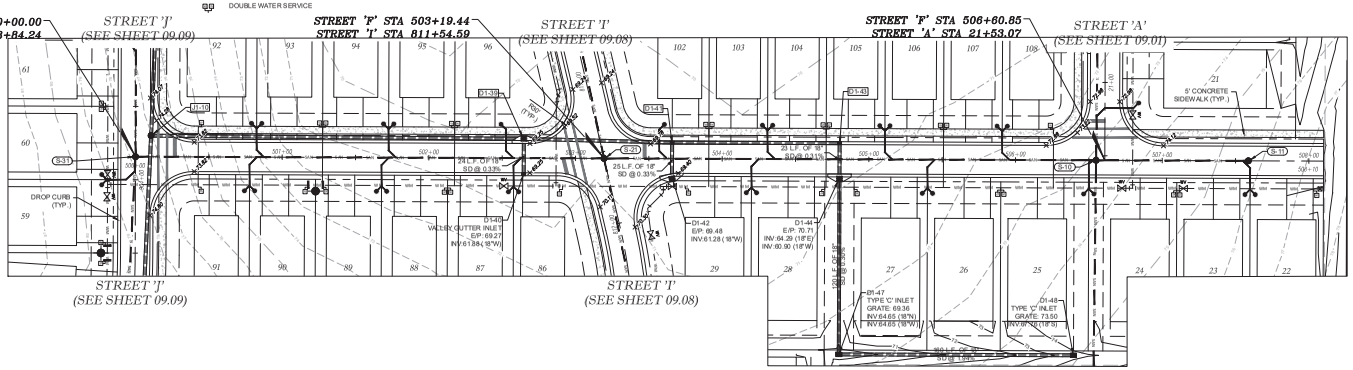
SANITARY SEWER LEGEND:

- SANITARY SEWER
- MANHOLE
- S-10 MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- D2-14 STORM STRUCTURE ID

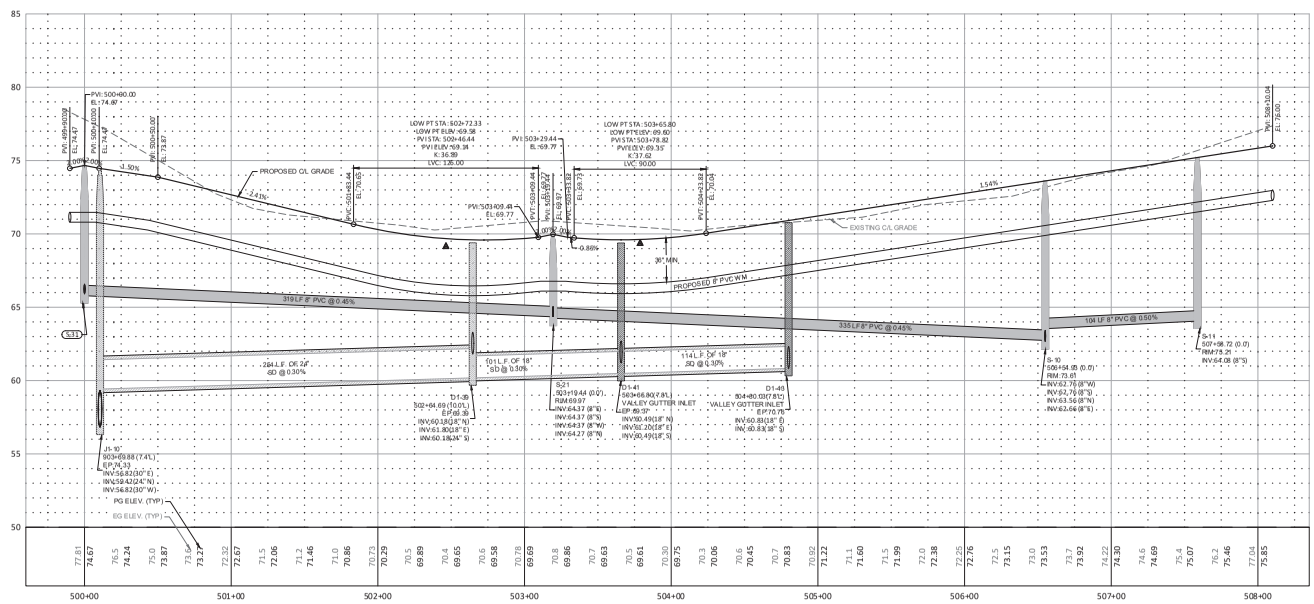
SCALE IN FEET
1" = 40'



STREET 'F'

Marion County Approval Stamp

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



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REVISIONS

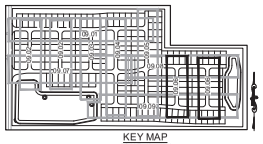
DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'F'

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 09.05



KEY MAP
SCALE: 1" = 800'

WATER LEGEND:

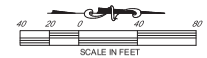
- WM — WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FH # — FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

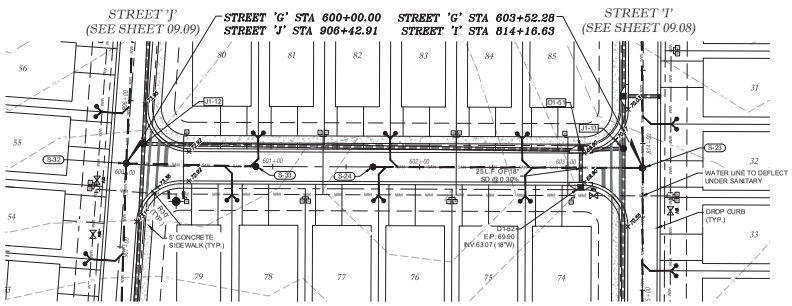
SANITARY SEWER LEGEND:

- SANITARY SEWER
- MANHOLE
- S-10 — MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- D3-14 — STORM STRUCTURE ID





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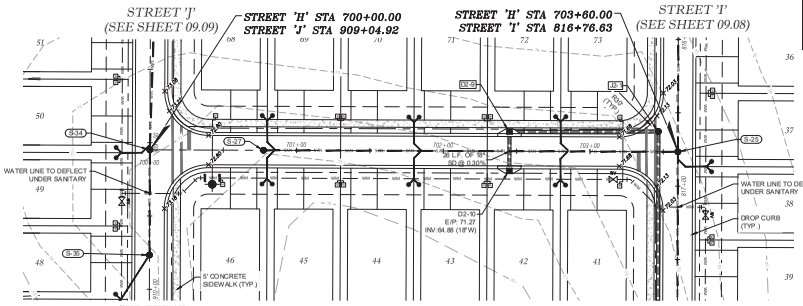

STREET 'H'

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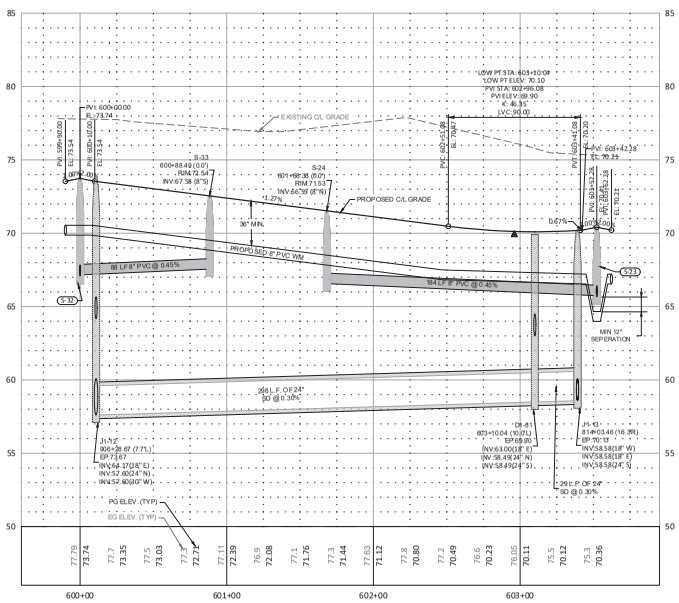
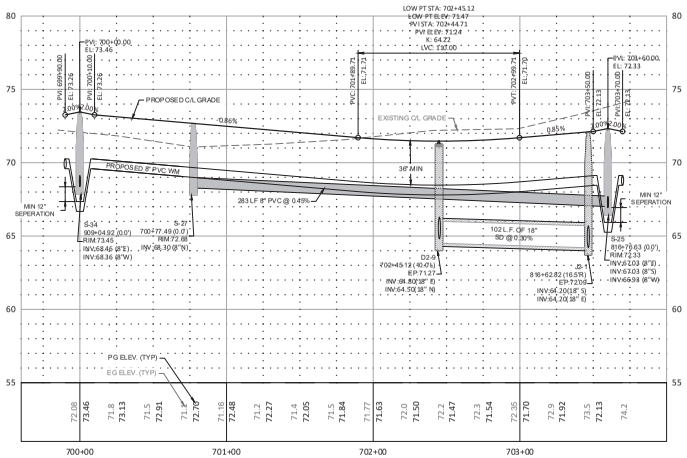
HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'





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IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'G' & 'H'

DATE 5/14/2024
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JOB NO. 22-8128

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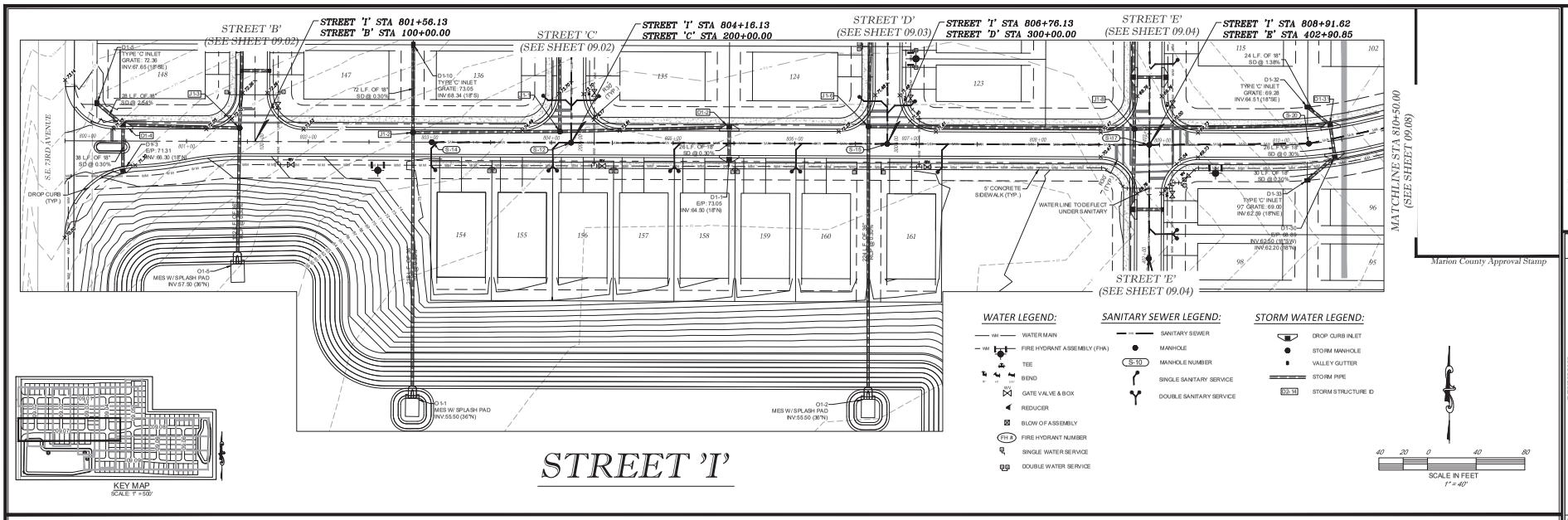

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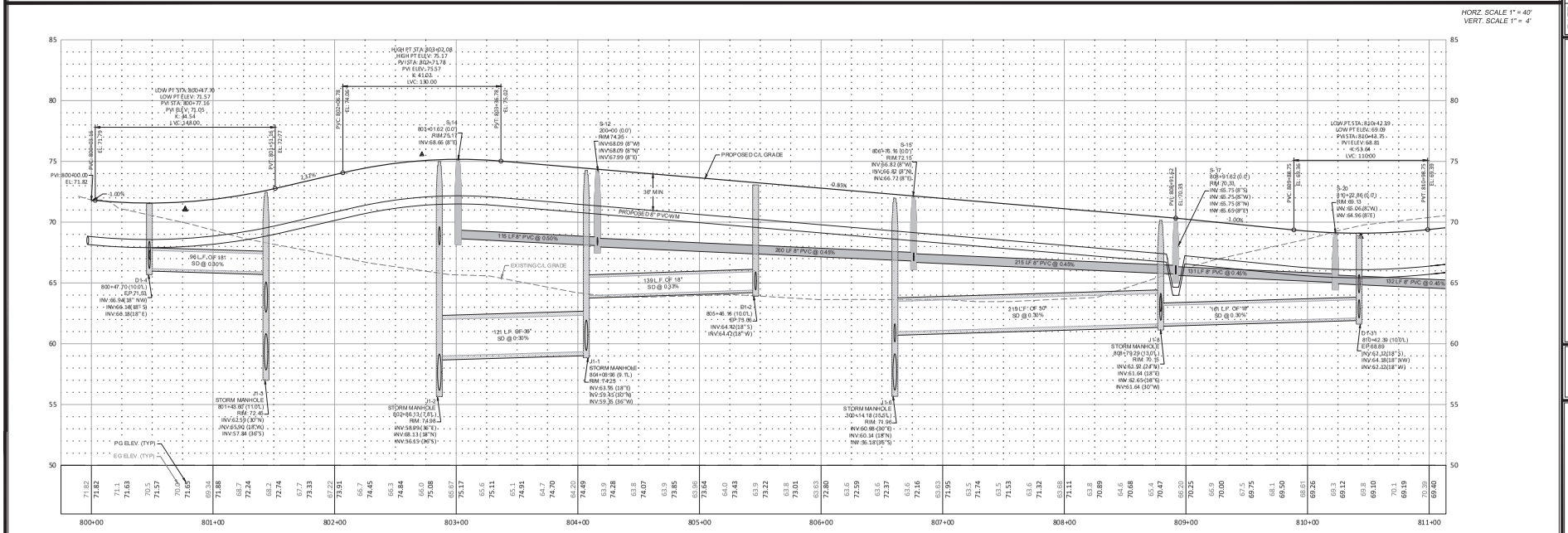

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IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE STREET 'I'

DATE 5/14/2024
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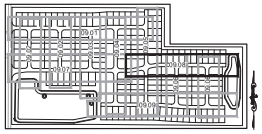
CHKD. BY TB
JOB NO. 22-8128

SHT. 09.07



KEY MAP
SCALE 1" = 500'

WATER LEGEND:

- WATER MAIN
- FIRE HYDRANT ASSEMBLY (FHA)
- TEE
- BEND
- GATE VALVE & BOX
- REDUCER
- BLOW OF ASSEMBLY
- FIRE HYDRANT NUMBER
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE

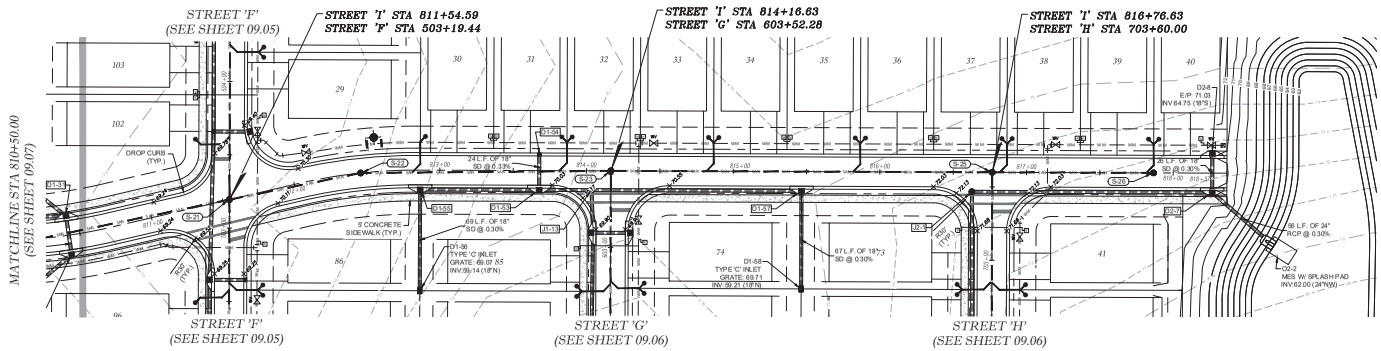
SANITARY SEWER LEGEND:

- SANITARY SEWER
- MANHOLE
- S-10 MANHOLE NUMBER
- SINGLE SANITARY SERVICE
- DOUBLE SANITARY SERVICE

STORM WATER LEGEND:

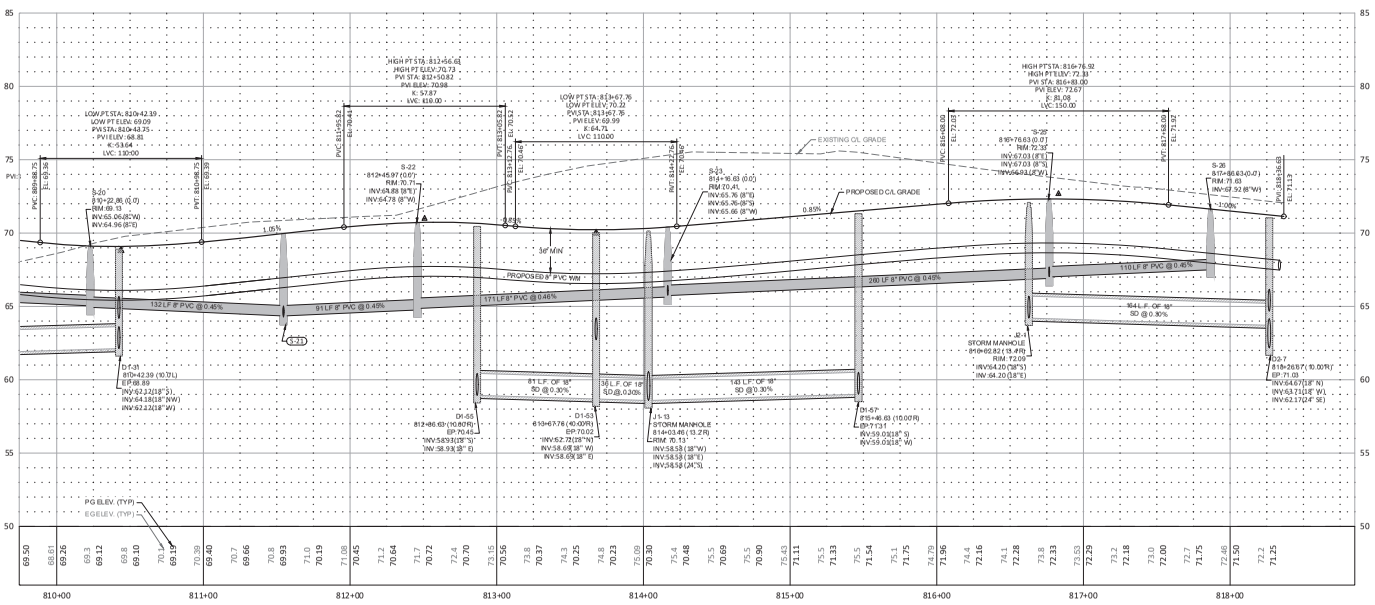
- DROP CURB INLET
- STORM MANHOLE
- VALLEY GUTTER
- STORM PIPE
- D2-14 STORM STRUCTURE ID

40 20 0 40 80
SCALE IN FEET
1" = 40'



STREET 'I'

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



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IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

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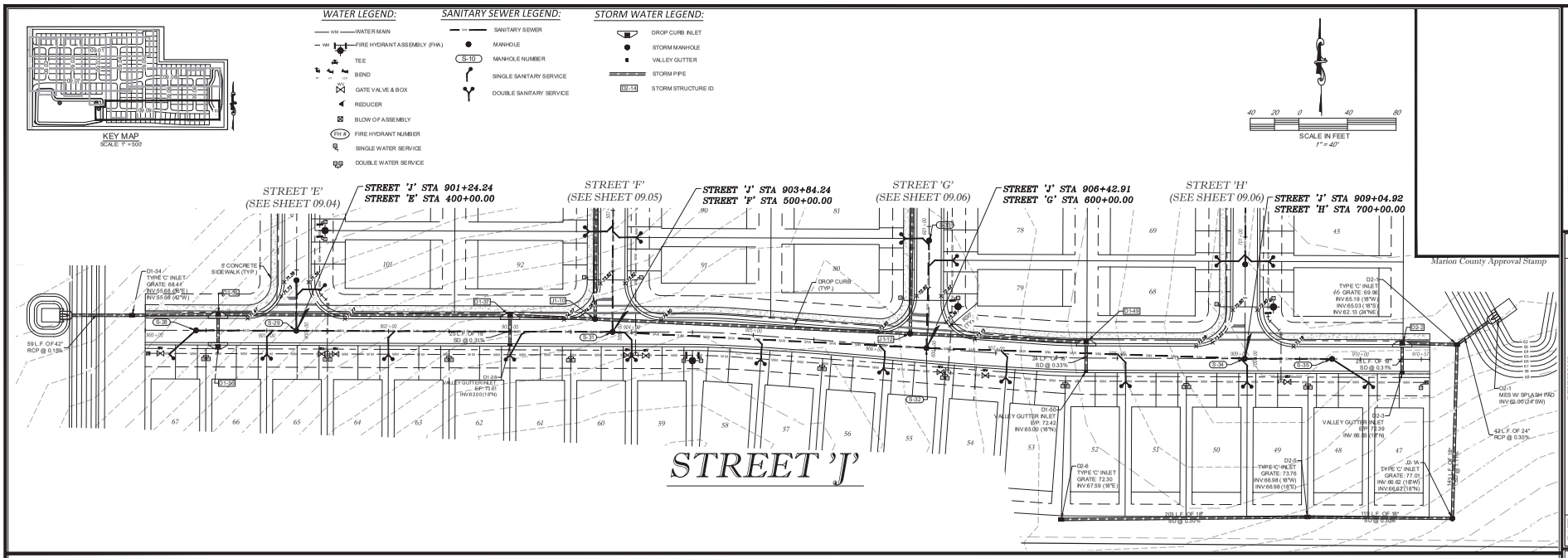

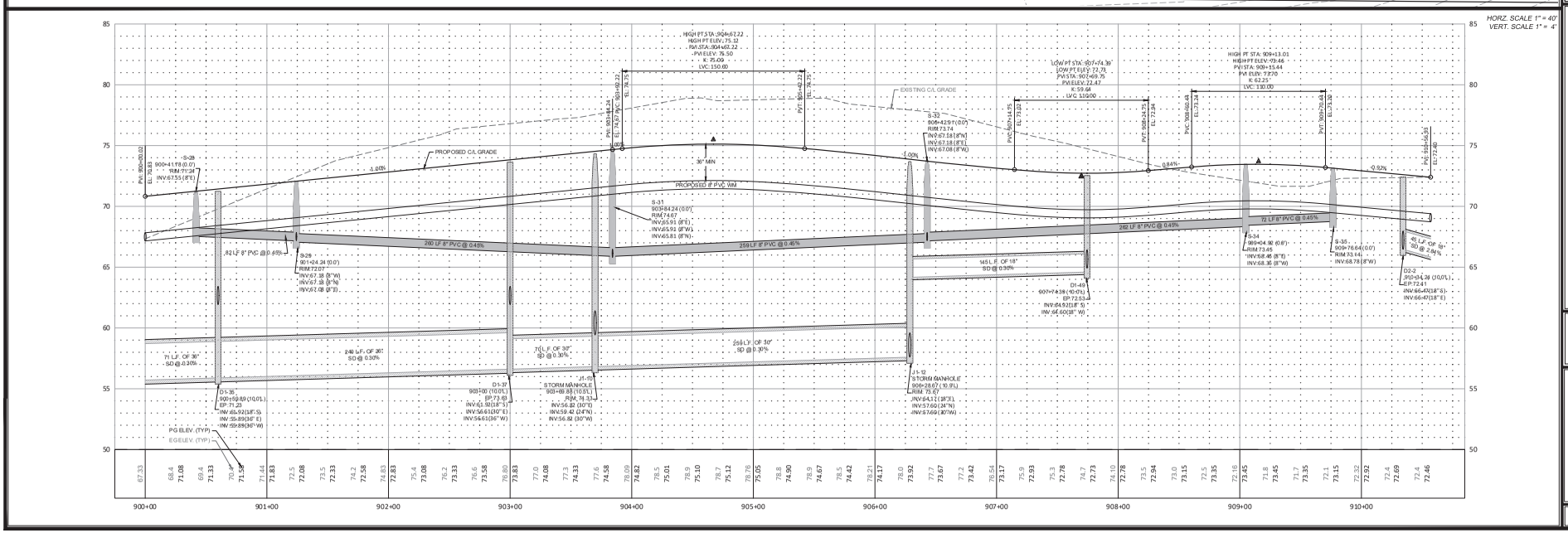

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IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

PLAN & PROFILE
STREET 'J'

DATE 5/14/2024
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JOB NO. 22-8128

SHT. 09.09

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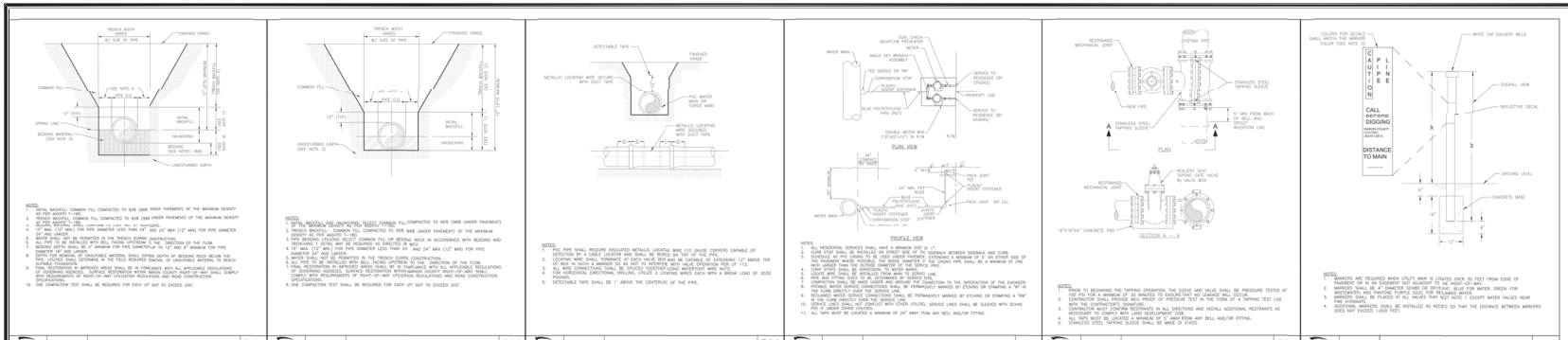

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Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

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IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

POTABLE WATER DISTRIBUTION DETAILS

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 10.01

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CERTIFICATE OF AUTHORIZATION #26756

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DATE	REVISIONS

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

SANITARY SEWER DETAILS

DATE 5/14/2024
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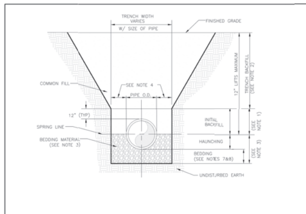
JOB NO. 22-8128

SHT. 11.01

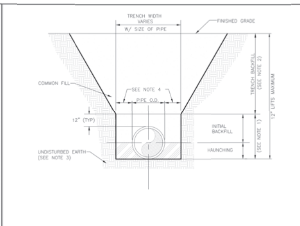
BEDDING AND TRENCHING 1 (7.3.2 UT 102)



NOTES:
1. INITIAL BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12" AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. UTILITIES SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
9. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN MARION COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.
10. ONE COMPACTION TEST SHALL BE REQUIRED FOR EACH LIFT NOT TO EXCEED 200'.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

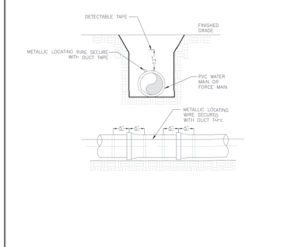
BEDDING AND TRENCHING 2 (7.3.2 UT 103)



NOTES:
1. INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH BEDDING AND TRENCHING 1 DETAIL MAY BE REQUIRED AS DIRECTED BY MCU.
4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN MARION COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.
8. ONE COMPACTION TEST SHALL BE REQUIRED FOR EACH LIFT NOT TO EXCEED 200'.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

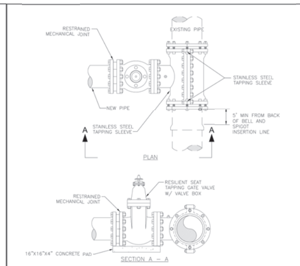
PIPE LOCATING WIRE AND DETECTABLE TAPE (7.3.2 UT 104)



NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED ON TOP OF THE PIPE.
2. LOCATING WIRE SHALL TERMINATE AT EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION PER UT 112.
3. ALL WIRE CONNECTIONS SHALL BE SPLICED TOGETHER USING WATERTIGHT WIRE NUTS.
4. FOR HORIZONTAL DIRECTIONAL DRILLING, UTILIZE 2 LOCATING WIRES EACH WITH A BREAK LOAD OF 2032 POUNDS.
5. DETECTABLE TAPE SHALL BE 1' ABOVE THE CENTERLINE OF THE PIPE.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

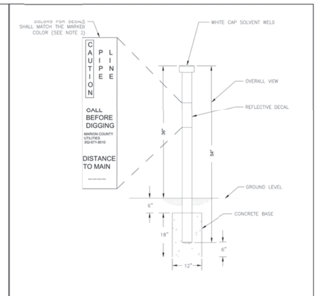
TAPPING SLEEVE AND GATE VALVE ASSEMBLY (7.3.2 UT 108)



NOTES:
1. PRIOR TO BEGINNING THE TAPPING OPERATION, THE SLEEVE AND VALVE SHALL BE PRESSURE TESTED AT 150 PSI FOR A MINIMUM OF 30 MINUTES TO ENSURE THAT NO LEAKAGE WILL OCCUR.
2. CONTRACTOR SHALL PROVIDE MCU PROOF OF PRESSURE TEST IN THE FORM OF A TAPPING TEST LOG WITH THE CONTRACTOR'S SIGNATURE.
3. CONTRACTOR MUST CONFIRM RESTRAINTS IN ALL DIRECTIONS AND INSTALL ADDITIONAL RESTRAINTS AS NECESSARY TO COMPLY WITH LAND DEVELOPMENT CODE.
4. ALL TAPS MUST BE LOCATED A MINIMUM OF 5' AWAY FROM ANY BELL AND/OR FITTING.
5. STAINLESS STEEL TAPPING SLEEVE SHALL BE MADE OF 316SS.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 1

UTILITY MAIN MARKER (7.3.2 UT 109)



NOTES:
1. MARKERS ARE REQUIRED WHEN UTILITY MAIN IS LOCATED OVER 30 FEET FROM EDGE OF PAVEMENT OR IN AN EASEMENT NOT ADJACENT TO THE RIGHT-OF-WAY.
2. MARKERS SHALL BE 4" DIAMETER SCH80 OR DR18 PVC: BLUE FOR WATER; GREEN FOR WASTEWATER; AND PANTONE PURPLE 522C FOR RECLAIMED WATER.
3. MARKERS SHALL BE PLACED AT ALL VALVES THAT MEET NOTE 1 EXCEPT WATER VALVES NEAR FIRE HYDRANTS.
4. ADDITIONAL MARKERS SHALL BE INSTALLED AS NEEDED SO THAT THE DISTANCE BETWEEN MARKERS DOES NOT EXCEED 1,000 FEET.

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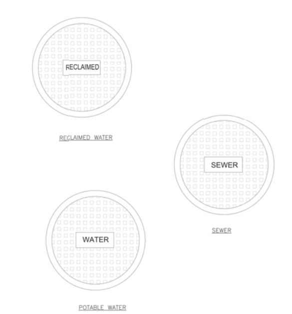
TYPICAL VALVE BOX COVER (7.3.2 UT 110)



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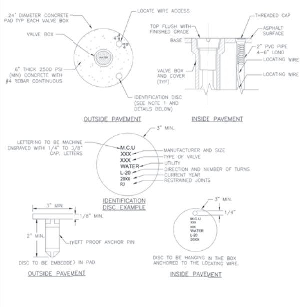
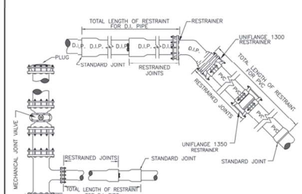
VALVE BOX PAD (7.3.2 UT 112)



NOTES:
1. BRONZE (OR STAINLESS STEEL) IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES, EXCEPT HYDRANT VALVES.
2. LOCATING WIRE SHALL TERMINATE AT EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 1

RESTRAINED PIPE TABLE (7.3.2 UT 116 A)



NOTES:
1. FITTINGS SHALL HAVE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
2. INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN LENGTH SHOWN IN THE TABLE.
3. WHERE TWO OR MORE FITTINGS ARE IN SERIES, SELECT FITTING RESTRAINT LENGTH THAT YIELDS THE LONGEST RESTRAINT DISTANCE.
4. IN-LINE VALVES SHALL BE RESTRAINED AS DEAD ENDS.
5. WHERE INTERNAL RESTRAINED JOINTS ARE USED, THE ENTIRE BELL SHALL BE PAINTED RED.
6. LENGTHS SHOWN IN THE TABLE WERE CALCULATED IN ACCORDANCE WITH PROCEDURES OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" GUIDELINES PUBLISHED BY DIPRA.
7. THE DESIGN ENGINEER SHALL INCREASE THE VALUES IN THE TABLE AS WARRANTED BY SITE-SPECIFIC PARAMETERS, SUCH AS SOIL DESIGNATIONS AND LAYING CONDITIONS.
8. FOR LENGTH OF PIPE AND NUMBER OF JOINTS TO BE RESTRAINED SEE TABLE.
9. ONLY DUCTILE IRON FITTINGS SHALL BE USED AT JOINTS TO BE RESTRAINED AND SHALL BE RESTRAINED ON BOTH SIDES OF FITTING UNLESS OTHERWISE SPECIFIED BY MCU.
10. REQUIRED RESTRAINED LENGTH FOR TEE FITTING VARIES WITH RUN LENGTH (FIRST JOINT).

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RESTRAINED PIPE TABLE (7.3.2 UT 116 B)

MINIMUM RESTRAINED LENGTH (FT) – EACH SIDE OF FITTING AND VALVE FOR DIP, PE ENCASED DIP OR BARE PVC
H=HORIZONTAL
VU=VERTICAL–UP
VD=VERTICAL–DOWN

WATER MAIN: PRESSURE: 150 PSI. DEPTH OF COVER: 3.0 ft.

REQUIRED RESTRAINED LENGTH ON WATER MAIN (Pipe Length (ft))

Bend Type Angle	Orientation	4"	6"	8"	10"	12"	16"	20"	24"
11-1/4°	H	2	3	4	5	5	6	8	9
	VU	2	3	4	5	5	6	8	9
	VD	6	9	11	13	16	20	24	28
22-1/2°	H	4	6	7	9	10	12	15	17
	VU	4	6	7	9	10	12	15	17
	VD	12	17	22	27	31	40	48	56
45°	H	8	11	15	17	20	25	30	35
	VU	8	11	15	17	20	25	30	35
	VD	25	35	46	55	65	82	99	115
90°	H	19	27	35	41	48	61	72	83
	VU	19	27	35	41	48	61	72	83
	VD	61	85	111	132	155	198	238	277
DEAD END PLUG AND VALVE		61	85	111	132	155	198	238	277

REQUIRED RESTRAINED LENGTH ON TEE BRANCH — TEE FITTING (Pipe Length (ft), Diameter of Run)

Diameter of Branch	4"	6"	8"	10"	12"	16"	20"	24"
4"	39	28	18	6	0	0	0	0
6"		63	55	48	40	22	4	0
8"			89	82	77	63	49	34
10"				110	105	95	84	71
12"					133	124	115	105
16"						175	168	161
20"							215	209
24"								254

REQUIRED RESTRAINED LENGTH ON LARGER PIPE — REDUCER FITTING (Pipe Length (ft), Diameter of Large Pipe)

Diameter of Small Pipe	6"	8"	10"	12"	16"	20"	24"
4"	44	80	108	135	183	226	268
6"		47	81	113	167	214	257
8"			45	83	145	196	243
10"				46	118	175	226
12"					84	149	205
16"						84	151
20"							83

Minimum Design Criteria
Bedding Type: 4
Safety Factor: 1.5
Soil: Sand–Silt
Run Length (First Joint): 10 ft.

REQUIRED RESTRAINED LENGTH ON FORCE MAIN (Pipe Length (ft))

Bend Type Angle	Orientation	4"	6"	8"	10"	12"	16"	20"	24"
11-1/4°	H	2	2	3	4	4	5	6	7
	VU	2	2	3	4	4	5	6	7
	VD	5	7	9	11	12	16	19	22
22-1/2°	H	3	5	6	7	8	10	12	14
	VU	3	5	6	7	8	10	12	14
	VD	10	13	17	21	24	31	38	44
45°	H	6	9	11	14	16	20	24	28
	VU	6	9	11	14	16	20	24	28
	VD	20	27	36	43	50	64	78	91
90°	H	15	21	27	32	38	48	57	66
	VU	15	21	27	32	38	48	57	66
	VD	46	65	85	102	121	155	187	219
DEAD END PLUG AND VALVE		46	65	85	102	121	155	187	219

REQUIRED RESTRAINED LENGTH ON TEE BRANCH — TEE FITTING (Pipe Length (ft), Diameter of Run)

Diameter of Branch	4"	6"	8"	10"	12"	16"	20"	24"
4"	25	14	4	0	0	0	0	0
6"		43	36	28	21	5	0	0
8"			63	57	52	39	26	12
10"				80	75	66	55	44
12"					98	90	81	72
16"						132	126	119
20"							164	159
24"								196

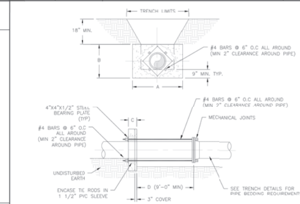
REQUIRED RESTRAINED LENGTH ON LARGER PIPE — REDUCER FITTING (Pipe Length (ft), Diameter of Large Pipe)

Diameter of Small Pipe	6"	8"	10"	12"	16"	20"	24"
4"	34	61	83	105	143	178	212
6"		36	63	88	131	168	204
8"			35	64	113	155	192
10"				36	92	138	179
12"					66	118	162
16"						66	120
20"							66

FORCE MAIN:
PRESSURE: 100 PSI.
DEPTH OF COVER: 4.0 ft.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # NA

THRUST COLLAR WASTEWATER FORCE MAINS (7.3.2 UT 301)



SCHEDULE OF DIMENSIONS AND MATERIALS

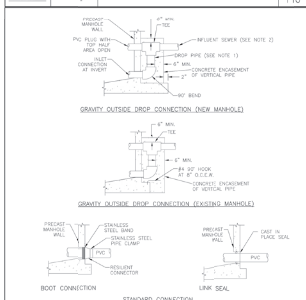
PIPE SIZE (INCHES)	DIMENSIONS (FT.) A	B	C	D	TIE RODS REQ'D DIA.	NO.
6	2.0	2.0	1.0		3/4	2
8	2.5	2.5	1.0		3/4	2
10	3.0	2.5	1.0		3/4	4
12	4.0	3.0	1.0		3/4	4
16	5.5	3.5	1.5		3/4	4
20	7.5	4.0	1.5		3/4	4
24	8.5	5.0	1.5		3/4	6

NOTE: THRUST COLLAR AREAS TO BE COMPUTED ON BASIS OF 2000 LBS/SF SOIL RESTRAINT BEARING.

NOTES:
1. ADDITIONAL REINFORCEMENTS SHALL BE AS SPECIFIED BY THE ENGINEER.
2. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE 3000 PSI.
3. BEDDING, BACKFILL, AND COMPACTION SHALL BE AS SPECIFIED ELSEWHERE IN THE STANDARD DRAWINGS.
4. ALL FORM BOARDS SHALL BE REMOVED PRIOR TO BACKFILL.
5. NO ALLOWANCE SHALL BE MADE FOR FRICTION BETWEEN THE PIPE WALL AND THE THRUST COLLAR.
6. DESIGN PRESSURE: 100 PSI.
7. REQUIRED FOR LINE STOPS, AS DETERMINED BY MCU.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 1

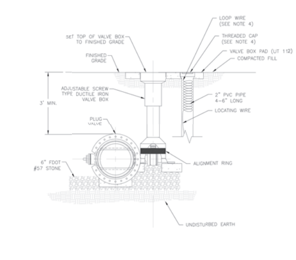
GRAVITY MANHOLE CONNECTION (7.3.2 UT 303)



NOTES:
1. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AND MATERIAL AS THE INFLUENT SEWER.
2. AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT LINES WHICH HAVE AN INVERT 2' OR MORE ABOVE THE MANHOLE INVERT. ALL MANHOLES WITH DROP CONNECTIONS MUST BE LINED AND HAVE COMPOSITE RING AND COVER.
3. CONTRACTOR TO COORDINATE THE PRESENCE OF MCU INSPECTOR DURING CORING AND CONNECTIONS TO EXISTING MANHOLES.
4. POUR NEW BENCH FOR CONNECTION PER UT 302.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

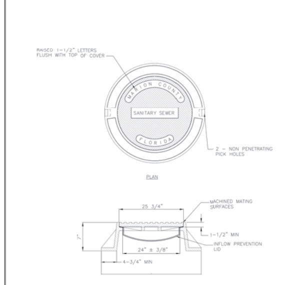
PLUG VALVE AND BOX (7.3.2 UT 304)



NOTES:
1. VALVE BOX INSTALLATION SHALL COMPLY WITH UT 111.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED UP TO BE WITHIN 3' OF FINISHED GRADE.
3. PROVIDE A PLASTIC DEBRIS SHIELD / ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION.
4. LOCATING WIRE SHALL BE CONTINUOUS WITH NO SPLICES AND SHALL EXTEND 12" ABOVE TOP OF COLLAR. WIRE SHALL BE COLOR CODED TO MATCH THE UTILITY INSTALLED.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
6. VALVE BOX SHALL BE SET ON SOLID COMMON BLOCKS

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

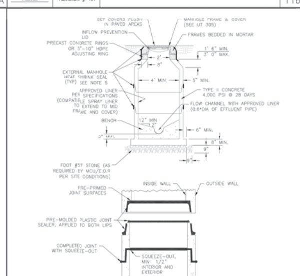
STANDARD SEWER MANHOLE FRAME AND COVER (7.3.2 UT 305)



NOTES:
1. RING AND COVER SHALL BE COMPOSITE FOR DROP AND FORCEMAIN CONNECTIONS

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

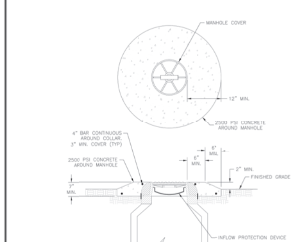
PRECAST CONCRETE MANHOLE (7.3.2 UT 306)



NOTES:
1. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. SEE GRAVITY MANHOLE CONNECTION DETAIL UT 303.
2. ECCENTRIC CONE DESIGN MAY ONLY BE USED FOR CONFLICT RESOLUTION WITH MCU APPROVAL. ALL MANHOLES REQUIRING DROP CONNECTIONS SHALL COMPLY WITH UT 303.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. LIFT HOLES THROUGH STRUCTURE ARE NOT PERMITTED.
5. USE EXTERNAL WRAP TO TIGHTLY WRAP MANHOLE AROUND CASTING JOINTS AND APPLY HIGH INTENSITY PROPANE TORCH TO EFFECTIVELY SEAL THEM FROM GROUND WATER INFILTRATION. ALL EXTERNAL HEAT SHRINK WRAPS SHALL BE INSPECTED IN PERSON, OR THROUGH A MCU APPROVED METHOD, BY A MCU CONSTRUCTION REPRESENTATIVE.
6. INFLOW PREVENTION LIDS SHALL BE REQUIRED FOR ALL MANHOLES.
7. PRECAST CONCRETE RINGS MAY BE SUBSTITUTED FOR HDPE RINGS.
8. SECTION HEIGHTS VARY AS REQUIRED, AND AS AVAILABLE.
9. IN LIEU OF SHRINK WRAPPING, MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM C1244 OR HYDROSTATIC TESTED IN ACCORDANCE WITH ASTM C969 AS REQUIRED BY MCU.
10. FLOW CHANNEL DEPTH AND WIDTH CANNOT BE LESS THAN 80% OF OUTFLOW PIPE.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

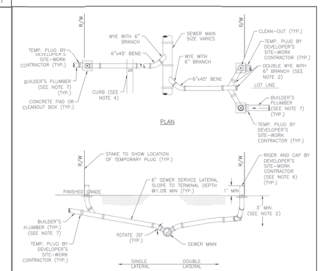
MANHOLE IN NON-PAVED AREA (7.3.2 UT 309)



NOTES:
1. CLEARANCE OF 30" FREE FROM OBSTRUCTIONS IN ALL DIRECTIONS.
2. AREAS SUPPORTING CONCRETE COLLAR OR SLAB SHALL BE PROPERLY COMPACTED.
3. TOP OF MANHOLE SHALL BE 2" ABOVE FINISHED GRADE, CROWN OF ADJACENT ROADWAY, OR 100 YEAR FLOOD ELEVATION, WHICHEVER IS GREATER.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 1

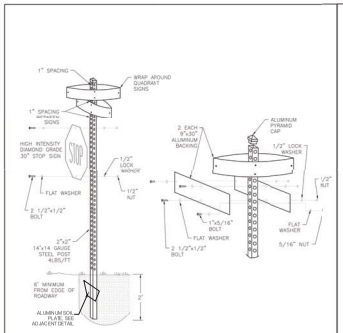
SEWER SERVICE LATERAL (7.3.2 UT 312)



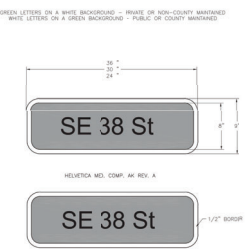
NOTES:
1. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
2. WYE TO BE NO SHALLOWER THAN 3' AND NO DEEPER THAN 5'.
3. ALL FITTINGS SHOWN ARE TO BE INSTALLED.
4. SERVICE CONNECTIONS SHALL BE PERMANENTLY MARKED BY ETCHING OR STAMPING AN "S" IN THE CURB DIRECTLY OVER THE LATERAL. WHERE NO CURB EXISTS, LOCATION SHALL BE MARKED BY PLACEMENT OF ADHESIVE REFLECTIVE MARKERS AS SPECIFIED BY MCU.
5. CLEANOUT CAP SHALL BE SET A MINIMUM OF 2" ABOVE THE FINISHED GRADE. CLEANOUTS IN RV PARKS SHALL BE SET 6" ABOVE FINISHED GRADE WITH A CONCRETE COLLAR.
6. DURING CONSTRUCTION, SERVICE LATERAL AND CLEANOUTS SHALL BE STUBBED OUT A MINIMUM OF 1' ABOVE FINISHED GRADE AND SHALL BE CAPPED BY DEVELOPER'S SITE-WORK CONTRACTOR UNTIL PROPERTY IS DEVELOPED AND CONNECTION TO CENTRAL SEWER IS MADE BY PLUMBER.
7. BUILDER'S PLUMBER SHALL CUT RISER, INSTALL CLEANOUT CAP, REMOVE TEMPORARY PLUG, CONNECT SERVICE LATERAL TO HOUSE PLUMBING AND GROUT VOID BETWEEN CLEANOUT AND PAD.
8. ALL DEVELOPMENT SHALL BE DESIGNED AND BUILT IN A MANNER WHERE THE LOWEST WASTEWATER SERVICE LATERAL DOES NOT DROP BELOW THE GRAVITY SEWER GRADE LINE.

Marion County FLORIDA UTILITIES | MCBCC EFFECTIVE 04/13/2023 | REVISION # 2

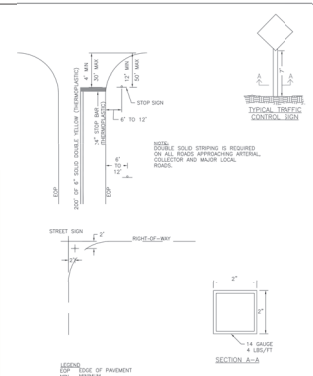
NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER



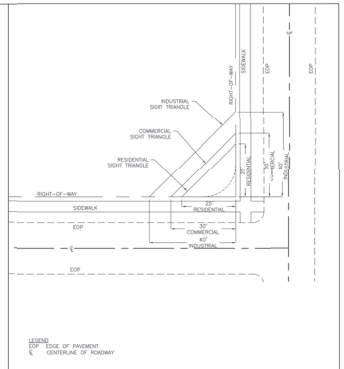
Marion County FLORIDA (OFFICE OF THE COUNTY ENGINEER)	MCBCC EFFECTIVE 10/12/2013	COMBINED STREET NAME & STOP SIGN INSTALLATION	7.3.1
	REVISION # NA		TS 031



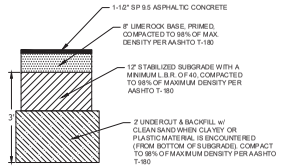
Marion County FLORIDA (OFFICE OF THE COUNTY ENGINEER)	MCBCC EFFECTIVE 10/12/2013	STREET SIGN	7.3.1
	REVISION # NA		TS 032



Marion County FLORIDA (OFFICE OF THE COUNTY ENGINEER)	MCBCC EFFECTIVE 10/12/2013	INTERSECTION SIGN AND STRIPING DETAIL	7.3.1
	REVISION # NA		TS 030



Marion County FLORIDA (OFFICE OF THE COUNTY ENGINEER)	MCBCC EFFECTIVE 10/12/2013	SIGHT TRIANGLE	7.3.1
	REVISION # NA		TS 038

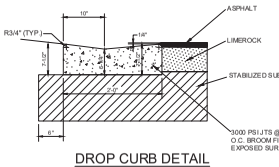


PAVEMENT SECTION

N.T.S

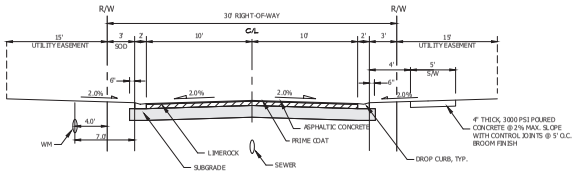
NOTES: CONTRACTOR TO INCORPORATE RECOMMENDATIONS FROM GEOTECHNICAL REPORT.

Marion County Approval Stamp



DROP CURB DETAIL

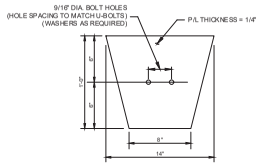
N.T.S



NOTE: ALL INTERNAL ROADS ARE DESIGNATED LOCAL, PRIVATE

30' PRIVATE RIGHT-OF-WAY ROADWAY SECTION

N.T.S



ALUMINUM SOIL PLATE DETAIL

N.T.S

NOTES:

1. ALIGN SOIL PLATE BOTTOM AT 2.0 OF FOUNDATION DEPTH.
2. SLOT UP TO 1" LONG IS ALLOWED TO ACCOMMODATE VARIOUS POST SIZES.
3. RECTANGULAR SOIL PLATE OF SIZE 1'-2"x1'-0" MAY BE USED AS AN ALTERNATIVE.

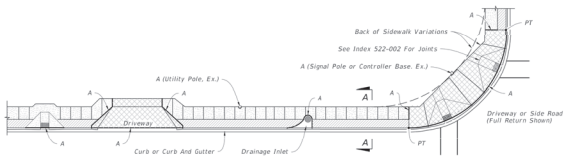
"ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN THE MARION COUNTY LAND DEVELOPMENT CODE."

NOTES:

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN FROM THE ENGINEER OR OWNER A COPY OF ALL PERTINENT PERMITS RELATED TO THIS PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE THAT ALL CONSTRUCTION ACTIVITIES ARE IN COMPLIANCE WITH THE CONDITIONS OF ALL PERMITS AND APPROVALS.
2. GRASS AND MULCH, OR SOLID SOD, ALL AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION.
3. CONTRACTOR IS TO COORDINATE ALL WORK WITHIN, BUT NOT LIMITED TO, THE CITY OF BELLE VIEW RIGHTS-OF-WAY WITH UTILITY COMPANIES IN ORDER TO PREVENT DAMAGE TO UTILITY LINES AND THE MAKING OF ADJUSTMENTS TO SAME, IF REQUIRED.
4. CONTRACTOR SHALL CONTACT THE ENGINEER AND/OR THE OWNER PRIOR TO ANY CONSTRUCTION THAT MAY DAMAGE TREES.

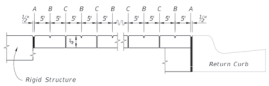
GENERAL NOTES:

1. Construct sidewalks in accordance with Specification 522. Use 6" concrete for Sidewalks and Curb Ramps Located within Curb Returns (See Plan View). Install all other concrete with thickness as shown, unless otherwise detailed in the Plans.
2. Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.
3. For Driveways see Index 522-003.
4. Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils and not more than ½".
5. Construct sidewalks with Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Railing or Pipe Guiderail shown in the plans. (See RAILING DETAIL)

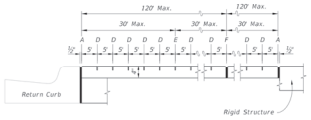


PLAN

SIDEWALK WITH UTILITY STRIP



OPEN JOINTS

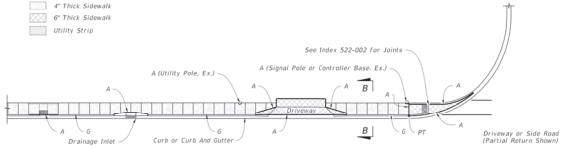


SAWED JOINTS

LONGITUDINAL SECTION

LEGEND:

- 4" Thick Sidewalk
- 6" Thick Sidewalk
- Utility Strip



PLAN

SIDEWALK WITHOUT UTILITY STRIP

LEGEND:

A- ½" Expansion Joints (Preformed Joint Filler) between the sidewalk and; Driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).

B- ½" Dummy Joints, Tooled

C- ½" Formed Open Joints

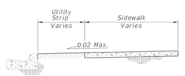
D- 5/16" Saw Cut Joints, 1½" Deep (within 96 hours) Max. 5' Centers

E- 5/16" Saw Cut Joints, 1½" Deep (within 12 hours) Max. 30' Centers Joint(s) Required When Length Exceeds 30'

F- ½" Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.

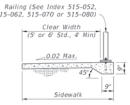
G- Cold Joint With Bond Breaker, Tooled

SIDEWALK JOINTS



SECTION A-A

SECTION B-B



RAILING DETAIL

GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS

LAST REVISION 11/01/18	REVISIONS DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	CONCRETE SIDEWALK	INDEX 522-001	SHEET 1 of 2

10/26/2022 8:52:21 AM

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

Wilmer & Associates ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

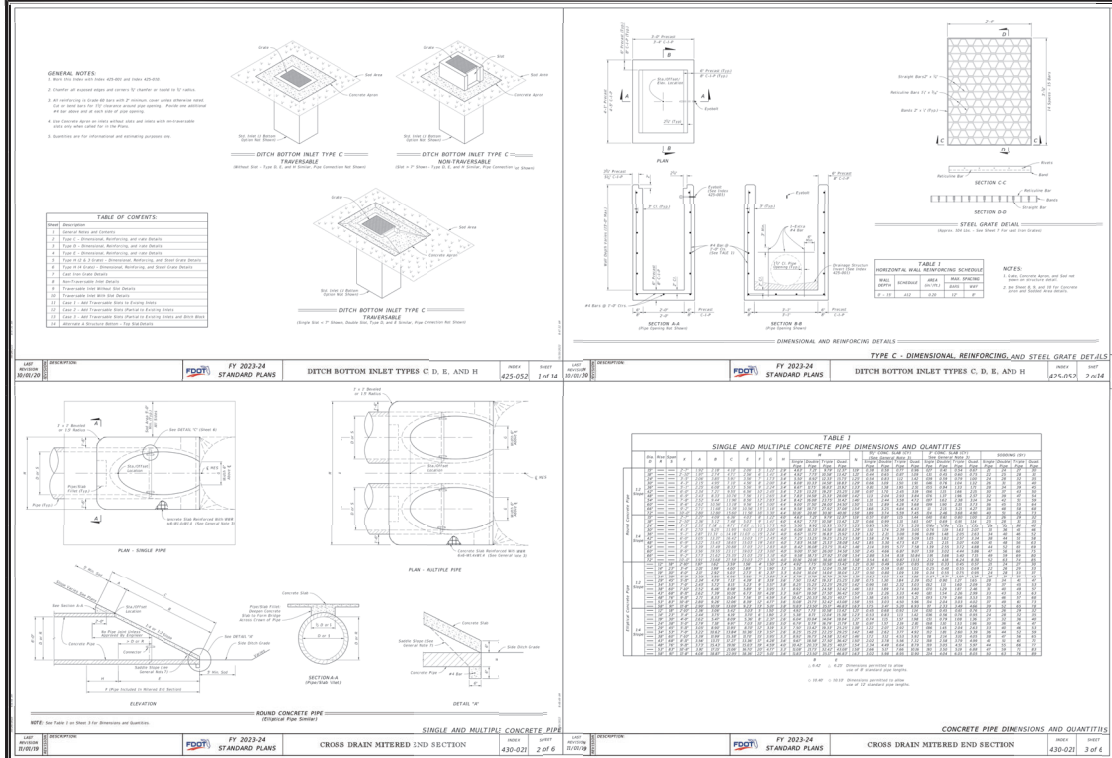
DATE

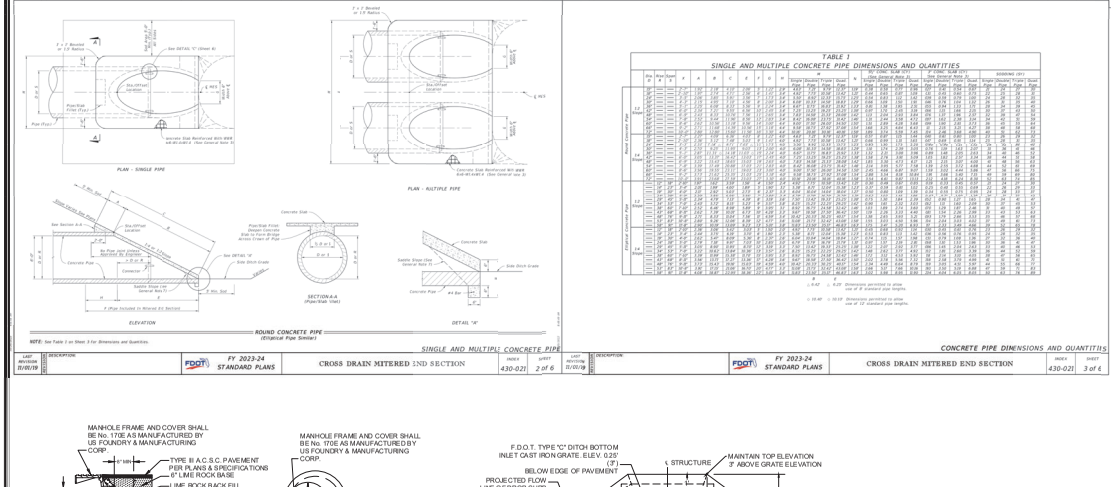
IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

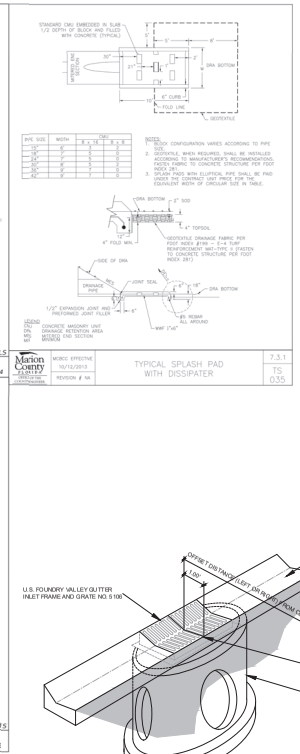
ROADWAY & PAVEMENT DETAILS

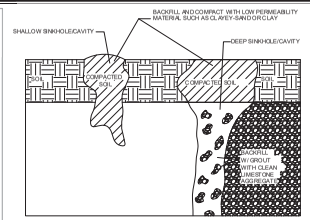
DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 12.01









NOTES

IN THE EVENT THAT ANY KARST FEATURES SUCH AS SINKHOLES, SOLUTION CAVITIES, CHIMNEYS, ETC. ARE DISCOVERED DURING ROUTINE INSPECTIONS OF THE STORMWATER BASINS, THE FOLLOWING REMEDIATION PROCEDURE SHALL BE PROFORMED

SHALLOW REPAIR (SEE DETAIL)
IF THE COLLAPSE IS SHALLOW (<5' DEEP) AND THE VOIDS IN THE LIMESTONE ARE SMALL, THEN THE SINKHOLE CAN BE REPAIRED BY BACKFILLING WITH A LOWER-PERMEABILITY MATERIAL, SUCH AS CLAYEY-SAND OR CLAY. THE MATERIAL SHOULD BE COMPACTED AND THE REPAIR SHALL BE SLIGHTLY ABOVE THE ORIGINAL BOTTOM IN ORDER TO CREATE A SMALL MOUND TO ACCOUNT FOR SETTLING

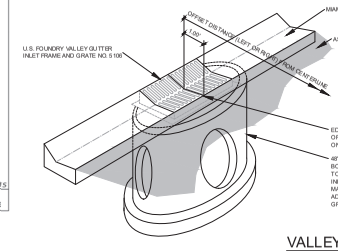
DEEP REPAIR (SEE DETAIL)
IF THE COLLAPSE IS DEEP, THEN THE REPAIR SHALL BE MORE PERMANENT. THE COLLAPSE SHALL BE EXCAVATED TO THE LIMESTONE BEDROCK THE VOID(S) IN THE BEDROCK SHALL BE PLUGGED WITH CLEAN GROUT. A LOW PERMEABILITY MATERIAL SHALL BE PLACED OVER THE CONCRETE PLUG. THE MATERIAL SHALL BE COMPACTED AND BROUGHT TO EXISTING BASIN BOTTOM.

NOTIFICATION:
THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD) SHALL BE NOTIFIED OF ANY SINKHOLE DEVELOPMENT WITHIN 48 HOURS OF DISCOVERY AND THE PROPOSED METHOD BY WHICH THE SINKHOLE WILL BE REPAIRED SHALL BE SUBMITTED TO THE SJRWMD FOR APPROVAL WITHIN 30 DAYS. THE SJRWMD WILL THEN NOTIFY THE RESPONSIBLE PARTY AS TO THE ACCEPTANCE, DENIAL OR NEED FOR MODIFICATION OF THE REPAIR METHOD.

SHALLOW AND DEEP SINKHOLE/CAVITY MAINTENANCE REPAIR DETAIL

N.T.S

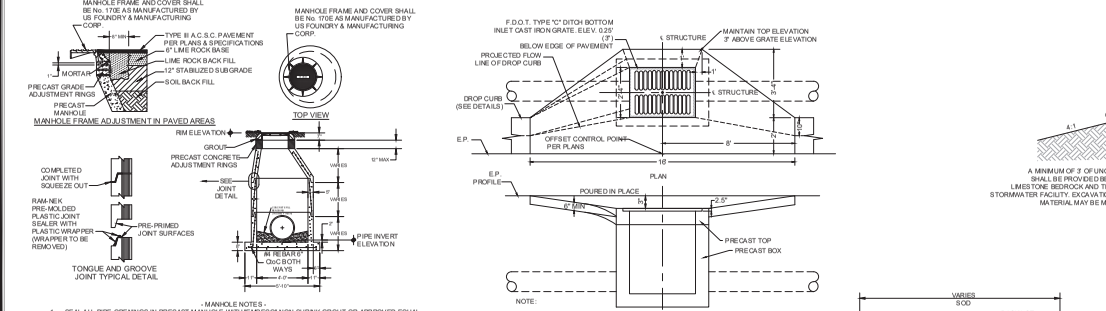
Marion County Approval Stamp



GENERAL NOTES

1. THE FINISHED GRADE AND SLOPE OF THE INLET TOPS ARE TO CONFORM WITH THE FINISHED CROSS SLOPE AND GRADE OF THE PROPOSED ROADWAY.
2. WHEN INLETS ARE TO BE CONSTRUCTED ON A CURVE, REFER TO THE PLANS TO DETERMINE THE RADIUS AND, WHERE NECESSARY, MODIFY THE INLET DETAILS ACCORDINGLY. BEND STEEL WHEN NECESSARY.
3. ALL REINFORCING STEEL SHALL HAVE 1-1/4" MINIMUM COVER UNLESS OTHERWISE SHOWN. INLET TOPS SHALL BE EITHER GRATE-IN-PLACE OR PRECAST CONCRETE.
4. PRECAST INLET TOPS MAY BE USED IF PERMITTED. PRECAST UNITS SHALL CONFORM TO THE DIMENSIONS SHOWN OR IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. REQUEST FOR SHOP DRAWING APPROVAL SHALL BE DIRECTED TO THE STATE DRAINAGE ENGINEER.
5. CONCRETE MEETING THE REQUIREMENTS OF A.S.T.M. C-478 (4,000 PS.I.) MAY BE USED IN LIEU OF CLASS = CONCRETE FOR PRECAST UNITS, MANUFACTURED IN PLANTS WHICH ARE UNDER THE STANDARD OPERATING PROCEDURES FOR THE INSPECTION OF PRECAST DRAINAGE PRODUCTS.
6. THE CORNER FILLETS SHOWN FOR RECTANGULAR THROATS ARE NECESSARY ONLY WHEN THROATS ARE TO BE USED IN CONJUNCTION WITH CURB INLET BOTTOMS OR WHEN USED ON SKEW WITH RECTANGULAR INLET BOXES.
7. FOR INLET BOTTOMS SEE INDEX NO. 200.
8. THESE INLET TOPS ARE DESIGNED FOR USE WITH STANDARD CURB AND GUTTER TYPE E AND TYPE F. LOCATE OUTSIDE OF PEDESTRIAN CROSSWALK WHERE PRACTICAL.
9. SEE INDEX 201 FOR SUPPLEMENTAL DETAILS.
10. ALL STEEL USED FOR FRAME AND COVER SHALL MEET THE REQUIREMENTS OF ASTM A-36.
11. EITHER CAST IRON COVERS OR STEEL COVERS MAY BE USED. IRON COVERS SHALL BE CLASS NO. 30 CASTINGS IN ACCORDANCE WITH ASTM A-48.
12. WHEN ALTERNATE TOP COVERS USED REQUIRED IN PLANS, EITHER THE CAST IRON COVER AND GALVANIZED STEEL FRAME OR THE HOT DIP GALVANIZED STEEL COVER AND FRAME MUST BE USED. COVERS ARE TO BE GROUTED IN ACCORDANCE WITH THE GROUTING DETAIL SHOWN ON SHEET 2 OF 2. IN LIEU OF TACK WELDING.

VALLEY GUTTER INLET FRAME AND GRATE DETAIL



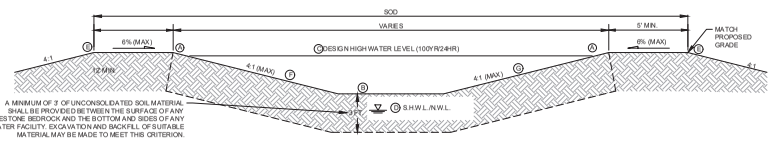
DRAINAGE PRECAST MANHOLE DETAIL

N.T.S

SECTION

DROP CURB INLET

N.T.S

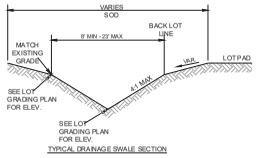


POND	T.O.B. (FT) (A)	BOTTOM(FT) (B)	DHWL(FT) (C) 100-YR 24-HR	SHWL*(FT) (D)	(E)	SIDE SLOPE (A)	SIDE SLOPE (B)
DRA 1	63.5	57.5	xx.xx	xx.xx	MATCH PROPOSED GRADE	4:1 MAX	4:1 MAX
DRA 2	68.0	62.0	xx.xx	xx.xx	MATCH PROPOSED GRADE	4:1 MAX	4:1 MAX

SOD ALL SLOPES AND BOTTOM WITH FLORIDA FRIENDLY NON-MUCK GROWN SOD

POND CROSS-SECTIONS

N.T.S



TYPICAL DRAINAGE SWALE SECTION

N.T.S

Wilmer & Associates ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

DRAINAGE DETAILS

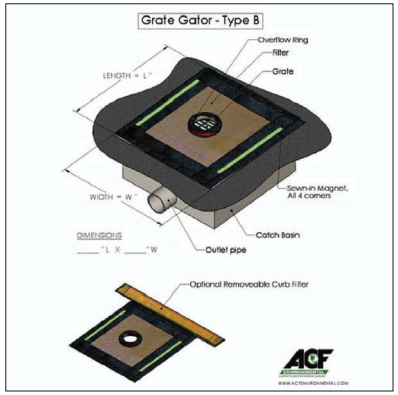
DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 13.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

GENERAL NOTES:

1. THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.
2. TEMPORARY EROSION CONTROL TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY THE ENGINEER OR AREAS ON SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD, OR COMPACTED AS DETERMINED BY THE OWNER.
3. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.
4. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.
6. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.
7. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
8. MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.
9. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
10. SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).
11. ALL INLETS TO BE PROTECTED BY DETAILS AS OUTLINED IN F.D.O.T. EROSION SEDIMENT CONTROL MANUAL (LATEST EDITION).
12. CONTRACTOR MUST MAINTAIN POSITIVE DRAINAGE AT ALL TIMES DURING THE COURSE OF THE CONSTRUCTION WORK.
13. CONTRACTOR MUST COORDINATE WITH ALL OF THE RESPONSIBLE AGENCIES PERTAINING TO EROSION AND SEDIMENT CONTROL WORK AND MAKE NECESSARY CHANGES BASED ON THE AGENCY'S GUIDANCE/DIRECTION AT NO ADDITIONAL COST TO THE OWNER.
14. THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN ARE, IN THE OPINION OF THE ENGINEER, THE MINIMUM THAT MAY BE REQUIRED. ACTUAL FIELD CONDITIONS MAY REQUIRE EITHER ADDITIONAL OR REDUCED EROSION CONTROL MEASURES TO BE IMPLEMENTED. THE CONTRACTOR IS DIRECTED TO FOLLOW STANDARD BEST MANAGEMENT PRACTICES IN IMPLEMENTING A SUCCESSFUL EROSION CONTROL PLAN.
15. ALL DISTURBED AREAS TO BE SODDED OR SEEDED AND MULCHED WITHIN 7 DAYS AFTER FINAL GRADING.



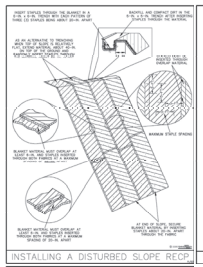
EROSION CONTROL LEGEND

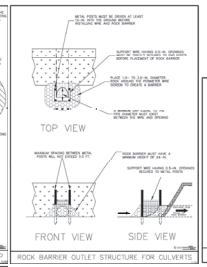
PROJECT BOUNDARY

PROPOSED SILT FENCE

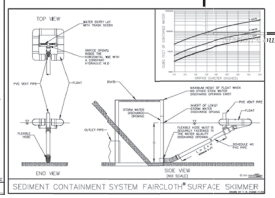
80' 40' 0 80' 160'

SCALE IN FEET
1" = 80'


INSTALLING A DISTURBED SLOPE RECP



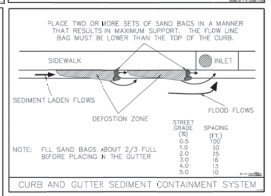
ROCK BARRIER OUTLET STRUCTURE FOR CULVERTS



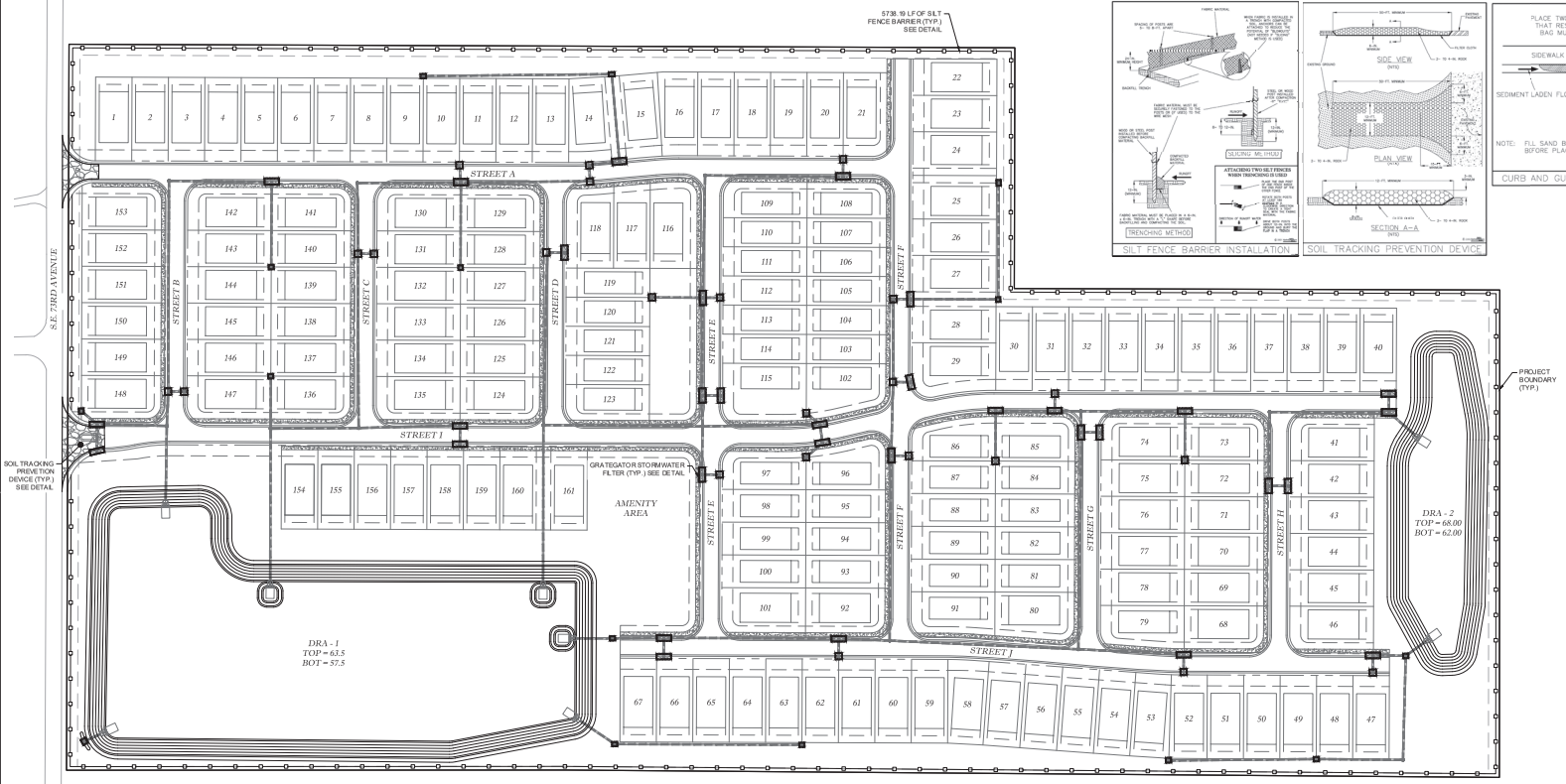
SEDIMENT CONTAINMENT SYSTEM FAIROLOTH® SURFACE SKIMMER

SILT FENCE BARRIER INSTALLATION

SOIL TRACKING PREVENTION DEVICE



CURB AND GUTTER SEDIMENT CONTAINMENT SYSTEM



County Approval Stamp

REVISIONS

DATE

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION # 26756

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

EROSION CONTROL PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. 14.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

Log of Borehole: SB-8

GEO-TECH, INC.
ENGINEERING CONSULTANTS
1010 SE 3rd Avenue
Ocala, Florida
352-854-3771
WWW.GEOTECHFL.CM

Project: HERITAGE OAKS S/D, PID NO. 48347-000-00, SUMMERFIELD — **Project No:** 22-8042.01.2
Boring Location: (SEE SITE PLAN) — **Engineer:** NJH/CAH
Client: SOUTHEAST 73RD AVE, LLC — **Enclosure:** SITE PLAN

Depth (ft)	Symbol	Description	Depth/Elev.	Number	Remarks
0		Ground Surface	0.0		
1–7		FINE SAND BROWN FINE SAND (SP)	7.0	1	FIELD HORIZONTAL PERMEABILITY AT APPROX. 3.0 FEET = 32.9 FEET/DAY
7–25		CLAYEY SAND YELLOWISH BROWN AND GREY CLAYEY SAND (SC)	25.0	2	FIELD VERTICAL PERMEABILITY AT APPROX. 8.0 FEET = 8.4 FEET/DAY ESHWTL AND CONFINING LAYER GREATER THAN DEPTH DRILLED
25–27		End of Borehole			

Ground Water Depth: NOT FOUND — **Drilled By:** RD
Drill Date: DECEMBER 23, 2022 — **Drill Method:** ASTM D-6282
Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW
Soil Profile : 1 OF 5

Log of Borehole: SB-10

GEO-TECH, INC.
ENGINEERING CONSULTANTS
1010 SE 3rd Avenue
Ocala, Florida
352-854-3771
WWW.GEOTECHFL.CM

Project: HERITAGE OAKS S/D, PID NO. 48347-000-00, SUMMERFIELD — **Project No:** 22-8042.01.2
Boring Location: (SEE SITE PLAN) — **Engineer:** NJH/CAH
Client: SOUTHEAST 73RD AVE, LLC — **Enclosure:** SITE PLAN

Depth (ft)	Symbol	Description	Depth/Elev.	Number	Remarks
0		Ground Surface	0.0		
1–6.5		FINE SAND BROWN FINE SAND (SP)	6.5	1	
6.5–25		CLAYEY SAND YELLOWISH BROWN AND GREY CLAYEY SAND (SC)	25.0	2	FIELD VERTICAL PERMEABILITY AT APPRX. 8.0 FEET = 10.7 FEET/DAY FIELD VERTICAL PERMEABILITY RATE AT APPROX. 16.0 FEET = 3.0 FEET/DAY ESHWTL AND CONFINING LAYER GREATER THAN DEPTH DRILLED
25–27		End of Borehole			

Ground Water Depth: NOT FOUND — **Drilled By:** RD
Drill Date: DECEMBER 23, 2022 — **Drill Method:** ASTM D-6282
Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW
Soil Profile : 2 OF 5

Log of Borehole: SB-12

GEO-TECH, INC.
ENGINEERING CONSULTANTS
1010 SE 3rd Avenue
Ocala, Florida
352-854-3771
WWW.GEOTECHFL.CM

Project: HERITAGE OAKS S/D, PID NO. 48347-000-00, SUMMERFIELD — **Project No:** 22-8042.01.2
Boring Location: (SEE SITE PLAN) — **Engineer:** NJH/CAH
Client: SOUTHEAST 73RD AVE, LLC — **Enclosure:** SITE PLAN

Depth (ft)	Symbol	Description	Depth/Elev.	Number	Remarks
0		Ground Surface	0.0		
1–9.0		FINE SAND BROWN FINE SAND (SP)	9.0	1	FIELD HORIZONTAL PERMEABILITY AT APPROX. 5.0 FEET = 33.0 FEET/DAY
9.0–25		CLAYEY SAND YELLOWISH BROWN AND GREY CLAYEY SAND (SC)	25.0	2	FIELD VERTICAL PERMEABILITY AT APPRX. 1.0 FEET = 6.7 FEET/DAY ESHWTL AND CONFINING LAYER GREATER THAN DEPTH DRILLED
25–27		End of Borehole			

Ground Water Depth: NOT FOUND — **Drilled By:** RD
Drill Date: DECEMBER 23, 2022 — **Drill Method:** ASTM D-6282
Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW
Soil Profile : 3 OF 5

Log of Borehole: SB-13

GEO-TECH, INC.
ENGINEERING CONSULTANTS
1010 SE 3rd Avenue
Ocala, Florida
352-854-3771
WWW.GEOTECHFL.CM

Project: PROPOSED DRA, HERITAGE OAKS, SUMMERFIELD, FL — **Project No:** 23-7808.05.1
Boring Location: (SEE BORING LOCATION MAP) — **Engineer:** NJH/CAH
Client: HTM DEVELOPERS, LLC — **Enclosure:** BORING MAP

Depth (ft)	Symbol	Description	Depth/Elev.	Number	Remarks
0		Ground Surface	0.0		
1–8.0		FINE SAND BROWN FINE SAND (SP)	8.0	1	FIELD HORIZONTAL PERMEABILITY RATE AT APPROX. 5.0 FEET = 9.2 FEET/DAY
8.0–11.0		CLAYEY SAND YELLOWISH BROWN CLAYEY SAND (EC)	11.0	2	FIELD VERTICAL PERMEABILITY RATE AT APPROX. 5.0 FEET = 8.1 FEET/DAY ESHWTL AT APPROX. 11.0 FEET
11.0–18.0		CLAYEY SAND YELLOWISH BROWN AND GREY CLAYEY SAND (SC)	18.0	3	CONFINING LAYER AT APPROX. 12.0 FEET
18.0–25.0		SANDY CLAY SANDY CLAY GREY AND YELLOWISH BROWN SLIGHTLY SANDY CLAY (CH)	25.0	4	
25–27		End of Borehole			

Ground Water Depth: NOT FOUND — **Drilled By:** RD/CM
Drill Date: JULY 14, 2023 — **Drill Method:** ASTM D-6282
Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW
Soil Profile : 4 OF 5

Log of Borehole: SB-14

GEO-TECH, INC.
ENGINEERING CONSULTANTS
1010 SE 3rd Avenue
Ocala, Florida
352-854-3771
WWW.GEOTECHFL.CM

Project: PROPOSED DRA, HERITAGE OAKS, SUMMERFIELD, FL — **Project No:** 23-7808.05.1
Boring Location: (SEE BORING LOCATION MAP) — **Engineer:** NJH/CAH
Client: HTM DEVELOPERS, LLC — **Enclosure:** BORING MAP

Depth (ft)	Symbol	Description	Depth/Elev.	Number	Remarks
0		Ground Surface	0.0		
1–9.0		FINE SAND BROWN FINE SAND (SP)	9.0	1	FIELD HORIZONTAL PERMEABILITY RATE AT APPROX. 6.0 FEET = 31.4 FEET/DAY FIELD VERTICAL PERMEABILITY RATE AT APPROX. 9.0 FEET = 7.7 FEET/DAY
9.0–10.0		CLAYEY SAND YELLOWISH BROWN CLAYEY SAND (EC)	10.0	2	ESHWTL AT APPROX. 10.0 FEET
10.0–11.0		CLAYEY SAND YELLOWISH BROWN AND GREY CLAYEY SAND (SC)	11.0	3	CONFINING LAYER AT APPROX. 11.0 FEET
11.0–25.0		SANDY CLAY SANDY CLAY GREY AND YELLOWISH BROWN SLIGHTLY SANDY CLAY (CH)	25.0	4	
25–27		End of Borehole			

Ground Water Depth: NOT FOUND — **Drilled By:** RD/CM
Drill Date: JULY 14, 2023 — **Drill Method:** ASTM D-6282
Remarks: (SP) UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW
Soil Profile : 5 OF 5

Marion County Approval Stamp

Wilson & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #26756

REVISIONS

DATE								

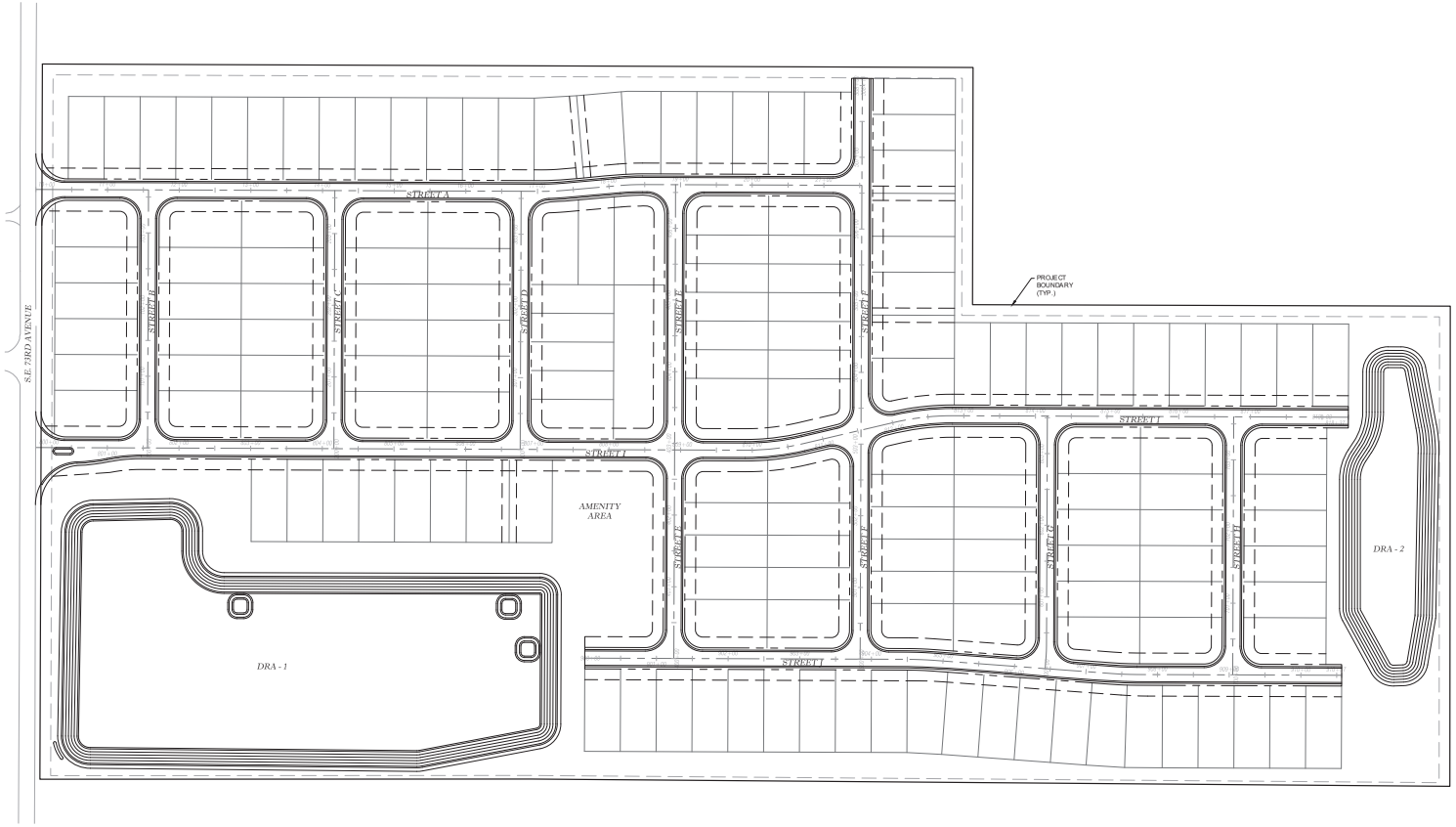
IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

BORING LOGS

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. BL.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER



8' 4' 0 8' 16'

SCALE IN FEET
1" = 80'

Marion County Approval Stamp

ROAD NAME LEGEND

IMPROVEMENT PLANS STREET NAME	MARION COUNTY STREET NAME
STREET 'A'	N/A
STREET 'B'	N/A
STREET 'C'	N/A
STREET 'D'	N/A
STREET 'E'	N/A
STREET 'F'	N/A
STREET 'G'	N/A
STREET 'H'	N/A
STREET 'I'	N/A
STREET 'J'	N/A

Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION #28795

REVISIONS

DATE

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

911 MANAGEMENT PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

SHT. RN.01

IRRIGATION SLEEVE SCHEDULE	ELECTRIC SLEEVE SCHEDULE (DUKE)
(1) 6" SCH 40 PVC SLEEVE (1) 4" SCH 40 PVC SLEEVE (1) 2" SCH 40 PVC SLEEVE	(D) (1) 3" GRAY SCH 40 PVC CONDUIT (D) (2) 3" GRAY SCH 40 PVC CONDUIT (D) (3) 3" GRAY SCH 40 PVC CONDUIT
NATURAL GAS SLEEVE SCHEDULE (TECO)	**TELEPHONE/CABLE/INTERNET SLEEVE SCHEDULE (DCM)**
(G) (1) 4" SCH 40 PVC SLEEVE	(C) (1) 2" SCH 40 PVC SLEEVE (C) (2) 2" SCH 40 PVC SLEEVE (C) (1) 3" SCH 40 PVC SLEEVE (C) (2) 3" SCH 40 PVC SLEEVE

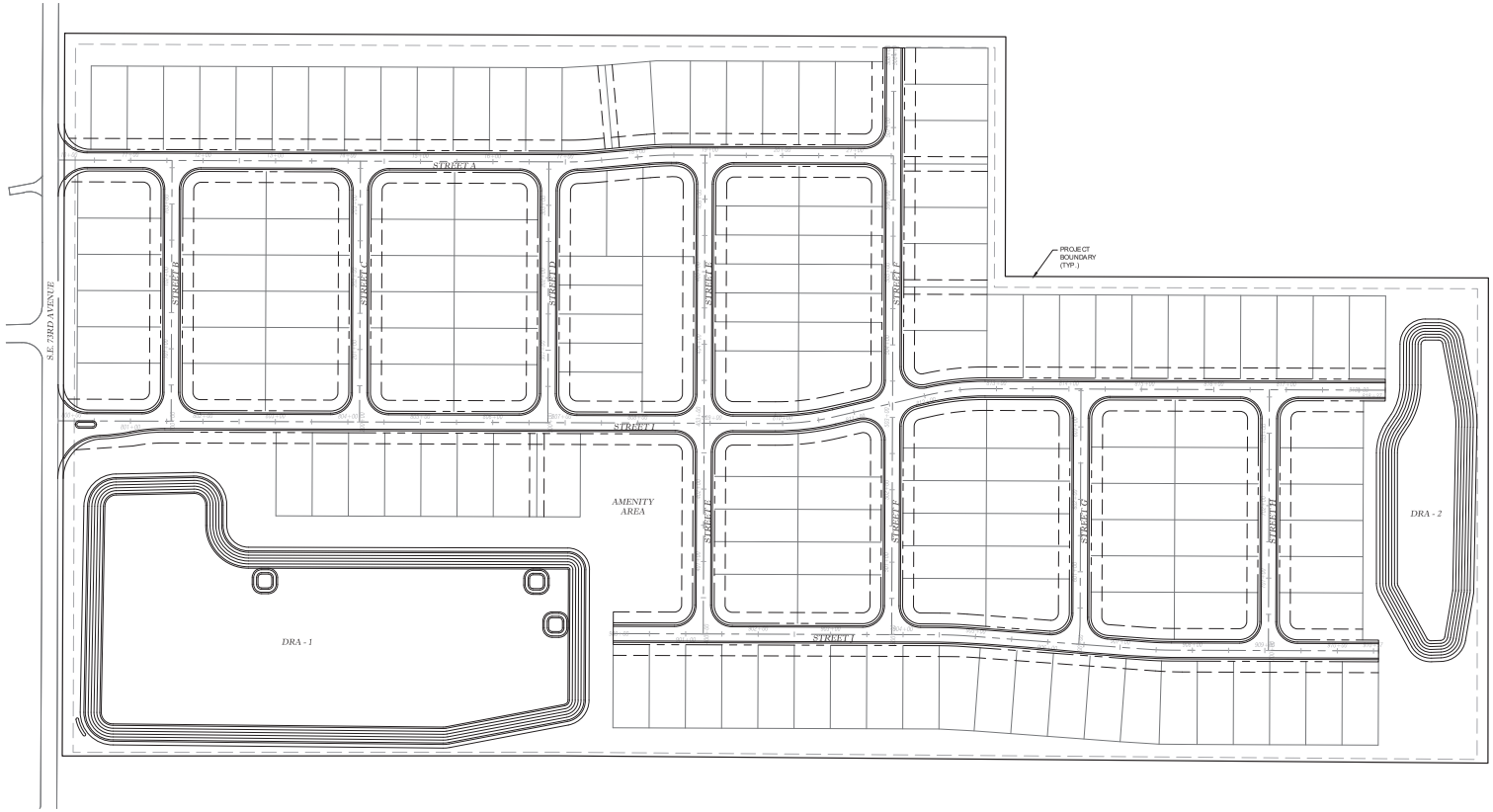
LEGEND:

- IRRIGATION SLEEVE
- TECO SLEEVE
- DUKE SLEEVE
- DCM SLEEVE

80' 40' 0 80' 160'

SCALE IN FEET
1" = 80'

Marion County Approval Stamp



Tillman & Associates
ENGINEERING, LLC.
CIVIL ENGINEERING - PLANNING - LANDSCAPE ARCHITECTURE - ENVIRONMENTAL
1720 SE 16th Ave. Bldg 100, Ocala, FL 34471
Office: (352) 387-4540 Fax: (352) 387-4545
CERTIFICATE OF AUTHORIZATION # 28295

REVISIONS

DATE	

IMPROVEMENT PLANS
HERITAGE OAKS
MARION COUNTY, FLORIDA

SLEEVING PLAN

DATE 5/14/2024
DRAWN BY AS
CHKD. BY TB
JOB NO. 22-8128

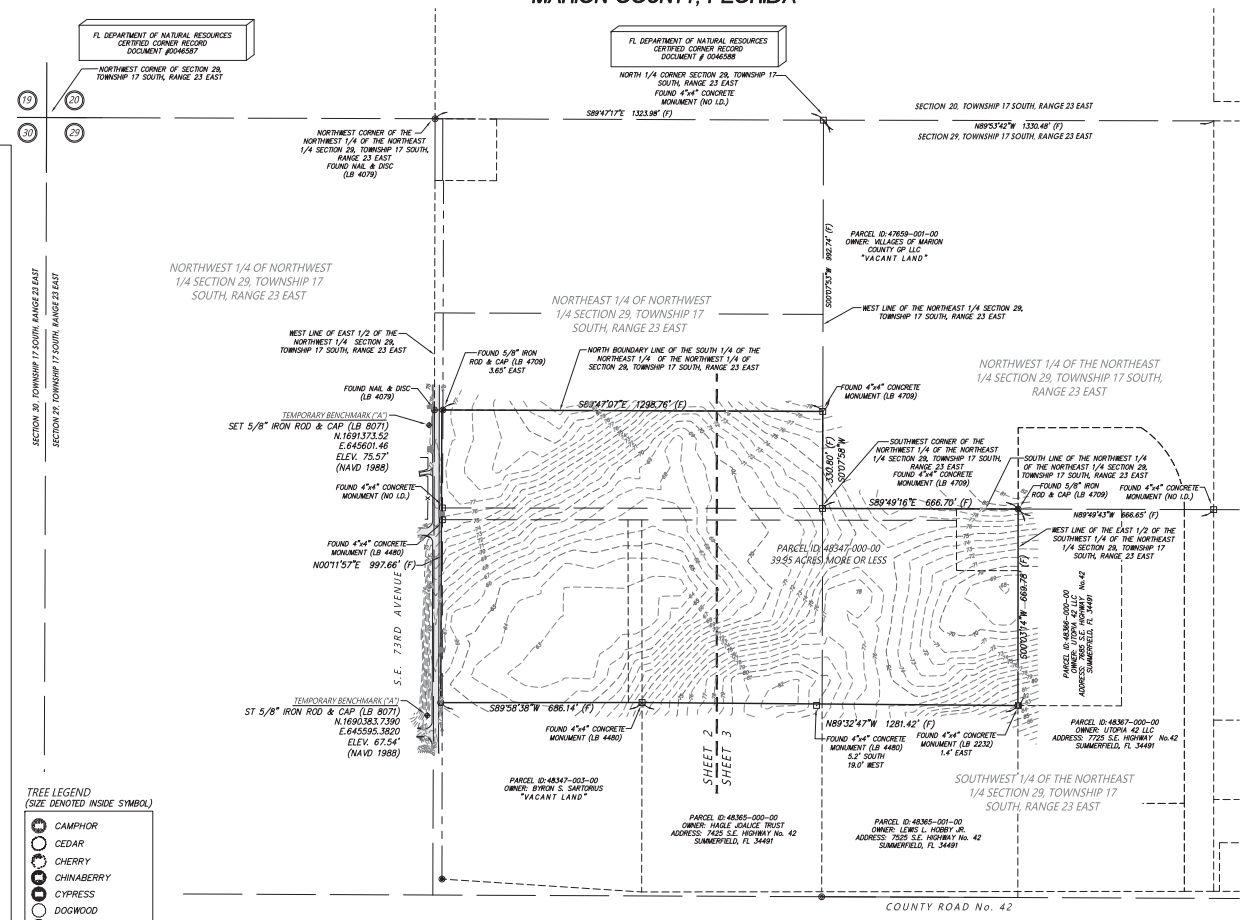
SHT. SL.01

NOT VALID UNLESS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

BOUNDARY AND TOPOGRAPHIC SURVEY FOR:

HERITAGE OAKS

A PORTION OF SECTION 29 , TOWNSHIP 17 SOUTH, RANGE 23 EAST
MARION COUNTY, FLORIDA



LEGEND AND ABBREVIATIONS:

- ± MORE OR LESS
- EL. ELEVATION
- LB LICENSED BUSINESS
- NO. NUMBER
- LS LAND SURVEYOR
- I.D. IDENTIFICATION
- ORB OFFICIAL RECORDS BOOK
- ℄ CENTERLINE
- R RADIUS
- L ARC LENGTH
- Δ DELTA (CENTRAL ANGLE)
- (P) PLAT MEASURE
- (D) DEED MEASURE
- (C) CALCULATED MEASURE
- C.D. CHORD LENGTH
- C.B. CHORD BEARING
- POC POINT ON CURVE
- POL POINT ON LINE
- PCC POINT OF COMPOUND CURVATURE
- PRC POINT OF REVERSE CURVATURE
- PC POINT OF CURVATURE
- PT POINT OF TANGENCY
- PI POINT OF INTERSECTION
- P.O.C. POINT OF COMMENCEMENT
- P.O.B. POINT OF BEGINNING
- FEMA FEDERAL EMERGENCY MANAGEMENT AGENCY
- DIP DUCTILE IRON PIPE
- PVC POLYVINYL CHLORIDE
- CMP CORRUGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- NAVD NORTH AMERICAN VERTICAL DATUM
- NGVD NATIONAL GEODETIC VERTICAL DATUM
- PB PLAT BOOK
- ORB OFFICIAL RECORDS BOOK
- PG(S) PAGE(S)
- R/W RIGHT OF WAY
- ESMT EASEMENT
- SEC SECTION
- FND FOUND
- REC RECOVERED
- CCR CERTIFIED CORNER RECORD
- RLS REGISTERED LAND SURVEYOR
- CM CONCRETE MONUMENT
- IRC IRON ROD AND CAP
- IR IRON ROD
- IP IRON PIPE
- CLF CHAIN LINK FENCE
- CURB INLET GRATE
- CATCH BASIN
- STORM MANHOLE
- MITERED END SECTION
- YARD DRAINAGE
- SANITARY MANHOLE
- SANITARY CLEANOUT
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC RISER BOX
- CABLE TELEVISION RISER BOX
- TELEPHONE RISER BOX
- UTILITY RISER
- WELL
- WATER SPIGOT
- IRRIGATION CONTROL VALVE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- BACK FLOW PREVENTER
- AIR CONDITIONER PAD
- GAS VALVE
- GAS METER
- GAS LINE MARKER
- CONCRETE UTILITY POLE
- METAL UTILITY POLE
- WOOD UTILITY POLE
- UTILITY POLE GUY ANCHOR
- LIGHT POLE
- SPOT/GROUND LIGHT
- ELECTRIC TRANSFORMER
- ELECTRIC VAULT
- WETLAND FLAG
- SIGN
- BOLLARD
- FLAG POLE
- MAILBOX
- FOUND 4"x4" CONCRETE MONUMENT (AS NOTED)
- FOUND 1/2" IRON ROD & CAP (AS NOTED)
- FOUND 5/8" IRON ROD & CAP (AS NOTED)
- FOUND NAIL & DISC (AS NOTED)
- SET 5/8" IRON ROD & CAP (LB 8071)
- CONTROL/BENCHMARK AS DESCRIBED
- LINE BREAK
- —x—x— FENCE LINE AS NOTED
- —1/8— APPROXIMATE TOP OF BANK
- —1/3— APPROXIMATE TOE OF SLOPE
- —100— EXISTING CONTOUR
- STORM DRAINAGE LINE

TREE LEGEND
(SIZE DENOTED INSIDE SYMBOL)

- CAMPHOR
- CEDAR
- CHERRY
- CHINABERRY
- CYPRESS
- DOGWOOD
- ELM
- GUM
- HICKORY
- HOLLY
- LAUREL OAK
- LIVE OAK
- MAGNOLIA
- MAPLE
- MIMOSA
- MISC
- OAK
- PALM
- PECAN
- PINE TREE
- SUGAR HACKBERRY
- SYCAMORE

LEGAL DESCRIPTION:

(PER OFFICIAL RECORDS BOOK 4777, PAGE 39)

THE NW 1/4 OF THE SW 1/4 OF THE NE 1/4; AND NE 1/4 OF THE SE 1/4 OF THE NW 1/4, EXCEPT THE SOUTH 622.52 FEET OF THE WEST 46.75 FEET THEREOF; AND THE NORTH 40.00 FEET OF THE NW 1/4 OF THE SE 1/4 OF THE NW 1/4, EXCEPT THE WEST 25.00 FEET THEREOF FOR ROAD RIGHT OF WAY. ALL IN SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST. AND EXCEPT THE NORTH 210 FEET OF THE EAST 210 FEET OF THE NW 1/4 OF THE SW 1/4 OF THE NE 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST.

(PER OFFICIAL RECORDS BOOK 2804, PAGE 1714)

THE NW 1/4 OF THE SE 1/4 OF THE NW 1/4 OF SECTION 39, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY; EXCEPT THE NORTH 40.00 FEET AND EXCEPT THE WEST 25.00 FEET THEREOF.

AND

THE SOUTH 622.52 FEET OF THE WEST 46.75 FEET OF THE NE 1/4 OF THE SE 1/4 OF THE NW 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA.

LEGAL DESCRIPTION (CONTINUE)

(PER OFFICIAL RECORDS BOOK 2268, PAGE 1829)

THE NORTH 210.00 FEET OF THE EAST 210.00 FEET OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA; TOGETHER WITH A NON EXCLUSIVE EASEMENT ON AND ACROSS THE NORTH 40.00 FEET OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4; AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA; EXCEPT THE WEST 25.00 FEET FOR RIGHT OF WAY.

(PER OFFICIAL RECORDS BOOK 2015, PAGE 1336)

THE SOUTH 1/4 OF THE NE 1/4 OF THE NW 1/4 OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 23 EAST, MARION COUNTY, FLORIDA. EXCEPT THE WEST 25.00 FEET THEREOF FOR ROAD RIGHT OF WAY.

SURVEY NOTES:

1. DATE OF FIELD SURVEY: NOVEMBER 15TH, 2022
2. BEARINGS AND COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83), WITH 2011 ADJUSTMENT AS DERIVED FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE STATION NETWORK.
3. BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY PANEL NO. 12083C0850D, EFFECTIVE DATE OF AUGUST 28, 2008, THE PROPERTY DESCRIBED HEREON LIES WITHIN FLOOD ZONE "X" AN AREA OF MINIMAL FLOOD HAZARD..
4. UNDERGROUND FOUNDATIONS AND UTILITIES WERE NOT LOCATED AS PART OF THIS SURVEY.
5. NORTH-SOUTH AND EAST-WEST TIES TO FOUND MONUMENTATION AND IMPROVEMENTS ARE BASED ON CARDINAL DIRECTION.
6. ADDITIONS OR DELETIONS TO SURVEY MAPS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
7. THIS SURVEY DEPICTS THE PROPERTY AS IT EXISTED ON THE SURVEY DATE, NOT NECESSARILY THE SIGNATURE DATE.
8. THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE BENEFIT OF THE PARTY(IES) NAMED HEREON, AND SHALL NOT BE DUPLICATED OR RELIED UPON BY ANY OTHER INDIVIDUAL OR ENTITY WITHOUT AUTHORIZATION FROM JCH CONSULTING GROUP, INC.
9. SUBJECT TO RIGHTS OF WAY, RESTRICTIONS, EASEMENTS AND RESERVATIONS OF RECORD. PUBLIC RECORDS NOT SEARCHED BY JCH CONSULTING GROUP, INC.
10. ORIENTATION FOR THE IMPROVEMENTS SHOWN HEREON SHOULD NOT BE USED TO RECONSTRUCT BOUNDARY LINES.
11. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON SURFACE EVIDENCE OF LOCATIONS PROVIDED BY SUNSHINE STATE ONE CALL TICKET NO: 3002061133. LOCATIONS OF UNDERGROUND UTILITIES SHOWN HEREON WERE NOT VERIFIED BY JCH CONSULTING GROUP, INC.
12. TOPOGRAPHIC DATA AND TREE LOCATIONS ARE BASED ON AREA AS SPECIFIED BY CLIENT.
13. VERTICAL DATUM IS BASED ON NATIONAL GEODETIC SURVEY CONTROL POINT U 753, ELEVATION 102.52' (NAVD 1988).

PROPERTY DATA:

PARCEL ID: 48347-000-00
OWNER: SOUTHEAST 73RD AVE LLC
ADDRESS: 16205 S.E. 73RD AVENUE
SUMMERFIELD, FL 34491

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THIS SURVEY MEETS THE APPLICABLE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J17.050--.052, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

CHRISTOPHER J. HOWSON — DATE
FLORIDA LICENSED SURVEYOR & MAPPER NO. 6553

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

(CERTIFICATE OF AUTHORIZATION NO. LB 8071)

NO.	REVISIONS	BY	DATE

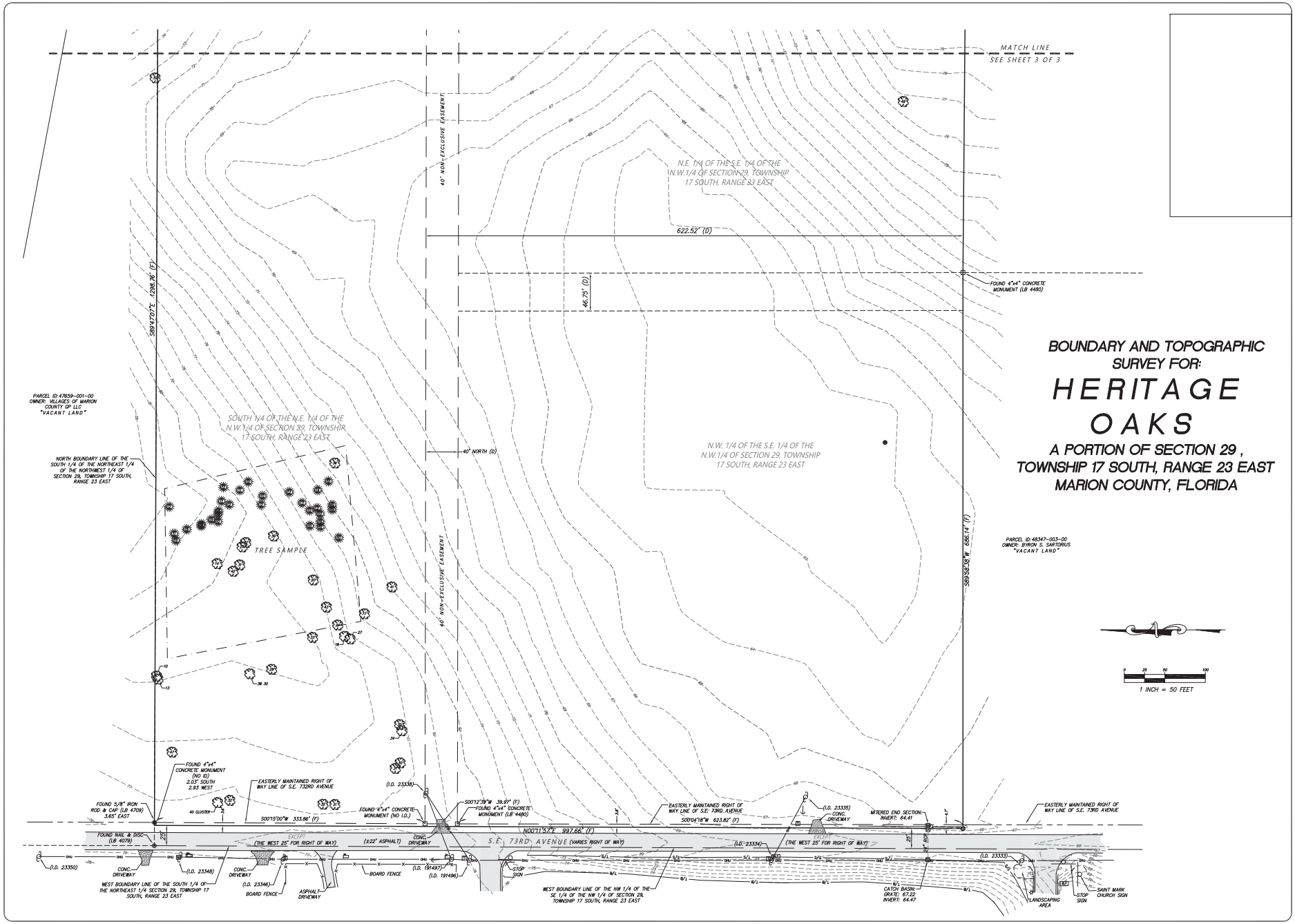
DRAWN: M.A.
REVISED:
REVISED:
CHECKED: C.J.H.
APPROVED: C.J.H.
SCALE: 1"=200'

JCH CONSULTING GROUP, INC.
LAND DEVELOPMENT, SURVEYING & MAPPING
PLANNING • ENVIRONMENTAL • G.I.S.
10930 NW 21ST ST. SUITE 102 CLERMONT, FL 34711
(352) 394-3360 (352) 394-3362 FAX www.JCHgroup.net

PLAT OF BOUNDARY AND TOPOGRAPHIC SURVEY
-FOR-
SOUTHEAST 73RD AVE LLC

FIELD BOOK/PAGE: 22-6/62,63 22-9/13, 15-17
FILE: HERITAGE OAKS

J.O.#221820
DWG.# 221820
SHT 1 OF 3



BOUNDARY AND TOPOGRAPHIC SURVEY FOR:

HERITAGE OAKS

A PORTION OF SECTION 29 , TOWNSHIP 17 SOUTH, RANGE 23 EAST MARION COUNTY, FLORIDA

NO.	REVISIONS	BY	DATE

DRAWN: W.A.
REVISED:
REVISED:
CHECKED: C.J.H.
APPROVED: C.J.H.
SCALE: 1"= 50'

JCH CONSULTING GROUP, INC.
LAND DEVELOPMENT, SURVEYING & MAPPING
PLANNING • ENVIRONMENTAL • G.I.S.
10200 NW 30th PLACE, SUITE 103
GAINESVILLE, FLORIDA 32606
PHONE 352.331.1976 FAX 352.331.2476 www.JCHgroup.com

PLAT OF BOUNDARY AND TOPOGRAPHIC SURVEY -FOR- SOUTHEAST 73RD AVE LLC

FIELD BOOK/PAGE: 22-6/62,63 22-9/13, 15-17

FILE: HERITAGE OAKS

J.O.#221820

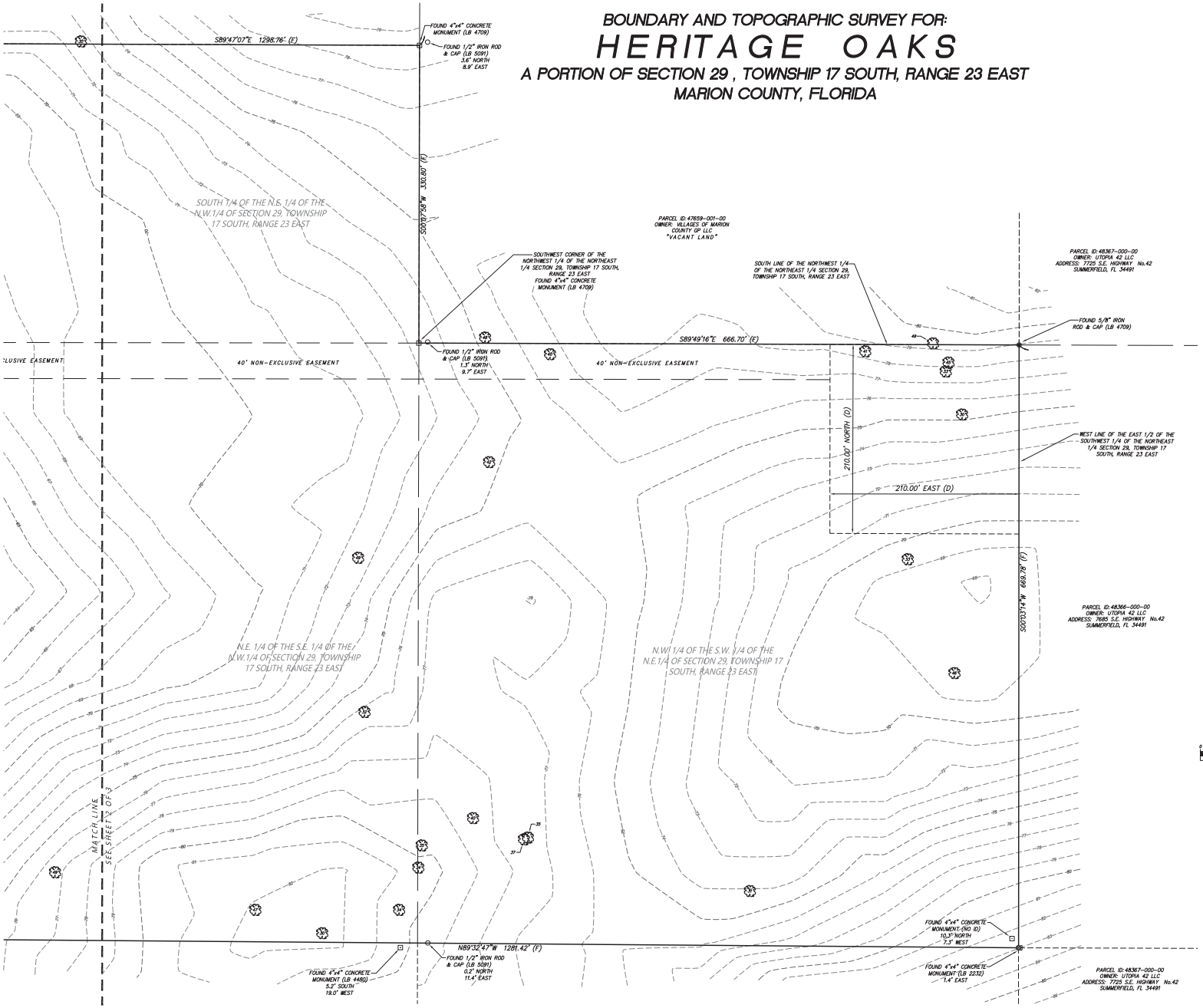
DWG.# 221820

SHT 2 OF 3

BOUNDARY AND TOPOGRAPHIC SURVEY FOR:

HERITAGE OAKS

A PORTION OF SECTION 29 , TOWNSHIP 17 SOUTH, RANGE 23 EAST
MARION COUNTY, FLORIDA



NO.	REVISIONS	BY	DATE

DRAWN: M.A.
REVISED:
REVISED:
CHECKED: C.J.H.
APPROVED: C.J.H.
SCALE: 1" = 50'

JCH CONSULTING GROUP, INC.
LAND DEVELOPMENT, SURVEYING & MAPPING
PLANNING • ENVIRONMENTAL • G.I.S.
10200 SE 59th AVENUE, OCALA, FL 34480
CERTIFICATE NUMBERS: EB-C 2241, LB 6611
PHONE 352-245-2027 FAX (888) 775-1303 www.JCHgroup.com

PLAT OF BOUNDARY AND TOPOGRAPHIC SURVEY
-FOR-
SOUTHEAST 73RD AVE LLC

FIELD BOOK/PAGE: 22-6/62,63 22-9/13, 15-17
FILE: HERITAGE OAKS

J.O.#221820
DWG.# 221820
SHT 3 OF 3