St. Cloud FLORIDA
Your Centerplace for Life

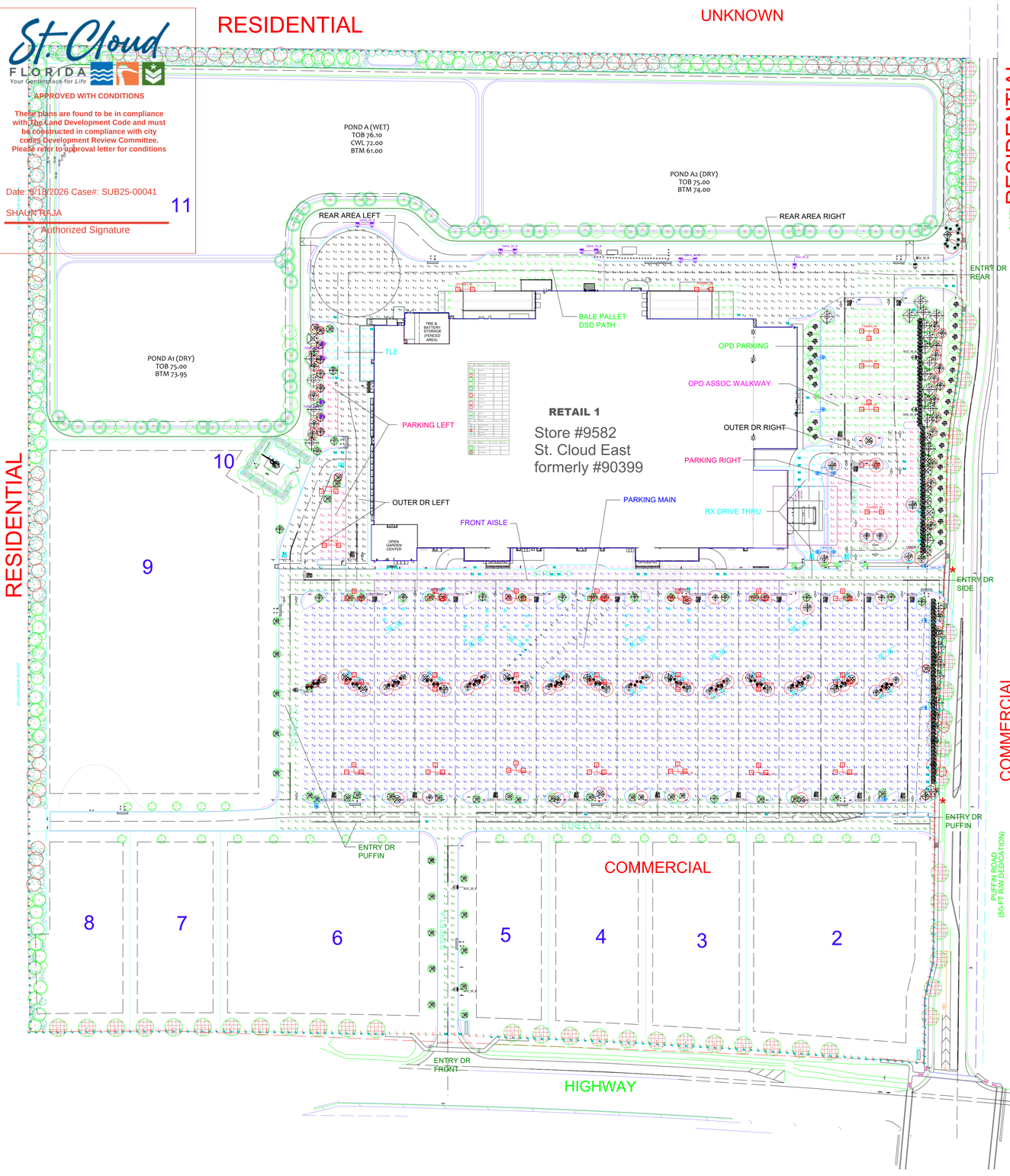
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 3/19/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



LED STATISTICS SHOWN ARE AT 50000 HOURS L96 & L97 RATING (~12 YEARS @ 12 HRS/DAY)

L96 = OPERATING HOURS AT WHICH AN AVERAGE OF 4% OF INITIAL LUMENS HAVE BEEN LOST IN A TESTED POPULATION OF LED PLATFORMS. THE POPULATION STILL EMITS 96% OF INITIAL LUMENS. THE LUMINAIRE HAS NOT FAILED. IT IS STILL OPERATING WITH A REDUCED LIGHT OUTPUT.
L97 = OPERATING HOURS AT WHICH AN AVERAGE OF 3% OF INITIAL LUMENS HAVE BEEN LOST IN A TESTED POPULATION OF LED PLATFORMS. THE POPULATION STILL EMITS 97% OF INITIAL LUMENS. THE LUMINAIRE HAS NOT FAILED. IT IS STILL OPERATING WITH A REDUCED LIGHT OUTPUT.

IN COMPARISON, NON-LED LUMINAIRES ARE RATED WITH MEAN LUMENS MEASURED AT 40-50% OF RATED LIFE, DEPENDING ON TECHNOLOGY, AND RATED LIFE OF B50, WHERE B50 = OPERATING HOURS AT WHICH 50% OF A TESTED POPULATION OF LAMPS HAVE FAILED.

Current Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Watts	Arr. Lum. Lumens	BUG Rating
	19	T1HSSH_35	3 @ 90 Degrees	0.864	3-EALS045H5SHT40NDDBLCKF 32ft pole on 3ft base	369	60000	B5-U0-G3
	11	D1HSSH_35	Back-Back	0.864	2-EALS045H5SHT40NDDBLCKF 32ft pole on 3ft base	246	40000	B5-U0-G3
	6	D2H4_35_B	ROTATED OPTICS	0.864	1-EALS042H4AF740NDD1BLCKFS1 & 1-EALS042H4AF740NDD1BLCKFS2 w/ 2-ELS-EAL-FBL-BLCK 32ft pole on 3ft base	246	38000	B2-U0-G3
	5	SD2_35_B	Single	0.873	1-EALS045D2AN740NDD1BLCKF w/1-ELS-EAL-ABL-BLCK 32ft pole on 3ft base	63	9900	B1-U0-G2
	3	SF4_35_B	Single	0.873	1-EALS042F4AF740NDD1BLCKF w/ 1-ELS-EAL-RBL-BLCK 32ft pole on 3ft base	96	14100	B2-U0-G3
	2	D1F4_35	Back-Back	0.873	2-EALS045F4AF740NDD1BLCKF 32ft pole on 3ft base	192	30900	B3-U0-G3
	1	SD2_35	Single	0.873	1-EALS045D2AN740NDD1BLCKF 32ft pole on 3ft base	63	10900	B2-U0-G2
	4	SF4_35	SINGLE	0.873	1-EALS045F4AF740NDD1BLCKF 32ft pole on 3ft base	96	15450	B3-U0-G3
	1	SH4_35_B	Single	0.864	1-EALS042H4AF740NDD1BLCKF w/ 1- ELS-EAL-FBL-BLCK 32ft pole on 3ft base	123	19000	B2-U0-G3

Calculation Summary Illuminance Foot-candles

Label	Avg	Max	Min	Avg/Min	Max/Min	# Pts
Bale Pallet DSD Path	3.29	5.7	1.6	2.06	3.56	127
Entry Dr Front	1.29	3.2	0.4	3.23	8.00	59
Entry Dr Puffin	1.74	4.9	0.4	4.35	12.25	525
Entry Dr Rear	1.75	3.6	0.4	4.38	9.00	66
Entry Dr Side	3.28	5.1	0.4	8.20	12.75	76
Front Aisle	3.20	4.2	2.7	1.19	1.56	171
Front Sidewalk	2.36	3.4	2.1	1.12	1.62	59
OPD Assoc Walkway	5.01	6.6	2.6	1.93	2.54	16
OPD Parking	5.00	7.1	2.1	2.38	3.38	221
Outer Dr Left	2.54	5.1	1.0	2.54	5.10	153
Outer Dr Right	4.31	5.7	2.6	1.66	2.19	38
Parking Left	3.41	5.7	2.1	1.62	2.71	52
Parking Main	3.05	4.4	0.8	3.81	5.50	2270
Parking Right	3.43	5.4	1.3	2.64	4.15	136
Rear Area Left	1.59	4.3	0.2	7.95	21.50	191
Rear Area Right	2.32	6.3	0.5	4.64	12.60	186
RX Drive Thru	3.32	4.7	2.0	1.66	2.35	33
TLE	3.20	5.4	1.5	2.13	3.60	45
Vert 5ft parking IN	2.29	3.2	1.6	1.43	2.00	16
Vert 5ft parking OUT	2.48	3.0	2.1	1.18	1.43	16
Vert 5ft Spill Prop Line Front	0.04	0.7	0.0	N.A.	N.A.	125
Vert 5ft Spill Prop Line Left	0.00	0.0	0.0	N.A.	N.A.	137
Vert 5ft Spill Prop Line Rear	0.00	0.0	0.0	N.A.	N.A.	130
Vert 5ft Spill Prop Line Right	0.20	1.0	0.0	N.A.	N.A.	140

Notes:

New site plan provided 3-12-26 and new landscape plan 3-20-26.

Local ordinance applied: 4000K, full cutoff, shields, 20000 max fixture lumens, 0.5fc max spill at residential and 1.0fc max spill otherwise.

Trees at provided 10 year mature size obstructions blocking light are included in this calc.

Spill over 0.8fc marked with red (*) allowed as beneficial light to adjacent intersection, crosswalk & sidewalk and is not in a residential direction.

Latest Walmart spec applied after local ordinance noted above.

Scale: 1 inch= 80 Ft.

THIS IS A D SIZE SHEET. THE NOTED SCALE IS NOT VALID IF PRINTED AS ANY OTHER SIZE.

SBU25-00041 - PUFFIN ROAD COMMERCIAL

Current

The magnitude of the differences between detailed analysis methods and field measurements varies. In general, differences of less than 20% can be expected, but in extreme cases, where a calculation method cannot handle the complexity of the lighting system, they may be greater. A more complete discussion of the uncertainties is available.

ANSI / IES LS-6-20
Lighting Science: Calculation of Light and its Effects

Provided for:
Nim Whitley
Ferber Co
Patick Kelly-Current

Provided BY:
Application Solution Center
apps@currentlighting.com
1-828-393-3774

3010 Spartanburg Hwy.,
East Flat Rock, NC 28726

Designer: Debbie Johnson

Date:3/24/2026

Drawing #: A252209B.AGI

#9582 RETAIL (90399)
ST CLOUD, FL
Evolve LED Area EALS04 4000K @ 35ft
local ordinance, new site & more trees
& latest Walmart lighting spec applied
Horizontal FC's at grade & vert at 5ft
Values at 50000 hours

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Authorized Signature

SUBDIVISION CONSTUCTION PLAN
FOR
PUFFIN ROAD COMMERCIAL

PID# 05-26-31-0105-0001-0010
PID# 05-26-31-0105-0001-0020

SECTION 05, TOWNSHIP 26 S, RANGE 31 E
CITY OF ST. CLOUD, FLORIDA
DECEMBER 2025

PREPARED FOR:
FERBER CONSTRUCTION MANAGEMENT, LLC
151 SAWGRASS CORNERS DRIVE, SUITE 202
PONTE VEDRA BEACH, FL 32082

LEGAL DESCRIPTION

LOTS 1 AND 2, EXCHANGE AT SAINT CLOUD ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 33, PAGE 159, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY FLORIDA.

Sheet List Table

Sheet Number	Sheet Title
C-01	COVER SHEET
C-02A, C-02C	BOUNDARY AND TOPOGRAPHIC SURVEY
C-03	EROSION CONTROL PLAN
C-04	EROSION CONTROL DETAILS
C-05	DEWATERING PLAN EXISTING POND
C-06	DEWATERING PLAN POND A
C-07	OVERALL SITE DIMENSION PLAN
C-08	SITE DIMENSION PLAN 1
C-09	SITE DIMENSION PLAN 2
C-09.1	WAYFINDING PLAN
C-09.2	PICK UP SIGNAGE DETAIL PLAN
C-09.3	PICK UP DETAIL PLAN
C-09.4	SIGN DETAILS
C-10	PARKING INFORMATION
C-11	SITE COORDINATE TABLES 1
C-12	SITE COORDINATE TABLES 2
C-13	SIGHT TRIANGLE PLAN
C-14	FIRE TRUCK & DELIVERY TRUCK AUTOTURN PLAN
C-15	MAINTENANCE TRUCK AUTOTURN PLAN
C-16	OVERALL STORMWATER PLAN
C-17	PAVING, GRADING & DRAINAGE 1
C-18	PAVING, GRADING & DRAINAGE 2
C-19	OVERALL UTILITY PLAN
C-20	UTILITY PLAN 1
C-21	UTILITY PLAN 2
C-22	UTILITY DETAILS
C-23	PLAN & PROFILE A AND E
C-24	PLAN & PROFILE B
C-25	PLAN & PROFILE C & LIFT STATION
C-26	PLAN & PROFILE D
C-27	PLAN & PROFILE PUFFIN ROAD STA. 1000+00 THRU STA. 1007+50
C-28	PLAN & PROFILE PUFFIN ROAD STA. 1007+50 THRU STA. 1014+95
C-29	PLAN & PROFILE E. IRLO BRONSON MEM. HWY STA. 10+00 THRU 20+00
C-30	PLAN & PROFILE E. IRLO BRONSON MEM. HWY STA. 20+00 THRU 28+61
C-31	OFFSITE IMPROVEMENTS E IRLO BRONSON MEMORIAL HWY
C-32	OFFSITE IMPROVEMENTS PUFFIN ROAD
C-33	PUFFIN CROSS SECTIONS (STA. 1001+00 TO 1014+95)
C-34	IRLO CROSS SECTIONS (STA.15+00 TO 22+00)
C-35	IRLO CROSS SECTIONS (STA.23+00 TO 28+00)
C-36	TYPICAL OFFSITE SECTIONS, MISC. DETAILS & CONTROL STRUCTURE
C-37	TYPICAL ONSITE SECTIONS
C-38	FDOT DETAILS-1
C-39	FDOT DETAILS-2
C-40	FDOT DETAILS-3
C-41	FDOT DETAILS-4
C-42	TOHO DETAILS-1
C-43	TOHO DETAILS-2
C-44	TOHO DETAILS-3
C-45	LIFT STATION
C-46	LIFT STATION DETAILS
C-47	GENERAL NOTES
C-48	PAVING AND STORMWATER NOTES
C-49	SOLID WASTE AND STREETS NOTES
C-50	SPECIFICATIONS
LP001	PLANT SCHED
LP002	LANDSCAPE REQS
LP003	TREE MIT PLAN
LP004	TREE MIT CALCS
LP005	TREE PROT
LP006	LANDSCAPE NOTES
LP101-LP112	LANDSCAPE PLAN
ST101-ST105	STREET TREE PLAN
LP201	LANDSCAPE DETS
TEP101	TOHO REQUIREMENTS
LI001	IRRIGATION SCHED
LI002-LI003	SPECIFICATIONS
LI101-LI112	IRRIGATION PLAN
LI201	IRRIGATION DETS
1 OF 1	BUILDING ELEVATIONS
1 OF 1	PHOTOMETRIC PLAN

UTILITIES

WATER

12" PVC:	1,488±	LF	(WM)
10" PVC:	95±	LF	(WM)
8" PVC:	3,830±	LF	(WM)
6" PVC:	226±	LF	(WM)
4" PVC:	54±	LF	(WM)
3" PVC:	95±	LF	(WM)
2" PVC:	397±	LF	(WM)
1" PVC:	132±	LF	(WM)
8" PVC:	150±	LF	(FL)
1" PVC:	31±	LF	(FL)
2" PVC:	515±	LF	(IRRIG)
1" PVC:	158±	LF	(IRRIG)
8" HDPE:	200±	LF	(RM)
6" PVC:	1,381±	LF	(RM)
4" PVC:	1,292±	LF	(RM)
FIRE HYDRANTS:	17		
2" WATER METER	1 (LIFT STATION)		
4" WATER METER	1		
2" RU/M METER	2		
1" IRR METER	1		

SEWER

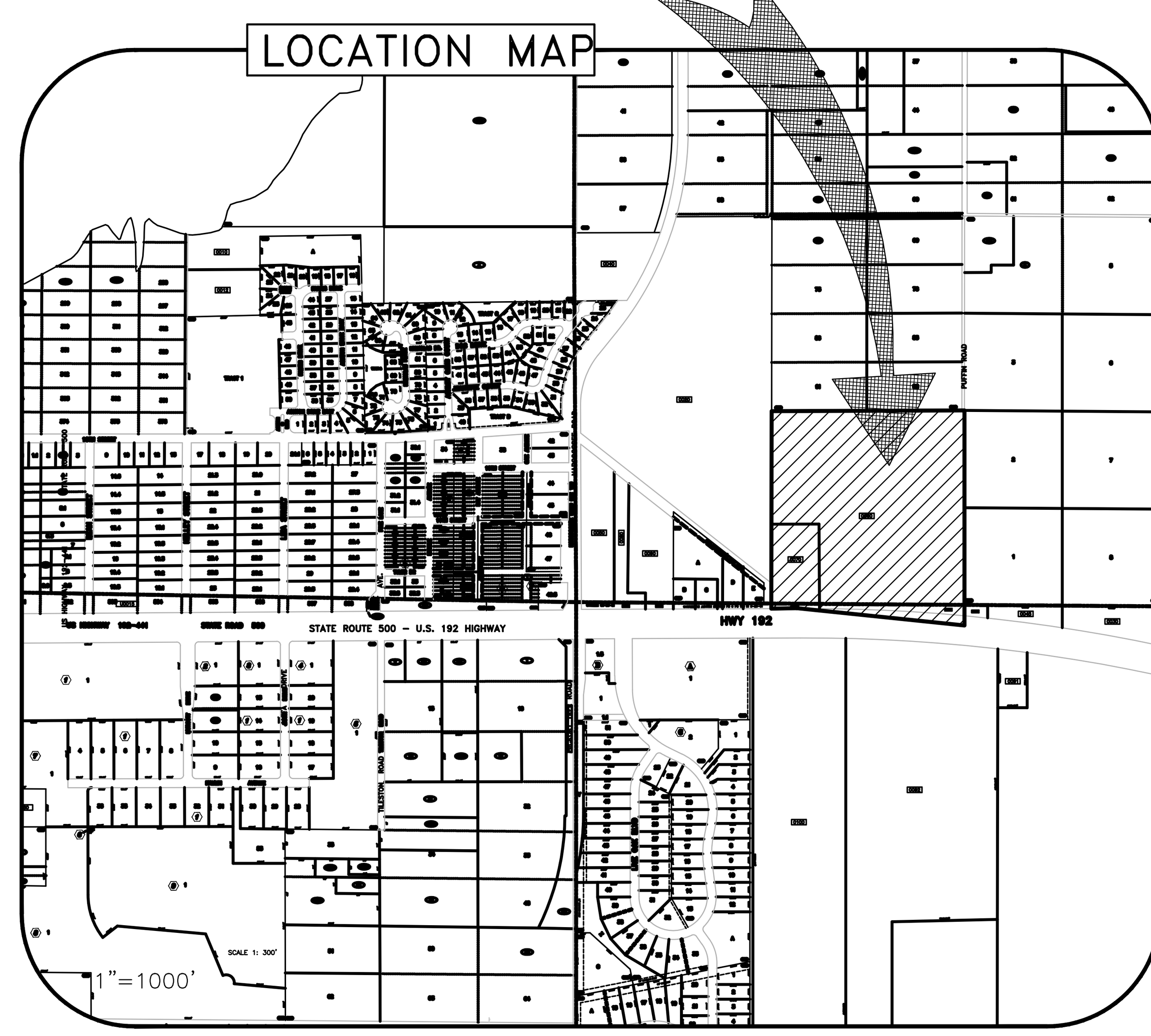
10" HDPE:	55±	LF	(SM)
8" GRAVITY:	2,379±	LF	(SM)
6" GRAVITY:	264±	LF	(SM)
6" HDPE:	197±	LF	(FM)
4" FORCEMAIN:	996±	LF	(FM)
LIFT STATION:	1		

MANHOLES

60" POLYMER:	2	TOTAL
48" POLYMER:	3	TOTAL
48" SANITARY:	11	TOTAL

SITE LOCATION

LOCATION MAP



NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

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

SITE INFORMATION:

1.) OWNER:
SLS INVESTMENTS OF CENTRAL FLORIDA, LLLP
2725 13TH STREET
ST. CLOUD, FL 34769
JSHEIVE@GMAIL.COM

OWNER:
DD RETAIL ST CLOUD, LLC
3300 NE EXPRESS WAY BLDG. L
ATLANTA, GA 30341
JSHELTON@HATHAWAYCOMPANIES.COM

2.) OBJECTIVES:
THE INTENT OF THIS PROJECT IS TO CREATE A RETAIL/COMMERCIAL CENTER FOR LOT 1 AND THE MASS GRADING OF LOTS 2 THRU 9.

3.) THE EXISTING ZONING FOR THIS SITE IS: HB (HIGHWAY BUSINESS)
THE FUTURE LAND USE FOR THIS SITE IS: COM (COMMERCIAL)

4.) 11 LOTS AND THE ASSOCIATED RIGHT OF WAY DEDICATION TO OSCEOLA COUNTY

5.) SETBACK:
FRONT.. 25'
REAR .... 15'
STREET SIDE .... 25'
SIDE... 10'
ADJACENT TO RESIDENTIAL ZONING .... 30'

6.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS ARISE NOTIFY ENGINEER PRIOR TO CONSTRUCTION.

7.) TRIP GENERATION:
REFER TO THE ITE.

8.) THIS SITE WILL BE DEVELOPED IN ONE PHASE.

9.) THE PROPOSED DEVELOPMENT WILL BE SUPPLIED WITH WATER, SEWER AND RE-USE PROVIDED BY CITY OF ST. CLOUD.

10.) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FIRM MAP NO. 12097C0280 G, EFFECTIVE 6-18-2013, THIS PROPERTY IS LOCATED IN FLOOD ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

11.) MAXIMUM BUILDING HEIGHT: NO LIMIT PER LDC.

12.) THE DESIGN IS BASED ON TOHO STANDARDS, SPECIFICATIONS, AND DETAILS, 2025 EDITION.

UTILITY RESPONSIBILITY MATRIX FOR THIS PROJECT

	UTILITY/GOVERNING AGENCIES CONTACTS	CONTRACTOR RESPONSIBILITY	OTHERS RESPONSIBILITY
TELEPHONE	COMCAST COMMUNICATIONS 5934 RICHARD STREET JACKSONVILLE, FL 32216 (904) 733-8489 ATTN: ANDREW SWEENEY ATT&T DISTRIBUTION 6628 LAKESIDE ROAD WEST PALM BEACH, FL 33411 ATTN: DINO FARRUGGIO CENTURYLINK 1325 BLAIRSTONE RD. RM 113 TALLAHASSEE, FL 32301 (850) 270-5425 ATTN: BILL MCCLOUD	1. COORDINATE CONSTRUCTION ACTIVITIES WITH TELEPHONE COMPANY TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT. 2. PROVIDE AND INSTALL 2-4" SCHEDULE 40 PVC CONDUITS WITH PULL ROPES, INCLUDING ALL TRENCHING AND BACKFILLING, FROM THE RISER POLE UP TO THE BUILDING. 3. PROVIDE AND INSTALL PULL BOXES AS PER TELEPHONE COMPANY REQUIREMENTS. 4. PROVIDE AND INSTALL #6 AWG COPPER GROUND AND BACKBOARD 5. NO ADDITIONAL EASEMENTS REQUIRED.	1. TELEPHONE COMPANY WILL PROVIDE AND INSTALL ALL TELEPHONE CABLES FROM THE POINT OF CONNECTION UP TO THE BUILDING. 2. ANY RELOCATION OF EXISTING WILL BE DONE BY TELEPHONE COMPANY 3. THE TELEPHONE COMPANY IS TO CONNECT #6 COPPER GROUND FROM POWER AT BUILDING TO TERMINAL EQUIPMENT. 4. THE TELEPHONE COMPANY REQUIRES 90 DAYS FOR DESIGN AND CONSTRUCTION OF TELEPHONE EQUIPMENT.
ELECTRIC	ORLANDO UTILITIES COMMISSION 6003 PERSHING AVE. ORLAND, FL 32822 (407) 423-9018 ATTN: CHRISTOPHER TAYLOR FLORIDA PUBLIC UTILITIES 1705 7TH STREET SW WINTER HAVEN, FL 33880 (352) 447-2790 ATTN: GARY HARDY	1. COORDINATE CONSTRUCTION ACTIVITIES WITH ELECTRIC COMPANY TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT. 2. PROVIDE AND INSTALL ALL SECONDARY SERVICE AND MATERIALS. 3. TRENCH ROUTES, METER CENTERS, COMPACTION OF CABLE ROUTE AND TRANSFORMER PAD.	1. ELECTRIC COMPANY WILL PROVIDE AND INSTALL ALL MATERIALS NEEDED TO ESTABLISH PRIMARY OVERHEAD SERVICE FROM POINT OF CONNECTION AT THE EXISTING LINE UP AND INCLUDING TO THE TRANSFORMER. 2. ELECTRIC COMPANY WILL PROVIDE AND INSTALL PRIMARY CABLE FOR ALL UNDERGROUND LINES UP AND INCLUDING TO THE TRANSFORMER. 3. ANY RELOCATION OF EXISTING LINES OR POLES WILL BE DONE BY THE ELECTRIC COMPANY.
SANITARY SEWER	TOHO WATER AUTHORITY 951 MARTIN LUTHER KING BLVD. TEL.: (407) 944-5000 ATTN: PETER S. BROWN	1. PROVIDE AND INSTALL SANITARY SEWER LINES AND ASSOCIATED APPURTENANCES PER THE PLANS, SPECS AND THE LATEST TOHO STANDARDS AND INSPECTIONS. 2. ALL PUBLIC AND PRIVATE SANITARY SEWER LINES SHALL BU SDR 35 PER ASTM D 3034. 3. DUCTILE IRON PIPE SHALL BE PER AWWA C150. 4. COORDINATE REQUIRED INSPECTION SERVICES WITH ENGINEER OF RECORD AND TOHO. SEE UTILITY PLAN FOR REQUIREMENTS.	
WATER	TOHO WATER AUTHORITY 951 MARTIN LUTHER KING BLVD. TEL.: (407) 944-5000 ATTN: PETER S. BROWN	1. PROVIDE AND INSTALL ALL WATER MAINS AND ASSOCIATED APPURTENANCES PER THE PLANS, SPECS AND THE LATEST TOHO STANDARDS AND INSPECTIONS. 2. 6" AND LARGER DUCTILE, PVC C-900 PER ASTM D 2241. 3. CLASS 200 UNDER COUNTY ROADS, OTHERWISE CLASS 150 4. 6" AND LARGER DUCTILE IRON PIPE PER AWWA C150. 5. SMALLER THAN 6" EITHER COPPER TUBE TYPE "L" (SOFT) PER ANSI 816.22 OR PVC, 200 P.S.I. PER ASTM D1784 AND D2241. 6. ALL FIRE LINES AFTER POINT OF SERVICE-DR14 AND MUST BE INSTALLED BY A CLASS 5 CONTRACTOR. 7. A CERTIFIED UNDERGROUND CONTRACTOR SHALL INSTALL ALL PORTIONS UPSTREAM OF THE METER AND A PLUMBING 8. COORDINATE REQUIRED INSPECTION SERVICES WITH TOHO WATER AUTHORITY. SEE UTILITY PLAN FOR REQUIREMENTS. 9. DOMESTIC TAP FROM THE POINT OF CONNECTION AT THE EXISTING LINE UP TO AND INCLUDING SETTING OF METER WILL BE BY THE WATER CONTRACTOR. 10. ANY RELOCATION OF EXISTING WATER LINES WILL BE DONE BY THE CONTRACTOR.	1. TOHO IS RESPONSIBLE FOR THE SETTING OF METERS.
STORM SEWER	SOUTH FLORIDA WATER MANAGEMENT DISTRICT 1707 ORLANDO CENTRAL PARKWAY STE 200 ORLANDO, FL 32809 TEL.: (407) 858-6100	1. PROVIDE AND INSTALL ALL STORM SEWER LINES AND ASSOCIATED APPURTENANCES PER THE PLANS AND SPECIFICATION. 2. REFER TO GRADING PLAN FOR INFORMATION ON ALLOWABLE STORM SEWER MATERIALS.	

THIS MATRIX HAS BEEN PROVIDED FOR INOFORMATIONAL PURPOSES. THE CONTRACTOR SHALL PROVIDE ANY AND ALL APPURTENANCES, TRENCHING AND BACKFILL, AND OTHER INCIDENTALS TO MEET OR EXCEED THE SPECIFICATIONS OF THE ITEMS LISTED.

THE FOLLOWING LIST OF CONTACTS IS BASED UPON INFORMATION FROM SUNSHINE STATE ONE CALL OF FLORIDA, INC. AND THE BEST AVAILABLE INFORMATION AT THE TIME. THE CONTRACTOR SHALL COMPLETE THEIR OWN DUE DILIGENCE TO ENSURE THERE ARE NO ADDITIONAL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. IF ADDITIONAL UTILITIES ARE DISCOVERED, CONTACT THE ENGINEER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE FOLLOWING AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION:

1. WATER, SANITARY SEWER & RECLAIM
TOHO WATER AUTHORITY
951 MARTIN LUTHER KING BLVD.
TEL.: (407) 944-5000
ATTN: PETER S. BROWN

2. ELECTRIC
ORLANDO UTILITIES COMMISSION
6003 PERSHING AVE.
ORLAND, FL 32822
(407) 423-9018
ATTN: CHRISTOPHER TAYLOR

3. CABLE TELEVISION
ATT&T DISTRIBUTION
6628 LAKESIDE ROAD
WEST PALM BEACH, FL 33411
ATTN: DINO FARRUGGIO

4. TELEPHONE
COMCAST COMMUNICATIONS
5934 RICHARD STREET
JACKSONVILLE, FL 32216
(904) 733-8489
ATTN: ANDREW SWEENEY

5. CENTURYLINK
1325 BLAIRSTONE RD. RM 113
TALLAHASSEE, FL 32301
(850) 270-5425
ATTN: BILL MCCLOUD

6. CHARTER COMMUNICATIONS
700 CARILLON PARKWAY, STE. 6
ST. PETERSBURG, FL 33716
(855) 877-5566
ATTN. GARY BLEVINS

7. CITY OF ST CLOUD ENGINEERING
3101 PROGRESS LANE
ST. CLOUD, FL 34769
407-957-7347
ATTN: KEVIN FELBLINGER

8. FDOT ITS INFRASTRUCTURE
(AGENCY MAY NOT BE INCLUDED IN 811)
PHONE NUMBER: 321-257-7271
CONTACT DIRECTLY: DANIEL SIMPSON

9. FLORIDA PUBLIC UTILITIES
1705 7TH STREET SW
WINTER HAVEN, FL 33880
(352) 447-2790
ATTN: GARY HARDY

10. GIGAPOWER, LLC
300 S. MONROE SIDING RD.
XENIA, OH 45385
ATTN: HOWARD LAUDERMILK

11. MCI
10300 OLD ALABAMA ROAD
ALPHARETTA, GA 30022
(866) 258-3217
ATTN: MONICA HUTTO

12. UNITI FIBER, LLC
107 ST. FRANCIS ST., STE 1800
MOBILE, AL 36602
(251) 662-1170
ATTN: CHARLIE CROFT

13. ZAYO GROUP/FORMERLY LIGHTWAVE, LLC
1401 WYNKOOP ST.
DENVER, CO 80202
(866) 364-6033
ATTN: HENRY KLOBUCAR

ROBERT LEE NEWBERRY JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER
Robert L Newberry
2026.03.26
17:44:32
-04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

PREPARED BY:

8 BROADWAY AVE. KISSIMMEE, FLORIDA 34741-5481
PHONE: (407) 847-9433 FAX: (407) 847-2499
ENGINEERING, SURVEYING AND PLANNING
HWA
Hanson, Walter & Associates, Inc.

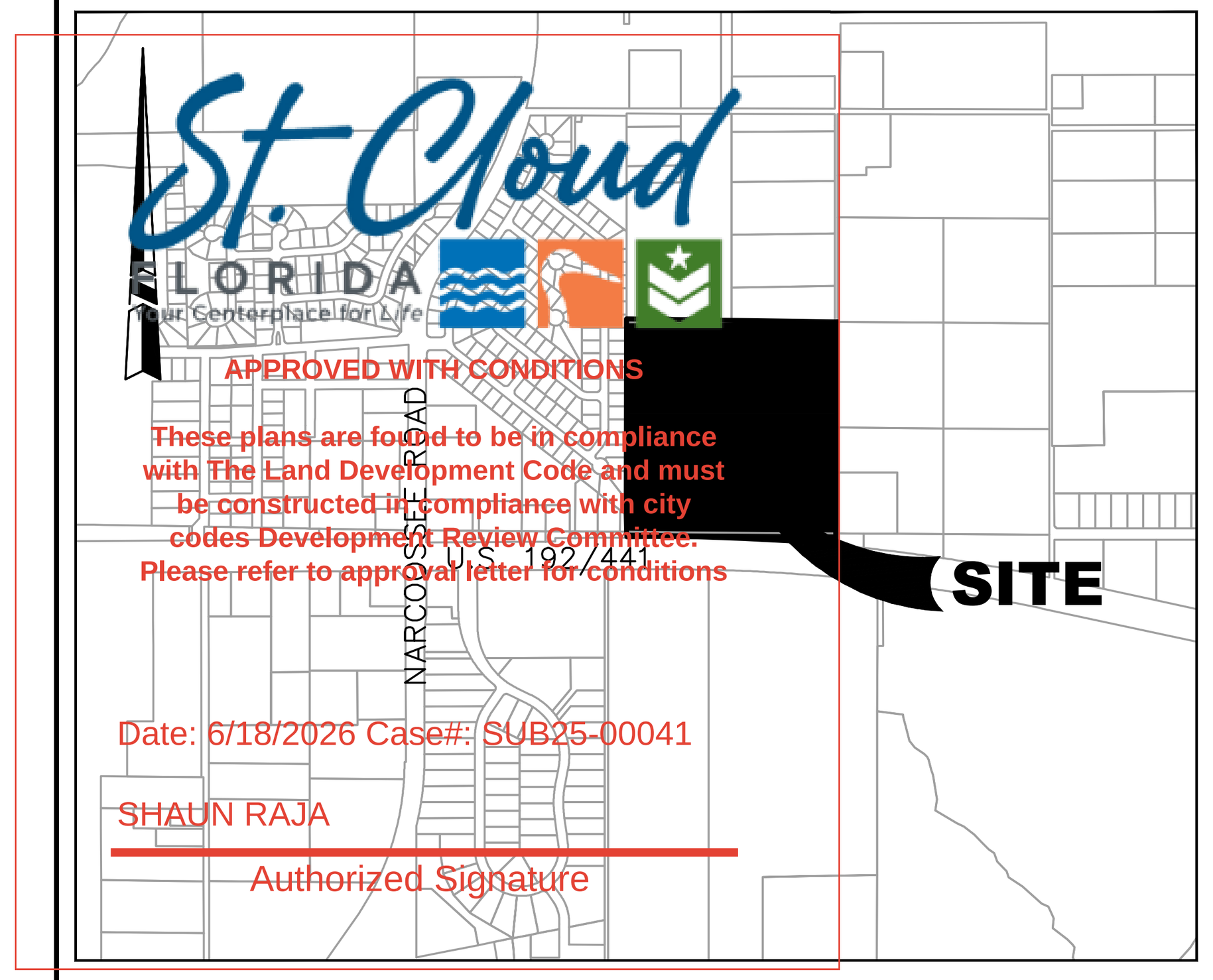
NO.	DATE	DESCRIPTION	BY
3	03-19-26	REVISED PER TOHO COMMENTS	CM/MW
2	02-26-26	REVISED PER CITY COMMENTS	CM/MW
1	01-13-26	REVISED PER TOHO & FDOT COMMENTS	CM/MW

SUB25-00041
PSP25-00004
HWA JOB # 5450-05
SHEET C-01 OF C-50

THESE DOCUMENTS AND THEIR CONTENTS ARE THE PROPERTY OF HANSON, WALTER & ASSOCIATES, INC. AND ARE ISSUED ONLY FOR THE SPECIFIC PROJECT NOTED ON THESE DRAWINGS. ANY REPRODUCTIONS, REVISIONS OR MODIFICATIONS OF THESE DOCUMENTS WITHOUT THE EXPRESSED WRITTEN CONSENT OF HANSON, WALTER & ASSOCIATES, INC. IS PROHIBITED BY LAW.

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 COVER.dwg * Mar 26, 2026-5:23pm * plotted by RSouser

PLAT OF SURVEY



APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

LOCATION MAP

NOT TO SCALE

LEGAL DESCRIPTION:

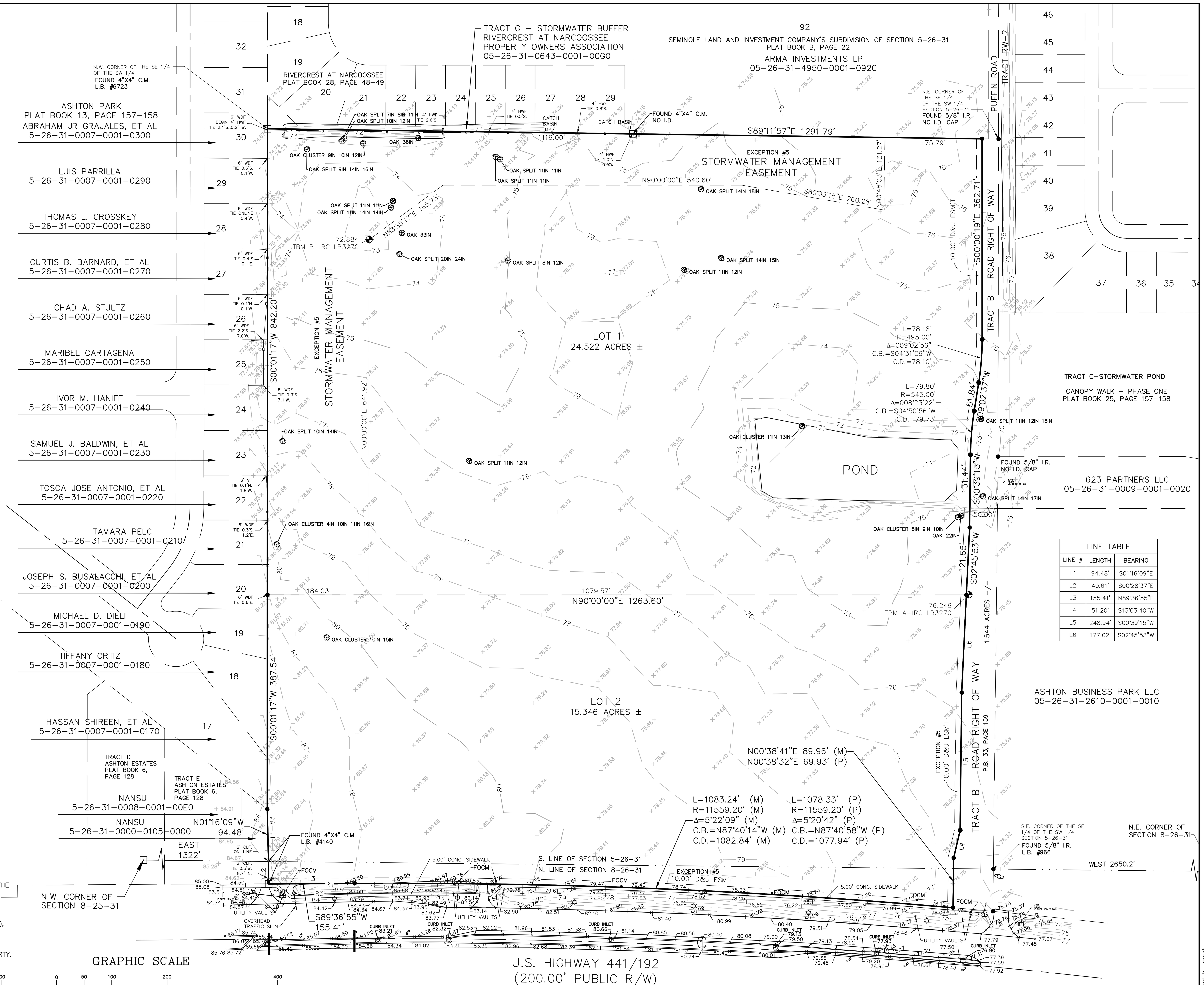
LOTS 1 AND 2 OF EXCHANGE AT SAINT CLOUD, ACCORDING TO THE MAP OR PLAT THEREOF, AS RECORDED IN PLAT BOOK 33, PAGE 159 OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.

NOTE

ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

TITLE EXCEPTION NOTES TO THE BII EXCEPTIONS CONTAINED IN THE STEWART TITLE GUARANTY COMPANY'S TITLE COMMITMENT NUMBER 25000030836, EFFECTIVE DATE AUGUST 28, 2025 @ 8:00 A.M.

1. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I – REQUIREMENTS ARE MET.
2. STANDARD EXCEPTIONS:
   a. rights or claims of parties in possession not shown by the public records.
   b. easements, or claims of easements, not shown by the public records.
   c. encroachments, overlaps, boundary line disputes, or other matters which would be disclosed by an accurate survey and inspection of the premises.
   d. any lien, or right to a lien, for services, labor, or material hereto or hereafter furnished, imposed by law and not shown by the public records.
   e. any adverse ownership claim by the state of Florida by right of sovereignty to any portion of the lands insured hereunder, including submerged, filled, and artificially exposed lands and lands accreted to such lands.
3. GENERAL OR SPECIAL TAXES AND ASSESSMENTS FOR THE YEAR 2025 AND SUBSEQUENT YEARS, WHICH ARE NOT YET DUE AND PAYABLE.
4. ANY LIEN ARISING UNDER CHAPTER 159, FLORIDA STATUTES, IN FAVOR OF ANY CITY, TOWN, VILLAGE OR PORT AUTHORITY FOR UNPAID SERVICE CHARGES FOR SERVICE BY ANY WATER SYSTEM, SEWER SYSTEM OR GAS SYSTEM SERVICING THE LANDS DESCRIBED HEREIN.
5. ALL MATTERS SHOWN ON THE PLAT RECORDED IN PLAT BOOK 33, PAGE 159, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, AS SHOWN)
6. MASTER EASEMENT AGREEMENT RECORDED IN OFFICIAL RECORDS BOOK 6392, PAGE 2439, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
7. CITY OF ST. CLOUD, FLORIDA RESOLUTION NO. 85–14 RECORDED 08/06/1985 IN OFFICIAL RECORDS BOOK 781, PAGE 2898, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
8. CITY OF ST. CLOUD, FLORIDA RESOLUTION NO. 85–Q, RECORDED 09/03/1985 IN OFFICIAL RECORDS BOOK 783, PAGE 2351, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
9. CITY OF ST. CLOUD, FLORIDA RESOLUTION NO. 2005–112, RECORDED 03/28/2006 IN OFFICIAL RECORDS BOOK 3108, PAGE 1667, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
10. ST. CLOUD, FLORIDA RESOLUTION NO. 2022–184R, RECORDED 10/06/2022 IN OFFICIAL RECORDS BOOK 6295, PAGE 2021, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
11. TOHOPEKALIGA WATER AUTHORITY WATER, REUSE, AND WASTEWATER SYSTEM DEVELOPER'S SERVICE AGREEMENT RECORDED 10/17/2023 IN OFFICIAL RECORDS BOOK 6491, PAGE 64, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA. (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
12. TOHOPEKALIGA WATER AUTHORITY SUBMETERING AGREEMENT RECORDED 10/17/2023 IN OFFICIAL RECORDS BOOK 6491, PAGE 77, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.
   (AFFECTS THE SUBJECT PROPERTY, NOT PLOTTABLE)
13. RIGHTS OF TENANTS UNDER ANY UNRECORDED LEASES.
14. AS TO SCHEDULE B–II, ITEM 4, SATISFACTORY EVIDENCE OF PAYMENT OF ANY MUNICIPAL LIENS OR ASSESSMENTS FOR PUBLIC IMPROVEMENTS OR ASSESSMENTS, AS PROVIDED FOR BY CHAPTER 159, FLORIDA STATUTES, IN FAVOR OF ANY CITY, TOWN, VILLAGE OR PORT AUTHORITY FOR UNPAID SERVICE CHARGES FOR SERVICE BY ANY WATER, SEWER OR GAS SYSTEMS SUPPLYING THE LANDS DESCRIBED HEREIN. A MUNICIPAL LIEN SEARCH WILL NEED TO BE ORDERED AND WILL TAKE 10 TO 15 BUSINESS DAYS TO COMPLETE. SUGGESTED VENDORS ARE:



LINE #	LENGTH	BEARING
L1	94.48'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	155.41'	N89°36'55"E
L4	51.20'	S13°03'40"W
L5	248.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

SURVEY NOTES:

1. BEARINGS SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT). THE NORTH LINE OF THE S.E. 1/4 OF THE S.W. 1/4 OF SECTION 5, RANGE 26 SOUTH, RANGE 31, EAST, BEING N89°11'57"E.
2. ALL COURSES AND DISTANCES SHOWN HEREON, ARE MEASURED UNLESS OTHERWISE STATED.
3. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM MAP NO. 12097C0280 G, COMMUNITY NO. 120189, EFFECTIVE JUNE 18, 2013, THIS PROPERTY IS LOCATED IN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
4. LOT 1 IS ADJACENT AND CONTIGUOUS TO A PUBLICLY DEDICATED RIGHT–OF–WAY AND HAS LEGAL AND PHYSICAL ACCESS TO U.S. HIGHWAY 441/192 AND PUFFIN ROAD VIA TRACT B, EXCHANGE AT SAINT CLOUD AS RECORDED IN PLAT BOOK 33, PAGE 159 OF THE PUBLIC RECORDS OF OSCEOLA COUNTY. TRACT B IS A PUBLICLY DEDICATED ROAD RIGHT–OF–WAY LYING TO THE EAST OF THE PROPERTY.
5. LOT 2 HAS DIRECT ACCESS TO U.S. HIGHWAY 441/192.
6. LOTS 1 AND 2 ARE CONTIGUOUS ALONG COMMON BOUNDARY LINES WITHOUT GAP, GORE, OVERLAP OR HIATUS.
7. ADDRESS OF PHYSICAL LOCATION IS EAST IRLO BRONSON MEMORIAL HIGHWAY, SAINT CLOUD, FLORIDA 34771
8. AS TO ITEMS 7, 8, 9, & 16 OF TABLE A, THE SUBJECT PROPERTY IS AN ABANDONED ORANGE GROVE, VOID OF ANY IMPROVEMENTS AND WITH NO SIGNS OF EARTH MOVING AT THE TIME OF SURVEY.

AC = AIR CONDITIONER
BFP = BACK FLOW PREVENTER
BK = BOOK
BLDG. = BUILDING
BM. = BENCHMARK
BOC = BACK OF CURB
BOL = BOLLARD
BWF = BARB WIRE FENCE
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(P) = PLAT DATA
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◉ = NAIL & DISC
○ = IRON PIPE
● = FND 5/8" IRON ROD & CAP L.B. #3270 (UNLESS NOTED OTHERWISE)
= FIRE HYDRANT

— OE — BUILDING SETBACK LINE
— OE — OVERHEAD ELECTRIC LINE
— OHW — OVERHEAD WIRE
— G — GAS LINE
— W — WATER LINE
UTILITY/POWER POLE
GUY WIRE
TELEPHONE BOX
ELECTRIC BOX
LIGHT POLE
CLEANOUT
SANITARY SEWER MANHOLE
STORM DRAINAGE MANHOLE
TREE
CABLE BOX
VALVE(W/NOTE)
PARKING SPACES
SIGN
TEMPORARY BENCHMARK

To:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS and includes Items 1, 2, 3, 4, 5, 6(a), 6(b), 7(a), 7(b1), 7(c), 8, 9, 10, 11, 11(a), 11(b), 13, 14, 15, 16, 17, 18, 19, AND 20, of Table A thereof.

The field work was completed on October 9, 2025.
Date of Plat or Map: October 16, 2024.

John Michael Hughes License Number 6367 State of Florida Professional Surveyor and Mapper

Digitally signed by John M Hughes
Date: 2025.11.04 17:15:52 -05'00'

John M. Hughes, P.S.M. # 6367 — Date Signed

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DESIGN	N/A	FB#	DCF	SEC	5
DRAWN	R.C.	PAGE	DCF	TWP	26 S.
CK'D	J.H.	SCALE	1" = 100'	RGE	31 E.
CAD#	5450–6	DATE OF SURVEY	10–09–25		

DATE	BY	REVISIONS
10/30/25	RC	UPDATED ALTA SURVEY

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741
PHONE (407) 847–9433 FAX (407) 847–2499
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PREPARED FOR:

FERBER CONSTRUCTION MANAGEMENT, LLC

ALTA/NSPS LAND TITLE SURVEY

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

SHEET NO.
C-02

JOB# 5450–06

I:\5450–06\SURVEY1\CADD\BT&T\5450–06_Alta.dwg * Oct 30, 2025–3:01pm * plotted by rcook

PLAT OF SURVEY

LEGAL DESCRIPTION:

LOTS 1 AND 2, EXCHANGE AT SAINT CLOUD, ACCORDING TO PLAT THEREOF, AS RECORDED IN PLAT BOOK BOOK 33, PAGE 159 OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.

SURVEY NOTES:

1. BEARINGS SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT). THE NORTH LINE OF THE S.E. 1/4 OF THE S.W. 1/4 OF SECTION 5, RANGE 26 SOUTH, RANGE 31, EAST, BEING N89°11'57"E.
2. ALL COURSES AND DISTANCES SHOWN HEREON, ARE MEASURED UNLESS OTHERWISE STATED.
3. ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM MAP NO. 12097C0280 G, COMMUNITY NO. 120189, EFFECTIVE JUNE 18, 2013, THIS PROPERTY IS LOCATED IN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

St. Cloud FLORIDA
Your Centerpiece for Living

APPROVED WITH CONDITIONS
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature



LOCATION MAP
NOT TO SCALE

N.W. CORNER OF THE SE 1/4 OF THE SW 1/4
FOUND 4"X4" C.M.
L.B. #6723

ASHTON PARK
PLAT BOOK 13, PAGE 157-158

TRACT G – STORMWATER BUFFER
RIVERCREST AT NARCOOSSEE
PROPERTY OWNERS ASSOCIATION
05-26-31-0643-0001-00G0

RIVERCREST AT NARCOOSSEE
PLAT BOOK 28, PAGE 48-49

92
SEMINOLE LAND AND INVESTMENT COMPANY'S SUBDIVISION OF SECTION 5-26-31
PLAT BOOK B, PAGE 22

PUFFIN ROAD
TRACT RW-2

FOUND 4"X4" C.M.
NO I.D.

S89°11'57"E 1291.79'

N.E. CORNER OF THE SE 1/4 OF THE SW 1/4 SECTION 5-26-31
FOUND 5/8" I.R.
NO I.D. CAP

175.79'

STORMWATER MANAGEMENT EASEMENT

N90°00'00"E 540.60'

S80°03'15"E 260.28'

N00°48'05"E 131.27'

10.00' D&U ESMT

S00°01'19"E 362.71'

TRACT B – ROAD RIGHT OF WAY

STORMWATER MANAGEMENT EASEMENT

S00°01'17"W 842.42'

N00°00'00"E 641.92'

N53°35'17"E 165.13'

72.884
TBM B-IRC LB3270

LOT 1
24.522 ACRES ±
ZONED: HB

L=78.18'
R=495.00'
Δ=009°02'56"
C.B.=S04°31'09"W
C.D.=78.10'

L=79.80'
R=545.00'
Δ=008°23'22"
C.B.=S04°50'56"W
C.D.=79.73'

S09°02'53"W 51.84'

POND

TRACT C-STORMWATER POND
CANOPY WALK – PHASE ONE
PLAT BOOK 25, PAGE 157-158

FOUND 5/8" I.R.
NO I.D. CAP

623 PARTNERS LLC
05-26-31-0009-0001-0020

S00°39'15"W 131.42'

S02°45'53"W 121.65'

1.544 ACRES +/-

LINE TABLE

LINE #	LENGTH	BEARING
L1	94.48'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	155.41'	N89°36'55"E
L4	51.20'	S13°03'40"W
L5	248.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

TRACT D
ASHTON ESTATES
PLAT BOOK 6, PAGE 128

TRACT E
ASHTON ESTATES
PLAT BOOK 6, PAGE 128

N01°16'09"W 94.48'

EAST 1322'

N.W. CORNER OF SECTION 8-25-31

FOUND 4"X4" C.M.
L.B. #4140

L=1083.24' (M)
R=11559.20' (M)
Δ=5°22'09" (M)
C.B.=N87°40'14"W (M)
C.D.=1082.84' (M)

S. LINE OF SECTION 5-26-31
N. LINE OF SECTION 8-26-31

S89°36'55"W 155.41'

N00°38'41"E 89.96' (M)
N00°38'32"E 69.93' (P)

LOT 2
15.346 ACRES ±
ZONED: HB

TRACT B – ROAD RIGHT OF WAY
P.B. 33, PAGE 159

S.E. CORNER OF THE SE 1/4 OF THE SW 1/4 SECTION 5-26-31
FOUND 5/8" I.R.
L.B. #966

N.E. CORNER OF SECTION 8-26-31

WEST 2650.2'

FOUND 5/8" I.R.
L.B. #966

FLORIDA DEPARTMENT OF TRANSPORTATION
605 SUWANNEE STREET, MS 57
TALLAHASSEE, FLORIDA 32399-0450

U.S. HIGHWAY 441/192
(200.00' PUBLIC R/W)
(ASPHALT PAVED)
(50 MPH ZONE)

(3) 12' TRAVEL LANES
5' BIKE LANE
CONCRETE CURB & GRASS MEDIAN
CURB INLET
RECLAIMED P.

SEE SHEETS 2 AND 3 FOR DETAILS

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

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= OVERHEAD ELECTRIC LINE
= OVERHEAD WIRE
= GAS LINE
= WATER LINE
= UTILITY/POWER POLE
= GUY WIRE
= TELEPHONE BOX
= ELECTRIC BOX
= LIGHT POLE
= CLEANOUT
= SANITARY SEWER MANHOLE
= STORM DRAINAGE MANHOLE
= TREE
= CABLE BOX
= VALVE(W/NOTE)
= PARKING SPACES
= SIGN
= TEMPORARY BENCHMARK

LINE TYPES
WATER MAIN
RE-USE WATER
SANITARY SEWER
UNDERGROUND ELECTRIC LINE
UNDERGROUND TELEPHONE LINE
BURIED CABLE TV
BURIED FIBER-OPTIC CABLE
OVERHEAD TELEPHONE LINE

I hereby certify that the survey represented hereon has been prepared in accordance with the Standards of Practice as set forth in Chapter 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

Digitally signed by John M Hughes
Date: 2026.03.26 16:15:06 -04'00'

John M. Hughes, P.S.M. #6367 Date Signed

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DESIGN ____ FB# DCF
DRAWN RC PAGE DCF
CK'D JH SCALE 1" = 100'
CAD# SEE STAMP DATE OF SURVEY 10-09-25
SEC 5 & 8
TWP 26 S.
RGE 31 E.

DATE	BY	REVISIONS
02/17/26	RC	ADDED POND SOUNDINGS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741
PHONE (407) 847-9433 FAX (407) 847-2499
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PREPARED FOR:
NIM WHITLEY
FERBER CONSTRUCTION MANAGEMENT, LLC

BOUNDARY & TOPOGRAPHIC SURVEY

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

SHEET NO.
C-02A of C-50
JOB# 5450-05

I:\5450-06 SURVEY\CADD\PLAT\5450-06_BND (RENUMBERED).dwg - Mar 26, 2026 - 4:14pm - plotted by JHughes

PLAT OF SURVEY

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes. Development Review Committee. Please refer to approval letter for conditions

1322'

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

SEE SHEET 2 OF 3

SEE SHEET 3 OF 3

N01°16'09"W 94.48'

FOUND 4"X4" C.M. L.B. #4140

6' CLF. ON-LINE

6' CLF. TIE 0.5'W. 9.7' N.

FLARED END 12"x24" E.R.C.P.

FIBER OPTIC VAULT

5.00' CONC. SIDEWALK

CONCRETE CAMERA POLE

EMPTY FIBER OPTIC VAULT

S. LINE OF SECTION 5-26-31

N. LINE OF SECTION 8-26-31

L=1083.24' (M)
R=11559.20' (M)
Δ=5°22'09" (M)
C.B.=N87°40'14"W (M)
C.D.=1082.84' (M)

10.00' D&U ESM'T

CONC. APRON

OVERHEAD TRAFFIC SIGN

S89°36'55"W 155.41'

CURB INLET

(3) 12' TRAVEL LANES

5' BIKE LANE

CONCRETE CURB & GRASS MEDIAN

47.26'

47.70'

U.S. HIGHWAY 441/192
(200.00' PUBLIC R/W)
(ASPHALT PAVED)
(50 MPH ZONE)

C/L SWALE

TOB

DITCH BOTTOM

LINE TYPES

WATER MAIN —— — —wm— — — —wm— — ——

RE-USE WATER —— — —ru— — — —ru— — ——

SANITARY SEWER —— — —fm— — — —fm— — ——

UNDERGROUND ELECTRIC LINE ——UGE—— UGE

UNDERGROUND TELEPHONE LINE ——UGT—— UGT

BURIED CABLE TV — — —TELE— — — —TELE— — ——

BURIED FIBER-OPTIC CABLE ——FOC—— FOC

OVERHEAD TELEPHONE LINE — — —ohl— — — —ohl— — ——

AC = AIR CONDITIONER
BFP = BACK FLOW PREVENTER
BK = BOOK
BLDG. = BUILDING
BM. = BENCHMARK
BOC = BACK OF CURB
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C.D. = CHORD DISTANCE
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C.M. = CONCRETE MONUMENT
CMP = CORREGATED METAL PIPE
C.O. = CLEAN OUT
COM. = COMMUNICATION
CONC. = CONCRETE

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● = FND 5/8" IRON ROD & CAP L.B. #3270 (UNLESS NOTED OTHERWISE)
= FIRE HYDRANT

BUILDING SETBACK LINE
OHE OVERHEAD ELECTRIC LINE
OHW OVERHEAD WIRE
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W WATER LINE
UTILITY/POWER POLE
GUY WIRE
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ELECTRIC BOX
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SANITARY SEWER MANHOLE
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TREE
CABLE BOX
VALVE(W/NOTE)
PARKING SPACES
SIGN
TEMPORARY BENCHMARK

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

I hereby certify that the survey represented hereon has been prepared in accordance with the Standards of Practice as set forth in Chapter 5J-17, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

Digitally signed by John M Hughes
Date: 2026.03.26 16:16:14 -04'00'

John M. Hughes, P.S.M. #6367 Date Signed

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DESIGN DESIGN
DRAWN DRAWNBY
CK'D RH/CC
CAD# SEESTAMP

FB# FIELDBOOK
PAGE PGE
SCALE SCALE
DATE OF SURVEY DATE

SEC SEC
TWP TWP
RGE RGE

DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741
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BOUNDARY & TOPOGRAPHIC SURVEY

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C-2B of C-50

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Date: 6/29/2026 Case#: SUB25-00041

SHAUN RAJA
Authorized Signature

SEE SHEET C-3 OF 3

SEE SHEET C-1 OF 3

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TRACT B-1

S.E. CORNER OF THE SE 1/4 OF THE SW 1/4 SECTION 5-26-31
FOUND 5/8" I.R.
L.B. #966

N.E. CORNER OF SECTION 8-26-31

WEST 2650.2'

EMPTY FIBER OPTIC VAULT

ABANDONED LIGHT BOX

FIBER OPTIC VAULT

FOUND 5/8" I.R.
L.B. #966

5.00' CONC. SIDEWALK

CONC. APRON

CURB INLET

5' BIKE LANE

200' WIDE R/W

TOB

DITCH BOTTOM

IE 73.60'
ERCP 19"X30"

IE 71.54'
ERCP 19"X30"

IE 71.20'
ERCP 19"X30"

IE 72.00'
18" RCP

IE 70.65'
18" RCP

RECLAIMED WATER VALVE (TYPICAL)

LINE TYPES

WATER MAIN	wm
RE-USE WATER	ru
SANITARY SEWER	fm
UNDERGROUND ELECTRIC LINE	UGE
UNDERGROUND TELEPHONE LINE	UGT
BURIED CABLE TV	TELE
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(IN FEET)
1 inch = 30 ft.

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STATE OF FLORIDA JOHN MICHAEL HUGHES LICENSE NUMBER 6367 REGISTERED LAND SURVEYOR

Digitally signed by John M Hughes
Date: 2026.03.26 16:17:24 -04'00'

John M. Hughes, P.S.M. #6367 Date Signed

DESIGN DESIGN | FB# FIELDBOOK
DRAWN DRAWNBY | PAGE PGE
CK'D RH/CC | SCALE SCALE
CAD# SEESTAMP | DATE OF SURVEY DATE
SEC SEC | TWP TWP | RGE RGE

DATE	BY	REVISIONS

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BOUNDARY & TOPOGRAPHIC SURVEY

SHEET NO.
C-2C of C-50
JOB# 5450-05

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N:\5450-05\SURVEY\CAD\BFR\5450-05.DWG • Mar 26, 2026 - 4:16pm • plotted by jhughes

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Date: 6/18/2026 Case#: SUB25-00041

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Authorized Signature

LEGEND

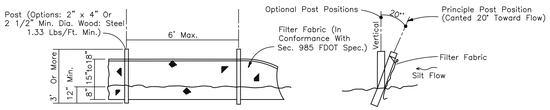
75.9 x	EXISTING GRADE
SEE TREE MITIGATION SHEET LP003 IN THE LANDSCAPE SECTION FOR TREE INFORMATION	
	EXISTING TREE TO BE REMOVED
	EXISTING TREE TO SAVED
	PROPOSED TREE SAVE
	SILT FENCE
	EXISTING FEATURE/ITEM (TO BE REMOVED)



COMPLETED INLET — DITCH BOTTOM INLET

Anchor Boles With 2 – 2" x 2" x 4' Stakes Per Bale.

PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



ELEVATION — SECTION

Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE

SPECIFICATIONS – WOOD BARRIER

1. MINIMUM RADIUS TO BE PROTECTED:
   A. HARDWOODS – 2/3 OF DRIP LINE OR 6', WHICHEVER IS GREATER.
   B. PINES – DRIP LINE OR 6' WHICHEVER IS GREATER.
2. MINIMUM 3' IN HEIGHT.
3. METHOD OF ERECTION (SEE DIAGRAM): UPRIGHT STEEL "T" POSTS, 5'–0" O.C. WITH 4'–0" HIGH FLUORESCENT MESH FENCE.
4. BARRIERS TO BE ERECTED AROUND REMAINING TREES BEFORE CONSTRUCTION OR NEARBY TREES ARE REMOVED.
5. BARRIERS TO REMAIN IN PLACE UNTIL ALL PAVING, CONSTRUCTION AND HEAVY EQUIPMENT IS OUT OF AREA. NOTE TO CONTRACTOR: REQUIRED TREE BARRICADES AND EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT CONSTRUCTION.
6. CONSTRUCT SILT FENCE AROUND PROTECTED TREES.

EROSION CONTROL NOTES:

1. UPON COMPLETION OF MASS GRADING, AREAS ARE TO BE SEEDED W/MILLET FOR EROSION CONTROL.
2. UPON COMPLETION OF CONSTRUCTION OF PONDS, SIDE SLOPES TO BE SODDED.
3. SILT FENCE TO BE SET AROUND PERIMETER OF AREAS THAT ARE TO BE EXCAVATED AND MASS GRADED TO PREVENT EROSION AND TRANSPORT OF SEDIMENT OFF SITE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AS PART OF THEIR BMP'S AND POLLUTION ABATEMENT PROCESS. CONTRACTOR SHALL USE WATER TRUCKS, ENFORCE REDUCED VEHICLE SPEED ON UNPAVED ROADS AND IF NECESSARY PROHIBIT CONSTRUCTION GRADING WHEN WIND GUST EXCEED 25 MPH OR OTHERWISE DIRECTED BY EOR OR COUNTY OFFICIAL.
5. ANY AREAS EXPOSED BY CLEARING AND GRUBBING SHALL BE LIMITED TO TEN ACRES AT A TIME PER LDC 4.5.4.C
6. THE ENTIRE WETLAND IMPACT AND SURFACE WATER IMPACT AREAS WILL BE DEWATERED AND ALL UNSUITABLE SUBSOIL SUCH AS MUCK, CLAY AND OR ROCK WILL BE EXCAVATED AND REMOVED BEFORE PLACING FILL. ADDITIONALLY, ONLY SUITABLE MATERIALS SHALL BE USED FOR THE FILL AND SHALL BE DONE IN LAYERS NOT EXCEEDING 12 INCHES IN THICKNESS AND COMPACTED TO 95% MAX DENSITY PER AASTHO T–180.
7. CLEARING CONSTRUCTION SITE CLEARING AND GRUBBING SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF ALL BUILDINGS, TIMBER, BRUSH, STUMPS, ROOTS, RUBBISH, AND DEBRIS AND ALL OTHER OBSTRUCTIONS RESTING OR PROTRUDING THROUGH THE SURFACE OF EXCAVATED AREAS, AND OF ALL OTHER STRUCTURES AND OBSTRUCTIONS NECESSARY TO BE REMOVED AS DESIGNATED ON THE APPROVED PLANS. THE WORK SHALL INCLUDE DISPOSAL OF THE CLEARED VEGETATION, DEBRIS AND OTHER UNSUITABLE MATERIALS IN A MANNER SUITABLE TO THE ENGINEER AND OSCEOLA COUNTY. ALL CLEARING AND GRUBBING SHALL COMPLY WITH FDOT STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, MOST CURRENT EDITION.
8. ALL SILT FENCES OR CONSTRUCTION PRIVACY FENCING SHOULD NOT BLOCK SIGHTLINES. ⚠

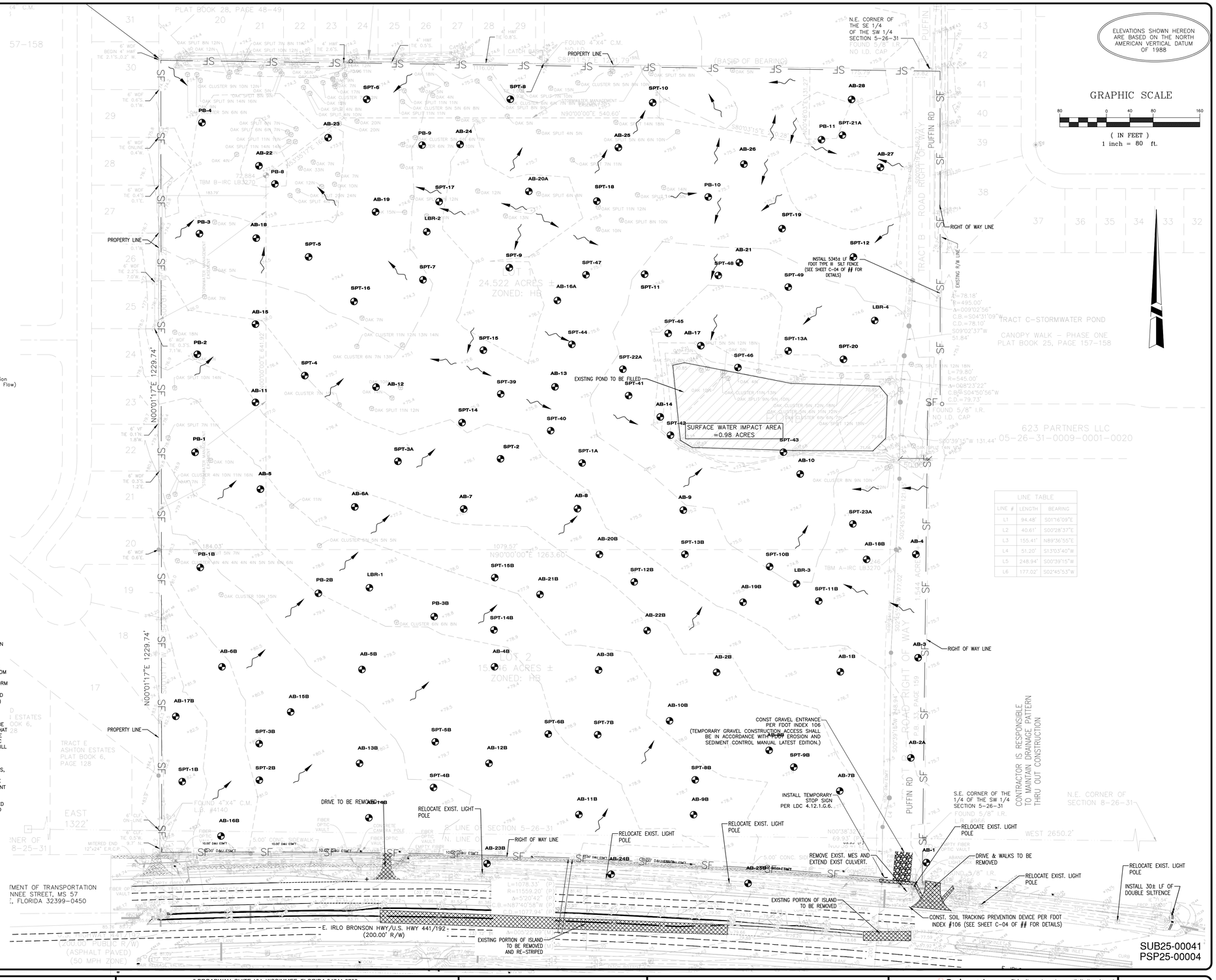
NOTES:

1. EXCAVATION ACTIVITY SHALL BE CONDUCTED SO AS TO CONTROL THE GENERATION AND OFF–SITE MIGRATION OF DUSTS AND PARTICLES. ALL AREAS IN WHICH SUCH DUSTS OR PARTICLES MAY BE GENERATED SHALL BE KEPT WET, TREATED WITH CHEMICAL DUST DETERGENTS, OR CONTROLLED IN ANOTHER MANNER TO REDUCE THE POTENTIAL FOR THEIR OFF–SITE MIGRATION. ATMOSPHERIC DISCHARGES FROM PROCESSING AND DRYING EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE STATE, FEDERAL AND LOCAL LAWS. TO MINIMIZE DUST AND TO PREVENT THE DEPOSIT OD SOIL EXCAVATION MATERIAL ON PAVED ROADS, TRUCKS SHALL BE COVERED WITH THEIR TAILGATES LATCHED. DIRT ROAD SEGMENTS OF THE DESIGNATED HAUL ROUTE SHALL REQUIRE REGULAR WATERING, AS NECESSARY, TO MINIMIZE DUST GENERATED BY HAULING ACTIVITIES".

PERMANENT EROSION CONTROL (LDC 4.5.5)

A. PERMANENT SEEDING ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION SHALL, AT A MINIMUM, BE FERTILIZED AND SEEDED.
B. PERMANENT SEEDING AND MULCHING IN ADDITION TO THE MINIMUM REQUIREMENTS ABOVE, SLOPES OF FROM 6:1 TO 3:1, INCLUSIVE, WILL BE MULCHED WITH A UNIFORM THICKNESS OF APPROXIMATELY TWO (2) INCHES. LOOSE MEASURE, OF MULCH MATERIAL INCORPORATED INTO THE SOIL BY MIXING TO A DEPTH OF FOUR (4) INCHES.
C. PERMANENT SODDING AT A MINIMUM, ALL RETENTION/DETENTION BASINS SIDE SLOPES SHALL BE SOLID SODDED. AN ALTERNATIVE LANDSCAPE PLAN THAT PROVIDES STABILIZATION OF THE SIDE SLOPE MAY BE CONSIDERED. ALL EXPOSED AREAS INCLUDING PUBLIC RIGHTS–OF–WAY WITH SLOPES STEEPER THAN 4:1 WILL BE SOLID SODDED.
D. STRIP SODDING STRIP SOD ONE (1) FOOT WIDE OR GREATER SHALL BE PLACED ADJACENT TO ALL CURBS, WALKS AND PAVEMENT. IN AREAS WITH A SIDEWALK, THE ENTIRE AREA BETWEEN THE SIDEWALK AND THE BACK OF CURB AND/OR EDGE OF PAVEMENT SHALL BE SODDED.
E. REGRASSING ALL GRASSED AREAS WILL BE MAINTAINED TO ASSURE A GOOD STAND AND SUFFICIENT GROUND COVER TO MINIMIZE EROSION. IF AFTER SIXTY (60) DAYS AN ADEQUATE GROUND COVER HAS NOT BEEN ESTABLISHED, THE AREA WILL BE REGRASSED

SECURITY NOTE:
CONTRACTOR SHALL COMPLY WITH LDC 4.12.1G, THIS INCLUDES BUT NOT LIMITED TO SECURITY AND UNAUTHORIZED ACCESS TO SITE.



LINE TABLE		
LINE #	LENGTH	BEARING
L1	94.48'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	155.41'	N89°38'55"E
L4	51.20'	S13°03'40"W
L5	248.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

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DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
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CAD#	(see stamp)	DATE	2/12/26
SEC.	5 & 8		
TWP.	26 S		
RANGE	31 E		

DATE	BY	REVISIONS
03–19–26	CM	REVISED PER TOHO COMMENTS ⚠
02–26–26	CM	REVISED PER CITY COMMENTS ⚠
01–13–26	CM	REVISED PER TOHO & FDOT COMMENTS ⚠

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

EROSION CONTROL PLAN

ROBERT LEE NEWBERRY LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:44:54 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

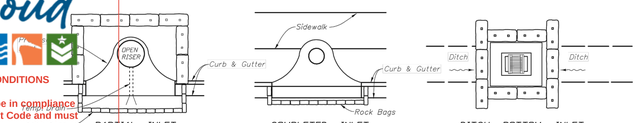
Signature must be verified on any electronic copies.

SHEET Nº C-03 of C-50

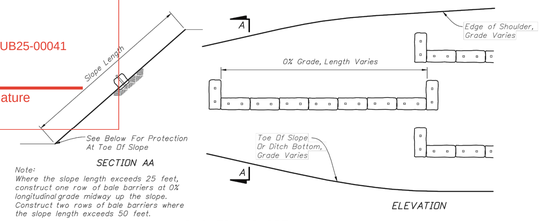
JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 EROSION CONTROL PLAN.dwg • Mar 26, 2026–3:43pm • plotted by RSouser

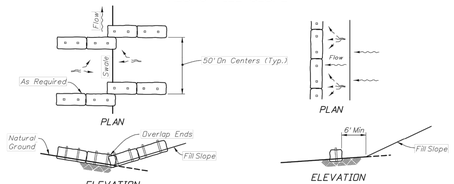
St. Cloud FLORIDA Your Centerplace for Life
APPROVED WITH CONDITIONS
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions
Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature



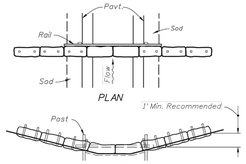
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



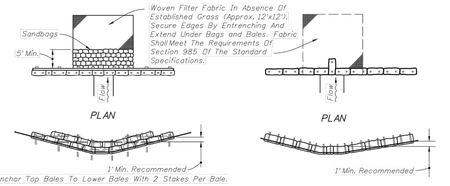
ALONG FILL SLOPE



AT TOE OF SLOPE
BARRIERS FOR FILL SLOPES



SYNTHETIC BALES OR BALE TYPE BARRIERS FOR PAVED DITCHES

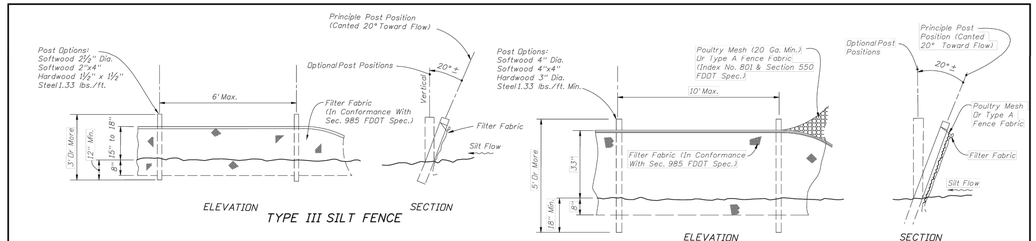


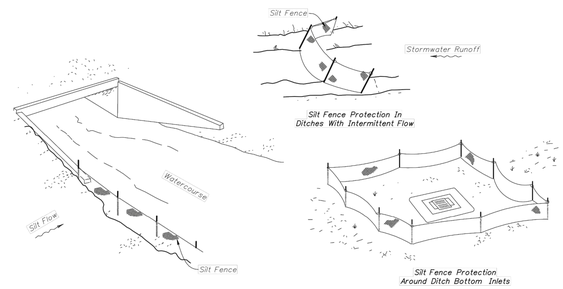
SYNTHETIC BALES OR BALE TYPE BARRIERS FOR UNPAVED DITCHES

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

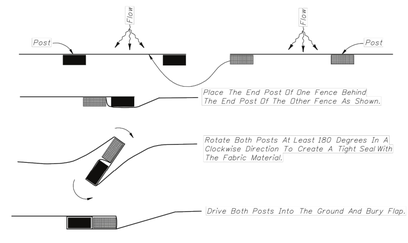
1. Type I and II Synthetic Barrier should be spaced in accordance with Chart 1, Sheet 1.
2. Bales shall be anchored with 2-1" x 2" (or 1" dia.) x 4' wood stakes. Stakes of other material or shape providing equivalent strength may be used if approved by the Engineer. Stakes other than wood shall be removed upon completion of the project.
3. Rails and posts shall be 2" x 4" wood. Other materials providing equivalent strength may be used if approved by the Engineer.
4. Adjacent bales shall be butted firmly together.
5. Where used in conjunction with silt fence, bales shall be placed on the upstream side of the fence.
6. Bales to be paid for under the contract unit price for Synthetic Bales, LF. The unit price shall include the cost of filter fabric for Type I and II Barriers. Sandbags shall be paid for under the unit price for Sandbagging, CY. Rock bags to be paid for under the contract unit price for Rock Bags, EA.

2010 FDOT Design Standards	Last Revision 07/01/09	Sheet No. 2 of 3
TEMPORARY EROSION AND SEDIMENT CONTROL		Index No. 102





SILT FENCE APPLICATIONS

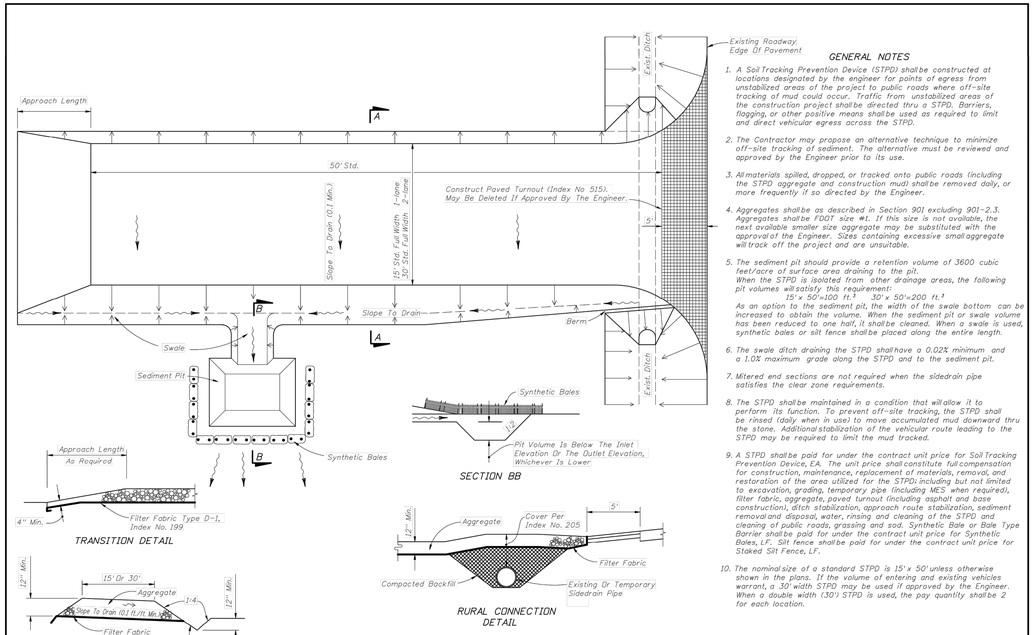


PLAN VIEW
JOINING TWO SILT FENCES

NOTES FOR SILT FENCES

1. Type III Silt Fence to be used at most locations. Where used in ditches, the spacing for Type III Silt fence shall be in accordance with Chart 1, Sheet 1.
2. Type IV Silt Fence to be used where large sediment loads are anticipated. Suggested use is where fill slope is 1:2 or steeper and length of slope exceeds 25 feet. Avoid use where the detained water may back into travel lanes or off the right of way.
3. Do not construct silt fences across permanent flowing watercourses. Silt fences are to be at upland locations and turbidity barriers used at permanent bodies of water.
4. Where used as slope protection, Silt Fence is to be constructed on 0% longitudinal grade to avoid channelizing runoff along the length of the fence.
5. Silt Fence to be paid for under the contract unit price for Staked Silt Fence, (LF).

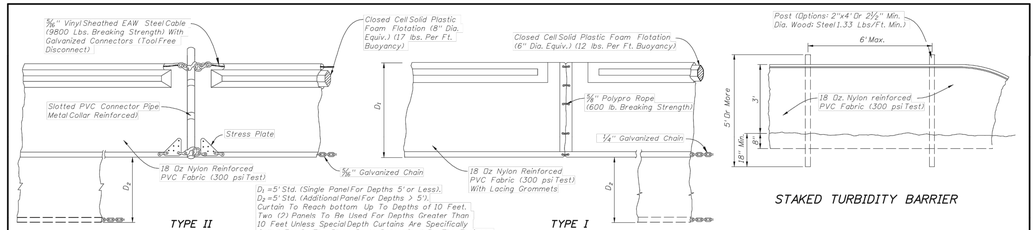
2010 FDOT Design Standards	Last Revision 07/01/05	Sheet No. 3 of 3
TEMPORARY EROSION AND SEDIMENT CONTROL		Index No. 102



GENERAL NOTES

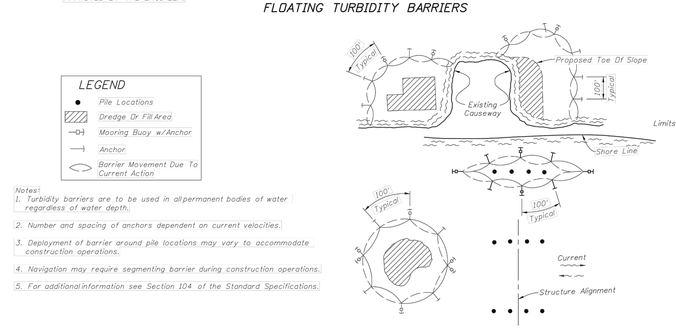
1. A Soil Tracking Prevention Device (STPD) shall be constructed at locations designated by the engineer for points of egress from unstabilized areas of the project to public roads where off-site tracking of mud could occur. Traffic from unstabilized areas of the construction project shall be directed thru a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular egress across the STPD.
2. The Contractor may propose an alternative technique to minimize off-site tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
3. All materials spilled, dropped, or tracked onto public roads (including the STPD aggregate and construction mud) shall be removed daily, or more frequently if so directed by the Engineer.
4. Aggregates shall be as described in Section 901 excluding 901-2.3. Aggregates shall be FDOT size #1. If this size is not available, the next available smaller size aggregate may be substituted with the approval of the Engineer. Sizes containing excessive small aggregate will track off the project and are unsuitable.
5. The sediment pit should provide a retention volume of 3600 cubic feet/acre of surface area draining to the pit. When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
   15' x 50'=100 ft.³ 30' x 50'=200 ft.³
   As an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume has been reduced to one half, it shall be cleaned. When a swale is used, synthetic bales or silt fence shall be placed along the entire length.
6. The swale ditch draining the STPD shall have a 0.02% minimum and a 1.0% maximum grade along the STPD and to the sediment pit.
7. Mitered end sections are not required when the sidedrain pipe satisfies the clear zone requirements.
8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent off-site tracking, the STPD shall be rinsed (daily when in use) to move accumulated mud downward thru the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit the mud tracked.
9. A STPD shall be paid for under the contract unit price for Soil Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal, and restoration of the area utilized for the STPD; including but not limited to excavation, grading, temporary pipe (including MES when required), filter fabric, aggregate, paved turnout (including asphalt and base construction), ditch stabilization, approach route stabilization, sediment removal and disposal, water, rinsing and cleaning of the STPD and cleaning of public roads, grassing and sod. Synthetic Bale or Bale Type Barrier shall be paid for under the contract unit price for Synthetic Bales, LF. Silt fence shall be paid for under the contract unit price for Staked Silt Fence, LF.
10. The nominal size of a standard STPD is 15' x 50' unless otherwise shown in the plans. If the volume of entering and existing vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

2010 FDOT Design Standards	Last Revision 07/01/07	Sheet No. 1 of 1
SOIL TRACKING PREVENTION DEVICE TYPE A		Index No. 106



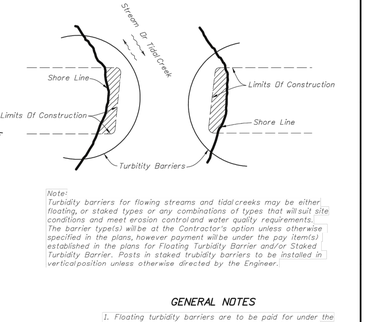
NOTICE:
COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS



Notes:
1. Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.
2. Number and spacing of anchors dependent on current velocities.
3. Deployment of barrier around pile locations may vary to accommodate construction operations.
4. Navigation may require segmenting barrier during construction operations.
5. For additional information see Section 104 of the Standard Specifications.

TURBIDITY BARRIER APPLICATIONS



Note:
Turbidity barriers for flowing streams and tidal creeks may be either floating, or staked types or any combinations of types that will suit site conditions and meet erosion control and water quality requirements. The barrier type(s) will be at the Contractor's option unless otherwise specified in the plans, however payment will be under the pay item(s) established in the plans for Floating Turbidity Barrier and/or Staked Turbidity Barrier. Posts in staked turbidity barriers to be installed in vertical position unless otherwise directed by the Engineer.

GENERAL NOTES

1. Floating turbidity barriers are to be paid for under the contract unit price for Floating Turbidity Barrier, LF.
2. Staked turbidity barriers are to be paid for under the contract unit price for Staked Turbidity Barrier, LF.

2010 FDOT Design Standards	Last Revision 07/01/07	Sheet No. 1 of 1
TURBIDITY BARRIERS		Index No. 103

SUB25-00041
PSP25-00004

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CAD#	(see stamp)	DATE	2/12/26	

SEC.	5 & 8	
TWP.	26 S	
RANGE	31 E	

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Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

EROSION CONTROL DETAILS

Robert L Newberry 2026.03.26 17:45:12 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-04 of C-50

JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 EROSION CONTROL PLAN.dwg • Mar 11, 2026-11:00am • plotted by RSouser

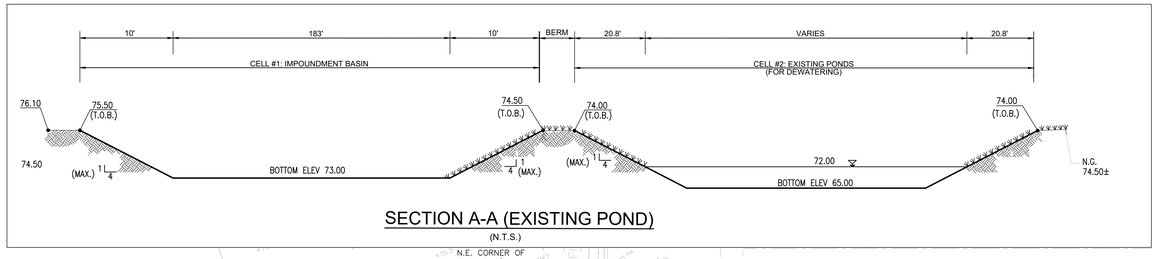
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

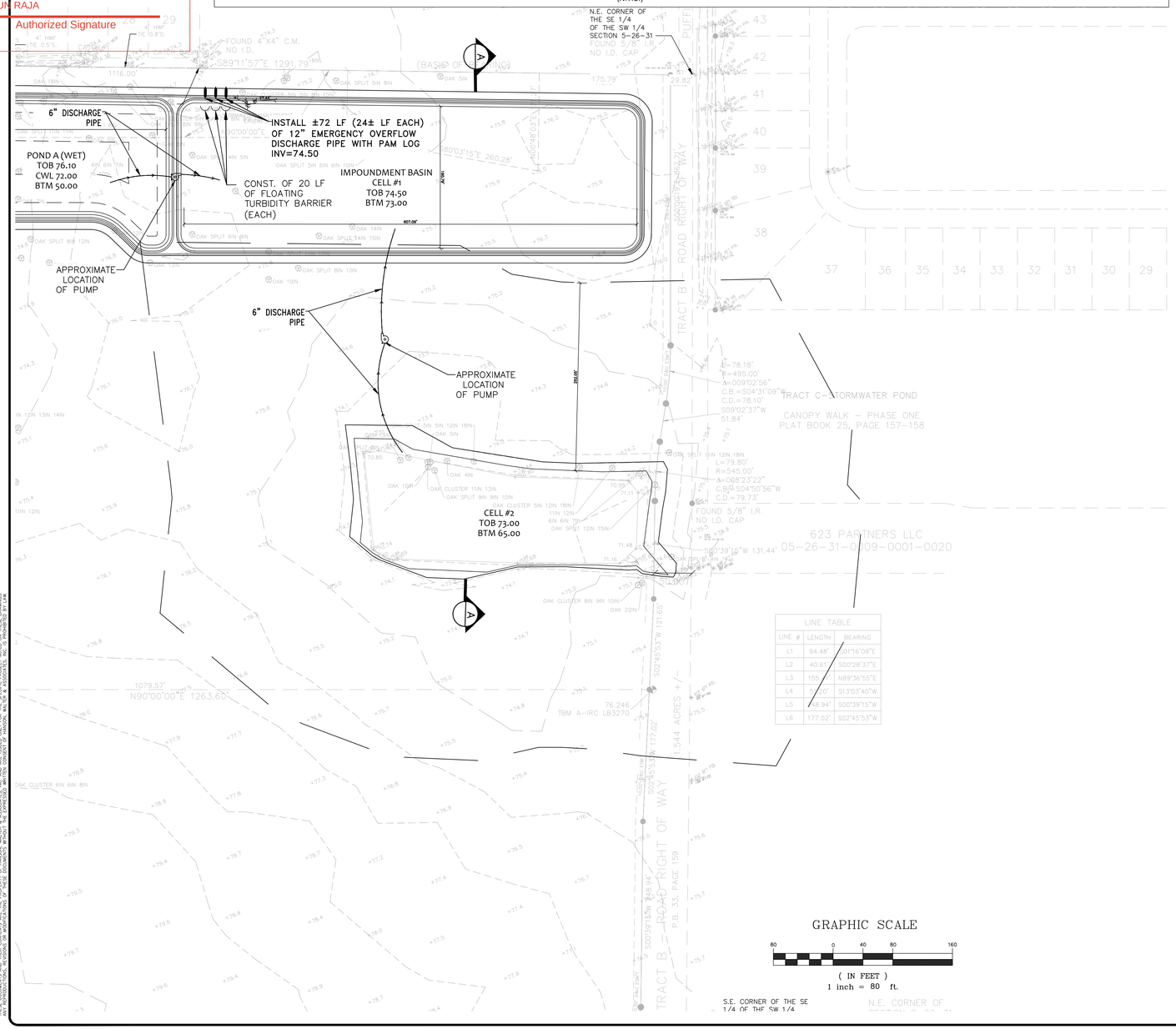
SHAUN RAJA

Authorized Signature



SECTION A-A (EXISTING POND)

(N.T.S.)



LINE TABLE		
LINE #	LENGTH	BEARING
L1	94.48'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	125.11'	N89°36'55"E
L4	71.20'	S13°03'40"W
L5	148.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

GRAPHIC SCALE

80 0 40 80 160

(IN FEET)
1 inch = 80 ft.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

PUFFIN ROAD COMMERCIAL (HWA-JOB-5450-05)

Assume 358' x 129' De-Watering (MUST PUT IN WHAT ANS DIMESIONS)

Del Webb: 50ft/day, 120feet nearby model (56-01067) T= 11280 gpd/ft S=.2

Aquifer thickness:	30 feet	(a)	9.144 meters
Aquifer Kh	15 feet/day	(a)	5.292E-05 met/sec
Excavation Trench:			
Length	358 feet	(b)	109.113 meters
Width	129 feet	(b)	39.317 meters
Dewater depth	6 feet	(c)	1.829 meters

R_o = 3000(H-h)sqrt(K)

aquifer thickness H		9.144 meters
dewater thickness h		7.315 meters
R_o	39.91 meters	130.9 feet
r_o = sqrt((L x W)/ pie)		
r_o	36.954 meters	121.24 feet
Total R:		**252.18** feet

Dewatering Flow Rate A direct calculation of flow rate may be derived from the following equation:

$$H^2 - h^2 = \frac{n \cdot q}{\pi \cdot k}(\ln R_o - \ln r_o)$$

Q

n * q = p*Kh * [(H2 - h2)/(ln Ro - ln re)]
n*Q

		for n =	m3/sec	GPM	MGD:
$H^2 - h^2$	30.098				
$\ln R_o - \ln r_o$	0.07692	1	6.505E-02	1031.037	1.485
p * Kh	1.662E-04	10		103.10	

PUMP CALCULATIONS:

PUMP INFLOW:

PUMP CAPACITY = 500 GPM

THE ESTIMATED AVERAGE DAILY WATER USE IS CALCULATED AT:
1 PUMP @ 500 GPM x (60 MIN./1 HR.) (12 HRS./1 DAY) = 360,000 GPD.

THE ESTIMATED MAXIMUM DAILY WATER USE IS CALCULATED AT:
1 PUMP @ 500 GPM x (60 MIN./1 HR.) x (24 HRS./1 DAY) = 720,000 GPD (2.21 AC-FT)

DIRECT RAINFALL (P):
ASSUME 10 YR./72 HR. DESIGN STORM P = 8.20 INCHES

CELL #2 IMPOUNDMENT
SURFACE AREA OF CELL #2 IMPOUNDMENT AREA = 1.55 AC
RAINFALL VOLUME (Rv) = 8.2 INCHES X 1 FT X 1.55 AC = 1.06 AC-FT
12 INCHES

TOTAL INFLOW TO IMPOUNDMENT AREA:

TOTAL INFLOW = PUMP INFLOW + DIRECT RAINFALL
TOTAL INFLOW = 2.21 AC-FT + 1.06 AC-FT = 3.27 AC-FT

IMPOUNDMENT STORAGE RELATIONSHIP:

CELL #1 STORAGE RELATIONSHIP:

STAGE (FT)	AREA (AC)	STORAGE (AC-FT)
73.00	2.67	0.00
74.00	2.82	2.75
74.50	2.89	4.17

CELL #1 PROVIDES ADEQUATE STORAGE FOR DEWATERING PURPOSES.

DEWATERING NOTES:

1. DEWATERING WILL BE HELD IN CELL 1 WITH ONSITE DISCHARGE. THE IMPOUNDMENT AREA IS 1.5 FT. HEIGHT. ONLY SUITABLE FILL MATERIALS WILL BE USED FOR EMBANKMENT AND SHALL BE DONE IN LAYERS NOT EXCEEDING 12" IN THICKNESS AND COMPACTED TO 95% MAX DENSITY PER ASTM D-1557 AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. THE IMPOUNDMENT WILL BE CONSTRUCTED PRIOR TO DEWATERING ACTIVITIES (REFER TO SECTION A-A).

2. ALL SILT FENCE SHALL BE INSTALLED PRIOR TO CONSTRUCTION.

3. CONSTRUCTION PHASING OF CELLS:

(A) CONSTRUCT IMPOUNDMENT AREA (CELL 1) PER SECTION A-A.
(B) DEWATER PROPOSED POND WHILE PUMPING INTO CELL 1. WATER LEVEL MUST BE MAINTAINED 1 FT. BELOW TOP IMPOUNDMENT AREA.
(C) DISCHARGE WILL MEET STATE WATER QUALITY STANDARDS. CONTRACTOR SHALL USE ADDITIONAL MEASURES NECESSARY TO ENSURE WATER QUALITY STANDARDS ARE MET, SPECIFICALLY TURBIDITY.
(D) SPRAY ALUM AS NEEDED TO MEET WATER QUALITY STANDARDS.
(E) DEWATERING WILL BE DONE IN ONE PHASE AND WILL CEASE DURING HEAVY RAINFALL EVENTS.
(F) INSTALL PAM LOG INSIDE FLOATING 12" INTAKE PIPE TO PREVENT TURBIDITY TO BE MONITORED AT SAMPLE POINT (TMSP#1) AS SHOWN ON THE PLAN.
(G) WATER LEVELS IN SWALES WILL BE MAINTAINED WITHIN ONE FOOT OR LESS OF THE TOP OF BERM/NATURAL GROUND SURFACE DURING AND AFTER THE DEWATERING OPERATIONS CONTRACTOR TO MAINTAIN WATER LEVEL TO ENSURE THAT THE TREATMENT SWALE DOES NOT OVERFLOW THE BERM.
(I) ALL SILT FENCES WILL BE IN PLACE PRIOR TO DEWATERING ACTIVITIES.

4. NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH MANNER AS TO DIRECT RUNNOFF DIRECLTLY OFF THE PROJECT SITE OR ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY PER LDC 4.5.4. D

5. DEWATERING OPERATIONS SHALL ABIDE BY LDC 4.12.1.F AND PROVIDE MINIMUM DRAWDOWN OF THE GROUNDWATER OUTSIDE THE ACTUAL POND EXCAVATION SITE. SHOULD THE COUNTY RECEIVE COMPLAINTS THAT THE DEWATERING OPERATION CAUSED FLUCTUATIONS IN THE GROUND WATER TABLE IN ADJACENT WATER BODIES, WETLAND AREAS OF WATER SUPPLY WELLS, DEWATERING OPERATION SHALL BE TERMINATED UNTIL SUCH TIME A MITIGATION PLANS IS DEVELOPED AND APPROVED BY THE COUNTY.

6. PERIODIC MAINTENANCE OF THE RECHARGE TRENCH MUST BE CONDUCTED TO ENSURE IT IS FREE OF SILT AND DEBRIS SINCE PAM LOG WILL BE USED.

7. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE, AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS. REFER TO MASTER SITE SPECIFICATIONS.

TURBIDITY MONITORING PLAN

MONITORING REQUIRED:

DESCRIPTION: TURBIDITY EXPRESSED IN NEPHELOMETRIC TURBIDITY UNITES (NTU).
LOCATION: BACKGROUND – SAMPLES SHALL BE TAKEN 200 FEET UPSTREAM OF ANY CONSTRUCTION ACTIVITY WITHIN SURFACE WATER OF THE STATE COMPLIANCE – SAMPLES SHALL BE TAKEN 200 FEET DOWNSTREAM.

FREQUENCY: TWICE DAILY, WITH AT LEAST A FOUR-HOUR INTERVAL, DURING ALL WORK AUTHORIZED BY THIS PERMIT.

DURATION: MONITORING SHALL BEGIN ON THE FIRST DAY OF CONSTRUCTION FOR ALL ACTIVITIES RELATED TO THE PROPOSED ACTIVITIES THAT ARE CLASSIFIED AS SURFACE WATERS OF THE STATE.
MONITORING SHALL CEASE WHEN ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROPOSED ACTIVITIES ARE COMPLETED.

THE MONITORING DATA MUST DEMONSTRATE THAT TURBIDITY 200 FEET DOWNSTREAM OF ALL PROPOSED ACTIVITIES IS LESS THAN OR EQUAL TO 29 NTU'S ABOVE NATURAL BACKGROUND TURBIDITY 200 FEET UPSTREAM OF EACH PROPOSED ACTIVITY FOR A PERIOD OF 7 CONSECUTIVE DAYS AFTER COMPLETION OF CONSTRUCTION.
ALL MONITORING DATA SHALL BE SUBMITTED WITHIN ONE WEEK OF ANALYSIS WITH DOCUMENTS CONTAINING THE FOLLOWING INFORMATION:
(1) PERMIT AND APPLICATION NUMBER;
(2) DATES OF SAMPLING AND ANALYSIS;
(3) A STATEMENT DESCRIBING THE METHODS USED IN COLLECTION, HANDLING, STORAGE AND ANALYSIS OF THE SAMPLES;
(4) A MAP INDICATING THE SAMPLING LOCATIONS AND
(5) A STATEMENT BY THE INDIVIDUAL RESPONSIBLE FOR IMPLEMENTATION OF THE SAMPLING PROGRAM CONCERNING THE AUTHENTICITY, PRECISION, LIMITS OF DETECTION AND ACCURACY OF THE DATA.
MONITORING REPORTS SHALL ALSO INCLUDE THE FOLLOWING INFORMATION FOR EACH SAMPLE THAT IS TAKEN:
(A) TIME OF DAY SAMPLES TAKEN;
(B) DEPTH OF WATER BODY;
(C) DEPTH OF SAMPLES;
(D) ANTECEDENT WEATHER CONDITIONS;
(E) WIND DIRECTION AND VELOCITY;

IF MONITORING REVEALS VIOLATIONS OF THE STATE WATER QUALITY STANDARD FOR TURBIDITY, CONSTRUCTION ACTIVITIES SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL CORRECTIVE MEASURES HAVE BEEN TAKEN AND TURBIDITY HAS RETURNED TO ACCEPTABLE LEVELS. ANY SUCH OCCURRENCE SHALL ALSO BE IMMEDIATELY (WITHIN A 24 HOUR PERIOD) REPORTED TO THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT AT 1707 ORLANDO CENTRAL PARKWAY, ORLANDO, FL 32809.

THIS PROJECT MEETS THE "GENERAL PERMITS BY RULE" REQUIREMENTS IN 40E2.061(2),F.A.C.
A) HAS A MAXIMUM DAILY PUMPAGE OF LESS THAN 5 MILLION GALLONS (MG) AND A MAXIMUM TOTAL PROJECT PUMPAGE OF LESS THAN 100 MG OVER A ONE YEAR PERIOD;
PUMPS LESS THAN 5MG A DAY AND LESS THAN 100 MG OVER A ONE YEAR PERIOD.

B) WILL RETAIN ALL DISCHARGE ON THE PROJECT SITE UNLESS ASSOCIATED WITH AN AQUIFER PERFORMANCE TEST;
THE DISCHARGE WILL BE RETAINED ONSITE.

C) WILL NOT DEWATER TO A DEPTH BELOW 0.0 FEET NGVD WITHIN 1,000 FEET OF SALINE WATER,EXCEPT WHEN DEWATERING WATER WITH CHLORIDE CONCENTRATION OF GREATER THAN 1,000MILLIGRAMS PER LITER;
SITE IS DEWATERING TO A MAXIMUM DEPTH OF 41.50 NGVD FOR SOUTH POND AND 45.50 NGVD FOR NORTH POND.

D) WILL NOT OCCUR WITHIN 100 FEET OF A WASTEWATER TREATMENT PLANT RAPID-RATE LAND APPLICATION SYSTEM PERMITTED UNDER PART IV OF CHAPTER 62-610, F.A.C.;
THERE ARE NO WASTEWATER TREATMENT FACILITIES WITHIN 100 FEET.

E) WILL NOT OCCUR WITHIN 1,000 FEET OF A KNOWN LANDFILL OR CONTAMINATION; AND
THERE ARE NO KNOWN LANDFILLS WITHIN 1,000 FEET.

F) WILL NOT OCCUR WITHIN 1,000 FEET OF A FRESHWATER WETLAND UNLESS DEWATERING ACTIVITIES ARE COMPLETED WITHIN 60 DAYS.
DEWATERING WILL BE COMPLETED WITHIN 60 DAYS.

SUB25-00041
PSP25-00004

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CAD#	(see stamp)	DATE	2/26/26		

SEC.	5 & 8	
TWP.	26 S	
RANGE	31 E	

DATE	BY	REVISIONS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-8433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

DEWATERING PLAN
EXISTING POND

ROBERT LEE NEWBERRY JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:45:28 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-05 of C-50

JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 DEWATERING PLAN.dwg * Mar 11, 2026-11:00am * plotted by RSouser

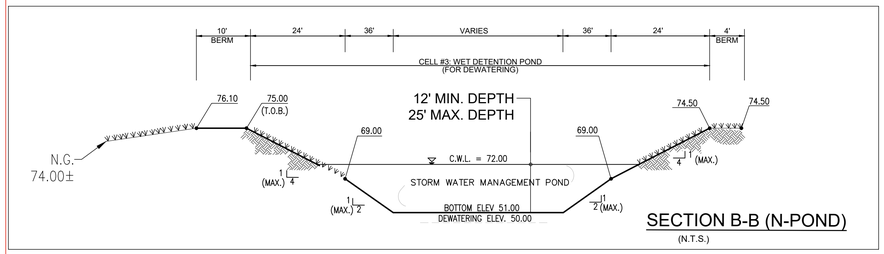
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

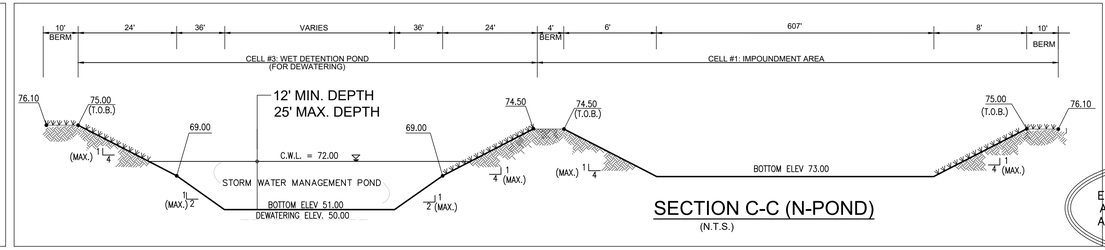
SHAUN RAJA

Authorized Signature



SECTION B-B (N-POND)

(N.T.S.)

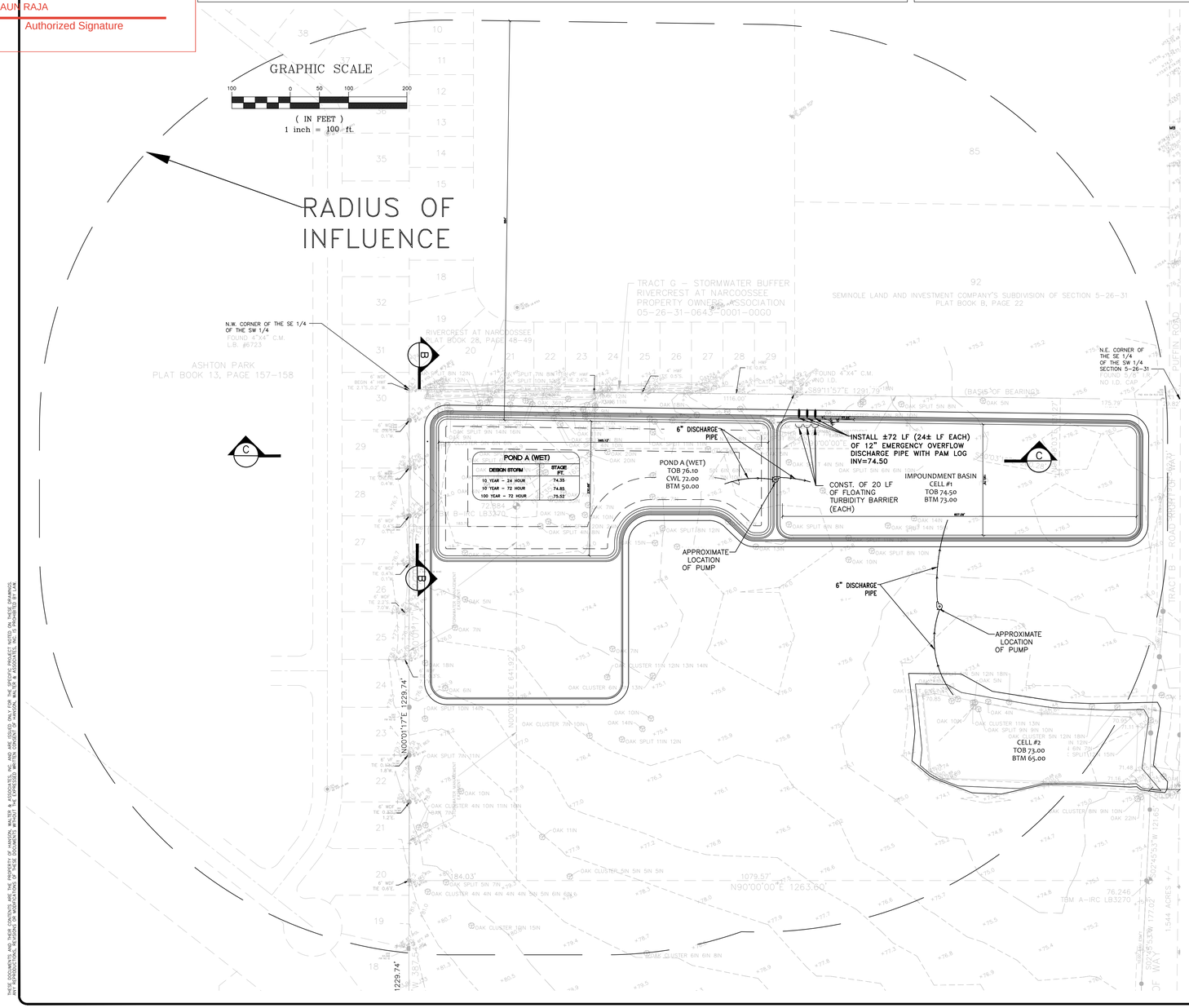


SECTION C-C (N-POND)

(N.T.S.)

NOTE

ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988



PUFFIN ROAD COMMERCIAL (HWA-JOB-5450-05)

Assume 565' x 231' De-Watering (MUST PUT IN WHAT ANS DIMESIONS)

Del Webb: 50ft/day, 120feet nearby model (55-01067) T= 11280 gpd/ft S=.2

Aquifer thickness:	30 feet	(a)	9.144 meters
Aquifer Kh	15 feet/day	(a)	5.292E-05 met/sec
Excavation Trench:			
Length	565 feet	(b)	172.204 meters
Width	231 feet	(b)	70.405 meters
Dewater depth	22 feet	(c)	6.705 meters

R_o = 3000(H-h)sqrt(K)

aquifer thickness H		9.144 meters
dewater thickness h		2.438 meters
R_o	146.33 meters	480.1 feet

r_e = sqrt((L x W)/ pie)

r_e	62.123 meters	203.82 feet
Total R:		**683.93** feet

Dewatering Flow Rate A direct calculation of flow rate may be derived from the following equation:

$$H^2 - h^2 = \frac{n \cdot q}{\pi \cdot k}(\ln R_o - \ln r_e)$$

Q = n * q = p*Kh * [(H2 - h2)/(ln Ro - ln re)]

n*Q

$H^2 - h^2$	77.659	for n =	m3/sec	GPM	MGD.
$\ln R_o - \ln r_e$	0.85675	1	1.507E-02	238.845	0.344
p * Kh	1.662E-04	10		23.88	

PUMP CALCULATIONS:

PUMP INFLOW:

PUMP CAPACITY = 500 GPM

THE ESTIMATED AVERAGE DAILY WATER USE IS CALCULATED AT:
1 PUMP @ 500 GPM x (60 MIN./1 HR.) (12 HRS./1 DAY) = 360,000 GPD.

THE ESTIMATED MAXIMUM DAILY WATER USE IS CALCULATED AT:
1 PUMP @ 500 GPM x (60 MIN./1 HR.) x (24 HRS./1 DAY) = 720,000 GPD (2.21 AC-FT)

DIRECT RAINFALL (P):
ASSUME 10 YR./72 HR. DESIGN STORM P = 8.20 INCHES

CELL #3 IMPOUNDMENT
SURFACE AREA OF CELL #2 IMPOUNDMENT AREA = 2.55 AC
RAINFALL VOLUME (Rv) = 8.2 INCHES X 1 FT / 12 INCHES X 2.55 AC = 1.74 AC-FT

TOTAL INFLOW TO IMPOUNDMENT AREA:

TOTAL INFLOW = PUMP INFLOW + DIRECT RAINFALL
TOTAL INFLOW = 2.21 AC-FT + 1.74 AC-FT = 3.95 AC-FT

IMPOUNDMENT STORAGE RELATIONSHIP:

CELL #1 STORAGE RELATIONSHIP:

STAGE (FT)	AREA (AC)	STORAGE (AC-FT)
73.00	2.67	0.00
74.00	2.82	2.75
74.50	2.89	4.17

CELL #1 PROVIDES ADEQUATE STORAGE FOR DEWATERING PURPOSES.

DEWATERING NOTES:

1. DEWATERING WILL BE HELD IN CELL 1 WITH ONSITE DISCHARGE. THE IMPOUNDMENT AREA IS 1.5 FT. HEIGHT. ONLY SUITABLE FILL MATERIALS WILL BE USED FOR EMBANKMENT AND SHALL BE DONE IN LAYERS NOT EXCEEDING 12" IN THICKNESS AND COMPACTED TO 95% MAX DENSITY PER ASTM D-1557 AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. THE IMPOUNDMENT WILL BE CONSTRUCTED PRIOR TO DEWATERING ACTIVITIES (REFER TO SECTION B-B & C-C).
2. ALL SILT FENCE SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
3. CONSTRUCTION PHASING OF CELLS:

(A) CONSTRUCT IMPOUNDMENT AREA (CELL 1) PER SECTION A-A & B-B.
(B) DEWATER PROPOSED POND WHILE PUMPING INTO CELL 1. WATER LEVEL MUST BE MAINTAINED 1 FT. BELOW TOP IMPOUNDMENT AREA.
(C) DISCHARGE WILL MEET STATE WATER QUALITY STANDARDS. CONTRACTOR SHALL USE ADDITIONAL MEASURES NECESSARY TO ENSURE WATER QUALITY STANDARDS ARE MET, SPECIFICALLY TURBIDITY.
(D) SPRAY ALUM AS NEEDED TO MEET WATER QUALITY STANDARDS.
(E) DEWATERING WILL BE DONE IN ONE PHASE AND WILL CEASE DURING HEAVY RAINFALL EVENTS.
(F) INSTALL PAM LOG INSIDE FLOATING 12" INTAKE PIPE TO PREVENT TURBIDITY TO BE MONITORED AT SAMPLE POINT (TMSP#1) AS SHOWN ON THE PLAN.
(G) WATER LEVELS IN SWALES WILL BE MAINTAINED WITHIN ONE FOOT OR LESS OF THE TOP OF BERM/NATURAL GROUND SURFACE DURING AND AFTER THE DEWATERING OPERATIONS CONTRACTOR TO MAINTAIN WATER LEVEL TO ENSURE THAT THE TREATMENT SWALE DOES NOT OVERFLOW THE BERM.
(I) ALL SILT FENCES WILL BE IN PLACE PRIOR TO DEWATERING ACTIVITIES.

4. NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH MANNER AS TO DIRECT RUNNOFF DIRECLTLY OFF THE PROJECT SITE OR ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY PER LDC 4.5.4. D
5. DEWATERING OPERATIONS SHALL ABIDE BY LDC 4.12.1.F AND PROVIDE MINIMUM DRAWDOWN OF THE GROUNDWATER OUTSIDE THE ACTUAL POND EXCAVATION SITE. SHOULD THE COUNTY RECEIVE COMPLAINTS THAT THE DEWATERING OPERATION CAUSED FLUCTUATIONS IN THE GROUND WATER TABLE IN ADJACENT WATER BODIES, WETLAND AREAS OF WATER SUPPLY WELLS, DEWATERING OPERATION SHALL BE TERMINATED UNTIL SUCH TIME A MITIGATION PLANS IS DEVELOPED AND APPROVED BY THE COUNTY.
6. PERIODIC MAINTENANCE OF THE RECHARGE TRENCH MUST BE CONDUCTED TO ENSURE IT IS FREE OF SILT AND DEBRIS SINCE PAM LOG WILL BE USED.
7. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE, AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS. REFER TO MASTER SITE SPECIFICATIONS.

TURBIDITY MONITORING PLAN

MONITORING REQUIRED:

DESCRIPTION: TURBIDITY EXPRESSED IN NEPHELOMETRIC TURBIDITY UNITES (NTU).
LOCATION: BACKGROUND – SAMPLES SHALL BE TAKEN 200 FEET UPSTREAM OF ANY CONSTRUCTION ACTIVITY WITHIN SURFACE WATER OF THE STATE COMPLIANCE – SAMPLES SHALL BE TAKEN 200 FEET DOWNSTREAM.
FREQUENCY: TWICE DAILY, WITH AT LEAST A FOUR-HOUR INTERVAL, DURING ALL WORK AUTHORIZED BY THIS PERMIT.
DURATION: MONITORING SHALL BEGIN ON THE FIRST DAY OF CONSTRUCTION FOR ALL ACTIVITIES RELATED TO THE PROPOSED ACTIVITIES THAT ARE CLASSIFIED AS SURFACE WATERS OF THE STATE.
MONITORING SHALL CEASE WHEN ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROPOSED ACTIVITIES ARE COMPLETED.

THE MONITORING DATA MUST DEMONSTRATE THAT TURBIDITY 200 FEET DOWNSTREAM OF ALL PROPOSED ACTIVITIES IS LESS THAN OR EQUAL TO 29 NTU'S ABOVE NATURAL BACKGROUND TURBIDITY 200 FEET UPSTREAM OF EACH PROPOSED ACTIVITY FOR A PERIOD OF 7 CONSECUTIVE DAYS AFTER COMPLETION OF CONSTRUCTION.
ALL MONITORING DATA SHALL BE SUBMITTED WITHIN ONE WEEK OF ANALYSIS WITH DOCUMENTS CONTAINING THE FOLLOWING INFORMATION:
(1) PERMIT AND APPLICATION NUMBER;
(2) DATES OF SAMPLING AND ANALYSIS;
(3) A STATEMENT DESCRIBING THE METHODS USED IN COLLECTION, HANDLING, STORAGE AND ANALYSIS OF THE SAMPLES;
(4) A MAP INDICATING THE SAMPLING LOCATIONS AND
(5) A STATEMENT BY THE INDIVIDUAL RESPONSIBLE FOR IMPLEMENTATION OF THE SAMPLING PROGRAM CONCERNING THE AUTHENTICITY, PRECISION, LIMITS OF DETECTION AND ACCURACY OF THE DATA.
MONITORING REPORTS SHALL ALSO INCLUDE THE FOLLOWING INFORMATION FOR EACH SAMPLE THAT IS TAKEN:
(A) TIME OF DAY SAMPLES TAKEN;
(B) DEPTH OF WATER BODY;
(C) DEPTH OF SAMPLES;
(D) ANTECEDENT WEATHER CONDITIONS;
(E) WIND DIRECTION AND VELOCITY;

IF MONITORING REVEALS VIOLATIONS OF THE STATE WATER QUALITY STANDARD FOR TURBIDITY, CONSTRUCTION ACTIVITIES SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL CORRECTIVE MEASURES HAVE BEEN TAKEN AND TURBIDITY HAS RETURNED TO ACCEPTABLE LEVELS. ANY SUCH OCCURRENCE SHALL ALSO BE IMMEDIATELY (WITHIN A 24 HOUR PERIOD) REPORTED TO THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT AT 1707 ORLANDO CENTRAL PARKWAY, ORLANDO, FL 32809.

THIS PROJECT MEETS THE "GENERAL PERMITS BY RULE" REQUIREMENTS IN 40E2.061(2),F.A.C.

A) HAS A MAXIMUM DAILY PUMPAGE OF LESS THAN 5 MILLION GALLONS (MG) AND A MAXIMUM TOTAL PROJECT PUMPAGE OF LESS THAN 100 MG OVER A ONE YEAR PERIOD;
PUMPS LESS THAN 5MG A DAY AND LESS THAN 100 MG OVER A ONE YEAR PERIOD.

B) WILL RETAIN ALL DISCHARGE ON THE PROJECT SITE UNLESS ASSOCIATED WITH AN AQUIFER PERFORMANCE TEST;
THE DISCHARGE WILL BE RETAINED ONSITE.

C) WILL NOT DEWATER TO A DEPTH BELOW 0.0 FEET NGVD WITHIN 1,000 FEET OF SALINE WATER,EXCEPT WHEN DEWATERING WATER WITH CHLORIDE CONCENTRATION OF GREATER THAN 1,000MILLIGRAMS PER LITER;
SITE IS DEWATERING TO A MAXIMUM DEPTH OF 41.50 NGVD FOR SOUTH POND AND 45.50 NGVD FOR NORTH POND.

D) WILL NOT OCCUR WITHIN 100 FEET OF A WASTEWATER TREATMENT PLANT RAPID-RATE LAND APPLICATION SYSTEM PERMITTED UNDER PART IV OF CHAPTER 62-610, F.A.C.;
THERE ARE NO WASTEWATER TREATMENT FACILITIES WITHIN 100 FEET.

E) WILL NOT OCCUR WITHIN 1,000 FEET OF A KNOWN LANDFILL OR CONTAMINATION; AND
THERE ARE NO KNOWN LANDFILLS WITHIN 1,000 FEET.

F) WILL NOT OCCUR WITHIN 1,000 FEET OF A FRESHWATER WETLAND UNLESS DEWATERING ACTIVITIES ARE COMPLETED WITHIN 60 DAYS.
DEWATERING WILL BE COMPLETED WITHIN 60 DAYS.

SUB25-00041
PSP25-00004

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PUFFIN ROAD COMMERCIAL

DEWATERING PLAN POND A

ROBERT LEE NEWBERRY LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:45:45 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-06 of C-50

JOB NO 5450-05

i:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 DEWATERING PLAN.dwg * Mar 11, 2026-11:00am * plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life
APPROVED WITH CONDITIONS
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions
Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature

LEGEND

- EXISTING GRADE
- PROPOSED STORM INLET
- PROPOSED STORM INLET
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER (SS)
- WM — PROPOSED WATER MAIN (WM)
- FM — PROPOSED FORCE MAIN (FM)
- RU — PROPOSED REUSE WATER MAIN (RU)
- PROPOSED SANITARY MANHOLE (SMH)
- PROPOSED FIRE HYDRANT ASSEMBLY (F.H.A) — 1–TEE AS REQUIRED; 1–6" GATE VALVE; 6" PVC C–900 AS REQUIRED; 1–FIRE HYDRANT
- UTILITY EASEMENT
- INGRESS/EGRESS & UTILITY EASEMENT
- SET BACK LINE
- HEAVY DUTY ASPHALTIC
- HEAVY DUTY CONCRETE
- STANDARD DUTY ASPHALTIC
- STANDARD DUTY CONCRETE
- CC CC — CART CORRAL

NOTES:

1.) ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
2.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS OCCUR, CONTACT ENGINEER PRIOR TO CONSTRUCTION.
3.) ALL ONSITE SIDEWALKS ARE 5' WIDE UNLESS OTHERWISE NOTED.
4.) REFER TO LANDSCAPE/HARDSCAPE PLANS FOR ENHANCEMENT FEATURES AND SIGNS.
5.) ALL CURBS ARE TYPE D TYPE UNLESS OTHERWISE NOTED.
6.) ALL SIGNAGE AND STRIPING TO BE INSTALLED IN ACCORDANCE WITH MUTCD (LATEST EDITION) STANDARDS AND SPECIFICATIONS.
7.) SIDEWALK RAMPS TO BE CONSTRUCTED AT PROPOSED SITE DRIVEWAYS SHALL BE "CAST IN PLACE" DETECTABLE WARNING IN ACCORDANCE TO FDOT INDEX 304.
8.) LOCATIONS OF SITE LIGHTING IS APPROXIMATE. FINAL LOCATION TO BE DETERMINED BY OUC.
9.) ALL SIGNAGE REQUIRES A SEPARATE PERMIT.
10.) THE IRRIGATION SYSTEM REQUIRES A SEPARATE PERMIT.
11.) MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY A CERTIFIED PERSON.
12.) ALL CONCRETE SHALL BE AN APPROVED FDOT MIX DESIGN OF 3,000 PSI OR GREATER.
13.) MAXIMUM CROSS SLOPES ON ALL CROSSWALKS SHALL BE 2% AND THE MAXIMUM SLOPE FOR RAMPS SHALL BE 1 TO 12.
14.) THE FOLLOWING PROPOSED FACILITIES SHOW ON THE DEVELOPMENT PLANS ARE FOR REFERENCE PURPOSE ONLY AND EACH SHALL REQUIRE A SEPARATE BUILDING PERMIT. THE LIST INCLUDES, BUT IS NOT LIMITED TO: PROPOSED BUILDINGS, SANITARY LIFT STATIONS, LIGHT FIXTURES (POLES) THAT ARE INDEPENDENT GATES MONUMENT SIGNS, DUMPSTER ENCLOSURES, DECORATIVE RETAINING WALLS THAT EXCEED THREE FT. IN HEIGHT.
15.) ALL CURB RAMPS SHALL BE CR–E PER FDOT INDEX #304, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
16.) ALL ROADWAY STRIPING WITHIN COUNTY RIGHT OF WAY SHALL BE THERMOPLASTIC.
17.) STOP SIGNS WITHIN ALL PUBLIC RIGHT OF WAY SHALL BE 30" STOP SIGNS.
18.) ALL DETECTABLE WARNINGS PROPOSED AT SIDEWALK CURB RAMPS WITHIN THE RIGHT OF WAY COUNTY SHALL BE "CAST IN PLACE" PER FDOT INDEX 522–002.
19.) VEGETATION FREE ZONES–ADD WHERE PERVIOUS AREA MEETS THE BUILDING. 18".
20.) ALL AFFECTED SIDEWALKS, RAMPS AND CROSSWALKS WILL BE BUILT AND INSPECTED TO ~~MEET CURRENT ADA REQUIREMENTS.~~
21.) STREETS LABELED A THRU E ARE PRIVATE AND UNDER AN ACCESS EASEMENT.

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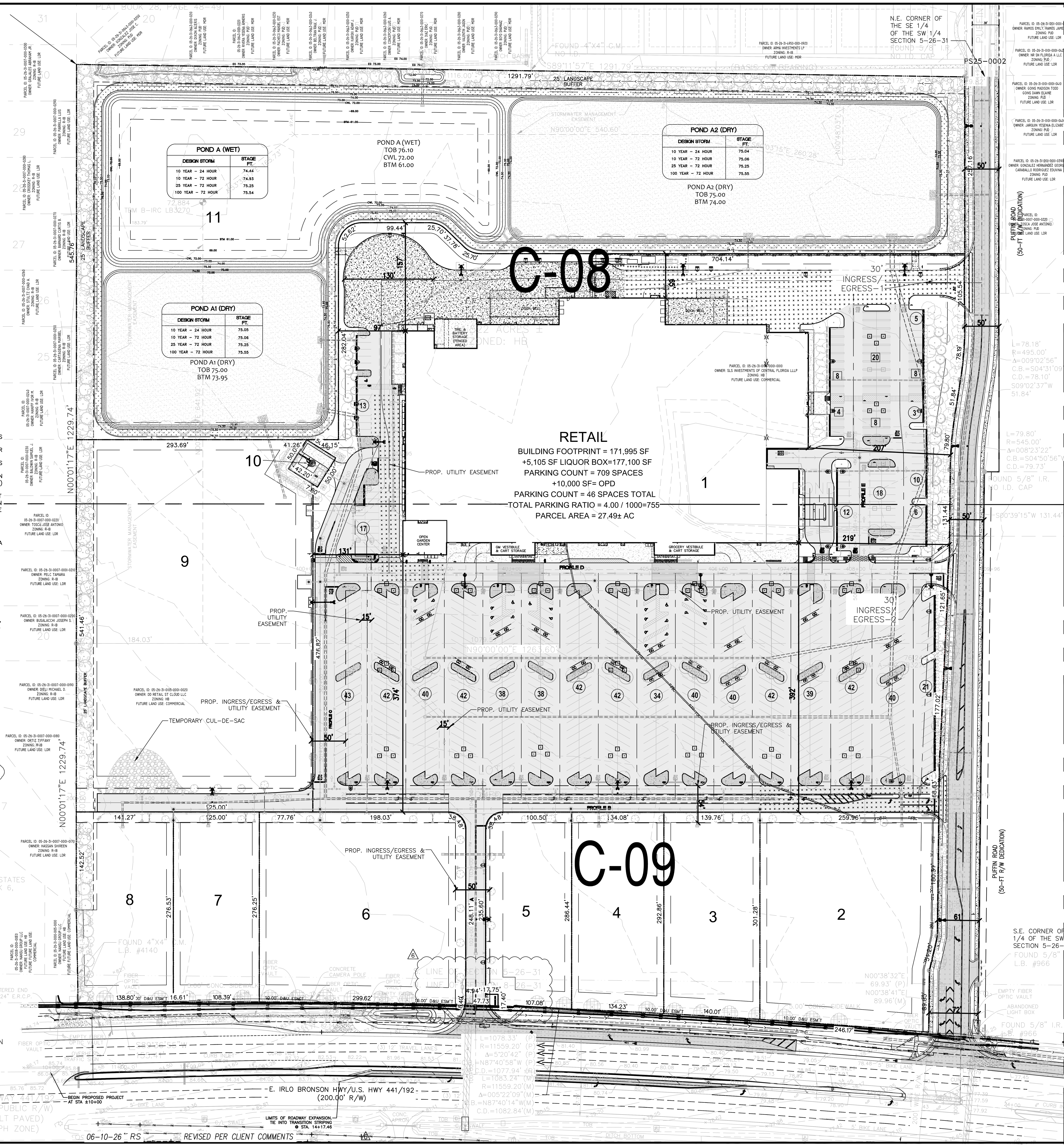

NOTE

ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.

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

BUILDING SETBACKS	
FRONT	25-FT
REAR	15-FT
STREET SIDE	25-FT
SIDE	10-FT
ADJACENT TO RESIDENTIAL ZONING	30-FT

OPEN SPACE REQUIRED (15%) (Lot 1 and Lot 11)	4.12 AC
OPEN SPACE PROVIDED	10.04 AC
MAX IMPERVIOUS AREA: 80% OF TOTAL BUILDABLE SITE (Lot 1)	13.92 AC
PROVIDED IMPERVIOUS AREA	10.62 AC
MAX LOT COVERAGE: 50% OF TOTAL BUILDABLE SITE (Lot 1)	8.70 AC
LOT COVERAGE PROVIDED	4.28 AC

LAND USE	AREA (AC)	PERCENTAGE (%)
BUILDING	4.28	15.57%
IMPERVIOUS (SIDEWALK/PAVEMENT)	10.62	38.63%
POND	2.55	9.28%
PERVIOUS	10.04	36.52%
TOTAL (LOT 1)(LOT 11)	27.49	100.00%
MAX IMPERVIOUS AREA: 80% OF TOTAL BUILDABLE SITE	13.75	
PROVIDED IMPERVIOUS AREA (BUILDING, PAVEMENT, SIDEWALK)	10.62	
OPEN SPACES REQUIRED (25%)	6.8725	

PARKING CALCULATIONS
REQUIRED PARKING
4 SPACES PER 1000 S.F. (PER BIG BOX)
749 SPACES (INCLUDING 24 REGULAR HANDICAP)(PER BIG BOX)
MEDIAN AGE FOR OSCELOA COUNTY IS 37.3 THEREFORE A 3% REQUIREMENT(PER BIG BOX)
ON MINIMUM NUMBER OF ADA STALLS=23
1 SPACE PER 300 SQ. FT. GROSS FLOOR AREA (PER CITY OF ST. CLOUD TABLE 4.2.1)
631 SPACES
BICYCLE PARKING REQUIRED 6% =38 PARKING SPACES
PROVIDED PARKING
709 REGULAR SPACES (INCLUDING 24 REGULAR HANDICAP SPACES)
46 OPD SPACES
755 TOTAL SPACES
36 CART CORRALS**
** CART CORRALS EXCLUDED FROM ALL PARKING RATIOS ABOVE
BICYCLE PARKING PROVED =40 PARKING SPACES

TOTAL LOT AREA (LOT 1)(LOT 11)	27.49 AC (1,197,464 SQ.FT.)
PARCEL IDENTIFICATION NUMBER	05-26-31-0105-0001-0010
	05-26-31-0105-0001-0020
PUFFIN ROAD (R/W DEDICATION)	1.82 AC (79,279 SQ FT.)
SOUTH LOT (FUTURE DEVELOPMENT NOT PART OF THIS SDP)	15.34 AC (668,210 SQ. FT.)
NORTH LOT (PROJECT SITE / GROSS AREA)	24.25 AC (1,056,300 SQ. FT.)
FLOOR AREA RATIO (FAR)	
DEVELOPABLE LOT 1 (GROSS) AREA	757,944 SQ.FT.
BUILDING LOT 1 (GROSS SINGLE STORY) AREA	187,100 SQ.FT.
FAR (AREA SQ.FT. PER FLOOR/ DEVELOPABLE ARER SQ.FT.)	0.25

SITE DATA TABLE

GENERAL INFORMATION

Parcel IDs	05-26-31-0105-0001-0010 (LOT 1)
	05-26-31-0105-0001-0020 (LOT 2)
MUNICIPALITY	CITY OF ST. CLOUD
ZONING	HB
FLU	COMMERCIAL
EXISTING USE	MULTI-FAMILY APARTMENTS (LOT 1)
	VACANT COMM (LOT 2)

Retail Building

FOOTPRINT	171,995 SF
LIQUOR BOX	5,105 SF
OPD	10,000 SF
TOTAL AREA	187,100 SF

CHARACTERISTICS

GROSS POPERTY AREA	27.49 ACRES
PROPOSED NUMBER OF LOTS	11
MAXIMUM IMPERVIOUS	80%
MAXIMUM LOT COVERAGE	50%
MINIMUM OPEN SPACE	15%
MAX BUILDING HEIGHT	N/A
LANDSCAPE BUFFER:	
NORTH	25
SOUTH	25
EAST	25
WEST	25

NOTE: 30' ADJACENT TO RESIDENTIAL LAND USE
0' ADJACENT TO COMERICIAL LAND USE

BOUNDARY

LINE TABLE		
LINE #	LENGTH	BEARING
L1	94.48'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	155.41'	N89°36'55"E
L4	51.20'	S13°03'40"W
L5	248.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

LOT	ACREAGE	OPEN SPACE (15%)	PLANNED USE	OWNERSHIP & MAINTENANCE
1	17.41 AC	2.61 AC	COMMERCIAL	PRIVATE
2	1.81 AC	0.27 AC	COMMERCIAL	PRIVATE
3	0.95 AC	0.14 AC	COMMERCIAL	PRIVATE
4	0.89 AC	0.13 AC	COMMERCIAL	PRIVATE
5	0.80 AC	0.12 AC	COMMERCIAL	PRIVATE
6	1.91 AC	0.29 AC	COMMERCIAL	PRIVATE
7	0.79 AC	0.12 AC	COMMERCIAL	PRIVATE
8	0.89 AC	0.13 AC	COMMERCIAL	PRIVATE
9	4.25 AC	0.64 AC	COMMERCIAL	PRIVATE
10	0.06 AC	--	LIFT STATION	TOHO WATER AUTHORITY
11	10.09 AC	--	WATER MANAGEMENT	PROPERTY OWNER'S ASSOC.
TOTAL	39.86 AC	4.45 AC		

Current Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	Description
	19	T1H5SH_35	3 @ 90 Degrees	0.864	3-EALS045H5SH740NDDBLCKF 32ft pole on 3ft base
	11	D1H5SH_35	Back-Back	0.864	2-EALS045H5SH740NDDBLCKF 32ft pole on 3ft base
	6	D2H4_35_B	ROTATED OPTICS	0.864	1-EALS042H4AF740NDD1BLCKFS1 & 1-EALS042H4AF740NDD1BLCKFS2 w/ 2-ELS-EAL-FBL-BLCK 32ft pole on 3ft base
	5	SD2_35_B	Single	0.873	1-EALS045D2AN740NDD1BLCKF w/1-ELS-EAL-ABL-BLCK 32ft pole on 3ft base
	3	SF4_35_B	Single	0.873	1-EALS042F4AF740NDD1BLCKF w/ 1-ELS-EAL-RBL-BLCK 32ft pole on 3ft base
	2	D1F4_35	Back-Back	0.873	2-EALS045F4AF740NDD1BLCKF 32ft pole on 3ft base
	1	SD2_35	Single	0.873	1-EALS045D2AN740NDD1BLCKF 32ft pole on 3ft base
	4	SF4_35	SINGLE	0.873	1-EALS045F4AF740NDD1BLCKF 32ft pole on 3ft base
	1	SH4_35_B	Single	0.864	1-EALS042H4AF740NDD1BLCKF w/ 1- ELS-EAL-FBL-BLCK 32ft pole on 3ft base

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–	SEC.	5 & 8
DRAWN	RS	PAGE	–	TWP.	26 S
CHECKED	RN	SCALE	AS SHOWN	RANGE	31 E
CAD#	(see stamp)	DATE	6/10/26		

DATE	BY	REVISIONS	
05–27–26	CM	REVISED PER TOHO	5
04–23–26	CM	REVISED PER TOHO & FDOT COMMENTS	4
03–19–26	CM	REVISED PER TOHO COMMENTS	3
02–26–26	CM	REVISED PER CITY COMMENTS	2
01–13–26	CM	REVISED PER TOHO & FDOT COMMENTS	1

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

OVERALL SITE DIMENSION PLAN

ROBERT LEE NEWBERRY, JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.06.10 16:30:16 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-07 of 50
JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 OA SDP.dwg * Jun 10, 2026-9:49am * plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

NOTES:

1.) ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
2.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS OCCUR, CONTACT ENGINEER PRIOR TO CONSTRUCTION.
3.) ALL SIDEWALKS ARE 5' WIDE UNLESS OTHERWISE NOTED.
4.) REFER TO LANDSCAPE/HARDSCAPE PLANS FOR ENHANCEMENT FEATURES AND SIGNS.
5.) ALL CURBS ARE TYPE D TYPE UNLESS OTHERWISE NOTED.
6.) ALL SIGNAGE AND STRIPING TO BE INSTALLED IN ACCORDANCE WITH MUTCD (LATEST EDITION) STANDARDS AND SPECIFICATIONS.
7.) SIDEWALK RAMPS TO BE CONSTRUCTED AT PROPOSED SITE DRIVEWAYS SHALL BE "CAST IN PLACE" DETECTABLE WARNING IN ACCORDANCE TO FDOT INDEX 304.
8.) LOCATIONS OF SITE LIGHTING IS APPROXIMATE. FINAL LOCATION TO BE DETERMINED BY OUC.
9.) ALL SIGNAGE REQUIRES A SEPARATE PERMIT.
10.) THE IRRIGATION SYSTEM REQUIRES A SEPARATE PERMIT.
11.) MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY A CERTIFIED PERSON.
12.) ALL CONCRETE SHALL BE AN APPROVED FDOT MIX DESIGN OF 3,000 PSI OR GREATER.
13.) MAXIMUM CROSS SLOPES ON ALL CROSSWALKS SHALL BE 2% AND THE MAXIMUM SLOPE FOR RAMPS SHALL BE 1 TO 12.
14.) THE FOLLOWING PROPOSED FACILITIES SHOW ON THE DEVELOPMENT PLANS ARE FOR REFERENCE PURPOSE ONLY AND EACH SHALL REQUIRE A SEPARATE BUILDING PERMIT. THE LIST INCLUDES, BUT IS NOT LIMITED TO: PROPOSED BUILDINGS, SANITARY LIFT STATIONS, LIGHT FIXTURES (POLES) THAT ARE UNDERGROUNDED, GATES, MONUMENT SIGNS, DUMPSTER ENCLOSURES, DECORATIVE RETAINING WALLS THAT EXCEED THREE FT., IN HEIGHT.
15.) ALL CURB RAMPS SHALL BE CR-E PER FDOT INDEX #304, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
16.) ALL ROADWAY STRIPING WITHIN COUNTY RIGHT OF WAY SHALL BE THERMOPLASTIC.
17.) STOP SIGNS WITHIN ALL PUBLIC RIGHT OF WAY SHALL BE 30" STOP SIGNS.
18.) ALL DETECTABLE WARNINGS PROPOSED AT SIDEWALK CURB RAMPS WITHIN THE RIGHT OF WAY COUNTY SHALL BE "CAST IN PLACE" PER FDOT INDEX 522–002.
19.) VEGETATION FREE ZONES–AND WHERE PERVIOUS AREA MEETS THE BUILDING TO BE 18".
20.) ALL AFFECTED SIDEWALKS, RAMPS AND CROSSWALKS WILL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.
21.) FOR ITEM #3 SEE LANDSCAPE PLANS.

LEGEND

1. STOP SIGN (R1–1) AND 24" THERMOPLASTIC STOP BAR.
2. 6" WIDE CROSSWALK PER FDOT INDEX No. 711–001
3. CAST–IN–PLACE HANDICAP RAMP FOR RAMP DETAILS. (REFER TO INDEX 522–002 DETAIL)
4. 2–OM–1 END OF ROADWAY SIGNS– REFER TO FDOT INDEX No. 700–109 DETAIL
5. NO PARKING SIGN (SEE DETAIL THIS SHEET)
6. SPEED LIMIT SIGN – 25 MPH
7. DO NOT ENTER SIGN (R5–1)
8. NO LEFT TURNS (R3–2)
9. 6' WIDE SPECIAL EMPHASIS CROSSWALK (PER LATEST FDOT INDEX 711–001)
10. KEEP RIGHT (R4–7)
11. ADA PARKING STALLS AND LAYOUT TO BE PER WALMART STANDARD DETAIL
12. HANDICAP SIGN FTP–20–06 HANDICAP SIGN FTP–22–06 FINE SIGN (PER LATEST FDOT INDEX 700–102)
13. 10' WIDE SPECIAL EMPHASIS CROSSWALK (PER LATEST FDOT INDEX 711–001.
14. PEDESTRIAN CROSSING SIGN (W11–2) AND AHEAD PLAQUE (W16–9P)
15. CROSSING SIGNAGE TO BE R1–5B SIGNAGE PER WALMART STANDARD DETAIL
16. APPROXIMATE LIGHT POLE LOCATION
17. DOUBLE YELLOW CENTER LINES WITH THERMOPLASTIC PAINT PER FDOT INDEX 711–001
18. STOP SIGN (R1–1), DO NOT ENTER SIGN (R5–1) & 24" THERMOPLASTIC STOP BAR.
19. 4" WHITE STRIPES
20. 6" DIA. PIPE BOLLARD TYP.
21. CROSSWALK MARKINGS AT ALL GROCERY AND GM VESTIBULE ENTRIES. 6" WIDE PAINTED WHITE STRIPING PARALLEL TO DIRECTION OF TRAFFIC AT 2'–0" O.C. AND (1)8" WHITE STRIPE PERPENDICULAR ON BOTH ENDS UNLESS NOTED OTHERWISE
22. 6" WIDE FIRE LANE STRIPING PAINTED TRAFFIC RED W/ "NO PARKING FIRE LANE" PAINTED WITH 4" HIGH WHITE LETTERING AT 25' O.C.
23. AREA STRIPED AT SINGLE SOLID YELLOW LINE/4" WIDE AT 45° @ 2' O.C.
24. 4" WIDE X 130' LONG YELLOW PAINTED TRUCK ALIGNMENT STRIPES
25. 7'–4" WIDE PEDESTRIAN CROSSWALK
26. TACTILE WARNINGS SHALL BE SHOWN PER UDCP
27. TWO WAY LEFT TURN LANE (PER LATEST FDOT INDEX 711–001)
28. OPEN ARROW PAVEMENT MARKING
29. 10'X15' STRIPED AREA PAINTED SINGLE SOLID YELLOW LINE/4" WIDE AT 45° @ 2' O.C.
30. VESTIBLE TRAFFIC STRIPING BROKEN SOLID YELLOW LINE/4" WIDE (6' LONG, 18' GAPS)
31. EXIT PORCH. SEE ARCHITECTURAL PLANS FOR EXACT SIZE, LOCATION FOR STOOPS, STAIRS AND/OR RAMPS THAT MAY BE REQUIRED. RAMP PAVEMENT FLUSH WITH THE TOP OF STOOP.
32. CONCRETE JOINTING AND FILLERS TO BE COMPLETED PER DETAIL (TYPICAL OF ALL EXTERIOR CONCRETE EXCLUSIVE OF ARCHITECTURAL CONCRETE). SEE SHEET C–46.
33. PULL BOX
34. STOP SIGN (R1–1), ONE WAY ONLY (R6–1R), RIGHT TURN ONLY (R3–5R) & 24" THERMOPLASTIC STOP BAR,
35. ONE WAY ONLY (R6–1R)
36. NO PARKING FIRE LANE SIGN, 6" YELLOW STRIPING AND 6" DIA. BOLLARDS
37. 3' HD CONCRETE BUFFER FOR LANDSCAPE PROTECTION.
38. 2' BUFFER FOR CAR OVERHANG.
39. 18' VEGETATIVE FREE ZONE
40. ACCESSIBLE SITE ARRIVAL POINT
41. WAY FINDING SIGN

LEGEND

EXISTING GRADE
PROPOSED STORM INLET
PROPOSED STORM INLET
PROPOSED STORM DRAIN
PROPOSED SANITARY SEWER (SS)
WM PROPOSED WATER MAIN (WM)
FM PROPOSED FORCE MAIN (FM)
RU PROPOSED REUSE WATER MAIN (RU)
PROPOSED SANITARY MANHOLE (SMH)
CC CC CART CORRAL
PROPOSED FIRE HYDRANT ASSEMBLY (F.H.A)
1–TEE AS REQUIRED
1–6" GATE VALVE
6" PVC C–900 AS REQUIRED
1–FIRE HYDRANT
LIGHTING
UTILITY EASEMENT
INGRESS/EGRESS & UTILITY EASEMENT
SET BACK LINE
HEAVY DUTY ASPHALTIC
HEAVY DUTY CONCRETE
STANDARD DUTY ASPHALTIC
STANDARD DUTY CONCRETE

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

POND A (WET)

DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.44
10 YEAR – 72 HOUR	74.93
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.54

POND A (WET)
TOB 76.10
CWL 72.00
BTM 61.00

POND A2 (DRY)

DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.04
10 YEAR – 72 HOUR	75.06
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.55

POND A2 (DRY)
TOB 75.00
BTM 74.00

POND A1 (DRY)

DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.05
10 YEAR – 72 HOUR	75.06
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.55

POND A1 (DRY)
TOB 75.00
BTM 73.95

RETAIL

BUILDING FOOTPRINT = 171,995 SF
+5,105 SF LIQUOR BOX=177,100 SF
PARKING COUNT = 709 SPACES
+10,000 SF= OPD
PARKING COUNT = 46 SPACES TOTAL
TOTAL PARKING RATIO = 4.00 / 1000=755
PARCEL AREA = 27.49± AC

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

SEE SHEET C-08 FOR OWNERSHIP & MAINTENANCE RESPONSIBILITY OF TRACTS
SEE SHEET C-10 FOR PARKING INFORMATION
SEE SHEET C-11 THRU C-12 FOR SITE COORDINATE TABLES.
SEE SHEET C-31 & C-33 FOR OFFSITE INFORMATION.
SEE SHEETS C-33 THRU C-37 FOR CROSS SECTIONS.
SEE SHEETS C-09.1 THRU C-09.4 FOR SIGN DETAILS.

GENERAL NOTES:

1.) SETBACK:
FRONT..... 25'
REAR..... 15'
STREET SIDE..... 25'
SIDE..... 10'
ADJACENT TO RESIDENTIAL ZONING .... 30'

2.) MAXIMUM LOT IMPERVIOUS AREA 80%.

NO PARKING ANY TIME

MATCH SEE SHEET C–09

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	5/20/26

SEC. 5 & 8
TWP. 26 S
RANGE 31 E

DATE	BY	REVISIONS
04–23–26	CM	REVISED PER TOHO & FDOT COMMENTS
03–19–26	CM	REVISED PER TOHO COMMENTS
02–26–26	CM	REVISED PER CITY COMMENTS
01–13–26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
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ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

SITE DIMENSION PLAN 1

ROBERT LEE NEWBERRY JR. LICENSE NO. 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.05.20 15:47:34 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-08 of 50
JOB Nº 5450-05

THESE DOCUMENTS AND THEIR CONTENTS ARE THE PROPERTY OF HANSON, WALTER & ASSOCIATES, INC. AND ARE ISSUED ONLY FOR THE SPECIFIC PROJECT NOTED ON THESE DRAWINGS. ANY REUSE OF THESE DOCUMENTS WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY HANSON, WALTER & ASSOCIATES, INC. FOR THE SPECIFIC PROJECT SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO HANSON, WALTER & ASSOCIATES, INC. THE USER SHALL INDEMNIFY AND HOLD HANSON, WALTER & ASSOCIATES, INC. HARMLESS FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 SITE DIMENSION PLAN.dwg • May 20, 2026–2:19pm • plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/10/2026 Case#: SUB25-00041

SHAUN RAJA

Approved as Submitted

LEGEND

1. STOP SIGN (R1-1) AND 24" THERMOPLASTIC STOP BAR.
2. 6" WIDE CROSSWALK PER FDOT INDEX No. (PER LATEST FDOT INDEX 711-001)
3. CAST-IN-PLACE HANDICAP RAMP FOR RAMP DETAILS. (REFER TO INDEX 522-002 DETAIL)
4. 2-OM-1 END OF ROADWAY SIGNS- REFER TO FDOT INDEX No. 700-109 DETAIL
5. NO PARKING SIGN (SEE DETAIL THIS SHEET)
6. SPEED LIMIT SIGN - 25 MPH
7. DO NOT ENTER SIGN (R5-1)
8. NO LEFT TURNS (R3-2)
9. 6" WIDE SPECIAL EMPHASIS CROSSWALK (PER LATEST FDOT INDEX 711-001)
10. KEEP RIGHT (R4-7)
11. FOR HANDICAP PARKING AND STRIPING (PER LATEST FDOT INDEX 711-001)
12. HANDICAP SIGN FTP-22-06 HANDICAP SIGN (PER LATEST FDOT INDEX 700-102)
13. 10' WIDE SPECIAL EMPHASIS CROSSWALK (PER LATEST FDOT INDEX 711-001)
14. PEDESTRIAN CROSSING SIGN (W11-2) AND AHEAD PLAQUE (W16-9P)
15. CROSSING SIGNAGE TO BE R1-5B SIGNAGE PER WALMART STANDARD DETAIL
16. APPROXIMATE LIGHT POLE LOCATION
17. DOUBLE YELLOW CENTER LINES WITH THERMOPLASTIC PAINT PER FDOT INDEX 711-001
18. STOP SIGN (R1-1), DO NOT ENTER SIGN (R5-1) & 24" THERMOPLASTIC STOP BAR.
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21. CROSSWALK MARKINGS AT ALL GROCERY AND GM VESTIBULE ENTRIES, 6" WIDE PAINTED WHITE STRIPING PARALLEL TO DIRECTION OF TRAFFIC AT 2'-0" O.C. AND (1)8" WHITE STRIPE PERPENDICULAR ON BOTH ENDS UNLESS NOTED OTHERWISE
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33. PULL BOX
34. STOP SIGN (R1-1), ONE WAY ONLY (R6-1R), RIGHT TURN ONLY (R3-5R) & 24" THERMOPLASTIC STOP BAR.
35. ONE WAY ONLY (R6-1R)
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38. 2' BUFFER FOR CAR OVERHANG.
39. 18' VEGETATIVE FREE ZONE
40. ACCESSIBLE SITE ARRIVAL POINT
41. WAY FINDING SIGN
42. WRONG WAY ARROWS
43. DO NOT ENTER SIGN (R5-1)
44. WRONG WAY SIGN (R5-1a)

LEGEND

- EXISTING GRADE
- PROPOSED STORM INLET
- PROPOSED STORM INLET
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER (SS)
- PROPOSED WATER MAIN (WM)
- PROPOSED FORCE MAIN (FM)
- PROPOSED REUSE WATER MAIN (RU)
- PROPOSED SANITARY MANHOLE (SMH)
- CART CORRAL
- PROPOSED FIRE HYDRANT ASSEMBLY (F.H.A) 1-TEE AS REQUIRED 1-6" GATE VALVE 6" PVC C-900 AS REQUIRED 1-FIRE HYDRANT
- UTILITY EASEMENT
- INGRESS/EGRESS & UTILITY EASEMENT
- SET BACK LINE
- HEAVY DUTY ASPHALTIC
- HEAVY DUTY CONCRETE
- STANDARD DUTY ASPHALTIC
- STANDARD DUTY CONCRETE
- LIGHTING

SEE SHEET C-08 FOR OWNERSHIP & MAINTENANCE RESPONSIBILITY OF TRACTS
SEE SHEET C-10 FOR PARKING INFORMATION
SEE SHEET C-11 THRU C-12 FOR SITE COORDINATE TABLES.
SEE SHEET C-31 & C-33 FOR OFFSITE INFORMATION.
SEE SHEETS C-33 THRU C-37 FOR CROSS SECTIONS.
SEE SHEETS C-09.1 THRU C-09.4 FOR SIGN DETAILS.

MATCH SEE SHEET C-08

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

NOTES:

1.) ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
2.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS OCCUR, CONTACT ENGINEER PRIOR TO CONSTRUCTION.
3.) ALL ONSITE SIDEWALKS ARE 5' WIDE UNLESS OTHERWISE NOTED.
4.) REFER TO LANDSCAPE/HARDSCAPE PLANS FOR ENHANCEMENT FEATURES AND SIGNS.
5.) ALL CURBS ARE TYPE D TYPE UNLESS OTHERWISE NOTED.
6.) ALL SIGNAGE AND STRIPING TO BE INSTALLED IN ACCORDANCE WITH MUTCD (LATEST EDITION) STANDARDS AND SPECIFICATIONS.
7.) SIDEWALK RAMPS TO BE CONSTRUCTED AT PROPOSED SITE DRIVEWAYS SHALL BE "CAST IN PLACE" DETECTABLE WARNING IN ACCORDANCE TO FDOT INDEX 304.
8.) LOCATIONS OF SITE LIGHTING IS APPROXIMATE. FINAL LOCATION TO BE DETERMINED BY OUC.
9.) ALL SIGNAGE REQUIRES A SEPARATE PERMIT.
10.) THE IRRIGATION SYSTEM REQUIRES A SEPARATE PERMIT.
11.) MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY A CERTIFIED PERSON.
12.) ALL CONCRETE SHALL BE AN APPROVED FDOT MIX DESIGN OF 3,000 PSI OR GREATER.
13.) MAXIMUM CROSS SLOPES ON ALL CROSSWALKS SHALL BE 2% AND THE MAXIMUM SLOPE FOR RAMPS SHALL BE 1 TO 12.
14.) THE FOLLOWING PROPOSED FACILITIES SHOW ON THE DEVELOPMENT PLANS ARE FOR REFERENCE PURPOSE ONLY AND EACH SHALL REQUIRE A SEPARATE BUILDING PERMIT. THE LIST INCLUDES, BUT IS NOT LIMITED TO: PROPOSED BUILDINGS, SANITARY LIFT STATIONS, LIGHT FIXTURES (POLES) THAT ARE INDEPENDENT GATES MONUMENT SIGNS, DUMPSTER ENCLOSURES, DECORATIVE RETAINING WALLS THAT EXCEED THREE FT. IN HEIGHT.
15.) ALL CURB RAMPS SHALL BE CR-E PER FDOT INDEX #304, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
16.) ALL ROADWAY STRIPING WITHIN COUNTY RIGHT OF WAY SHALL BE THERMOPLASTIC.
17.) STOP SIGNS WITHIN ALL PUBLIC RIGHT OF WAY SHALL BE 30" STOP SIGNS.
18.) ALL DETECTABLE WARNINGS PROPOSED AT SIDEWALK CURB RAMPS WITHIN THE RIGHT OF WAY COUNTY SHALL BE "CAST IN PLACE" PER FDOT INDEX 522-002.
19.) VEGETATION FREE ZONES-ADD WHERE PERVIOUS AREA MEETS THE BUILDING TO BE 18".
20.) ALL AFFECTED SIDEWALKS, RAMPS AND CROSSWALKS WILL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.
21.) FOR ITEM #3 SEE LANDSCAPE PLANS.

GENERAL NOTES:

1.) SETBACK:

FRONT	25'
REAR	15'
STREET SIDE	25'
SIDE	10'
ADJACENT TO RESIDENTIAL ZONING	30'

2.) MAXIMUM LOT IMPERVIOUS AREA 80%.

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SUB25-00041
PSP25-00004

06-10-26	RS	REVISED PER CLIENT COMMENTS	⚠
05-27-26	CM	REVISED PER TOHO	⚠
04-23-26	CM	REVISED PER TOHO & FDOT COMMENTS	⚠
03-19-26	CM	REVISED PER TOHO COMMENTS	⚠
02-26-26	CM	REVISED PER CITY COMMENTS	⚠
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS	⚠
DATE	BY	REVISIONS	

DESIGN MW/CM | DRAWN RS | CHECKED RN | CAD# (see stamp)
F.B. NO. – | PAGE – | SCALE AS SHOWN | DATE 6/10/26
SEC. 5 & 8 | TWP. 26 S | RANGE 31 E

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

SITE DIMENSION PLAN 2

Robert L Newberry 2026.06.10 16:30:37 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-09 of 50
JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 SITE DIMENSION PLAN.dwg • Jun 10, 2026-9:51am • plotted by RSouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

GRAPHIC SCALE

0 20 40 80

(IN FEET)

1 inch = 40 ft.

RETAIL

BUILDING FOOTPRINT = 171,995 SF

+5,105 SF LIQUOR BOX=177,100 SF

PARKING COUNT = 709 SPACES

+10,000 SF= OPD

PARKING COUNT = 46 SPACES TOTAL

TOTAL PARKING RATIO = 4.00 / 1000=755

PARCEL AREA = 27.49± AC

NOTES:

1.) ALL RADII ARE 3' UNLESS OTHERWISE NOTED.
2.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS OCCUR, CONTACT ENGINEER PRIOR TO CONSTRUCTION.
3.) ALL ONSITE SIDEWALKS ARE 5' WIDE UNLESS OTHERWISE NOTED.
4.) REFER TO LANDSCAPE/HARDSCAPE PLANS FOR ENHANCEMENT FEATURES AND SIGNS.
5.) ALL CURBS ARE TYPE D TYPE UNLESS OTHERWISE NOTED.
6.) ALL SIGNAGE AND STRIPING TO BE INSTALLED IN ACCORDANCE WITH MUTCD (LATEST EDITION) STANDARDS AND SPECIFICATIONS.
7.) SIDEWALK RAMPS TO BE CONSTRUCTED AT PROPOSED SITE DRIVEWAYS SHALL BE "CAST IN PLACE" DETECTABLE WARNING IN ACCORDANCE TO FDOT INDEX 304.
8.) LOCATIONS OF SITE LIGHTING IS APPROXIMATE. FINAL LOCATION TO BE DETERMINED BY OUC.
9.) ALL SIGNAGE REQUIRES A SEPARATE PERMIT.
10.) THE IRRIGATION SYSTEM REQUIRES A SEPARATE PERMIT.
11.) MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY A CERTIFIED PERSON.
12.) ALL CONCRETE SHALL BE AN APPROVED FDOT MIX DESIGN OF 3,000 PSI OR GREATER.
13.) MAXIMUM CROSS SLOPES ON ALL CROSSWALKS SHALL BE 2% AND THE MAXIMUM SLOPE FOR RAMPS SHALL BE 1 TO 12.
14.) THE FOLLOWING PROPOSED FACILITIES SHOW ON THE DEVELOPMENT PLANS ARE FOR REFERENCE PURPOSE ONLY AND EACH SHALL REQUIRE A SEPARATE BUILDING PERMIT. THE LIST INCLUDES, BUT IS NOT LIMITED TO: PROPOSED BUILDINGS, SANITARY LIFT STATIONS, LIGHT FIXTURES (POLES) THAT ARE INDEPENDENT GATES MONUMENT SIGNS, DUMPSTER ENCLOSURES, DECORATIVE RETAINING WALLS THAT EXCEED THREE FT. IN HEIGHT.
15.) ALL CURB RAMPS SHALL BE CR-E PER FDOT INDEX #304, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
16.) ALL ROADWAY STRIPING WITHIN COUNTY RIGHT OF WAY SHALL BE THERMOPLASTIC.
17.) STOP SIGNS WITHIN ALL PUBLIC RIGHT OF WAY SHALL BE 30" STOP SIGNS.
18.) ALL DETECTABLE WARNINGS PROPOSED AT SIDEWALK CURB RAMPS WITHIN THE RIGHT OF WAY COUNTY SHALL BE "CAST IN PLACE" PER FDOT INDEX 522-002.
19.) VEGETATION FREE ZONES-ADD WHERE PERVIOUS AREA MEETS THE BUILDING. 18".
20.) ALL AFFECTED SIDEWALKS, RAMPS AND CROSSWALKS WILL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.

PARCEL ID: 05-26-31-0105-0001-0020
OWNER: DD RETAIL ST CLOUD LLC
ZONING: HB
FUTURE LAND USE: COMMERCIAL

PARCEL ID: 05-26-31-0105-0001-0010
OWNER: SLS INVESTMENTS OF CENTRAL FLORIDA LLLP
ZONING: HB
FUTURE LAND USE: COMMERCIAL

LOT 1
ACRES: 17.40±
AREA: 758082 Sq. Ft.±

LOT 10
ACRES: 0.06±
AREA: 2500 Sq. Ft.±

LOT 9
ACRES: 4.25±
AREA: 184970 Sq. Ft.±

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	3/25/26

SEC. 5 & 8
TWP. 26 S
RANGE 31 E

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

PARKING INFORMATION

Robert L Newberry 2026.04.09 16:04:49 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-10 of 50

JOB Nº 5450-05

THESE DOCUMENTS AND THEIR CONTENTS ARE THE PROPERTY OF HANSON, WALTER & ASSOCIATES, INC. AND ARE ISSUED ONLY FOR THE SPECIFIC PROJECT NOTED ON THESE DRAWINGS. ANY UNAUTHORIZED USE, REPRODUCTION OR MODIFICATION OF THESE DOCUMENTS, WHETHER OR NOT SUCH MODIFICATIONS ARE MADE BY HANSON, WALTER & ASSOCIATES, INC., SHALL BE AT USER'S SOLE RISK AND WITHOUT LIABILITY TO HANSON, WALTER & ASSOCIATES, INC.

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 SITE DIMENSION PLAN.dwg • Apr 09, 2026 - 10:57am • plotted by RSouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

CENTERLINE LOCATION SYSTEM

Marker #	Northing	Easting	Description
CL1	N 1422264.4083	E 579563.0448	Centerline Location
CL2	N 1422364.4522	E 579563.0819	Centerline Location
CL3	N 1422665.1740	E 579563.2126	Centerline Location
CL4	N 1422665.2557	E 579375.3645	Centerline Location
CL5	N 1422664.7949	E 579344.5733	Centerline Location
CL6	N 1422664.8815	E 580236.2150	Centerline Location
CL7	N 1422664.8656	E 580272.7172	Centerline Location
CL8	N 1422663.3881	E 579313.8399	Centerline Location
CL9	N 1422661.1924	E 579277.9657	Centerline Location
CL10	N 1422659.3248	E 579216.4412	Centerline Location
CL64	N 1422659.4132	E 579012.9121	Centerline Location
CL65	N 1422993.3392	E 579344.7161	Centerline Location
CL66	N 1423023.7806	E 579344.7293	Centerline Location
CL67	N 1423041.7112	E 579348.0633	Centerline Location
CL68	N 1423144.7621	E 579387.7070	Centerline Location
CL69	N 1423160.7859	E 579411.0508	Centerline Location
CL70	N 1423160.7745	E 579437.2014	Centerline Location
CL71	N 1422993.3127	E 579405.5526	Centerline Location
CL72	N 1422993.2990	E 579437.1286	Centerline Location
CL73	N 1422993.2884	E 579461.5526	Centerline Location
CL74	N 1422993.2640	E 579517.5526	Centerline Location
CL75	N 1422993.2397	E 579573.5526	Centerline Location
CL76	N 1422993.2154	E 579629.5526	Centerline Location
CL77	N 1422993.1910	E 579685.5526	Centerline Location
CL78	N 1422993.1667	E 579741.5526	Centerline Location
CL79	N 1422993.1423	E 579797.5526	Centerline Location
CL80	N 1422993.1180	E 579853.5526	Centerline Location
CL81	N 1422993.0936	E 579909.5526	Centerline Location
CL82	N 1422993.0693	E 579965.5526	Centerline Location
CL83	N 1422993.0450	E 580021.5526	Centerline Location
CL84	N 1422993.0197	E 580079.5526	Centerline Location
CL85	N 1422993.0015	E 580121.4470	Centerline Location
CL86	N 1422992.9937	E 580139.5526	Centerline Location
CL87	N 1422992.9676	E 580199.5526	Centerline Location
CL88	N 1422992.9453	E 580250.7418	Centerline Location
CL89	N 1422992.9342	E 580276.4627	Centerline Location
CL90	N 1422665.2426	E 579405.4100	Centerline Location
CL91	N 1422665.2183	E 579461.4100	Centerline Location
CL92	N 1422665.1939	E 579517.4100	Centerline Location
CL93	N 1422665.1453	E 579629.4100	Centerline Location
CL94	N 1422665.1209	E 579685.4100	Centerline Location
CL95	N 1422665.0722	E 579797.4100	Centerline Location
CL96	N 1422665.0479	E 579853.4100	Centerline Location
CL97	N 1422665.0235	E 579909.4100	Centerline Location
CL98	N 1422664.9992	E 579965.4100	Centerline Location
CL99	N 1422664.9749	E 580021.4100	Centerline Location
CL100	N 1422664.9497	E 580079.4100	Centerline Location
CL101	N 1422664.9236	E 580139.4100	Centerline Location
CL102	N 1422664.8975	E 580199.4100	Centerline Location
CL103	N 1423178.2864	E 579437.2090	Centerline Location
CL104	N 1423205.6012	E 579433.4186	Centerline Location
CL105	N 1423260.2307	E 579425.8377	Centerline Location
CL106	N 1423418.9826	E 579425.9067	Centerline Location
CL107	N 1423418.9289	E 579549.3689	Centerline Location
CL108	N 1423420.7202	E 579593.1923	Centerline Location
CL109	N 1423421.8091	E 579625.9584	Centerline Location
CL110	N 1423421.7638	E 579730.2450	Centerline Location
CL111	N 1423419.9057	E 579774.6447	Centerline Location
CL112	N 1423418.8168	E 579807.4090	Centerline Location
CL113	N 1423418.6841	E 580112.5695	Centerline Location
CL114	N 1423415.7689	E 580181.0673	Centerline Location
CL115	N 1423415.6140	E 580274.0208	Centerline Location
CL116	N 1423415.6030	E 580299.2177	Centerline Location
CL117	N 1423168.8700	E 580185.0929	Centerline Location
CL119	N 1423168.8974	E 580121.5234	Centerline Location
CL120	N 1423168.9013	E 580112.4609	Centerline Location
CL121	N 1423168.9144	E 580083.0775	Centerline Location
CL122	N 1423148.9230	E 580063.0688	Centerline Location
CL123	N 1423054.5506	E 580063.0281	Centerline Location
CL124	N 1423035.8361	E 580064.7867	Centerline Location
CL125	N 1423014.6689	E 580067.0114	Centerline Location
CL126	N 1422993.0252	E 580067.0020	Centerline Location
CL127	N 1423034.1734	E 580121.4649	Centerline Location
CL128	N 1423034.1551	E 580163.4649	Centerline Location
CL820	N 1422220.8358	E 580267.6840	Centerline Location
CL821	N 1422278.4545	E 580268.3299	Centerline Location
CL822	N 1422320.8295	E 580268.8048	Centerline Location
CL823	N 1423143.6031	E 580278.1829	Centerline Location
CL824	N 1423219.4024	E 580284.6130	Centerline Location
CL825	N 1423270.5974	E 580292.7613	Centerline Location
CL826	N 1423352.3822	E 580299.2252	Centerline Location
CL827	N 1423714.7384	E 580299.1910	Centerline Location
CL1096	N 1422665.0966	E 579741.4100	Centerline Location
CL1108	N 1423420.6749	E 579763.0093	Centerline Location

DRY POND LOCATION SYSTEM

Marker #	Northing	Easting	Description
DP11	N 1423408.1572	E 579346.4302	Dry Pond Location Point
DP12	N 1423230.8854	E 579346.4541	Dry Pond Location Point
DP13	N 1423204.3854	E 579319.9541	Dry Pond Location Point
DP14	N 1423204.3854	E 579047.3678	Dry Pond Location Point
DP15	N 1423230.8953	E 579020.8678	Dry Pond Location Point
DP16	N 1423408.1671	E 579020.9099	Dry Pond Location Point
DP17	N 1423434.6572	E 579047.4099	Dry Pond Location Point
DP18	N 1423434.6572	E 579319.9302	Dry Pond Location Point
DP35	N 1423501.4291	E 579610.1127	Dry Pond Location Point
DP36	N 1423659.1177	E 579610.1127	Dry Pond Location Point
DP37	N 1423685.6152	E 579636.9778	Dry Pond Location Point
DP38	N 1423677.6961	E 580211.6005	Dry Pond Location Point
DP39	N 1423651.0105	E 580237.7346	Dry Pond Location Point
DP40	N 1423501.2409	E 580236.6712	Dry Pond Location Point
DP41	N 1423474.9291	E 580210.1719	Dry Pond Location Point
DP42	N 1423474.9291	E 579636.6127	Dry Pond Location Point

POND LOCATION SYSTEM

Marker #	Northing	Easting	Description
P19	N 1423438.6572	E 579319.9302	Pond Location Point
P20	N 1423438.6572	E 579047.4312	Pond Location Point
P21	N 1423465.1572	E 579020.9312	Pond Location Point
P22	N 1423667.2463	E 579021.0304	Pond Location Point
P23	N 1423693.7339	E 579047.8955	Pond Location Point
P24	N 1423686.3709	E 579580.9211	Pond Location Point
P25	N 1423659.9033	E 579606.1127	Pond Location Point
P26	N 1423501.4291	E 579606.1127	Pond Location Point
P27	N 1423474.9291	E 579582.6064	Pond Location Point
P28	N 1423474.9291	E 579574.1127	Pond Location Point
P29	N 1423482.3545	E 579555.7167	Pond Location Point
P30	N 1423505.7787	E 579531.4283	Pond Location Point
P31	N 1423519.9291	E 579496.3719	Pond Location Point
P32	N 1423519.9291	E 579396.9302	Pond Location Point
P33	N 1423469.4291	E 579346.4302	Pond Location Point
P34	N 1423465.1572	E 579346.4302	Pond Location Point

CONCRETE LOCATION SYSTEM

Marker #	Northing	Easting	Description
C140	N 1423350.676	E 579381.925	Concrete Location
C141	N 1423360.737	E 579371.848	Concrete Location
C142	N 1423417.218	E 579372.194	Concrete Location
C143	N 1423454.916	E 579490.125	Concrete Location
C144	N 1423433.937	E 579530.820	Concrete Location
C734	N 1423345.592	E 579450.902	Concrete Location
C735	N 1423355.092	E 579450.906	Concrete Location
C736	N 1423355.076	E 579487.906	Concrete Location
C737	N 1423371.409	E 579487.913	Concrete Location
C738	N 1423371.403	E 579502.913	Concrete Location
C739	N 1423363.236	E 579502.910	Concrete Location
C740	N 1423354.873	E 579583.906	Concrete Location
C854	N 1423715.088	E 580275.191	Concrete Location
C855	N 1423715.091	E 580280.122	Concrete Location
C856	N 1423456.519	E 580280.217	Concrete Location
C857	N 1423450.013	E 580275.216	Concrete Location
C858	N 1423381.236	E 580275.223	Concrete Location
C859	N 1423374.724	E 580280.224	Concrete Location
C860	N 1423352.392	E 580280.225	Concrete Location
C861	N 1423352.391	E 580275.225	Concrete Location
C862	N 1423274.381	E 580269.060	Concrete Location
C863	N 1423273.595	E 580273.998	Concrete Location
C864	N 1423222.544	E 580265.872	Concrete Location
C865	N 1423223.332	E 580260.924	Concrete Location
C866	N 1423143.889	E 580254.185	Concrete Location
C867	N 1423143.821	E 580259.184	Concrete Location
C868	N 1423020.017	E 580257.568	Concrete Location
C869	N 1423015.365	E 580252.717	Concrete Location
C870	N 1422968.953	E 580250.584	Concrete Location
C871	N 1422963.906	E 580255.343	Concrete Location
C872	N 1422714.039	E 580243.277	Concrete Location
C873	N 1422714.108	E 580238.277	Concrete Location
C874	N 1422691.299	E 580238.017	Concrete Location
C875	N 1422696.130	E 580243.072	Concrete Location
C876	N 1422632.852	E 580242.350	Concrete Location
C877	N 1422637.859	E 580237.407	Concrete Location
C878	N 1422465.093	E 580235.434	Concrete Location
C879	N 1422464.573	E 580240.428	Concrete Location
C880	N 1422414.699	E 580228.858	Concrete Location
C881	N 1422415.220	E 580223.864	Concrete Location
C882	N 1422312.227	E 580222.705	Concrete Location
C883	N 1422317.796	E 580227.768	Concrete Location
C884	N 1422312.456	E 580208.993	Concrete Location
C885	N 1422311.305	E 580220.930	Concrete Location
C886	N 1422313.191	E 580230.687	Concrete Location
C887	N 1422305.859	E 580225.572	Concrete Location
C888	N 1422305.361	E 580205.994	Concrete Location
C889	N 1422288.999	E 580204.217	Concrete Location
C890	N 1422317.353	E 580201.935	Concrete Location
C891	N 1422322.797	E 580197.395	Concrete Location
C892	N 1422327.321	E 580199.386	Concrete Location
C893	N 1422316.889	E 580206.914	Concrete Location
C894	N 1422287.282	E 580199.015	Concrete Location
C895	N 1422328.008	E 580295.417	Concrete Location
C896	N 1422306.987	E 580292.544	Concrete Location
C897	N 1422310.958	E 580297.042	Concrete Location
C898	N 1422299.990	E 580311.569	Concrete Location
C899	N 1422316.145	E 580298.717	Concrete Location
C900	N 1422318.338	E 580303.779	Concrete Location
C901	N 1422342.785	E 580292.999	Concrete Location
C902	N 1422324.828	E 580291.559	Concrete Location
C903	N 1422312.694	E 580305.354	Concrete Location
C904	N 1422342.965	E 580288.001	Concrete Location
C905	N 1423143.375	E 580297.182	Concrete Location
C906	N 1423143.318	E 580302.181	Concrete Location
C907	N 1423216.404	E 580303.377	Concrete Location
C908	N 1423215.619	E 580308.315	Concrete Location
C909	N 1423267.599	E 580311.525	Concrete Location
C910	N 1423266.814	E 580316.463	Concrete Location
C911	N 1423352.373	E 580318.225	Concrete Location
C912	N 1423352.373	E 580323.225	Concrete Location
C913	N 1423714.724	E 580318.191	Concrete Location
C914	N 1423714.656	E 580323.191	Concrete Location
C915	N 1422356.891	E 579636.223	Concrete Location
C916	N 1422356.974	E 579633.725	Concrete Location
C917	N 1422339.643	E 579615.200	Concrete Location
C918	N 1422340.016	E 579605.160	Concrete Location
C919	N 1422345.275	E 579598.304	Concrete Location
C920	N 1422344.715	E 579613.303	Concrete Location
C921	N 1422361.950	E 579631.725	Concrete Location
C922	N 1422346.671	E 579541.295	Concrete Location
C923	N 1422341.900	E 579538.216	Concrete Location
C924	N 1422342.124	E 579530.274	Concrete Location
C925	N 1422360.738	E 579512.683	Concrete Location
C926	N 1422365.606	E 579514.962	Concrete Location
C927	N 1422347.064	E 579532.485	Concrete Location
C970	N 1423008.510	E 579948.874	Concrete Location
C971	N 1423008.517	E 579934.054	Concrete Location
C972	N 1423022.523	E 579920.060	Concrete Location
C973	N 1423022.527	E 579910.763	Concrete Location

CONCRETE LOCATION SYSTEM

Marker #	Northing	Easting	Description
C974	N 1423037.343	E 579920.066	Concrete Location
C975	N 1423020.236	E 579696.099	Concrete Location
C976	N 1423037.153	E 579696.106	Concrete Location
C977	N 1423022.576	E 579585.930	Concrete Location
C978	N 1423022.581	E 579574.930	Concrete Location
C979	N 1423008.358	E 579561.447	Concrete Location
C980	N 1423008.219	E 579546.836	Concrete Location
C981	N 1423037.443	E 579574.936	Concrete Location
C982	N 1423087.471	E 579349.060	Concrete Location
C983	N 1423126.656	E 579349.077	Concrete Location
C984	N 1423139.781	E 579346.405	Concrete Location
C985	N 1423157.416	E 579357.549	Concrete Location
C986	N 1423156.383	E 579359.184	Concrete Location
C987	N 1423154.093	E 579375.475	Concrete Location
C1094	N 1423182.016	E 579318.619	Concrete Location
C1095	N 1423169.511	E 579310.756	Concrete Location
C1097	N 1423433.914	E 579583.941	Concrete Location
C1121	N 1422305.479	E 580314.033	Concrete Location
C1122	N 1422312.260	E 580309.850	Concrete Location
C1123	N 1422307.211	E 580320.065	Concrete Location
C1124	N 1422310.765	E 580325.356	Concrete Location
C1125	N 1422298.176	E 580316.568	Concrete Location
C1126	N 1422296.055	E 580328.675	Concrete Location
C1127	N 1422289.677	E 580331.917	Concrete Location
C1137	N 1422428.512	E 580288.984	Concrete Location
C1138	N 1422431.160	E 580294.015	Concrete Location
C1139	N 1422406.583	E 580293.733	Concrete Location
C1140	N 1422401.126	E 580288.670	Concrete Location

PAVING LOCATION SYSTEM

Marker #	Northing	Easting	Description
PV-43	N 1422621.1801	E 579549.1935	Pavement
PV-44	N 1422646.1910	E 579524.2043	Pavement
PV-46	N 1422646.4132	E 579012.9238	Pavement
PV-47	N 1422672.4131	E 579012.9004	Pavement
PV-48	N 1422672.3263	E 579216.4469	Pavement
PV-49	N 1422674.1672	E 579277.1563	Pavement
PV-50	N 1423023.7871	E 579329.7293	Pavement
PV-51	N 1423047.0969	E 579334.0636	Pavement
PV-52	N 1423150.1478	E 579373.7073	Pavement
PV-53	N 1423175.7808	E 579411.6781	Pavement
PV-54	N 1423184.2504	E 579422.0026	Pavement
PV-55	N 1422700.8821	E 579329.5889	Pavement
PV-56	N 1422675.9387	E 579306.1009	Pavement
PV-57	N 1422671.8878	E 580222.2911	Pavement
PV-58	N 1422706.4906	E 580251.1910	Pavement
PV-59	N 1422610.4911	E 580250.0950	Pavement
PV-60	N 1422645.8907	E 580215.1125	Pavement
PV-61	N 1422646.1571	E 579602.2043	Pavement
PV-62	N 1422621.1680	E 579577.1934	Pavement
PV-63	N 1422385.5650	E 579577.0910	Pavement
PV-129	N 1423192.3149	E 579390.8852	Pavement
PV-130	N 1423278.3149	E 579390.9206	Pavement
PV-131	N 1423278.3108	E 579408.0585	Pavement
PV-132	N 1423281.3052	E 579410.9212	Pavement
PV-133	N 1423284.8052	E 579410.9240	Pavement
PV-134	N 1423287.8076	E 579407.9253	Pavement
PV-135	N 1423287.8149	E 579390.9269	Pavement
PV-136	N 1423337.8149	E 579390.9484	Pavement
PV-137	N 1423337.8081	E 579406.8394	Pavement
PV-138	N 1423342.0643	E 579409.5650	Pavement
PV-139	N 1423350.7835	E 579395.9498	Pavement
PV-145	N 1423433.9091	E 579594.9722	Pavement
PV-146	N 1423439.8811	E 579611.1984	Pavement
PV-147	N 1423445.8532	E 579627.4245	Pavement
PV-148	N 1423445.8021	E 579745.9687	Pavement
PV-149	N 1423439.8151	E 579763.6458	Pavement
PV-150	N 1423433.6253	E 579782.7631	Pavement
PV-151	N 1423433.6351	E 580238.2150	Pavement
PV-152	N 1423483.6539	E 580288.2086	Pavement
PV-153	N 1423382.3061	E 580274.2224	Pavement
PV-154	N 1423397.6296	E 580238.2208	Pavement
PV-155	N 1423397.6444	E 580203.8946	Pavement
PV-156	N 1423387.6491	E 580193.0552	Pavement
PV-157	N 1423379.2967	E 580193.0516	Pavement
PV-158	N 1423376.2954	E 580196.0503	Pavement
PV-159	N 1423376.3728	E 580212.8430	Pavement
PV-160	N 1423212.2449	E 580212.9796	Pavement
PV-161	N 1423212.2943	E 580198.6951	Pavement
PV-162	N 1423207.2964	E 580193.6929	Pavement
PV-163	N 1423202.2943	E 580198.6908	Pavement
PV-164	N 1423202.2862	E 580217.4755	Pavement
PV-165	N 1423102.3082	E 580217.4945	Pavement
PV-166	N 1423032.3083	E 580217.4641	Pavement
PV-167	N 1423032.3164	E 580198.6472	Pavement
PV-168	N 1423026.8450	E 580194.0837	Pavement
PV-169	N 1423020.9460	E 580184.9590	Pavement
PV-170	N 1423020.9667	E 580136.9590	Pavement
PV-171	N 1423017.9667	E 580133.9577	Pavement
PV-172	N 1423007.9917	E 580143.9534	Pavement
PV-173	N 1423007.8377	E 580230.6299	Pavement
PV-174	N 1423042.4358	E 580266.0272	Pavement
PV-175	N 1422941.2705	E 580262.2626	Pavement
PV-176	N 1422977.9587	E 580227.3034	Pavement
PV-177	N 1422977.9569	E 580221.5890	Pavement
PV-178	N 1422967.9613	E 580211.5890	Pavement
PV-179	N 1422955.2310	E 580211.5835	Pavement
PV-180	N 1422952.6314	E 580216.0831	Pavement
PV-181	N 1422960.4246	E 580229.5858	Pavement
PV-182	N 1422879.2246	E 580229.5414	Pavement
PV-183	N 1422869.6734	E 580212.9929	Pavement
PV-184	N 1422867.0756	E 580211.4925	Pavement
PV-185	N 1422863.0341	E 580211.4919	Pavement
PV-186	N 1422860.4354	E 580215.9916	Pavement
PV-187	N 1422868.0217	E 580229.5358	Pavement
PV-188	N 1422705.8532	E 580229.4661	Pavement
PV-189	N 1422697.0800	E 580214.2655	Pavement
PV-190	N 1422690.9320	E 580212.1070	Pavement
PV-191	N 1422684.8273	E 580223.6894	Pavement
PV-192	N 1422698.4887	E 580244.4775	Pavement
PV-193	N 1422693.9056	E 580187.4237	Pavement
PV-194	N 1422683.9072	E 580177.0687	Pavement
PV-195	N 1422683.9140	E 580161.4843	Pavement
PV-196	N 1422688.1685	E 580153.3040	Pavement
PV-197	N 1422695.3731	E 580154.8994	Pavement
PV-198	N 1422703.6764	E 580169.3051	Pavement
PV-199	N 1422694.0239	E 580171.5822	Pavement
PV-200	N 1422700.3603	E 580182.5755	Pavement
PV-201	N 1422697.9628	E 580187.4243	Pavement
PV-202	N 1422695.3271	E 580169.3332	Pavement
PV-210	N 1422850.4535	E 580185.9604	Pavement

PAVING LOCATION SYSTEM

Marker #	Northing	Easting	Description
PV-211	N 1422833.1545	E 580155.9479	Pavement
PV-212	N 1422835.7559	E 580151.4498	Pavement
PV-213	N 1422839.7973	E 580151.4527	Pavement
PV-214	N 1422842.3943	E 580152.9546	Pavement
PV-215	N 1422859.6932	E 580182.9670	Pavement
PV-216	N 1422857.0919	E 580187.4652	Pavement
PV-217	N 1422853.0505	E 580187.4623	Pavement
PV-218	N 1422954.1436	E 580170.5456	Pavement
PV-219	N 1422964.5891	E 580168.5502	Pavement
PV-220	N 1422957.3754	E 580156.0350	Pavement
PV-221	N 1422961.7674	E 580151.5371	Pavement
PV-222	N 1422967.9696	E 580151.5380	Pavement
PV-223	N 1422977.9681	E 580161.5424	Pavement
PV-224	N 1422977.9612	E 580177.5653	Pavement
PV-225	N 1422968.1962	E 580187.5582	Pavement
PV-226	N 1422962.4376	E 580184.9159	Pavement
PV-227	N 1422965.5695	E 580125.9738	Pavement
PV-228	N 1422956.0334	E 580109.4514	Pavement
PV-229	N 1422967.7362	E 580109.4532	Pavement
PV-230	N 1422960.0872	E 580095.9520	Pavement
PV-231	N 1422961.8095	E 580091.4523	Pavement
PV-232	N 1422968.0116	E 580091.4531	Pavement
PV-233	N 1422978.0102	E 580101.4575	Pavement
PV-234	N 1422978.0033	E 580117.4805	Pavement
PV-235	N 1422968.2383	E 580127.4733	Pavement
PV-236	N 1422862.2720	E 580122.9384	Pavement
PV-237	N 1422859.6733	E 580127.4380	Pavement
PV-238	N 1422855.6318	E 580127.4374	Pavement
PV-239	N 1422853.0340	E 580125.9371	Pavement
PV-240	N 1422835.7177	E 580095.9346	Pavement
PV-241	N 1422838.3164	E 580091.4350	Pavement
PV-242	N 1422842.3579	E 580091.4355	Pavement
PV-243	N 1422844.9557	E 580092.9359	Pavement
PV-250	N 1422695.3598	E 580109.4143	Pavement
PV-252	N 1422695.8151	E 580094.6994	Pavement
PV-253	N 1422704.3087	E 580109.4156	Pavement
PV-254	N 1422694.0604	E 580111.6641	Pavement
PV-255	N 1422700.6184	E 580123.0266	Pavement
PV-256	N 1422698.0197	E 580127.5263	Pavement
PV-257	N 1422693.9317	E 580127.5257	Pavement
PV-258	N 1422683.9331	E 580117.5213	Pavement
PV-259	N 1422683.9400	E 580101.5257	Pavement
PV-260	N 1422688.1632	E 580093.3674	Pavement
PV-261	N 1422693.9580	E 580067.0257	Pavement
PV-262	N 1422683.9594	E 580057.0214	Pavement
PV-263	N 1422683.9662	E 580041.4370	Pavement
PV-264	N 1422683.9694	E 580033.8832	Pavement
PV-265	N 1422700.3433	E 580034.3819	Pavement
PV-266	N 1422708.9484	E 580049.3112	Pavement
PV-267	N 1422697.4008	E 580049.2828	Pavement
PV-268	N 1422705.0375	E 580062.5320	Pavement
PV-269	N 1422702.4376	E 580067.0296	Pavement
PV-278	N 1422854.1337	E 580065.9860	Pavement
PV-279	N 1422836.8348	E 580035.9735	Pavement
PV-280	N 1422839.4361	E 580031.4754	Pavement
PV-281	N 1422843.4775	E 580031.4783	Pavement
PV-282	N 1422846.0745	E 580032.9802	Pavement
PV-283	N 1422863.3734	E 580062.9926	Pavement
PV-284	N 1422860.7721	E 580067.4908	Pavement
PV-285	N 1422856.7307	E 580067.4879	Pavement
PV-306	N 1422845.1286	E 580009.8968	Pavement
PV-307	N 1422842.5303	E 580011.3964	Pavement
PV-308	N 1422838.4888	E 580011.3959	Pavement
PV-309	N 1422835.8914	E 580006.8955	Pavement
PV-310	N 1422853.2162	E 579976.8979	Pavement
PV-311	N 1422855.8145	E 579975.3983	Pavement
PV-312	N 1422859.8559	E 579975.3989	Pavement
PV-313	N 1422862.4533	E 579979.8993	Pavement
PV-318	N 1422694.7182	E 579993.4448	Pavement
PV-322	N 1422703.7293	E 579993.4237	Pavement
PV-323	N 1422695.3350	E 580007.9582	Pavement
PV-324	N 1422688.0270	E 580009.4737	Pavement
PV-325	N 1422683.9835	E 580001.4370	Pavement
PV-326	N 1422683.9905	E 579985.5339	Pavement
PV-327	N 1422693.9919	E 579975.5382	Pavement
PV-328	N 1422697.8914	E 579975.5388	Pavement
PV-329	N 1422700.0224	E 579979.7697	Pavement
PV-330	N 1422693.4241	E 579991.1946	Pavement
PV-331	N 1422694.0064	E 579955.5382	Pavement
PV-332	N 1422684.0078	E 579945.5339	Pavement
PV-333	N 1422684.0148	E 579929.5429	Pavement
PV-334	N 1422688.2435	E 579921.3807	Pavement
PV-335	N 1422695.4596	E 579922.9646	Pavement
PV-336	N 1422703.8100	E 579937.4327	Pavement
PV-337	N 1422694.1391	E 579939.6813	Pavement
PV-338	N 1422700.2613	E 579951.2891	Pavement
PV-339	N 1422698.0957	E 579955.5388	Pavement
PV-341	N 1422695.4385	E 579937.4315	Pavement
PV-348	N 1422849.9527	E 579953.9911	Pavement
PV-349	N 1422832.6364	E 579923.9886	Pavement

PAVING LOCATION SYSTEM

Marker #	Northing	Easting	Description
PV-350	N 1422835.2351	E 579919.4890	Pavement
PV-351	N 1422839.2766	E 579919.4896	Pavement
PV-352	N 1422841.8744	E 579920.9899	Pavement
PV-353	N 1422865.1775	E 579950.9557	Pavement
PV-354	N 1422859.1907	E 579950.9924	Pavement
PV-355	N 1422856.5920	E 579955.4920	Pavement
PV-356	N 1422961.7239	E 579952.6115	Pavement
PV-357	N 1422953.0784	E 579937.6121	Pavement
PV-358	N 1422964.6784	E 579937.6204	Pavement
PV-359	N 1422956.8485	E 579924.0361	Pavement
PV-360	N 1422959.4490	E 579919.5380	Pavement
PV-361	N 1422968.0864	E 579919.4704	Pavement
PV-362	N 1422978.0850	E 579929.4747	Pavement
PV-363	N 1422978.0780	E 579945.4930	Pavement
PV-364	N 1422970.2476	E 579955.4857	Pavement
PV-376	N 1422846.0440	E 579897.9530	Pavement
PV-377	N 1422843.4457	E 579899.4526	Pavement
PV-378	N 1422839.4043	E 579899.4521	Pavement
PV-379	N 1422836.8068	E 579894.9517	Pavement
PV-380	N 1422854.1316	E 579864.9542	Pavement
PV-381	N 1422856.7299	E 579863.4545	Pavement
PV-382	N 1422860.7713	E 579863.4551	Pavement
PV-383	N 1422863.3688	E 579867.9555	Pavement
PV-392	N 1422705.4030	E 579881.4330	Pavement
PV-393	N 1422696.5563	E 579896.7506	Pavement
PV-394	N 1422688.0421	E 579897.5547	Pavement
PV-395	N 1422684.0322	E 579889.5429	Pavement
PV-396	N 1422684.0391	E 579873.5429	Pavement
PV-397	N 1422694.0406	E 579863.5473	Pavement
PV-398	N 1422698.9347	E 579863.5480	Pavement
PV-399	N 1422701.2761	E 579867.8243	Pavement
PV-400	N 1422693.8030	E 579881.4313	Pavement
PV-401	N 1422684.0565	E 579833.5429	Pavement
PV-402	N 1422684.0635	E 579817.5330	Pavement
PV-403	N 1422688.2800	E 579809.3794	Pavement
PV-404	N 1422700.8767	E 579810.6979	Pavement
PV-405	N 1422709.3758	E 579825.4236	Pavement
PV-406	N 1422697.7758	E 579825.4219	Pavement
PV-407	N 1422705.6408	E 579839.0489	Pavement
PV-408	N 1422703.0420	E 579843.5486	Pavement
PV-409	N 1422694.0551	E 579843.5473	Pavement
PV-418	N 1422855.4997	E 579841.9444	Pavement
PV-419	N 1422838.1835	E 579811.9419	Pavement
PV-420	N 1422840.7822	E 579807.4423	Pavement
PV-421	N 1422844.8237	E 579807.4429	Pavement
PV-422	N 1422847.4215	E 579808.9433	Pavement
PV-423	N 1422864.7378	E 579838.9457	Pavement
PV-424	N 1422862.1390	E 579843.4453	Pavement
PV-425	N 1422858.0976	E 579843.4448	Pavement
PV-446	N 1422845.2176	E 579785.9654	Pavement
PV-447	N 1422842.6193	E 579787.4651	Pavement
PV-448	N 1422838.5779	E 579787.4645	Pavement
PV-449	N 1422835.9805	E 579782.9641	Pavement
PV-450	N 1422853.3052	E 579752.9666	Pavement
PV-451	N 1422855.9035	E 579751.4670	Pavement
PV-452	N 1422859.9450	E 579751.4675	Pavement
PV-453	N 1422862.5424	E 579755.9679	Pavement
PV-461	N 1422700.7179	E 579756.0573	Pavement
PV-462	N 1422694.2546	E 579767.2484	Pavement
PV-463	N 1422695.3110	E 579769.4789	Pavement
PV-464	N 1422704.5649	E 579769.4686	Pavement
PV-465	N 1422695.9476	E 579784.3892	Pavement
PV-466	N 1422688.2464	E 579785.6588	Pavement
PV-467	N 1422684.0809	E 579777.5330	Pavement
PV-468	N 1422684.0878	E 579761.5520	Pavement
PV-469	N 1422694.0892	E 579751.5563	Pavement
PV-470	N 1422698.1204	E 579751.5569	Pavement
PV-471	N 1422684.1052	E 579721.5520	Pavement
PV-472	N 1422684.1121	E 579705.6229	Pavement
PV-473	N 1422688.3843	E 579697.4301	Pavement
PV-474	N 1422696.0520	E 579698.7561	Pavement
PV-475	N 1422704.5720	E 579713.5428	Pavement
PV-476	N 1422695.5701	E

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
PV-679	N 1422698.3401	E 579395.6803	Pavement
PV-680	N 1422694.2341	E 579395.6733	Pavement
PV-681	N 1422684.2512	E 579385.6690	Pavement
PV-682	N 1422684.2560	E 579374.5817	Pavement
PV-683	N 1422688.9343	E 579363.7043	Pavement
PV-684	N 1422697.1781	E 579364.5600	Pavement
PV-685	N 1422704.7232	E 579377.6327	Pavement
PV-686	N 1422695.7213	E 579377.6315	Pavement
PV-687	N 1422694.4219	E 579379.8813	Pavement
PV-688	N 1422700.9435	E 579391.1807	Pavement
PV-696	N 1422853.4471	E 579394.1539	Pavement
PV-697	N 1422836.1309	E 579364.1515	Pavement
PV-698	N 1422838.7296	E 579359.6518	Pavement
PV-699	N 1422842.7711	E 579359.6524	Pavement
PV-700	N 1422845.3689	E 579361.1528	Pavement
PV-701	N 1422862.6852	E 579391.1552	Pavement
PV-702	N 1422860.0864	E 579395.6549	Pavement
PV-703	N 1422856.0450	E 579395.6543	Pavement
PV-704	N 1422953.0999	E 579366.9390	Pavement
PV-706	N 1422953.7912	E 579363.1235	Pavement
PV-707	N 1422961.9428	E 579359.7669	Pavement
PV-708	N 1422978.3261	E 579374.7095	Pavement
PV-709	N 1422978.3214	E 579385.6746	Pavement
PV-710	N 1422968.4880	E 579393.6007	Pavement
PV-712	N 1423008.2775	E 579416.1353	Pavement
PV-713	N 1423008.4447	E 579392.1113	Pavement
PV-714	N 1423018.2632	E 579382.1385	Pavement
PV-715	N 1423021.2909	E 579385.1396	Pavement
PV-716	N 1423021.2762	E 579419.1410	Pavement
PV-717	N 1423017.3159	E 579422.1424	Pavement
PV-718	N 1423014.2749	E 579422.1379	Pavement
PV-719	N 1423091.2835	E 579402.1695	Pavement
PV-720	N 1423091.2898	E 579387.5751	Pavement
PV-721	N 1423095.3634	E 579384.7857	Pavement
PV-722	N 1423139.3878	E 579401.7220	Pavement
PV-723	N 1423145.7973	E 579411.0595	Pavement
PV-724	N 1423145.7854	E 579412.1929	Pavement
PV-725	N 1423135.7811	E 579422.1886	Pavement
PV-726	N 1423126.2501	E 579422.1845	Pavement
PV-727	N 1423121.2522	E 579417.1824	Pavement
PV-728	N 1423121.2587	E 579402.1824	Pavement
PV-729	N 1423252.2581	E 579452.2402	Pavement
PV-730	N 1423252.2589	E 579450.5287	Pavement
PV-731	N 1423267.5922	E 579450.5353	Pavement
PV-732	N 1423267.5964	E 579440.8687	Pavement
PV-733	N 1423345.5964	E 579440.9023	Pavement
PV-741	N 1423392.8681	E 579583.9227	Pavement
PV-742	N 1423393.5001	E 579664.1730	Pavement
PV-743	N 1423408.8335	E 579664.1796	Pavement
PV-744	N 1423408.8149	E 579707.1796	Pavement
PV-745	N 1423393.4816	E 579707.1730	Pavement
PV-746	N 1423393.4342	E 579817.0896	Pavement
PV-747	N 1423397.4342	E 579817.0913	Pavement
PV-748	N 1423397.4281	E 579831.4247	Pavement
PV-749	N 1423393.4281	E 579831.4230	Pavement
PV-750	N 1423393.3859	E 579929.2563	Pavement
PV-751	N 1423354.7192	E 579929.2396	Pavement
PV-752	N 1423354.6930	E 579990.2395	Pavement
PV-753	N 1423343.4325	E 579990.2347	Pavement
PV-754	N 1423343.4134	E 580034.7013	Pavement
PV-755	N 1423352.3648	E 580034.7051	Pavement
PV-756	N 1423355.3635	E 580037.7064	Pavement
PV-757	N 1423362.5117	E 580071.1416	Pavement
PV-758	N 1423370.1786	E 580083.8905	Pavement
PV-759	N 1423371.8032	E 580089.3715	Pavement
PV-760	N 1423361.6046	E 580099.0441	Pavement
PV-761	N 1423350.3384	E 580096.0392	Pavement
PV-762	N 1423350.3459	E 580079.0393	Pavement
PV-763	N 1423192.3459	E 580078.9710	Pavement
PV-764	N 1423192.3394	E 580093.9710	Pavement
PV-765	N 1423188.7468	E 580098.9694	Pavement
PV-766	N 1423178.7528	E 580086.9922	Pavement
PV-767	N 1423178.7292	E 580068.7023	Pavement
PV-768	N 1423148.9317	E 580042.0688	Pavement
PV-769	N 1423052.8421	E 580042.0289	Pavement
PV-770	N 1423032.3217	E 580052.7336	Pavement
PV-771	N 1423024.1135	E 580057.0154	Pavement
PV-772	N 1423018.0013	E 580057.0128	Pavement
PV-773	N 1423008.0056	E 580047.0082	Pavement
PV-774	N 1423008.1140	E 579786.7568	Pavement
PV-775	N 1423014.1206	E 579771.4261	Pavement
PV-776	N 1423014.1510	E 579700.7594	Pavement
PV-777	N 1423008.1576	E 579685.4235	Pavement
PV-778	N 1423008.2881	E 579462.1350	Pavement
PV-779	N 1423018.2924	E 579452.1394	Pavement
PV-780	N 1423008.0113	E 580098.9534	Pavement
PV-781	N 1423008.0165	E 580087.0085	Pavement
PV-782	N 1423018.0208	E 580077.0128	Pavement
PV-783	N 1423024.1049	E 580077.0154	Pavement
PV-784	N 1423030.1039	E 580079.0179	Pavement

PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
PV-785	N 1423045.1013	E 580084.0240	Pavement
PV-786	N 1423116.6538	E 580084.0549	Pavement
PV-787	N 1423125.6281	E 580082.3927	Pavement
PV-788	N 1423134.6024	E 580080.7306	Pavement
PV-789	N 1423148.9150	E 580080.7368	Pavement
PV-790	N 1423158.9107	E 580090.7411	Pavement
PV-791	N 1423158.9071	E 580099.0187	Pavement
PV-792	N 1423148.9028	E 580109.0144	Pavement
PV-793	N 1423145.9041	E 580106.0131	Pavement
PV-794	N 1423145.9112	E 580089.5130	Pavement
PV-795	N 1423026.0245	E 580089.4613	Pavement
PV-796	N 1423023.0158	E 580109.4600	Pavement
PV-797	N 1423019.4025	E 580109.4585	Pavement
PV-798	N 1423057.3907	E 580137.1504	Pavement
PV-799	N 1423057.3766	E 580169.7995	Pavement
PV-800	N 1423053.0897	E 580172.5082	Pavement
PV-801	N 1423047.3808	E 580159.9704	Pavement
PV-802	N 1423047.3877	E 580143.9704	Pavement
PV-803	N 1423053.1061	E 580134.4380	Pavement
PV-804	N 1423147.3914	E 580135.5297	Pavement
PV-805	N 1423148.8920	E 580134.0142	Pavement
PV-806	N 1423158.8877	E 580144.0185	Pavement
PV-807	N 1423158.8793	E 580163.5191	Pavement
PV-808	N 1423149.5000	E 580173.4955	Pavement
PV-809	N 1423147.3759	E 580171.4985	Pavement
PV-810	N 1423178.8826	E 580155.9651	Pavement
PV-811	N 1423178.8912	E 580135.9651	Pavement
PV-812	N 1423188.8955	E 580125.9694	Pavement
PV-813	N 1423192.3242	E 580128.9709	Pavement
PV-814	N 1423192.3095	E 580162.9708	Pavement
PV-815	N 1423188.8809	E 580165.9694	Pavement
PV-816	N 1423374.3099	E 580162.3739	Pavement
PV-817	N 1423374.3240	E 580129.7256	Pavement
PV-818	N 1423384.3213	E 580136.0528	Pavement
PV-819	N 1423384.3126	E 580156.0528	Pavement
PV-828	N 1422670.0283	E 580234.3283	Pavement
PV-829	N 1422665.8830	E 580233.2260	Pavement
PV-830	N 1422662.7638	E 580251.8070	Pavement
PV-831	N 1422665.9260	E 580134.3479	Pavement
PV-832	N 1422668.4270	E 580131.8490	Pavement
PV-833	N 1422669.4260	E 580131.8494	Pavement
PV-834	N 1422671.9250	E 580134.3505	Pavement
PV-835	N 1422285.7181	E 580181.8549	Pavement
PV-836	N 1422334.9885	E 580235.9614	Pavement
PV-837	N 1422413.6473	E 580236.8469	Pavement
PV-838	N 1422463.5207	E 580248.4170	Pavement
PV-839	N 1422713.7094	E 580251.2734	Pavement
PV-840	N 1423143.7287	E 580267.1836	Pavement
PV-841	N 1423221.1314	E 580273.7497	Pavement
PV-842	N 1423272.3264	E 580281.8980	Pavement
PV-843	N 1423352.3812	E 580288.2252	Pavement
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PV-849	N 1423143.4776	E 580289.1822	Pavement
PV-850	N 1422340.6416	E 580280.0275	Pavement
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PV-852	N 1422245.9531	E 580727.8666	Pavement
PV-853	N 1422224.0480	E 580725.5928	Pavement
PV-928	N 1422363.6641	E 579582.1321	Pavement
PV-929	N 1422335.5777	E 579625.2351	Pavement
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PV-934	N 1422364.6974	E 579548.3760	Pavement
PV-935	N 1422373.0695	E 579549.0856	Pavement
PV-990	N 1422949.7015	E 580067.4901	Pavement
PV-991	N 1422942.2053	E 580054.4847	Pavement
PV-992	N 1422978.0276	E 580054.5105	Pavement
PV-993	N 1422978.0390	E 580057.4877	Pavement
PV-994	N 1422968.2416	E 580067.5010	Pavement
PV-995	N 1422967.0349	E 580049.5026	Pavement
PV-996	N 1422959.2504	E 580035.9970	Pavement
PV-997	N 1422961.8517	E 580031.4988	Pavement
PV-998	N 1422968.0479	E 580031.5033	Pavement
PV-999	N 1422978.0459	E 580041.4931	Pavement
PV-1000	N 1422978.0424	E 580049.5105	Pavement
PV-1001	N 1422962.8030	E 580011.5096	Pavement
PV-1002	N 1422960.2056	E 580007.0092	Pavement
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PV-1004	N 1422956.4572	E 579993.4127	Pavement
PV-1005	N 1422965.2456	E 579978.1957	Pavement
PV-1006	N 1422969.0933	E 579975.9991	Pavement
PV-1007	N 1422978.0703	E 579985.4713	Pavement
PV-1008	N 1422978.0633	E 580001.5204	Pavement
PV-1009	N 1422968.0522	E 580011.5104	Pavement
PV-1010	N 1422961.8767	E 579899.5024	Pavement

PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
PV-1011	N 1422959.2793	E 579895.0021	Pavement
PV-1012	N 1422967.0912	E 579881.4759	Pavement
PV-1013	N 1422978.1155	E 579881.4775	Pavement
PV-1014	N 1422978.1120	E 579889.5077	Pavement
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PV-1016	N 1422956.1177	E 579876.4822	Pavement
PV-1017	N 1422962.7634	E 579864.9753	Pavement
PV-1018	N 1422965.3617	E 579863.4757	Pavement
PV-1019	N 1422968.4426	E 579863.3678	Pavement
PV-1020	N 1422978.1189	E 579873.4804	Pavement
PV-1021	N 1422978.0919	E 579876.5455	Pavement
PV-1022	N 1422965.4692	E 579840.4950	Pavement
PV-1023	N 1422965.4706	E 579830.4657	Pavement
PV-1024	N 1422978.1376	E 579830.4675	Pavement
PV-1025	N 1422978.1363	E 579833.5077	Pavement
PV-1026	N 1422968.6118	E 579843.4920	Pavement
PV-1027	N 1422965.3373	E 579825.4730	Pavement
PV-1028	N 1422957.5408	E 579811.9646	Pavement
PV-1029	N 1422960.1395	E 579807.4650	Pavement
PV-1030	N 1422968.1447	E 579807.4661	Pavement
PV-1031	N 1422978.1433	E 579817.4704	Pavement
PV-1032	N 1422978.1398	E 579825.4675	Pavement
PV-1033	N 1422962.0362	E 579787.4925	Pavement
PV-1034	N 1422960.3494	E 579782.9866	Pavement
PV-1035	N 1422968.1483	E 579769.4829	Pavement
PV-1036	N 1422956.5483	E 579769.4778	Pavement
PV-1037	N 1422966.0804	E 579753.2605	Pavement
PV-1038	N 1422970.2828	E 579751.7553	Pavement
PV-1039	N 1422978.1676	E 579761.4895	Pavement
PV-1040	N 1422978.1607	E 579777.4978	Pavement
PV-1041	N 1422968.1592	E 579787.4934	Pavement
PV-1042	N 1422966.0374	E 579729.7373	Pavement
PV-1043	N 1422956.2515	E 579713.5575	Pavement
PV-1044	N 1422968.1417	E 579713.5536	Pavement
PV-1045	N 1422960.3494	E 579700.0525	Pavement
PV-1046	N 1422962.0275	E 579695.5583	Pavement
PV-1047	N 1422968.1934	E 579695.5592	Pavement
PV-1048	N 1422978.1919	E 579705.5635	Pavement
PV-1049	N 1422978.1850	E 579721.5168	Pavement
PV-1050	N 1422968.4876	E 579731.1666	Pavement
PV-1051	N 1422960.3009	E 579675.5853	Pavement
PV-1052	N 1422957.7043	E 579671.0835	Pavement
PV-1053	N 1422965.3858	E 579657.6205	Pavement
PV-1054	N 1422978.2221	E 579657.6297	Pavement
PV-1055	N 1422978.2093	E 579665.5908	Pavement
PV-1056	N 1422968.2079	E 579675.5865	Pavement
PV-1057	N 1422965.4936	E 579652.6206	Pavement
PV-1058	N 1422965.5008	E 579642.6112	Pavement
PV-1059	N 1422968.5030	E 579639.6227	Pavement
PV-1060	N 1422978.2163	E 579649.6119	Pavement
PV-1061	N 1422978.2257	E 579652.6297	Pavement
PV-1062	N 1422968.6156	E 579619.6276	Pavement
PV-1063	N 1422965.5010	E 579616.6294	Pavement
PV-1064	N 1422965.5025	E 579606.6332	Pavement
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PV-1068	N 1422957.7109	E 579588.1321	Pavement
PV-1069	N 1422960.3096	E 579583.6325	Pavement
PV-1070	N 1422968.2420	E 579583.6336	Pavement
PV-1071	N 1422978.2406	E 579593.6380	Pavement
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PV-1073	N 1422968.2548	E 579563.6673	Pavement
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PV-1075	N 1422960.0820	E 579559.1604	Pavement
PV-1076	N 1422967.8781	E 579545.6616	Pavement
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PV-1079	N 1422968.4769	E 579527.6695	Pavement
PV-1080	N 1422978.2649	E 579537.6716	Pavement
PV-1081	N 1422978.2580	E 579553.6653	Pavement
PV-1082	N 1422968.2809	E 579507.6946	Pavement
PV-1083	N 1422965.5252	E 579507.6942	Pavement
PV-1084	N 1422962.9264	E 579506.1923	Pavement
PV-1085	N 1422956.3037	E 579494.7023	Pavement
PV-1086	N 1422978.2836	E 579494.6580	Pavement
PV-1087	N 1422978.2823	E 579497.6989	Pavement
PV-1088	N 1422967.2815	E 579489.7181	Pavement
PV-1089	N 1422959.4734	E 579476.1715	Pavement
PV-1090	N 1422962.0729	E 579471.6734	Pavement
PV-1091	N 1422968.2907	E 579471.6743	Pavement
PV-1092	N 1422978.2893	E 579481.6786	Pavement
PV-1093	N 1422978.2815	E 579489.7260	Pavement
PV-1098	N 1422665.9077	E 580176.4428	Pavement
PV-1099	N 1422671.9018	E 580189.2238	Pavement
PV-1100	N 1422668.8786	E 580186.3394	Pavement
PV-1101	N 1422665.9021	E 580189.2719	Pavement
PV-1102	N 1422671.9072	E 580176.4547	Pavement
PV-1103	N 1422668.7996	E 580179.3412	Pavement
PV-1104	N 1423102.3147	E 580202.4945	Pavement

PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
PV-1105	N 1423097.3169	E 580197.4923	Pavement
PV-1106	N 1423092.3147	E 580202.4902	Pavement
PV-1107	N 1423092.3083	E 580217.4899	Pavement
PV-1113	N 1423026.0171	E 580106.4613	Pavement
PV-1114	N 1423081.8306	E 580084.0399	Pavement
PV-1115	N 1423084.7045	E 580086.7639	Pavement
PV-1116	N 1423082.0844	E 580089.4855	Pavement
PV-1117	N 1423092.9945	E 580084.0431	Pavement
PV-1118	N 1423090.3212	E 580086.8168	Pavement
PV-1119	N 1423093.0925	E 580089.4902	Pavement
PV-1128	N 1423378.6109	E 580127.0169	Pavement
PV-1129	N 1423378.5945	E 580165.0863	Pavement
PV-1130	N 1423353.3371	E 580099.0406	Pavement
PV-1131	N 1423192.3049	E 579413.9803	Pavement
PV-1132	N 1422378.8293	E 580280.4711	Pavement
PV-1133	N 1422432.4613	E 580281.0501	Pavement
PV-1134	N 1422428.2928	E 580288.6157	Pavement
PV-1135	N 1422431.6347	E 580295.0560	Pavement
PV-1136	N 1422407.4875	E 580294.7804	Pavement

BUILDING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
BL-946	N 1423363.210	E 579564.910	Building
BL-947	N 1423354.876	E 579564.906	Building
BL-936	N 1423020.062	E 579520.345	Building
BL-944	N 1423345.746	E 579493.158	Building
BL-937	N 1423020.095	E 579457.428	Building
BL-938	N 1423069.912	E 579457.450	Building
BL-939	N 1423069.763	E 579461.078	Building
BL-940	N 1423345.760	E 579461.152	Building
BL-941	N 1423346.320	E 579458.428	Building
BL-942	N 1423354.320	E 579458.432	Building
BL-943	N 1423363.236	E 579502.910	Building
BL-945	N 1423345.741	E 579503.152	Building
BL-948	N 1423354.361	E 579685.125	Building
BL-949	N 1423393.663	E 579684.506	Building
BL-950	N 1423393.597	E 579839.173	Building
BL-951	N 1423354.295	E 579838.521	Building
BL-952	N 1423354.866	E 579986.490	Building
BL-953	N 1423343.606	E 579986.485	Building
BL-954	N 1423343.580	E 580047.235	Building
BL-955	N 1423174.767	E 580047.162	Building
BL-956	N 1423174.794	E 579986.412	Building
BL-957	N 1423145.247	E 579986.399	Building
BL-958	N 1423145.227	E 580033.166	Building
BL-959	N 1423037.513	E 580033.120	Building
BL-960	N 1423037.533	E 579986.385	Building
BL-961	N 1423037.518	E 579911.020	Building
BL-962	N 1423019.065	E 579911.345	Building
BL-963	N 1423019.270	E 579822.512	Building
BL-964	N 1423037.604	E 579822.520	Building
BL-965	N 1423037.507	E 579648.801	Building
BL-966	N 1423019.506	E 579649.428	Building
BL-967	N 1423019.706	E 579585.679	Building
BL-968	N 1423037.706	E 579585.686	Building
BL-969	N 1423037.734	E 579521.020	Building

SUB25-00041
PSP25-00004

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DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	4/9/26

SEC.	5 & 8	
TWP.	26 S	
RANGE	31 E	

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

SITE COORDINATE TABLES 2

Robert L Newberry 2026.04.09 16:03:08 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-12 of 50

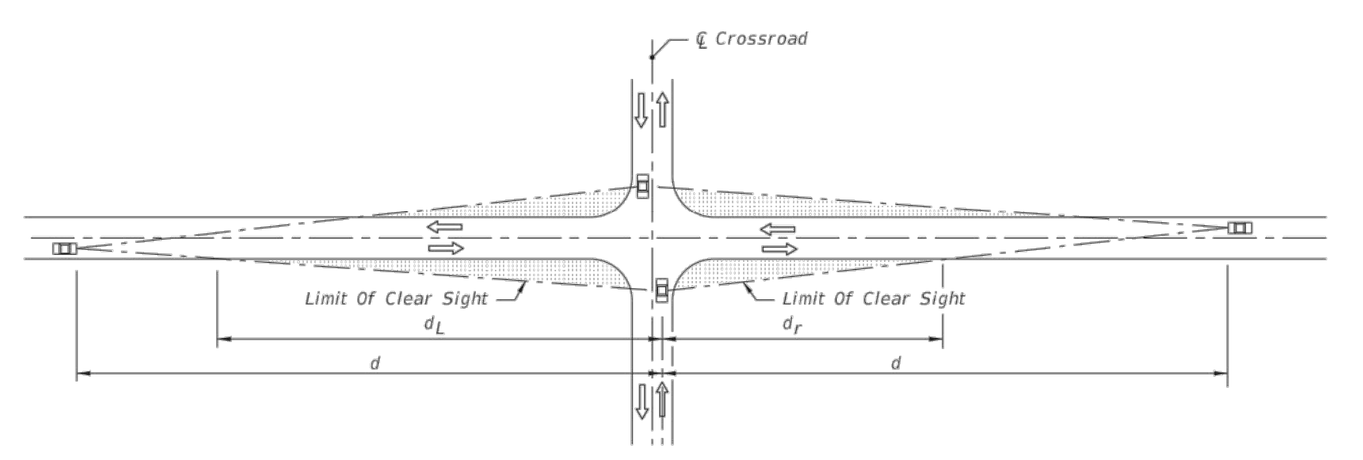
JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 SITE DIMENSION PLAN.dwg * Apr 09, 2026-11:31am * plotted by RSouser

St. Cloud FLORIDA Your Centerplace for Life
APPROVED WITH CONDITIONS
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature

INTERSECTION SIGHT DISTANCE: 2-LANE UNDIVIDED



2-LANE UNDIVIDED

Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_r (Ft.)
30	335	240	155
35	390	275	175
40	445	315	200
45	500	355	225
50	555	395	250
55	610	435	275
60	665	470	300
65	720	510	325

Passenger Vehicle

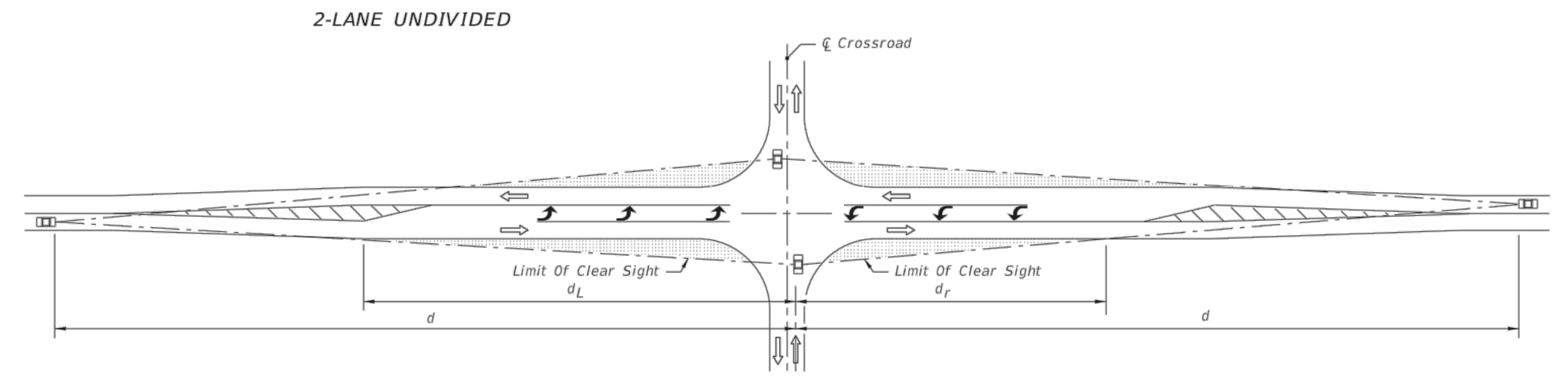
Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_r (Ft.)
30	420	300	190
35	490	350	220
40	560	400	250
45	630	450	285
50	700	495	315
55	770	545	345
60	840	595	375
65	910	645	410

SU Vehicle

Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_r (Ft.)
30	510	365	230
35	595	420	265
40	680	480	305
45	765	545	345
50	845	600	380
55	930	660	415
60	1015	720	455
65	1100	780	495

Combination Vehicle

SIGHT DISTANCE (d) AND RELATED DISTANCES (d_L, d_r) (FEET)
2 LANE UNDIVIDED



2-LANE WITH LEFT TURN LANE

Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_r (Ft.)
30	355	195	135
35	415	230	160
40	475	260	180
45	530	290	200
50	590	325	225
55	650	355	245
60	710	390	270
65	765	420	290

Passenger Vehicle

Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_r (Ft.)
30	450	250	170
35	525	290	200
40	600	330	230
45	675	370	255
50	750	410	285
55	825	455	315
60	900	495	340
65	975	535	370

SU Vehicle

Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_r (Ft.)
30	540	295	205
35	630	345	240
40	720	395	275
45	810	445	305
50	900	495	340
55	990	545	375
60	1080	590	410
65	1170	640	440

Combination Vehicle

SIGHT DISTANCE (d) AND RELATED DISTANCES (d_L, d_r) (FEET)
2-LANE WITH LEFT TURN

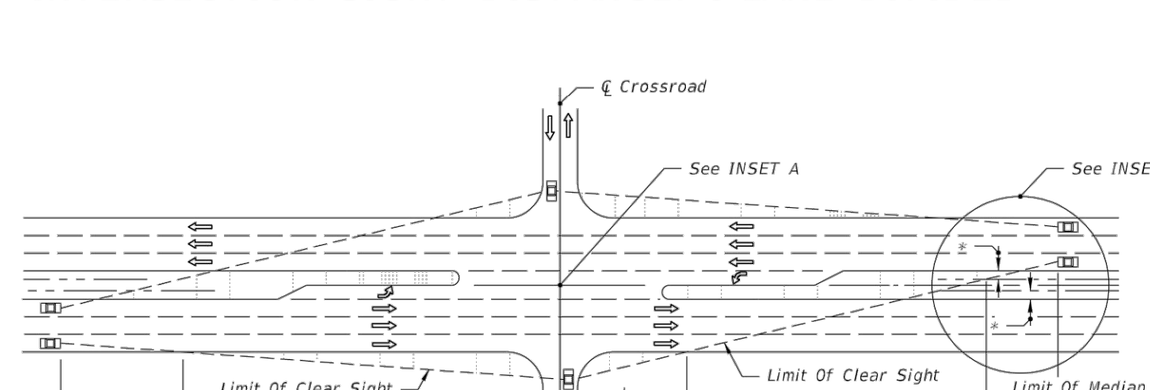
NOTE:
1. See Figure 212.11.1 for origin of clear sight line on the minor road.

NOT TO SCALE

LEGEND
Areas Free Of Sight Obstructions

EXHIBIT 212-4
01/01/2018

INTERSECTION SIGHT DISTANCE: 6-LANE DIVIDED



6-LANE DIVIDED

Passenger Vehicle

Median 22' or Less				
Design Speed (mph)	d_x (Ft.)	d_L (Ft.)	d_r (Ft.)	d_m (Ft.)
≤ 30	415	295	80	355
35	485	345	90	415
40	555	395	105	470
45	625	445	115	530
50	690	490	130	585
55	760	540	140	645
60	830	590	155	705
65	900	640	170	765

25'-64' MEDIAN				
Design Speed	d	d_L	d_v	d_{vL}
≤ 30	375	265	330	240
35	440	315	385	280
40	500	355	445	320
45	565	400	500	360
50	625	445	555	400
55	690	490	610	440
60	750	530	665	480
65	815	580	720	520

SU Vehicle

Median 35' or Less				
Design Speed (mph)	d_x (Ft.)	d_L (Ft.)	d_r (Ft.)	d_m (Ft.)
≤ 30	570	405	90	495
35	665	470	105	580
40	760	540	120	660
45	855	605	135	745
50	955	675	155	830
55	1050	745	170	915
60	1145	810	185	995
65	1240	880	200	1080

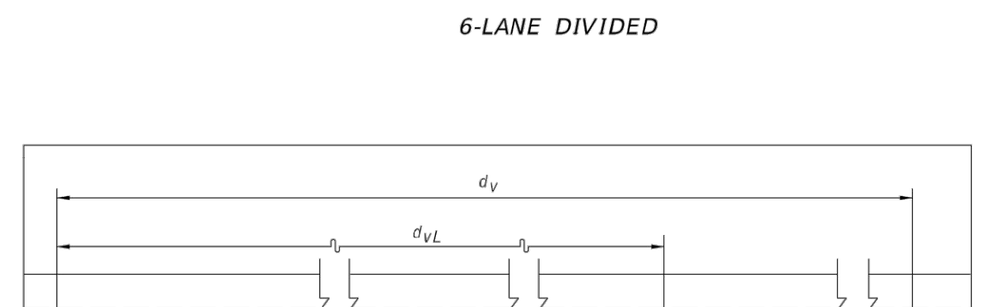
40'-64' Median				
Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_v (Ft.)	d_{vL} (Ft.)
≤ 30	480	340	420	330
35	560	400	490	385
40	640	455	560	440
45	720	510	630	490
50	805	570	700	545
55	885	625	770	600
60	965	685	840	665
65	1045	740	910	710

Combined Vehicles

Median 30' or Less				
Design Speed (mph)	d_x (Ft.)	d_L (Ft.)	d_r (Ft.)	d_m (Ft.)
≤ 30	650	460	110	560
35	755	535	130	655
40	865	615	145	745
45	970	690	165	835
50	1080	765	185	930
55	1185	840	200	1025
60	1290	915	220	1115
65	1400	990	235	1210

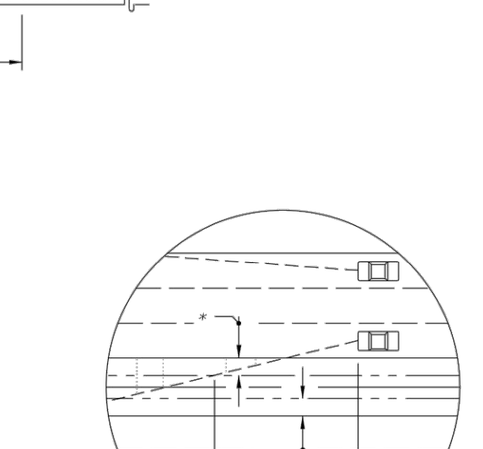
35'-50' Median				
Design Speed (mph)	d_x (Ft.)	d_L (Ft.)	d_r (Ft.)	d_m (Ft.)
≤ 30	700	495	95	625
35	815	580	115	725
40	930	660	130	825
45	1045	740	145	930
50	1165	825	160	1035
55	1280	905	175	1140
60	1395	990	190	1240
65	1510	1070	210	1340

64' Median				
Design Speed (mph)	d (Ft.)	d_L (Ft.)	d_v (Ft.)	d_{vL} (Ft.)
≤ 30	570	405	510	435
35	665	470	590	500
40	760	540	680	575
45	855	605	760	645
50	950	675	845	720
55	1045	740	930	790
60	1140	805	1015	865
65	1235	875	1100	935



Where The Median Is Sufficiently Wide For The Design Vehicle To Pause In The Median (Vehicle Length Plus 6' Min.) The Clear Line Of Sight To The Right (d_v) Is Measured From The Vehicle Pause Location, i.e., Not From The Cross Road Stop Position; Distances d_r & d_m Do Not Apply.

INSET A



INSET B
* Lateral Offset For Restricted Conditions
Clear Zone For Nonrestricted Conditions

Vehicle Type	Vehicle Length (Ft.)
Passenger (P)	19
Single Unit (SU)	30
Large School Bus	40
WB-40	45.5
WB-50	55

NOTES FOR 6-LANE DIVIDED ROADWAY
1. See Figure 212.11.1 for origin of clear sight line on the minor road.
2. Values shown in the tables are the governing (controlling) sight distances calculated based on 'AASHTO Case B - Intersection with Stop Control on the Minor Road.'

SIGHT DISTANCES (d), (d_V) & (d_X) AND RELATED DISTANCES (d_L, d_r, d_m & d_{vL}) (FEET)

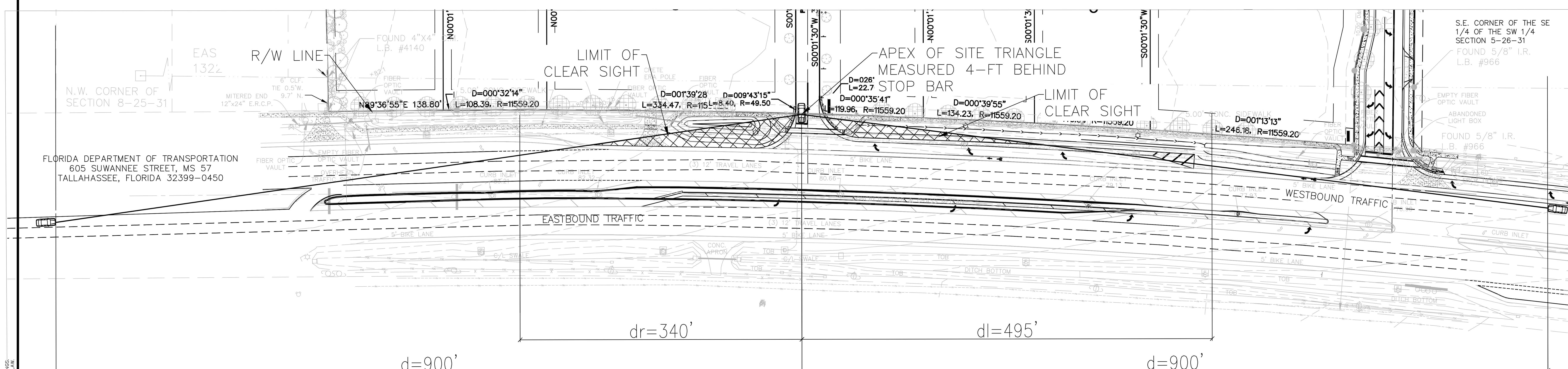
NOT TO SCALE

LEGEND
Areas Free Of Sight Obstructions

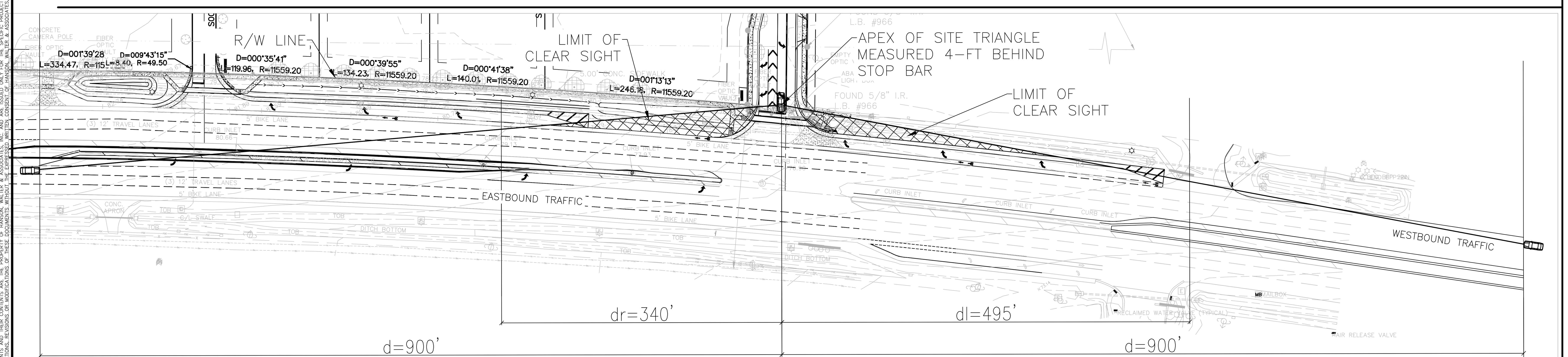
EXHIBIT 212-7
01/01/2018

GRAPHIC SCALE
80 0 40 80 160
(IN FEET)
1 inch = 80 ft.

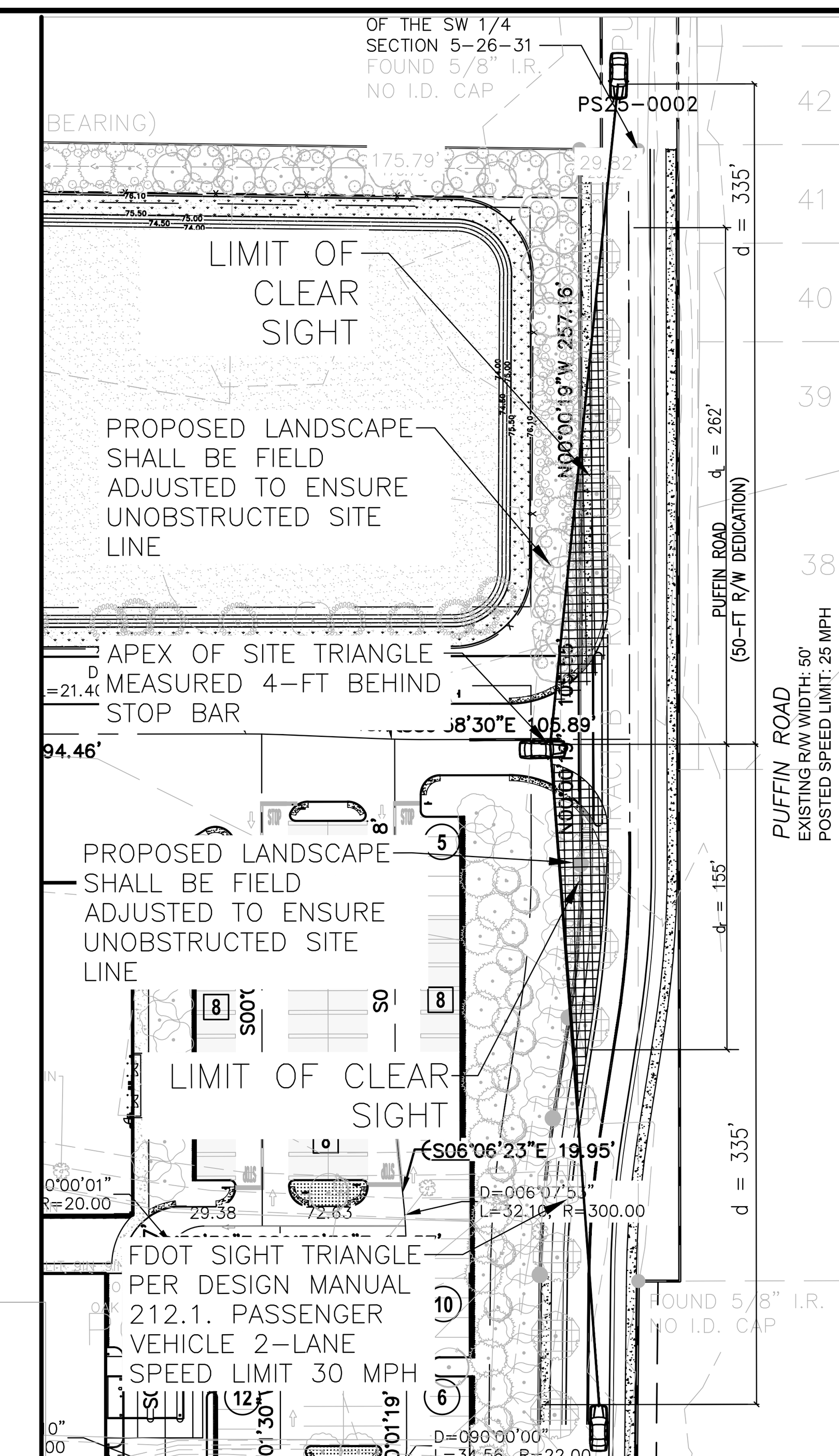
NOTES:
1. ALL SILT FENCES OR CONSTRUCTION PRIVACY FENCING SHOULD NOT BLOCK SIGHTLINES. △1



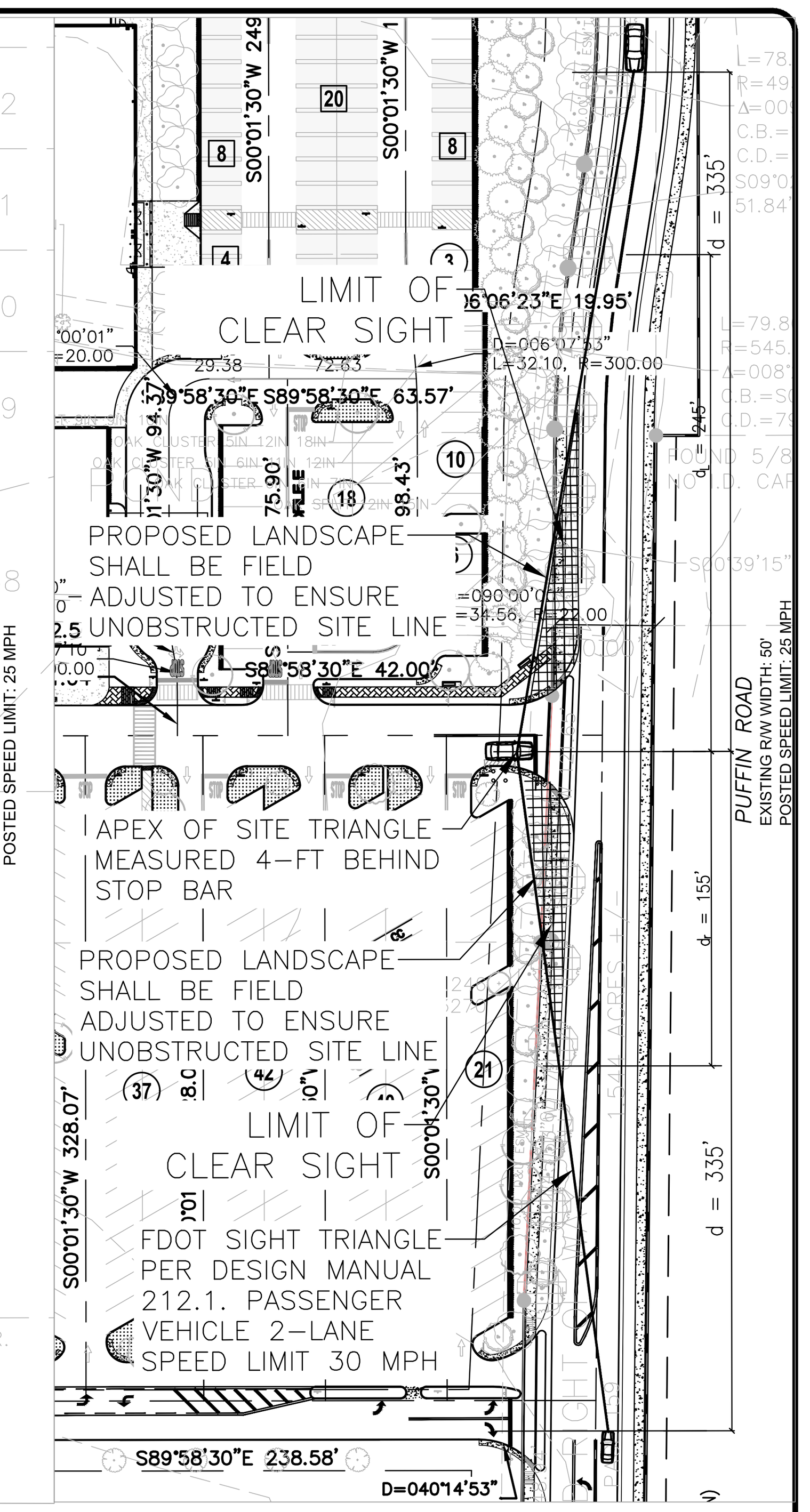
STREET A @ E. IRLO BRONSON MEMORIAL HWY
POSTED SPEED LIMIT: 50 MPH



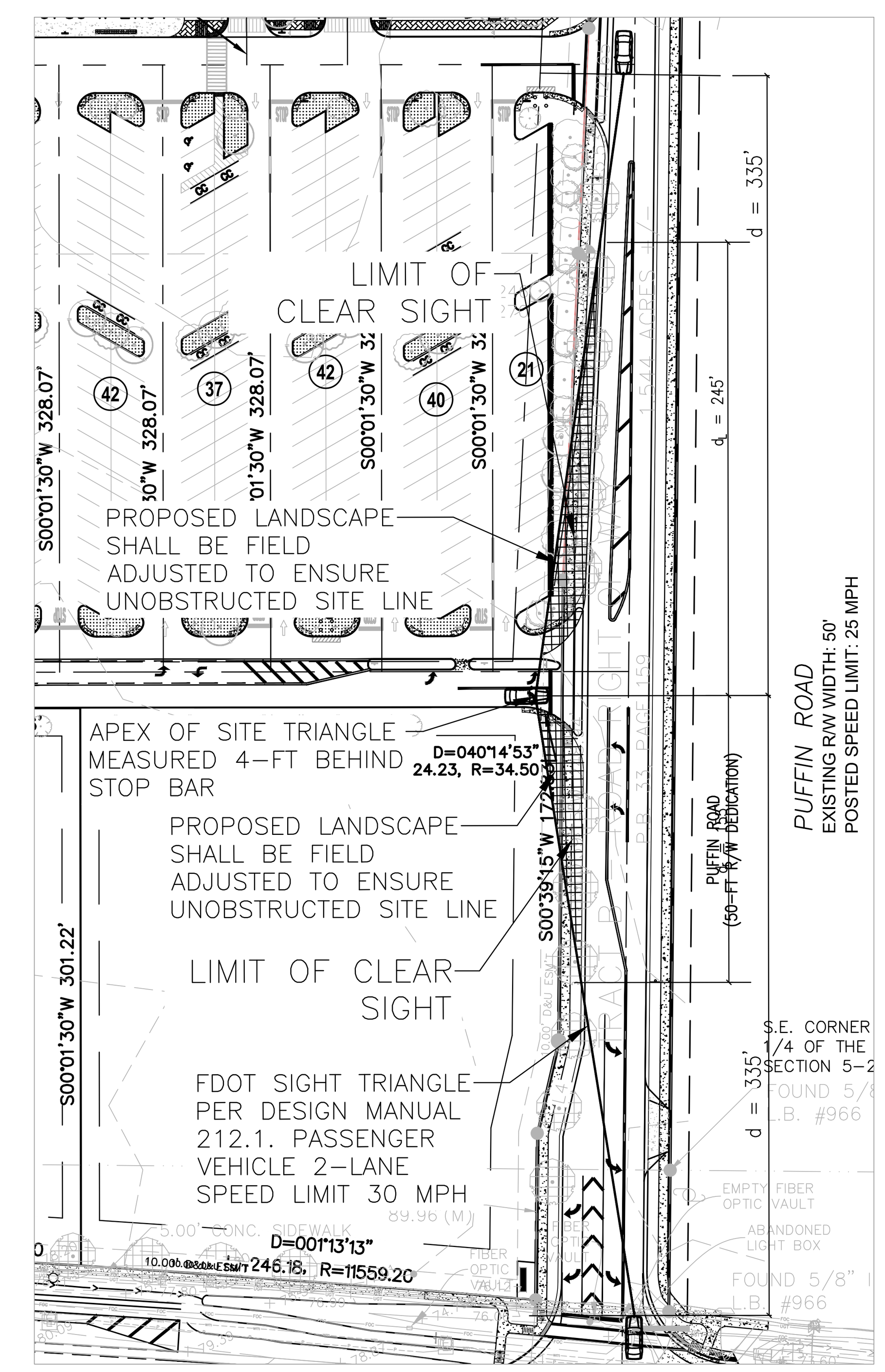
PUFFIN ROAD @ E. IRLO BRONSON MEMORIAL HWY
POSTED SPEED LIMIT: 50 MPH



NORTH ENTRANCE @ PUFFIN



MID ENTRANCE @ PUFFIN ROAD



STREET B @ PUFFIN ROAD

SUB25-00041
PSP25-00004

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CHECKED	RN	SCALE	AS SHOWN	RANGE	31 E
CAD#	(see stamp)	DATE	2/12/26		

DATE	BY	REVISIONS	
03-19-26	CM	REVISED PER TOHO COMMENTS	△3
02-26-26	CM	REVISED PER CITY COMMENTS	△2
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS	△1

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

SIGHT TRIANGLE PLAN

ROBERT LEE NEWBERRY JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:48:11 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET № C-13 of C-50
JOB № 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 TRIANGLE SIGHT.dwg * Mar 26, 2026-4:32pm * plotted by RSouser

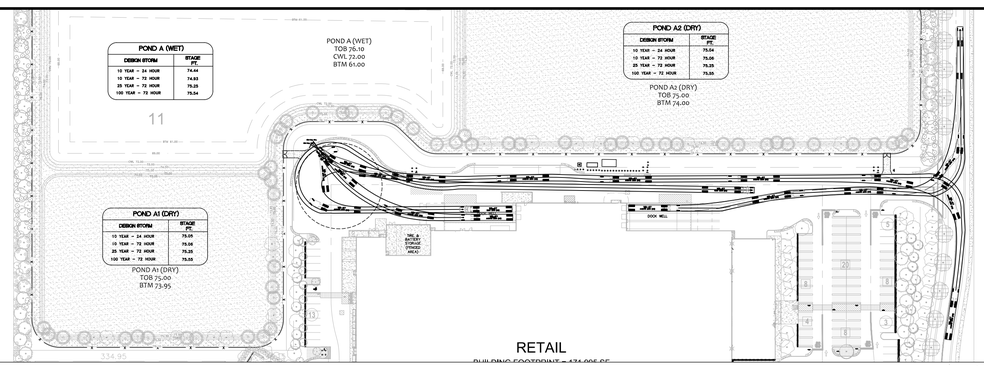
APPROVED WITH CONDITIONS

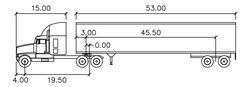
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature





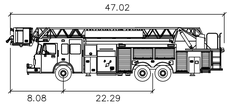
WB-67

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

GRAPHIC SCALE



(IN FEET)
1 inch = 100 ft.



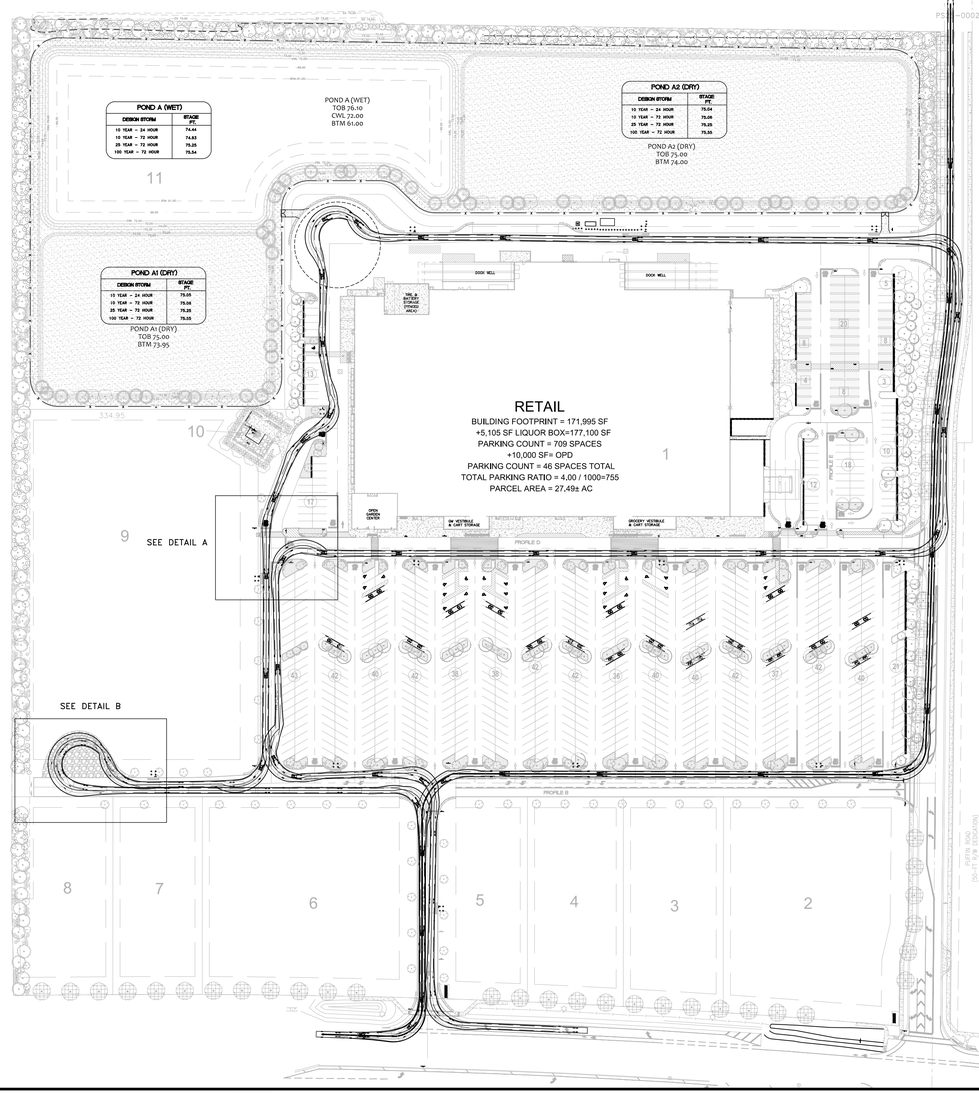
Pierce 100 Aerial Platform

feet	
Width	: 8.00
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

GRAPHIC SCALE



(IN FEET)
1 inch = 100 ft.

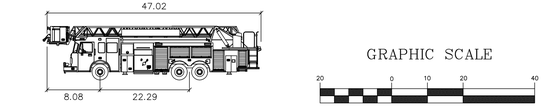


Pierce 100 Aerial Platform

feet	
Width	: 8.00
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

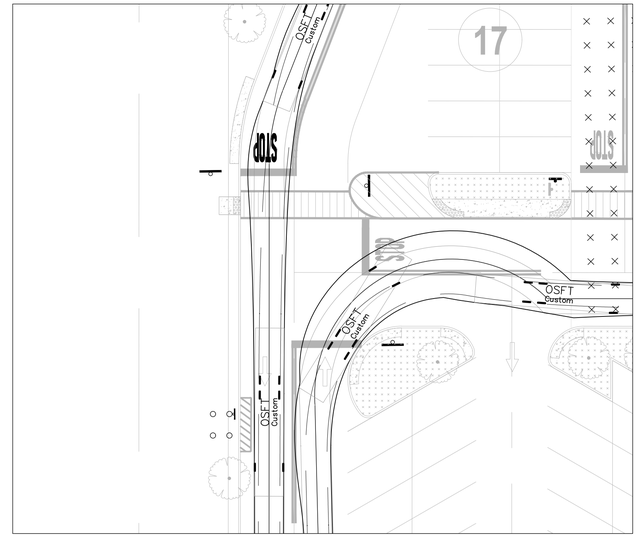


Pierce 100 Aerial Platform

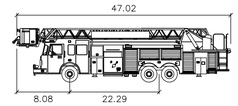
feet	
Width	: 8.00
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



DETAIL A



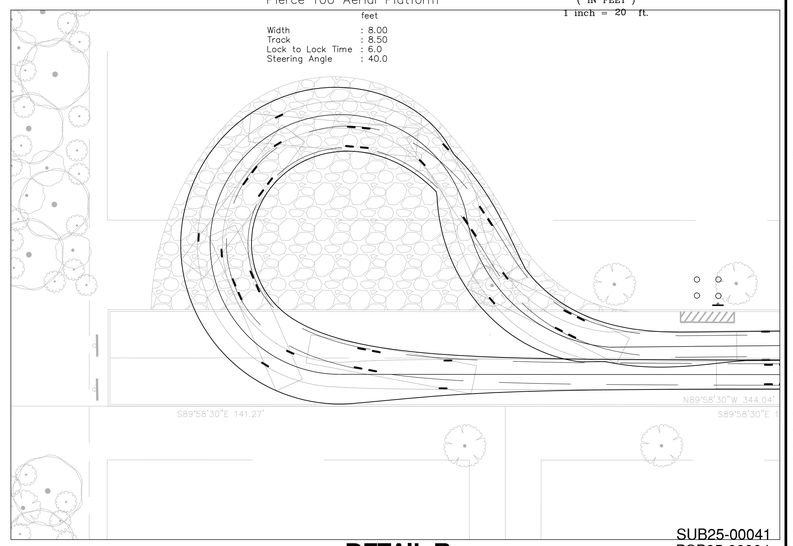
Pierce 100 Aerial Platform

feet	
Width	: 8.00
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.



DETAIL B

SUB25-00041
PSP25-00004

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CAD#	(see stamp)	DATE	3/24/26

SEC.	5 & 8
TWP.	26 S
RANGE	31 E

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
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ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

FIRE TRUCK & DELIVERY TRUCK AUTOTURN PLAN

Robert L Newberry 2026.03.26 17:48:29 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-14 of C-50

JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 AUTOTURN PLAN.dwg • Mar 26, 2026-4:33pm • plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

ND A1 (DRY)

ORM	STAGE FT.
HOUR	75.05
HOUR	75.06
HOUR	75.25
HOUR	75.55

ND A1 (DRY)
TOB 75.00
BTM 73.95

GRAPHIC SCALE
60 0 30 60 120
(IN FEET)
1 inch = 60 ft.

RETAIL

BUILDING FOOTPRINT = 171,995 SF
+5,105 SF LIQUOR BOX=177,100 SF
PARKING COUNT = 709 SPACES
+10,000 SF= OPD
PARKING COUNT = 46 SPACES TOTAL
TOTAL PARKING RATIO = 4.00 / 1000=755
PARCEL AREA = 27.49± AC

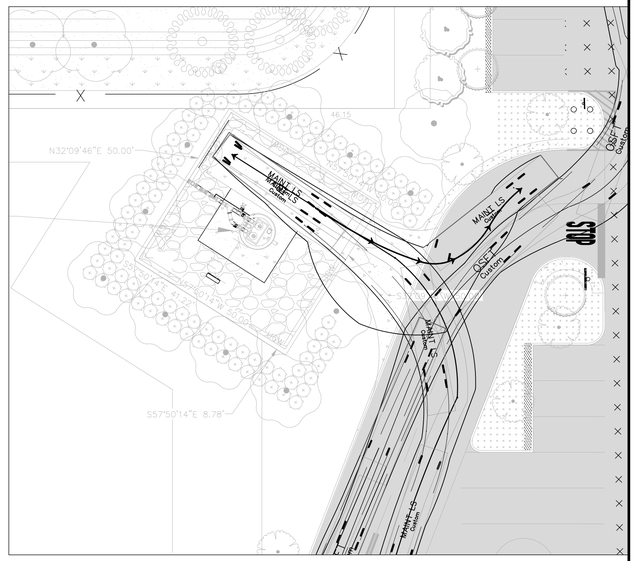
DOCK WELL
DOCK WELL
TIRE & BATTERY STORAGE (FENCED AREA)
OPEN GARDEN CENTER
GM VESTIBULE & CART STORAGE
GROCERY VESTIBULE & CART STORAGE
PROFILE E
PROFILE B
PUFFIN ROAD (50-FT R/W DEDICATION)

1 2 3 4 5 6 7 8 9 10

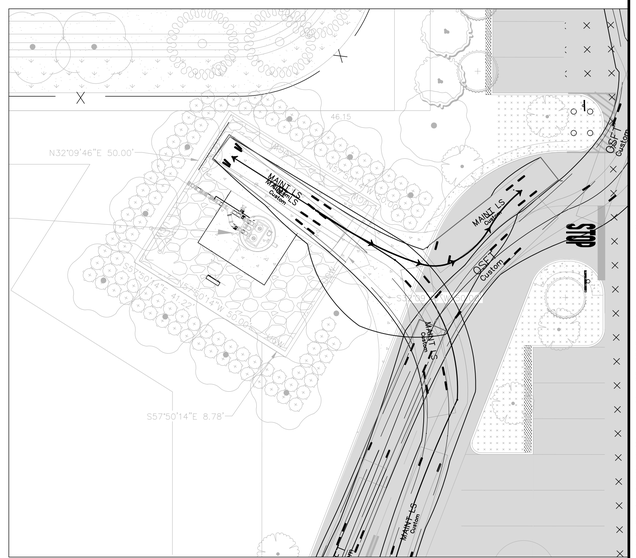
42.00
4.00 28.00

Mantenance LS 42
feet
Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 69.0

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.



ENTER



EXIT

SUB25-00041
PSP25-00004

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CHECKED	RN	SCALE	AS SHOWN	RANGE	31 E
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ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

MAINTENANCE TRUCK AUTOTURN PLAN

Robert L Newberry
2026.03.26 17:48:59 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET No C-15 of C-50
JOB No 5450-05

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St. Cloud FLORIDA Your Centerplace for Life

APPROVED WITH CONDITIONS

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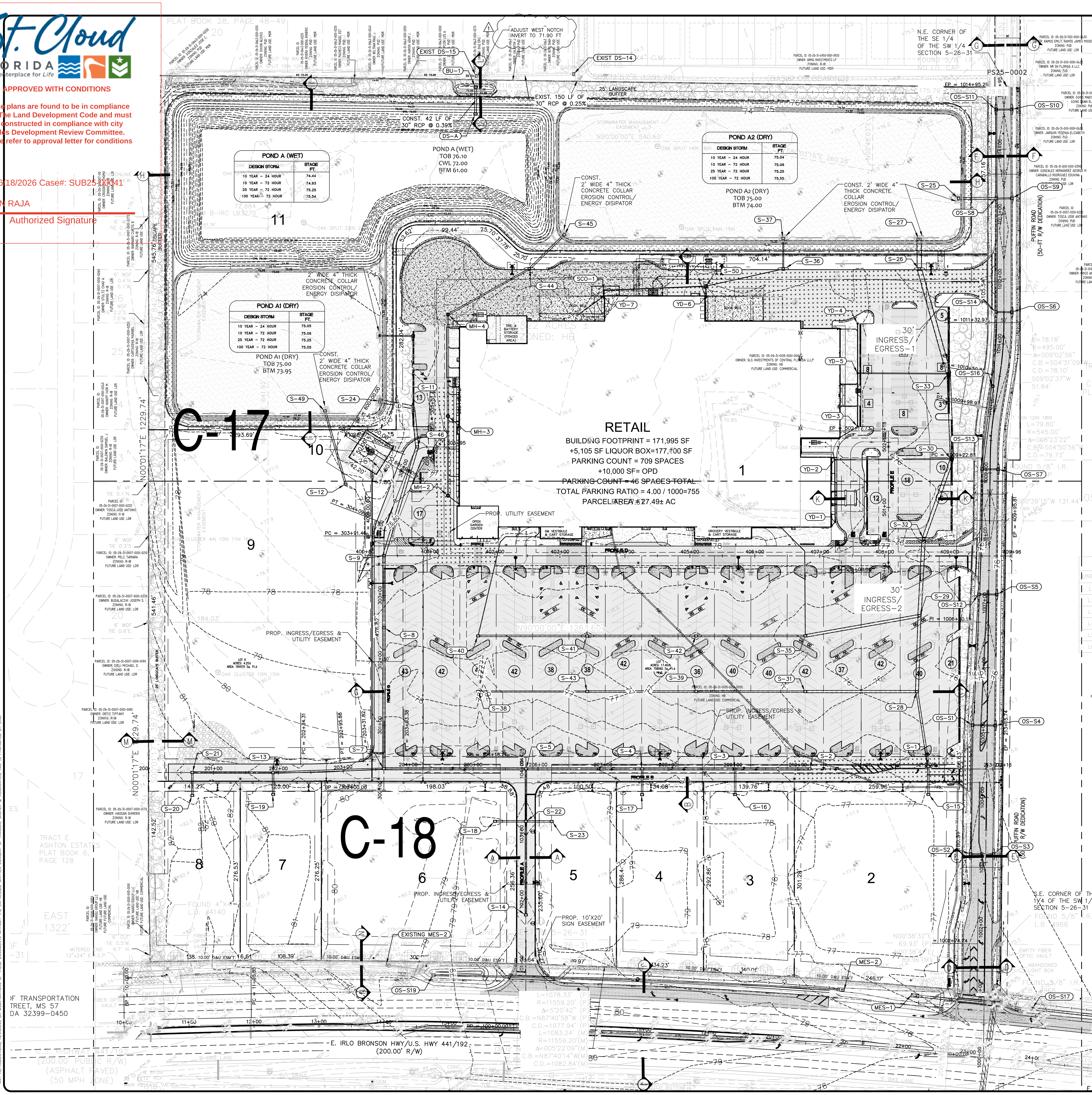
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



POND A (WET)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.44
10 YEAR – 72 HOUR	74.93
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.54

POND A1 (DRY)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.05
10 YEAR – 72 HOUR	75.06
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.55

POND A2 (DRY)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.04
10 YEAR – 72 HOUR	75.06
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.55

GRAPHIC SCALE

(IN FEET)
1 inch = 80 ft.

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

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

NOTES:

1. SEE SHEET C-31 THRU C-32 FOR OFFSITE GRADING.
2. ALL FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM 24" ABOVE THE ADJACENT ROAD CROWN OR A MINIMUM ONE (1) FOOT ABOVE THE DETERMINED 100-YEAR FLOOD ELEVATION" WHICHEVER IS MORE STRINGENT PER LDC4.5.6.A.1C, LCD4.5.6.A.1A AND LDC 4.5.6.A.2C.
3. ALL EXPOSED AREAS INCLUDING PUBLIC RIGHTS-OF-WAY WITH SLOPE STEEPER THAN 4:1 WILL BE SOLID SODDED PER LDC 4.5.5.C.
4. MAXIMUM ALLOWABLE IMPERVIOUS AREA FOR EACH LOT IS 65% PER PD09-00006 AND SFWMD CALCULATIONS.
5. PERMANENT EROSION CONTROL METHODS SHALL BE PER COUNTY LDC 4.7.G, LDC 4.8.E.4. ONCE FINAL GRADING IS ESTABLISHED. PER " PERMANENT EROSION CONTROL" NOTES OF SHEET C-04.
6. STORM STRUCTURES TABLE ON THIS SHEET.
7. CROSS SECTIONS ON SHEETS C-33 THRU C-37.
8. CONTRACTOR TO CALL SUNSHINE 811 AND LOCATE ALL UTILITIES WITHIN LIMITS OF WORK PRIOR TO CONSTRUCTION.

LINE TABLE		
LINE #	LENGTH	BEARING
L1	94.48'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	155.41'	N89°36'55"E
L4	51.20'	S13°03'40"W
L5	248.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

LEGEND

66.57	EXISTING GRADE
	PROPOSED FINISH GRADE
115.75 / 115.25	TOP OF CURB, SIDEWALK ELEVATION OR TOP OF WALL EDGE OF PAVEMENT ELEVATION OR BOTTOM OF WALL
	PROPOSED STORM MANHOLE
	PROPOSED STORM INLET
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN
	DIRECTION OF SURFACE FLOW
A-7	STRUCTURE NUMBER
SF	FDOT TYPE III SILT FENCE
HDPE CPE	HIGH DENSITY POLYETHYLENE PIPE CORRUGATED POLYETHYLENE PIPE

STORM STRUCTURE TABLE

STRUCTURE #	LOCATION	DESCRIPTION	RIM ELEVATION	INVERT IN	INVERT OUT
BU-1	N 1423715.198 E 579486.036	BUBBLE UP STRUCTURE	71.50	S 67.50 – 30" HDPE	
DS-A	N 1423673.699 E 579485.672	CONTROL STRUCTURE	74.90		N 67.66 – 30" HDPE
EXIST DS-14	N 1423735.211 E 579636.623	EXISTING CATCH BASIN	73.64	W 69.59 – 30" RCP	N 69.59 – 30" RCP
EXIST DS-15	N 1423731.967 E 579486.995	EXISTING CATCH BASIN	73.57	W 71.90 – 2' RECTANGULAR WEIR	E 69.96 – 30" RCP
EXISTING MES-1	N 1422304.211 E 580272.695	REMOVE EXISTING MES & EXTEND PIPE	76.44	W 74.41 – 19"X30" ERCP	E 74.41 – 19"X30" ERCP
EXISTING MES-2	N 1422362.840 E 579347.882	MITERED END SECTION	79.61	E 78.17 – 15" HDPE	
MES-1	N 1422316.314 E 580156.286	MITERED END SECTION	77.12		E 74.55 – 19"X30" ERCP
MES-2	N 1422324.938 E 580053.455	MITERED END SECTION	78.70	W 76.99 – 18" RCP	
MH-1	N 1422340.911 E 579735.213	STORM MANHOLE	82.18	W 77.63 – 18" RCP	E 77.63 – 18" RCP
MH-2	N 1423085.761 E 579443.250	STORM MANHOLE	77.54		N 71.11 – 18" HDPE
MH-3	N 1423208.359 E 579443.189	STORM MANHOLE	77.55	S 70.62 – 18" HDPE	N 70.62 – 24" HDPE
MH-4	N 1423364.702 E 579443.111	STORM MANHOLE	77.44	S 69.99 – 24" HDPE	NE 69.99 – 24" HDPE
OS-S1	N 1422732.430 E 580250.951	TYPE 6 INLET	75.35	E 71.20 – 15" RCP S 71.20 – 15" RCP	N 71.20 – 24" RCP
OS-S2	N 1422533.713 E 580247.899	TYPE 6 INLET	76.04	E 71.80 – 15" RCP	N 71.80 – 15" RCP
OS-S3	N 1422533.755 E 580283.357	TYPE 6 INLET	76.26		W 71.90 – 15" RCP
OS-S4	N 1422731.719 E 580285.790	TYPE 6 INLET	75.55		W 71.30 – 15" RCP
OS-S5	N 1422933.677 E 580287.987	TYPE 6 INLET	75.54		W 70.67 – 15" RCP
OS-S6	N 1423368.574 E 580311.424	TYPE 6 INLET	75.51		W 68.91 – 15" RCP
OS-S7	N 1423126.446 E 580290.286	TYPE 6 INLET	75.51		W 69.94 – 15" RCP
OS-S8	N 1423543.514 E 580287.686	TYPE 6 INLET	75.73	E 68.12 – 18" RCP S 68.12 – 30" RCP N 68.12 – 18" RCP	W 68.12 – 30" RCP
OS-S9	N 1423543.882 E 580311.480	TYPE 6 INLET	75.71		W 68.22 – 18" RCP
OS-S10	N 1423680.630 E 580311.134	TYPE 6 INLET	75.75		W 68.77 – 15" RCP
OS-S11	N 1423680.372 E 580287.217	TYPE 6 INLET	75.75	E 68.67 – 15" RCP	S 68.67 – 18" RCP
OS-S12	N 1422933.690 E 580260.695	TYPE 6 INLET	75.48	E 70.56 – 15" RCP S 70.56 – 24" RCP	N 70.56 – 24" RCP
OS-S13	N 1423126.655 E 580265.789	TYPE 6 INLET	75.51	E 69.79 – 15" RCP S 69.79 – 24" RCP	N 69.79 – 30" RCP
OS-S14	N 1423368.631 E 580287.204	TYPE 5 INLET LEFT	75.52	E 68.82 – 15" RCP S 68.82 – 30" RCP	N 68.82 – 30" RCP
OS-S16	N 1423254.292 E 580281.837	TYPE 6 INLET	75.97	S 69.27 – 30" RCP	N 69.27 – 30" RCP
OS-S17	N 1422295.797 E 580341.898	TYPE E DBI	76.40	W 73.70 – 19"X30" ERCP	E 73.70 – 19"X30" ERCP
OS-S18	N 1422254.841 E 580714.025	TYPE E DBI	74.25	W 71.54 – 19"X30" ERCP	
OS-S19	N 1422347.495 E 579420.958	REMOVE EXISTING MES CONST. TYPE E DBI	81.77		W 78.27 – 15" HDPE E 78.27 – 18" RCP
S-1	N 1422668.910 E 580182.843	TYPE F INLET	76.29	S 69.44 – 24" HDPE	N 69.44 – 30" HDPE
S-2	N 1422664.984 E 580000.083	TYPE F INLET	76.15		W 68.41 – 36" HDPE
S-3	N 1422665.034 E 579885.456	TYPE F INLET	76.98	E 67.95 – 36" HDPE S 67.95 – 24" HDPE	W 67.95 – 36" HDPE
S-4	N 1422665.096 E 579742.276	TYPE F INLET	78.28	E 67.38 – 36" HDPE S 67.38 – 24" HDPE	W 67.38 – 36" HDPE
S-5	N 1422665.174 E 579563.213	TYPE F INLET	79.01	E 66.66 – 36" HDPE S 71.13 – 24" HDPE	W 66.66 – 36" HDPE
S-7	N 1422665.269 E 579344.573	TYPE F INLET	79.22	E 65.70 – 36" HDPE W 65.70 – 24" HDPE	N 65.70 – 42" HDPE
S-8	N 1422882.324 E 579344.670	TYPE F INLET	76.41	S 64.83 – 42" HDPE	N 64.83 – 42" HDPE
S-9	N 1422993.339 E 579344.716	TYPE F INLET	76.40	S 64.39 – 42" HDPE	N 64.39 – 42" HDPE
S-11	N 1423220.036 E 579389.621	TYPE 6 INLET	76.48	S 63.46 – 48" HDPE	W 63.46 – 48" HDPE
S-12	N 1423103.612 E 579285.603	TYPE F INLET	76.95		N 72.95 – 24" HDPE
S-13	N 1422659.207 E 579173.911	TYPE F INLET	80.54	S 66.65 – 24" HDPE W 70.75 – 24" HDPE	E 67.28 – 24" HDPE
S-14	N 1422440.103 E 579563.204	TYPE F INLET	79.73		N 72.00 – 24" HDPE
S-15	N 1422625.663 E 580182.913	TYPE F INLET	76.50		N 69.62 – 24" HDPE
S-16	N 1422625.447 E 579885.280	TYPE F INLET	77.00		N 68.09 – 24" HDPE
S-17	N 1422625.282 E 579742.101	TYPE F INLET	78.45		N 67.52 – 24" HDPE
S-18	N 1422584.306 E 579515.672	TYPE F INLET	78.90		E 71.62 – 24" HDPE
S-19	N 1422625.700 E 579174.180	TYPE F INLET	80.45		N 67.50 – 24" HDPE
S-20	N 1422624.117 E 579049.604	TYPE F INLET	81.45		N 71.99 – 24" HDPE
S-21	N 1422659.599 E 579049.579	TYPE F INLET	81.49	S 71.84 – 24" HDPE	E 71.84 – 24" HDPE
S-22	N 1422584.307 E 579563.177	TYPE F INLET	78.68	S 71.43 – 24" HDPE E 71.43 – 24" HDPE W 71.43 – 24" HDPE	N 71.43 – 24" HDPE
S-23	N 1422584.047 E 579602.894	TYPE F INLET	78.95		W 71.59 – 24" HDPE
S-24	N 1423231.561 E 579338.298	TYPE H INLET	73.95	E 63.23 – 48" HDPE	
S-25	N 1423543.514 E 580229.400	TYPE E INLET	74.00	E 67.89 – 30" RCP	
S-26	N 1423434.860 E 580169.052	TYPE 6 INLET	75.20	S 65.55 – 72" RCP	N 65.55 – 72" RCP
S-27	N 1423480.825 E 580168.570	TYPE H INLET	74.00	S 65.37 – 72" RCP	
S-28	N 1422784.022 E 580165.260	TYPE F INLET	75.36	W 68.98 – 36" HDPE S 68.98 – 30" HDPE	N 68.98 – 48" HDPE
S-29	N 1422900.865 E 580169.238	TYPE F INLET	75.16	S 68.51 – 48" HDPE W 68.51 – 42" HDPE	N 68.51 – 54" HDPE
S-30	N 1423142.308 E 580218.660	TYPE 5 INLET RIGHT	72.98	S 67.52 – 54" HDPE W 67.52 – 15" HDPE	N 67.52 – 54" HDPE
S-31	N 1422784.069 E 579993.438	TYPE F INLET	75.39	W 69.67 – 24" HDPE	E 69.67 – 36" HDPE
S-32	N 1423019.750 E 580175.650	TYPE 6 INLET	75.25	S 68.03 – 54" HDPE	N 68.03 – 54" HDPE
S-33	N 1423273.720 E 580214.206	TYPE 6 INLET	71.91	S 66.99 – 54" HDPE W 68.18 – 15" HDPE	N 66.99 – 72" RCP
S-35	N 1422869.798 E 579993.447	TYPE F INLET	75.17	W 69.20 – 24" HDPE	E 69.20 – 42" HDPE
S-36	N 1423434.951 E 579959.441	TYPE 6 INLET	75.77	W 67.93 – 2" PVC PIPE	N 67.93 – 15" HDPE
S-37	N 1423482.013 E 579959.390	TYPE E INLET	74.00	S 67.74 – 15" HDPE	
S-38	N 1422784.206 E 579489.686	TYPE F INLET	77.11		E 71.69 – 18" HDPE
S-39	N 1422784.115 E 579825.437	TYPE F INLET	76.15	W 70.35 – 24" HDPE	E 70.35 – 24" HDPE
S-40	N 1422869.865 E 579489.651	TYPE F INLET	76.00		E 71.21 – 24" HDPE
S-41	N 1422869.760 E 579657.563	TYPE F INLET	75.93	W 70.54 – 24" HDPE	E 70.54 – 24" HDPE
S-42	N 1422869.820 E 579825.446	TYPE F INLET	75.93	W 69.87 – 24" HDPE	E 69.87 – 24" HDPE
S-43	N 1422784.160 E 579657.561	TYPE F INLET	76.54	W 71.02 – 18" HDPE	E 71.02 – 24" HDPE
S-44	N 1423434.978 E 579568.517	TYPE 6 INLET	75.99	SW 69.41 – 24" HDPE	NE 69.41 – 24" HDPE
S-45	N 1423487.786 E 579622.461	TYPE E INLET	74.00	SW 69.11 – 24" HDPE	
S-46	N 1423160.864 E 579395.827	TYPE F INLET	76.10	S 63.69 – 42" HDPE	N 63.69 – 48" HDPE
S-47	N 1423331.771 E 579389.699	TYPE 5 INLET RIGHT	75.73		W 70.73 – 15" HDPE
S-48	N 1423332.314 E 579337.992	TYPE C INLET	73.95	E 70.53 – 15" HDPE	
S-49	N 1423216.346 E 579253.870	TYPE E INLET	73.95	S 70.95 – 24" HDPE	
S-50	N 1423408.418 E 579840.163	2" SUMP PUMP	75.39	W 68.43 – 8" PVC Pipe S 68.43 – 8" PVC Pipe	E 74.24 – 2" PVC PIPE
SCO-1	N 1423402.008 E 579683.257	STORM CLEANOUT	75.92	S 69.06 – 8" PVC Pipe	E 69.06 – 8" PVC Pipe
YD-1	N 1423045.612 E 580039.361	YARD DRAIN	77.17		N 71.60 – 10" HDPE
YD-2	N 1423141.212 E 580038.735	YARD DRAIN	77.14	S 71.17 – 10" HDPE	E 70.70 – 15" HDPE
YD-3	N 1423192.379 E 580073.925	YARD DRAIN	77.17		N 71.17 – 10" HDPE
YD-4	N 1423350.846 E 580073.940	YARD DRAIN	78.11		S 71.17 – 10" HDPE
YD-5	N 1423274.446 E 580073.969	YARD DRAIN	78.11	S 70.84 – 10" HDPE N 70.84 – 10" HDPE	E 70.84 – 15" HDPE
YD-6	N 1423391.554 E 579840.434	YARD DRAIN	73.02		N 68.47 – 8" PVC Pipe
YD-7	N 1423392.011 E 579683.177	YARD DRAIN	73.02		N 69.08 – 8" PVC Pipe

FINAL FOUNDATION SUBSURFACE PREPARATION

WALMART STORE NO. 90399 OSCEOLA COUNTY, FLORIDA

UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF THIS SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 5 FEET BEYOND THE BUILDING AND APPURTENANCES. APPURTENANCES ARE THOSE ITEMS ATTACHED TO THE BUILDINGS PROPER (REFER TO DRAWING SHEET SP1) TYPICALLY INCLUDING, BUT NOT LIMITED TO, THE BUILDING SIDEWALKS, GARDEN CENTER, PORCHES, RAMPS, STOOPS, TRUCK WELLS/DOCKS, CONCRETE APRONS, COMPACTOR PAD, ETC. THE BASE AND VAPOR BARRIER DO NOT EXTEND BEYOND THE LIMITS OF THE ACTUAL BUILDING AND APPURTENANCES.

WE RECOMMEND THE FOLLOWING STEPS BE TAKEN DURING FOUNDATION EXCAVATION AND SUBGRADE PREPARATION:

- EXCAVATE FOOTINGS IN ACCORDANCE WITH THE RECOMMENDATIONS PRESENTED IN THE EXCAVATION SAFETY SECTION OF THIS REPORT.
- COMPACT FOOTING SUBGRADE SOILS TO A DEPTH OF 24 INCHES BELOW FOOTING BEARING ELEVATIONS TO A MINIMUM OF 95% OF THE SOIL'S MODIFIED PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.
- PERFORM IN-PLACE DENSITY TESTS AT 12 AND 24 INCHES BELOW THE FOOTING/SLAB BEARING ELEVATION TO VERIFY FOOTING SUBGRADE DENSITY.
- OVEREXCAVATE EXCESSIVELY LOOSE OR DISTURBED SOILS ENCOUNTERED IN FOOTING/SLAB AREAS AND REPLACE WITH SANDS SELECTED AND COMPACTED IN ACCORDANCE WITH THESE RECOMMENDATIONS.
- ALLOW A GEOTECHNICAL ENGINEER, OR HIS REPRESENTATIVE, TO OBSERVE FOOTING EXCAVATION CONDITIONS PRIOR TO PLACEMENT OF REINFORCING STEEL OR CONCRETE.
- ON THE BASIS OF THE GEOTECHNICAL ENGINEER'S OBSERVATIONS, REMOVE ANY UNSUITABLE MATERIAL ENCOUNTERED IN THE FOOTING EXCAVATIONS AND REPLACE WITH SAND SELECTED AND COMPACTED IN ACCORDANCE WITH THE FILL SELECTION, PLACEMENT AND COMPACTION SECTION OF THIS REPORT.

THIS FOUNDATION SUBSURFACE PREPARATION DOES NOT CONSTITUTE A COMPLETE SITE WORK SPECIFICATION. IN CASE OF CONFLICT, INFORMATION COVERED IN THIS PREPARATION SHALL TAKE PRECEDENCE OVER THE WALMART SPECIFICATIONS. REFER TO THE SPECIFICATIONS FOR SPECIFIC INFORMATION NOT COVERED IN THIS PREPARATION. THIS INFORMATION WAS TAKEN FROM A GEOTECHNICAL REPORT BY GEOTECHNICAL AND EVIRONMENTAL CONSULTANTS INC. DATED DECEMBER 3, 2025 GEC PROJECT NO. 5803G, THE GEOTECHNICAL REPORT IS FOR INFORMATION ONLY AND IS NOT CONSIDERED A CONSTRUCTION SPECIFICATION.

AN E-MAIL ADDRESS FOR THE GEOTECHNICAL ENGINEER, WILLIAM L. FOX, P.E.: WLFOX@GECFLA.COM

SUB25-00041
PSP25-00004

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CHECKED	RN	SCALE	AS SHOWN	RANGE	31 E
CAD#	(see stamp)	DATE	3/24/26		

DATE	BY	REVISIONS
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02-26-26	CM	REVISED PER CITY COMMENTS (2)
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS (1)

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
HWA Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

OVERALL STORMWATER PLAN

ROBERT LEE NEWBERRY, JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.04.09 16:06:45 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-16 of 50

JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 OA PGD.dwg * Apr 09, 2026-10:31am * plotted by RSouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

NOTES:

1.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS OCCUR, CONTACT ENGINEER PRIOR TO CONSTRUCTION.
2.) REFER TO LANDSCAPE/HARDSCAPE PLANS FOR ENHANCEMENT FEATURES AND SIGNS.
3.) ALL HANDICAPPED ACCESSIBLE RAMPS OFFSITE SHALL BE CONSTRUCTED TO FDOT INDEX #0304 STANDARDS AND ALL ONSITE RAMPS SHALL MEET THE CURRENT FLORIDA BUILDING CODE STANDARDS.
4.) ALL SIGNAGE AND STRIPING TO BE INSTALLED IN ACCORDANCE WITH MUTCD (LATEST EDITION) STANDARDS AND SPECIFICATIONS.
5.) ALL DISTURBED AREAS SHALL BE SODDED AND RE-GRADED FOR POSITIVE DRAINAGE. THERE SHALL BE A 1 FOOT FLAT AREA IN ALL SODDED AREAS ADJACENT TO ALL SIDEWALKS AND CURBS TO PREVENT EROSION.
6.) MAXIMUM SLOPE FOR HANDICAP PARKING SPACES AND ACCESSIBLE ISLE IS 2%.
7.) MAXIMUM CROSS SLOPES ON ALL CROSSWALKS SHALL BE 2% AND THE MAXIMUM SLOPE FOR RAMPS SHALL BE 1 TO 12.
8.) SIDEWALK RAMPS TO BE CONSTRUCTED AT PROPOSED SITE DRIVEWAYS SHALL BE "CAST IN PLACE" DETECTABLE WARNING IN ACCORDANCE TO FDOT INDEX 304.
9.) THE STORMWATER MANAGEMENT POND BOTTOM AND SIDE SLOPES SHALL BE STABILIZED WITH PERMANENT VEGETABLE COVER. POND BOTTOM AND SLOPES SHALL BE WITH NON-MUCK SOD.
10.) LOT GRADING SHALL NOT IMPOSE ANY ADDITIONAL RUNOFF ONTO NOR IMPEDE RUNOFFS FROM ADJACENT PROPERTIES.

NOTES:

11.) LAND PREPARATION PROCESSES SHALL CONFORM TO "CHAPTER 6: STORMWATER AND EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES FOR DEVELOPING AREA OF THE FLORIDA DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT" (JUNE 1988) PREPARED BY FLORIDA DEPARTMENT OF ENVIROMENTAL REGULATION".
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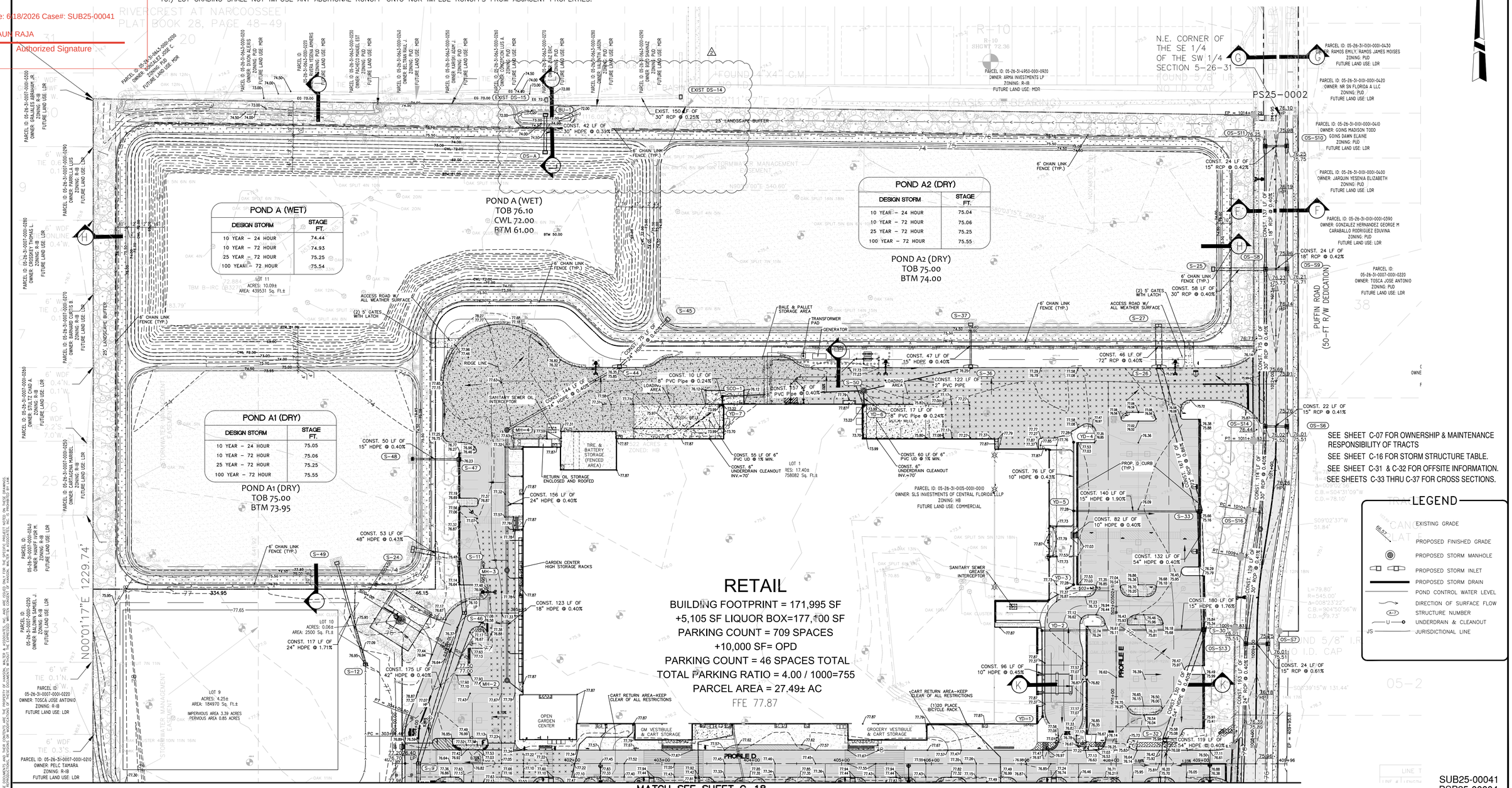
16.) THE MINIMUM ROADWAY CROWN ELEVATION MUST BE SET HIGHER THAN THE GREATER OF EITHER THE 10 YEAR 24 HOUR STORM OR THE CONTROL WATER ELEVATION PLUS 2 FEET. THEREFORE, THE MINIMUM ROADWAY CROWN ELEVATION ALLOWED IS 67.72'.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988



MATCH SEE SHEET C-18

SUB25-00041
PSP25-00004

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Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

PAVING, GRADING & DRAINAGE 1

Robert L Newberry 2026.03.26 17:49:40 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-17 of C-50

JOB NO 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 P0D.dwg • Mar 26, 2026-5:18pm • plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature:

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MATCH SEE SHEET C-17

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

LINE	LENGTH	BEARING
L1	75.98'	S01°16'09"E
L2	40.61'	S00°28'37"E
L3	155.41'	N89°36'55"E
L4	51.20'	S13°03'40"W
L5	248.94'	S00°39'15"W
L6	177.02'	S02°45'53"W

SEE SHEET C-07 FOR OWNERSHIP & MAINTENANCE RESPONSIBILITY OF TRACTS
SEE SHEET C-16 FOR STORM STRUCTURE TABLE.
SEE SHEET C-31 & C-32 FOR OFFSITE INFORMATION.
SEE SHEETS C-33 THRU C-37 FOR CROSS SECTIONS.

PARCEL ID: 08-26-31-0000-0099-0000
OWNER: VLI FAMILY LIMITED LIABILITY LIMITED PARTNERSHIP
ZONING: HB
FUTURE FUTURE LAND USE: COMMERCIAL

LEGEND
- EXISTING GRADE
- PROPOSED FINISHED GRADE
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM DRAIN
- POND CONTROL WATER LEVEL
- DIRECTION OF SURFACE FLOW
- A-7 STRUCTURE NUMBER
- U UNDERDRAIN & CLEANOUT
- JS JURISDICTIONAL LINE

PROPERTY LINE
PUFFIN ROAD (80-FT R/W DEDICATION)
E. IRLO BRONSON HWY/U.S. HWY 441/192 (200.00' R/W)
S.E. CORNER OF THE SE 1/4 OF THE SW 1/4 SECTION 5-26-31 FOUND 5/8" I.R. L.B. #966

SUB25-00041
PSP25-00004

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CAD#	(see stamp)	DATE	3/26/26
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TWP.	26 S		
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PUFFIN ROAD COMMERCIAL

PAVING, GRADING & DRAINAGE 2

Robert L Newberry 2026.04.09 16:06:26 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-18 of 50
JOB NO 5450-05

i:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 P00.dwg • Apr 09, 2026 - 10:38am • plotted by RScurer

St. Cloud FLORIDA Your Centerplace for Life
APPROVED WITH CONDITIONS
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Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature

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

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

Grease Interceptor Calculations (Per Toho Standards 20.6.

Toho Water Authority Sizing Formula For Other Establishment with Commercial Kitchen

EC = M x GM x LF

EC: Effective Capacity (Gallons)
M: Meals Per Day
GM: Gallons Per Meal (5 gallons)
LF: Load Factor = 1.5 w/Dishwasher, 1.0 w/o Dishwasher

Grease Capacity For Each Sanitary Outflow:

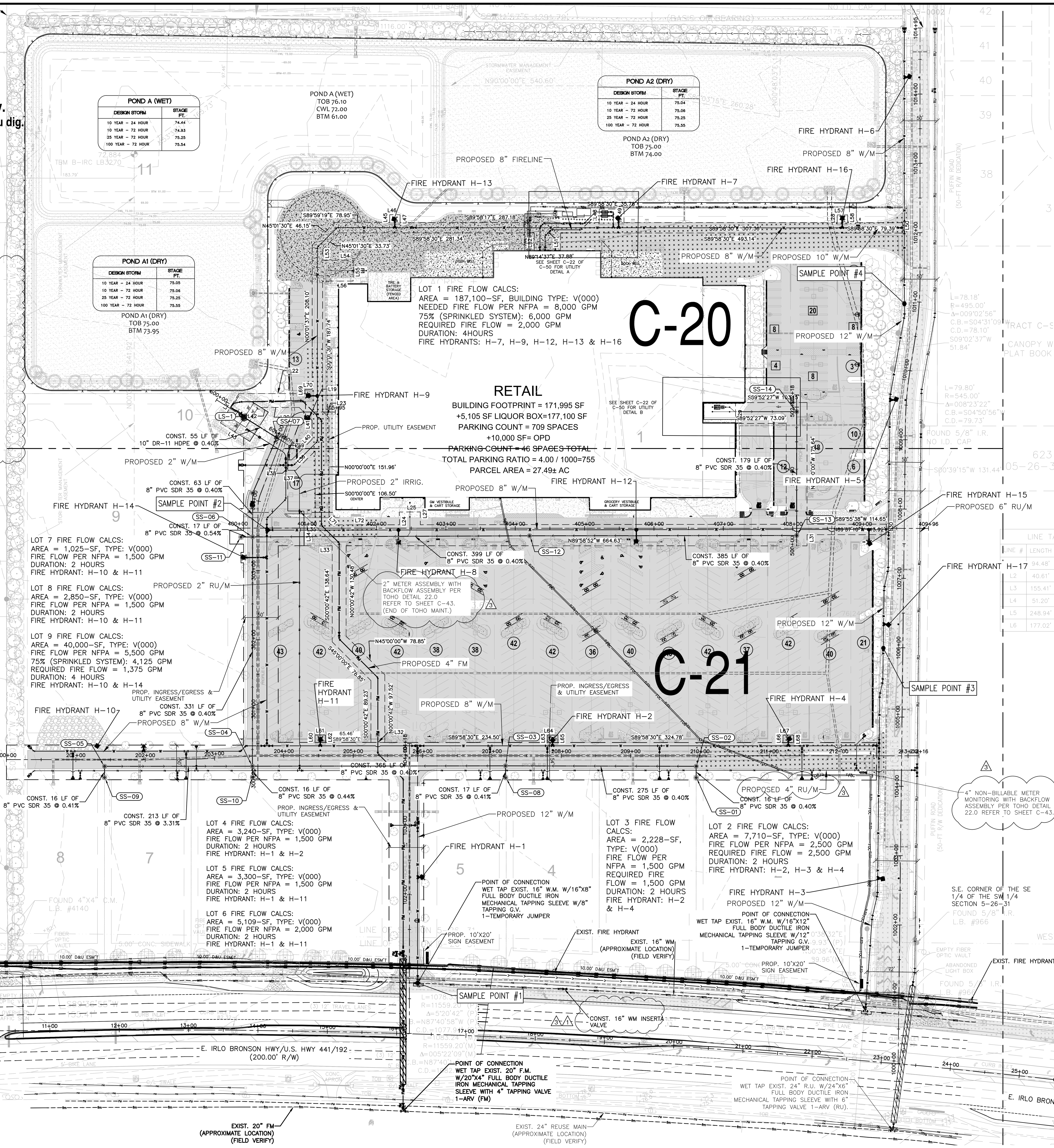
EC = 200 x 5 x 1.5 = 1500 Gallons
Toho Minimum: 750 Gallons

Auto Care Center:

Oil Seperator Capacity = 1000 Gallons (Drains to Storm Sewer)

LINE TABLE

LINE	LENGTH	BEARING
L19	26.44	S45°00'00"E
L20	55.08	N90°00'00"E
L21	50.00	S32°09'46"W
L22	95.17	S89°59'57"W
L23	13.06	N45°00'00"W
L24	18.48	S00°04'02"E
L25	30.00	N89°55'58"E
L26	77.19	N89°58'30"W
L27	18.48	S00°04'02"E
L29	30.00	S00°07'33"E
L30	15.24	S02°45'53"W
L31	16.17	S00°00'00"E
L32	20.00	S89°58'30"E
L33	40.42	N89°58'52"W
L34	29.99	S00°15'01"E
L35	16.02	S89°55'38"W
L36	39.32	N44°59'23"E
L37	11.56	N89°59'11"E
L38	15.00	N00°01'30"E
L39	5.34	N89°59'11"E
L40	42.10	N44°59'23"E
L41	27.25	N00°01'30"E
L42	12.43	N57°50'14"W
L43	39.47	S57°50'14"E
L44	14.74	N45°00'00"W
L45	22.37	N00°11'23"E
L46	15.00	S89°48'37"E
L47	22.33	N00°11'23"E
L48	19.49	S00°01'25"W
L49	19.49	N00°18'25"E
L50	15.00	S00°01'30"W
L51	25.57	N00°18'25"E
L52	26.09	N00°18'25"E
L53	15.73	S00°01'30"W
L54	44.01	S89°58'30"E
L55	30.00	S00°01'30"W
L56	44.01	N89°58'30"W
L57	15.001	S89°48'37"E
L58	11.12	N00°22'55"E
L60	10.62	N00°01'30"E
L61	15.00	S89°58'30"E
L62	10.62	N00°01'30"E
L63	10.62	N00°01'30"E
L64	15.00	S89°58'30"E
L65	10.62	N00°01'30"E
L66	10.62	N00°01'30"E
L67	15.00	S89°58'30"E
L68	10.62	N00°01'30"E
L69	6.17	N00°01'37"E
L70	10.42	N90°00'00"W
L71	3.90	N45°00'00"W
L72	98.95	S89°55'38"W



LEGEND

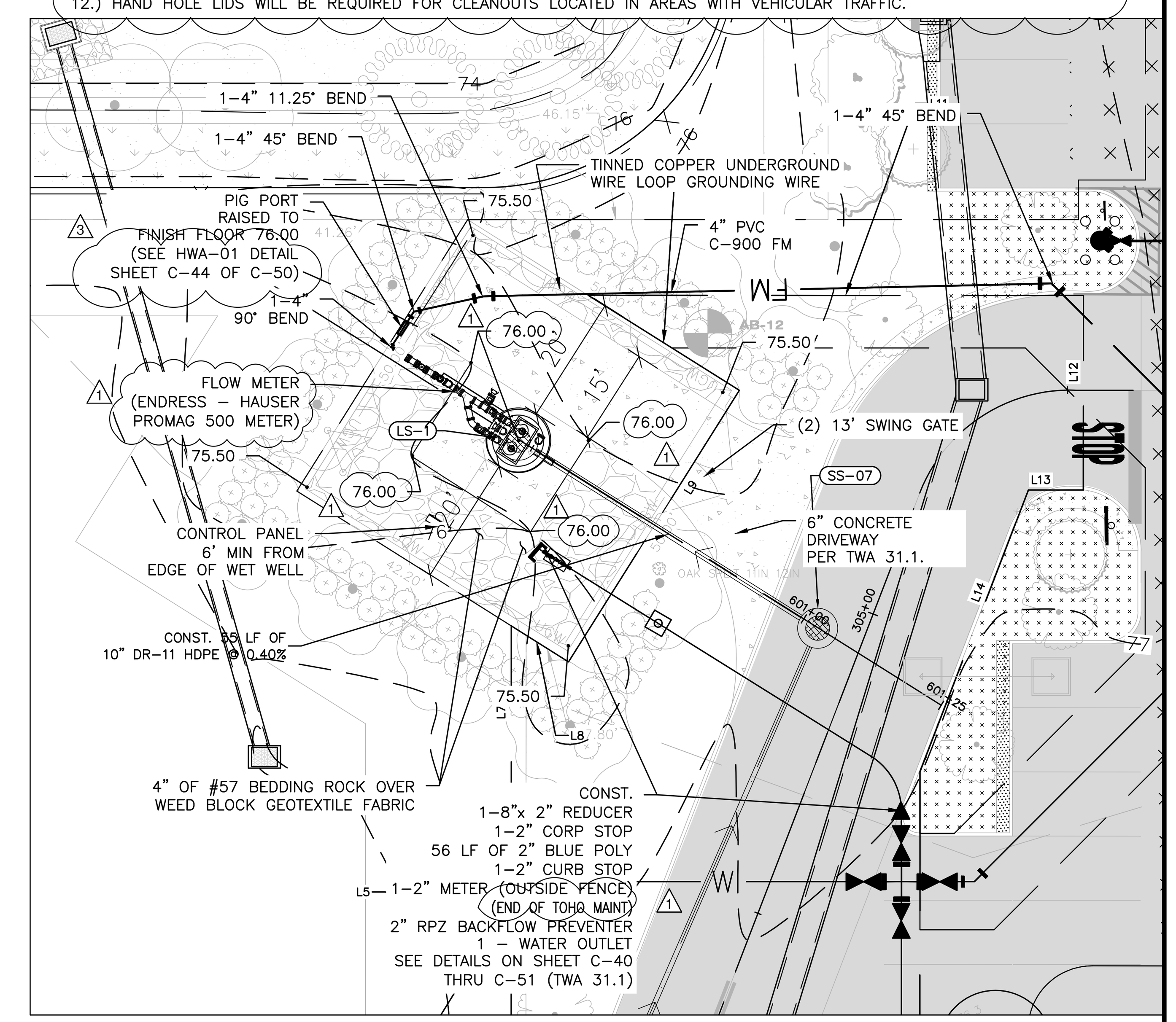
- SAMPLE POINT LOCATION
- SEWER MANHOLE NUMBER
- FIRE HYDRANT

GRAPHIC SCALE
80 0 40 80 160
(IN FEET)
1 inch = 80 ft.

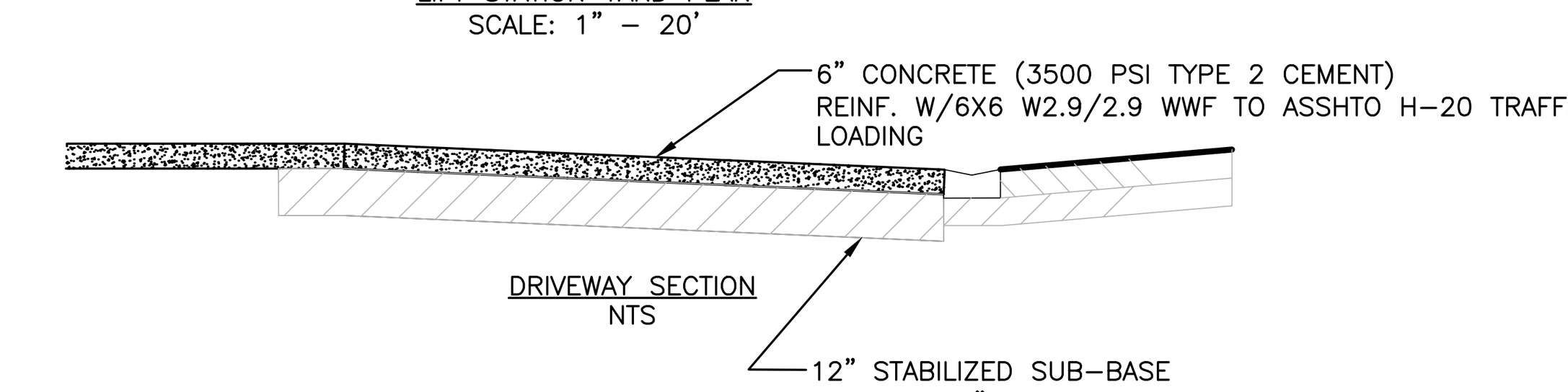
SANITARY STRUCTURE TABLE

STRUCTURE NAME	LOCATION	DESCRIPTION	RIM ELEVATION	INVERT IN	INVERT OUT
LS-1	305+05.43, -61.32 L	LIFT STATION (POLYMER)	76.00	SE 66.03 - 10" PIPE	
SS-01	209+94.56, 31.55 R	SMH 48" DIA	76.69		N 71.69 - 8" PIPE
SS-02	209+94.42, 15.25 R	SMH 48" DIA	76.84	S 71.62 - 8" PIPE	W 71.42 - 8" PIPE
SS-03	207+19.56, 14.70 R	SMH 48" DIA	79.00	S 70.42 - 8" PIPE E 70.32 - 8" PIPE	W 70.22 - 8" PIPE
SS-04	203+54.17, 14.65 R	SMH 48" DIA	79.84	E 68.76 - 8" PIPE W 68.76 - 8" PIPE S 68.76 - 8" PIPE	N 68.56 - 8" PIPE
SS-05	201+41.45, 9.68 R	SMH 48" DIA	81.36	S 76.01 - 8" PIPE	E 75.81 - 8" PIPE
SS-06	303+48.32, -7.76 L	SMH 48" DIA (POLYMER)	77.15	S 67.25 - 8" PIPE W 67.39 - 8" PIPE E 68.45 - 8" PIPE	N 67.15 - 8" PIPE
SS-07	304+94.80, -7.27 L	KING MANHOLE 60" DIA (POLYMER)	75.73	SW 66.35 - 8" PIPE	NW 66.25 - 10" PIPE
SS-08	207+19.69, 31.87 R	SMH 48" DIA	78.75		N 70.49 - 8" PIPE
SS-09	201+41.30, 25.80 R	SMH 48" DIA	81.07		N 76.08 - 8" PIPE
SS-10	203+53.53, 30.62 R	SMH 48" DIA	79.93		N 68.83 - 8" PIPE
SS-11	303+48.02, -24.48 L	SMH 48" DIA (POLYMER)	77.11		E 67.48 - 8" PIPE
SS-12	404+20.56, 10.94 R	SMH 48" DIA	77.68	E 70.15 - 8" PIPE	W 70.05 - 8" PIPE
SS-13	408+05.73, 10.31 R	SMH 48" DIA	76.43	N 71.87 - 8" PIPE	W 71.69 - 8" PIPE
SS-14	501+93.47, 0.00	SMH 48" DIA	76.31	W 72.78 - 6" PIPE	S 72.58 - 8" PIPE
SS-15	304+08.18, -11.03 L	SMH 48" DIA (POLYMER)	77.04	S 66.90 - 8" PIPE	NE 66.70 - 8" PIPE

NOTES:
1.) ALL SANITARY MANHOLES SHALL BE 48" DIAMETER UNLESS OTHERWISE NOTED.
2.) SANITARY LATERALS SHALL BE 6" DIAMETER PVC PIPE WITH 1.0% MINIMUM SLOPE.
3.) THE REUSE METERS SHALL BE 3/4" UNLESS OTHERWISE NOTED ON THE PLANS.
4.) WATER METERS SHALL BE 3/4" UNLESS OTHERWISE NOTED ON THE PLANS.
5.) MINIMUM SANITARY MANHOLES INSIDE DIAMETER SHALL BE 48" FOR DEPTHS TO 11.99 FT., 60" FOR DEPTHS TO 17.99 FT., AND 72" FOR DEPTHS GREATER THAN 18 FT.
6.) SERVICES SHALL NOT BE LOCATED WITHIN PROPOSED DRIVEWAYS.
7.) MAINTAIN A MINIMUM OF 5-FT HORIZONTAL SEPARATION BETWEEN ALL TREE AND SHRUB ROOT BALLS AND ALL TOHO MAINTAINED UTILITIES
8.) WATER & RE-USE SERVICES 2" AND SMALLER SHALL HAVE DOUBLE STRAP TAPPING SADDLE, CORP STOP, AND BLUE PE TUBING. NO FITTINGS ALLOWED BETWEEN CORP STOP AND CURB STOP.
9.) PROPOSED STORM AND SANITARY STRUCTURES IN CONFLICT WITH TOHO MAINTAINED UTIILTIES SHALL MAINTAIN 6' MINIMUM HORIZONTAL SEPARATION.
10) PROPOSED POLE (SIGN, TRAFFIC, LIGHT, POWER) IN CONFLICT WITH PROPOSED TOHO MAINTAINED UTILITIES SHALL MAINTAIN A MINIMUM 10' HORIZONTAL SEPARATION.
11.) PERMANENT STRUCTURES SHALL MAINTAIN A MINIMUM 12 FEET OF HORIZONTAL SEPARATION FROM TOHO MAINTAINED UTILITIES.
12.) HAND HOLE LIDS WILL BE REQUIRED FOR CLEANOUTS LOCATED IN AREAS WITH VEHICULAR TRAFFIC.



LIFT STATION YARD PLAN
SCALE: 1" – 20'



DRIVEWAY SECTION
NTS

SUB25-00041
PSP25-00004

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CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	3/26/26

SEC. 5 & 8
TWP. 26 S
RANGE 31 E

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS (3)
02-26-26	CM	REVISED PER CITY COMMENTS (2)
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS (1)

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

OVERALL UTILITY PLAN

ROBERT LEE NEWBERRY JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER
Robert L Newberry 2026.04.09 16:06:04 -04'00'
This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.
Signature must be verified on any electronic copies.

SHEET № C-19 of 50
JOB № 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 OA UTILITY PLAN.dwg * Apr 09, 2026-10:41am * plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

NOTES:
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2.) SANITARY LATERALS SHALL BE 6" DIAMETER PVC PIPE WITH 1.0% MINIMUM SLOPE.
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11.) PERMANENT STRU/MCTURES SHALL MAINTAIN A MINIMUM 12 FEET OF HORIZONTAL SEPARATION FROM TOHO MAINTAINED UTILITIES.
12.) HAND HOLE LIDS WILL BE REQUIRED FOR CLEANOUTS LOCATED IN AREAS WITH VEHICULAR TRAFFIC.
13.) VALVES SHALL NOT BE WITHIN THE CURB LINE.

LEGEND

11¼	PROPOSED 11 1/4° BEND	MH-5S	PROPOSED STORM MANHOLE
22½	PROPOSED 22 1/2° BEND	S-5S	PROPOSED STORM HALF/FULL INLET
45	PROPOSED 45° BEND		PROPOSED STORM DRAIN
90	PROPOSED 90° BEND	SSS	PROPOSED SINGLE SANITARY SERVICE
SWS	PROPOSED SINGLE WATER SERVICE	DSS	PROPOSED DOUBLE SANITARY SERVICE
DWS	PROPOSED DOUBLE WATER SERVICE	SS MH-22	PROPOSED SANITARY MANHOLE
W	PROPOSED WATERMAIN		PROPOSED SANITARY SEWER
RU	PROPOSED RE-USE MAIN	SRS	PROPOSED SINGLE REUSE SERVICE
FM	PROPOSED FORCEMAIN	DRS	PROPOSED DOUBLE REUSE SERVICE
IRR	PROPOSED IRRIGATION		
FOC	PROPOSED FIBER OPTIC		
TELE	PROPOSED TELEPHONE		
ELEC	PROPOSED ELECTRIC		

UTILITY EASEMENT
INGRESS/EGRESS & UTILITY EASEMENT
SET BACK LINE
HEAVY DUTY ASPHALTIC
HEAVY DUTY CONCRETE
STANDARD DUTY ASPHALTIC
CONCRETE
PROPOSED FIRE HYDRANT ASSEMBLY
PROPOSED GATE VALVE, TEE

LIGHTING

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.

CONFLICTS SHOWN ON PLAN & PROFILE SHEETS C-23 THRU/M C-30 UNLESS OTHERWISE NOTED.

POND A (WET)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.44
10 YEAR – 72 HOUR	74.93
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.54

LOT 11
ACRES: 10.09± AREA: 439531 Sq. Ft.±

POND A (WET)
TOB 76.10
CWL 72.00
BTM 61.00

POND A1 (DRY)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.05
10 YEAR – 72 HOUR	75.06
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.55

POND A1 (DRY)
TOB 75.00
BTM 73.95

POND A2 (DRY)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.04
10 YEAR – 72 HOUR	75.06
25 YEAR – 72 HOUR	75.25
100 YEAR – 72 HOUR	75.55

POND A2 (DRY)
TOB 75.00
BTM 74.00

RETAIL

BUILDING FOOTPRINT = 171,995 SF
+5,105 SF LIQUOR BOX=177,100 SF
PARKING COUNT = 709 SPACES
+10,000 SF= OPD
PARKING COUNT = 46 SPACES TOTAL
TOTAL PARKING RATIO = 4.00 / 1000=755
TOTAL AREA = 27.49± AC

F.F.=77.67

LINE TABLE	
LINE #	LENGTH
L1	94.45'
L2	40.61'

MATCH SEE SHEET C-21

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	3/26/26
SEC.	5 & 8		
TWP.	26 S		
RANGE	31 E		

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
02-26-26	CM	REVISED PER CITY COMMENTS
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8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
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ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

UTILITY PLAN 1

ROBERT L. NEWBERRY LICENSE No 79104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:50:41 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET No C-20 of C-50
JOB No 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 UTILITY PLAN.dwg • Mar 26, 2026-4:42pm • plotted by RSouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25000041

SHAUN RAJA

Administrative Signature

EXISTING LINE TYPES

WATER MAIN — w — w — w — w — w —
RE-USE WATER — ru — ru — ru — ru — ru —
SANITARY SEWER — fm — fm — fm — fm — fm —
UNDERGROUND ELECTRIC LINE — UGE — UGE — UGE — UGE —
UNDERGROUND TELEPHONE LINE — UGT — UGT — UGT — UGT —
BURIED CABLE TV — tele — tele — tele —
BURIED FIBER-OPTIC CABLE — FOC — FOC — FOC — FOC —
OVERHEAD TELEPHONE LINE — ohl — ohl — ohl — ohl —

CONFLICTS SHOWN ON PLAN & PROFILE SHEETS C-23 THRU/M C-30 UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

MATCH SEE SHEET C-20

NOTES:
1.) ALL SANITARY MANHOLES SHALL BE 48" DIAMETER UNLESS OTHERWISE NOTED.
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LEGEND

11¼	PROPOSED 11 1/4° BEND
22½	PROPOSED 22 1/2° BEND
45	PROPOSED 45° BEND
90	PROPOSED 90° BEND
SWS 1	PROPOSED SINGLE WATER SERVICE
DWS 4	PROPOSED DOUBLE WATER SERVICE
	PROPOSED FIRE HYDRANT ASSEMBLY
	PROPOSED GATE VALVE, TEE
S-58	PROPOSED STORM MANHOLE
	PROPOSED STORM HALF/FULL INLET
	PROPOSED STORM DRAIN
SSS	PROPOSED SINGLE SANITARY SERVICE
DSS	PROPOSED DOUBLE SANITARY SERVICE
SS MH-22	PROPOSED SANITARY MANHOLE
	PROPOSED SANITARY SEWER
SRS	PROPOSED SINGLE REUSE SERVICE
DRS	PROPOSED DOUBLE REUSE SERVICE
W	PROPOSED WATERMAIN
RU	PROPOSED RE-USE MAIN
FM	PROPOSED FORCEMAIN
IRR	PROPOSED IRRIGATION
FOC	PROPOSED FIBER OPTIC
TELEC	PROPOSED TELEPHONE
ELEC	PROPOSED ELECTRIC
	UTILITY EASEMENT
	INGRESS/EGRESS & UTILITY EASEMENT
	SET BACK LINE
	HEAVY DUTY ASPHALTIC
	HEAVY DUTY CONCRETE
	STANDARD DUTY ASPHALTIC
	CONCRETE

LIGHTING

SUB25-00041
PSP25-00004

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DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	3/26/26

SEC. 5 & 8
TWP. 26 S
RANGE 31 E

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

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ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

UTILITY PLAN 2

LEE NEWBERRY No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.04.09 16:05:42 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-21 of 50
JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 UTILITY PLAN.dwg * Apr 09, 2026 - 10:44am * plotted by RSouser

St. Cloud FLORIDA Your Centerplace for Life

APPROVED WITH CONDITIONS

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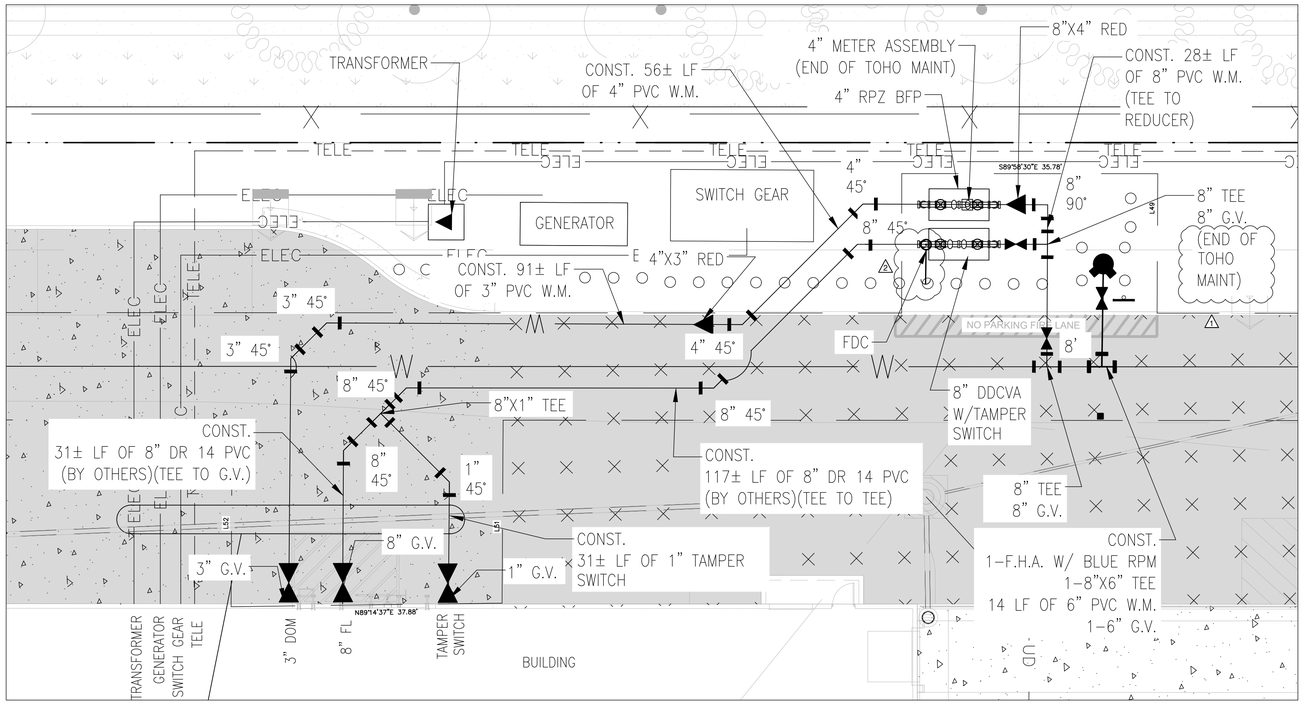
Date: 6/18/2026 Case#: SUB25-00041

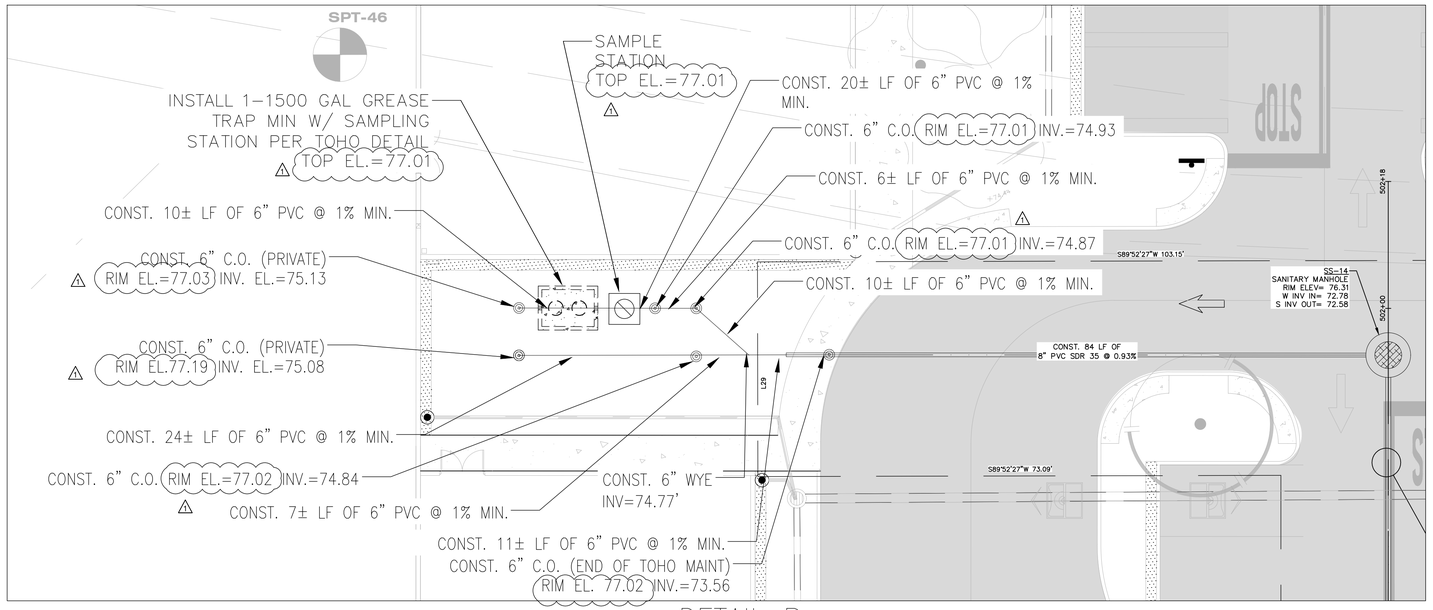
SHAUN RAJA
Authorized Signature

LEGEND

11¼	PROPOSED 11 1/4° BEND
22½	PROPOSED 22 1/2° BEND
45	PROPOSED 45° BEND
90	PROPOSED 90° BEND
SWS	PROPOSED SINGLE WATER SERVICE
DWS	PROPOSED DOUBLE WATER SERVICE
	PROPOSED WATERMAIN
	PROPOSED FIRE HYDRANT ASSEMBLY
	PROPOSED GATE VALVE, TEE
S-5R	PROPOSED STORM MANHOLE
	PROPOSED STORM HALF/FULL INLET
	PROPOSED STORM DRAIN
SSS	PROPOSED SINGLE SANITARY SERVICE
DSS	PROPOSED DOUBLE SANITARY SERVICE
SS MH-22	PROPOSED SANITARY MANHOLE
	PROPOSED SANITARY SEWER
SRS	PROPOSED SINGLE REUSE SERVICE
DRS	PROPOSED DOUBLE REUSE SERVICE



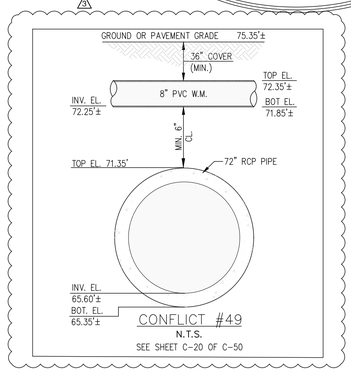
DETAIL A



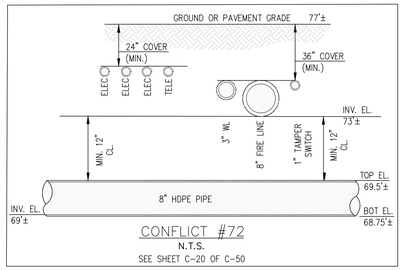
DETAIL B

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

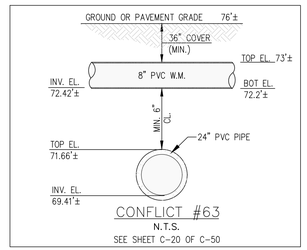
GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.



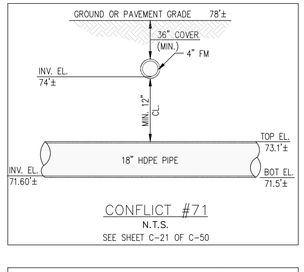
CONFLICT #49
N.T.S.
SEE SHEET C-20 OF C-50



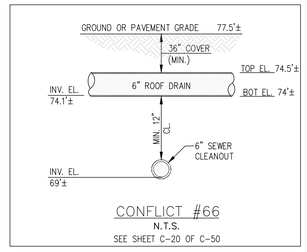
CONFLICT #72
N.T.S.
SEE SHEET C-20 OF C-50



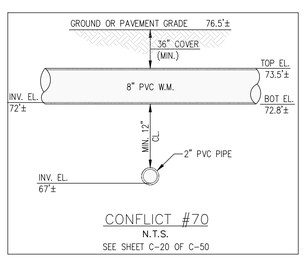
CONFLICT #63
N.T.S.
SEE SHEET C-20 OF C-50



CONFLICT #71
N.T.S.
SEE SHEET C-21 OF C-50

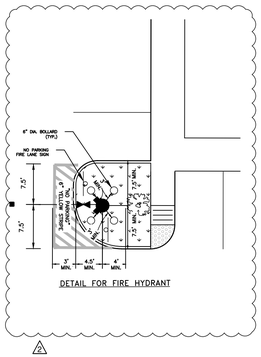


CONFLICT #66
N.T.S.
SEE SHEET C-20 OF C-50



CONFLICT #70
N.T.S.
SEE SHEET C-20 OF C-50

NOTES:
1.) ALL SANITARY MANHOLES SHALL BE 48" DIAMETER UNLESS OTHERWISE NOTED.
2.) SANITARY LATERALS SHALL BE 6" DIAMETER PVC PIPE WITH 1.0% MINIMUM SLOPE.
3.) THE REUSE METERS SHALL BE 3/4" UNLESS OTHERWISE NOTED ON THE PLANS.
4.) WATER METERS SHALL BE 3/4" UNLESS OTHERWISE NOTED ON THE PLANS.
5.) MINIMUM SANITARY MANHOLES INSIDE DIAMETER SHALL BE 48" FOR DEPTHS TO 11.99 FT., 60" FOR DEPTHS TO 17.99 FT., AND 72" FOR DEPTHS GREATER THAN 18 FT.
6.) SERVICES SHALL NOT BE LOCATED WITHIN PROPOSED DRIVEWAYS.
7.) MAINTAIN A MINIMUM OF 5-FT HORIZONTAL SEPARATION BETWEEN ALL TREE AND SHRU/MB ROOT BALLS AND ALL TOHO MAINTAINED UTILITIES
8.) WATER & RE-USE SERVICES 2" AND SMALLER SHALL HAVE DOUBLE STRAP TAPPING SADDLE, CORP STOP, AND BLUE PE TUBING. NO FITTINGS ALLOWED BETWEEN CORP STOP AND CURB STOP.
9.) PROPOSED STORM AND SANITARY STRU/MCTURES IN CONFLICT WITH TOHO MAINTAINED UTILITIES SHALL MAINTAIN 6' MINIMUM HORIZONTAL SEPARATION.
10) PROPOSED POLE (SIGN, TRAFFIC, LIGHT, POWER) IN CONFLICT WITH PROPOSED TOHO MAINTAINED UTILITIES SHALL MAINTAIN A MINIMUM 10' HORIZONTAL SEPARATION.
11.) PERMANENT STRU/MCTURES SHALL MAINTAIN A MINIMUM 12 FEET OF HORIZONTAL SEPARATION FROM TOHO MAINTAINED UTILITIES.
12.) HAND HOLE LIDS WILL BE REQUIRED FOR CLEANOUTS LOCATED IN AREAS WITH VEHICULAR TRAFFIC.



DETAIL FOR FIRE HYDRANT

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–	
DRAWN	RS	PAGE	–	
CHECKED	RN	SCALE	AS SHOWN	
CAD#	(see stamp)	DATE	3/26/26	

SEC. 5 & 8
TWP. 26 S
RANGE 31 E

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

UTILITY DETAILS

Robert L Newberry 2026.03.26 17:51:15 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-22 of C-50
JOB NO 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 UTILITY PLAN.dwg • Mar 26, 2026-4:43pm • plotted by RSouser

St. Cloud FLORIDA Your Centerplace for Life

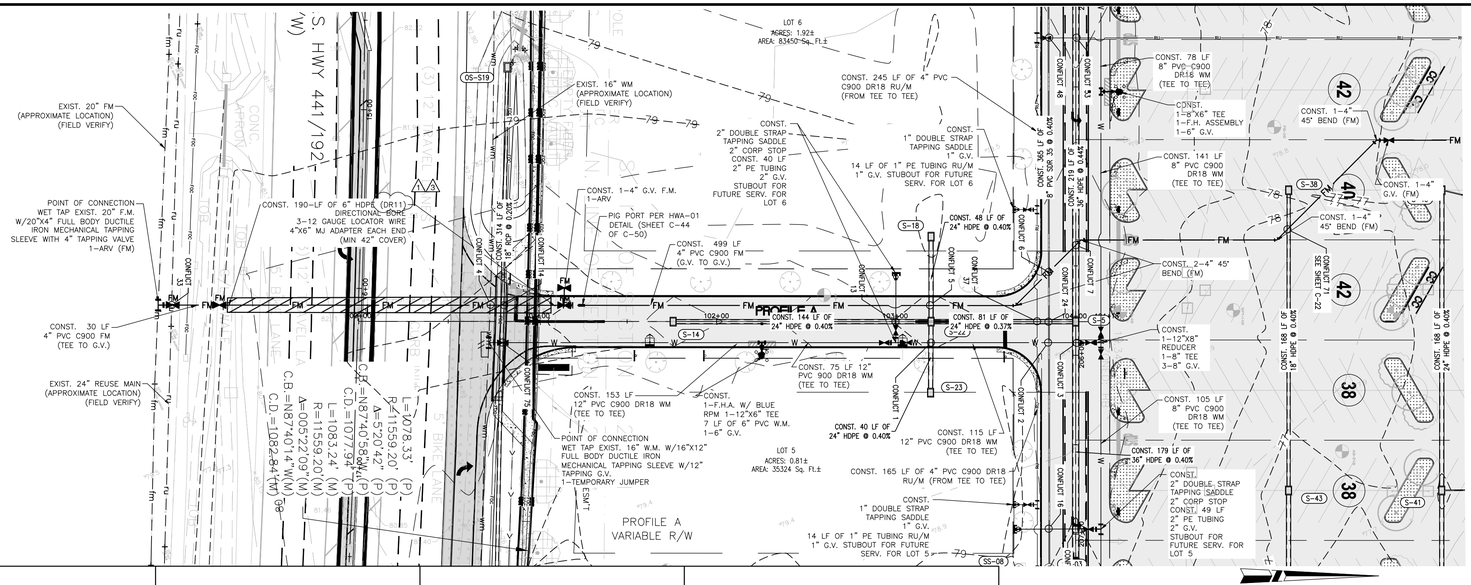
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



KEY MAP (NOT TO SCALE)

LEGEND

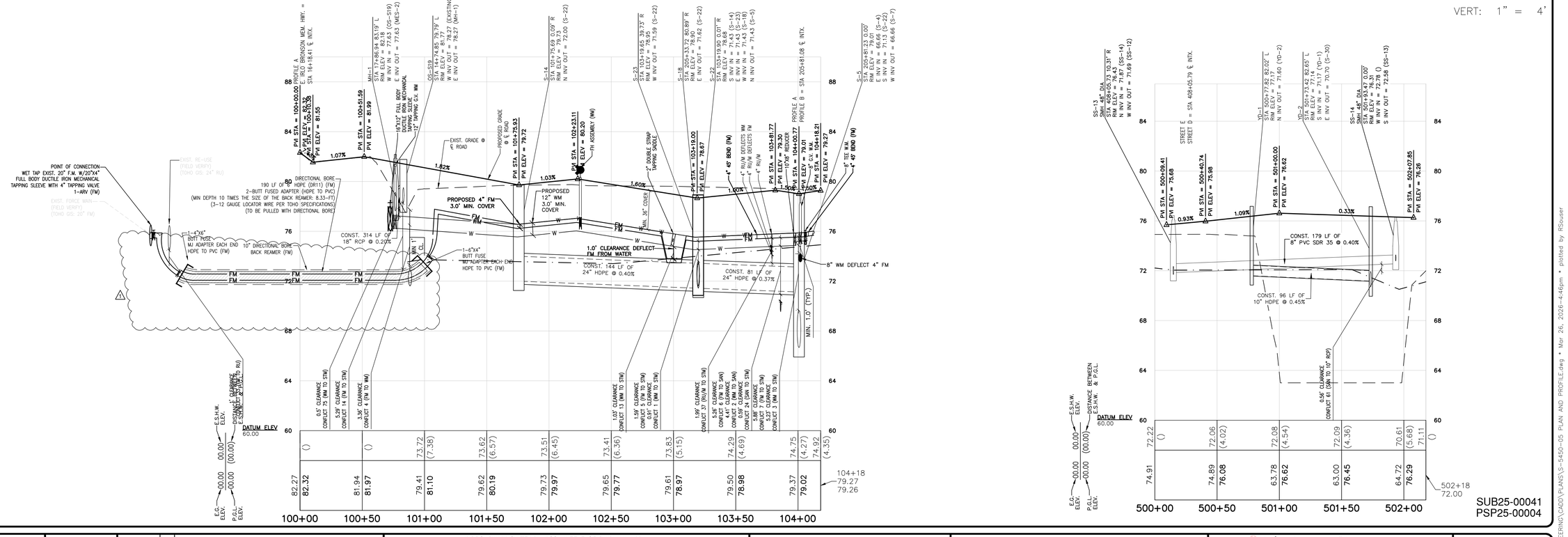
2 / 79.92 / B	LOT # F.F. ELEVATION LOT TYPE
X 74.60	EXISTING GRADE
74.60	PROPOSED GRADE
	SLOPED BANK
	PROPOSED SWALE
	PROPOSED STORM INLETS
	PROPOSED MITERED END
	PROPOSED STORM MANHOLE
	PROPOSED STORM MAIN
	PROPOSED SANITARY MANHOLE
	PROPOSED SANITARY MAIN
	EXISTING STORM INLETS
	EXISTING STORM MANHOLE
	EXISTING STORM MAIN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY MAIN
FLOOD ZONE A / FLOOD ZONE X	INDICATE FEMA FLOOD ZONE LINE
-JS- -JS-	INDICATE WETLAND JURISDICTIONAL LINE
-SF- -SF-	INDICATE PROPOSED SILT FENCE

LEGEND
SHWT 73.00 — SEASONAL HIGH WATER ELEVATION

NOTES:
1. SEE DIMENSION PLAN SHEET C-07 THRU C-09 FOR ℄ OF ROAD ALIGNMENT BEARING & DISTANCE, PC & PT AND STATION EQUATION INFORMATION, SIGNING AND MARKING INFORMATION.
2. SEE SHEET C-16 THRU C-18 FOR PAVING, GRADING AND DRAINAGE PLANS.
3. SEE SHEET C-19 THRU C-22 FOR UTILITY PLANS
4. SEE SHEET C-36 & C-37 FOR TYPICAL SECTION DETAILS.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

SCALES:
HORZ: 1" = 40'
VERT: 1" = 4'



SUB25-00041
PSP25-00004

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PUFFIN ROAD COMMERCIAL

PLAN & PROFILE A AND E

Robert L Newberry 2026.03.26 17:51:31 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-23 of C-50
JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 PLAN AND PROFILE.dwg * Mar 26, 2026-4:46pm * plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

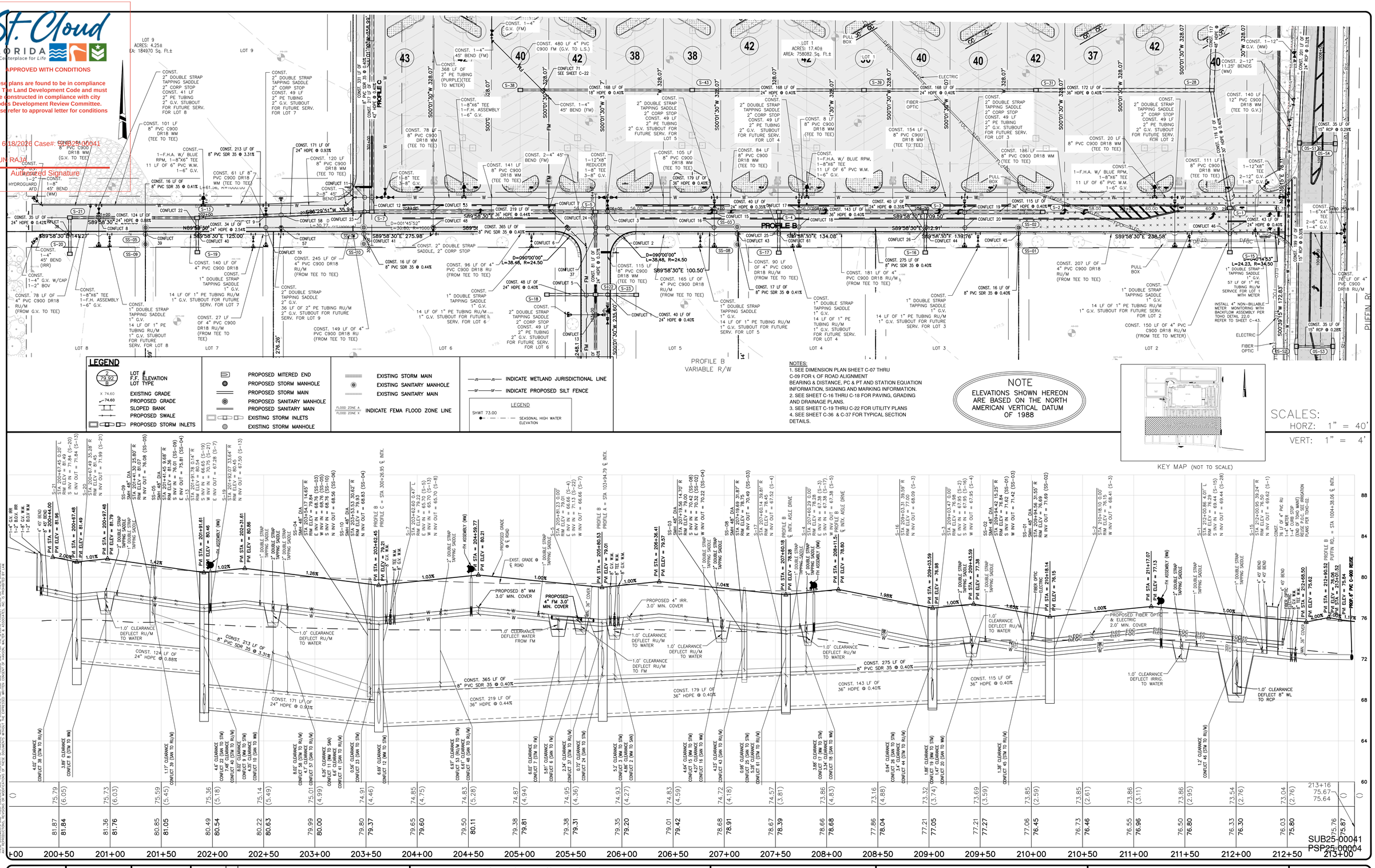
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: CONS26-00641

SHAUN RAJA

Authorized Signature


PROFILE C
PROFILE B
PROFILE B
VARIABLE R/W
PUFFIN RD
LOT 9 ACRES: 4.25± EA: 184970 Sq. Ft.±
LOT 1 ACRES: 17.40± AREA: 758082 Sq. Ft.±
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 41 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 8
CONST. 101 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 1-F.H.A. W/ BLUE RPM, 1-8"X6" TEE 11 LF OF 6" PVC W.M. 1-6" G.V.
CONST. 16 LF OF 8" PVC SDR 35 @ 0.41%
CONST. 8" PVC C900 DR18 WM (G.V. TO TEE)
CONST. 1-8" 45° BEND (WM)
CONST. 1-8" TEE 3-8" G.V.
CONST. 61 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 213 LF OF 8" PVC SDR 35 @ 3.31%
CONST. 2-8" 45° BENDS
CONST. 171 LF OF 24" HDPE @ 0.93%
CONST. 120 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 11 CONFLICT 11
CONST. 57 CONFLICT 57
CONFLICT 12
CONFLICT 22
CONFLICT 58
CONFLICT 23
CONFLICT 8
CONFLICT 39
CONFLICT 40
CONFLICT 53
CONFLICT 48
CONFLICT 41
CONFLICT 10
CONFLICT 7
CONFLICT 24
CONFLICT 3
CONFLICT 16
CONFLICT 6
CONFLICT 2
CONFLICT 5
CONFLICT 37
CONFLICT 13
CONFLICT 1
CONFLICT 15
CONFLICT 18
CONFLICT 17
CONFLICT 25
CONFLICT 43
CONFLICT 61
CONFLICT 26
CONFLICT 44
CONFLICT 19
CONFLICT 20
CONFLICT 45
CONFLICT 46
CONST. 35 LF OF 24" HDPE @ 0.42%
CONST. 124 LF OF 24" HDPE @ 0.88%
CONST. 34 LF OF 24" HDPE @ 2.54%
CONST. 365 LF OF 8" PVC SDR 35 @ 0.40%
CONST. 219 LF OF 36" HDPE @ 0.44%
CONST. 105 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 179 LF OF 36" HDPE @ 0.40%
CONST. 84 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 40 LF OF 24" HDPE @ 0.35%
CONST. 143 LF OF 36" HDPE @ 0.40%
CONST. 115 LF OF 36" HDPE @ 0.40%
CONST. 186 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 111 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 1-12"X8" TEE 2-12" G.V. 1-8" G.V.
CONST. 1-6"X4" REDUCER
CONST. 43 LF OF 24" HDPE @ 0.40%
CONST. 1-6" G.V.
CONST. 1-4" G.V. (FM)
CONST. 480 LF 4" PVC C900 FM (G.V. TO L.S.)
CONST. 368 LF OF 2" PE TUBING (PURPLE)(TEE TO METER)
CONST. 1-8"X6" TEE 1-F.H. ASSEMBLY 1-6" G.V.
CONST. 1-4" 45° BEND (FM)
CONST. 78 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 141 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 2-4" 45° BEND (FM)
CONST. 1-12"X8" REDUCER 1-8" TEE 3-8" G.V.
CONST. 168 LF OF 18" HDPE @ 0.40%
CONST. 168 LF OF 24" HDPE @ 0.40%
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 5
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 4
CONST. 8 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 154 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 3
CONST. 172 LF OF 36" HDPE @ 0.40%
CONST. 20 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 2
CONST. 140 LF 12" PVC C900 DR18 WM (TEE TO G.V.)
CONST. 2-12" 11.25° BENDS (WM)
CONST. 1-12" G.V. (WM)
CONST. 35 LF OF 15" RCP @ 0.29%
CONST. 35 LF OF 15" RCP @ 0.28%
CONST. 76 LF OF 4" PVC C900 DR18 RU/M
CONST. 1-4" 45° BEND (IRR)
CONST. 1-4" G.V. W/CAP 1-2" BOV
CONST. 78 LF OF 4" PVC C900 DR18 RU/M (FROM G.V. TO TEE)
CONST. 1-8"X6" TEE 1-F.H. ASSEMBLY 1-6" G.V.
CONST. 1" DOUBLE STRAP TAPPING SADDLE 1" G.V. 14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 8
CONST. 27 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 7
CONST. 140 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
CONST. 245 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" G.V. 36 LF OF 2" PE TUBING RU/M 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 9
CONST. 149 LF OF 4" PVC C900 DR18 RU (FROM TEE TO TEE)
CONST. 2" DOUBLE STRAP SADDLE, 2" CORP STOP
CONST. 96 LF OF 4" PVC C900 DR18 RU (FROM TEE TO TEE)
CONST. 1" DOUBLE STRAP TAPPING SADDLE 1" G.V. 14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 6
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 6
CONST. 48 LF OF 24" HDPE @ 0.40%
CONST. 115 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 165 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
CONST. 90 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
CONST. 17 LF OF 8" PVC SDR 35 @ 0.41%
CONST. 40 LF OF 24" HDPE @ 0.40%
CONST. 1" DOUBLE STRAP TAPPING SADDLE 1" G.V. 14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 5
CONST. 181 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
CONST. 1" DOUBLE STRAP TAPPING SADDLE 1" G.V. 14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 4
CONST. 275 LF OF 8" PVC SDR 35 @ 0.40%
CONST. 16 LF OF 8" PVC SDR 35 @ 0.40%
CONST. 207 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO TEE)
CONST. 1" DOUBLE STRAP TAPPING SADDLE 1" G.V. 14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 2
CONST. 150 LF OF 4" PVC C900 DR18 RU/M (FROM TEE TO METER)
INSTALL 4" NON-BILLABLE METER MONITORING WITH BACKFLOW ASSEMBLY PER TOHO DETAIL 22.0 REFER TO SHEET C-43.
CONST. 76 LF OF 4" PVC C900 DR18 RU/M
CONST. 1-6"X4" REDUCER TEE 2-6" G.V. 1-4" G.V.
CONST. 1-4" 45° BEND (WM)
CONST. 8" PVC C900 DR18 WM (G.V. TO TEE)
CONST. 2-8" 45° BENDS
CONST. 1-8" 45° BEND (WM)
HYDROGUARD AFD
CONST. 1-2" BOV
CONST. 1-2" BLOW M.M
CONST. 1-4" 45° BEND (WM)
CONST. 1-2" BLOW M.M
CONST. 1-2" BOV
CONST. 1-4" G.V. (FM)
CONST. 1-4" 45° BEND (FM)
CONST. 2-12" 11.25° BENDS (WM)
CONST. 1-12" G.V. (WM)
CONST. 1-12"X6" TEE
CONST. 1-6" G.V.
CONST. 1-F.H.A. W/ BLUE RPM, 1-8"X6" TEE 11 LF OF 6" PVC W.M. 1-6" G.V.
CONST. 1-8"X6" TEE 1-F.H. ASSEMBLY 1-6" G.V.
CONST. 1-4" 45° BEND (FM)
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 8
CONST. 2" DOUBLE STRAP TAPPING SADDLE 2" CORP STOP CONST. 49 LF 2" PE TUBING 2" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 7
CONST. 368 LF OF 2" PE TUBING (PURPLE)(TEE TO METER)
CONFLICT 71 SEE SHEET C-22

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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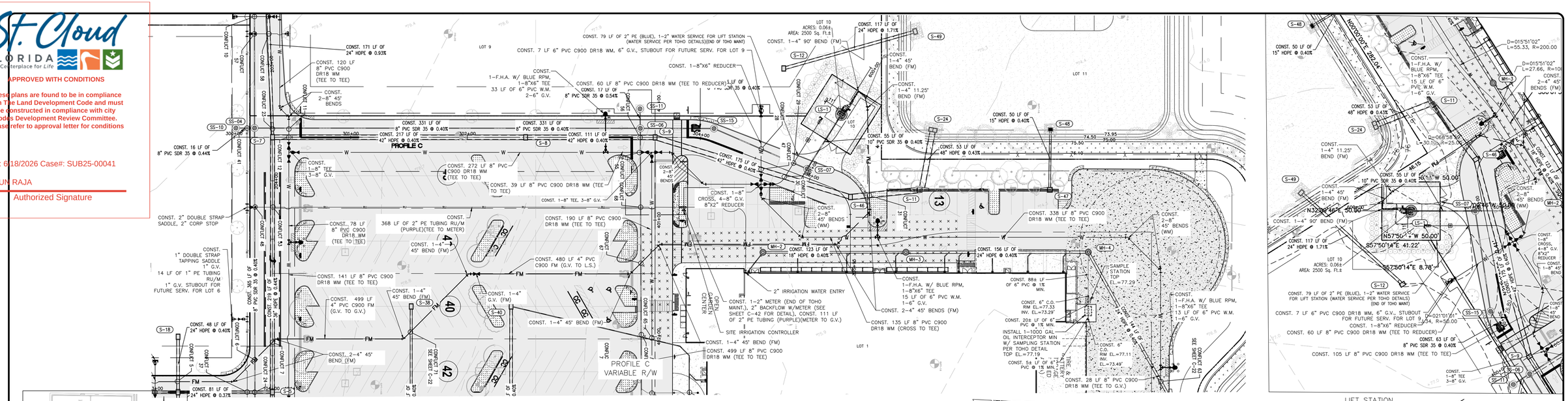
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature


CONST. 171 LF OF 24" HDPE @ 0.93%
CONST. 120 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 2-8" 45° BENDS
CONST. 16 LF OF 8" PVC SDR 35 @ 0.44%
CONST. 48 LF OF 24" HDPE @ 0.40%
CONST. 81 LF OF 24" HDPE @ 0.37%
CONST. 331 LF OF 8" PVC SDR 35 @ 0.40%
CONST. 217 LF OF 42" HDPE @ 0.40%
PROFILE C
CONST. 272 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 39 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 1-8" TEE, 3-8" G.V.
CONST. 1-8" TEE, 1-8" G.V.
CONST. 2" DOUBLE STRAP SADDLE, 2" CORP STOP
CONST. 1" DOUBLE STRAP TAPPING SADDLE 1" G.V. 14 LF OF 1" PE TUBING RU/M 1" G.V. STUBOUT FOR FUTURE SERV. FOR LOT 6
CONST. 78 LF 8" PVC C900 DR18_WM (TEE TO TEE)
CONST. 368 LF OF 2" PE TUBING RU/M (PURPLE)(TEE TO METER)
CONST. 1-4" 45° BEND (FM)
CONST. 141 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 499 LF 4" PVC C900 FM (G.V. TO G.V.)
CONST. 1-4" 45° BEND (FM)
CONST. 1-4" G.V. (FM)
CONST. 480 LF 4" PVC C900 FM (G.V. TO L.S.)
CONST. 1-4" 45° BEND (FM)
CONST., 2-4" 45° BEND (FM)
CONST. 190 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 1-8" CROSS, 4-8" G.V. 8"X2" REDUCER
CONST. 2-8" 45° BENDS (WM)
CONST. 123 LF OF 18" HDPE @ 0.40%
CONST. 1-2" METER (END OF TOHO MAINT.), 2" BACKFLOW W/METER (SEE SHEET C-42 FOR DETAIL), CONST. 111 LF OF 2" PE TUBING (PURPLE)(METER TO G.V.)
2" IRRIGATION WATER ENTRY
SITE IRRIGATION CONTROLLER
CONST. 1-4" 45° BEND (FM)
CONST. 499 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 1-F.H.A. W/ BLUE RPM, 1-8"X6" TEE 15 LF OF 6" PVC W.M. 1-6" G.V.
CONST. 2-4" 45° BENDS (FM)
CONST. 135 LF 8" PVC C900 DR18 WM (CROSS TO TEE)
CONST. 156 LF OF 24" HDPE @ 0.40%
CONST. 88± LF OF 6" PVC @ 1% MIN.
CONST. 6" C.O. RIM EL.=77.33 INV. EL.=73.29
CONST. 20± LF OF 6" PVC @ 1% MIN.
INSTALL 1-1000 GAL OIL INTERCEPTOR MIN W/ SAMPLING STATION PER TOHO DETAIL TOP EL.=77.19
CONST. 5± LF OF 6" PVC @ 1% MIN.
CONST. 6" C.O. RIM EL.=77.11 INV. EL.=73.49'
CONST. 28 LF 8" PVC C900 DR18 WM (TEE TO G.V.)
CONST. 338 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 2-8" 45° BENDS (WM)
SAMPLE STATION TOP EL.=77.29
CONST. 1-F.H.A. W/ BLUE RPM, 1-8"X6" TEE 13 LF OF 6" PVC W.M. 1-6" G.V.
CONST. 117 LF OF 24" HDPE @ 1.71%
CONST. 1-4" 90° BEND (FM)
CONST. 1-4" 45° BEND (FM)
CONST. 1-4" 11.25° BEND (FM)
CONST. 50 LF OF 15" HDPE @ 0.40%
CONST. 53 LF OF 48" HDPE @ 0.43%
CONST. 55 LF OF 10" PVC SDR 35 @ 0.40%
CONST. 175 LF OF 42" HDPE @ 0.40%
CONST. 105 LF 8" PVC C900 DR18 WM (TEE TO TEE)
CONST. 63 LF OF 8" PVC SDR 35 @ 0.40%
CONST. 97 LF OF 8" PVC SDR 35 @ 0.40%
CONST. 111 LF OF 42" HDPE @ 0.40%
CONST. 53 LF OF 48" HDPE @ 0.43%
CONST. 55 LF OF 10" DR-11 HDPE @ 0.40%
LOT 9
LOT 10 ACRES: 0.06± AREA: 2500 Sq. Ft.±
LOT 11
LOT 1
PROFILE C VARIABLE R/W
CONFLICT 10
CONFLICT 37
CONFLICT 55
CONFLICT 29
CONFLICT 28
CONFLICT 41
CONFLICT 27
CONFLICT 68
CONFLICT 49
CONFLICT 15
CONFLICT 69
CONFLICT 8
CONFLICT 6
CONFLICT 5
CONFLICT 7
CONFLICT 24
CONFLICT 71
CONFLICT 30
CONFLICT 31
CONFLICT 63
CONFLICT 66
CONFLICT 67
CONFLICT 70
CONFLICT 72
CONFLICT 73
CONFLICT 74
CONFLICT 75
CONFLICT 76
CONFLICT 77
CONFLICT 78
CONFLICT 79
CONFLICT 80
CONFLICT 81
CONFLICT 82
CONFLICT 83
CONFLICT 84
CONFLICT 85
CONFLICT 86
CONFLICT 87
CONFLICT 88
CONFLICT 89
CONFLICT 90
CONFLICT 91
CONFLICT

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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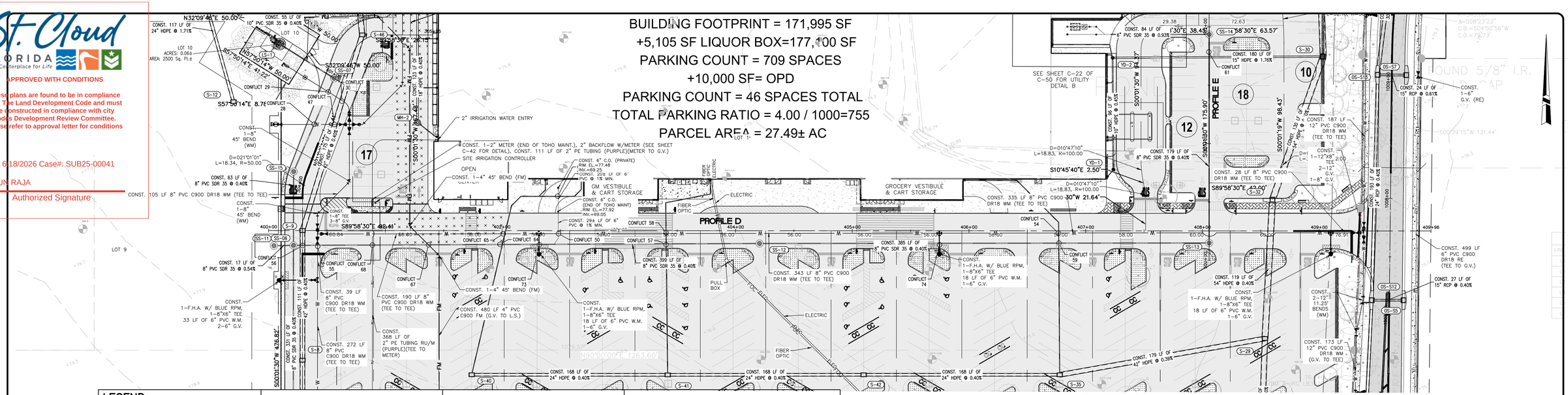
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

BUILDING FOOTPRINT = 171,995 SF
+5,105 SF LIQUOR BOX=177,100 SF
PARKING COUNT = 709 SPACES
+10,000 SF= OPD
PARKING COUNT = 46 SPACES TOTAL
TOTAL PARKING RATIO = 4.00 / 1000=755
PARCEL AREA = 27.49± AC



LEGEND

- LOT # / F.F. ELEVATION / LOT TYPE (e.g. 2 / 79.92 / B)
- X 74.60 — EXISTING GRADE
- 74.60 — PROPOSED GRADE
- SLOPED BANK
- PROPOSED SWALE
- PROPOSED STORM INLETS
- PROPOSED MITERED END
- PROPOSED STORM MANHOLE
- PROPOSED STORM MAIN
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY MAIN
- EXISTING STORM INLETS
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- —JS—JS— INDICATE WETLAND JURISDICTIONAL LINE
- —SF—SF— INDICATE PROPOSED SILT FENCE

LEGEND
SHWT 73.00 — SEASONAL HIGH WATER ELEVATION

NOTES:
1. SEE DIMENSION PLAN SHEET C-07 THRU C-09 FOR ℄ OF ROAD ALIGNMENT BEARING & DISTANCE, PC & PT AND STATION EQUATION INFORMATION, SIGNING AND MARKING INFORMATION.
2. SEE SHEET C-16 THRU C-18 FOR PAVING, GRADING AND DRAINAGE PLANS.
3. SEE SHEET C-19 THRU C-22 FOR UTILITY PLANS
4. SEE SHEET C-36 & C-37 FOR TYPICAL SECTION DETAILS.

NOTE
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SCALES:
HORZ: 1" = 40'
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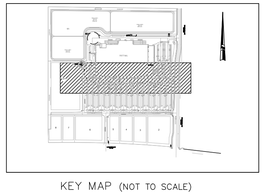
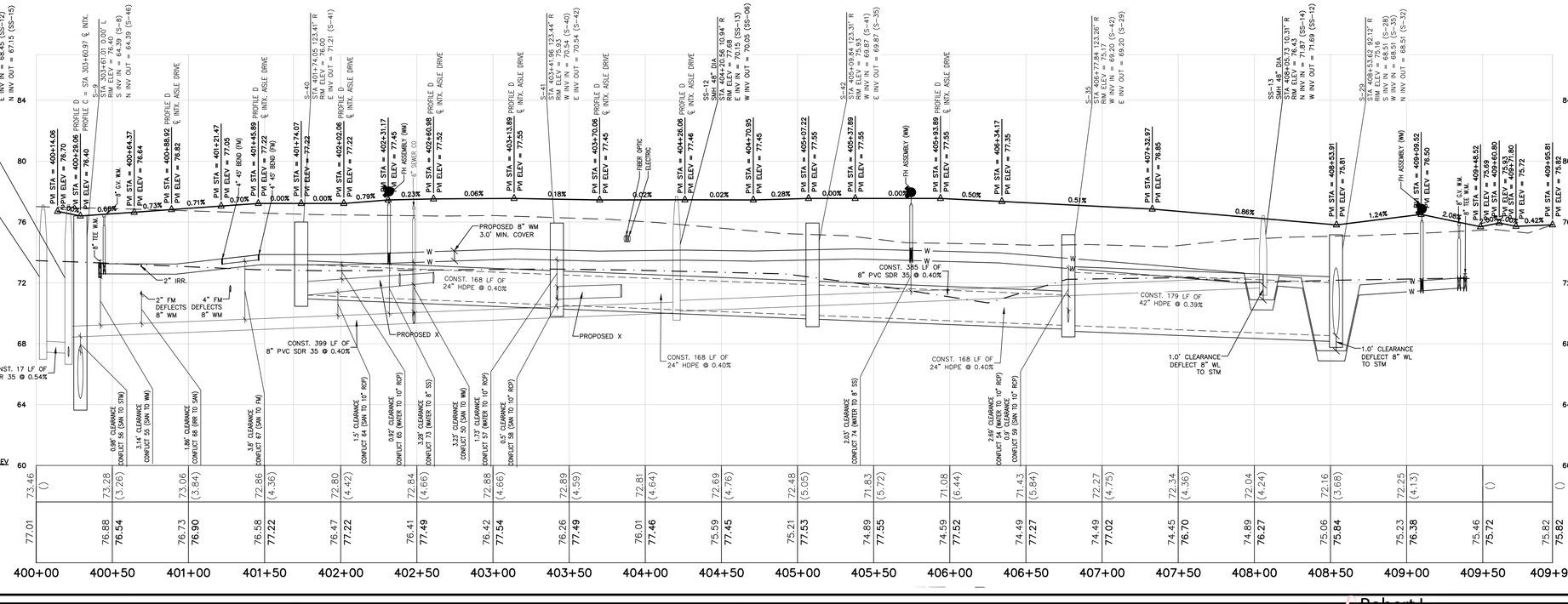

KEY MAP (NOT TO SCALE)



SUB25-00041
PSP25-00004

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SEC. 5 & 8
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ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

PLAN & PROFILE D

Robert L Newberry 2026.03.26 17:52:27 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-26 of C-50
JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 PLAN AND PROFILE.dwg • Mar 26, 2026-4:50pm • plotted by RSouser

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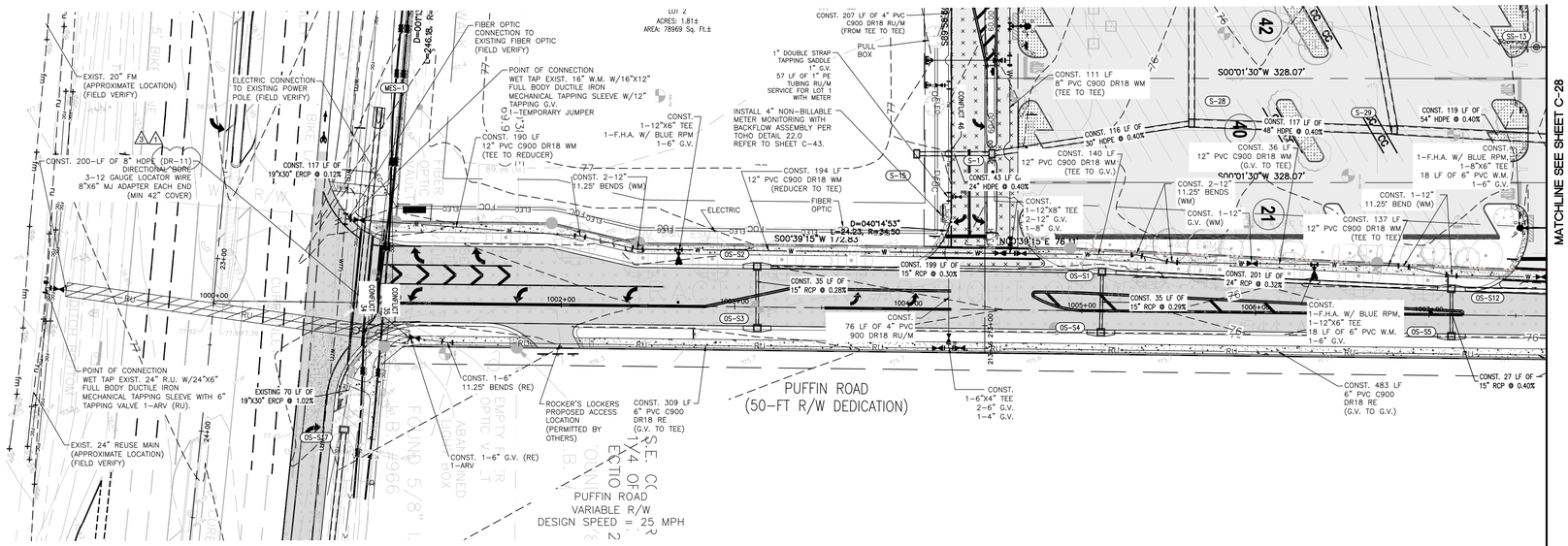

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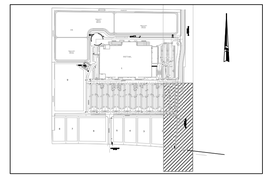

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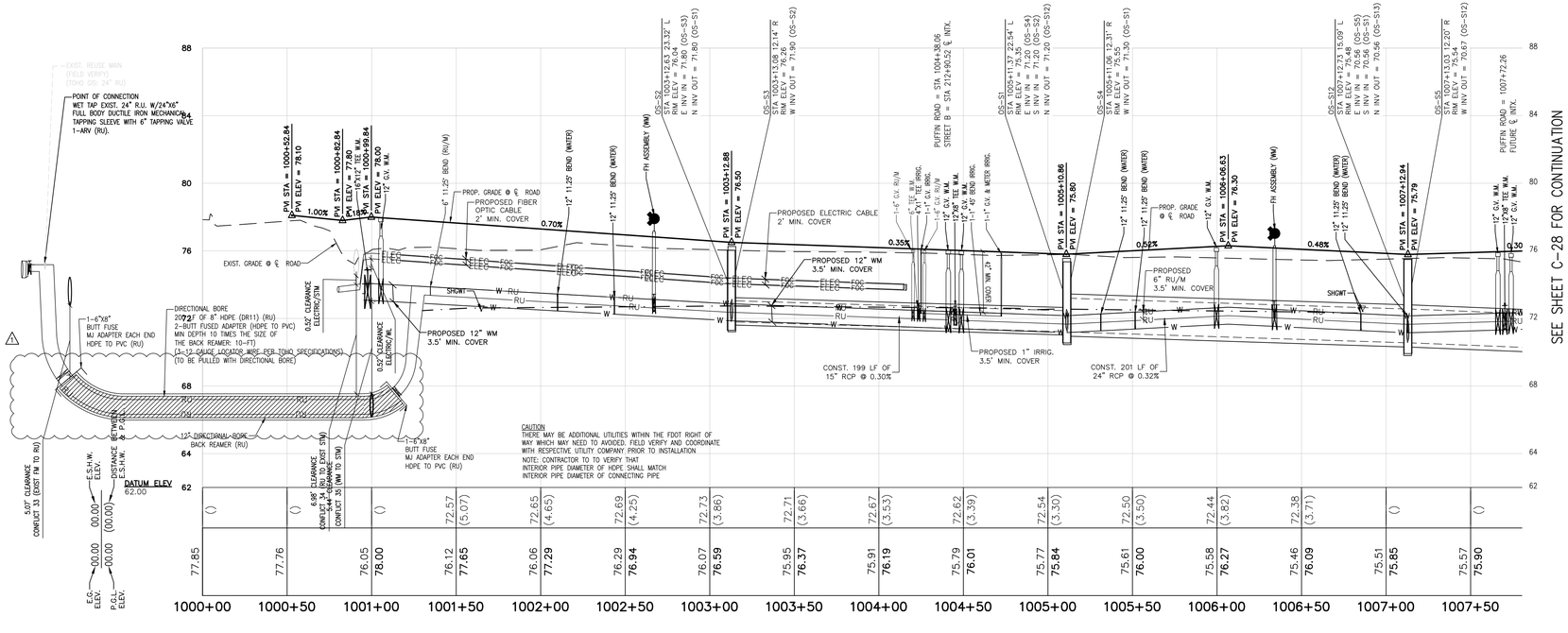

EXISTING LINE TYPES

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- RE-USE WATER — RW
- SANITARY SEWER — SS
- UNDERGROUND ELECTRIC LINE — UGE
- UNDERGROUND TELEPHONE LINE — UGT
- BURIED CABLE TV — TBTV
- BURIED FIBER-OPTIC CABLE — FOC
- OVERHEAD TELEPHONE LINE — OHT

SUB25-00041
PSP25-00004

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Robert L Newberry 2026.04.09 16:05:08 -04'00'

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SHEET Nº C-27 of 50

JOB Nº 5450-05

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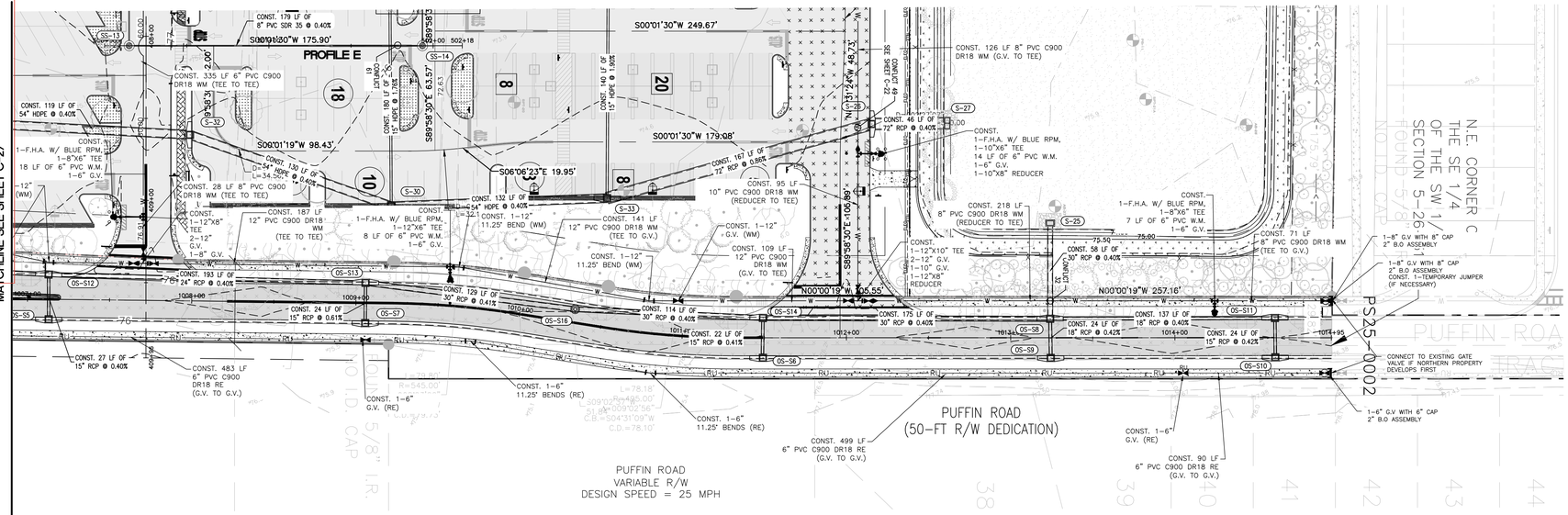
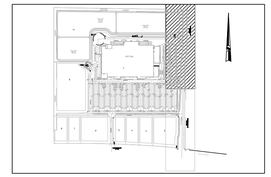
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE SEE SHEET C-27





KEY MAP (NOT TO SCALE)

LEGEND

2 / 79.92 / B	LOT # F.F. ELEVATION LOT TYPE
X 74.60	EXISTING GRADE
74.60	PROPOSED GRADE
	SLOPED BANK
	PROPOSED SWALE
	PROPOSED STORM INLETS
	PROPOSED MITERED END
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FLOOD ZONE A / FLOOD ZONE X	INDICATE FEMA FLOOD ZONE LINE
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SHWT 73.00	SEASONAL HIGH WATER ELEVATION

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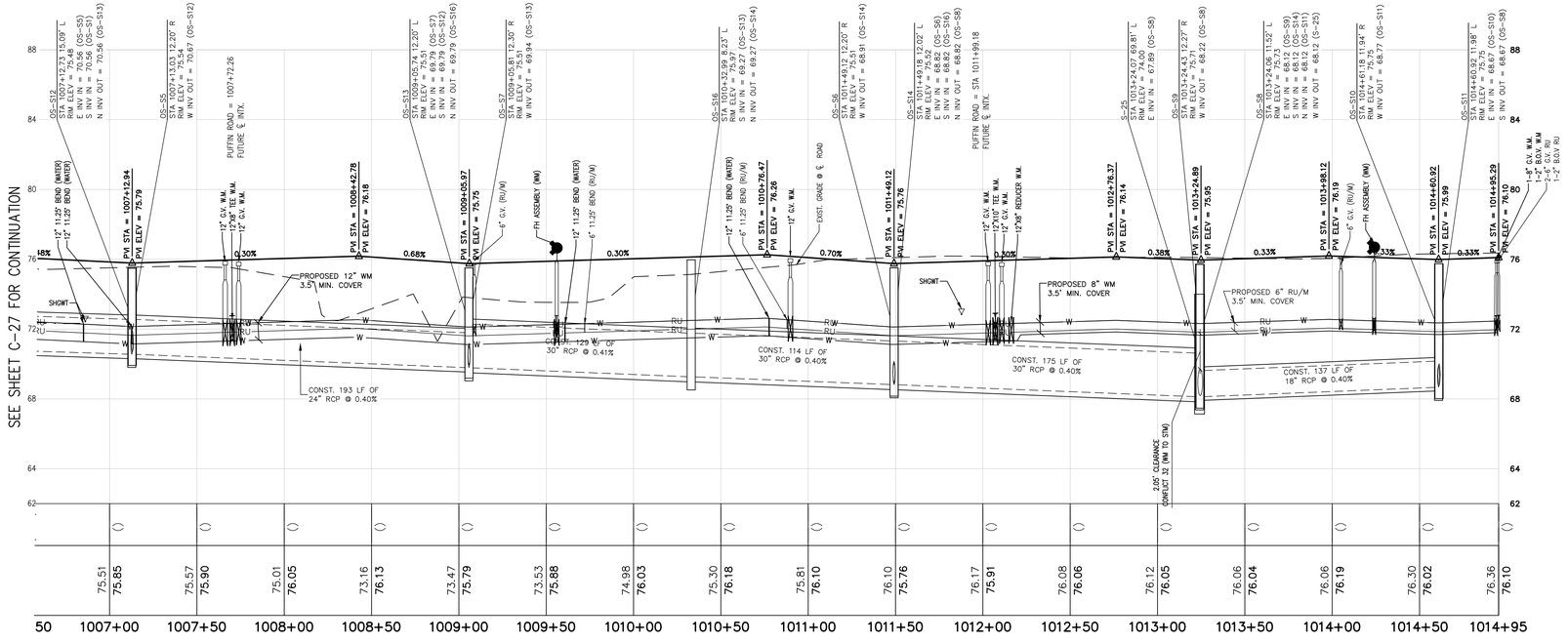

EXISTING LINE TYPES

WATER MAIN	—WM— —WM— —WM— —WM— —WM—
RE-USE WATER	—W— —W— —W— —W— —W—
SANITARY SEWER	—SS— —SS— —SS— —SS— —SS—
UNDERGROUND ELECTRIC LINE	—UGE— —UGE— —UGE— —UGE—
UNDERGROUND TELEPHONE LINE	—UGT— —UGT— —UGT— —UGT—
BURIED CABLE TV	—BTV— —BTV— —BTV— —BTV—
BURIED FIBER-OPTIC CABLE	—FOC— —FOC— —FOC— —FOC—
OVERHEAD TELEPHONE LINE	—OHU— —OHU— —OHU— —OHU—

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STA. 1007+50 THRU STA. 1014+9

ROBERT LEE NEWBERRY, JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:52:58 -04'00'

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Signature must be verified on any electronic copies.

SHEET Nº C-28 of C-50
JOB Nº 5450-05

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St. Cloud FLORIDA
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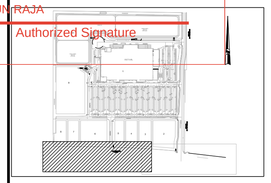
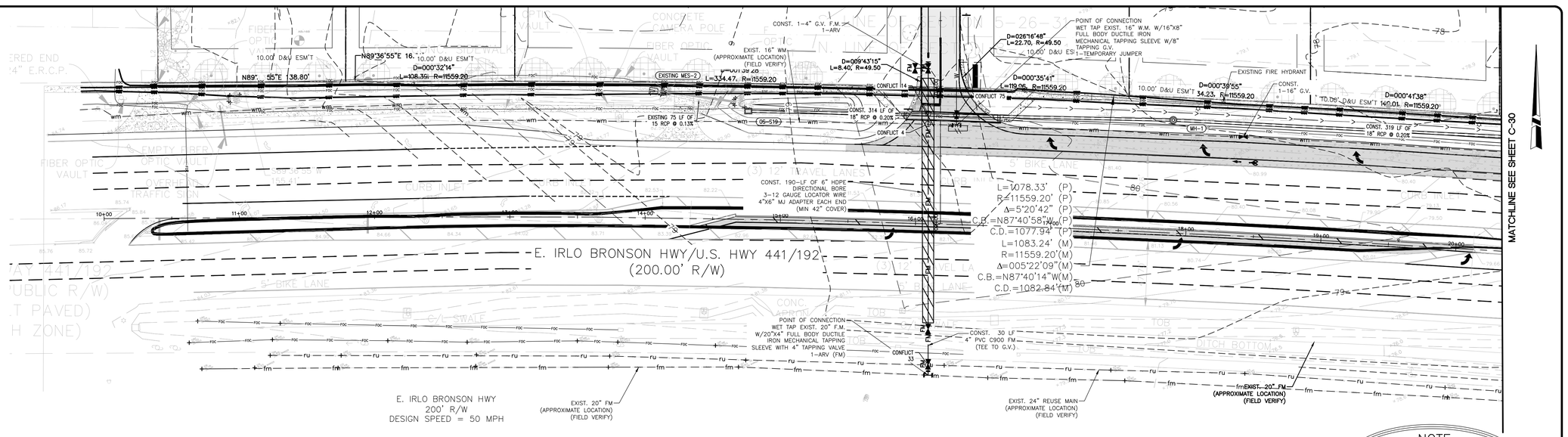


KEY MAP (NOT TO SCALE)



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3. NON-LOCATED / UNMARKED FDOT ITS FACILITIES, INCLUDING FIBER OPTIC COMMUNICATION AND TRAFFIC CONTROL SIGNAL LOOPS/DEVICES, MAY EXIST WITHIN THE PROJECT LIMITS; MAKE TEMPORARY REPAIRS TO ANY DAMAGE TO A FACILITY WITHIN FOUR (4) HOURS OF THE OCCURRENCE. IF ASSISTANCE IS REQUIRED REGARDING ITS FACILITIES, CONTACT THE FDOT TRAFFIC OPERATIONS ITS MANAGER AT (386) 943-5000 or Jennifer Sardonini at (386)-785-3764.

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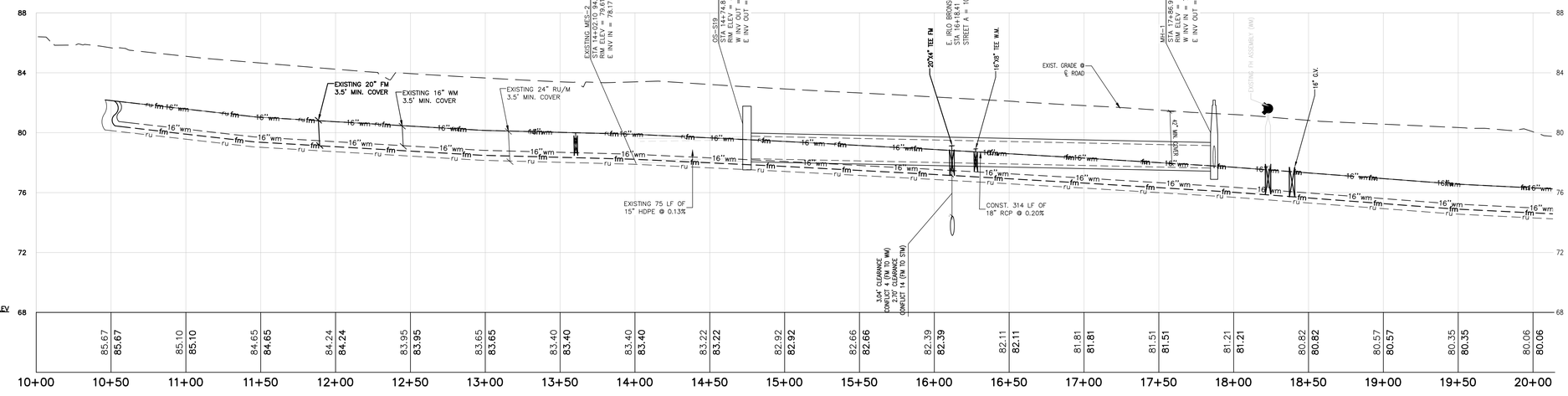
OVERHEAD TELEPHONE LINE	-OH-



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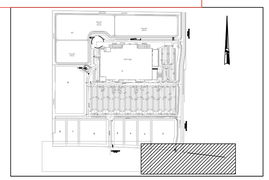

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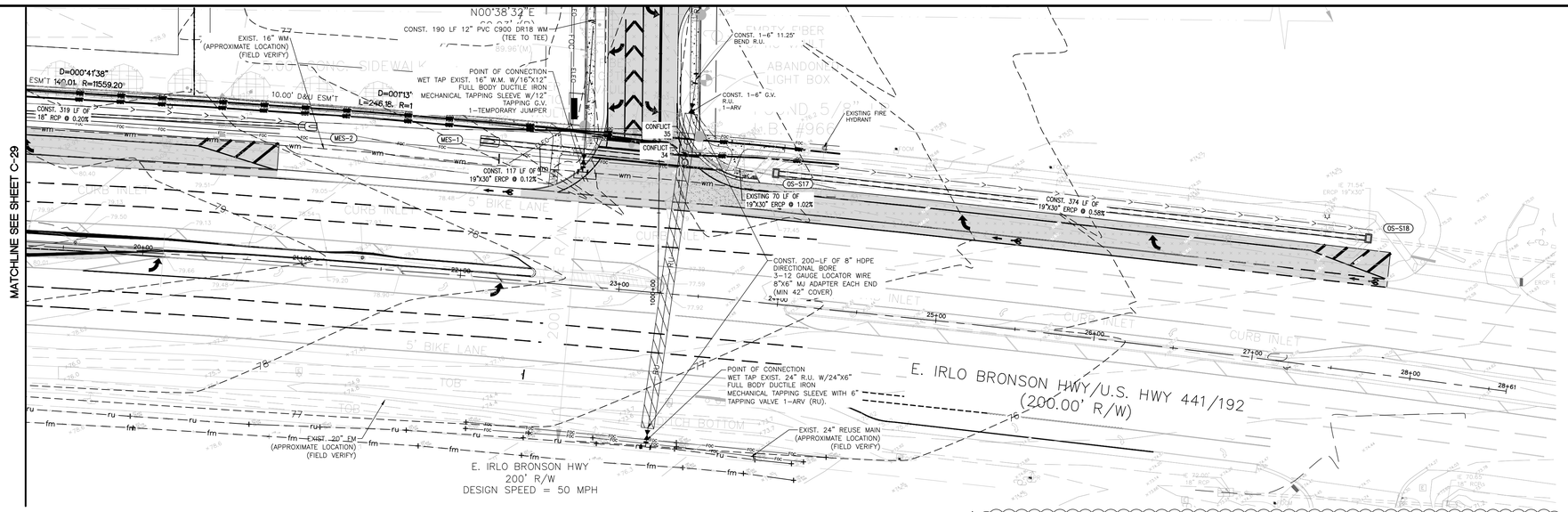

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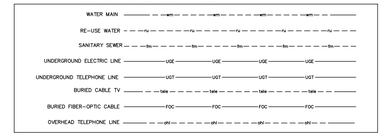
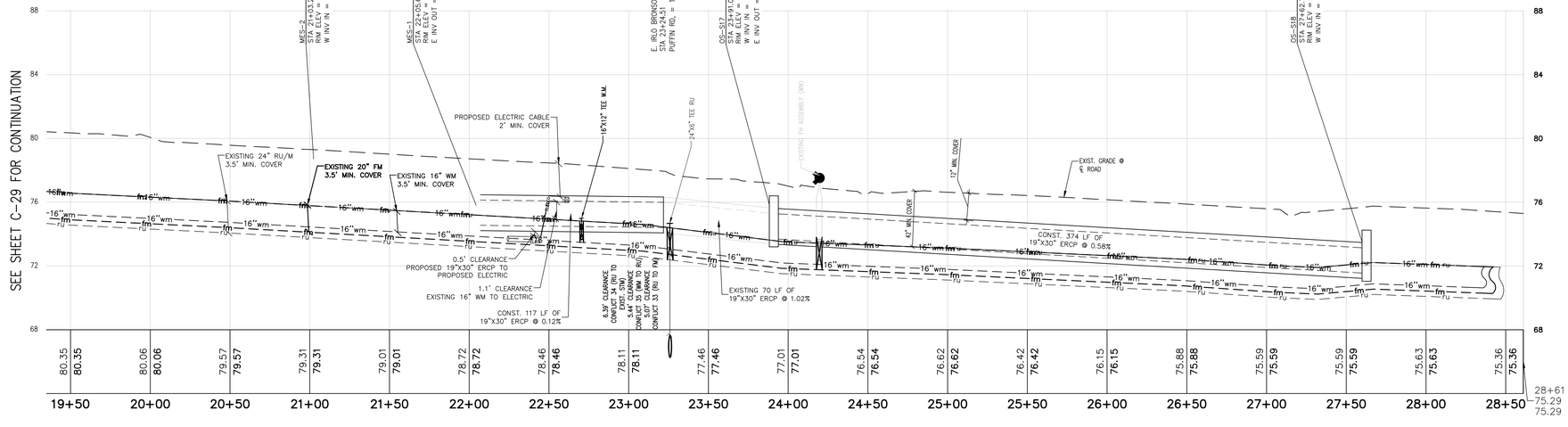
2. PERMITTEE AND/OR HIS CONTRACTOR SHALL NOT BEGIN A DIRECTIONAL BORE ACROSS A STATE ROAD UNTIL AN FDOT INSPECTOR IS PRESENT AT THE JOB SITE AND AGREES THAT PROPER PREPARATIONS HAVE BEEN MADE.
3. NON-LOCATED / UNMARKED FDOT ITS FACILITIES, INCLUDING FIBER OPTIC COMMUNICATION AND TRAFFIC CONTROL SIGNAL LOOPS/DEVICES, MAY EXIST WITHIN THE PROJECT LIMITS; MAKE TEMPORARY REPAIRS TO ANY DAMAGE TO A FACILITY WITHIN FOUR (4) HOURS OF THE OCCURRENCE. IF ASSISTANCE IS REQUIRED REGARDING ITS FACILITIES, CONTACT THE FDOT TRAFFIC OPERATIONS ITS MANAGER AT (386) 943-5000 or Jennifer Sardonini at (386)-785-3764.

NOTE: SPEED LIMIT = 50 MPH
DESIGN SPEED = 50 MPH

SCALES:
HORZ: 1" = 40'
VERT: 1" = 4'

EXISTING LINE TYPES





SUB25-00041
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01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS ⚠

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

PLAN & PROFILE E. IRLO BRONSON MEM. HWY STA. 20+00 THRU 28+61

ROBERT L. NEWBERRY LICENSE No.73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.04.09 16:04:26 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-30 of 50
JOB NO 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 PLAN AND PROFILE.dwg * Apr 09, 2026-11:05am * plotted by RSouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

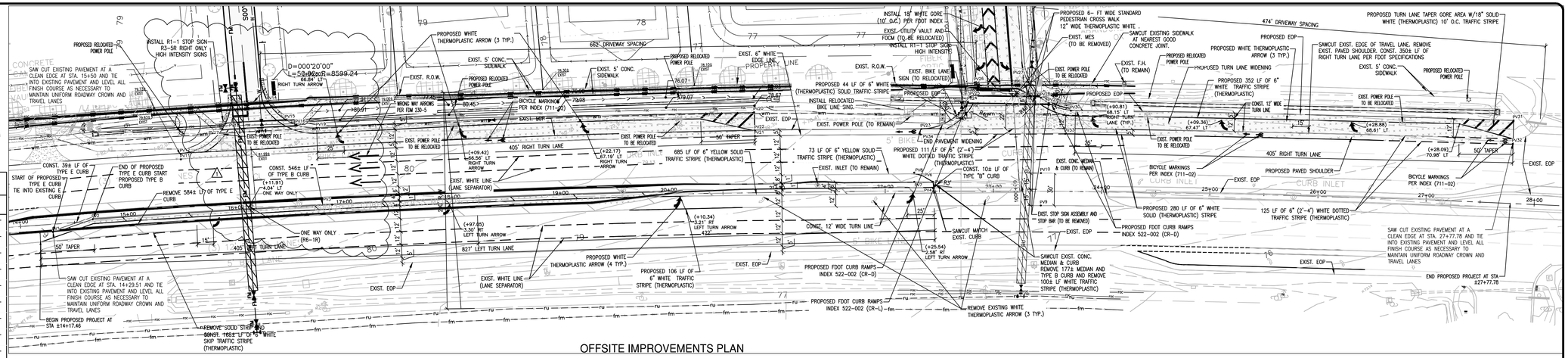
Authorized Signature

OFFSITE PAVING LOCATION SYSTEM

Marker #	Northing	Easting	Description
PV-1	N 1422260.8715	E 579374.0754	NEW PAVEMENT
PV-2	N 1422269.4409	E 579411.6169	NEW PAVEMENT
PV-3	N 1422263.6005	E 579633.3590	NEW PAVEMENT
PV-4	N 1422230.4892	E 580187.7544	NEW PAVEMENT
PV-5	N 1422232.8198	E 580190.7862	NEW PAVEMENT
PV-6	N 1422236.3786	E 580188.1438	NEW PAVEMENT
PV-7	N 1422237.7860	E 580171.1059	NEW PAVEMENT
PV-8	N 1422246.1975	E 580171.8007	NEW PAVEMENT
PV-9	N 1422205.7741	E 580285.6831	NEW PAVEMENT
PV-10	N 1422235.5862	E 580288.4573	NEW PAVEMENT
PV-11	N 1423317.5095	E 579497.6600	NEW PAVEMENT
PV-12	N 1422322.6521	E 579497.9503	NEW PAVEMENT
PV-13	N 1422364.6974	E 579548.3760	NEW PAVEMENT
PV-14	N 1422363.6641	E 579582.1321	NEW PAVEMENT
PV-15	N 1422345.3084	E 579597.4067	NEW PAVEMENT
PV-16	N 1422339.9652	E 579606.5328	NEW PAVEMENT
PV-17	N 1422341.9013	E 579538.1648	NEW PAVEMENT
PV-18	N 1422346.8056	E 579541.6187	NEW PAVEMENT
PV-19	N 1422335.5777	E 579625.2351	NEW PAVEMENT
PV-20	N 1422314.6315	E 580029.2338	NEW PAVEMENT
PV-21	N 1422292.6586	E 580028.0946	NEW PAVEMENT
PV-22	N 1422297.7847	E 580028.6671	NEW PAVEMENT
PV-23	N 1422285.7181	E 580181.8549	NEW PAVEMENT
PV-24	N 1422306.8850	E 580226.9326	NEW PAVEMENT
PV-25	N 1422311.2819	E 580229.6808	NEW PAVEMENT
PV-26	N 1422324.2407	E 580234.6690	NEW PAVEMENT
PV-27	N 1422320.0280	E 580284.2219	NEW PAVEMENT
PV-28	N 1422304.8734	E 580294.5222	NEW PAVEMENT
PV-29	N 1422299.1723	E 580301.2762	NEW PAVEMENT
PV-30	N 1422290.5156	E 580321.0392	NEW PAVEMENT
PV-31	N 1422245.9867	E 580727.8703	NEW PAVEMENT
PV-32	N 1422224.4754	E 580725.2818	NEW PAVEMENT
PV-33	N 1422269.6813	E 580313.9844	NEW PAVEMENT
PV-34	N 1422280.7891	E 580180.7882	NEW PAVEMENT

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
1 inch = 50 ft.


PROPOSED RELOCATED POWER POLE
INSTALL R1-1 STOP SIGN R3-5R RIGHT ONLY HIGH INTENSITY SIGNS
SAW CUT EXISTING PAVEMENT AT A CLEAN EDGE AT STA. 15+50 AND TIE INTO EXISTING PAVEMENT AND LEVEL ALL FINISH COURSE AS NECESSARY TO MAINTAIN UNIFORM ROADWAY CROWN AND TRAVEL LANES
D=000°20'00" L=58.02oR=8599.24 66.84' LT RIGHT TURN ARROW
EXIST. R.O.W.
EXIST. 5' CONC. SIDEWALK
PROPOSED WHITE THERMOPLASTIC ARROW (3 TYP.)
652' DRIVEWAY SPACING
PROPOSED RELOCATED POWER POLE
EXIST. 6" WHITE EDGE LINE
PROPERTY LINE
INSTALL 18' WHITE GORE (10' O.C.) PER FDOT INDEX
EXIST. UTILITY VAULT AND FOCM (TO BE RELOCATED)
INSTALL R1-1 STOP SIGN HIGH INTENSITY
PROPOSED 6- FT WIDE STANDARD PEDESTRIAN CROSS WALK
12' WIDE THERMOPLASTIC WHITE
EXIST. MES (TO BE REMOVED)
SAWCUT EXISTING SIDEWALK AT NEAREST GOOD CONCRETE JOINT.
474' DRIVEWAY SPACING
EXIST. F.H. (TO REMAIN)
EXIST. BIKE LANE SIGN (TO RELOCATED)
PROPOSED EOP
EXIST. POWER POLE TO BE RELOCATED
PROPOSED WHITE THERMOPLASTIC ARROW (3 TYP.)
PROPOSED TURN LANE TAPER GORE AREA W/18" SOLID WHITE (THERMOPLASTIC) 10' O.C. TRAFFIC STRIPE
SAWCUT EXIST. EDGE OF TRAVEL LANE, REMOVE EXIST. PAVED SHOULDER, CONST. 350± LF OF RIGHT TURN LANE PER FDOT SPECIFICATIONS
EXIST. 5' CONC. SIDEWALK
PROPOSED RELOCATED POWER POLE
EXIST. POWER POLE TO BE RELOCATED
PROPOSED 44 LF OF 6" WHITE (THERMOPLASTIC) SOLID TRAFFIC STRIPE
INSTALL RELOCATED BIKE LANE SIGN
EXIST. POWER POLE (TO REMAIN)
PROPOSED EOP
PROPOSED TURN LANE WIDENING
PROPOSED 352 LF OF 6" WHITE TRAFFIC STRIPE (THERMOPLASTIC)
CONST. 12' WIDE TURN LANE
405' RIGHT TURN LANE
50' TAPER
BICYCLE MARKINGS PER INDEX (711-02)
PROPOSED PAVED SHOULDER
125 LF OF 6" (2'-4") WHITE DOTTED TRAFFIC STRIPE (THERMOPLASTIC)
BICYCLE MARKINGS PER INDEX (711-02)
CONST. 546± LF OF TYPE B CURB
CONST. 39± LF OF TYPE E CURB
START OF PROPOSED TYPE E CURB TIE INTO EXISTING E CURB
END OF PROPOSED TYPE E CURB START PROPOSED TYPE B CURB
REMOVE 584± LF OF TYPE E CURB
EXIST. WHITE LINE (LANE SEPARATOR)
WRONG WAY ARROWS PER FDM 230-5
EXIST. MITL
405' RIGHT TURN LANE
50' TAPER
827' LEFT TURN LANE
ONE WAY ONLY (R6-1R)
PROPOSED WHITE THERMOPLASTIC ARROW (4 TYP.)
PROPOSED 106 LF OF 6" WHITE TRAFFIC STRIPE (THERMOPLASTIC)
685 LF OF 6" YELLOW SOLID TRAFFIC STRIPE (THERMOPLASTIC)
73 LF OF 6" YELLOW SOLID TRAFFIC STRIPE (THERMOPLASTIC)
EXIST. INLET (TO REMAIN)
PROPOSED 111 LF OF 6" (2'-4") WHITE DOTTED TRAFFIC STRIPE (THERMOPLASTIC)
END PAVEMENT WIDENING
CONST. 10± LF OF TYPE "B" CURB
CONST. 12' WIDE TURN LINE
SAWCUT MATCH EXIST. CURB
EXIST. STOP SIGN ASSEMBLY AND STOP BAR (TO BE REMOVED)
PROPOSED FDOT CURB RAMPS INDEX 522-002 (CR-D)
PROPOSED FDOT CURB RAMPS INDEX 522-002 (CR-L)
REMOVE EXISTING WHITE THERMOPLASTIC ARROW (3 TYP.)
SAWCUT EXIST. CONC. MEDIAN & CURB REMOVE 177± MEDIAN AND TYPE B CURB AND REMOVE 100± LF WHITE TRAFFIC STRIPE (THERMOPLASTIC)
EXIST. CONC. MEDIAN & CURB (TO REMAIN)
PROPOSED 280 LF OF 6" WHITE SOLID (THERMOPLASTIC) STRIPE
PROPOSED FDOT CURB RAMPS INDEX 522-002 (CR-D)
SAW CUT EXISTING PAVEMENT AT A CLEAN EDGE AT STA. 27+77.78 AND TIE INTO EXISTING PAVEMENT AND LEVEL ALL FINISH COURSE AS NECESSARY TO MAINTAIN UNIFORM ROADWAY CROWN AND TRAVEL LANES
END PROPOSED PROJECT AT STA ±27+77.78
SAW CUT EXISTING PAVEMENT AT A CLEAN EDGE AT STA. 14+29.51 AND TIE INTO EXISTING PAVEMENT AND LEVEL ALL FINISH COURSE AS NECESSARY TO MAINTAIN UNIFORM ROADWAY CROWN AND TRAVEL LANES
BEGIN PROPOSED PROJECT AT STA ±14+17.46
REMOVE SOLID STRIPE AND SKIP TRAFFIC STRIPE (THERMOPLASTIC)
CONST. 168± LF OF 6" WHITE
EXIST. EOP
EXIST. POWER POLE TO BE RELOCATED
EXIST. WHITE LINE (LANE SEPARATOR)
EXIST. EOP
EXIST. R.O.W.
EXIST. 5' BIKE LANE
EXIST. CURB INLET
EXIST. EOP
EXIST. TOP OF BANK
EXIST. TOP OF BANK
EXIST. EOP
EXIST. EOP
EXIST. EOP

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAST
Authorized Signature

OFFSITE PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
OS PV-35	N 1422334.9886	E 580235.9614	PAVEMENT
OS PV-36	N 1422413.6473	E 580236.8469	PAVEMENT
OS PV-37	N 1422463.5207	E 580248.4170	PAVEMENT
OS PV-38	N 1422706.4906	E 580251.1910	PAVEMENT
OS PV-39	N 1422942.8882	E 580262.2710	PAVEMENT
OS PV-40	N 1422977.9587	E 580227.3034	PAVEMENT

OFFSITE PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
OS PV-41	N 1422977.9587	E 580220.0301	PAVEMENT
OS PV-42	N 1423007.9587	E 580220.0301	PAVEMENT
OS PV-43	N 1423007.7992	E 580228.8785	PAVEMENT
OS PV-44	N 1423037.2916	E 580265.7320	PAVEMENT
OS PV-45	N 1423143.2353	E 580267.1773	PAVEMENT
OS PV-46	N 1423221.0458	E 580274.0317	PAVEMENT

OFFSITE PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
OS PV-47	N 1423272.2708	E 580282.4747	PAVEMENT
OS PV-48	N 1423352.2644	E 580288.5264	PAVEMENT
OS PV-49	N 1423371.1053	E 580288.4613	PAVEMENT
OS PV-50	N 1423403.3478	E 580257.3711	PAVEMENT
OS PV-51	N 1423403.7886	E 580228.3368	PAVEMENT
OS PV-52	N 1423433.6338	E 580228.3329	PAVEMENT

OFFSITE PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
OS PV-53	N 1423434.0958	E 580256.9359	PAVEMENT
OS PV-54	N 1423483.6539	E 580288.2086	PAVEMENT
OS PV-55	N 1423714.6194	E 580288.2057	PAVEMENT
OS PV-56	N 1423714.9829	E 580310.1864	PAVEMENT
OS PV-57	N 1423352.3832	E 580310.2252	PAVEMENT
OS PV-58	N 1423269.1956	E 580303.6246	PAVEMENT

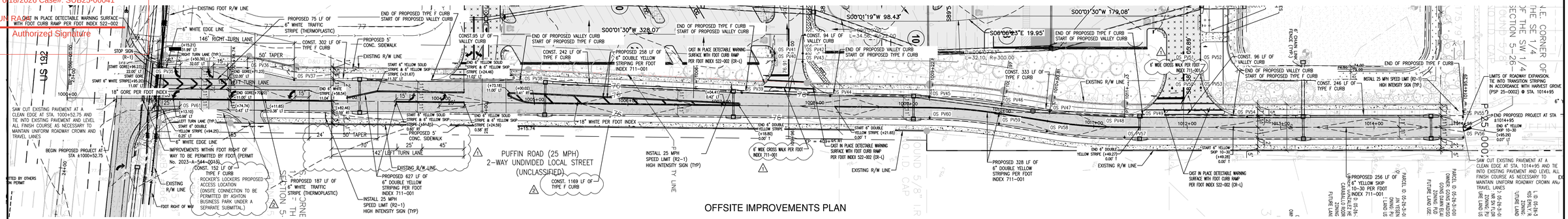
OFFSITE PAVING LOCATION SYSTEM			
Marker #	Northing	Easting	Description
OS PV-59	N 1423218.0006	E 580295.4763	PAVEMENT
OS PV-60	N 1423143.8048	E 580289.1823	PAVEMENT
OS PV-61	N 1422340.9689	E 580280.0276	PAVEMENT

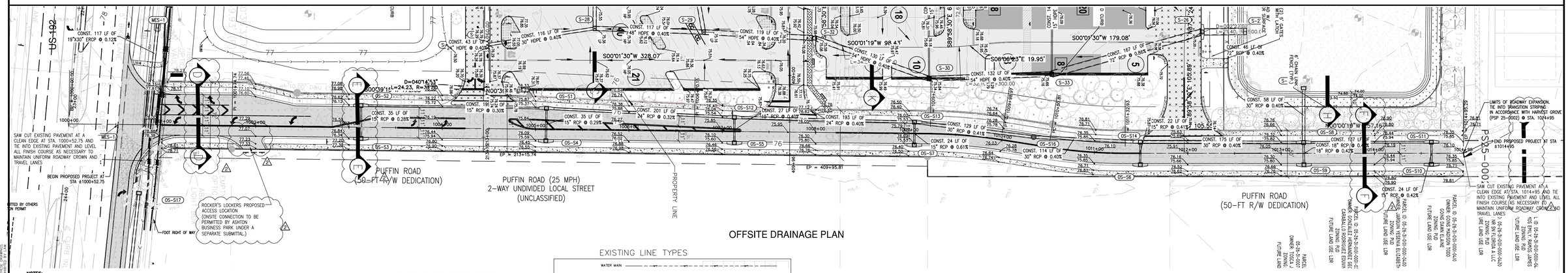
GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

NOTE: SPEED LIMIT = 25 MPH
DESIGN SPEED = 25 MPH





EXISTING LINE TYPES

WATER MAIN
RE-USE WATER
SANITARY SEWER
UNDERGROUND ELECTRIC LINE
UNDERGROUND TELEPHONE LINE
BURIED CABLE TV
BURIED FIBER-OPTIC CABLE
OVERHEAD TELEPHONE LINE

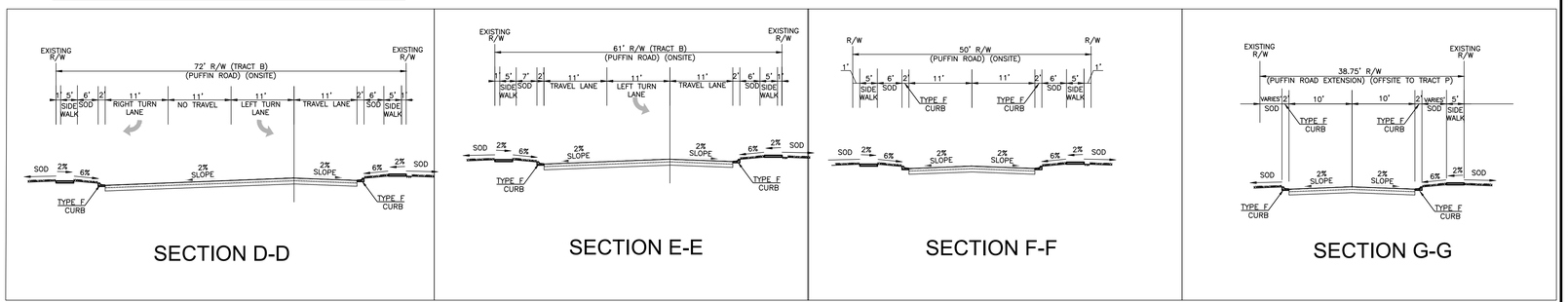
NOTES:

1.) FIELD VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS OCCUR, CONTACT ENGINEER PRIOR TO CONSTRUCTION.
2.) ALL WORK PERFORMED WITHIN THE FDOT R/W SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF FDOT DESIGN STANDARDS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE UTILITY ACCOMMODATION MANUAL.
3.) ALL AREAS OF CONSTRUCTION IN THE PUBLIC SHALL BE OVERLAYED WITH A MINIMUM OF 1" TYPE S-3 ASPHALT. SEE FEATHERING DETAIL SHEET 26.
4.) THE CONTRACTOR SHALL PROVIDE TWO (2) SETS OF A COMPLETE "AS-BUILT" SURVEY FOR THE OFFSITE IMPROVEMENTS AND INCLUDE ALL ABOVE AND UNDERGROUND IMPROVEMENTS, SIGNAGE, AND STRIPING. SAID "AS-BUILT" DRAWINGS SHALL BE TIED TO THE CONTROL MONUMENTATION PROVIDED BY THE COUNTY. "AS-BUILT" DRAWINGS SHALL FOLLOW COUNTY SPECIFICATIONS.
5.) THE MAINTENANCE OF TRAFFIC PLAN SHALL COMPLY WITH THE LATEST F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS AND THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6.) CONSTRUCTION PLANS HAVE BEEN BASED THE NATIONAL GEODETIC VERTICAL DATUM OF 1988.
7.) CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF TRANSPORTATION A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO ANY LANE CLOSURES WITHIN FDOT RIGHT OF WAY.
8.) CONTRACTOR SHALL REPAIR ANY DAMAGE TO FDOT FACILITIES CAUSED BY CONSTRUCTION OF THIS PROJECT.
9.) MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY A CERTIFIED PERSON.
10.) TESTS RESULTS OF ANY TESTS TAKEN FOR OR DURING CONSTRUCTION OF THE PERMITTED WORK SHALL BE PROVIDED TO THE FDOT UPON REQUEST.
11.) ALL WORK PERFORMED WITHIN THE FDOT RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF FDOT DESIGN STANDARDS, SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE UTILITY ACCOMMODATION MANUAL.
12.) ALL MATERIALS AND WORKMANSHIP WITHIN THE PUBLIC RIGHT-OF-WAY SHALL MEET FDOT STANDARD INDEXES AND SPECIFICATIONS UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER
13.) EXISTING EDGE OF TRAVELWAY SHALL BE SAW CUT FOR CONSTRUCTION OF TURN LANES. COORDINATE WITH THE COUNTY / FDOT INSPECTOR BEFORE CUTTING THE PAVEMENT.
14.) THE MAINTENANCE OF TRAFFIC PLAN SHALL COMPLY WITH THE LATEST F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS AND THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
15.) ALL PAVEMENT MARKINGS SHALL BE INSTALLED PER THE LATEST FDOT INDEX.
16.) ALL RPM'S SHALL BE CLASS "B" AND INSTALLED PER THE LATEST FDOT INDEX.
17.) THE CONTRACTOR SHALL APPLY THE FINAL PAVEMENT MARKINGS A MINIMUM OF 30 DAYS AFTER THE PLACEMENT OF THE FINAL LIFT OF ASPHALT. TEMPORARY STRIPING ON THE FINAL LIFT OF ASPHALT SHALL BE TAPE MATERIAL OR TEMPORARY PAINT, AS LONG AS IT IS INSTALLED IN THE PERMANENT LOCATION.
18.) ALL CONCRETE SHALL BE AN APPROVED FDOT MIX DESIGN OF 3,000 PSI.
19.) THE EXISTING PAVED SHOULDER SHALL BE SAW CUT IN ORDER TO CONSTRUCT THE RIGHT TURN LANE.
20.) THE CONTRACTOR SHALL INSTALL A VARIABLE MESSAGE BOARD TO BE INSTALLED AT LEAST ONE (1) WEEK PRIOR TO BEGINNING OF CONSTRUCTION OF OFFSITE IMPROVEMENTS WITHIN COUNTY RIGHT OF WAY.
21.) ALL STRIPING SHALL BE THERMOPLASTIC, AND RPM'S TO BE PLACED PER FDOT INDEX 17346 AND 17352; RESPECTIVELY.
22.) SOIL-CEMENT BASE MAY ONLY BE USED TO MATCH EXISTING ROADWAY SECTIONS THAT PREVIOUSLY USED SOIL-CEMENT BASE, OR IN SITE CONDITIONS WHERE HIGH WATER TABLE CONDITIONS AS VERIFIED BY THE GEOTECHNICAL REPORT. LIMEROCK OR ANY OPTIONAL BASE COURSES, AS SPECIFIED IN THE FDOT STANDARDS SPECIFICATION FOR ROADWAY AND BRIDGE CONSTRUCTION, MOST CURRENT EDITION, CAN BE USED AND ARE ALLOWABLE AS LONG AS THEY COME FROM AND FDOT CERTIFIED SOURCE, AND MEET ALL APPLICABLE FDOT MATERIALS AND CONSTRUCTION STANDARDS.
23.) CONTRACTOR SHALL CONTACT FDOT ITS INFRASTRUCTURE, PRIOR TO CONSTRUCTION TO ENSURE THERE ARE NO CONFLICT WITH FDOT ITS INFRASTRUCTURE. CONTACT DANIEL SIMSON DIRECTLY AT 321-257-7273 FOR APPROVAL/VERIFICATION.
24.) ALL AFFECTED SIDEWALKS, RAMPS AND CROSSWALKS WILL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.

25. NON-LOCATED / UNMARKED FDOT ITS FACILITIES, INCLUDING FIBER OPTIC COMMUNICATION AND TRAFFIC CONTROL SIGNAL LOOPS/DEVICES, MAY EXIST WITHIN THE PROJECT LIMITS; MAKE TEMPORARY REPAIRS TO ANYDAMAGE TO A FACILITY WITHIN FOUR (4) HOURS OF THE OCCURRENCE. IF ASSISTANCE IS REQUIRED REGARDING ITS FACILITIES, CONTACT THE FDOT TRAFFIC OPERATIONS ITS MANAGER AT (386) 943-5000 or JENNIFER SARDONINI at (386)-785-3764.

NOTES:
A MESSAGE BOARD MUST BE INSTALLED AT LEAST TWO (2) WEEKS PRIOR TO BEGINNING OF CONSTRUCTION OF OFFSITE IMPROVEMENTS WITHIN THE COUNTY RIGHT OF WAY. SITE SPECIFIC MOT SHALL BE REVIEWED AND APPROVED BY THE COUNTY PRIOR TO ANY WORK IN THE ROW. ADVISORY: THE REVIEW TIME IS SIX WEEKS PRIOR TO BEGINNING OF CONSTRUCTION.

NOTE:
ALL STRIPING WITHIN COUNTY RIGHT-OF-WAY SHALL BE THERMOPLASTIC PAINT AND ALL SIGNS SHALL BE HIGH INTENSITY SIGNS PER FDOT DESIGNS STANDARDS MANUAL 2018 EDITION AND MUTCD, WHICHEVER IS MORE STRINGENT.



SUB25-00041
PSP25-00004

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DESIGN	MW/CM	F.B. NO.	–		
DRAWN	RS	PAGE	–		
CHECKED	RN	SCALE	AS SHOWN		
CAD#	(see stamp)	DATE	4/9/26		

SEC.	5 & 8	
TWP.	26 S	
RANGE	31 E	

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS
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8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

OFFSITE IMPROVEMENTS
PUFFIN ROAD

Robert L Newberry
2026.04.09 16:09:22 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-32 of 50
JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 OFFSITE IMPROVEMENTS PUFFIN ROAD.dwg • Apr 09, 2026-10:24am • plotted by RSouser

APPROVED WITH CONDITIONS

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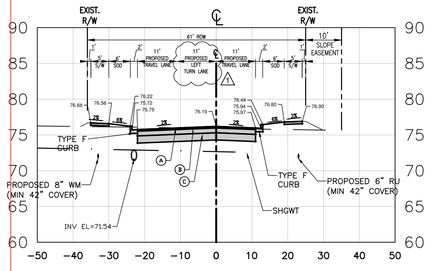
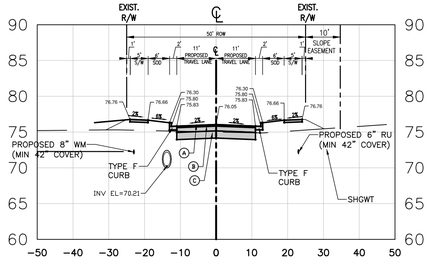
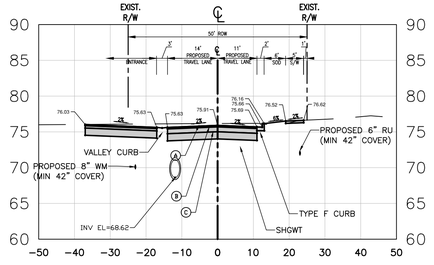
SHAUN RAJA

Authorized Signature







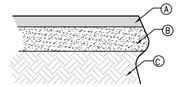
GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

NOTE:
SOIL-CEMENT BASE MAY ONLY BE USED TO MATCH EXISTING ROADWAY SECTIONS THAT PREVIOUSLY USED SOIL-CEMENT BASE, OR IN SITE CONDITIONS WHERE HIGH WATER TABLE CONDITIONS AS VERIFIED BY THE GEOTECHNICAL REPORT. LIMEROCK OR ANY OPTIONAL BASE COURSES, AS SPECIFIED IN THE FDOT STANDARDS SPECIFICATION FOR ROADWAY AND BRIDGE CONSTRUCTION, MOST CURRENT EDITION, CAN BE USED AND ARE ALLOWABLE AS LONG AS THEY COME FROM AND FDOT CERTIFIED SOURCE, AND MEET ALL APPLICABLE FDOT MATERIALS AND CONSTRUCTION STANDARDS.



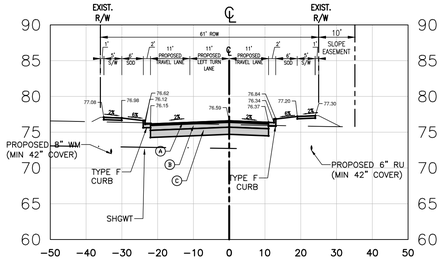
PAVEMENT SPECIFICATIONS FOR PUFFIN ROAD: (SN=3.50)

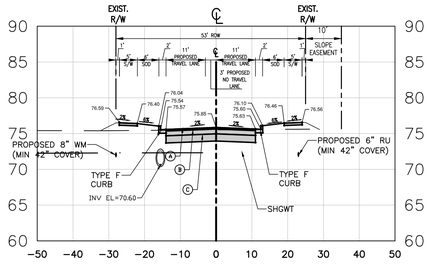
A.) MINIMUM 2.5" SUPERPAVE 12.5 (SP 12.5) STRUCTURAL ASPHALT

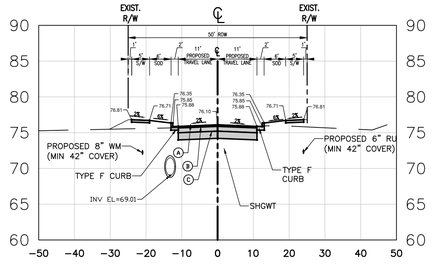
B.) MINIMUM 8" LIMEROCK (98% MAX. DENSITY)

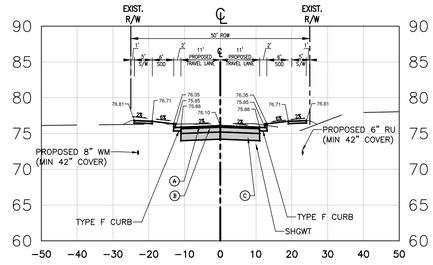
C.) MIN. 12" TYPE B STABILIZED SUB-BASE COMPACTED TO MINIMUM 98% DENSITY OF MOD. PROCTOR AS DETERMINED BY AASHTO-T-180 OR LBR > 40 AND ARTICLE IV OF THE OSCEOLA COUNTY ROAD SPECIFICATIONS.

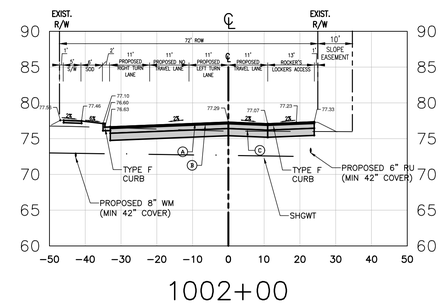
ALTERNATE:
IN LIEU OF BASE AND SUB-GRADE, USE A THICKEN BASE WITH NO SUB-GRADE. BASE SHALL BE MINIMUM 13.5" LIMEROCK (98% MAX. DENSITY)

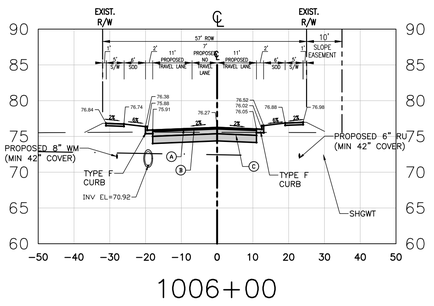


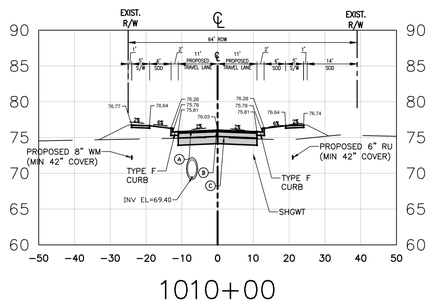


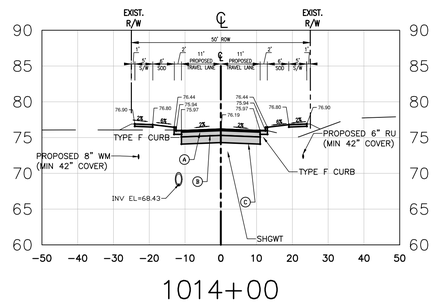


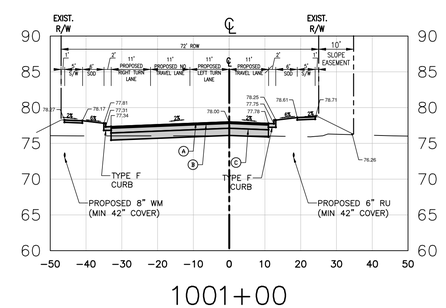


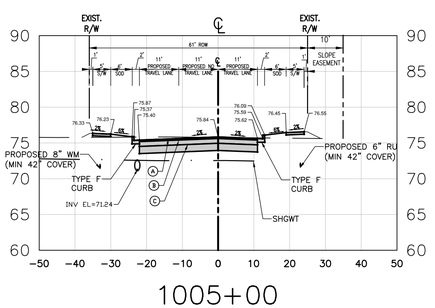


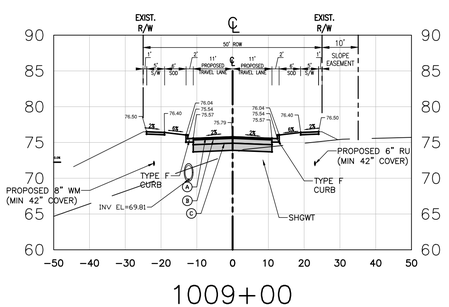


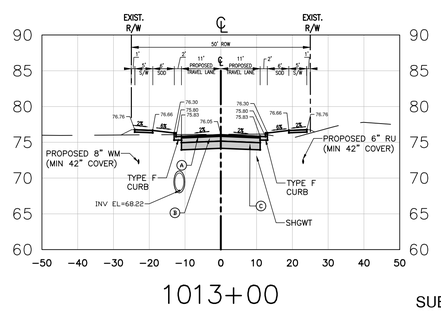












SUB25-00041
PSP25-00004

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DESIGN	MW/CM	F.B. NO.	–	
DRAWN	RS	PAGE	–	
CHECKED	RN	SCALE	AS SHOWN	
CAD#	(see stamp)	DATE	3/4/26	

SEC. 5 & 8
TWP. 26 S
RANGE 31 E

DATE	BY	REVISIONS
03-19-26	CM	REVISED PER TOHO COMMENTS (3)
02-26-26	CM	REVISED PER CITY COMMENTS (2)
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS (1)

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

PUFFIN CROSS SECTIONS (STA. 1001+00 TO 1014+95)

LICENSED PROFESSIONAL ENGINEER No. 73104 STATE OF FLORIDA

Robert L Newberry 2026.04.09 16:03:38 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-33 of 50

JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 CROSS SECTIONS OFFSITE.dwg * Apr 09, 2026-11:06am * plotted by RSouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)

1 inch = 30 ft.

NOTE

ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

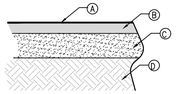
U.S.192 PAVEMENT WIDENING SPECIFICATIONS:

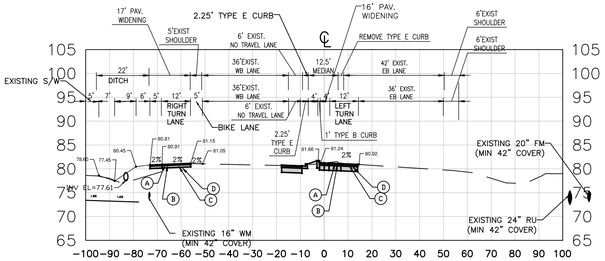
A.) 1" FRICTION COURSE (FC-5) ON ENTIRE TURN LANE AND ACROSS ENTIRE DRIVEWAY.

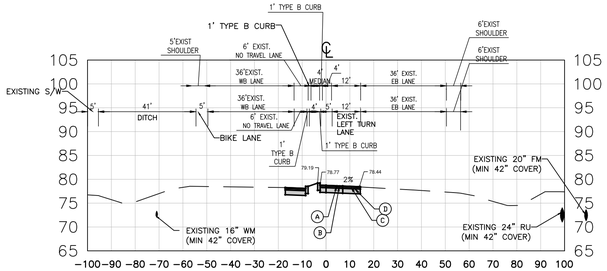
B.) MIN. 3 1/2" ASPHALT (SP-9.5) OVER RC-70 OR EQUAL PRIME COAT (2 LIFTS-1ST LIFT 1.5" THICK & 2ND LIFT 2" THICK)

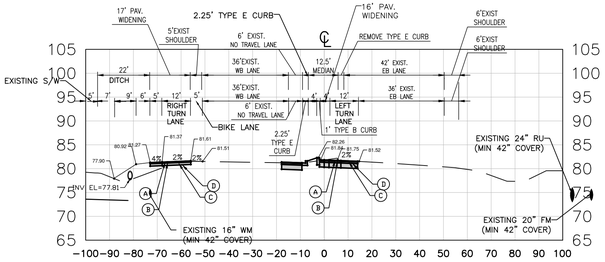
C.) OPTIONAL BASED GROUP 11 (10" THICK) 10" FDOT GRADE AGGREGATE BASE (AKA CRUSHED CONCRETE) (98% MAX. DENSITY, LBR=150) COMPACTED TO 100% OF MAX. DENSITY AS DETERMINED BY FM1-T180 AND SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS AND SUPPLIED BY A COUNTY APPROVED SOURCE.

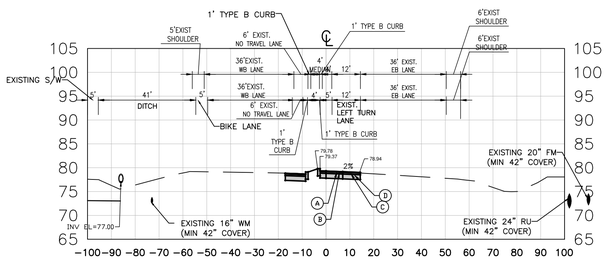
D.) MIN. 12" STABILIZED SUB-BASE COMPACTED TO MIN. 98% DENSITY OF MOD. PROCTOR AS DETERMINED BY AASHTO-T-180 OR LBR > 40

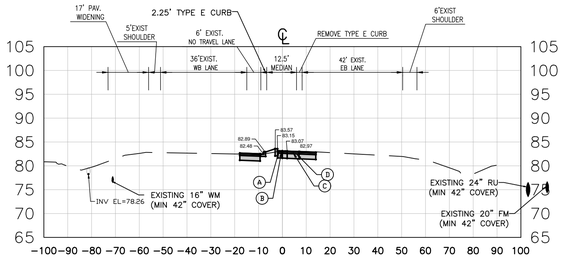


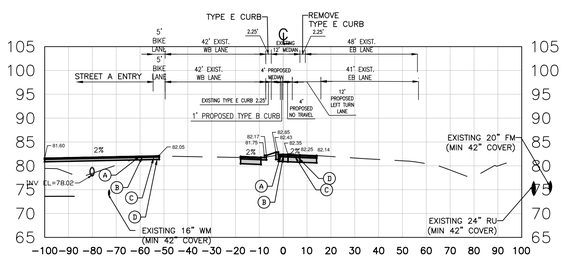


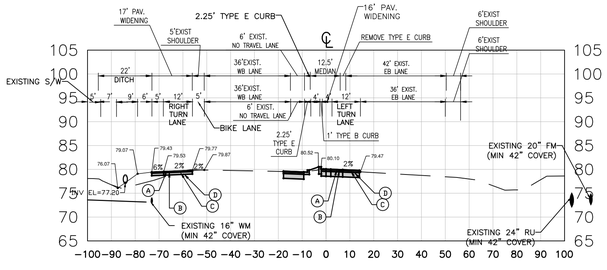


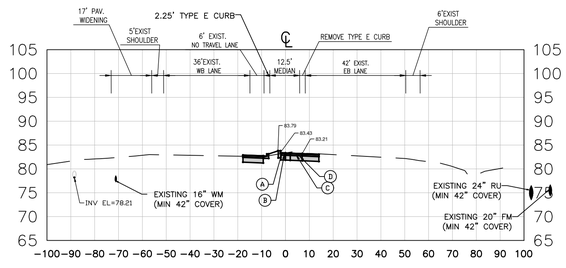


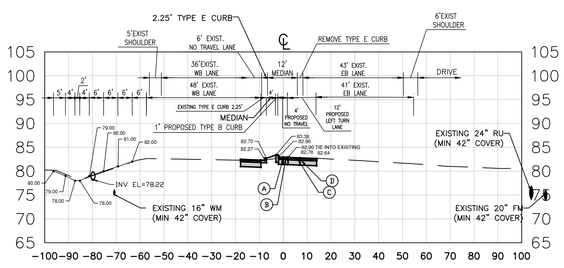


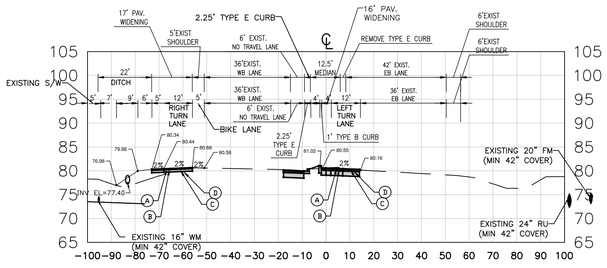












SUB25-00041
PSP25-00004

DESIGN MW/CM	F.B. NO. –	SEC. 5 & 8			
DRAWN RS	PAGE –	TWP. 26 S			
CHECKED RN	SCALE AS SHOWN	RANGE 31 E	02-26-26	CM	REVISED PER CITY COMMENTS
CAD# (see stamp)	DATE 3/4/26		01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS
			DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

IRLO CROSS SECTIONS (STA.15+00 TO 22+00)

ROBERT LEE NEWBERRY No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:54:37 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-34 of C-50

JOB NO 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 CROSS SECTIONS OFFSITE.dwg * Mar 11, 2026 - 12:20pm * plotted by RSouser

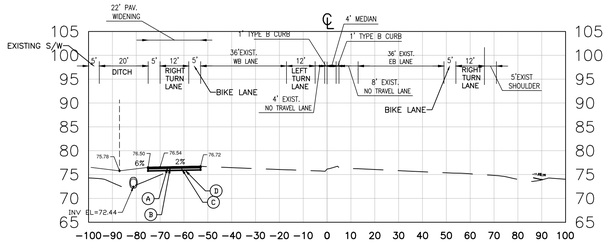
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

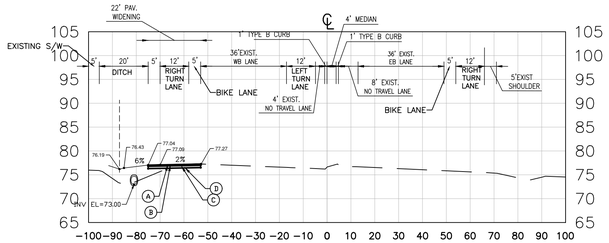
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

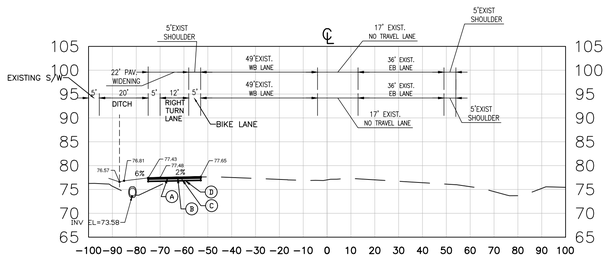
Authorized Signature



26+00



25+00



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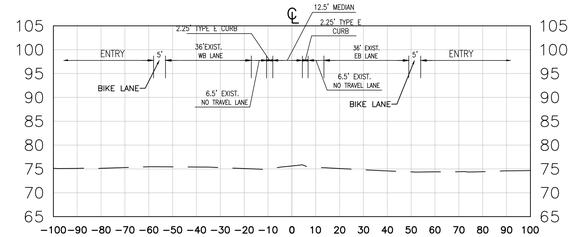

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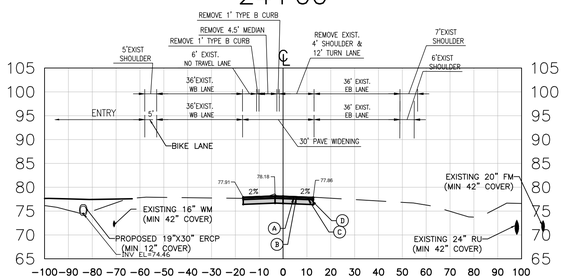

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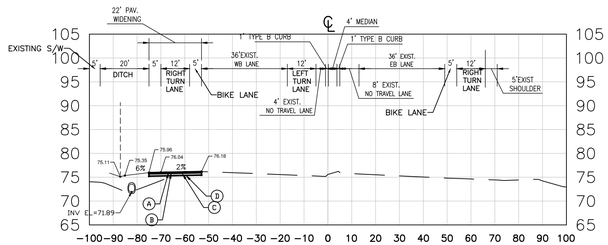

27+00

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

U.S.192 PAVEMENT WIDENING SPECIFICATIONS:

A.) 1" FRICTION COURSE (FC-5) ON ENTIRE TURN LANE AND ACROSS ENTIRE DRIVEWAY.

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NOTE
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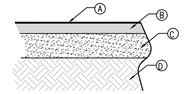

SUB25-00041
PSP25-00004

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DESIGN MW/CM	F.B. NO. –	SEC. 5 & 8			
DRAWN RS	PAGE –	TWP. 26 S			
CHECKED RN	SCALE AS SHOWN	RANGE 31 E			
CAD# (see stamp)	DATE 3/4/26		02-26-26	CM	REVISED PER CITY COMMENTS
			01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS
			DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

IRLO CROSS SECTIONS (STA.23+00 TO 28+00)

ROBERT LEE NEWBERRY JR. No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:54:50 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-35 of C-50

JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 CROSS SECTIONS OFFSITE.dwg • Mar 11, 2026 - 12:20pm • plotted by RSouser

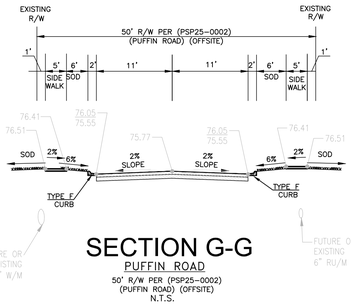
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

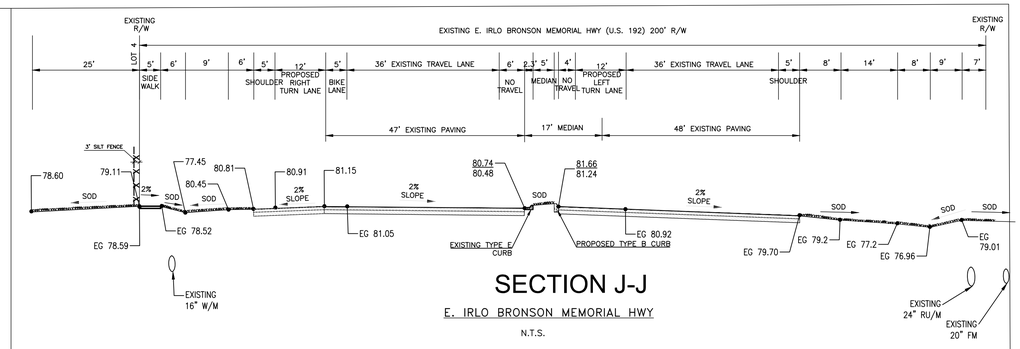


SECTION G-G

PUFFIN ROAD

50' R/W PER (PSP25-0002) (PUFFIN ROAD) (OFFSITE)

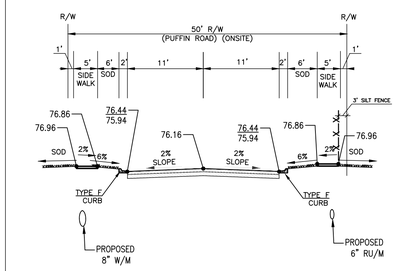
N.T.S.



SECTION J-J

E. IRLO BRONSON MEMORIAL HWY

N.T.S.



SECTION F-F

PUFFIN ROAD

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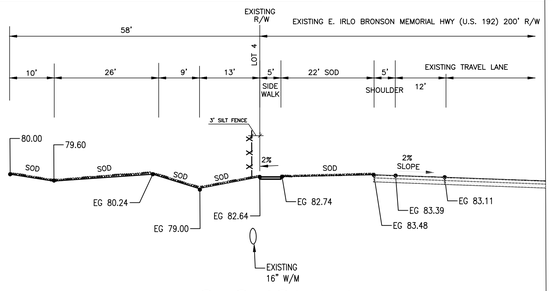
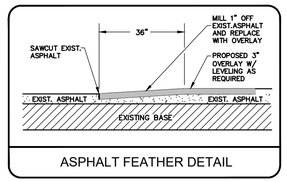


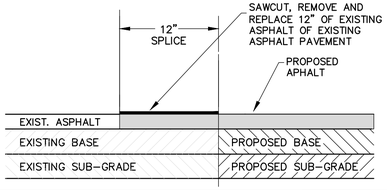
SECTION N-N

E. IRLO BRONSON MEMORIAL HWY

N.T.S.



ASPHALT FEATHER DETAIL



ASPHALT SPLICE DETAIL

ONSITE

Table 7: Recommended Minimum Pavement Designs

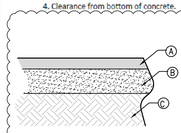
Traffic Type	Surface Course (inches)	[1]Base Course (inches)	[1]Stabilized Subgrade (inches)	Minimum Base Clearance from Seasonal High Groundwater Level (inches)
Standard Duty	Asphalt: 3.0	Limerock: 6.0 (LBR 100 min)	12.0 (LBR=40)	24.0
		RCA: 6.0 (LBR 150 min)	12.0 (LBR=40)	18.0
		Soil-cement: 8.0 (300 psi min)	Not required[2]	12.0

Traffic Type	Surface Course (inches)	[1]Base Course (inches)	[1]Stabilized Subgrade (inches)	Minimum Base Clearance from Seasonal High Groundwater Level (inches)
Heavy Duty	Asphalt: 4.0	Limerock: 8.0 (LBR 100 min)	12.0 (LBR=40)	24.0
		RCA: 8.0 (LBR 150 min)	12.0 (LBR=40)	18.0
		Soil-cement: 10.0 (300 psi min)	Not required[2]	12.0
Heavy Duty	Concrete: 6.0 (4,000 psi 28-day min)	Not required	12.0[3]	12.0[4]

1. RCA = Reclaimed Concrete Aggregate; Recommended RCA specifications are provided in **Appendix B**.
   LBR = Limerock Bearing Ratio in accordance with FM 5-515.
2. Free draining subgrade soils (e.g., sand with < 12% fines) are recommended to promote water infiltration.
3. Minimum of 95% of the soil's modified Proctor maximum dry density (ASTM D1557) (Stabilization not required)
4. Clearance from bottom of concrete.

NOTE

ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988



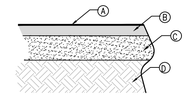
PAVEMENT SPECIFICATIONS FOR PUFFIN ROAD: (SN=3.50)

A.) MINIMUM 2.5" SUPERPAVE 12.5 (SP 12.5) STRUCTURAL ASPHALT

B.) MINIMUM 8" LIMEROCK (98% MAX. DENSITY)

C.) MIN. 12" TYPE B STABILIZED SUB-BASE COMPACTED TO MINIMUM 98% DENSITY OF MOD. PROCTOR AS DETERMINED BY AASHTO-T-180 OR LBR > 40 AND ARTICLE IV OF THE OSCEOLA COUNTY ROAD SPECIFICATIONS.

ALTERNATE:
IN LIEU OF BASE AND SUB-GRADE, USE A THICKEN BASE WITH NO SUB-GRADE.
BASE SHALL BE MINIMUM 13.5" LIMEROCK (98% MAX. DENSITY)



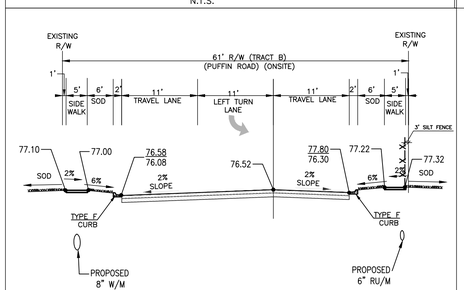
U.S.192 PAVEMENT WIDENING SPECIFICATIONS:

A.) ½" FRICTION COURSE (FC-5) ON ENTIRE TURN LANE AND ACROSS ENTIRE DRIVEWAY.

B.) MIN. 3 1/2" ASPHALT (SP-9.5) OVER RC-70 OR EQUAL PRIME COAT (2 LIFTS-1ST LIFT 1.5" THICK & 2ND LIFT 2" THICK)

C.) OPTIONAL BASED GROUP 11 (10" THICK) 10" FDOT GRADE AGGREGATE BASE (AKA CRUSHED CONCRETE) (98% MAX. DENSITY, LBR=150) COMPACTED TO 100% OF MAX. DENSITY AS DETERMINED BY FM1-T180 AND SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS AND SUPPLIED BY A COUNTY APPROVED SOURCE.

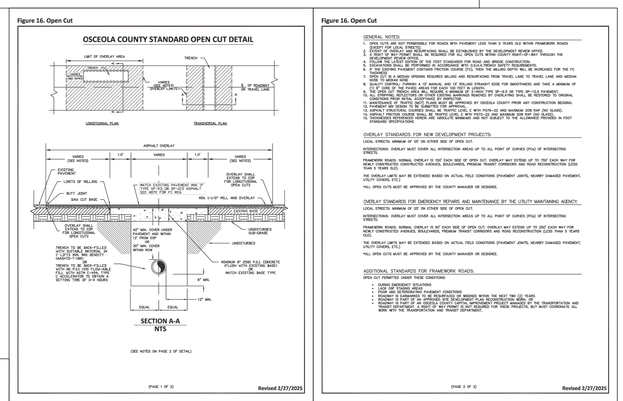
D.) MIN. 12" STABILIZED SUB-BASE COMPACTED TO MIN. 98% DENSITY OF MOD. PROCTOR AS DETERMINED BY AASHTO-T-180 OR LBR > 40

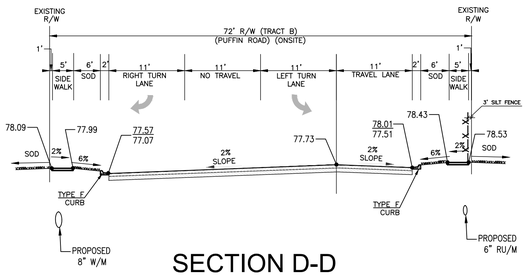


SECTION E-E

PUFFIN ROAD

N.T.S.

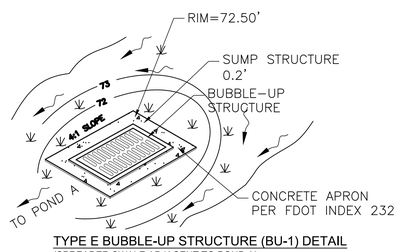




SECTION D-D

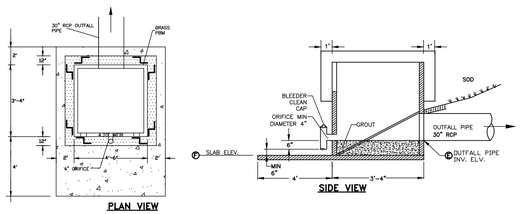
PUFFIN ROAD

N.T.S.

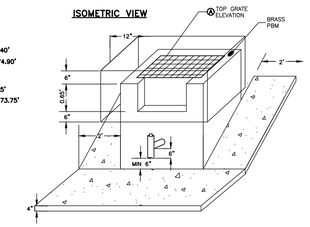


TYPE E BUBBLE-UP STRUCTURE (BU-1) DETAIL

(SPREADER SWALE ADJACENT TO POND A)



DS-A CONTROL STRUCTURE



POND A (WET)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.44
10 YEAR – 72 HOUR	74.93
100 YEAR – 72 HOUR	75.54

POND A (WET)
TOB 76.10
CWL 72.00
BTM 50.00

POND A1 (DRY)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.05
10 YEAR – 72 HOUR	75.06
100 YEAR – 72 HOUR	75.55

POND A1 (DRY)
TOB 75.00
BTM 73.95

POND A2 (DRY)	
DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	75.04
10 YEAR – 72 HOUR	75.06
100 YEAR – 72 HOUR	75.55

POND A2 (DRY)
TOB 75.00
BTM 74.00

CONTRACTOR SHALL ACQUIRE BRASS DISK BENCHMARK FROM THE OSCEOLA COUNTY. BRASS DISK SHALL BE PERMANENTLY SET IN THE TOP OF THE CONTROL STRUCTURE USING NON-SHRINKING GROUT. ELEVATION SHALL BE CERTIFIED BY A FLORIDA REGISTERED PROFESSIONAL SURVEYOR.

TYPE "E" CONTROL STRUCTURE

CONTROL STRUCTURE DATA TABLE

STRUCTURE NUMBER	TOP GRATE ELEVATION	ORIFICE DIA. (INCHES) (B)	DIA. OUTFALL PIPE (IN.) (C)	ORIFICE INV. ELV. (D)	OUTFALL PIPE INV. ELV. (E)	SLAB ELV. (F)	TOP SKIMMER ELV. (G)	BOTTOM SKIMMER ELV. (H)	TOP STRUCTURE ELV. (I)	WEIR WIDTH (K)	WEIR ELEV. (K)
DS-A	74.90'	4"	30"	72.00'	68.66'	67.66'	75.40'	73.75'	74.90'	50.4"	74.25'

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–
DRAWN	RS	PAGE	–
CHECKED	RN	SCALE	AS SHOWN
CAD#	(see stamp)	DATE	3/4/26
SEC.	5 & 8		
TWP.	26 S		
RANGE	31 E		

DATE	BY	REVISIONS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

TYPICAL OFFSITE SECTIONS, MISC. DETAILS & CONTROL STRUCTURE

ROBERT LEE NEWBERRY LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:55:04 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-36 of C-50

JOB Nº 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 CROSS SECTIONS OFFSITE.dwg • Mar 11, 2026 - 12:20pm • plotted by RScouser

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

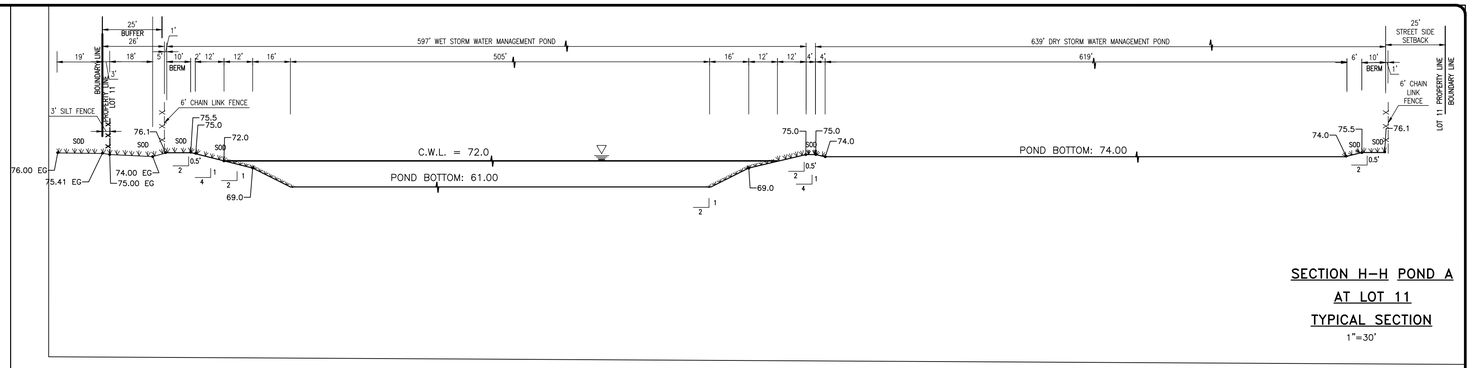
Authorized Signature

NOTE
ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988

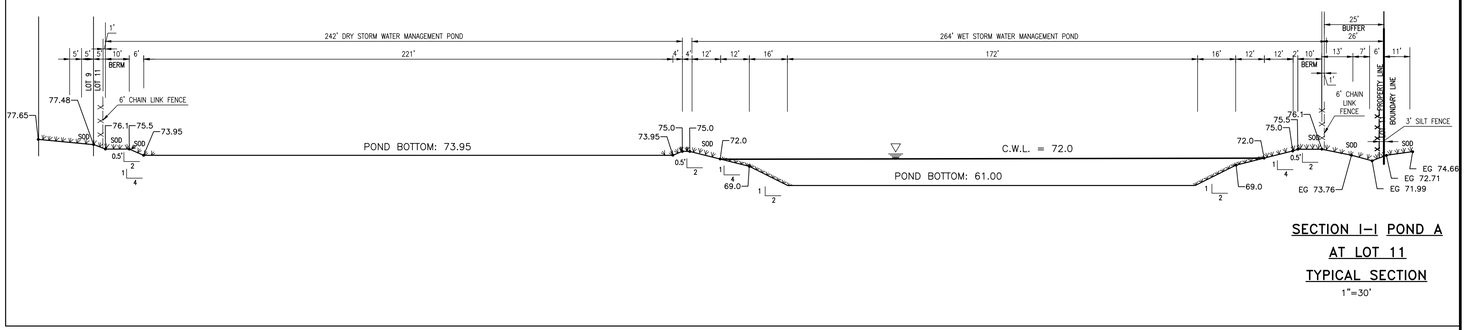
Table 7: Recommended Minimum Pavement Designs

Traffic Type	Surface Course (inches)	[3]Base Course (inches)	[1]Stabilized Subgrade (inches)	Minimum Base Clearance from Seasonal High Groundwater Level (inches)
Standard Duty	Asphalt: 3.0	Limerock: 6.0 (LBR 100 min)	12.0 (LBR=40)	24.0
		RCA: 6.0 (LBR 150 min)	12.0 (LBR=40)	18.0
		Soil-cement: 8.0 (300 psi min)	Not required[2]	12.0
Heavy Duty	Asphalt: 4.0	Limerock: 8.0 (LBR 100 min)	12.0 (LBR=40)	24.0
		RCA: 8.0 (LBR 150 min)	12.0 (LBR=40)	18.0
		Soil-cement: 10.0 (300 psi min)	Not required[2]	12.0
Heavy Duty	Concrete: 6.0 (4,000 psi 28-day min)	Not required	12.0[3]	12.0[4]

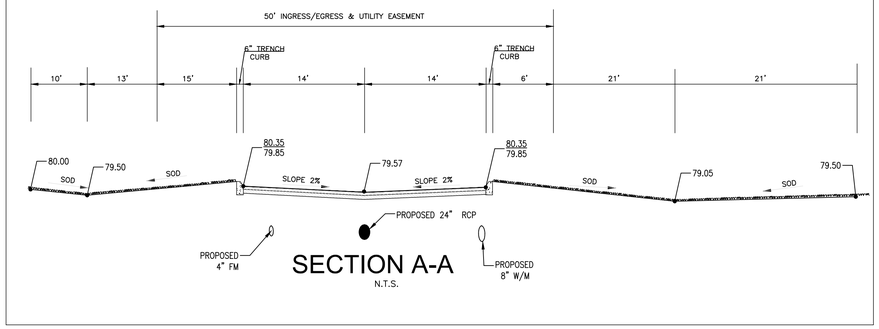
1. RCA = Reclaimed Concrete Aggregate; Recommended RCA specifications are provided in Appendix B.
   LBR = Limerock Bearing Ratio in accordance with FM 5-515.
2. Free draining subgrade soils (e.g., sand with < 12% fines) are recommended to promote water infiltration.
3. Minimum of 95% of the soil's modified Proctor maximum dry density (ASTM D1557) (Stabilization not required)
4. Clearance from bottom of concrete.



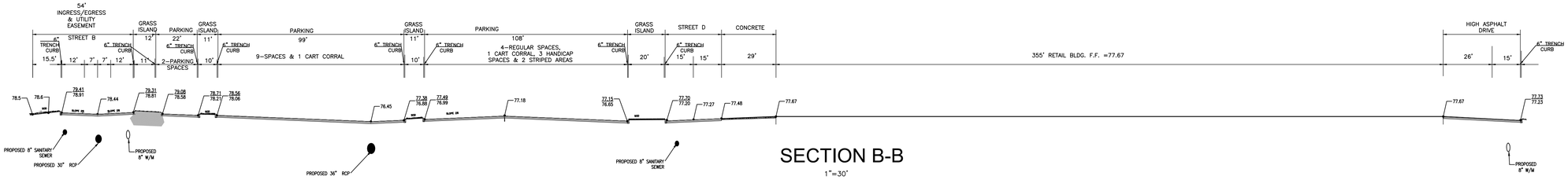
SECTION H-H POND A
AT LOT 11
TYPICAL SECTION
1"=30'



SECTION I-I POND A
AT LOT 11
TYPICAL SECTION
1"=30'



SECTION A-A
N.T.S.



SECTION B-B
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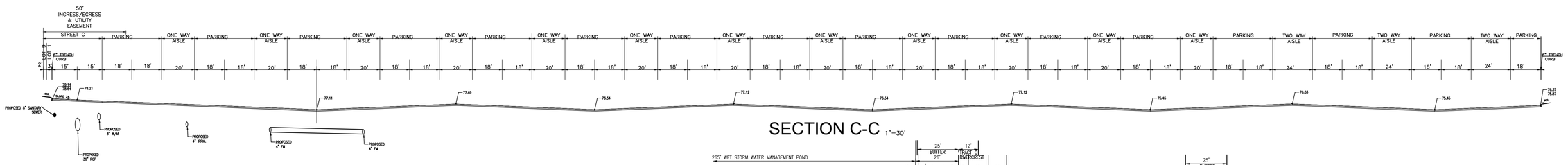
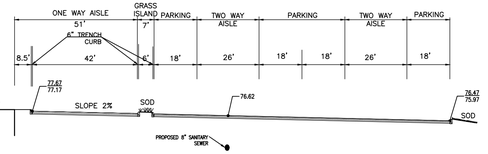


SECTION C-C 1"=30'



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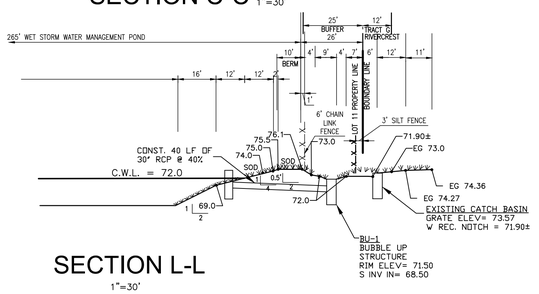

SECTION L-L
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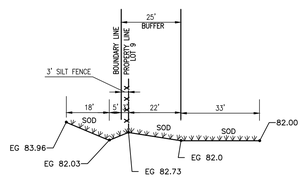

SECTION M-M
1"=30'

SUB25-00041
PSP25-00004

DESIGN MW/CM	F.B. NO. –	SEC. 5 & 8			
DRAWN RS	PAGE –	TWP. 26 S	02-26-26	CM	REVISED PER CITY COMMENTS
CHECKED RN	SCALE AS SHOWN	RANGE 31 E	01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS
CAD# (see stamp)	DATE 3/5/26		DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

TYPICAL ONSITE SECTIONS

ROBERT LEE NEWBERRY LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:55:20 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-37 of C-50

JOB NO 5450-05

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I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 CROSS SECTIONS ONSITE.dwg • Mar 11, 2026 - 12:21pm • plotted by RSouser

St. Cloud FLORIDA Your Centerplace for Life

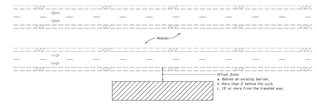
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



MULTILANE ROADWAY SHOWN, TWO-LANE ROADWAY SIMILAR

NOTES:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work on the shoulder.
2. Use Index 102-602 when the work operation (excluding establishing and removing the work zone) requires the lane or more work to cross the Work Zone Line on one hour period.
3. Use Index 102-660 when Work Area encroaches a Sidewalk.

SYMBOLS:

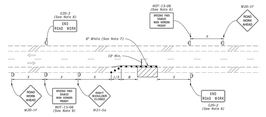
Work Area

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | TWO LANE AND MULTILANE ROADWAY, WORK BEYOND THE SHOULDER | INDEX 102-601 | SHEET 1 of 1

NOTE:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work on the shoulder.
2. L = Taper Length
   S = Work Zone Sign Distance
   A = Buffer Length
   See Index 102-600 for "L", "S", "A", and channelizing device spacing values.
3. Where work activities are between 2' and 15' from the travelled way, the Contractor or Engineer may omit signs and channelizing devices for work operations 60 minutes or less.
4. When four or more work vehicles enter the work area during a work operation (excluding establishing and removing the work area), use a Flagger or Lane Closure to accommodate work vehicle ingress and egress.
5. For work less than 2' from the travelled way and work zone speed is greater than 45 MPH, use a lane closure.
6. The "Speeding Fines Doubled When Workers Present" signs (R07-11-DB) and "End Road Work" signs (G20-2) and the "End" sign of the associated work zone sign spacing distances may be omitted when the work operation will be in place for 24 hours or less.
7. Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.
8. Omit "Shoulder Closed" signs (W21-5a) along with associated work zone sign spacing distances for work on the median.
9. When there is no paved shoulder, the 4' Work Area may be reduced to 2' or omitted of the "Shoulder Closed" sign (W21-5a).



SHOULDER WORK, LESS THAN 2' FROM THE TRAVELED WAY WITH WORK ZONE SPEED OF 45 MPH OR LESS — TWO-LANE ROADWAY

SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY — TWO-LANE ROADWAY

SYMBOLS:

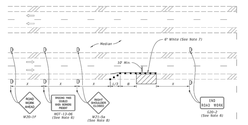
Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | TWO-LANE AND MULTILANE, WORK ON SHOULDER | INDEX 102-602 | SHEET 1 of 2



SHOULDER WORK, LESS THAN 2' FROM THE TRAVELED WAY WITH WORK ZONE SPEED OF 45 MPH OR LESS — MULTILANE ROADWAY

SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY — MULTILANE ROADWAY

SYMBOLS:

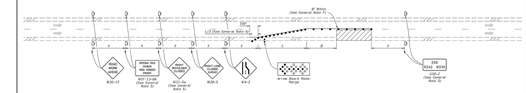
Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | TWO-LANE AND MULTILANE, WORK ON SHOULDER | INDEX 102-602 | SHEET 2 of 2



SINGLE LANE CLOSURE

SYMBOLS:

Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

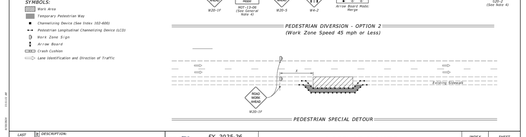
Arrow Board

Lane Identification and Direction of Traffic

GENERAL NOTE:

1. L = Taper Length
   S = Work Zone Sign Distance
   A = Buffer Length
   See Index 102-600 for "L", "S", "A", and channelizing device spacing values.
2. On unlimited highways the median signs as shown are to be omitted.
3. On limited access facilities, omit "Right Shoulder Closed" signs (W21-5a) and associated work zone sign spacing distances.
4. If the paved shoulder is less than 4' in width, omit the taper and channelizing devices from the paved shoulder.
5. The "Speeding Fines Doubled When Workers Present" signs (R07-11-DB) and "End Road Work" signs (G20-2) and "Right Shoulder Closed" (W21-5a), along with associated work zone sign distances, may be omitted when the work operation will be in place for 24 hours or less.
6. Use inverted plan of the illustrations for work on left side of roadways.
7. Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | MULTILANE ROADWAY, LANE CLOSURES | INDEX 102-613 | SHEET 1 of 5



DOUBLE LANE CLOSURE

SYMBOLS:

Work Area

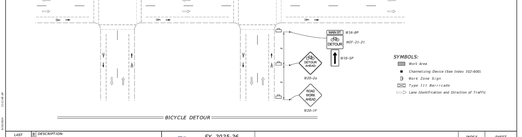
Channelizing Device (See Index 102-600)

Work Zone Sign

Arrow Board

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | MULTILANE ROADWAY, LANE CLOSURES | INDEX 102-613 | SHEET 2 of 5



TRIPLE LANE CLOSURE

SYMBOLS:

Work Area

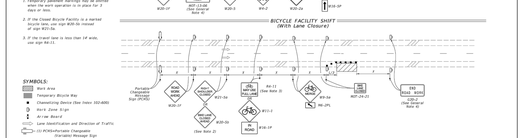
Channelizing Device (See Index 102-600)

Work Zone Sign

Arrow Board

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | MULTILANE ROADWAY, LANE CLOSURES | INDEX 102-613 | SHEET 3 of 5



LANE CLOSURE WITH LANE SHIFT

NOTE:

If the tangent distance "T" is less than 600', then use "Double Reverse Curve" signs (W1-4aR) instead of the first part of "Reverse Curve" signs (W1-4R) and omit the second part of "Reverse Curve" signs.

SYMBOLS:

Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

Arrow Board

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | MULTILANE ROADWAY, LANE CLOSURES | INDEX 102-613 | SHEET 4 of 5



MOTORIST AWARENESS SYSTEM

SYMBOLS:

Work Zone Sign

(2) PCMS= Portable Changeable (Variable) Message Sign

(2) PRS= Portable Regulatory Sign-Speed Limit When Flashing

(2) RSDU= Radar Speed Display Unit

Lane Identification and Direction of Traffic

NOTES:

1. Use the Motorist Awareness System (MAS) for lane closures of at least 5 days (consecutive or not) on multilane divided facilities with a posted speed of 45 mph or greater where barriers are present and not protected by a barrier.
2. Locate the Motorist MAS devices (i.e., PCMS, PRS, and RSDU) within the advance warning signs as shown. Contrue with the remainder of the work zone devices. Refer to Standard Plans Index 102 Plans or Standard Plans after the appropriate "Lane Closed Ahead" (W20-3) sign.
3. For a posted speed of 45 mph or greater, display speed with a ten mph reduction. For a posted speed of 40 mph or less, display speed as 40 mph. For arrow symbol of the lane closure, use the posted speed as the work zone speed.
4. Omit the PCMS in the median for roadways with three lanes or less in the same direction of traffic.

TYPICAL PCMS DISPLAY:

With speed reduction:
Message 1: WORKERS PRESENT AHEAD
Message 2: SPEED REDUCED NEXT 10MI

Without speed reduction:
Message 1: WORKERS PRESENT AHEAD
Message 2: NEXT 10 MILES

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | MULTILANE ROADWAY, LANE CLOSURES | INDEX 102-613 | SHEET 5 of 5

TEMPORARY MULTILANE, TWO-WAY LEFT-TURN LANE, TURN LANE CLOSURE
(Closure of One Inside Lane Shown, Closure of both Similar)

SYMBOLS:

Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

Shadow Or Vehicle With Warning Lights (See Index 102-600)

Truck-Mounted Attenuator (TMA)

Lane Identification and Direction of Traffic

GENERAL NOTES:

1. This Index applies to roadways with work in the two-way left-turn lane.
2. L = Taper Length
   S = Work Zone Sign Distance
   A = Buffer Length
   See Index 102-600 for "L", "S", "A", and channelizing device spacing values.
3. The "Speeding Fines Doubled When Workers Present" signs (R07-11-DB) and "End Road Work" Sign (G20-2) along with associated Work Zone Sign Distances, may be omitted when the work operation will be in place for 24 hours or less.
4. If closure of both inside lanes on multilane roadways is needed, duplicate lane closure and merge, signs, channelizing devices, taper, and arrow board, for both directions.

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | TWO-WAY LEFT-TURN LANES | INDEX 102-628 | SHEET 1 of 3

TEMPORARY TWO-WAY LEFT-TURN LANE CLOSURE, TWO-LANE, TWO-WAY ROADWAY, WORK WITHIN THE TRAVELED WAY WITH LANE CLOSURES OF 24 HRS OR LESS AND WORK ZONE SPEED OF 45 MPH OR LESS

SYMBOLS:

Work Area

Work Zone Sign

Flagger

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | TWO-WAY LEFT-TURN LANES | INDEX 102-628 | SHEET 2 of 3

TEMPORARY SHIFT TO TWO-WAY LEFT-TURN LANE, WORK WITHIN THE TRAVELED WAY WITH LANE CLOSURES OF 24 HRS OR LESS AND WORK ZONE SPEED OF 45 MPH OR LESS

SYMBOLS:

Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

Arrow Board

Flagger

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | TWO-WAY LEFT-TURN LANES | INDEX 102-628 | SHEET 3 of 3

NOTES:

1. Cover or deactivate pedestrian traffic signal displaying conflicting crossing movements.
2. Place pedestrian CCDs across the full width of the closed sidewalk.
3. For post mounted signs located near or adjacent to a sidewalk, maintain a minimum 7' clearance from the bottom of the sign panel to the surface of the sidewalk.
4. "Sidewalk Closed" signs (R9-11) may be mounted on pedestrian CCDs in accordance with the manufacturer's instructions.
5. Omit the Advance Closure CCD if it blocks access to other pedestrian facilities (e.g., transit stops, residences, or business entrances).

SYMBOLS:

Work Area

Work Zone Sign

Pedestrian Longitudinal Channelizing Device (LCD)

Lane Identification and Direction of Traffic

LAST REVISION 01/01/20 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | SIDEWALK CLOSURE | INDEX 102-660 | SHEET 1 of 2

PEDESTRIAN DIVERSION - OPTION 1
(Temporary Barrier Shown, Low Profile Barrier Similar)

PEDESTRIAN DIVERSION - OPTION 2
(Work Zone Speed 45 mph or Less)

PEDESTRIAN SPECIAL DETOUR

NOTES:

1. L = Taper Length
   A = Buffer Length
   S = Work Zone Sign Distance
   See Index 102-600 for "L", "A", "S", channelizing device spacing values.
2. When temporary pedestrian ways require curb ramps, meet the requirements of Index 522-002. Detectable warnings are not required when temporary pedestrian ways are in place for 3 days or less.
3. The "Speeding Fines Doubled When Workers Present" signs (R07-11-DB) and "End Road Work" signs (G20-2) along with associated work zone sign distances, may be omitted when the work operation will be in place for 24 hours or less.
4. Pedestrian Diversion Option 2 may only be used when called for in the Plans or as approved by an Engineer.

SYMBOLS:

Work Area

Temporary Pedestrian Way

Channelizing Device (See Index 102-600)

Pedestrian Longitudinal Channelizing Device (LCD)

Work Zone Sign

Arrow Board

Crash Cushion

Lane Identification and Direction of Traffic

LAST REVISION 01/01/23 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | SIDEWALK CLOSURE | INDEX 102-660 | SHEET 2 of 2

BICYCLE DETOUR

GENERAL NOTES:

1. Use this Index only when called for in the Plans.
2. L = Taper Length
   A = Buffer Length
   S = Work Zone Sign Distance
   See Index 102-600 for "L", "A", "S", channelizing device spacing values.
3. Provide a Minimum 9'-0" wide bicycle path.
4. The "Speeding Fines Doubled When Workers Present" signs (R07-11-DB) and "End Road Work" signs (G20-2) along with associated work zone sign distances, may be omitted when the work operation will be in place for 24 hours or less.
5. Include additional signage at intersections as required by the Engineer or shown in the Plans.

SYMBOLS:

Work Area

Channelizing Device (See Index 102-600)

Work Zone Sign

Type III Barricade

Lane Identification and Direction of Traffic

LAST REVISION 01/01/24 | DESCRIPTION: | FDOT FY 2025-26 STANDARD PLANS | BICYCLE FACILITY CLOSURES | INDEX 102-661 | SHEET 1 of 2

4' White
Panel Shielder/ Existing Bike Lane
W20-1P
ROAD WORK AHEAD
W20-1P
W20-5
W4-2
W20-1P
ROAD WORK AHEAD
W20-1P
MOT-21-21
W4-2
W20-1P
ROAD WORK AHEAD
W20-1P
Portable Changeable Sign (PCMS)
W20-1P
ROAD WORK AHEAD
W20-1P
W20-5a
W4-2
W4-2

St. Cloud FLORIDA Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

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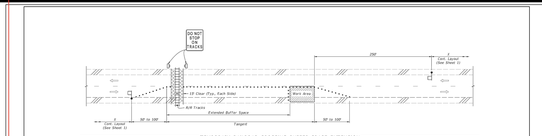
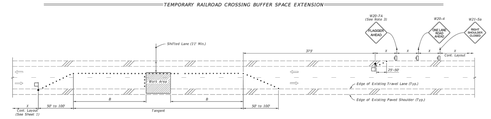


TEMPORARY RAILROAD CROSSING BUFFER SPACE EXTENSION



TEMPORARY LANE SHIFT TO SHOULDER WHEN WORK AREA ENCROACHES ON THE CENTERLINE
(For Work Operations In place 24 Hours or Less)

SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Flagger
- Lane Identification and Direction of Traffic

SPECIAL CONDITIONS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 2 of 2

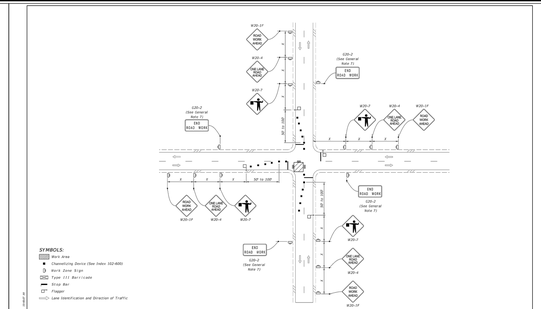
GENERAL NOTES:
1. This Index applies to two-lane, two-way roadways with work within or near the intersection.
2. 1 x 1 Work Zone Sign Spacing
See Index 102-600 For "X" and channelizing device spacing values.
3. Optionally, use "Flagger Ahead" sign with text (W20-7A) instead of "Flagger Ahead" sign with symbol (W20-7).
4. If vehicles in a parking lane block the line of sight to the STOP sign, install additional stop signs in accordance with Index 700-123.
5. If the work area extends across a crosswalk, close the crosswalk in accordance with Index 102-600.
6. For unsignalized intersections, use Temporary Raised Rumble Strips in accordance with Index 102-603. Placement of Rumble Strips and additional signs should begin at the STOP sign location.
7. The "End Road Work" signs (G20-2) along with the associated "Ahead" or "Right" signs should be placed where the work zone will not be in place for 24 hours or less.
8. As an option to the "STOP" sign (R1-1) and Restricted Lane Width Warning Sign (W21-1 or W3-5), the temporary traffic control devices and "Be Prepared" flagging operation from Index 102-600 may be used.

SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Type III Barricade
- Strike Bar
- Flagger
- Lane Identification and Direction of Traffic

LANE CLOSURE FOR WORK LESS THAN 200' FROM INTERSECTION

LANE CLOSURE FOR WORK MORE THAN 200' FROM INTERSECTION

LAST REVISION 11/01/22	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	TWO-LANE, TWO-WAY, INTERSECTION WORK	INDEX 102-604	SHEET 1 of 2

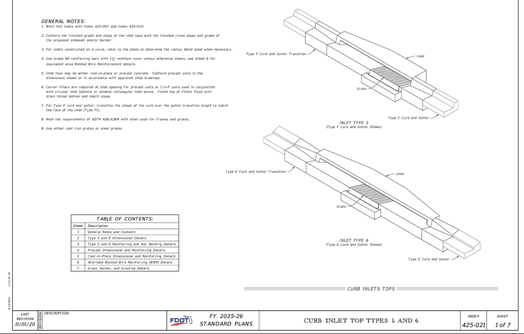


SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Type III Barricade
- Strike Bar
- Flagger
- Lane Identification and Direction of Traffic

WORK IN INTERSECTION OF TWO-LANE ROADWAY

LAST REVISION 11/01/22	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	TWO-LANE, TWO-WAY, INTERSECTION WORK	INDEX 102-604	SHEET 2 of 2

GENERAL NOTES:
1. Work this Index with Index 425-001 and Index 425-010.
2. Conform the finished grade and slope of the inlet tops with the finished cross slope and grade of the proposed sidewalk and/or barrier.
3. For inlets constructed on a curve, refer to the plans to determine the radius. Bend steel when necessary.
4. Use Grade 60 reinforcing bars with 1½" minimum cover unless otherwise shown, see Sheet 8 for equivalent area Welded Wire Reinforcement details.
5. Inlet tops may be either cast-in-place or precast concrete. Conform precast units to the dimensions shown or in accordance with approved shop drawings.
6. Corner fillers are required at inlet opening for precast units or C-I-P units used in conjunction with Type E Curb and Gutter to provide rectangular inlet boxes. Finish top of fillers flush with brick paver bottom and match slope.
7. For Type E curb and gutter, transition the shape of the curb over the gutter transition length to match the face of the inlet (Type P).
8. Meet the requirements of ASTM A36/A36M with steel used for frames and grates.
9. Use either cast iron grates or steel grates.

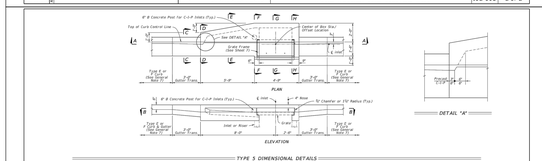


CURB INLETS TOPS

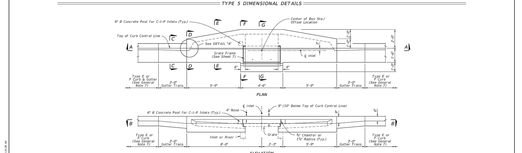
TABLE OF CONTENTS:

Sheet	Description
1	General Notes and Contents
2	Type 5 and 6 Dimensional Details
3	Type 5 and 6 Reinforcing and Bar Bending Details
4	Precast Dimensional and Reinforcing Details
5	Cast-in-Place Dimensional and Reinforcing Details
6	Alternate Welded Wire Reinforcing (WWR) Details
7	Grate, Anchor, and Grouting Details

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 1 of 7



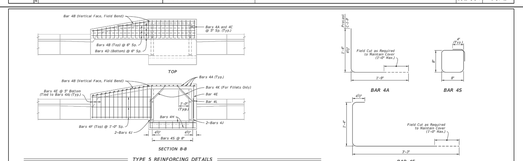
TYPE 5 DIMENSIONAL DETAILS



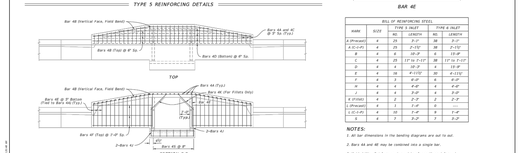
TYPE 6 DIMENSIONAL DETAILS

TYPE 5 AND 6 DIMENSIONAL DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 2 of 7



TYPE 5 REINFORCING DETAILS



TYPE 6 REINFORCING DETAILS

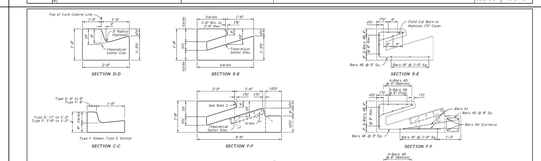
BILL OF REINFORCING STEEL

MARK	SIZE	TYPE 5 INLET NO.	TYPE 5 INLET LENGTH	TYPE 6 INLET NO.	TYPE 6 INLET LENGTH
A (Prototype)	4	25	3'-2"	38	3'-2"
A (C-I-P)	4	25	2'-11"	38	2'-11"
B	4	6	10'-3"	5	13'-8"
C	4	25	13'-1½ 2'-11"	38	17'-1½ 2'-11"
D	4	4	16'-3"	4	13'-8"
E	4	38	4'-11½"	30	4'-11½"
F	4	2	9'-4"	4	9'-4"
G	4	2	9'-4"	4	9'-4"
J	4	2	9'-4"	4	9'-4"
K (F/E)	4	2	2'-3"	2	2'-3"
L (Prototype)	4	1	1'-4"	1	1'-4"
L (C-I-P)	4	10	1'-4"	9	1'-4"
R	4	7	2'-2"	7	2'-2"

NOTES:
1. All bar dimensions in the bending diagrams are out to out.
2. Bars 46 and 48 may be combined into a single bar.
3. Welded Wire Reinforcement consists of smooth or deformed wire meeting the requirements of Specification 931.

TYPE 5 AND 6 REINFORCING AND BAR BENDING DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 3 of 7

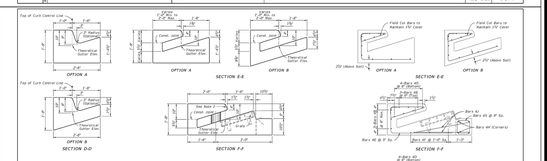


NOTES:
1. For location of Sections D-D thru H-H see Sheet 2.
2. Match slope of adjacent curb with 3" top radius and 5" bottom chamfer at 1½" radius.
3. See Plans for bottom and riser type.

DIMENSIONAL DETAILS

PRECAST DIMENSIONAL AND REINFORCING DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 4 of 7



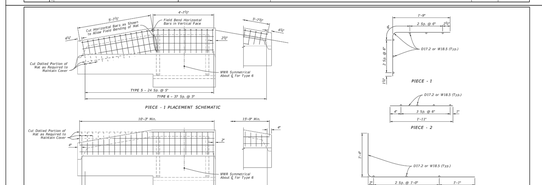
NOTES:
1. For location of Sections D-D thru H-H see Sheet 2.
2. Match slope of adjacent curb with 3" top radius and 5" bottom chamfer at 1½" radius.
3. See Plans for bottom and riser type.

DIMENSIONAL DETAILS

REINFORCING DETAILS

CAST-IN-PLACE DIMENSIONAL AND REINFORCING DETAILS

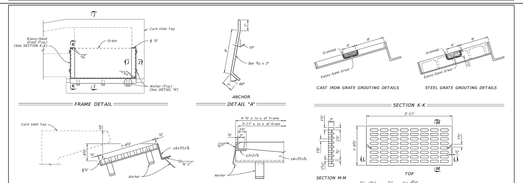
LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 5 of 7



NOTES:
1. All bar dimensions in the bending diagrams are out to out.
2. Welded Wire Reinforcement consists of smooth or deformed wire meeting the requirements of Specification 931.

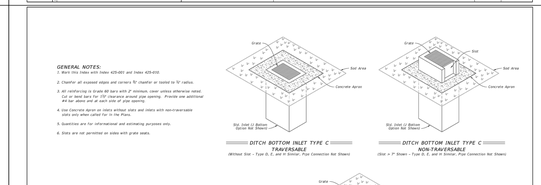
ALTERNATE WELDED WIRE REINFORCING (WWR) DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 6 of 7



GRATE, ANCHOR, AND GROUTING DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	CURB INLET TOP TYPES 5 AND 6	INDEX 425-021	SHEET 7 of 7



GENERAL NOTES:
1. Work this Index with Index 425-001 and Index 425-010.
2. Use Grade 60 reinforcing bars with 2" minimum cover unless otherwise noted.
3. All reinforcing is Grade 60 bars with 2" minimum cover unless otherwise noted. Cut or bend bars for 15" clearance around pipe opening. Provide one additional #4 bar above and at each side of pipe opening.
4. Use Concrete Apron on inlets without slabs and inlets with non-traversable slots only when called for in the Plans.
5. Quantities are for informational and estimating purposes only.
6. Slots are not permitted on sides with grate seats.

DITCH BOTTOM INLET TYPE C TRAVERSABLE (Without Slot - Type D, E, and H Similar, Pipe Connection Not Shown)

DITCH BOTTOM INLET TYPE C NON-TRAVERSABLE (Slot = 7" Shown - Type D, E, and H Similar, Pipe Connection Not Shown)

DITCH BOTTOM INLET TYPE C TRAVERSABLE (Single Slot = 7" Shown, Double Slot, Type D, and E Similar, Pipe Connection Not Shown)

TABLE OF CONTENTS:

Sheet	Description
1	General Notes and Contents
2	Type C - Dimensional, Reinforcing and Grate Details
3	Type D - Dimensional, Reinforcing, and Grate Details
4	Type E - Dimensional, Reinforcing, and Grate Details
5	Type H (3 & 5 Grate) - Dimensional, Reinforcing, and Steel Grate Details
6	Type H (7 & 9 Grate) - Dimensional, Reinforcing, and Steel Grate Details
7	Cast Iron Grate Details
8	Non-Traversable Slot Details
9	Traversable Steel Grate Slot Details
10	Traversable Cast Iron Slot Details
11	Case 1 - Not Traversable Slots for Existing Inlets
12	Case 2 - Not Traversable Slots (Partial) to Existing Inlets
13	Case 3 - Not Traversable Slots (Partial) to Existing Inlets and Ditch Block
14	Alternate a Structure Bottom - Top Slab Details

LAST REVISION 11/01/23	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 1 of 14

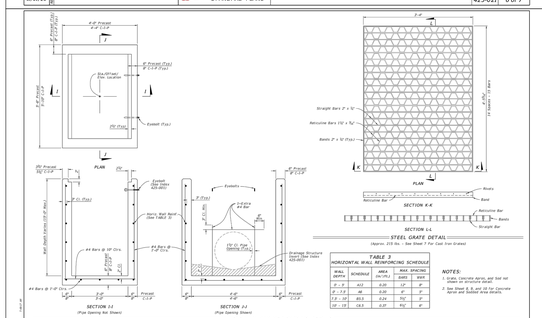


TABLE 2
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in²/ft.)	MAX. SPACING (bars)	(ties)
3' - 5'	A13	0.20	12"	9"
5' - 7' 3"	A8	0.26	8"	9"
7' 3" - 10'	B13	0.24	7½"	9"
10' - 13'	B10	0.31	9½"	9"

NOTES:
1. Grate, Concrete Apron, and Slot not shown on structure detail.
2. See Sheet 8, 9, and 10 for Concrete Apron and Slotted Area details.

TYPE E - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 4 of 14

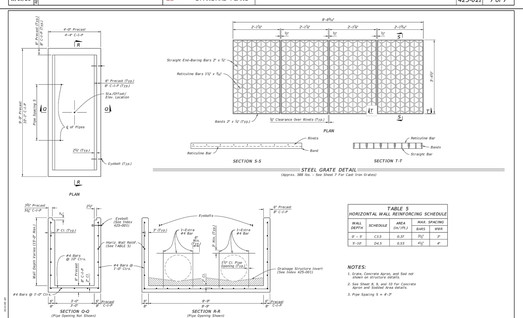


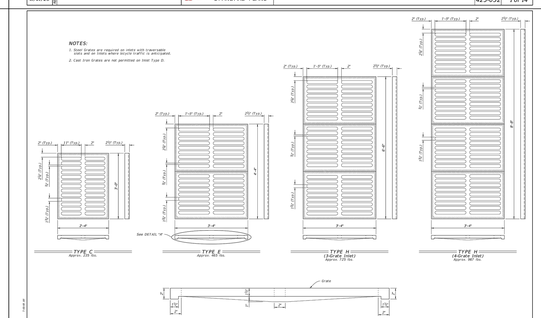
TABLE 3
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in²/ft.)	MAX. SPACING (bars)	(ties)
3' - 5'	C13	0.41	7½"	9"
5' - 10'	D13	0.53	7½"	9"

NOTES:
1. Grate, Concrete Apron, and Slot not shown on structure detail.
2. See Sheet 8, 9, and 10 for Concrete Apron and Slotted Area details.
3. Pipe Spacing 5' x 4'-7".

TYPE H (4 GRATE) - DIMENSIONAL, REINFORCEMENT, AND STEEL GRATE DETAILS

LAST REVISION 11/01/20	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 6 of 14



NOTES:
1. Steel Grates are required on inlets with traversable slots and on inlets where bicycle traffic is anticipated.
2. Cast Iron Grates are not permitted on Inlet Type D.

CAST IRON GRATE DETAILS

LAST REVISION 11/01/23	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 7 of 14

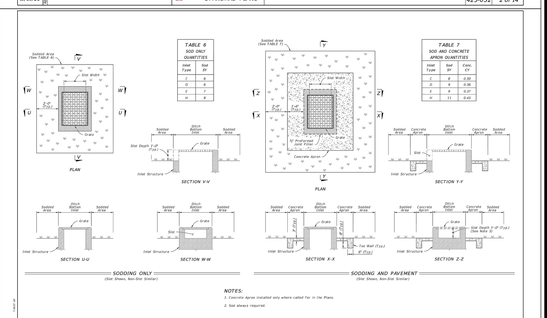


TABLE 6
SOD ONLY QUANTITIES

Inlet Type	Slot W'	Slot W
C	6	6
D	7	7
E	8	8
H	11	11

TABLE 7
SOD AND CONCRETE APRON QUANTITIES

Inlet Type	Slot Z'	Conc. X'
C	8	2.00
D	8	2.00
E	9	2.67
H	11	3.00

NOTES:
1. Concrete Apron installed only where called for in the Plans.
2. See sheets required.

NON-TRAVERSABLE INLET DETAILS

LAST REVISION 11/01/23	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	INDEX 425-052	SHEET 8 of 14

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–	SEC.	5 & 8		
DRAWN	RS	PAGE	–	TWP.	26 S		
CHECKED	RN	SCALE	AS SHOWN	RANGE	31 E		
CAD#	(see stamp)	DATE	2/2/26				

DATE	BY	REVISIONS
02-26-26	CM	REVISED PER CITY COMMENTS
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Hanson, Walter & Associates, Inc.

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FDOT DETAILS-2

Robert L Newberry 2026.03.26 17:55:51 -04'00'

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SHEET Nº C-39 of C-50

JOB Nº 5450-05

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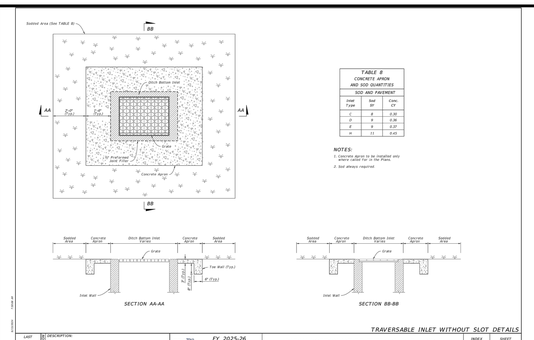
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

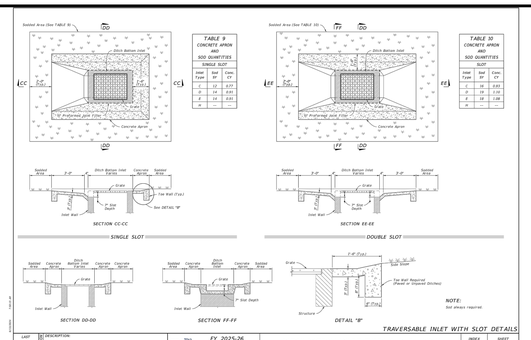
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

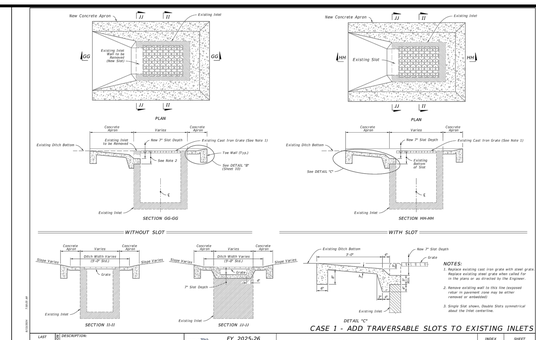
Authorized Signature



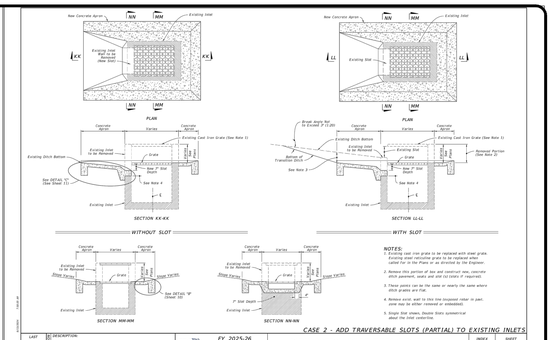
TRAVERSABLE INLET WITHOUT SLOT DETAILS



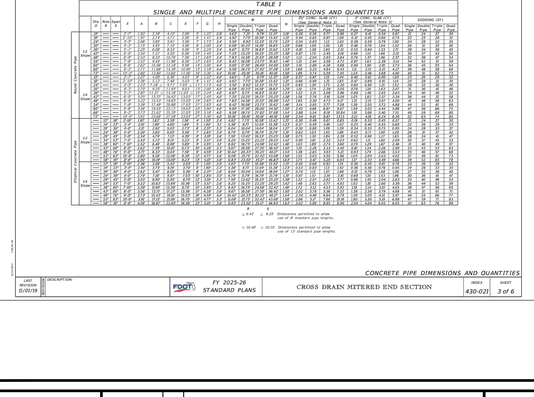
TRAVERSABLE INLET WITH SLOT DETAILS



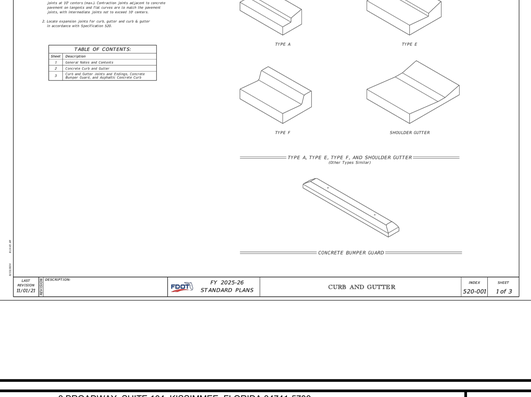
CASE 1 - ADD TRAVERSABLE SLOTS TO EXISTING INLETS



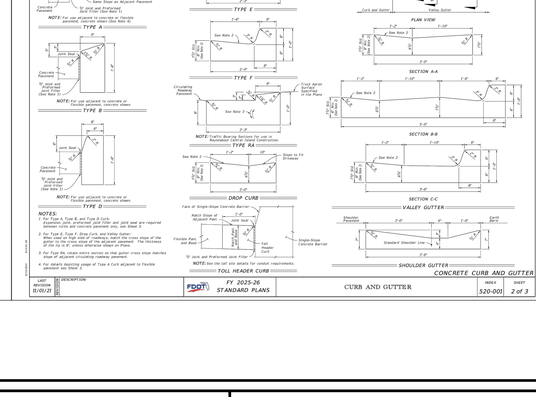
CASE 2 - ADD TRAVERSABLE SLOTS (PARTIAL) TO EXISTING INLETS

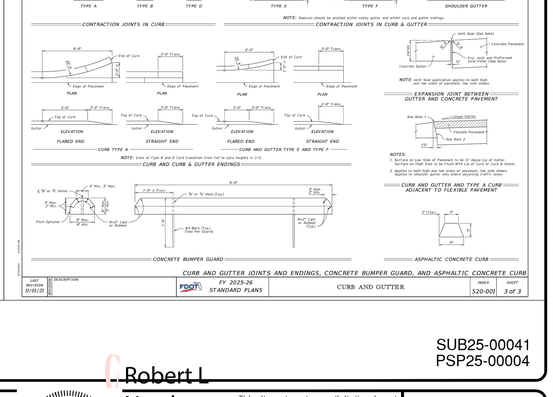


CASE 3 - ADD TRAVERSABLE SLOTS (PARTIAL) TO EXISTING INLETS AND DITCH BLOCK



ALTERNATE A STRUCTURE BOTTOM - TOP SLAB DETAILS





TYPE F - DIMENSIONAL, REINFORCING, AND GRATE DETAILS

TYPE G - DIMENSIONAL, REINFORCING, AND GRATE DETAILS

CONCRETE APRON AND SODDED AREA DETAILS

SINGLE AND MULTIPLE CONCRETE PIPE

CROSS DRAIN MITERED END SECTION

CURB AND GUTTER

CURB AND GUTTER

CURB AND GUTTER

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–	SEC. 5 & 8	
DRAWN	RS	PAGE	–	TWP. 26 S	
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ENGINEERING, SURVEYING AND PLANNING
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FDOT DETAILS-3

Robert L Newberry 2026.03.26 17:56:07 -04'00'

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SHEET Nº C-40 of C-50

JOB Nº 5450-05

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St. Cloud FLORIDA Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS

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 broader 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 10.
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)

SIDEWALK JOINTS

SIDEWALK WITH UTILITY STRIP

SIDEWALK WITHOUT UTILITY STRIP

SECTION A-A

SECTION B-B

RAILING DETAIL

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	CONCRETE SIDEWALK	INDEX	SHEET
01/01/18					522-001	1 of 2

CONCRETE SIDEWALK ON FLUSH SHOULDER ROADWAYS

SIDEWALK JOINTS

CONTINUOUS SIDEWALK

DISCONTINUOUS SIDEWALK

SECTION C-C

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	CONCRETE SIDEWALK	INDEX	SHEET
01/01/18					522-001	2 of 2

CONCRETE FLARED DRIVEWAY NOMENCLATURE

GENERAL NOTES:

1. Work this Index with Specification 522.
2. Refer to Index 520-001 for drop curb details and Index 522-001 for joints between driveway, sidewalks, and curb.
3. Existing Curb and Gutter:
   Construct "B" type curb and gutter to either the nearest joint beyond the flared point or to where no remaining section is less than 3 feet long.
4. Grades and cross slopes shown are maximums.
5. Longitudinal Joints:
   Construct "B" type joints placed at equal (30' max.) intervals for driveways over 30' wide. Match joints in curb and gutter and sidewalk in driveways.
6. Expansion Material:
   Construct "B" type joints @ 30' Centers and "E" expansion joints with preformed joint filler every 90' joint.
7. Construct driveways 6" thick concrete to a uniform width (W) to the R/W line or the widest shown in the Plans.
8. Width of Sidewalk Thru Driveway is 4'-0" minimum. Match sidewalk width when shown in Plans or when utility strip width is equal to or greater than the depth of the Driveway Apron.
9. Alpha-Numeric Identification:
   Concrete Flared Driveway Alpha-Numeric Identifications (e.g. G6) are provided for reference purposes in the Plans.

LEGEND:
- Sidewalk
- Flared Driveway (6" Thick Concrete)
- Sidewalk Thru Driveway (6" Thick Concrete)
- Utility Strip
- L_A = Grade of Apron
- S_D = Grade of Driveway (Per Plans)

CONCRETE FLARED DRIVEWAY NOMENCLATURE

ELEVATION

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	CONCRETE FLARED DRIVEWAYS	INDEX	SHEET
01/01/18					522-003	1 of 4

SIDEWALK WITHOUT UTILITY STRIP

WITHOUT SIDEWALK OR UTILITY STRIP ≥ 10' WIDE

UTILITY STRIP < 10' WIDE

LEGEND:
- Sidewalk
- Flared Driveway (6" Thick Concrete)
- Sidewalk Thru Driveway (6" Thick Concrete)
- Utility Strip

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	CONCRETE FLARED DRIVEWAYS	INDEX	SHEET
01/01/18					522-003	2 of 4

DRIVEWAY SECTIONS ON CURBED FACILITIES WITH SIDEWALKS

GENERAL APPLICATIONS

MARGINAL

ADJACENT

SIDEWALK WITHOUT UTILITY STRIP

SIDEWALK WITH UTILITY STRIP ON 0.02 SLOPE

SIDEWALK WITH UTILITY STRIP ON 0.04 SLOPE

NOTE:
1. Sidewalks shown.

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	CONCRETE FLARED DRIVEWAYS	INDEX	SHEET
01/01/18					522-003	3 of 4

DRIVEWAY SECTIONS ON CURBED FACILITIES WITH SIDEWALKS

GENERAL APPLICATIONS

MARGINAL

SIDEWALK WITHOUT UTILITY STRIP

SIDEWALK WITH UTILITY STRIP ON 0.02 SLOPE

SIDEWALK WITH UTILITY STRIP ON 0.04 SLOPE

NOTE:
1. Sidewalks shown.

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	CONCRETE FLARED DRIVEWAYS	INDEX	SHEET
01/01/18					522-003	4 of 4

TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS

ALTERNATING SKIP LINE

SKIP LINE

SOLID LINE WITH ALTERNATING SKIP

DOUBLE SOLID LINE

MULTILANE

SOLID LINE WITH SKIP

SKIP LINE WITH TWO-WAY LEFT TURN LANE

ALTERNATING SKIP LINE WITH TWO-WAY LEFT TURN LANE

NOTES:
1. Offset all RPMs 1' from solid lane lines, unless otherwise noted or shown.
2. Spacing may be reduced for sharp curves if required.
3. For placement of RPMs on ramps, see Index 711-001.
4. Make the traffic face of the RPM flush with the top of the pavement marking line it is supplementing.

LEGEND:
- B.C. = BACK OF CURB
- E.O.P. = EDGE OF PAVEMENT
- RPM = RAISED PAVEMENT MARKER
- W.R.R. = WHITE/RED RPM
- Y.Y. = YELLOW/YELLOW RPM
- Y.R. = YELLOW/RED RPM
- M.D.Y. = MONO-DIRECTIONAL YELLOW RPM

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
01/01/18					706-001	1 of 6

RPM PLACEMENT AT INTERSECTIONS

RPM PLACEMENT AT TRAFFIC CHANNELIZATION AT GORE (Traffic Flows In Same Direction)

RPM PLACEMENT AT ROADSIDE CROSSHATCHING

NOTE:
1. Refer to the Raised Pavement Marker / Marked Pavement Striping and Crosshatching.

LEGEND:
- B.C. = BACK OF CURB
- E.O.P. = EDGE OF PAVEMENT
- RPM = RAISED PAVEMENT MARKER
- W.R.R. = WHITE/RED RPM
- Y.Y. = YELLOW/YELLOW RPM
- Y.R. = YELLOW/RED RPM
- M.D.Y. = MONO-DIRECTIONAL YELLOW RPM

Right side of the roadway shown. For the left side of roadway, the pavement marking is white and oriented opposite here.

RPM PLACEMENT AT TRAFFIC SEPARATION (Traffic Flows In Opposite Direction)

WRONG-WAY ARROW

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
01/01/25					706-001	2 of 6

RPM PLACEMENT AT MEDIAN OPENINGS (When called for in the Plans)

FLUSH MEDIAN OPENINGS (Type "F" Curb Similar. See Note 3)

TYPE "D" OR "F" CURB

DETAIL "A"

DETAIL "B"

DETAIL "C"

DETAIL "D"

DETAIL "E"

DETAIL "F"

RPM ORIENTATION DETAIL

NOTES:
1. At Type "D" curb, install RPMs along the pavement edge marking using the same spacing shown.
2. Orient traffic faces of RPMs to curb-parallel flush to be parallel to direction of travel lanes.
3. Use epoxy adhesive to install RPMs on concrete median nose curbs.
4. Install RPMs on shallow, unjointed surface. Do not point curb surfaces where RPMs will be placed.

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
01/01/25					706-001	3 of 6

RPM PLACEMENT AT ISLANDS (When called for in the Plans)

RPM PLACEMENT AT TRAFFIC SEPARATORS (When called for in the Plans)

DETAIL "G"

DETAIL "H"

DETAIL "K"

NOTES:
1. At Type "D" Curb install RPMs along the pavement edge marking using the same spacing shown.
2. Orient traffic faces of RPMs to median nose curb to be parallel to direction of travel lanes.

LEGEND:
- B.C. = BACK OF CURB
- E.O.P. = EDGE OF PAVEMENT
- RPM = RAISED PAVEMENT MARKER
- W.R.R. = WHITE/RED RPM
- Y.Y. = YELLOW/YELLOW RPM
- M.D.Y. = MONO-DIRECTIONAL YELLOW RPM

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
01/01/25					706-001	4 of 6

RPM PLACEMENT FOR CROSSOVERS ON LIMITED ACCESS ROADWAYS

DETAIL "L"

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
01/01/18					706-001	5 of 6

BLUE RPM PLACEMENT

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
01/01/18					706-001	6 of 6

ONE-WAY PAIRS AND DIVIDED ARTERIALS/COLLECTORS WITH UNSIGNALIZED ONE-WAY EGRESS

Installation Details
1) R6-1 shall be placed on far side median or shoulder depending on facility type.
2) RIGHT TURN ARROW (FTP-23A-06) or LEFT TURN ARROW (FTP-23L-06) typically added to district driveway permit.
3) Mandatory Movement Lane Control (R3-5) sign may be used in lieu of R6-2R.
4) See FDM 230-6.4 for how often to place Wrong-Way arrows based on context classification.

NOT TO SCALE
EXHIBIT 230-5
10/2022

TYPICAL TWO-WAY APPROACH TO UNDIVIDED SIGNALIZED AND UNSIGNALIZED ONE-WAY STREET

Installation Details
1) Wrong-Way signing and pavement markings for signalized and stop controlled.
2) Place Wrong-Way arrows four feet upstream of stop bar, if present.

NOT TO SCALE
EXHIBIT 230-6
10/2022

TYPICAL ONE-WAY APPROACH TO UNDIVIDED SIGNALIZED AND UNSIGNALIZED ONE-WAY STREET

Installation Details
1) Wrong-Way signing and pavement markings for signalized and stop controlled.
2) Place Wrong-Way arrows four feet upstream of stop bar, if present.

NOT TO SCALE
EXHIBIT 230-7
10/2022

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	SPECIAL SIGN DETAILS	INDEX	SHEET
01/01/20					700-002	4 of 12

UNIVERSAL SYMBOL OF ACCESSIBILITY

FORWARD-IN PARKING

REVERSE-IN PARKING

PAVEMENT MARKING FOR PARKING

NOTES:
1. Crosswalks are to the centerline of markings.
2. An access aisle is required for each accessible space and shall be shared.
3. Where the pavement markings only, an aisle adjacent curb ramp allowing for road widened curb is used.
4. Recall FTP-23-06 may refer the FTP-23-06 sign.
5. If striping detail provided, install in accordance to FDOT Index 17355 or 17356 and with slip-resistant material.

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
01/01/25					711-001	11 of 13

MARKINGS FOR TRAFFIC SEPARATION

TRAFFIC CHANNELIZATION AT GORE

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
01/01/25					711-001	8 of 13

STANDARD CROSSWALK DETAILS

SPECIAL EMPHASIS CROSSWALK DETAILS

NOTES:
1. For crosswalk width, overall width of the adjacent sidewalk, but do not make width less than 6' for intersection crosswalks and 10' for midblock crosswalks. Measure width from the inside of the crosswalk markings.
2. When the Special Emphasis Crosswalk is not perpendicular to the lane lines, make the longitudinal markings parallel to the lane lines.
3. Refer to Index 522-002 when Curb Ramps are present.

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
01/01/25					711-001	9 of 13

TWO WAY LEFT TURN LANE (With Single Lane Left Turn Channelization)

ARROW SPACING AND TURN LANE MARKINGS

NOTES:
1. This treatment is for the left turn lanes.
2. Make tapered pavement markings yellow for left-turn lanes and white for right-turn lanes.

LAST REVISION	DESCRIPTION	FDOT	FY 2025-26 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
01/01/25					711-001	10 of 13

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SUB25-00041
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DESIGN MW/CM	F.B. NO. –				
DRAWN RS	PAGE –				
CHECKED RN	SCALE AS SHOWN				
CAD# (see stamp)	DATE 2/2/26				
SEC. 5 & 8					
TWP. 26 S					
RANGE 31 E					
		02-26-26	CM	REVISED PER CITY COMMENTS	2
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		DATE	BY	REVISIONS	

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FDOT DETAILS-4

ROBERT LEE NEWBERRY LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:56:23 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-41 of C-50

JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450_DA_FDOT_DETAILS.dgn • Apr 13, 2026 - 12:24pm • plotted by RSayer

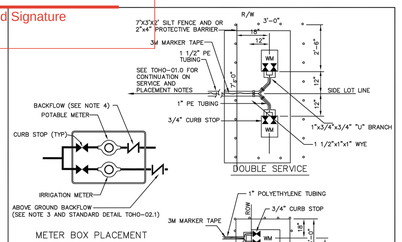
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



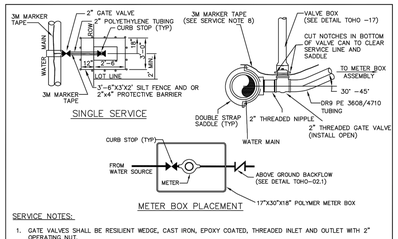
SERVICE NOTES:

1. REFER TO TYPICAL POTABLE WATER SERVICE TOHO-01.0 FOR SERVICE NOTES.

METER AND METER BOX PLACEMENT NOTES

1. METERS 2" TO 1" ARE PAID FOR BY THE DEVELOPER AND INSTALLED BY TOHO.
2. METER BOX(ES), SERVICE LINE(S), AND ALL ASSOCIATED APPURTENANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR DEVELOPER.
3. APPROVED BACKFLOW DEVICES ARE REQUIRED ON ALL IRRIGATION SERVICES COVERED BY THIS DETAIL AND ARE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR DEVELOPER:
   3.1. RPZ BACKFLOW DEVICES SHALL BE INSTALLED A MINIMUM OF 12" ABOVE THE 100 YEAR FLOOD LEVEL.
   3.2. PVB BACKFLOW DEVICES SHALL BE INSTALLED A MINIMUM OF 12" ABOVE THE HIGHEST DOWNSTREAM OUTLET.
   3.3. SEE DETAIL TOHO-02.1 TYPICAL BACKFLOW ASSEMBLY FOR ADDITIONAL REQUIREMENTS.
4. TOHO PROVIDES APPROVED IN-GROUND BACKFLOW DEVICES FOR 2" AND 1" POTABLE METERS COVERED BY THIS DETAIL.
5. CURB STOP SHALL BE INSTALLED WITH THE OPERATING NUT FACING UP.
6. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, ETC. SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF THE METER BOX.
7. BUILDER SHALL MAKE FINAL HORIZONTAL AND VERTICAL ADJUSTMENTS TO METER ASSEMBLY AND BOX:
   7.1. METER SHALL BE APPROXIMATELY 7" BELOW FINISHED GRADE AND CENTERED IN THE BOX.
   7.2. SINGLE LOT SERVICES SHALL HAVE BOX(ES) PERPENDICULAR TO THE CURB OR SIDEWALK.
   7.3. DOUBLE LOT SERVICES SHALL HAVE BOX(ES) PARALLEL TO THE CURB OR SIDEWALK.
   7.4. TOP OF METER BOX SHALL BE FLUSH WITH FINISH GRADE.
8. METER BOX LID SHALL BE BLACK SOLID PLASTIC WITH NO METAL ACCESS DOOR.

TYPICAL POTABLE AND IRRIGATION SERVICE FOR COMMUNITIES WITHOUT REUSE WATER — 01.1



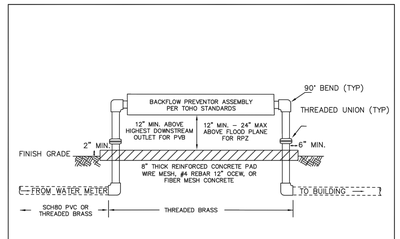
SERVICE NOTES:

1. GATE VALVES SHALL BE RESILIENT WEDGE, CAST IRON, EPOXY COATED, THREADED INLET AND OUTLET WITH 2" OPERATING NUT.
2. CURB STOPS SHALL BE LOCKING TYPE, STRAIGHT BALL VALVE, NO LEAD BRASS.
   2.1. INLET SHALL BE PACK JOINT W/ CLAMP SCREW RETAINER.
   2.2. 1.5" AND 2" OUTLET SHALL BE 2 BOLT FLANGE METER CONNECTION.
   2.3. 2" AND 1" OUTLET SHALL BE SWIVEL METER NUT CONNECTION MATCHING METER SIZE.
3. SERVICE LINE SHALL BE CONTINUOUS, NO FITTINGS ARE PERMITTED ON THE POLY LINE BETWEEN THE GATE VALVE AND THE CURB STOP.
4. NO CURB STOPS SHALL BE INSTALLED UNDER AN IMPERVIOUS SURFACE OR STRUCTURE.
5. SERVICE TAPS SHALL BE A MINIMUM OF 18" FROM JOINTS, FITTINGS, OR OTHER TAPS ON THE MAIN.
6. SERVICE TUBING SHALL BE POLYETHYLENE ORS, 200PSI, BLUE FOR POTABLE WATER, PURPLE FOR REUSE WATER.
7. PLACE APPROVED 3M MARKER TAPE TO THE CURB STOP(S) INSIDE THE BOX TIED TO THE MARKER TAPE AT THE MAIN.
8. SERVICE LINES SHALL BE MARKED IN THE CURB OR SIDEWALK IMMEDIATELY ADJACENT TO PARKING SPACES WITH A 3" TALL "W" FOR WATER OR A 3" TALL "R" FOR REUSE. MARKS SHALL BE PAINTED BLUE FOR WATER PURPLE FOR REUSE.
9. THIS DETAIL IS INTENDED FOR SINGLE 2" WATER SERVICES ONLY. NO MORE THAN 1 METER, REGARDLESS OF SIZE, SHALL BE PLACED ON COMMERCIAL SERVICES COVERED BY THIS DETAIL.

METER AND METER BOX PLACEMENT NOTES:

1. METERS 3" TO 2" ARE PAID FOR BY THE DEVELOPER AND INSTALLED BY TOHO.
2. METER BOX(ES), SERVICE LINE(S), AND ALL ASSOCIATED APPURTENANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR DEVELOPER.
3. APPROVED BACKFLOW DEVICES ARE REQUIRED ON ALL COMMERCIAL SERVICES AND ARE THE RESPONSIBILITY OF THE CONTRACTOR ANS/OR DEVELOPER:
   3.1. RPZ BACKFLOW DEVICES SHALL BE INSTALLED A MINIMUM OF 12' ABOVE THE 100 YEAR FLOOD LEVEL.
   3.2. PVB BACKFLOW DEVICES SHALL BE INSTALLED A MINIMUM OF 12" ABOVE THE HIGHEST OUTLET.
   3.3. SEE DETAIL TOHO-02.1 TYPICAL BACKFLOW ASSEMBLY FOR ADDITIONAL REQUIREMENTS.
4. CURB STOP SHALL BE INSTALLED WITH THE OPERATING NUT FACING UP.
5. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, ETC. SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF THE METER BOX.
6. BUILDER SHALL MAKE FINAL HORIZONTAL AND VERTICAL ADJUSTMENTS TO METER ASSEMBLY AND BOX:
   6.1. METER SHALL BE APPROXIMATELY 7" BELOW FINISHED GRADE AND CENTERED IN THE BOX.
   6.2. METER BOXES SHALL BE PERPENDICULAR TO THE CURB OR SIDEWALK.
   6.3. TOP OF METER BOX SHALL BE FLUSH WITH FINISH GRADE.
7. METER BOX LID SHALL BE SOLID PLASTIC WITH NO METAL ACCESS DOOR, BLACK FOR WATER, PURPLE FOR REUSE.

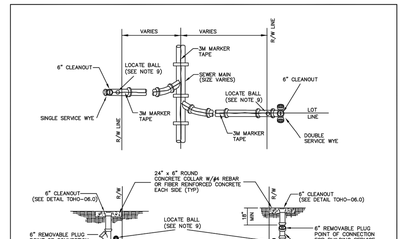
TYPICAL COMMERCIAL WATER SERVICE — 02.0



NOTES:

1. THIS DETAIL IS APPLICABLE FOR ALL SERVICES 2" AND SMALLER REQUIRING AN ABOVE GROUND BACKFLOW DEVICE.
2. BACKFLOW PREVENTOR TYPE SHALL BE PER TOHO STANDARDS.
3. BACKFLOW SIZE SHALL NOT BE MORE THAN ONE NOMINAL SIZE SMALLER OR LARGER THAN THE WATER METER.
4. BACKFLOW SHALL NOT BE PLACED MORE THAN 18" FROM THE METER.
5. PRESSURE VACUUM BREAKER BACKFLOWS SHALL BE INSTALLED 12" ABOVE THE HIGHEST OUTLET. ALL OTHER TYPES OF BACKFLOW PREVENTERS SHALL BE INSTALLED A MINIMUM OF 12" TO A MAXIMUM OF 24" ABOVE THE 100 YEAR FLOOD PLAIN.
6. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, ETC. SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF THE BACKFLOW ASSEMBLY OR PAD.
7. ALL SERVICE PIPING AND FITTINGS BETWEEN THE METER AND THE BELOW GRADE 90 DOWNSTREAM OF THE BACKFLOW SHALL BE SCH80 PVC OR THREADED NO LEAD BRASS.
8. ALL SERVICE PIPING AND FITTINGS BETWEEN THE TWO BELOW GRADE 90s SHALL BE THREADED NO LEAD BRASS.
9. 8" THICK CONCRETE PAD SHALL EXTEND A MINIMUM OF 6" BEYOND THE FURTHEST HORIZONTAL POINT OF THE ASSEMBLY ON ALL SIDES.
10. TOP OF CONCRETE PAD SHALL BE A MINIMUM OF 2" ABOVE FINISH GRADE.
11. STANDPIPES SHALL BE ISOLATED FROM THE CONCRETE PAD VIA EXPANSION JOINT OR OTHER SUITABLE MATERIAL.
12. PAD SHALL BE FIBER REINFORCED CONCRETE OR CONCRETE WITH WIRE MESH OR #4 REBAR 12" OCEW.

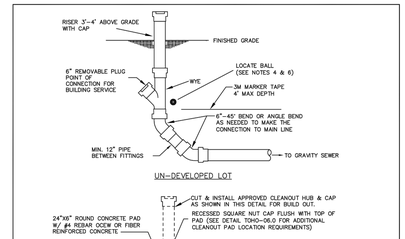
TYPICAL BACKFLOW ASSEMBLY — 02.1



NOTES:

1. ALL RESIDENTIAL AND COMMERCIAL LATERALS SHALL BE 6".
2. THE SINGLE 6" WYE DENOTES THE END OF TOHO'S MAINTENANCE RESPONSIBILITY.
3. THE SINGLE 6" TOHO CLEANOUT SHALL BE PLACED ON THE LOT LINE AND WITHIN 24" OF THE RIGHT-OF-WAY LINE.
4. NO CLEANOUTS SHALL BE PLACED WITHIN THE RIGHT-OF-WAY OR IN A SIDEWALK OR WALKWAY.
5. LATERALS SHALL NOT EXCEED 100' FROM THE MAIN TO TOHO'S CLEANOUT.
6. LATERALS SHALL BE MARKED WITH A 3" HIGH "S" IN THE CURB OR SIDEWALK ADJACENT TO A PARKING SPACE WHERE THE LATERAL CROSSES THE CURB OR SIDEWALK. MARK SHALL BE PAINTED GREEN.
7. CONNECTIONS TO THE TOHO CLEANOUT'S VERTICAL STANDPIPE ARE NOT PERMITTED.
8. FITTINGS USED SHALL NOT EXCEED 45 DEGREES. A MINIMUM OF 12" OF PIPE IS REQUIRED BETWEEN ALL FITTINGS.
9. THE SERVICE WYE ON THE 6" VERTICAL STANDPIPE SHALL BE BETWEEN 18" AND 48" FROM FINISHED GRADE.
10. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, OR OTHER CLEANOUTS USED FOR TESTING PURPOSES SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF THE TOHO CLEANOUT.
11. PLACE TOHO APPROVED 3M MARKER TAPE FROM THE MAIN TO THE SINGLE OR DOUBLE SERVICE WYE:
    11.1. TAPE SHALL BE BURIED NO DEEPER THAN 4'.
    11.2. 9" MARKER TAPE IS INSTALLED MORE THAN 18" ABOVE A LATERAL DUE TO DEPTH OF THE PIPE, ADDITIONAL TOHO APPROVED WARNING TAPE SHALL BE REQUIRED 12" – 18" ABOVE THE PIPE.
12. PROVIDE TOHO APPROVED LOCATE BALLS AT ALL SINGLE AND DOUBLE SERVICE WYES.
13. SEE SANITARY CLEANOUT DETAIL TOHO–06 FOR ADDITIONAL NOTES AND REQUIREMENTS.

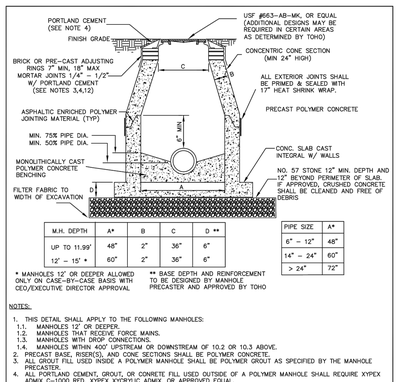
SANITARY SEWER LATERAL — 05



NOTES:

1. SITE CONTRACTOR SHALL LEAVE THE CLEANOUT RISER 3' – 4' ABOVE FINISHED GRADE. AT LOT BUILD OUT THE RISER SHALL BE CUT AND CAPPED WITH A CLEANOUT HUB AND CAP INSTALLED IN A CONCRETE PAD SET FLUSH WITH FINISH GRADE OR IN A CAST IRON HANDHOLE IF IN A DRIVEWAY.
2. CLEANOUT CAPS SHALL HAVE A RECESSED SQUARE NUT.
3. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, OR OTHER CLEANOUTS USED FOR TESTING PURPOSES SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF THE TOHO CLEANOUT.
4. PROVIDE TOHO APPROVED LOCATE BALLS AT ALL SINGLE AND DOUBLE SERVICE WYES.
5. PLUMBER SHALL CONNECT TO SERVICE WYE WITH GASKETED PUSH FITTING ONLY, GLUE OR NON GASKETED FITTINGS SHALL NOT BE PERMITTED.
6. SEE SANITARY SEWER LATERAL DETAIL TOHO–05 AND SANITARY SEWER CLEANOUT PAD TOHO–06.1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

SANITARY SEWER CLEANOUT — 06.0



M.H. DEPTH	A*	B	C	D **
UP TO 11.99'	48"	2"	36"	6"
12' – 15' *	60"	2"	36"	6"
> 24"	72"			

PIPE SIZE	A*
6" – 12"	48"
14" – 24"	60"
> 24"	72"

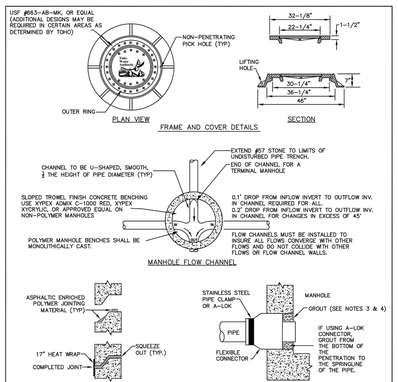
* MANHOLES 12' OR DEEPER ALLOWED ONLY ON CASE–BY–CASE BASIS WITH CEO/EXECUTIVE DIRECTOR APPROVAL

** BASE DEPTH AND REINFORCEMENT TO BE DESIGNED BY MANHOLE PRECASTER AND APPROVED BY TOHO

NOTES:

1. THIS DETAIL SHALL APPLY TO THE FOLLOWING MANHOLES:
   1.1. MANHOLES 12' OR DEEPER.
   1.2. MANHOLES THAT RECEIVE FORCE MAINS.
   1.3. MANHOLES WITH DROP CONNECTIONS.
   1.4. MANHOLES WITHIN 400' UPSTREAM OR DOWNSTREAM OF 10.3 OR 10.3 ABOVE.
2. PRECAST BASE, RISER(S), AND CONE SECTIONS SHALL BE POLYMER CONCRETE.
3. ALL GROUT FILL USED INSIDE A POLYMER MANHOLE SHALL BE POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER.
4. ALL NON–POLYMER CEMENT, GROUT, OR CONRETE FILL USED OUTSIDE OF A POLYMER MANHOLE SHALL REQUIRE XYPEX ADMIX C–1000 RED, XYPEX XYORYLIC ADMIX OR APPROVED EQUAL.
5. ALL INTERIOR OPENINGS, CHIPS, LIFT HOLES, ETC. SHALL BE SEALED WITH POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER.
6. LIFT HOLES ARE NOT PERMITTED THROUGH PRECAST SECTIONS.
7. REINFORCEMENT OF THE PRECAST BASE, RISER(S), AND CONE SHALL BE DESIGNED BY THE MANHOLE PRECASTER AND APPROVED BY TOHO.
8. MANHOLE DESIGNS MUST MAINTAIN A MINIMUM OF 50% UNINTERRUPTED WALL AREA ON ANY HORIZONTAL PLANE AND A MINIMUM OF 12" BETWEEN WALL PENETRATIONS.
9. CONCENTRIC FLAT TOP SLABS ARE ONLY ALLOWED WHERE THE DEPTH OF COVER OVER THE PIPE IS LESS THAN 48" OR WHERE OTHERWISE APPROVED BY TOHO.
10. SERVICE LATERALS SHALL BE PERMITTED DIRECTLY INTO MANHOLES MATCHING THE CROWN ELEVATION OF THE OUTFLOW PIPE ONLY. DROPS OR FILLETED FLUMES ARE NOT PERMITTED FOR LATERALS.
11. WHERE MANHOLES ARE NOT IN PAVED AREAS OR COMPLETELY PROTECTED FROM VEHICULAR TRAFFIC, A CONCRETE COLLAR PER TOHO–26 SHALL BE REQUIRED.
12. POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER SHALL BE USE TO SKIM COAT THE INTERIOR SURFACE OF THE BRICK RISER / ADJUSTMENT RING(S).

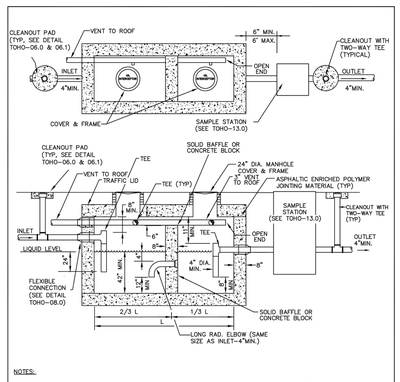
POLYMER MANHOLE — 07.1



NOTES:

1. ALL EXTERIOR JOINTS SHALL BE CLEANED, PRIMED, DRIED, AND SEALED WITH 17" HEAT SHRINK WRAP.
2. EXCESS JOINT COMPOUND SHALL BE TRIMMED FROM INTERIOR WALLS.
3. ALL PORTLAND CEMENT, GROUT, OR CONCRETE FILL USED INSIDE NON–POLYMER MANHOLES OR OUTSIDE OF NON–POLYMER AND POLYMER MANHOLES SHALL REQUIRE XYPEX C–1000 RED, XYPEX XYORYLIC ADMIX OR APPROVED EQUAL.
4. ALL PORTLAND CEMENT, GROUT, OR CONCRETE FILL USED INSIDE POLYMER MANHOLES SHALL REQUIRE POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER.
5. CONCENTRIC FLAT TOP SLABS ARE ONLY ALLOWED WHERE THE DEPTH OF COVER OVER THE PIPE IS LESS THAN 48" OR WHERE OTHERWISE APPROVED BY TOHO.
6. CONNECTIONS TO BRICK MANHOLES SHALL BE COMPLETED UTILIZING SDR35 OR SDR26 SAND COLLAR(S) AND 4,000PSI CONCRETE WITH XYPEX C–1000 RED, XYORYLIC ADMIX OR APPROVED EQUAL.

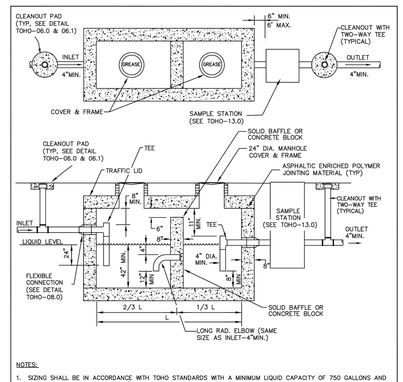
MISCELLANEOUS MANHOLE — 08.0



NOTES:

1. SIZING SHALL BE IN ACCORDANCE WITH TOHO STANDARDS WITH A MINIMUM LIQUID CAPACITY OF 750 GALLONS AND A MINIMUM LIQUID DEPTH OF 42".
2. STRUCTURE SHALL CONFORM WITH F.D.O.T. DESIGN STANDARDS PROVIDING FOR A MINIMUM H–20 LOAD RATING.
3. CAST–IN–PLACE STRUCTURES SHALL BE DESIGNED BY A FLORIDA LICENSED ENGINEER.
4. PRE–CAST STRUCTURES SHALL CONFORM TO ASTM C478.
5. GREASE TRAP SHALL BE TWO COMPARTMENT TYPE 1/3 – 2/3 SPLIT.
6. OIL INTERCEPTOR SHALL BE TWO COMPARTMENT TYPE 1/3 – 2/3 SPLIT.
7. LIDS SHALL BE LABELED "OIL".
8. INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARD PLUMBING AND BUILDING CODES AND TOHO STANDARDS. WHERE CONFLICTS EXIST, THE MORE STRINGENT STANDARD SHALL PREVAIL.
9. INLET AND OUTLET PIPING SHALL REQUIRE A TWO–WAY CLEANOUT TEE.
10. TWO–WAY CLEANOUT TEES SHALL BE PROVIDED BETWEEN ALL PRETREATMENT STRUCTURES WHERE MULTIPLE STRUCTURES ARE INSTALLED IN SERIES.
11. SAMPLE STATION SHALL BE PLACED DOWNSTREAM OF THE FINAL PRETREATMENT STRUCTURE WHERE MULTIPLE STRUCTURES ARE UTILIZED.

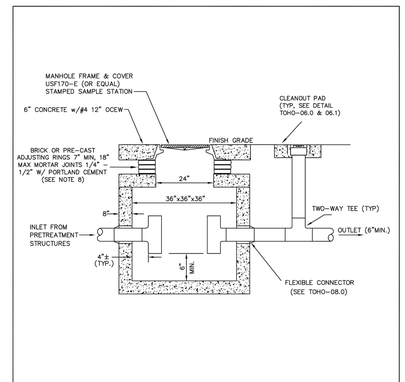
OIL INTERCEPTOR — 11



NOTES:

1. SIZING SHALL BE IN ACCORDANCE WITH TOHO STANDARDS WITH A MINIMUM LIQUID CAPACITY OF 750 GALLONS AND A MINIMUM LIQUID DEPTH OF 42".
2. STRUCTURE SHALL CONFORM WITH F.D.O.T. DESIGN STANDARDS PROVIDING FOR A MINIMUM H–20 LOAD RATING.
3. CAST–IN–PLACE STRUCTURES SHALL BE DESIGNED BY FLORIDA LICENSED ENGINEER.
4. PRE–CAST STRUCTURES SHALL CONFORM TO ASTM C478.
5. LIDS SHALL BE LABELED "GREASE".
6. INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARD PLUMBING AND BUILDING CODES AND TOHO STANDARDS. WHERE CONFLICTS EXIST, THE MORE STRINGENT STANDARD SHALL PREVAIL.
7. INLET AND OUTLET PIPING SHALL REQUIRE A TWO–WAY CLEANOUT TEE.
8. TWO–WAY CLEANOUT TEES SHALL BE PROVIDED BETWEEN ALL PRETREATMENT STRUCTURES WHERE MULTIPLE STRUCTURES ARE INSTALLED IN SERIES.
9. SAMPLE STATION SHALL BE PLACED DOWNSTREAM OF THE FINAL PRETREATMENT STRUCTURE WHERE MULTIPLE STRUCTURES ARE UTILIZED.

STANDARD GREASE INTERCEPTOR — 12.0



NOTES:

1. STRUCTURE SHALL CONFORM WITH F.D.O.T. DESIGN STANDARDS PROVIDING FOR A MINIMUM H–20 LOAD RATING.
2. CAST–IN–PLACE STRUCTURES SHALL BE DESIGNED BY FLORIDA LICENSED ENGINEER.
3. PRE–CAST STRUCTURES SHALL CONFORM TO ASTM C478.
4. LIDS SHALL BE LABELED "SAMPLE STATION".
5. INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARD PLUMBING AND BUILDING CODES AND TOHO STANDARDS. WHERE CONFLICTS EXIST, THE MORE STRINGENT STANDARD SHALL PREVAIL.
6. INLET AND OUTLET PIPING SHALL REQUIRE A TWO–WAY CLEANOUT TEE.
7. SAMPLE STATION SHALL BE PLACED DOWNSTREAM OF THE FINAL PRETREATMENT STRUCTURE WHERE MULTIPLE STRUCTURES ARE UTILIZED.
8. ALL PORTLAND CEMENT, GROUT, OR CONRETE FILL USED INSIDE OR OUTSIDE OF A NON–POLYMER MANHOLE SHALL REQUIRE XYPEX C–1000 RED, XYPEX XYORYLIC ADMIX OR APPROVED EQUAL.

STANDARD SAMPLE STATION — 13.0

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01–13–26	CM	REVISED PER TOHO & FDOT COMMENTS 1

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
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ENGINEERING, SURVEYING AND PLANNING
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PUFFIN ROAD COMMERCIAL

TOHO DETAILS-1

Robert L Newberry 2026.03.26 17:56:39 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

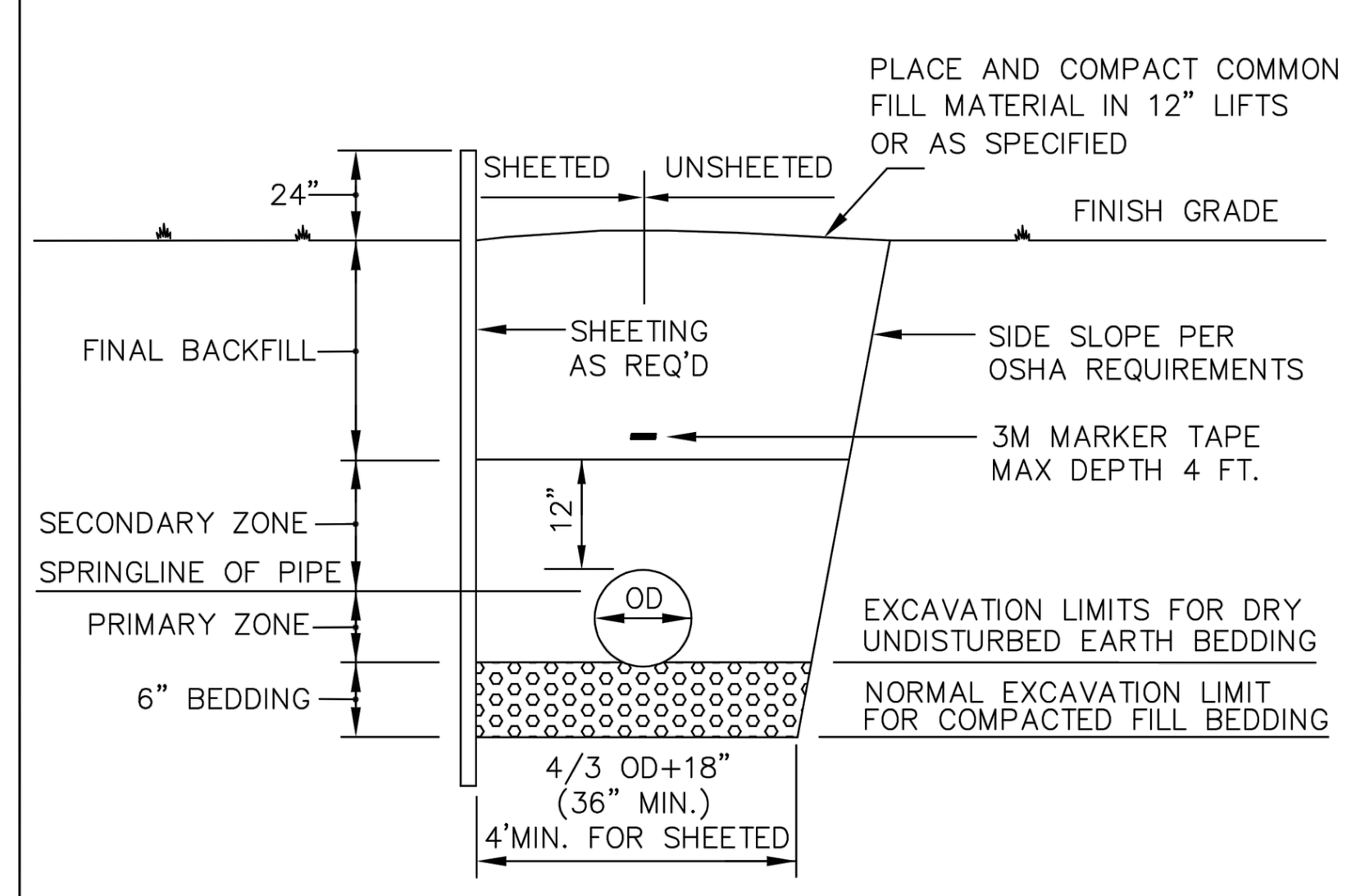
Signature must be verified on any electronic copies.

SHEET Nº C-42 of C-50

JOB Nº 5450-05

N:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 TWA DETAILS.dwg • Mar 11, 2026 - 12:23pm • plotted by RSouser

St. Cloud FLORIDA Your Centerplace for Life
APPROVED WITH CONDITIONS
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions
Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature

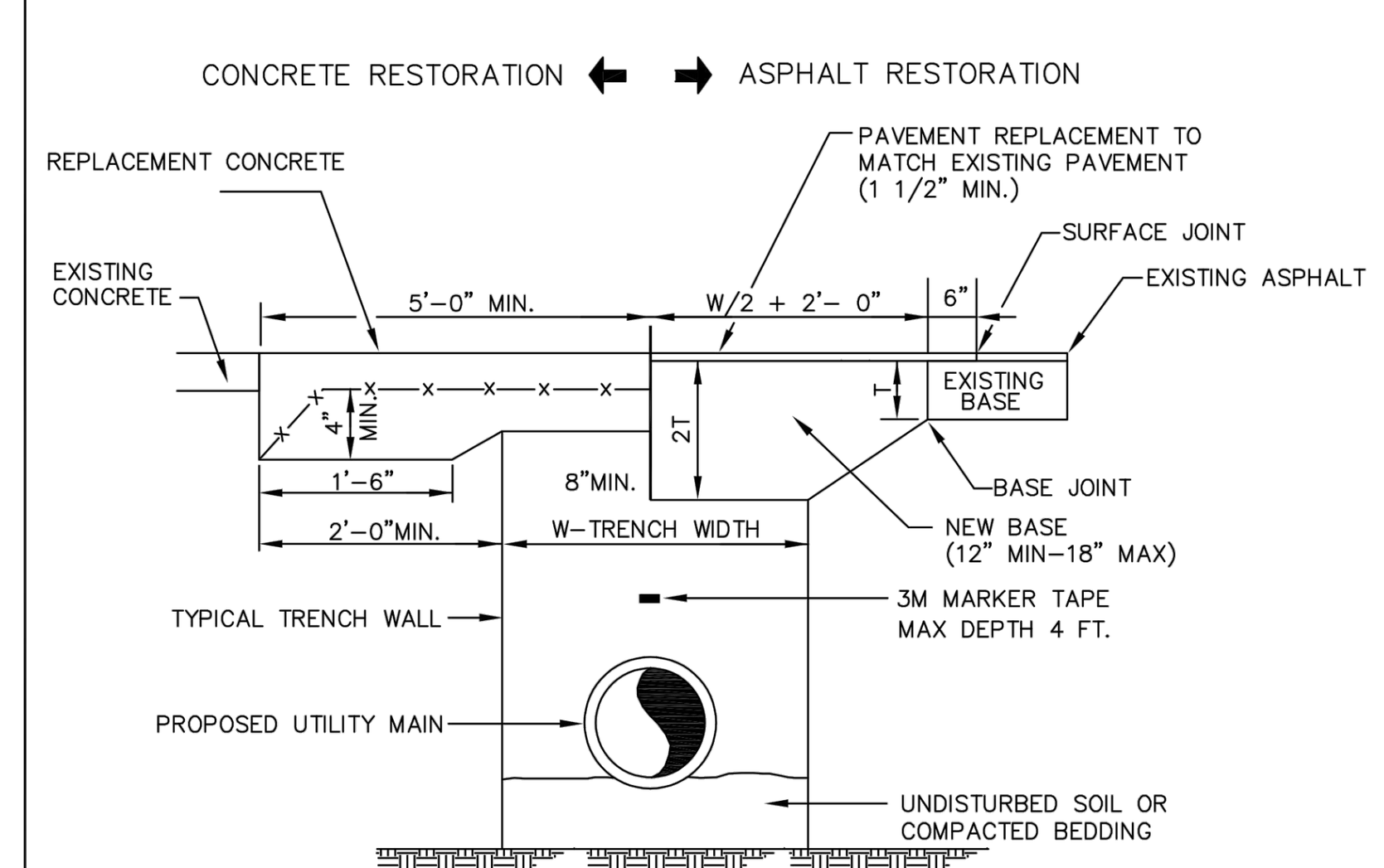


NOTES:

1. PRIMARY & SECONDARY ZONES SHALL BE INDIVIDUALLY COMPACTED LAYERS OF CLEAN FILL.
2. COMPACTION OF BACKFILL BENEATH PAVEMENT SHALL BE 98% OF AASHTO T-180, ALL OTHER AREAS SHALL BE 95% OF AASHTO T-180 UNLESS OTHERWISE REQUIRED BY ANOTHER AUTHORITY HAVING JURISDICTION.
3. PLACE APPROVED 3M MARKER TAPE OR EQUAL DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
   3.1. TAPE SHALL BE 12"–18" ABOVE THE PIPE.
   3.2. TAPE SHALL NOT EXCEED 4' DEPTH.
   3.3. IF TOP OF PIPE IS GREATER THAN 5' DEEP, AN ADDITIONAL LAYER OF WARNING TAPE SHALL BE PROVIDED 12"–18" OVER THE PIPE AND THE MARKER TAPE SHALL BE PLACED AT A DEPTH NOT TO EXCEED 4'.
4. SLOPES, BENCHING, AND/OR SHORING SHALL BE PER OSHA REQUIREMENTS.

Toho Water Authority — EFFECTIVE DATE: 04/01/2025; BOARD APPROVED DATE: 01/22/2025; PREVIOUS VERSION: 2022; DRAWN BY: MP; REVISED BY: DT

TYPICAL PIPE TRENCH — DRAWING NUMBER 14

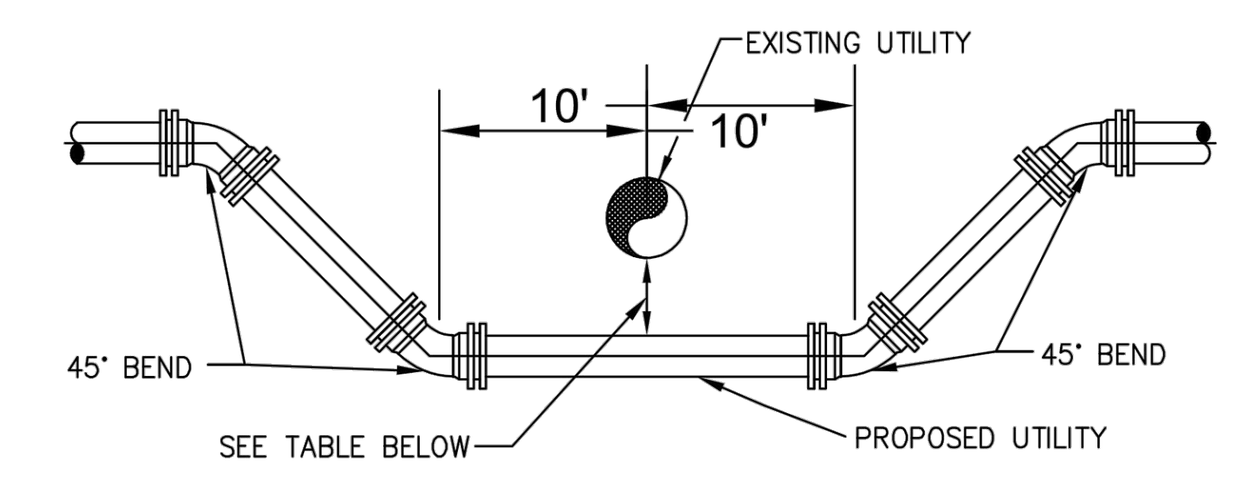


NOTES:

1. SURFACE AND BASE CUTS SHALL BE SAW CUT.
2. LONGITUDINAL OR DIAGONAL CUTS REQUIRE OVERLAY/RESURFACING OF THE COMPLETE WIDTH OF THE ROAD.
3. CUTS AT INTERSECTIONS REQUIRE COMPLETE OVERLAY/RESURFACING TO THE END OF ALL RETURN TURNOUTS AND/OR 10' BEYOND THE CUT(S), WHICHEVER IS GREATER.
4. CUTS THRU TURNOUTS AND CUL–DE–SACS REQUIRE COMPLETE OVERLAY/RESURFACING
5. COMPACTION OF BACKFILL SHALL BE 98% OF AASHTO T–180.
6. PLACE APPROVED 3M MARKER TAPE OR EQUAL DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
   6.1. TAPE SHALL BE 12"–18" ABOVE THE PIPE.
   6.2. TAPE SHALL NOT EXCEED 4' DEPTH.
   6.3. IF TOP OF PIPE IS GREATER THAN 5' DEEP, AN ADDITIONAL LAYER OF WARNING TAPE SHALL BE PROVIDED 12"–18" OVER THE PIPE AND THE MARKER TAPE SHALL BE PLACED AT A DEPTH NOT TO EXCEED 4'.
7. SLOPES, BENCHING, AND/OR SHORTING SHALL BE PER OSHA REQUIREMENTS.
8. THIS DETAIL APPLIES TO OPEN CUTS NOT LOCATED WITHIN PUBLIC RIGHTS–OF–WAY OR OTHERWISE NOT DICTATED BY ANOTHER AUTHORITY HAVING JURISDICTION.

Toho Water Authority — EFFECTIVE DATE: 04/01/2025; BOARD APPROVED DATE: 01/22/2025; PREVIOUS VERSION: 2022; DRAWN BY: MP; REVISED BY: DT

OPEN CUT — DRAWING NUMBER 15



UTILITY CROSSING DETAIL

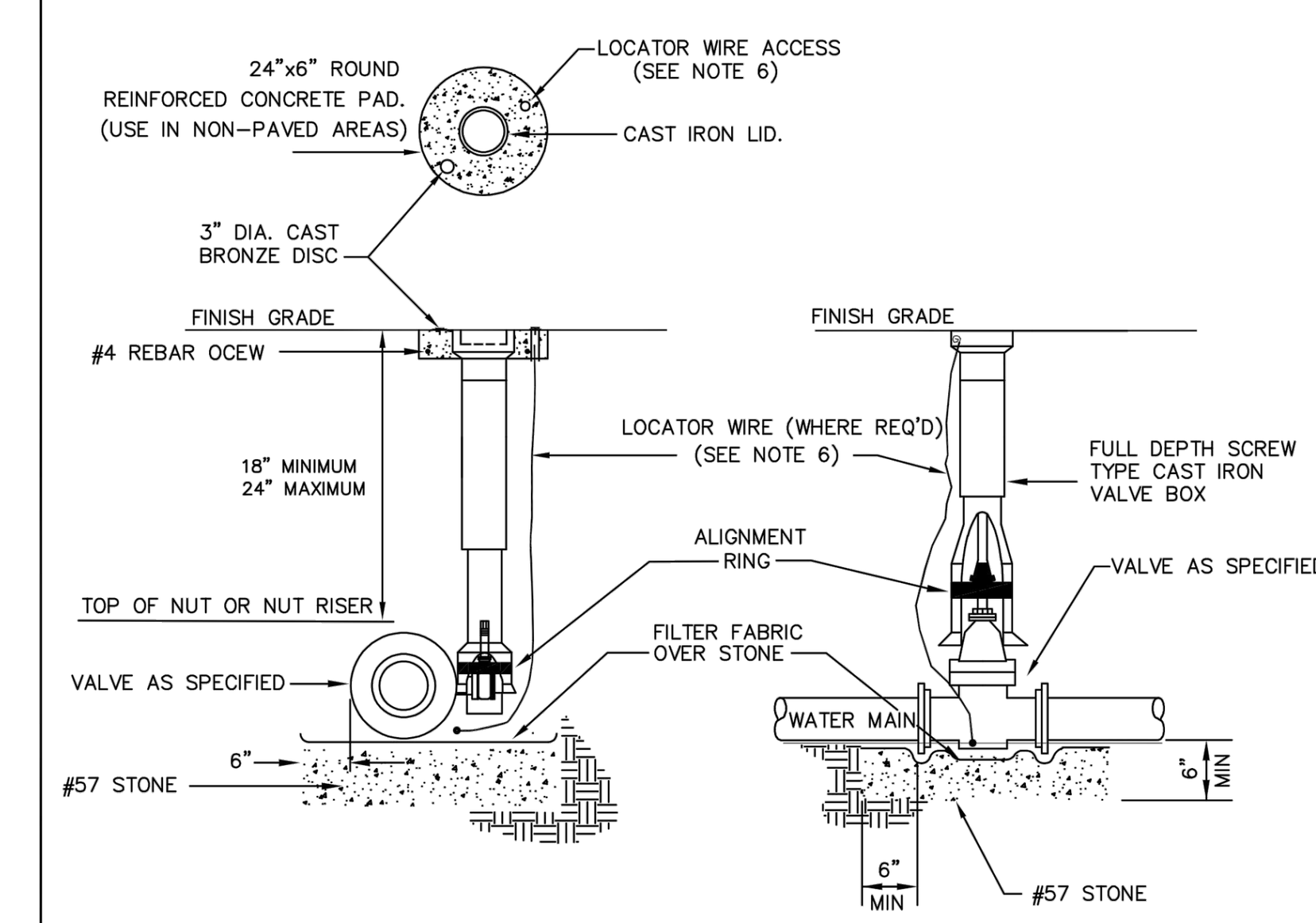
PROPOSED UTILITY	MINIMUM HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS							
	POTABLE WATER		RECLAIMED WATER		SANITARY SEWER (GRAVITY & F.M.)		STORM DRAIN	
	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.
POTABLE WATER	3'	6"	3'	12"	6' ALLOWED 10' PREFERRED	12"	3'	12"
RECLAIMED WATER	3'	12"	3'	6"	3'	12"	3'	6"
SANITARY SEWER	6' ALLOWED 10' PREFERRED	12"	3'	12"	3'	6"	3'	6"

NOTES:

1. PIPE RESTRAINTS SHALL BE PER THE THRUST RESTRAINT DETAIL TOHO–19 AND RESTRAINED JOINT TABLE TOHO–20.
2. THIS TABLE REPRESENTS THE MINIMUM SEPARATION REQUIREMENTS AS DESCRIBED IN F.D.E.P. RULES OF THE FLORIDA ADMINISTRATION CODE (F.A.C.) AND TOHO'S SEPARATION REQUIREMENTS TO FACILITATE FUTURE MAINTENANCE. THESE REQUIREMENTS SHALL APPLY BETWEEN PROPOSED UTILITY LINES AND EXISTING OR PROPOSED UTILITY LINES. ADDITIONAL SEPARATION BASED ON PIPE SIZE(S) AND LOCATION MAY BE REQUIRED AT TOHO'S DISCRETION.
3. RECLAIMED WATER IS DEFINED AS UNRESTRICTED PUBLIC ACCESS REUSE WATER AS DEFINED BY F.A.C. 17–610. OTHER TYPES OF RECLAIMED WATER ARE CONSIDERED RAW SEWAGE AND SEPARATIONS LISTED FOR SANITARY SEWER SHALL APPLY.
4. ALL SEPARATION DISTANCES ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE UNLESS OTHERWISE SPECIFIED:
   4.1. AT TOHO'S DISCRETION, THE HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY SANITARY SEWER MAINS MAY BE REDUCED TO 3' WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6" ABOVE THE TOP OF THE SEWER MAIN.
   4.2. AT TOHO'S DISCRETION THE VERTICAL SEPARATION FOR WATER MAINS AND STORM SEWER MAINS OR GRAVITY SEWER MAINS MAY BE REDUCED TO 6" IF THE WATER MAIN IS LOCATED ABOVE THE STORM SEWER OR GRAVITY SEWER MAIN(S).
5. WHERE POTABLE WATER AND SANITARY SEWER MAINS OR RECLAIM WATER MAINS CROSS, THE WATER MAIN SHALL BE CENTERED ON THE CROSSING. ALL WATER MAIN JOINTS SHALL BE AT LEAST 6' AWAY FROM ALL SEWER OR RECLAIM JOINTS AND AT LEAST 3' AWAY FROM ALL STORM SEWER JOINTS.
6. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER OR STORM SEWER MANHOLE, STRUCTURE, OR PIPE.
7. IF 36" MINIMUM DEPTH OF COVER IS NOT MAINTAINED, SPECIAL PROTECTION OR PIPE MATERIAL MAY BE REQUIRED AT THE DIRECTION OF TOHO.

Toho Water Authority — EFFECTIVE DATE: 04/01/2025; BOARD APPROVED DATE: 01/22/2025; PREVIOUS VERSION: 2022; DRAWN BY: CC; REVISED BY: DT

PIPE CLEARANCES AND CROSSINGS — DRAWING NUMBER 16



NOTES:

1. #57 STONE BEDDING SHALL BE REQUIRED A MINIMUM DEPTH OF 6" BELOW ALL VALVES. PLACE FILTER FABRIC OVER STONE PRIOR TO SETTING VALVE.
2. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, ETC. SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF ANY VALVE.
3. OPERATING NUT SHALL BE BOLTED, SHEER PINS ARE NOT PERMITTED.
4. WHERE THE VALVE OPERATING NUT MUST BE SET DEEPER THAN 24", A BOLT ON VALVE NUT RISER SHALL BE REQUIRED.
5. TWO PIECE FULL DEPTH CAST IRON SCREW TYPE ADJUSTABLE VALVE BOXES ARE REQUIRED. PVC, DIP, OR CI VALVE BOX EXTENSIONS ARE NOT PERMITTED.
6. LOCATOR WIRE ACCESS FOR DIRECTIONAL BORE OR JACK AND BORE APPLICATIONS:
   6.1. IN UNPAVED AREAS USE 2" SCH80 PVC, FEMALE ADAPTER COUPLING AND 2" BRASS PLUG W/ RECESSED NUT SET IN THE VALVE PAD.
   6.2. IN PAVED AREAS TERMINATE THE LOCATE WIRE INSIDE THE TOP PORTION OF THE VALVE BOX.
   6.3. PROVIDE A MINIMUM OF 12" OF EXTRA WIRE ABOVE FINISHED GRADE.
7. PRIVATELY MAINTAINED SYSTEMS SHALL HAVE 'PRIVATE' STAMPED ON THE BRONZE DISC.
8. DEDICATED FIRE LINES SHALL HAVE 'FIRE' STAMPED ON THE BRONZE DISC AND THE VALVE COVER SHALL BE PAINTED RED.

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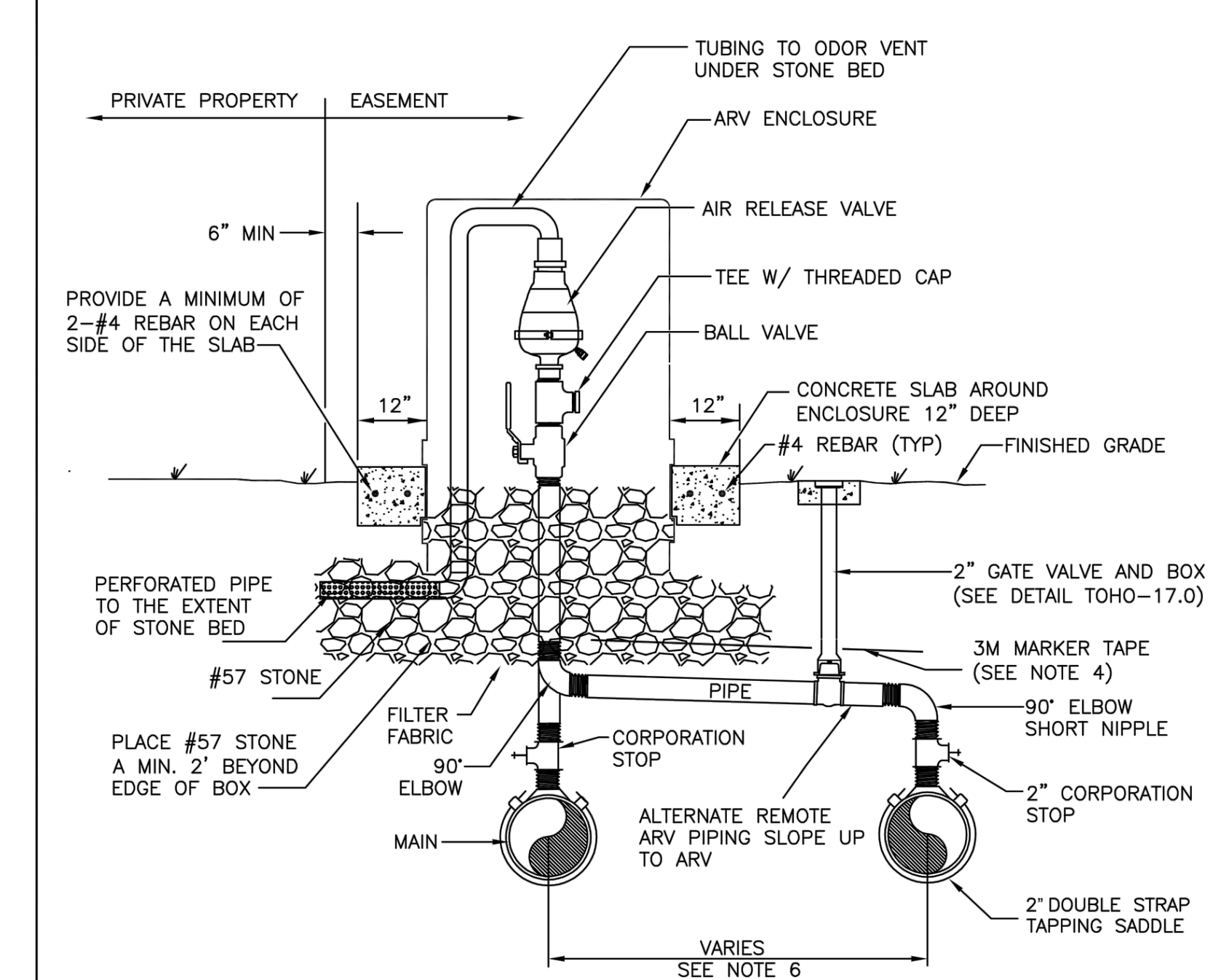
VALVE AND BOX — DRAWING NUMBER 17.0



NOTES:

1. FOR SANITARY FORCE MAIN ARVs ALL SADDLES, STOPS, FITTINGS, PIPING, ETC. SHALL BE STAINLESS STEEL SIZED TO THE ARV INLET.
2. WHERE DESIGNATED APPROPRIATE BY TOHO, WATER OR REUSE MAIN ARVs MAY BE REQUIRED. WATER AND REUSE ARV SADDLES, STOPS, FITTINGS, AND PIPING MATERIAL SHALL BE AT THE DIRECTION OF TOHO.
3. PLACE #57 STONE BEDDING UNDER THE ENCLOSURE AND PAD. PLACE FILTER FABRIC UNDER, AROUND, AND OVER THE #57 STONE PRIOR TO PLACING THE ENCLOSURE AND PAD.
4. PLACE APPROVED 3M MARKER TAPE ABOVE THE OFFSET PIPE, NOT TO EXCEED A DEPTH OF 4' AND TIED INTO THE MARKER TAPE ON THE MAIN.
5. ENCLOSURE VENTS MUST BE CAPABLE OF ALLOWING THE SAME AIRFLOW AS THE ARV AS MEASURED IN CFM.
6. OFFSET REQUIREMENT AND DISTANCE SHALL BE DETERMINED BY TOHO BASED ON FIELD CONDITIONS AND SITE CONSTRAINTS.
7. THIS DETAIL APPLIES TO 2" ARVs FOR 12" OR SMALLER MAINS. MAINS LARGER THAN 12" SHALL HAVE ARVs INSTALLED PER TOHO–18.1.

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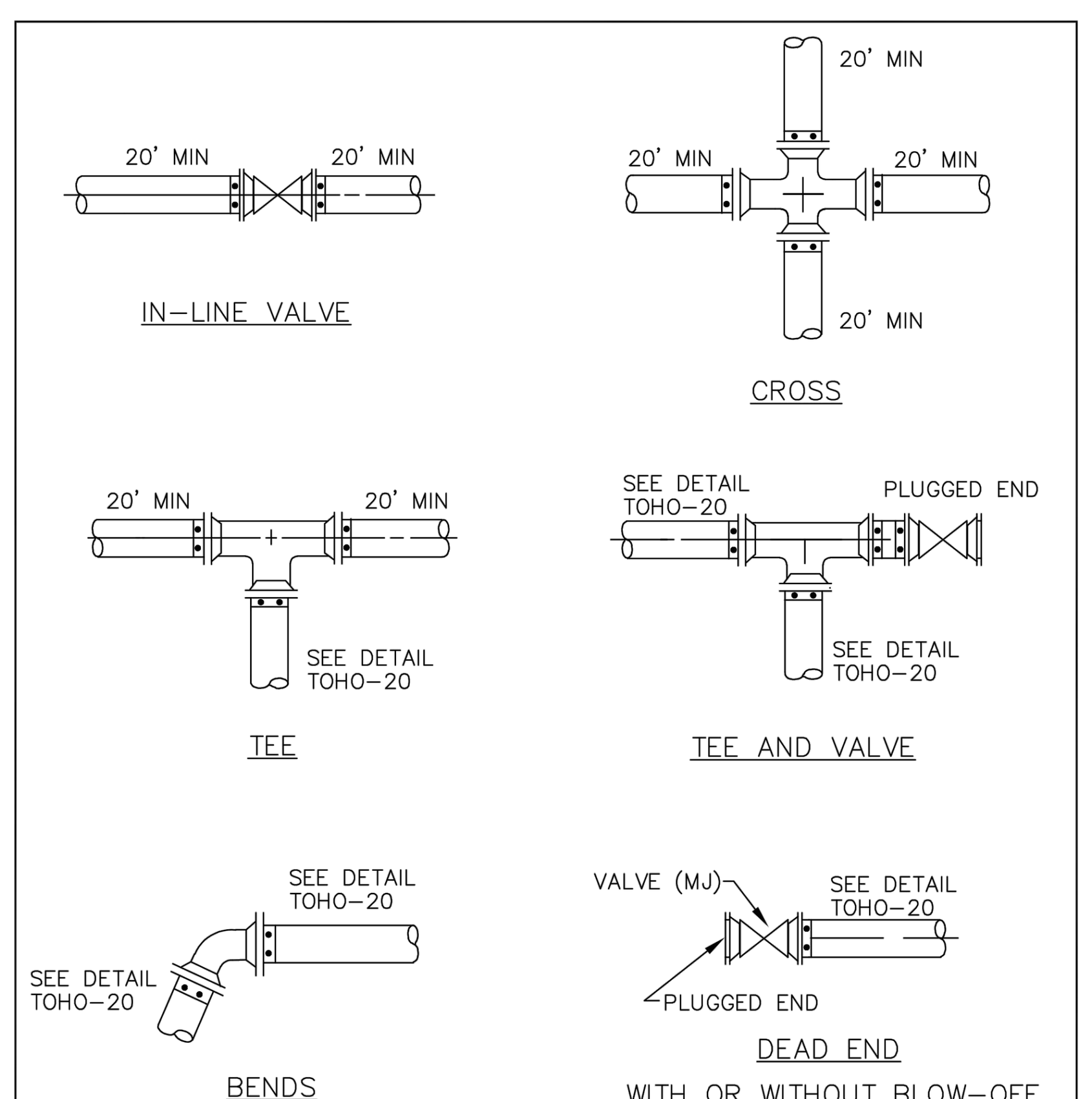
STANDARD AIR RELEASE VALVE — DRAWING NUMBER 18.0



NOTES:

1. MECHANICAL PIPE RESTRAINT SYSTEMS SHALL BE REQUIRED. THRUST BLOCKS WILL ONLY BE PERMITTED ON A CASE–BY–CASE BASIS AS DETERMINED BY TOHO.
2. ALL MECHANICAL JOINT FITTINGS (TEES, BENDS, CROSSES, ELBOWS, ETC.) AND VALVES SHALL BE RESTRAINED.
3. RESTRAIN THRU VALVES.

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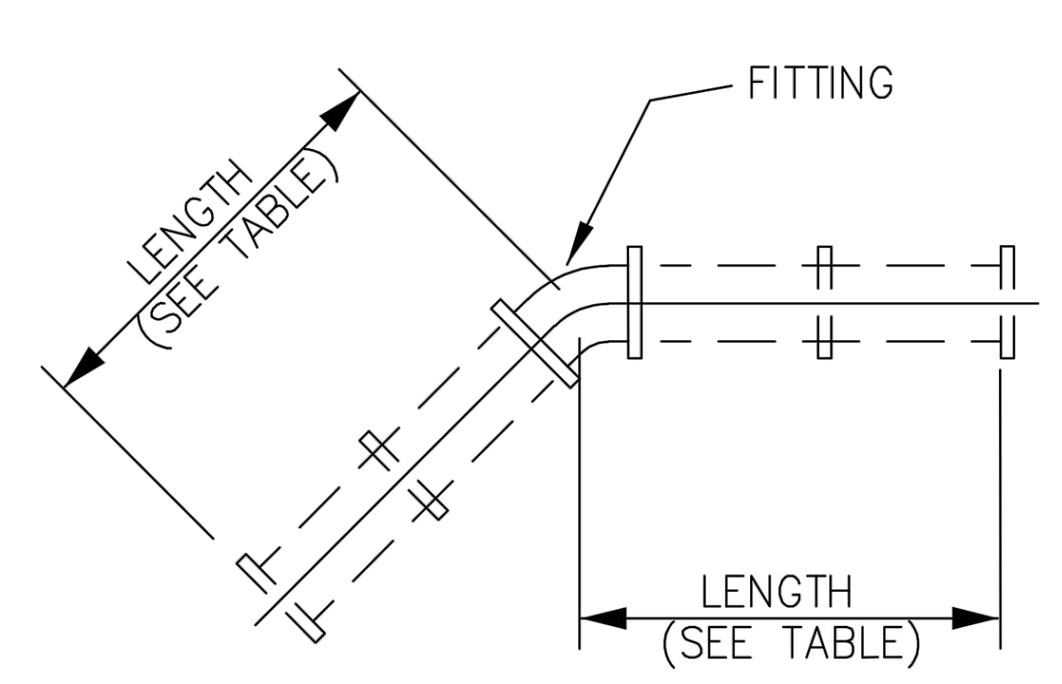
THRUST RESTRAINT — DRAWING NUMBER 19



MINIMUM LENGTH (IN FEET) OF RESTRAINED PIPE REQUIRED

PIPE SIZE (DIAMETER IN INCHES)	BENDS: 90° 100psi	90° 150psi	45° 100psi	45° 150psi	22 1/2° 100psi	22 1/2° 150psi	11 1/4° 100psi	11 1/4° 150psi	VERTICAL BENDS 100psi	VERTICAL BENDS 150psi	OTHER FITTINGS: DEAD END 100psi	DEAD END 150psi	CROSS OR VALVE 100psi	CROSS OR VALVE 150psi	TEE BRANCH 100psi	TEE BRANCH 150psi
4"	20'	20'	20'	20'	20'	20'	20'	20'	20'	20'	40'	40'	20'	20'	40'	40'
6"	20'	40'	20'	20'	20'	20'	20'	20'	20'	40'	40'	60'	20'	20'	40'	40'
8"	20'	40'	20'	20'	20'	20'	20'	20'	40'	40'	40'	80'	20'	20'	40'	40'
12"	40'	40'	20'	20'	20'	20'	20'	20'	40'	60'	60'	100'	20'	20'	40'	40'
14"	40'	60'	20'	20'	20'	20'	20'	20'	40'	60'	80'	120'	20'	20'	40'	40'
16"	40'	60'	20'	20'	20'	20'	20'	20'	40'	60'	80'	120'	20'	20'	40'	60'
20"	40'	60'	20'	40'	20'	20'	20'	20'	60'	80'	100'	160'	20'	20'	40'	80'
24"	60'	80'	20'	40'	20'	20'	20'	20'	60'	80'	120'	180'	20'	20'	40'	100'
30"	60'	80'	40'	40'	20'	20'	20'	20'	80'	100'	140'	200'	20'	20'	60'	140'

NOTES:

1. THE ABOVE THRUST RESTRAINT TABLE SHALL BE USED FOR THE FOLLOWING TRENCH CONDITIONS:
   1.a MINIMUM 50% SOIL RETAINED ON A NUMBER 200 SIEVE
   1.b MINIMUM 98% COMPACTION, AASHTO T–180 UNDER PAVEMENT
   1.c MINIMUM 95% COMPACTION, AASHTO T–180 ALL OTHER AREAS
   1.d MINIMUM 3' OF COVER
2. THE ABOVE TABLE SPECIFIES THE LENGTH OF RESTRAINED PIPE SECTIONS REQUIRED, IN EACH DIRECTION OF PIPE ON EXTENDED CENTERLINE OF FITTING.
3. WHERE CONDITIONS VARY FROM THE ABOVE TABLE, A FLORIDA REGISTERED PROFESSIONAL ENGINEER MUST DETERMINE THE REQUIRED LENGTH OF OF RESTRAINAED PIPE.
4. ALL FITTINGS, VALVES AND RESTRAINED PIPE SHALL BE RESTRAINED WITH TOHO APPROVED MATERIALS.

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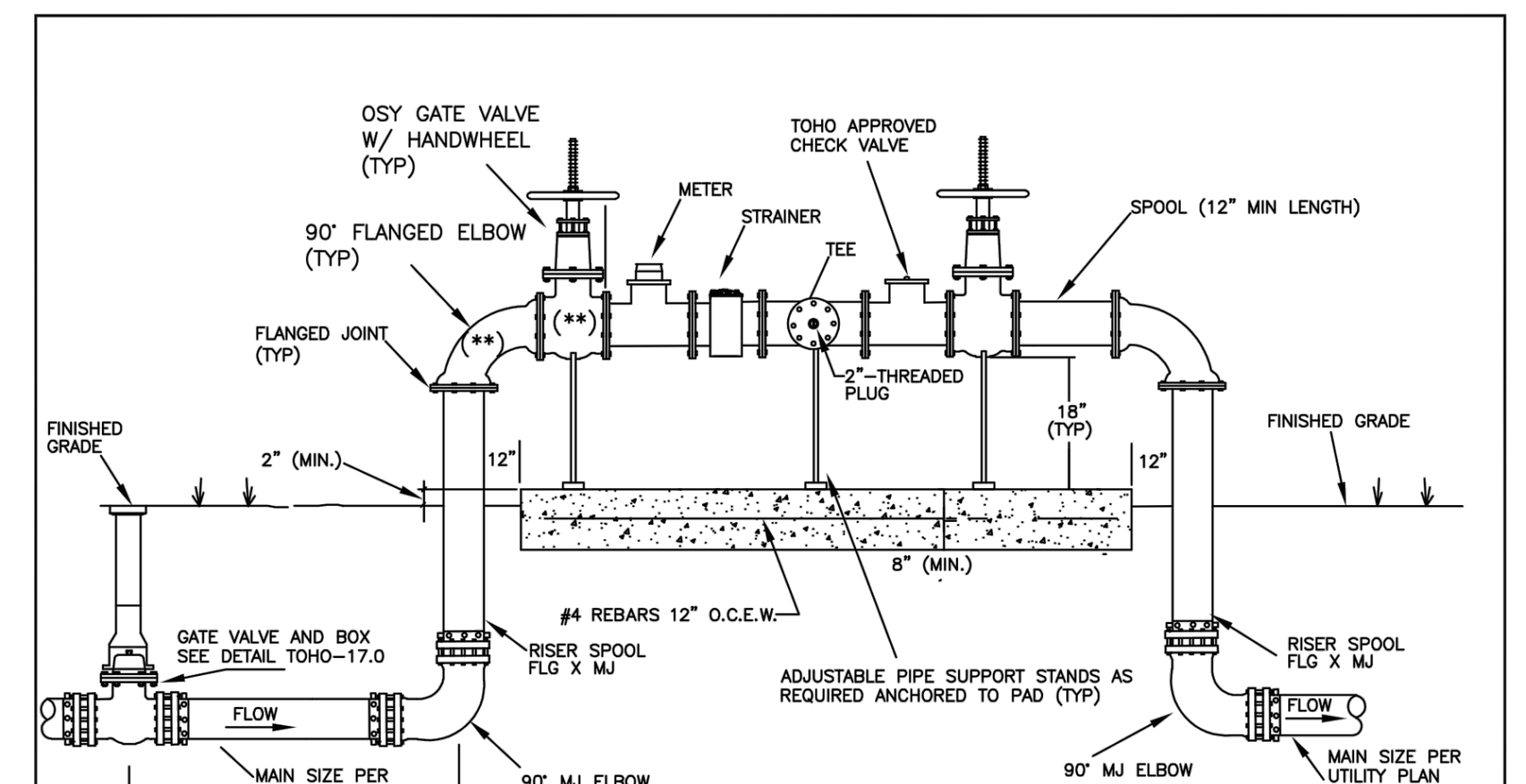
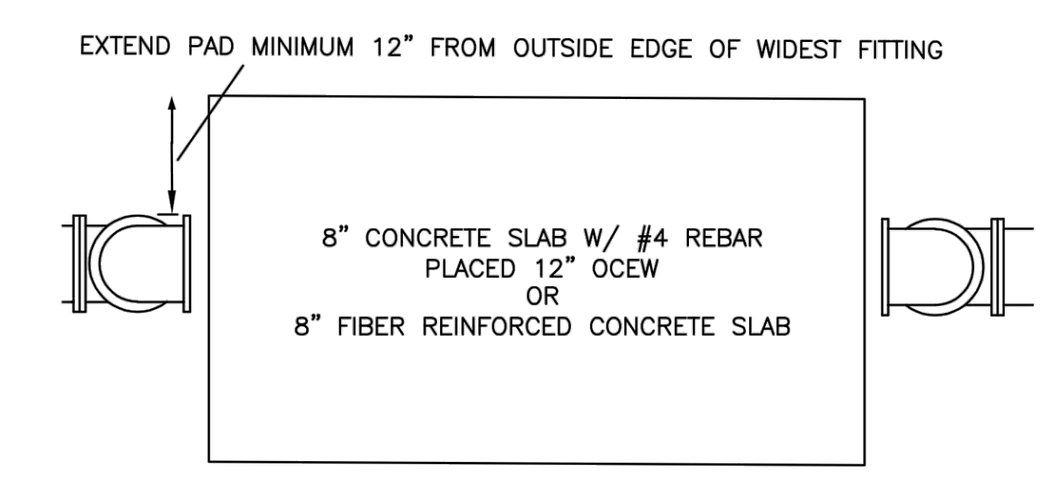
RESTRAINED JOINT TABLE — DRAWING NUMBER 20



ASSEMBLY



TOP VIEW

NOTES:

1. ALL FITTINGS INCLUDING BUT NOT LIMITED TO THE STRAINER, METER, CHECK VALVE, TEE, ETC. SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR TO PROVIDE AND INSTALL.
2. GALVANIZED PIPE, SCH PVC PIPE, THREADED, OR PUSH JOINT FITTINGS ARE NOT ALLOWED.
3. PROTECTIVE BOLLARD(S) MAY BE REQUIRED AT THE DISCRETION OF TOHO.
4. MAINTAIN A MINIMUM 3' CLEARANCE AROUND ALL SIDES OF THE ASSEMBLY FREE OF PLANTINGS, STRUCTURES, OTHER UTILITIES, ETC.
5. IF CHEMICAL INJECTION IS USED, THE CHECK VALVE SHALL BE REPLACED WITH A REDUCED PRESSURE ZONE (RPZ) BACKFLOW DEVICE AT THE OWNER'S EXPENSE.
6. ALL ABOVE GROUND PIPING SHALL BE PAINTED PANTONE PURPLE.
7. WHERE REUSE IS UNAVAILABLE AND THE SYSTEM IS JUMPED TO POTABLE WATER:
   7.1. SEE TOHO–22.1 POTABLE REUSE JUMPER LAYOUT DETAIL FOR ADDITIONAL INFORMATION.
   7.2. PROVIDE A TEE BETWEEN THE ELBOW AND GV MARKED WITH (**) ABOVE. THE BRANCH OF THE TEE SHALL BE PARALLEL TO THE GROUND AND SHALL FACE AWAY FROM THE PAVEMENT OR TRAVELWAY.
   7.3. PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTER ON THE BRANCH OF THE TEE.
   7.4. PAINT THE ABOVE GROUND PIPING UP TO AND INCLUDING THE RPZ BACKFLOW BLUE AND ALL ABOVE GROUND PIPING DOWNSTREAM OF THE RPZ BACKFLOW PANTONE PURPLE.

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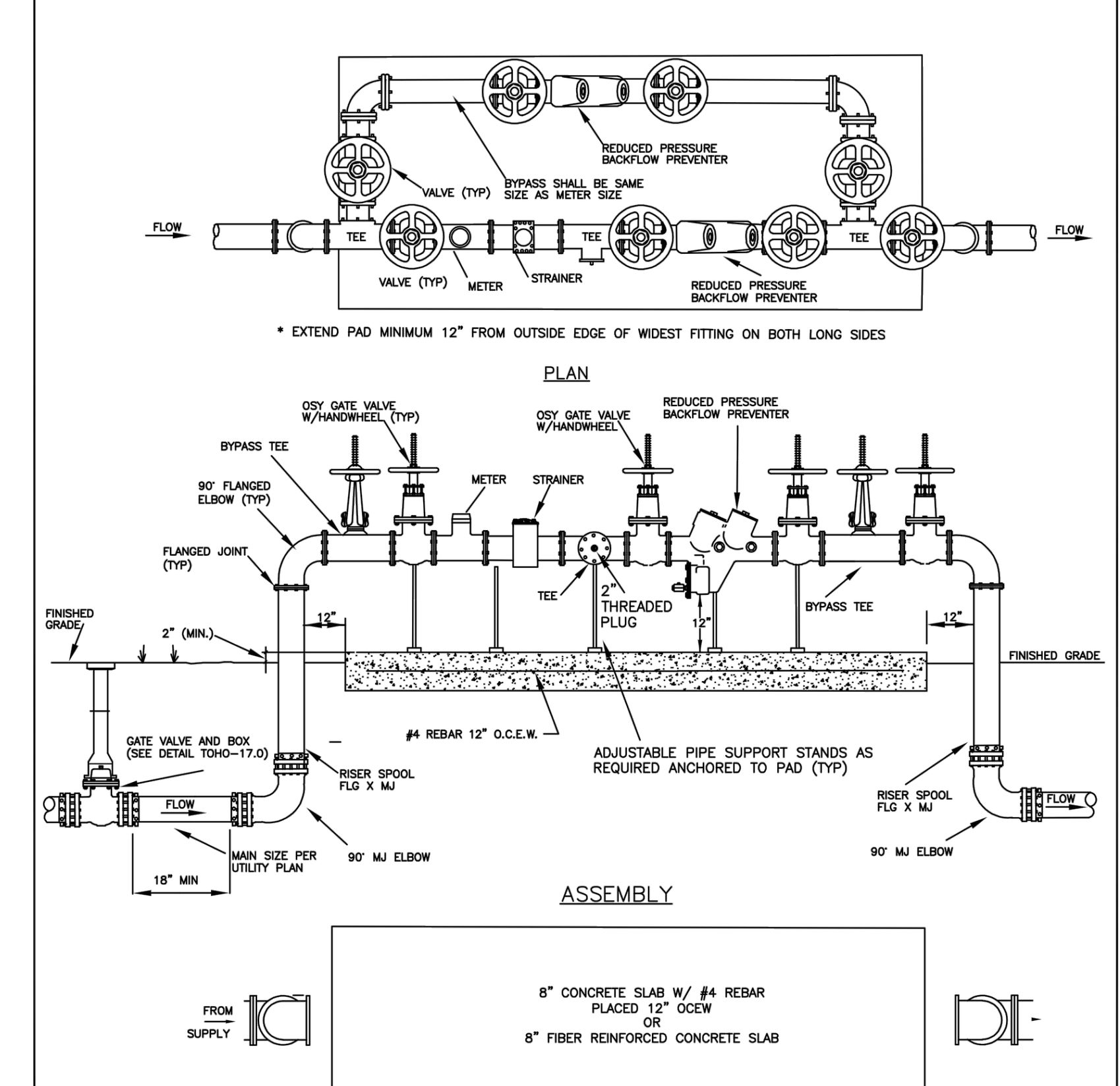
LARGE REUSE METER ASSEMBLY — DRAWING NUMBER 22.0

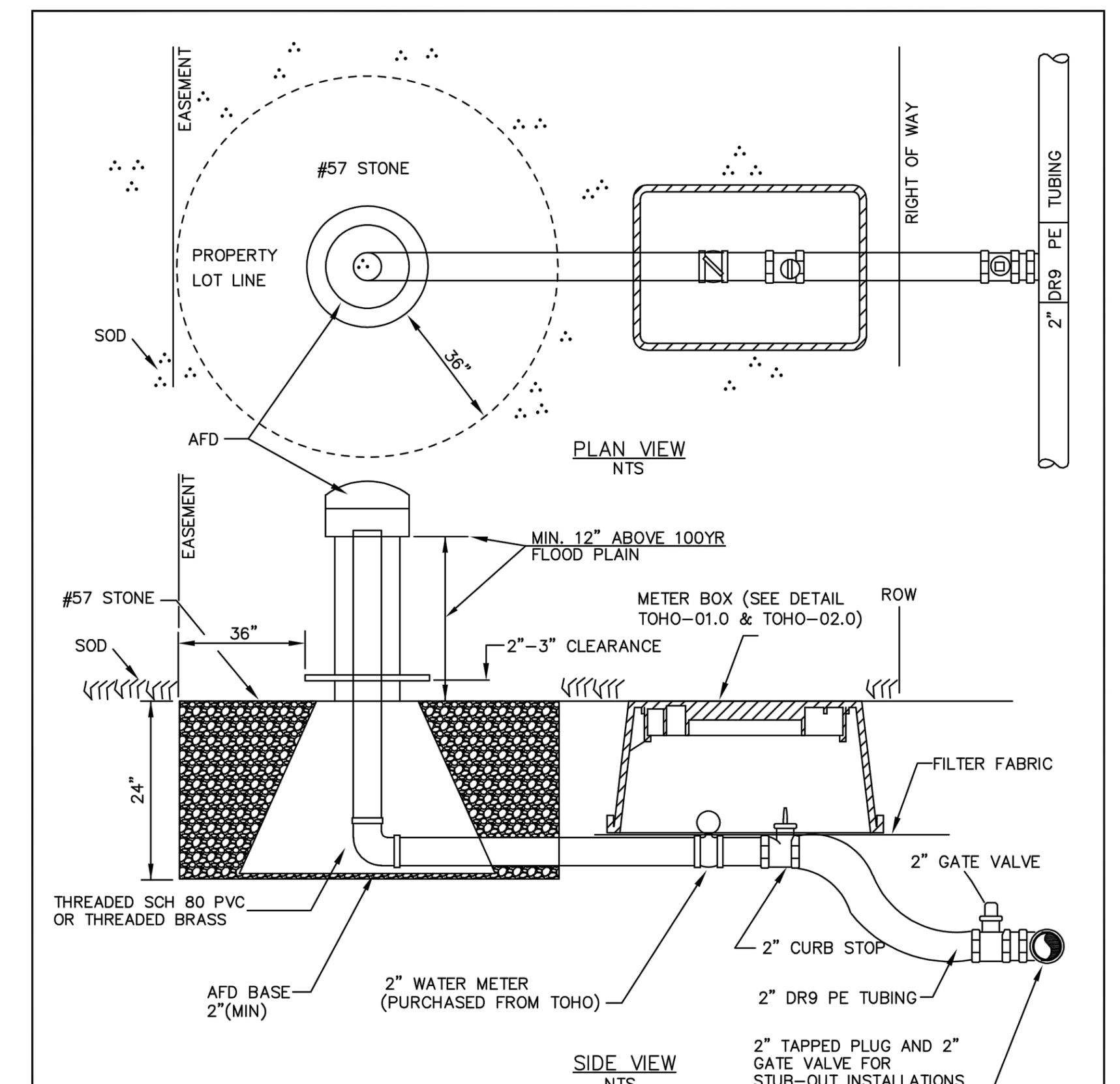


NOTES:

1. ALL PIPING, VALVES, FITTINGS, AND BACKFLOWS INCLUDED IN THE ASSEMBLY SHALL MATCH THE SIZE OF THE METER.
2. ALL FITTINGS INCLUDING BUT NOT LIMITED TO THE STRAINER, METER, CHECK VALVE, TEE, ETC. SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR TO PROVIDE AND INSTALL.
3. GALVANIZED PIPE, SCH PVC PIPE, THREADED, OR PUSH JOINT FITTINGS ARE NOT ALLOWED.PROTECTIVE BOLLARD(S) MAY BE REQUIRED AT THE DISCRETION OF TOHO.
4. MAINTAIN A MINIMUM 3' CLEARANCE AROUND ALL SIDES OF THE ASSEMBLY FREE OF PLANTINGS, STRUCTURES, OTHER UTILITIES, ETC.

Toho Water Authority — EFFECTIVE DATE: 04/01/2025; BOARD APPROVED DATE: 01/22/2025; PREVIOUS VERSION: 2022; DRAWN BY: MP; REVISED BY: DT

LARGE POTABLE METER ASSEMBLY — DRAWING NUMBER 23



NOTES:

1. NO PLANTINGS, STRUCTURES, OR OTHER UTILITIES, INCLUDING BUT NOT LIMITED TO TELECOM PEDESTALS, ELECTRICAL TRANSFORMERS OR POLES, ETC. SHALL BE INSTALLED WITHIN 36" OF ANY SIDE OF THE FLUSHING DEVICE OR METER BOX.
2. BOLLARDS SHALL BE REQUIRED ON A CASE–BY–CASE BASIS AS DIRECTED BY TOHO.
3. FLUSHING DEVICES SHALL BE SET BEHIND THE RIGHT–OF–WAY LINE AND CENTERED ON A LOT LINE.
4. ALL SOD WITHIN 20 LINEAR FEET IN ALL DIRECTIONS MUST BE INSTALLED BEFORE THE FLUSHING DEVICE CAN BE ACTIVATED.
5. TOHO REQUIRES BLUETOOTH CONTROLLERS FOR ALL FLUSHING DEVICES.

Toho Water Authority — EFFECTIVE DATE: 04/01/2025; BOARD APPROVED DATE: 01/22/2025; PREVIOUS VERSION: 2022; DRAWN BY: MP; REVISED BY: DT

AUTOMATIC FLUSHING DEVICE — DRAWING NUMBER 24

SUB25-00041
PSP25-00004

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DESIGN MW/CM	F.B. NO. –	SEC. 5 & 8			
DRAWN RS	PAGE –	TWP. 26 S	02–26–26	CM	REVISED PER CITY COMMENTS △2
CHECKED RN	SCALE AS SHOWN	RANGE 31 E	01–13–26	CM	REVISED PER TOHO & FDOT COMMENTS △1
CAD# (see stamp)	DATE 1/13/26		DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

TOHO DETAILS-2

ROBERT LEE NEWBERRY JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:56:55 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET № C-43 of C-50
JOB № 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 TWA DETAILS.dwg * Mar 11, 2026-12:23pm * plotted by RSouser

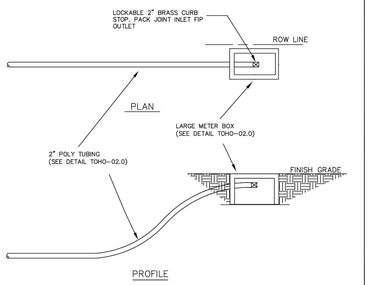
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

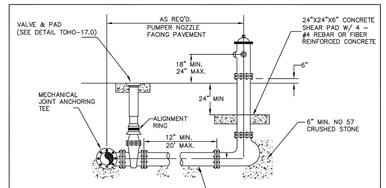
Authorized Signature



NOTES:

1. BLOWOFF SHALL TERMINATE WITH A 2" LOCKABLE CURB STOP IN A PLASTIC DOUBLE METER BOX.
2. BOX SHALL BE SET PER DETAILS TOHO-01, TOHO-01.1, & TOHO-02.
3. MAIN SHALL BE PIGGED PRIOR TO INSTALLING BLOWOFF.
4. ALL SADDLES, STOPS, & FITTINGS SHALL BE NO LEAD BRASS PACK JOINT W/ CLAMP SCREW RETAINER. NO GALVANIZED PIPE OR FITTINGS ALLOWED.

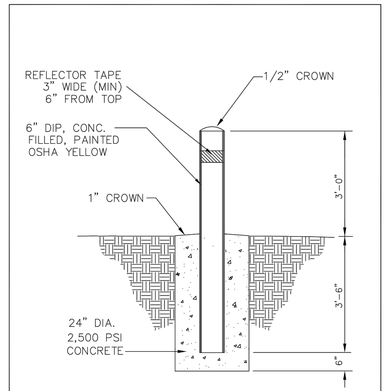
Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	BLOW-OFF	DRAWING NUMBER 25



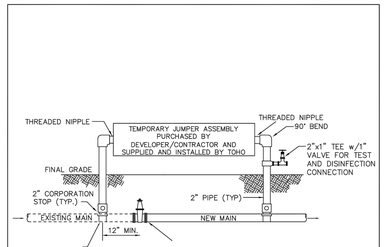
NOTES:

1. HYDRANT SHALL BE SUPPLIED WITHOUT A WEEP HOLE OR WITH A PERMANENTLY PLUGGED WEEP HOLE.
2. CLEARANCE BETWEEN BOTTOM OF BOLTS AND FINISH GRADE SHALL BE 6" MINIMUM.
3. CLEARANCE BETWEEN CENTER OF PUMPER NOZZLE AND FINISH GRADE SHALL BE 18" MINIMUM AND 24" MAXIMUM.
4. PLANTING CLEAR AREA(S) SHALL BE PER APPLICABLE FIRE CODE(S).
5. IF HYDRANT IS LOCATED MORE THAN 20 LINEAR FEET FROM THE MAIN OR ON THE OPPOSITE SIDE OF A TRAVELWAY FROM THE MAIN, AN ADDITIONAL GATE VALVE SHALL BE REQUIRED IMMEDIATELY UPSTREAM OF THE HYDRANT.
6. VALVE, VALVE BOX, & PAD SHALL BE INSTALLED PER THE TOHO VALVE & BOX DETAIL TOHO-17.

Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	FIRE HYDRANT	DRAWING NUMBER 26



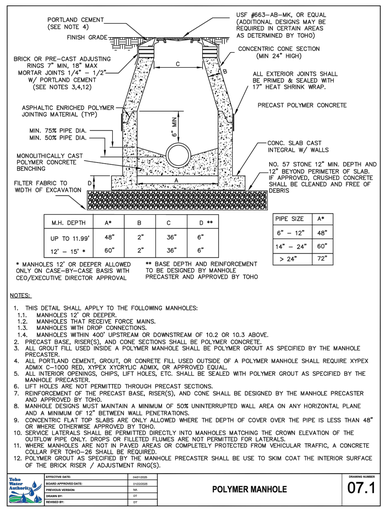
Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	BOLLARD	DRAWING NUMBER 28



NOTES:

1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING FDEP CLEARED POTABLE AND REUSE WATER MAINS AND PERMITTED WATER AND REUSE MAIN IMPROVEMENTS.
2. THE DETAIL ABOVE IS TO BE USED FOR DISINFECTION AND PRESSURE TESTING ALL PRESSURE MAINS AND FILLING, DISINFECTION AND TESTING OF POTABLE WATER MAINS ONLY.
3. UNTIL SUCH TIME AS FDEP HAS CLEARED THE POTABLE WATER MAIN FOR USE, OR TOHO HAS CLEARED THE POTABLE OR REUSE MAIN FOR USE IF NO FDEP PERMIT IS REQUIRED, THE JUMPER MUST REMAIN ON AND THE VALVE BETWEEN THE OLD AND NEW SYSTEMS MUST REMAIN CLOSED.
4. THE DEVELOPER AND/OR CONTRACTOR WILL PURCHASE THE TEMPORARY JUMPER ASSEMBLY FROM TOHO. ONLY JUMPERS PURCHASED AND INSTALLED BY TOHO ARE PERMITTED.
5. REMOVAL OR RELOCATION OF JUMPERS SHALL ONLY BE PERFORMED BY TOHO PERSONNEL.
6. 2" TAPS AND SERVICES UPSTREAM AND DOWNSTREAM OF THE JUMPER ASSEMBLY SHALL BE PER DETAIL TOHO-01.0, TOHO-01.1, AND TOHO-02.0.
7. GALVANIZED PIPE AND/OR FITTINGS ARE NOT ALLOWED.
8. ABANDONED JUMPER CONNECTIONS MUST BE INCLUDED ON THE FINAL RECORD DRAWINGS.

Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	TEMPORARY JUMPER	DRAWING NUMBER 30



M.H. DEPTH	A*	B	C	D **
UP TO 11.99'	48"	2"	36"	6"
12' – 15' *	60"	2"	36"	6"

PIPE SIZE	A*
6" – 12"	48"
14" – 24"	60"
> 24"	72"

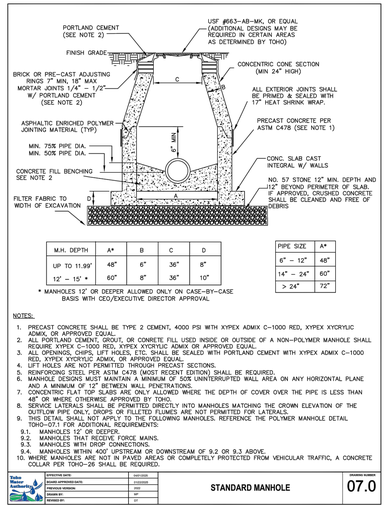
* MANHOLES 12' OR DEEPER ALLOWED ONLY ON CASE-BY-CASE BASIS WITH CEO/EXECUTIVE DIRECTOR APPROVAL

** BASE DEPTH AND REINFORCEMENT TO BE DESIGNED BY MANHOLE PRECASTER AND APPROVED BY TOHO

NOTES:

1. THIS DETAIL SHALL APPLY TO THE FOLLOWING MANHOLES:
   1.1. MANHOLES 12' OR DEEPER.
   1.2. MANHOLES THAT RECEIVE FORCE MAINS.
   1.3. MANHOLES WITH DROP CONNECTIONS.
   1.4. MANHOLES WITHIN 400' UPSTREAM OR DOWNSTREAM OF 10.2 OR 10.3 ABOVE.
2. PRECAST BASE, RISER(S), AND CONE SECTIONS SHALL BE POLYMER CONCRETE.
3. ALL GROUT FILL USED INSIDE A POLYMER MANHOLE SHALL BE POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER.
4. ALL PORTLAND CEMENT, GROUT, OR CONRETE FILL USED OUTSIDE OF A POLYMER MANHOLE SHALL REQUIRE XYPEX ADMIX C-1000 RED, XYPEX XYCRYLIC ADMIX, OR APPROVED EQUAL.
5. ALL INTERIOR OPENINGS, CHIPS, LIFT HOLES, ETC. SHALL BE SEALED WITH POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER.
6. LIFT HOLES ARE NOT PERMITTED THROUGH PRECAST SECTIONS.
7. REINFORCEMENT OF THE PRECAST BASE, RISER(S), AND CONE SHALL BE DESIGNED BY THE MANHOLE PRECASTER AND APPROVED BY TOHO.
8. MANHOLE DESIGNS MUST MAINTAIN A MINIMUM OF 50% UNINTERRUPTED WALL AREA ON ANY HORIZONTAL PLANE AND A MINIMUM OF 12" BETWEEN WALL PENETRATIONS.
9. CONCENTRIC FLAT TOP SLABS ARE ONLY ALLOWED WHERE THE DEPTH OF COVER OVER THE PIPE IS LESS THAN 48" OR WHERE OTHERWISE APPROVED BY TOHO.
10. SERVICE LATERALS SHALL BE PERMITTED DIRECTLY INTO MANHOLES MATCHING THE CROWN ELEVATION OF THE OUTFLOW PIPE ONLY. DROPS OR FILLETED FLUMES ARE NOT PERMITTED FOR LATERALS.
11. WHERE MANHOLES ARE NOT IN PAVED AREAS OR COMPLETELY PROTECTED FROM VEHICULAR TRAFFIC, A CONCRETE COLLAR PER TOHO-26 SHALL BE REQUIRED.
12. POLYMER GROUT AS SPECIFIED BY THE MANHOLE PRECASTER SHALL BE USE TO SKIM COAT THE INTERIOR SURFACE OF THE BRICK RISER / ADJUSTMENT RING(S).

Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	POLYMER MANHOLE	DRAWING NUMBER 07.1



M.H. DEPTH	A*	B	C	D
UP TO 11.99'	48"	6"	36"	8"
12' – 15' *	60"	8"	36"	10"

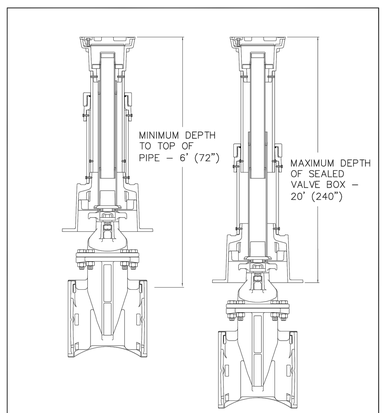
PIPE SIZE	A*
6" – 12"	48"
14" – 24"	60"
> 24"	72"

* MANHOLES 12' OR DEEPER ALLOWED ONLY ON CASE-BY-CASE BASIS WITH CEO/EXECUTIVE DIRECTOR APPROVAL

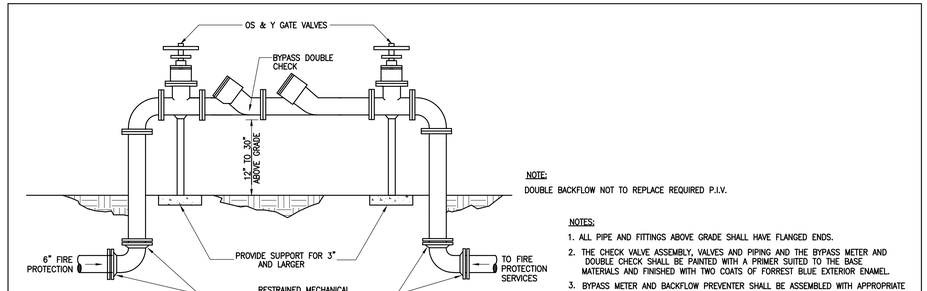
NOTES:

1. PRECAST CONCRETE SHALL BE TYPE 2 CEMENT, 4000 PSI WITH XYPEX ADMIX C-1000 RED, XYPEX XYCRYLIC ADMIX, OR APPROVED EQUAL.
2. ALL PORTLAND CEMENT, GROUT, OR CONRETE FILL USED INSIDE OR OUTSIDE OF A NON-POLYMER MANHOLE SHALL REQUIRE XYPEX C-1000 RED, XYPEX XYCRYLIC ADMIX OR APPROVED EQUAL.
3. ALL INTERIOR OPENINGS, CHIPS, LIFT HOLES, ETC. SHALL BE SEALED WITH PORTLAND CEMENT WITH XYPEX ADMIX C-1000 RED, XYPEX XYCRYLIC ADMIX, OR APPROVED EQUAL.
4. LIFT HOLES ARE NOT PERMITTED THROUGH PRECAST SECTIONS.
5. REINFORCING STEEL PER ASTM C478 (MOST RECENT EDITION) SHALL BE REQUIRED.
6. MANHOLE DESIGNS MUST MAINTAIN A MINIMUM OF 50% UNINTERRUPTED WALL AREA ON ANY HORIZONTAL PLANE AND A MINIMUM OF 12" BETWEEN WALL PENETRATIONS.
7. CONCENTRIC FLAT TOP SLABS ARE ONLY ALLOWED WHERE THE DEPTH OF COVER OVER THE PIPE IS LESS THAN 48" OR WHERE OTHERWISE APPROVED BY TOHO.
8. SERVICE LATERALS SHALL BE PERMITTED DIRECTLY INTO MANHOLES MATCHING THE CROWN ELEVATION OF THE OUTFLOW PIPE ONLY. DROPS OR FILLETED FLUMES ARE NOT PERMITTED FOR LATERALS.
9. THIS DETAIL SHALL NOT APPLY TO THE FOLLOWING MANHOLES. REFERENCE THE POLYMER MANHOLE DETAIL TOHO-07.1 FOR ADDITIONAL REQUIREMENTS:
   9.1. MANHOLES 12' OR DEEPER.
   9.2. MANHOLES THAT RECEIVE FORCE MAINS.
   9.3. MANHOLES WITH DROP CONNECTIONS.
   9.4. MANHOLES WITHIN 400' UPSTREAM OF DOWNSTREAM OF 9.2 OR 9.3 ABOVE.
10. WHERE MANHOLES ARE NOT IN PAVED AREAS OR COMPLETELY PROTECTED FROM VEHICULAR TRAFFIC, A CONCRETE COLLAR PER TOHO-26 SHALL BE REQUIRED.

Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	STANDARD MANHOLE	DRAWING NUMBER 07.0



Toho Water Authority	EFFECTIVE DATE: 04/01/2025 BOARD APPROVED DATE: 01/22/2025 PREVIOUS VERSION: 2022 DRAWN BY: MC REVIEWED BY: DT	ADJUSTABLE SEALED VALVE BOX	DRAWING NUMBER 17.1



NOTE:

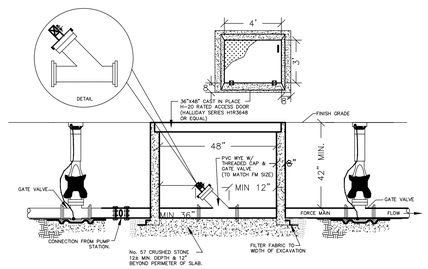
DOUBLE BACKFLOW NOT TO REPLACE REQUIRED P.I.V.

NOTES:

1. ALL PIPE AND FITTINGS ABOVE GRADE SHALL HAVE FLANGED ENDS.
2. THE CHECK VALVE ASSEMBLY, VALVES AND PIPING AND THE BYPASS METER AND DOUBLE CHECK SHALL BE PAINTED WITH A PRIMER SUITED TO THE BASE MATERIALS AND FINISHED WITH TWO COATS OF FORREST BLUE EXTERIOR ENAMEL.
3. BYPASS METER AND BACKFLOW PREVENTER SHALL BE ASSEMBLED WITH APPROPRIATE FITTINGS TO ALLOW REMOVAL AND RE-INSTALLATION.

DOUBLE DETECTOR CHECK ASSEMBLY

N.T.S.

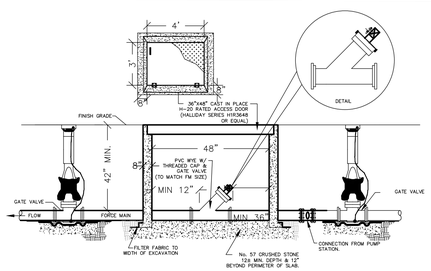


NOTES:

1. CRUSHED STONE BEDDING 6" MINIMUM BELOW VALVE TO BE COVERED WITH FILTER FABRIC.
2. VALVE BOX RISER EXTENSIONS SHALL BE DUCTILE IRON PIPE.
3. LOCATOR WIRE ACCESS – IN UNPAVED AREA USE 2" SCH80 PVC, FEMALE ADAPTOR COUPLING AND 2" BRASS PLUG w/RECESSED NUT. TERMINATE INSULATED, SOLID 14 GA. COPPER WIRES AT TOP w/12" OF EXTRA WIRE. IN PAVED AREA, TERMINATE SOLID 14 GA. COPPER WIRES INSIDE OF TOP PORTION OF VALVE BOX w/12" OF EXTRA WIRE.
4. MAINTAIN A MINIMUM OF 3' CLEARANCE FREE OF ALL PLANTINGS & STRUCTURES AROUND VALVE BOX.

ENTRY PORT DETAIL

N.T.S



NOTES:

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4. MAINTAIN A MINIMUM OF 3' CLEARANCE FREE OF ALL PLANTINGS & STRUCTURES AROUND VALVE BOX.

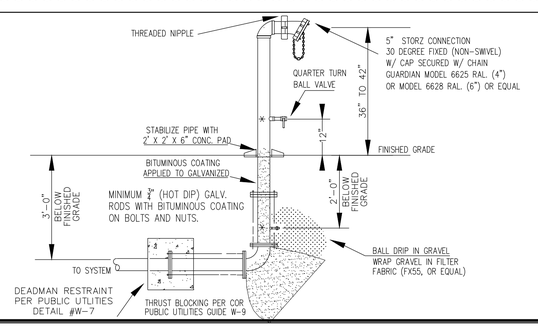
EXIT PORT DETAIL

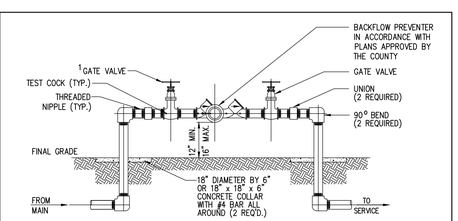
N.T.S

FDc DETAIL

TYPICAL NOTES:

1) – ALL EXPOSED PIPING AND FITTINGS TO BE GALVANIZED WITH EXCEPTION OF STORZ CONNECTION
2) – 40' MAX. FROM FDC TO FIRE APPARATUS ACCESS (DRIVEWAY)
3) – FOR NFPA 13R SYSTEMS (2 1/2" RISER AND SMALLER) SINGLE FDC W/ RALEIGH THREADS (3.340 X 6 SHARPE V FORM)
4) – WHEN BUILDING HT. IS GREATER THAN 200' USE RAL. SIAMESE
5) – AN APPROVED CONNECTION (TAPPING NOT APPROVED)





NOTES:

1. ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED SCHEDULE 40 GALVANIZED STEEL OR BRASS.

REDUCED PRESSURE BACKFLOW PREVENTER

SUB25-00041
PSP25-00004

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CAD#	(see stamp)	DATE	1/13/26		

DATE	BY	REVISIONS
02-26-26	CM	REVISED PER CITY COMMENTS ⚠2
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS ⚠1

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-0433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

TOHO DETAILS-3

FLORIDA PROFESSIONAL ENGINEER No 73104 STATE OF FLORIDA

Robert L Newberry 2026.03.26 17:57:12 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-44 of C-50

JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 TWA DETAILS.dwg • Mar 11, 2026 – 12:23pm • plotted by RSoyars

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions.

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

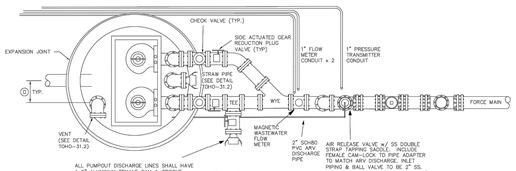
Authorized Signature

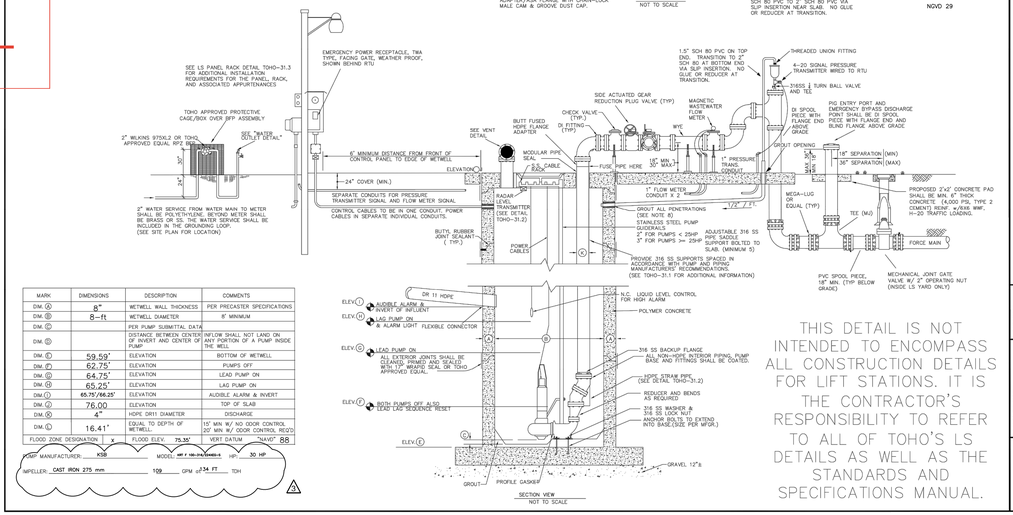
DRAWING NUMBER 31.0

STANDARD LIFT STATION DETAIL

GENERAL NOTES:

1. ALL ITEMS NOT SPECIFIED ON THESE DETAIL SHEETS SHALL MEET CURRENT TOHO STANDARDS AND SPECIFICATIONS.
2. LIFT STATION WET WELLS SHALL BE PRECAST POLYMER CONCRETE.
3. NO LIFTING HOLES ARE PERMITTED THRU WALLS OR TOP SLAB.
4. ALL ABOVE GROUND FORCE MAIN PIPING SHALL BE FLANGED DUCTILE IRON.
5. SPOOL PIECES ABOVE GRADE SHALL BE FLANGED DUCTILE IRON.
   5.1. PROVIDE AN 18" SPOOL PIECE UPSTREAM OF EACH CHECK VALVE.
   5.2. PROVIDE ADDITIONAL SPOOL PIECES AS REQUIRED SO THE CHECK VALVE SHALL BE KEPT TO A MINIMUM AND USED ONLY AS NECESSARY TO ACHIEVE PROPER ALIGNMENT OF THE ASSEMBLY.
6. ALL CONDUIT SHALL BE RIGID ALUMINUM EXCEPT FOR THE CONDUIT FROM THE TRANSFORMER TO THE 2ND DISCONNECT AFTER THE METER.
7. FINISHED GRADE INSIDE THE FENCED AREA SHALL BE A MINIMUM OF 12" ABOVE THE 100 YEAR FLOOD AND 6" ABOVE THE GROUND ELEVATION OF THE NEAREST FENCE POST.
8. ALL PENETRATIONS, INTERIOR OPENINGS, CHIPS, LIFT HOLES, ETC. SHALL BE SEALED WITH POLYMER GROUT AS SPECIFIED BY THE MANHOLE FABRICATOR.
9. SEE PANEL DRAWING(S) FOR TELEMETRY SYSTEM DETAILS.
10. TELEMETRY SHALL BE PAID FOR BY THE DEVELOPER AND FURNISHED, INSTALLED, AND PROGRAMMED BY TOHO.
11. THE CELLULAR ANTENNA WILL BE PROVIDED AND INSTALLED BY TOHO.
12. ALL ENCLOSURE PENETRATIONS SHALL BE MADE ON THE BOTTOM OF THE ENCLOSURE. TOP AND SIDE PENETRATIONS ARE NOT PERMITTED EXCEPT ON TYCO, GAI-WYRES HUBS EXCEPT BETWEEN METER AND DISCONNECT AND TVSS.
13. ALL BOLTS, NUTS AND WASHERS SHALL BE NEMA 316 STAINLESS STEEL.
   13.1. METER CAN SHALL BE PER UTILITY COMPANY.
14. RACK TO UTILIZE 316 STAINLESS STEEL STRUT CHANNEL AND HARDWARE WITH VINYL ENDCAPS.
15. ALL BOLTS, NUTS AND WASHERS SHALL BE 316 STAINLESS STEEL 316 SS.
16. ALL WELDING AND SHOP WELDS SHALL BE FULL 360 DEGREE FILLET WELDS.
17. ABOVE GROUND SHUT-OFF VALVES SHALL BE FLANGE END SIDE ACTUATED GEAR REDUCTION PLUG VALVES.
18. PRESSURE TRANSMITTER AND FLOW TRANSMITTER CABLES SHALL ENTER IN-GROUND CONDUIT VIA WEATHERHEAD SERVICE CAP.
19. IN-GROUND VALVES SHALL BE MECHANICAL JOINT END PLUG VALVES WITH 2" OPERATING NUT.





MARK	DIMENSIONS	DESCRIPTION	COMMENTS
DIM. A	8"	WETWELL WALL THICKNESS	PER PRECASTER SPECIFICATIONS
DIM. B	8'-ft	WETWELL DIAMETER	8' MINIMUM
DIM. C		PER PUMP SUBMITTAL DATA	
DIM. D		DISTANCE BETWEEN CENTER INFLOW PIPE SHALL NOT LAND ON OF INVERT AND CENTER OF ANY PORTION OF A PUMP INSIDE THE WELL	
DIM. E	59.59'	ELEVATION	BOTTOM OF WETWELL
DIM. F	62.75'	ELEVATION	PUMPS OFF
DIM. G	64.75'	ELEVATION	LEAD PUMP ON
DIM. H	65.25'	ELEVATION	LAG PUMP ON
DIM. I	65.75'/66.25'	ELEVATION	AUDIBLE ALARM & INVERT
DIM. J	76.00	ELEVATION	TOP OF SLAB
DIM. K	4"	HDPE DR11 DIAMETER	DISCHARGE
DIM. L	16.41'	EQUAL TO DEPTH OF WETWELL -	15' MIN W/ NO ODOR CONTROL 20' MIN W/ ODOR CONTROL REQ'D
FLOOD ZONE DESIGNATION	X	FLOOD ELEV: 75.35'	VERT DATUM "NAVD" 88

PUMP MANUFACTURER: KSB MODEL: KRT F 100-316/224XEG-S HP: 30 HP
IMPELLER: CAST IRON 275 mm 109 GPM @ 34 FT TDH

THIS DETAIL IS NOT INTENDED TO ENCOMPASS ALL CONSTRUCTION DETAILS FOR LIFT STATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFER TO ALL OF TOHO'S LS DETAILS AS WELL AS THE STANDARDS AND SPECIFICATIONS MANUAL.

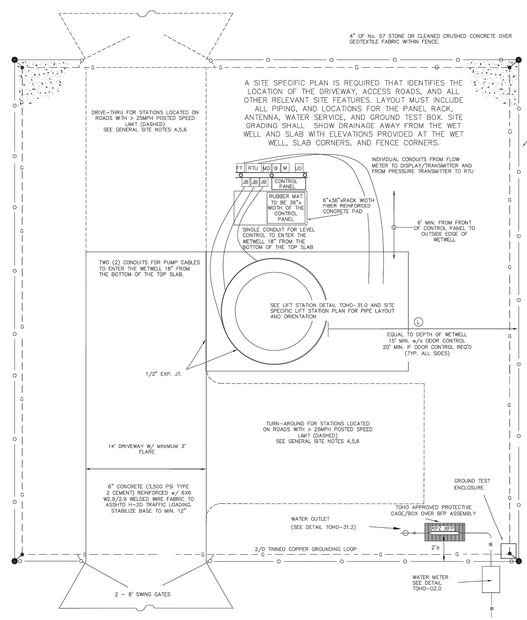
EFFECTIVE DATE:	04/01/2020
BOARD APPROVED DATE:	01/22/2020
PREVIOUS VERSION:	2022
DRAWN BY:	MP
REVISED BY:	DT

Tohopekaliga Water Authority

DRAWING NUMBER 31.1

MISCELLANEOUS LIFT STATION DETAILS - I

THIS DETAIL IS NOT INTENDED TO ENCOMPASS ALL CONSTRUCTION DETAILS FOR LIFT STATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFER TO ALL OF TOHO'S LIFT STATION DETAILS AS WELL AS TOHO'S STANDARDS AND SPECIFICATIONS MANUAL.



TYPICAL LIFT STATION SLAB DETAIL
NOT TO SCALE

LIFT STATION SLAB NOTES:

1. SAWCUT 2" DEEP JOINT AS SHOWN. SAW CUTTING TO BE PERFORMED IMMEDIATELY AFTER PLACEMENT, AS SOON AS CONCRETE IS FIRM ENOUGH TO SUPPORT THE SAW AND NOT BE TORN OR DAMAGED BY THE BLADE.
2. PROVIDE SAWCUTS EVERY 12' IN LENGTH AND WIDTH OF ACCESS DRIVEWAY AND LIFT STATION SLAB AS SHOWN.
3. SEE CIVIL DRAWINGS FOR SLAB LOCATION AND DIMENSIONS.
4. TOP SLAB SHALL BE POLYMER OR STANDARD CONCRETE, ALL OTHER WET WELL CONCRETE SECTIONS SHALL BE POLYMER ONLY.

HATCH NOTES:

1. ALUMINUM ACCESS HATCH SHALL BE HALLIDAY SERIES W2S OR APPROVED EQUAL WITH ALUMINUM FALL PROTECTION GRATING.
2. HATCH SHALL INCLUDE SLAMLOCK, SPRING ASSIST AND EPDM GASKET CUSHION.
3. LIFT HANDLE SHALL BE LOCATED OPPOSITE OF ABOVE GROUND PIPING AND HATCH SHALL OPEN TOWARDS PIPING.

GENERAL SITE NOTES:

1. YARD PIPING PLAN IS A GENERIC PLAN SHOWING REQUIRED PIPING AND MINIMUM CLEARANCES, SEPARATIONS, AND SITE SIZING REQUIREMENTS
2. A LAYOUT DEVIATING FROM THIS DETAIL SHALL BE DRAWN TO SCALE AND SHOW WETWELL PUMPS AND INFLUENT AND EFFLUENT PIPING TO ENSURE SUFFICIENT SPACE WITHIN THE WETWELL TO ACCOMODATE ALL MECHANICAL EQUIPMENT AND PIPING.
3. ELECTRICAL TRANSFORMERS MUST BE LOCATED OUTSIDE OF THE FENCED AREA.
4. LIFT STATION SITES LOCATED ON ROADS WITH 25MPH OR LESS POSTED PUBLIC OR PRIVATE ROADWAY
5. LIFT STATION SITES LOCATED ON ROADS WITH POSTED SPEED LIMITS OF 25MPH OR GREATER REQUIRE DRIVE-THRU OR TURNAROUND ACCESS.
6. ENGINEER SHALL PROVIDE A TRANSOFT AUTO-TURN OR AUTODESK VEHICLE TRACKING ANALYSIS FOR A COMBINATION SEWER CLEANING VACTOR TRUCK

EFFECTIVE DATE:	04/01/2020
BOARD APPROVED DATE:	01/22/2020
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DRAWN BY:	MP
REVISED BY:	DT

Tohopekaliga Water Authority

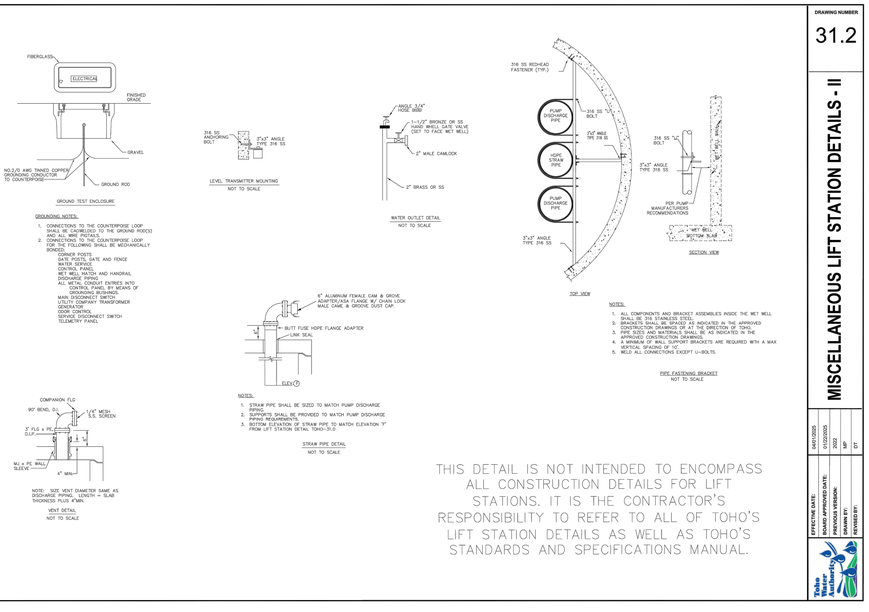
GENERAL NOTES

MODEL KSB – KRT F 100–316/224XEG–S
GPM 109 GPM
VOLTAGE 460
DISCHARGE 4"

30 HP
134 FT/TDH
3 PHASE
K42593s/1 CURVE NO.

DRAWING NUMBER 31.2

MISCELLANEOUS LIFT STATION DETAILS - II



THIS DETAIL IS NOT INTENDED TO ENCOMPASS ALL CONSTRUCTION DETAILS FOR LIFT STATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REFER TO ALL OF TOHO'S LIFT STATION DETAILS AS WELL AS TOHO'S STANDARDS AND SPECIFICATIONS MANUAL.

EFFECTIVE DATE:	04/01/2020
BOARD APPROVED DATE:	01/22/2020
PREVIOUS VERSION:	2022
DRAWN BY:	MP
REVISED BY:	DT

Tohopekaliga Water Authority

DESIGN CONDITIONS

*CONTRACTOR SHALL COORDINATE WITH ENGINEER SHOULD AN EQUIVALENT PUMP BE SELECTED FOR THIS PROJECT. CONTRACTOR MUST HAVE ENGINEER APPROVAL PRIIOR TO ORDERING & INSTALLING ANOTHER PUMP.

PUMPS SHALL BE OF THE SUBMERSIBLE TYPE. EACH PUMP SHALL BE MOUNTED ON A Ø2" RAIL SYSTEM. THE RAIL SYSTEM SHALL BE SELF ENGAGING RESULTING IN A LEAKPROOF COUPLING. THE RAIL SYSTEM SHALL INCLUDE THE BASE ELBOW, DISCHARGE FLANGE ASSEMBLY, Ø1" 304SS GUIDE RAILS, 304SS UPPER GUIDE BRACKET, 304SS LIFTING BAIL AND CABLE, AND A FOUR-HOOK 316SS CABLE HOLDER. THE RAIL SYSTEM SHALL BE MOUNTED AND PRE-PIPED BY THE PUMP SUPPLIER.

PUMP CONSTRUCTION
THE PUMP VOLUTE, MOTOR AND SEAL HOUSING SHALL BE CONSTRUCTED OF CAST IRON, ASTM A-48. ALL EXTERNAL FASTENERS SHALL BE SERIES 300 STAINLESS STEEL. THE PUMP SHAFT SHALL BE CONSTRUCTED OF SERIES 416 STAINLESS STEEL.

CUTTERS
THE CUTTERS SHALL BE STAINLESS STEEL AISI 440C ALLOYED WITH COBALT, VANADIUM, AND MOLYBDENUM FOR A HARDNESS OF 55 ROCKWELL C MINIMUM.

IMPELLER
THE IMPELLER SHALL BE OF MULTI-VANE TYPE OF ASTM A48 CLASS 40B CAST IRON CONSTRUCTION. THE IMPELLER SHALL BE STATICALLY AND HYDRAULICALLY BALANCED.

MOTOR
THE MOTOR SHALL BE MOUNTED IN A SEALED, SUBMERSIBLE TYPE HOUSING. THE STATOR SHALL BE HEAT SHRINK FITTED INTO THE STATOR HOUSING. THE MOTOR WILL HAVE TWO HEAVY-DUTY BALL BEARINGS: ONE UPPER (RADIAL) AND ONE LOWER (THRUST), TO SUPPORT THE SHAFT. THE MOTOR SHALL BE EQUIPPED WITH A WINDING THERMOSTAT THAT AUTOMATICALLY SHUTS THE MOTOR OFF IN CASE OF MOTOR OVERHEATING.

SEAL CHAMBER
THE PUMP SHALL HAVE TWO MECHANICAL SEALS, MOUNTED IN TANDEM WITH AN OIL CHAMBER BETWEEN THE SEALS. THE PUMP SHALL BE EQUIPPED WITH A SEAL LEAK DETECTION PROBE AND WARNING SYSTEM BY USING A SEAL FAILURE SENSOR INSTALLED IN THE SEAL CHAMBER.

WET WELL
THE PUMP SUPPLIER SHALL PROVIDE THE FIBERGLASS WET WELL. THIS GLASS FIBER-REINFORCED POLYESTER BASIN SHALL BE CONSTRUCTED OF A COMMERCIAL GRADE OF CLASS FIBER AND SHALL BE PROVIDED WITH AN ANTI-FLOTATION RING WITH A MINIMUM DIAMETER OF THREE INCHES LARGER THAN THE BASIN DIAMETER. THE RAIL SYSTEM, INTERNAL PIPING AND DISCHARGE CONNECTIONS SHALL BE PRE-INSTALLED BY THE PUMP SUPPLIER.

HATCH COVER
THE HATCH COVER SHALL BE 2/3 HINGED TO ALLOW FOR MAXIMUM ACCESS TO THE WET WELL. THE HATCH COVER SHALL BE ALUMINUM WITH STAINLESS STEEL FASTENERS, RATED FOR 150 PSF OR GREATER. THE HATCH COVER SHALL INCLUDE A SINGLE OR DUAL DOOR OF DIMENSIONS SPECIFIED BY THE PUMP MANUFACTURER FOR PROPER PUMP CLEARANCE. THE COVER SHALL BE MANUFACTURED BY USF FABRICATION, OR EQUAL.

VALVE BOX
THE VALVE BOX IS FIBERGLASS WITH ALUMINUM LOCKABLE COVER. STANDARD SIZE VALVE BOX IS 32"x30"x25".

VALVES
VALVES SHALL BE SEWAGE SWING CHECK WITH CLEAN-OUT PORTS AND BRASS GATE VALVES.

FLOATS
FLOATS SHALL BE ANCHOR SCIENTIFIC ROTO-FLOATS OR EQUAL.

CONTROLS
THE CONTROL PANEL SHALL BE UL508 LISTED. A NEMA 4X FIBERGLASS ENCLOSURE SHALL BE PROVIDED. THE PANEL SHALL INCLUDE AN ALTERNATING CONTROL SCHEME (DUPLEX AND ABOVE), MAIN CIRCUIT BREAKER, GENERATOR RECEPTACLE, HIGH LEVEL ALARM LIGHT AND HORN, ELAPSED TIME METERS, VOLTAGE OR PHASE MONITOR, SEAL FAILURE AND OVERLOAD SENSORS. THE LIGHTNING ARRESTOR SHALL BE SHIPPED LOOSE FOR FIELD INSTALLATION.

SUPPLIER
PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, CONTROL PANEL, FLOAT SWITCHES, ALUMINUM HATCHES AND ACCESSORIES TO INSURE PROPER OPERATIONS AND WARRANTY. THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, RAIL ASSEMBLIES, AND DISCHARGE PIPING ASSEMBLED READY FOR FIELD INSTALLATION.

WARRANTY
PUMP AND ELECTRICAL CONTROL PANEL MUST BE WARRANTED FOR A MINIMUM OF 3 YEARS. FIBERGLASS WETWELL MUST BE WARRANTED FOR A MIMIMUM OF 20 YEARS.

PUMP STATION SPECIFICATIONS PER FDEP

CONSTRUCTION MATERIAL SHALL BE APPROPRIATE UNDER CONDITIONS OF EXPOSURE TO HYDROGEN SULFIDE AND OTHER CORROSIVE GASES, GREASES,
OILS, AND OTHER CONSTITUENTS FREQUENTLY PRESENT IN WASTEWATER. [RSWF 42.25]

THE PUMP STATION SHALL BE PROTECTED FROM LIGHTING AND TRANSIENT VOLTAGE SURGES; AND SHALL BE EQUIPPED WITH LIGHTING ARRESTORS, SURGE CAPACITORS, OR OTHER SIMILAR PROTECTION DEVICES AND PHASE PROTECTION. [62-604.400(2)(B), F.A.C.]

THE ELECTRICAL SYSTEMS AND COMPONENTS (E.G., MOTORS, LIGHTS, CABLES, CONDUITS, SWITCH BOXES, CONTROL CIRCUITS, ETC.) IN RAW WASTEWATER WET WELLS, OR IN ENCLOSED OR PARTIALLY ENCLOSED SPACES WHERE HAZARDOUS CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS MAY BE PRESENT, SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE REQUIREMENTS FOR CLASS I GROUP D, DIVISION 1 LOCATIONS.

ELECTRICAL EQUIPMENT LOCATED IN WET WELLS SHALL BE SUITABLE FOR USE UNDER CORROSIVE CONDITIONS [RSWF 42.35]

EACH FLEXIBLE CABLE SHALL BE PROVIDED WITH A WATERTIGHT SEAL AND SEPARATE STRAIN RELIEF. [RSWF 42.35]

A FUSED DISCONNECT SWITCH, LOCATED ABOVE GROUND, SHALL BE PROVIDED FOR THE MAIN POWER FEED FOR ALL PUMP STATIONS. [RSWF 42.35]

ELECTRICAL EQUIPMENT EXPOSED TO WEATHER SHALL MEET THE REQUIREMENTS OF WEATHER PROOF EQUIPMENT NEMA 3R OR 4. [RSWF 42.35]

A 110 VOLT POWER RECEPTACLE TO FACILITATE MAINTENANCE SHALL BE PROVIDED INSIDE THE CONTROL PANEL FOR PUMP STATIONS THAT HAVE CONTROL PANELS OUTDOORS. [RSWF 42.35]

GROUND FAULT INTERRUPTION PROTECTION SHALL BE PROVIDED FOR ALL OUTDOOR OUTLETS. [RSWF 42.35]

AN UNOBSTRUCTED SIGN MADE OF DURABLE WEATHER RESISTANT MATERIAL SHALL BE POSTED AT A LOCATION VISIBLE TO THE PUBLIC WITH A TELEPHONE NUMBER FOR A POINT OF CONTACT IN CASE OF AN EMERGENCY. [62-604.400(2)(D), F.A.C.]

MEASURES FOR DETECTING SHAFT SEAL FAILURE OR POTENTIAL SEAL FAILURE SHALL BE PROVIDED. [RSWF 44.1]

ELECTRICAL SUPPLY, CONTROL, AND ALARM CIRCUITS SHALL PROVIDE STRAIN RELIEF; TO ALLOW DISCONNECTION FROM OUTSIDE THE WET WELL; AND TO PROTECT TERMINALS AND CONNECTORS FROM CORROSION BY LOCATION OUTSIDE THE WET WELL OR THROUGH USE OF WATERTIGHT SEALS. [RSWF 44.31]

THE MOTOR CONTROL CENTER SHALL BE LOCATED OUTSIDE THE WET WELL, READILY ACCESSIBLE, AND PROTECTED BY A CONDUIT SEAL OR OTHER APPROPRIATE MEASURES MEETING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, TO PREVENT THE ATMOSPHERE OF THE WET WELL FROM GAINING ACCESS TO THE CONTROL CENTER. IF A SEAL IS SPECIFIED, THE MOTOR CAN BE REMOVED AND ELECTRICALLY DISCONNECTED WITHOUT DISTURBING THE SEAL. CONTROL EQUIPMENT EXPOSED TO WEATHER SHALL MEET THE REQUIREMENTS OF WEATHERPROOF EQUIPMENT NEMA 3R OR 4. [RSWF 44.32]

PUMP MOTOR POWER CORDS SHALL BE FLEXIBLE AND SERVICEABLE UNDER CONDITIONS OF EXTRA HARD USAGE AND TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE STANDARDS FOR FLEXIBLE CORDS IN WASTEWATER PUMP STATIONS.

GROUND FAULT INTERRUPTION PROTECTION SHALL BE USED TO DE-ENERGIZE THE CIRCUIT IN THE EVENT OF ANY FAILURE IN THE ELECTRICAL INTEGRITY OF THE CABLE.

POWER CORD TERMINAL FITTINGS SHALL BE CORROSION-RESISTANT AND CONSTRUCTED IN A MANNER TO PREVENT THE ENTRY OF MOISTURE INTO THE CABLE, PROVIDED WITH STRAIN RELIEF APPURTENANCES, AND DESIGNED TO FACILITATE FIELD CONNECTING. [RSWF 44.33]

EMERGENCY STANDBY SYSTEMS SHALL HAVE SUFFICIENT CAPACITY TO START UP AND MAINTAIN THE TOTAL RATED RUNNING CAPACITY OF THE STATION, INCLUDING LIGHTING, VENTILATION, AND OTHER AUXILIARY EQUIPMENT NECESSARY FOR SAFETY AND PROPER OPERATION.

SPECIAL SEQUENCING CONTROLS SHALL BE PROVIDED TO START PUMP MOTORS UNLESS THE GENERATING EQUIPMENT HAS CAPACITY TO START ALL PUMPS SIMULTANEOUSLY WITH AUXILIARY EQUIPMENT OPERATING.

PUMP STATION RELIABILITY DESIGN FEATURES SHALL BE COMPATIBLE WITH THE AVAILABLE TEMPORARY SERVICE POWER GENERATING AND PUMPING EQUIPMENT OF THE AUTHORITY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE COLLECTION/TRANSMISSION SYSTEM. [62-604.400(2)(A)3.,F.A.C. AND RSWF 46.431]

EMERGENCY EQUIPMENT SHALL BE PROTECTED FROM OPERATION CONDITIONS THAT WOULD RESULT IN DAMAGE TO THE EQUIPMENT AND FROM DAMAGE AT THE RESTORATION OF REGULAR ELECTRICAL POWER. [RSWF 46.411, 46.417, AND 46.432]

*RSWF = RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (1997) AS ADOPTED BY RULE 62-604.300(5)(C), F.A.C.

SUB25-00041
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SEC.	5 & 8	
TWP.	26 S	
RANGE	31 E	

| DATE | BY | REVISIONS

St. Cloud FLORIDA
Your Centerplace for Life

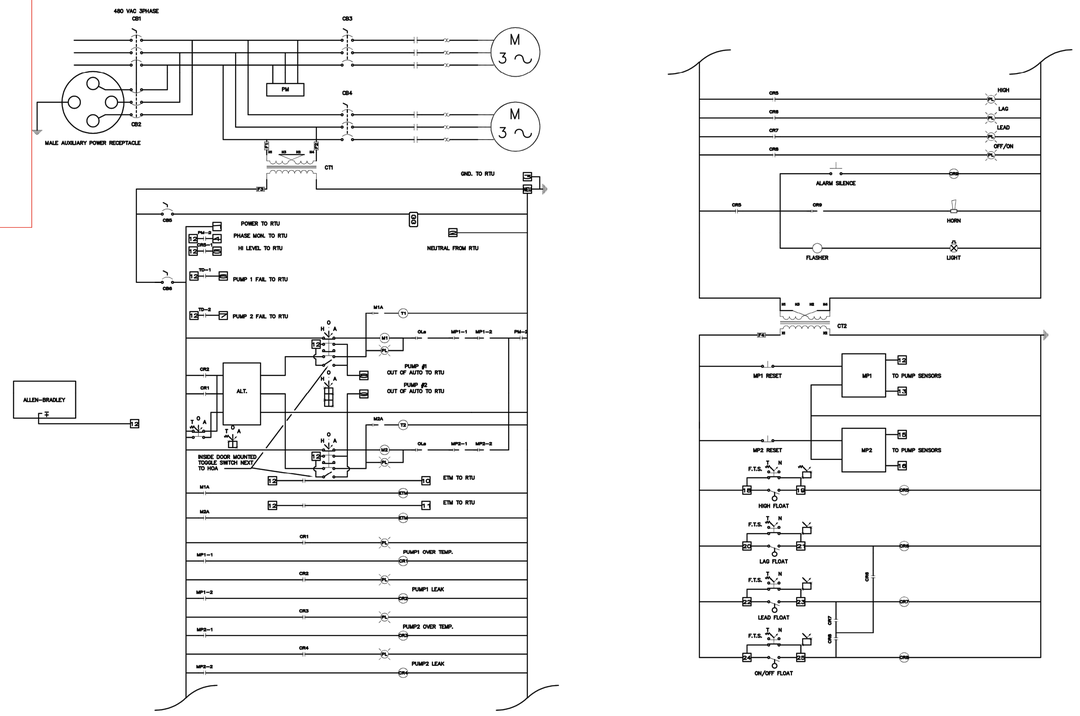
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

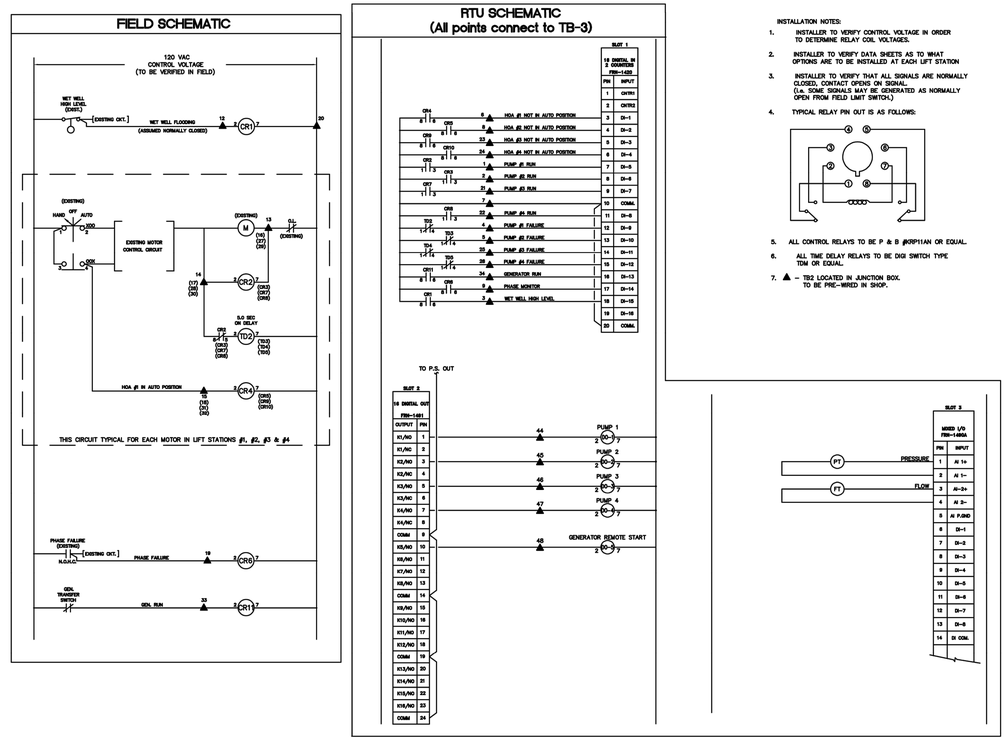
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

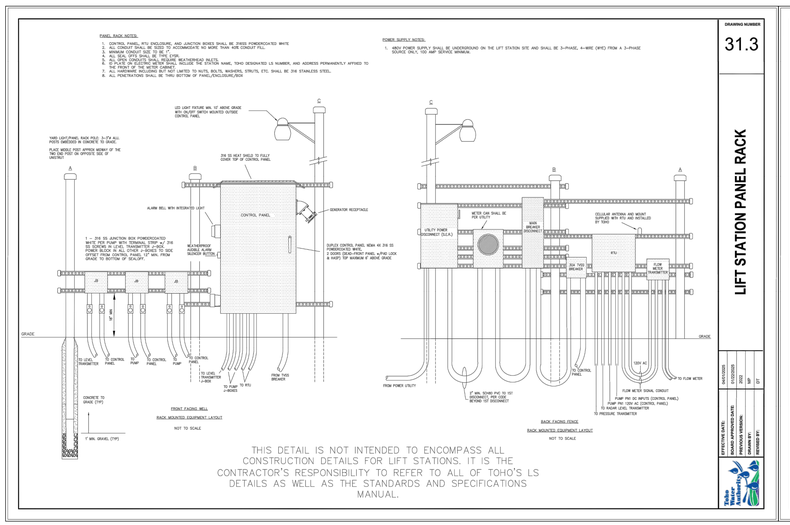
Authorized Signature



TYPICAL LIFT STATION CONTROL PANEL SCHEMATIC TOHO–31.2 2022



TYPICAL LIFT STATION RTU SCHEMATIC TOHO–31.3 2022



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			01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS
			DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

LIFT STATION DETAILS

Robert L Newberry 2026.03.26 17:57:44 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E., on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-46 of C-50

JOB Nº 5450-05

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I:\5450-05\ENGINEERING\CADD PLANS\S-5450-05 LIFT STATION.dwg • Mar 26, 2026 - 2:30pm • plotted by RSouser

St. Cloud FLORIDA Your Centerplace for Life
APPROVED WITH CONDITIONS
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions
Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN CONFORMANCE WITH THE CITY OF ST. CLOUD SPECIFICATIONS AND ANY OTHER AGENCIES' SPECIFICATIONS AND REQUIREMENTS. THEY SHALL OBTAIN A COPY OF THE SOIL REPORT REFERENCED HEREIN AND VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS. THEY SHALL CLEAR AND GRUB ALL RIGHT-OF-WAYS, TRACTS AND APPROPRIATE EASEMENTS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, AND ALL OTHER DELETERIOUS MATERIAL.
2. THE EXACT LOCATIONS OF EXISTING UTILITIES ARE UNKNOWN. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BIDDING BY NOTIFYING THE UTILITY COMPANY TO LOCATE THEIR UTILITIES OR BY FIELD VERIFICATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGED UTILITY RESULTING FROM THE CONTRACTOR'S CONSTRUCTION AT THE CONTRACTOR'S OWN EXPENSE.
3. THE REQUIREMENTS OF THE CITY OF ST. CLOUD STANDARD SPECIFICATIONS AND STANDARD DETAILS SHALL GOVERN ALL WORK. WHERE A CONFLICT EXISTS IN THE REQUIREMENTS OF A REFERENCED MATERIAL OR INSTALLATION STANDARD, THE REQUIREMENTS OF CITY OF ST. CLOUD SHALL PREVAIL. WHERE THE REQUIREMENTS OF A STATE OR LOCAL AGENCY HAVING JURISDICTION ARE MORE STRINGENT, THOSE REQUIREMENTS SHALL PREVAIL.
4. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF THE CONTRACT DOCUMENTS INCLUDING STAMPED APPROVED PLANS, SPECIFICATIONS, AND ANY SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
5. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD.
6. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS AND BONDS PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
8. ALL COPIES OF REQUIRED TEST RESULTS ARE TO BE SENT TO THE CITY OF ST. CLOUD DIRECTLY FROM THE TESTING AGENCY.
9. ALL PAVING AND DRAINAGE TO BE CONSTRUCTED PER APPROVED PLANS PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY.
10. ALL SIGNAGE TO BE PERMITTED BY SEPARATE INSTRUMENT.
11. THE CONTRACTOR MUST COMPLY WITH ALL TRENCH SAFETY STANDARDS.
12. THE SITE IS TO BE CLEARED AND GRUBBED.
13. ALL UNPAVED AREAS WITHIN THE CONSTRUCTION AREA AND RIGHT OF WAY SHALL BE SODDED WITH BAHIA GRASS AND/OR LANDSCAPED AS NOTED.
14. REFER TO PLANS FOR ALL EASEMENT REQUIREMENTS. EASEMENTS SHALL BE IN PLACE PRIOR TO THE CERTIFICATE OF COMPLETION BEING ISSUED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGED RESULTING FROM THE CONTRACTOR'S CONSTRUCTION AT THE CONTRACTOR'S OWN EXPENSE.
16. SECTION 6 OF CITY OF ST. CLOUD LAND DEVELOPMENT CODE WILL BE UTILIZED IN CONJUNCTION WITH THESE DETAILS IN THE EVENT THAT THERE ARE CONFLICTING TERMS IN THE STANDARD DETAILS

AS-BUILT NOTES

THE CONTRACTOR SHALL SUBMIT A CERTIFIED SET OF AS-BUILT 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 AND WASTEWATER PIPING AND RELATED APPURTENANCES. ALL CHANGES TO PIPING LOCATION 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. DRAWINGS SHALL CLEARLY SHOW ALL DETAILS NOT ON THE ORIGINAL CONTRACT DRAWINGS, BUT CONSTRUCTED IN THE FIELD. ALL EQUIPMENT AND PIPING RELOCATION SHALL BE CLEARLY SHOWN.

D). LOCATION OF ALL INLETS, MANHOLES, HYDRANTS, VALVES AND VALVE BOXES SHALL BE SHOWN. ALL VALVES SHALL BE REFERENCED FROM AT LEAST TWO AND PREFERABLY THREE PERMANENT POINTS.

E). DIMENSIONS BETWEEN ALL INLETS AND MANHOLES SHALL BE FIELD VERIFIED AND SHOWN. THE INVERTS AND GRADE ELEVATIONS OF ALL INLETS AND MANHOLES SHALL BE SHOWN.

F). EACH SHEET OF THE PLANS SHALL BE SIGNED, SEALED AND DATED BY A REGISTERED SURVEYOR WITH A NOTE READING "THESE AS-BUILTS DRAWINGS ACCURATELY DEPICT THE ACTUAL IMPROVEMENTS AS CONSTRUCTED".

PAVING, GRADING & DRAINAGE NOTES

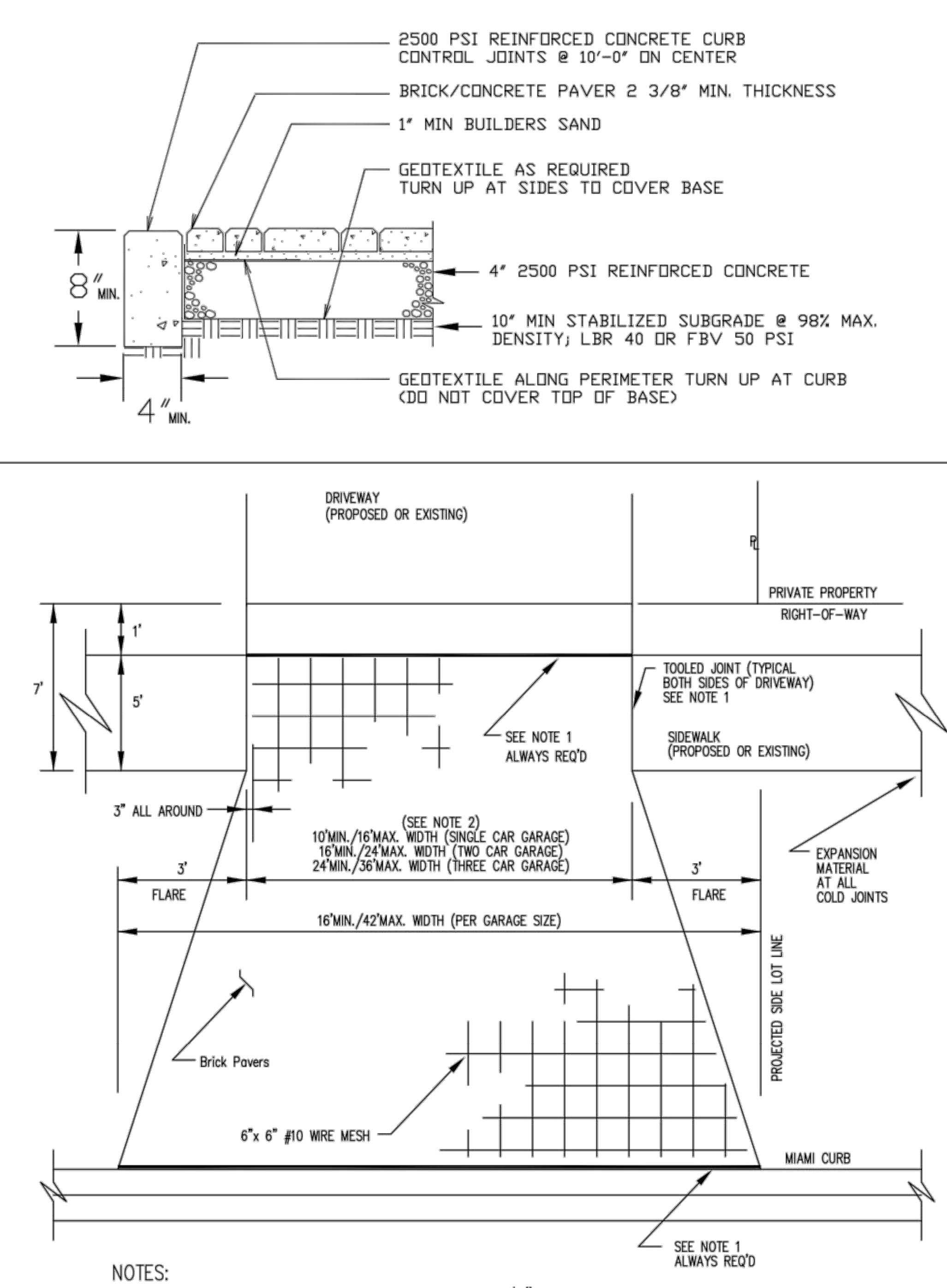
1. ALL ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, OSCEOLA COUNTY AND CITY OF ST. CLOUD STANDARDS.
2. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED ON THE PLANS AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED.
3. ALL PAVED AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVING SECTIONS AS INDICATED.
4. WHERE NEW PAVEMENT MEETS THE EXISTING PAVEMENT, THE CONTRACTORS SHALL SAW-CUT THE EXISTING PAVEMENT FOR A SMOOTH AND STRAIGHT JOINT AND MATCH THE EXISTING PAVEMENT ELEVATIONS WITH THE PROPOSED PAVEMENT.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STORM DRAINAGE STRUCTURES TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL, PRIOR TO ORDERING MATERIALS.
6. THE CITY OF ST. CLOUD MAY BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER SYSTEM IN ACCORDANCE WITH THE GUIDELINES SET FORTH BY THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT PERMIT. DOCUMENTS ARE ON FILE UNDER SFWMD PERMIT
7. ANY UNSUITABLE MATERIAL FOUND WITHIN LIMITS OF ROADWAY OR PAVEMENT SHALL BE REMOVED AND MAY BE USED FOR SHOULDER OR BEHIND CURB PLACEMENT.
8. ALL RUBBLE, CONCRETE SLABS, PAVEMENT, FOOTING MUCK, ORGANIC FINE SAND WITH ROOTS AND OTHER UNDESIRABLE MATERIALS SHALL BE REMOVED FROM THE SITE. THE UNDESIRABLE MATERIALS RESULTING FROM THE CLEARING OPERATION SHALL BE DISPOSED OF IN A PROPER MANNER BEYOND THE LIMITS OF THE CLEARED SITE.
9. ALL AREAS TO BE FILLED SHALL BE DONE WITH CLEAN, SUITABLE MATERIAL COMPRISED OF NON-PLASTIC SAND WITH LESS THAN ABOUT 12% FINES CONTENT. AND NOT CONTAINING ANY SIGNIFICANT AMOUNT OF ORGANIC SUBSTANCES (LESS THAN 3% BY WEIGHT) OR OTHER DELETERIOUS MATERIALS. FILL SHALL BE COMPACTED TO 98% DENSITY AS DETERMINED BY AASHTO T-180 AND 95% FOR AREAS BELOW ROAD SUBGRADE AS DETERMINED BY ASTM D-1557. FILL SHALL BE COMPACTED IN 12" MAX. LIFTS TO 98% OR 95% MAX. DENSITY. UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL SOD ALL RETENTION AREAS AND ALL SIDE SLOPES AND OTHER DISTURBED AREAS ADJACENT TO DRAINAGE CONVEYANCE AREAS.

EROSION CONTROL
WATER QUALITY MANAGEMENT

1. THE CONTRACTOR MUST SELECT, IMPLEMENT, AND OPERATE ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED TO RETAIN SEDIMENT ON-SITE AND TO PREVENT VIOLATIONS OF WATER QUALITY STANDARD AS SPECIFIED IN CHAPTERS 17-301, 17-302, 17-4, F.A.C. THE CONTRACTOR IS ENCOURAGED TO USE APPROPRIATE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROLS AS DESCRIBED IN THE FLORIDA LAND DEVELOPMENT MANUAL: A GUIDE TO SOUND LAND AND WATER MANAGEMENT (DER, 1988).
2. THE CONTRACTOR SHALL CONTROL TURBID RUNOFF FROM THE PROJECT BY ROUGH EXCAVATING THE PROPOSED RETENTION AREAS IMMEDIATELY FOLLOWING CLEARING AND GRUBBING OPERATIONS. ALL DEWATERING DISCHARGE SHALL BE DIRECTED TO THESE AREA(S) FOR SETTLING PRIOR TO DISCHARGE OFF-SITE.
3. THE CONTRACTOR SHALL INSTALL WATER QUALITY CONTROL DEVICES ALONG THE SITE PERIMETER, AS DESIGNATED ON THESE PLANS. THE CONTRACTOR SHALL RECEIVE THE ENGINEER'S APPROVAL OF THE INSTALLATION PRIOR TO ANY OTHER SITE CONSTRUCTION.
4. ALL EROSION CONTROL/WATER QUALITY DEVICES SHALL BE IN ACCORDANCE WITH INDEXES 102 AND 103 OF THE LATEST EDITION OF THE FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS" SILT FENCES, HAY BALES, AND/OR TURBIDITY BARRIERS SHALL BE INSTALLED AT ALL OFF-SITE DISCHARGE POINTS. ALL EROSION CONTROL/WATER QUALITY DEVICES SHALL BE LEFT IN PLACE UNTIL THE DISTURBED AREAS ARE COMPLETELY STABILIZED AND/OR VEGETATED.
5. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SOIL MOISTURE TO PREVENT WIND GENERATED SOIL EROSION. ALL SURFACES DISTURBED FOR 30 OR MORE DAYS SHALL BE VEGETATED WITH A TEMPORARY OR PERMANENT COVER.

PAVER DRIVEWAY DETAIL

NTS



NOTES:
1. EXPANSION MATERIAL SHALL BE RECESSED 1/4" BELOW FINISHED CONCRETE W/ TOOLED JOINT RADIUS (#40 PRESSURE TREATED 1"x6" BOARD OR APROVED ALTERNATE MATERIAL.)
2. MIN. AND MAX. WIDTHS ARE FOR GARAGE SETBACKS OF 50' OR LESS. FOR SETBACKS GREATER THAN 50', USE 10' MIN. / 20' MAX
3. WIRE MESH SHALL HAVE 3" CLEARANCE FROM FORM BOARDS AND EDGE OF PAVEMENT.
4. FLARE IN RIGHT OF WAY SHALL NOT EXTEND BEYOND PROJECTED SIDE LOT LINE.
5. DRIVEWAY FINISHED GRADE SHALL BE 2" ABOVE GRADE OF LOT PRIOR TO SODDING. DRIVEWAY FINISHED GRADE SHALL BE 1" ABOVE GRADE OF LOT WHEN SEEDING/MULCHING.
6. SUBGRADE IS REQUIRED TO BE FIRM AND UNYEILDING MATERIAL WITH NO MUCK, PEAT, OR ANY ORGANINC MATERIAL.
7. CITY OF ST. CLOUD WILL NOT MAINTAIN, REPAIR, OR REPLACE ANY BRICK OR CONCRETE PAVERS LOCATED WITHIN THE CITY RIGHT OF WAY. IF THE PAVERS ARE REMOVED BY THE CITY OF ST. CLOUD PERSONNEL, THE PROPERTY OWNER IS RESPONSIBLE FOR REPLACING THE PAVERS. A RIGHT OF WAY PERMIT MUST BE APPLIED FOR AND APPROVED PRIOR TO WORKING WITHIN THE RIGHT OF WAY.
8. CHANGES TO THIS STANDARD DETAIL MUST BE APPROVED PRIOR TO CONSTRUCTION.

CONSTRUCTION EROSION CONTROL

An erosion control plan and a detailed description of the measure to be taken during construction to control erosion within the limits of the project, and to prevent the deposition of sediment in off-site systems or receiving water bodies, shall be submitted with final engineering construction plans of the development. Included with this submittal shall be calculations supporting the effectiveness of the proposed plans.

A. Erosion Control Plan
The erosion control plan, details and calculations shall document the measures necessary to limit the transport of sediment outside the limits of the project(s) to the volume and amount of that existing prior to the commencement of construction. This pre-construction condition shall be satisfied for the total anticipated construction period. Provision must be made to preserve the integrity and capacity of check weir, sediment basins, slope drains and grading patterns, required to meet this provision throughout the project construction life.

1. Temporary Fence
The erosion Control Plan shall include provisions for a temporary 6' foot fence suitable for mitigating wind erosion and for providing visual relief during construction. Fences shall withstand normal wind loads. The developer may in lieu of temporary fencing:
i. Erect the required buffer yard screens as required in the landscaping plans if it meets the intent of the erosion control plan.
ii. Disturb less than ten (10) acres and provide adequate means to control materials from leaving the construction site. Logical phasing of the disturbed areas will need to be shown on the erosion control plan if the site is larger than 10 acres.

B. Stockpiling Material
No excavated materials shall be stockpiled in such a manner as to direct runoff directly off the project site or into any adjacent water body or stormwater collection facility.

C. Exposed Area Limitation
The surface area of open, raw, erodible soil, exposed by clearing and grubbing operations, or excavation and filling operations, shall not exceed ten acres. This requirement may be waived for large projects with an a[pproved dust control plan, which demonstrate that opening of additional areas will not significantly affect off-site deposit of sediments. This waiver will be by written authorization from the City Engineer. Any violations of the dust control plan will result in the immediate voiding of this waiver and could result in the construction activities being suspended until the site is brought back into compliance.

D. Inlet Protection
Inlets and catch basins shall be protected from sediment-laden storm runoff until the completion of all construction operations that may contribute to the inlet.

E. Temporary Seeding and Mulching
Areas opened by construction operations, that are not anticipated to be dressed and receive final grassing treatment within thirty days, shall be seeded with a quick-growing grass species which will provide an early cover during the season in which it is planted, and will not later compete with permanent grassing. The rate of seeding shall be 30 pounds per acre. Slopes steeper than 4:1 shall receive mulching of approximately 2 inches loose measure of mulch material cut into the soil of the seeded area to a depth of four inches.

F. Temporary Grassing
As required by the City of St. Cloud, the seed or seeded and mulched area shall be rolled and watered to assure optimum growing conditions, for the establishment of a good grass cover.

G. Temporary Regrassing
If, after fourteen days, the temporary grassed areas have not attained a minimum of 75% good grass cover, the area will be reworked and additional seed applied sufficiently to establish the desired vegetative cover. 75% of good stand of grass must be established within 30 days of the initial treatment or area shall be sodded.

H. Maintenance
All features of the project designed and constructed to prevent erosion and sediment, shall be maintained during the project construction life, so as to function as they were originally designed and constructed. The contractor is responsible for keeping any temporary grass in a mowed condition.

Permanent Erosion Control

The erosion control facilities of the project shall be designed to minimize the impact of off-site facilities. All stormwater discharge from the project limits shall be routed through detention basins to trap suspended sediments, and discharge facilities from these basins shall be provided with a skimming device to trap floatable debris.
A copy of the site's FDEP NPDES permit shall be provided to the Public Works Department prior to a Notice to Proceed being issued.

A. Permanent Seeding
All areas which have been disturbed by construction shall, at a minimum, be fertilized and seeded in accordance with City of St. Cloud Road Construction Specification.

B. Permanent Seeding and Mulching
In addition to the minimum requirements above, slopes from 6:1 to 3:1, inclusive, will be mulched with a uniform thickness of approximately two inches, loose measure, of mulch material incorporated into the soil by mixing to a depth of four inches.

C. Permanent Sodding
All retention/detention basins shall be solid sodded. All exposed areas, including public rights-of-way, with slopes steeper than 4:1 shall be solid sodded.

D. Strip Sodding
Strip sod, 1 foot wide or greater, shall be placed adjacent to all curbs, walkways and pavement. In areas with a sidewalk, the entire area between the sidewalk and the back of curb, and/or pavement, shall be sodded.

E. Regrassing
All grassed areas will be maintained to assure a good stand and sufficient ground cover to minimize erosion. If, after 60 days, an adequate ground cover has not been established, the area with be regressed.

F. Additional Fertilizer
Grassed areas, not accepted within 90 days of their completion, shall be re-fertilized at an application rate of 250 lb. per acre.

G. Maintenance
Prior to the project being accepted by the City, the contractor is responsible for mowing the grass to remain in compliance with the City Code.

PUBLIC WORKS DEPARTMENT
1300 NINTH STREET
ST. CLOUD, FL 34769
(407) 957-7344

ALL SURVEY DATA SHOWING PHYSICAL FEATURES WERE OBTAINED BY THE ENGINEER INCIDENTAL TO DESIGN AND NO LAND SURVEYING CERTIFICATION SHOULD BE IMPLIED

NOTES: ALL REFERENCES TO 'EQUAL' OR 'APPROVED EQUAL' PROVIDE AN OPPORTUNITY TO SUBSTITUTE MATERIALS. ALL PROPOSED SUBSTITUTIONS SHALL BE REVIEWED AND APPROVED BY THE CITY OF ST. CLOUD CITY MANAGER OR DESIGNEE BY SUBMITTING MANUFACTURER'S SPECIFICATIONS AND PRODUCT DATA SHEETS PRIOR TO CONSTRUCTION.

THIS DOCUMENT WILL BE CONSIDERED A COPY ONLY, UNLESS EMBOSSED BY A REGISTERED ENGINEERS SEAL

REVISIONS

DR:	CK:	DR:	CK:	DR:	CK:	DR:	CK:	DR:	CK:
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FILENAME: 01-GENERAL-NOTES			
XREF'S:			

DRAWING NUMBER: 2024-01-GN
SHEET 1 OF 3

GENERAL NOTES

APPROVED BY
KEVIN FELBLINGER, P.E.
FL REG. No. 68532
DPWD/CITY ENGINEER
DATE

SUB25-00041
PSP25-00004

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01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS	1

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

GENERAL NOTES

ROBERT LEE NEWBERRY JR. LICENSE No 73104 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert L Newberry 2026.03.26 17:57:58 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET Nº C-47 of C-50
JOB Nº 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 ST CLOUD DETAILS.dwg * Mar 11, 2026-12:24pm * plotted by RSouser

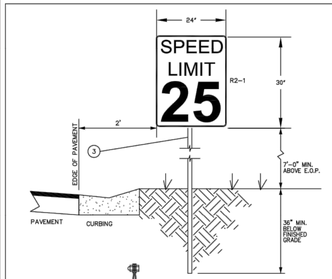
APPROVED WITH CONDITIONS

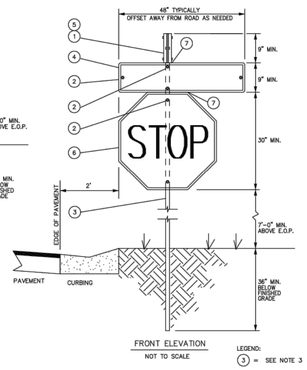
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature





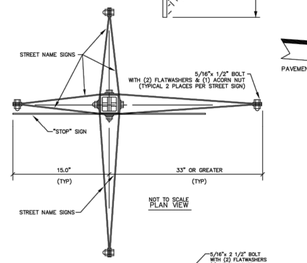
FRONT ELEVATION
NOT TO SCALE

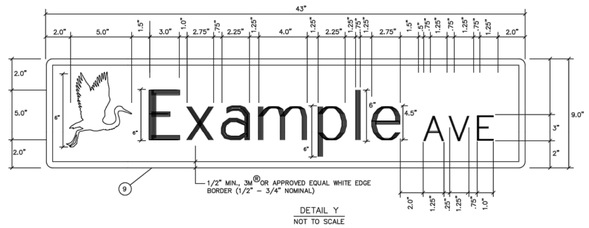
NOTES FOR DUAL STREET SIGN WITH STOP SIGN:

1. STREET SIGN LENGTH TO BE 24" MINIMUM & 60" MAXIMUM. LONGER SIGNS BY SPECIAL PERMISSION FROM THE CITY ONLY. STREET NAME SIGNS MAY BE ON SEPARATE POST INSTALLATIONS WHEN REQUIRED USE 3M® OR APPROVED EQUAL BLUE FACE SHEETING MATERIAL WITH 1/2" WHITE BORDER ON EDGE OF FACE
2. STAINLESS STEEL FLATWASHER TO FACE EACH SIDE; ADDITIONAL LOCKWASHER TO GO BETWEEN ACORN NUT & FLATWASHER ON OPPOSITE SIDE FROM BOLT HEAD. USE ALL STAINLESS STEEL FASTENERS. ALL HOLES TO BE 5/16" DIA. MIN. TO 7/16" DIA. MAX. HOLES ON END OF STREET SIGN FOR REQUIRED PINNING OF (2) SIGNS TOGETHER
3. SIGN POST SHALL BE 2" (OUTSIDE) SQUARE TUBING, HOT DIP GALVANIZED, PRE-PUNCHED, 12 GA. STEEL POST SHALL BE 14' MIN. TOTAL LENGTH, ONE PIECE. "STOP" SIGN SHALL BE 7' (MIN.) ABOVE E.O.P. AT 2' CLEAR FROM E.O.P. TO EDGE OF STOP SIGN FACE. POST TO BE SET 3' MIN. IN GROUND, AND EARTH PACKED FIRMLY AROUND POST END WITH TAMPING ROD
4. LOWER STREET SIGN SHALL NOT BE MOUNTED PERPENDICULAR TO "STOP" SIGN FACE; THESE TWO SIGN SURFACES ARE TO OCCUPY THE SAME VERTICAL PLANE
5. TOP END OF SIGN POST SHALL MEET TOP EDGE OF TOP SIGN
6. "STOP" SIGN FACE SHALL BE 3M® OR APPROVED EQUAL, "HIGH INTENSITY."
7. ALL SIGNS SHALL BE ALUMINUM BLANKS, 0.063" THK. FOR STREET SIGNS, 0.080" THK. FOR STOP SIGNS, 3M® OR APPROVED EQUAL COVERED
8. SIGNING LAYOUT REQUIREMENTS: "STREET NAME" SHOWN

TYPICAL STROKE .75"	6.0" "C" SERIES, UPPER CASE
TYPICAL SINGLE GAP .75"	4.5" "C" SERIES, LOWER CASE
TYPICAL GAP & A HALF 1.25"	3.0" "C" SERIES, UPPER CASE
TYPICAL DOUBLE GAP 1.50"	

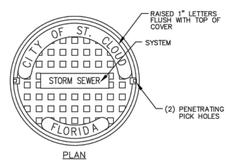
9. DETAIL "Y" SHOWS REQUIRED USE OF THE 5" SERIES "D" UPPER CASE LETTER WITH 4" LOWER CASE LETTERS FOLLOWING THE INITIAL LETTER OF THE STREET NAME
   PUBLIC ROAD SIGNS SHALL HAVE A BLUE BACKGROUND WITH WHITE LETTERING. PRIVATE ROAD SINGS SHALL HAVE A WHITE BACKGROUND WITH BLUE LETTERING.
10. SHEETING ALL SHEET MATERIAL SHALL BE 3M® BRAND OR APPROVED EQUAL INK SCREENED STREET NAME SIGNS SHALL BE 3M® OR APPROVED EQUAL INK.
11. INSPECTION: ALL ERECTED STREET NAME SIGN MATERIAL SHALL BE SUBJECT TO REJECTION.
12. SPEED LIMIT SIGNS INDICATING THE STATUTORY SPEED LIMITS SHALL BE INSTALLED AT THE ENTRANCES. ADDITIONAL SIGNS MAY BE REQUIRED BY THE CITY MANAGER OR DESIGNEE.



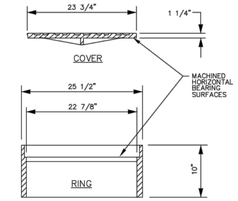


DETAIL Y
NOT TO SCALE

OFF STREET PARKING STALL REQUIREMENT TABLE				
PARKING ANGLE	WIDTH OF STALL	DEPTH OF STALL	MINIMUM WIDTH OF TRAVELWAY	LENGTH OF CURB PER CAR
COMMERCIAL 0°	10'-0"	23'-0"	24'-0"	23'-0"
COMMERCIAL 45°	10'-0"	19'-10"	16'-0"	12'-9"
COMMERCIAL 60°	10'-0"	21'-0"	18'-0"	10'-5"
COMMERCIAL 90°	10'-0"	20'-0"	24'-0"	10'-0"
RESIDENTIAL	8'-0"	20'-0"	10'-0"	
ADA ACCESSIBLE PARKING	12'-0"	20'-0"	AS COMMERCIAL ABOVE	

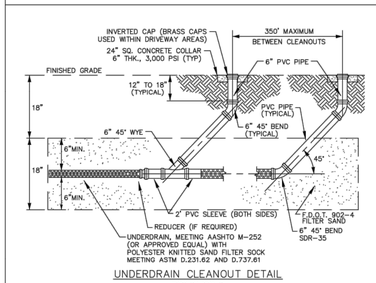


PLAN

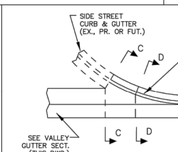


RING & COVER NOTES:
1. RING & COVER TO BE USF 1182 OR APPROVED EQUAL
2. RING & COVER TO BE USF 1056 OR APPROVED EQUAL FOR "BUILD UP" TYPE (SEE DWG# 12001)

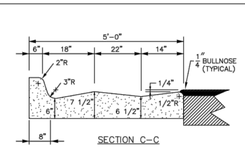
FLUSH MOUNT RING & COVER



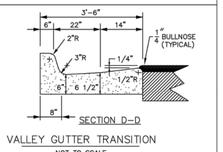
UNDERDRAIN CLEANOUT DETAIL
NOT TO SCALE



PLAN

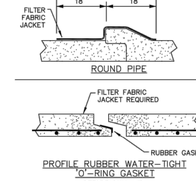


SECTION C-C

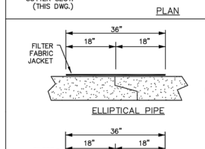


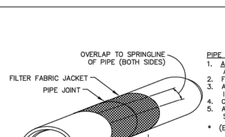
SECTION D-D

VALLEY GUTTER TRANSITION
NOT TO SCALE



PE PIPE UNDERDRAIN
NOT TO SCALE





PIPE JOINT NOTES:
1. ALL JOINTS OF ALL PIPE SHALL BE WRAPPED WITH FILTER FABRIC WHICH SHALL EXTEND A MINIMUM OF 18" ON BOTH SIDES OF JOINT (FILTER FABRIC PER F.D.O.T. INDEX 199 D-3)
2. FILTER FABRIC SHALL OVERLAP ON TOP OF PIPE DOWN TO SPRING LINE OF PIPE ON BOTH SIDES
3. ALL STORM DRAINAGE PIPE SHALL BE A MINIMUM 15" DIAMETER PIPE OR ITS HYDRAULIC EQUIVALENT 12" X 18" E.R.C.P.
4. CONFLICT STRUCTURES SHALL BE APPROVED ON A CASE BY CASE BASIS
5. ALL STORM INLETS, CATCH BASINS & MANHOLES SHALL BE PRECAST CONCRETE SEE F.D.O.T. ROAD & TRAFFIC DESIGN STANDARDS (LATEST EDITION)

* (EXTERIOR WALL JOINTS SHALL BE WRAPPED WITH CON-WRAP, E-Z WRAP OR APPROVED EQUAL)

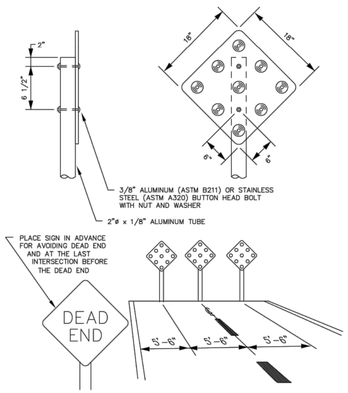
FILTER FABRIC JACKET FOR PIPE JOINTS

PROFILE RUBBER WATER-TIGHT "O"-RING GASKET BEFORE PULL-UP

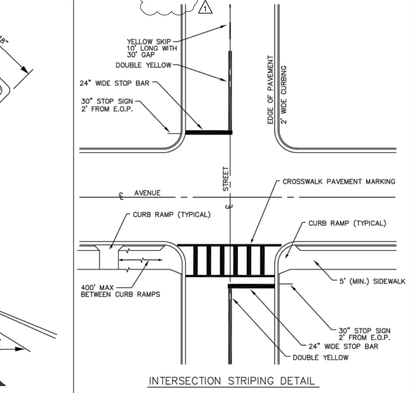
CONCRETE PIPE JOINTS

PIPE REQUIREMENTS:
1. REINFORCED CONCRETE PIPE (ASTM C 76) CLASS III OR STRONGER BASED ON "D" LOAD; OR FRCP (FIBER-MIX) CONCRETE PIPE; PER: ASTM C1450 AND F.D.O.T. SPEC. SECTION 941., OR LATEST EDITION.
2. PRE-STRESSED CONCRETE PIPE (AWWA C301) SHALL BE APPROVED ON A CASE BY CASE BASIS
3. ALTERNATIVE PIPE MATERIALS MAY BE USED FOR PRIVATELY MAINTAINED STORMWATER SYSTEMS.

GENERAL NOTES:
1. ALL PAVEMENT MARKINGS AND TRAFFIC CONTROLS SHALL COMPLY WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.), LATEST EDITION AS PUBLISHED BY FEDERAL HIGHWAY ADMINISTRATION.
2. HANDICAP RAMPS SHALL COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT" OF 1992
3. ALL PAVING AND DRAINAGE STRUCTURES (INCLUDING CURBING) SHALL COMPLY WITH F.D.O.T. "STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.
4. RECORDINGS FROM CLOSED CIRCUIT TELEVISION INSPECTIONS CONDUCTED BY A CONTRACT TV INSPECTOR EMPLOYED BY THE DEVELOPER SHALL BE PROVIDED TO THE CITY ON A DVD AND INCLUDE A WRITTEN REPORT CORRESPONDING TO THE DVD RESULTS. A POST CLOSED CIRCUIT TELEVISION INSPECTION SHALL BE REQUIRED BY THE DEVELOPER PRIOR TO THE EXPIRATION OF THE MAINTENANCE BOND.



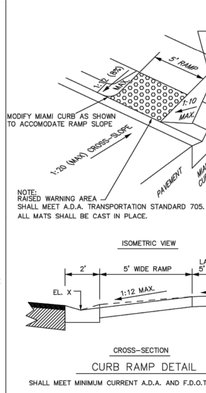
PARKING WHEEL STOP DETAIL
NOT TO SCALE



MIAMI CURB SECTION
NOT TO SCALE

CURB NOTES
1. ALL CONCRETE CURB SHALL BE CONTINUOUSLY CURED FOR A PERIOD OF NOT LESS THAN 72 HOURS SEE F.D.O.T. ROAD & BRIDGE SPECIFICATIONS (LATEST EDITION) SEC. 520-8

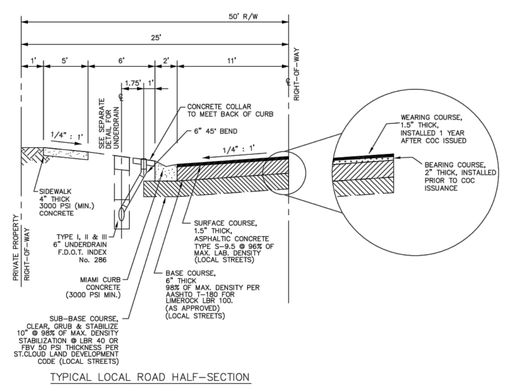
TYPE "F" CURB SECTION
NOT TO SCALE



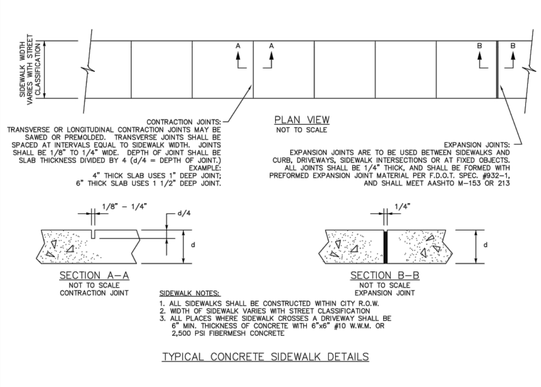
VALLEY GUTTER SECTION
NOT TO SCALE

INTERSECTION STRIPING DETAIL
SHALL MEET MINIMUM CURRENT A.D.A. AND F.D.O.T. STD. SPECS.

CURB RAMP DETAIL
SHALL MEET MINIMUM CURRENT A.D.A. AND F.D.O.T. STD. SPECS.



TYPICAL LOCAL ROAD HALF-SECTION
NOT TO SCALE



TYPICAL CONCRETE SIDEWALK DETAILS

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(407) 957-7264

ALL SURVEY DATA SHOWING PHYSICAL FEATURES WERE OBTAINED BY THE ENGINEER INCIDENTAL TO DESIGN AND NO LAND SURVEYING CERTIFICATION SHOULD BE IMPLIED

NOTES: ALL REFERENCES TO "EQUAL" OR "APPROVED EQUAL" PROVIDE AN OPPORTUNITY TO SUBSTITUTE MATERIALS. ALL PROPOSED SUBSTITUTIONS SHALL BE REVIEWED AND APPROVED BY THE CITY OF ST. CLOUD CITY MANAGER OR DESIGNEE BY SUBMITTING MANUFACTURER'S SPECIFICATIONS AND PRODUCT DATA SHEETS PRIOR TO CONSTRUCTION.

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REVISIONS

DR:	CK:	DR:	CK:	DR:	CK:	DR:	CK:	DR:	CK:
REV. NO.:	AP:	REV. NO.:	AP:	REV. NO.:	AP:	REV. NO.:	AP:	REV. NO.:	AP:
DESCRIPTION:		DESCRIPTION:		DESCRIPTION:		DESCRIPTION:		DESCRIPTION:	

DRAWN BY: DATE: CHECKED BY: DATE:
SCALE: NONE APPROVED BY: DATE:
FILENAME: 02-PAVING&STORMWATER
XREF'S:

DRAWING NUMBER: 2022-02-GN
SHEET 2 OF 3

PAVING AND STORMWATER NOTES

APPROVED BY
KEVIN FELBLINGER, P.E.
FL REG. No. 68532
DPWD/CITY ENGINEER
DATE

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–	
DRAWN	RS	PAGE	–	
CHECKED	RN	SCALE	AS SHOWN	
CAD#	(see stamp)	DATE	3/5/26	

SEC.	5 & 8	
TWP.	26 S	
RANGE	31 E	

DATE	BY	REVISIONS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
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PUFFIN ROAD COMMERCIAL

PAVING AND STORMWATER NOTES

Robert L Newberry 2026.03.26 18:00:53 -04'00'
This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.
Signature must be verified on any electronic copies.

SHEET NO C-48 of C-50
JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\5-5450-05 ST CLOUD DETAILS.dwg • Mar 11, 2026 - 12:24pm • plotted by RSouser

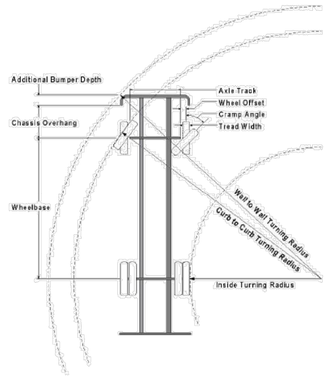
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

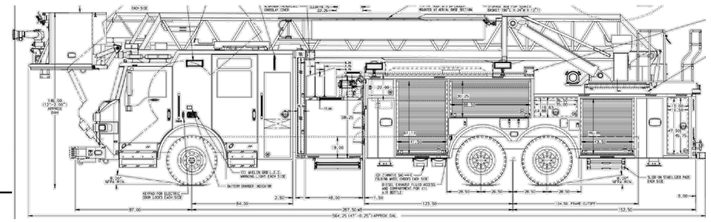


Parameters:

*Inside Cramp Angle:	40°
Axle Track:	82.92 in.
Wheel Offset:	5.3 in.
Tread Width:	17.5 in.
Chassis Overhang:	78 in.
Additional Bumper Depth:	19 in.
Front Overhang:	136.1 in.
Wheelbase:	267.5 in.

Calculated Turning Radii:

Inside Turn:	25 ft. 5 in.
Curb to curb:	41 ft. 5 in.
Wall to wall:	48 ft. 3 in.



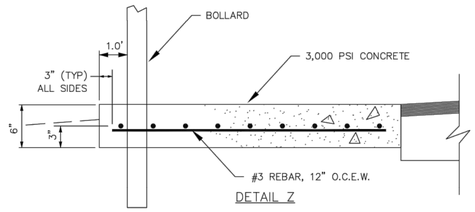
Category	Option	Description
Tires, Front	0582746	Tires, Front, Goodyear, G296 MSA, 445/65R22.50, 20 ply
Bumpers	0123625	Bumper, 19" Extended, Imp/Vel
Wheels, Front	0019618	Wheels, Front, Alcoa, 22.50" x 13.00", Aluminum, Hub Pilot
Axle, Front, Custom	0508846	Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Velocity
Aerial Devices	0784643	Aerial, 100' Pierce Platform, 35 MPH Wind Rating, 400lb Tip Load Allowance

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

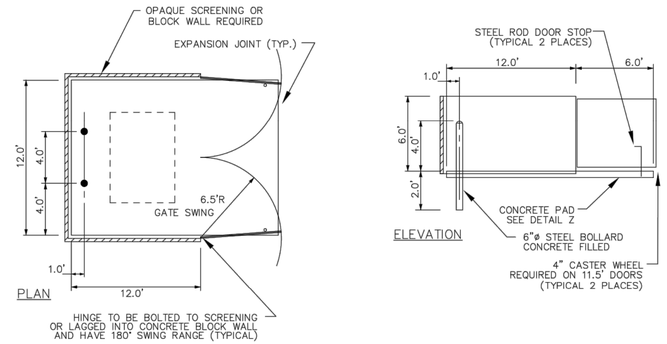
FIRE APPARATUS TURNING DETAIL



DETAIL Z

SINGLE DUMPSTER PAD DETAIL

NTS

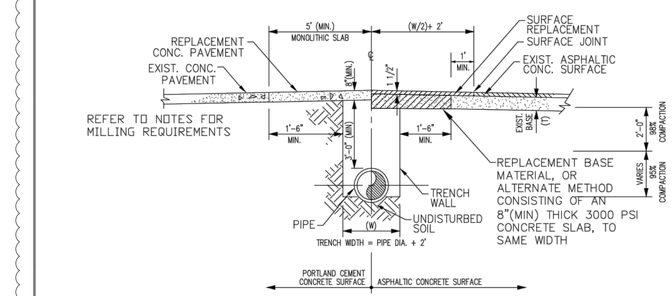


PLAN

ELEVATION

DUMPSTER PAD NOTES:

1. FOR MULTIPLE DUMPSTERS ON A SINGLE PAD, SCREENING SHALL BE REQUIRED AROUND THE PERIMETER OF THE PAD.
2. DUMPSTER PADS WITH MULTIPLE DUMPSTER WILL BE APPROVED ON A CASE BY CASE BASIS.
2. DUMPSTER ENCLOSURES SHALL HAVE A MINIMUM INSIDE DIMENSION OF 12'X12' MEASURED FROM INTERIOR WALL TO INTERIOR WALL.



STANDARD ROADWAY OPEN CUT DETAIL

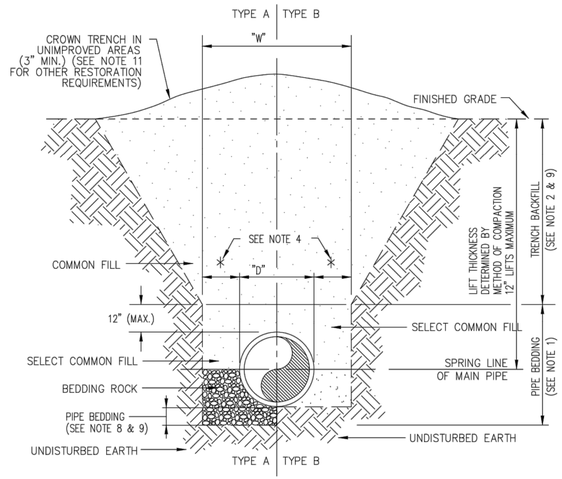
NTS

BEDDING AND TRENCHING NOTES:

1. TRENCH TO BE BACKFILLED WITH SUITABLE MATERIAL IN ONE (1) FOOT LIFTS AND COMPACTED TO 98% DENSITY (AASHTO-T-180)
2. FLOW-ABLE FILL CAN BE UTILIZED AS AN ALTERNATIVE. FLOW-ABLE FILL WILL BE 80 PSI WITH ASTM C-494, TYPE C ACCELERATOR TO OBTAIN A SETTING TIME OF 3-4 HOURS
3. FOLLOW THE LATEST EDITION OF FDOT STANDARDS FOR ROAD AND BRIDGE AND DESIGN STANDARDS
4. ALL EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH O.S.H.A. TRENCH SAFETY REQUIREMENTS.
5. IF THE EXISTING PAVEMENT CONTAINS FC, THE MILLING DEPTH WILL BE INCREASED FOR THE FC THICKNESS.
6. OPEN CUTS IN ROADS NEWER THAN 5 YEARS, WILL REQUIRE THE CITY ENGINEERS APPROVAL. ALTERNATE REPAIR METHODS MAY APPLY.
7. MATCH EXISTING PAVEMENT MINIMUM OF 3" TYPE S ASPHALT.
8. MILL AND OVERLAY CONDITIONS SHALL BE PREPARED AS SPECIFIED WITHIN

25 TO 45 MPH ----- 20FT EACH SIDE
45 TO 55 MPH ----- 50FT EACH SIDE
55 & > --------- 100ft EACH SIDE

9. ALL STRIPPING, REFLECTORS OR OTHER MARKINGS OBLITERATED BY OVERLAYING SHALL BE RESTORED IN ACCORDANCE WITH F.D.O.T. STANDARDS PRIOR TO INITIAL



BEDDING AND TRENCHING DETAIL

NTS

BEDDING & TRENCHING NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180. COMPACTION SHALL BE 98% WITHIN 2' OF FINISHED ELEVATION UNDER ALL ROADWAYS, AND TO 2 LF BEHIND CONCRETE CURBS OR THE EDGE OF PAVEMENT.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180. COMPACTION SHALL BE 98% WITHIN 2' OF FINISHED ELEVATION UNDER ALL ROADWAYS, AND TO 2 LF BEHIND CONCRETE CURBS OR THE EDGE OF PAVEMENT.
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY.
4. * 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. ALL NECESSARY MEASURES SHALL BE TAKEN TO KEEP THE TRENCH AS DRY AS POSSIBLE DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. REFER TO LAND DEVELOPMENT CODE FOR SHEETING AND BRACING IN EXCAVATIONS. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, IF REQUIRED BY THE CITY.
8. GRAVITY SEWERS SHALL UTILIZE A TYPE A BEDDING, IF REQUIRED BY THE CITY. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
9. THE CITY ENGINEER MAY APPROVE ALTERNATE METHODS OF TRENCH BACKFILL COMPACTION ON A CASE BY CASE SITUATION.
10. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. THE CITY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
11. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN THE CITY OF ST. CLOUD RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

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1300 NINTH STREET
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NOTES: ALL REFERENCES TO 'EQUAL' OR 'APPROVED EQUAL' PROVIDE AN OPPORTUNITY TO SUBSTITUTE MATERIALS. ALL PROPOSED SUBSTITUTIONS SHALL BE REVIEWED AND APPROVED BY THE CITY OF ST. CLOUD CITY MANAGER OR DESIGNEE BY SUBMITTING MANUFACTURER'S SPECIFICATIONS AND PRODUCT DATA SHEETS PRIOR TO CONSTRUCTION.

THIS DOCUMENT WILL BE CONSIDERED A COPY ONLY, UNLESS EMBOSSED BY A REGISTERED ENGINEERS SEAL

REVISIONS

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DRAWN BY: DATE: CHECKED BY: DATE:
SCALE: NONE APPROVED BY: DATE:
FILENAME: 03-SOLID WASTE & STREETS
XREF'S:

DRAWING NUMBER: 2025-03-GN
SHEET 3 OF 3

SOLID WASTE AND STREETS NOTES

APPROVED BY
KEVIN FELBLINGER, P.E.
FL REG. No. 68532
DPWD/CITY ENGINEER
DATE

SUB25-00041
PSP25-00004

DESIGN	MW/CM	F.B. NO.	–	SEC.	5 & 8
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DATE	BY	REVISIONS
02-26-26	CM	REVISED PER CITY COMMENTS
01-13-26	CM	REVISED PER TOHO & FDOT COMMENTS

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Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

SOLID WASTE AND STREETS NOTES

Robert L Newberry 2026.03.26 18:01:12 -04'00'

This item has been digitally signed and sealed by Robert L. Newberry, P.E. on the date adjacent to the seal.

Signature must be verified on any electronic copies.

SHEET NO C-49 of C-50

JOB NO 5450-05

I:\5450-05\ENGINEERING\CADD\PLANS\S-5450-05 ST CLOUD DETAILS.dwg • Mar 11, 2026 - 12:24pm • plotted by RSouser

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

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GENERAL CONSTRUCTION NOTES:

1. 1. ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29) OR NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS SHOWN ON THE COVER SHEET.
2. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL CHECK THE PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES. IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION, CALL "SUNSHINE" AT 1-800-432-4770. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES NOT ONLY THOSE INCLUDED IN THE "SUNSHINE" PROGRAM.
5. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES (ABOVE OR BELOW GROUND) THAT MAY OCCUR AS A RESULT OF THE WORK PREFORMED BY THE CONTRACTOR.
6. ALL UNDERGROUND UTILITIES MUST BE IN PLACE AND TESTED OR INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION AND SCHEDULE INSPECTIONS ACCORDING TO AGENCY INSTRUCTION.
8. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST REVISIONS AND/OR LATEST EDITION.
9. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE GOVERNING MUNICIPALITY COUNTY, THE UTILITY PROVIDED, THE CITY, FDOT AND WATER MANAGEMENT DISTRICT AS APPLICABLE BY JURISDICTION.
10. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE OWNER'S ENGINEER, SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS, WHICH ARE FOR THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE. ALL SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER'S ENGINEER.
11. AT LEAST FIVE (5) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES AND SUPPLY THEM WITH ALL REQUIRED SITE PLAN DRAWINGS. THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER, OR WITHOUT AGENCY INSPECTORS PRESENT, MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
12. WORK PREFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY, WITH OTHER CONTRACTORS AND UTILITY COMPANIES.
13. BACKFILL MATERIAL SHALL BE SOLIDLY TAMPED AROUND PIPES IN 6" LAYERS UP TO A LEVEL OF AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE. IN AREAS TO BE PAVED, BACKFILL SHALL BE COMPACTED TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
14. SITE WORK CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3,000 P.S.I. IN 28 DAYS, UNLESS OTHERWISE NOTED.
15. REINFORCING SHALL BE BILLET STEEL BARS CONFORMING TO ASTM A615 GRADE OR BETTER.
16. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ADDITIONAL COSTS ARE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.
17. ALL DISTURBED AREAS WHICH ARE NOT TO BE SODDED, ARE TO BE SEEDED AND MULCHED TO DOT STANDARDS AND MAINTAINED UNTIL A SATISFACTORY STAND OF GRASS ACCEPTABLE TO THE REGULATORY AGENCY AND ENGINEER OF RECORD, HAVE BEEN OBTAINED. ANY WASHOUT, REGRADING, RESEEDING AND GRASSING WORK, AND OTHER EROSION WORK REQUIRED WILL BE PERFORMED BY THE CONTRACTOR, UNTIL THE SYSTEM IS ACCEPTED FOR MAINTENANCE BY THE REGULATORY AGENCY AND ENGINEER OF RECORD.
18. CHAPTER 77-153 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL GAS UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING. MAPS SHOW ONLY THE APPROXIMATE LOCATION OF GAS MAINS AND DO NOT SHOW SERVICE LINES. THE ONLY SAFE AND PROPER WAY TO LOCATE EITHER MAINS OR SERVICE LINES IS BY AN ON-SITE INSPECTION BY THE RESPECTIVE GAS PERSONNEL. THEREFORE, EXCAVATORS ARE INSTRUCTED TO TELEPHONE THE RESPECTIVE GAS COMPANY TWO (2) WORKING DAYS BEFORE ENTERING A CONSTRUCTION AREA.
19. THE CONTRACTOR SHALL LOCATE AND FLAG ALL PROPERTY CORNERS PRIOR TO FINAL ENGINEERING INSPECTION AND CERTIFICATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE PROPERTY CORNERS, WHICH HAVE BEEN LOST DURING CONSTRUCTION, RE-ESTABLISHED BY A PROFESSIONAL LAND SURVEYOR.
20. THE CONTRACTOR IS TO REVIEW THE SOIL REPORTS AND BORINGS PRIOR TO BIDDING THE PROJECT AND COMMENCING CONSTRUCTION.
21. THE IRRIGATION SYSTEM SHALL HAVE COLOR CODED PIPING AND LABELING ON THE PIPE TO INSURE DIFFERENTIATION FROM POTABLE WATER PIPING.
22. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLANS AND PERMITS AT THE CONSTRUCTION SITE.
23. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.
24. ALL SODDING, SEEDING AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.
25. THE PERMITTEE SHALL BE SEPARATELY RESPONSIBLE FOR APPROPRIATE CONSTRUCTION, DISINFECTION AND TESTING BEYOND THE METER TO ASSURE POTABILITY AT THE POINT OF USE.
26. POTABLE WATER PIPES WILL BE DISINFECTED IN ACCORDANCE WITH AWWA SPECIFICATIONS C651.
27. POTABLE WATER PIPES WILL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH SPECIFICATION NUMBERS C600 AND C605/M23 FOR DUCTILE IRON AND PVC PIPES, RESPECTIVELY.
28. ALL BUFFER WALL ELEVATIONS MUST COMPLY TO LAND DEVELOPMENT CODE 10.9.A.P. BUFFER WALL SHALL BE A MINIMUM OF 6' IN HEIGHT AS MEASURED FROM THE BASE FLOOR ELEVATION OF THE MOST ADJACENT BUILDING, ROAD OR PROPERTY, WHICHEVER IS GREATER.
29. ALL SIGNAGE IS FOR INFORMATIONAL PURPOSES ONLY. ALL SIGNAGE REQUIRES A SEPARATE BUILDING PERMIT SUBMITTAL WITH COUNTY STAMPED APPROVED DIP SITE AND DRAINAGE SHEET.
30. CONTRACTOR SHALL COORDINATE ALL UTILITY AND DRAINAGE CONNECTIONS TO AND FROM BUILDINGS WITH THE ARCHITECT AND MECHANICAL ENGINEER.
31. TRASH COMPACTOR, IF SHOWN, AND THE ACCOMPANYING DETAILS ARE SHOWN FOR REFERENCE ONLY. STRUCTURAL DESIGN SHALL BE BY OTHERS.

CLEARING AND EROSION CONTROL NOTES:

1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.
2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.
3. THE CONTRACTOR SHALL CLEAR AND GRUB ONLY THOSE PORTIONS OF THE SITE NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.
4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.
5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "CRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.
6. THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS FOR REMOVING ANY EXISTING STRUCTURES.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES TO DISCONNECT OR REMOVE THEIR FACILITIES PRIOR TO REMOVING OR DEMOLISHING ANY EXISTING STRUCTURES FROM THE SITE.
8. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAS BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND IS GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE COUNTY AND THE ENGINEER TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING ANY UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES WHICH INTERFACE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANIES. AND THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY COMPANIES DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
9. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING A VISUAL INSPECTION OF THE SITE AND WILL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL UNDERGROUND AND ABOVE GROUND STRUCTURES THAT WILL NOT BE INCORPORATED WITH THE NEW FACILITIES. SHOULD ANY DISCREPANCIES EXIST WITH THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING THE OWNER AND REQUESTING A CLARIFICATION OF THE PLANS PRIOR TO DEMOLITION.
10. DURING CONSTRUCTION, ALL STORM SEWER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
11. ALL EROSION AND SILTATION CONTROL METHODS SHALL BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
12. WHEN CONSTRUCTION IS COMPLETED, THE RETENTION/DETENTION AREAS WILL BE RESHAPED, CLEANED OF SILT, MUD AND DEBRIS AND RE-SODDED IN ACCORDANCE TO THE PLANS.
13. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS, WATERWAYS AND EXISTING WETLANDS. IN ADDITION, THE CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON THE GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF, IN THE OPINION OF THE ENGINEER AND/OR THE COUNTY/CITY/STATE, EXCESSIVE QUANTITIES OF EARTH ARE TRANSFERRED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC, THE CONTRACTOR IS TO CLEAN AND RESTORE THE AREA TO THE SATISFACTION OF THE ENGINEER AND/OR THE JURISDICTIONAL AGENCY.
14. IF WIND EROSION BECOMES SIGNIFICANT DURING CONSTRUCTION, THE CONTRACTOR SHALL STABILIZE THE AFFECTED AREA USING SPRINKLING, IRRIGATION OR OTHER ACCEPTABLE METHODS.
15. THERE IS TO BE NO DISCHARGE (e.g. PUMPING, SHEET FLOW, SWALE, DITCH, ETC.) INTO EXISTING LAKE SYSTEM, WETLAND, OR RIVER WITHOUT THE USE OF SETTLING PONDS. IF THE CONTRACTOR DESIRES TO DISCHARGE INTO THE EXISTING LAKE SYSTEM OR RIVER, A SETTLING POND PLAN MUST BE SUBMITTED AND APPROVED BY THE ENGINEER OF RECORD, COUNTY AND THE MANAGEMENT DISTRICT PRIOR TO CONSTRUCTION.
16. THE SURFACE AREA OF OPEN, RAW, ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS, SHALL NOT EXCEED TEN (10) ACRES WITHOUT WRITTEN AUTHORIZATION FROM THE COUNTY/CITY ENGINEER.

PAVING, GRADING AND DRAINAGE NOTES:

1. ALL DELETERIOUS SUBSTANCE MATERIAL (e.g. MUCK, PEAT, BURIED DEBRIS) IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS OR AS DIRECTED BY THE OWNER'S ENGINEER OR OWNER'S SOIL TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER. EXCAVATED AREAS ARE TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING OR SHORING AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED. DEWATERING SHALL BE USED AS REQUIRED.
3. IT MAY BE NECESSARY TO FIELD ADJUST PAVEMENT ELEVATIONS TO PRESERVE THE ROOT SYSTEMS OF TREES SHOWN TO BE SAVED. THE CONTRACTOR IS TO COORDINATE WITH OWNER'S ENGINEER PRIOR TO ANY ELEVATION CHANGES.
4. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE OWNER'S ENGINEER FOR APPROVAL.
5. THE CONTRACTOR IS TO PROVIDE A 1/2" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.
6. ALL PAVEMENT MARKINGS SHALL BE MADE WITH PERMANENT THERMOPLASTIC AND SHALL CONFORM TO FDOT INDEX 711-001. PARKING STALL STRIPING TO BE 4" WIDE PAINTED WHITE STRIPES.
7. THE CONTRACTOR IS TO INSTALL EXTRA BASE MATERIAL WHEN THE DISTANCE BETWEEN THE PAVEMENT ELEVATION AND THE TOP OF THE PIPE OR BELL IS LESS THAN TWELVE (12) INCHES. SEE "EXTRA BASE FOR CROSS CULVERTS UNDER FLEXIBLE PAVEMENT DETAIL".
8. STANDARD INDEXES REFER TO THE LATEST EDITION OF FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS".
9. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) OR APPROVED EQUAL UNLESS OTHERWISE NOTED ON PLANS. ALL DRAINAGE PIPE JOINTS SHALL BE WRAPPED IN FILTER FABRIC WRAP PER FDOT INDEX 430-001.
10. PVC STORM PIPE (12" AND SMALLER) SHALL CONFORM TO AWWA C900, CLASS 150 STANDARDS UNLESS OTHERWISE NOTED.
11. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO THE CENTER OF DRAINAGE STRUCTURES. PIPE LENGTH FOR MITERED END AND FLARED END SECTIONS ARE TO END OF PIPE.
12. ALL DRAINAGE STRUCTURE GRATES AND COVERS WITHIN TRAFFIC AREAS SHALL BE TRAFFIC RATED FOR H-20 LOADINGS.
13. THE CONTRACTOR IS TO SOD THE RETENTION/DETENTION POND AS INDICATED ON PLANS WITHIN ONE-WEEK FOLLOWING CONSTRUCTION OF THE POND.
14. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COUNTY ROADWAY SPECIFICATIONS LATEST EDITION AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION THEREOF AND SUPPLEMENTAL SPECIFICATIONS THERETO.
15. UNDERCUTTING AND/OR OVER EXCAVATING THE RETENTION/DETENTION AREAS WILL NOT BE ALLOWED.
16. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR. THE RECORD DRAWINGS SHALL SHOW FINAL GRADES, INVERTS AND LOCATIONS OF ALL STORMWATER FACILITIES INCLUDING THE STORMWATER POND, DRAINAGE STRUCTURES, BERMS & SWALES. THE CONTRACTOR SHALL PROVIDE TEN COPIES OF THE CERTIFIED RECORD DRAWINGS TO THE ENGINEER FOR THE PURPOSE OF CERTIFYING THE STORMWATER MANAGEMENT SYSTEM.

PAVING, GRADING & DRAINAGE TESTING AND INSPECTION REQUIREMENTS:

1. THE STORM DRAINAGE PIPING AND FILTRATION SYSTEM SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. THE CONTRACTOR IS TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE AN INSPECTION.
2. THE CONTRACTOR SHALL MAINTAIN THE STORM DRAINAGE SYSTEMS UNTIL FINAL ACCEPTANCE OF THE PROJECT.
3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL OF THE APPLICABLE TESTING WITH THE SOILS ENGINEER.
4. THE SOILS ENGINEER IS TO SUPPLY THE ENGINEER WITH A PHOTOCOPY OF ALL COMPACTION TESTS AND ASPHALT RESULTS. THE SOILS ENGINEER IS TO CERTIFY TO THE ENGINEER OF RECORD, IN WRITING, THAT ALL TESTING REQUIREMENTS REQUIRED BY THE COUNTY, THE UTILITY PROVIDER, THE WATER MANAGEMENT DISTRICT AND ANY OTHER AGENCY REQUIRING SUCH TESTS FOR THE IMPROVEMENTS.

2025 – TOHOPEKALIGA WATER AUTHORITY STANDARD CONSTRUCTION NOTES

GENERAL:

1. WHERE CONFLICTS ARISE BETWEEN THE TOHO ACCEPTED PLANS, TOHO STANDARDS & SPECIFICATIONS MANUAL, TOHO STANDARD DETAILS, BEST PRACTICES, OR OTHER APPLICABLE GOVERNMENT OR INDUSTRY STANDARDS, THE DEVELOPER OR THEIR ASSIGNED REPRESENTATIVE SHALL SEEK GUIDANCE FROM TOHO FOR DIRECTION ON HOW TO PROCEED.
2. REFERENCE TOHO'S STANDARDS, SPECIFICATIONS AND DETAILS, LATEST EDITION FOR ISSUES NOT SPECIFICALLY ADDRESSED BELOW OR ON THE TOHO ACCEPTED PLANS.
4. UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOHO ACCEPTED PLANS AND SHOP DRAWINGS. ANY DEVIATION FROM THE TOHO ACCEPTED PLANS MUST BE COORDINATED THROUGH THE DEVELOPER'S ENGINEER AND APPROVED BY TOHO.
6. A PRECONSTRUCTION MEETING WITH THE TOHO'S STAFF IS REQUIRED PRIOR TO INITIATING CONSTRUCTION.
7. ALL REQUIRED PERMITS INCLUDING BUT NOT LIMITED TO FDEP WATER AND WASTEWATER PERMITS, RIGHT-OF- WAY UTILIZATION PERMIT(S), DEWATERING PERMIT(S), AND TEMPORARY CONSTRUCTION EASEMENT(S) SHALL BE OBTAINED PRIOR TO INITIATING CONSTRUCTION

PERMITS, PLANS, SHOP DRAWINGS:

1. FDEP WATER AND WASTEWATER PERMITS OR LETTERS OF DETERMINATION SHALL BE OBTAINED FOR THE POTABLE WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEM PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. SHOP DRAWINGS FOR ALL WATER, REUSE, AND SANITARY SEWER MATERIALS AND STRUCTURES SHALL BE SUBMITTED TO TOHO PRIOR TO INITIATING CONSTRUCTION.
3. SUBSTITUTION OF MATERIALS AND/OR STRUCTURES PRIOR TO TOHO SHOP DRAWING APPROVAL IS DONE AT THE CONTRACTOR'S OWN RISK. ANY MATERIAL OR STRUCTURE FOUND TO BE OUT OF COMPLIANCE WITH TOHO STANDARDS SHALL BE REMOVED AT THE EXPENSE OF THE CONTRACTOR.
5. A STAMPED SET OF TOHO ACCEPTED PLANS SHALL BE ALWAYS PRESENT ON THE SITE. PLANS ARE VALID FOR 12 MONTHS FROM THE DATE OF PLAN ACCEPTANCE BY TOHO. IF CONSTRUCTION DOES NOT BEGIN WITHIN THIS 12-MONTH PERIOD, THE DEVELOPER MUST CONTACT TOHO FOR A PROJECT STATUS REVIEW AND POSSIBLE APPROVAL FOR EXTENSION.
6. ONE HARD COPY AND ONE ELECTRONIC COPY OF RECORD DRAWINGS SHALL BE SUBMITTED TO TOHO BEFORE THE PRE-FINAL INSPECTION. RECORD DRAWINGS SHALL CONFORM TO SECTIONS 11.6 OF TOHO'S STANDARDS, SPECIFICATIONS AND DETAILS, LATEST EDITION.

POTABLE WATER AND REUSE WATER – TESTING:

1. POTABLE WATER LINES SHALL BE INSTALLED, CLEANED, FLUSHED, DISINFECTED AND BACTERIOLOGICALLY TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND FDEP RULES AND REGULATIONS.
   a. DISINFECTION AND BACTERIOLOGICAL SAMPLING SHALL BE DONE BY AN ACCREDITED CONTRACTOR AND/OR LAB AND WITNESSED BY TOHO.
2. ALL POTABLE WATER AND REUSE WATER DISTRIBUTION SYSTEMS SHALL BE FLUSHED CLEAN OF ALL DELETERIOUS MATERIAL PRIOR TO ANY TESTING. MAINS 4" AND LARGER SHALL BE PIGGED AND MAINS AND SERVICES SMALLER THAN 4" SHALL BE FLUSHED. ALL PIGGING AND FLUSHING SHALL BE THROUGH A METERED SOURCE OF POTABLE WATER PREVIOUSLY CLEARED FOR USE BY FDEP AND TOHO.
3. POTABLE WATER AND REUSE WATER LINES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA-C600 (DUCTILE IRON PIPE) AND AWWA-C605/M23 (PVC PIPE) SPECIFICATIONS AT 150 PSI AND WITNESSED BY TOHO PERSONNEL. NO LEAKAGE SHALL BE ALLOWED.
4. ALL TAPPING SADDLES AND SLEEVES SHALL BE PRESSURE TESTED AT 150 PSI AND WITNESSED BY TOHO PERSONNEL PRIOR TO INITIATING THE TAP. THE TAPPING VALVE OR CORPORATION STOP SHALL BE TESTED WITH THE SADDLE OR SLEEVE.

POTABLE WATER AND REUSE WATER– MATERIALS:

1. PVC PIPE (4) INCHES THROUGH THIRTY-SIX (36) INCHES SHALL BE AWWA C-900/905, LATEST EDITION.
2. DIP PIPE FOUR (4)" THROUGH FIFTY-FOUR (54)" SHALL BE ANSI/AWWA A21.51/C151 WITH A MINIMUM WORKING PRESSURE CLASS 150 PIPE.
   a. ANY FITTINGS REQUIRED SHALL BE MECHANICAL JOINT DUCTILE IRON CONFORMING TO ANSI/AWWA A21.10/C110, 250 PSI MINIMUM PRESSURE RATING, OR DUCTILE IRON COMPACT FITTINGS IN ACCORDANCE WITH ANSI/AWWA A21.53/C153.
   b. JOINTS FOR DUCTILE IRON PIPE SHALL BE PUSH-ON OR MECHANICAL JOINTS CONFORMING TO ANSI/AWWA A21.11/C111. ABOVE GROUND JOINTS SHALL BE FLANGED WITH STAINLESS STEEL BOLTS, NUTS AND WASHERS. FLANGED JOINTS SHALL CONFORM TO ANSI STANDARD B 16.1-125 LB.
   c. WHERE DUCTILE IRON PIPE AND FITTINGS ARE TO BE BELOW GROUND OR INSTALLED IN A CASING PIPE THE EXTERIOR COATING SHALL BE A MINIMUM 1.0 MIL THICK IN ACCORDANCE WITH ANSI/AWWA A21.51/C151.
   d. WHERE DUCTILE IRON PIPE AND FITTINGS ARE TO BE INSTALLED ABOVE GROUND, PIPE, FITTINGS, AND VALVES SHALL BE THOROUGHLY CLEANED AND GIVEN ONE EXTERIOR FIELD COAT (MINIMUM 1.5 MILS DRY THICKNESS) OF RUST INHIBITOR PRIMER, AND TWO FINISH COATS (MINIMUM 1.5 MILS DRY THICKNESS EACH).
   e. ALL DUCTILE IRON PIPE AND FITTINGS SHALL HAVE AN INTERIOR PROTECTIVE LINING OF CEMENT-MORTAR WITH A SEAL COAT OF ASPHALTIC MATERIAL IN ACCORDANCE WITH ANSI/AWWA A21.4/C104.
   f. THE PIPE SHALL BE POLYETHYLENE ENCASED (8 MIL) WHERE SHOWN ON THE TOHO ACCEPTED PLANS AND IN ACCORDANCE WITH ANSI/AWWA A21.51/C105.
3. POLYETHYLENE PIPE FOUR (4)" THROUGH TWELVE (12)" SHALL BE AWWA STANDARD C906, PE3408 LATEST EDITION. THE POLYETHYLENE PIPE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 160 PSI AND SHALL HAVE A STANDARD DIMENSION RATIO (SDR) OF 11. PIPE SHALL BE THE SAME ID AS DUCTILE IRON PIPE.
   a. POLYETHYLENE PIPE SHALL HAVE FUSION BONDED JOINTS.
   b. FITTINGS USED WITH POLYETHYLENE PIPE SHALL BE FABRICATED FUSION FITTINGS IN ACCORDANCE WITH AWWA STANDARD C906.
3. POLYETHYLENE PIPE THREE-QUARTER (¾") THROUGH TWO (2)" SHALL BE AWWA STANDARD C901, PE3608, BLUE FOR POTABLE WATER AND PURPLE FOR REUSE WATER. THE POLYETHYLENE PIPE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 160 PSI AND SHALL HAVE A STANDARD DIMENSION RATIO (SDR) OF 9 (PC250). 4" AND LARGER SERVICE PIPE SHALL BE C-900 PVC OR DIP.
4. 3" SERVICE LINES SHALL NOT BE PERMITTED.
5. VALVES SHALL BE RESILIENT WEDGE GATE VALVES.
6. VALVES SHALL BE LOCATED AT NOT MORE THAN 500-FOOT INTERVALS IN COMMERCIAL, INDUSTRIAL AND HIGH- DENSITY RESIDENTIAL AREAS AND AT NOT MORE THAN 1000-FOOT INTERVALS IN ALL OTHER AREAS. APPROPRIATE VALVING SHALL ALSO BE PROVIDED ON ALL SIDES OF TEES AND CROSSES AND ON BOTH SIDES OF A DIRECTIONAL BORE OR JACK AND BORE.
7. ALL METERS 2" AND SMALLER SHALL BE INSTALLED BY TOHO AFTER ALL PAYMENT OF APPLICABLE FEES AND CHARGES. ALL METERS 2" AND LESS IN SIZE SHALL BE INSTALLED UNDERGROUND IN AN APPROVED METER BOX
8. METERS LARGER THAN 2" SHALL BE INSTALLED ABOVE GROUND AND ARE THE RESPONSIBILITY OF THE DEVELOPER. IN GENERAL, METERS 2" AND LARGER SHALL BE LOCATED IN A METER EASEMENT LOCATED ADJACENT TO THE PUBLIC RIGHT OF WAY AND OUTSIDE OF PAVED AREAS OR AS SHOWN ON THE TOHO ACCEPTED PLANS.

GRAVITY SEWER – TESTING:

1. PRIOR TO ANY TESTING, PASSING SOIL DENSITY TESTS AND SLOPE SURVEYS SHALL BE SUBMITTED TO TOHO.
2. ALL SANITARY MANHOLES SHALL BE INSPECTED BY TOHO PERSONNEL PRIOR TO INSTALLING IN GROUND AND PRIOR TO BACKFILLING ONCE INSTALLED.
3. SANITARY SEWERS SHALL BE VDEO INSPECTED AND WITNESSED BY TOHO PERSONNEL IN ACCORDANCE WITH THE TOHO'S STANDARDS, SPECIFICATIONS AND DETAILS, LATEST EDITION.
4. SANITARY SEWERS SHALL BE LOW PRESSURE AIR TESTED WITH NO ALLOWABLE LOSS AND WITNESSED BY TOHO PERSONNEL.
5. GRAVITY SANITARY SEWER MAINS SHALL REQUIRE A MANDREL TEST WHICH SHALL BE WITNESSED BY THE TOHO INSPECTOR IN ACCORDANCE WITH THE TOHO'S STANDARDS, SPECIFICATIONS AND DETAILS, LATEST EDITION.

GRAVITY SEWER – MATERIALS:

1. PVC PIPE EIGHT (8)" THROUGH TWELVE (12)" SHALL BE ASTM D3034, SDR 35. THE JOINTS SHALL BE INTEGRAL BELL ELASTOMERIC GASKET JOINTS MANUFACTURED IN ACCORDANCE WITH AST

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

GENERAL NOTES:

1. Irrigation system design requirements: See critical analysis. The irrigation Contractor shall verify the available GPM and PSI prior to installation of the system.
2. Do not willfully install the irrigation as shown on the drawings when it is obvious in the field that conditions exist that might not have been considered in the design process. For example: obstructions, grade differences, water levels dimensional differences, etc. Refer to the landscape plan to avoid conflicts with proposed trees or shrubs.
3. Piping may sometimes be indicated as being located in unlikely areas: i.e., under buildings, outside property lines, under pavement, in lakes or ditches, etc. This is done for graphic clarity only. Whenever possible, piping is to be installed in open, green areas.
4. Pipe sizes shall conform to those on the drawing. Substituting with smaller pipe sizes will not be permitted.
5. If required the Irrigation Contractor shall provide the necessary Right of Way use permits.
6. Mainline to be installed with a minimum of 24" depth of cover, lateral lines are to be installed with a minimum of 12" depth of cover.
7. Unless otherwise indicated all sleeves are to be PVC Sch 40 and at least two (2) nominal sizes larger than the pipe to be sleeved.
8. Wherever practical, install valves out of high traffic areas. all valves, flush valves and wire splices shall be installed in Rain Bird valve boxes as follows: Remote control valves in 12" standard rectangular box and wire splices in 10" round valve box.
9. All wire connections to be DBRY sealed wire connectors.
10. All grounding as per Rain Bird recommended standards.
11. All pop up sprinkler heads shall be installed level and flush to grade. Mount all bubblers and heads on 18" of flexible PVC.
12. The rain sensor shall be installed to meet local codes.
13. Main line piping larger than 2" shall have thrust blocks sized and placed in accordance with the manufacturer's recommendations. Thrust blocks shall be standard poured concrete mix. Thrust blocks shall be installed at all changes in directions, reducers, valves and end caps of main line.
14. **The irrigation contractor shall prepare an AS-BUILT drawing on reproducible paper showing all main line piping, control wires and valves by showing exact measurements from hard surfaces..**
15. The owner will supply power to the irrigation controller.
16. Any other equipment required that is not otherwise detailed or specified shall be installed as per manufacturer's recommendations and specifications.
17. Velocity not to exceed 4' per second.

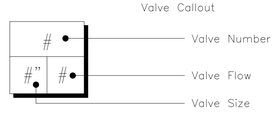
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
1401 1402 1404	Rain Bird 1800-1400 Flood Fixed flow rate 0.25 GPM - 2.0 GPM, full circle bubbler, 1/2in. FIPT.	1,207

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird XCZ-100-LC Wide Flow Drip Control Kit, for Light Commercial Uses. 1in. PEB Valve, with 1in. Pressure Regulating 40psi Basket Filter. 0.3-20 GPM.	1
	Rain Bird XCZ-150-LCS High Flow Control Zone Kit with low minimum inlet pressure requirements, for Large Commercial Drip Zones. 1-1/2in. PEB Globe Valve with high-capacity filter and Pressure Regulating system (PRS) fixed at 40psi. Flow range: 20 - 62 GPM.	10
F	Netafim TLFV-1 Automatic Flush Valve, with Insert Inlet	13
	Area to Receive Dripline Rain Bird XFS-CV-PS-9-12 XFS-CV 0.9 GPH Landscape Dripline w/ Purple Stripe.	18,879 lf

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PESB-R 1in., 1-1/2in., and 2in. Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.	13
T	Nibco T-113 Class 125 bronze gate shut off valve with wheel handle, same size as mainline pipe diameter at valve location. Size Range - 1/4in. - 3in.	3
B	Hunter NODE-100 Single Station Controller, Outdoor, Battery Powered. DC Latching Solenoid Included.	1
C	Weathermatic SL4800 with (2) SLM12 SmartLine 24-zone controller, internal 120VAC/230VAC transformer, large backlit LCD display	1
S	Weathermatic SLW5 Wireless Weather Sensor for ET Based Watering, 900mhz - 1500ft. line of site range	1
M	Water Meter 1-1/2" Reclaim Tap (By Others)	1
M2	Water Meter 1" Reclaim Tap (By others)	1
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP	27,950 lf
	Irrigation Mainline: PVC Schedule 40-NP	4,871 lf
	Pipe Sleeve: PVC Schedule 40	4,345 lf

Valve Callout



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	25.59	2,221	27.8	32.9	0.96 in/h
2	Rain Bird PESB-R	1-1/2"	Bubbler	32	2,294	28.2	36.3	1.38 in/h
3	Rain Bird XCZ-100-LC	1"	Area for Dripline	12.59	185.1	37.4	37.9	0.96 in/h
4	Rain Bird PESB-R	1-1/2"	Bubbler	46	193.5	28.7	34.4	1.22 in/h
5	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	32.45	1,889	32.4	39.1	0.96 in/h
6	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	23.3	1,762	31.4	34.7	0.96 in/h
7	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	23.63	1,382	28.3	30.9	0.96 in/h
8	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	28.56	938.8	28.8	31.2	0.96 in/h
9	Rain Bird PESB-R	1-1/2"	Bubbler	25.5	691.9	37.0	38.5	1.81 in/h
10	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	25.23	520.3	31.1	32.6	0.96 in/h
11	Rain Bird PESB-R	1-1/2"	Bubbler	41.5	512.0	38.1	42.2	1.69 in/h
12	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	23.1	420.2	30.9	32.3	0.96 in/h
13	Rain Bird PESB-R	1-1/2"	Bubbler	38	2,183	28.6	38.2	1.6 in/h
14	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	33.12	1,716	32.4	38.0	0.97 in/h
15	Rain Bird PESB-R	1-1/2"	Bubbler	48	1,552	29.8	39.7	1.54 in/h
16	Rain Bird PESB-R	1-1/2"	Bubbler	52	826.0	29.1	38.2	1.57 in/h
17	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	25.81	811.7	30.6	33.0	0.97 in/h
18	Rain Bird PESB-R	1-1/2"	Bubbler	21.5	841.7	33.2	36.3	1.2 in/h
19	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	28.14	2,569	33.3	39.9	0.97 in/h
20	Rain Bird PESB-R	1-1/2"	Bubbler	39.5	2,788	29.9	43.5	1.48 in/h
21	Rain Bird PESB-R	1"	Bubbler	17.5	1,626	38.4	40.2	1.15 in/h
22	Rain Bird PESB-R	1"	Bubbler	18.5	775.0	35.7	36.5	1.2 in/h
	Common Wire				5,161			

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	1,612	
2	Rain Bird PESB-R	Bubbler	1.38 in/h	1	44	1,408	
3	Rain Bird XCZ-100-LC	Area for Dripline	0.96 in/h	1	63	793	
4	Rain Bird PESB-R	Bubbler	1.22 in/h	1	50	2,300	
5	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	2,044	
6	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	1,468	
7	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	1,488	
8	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	1,799	
9	Rain Bird PESB-R	Bubbler	1.81 in/h	1	34	867	
10	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	1,589	
11	Rain Bird PESB-R	Bubbler	1.69 in/h	1	36	1,494	
12	Rain Bird XCZ-150-LCS	Area for Dripline	0.96 in/h	1	63	1,455	
13	Rain Bird PESB-R	Bubbler	1.6 in/h	1	38	1,444	
14	Rain Bird XCZ-150-LCS	Area for Dripline	0.97 in/h	1	63	2,087	
15	Rain Bird PESB-R	Bubbler	1.54 in/h	1	39	1,872	
16	Rain Bird PESB-R	Bubbler	1.57 in/h	1	39	2,028	
17	Rain Bird XCZ-150-LCS	Area for Dripline	0.97 in/h	1	62	1,600	
18	Rain Bird PESB-R	Bubbler	1.2 in/h	1	50	1,075	
19	Rain Bird XCZ-150-LCS	Area for Dripline	0.97 in/h	1	62	1,745	
20	Rain Bird PESB-R	Bubbler	1.48 in/h	1	41	1,620	
21	Rain Bird PESB-R	Bubbler	1.15 in/h	1	53	928	
22	Rain Bird PESB-R	Bubbler	1.2 in/h	1	51	944	
		TOTALS:			1,166	33,659	

CRITICAL ANALYSIS

Generated:	2026-03-25 15:57
P.O.C. NUMBER: 01	
Water Source Information:	Reclaim Tap (By Others)
FLOW AVAILABLE	
Water Meter Size:	1-1/2"
Flow Available	75 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	50 PSI
Elevation Change:	5.00 ft
Service Line Size:	4"
Length of Service Line:	20 ft
Pressure Available:	48 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	49 GPM
Flow Available at POC:	75 GPM
Residual Flow Available:	26 GPM
Critical Station:	22
Design Pressure:	20 PSI
Friction Loss:	22.1 PSI
Fittings Loss:	2.21 PSI
Elevation Loss:	0 PSI
Loss through Valve:	2.63 PSI
Pressure Req. at Critical Station:	46.9 PSI
Loss for Fittings:	0.02 PSI
Loss for Main Line:	0.15 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Water Meter:	0.63 PSI
Critical Station Pressure at POC:	47.7 PSI
Pressure Available:	48 PSI
Residual Pressure Available:	0.31 PSI

CRITICAL ANALYSIS

Generated:	2026-03-25 15:54
P.O.C. NUMBER: 02	
Water Source Information:	Reclaim Tap (By others)
FLOW AVAILABLE	
Water Meter Size:	1"
Flow Available	37.5 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	50 PSI
Elevation Change:	5.00 ft
Service Line Size:	4"
Length of Service Line:	20 ft
Pressure Available:	48 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	18.5 GPM
Flow Available at POC:	37.5 GPM
Residual Flow Available:	19 GPM
Critical Station:	B1
Design Pressure:	20 PSI
Friction Loss:	17.9 PSI
Fittings Loss:	1.79 PSI
Elevation Loss:	0 PSI
Loss through Valve:	2.74 PSI
Pressure Req. at Critical Station:	42.4 PSI
Loss for Fittings:	0.0 PSI
Loss for Main Line:	0.04 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Water Meter:	1.9 PSI
Critical Station Pressure at POC:	44.3 PSI
Pressure Available:	48 PSI
Residual Pressure Available:	3.68 PSI



This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:



REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION SCHEDULES

SHEET NUMBER:

LI001

St. Cloud
FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

IRRIGATION MATERIALS:

1. **PRODUCTS**

A. ALL MATERIAL SHALL BE OF NEW STOCK AND BEST GRADE OF ITS KIND. IT SHALL BE AS SPECIFIED UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE LANDSCAPE ARCHITECT. MATERIALS NOT NAMED SHALL BE SUBJECT TO APPROVAL OR REJECTION BY THE LANDSCAPE ARCHITECT. IN ALL CASES, WORKMANSHIP AND MATERIAL SHALL CONFORM TO THE LOCAL PLUMBING CODE HAVING JURISDICTION. MATERIALS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER.

B. AVAILABLE MANUFACTURERS:

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS WHICH MAY BE INCORPORATED IN THE WORK INCLUDE THE FOLLOWING:

a. RAIN BIRD

b. HUNTER INDUSTRIES

c. NETAFIM

d. TORO

2. PRODUCTS THE CONTRACTOR WISHES TO SUBSTITUTE AS AN "APPROVED EQUIVALENT" MUST BE SUBMITTED TO THE LANDSCAPE ARCHITECT, IN WRITING, A MINIMUM OF TEN (10) DAYS PRIOR TO THE BID DATE. THE LANDSCAPE ARCHITECT WILL PROVIDE EITHER AN APPROVAL OR REJECTION OF ALL PRODUCTS SUBMITTED IN THIS FASHION.

D. PLASTIC PIPE SHALL BE RIGID, HIGH IMPACT, TYPE 1, UN-PLASTICIZED POLYVINYL CHLORIDE. THE PIPE SHALL BE HOMOGENEOUS THROUGHOUT AND FREE FROM VISIBLE CRACKS, HOLES, FOREIGN MATERIALS, BLISTERS, DELETERIOUS WRINKLES OR DENTS AND SHALL CONFORM TO THE FOLLOWING DIMENSIONS AND PHYSICAL PROPERTIES:

1. ALL PLASTIC PIPE SHALL BE CONTINUOUSLY AND PERMANENTLY MARKED WITH MANUFACTURER'S NAME, KIND OF PIPE, MATERIAL SIZE, IPS, NSF APPROVAL, SCHEDULE AND TYPE.

2. PLASTIC PIPE SHALL BE MANUFACTURED BY LASCO, CELANESE, PACIFIC WESTERN, COLONIAL, UNIVERSAL OR AS BY SPECIFIED EMITTERS, AT APPROPRIATE P.S.I. RATINGS.

3.POLYETHYLENE PIPE TO BE USED FOR SWING JOINTS (FOR SPRAY HEADS ONLY), CONNECTORS OR EMITTERS AT APPROPRIATE P.S.I. RATINGS.

E. PIPE FITTINGS:

1. PLASTIC PIPE FITTINGS TO BE INSTALLED SHALL BE MEDIUM WEIGHT INJECTION MOLDED FOR VIRGIN TYPE 2 HIGH IMPACT UN-PLASTICIZED RIGID POLYVINYL CHLORIDE (P.V.C.) MOLDING COMPOUND. ALL PLASTIC SLIP COUPLINGS SHALL BE EXTRUDED FITTINGS FROM SAME MATERIAL AS SPECIFIED FOR PLASTIC PIPING HEREIN, UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT. PLASTIC PIPE CEMENT SHALL BE RECOMMENDED BY PIPE MANUFACTURER.

2. GALVANIZED PIPE AND FITTINGS: WHERE INDICATED, OR REQUIRED BY CODE, USE GALVANIZED STEEL PIPE ASA SCHEDULE 40 MILD STEEL SCREWED PIPE. FITTINGS SHALL BE MEDIUM GALVANIZED SCREWED, BEADED MALLEABLE IRON. GALVANIZED COUPLINGS MAY BE A MERCHANT COUPLING.

3. UNDER PAVEMENT LINES: ALL PIPING UNDER CONCRETE AND ASPHALT VEHICLE PAVEMENT, CURBS, UNPAVED AREAS SUBJECT TO OTHER THAN NORMAL LOADS SHALL BE RIGID P.V.C. SCHEDULE 40.

G. SPRINKLER RISERS AND CONNECTORS:

1. SHRUB RISERS ARE TO BE SCHEDULE 40.

2. POP-UP SPRAY CONNECTORS (FROM TEE TO HEAD BASE) ARE TO BE ½ " FLEXIBLE PVC

3. POP-UP ROTOR CONNECTORS (FROM TEE TO HEAD BASE) ARE TO BE RIGID 3/4" LASCO SWIVEL JOINTS

H. VALVES:

1. MANUFACTURER'S STANDARD, OF TYPE AND SIZE REQUIRED, AND AS HEREIN FURTHER SPECIFIED, CLEARLY IDENTIFIED WITH PURPLE MARKINGS OR LABELS FOR RECLAIMED WASTE WATER.

2. AUTOMATIC CIRCUIT VALVES: GLOBE OR ANGLE CONFIGURATION VALVES OPERATED BY LOW POWER SOLENOID, NORMALLY CLOSED, MANUAL FLOW ADJUSTMENT. ALL ELECTRIC/HYDRAULIC CONTROL VALVES SHALL BE FULLY COMPATIBLE WITH THE AUTOMATIC CONTROLLER WITH RESPECT TO THE TYPE OF CONTROL, VOLTAGE, AMPERAGE OR PRESSURE SPECIFICATIONS AND "NORMAL" SEQUENCE POSITIONING.

3. QUICK COUPLING VALVES (IF SPECIFIED) : SHALL HAVE BRASS TWO-PIECE BODY DESIGNED FOR WORKING PRESSURE OF 150 P.S.I. OPERABLE WITH A QUICK COUPLER. KEY SIZE AND TYPE SHALL BE AS SHOWN ON THE PLANS OR PRESENTED IN THE EQUIPMENT SCHEDULE. COVER TO BE CLEARLY IDENTIFIED BY PURPLE MARKINGS FOR RECLAIMED WASTE WATER.

I. SPRINKLER HEADS:

1. MANUFACTURER'S STANDARD UNIT DESIGNED TO PROVIDE UNIFORM COVERAGE OVER ENTIRE AREA OF SPRAY SHOWN ON DRAWINGS AT AVAILABLE WATER PRESSURE

2. POP-UP SPRAY: FIXED OR ADJUSTABLE PATTERN, WITH SCREW-TYPE FLOW ADJUSTMENT AND STAINLESS STEEL RETRACTION SPRING.

3. POP-UP ROTARY SPRAYS: GEAR-DRIVEN, FULL CIRCLE AND PART CIRCLE.

J. VALVE BOXES:

1. ALL GATE AND CONTROL VALVES SHALL BE SET IN VALVE BOXES WITH SNAP LOCK COVERS FLUSH WITH FINISHED GRADE. VALVE BOXES SHALL BE "CARSON" OR "AMETEK".

K. AUTOMATIC CONTROL SYSTEM:

1. THE AUTOMATIC CONTROLLERS SHALL BE AS SPECIFIED ON THE PLANS OR SHALL BE OF A CAPACITY AS REQUIRED TO EFFICIENTLY OPERATE THE ZONES THROUGHOUT THE BUILDING AND PARKING LOT SITES. THE 120 VOLT ELECTRICAL POWER TO THE AUTOMATIC CONTROLLER'S LOCATION IS TO BE FURNISHED BY THE OWNER (SEE FACILITIES MANAGER FOR EXACT CONTROLLER LOCATION). IRRIGATION SUB-CONTRACTOR SHALL MAKE ALL CONNECTIONS IN THE LOW-VOLTAGE SYSTEM BETWEEN THE AUTOMATIC CONTROLLER AND THE VALVES.

2. SCHEDULE THE CONTROLLER TIME CLOCKS TO OPERATE THE SYSTEM CONTROL AS NEARLY AS POSSIBLE BETWEEN THE HOURS OF 11:00 P.M. AND 7:00 A. M., AND ON THE DAYS REQUIRED BY LOCAL WATERING GUIDELINES FOR DEEP WELL WATER SOURCE SYSTEMS.

L. SLEEVES AND CONDUITS:

1. ALL PIPE AND WIRING UNDER PAVING SHALL BE PLACED IN SEPARATE SCHEDULE 40 P.V.C. SLEEVES AND CONDUIT RESPECTIVELY FOR THE FULL PAVEMENT COVERED LENGTH. SLEEVES AND CONDUIT ARE TO BE INSTALLED AS SHOWN ON THE IRRIGATION PLAN OR DETERMINED IN THE FIELD. SLEEVES AND CONDUIT SHALL BE OF ADEQUATE DIAMETER TO ACCOMMODATE THE PIPE (S) / WIRE (S) WITH SUFFICIENT FREE PLAY TO ALLOW REMOVAL AND REINSTALLATION WITHOUT BINDING.

M. CONTROL WIRING:

1. CONNECTIONS BETWEEN THE AUTOMATIC CONTROLLERS AND THE ELECTRIC VALVES SHALL BE MADE WITH DIRECT BURIAL WIRE AWG-U.F. # 14-600 VOLTS. USE RED FOR PILOT WIRE AND WHITE FOR COMMON WIRE. INSTALL IN ACCORDANCE WITH VALVE MANUFACTURER'S SPECIFICATION AND WIRE CHART. WIRE SHALL OCCUPY THE SAME TRENCH AND SHALL BE INSTALLED ALONG THE SAME ROUTE AS PRESSURE SUPPLY OR LATERAL LINES. WHERE MORE THAN ONE (1) WIRE IS PLACED IN A TRENCH, THE WIRING SHALL BE TAPED TOGETHER AT INTERVALS OF TEN (10) FEET. WHEN WIRE ONLY IS PLACED IN A TRENCH, PLACE UNDER A CONTINUOUS STRIP OF SUBGRADE: USE PRESSURE TREATED SOUTHERN YELLOW PINE, 1"X2". AN EXPANSION CURL SHALL BE PROVIDED WITHIN THREE (3) FEET OF EACH WIRE CONNECTION AND AT LEAST EVERY HUNDRED (100) FEET IN LENGTH. EXPANSION CURLS SHALL BE FORMED BY WRAPPING AT LEAST FIVE (5) TURNS OF WIRE AROUND A PIPE 1" (OR MORE) IN DIAMETER, THEN WITHDRAWING PIPE. ALL SPLICES SHALL BE MADE WITH KING DRYCONN WIRE-NUTS. ALL CONTROL WIRING OR TUBING ROUTED BENEATH OR THROUGH PAVEMENT, WALKS, CURBS AND/OR OTHER STRUCTURAL ELEMENTS SHALL BE RUN THROUGH P.V.C. SCHEDULE 40 CONDUIT OF SUFFICIENT DIAMETER FOR WIRE PULLING. ALL CONDUIT AND SLEEVES FOR IRRIGATION PIPES AND CONTROL WIRING SHALL BE INSTALLED BY THE IRRIGATION SUB-CONTRACTOR. THE 120 VOLT ELECTRICAL POWER TO THE CONTROLLER LOCATION TO BE FURNISHED BY THE OWNER.

N. VALVES:

1. GENERAL: MANUFACTURER'S STANDARD, OF TYPE AND SIZE REQUIRED. AND/OR AS SPECIFIED ON THE PLANS.

2. GATE VALVES SHALL CONFORM TO FEDERAL SPECIFICATIONS WWV 54, TYPE 1, CLASS A, WITH ALL BRASS OR BRONZE BODY, NON-RISING STEM," APOLLO BY LASCO"

3. VALVES SHALL BE CLEARLY IDENTIFIED WITH PURPLE MARKINGS AND LABELS WHEN RECLAIMED WATER IS USED.

4. AUTOMATIC CIRCUIT VALVES: GLOBE OR ANGLE CONFIGURATION VALVES OPERATED BY LOW-POWER SOLENOID, NORMALLY CLOSED, MANUAL FLOW ADJUSTMENT. ALL ELECTRIC/HYDRAULIC CONTROL VALVES SHALL BE FULLY COMPATIBLE WITH THE AUTOMATIC CONTROLLER WITH RESPECT TO THE TYPE OF CONTROL VOLTAGE, AMPERAGE OR PRESSURE SPECIFICATIONS AND "NORMAL" SEQUENCE POSITIONING.

5. QUICK COUPLING VALVES: WHEN SPECIFIED, SHALL HAVE A BRASS TWO-PIECE BODY DESIGNED FOR WORKING PRESSURE OF 150 P.S.I. OPERABLE WITH A QUICK COUPLER. KEY SIZE AND TYPE SHALL BE AS SHOWN ON THE PLANS OR PRESENTED IN THE EQUIPMENT SCHEDULE.

6. OTHER VALVES: SHALL BE AS STATED ON THE PLAN.

O. FILTERS:

1. A VU-FLOW 60 MESH FILTER IS REQUIRED ON ALL EMITTER SYSTEMS. ONE FILTER WILL BE REQUIRED FOR EACH SOURCE OF SUPPLY. FILTERS SHALL BE LOCATED UNDERGROUND IN AN APPROPRIATELY-SIZED METER BOX.

P. BACKFLOW PREVENTION: (IF APPLICABLE)

1. BACKFLOW PREVENTION SHALL BE APPROVED BY THE GOVERNING BODY.

Q. EMITTER PIPE:

1. EMITTER PIPE SHALL BE MANUFACTURED BY ONE OF THE AFOREMENTIONED SUPPLIERS FOR THE EXPRESS PURPOSE OF SUBSURFACE IRRIGATION.

2. PIPE SHALL HAVE PREFABRICATED IRRIGATION ORIFICES PLACED 12 INCHES ON CENTER.

3. EMITTER PIPE, IF DIFFERENT THAN THOSE STATED HEREIN, MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

IRRIGATION EXECUTION:

1. **SYSTEM DESIGN**

A. GENERAL:

1. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL IRRIGATION DESIGN DATA REQUIRED TO COMPLETE THE CONTRACT DOCUMENTS. ALL CONTRACTOR SUBMITTED DESIGN DATA MUST PROVIDE 100% COVERAGE TO ALL PLANTING AND SODDED AREAS TO BE IRRIGATED AS SHOWN ON THE PLANS.

B. DESIGN LIABILITY:

1. ALL IRRIGATION DESIGN DATA PROVIDED BY THE CONTRACTOR SHALL BE THE FULL LIABILITY OF THE CONTRACTOR. ALL SUCH DESIGN DATA SHALL BE CONSISTENT WITH MANUFACTURER'S MATERIALS AND INSTALLATION METHODS, CODE COMPLIANCE, COVERAGE, APPLICATION, DISTRIBUTION AND OPERATION AND THE PROVIDED PLANS AND TECHNICAL SPECIFICATIONS.

C. DESIGN PRESSURE:

1. DESIGN PRESSURES SHOULD BE AS RECOMMENDED BY THE PIPE AND FITTING MANUFACTURER TYPE OF PIPE SELECTED, OR AS INDICATED ON DRAWINGS.

D. EMITTER PIPE LOCATIONS:

1. IF DESIGN DATA IS REQUIRED, THE CONTRACTOR IS TO PROVIDE FINAL LAYOUT PLANS OF THE EMITTER SYSTEM SPECIFIED TO REFLECT THE ZONE AND VALVE LOCATIONS, AND SPECIFIED COVERAGE.

2. THE APPLICATION RATE SHALL NOT EXCEED THE INTAKE RATE OF THE SOIL, AND AS RECOMMENDED BY THE MANUFACTURER.

3. THE SYSTEM SHALL PROVIDE THE CAPABILITY OF ACCOMPLISHING COMPLETE WATERING OF THE ENTIRE AREAS, FOR THE PARTICULAR COMBINATION OF SOIL TYPE AND VEGETATION BEING IRRIGATED, WITHIN A PERIOD OF TIME NO GREATER THAN THAT CURRENTLY BEING RECOMMENDED BY RECOGNIZED AUTHORITIES.

4. FRICTION LOSSES FOR PIPE WILL BE DETERMINED BY THE HAZEN-WILLIAMS FORMULA. THE RETARDANCE COEFFICIENT FOR P.V.C. PIPE SHALL BE 150 AND FOR GALVANIZED PIPE 100. "C" FACTORS FOR OTHER PRODUCTS SHALL BE DETERMINED FROM MARKS MECHANICAL ENGINEERS HANDBOOK OR OTHER COMPARABLE FRICTION LOSS TABLES. MAXIMUM WATER VELOCITY SHALL NOT EXCEED 5 FEET PER SECOND IN ANY PART OF THE SYSTEM.

2. **INSTALLATION**

A. COMPLY WITH ALL REQUIREMENTS OF THE UNIFORM PLUMBING CODE.

B. LAYOUT

1. THE LOCATIONS OF HEADS ARE APPROXIMATE. MAKE MINOR ADJUSTMENTS AS NECESSARY TO AVOID PLANTINGS AND OTHER OBSTRUCTIONS AND TO OBTAIN COVERAGE. PIPE MAY BE SHOWN IN BUILDING, CONCRETE, AND/OR ASPHALT AREAS FOR CLARITY ONLY. LOCATE ALL PIPE IN PLANTING AREAS WHERE APPROPRIATE.

2. EMITTER LINES SHALL BE INSTALLED AS SHOWN ON THE PLANS.

C. EXCAVATION/TRENCHING

1. TRENCHES SHALL BE DUG STRAIGHT. TRENCH BOTTOMS SHALL BE TRUE GRADIENT PROVIDING SUPPORT TO PIPE THROUGH ITS ENTIRE LENGTH AND SHALL BE FREE FROM ROCKS, CLODS, DEBRIS AND SHARP EDGED OBJECTS. THE MINIMUM DEPTH OF LINES MEASURED TO TOP OF PIPE, UNLESS OTHERWISE INDICATED ON PLANS, SHALL BE:

a. MAIN LINES AND QUICK COUPLER LINES SHALL BE 24".

b. LATERAL SPRINKLER LINES SHALL BE 12"

c. NON-PRESSURE ROTOR HEAD LINES SHALL BE 12".

d. TOP OF EMITTER LINES SHALL BE AT GRADE

e. PROVIDE MINIMUM COVER OF 24" FOR ALL CONTROL WIRING.

2. WHERE REQUIRED OR INDICATED ON THE PLANS EXISTING SOD SHALL BE REMOVED WHERE TRENCHES ARE TO BE DUG, AND SHALL BE PROTECTED FROM DRYING AND REPLACED WITHIN 48 HOURS. SOD SHALL BE CUT IN SUCH A MANNER THAT A MINIMUM OF 2" OF SOIL REMAINS ON THE ROOTS. THE SOIL SHOULD BE MOIST, BUT NOT WET, TO PREVENT EXCESSIVE LOSS DUE TO CRUMBLING. THIS IS IRRIGATION SUB-CONTRACTOR SHALL HAVE ALL THE RESPONSIBILITIES TO MAINTAIN SODDING AND GRASS, TREES, SHRUBS AND PLANTS. AS REQUIRED BY SECTION 02900. THIS IRRIGATION SUB-CONTRACTOR MAY, AT HIS OPTION CONTRACT WITH THE LANDSCAPE, SODDING AND GRASS SUB-CONTRACTOR TO HANDLE THIS RESPONSIBILITY.

3. BACK-FILL SHALL NOT BE PLACED UNTIL THE INSTALLED IRRIGATION SYSTEM HAS BEEN THOROUGHLY INSPECTED AND TESTED BY THE CONTRACTOR (THE LANDSCAPE ARCHITECT MAY REQUEST AN INSPECTION BY HIS OWN PERSONNEL PRIOR TO BACK-FILLING OF TRENCHES). BACK-FILL MATERIAL SHALL BE APPROVED SOIL, FREE FROM LARGE ROCKS, DEBRIS, OR SHARP OBJECTS. IN GENERAL, THE MATERIAL REMOVED FROM EVACUATION MAY BE USED. EXCAVATED ROCKY MATERIAL SHALL BE REMOVED FROM THE SITE AND SUITABLE FILL MATERIAL OBTAINED FOR BACK-FILL. BACK-FILLING SHALL BE DONE WHEN PIPE IS NOT IN AN EXPANDED OR CONTRACTED CONDITION DUE TO TEMPERATURE EXTREMES. COOLING OF THE PIPE CAN BE ACCOMPLISHED BY OPERATION OF THE SYSTEM FOR A SHORT TIME BEFORE BACK-FILL, OR BY BACK-FILLING IN THE EARLY PART OF THE MORNING BEFORE THE HEAT OF THE DAY. LONG RUNS OF P.V.C. PIPE SHALL BE "SNAKED" IN THE TRENCH TO ALLOW FOR CONTRACTION. BACK-FILL SHALL FOLLOW EXCAVATION WITH THE LEAST POSSIBLE DELAY. OPEN TRENCHES SHALL BE ADEQUATELY PROTECTED TO CAUSE THE LEAST POSSIBLE HAZARD TO AND INTERFERENCE WITH PEOPLE AND ANIMALS. BACK-FILL SHALL BE COMPACTED IN COMPLIANCE WITH EARTHWORK SECTION. THE OPERATION SHALL BE REPEATED UNTIL FINISHED GRADE OF BACK-FILLED TRENCHES MATCHES THAT OF ADJACENT SOIL.

D. WATER CONNECTION:

1. CONNECT IRRIGATION SYSTEM TO EXISTING SOURCE ON SITE. CONNECTION SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE INSTALLATION OF APPROPRIATE GATE VALVES, SHUT-OFF VALVES, AND CONCRETE METER BOX AS REQUIRED. COORDINATE TIME OF CONNECTION WITH AFFECTED PERSONS IN ORDER TO MINIMIZE IRRIGATION DOWNTIME. REQUIRED MODIFICATIONS AND/OR RELOCATIONS OF EQUIPMENT ASSOCIATED WITH THE EXISTING WELL SHALL BE INCLUDED IN THE IRRIGATION WORK.MUNICIPAL AND COUNTY REGULATIONS MUST BE ADHERED TO DURING THIS AND ALL OTHER PORTIONS OF WORK IN THIS SECTION.

2. MUNICIPAL AND COUNTY REGULATIONS MUST BE ADHERED TO DURING THIS AND ALL OTHER PORTIONS OF WORK IN THIS SECTION.

E. CIRCUIT VALVES:

1. PROVIDE UNION ON DOWNSTREAM SIDE

2. ADJUST AUTOMATIC CONTROL VALVES TO PROVIDE FLOW RATE OF RATED OPERATING PRESSURE REQUIRED FOR EACH SPRINKLER CIRCUIT.

3. WHEREVER POSSIBLE, LOCATE VALVES IN PLANT BED AREAS FOR BEST CONCEALMENT AND ACCESSIBILITY.

4. VALVES ARE TO BE INSTALLED IN "CARSON" VALVE BOXES, LARGE ENOUGH TO ACCOMMODATE MAINTENANCE AND OPERATION OF VALVES. PROVIDE A ½" DIAMETER RIVER GRAVEL SUMP 3" THICK AT BOTTOM OF VALVE PIT.

F. PIPING

1. PIPE SHALL BE HANDLED AND STORED IN A MANNER TO PREVENT DAMAGE. THE PLASTIC PIPE AND FITTINGS SHALL BE STORED UNDER COVER, AND SHALL BE TRANSPORTED IN A VEHICLE WITH A BED LONG ENOUGH TO ALLOW THE LENGTH OF THE PIPE TO LAY FLAT SO AS NOT TO BE SUBJECT TO UNDUE BENDING OR CONCENTRATED EXTERNAL LOAD AT ANY POINT. ANY PLASTIC PIPE THAT HAS BEEN DENTED OR DAMAGED SHALL NOT BE USED UNLESS DAMAGE HAS BEEN CUT AND PIPE IS REJOINED WITH A COUPLING.

2. CLEAN INTERIOR OF PIPE THOROUGHLY AND REMOVE ALL DIRT OR FOREIGN MATTER BEFORE LOWERING PIPE INTO TRENCH. KEEP PIPE CLEAN DURING OPERATIONS BY PLUGS OR OTHER APPROVED METHODS. THE ENDS OF ALL THREATED SHALL BE REAMED OUT FULL SIZE WITH A LONG TAPER REAMER SO AS TO BE PARTIALLY BELL-MOUTHED AND PERFECTLY SMOOTH. ALL WATER LINES SHALL BE THOROUGHLY FLUSHED OUT BEFORE HEADS ARE INSTALLED.

3. LAY PIPE ON SOLID SUB-BASE, UNIFORMLY SLOPED WITHOUT HUMPS OR DEPRESSIONS.

4. INSTALL P.V.C. PIPE IN DRY WEATHER WHEN TEMPERATURE IS ABOVE 40 DEGREES FAHRENHEIT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALLOW JOINTS TO CURE AT LEAST 24 HOURS AT TEMPERATURES ABOVE 40 DEGREES FAHRENHEIT BEFORE TESTING, UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.

5. WELDED JOINTS SHALL BE GIVEN AT LEAST 15 MINUTES SET-UP CURING TIME BEFORE MOVING OR HANDLING. PIPE SHALL BE PARTIALLY CENTER LOADED TO PREVENT ARCHING AND WHIPPING UNDER PRESSURE. PLASTIC PIPE SHALL BE CUT WITH A HAND SAW, HACKSAW OR OTHER TOOL APPROVED FOR SUCH USE IN A MANNER SO AS TO INSURE SQUARE ENDS.

BURRS AT CUT ENDS SHALL BE REMOVED PRIOR TO INSTALLATION SO THAT A SMOOTH UNOBSTRUCTED FLOW WILL BE OBTAINED. ALL PLASTIC-TO -PLASTIC JOINTS SHALL BE SOLVENT-WELD JOINTS.

ONLY THE SOLVENT RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED. THE SOLVENT-WELD JOINTS SHALL BE MADE IN THE FOLLOWING MATTER:

- THOROUGHLY CLEAN THE MATING PIPE AND FITTING WITH A CLEAN DRY CLOTH.
- APPLY PRIMER TO ALL CONNECTIONS PRIOR TO APPLYING SOLVENT. USE ONLY COMPATIBLE PRIMER FOLLOWING MANUFACTURER'S SPECIFICATIONS.
- APPLY A UNIFORM COAT OF SOLVENT TO OUTSIDE OF THE PIPE WITH A NON-SYNTHETIC BRISTLE BRUSH. APPLY SOLVENT TO FITTING IN A SIMILAR MATTER.
- REAPPLY A LIGHT COAT OF SOLVENT TO PIPE AND QUICKLY INSERT IT INTO THE FITTING. GIVE THE PIPE OR FITTING A QUARTER TURN TO INSURE EVEN DISTRIBUTION OF THE SOLVENT AND MAKE SURE THE PIPE IS INSERTED TO THE FULL DEPTH OF THE FITTING SOCKET.
- HOLD IN POSITION FOR 15 SECONDS. WIPE OFF EXCESS SOLVENT THAT APPEARS AT THE OUTER SHOULDER OF THE FITTINGS.
- CARE SHALL BE TAKEN SO AS NOT TO USE AN EXCESS AMOUNT OF SOLVENT THEREBY CAUSING A BURR OR OBSTRUCTION TO FORM ON THE INSIDE OF THE PIPE. THE JOINTS SHALL BE ALLOWED TO SET AT LEAST 24 HOURS BEFORE PRESSURE IS APPLIED TO THE SYSTEM.

E. PIPE JOINTING, IN GENERAL, SHALL BE PERFORMED BY COMPETENT TRADESMEN SPECIALLY TRAINED IN THE TYPE OF WORK REQUIRED AND USING TOOLS AND EQUIPMENT RECOMMENDED BY THE MANUFACTURERS OF THE PIPE, FITTINGS OR EQUIPMENT.

F. GALVANIZED STEEL PIPE AND FITTINGS: THREADS SHALL BE SOUND, CLEAN CUT, AND WELL FITTING. THREATED JOINTS SHALL BE MADE UP WITH THE BEST QUALITY PURE JOINT COMPOUND OR LEAD PASTE, CAREFULLY AND SMOOTHLY PLACED ON THE MALE THREADS ONLY, REMADE WITH NEW MATERIAL. USE OF THREAD CEMENT OR CAULKING TO MAKE JOINTS TIGHT WILL NOT BE PERMITTED. ALL CUT ENDS SHALL BE REMADE TO FULL BORE BEFORE ASSEMBLY.

G. PLASTIC TO STEEL CONNECTIONS: MALE THREAD PLASTIC TO FEMALE THREAD STEEL SHALL BE USED. THE SAME SHALL APPLY TO PLASTIC AND BRASS OR OTHER METAL. IN NO CASE SHALL METAL BE SCREWED INTO A PLASTIC FITTING. A NON-HARDENING PIPE DOPE SUCH AS "PERMATEX NO. 2" OR EQUAL SHALL BE USED ON THREATED PLASTIC TO METAL JOINTS, AND LIGHT WRENCH PRESSURE SHOULD BE USED.

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, dnQualifier=A01410D000001993448AFE2000C2FC6
O=Unaffiliated, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:33:15-04'00'

REVISIONS	DATE

DESIGNED BY: RJK
DRAWN BY: RJK
CHECKED BY: KAV
DATE: 03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION SPECIFICATIONS

SHEET NUMBER:

LI002

St. Cloud
FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

IRRIGATION EXECUTION (cont):

A.HOSE BIBS:

1. IF SPECIFIED, SHALL BE INSTALLED UPSTREAM OF THE ELECTRIC VALVE IN THE SAME METER BOX. (HOSE BIBS MAY BE USED WITH A PRESSURE GAUGE TO CHECK PRESSURE.)

J. SPRINKLER HEADS AND ADJUSTMENT:

1. SPRINKLER HEADS SHALL BE INSTALLED IN A PLUMB POSITION AT INTERVALS NOT TO EXCEED THE MAXIMUM SPACING SPECIFIED BY THE MANUFACTURER FOR PROJECT CONDITIONS, OR AS INDICATED ON THE DRAWINGS.
2. HEADS IN TURF AREAS SHALL BE INSTALLED 6"AWAY FROM THE EDGE OF THE CURB OR WALK, AND SHALL BE SET 3/8" BELOW THE EDGE OF THE CURB OR WALK. ALL HEADS SHALL BE INSTALLED ON FLEXIBLE CONNECTORS OR SWING JOINTS AND SHALL ALLOW FOR VERTICAL ADJUSTMENT OF HEADS, 6" POP-UP SPRAY HEADS OR 4" POP-UP ROTORS (WHERE APPROPRIATE) SHALL BE USED IN TURF AREAS.
3. ALL GROUNDCOVER AREAS, INCLUDING MASS PLANTINGS OF DWARF SHRUBS NOT EXCEEDING 22", SHALL BE IRRIGATED WITH 12" POP UP SPRAY HEADS AND EXTENDERS.
4. SHRUB RISERS SHALL ONLY BE INSTALLED IN HEDGES OR MASS PLANTINGS OF LARGE SHRUBS AND ARE NOT TO EXTEND MORE THAN 3" ABOVE THE INSTALLED HEIGHT OF THE SHRUB. IF RISERS ARE USED IN HEDGES ABUTTING PARKING AREAS, THEY MUST BE PLACED A MINIMUM OF 30" AWAY FROM BACK OF CURB AND IMBEDDED IN HEDGE SO AS NOT TO BE SEEN OR DAMAGED BY VEHICLE OVERHANG. ALL RISERS AND OTHER ABOVE-GROUND PIPING AND FIXTURES SHALL BE PAINTED WITH A PERMANENT FLAT BLACK ENAMEL PAINT. STAKE ALL RISERS OVER 2' WITH 1/4" REINFORCING ROD FASTENED SECURELY TO RISER.
5. PROVIDE SWINGS JOINTS ON ALL POP-UPS AND ROTORS. FLEXIBLE POLY PIPE MAY BE USED AS SWING JOINTS FOR SPRAY HEADS ONLY. ALL ROTOR HEADS SHALL BE INSTALLED ON APPROPRIATE SIZED RIGID SCHEDULE 40 PVC SWING JOINTS.
6. POP-UP HEADS ADJACENT TO VEHICLE PAVEMENT THAT IS NOT CURBED SHALL BE INSTALLED WITH CONCRETE DONUT PROTECTORS SET FLUSH WITH THE TOP OF THE HEADS. HEADS INSTALLED ADJACENT TO PEDESTRIAN WALK OR CURBS SHALL BE INSTALLED 6" AWAY FROM THE CURB OR WALK. WHERE ADJACENT TO BUILDINGS, FENCES OR SIMILAR STRUCTURES, HEADS SHALL BE INSTALLED 12" AWAY FROM THE STRUCTURE.
7. INSTALL NO MULTIPLE ASSEMBLIES ON PLASTIC LINES. PROVIDE EACH ASSEMBLY WITH ITS OWN OUTLET.

3. **SYSTEM CHECK**
   1. IN NO EVENT SHALL THE CONTRACTOR COVER UP OR OTHERWISE REMOVE FROM VIEW ANY WORK UNDER THIS CONTRACT THAT HAS NOT BEEN THOROUGHLY INSPECTED AND TESTED, IF REQUIRED. IF INSPECTIONS ARE REQUIRED THE OWNER AND/OR LANDSCAPE ARCHITECT SHALL BE PRESENT AT TIME OF INSPECTION AND TESTING. ANY WORK COVERED PRIOR TO BEING INSPECTED SHALL BE OPENED TO VIEW BY THE CONTRACTOR AT HIS EXPENSE. NOTIFY THE OWNER AND LANDSCAPE ARCHITECT WHEN TESTING WILL BE CONDUCTED.
   2. PRESSURE TESTING: ALL PRESSURE LINES SHALL BE TESTED PRIOR TO BACK-FILL OF JOINTS. AS SOON AS LINES ARE CONNECTED, FLUSHED OUT, AND VALVES ARE ATTACHED, CAP ALL OUTLETS AND HYDROSTATICALLY TEST AT AVAILABLE PRESSURE FOR A CONTINUOUS 4 HOUR PERIOD, AT THE END OF WHICH THE LINES AND JOINTS WILL SHALL BE INSPECTED. IF LEAKS DEVELOP, THE JOINT OR JOINTS SHALL BE REPLACED, AND THE TEST REPEATED UNTIL ALL LEAKS ARE REPAIRED. ANY COVERED PIPE, FOUND TO LEAK, SHALL BE EXCAVATED AND REPAIRED AT THE CONTRACTOR'S EXPENSE.
   3. OPERATIONAL TESTING: THE ENTIRE INSTALLATION SHALL BE PLACED IN OPERATION BY THE CONTRACTOR AND TESTED IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE FOR PROPER FUNCTIONING AS A WHOLE. LOCATION AND ARC OF HEADS SHALL BE ADJUSTED IF REQUIRED TO ELIMINATE ANY DRY SPOTS, OVER-WATER OR SPILLAGE ON ADJACENT AREAS AND TO PREVENT OVER-SPRAY ONTO WALKS, ROADWAYS AND BUILDINGS AS MUCH AS POSSIBLE.
4. **AS BUILT RECORDS AND ADDITIONAL EQUIPMENT**
   1. FURNISH RECORD DRAWINGS OF "AS BUILT" CONDITIONS AS FOLLOWS:

1.A. LOCATION OF WATER SUPPLY
1.B. TIE-IN AND OWNER FURNISHED ELECTRICAL SERVICE AND DISCONNECTS.
1.C. LOCATION OF VALVE CONTROLLERS AND OTHER CONTROL EQUIPMENT.
1.D. ROUTING AND SIZING OF SPRINKLER MAIN LINE.
1.E. LOCATION AND TYPE OF SPRINKLER HEADS.
1.F. LOCATION AND SIZE OF GATE AND ZONE CONTROL VALVES.
1.G. LOCATION OF WIRE-SPLICE BOXES.
1.H. ROUTING OF ZONE CONTROL VALVE ELECTRICAL WIRING.
1.I. THE LOCATION OF ALL "AS BUILT" CONDITIONS DIFFERENT FROM THE ORIGINAL DRAWING SHALL BE TO SCALE FROM PERMANENT POINTS OF REFERENCE. EXACT LOCATION OF MAIN LINE, CONTROL CABLES, AND CONTROL VALVES SHALL BE SHOWN.

   2. THE CONTRACTOR SHALL PROVIDE AS PART OF THIS CONTRACT, TWO SETS OF SPRINKLER WRENCHES FOR ADJUSTING, CLEANING OR DISASSEMBLING EACH TYPE OF SPRINKLER. TWO EACH OF ANY SPECIAL TOOLS REQUIRED FOR ANY OTHER EQUIPMENT SHALL ALSO BE FURNISHED.
   3. TWO (2) SERVICE MANUALS FOR ALL EQUIPMENT USED SHALL BE FURNISHED TO THE OWNER. MANUALS MAY BE LOOSE-LEAF AND SHOULD SHOW SHOP DRAWINGS OR EXPLODED VIEWS OF EQUIPMENT AND CATALOG NUMBER. OPERATION INSTRUCTIONS FOR ALL EQUIPMENT SHALL BE FURNISHED.
5. **WARRANTY**
   1. THE IRRIGATION SUB-CONTRACTOR AND CONTRACTOR SHALL WARRANTY ALL MATERIALS EMPLOYED IN THE IRRIGATION INSTALLATION, ARE INSTALLED AS SPECIFIED AND IS IN ACCORDANCE WITH BEST TRADE PRACTICES. THE WARRANTY SHALL ALSO STATE THERE ARE NO UNAUTHORIZED SUBSTITUTIONS OF MATERIALS.
   2. THE IRRIGATION SUB-CONTRACTOR AND CONTRACTOR SHALL WARRANTY THE WORK FOR A PERIOD OF ONE (1) YEAR.
   3. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ALL PLANT MATERIALS WHICH HAVE DECLINED IN HEALTH OR HAVE DIED DUE TO A DEFECTIVE IRRIGATION SYSTEM. THE CONTRACTOR SHALL REPLACE AFFECTED PLANTINGS WITH PLANTS OF SAME VARIETY AND VALUE WITHIN TEN DAYS OF NOTICE.
   4. CORRECTIONS: SHOULD ANY TROUBLE DEVELOP WITHIN THE SPECIFIED WARRANTY PERIOD WHICH IN THE OPINION OF THE OWNER IS DUE TO INFERIOR OR FAULTY MATERIALS AND/OR WORKMANSHIP, THE TROUBLE SHALL BE CORRECTED WITHOUT DELAY BY THE CONTRACTOR, TO THE SATISFACTION OD AND AT NO EXPENSE TO THE OWNER
   5. LIABILITY: ANY AND ALL DAMAGE TO RAIN WATER DRAINS, WATER SUPPLY LINES, SHALL BE REPAIRED AND MADE GOOD BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE LOCATION OF ALL UTILITIES OR OTHER PERMANENT OR NON-PERMANENT INSTALLATIONS FROM ANY DAMAGE WHATSOEVER.

END OF SECTION

IRRIGATION GENERAL NOTES:

1. RELATED DOCUMENTS
   A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATIONS SECTIONS, APPLY TO THIS SECTION.
   B. RELATED WORK SPECIFIED OR AS SHOWN ELSEWHERE:
2. SCOPE OF WORK
   A. PROVIDE ALL LABOR, MATERIALS TO INSTALL THE SPECIFIED IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS AND STATED IN THE TECHNICAL SPECIFICATIONS.
   B. CONNECTION TO WATER SOURCE ON PROPERTY AT LOCATION SHOWN ON DRAWINGS.
3. QUALITY ASSURANCE
   A. COMPLY WITH FEDERAL, STATE, COUNTY, LOCAL AND OTHER DULY CONSTITUTED AUTHORITIES AND REGULATORY AGENCIES.
   B. INSTALLATION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR TURF AND LANDSCAPE IRRIGATION SYSTEMS, FLORIDA IRRIGATION SOCIETY, AND THE CURRENT UNIFORM PLUMBING CODE MECHANICAL CODE, STATE STATUTES AND PREVAILING COUNTY AND/OR MUNICIPAL ORDINANCES.
4. JOB CONDITIONS
   A. RESPONSIBILITY TO THE OWNER: THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE PLUMBING IRRIGATION SYSTEM AS SPECIFIED IN THE CONTRACT DOCUMENTS WHEN IT IS OBVIOUS IN THE FIELD THAT THERE ARE OBSTRUCTIONS, GRADE DIFFERENCES AND/OR DISCREPANCIES IN AREA DIMENSIONS UNTIL SUCH CONDITIONS ARE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.
   B. UTILITIES AND STRUCTURES: ATTENTION IS DIRECTED TO THE FACT THAT OVERHEAD, UNDERGROUND AND SURFACE UTILITIES, STRUCTURES AND VEGETATION ARE IN THE AREA OF THE WORK AND MUST BE PROTECTED AGAINST DAMAGE DURING THE PROGRESS OF THE WORK.
   C. PROTECTION AND SAFETY: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR THE PROTECTION AND SAFETY AGAINST INJURY OF PROPERTY AND PERSONS ON OR ABOUT THE PROJECT SITE DURING THE TERM OF HIS WORK. THE CONTRACTOR SHALL PROVIDE AND PROPERLY MAINTAIN NECESSARY WARNING SIGNS AND LIGHTS, BARRICADES, RAILINGS, AND OTHER SAFEGUARDS. THE CONTRACTOR SHALL CONFORM WITH THE CURRENT OCCUPATIONAL SAFETY AND HEALTH STANDARDS.
   D. SITE FAMILIARITY: THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO EXAMINE SUCH CONDITIONS AS SOILS, VEGETATION, UTILITIES, STRUCTURES, WATER SUPPLY, ETC., AS THEY WILL INFLUENCE THE WORK PURSUANT TO BID SUBMISSION AND/OR CONTRACT EXECUTION.
   E. UTILITY CONNECTIONS: LOCATION OF UTILITY CONNECTIONS SHALL BE SHOWN ON THE PLANS OR AS SHOWN BY THE UTILITY COMPANY. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS FOR SUCH UTILITY CONNECTIONS.
5. SUBMITTALS
   A. SUBMIT THE FOLLOWING:

1. SUBMIT PROPOSED WORK SCHEDULE.
2. PRODUCT DATA: SUBMIT TWO (2) COPIES OF MANUFACTURER'S TECHNICAL DATA AND INSTALLATION INSTRUCTIONS FOR UNDERGROUND SPRINKLER SYSTEM. SUBMIT SAMPLES OF ALL MATERIALS AND EQUIPMENT TO BE INSTALLED ON THE PROJECT.
3. EQUIPMENT: SUBMIT A SCHEDULE OF EQUIPMENT TO BE INSTALLED TO INCLUDE : AUTOMATIC CONTROLLER, ZONE CONTROL VALVES, GATE VALVES, VACUUM BREAKER VALVES, PRESSURE THROTTLE VALVES, DIRECT BURIAL WIRE, POP-UP ROTOR HEADS, POP-UP SPRAY HEADS, FIXED SHRUB HEADS, BUBBLER HEADS, SPECIAL PURPOSE HEADS, EMITTER PIPE, FILTERS, FITTINGS AND VALVE BOXES.
4. DESIGN DATA: SUBMIT ANY ALL DESIGN DATA UNDER THESE SPECIFICATIONS FOR ALL AREAS NOT SHOWN ON THE IRRIGATION PLANS THAT NEED IRRIGATION REWORK OF THE EXISTING SYSTEM.

6. DEFINITIONS AND ABBREVIATIONS
   A. THE DEFINITIONS AND ABBREVIATIONS GIVEN HERE BELOW SHALL BE CONSIDERED A PART OF THESE SPECIFICATIONS AND SHALL APPLY TO THE INTERPRETATION AND EXECUTION HEREOF.

1. P.S.I.: STATIC WATER PRESSURE SHALL BE GIVEN AS POUNDS PER SQUARE INCH ABBREVIATED: P.S.I., AND WHERE (1) P.S.I. SHALL EQUAL 2.31 FEET OF HEAD.
2. G.P.M.: VOLUME OF WATER SHALL BE GIVEN AS GALLONS PER MINUTE ABBREVIATED G.P.M.
3. ZONE: A ZONE SHALL BE DEFINED AS A GROUP OF HEADS OR EMITTER PIPES OPERATING AT THE SAME DOWNSTREAM UNDER A COMMON CONTROL VALVE. A ZONE SHALL BE DERIVED AS FURTHER DESCRIBED HEREINAFTER ON THE BASIS OF AVAILABLE WATER PRESSURE AND VOLUME AND PHYSICAL LOCATION/ORIENTATION.
4. P.V.C.: P.V.C SHALL DENOTE THE ABBREVIATION FOR POLYVINYL CHLORIDE (SCHEDULE 40) MATERIAL USED IN THE MANUFACTURE OF PIPE AND FITTINGS AS FURTHER SPECIFIED HEREINAFTER.
5. POLY PIPE AND POLY CONNECTORS: A FLEXIBLE POLYETHYLENE PIPE AND FITTINGS USED IN SWING JOINTS, HEAD AND PIPE CONNECTORS AND EMITTER SYSTEMS.
6. OWNER: THAT ENTITY WHICH HOLDS TITLE OR CONTROL TO THE PREMISES ON WHICH THE WORK IS PERFORMED.
7. LANDSCAPE ARCHITECT: THIS PERSON OR FIRM IS THE RESPONSIBLE REPRESENTATIVE OF THE OWNER WHO PRODUCES THE LANDSCAPE AND/OR IRRIGATION PLANS AND SPECIFICATIONS.
8. CONTRACTOR: IN REFERENCE TO THESE SPECIFICATIONS, THE "CONTRACTOR" SHALL MEAN THE IRRIGATION CONTRACTOR BIDDING ON AND/OR BEING AWARDED THE CONTRACT FOR THE WORK STIPULATED. SAID CONTRACTOR SHALL BE DULY LICENSED AND INSURED AS AN IRRIGATION SUPPLIER/CONTRACTOR TO PERFORM NECESSARY WATER SUPPLY AND DISTRIBUTION FUNCTION IN THE STATE, COUNTY AND MUNICIPALITY WHERE THE WORK IS TO BE EXECUTED.
9. PROJECT: THE PROJECT AS REFERENCED HEREIN SHALL BE THE TRACT OF REAL PROPERTY WHERE THE IRRIGATION SYSTEM IS TO BE INSTALLED.
10. CONTRACT DOCUMENTS: FOR THE PURPOSE OF BID SUBMISSION, CONTRACT AGREEMENT AND EXECUTION OF THE WORK, THE CONTACT DOCUMENTS SHALL BE BINDING UPON ALL PARTIES AND SHALL INCLUDE BUT NOT BE LIMITED TO APPLICABLE PLANS, DETAILS, SCHEDULES, SPECIFICATIONS AND BIDDER INSTRUCTIONS.
11. EQUIVALENCY: RELEVANT TO MANUFACTURER PRODUCT LINES SPECIFIED HEREIN, EQUIVALENTS SHALL BE OF LIKE TYPE, MANUFACTURE, DESIGN, MATERIAL, OPERATION AND PERFORMANCE. THEY SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
12. THE PLANS: DESIGN DRAWINGS AND SPECIFICATIONS PROVIDED BY THE LANDSCAPE ARCHITECT. IN THE EVENT OF CONFLICT BETWEEN THE PLANS AND THE WRITTEN SPECIFICATIONS, THE PLANS SHALL PREVAIL.

REGISTERED LANDSCAPE ARCHITECT
KARINA A. VEAUDRY
STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, dnQualifier=A01410D000001993448AFE2000C2FC6, O=Unaffiliated, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:33:38-04'00'

REVISIONS	DATE

DESIGNED BY: RJK
DRAWN BY: RJK
CHECKED BY: KAV
DATE: 03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION SPECIFICATIONS

SHEET NUMBER:

LI003

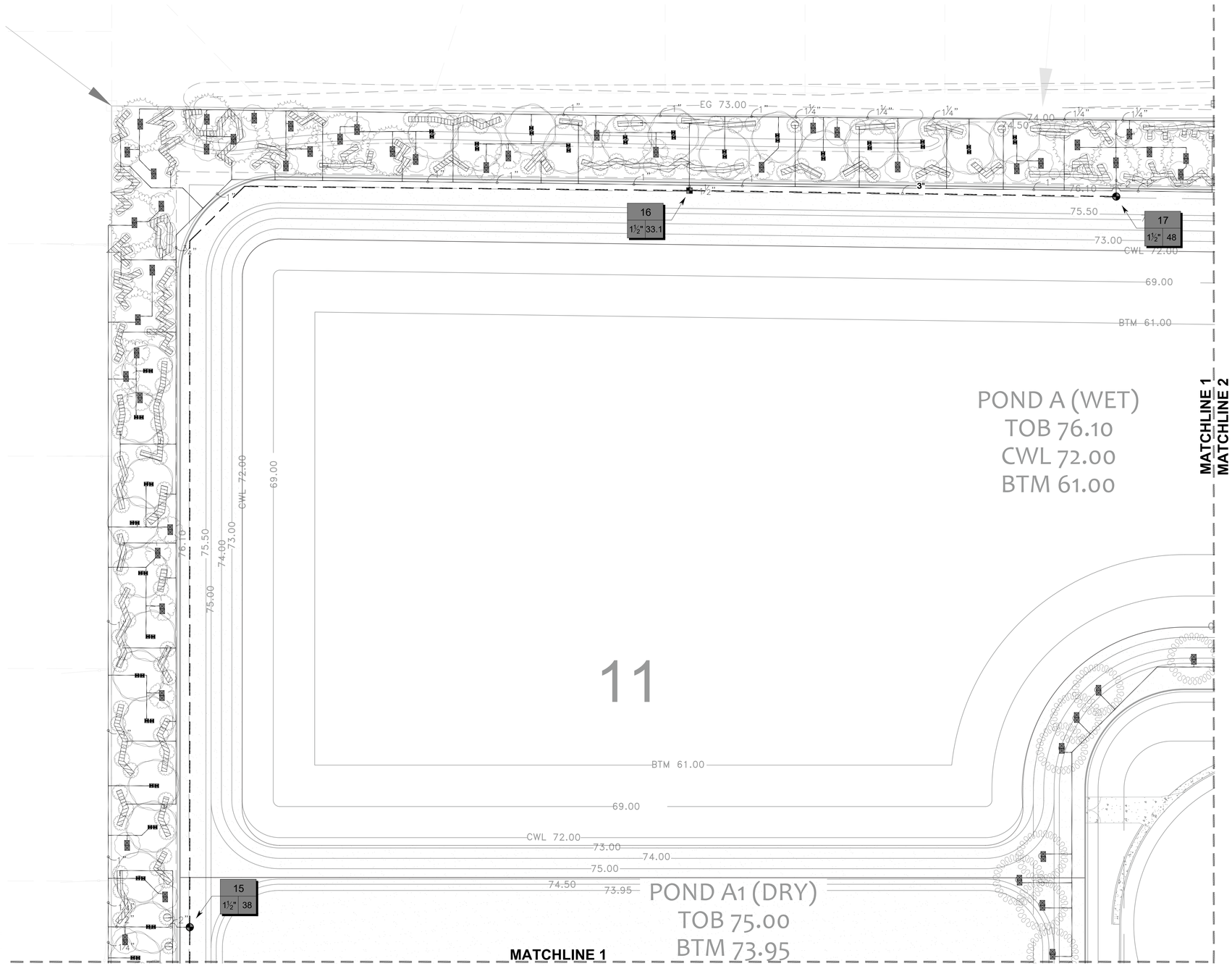
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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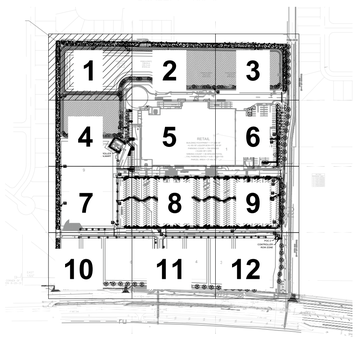

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Know what's **Call** **below.** before you dig. Dial 811 Or Call 800-282-7411

20 0 10 20 40
SCALE: 1" = 20'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: cn=Karina Veaudry, o=FLLicensed#LA6666803, ou=Unaffiliated, c=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:34:09-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION PLAN

SHEET NUMBER:

LI101

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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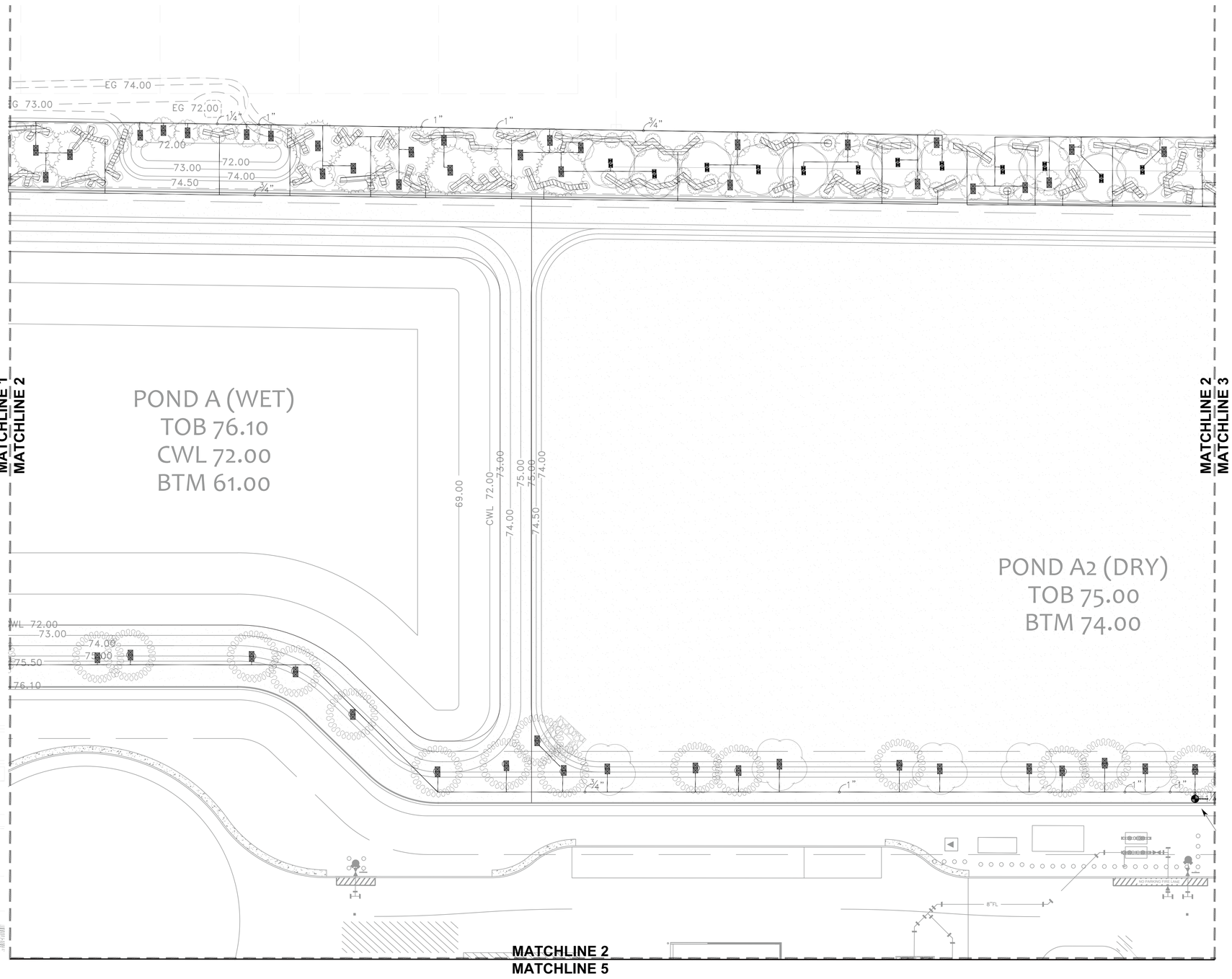
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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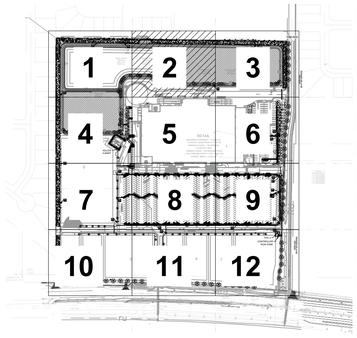

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry
O=QualiTek+NDS1000001993446AFE2000C2FC5,
OU=Unaffiliated, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:34:40-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION
PLAN

SHEET NUMBER:

LI102

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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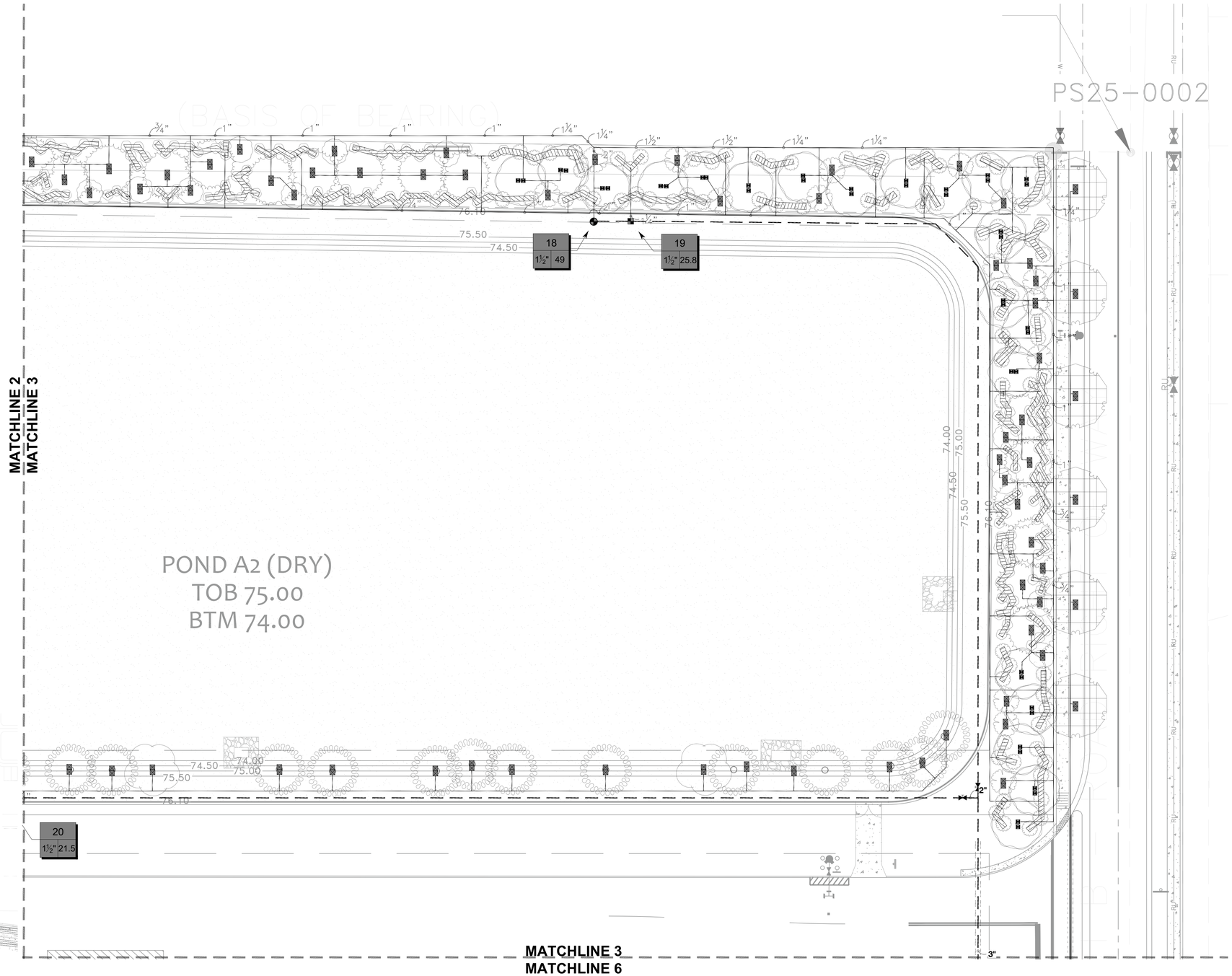
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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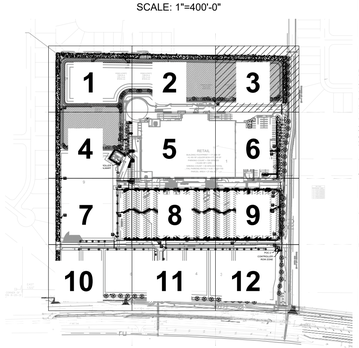

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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811 Know what's Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry
emQualifier=A01410D000001993445AFE2000C2FC0
O=Unaffiliated, C=US
Reason: I attest to the accuracy and integrity of this
document
Date: 2026.03.26 08:35:17-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION PLAN

SHEET NUMBER:

LI103

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE 1
MATCHLINE 4

POND A1 (DRY)
TOB 75.00
BTM 73.95

73.95
74.50
75.00
75.50
76.10

334.95

2
1½" 32

1
1½" 25.6

MATCHLINE 4
MATCHLINE 5

10

CONTROLLER
WALMART

21

MATCHLINE 4
MATCHLINE 7

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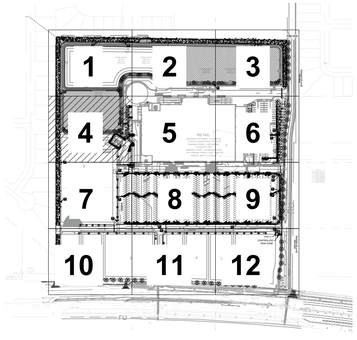

LICENSED LANDSCAPE ARCHITECT
KARINA A. VEAUDRY
STATE OF FLORIDA

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20 0 10 20 40
SCALE: 1" = 20'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, ...
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:35:51-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION
PLAN

SHEET NUMBER:

LI104

APPROVED WITH CONDITIONS

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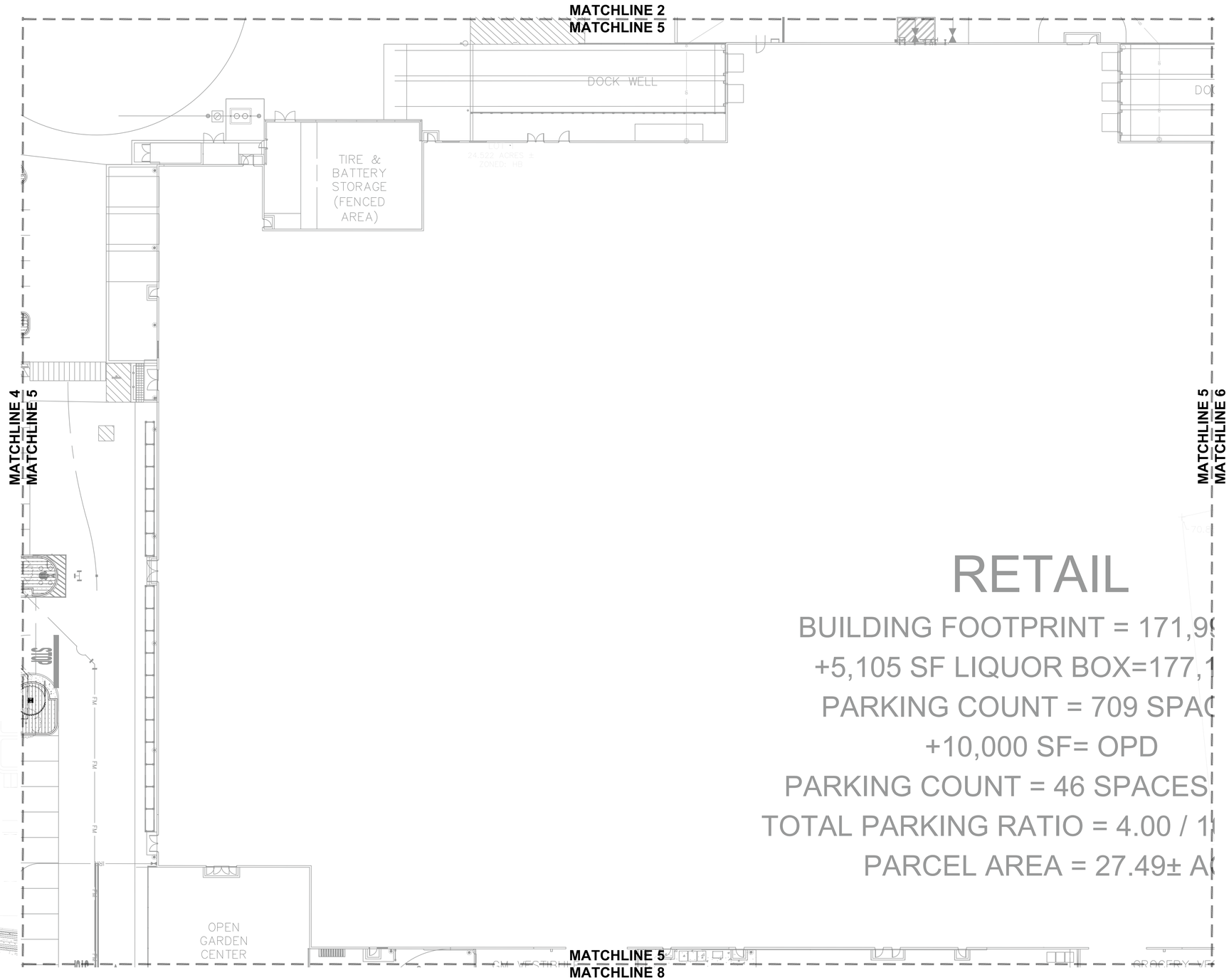
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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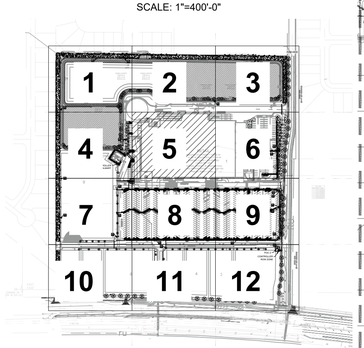

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Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION PLAN

SHEET NUMBER:

LI105

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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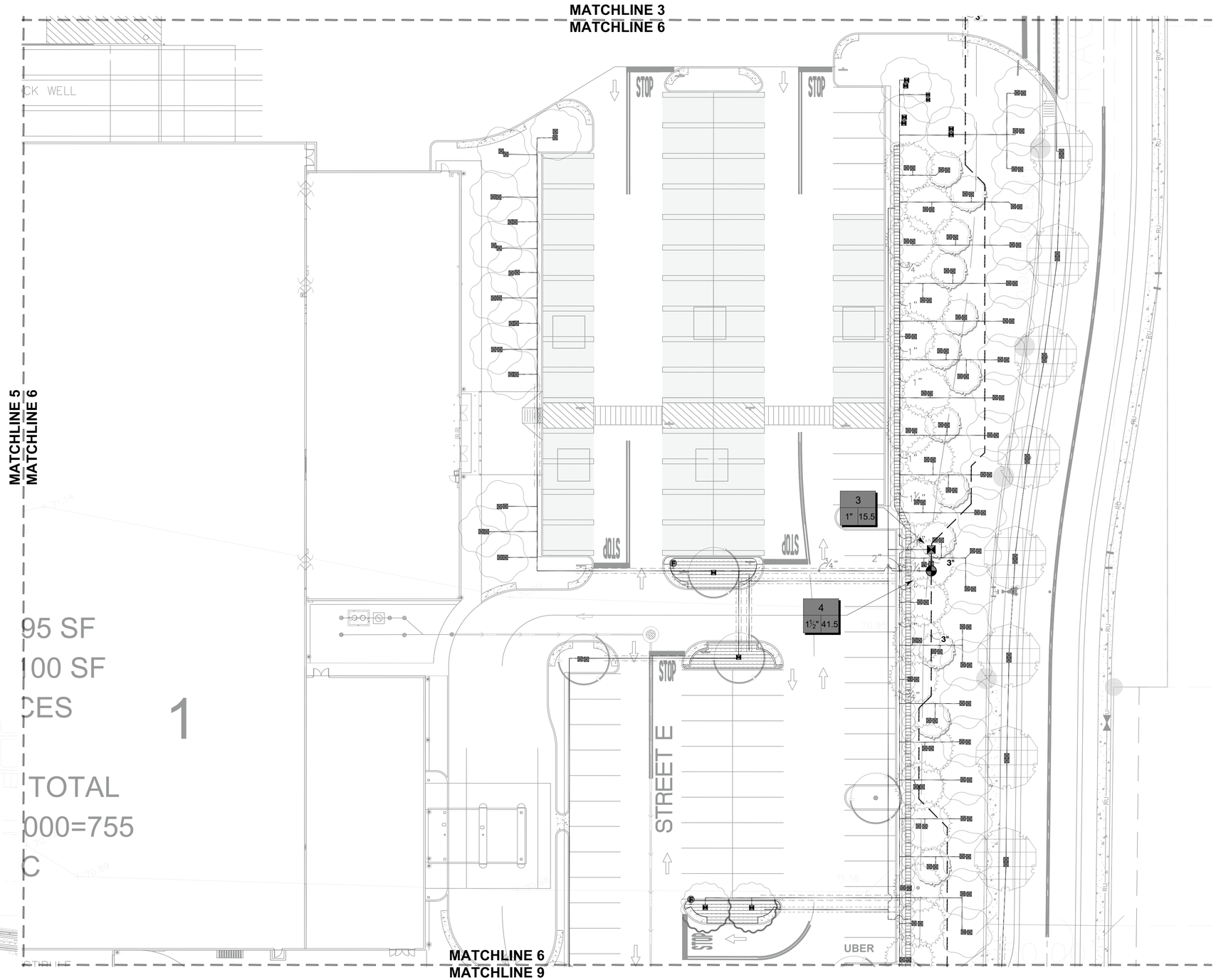
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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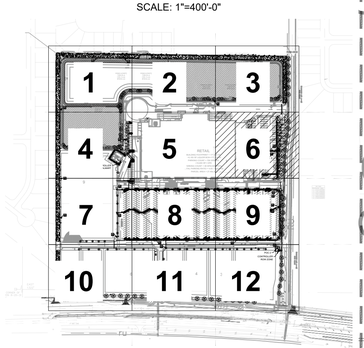



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20 0 10 20 40
SCALE: 1" = 20'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, O=Landscape Architect, OU=Professional, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:39:52-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION
PLAN

SHEET NUMBER:

LI106

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE 4
MATCHLINE 7

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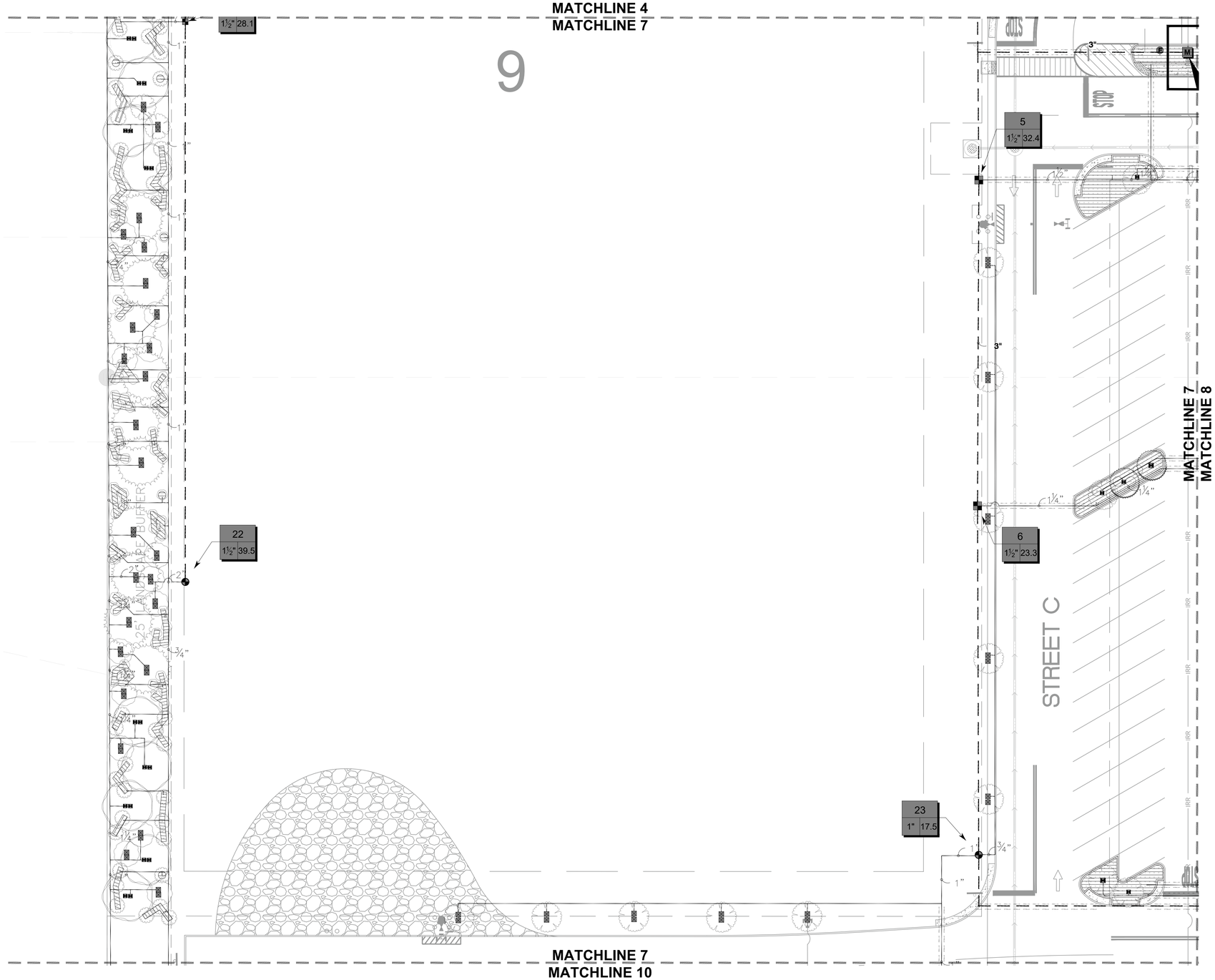

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MATCHLINE 8

MATCHLINE 7
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SHEET KEY
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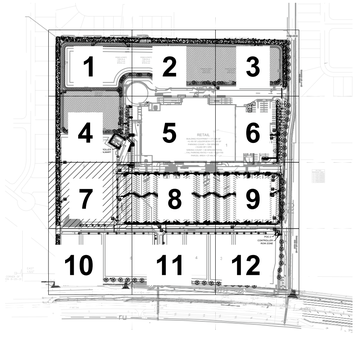

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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SCALE: 1" = 20'

NORTH

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, O=QualifierID=ADE410000003936446AFE2000C2FC0, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:40:23-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION
PLAN

SHEET NUMBER:

LI107

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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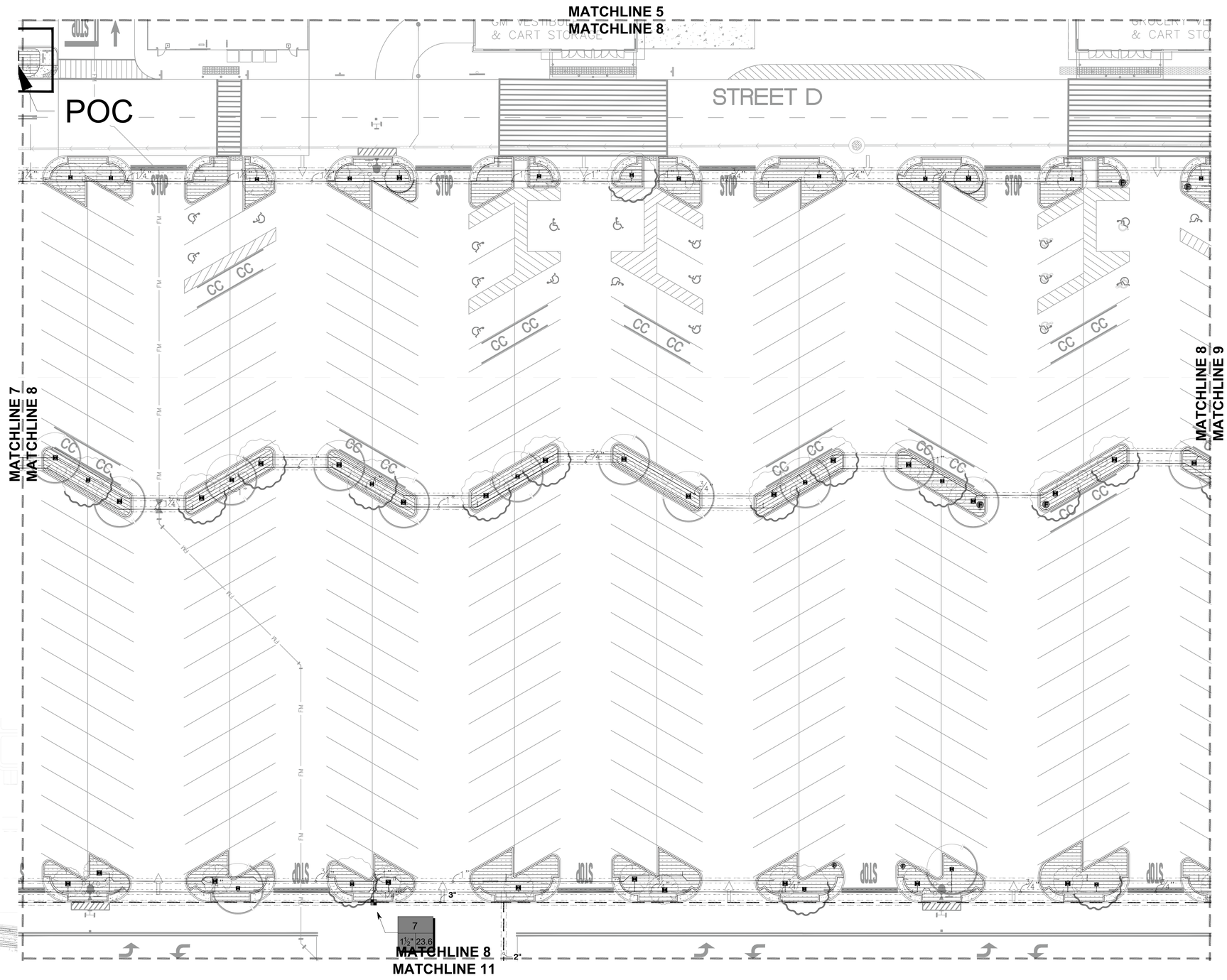
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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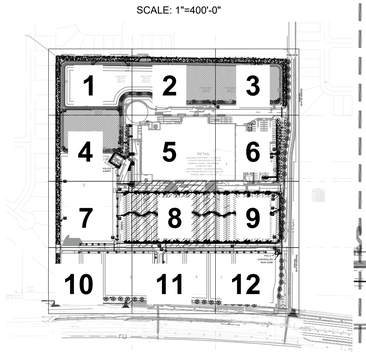

SUB25-00041

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SCALE: 1" = 20'

NORTH

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, C=US, E=kveaudry@nfcla.com, O=NFC Landscape Architects, OU=Author
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:40:56-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
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CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION PLAN

SHEET NUMBER:

LI108

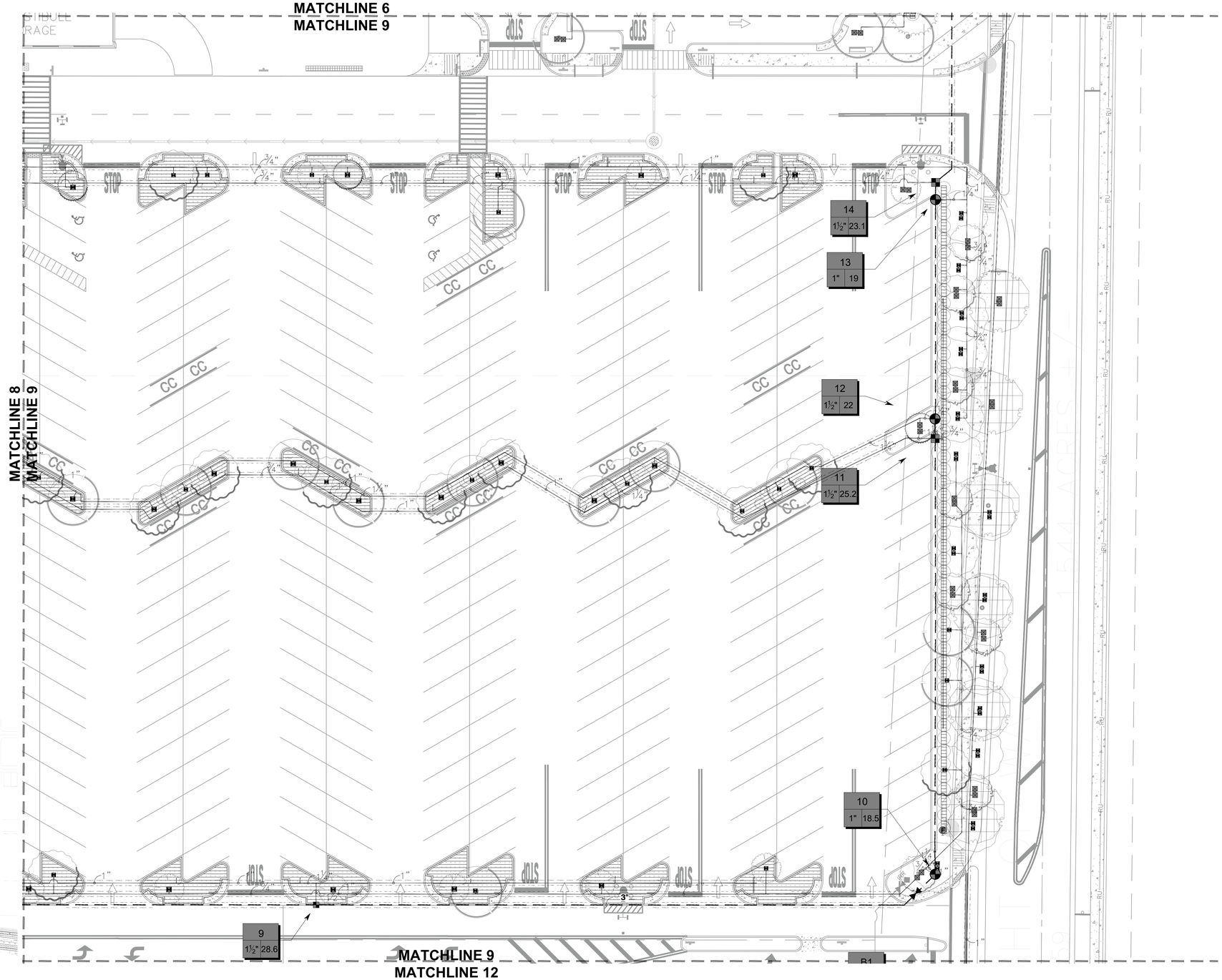
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



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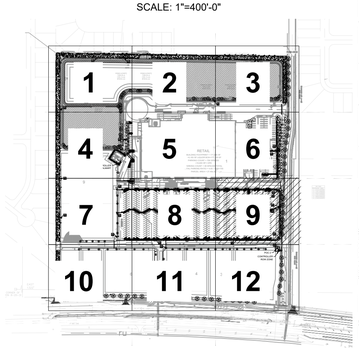



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Know what's **Call** before you dig. Dial 811 Or Call 800-282-7411 — **below.**

20 0 10 20 40

SCALE: 1" = 20'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, ...
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:41:28-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION
PLAN

SHEET NUMBER:

LI109

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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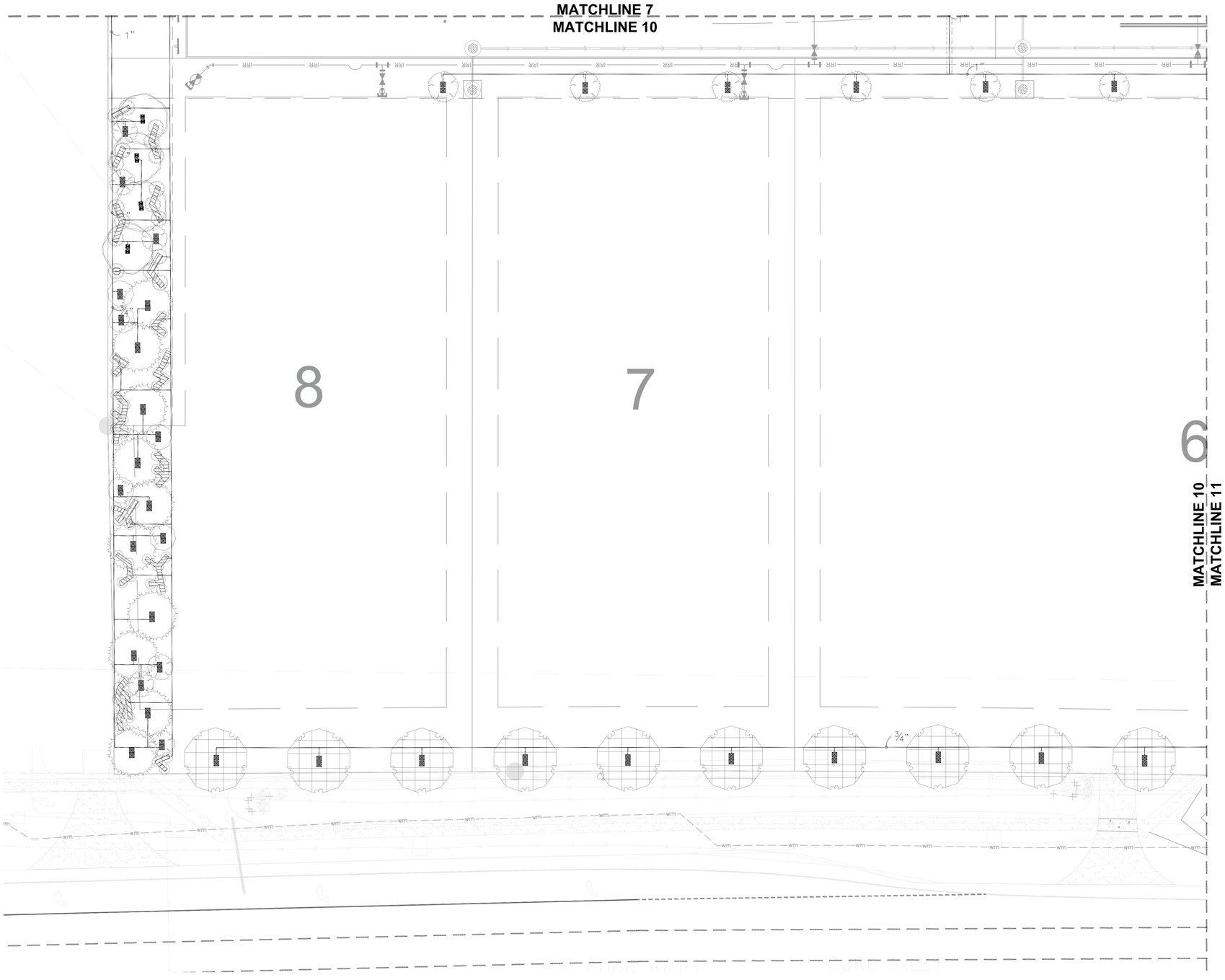

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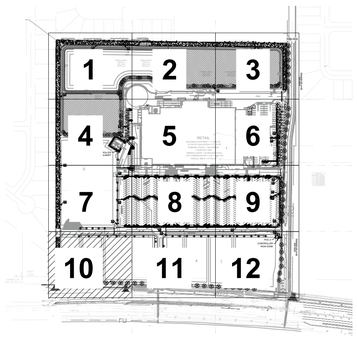

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100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
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LOT #1
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LOCATION:

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DN: CN=Karina Veaudry
email=KV@1CODOOOOURHH444AFE2000C2F05
O=UnaffiliatedC=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:47:37-04'00'

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PLAN

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St. Cloud FLORIDA
Your Centerplace for Life

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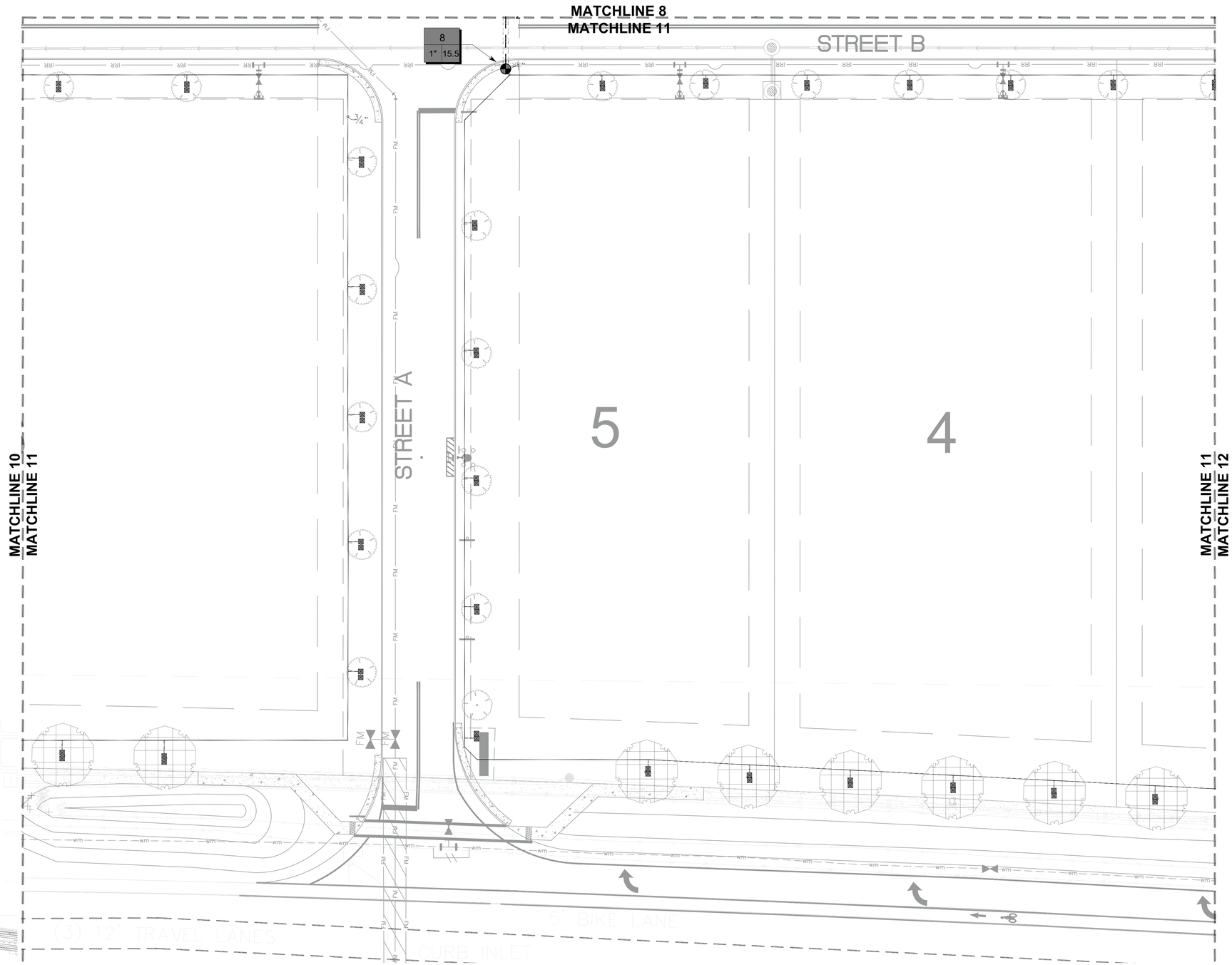

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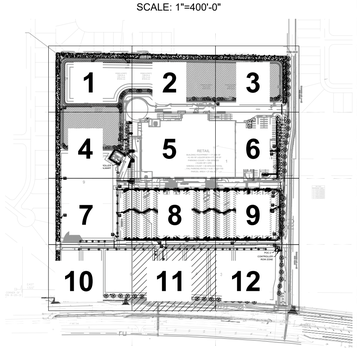



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NORTH

SUB25-00041

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SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
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LOT #1
PRELIMINARY SITE PLAN

LOCATION:

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ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
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Kissimmee, FL 34744
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Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, E=KaraMarie.NC@CCKS0000039994AFE2000CDFC5...
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 08:43:27-04'00'

REVISIONS	DATE

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CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION PLAN

SHEET NUMBER:

LI111

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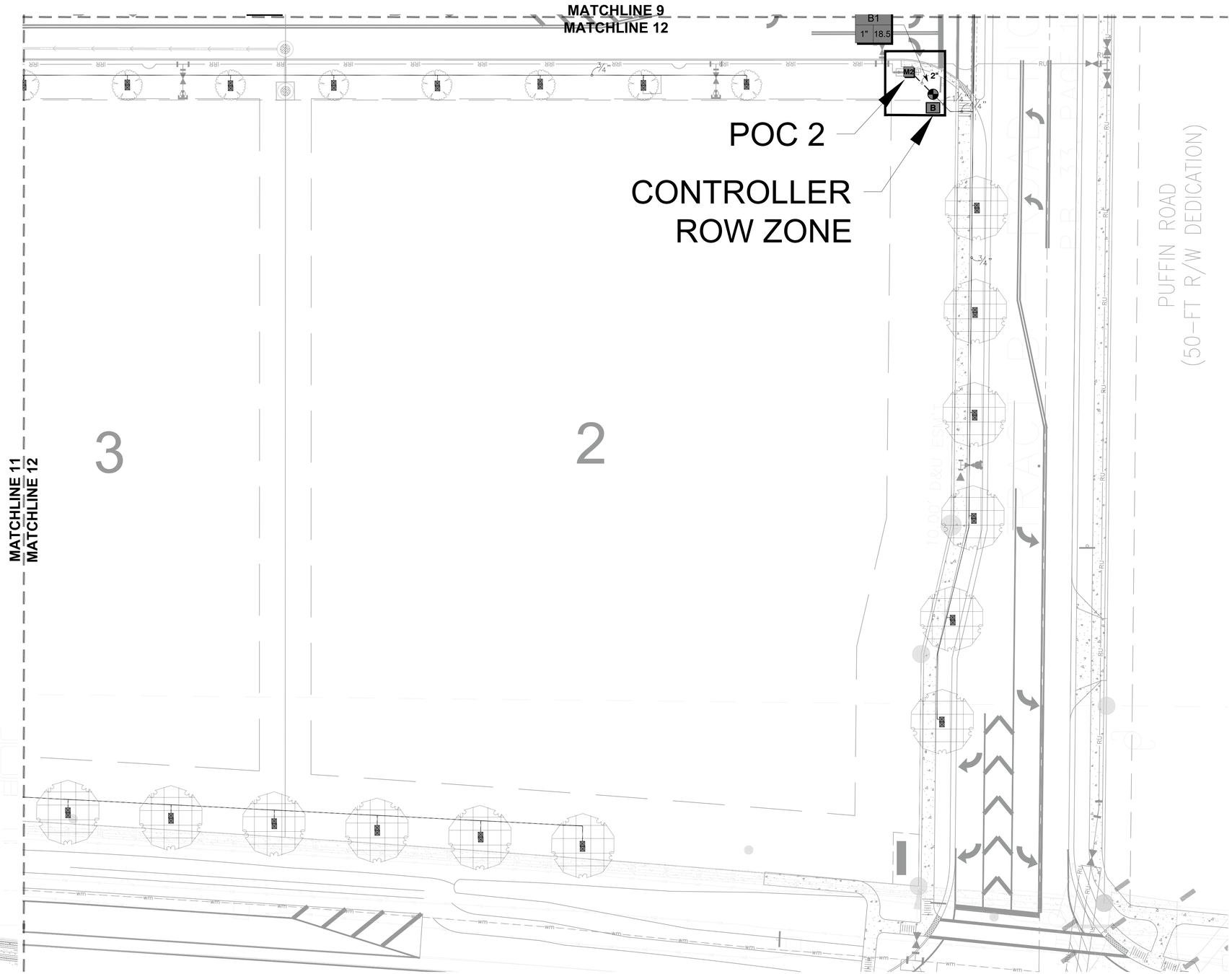

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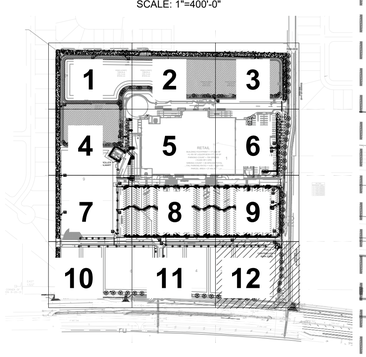



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REVISIONS	DATE

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DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

IRRIGATION PLAN

SHEET NUMBER:

LI112

St. Cloud FLORIDA
Your Centerplace for Life
weathermatic
APPROVED WITH CONDITIONS
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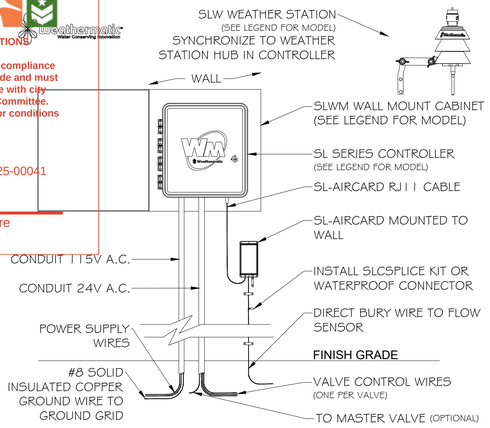
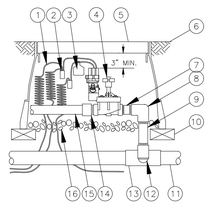
Date: 6/18/2026 Case#: SUB25-00041
SHAUN RAJA
Authorized Signature



1 SMARTLINE CONTROLLER WITH SLW

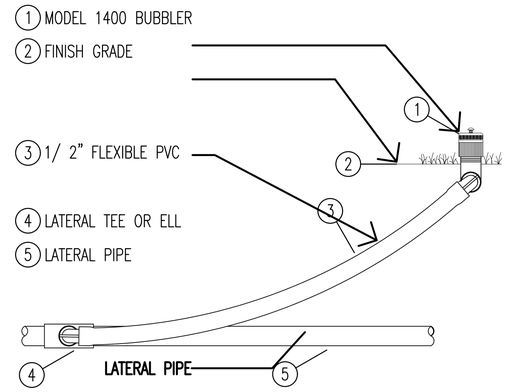
NTS 0103-09



1. 30-INCH LINEAR LENGTH OF WIRE, COILED
2. WATERPROOF CONNECTION RAIN BIRD SPLICE-1 (1 OF 2)
3. ID TAG: RAIN BIRD VID SERIES
4. REMOTE CONTROL VALVE: RAIN BIRD PESB-PRS-D WITH NP-HAN
5. VALVE BOX WITH COVER: RAIN BIRD VB-STD
6. FINISH GRADE/TOP OF MULCH
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
13. PVC SCH 40 TEE OR ELL
14. PVC SCH 40 MALE ADAPTER
15. PVC LATERAL PIPE
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

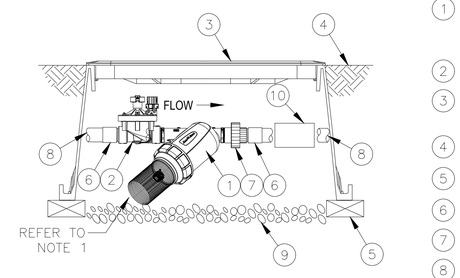
2 RAINBIRD PESB

1" = 1" 01-01



3 RAINBIRD 1400 BUBBLER

NTS 01-12

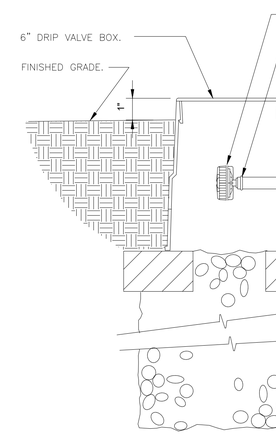


1. 1.5" RAIN BIRD LARGE CAPACITY FILTER WITH DISC: LCRBY150D SCREEN: LCRBY150S
2. 1.5" RAIN BIRD REMOTE CONTROL VALVE
3. VALVE BOX WITH COVER: RAIN BIRD VB-SPR-H
4. FINISH GRADE/TOP OF MULCH
5. BRICK (1 OF 4)
6. PVC SCH 40 MALE ADAPTER
7. PVC SCH 40 THREADED UNION
8. PVC LATERAL PIPE
9. 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
10. INLINE PRESSURE REGULATOR

NOTE:
1. FILTER ASSEMBLY TO BE INSTALLED WITH SCREEN DIRECTION FACING A 45° DOWNWARD ANGLE WITH ENOUGH SPACE TO REMOVE SCREEN FOR MAINTENANCE. SOME APPLICATIONS MAY REQUIRE RAIN BIRD VALVE BOX EXTENSIONS TO ACHIEVE ACCEPTABLE SCREEN CLEARANCE.

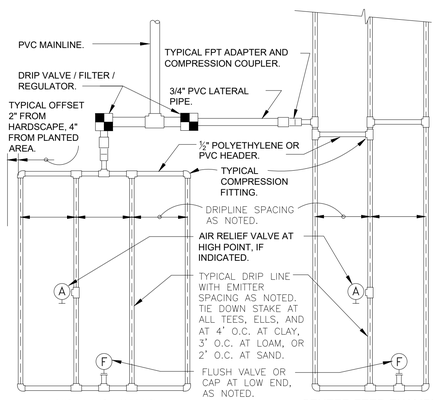
4 DRIP KIT 1 1//2"

1" = 1" 01-05



5 NETAFIM TECHLINE FLUSH VALVE

3" = 1'-0" 0104-01



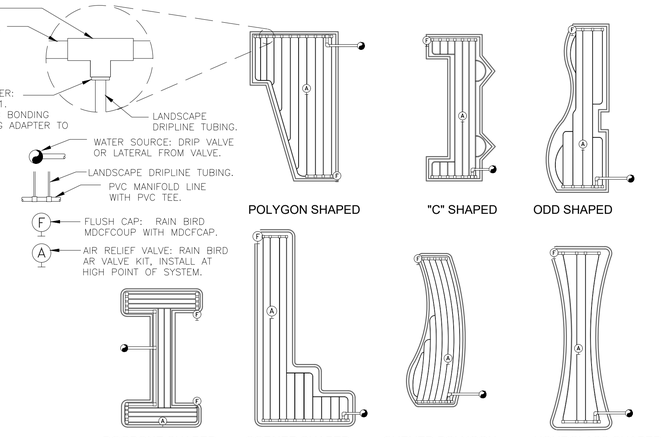
MAXIMUM LATERAL LENGTH (FEET)								
	EMITTER FLOW RATE GPH							
	12" SPACING		18" SPACING		24" SPACING	
PSI	0.6	0.9	0.6	0.9	0.6	0.9
10	125	96	175	135	218	171
20	249	191	350	171	442	340
30	307	236	434	333	550	422
40	350	268	495	380	627	171
50	125	96	175	135	218	171
60	125	96	175	135	218	171

GRID PRECIPITATION RATES (IN/HR)			
		EMITTER FLOW RATE	
EMITTER SPACING	LATERAL SPACING	0.6	0.9
12	12	0.96	1.44
18	18	0.69	1.03
24	24	0.28	0.41

LATERAL FLOW PER 100 FT (GPM)			
EMITTER FLOW	12" SPACING	18" SPACING	24" SPACING
0.6 GPH	1.0 GPM	0.67 GPM	0.50 GPM
0.9 GPH	1.5 GPM	1.0 GPM	0.75 GPM

MAXIMUM FLOW PER ZONE		
	MAX GPM	PSI LOSS
SCHEDULE 40 PVC HEADER SIZE		
1/2"	4.7 GPM	7.7 PSI
3/4"	8.3 GPM	5.6 PSI
1"	13.5 GPM	4.2 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	1.9 PSI
POLY PIPE HEADER SIZE		
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	6.3 PSI
1"	13.5 GPM	4.8 PSI
1-1/2"	31.8 GPM	2.9 PSI
2"	52.4 GPM	2.2 PSI

SLOPED CONDITION NOTE:
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
2. INSTALL AIR RELIEF VALVE AT HIGHEST POINT.
3. NORMAL SPACING WITHIN THE TOP ⅔ OF SLOPE.
4. INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM ⅓ OF THE SLOPE.
5. WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM ⅓ ON A SEPARATE VALVE.



6 TYPICAL RAIN BIRD DRIPLINE REQUIREMENTS

3" = 1'-0" 01-23

CLIENT:
FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:
PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:
CITY OF ST. CLOUD, FL

CONSULTANT:
NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

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REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:
IRRIGATION DETAILS

SHEET NUMBER:
LI201

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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SUB25-00041

St. Cloud FLORIDA Your Centerplace for Life

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

PLAN SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPECIFICATION	SPACING	HT. 10 YEARS	SP. 10 YEARS
STREET TREES									
	AR	86	ACER RUBRUM	FLORIDA RED MAPLE	65 GAL. / 3" CAL.	8-10` HT. X 4-5` SP.	AS SHOWN	20'	12'
	MC	50	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	65 GAL. / 3" CAL.	12-14` HT. X 5-6` SP.	AS SHOWN	18'	12'

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPECIFICATION	SPACING	HT. 10 YEARS	SP. 10 YEARS
LARGE TREES									
	IC	15	ILEX CASSINE	DAHOON HOLLY	45 GAL. / 2" CAL.	10-11` HT. X 3-4` SP.	AS SHOWN	12'	9'
	MG2	30	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	65 GAL. / 3" CAL.	12-14` HT. X 5-6` SP.	AS SHOWN	20'	10'
	PED	88	PINUS ELLIOTTII VAR. DENSA	DENSA SLASH PINE	65 GAL. / 3" CAL.	12-14` HT. X 5-6` SP.	AS SHOWN	30'	20'
	QVH	105	QUERCUS VIRGINIANA `HIGH RISE`	HIGH RISE LIVE OAK	65 GAL. / 3" CAL.	12-14` HT. X 5-6` SP.	AS SHOWN	30'	20'
	TD	51	TAXODIUM DISTICHUM	BALD CYPRESS	45 GAL. / 3" CAL.	6-8' HT. X 4-5' SP.	AS SHOWN	23'	12'
MEDIUM TREES									
	AR2	15	ACER RUBRUM	FLORIDA RED MAPLE	45 GAL. / 2" CAL.	6-8' HT. X 4-5' SP.	AS SHOWN	20'	12'
	CE	45	CONOCARPUS ERECTUS	BUTTONWOOD	30 GAL. / 2" CAL.	6-8' HT. X 4-5' SP.	AS SHOWN	15'	8'
	IL	33	ILEX X ATTENUATA 'SAVANNAH'	SAVANNAH HOLLY	45 GAL. / 2.5" CAL.	12-15` HT. X 6-8` W.	AS SHOWN	15'	12'
	UA	27	ULMUS ALATA	WINGED ELM	30 GAL. / 2" CAL.	6-6' HT. X 3.5-5' SP.	AS SHOWN	15'	12'
SMALL TREES									
	MOC	64	MORELLA CERIFERA	WAX MYRTLE	30 GAL. / 1" CAL.	4-5' HT. X 2-3' SP.	AS SHOWN	15'	12'
	SC	57	SAMBUCUS CANADENSIS	AMERICAN ELDERBERRY	15 GAL. / 1" CAL.	3-4` HT. X 2-3` SP.	AS SHOWN	11'	8'

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SPECIFICATION	SPACING	HT. 10 YEARS	SP10 YEARS
SHRUBS									
	CA	107	CALLICARPA AMERICANA	AMERICAN BEAUTYBERRY	3 GAL.	24-28" HT. X 12-15" SP.	AS SHOWN	6'	6'
	HPF	340	HAMELIA PATENS	FIRE BUSH	7 GAL.	32-36" HT. X 24-28" SP.	AS SHOWN	10'	8'
	HP	40	HAMELIA PATENS 'FIREFLY'	FIREFLY DWARF FIREBUSH	3 GAL.	14-16" HT. X 14-16" SP.	AS SHOWN	4'	4'
	IVN	592	ILEX VOMITORIA `NANA`	DWARF YAUPON	3 GAL.	18-21" HT. X 12-15" SP.	AS SHOWN	4'	4'
	MFS	116	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	3 GAL.	12-14" HT. X 8-10" SP.	AS SHOWN	8'	8'

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SPECIFICATION	SPACING
GROUND COVERS							
	COR	3,348	COREOPSIS LANCEOLATA	LANCELEAF TICKSEED	1 GAL.	4-6" HT. X 6-8" SP.	30" O/C
SOD/SEED							
	PNA	265,481 SF	PASPALUM NOTATUM `ARGENTINE`	BAHIA GRASS	SOLID SOD		

PLANTING SCHEDULE LEGEND:

CAL.	CALIPER
GAL.	GALLON
O/C	ON CENTER
HT.	HEIGHT
SP.	SPREAD

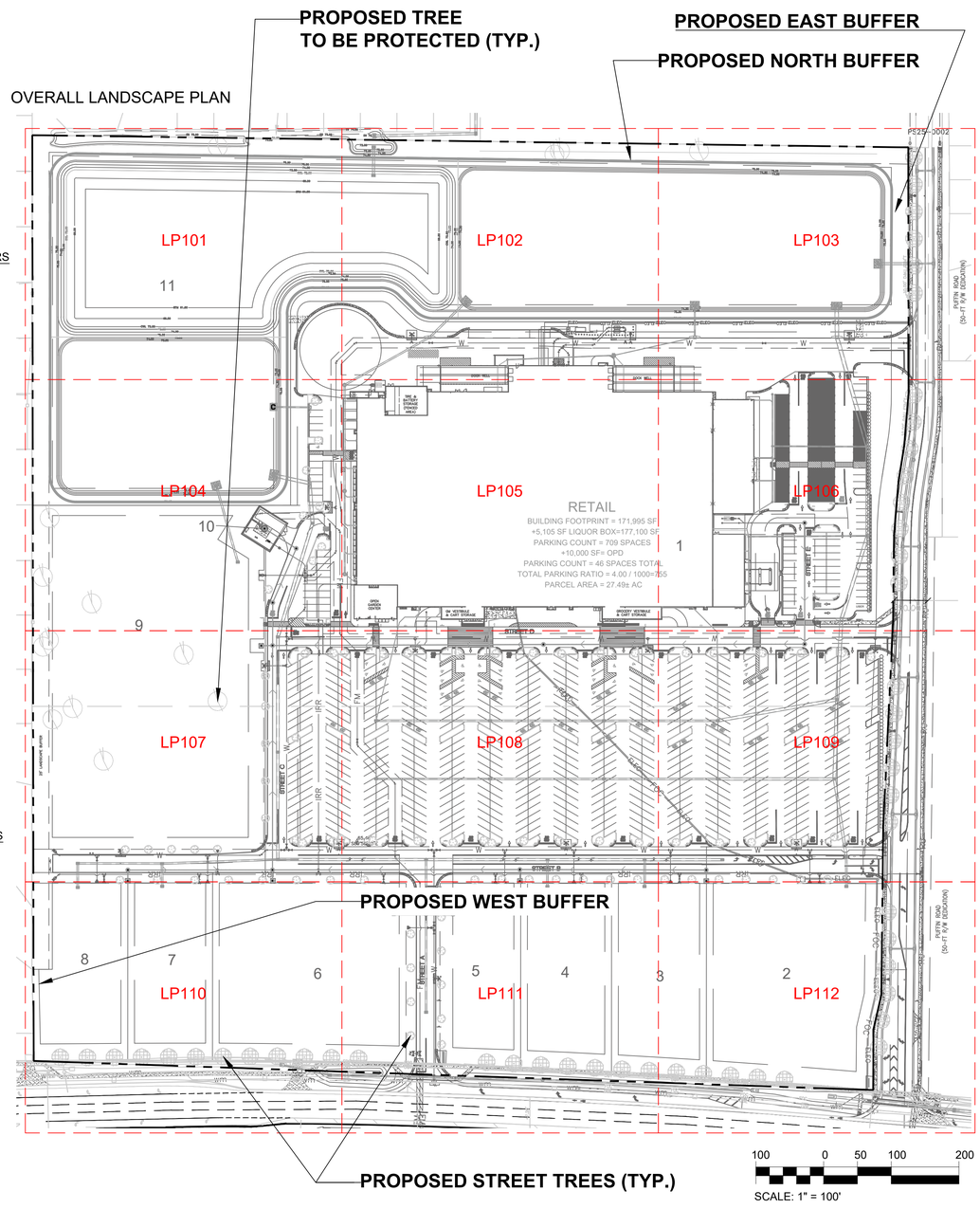
NOTE:
(1) PLANT SPACING IS BASED ON THE WIDTH OF PLANTS AT MATURE HEIGHT AND AGE.

(2) QUANTITY OF SOD AND MULCH SHOWN IS FOR ESTIMATION PURPOSES ONLY. ALL FINAL SOD EXTENTS TO BE FIELD VERIFIED AND CONFIRMED WITH CLIENT AND LANDSCAPE ARCHITECT.

GENERAL LANDSCAPE PLAN NOTES:

1. NEVER PRUNE OR SHEAR ANY TREES, SHRUBS OR GROUNDCOVERS.
2. USE BAHIA SOD, PASPALUM NOTATUM 'ARGENTINE. CONTRACTOR TO VERIFY SOD QUANTITIES.
3. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT (321) 338-4781. ALL PLANTINGS MUST BE LAID OUT IN FIELD AND APPROVED PRIOR TO PLANTING.
4. IF THERE IS A DISCREPANCY BETWEEN PLANTS ON THE PLAN(S) AND PLANTS IN THE PLANT SCHEDULE, THE PLANT SCHEDULE WILL PREVAIL.
5. CONTRACTOR IS TO CHECK AND VERIFY ALL LEVELS, DATUMS AND DIMENSIONS ON SITE AND SHALL REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO START OF WORK & DURING THE CONSTRUCTION PHASE.
6. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL, ARCHITECTURAL AND / OR ANY OTHER CONSULTANT/S DOCUMENTATION AS MAY BE APPLICABLE TO THE PROJECT PRIOR TO START OF WORK & IT'S DURATION.
7. THE DRAWINGS CONTAINED HEREIN ARE THE PROPERTY OF NFC LANDSCAPE ARCHITECTURE. THEY MAY NOT BE COPIED OR REPRODUCED, IN WHOLE OR IN PART, ELECTRONICALLY OR BY ANY OTHER MEANS, WITHOUT WRITTEN PERMISSION. ALL DRAWING SETS MUST BE RETURNED UPON REQUEST.
8. MAINTENANCE FOR PERENNIALS: WHEN THE BLOOMS ARE SPENT, LEAVE THE DEAD BLOOMS ON THE PLANTS UNTIL THE SEEDS ARE RIPE (THE SEEDS ARE RIPE WHEN THEY FALL OUT OF THE SEED CAPSULE EASILY WHEN TOUCHED) AND THEN ENSURE THAT THE MULCH IS PULLED BACK FROM THE BASE OF THE PLANT SO THAT THE SEEDS WILL COME INTO CONTACT WITH SOIL WHEN THEY FALL. THIS PROCESS CAN BE AIDED WITH HAND SPREADING OF THE SEEDS. THIS WILL AID THE RE-SEEDING PROCESS FOR THE NEXT SEASON'S NEW PLANT GERMINATION.
9. ALL GROUNDCOVER BEDS NEED TO BE WEEDED FOR ONE YEAR OR UNTIL PLANTS FORM A SOLID GROUND COVERING.

OVERALL LANDSCAPE PLAN



REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA 6666803

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: cn=Karina Veaudry, o=Qualified Subject, ou=Qualified Subordinate, email=karina@nfcla.com, c=US
Reason: I am the author of this document
Location: your signing location here
Date: 2026.03.26 13:19:31 -04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

PLANT SCHEDULE

SHEET NUMBER:

LP001

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

LANDSCAPE CALCULATIONS & REQUIREMENTS FOR THE CITY OF ST. CLOUD

ZONING & USE

SITE PARCEL ID(s): 05-26-31-0105-0001-0010
05-26-31-0105-0001-0020

FUTURE LAND USE: COMMERCIAL

TOTAL SITE AREA = 39.86 ACRES

MUNICIPALITY = CITY OF SAINT CLOUD

ZONING = HB

LANDSCAPE BUFFERS

BUFFERING ADJACENT PROPERTIES (PER ARTICLE 8, SEC. 4.8.4)

NORTH BUFFER (±1306) COMMERCIAL (COM) TO SINGLE FAMILY (MEDIUM DENSITY) RESIDENTIAL

MEDIUM BUFFER REQUIRED:

REQUIRED = 25' BUFFER WIDTH
= 5 LARGE TREES PER 100 LF
= 4 MEDIUM/SMALL TREES PER 100 LF
= 30 SHRUBS PER 100 LF

PROPOSED
= 25' BUFFER WIDTH PROPOSED
1306 / 100 * 5 = 65 LARGE TREES REQUIRED
= 65 LARGE TREES PROPOSED
1306 / 100 * 4 = 53 MEDIUM/SMALL TREES REQUIRED
= 53 MEDIUM/SMALL TREES PROPOSED
1306 / 100 * 30 = 392 SHRUBS REQUIRED
= 392 SHRUBS PROPOSED

WEST BUFFER (±1365) COMMERCIAL (COM) TO SINGLE FAMILY (LOW DENSITY) RESIDENTIAL

MEDIUM BUFFER REQUIRED:

REQUIRED = 25' BUFFER WIDTH
= 5 LARGE TREES PER 100 LF
= 4 MEDIUM/SMALL TREES PER 100 LF
= 30 SHRUBS PER 100 LF

PROPOSED
= 25' BUFFER WIDTH PROPOSED
1365 / 100 * 5 = 69 LARGE TREES REQUIRED
= 69 LARGE TREES PROPOSED
1365 / 100 * 4 = 55 MEDIUM/SMALL TREES REQUIRED
= 55 MEDIUM/SMALL TREES PROPOSED
1365 / 100 * 30 = 410 SHRUBS REQUIRED
= 410 SHRUBS PROPOSED

EAST BUFFER (±316) COMMERCIAL (COM) TO SINGLE FAMILY (LOW DENSITY) RESIDENTIAL

MEDIUM BUFFER REQUIRED:

REQUIRED = 25' BUFFER WIDTH
= 5 LARGE TREES PER 100 LF
= 4 MEDIUM/SMALL TREES PER 100 LF
= 30 SHRUBS PER 100 LF

PROPOSED
= 25' BUFFER WIDTH PROPOSED
316 / 100 * 5 = 16 LARGE TREES REQUIRED
= 16 LARGE TREES PROPOSED
316 / 100 * 4 = 13 MEDIUM/SMALL TREES REQUIRED
= 13 MEDIUM/SMALL TREES PROPOSED
316 / 100 * 30 = 95 SHRUBS REQUIRED
= 95 SHRUBS PROPOSED

EAST BUFFER (±1,006) COMMERCIAL (COM) TO COMMERCIAL (COM)

NO BUFFER REQUIRED

SOUTH BUFFER (±1,311) COMMERCIAL (COM) TO E IRLO BRONSON MEM HWY RIGHT-OF-WAY

NO BUFFER REQUIRED (SEE STREET TREES-EXTERNAL ROADWAY PLANTING-TABLE ON THIS SHEET FOR STREET TREES ALONG ROAD)

TREE MITIGATION REQUIREMENTS

REQUIRED 1 NEW TREE FOR EVERY 3 CAL. INCHES TO BE REMOVED (SECTION 4.8.4)

1,696 TOTAL CAL. INCHES TO BE REMOVED / 3 = 566 NEW TREES REQUIRED.
= 666 NEW TREES PROVIDED.

REQUIRED TREE SIZES (PER ARTICLE 8, SEC. 4.8.11)

MINIMUM 70% OF NEW TREES TO BE LARGE/MEDIUM SIZE
NOTE: LARGE TREES WILL BE PLANTED AT A MINIMUM OF 3 CALIPER INCHES. MEDIUM TREES WILL BE PLANTED AT A MINIMUM OF 2 CALIPER INCHES.

TOTAL NEW TREES = 666 NEW TREES
666 X .70 = 467 LARGE/MEDIUM TREES REQUIRED

TOTAL PROVIDED LARGE TREES (3" CAL.) = 425 LARGE TREES PROVIDED
TOTAL PROVIDED MEDIUM TREES (2" CAL.) = 120 MEDIUM TREES PROVIDED
425 + 120 = 545 LARGE/MEDIUM TREES PROVIDED

545 / 666 = 81.8% OF PROVIDED TREES ARE LARGE/MEDIUM

TREE PROVIDED BY DBH:

LARGE TREES (@ 3" DBH):

QTY	SPECIES
101	Acer rubrum
88	Pinus elliotti var. Densa
80	Magnolia grandiflora
105	Quercus virginiana 'High Rise'
51	Taxodium distichum

TOTAL LARGE TREES (QTY) = 425
TOTAL LARGE TREES (DBH) = 1275

MEDIUM TREES (@ 2"-2.5" DBH):

QTY	SPECIES
45	Conocarpus erectus
15	Acer rubrum
27	Ulmus alata
33	Ilex x attenuata 'Savannah'

TOTAL MEDIUM TREES (QTY) = 120
TOTAL MEDIUM TREES (DBH) = 256.5

SMALL TREES (@ 1" DBH):

QTY	SPECIES
64	Morella cerifera
57	Sambucus canadensis

TOTAL SMALL TREES (QTY) = 121
TOTAL SMALL TREES (DBH) = 121

STREET TREES

EXTERNAL ROADWAY TREES (PER ARTICLE 8, SEC. 4.8.5)

PUFFIN ROAD (WEST FRONTAGE)
1390 LF/ 55 LF = 26 LARGE TREES REQUIRED
= 26 LARGE TREES PROVIDED

E. IRLO BRONSON MEMORIAL HIGHWAY (NORTH FRONTAGE)
1,311 LF/ 55 LF = 24 LARGE TREES REQUIRED
= 24 LARGE TREES PROVIDED

INTERNAL ROADWAY TREES (PER ARTICLE 8, SEC. 4.8.5)

STREET A (EAST FRONTAGE)
280 LF/ 55 LF = 5 LARGE TREES REQUIRED
= 5 LARGE TREES PROVIDED

STREET A (WEST FRONTAGE)
280 LF/ 55 LF = 5 LARGE TREES REQUIRED
= 5 LARGE TREES PROVIDED

STREET B (NORTH FRONTAGE)
1,200 LF/ 55 LF = 22 LARGE TREES REQUIRED
= 22 LARGE TREES PROVIDED

STREET B (SOUTH FRONTAGE)
1,200 LF/ 55 LF = 22 LARGE TREES REQUIRED
= 22 LARGE TREES PROVIDED

STREET C (EAST FRONTAGE)
326 LF/ 55 LF = 6 LARGE TREES REQUIRED
= 6 LARGE TREES PROVIDED

STREET C (WEST FRONTAGE)
480 LF/ 55 LF = 9 LARGE TREES REQUIRED
= 9 LARGE TREES PROVIDED

STREET D (SOUTH FRONTAGE)
906 LF/ 55 LF = 17 LARGE TREES REQUIRED
= 17 LARGE TREES PROVIDED

OPEN SPACE, OWNERSHIP, AND MAINTENANCE TRACT TABLE

LOT	ACREAGE	OPEN SPACE (15%)	PLANNED USE	OWNERSHIP & MAINTENANCE
1	17.40 AC	2.61 AC	COMMERCIAL	PRIVATE
2	1.81 AC	0.27 AC	COMMERCIAL	PRIVATE
3	0.95 AC	0.14 AC	COMMERCIAL	PRIVATE
4	0.89 AC	0.13 AC	COMMERCIAL	PRIVATE
5	0.81 AC	0.12 AC	COMMERCIAL	PRIVATE
6	1.92 AC	0.29 AC	COMMERCIAL	PRIVATE
7	0.79 AC	0.12 AC	COMMERCIAL	PRIVATE
8	0.89 AC	0.13 AC	COMMERCIAL	PRIVATE
9	4.25 AC	0.64 AC	COMMERCIAL	PRIVATE
10	0.06 AC	--	LIFT STATION	TOHO WATER AUTHORITY
11	10.09 AC	--	WATER MANAGEMENT	PROPERTY OWNER'S ASSOC.

GENERAL PLANTING REQUIREMENTS

MINIMUM CANOPY REQUIREMENTS (PER ARTICLE 8, SEC. 4.8.10)

REQUIRED:
60 CAL. INCHES OF NEW TREES REQUIRED PER ACRES FOR COMMERCIAL DEVELOPMENT
39.86 X 60 = 2,392 CAL. INCHES OF NEW TREES REQUIRED

PROVIDED = 1652.5 CAL. INCHES OF NEW TREES PROVIDED (INCLUSIVE OF STREET TREE, VUA, AND TREE MITIGATION REQUIREMENTS)

VEHICLE USE AREA (VUA) REQUIREMENTS

MINIMUM CANOPY REQUIREMENTS (PER ARTICLE 8, SEC. 4.8.6)

REQUIRED:
VUA AREAS SHALL PROVIDE FOR 12.5% LANDSCAPE AREA
TOTAL VUA AREA = 277,531 SF
277,531 SF X 12.5% = 34,692 SF OF VUA LANDSCAPE AREA REQUIRED

PROVIDED = 37,200 SF OF VUA LANDSCAPE AREA PROVIDED

REQUIRED:
1 TREE PER EVERY 170 SQUARE FEET OF REQUIRED VUA LANDSCAPE AREA
34,692 SF / 170 = 204 TREES REQUIRED

PROVIDED: = 230 TREES PROVIDED

REQUIRED:
CONTINUOUS LANDSCAPE BUFFER BETWEEN VUA AREA AND RIGHTS-OF-WAY WITHIN 50'

PROVIDED:
CONTINUOUS LANDSCAPE BUFFER BETWEEN VUA AREA AND RIGHTS-OF-WAY WITHIN 50'

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:
FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:
PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:
CITY OF ST. CLOUD, FL

CONSULTANT:
NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:
Karina Veaudry
Digitally signed by Karina Veaudry
DN: c=US, st=Florida, l=Kissimmee, o=Qualified, ou=A01410D0000018A5AEF2300C2FE0, cn=Unaffiliated, c=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:20:00-04'00'

REVISIONS	DATE

DESIGNED BY: RJK
DRAWN BY: RJK
CHECKED BY: KAV
DATE: 03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:
LANDSCAPE REQUIREMENTS

SHEET NUMBER:
LP002

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

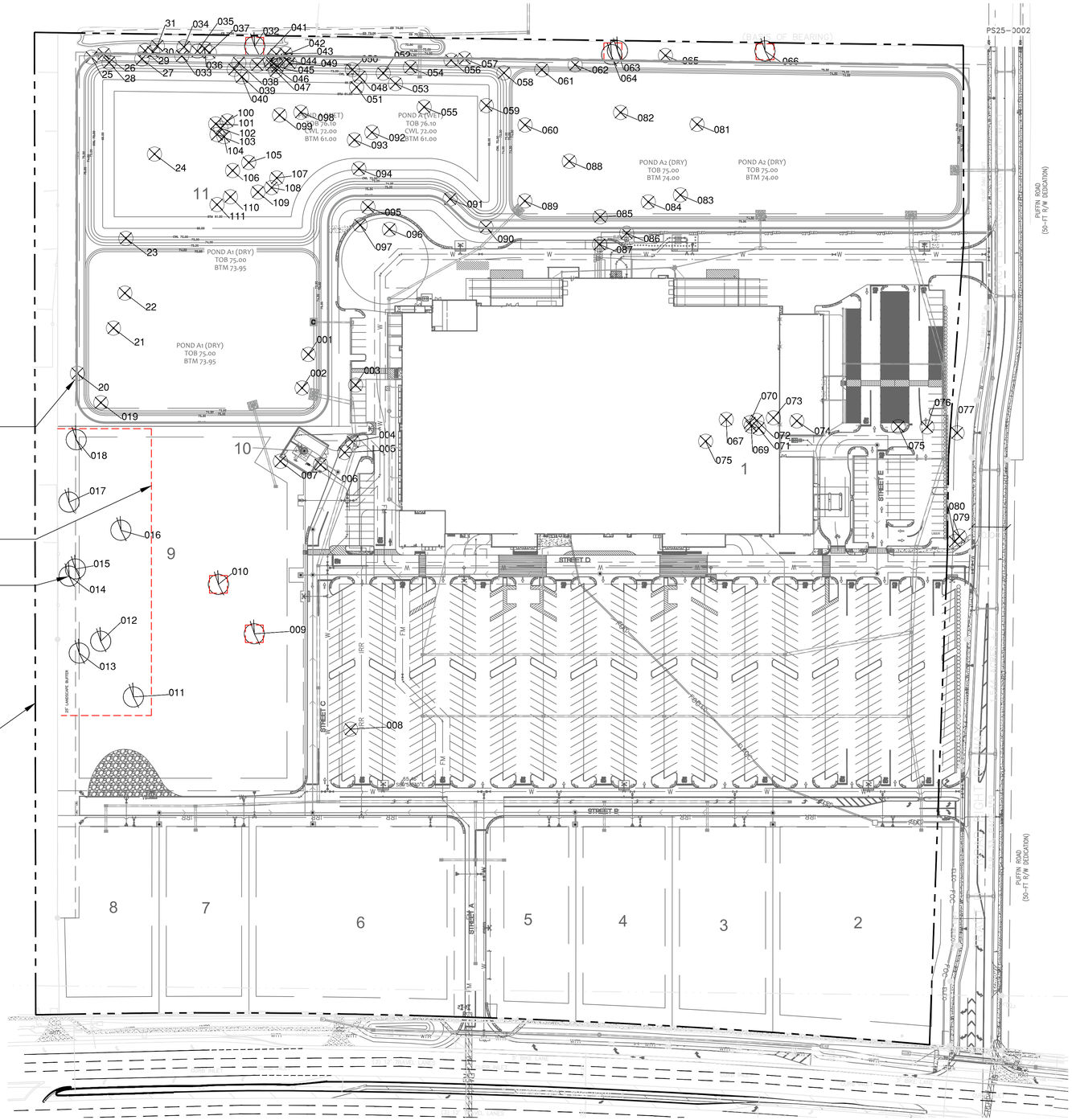
Authorized Signature

TREE MITIGATION PLAN LEGEND:

100 — EXISTING TREE TO BE REMOVED

101 — EXISTING TREE TO BE PROTECTED IN PLACE WITH TREE PROTECTION BARRICADE

TREE PROTECTION BARRICADE TO DRIPLINE OF TREE SEE DETAIL ON SHEET LP005



Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

80 0 40 80 160

SCALE: 1" = 80'

NORTH

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026
PROJECT NUMBER:	5450

SHEET TITLE:

TREE MITIGATION PLAN

SHEET NUMBER:

LP003

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

TREE TO BE REMOVED

NO.	SIZE	TYPE
1	7	OAK
2	11, 12, 13, 14	OAK CLUSTER
3	6, 7, 13	OAK CLUSTER
4	10	OAK
5	14	OAK
6	11, 12	OAK SPLIT
7	7, 10	OAK CLUSTER
8	6,6,8	OAK CLUSTER
19	6	OAK
20	18	OAK
21	7	OAK
22	5	OAK
23	5	OAK
24	4	OAK
25	5,6,6	OAK CLUSTER
26	9	OAK
27	12	OAK
28	9, 14, 16	OAK SPLIT
29	8, 12	OAK SPLIT
30	7, 8, 11	OAK SPLIT
31	10, 12	OAK SPLIT
33	9, 10, 12	OAK CLUSTER
34	13	OAK
35	10	OAK
36	5	OAK
37	8, 9	OAK SPLIT
38	11	OAK
39	4, 10	OAK SPLIT
40	4, 8	OAK SPLIT
41	7, 12	OAK CLUSTER
42	9	OAK
43	11	OAK
44	12	OAK
45	11	OAK
46	7	OAK
47	17	OAK
48	11, 11	OAK SPLIT
49	13	OAK
50	11, 11	OAK SPLIT
51	5, 5, 6, 8	OAK CLUSTER
52	5	OAK
53	4	OAK
54	18	OAK
55	5	OAK
56	8, 9	OAK SPLIT
57	6, 6, 7, 8, 10, 13	OAK CLUSTER
58	7, 10	OAK SPLIT
59	5	OAK
60	4, 5	OAK SPLIT
61	15	OAK
62	5, 5, 8, 10	OAK CLUSTER
65	5, 8	OAK SPLIT
67	6, 7	OAK SPLIT
69	10	OAK
70	11, 13	OAK CLUSTER
71	9, 9, 10	OAK SPLIT
72	5	OAK
73	4	OAK
74	5, 5, 12, 18	OAK SPLIT
75	5, 12, 18	OAK CLUSTER
75	5, 12, 18	OAK CLUSTER
76	5, 6, 11, 12	OAK CLUSTER
77	6,6,7	OAK CLUSTER
79	22	OAK
80	8, 9, 10	OAK CLUSTER
81	5, 6, 6, 10	OAK SPLIT
82	14, 18	OAK SPLIT
83	14	OAK
84	14, 15	OAK SPLIT
85	11, 12	OAK SPLIT
86	8, 10	OAK SPLIT
87	10	OAK
88	7, 11	OAK SPLIT
89	6, 8	OAK SPLIT
90	13	OAK
91	12	OAK
92	5, 6, 6, 7	OAK CLUSTER
93	6, 7, 7, 10	OAK CLUSTER
94	7	OAK
95	8, 12	OAK SPLIT
96	11	OAK
97	15	OAK
98	20	OAK
99	20	OAK
100	6, 7	OAK SPLIT
101	6, 7	OAK SPLIT
102	11, 11	OAK SPLIT
103	11, 14, 14	OAK SPLIT
104	8	OAK
105	7	OAK
106	33	OAK
107	7	OAK
108	10	OAK
109	12	OAK
110	20, 24	OAK SPLIT
111	4, 8	OAK SPLIT

TOTAL TREES TO BE REMOVED =	96
TOTAL DBH INCHES TO BE REMOVED =	1696

TREE TO PRESERVE-IN-PLACE

NO.	SIZE	TYPE
9	5, 5, 5, 5	OAK CLUSTER
10	11	OAK
11	10, 15	OAK CLUSTER
12	5, 7	OAK SPLIT
13	4, 4, 4, 4, 4, 5, 5, 6, 6	OAK CLUSTER
14	4, 10, 11, 16	OAK CLUSTER
15	7	OAK
16	10	OAK
17	7, 11	OAK SPLIT
18	10, 14	OAK SPLIT
32	36	OAK
63	18	OAK
64	5, 5	OAK SPLIT
66	5	OAK
76	5, 6, 11, 12	OAK CLUSTER

TOTAL TREES TO PRESERVE-IN-PLACE =	15
TOTAL DBH INCHES TO PRESERVE-IN-PLACE =	313

TREE MITIGATION REQUIREMENTS

REQUIRED 1 NEW TREE FOR EVERY 3 CAL. INCHES TO BE REMOVED (SECTION 4.8.4)

1,696 TOTAL CAL. INCHES TO BE REMOVED / 3 = 566 NEW TREES REQUIRED.
= 466 NEW TREES PROVIDED.

SEE LANDSCAPE SCHEDULE ON LP001 FOR TREE SPECIES AND SPECIFICATIONS.

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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SUB25-00041

CLIENT:

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SUITE 201-N
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PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, O=QualiaRef=ADS-010000019934684AFE2950C3FC6, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:21:54-04'00'

REVISIONS	DATE

DESIGNED BY: RJK
DRAWN BY: RJK
CHECKED BY: KAV
DATE: 03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

TREE MITIGATION CALCULATIONS

SHEET NUMBER:

LP004

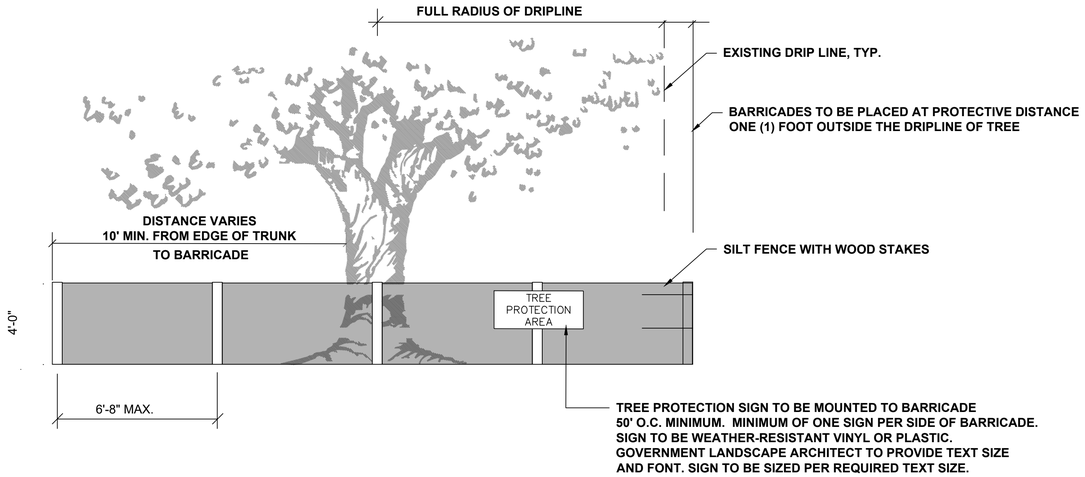
APPROVED WITH CONDITIONS

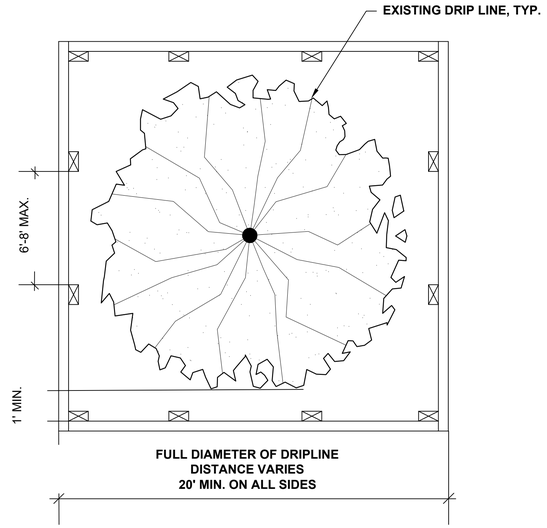
These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature





TREE PROTECTION BARRICADE

TREE PROTECTION AND PRESERVATION NOTES:

1. INSTALL PROTECTIVE BARRICADES TO PREVENT DEMOLITION OF OR DAMAGE TO EXISTING TREES AND VEGETATION TO REMAIN THAT ARE LOCATED WITHIN 50 FEET OF ANY CONSTRUCTION ACTIVITY, STORAGE, EQUIPMENT, OR MATERIALS.
2. PROTECTIVE BARRICADES WILL BE PLAINLY VISIBLE AND WILL CREATE A CONTINUOUS BOUNDARY AROUND TREES, CLUSTERS OF TREES, AND VEGETATION TO REMAIN. BARRIERS WILL BE PLACED 1-FOOT OUTSIDE OF THE DRIPLINE OF EXISTING TREES TO REMAIN WHEREVER POSSIBLE. WHERE DEMOLITION OR CONSTRUCTION ACTIVITIES ARE PROPOSED WITHIN THIS AREA, BARRIERS MAY BE PLACED AS CLOSE AS 10-FEET MINIMUM FROM THE OUTSIDE OF THE TREE TRUNK. IF NECESSARY, CLOSER PLACEMENT MAY BE POSSIBLE WITH PRIOR REVIEW AND APPROVAL OF THE LANDSCAPE ARCHITECT.
3. PROTECTIVE BARRIERS WILL BE 4-FEET HIGH AND CONSIST OF (2) 2X4 HORIZONTAL WOOD MEMBERS EQUALLY SPACED TO SUPPORT SILT FENCING MATERIAL. PLACE A 6-INCH DEPTH OF MULCH WITHIN BARRIER AREAS WHERE EXISTING VEGETATIVE OR MULCH COVER DOES NOT EXIST.
4. MACHINERY, VEHICLES, AND STORAGE OF MATERIALS WILL NOT BE PERMITTED WITHIN BARRICADES. UNDER NO CIRCUMSTANCES WILL STORAGE OF CHEMICALS AND MATERIALS POTENTIALLY HARMFUL TO TREES OR VEGETATION TO REMAIN BE PLACED WITHIN BARRIER AREAS.
5. PROTECT EXISTING TREES AND VEGETATION TO REMAIN FROM LANDSCAPE DEMOLITION OR CLEARING ACTIVATES THAT MAY UTILIZE HERBICIDES OR PESTICIDES THAT ARE HAZARDOUS TO EXISTING TREE AND SHRUB SPECIES.
6. NO GRADE CHANGES MAY OCCUR WITHIN THE TREE BARRIER AREA.
7. NO WIRES, GRADE STAKES, LIGHTING, EQUIPMENT, OR OTHER CONSTRUCTION ITEMS WILL BE ATTACHED TO TREES OR VEGETATION TO REMAIN.
8. IF EXISTING TREES AND VEGETATION TO REMAIN ARE IRRIGATED, CONTINUE IRRIGATION OR WATERING ACTIVITIES THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL FINAL ACCEPTANCE.
9. PROTECTIVE BARRICADES WILL BE INSTALLED PRIOR TO ANY DEMOLITION OR CONSTRUCTION ACTIVITIES. BARRIERS TO REMAIN IN PLACE UNTIL LANDSCAPING OPERATIONS BEGIN. ONCE REMOVED, MINIMIZE CONSTRUCTION ACTIVITIES, STORAGE, AND VEHICLE AND EQUIPMENT TRAFFIC IN THE AREA AS MUCH AS POSSIBLE.
10. IF DEMOLITION ACTIVITIES REQUIRE HARDSCAPE OR BUILDING DEMOLITION WITHIN THE DRIPLINE OR WITHIN 25-FEET OF THE TRUNK OF AN EXISTING TREE TO REMAIN, SUBMIT A DETAILED SUMMARY OF PROPOSED DEMOLITION ACTIVITIES TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF SUCH ACTIVITIES. THE USE OF HEAVY EQUIPMENT AND VEHICLES IS PROHIBITED IN THE 25' AREA, AND THE CONTRACTOR TO UTILIZE HAND TOOLS AND MANUAL REMOVAL WITHIN THESE AREAS. UPON REVIEW OF SPECIFIC CONDITIONS, THE LANDSCAPE ARCHITECT MAY ALLOW USE OF SPECIFIC EQUIPMENT. TRAFFIC AND ACTIVITY ROUTES FOR REMOVAL OF HARDSCAPE AND BUILDING COMPONENTS WITHIN THE DRIPLINE WILL BE DIRECTED AWAY FROM THE TREE AND DRIPLINE AREAS AS MUCH AS POSSIBLE TO MINIMIZE IMPACTS WITHIN DRIPLINE AREAS.
11. DEMOLITION OF UNDERGROUND UTILITIES SHALL MINIMIZE IMPACTS ON EXISTING TREES. SUBMIT DETAILED SUMMARY OF PROPOSED ACTIVITIES TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF ACTIVITIES. TERMINATE UTILITY DEMOLITION PRIOR TO IMPACTING EXISTING TREE ROOTS IF POSSIBLE AND CAP AND ABANDON UTILITY LINES IN PLACE.
12. IF TREE OR ROOT PRUNING IS REQUIRED FOR EXISTING TREES, THESE ACTIVITIES WILL BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN ISA-CERTIFIED ARBORIST BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA). TREE PRUNING WILL BE DONE IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS, 'TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE', ANSI A300 AND 'PRUNING, TRIMMING, REPAIRING, MAINTAINING, AND REMOVING TREES AND CUTTING BRUSH - SAFETY REQUIREMENTS' (ANSI Z133). NO MORE THAN 25% OF THE CANOPY SHOULD BE REMOVED FOR MATURE TREES. ON YOUNGER OR SMALLER TREES, LIMB REMOVAL WILL RESULT IN NO MORE THAN 33% OF THE TRUNK BEING BARE OF BRANCHES IN THE CROWN AREA. KEEP ROOTS THAT ARE EXPOSED OR HAVE BEEN TRIMMED BY COVERING WITH SOIL, CLOTH, OR OTHER ACCEPTABLE MATERIAL AND KEEP ROOTS MOIST. ANY ROOTS 1-INCH OR LARGER IN DIAMETER WILL BE EXPOSED BY HAND DIGGING AND HAND CUT OR SAWN CLEANLY. PROVIDE SUPPLEMENTAL IRRIGATION TO THOSE TREES THAT HAVE UNDERGONE ROOT PRUNING. ENSURE IRRIGATION IS PROVIDED FOR A DURATION AND OF A VOLUME SUCH THAT IT REACHES THE TREE'S ROOT ZONE. **ROOT PRUNING SHOULD BE COMPLETED SIX MONTHS TO TWELVE MONTHS IN ADVANCE OF CONSTRUCTION ACTIVITY. BEGIN ROOT PRUNING AS SOON AS PLANS ARE RECEIVED- DO NOT POSTPONE UNTIL CONSTRUCTION ACTIVITIES HAVE BEGUN.**
13. CONDUCT A PRE-DEMOLITION CONFERENCE INCLUDING THE PROJECT LANDSCAPE ARCHITECT TO DISCUSS PROPOSED TREE PROTECTION BARRIER DETAILS AND LAYOUT, TREE OR ROOT PRUNING, AND OTHER ACTIVITIES AS LISTED ABOVE PRIOR TO DEMOLITION ACTIVITIES. PROVIDE TWO-WEEKS' NOTICE OF CONFERENCE TO INVITED PARTIES.
14. ALL EXISTING TREES TO REMAIN TO RECEIVE MYCORRHIZAE INOCULATION.

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, OU=Qualified, O=NFC Landscape Architects, C=US
Reason: I am approving this document
Date: 2026.03.26 13:21:29-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

TREE PROTECTION BARRICADE

SHEET NUMBER:

LP005

St. Cloud FLORIDA Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

LANDSCAPE INSTALLATION NOTES:

1. **SITE CONDITIONS** CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH EXISTING SITE CONDITIONS PRIOR TO BIDDING AND INITIATING PLANTING. ALL EXISTING SITE FURNISHINGS, PAVING, LANDSCAPE, TREES AND OTHER ELEMENTS TO REMAIN SHALL BE PROTECTED FROM ANY DAMAGE. ALL INSTALLATION OF PLANT MATERIAL SHALL COMPLY WITH APPLICABLE JURISDICTIONAL CODES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS ASSOCIATED WITH THIS WORK. CONTRACTOR TO REPAIR ALL DAMAGE DONE TO PROPERTY DURING DEMOLITION, RELOCATION AND/OR INSTALLATION ACTIVITIES AS THEIR SOLE EXPENSE.

2. **FIELD CONDITIONS** THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND LOCATION OF PROPOSED IMPROVEMENTS PRIOR TO INITIATING ANY CONSTRUCTION. REPORT ANY DISCREPANCIES OR CONFLICTS BETWEEN THE CONSTRUCTION DRAWINGS AND FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT IMMEDIATELY. SEE CIVIL ENGINEERING DRAWINGS FOR GENERAL GRADING OF THE SITE, INCLUDING FINISH GRADES FOR PARKING LOTS, ROADWAYS, SIDEWALKS AND PLANTING AREAS. ALL GRADES, DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON-SITE BEFORE CONSTRUCTION AND/OR FABRICATION BEGINS. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DRAWINGS AND THE FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. MAINTAIN A MINIMUM OF 5 FEET HORIZONTAL SEPARATION BETWEEN ALL TREE AND SHRUB ROOT BALLS FROM ALL TWA MAINTAINED UTILITIES.

3. **UNIT PRICING** THE CONTRACTOR SHALL PROVIDE UNIT PRICES AND INCLUDE THE TOTAL COST OF THE WORK TO INSTALL THE PROJECT INCLUDING BUT NOT LIMITED TO EQUIPMENT, MATERIAL, PRODUCTS, GUARANTEES, LABOR, INSTALLATION, PLANTING SOIL MIX, MULCH, AND SO FORTH TO PROVIDE A COMPLETE JOB AS OUTLINED ON THE DRAWINGS. THE OWNER SHALL HAVE THE OPTION TO ADD OR DEDUCT FROM THE LUMP SUM BID CONTRACT AMOUNT, BASED ON THE QUOTED UNIT PRICES FOR ANY OF THE ITEMS LISTED IN THE "PLANT LIST". IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REPORT ANY DISCREPANCIES AT THE TIME OF BIDDING. PROVIDE PRODUCT SUBMITTALS TO LANDSCAPE ARCHITECT. IF THERE IS A DISCREPANCY BETWEEN PLANTS ON PLAN(S) AND PLANTS IN THE PLANT SCHEDULE, THE PLANT SCHEDULE SHOULD PREVAIL.

4. **COORDINATION WITH OTHER TRADES** THE WORK SHALL BE COORDINATED WITH OTHER TRADES, INCLUDING IRRIGATION AND ELECTRICAL TO PREVENT CONFLICTS. CARE SHALL BE TAKEN TO AVOID BURIED AND OVERHEAD UTILITIES. CONTRACTOR RESPONSIBLE FOR KNOWING ALL UTILITY LOCATIONS.

5. **UTILITY LOCATIONS** THE CONTRACTOR SHALL REVIEW ARCHITECTURE/ENGINEERING PLANS TO BECOME THOROUGHLY FAMILIAR WITH SURFACE AND SUBSURFACE UTILITIES. LOCATION OF ALL UTILITIES AND BASE INFORMATION IS APPROXIMATE. CONTRACTOR SHALL NOTIFY ALL NECESSARY UTILITY COMPANIES 48 HOURS MINIMUM PRIOR TO DIGGING FOR VERIFICATION OF ALL UNDERGROUND UTILITIES, IRRIGATION AND ALL OTHER OBSTRUCTIONS AND COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO INITIATING INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY DAMAGE COMMITTED TO EXISTING ELEMENTS OR UTILITIES ABOVE OR BELOW GROUND TO ITS ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

CONTRACTOR SHALL FIELD ADJUST LOCATION OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR EXISTING ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

MAINTAIN A MINIMUM OF 5 FEET HORIZONTAL SEPARATION BETWEEN ALL TREE AND SHRUB ROOTS AND ALL TWA MAINTAINED UTILITIES.

6. **ROUGH GRADING** THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ROUGH GRADING THE SITE TO WITHIN +/- 0.10 FT. OF GRADES SHOWN ON GRADING PLANS. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINISH GRADES IN ALL LANDSCAPE AREAS. CONTRACTOR TO APPROVE ALL GRADED AREAS PRIOR TO PLANTING.

7. **DRAINAGE PERCOLATION TESTING** CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO DRAINAGE AS INDICATED ON THE GRADING DRAWINGS. CONTRACTOR SHALL INSURE VERTICAL DRAINAGE AND PERCOLATION OF ALL PLANTING AREAS PRIOR TO INSTALLATION. PERFORM PERCOLATION TESTS IN SEPARATE AREAS OF THE PROJECT SITE. WATER MUST BE ABLE TO PENETRATE AND MOVE THROUGH SOIL; ONE INCH PER HOUR IS CONSIDERED OPTIMAL. IF WATER REMAINS FOR MORE THAN 24 HOURS, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT. PERCOLATION TEST RESULTS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT. VERTICAL DRILLING THROUGH ANY COMPACTED FILL TO NATIVE SOIL SHALL BE ACCOMPLISHED TO AID DRAINAGE IF NECESSARY. IF INADEQUATE VERTICAL DRAINAGE IS ENCOUNTERED, THE CONTRACTOR SHALL SUBMIT RECOMMENDATIONS FOR PROVIDING ADEQUATE DRAINAGE TO THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.

8. **SOIL TESTING** THE CONTRACTOR SHALL BEAR ALL COSTS OF SOIL TESTING AND REQUIRED SOIL AMENDMENTS ASSOCIATED WITH THE WORK PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION. THE CONTRACTOR SHALL PROVIDE COMPLETE SOIL TESTS FOR AT LEAST THREE SEPARATE AREAS UNDISTURBED BY PREVIOUS WORK AND TWO AREAS DISTURBED AND/OR REFILLED. CONTACT LANDSCAPE ARCHITECT FOR SOIL TESTING LOCATIONS. CONTRACTOR SHALL ALERT LANDSCAPE ARCHITECT IF ANY UNUSUAL SOILS ARE DISCOVERED ON SITE. IF PH ADJUSTERS ARE NEEDED THE PREFERRED SUBSTANCES FOR ALTERATION ARE: LIME-COMMERCIAL GRADE GROUND OR HYDRATED LIMESTONE CONTAINING NOT LESS THAN 50% OF TOTAL OXIDES; ALUMINUM SULFATE - COMMERCIAL GRADE.

IMPORTED TOPSOIL: THE MANUFACTURERS ANALYSIS AND/OR PRODUCT LITERATURE SHALL BE SUBMITTED TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.

EXISTING TOPSOIL: FOLLOW TESTING PROCEDURES OUTLINES ABOVE TO ENSURE pH REQUIREMENTS, ORGANIC CONTENT AND PRESENCE OF OBJECTIONABLE MATERIAL ARE ALL NOTED.

9. **SOIL PREPARATION** ALL SOILS TO BE TILLED TO A DEPTH OF 12 INCHES MINIMUM. REMOVE STONES MEASURING OVER 1 ½ INCHES IN ANY DIMENSION. REMOVE STICKS, RUBBISH, LIMEROCK AND OTHER EXTRANEOUS MATTER. THE CONTRACTOR SHALL PROVIDE AN APPROVED PLANTING SOIL MIXTURE FOR ALL PLANT MATERIAL. SEE LANDSCAPE INSTALLATION DETAILS FOR SOIL MIXTURE RECIPE.

TOPSOIL SHALL BE NATURAL, FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING CHARACTERISTICS OF REPRESENTATIVE TOPSOIL IN THE VICINITY THAT PRODUCES HEAVY GROWTH. TOPSOIL SHALL HAVE A ph RANGE OF 5.5 TO 7.4, FREE FROM SUBSOIL, OBJECTIONABLE WEEDS, LITTER, STIFF CLAY, STONES LARGER THAN ONE INCH DIAMETER, STUMPS, ROOTS, TRASH, TOXIC SUBSTANCES OR ANY OTHER DELETERIOUS MATERIAL WHICH MAY BE HARMFUL TO PLANT GROWTH OR HINDER PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN A MINIMUM OF THREE PERCENT ORGANIC MATERIAL.

10. **ROADWAY AREA EXCAVATION** FOR ALL LANDSCAPE AND TREE PLANTING AREAS ADJACENT TO ROADWAYS, PLANTING AREAS SHALL BE EXCAVATED OF ALL ROADWAY BASE MATERIAL (MINIMUM DEPTH OF 24 INCHES) AND BACK FILLED WITH APPROVED PLANTING SOIL MIX. SUPER LOAM PLANTING MIX (80% TOPSOIL PLANTING MIX, 20% COMPOST).

11. **NO PLANT SUBSITUTIONS ALLOWED** NO PLANT SUBSTITUTIONS WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT PROOF OF NON-AVAILABILITY AND A PROPOSAL FOR EQUIVALENT MATERIAL.

12. **PLANTING**

A. THE PLANT QUANTITIES SHOWN ON THE LANDSCAPE PLANS ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES AND REPORTING ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO CONTRACT AWARD AND COMMENCEMENT OF WORK.

B. PRIOR TO PLANTING INSTALLATION, THE CONTRACTOR SHALL CONFIRM THE AVAILABILITY OF ALL THE SPECIFIED PLANT MATERIALS AND MAKE ARRANGEMENTS WITH THE LANDSCAPE ARCHITECT TO REVIEW PLANT MATERIAL.

C. THE CONTRACTOR IS RESPONSIBLE FOR ERADICATING WEEDS AND GRASS WITHIN THE LIMITS OF THE PLANTING AREAS PRIOR TO BEGINNING LANDSCAPE INSTALLATION. PERENNIAL WEEDS AND GRASSES TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO, NUT GRASS, PUNCTURE VINE, MORNING GLORY, TORPEDO GRASS, BERMUDA GRASS, BAHIA GRASS, CRAB GRASS AND OTHER NOXIOUS AND/OR INVASIVE WEEDS. THE SITE IS TO BE MAINTAINED WEED FREE THROUGHOUT PLANTING OPERATIONS. TO PREPARE THE PLANTING AREAS, SPRAY HERBICIDE WITH MANUFACTURER'S RECOMMENDATIONS, WAIT TWO WEEKS, SPRAY A SECOND TIME, WAIT TWO WEEKS, SPRAY A THIRD TIME.

D. UPON ARRIVAL, PLANTS SHALL BE PROTECTED AT THE SITE BY BEING THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. ALL TREES SHALL BE INSTALLED WITHIN 72 HOURS OF DELIVERY.

E. LABEL AT LEAST ONE PLANT OF EACH SPECIES WITH A SECURELY ATTACHED WATERPROOF TAG BEARING THE BOTANICAL NAME.

F. ALL PLANTS THAT DO NOT CONFORM TO SPECIFICATIONS WILL BE REJECTED. ANY PLANTS IN SHOCK (WITH DEAD OR DYING LEAVES), HAVE ROOTS THAT ARE SEVERELY BOUND IN THE CONTAINER OR THAT ARE DEAD WILL BE REJECTED. CONTAINER GROWN PLANTS SHOULD HAVE SUFFICIENT ROOTS TO HOLD THE CONTAINER SOIL TOGETHER AFTER REMOVAL FROM THE CONTAINER.

G. IRRIGATION MUST BE INSTALLED BEFORE PLANTS ARE PLANTED. PLANT PLANTS FLUSH WITH FINISHED GRADE SOIL. BACK FILL WITH SOIL IN 12 INCH LAYERS. WATER IN AND COMPACT EACH LAYER TO ELIMINATE AIR VOIDS. IMMEDIATELY APPLY AT LEAST 2 INCHES OF WATER. AFTER PLANTING, REMOVE EXCESS SOIL AND RAKE PLANT BEDS TO A SMOOTH EVEN SURFACE. AT THE PLANTING BED EDGES, TAPER SOIL GRADE DOWN TO A LEVEL BELOW THE TOP OF THE ADJACENT STRUCTURE OR LAWN TO ALLOW FOR A 3 INCH LAYER OF MULCH.

H. ALL SOD PLANTED WITH NO GAPS BETWEEN SOD PIECES, ROLLED AND SEEMS SHALL BE SANDED AFTER INSTALLATION. PEG ALL SOD ON SLOPES GREATER THAN 3:1

I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY AND PLUMB CONDITION OF ALL TREES AND SHRUBS AND SHALL BE LEGALLY LIABLE FOR ANY DAMAGE CAUSED BY INSTABILITY OF ANY PLANT MATERIALS. STAKING OF TREES OR SHRUBS SHALL BE DONE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.

LANDSCAPE INSTALLATION NOTES CONT'D:

J. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION PROTECTION AND SLOPE STABILIZATION BY OWNER-APPROVED METHODS.

K. ALL PLANTS AND PLANTING AREAS SHALL BE TOP DRESSED WITH 3 INCHES OF PINE STRAW MULCH. ALL TREES SHALL HAVE A 3 INCH THICK, 36 INCH RADIUS (FROM THE TRUNK) MULCH RING PLACED AROUND THE BASE OF THE TRUNK. PERENNIALS AND GROUNDCOVER 1 1/2 INCHES MULCH.

L. IRRIGATION TO BE INSTALLED BEFORE PLANTING INSTALLATION BEGINS. CONTRACTOR SHALL COORDINATE ALL PLANTING WORK WITH IRRIGATION WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HAND WATERING AS REQUIRED TO SUPPLEMENT IRRIGATION WATERING AND RAINFALL. CONTRACTOR SHALL BE RESPONSIBLE FOR HAND WATERING IN ALL PLANTING AREAS, REGARDLESS OF THE STATUS OF EXISTING OR PROPOSED IRRIGATION.

M. CONTRACTOR SHALL RE-GRADE ALL AREAS DISTURBED BY PLANT REMOVAL, RELOCATION AND/OR INSTALLATION WORK.

N. ALL TREE AND SHRUB ROOTBALLS SHALL BE A MINIMUM OF 5 FEET HORIZONTAL SEPARATION FROM ANY UTILITY.

O. ALL TREES, SHRUBS, AND GROUNDCOVER SHALL BE PLANTED FLUSH WITH FINISHED GRADE.

13. **TREES**

A. IRRIGATION MUST BE INSTALLED BEFORE TREES ARE PLANTED.

B. PLANT TREES WITH THE ROOTBALL FLUSH WITH THE FINISHED GRADE SOIL. DO NOT PLACE SOIL OR MULCH ON TOP OF THE ROOTBALL. BEFORE PLANTING, EXPOSE THE ROOT FLARE OF EACH TREE. RESTORE GRADE AT BASE OF TRUNK TO ACTUAL ROOT FLARE ELEVATION. DO NOT MOUND MULCH OR SOIL AGAINST ROOT FLARE OF TRUNK; REMOVE WIRE BASKET AND BURLAP ON ALL SIDES OF ROOTBALL TO EXPOSE ROOTS TO SOIL.

C. ALL TREES WITHIN SOD AREAS AND GROUNDCOVER AREAS TO RECEIVE A 4 FOOT RADIUS (FROM THE TRUNK) AREA OF PINE STRAW MULCH. DO NOT MOUND MULCH AGAINST ROOT FLARE OR TRUNKS OF TREES OR SHRUBS.

D. TREES WITH GIRDLING ROOTS, BROKEN ROOTBALLS, WOUNDS, BARK INJURIES ON THE MAJOR TRUNKS, TIP DIE BACK OR IN SHOCK (WITH DEAD OR DYING LEAVES) WILL BE REJECTED.

E. IF TREES ARE DELIVERED IN METAL BASKETS, REMOVE THE TOP 2/3 OF THE METAL BASKETS AND BURLAP JUST PRIOR TO PLANTING. IF TREES ARE BURIED IN THE FULL METAL BASKETS, A FINE OF $2,000 PER TREE WILL BE IMPOSED BY THE OWNER.

F. AFTER EXCAVATION OF TREE PLANTING PIT, PLACE TREE IN PIT AND BACK FILL WITH SOIL IN 12 INCH LAYERS. WATER IN AND COMPACT EACH LAYER TO ELIMINATE AIR VOIDS. IMMEDIATELY APPLY AT LEAST 8 INCHES OF WATER. AFTER PLANTING, REMOVE EXCESS SOIL AND RAKE PLANT BEDS TO A SMOOTH EVEN SURFACE. RAKE SMOOTH AND THEN CREATE A 4 INCH HEIGHT SOIL SAUCER APPROXIMATELY 3 FEET RADIAL TO THE TRUNK.

15. **INSPECTIONS**

A. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT A MINIMUM OF 7 DAYS IN ADVANCE OF THE PLANT MATERIAL DELIVERY TO THE SITE. THE LANDSCAPE ARCHITECT SHALL INSPECT THE PLANT MATERIAL **BEFORE** THE PLANTS AND TREES HAVE BEEN UNLOADED.

B. THE LANDSCAPE ARCHITECT SHALL HAVE THE RIGHT, AT ANY STAGE OF THE OPERATIONS, TO REJECT ANY AND ALL WORK AND/OR MATERIALS WHICH, IN HER OPINION, DO NOT MEET WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS.

C. TREE CALIPER SIZES NOTED ARE MINIMUM. ALL CONTAINER SIZES NOTED ARE MINIMUM; INCREASE SIZE, IF NECESSARY, TO PROVIDE PLANT HEIGHT AND SPREAD PER SPECIFICATIONS.

D. ALL INSTALLATION OF PLANT MATERIAL SHALL COMPLY WITH APPLICABLE JURISDICTIONAL CODES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS ASSOCIATED WITH THIS WORK.

E. PRIOR TO PLANTING INSTALLATION, THE CONTRACTOR SHALL CONFIRM THE AVAILABILITY OF ALL THE SPECIFIED PLANT MATERIALS. SUBMIT DATED PHOTOGRAPHS OF TREE MATERIAL, PLANT MATERIAL AND SPECIMENS TO THE LANDSCAPE ARCHITECT FOR REVIEW. IF PLANT MATERIAL DOES NOT COMPLY WITH THE REQUIREMENTS AS SPECIFIED HEREIN, THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT SUCH PLANTS AND REQUIRE THE CONTRACTOR TO REPLACE REJECTED MATERIALS OR WORK AND CONTINUE SPECIFIED MAINTENANCE UNTIL RE-INSPECTED AND FOUND TO BE ACCEPTABLE.

16. **PRE-INSTALLATION PLANT LAYOUT INSPECTION** CONTRACTOR SHALL LAYOUT ALL PLANT MATERIAL PRIOR TO INITIATING INSTALLATION FOR THE REVIEW AND APPROVAL OF THE LANDSCAPE ARCHITECT. THE LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO FIELD CHANGE. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF 5 WORKING DAYS TO SCHEDULE INPSECTION OF PLANT MATERIAL LAYOUT PRIOR TO PLANTING.

THE LOCATION OF PLANTS, AS SHOWN IN THESE PLANS, ARE APPROXIMATE. THE FINAL LOCATIONS MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN FIELD CONDITIONS, TO COMPLY WITH SAFETY CRITERIA, TO AVOID CREATING UNSAFE CONDITIONS, OR AS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. ALL ADJUSTMENTS SHALL BE VERIFIED AND APPROVED BY THE LANDSCAPE ARCHITECT.

17. **TREE SAVE AREAS** ALL TREE SAVE AREAS SHALL BE COVERED WITH 3" OF PINE STRAW MULCH. IN AREAS WITH EXISTING PLANTS, CONTRACTOR SHALL EXERCISE CAUTION IN PLACING OF MULCH TO PROTECT PLANTS. DO NOT STORE OR USE MATERIALS OR EQUIPMENT WITHIN THE DRIPLINE OF ANY TREE TO BE RETAINED UNLESS THE ACTIVITY IS BEING DONE TO PROTECT TREES. CLEARING OF VEGETATION WITHIN THE DRIPLINE OF TREES DESIGNATED FOR PRESERVATION SHALL ONLY BE BY HAND OR LIGHT RUBBER WHEELED EQUIPMENT THAT WILL NOT DAMAGE TREE ROOTS. SEE TREE PROTECTION BARRICADE PLAN. A $1,000 PENALTY WILL BE APPLIED IF THESE GUIDELINES ARE NOT FOLLOWED.

18. **EXISTING VEGETATION TO REMAIN** ALL EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED. ANY PLANT/TREE DAMAGE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. SEE TREE PROTECTION PLANS FOR DETAILS.

19. **STAKING** CONTRACTOR SHALL INSURE THAT ALL TREES ARE MAINTAINED STRAIGHT AND PLUMB. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PREVENT PLANTS AND TREES FROM FALLING OR BEING BLOWN OVER, TO RE-STRAIGHTEN AND REPLANT ALL PLANTS WHICH LEAN OR FALL AND TO REPLACE ALL PLANTS WHICH ARE DAMAGED DUE TO LACK OF GUYING OR STAKING. PLANTS BLOWN OVER BY HIGH WINDS UNDER 39 MPH SHALL NOT BE CAUSE FOR ADDITIONAL EXPENSE TO THE OWNER, BUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DAMAGED PLANTS SHALL BE BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. PLANTS BLOWN OVER BY HIGH WINDS DUE TO A TROPICAL STORM (39-73 MPH) OR A HURRICANE (74 MPH AND HIGHER) PER THE NATIONAL WEATHER SERVICE, THE CONTRACTOR SHALL NOT BE RESPONSIBLE AND THE OWNER SHALL PAY THE CONTRACTOR TO RE-GUY THE PLANTS.

20. **WATERING** IRRIGATION TO BE IN PLACE BEFORE LANDSCAPE INSTALLATION COMMENCES. ALL PLANTS SHALL BE THOROUGHLY WATERED AT TIME OF PLANTING AND KEPT ADEQUATELY WATERED UNTIL TIME OF FINAL INSPECTION ACCEPTANCE. BEGIN WATER ESTABLISHMENT PERIOD IMMEDIATELY. PROVIDE SUFFICIENT QUANTITY OF WATER TO SATURATE THE SOIL 18 INCHES DEEP AND THROUGHOUT THE PLANTING BACKFILL AREA DURING THE CONTRACT MAINTENANCE PERIOD. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HAND WATERING AS REQUIRED UNTIL PLANT MATERIALS ARE WELL ESTABLISHED, TO SUPPLEMENT IRRIGATION WATERING AND RAINFALL, AND SHALL BE RESPONSIBLE FOR HAND WATERING IN ALL LANDSCAPE AREAS WHERE THE EXISTING OR PROPOSED IRRIGATION IS FOR WHATEVER REASON NOT OPERATING OR NOT OPERATING CORRECTLY.

21. **CLEAN SITE** CONTRACTOR SHALL CLEAN THE WORK AREAS AT THE END OF EACH WORKING DAY. RUBBISH AND DEBRIS SHALL BE COLLECTED AND DESPOSED OF DAILY. ALL MATERIALS, PRODUCTS, AND EQUIPMENT SHALL BE STORED IN AN ORGANIZED FASHION AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

LANDSCAPE INSTALLATION NOTES CONT'D:

22. **VEHICLE PARKING AND HOLDING AREA** CONTRACTOR AND EMPLOYEE VEHICLE PARKING AND LANDSCAPE HOLDING AREAS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

23. **CONSTRUCTION ACCESS, SCHEDULING AND COORDINATION** CONSTRUCTION ACCESS SHALL BE INDICATED BY THE OWNER'S REPRESENTATIVE. COORDINATION OF HEAVY EQUIPMENT AND MATERIALS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATION OF WORK WITH OTHER TRADES AND THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL COORDINATE ACCESS AND STAGING AREAS WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL TAKE WHATEVER MEANS THAT MAY BE NECESSARY TO FULLY UNDERSTAND ALL THE ACCESS ROUTES AND CONSTRUCTION SCHEDULES IN ORDER TO PROVIDE A COMPLETE AND FINISHED PROJECT ON SCHEDULE. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION. PROVIDE ADDITIONAL MEASURES AS NECESSARY TO MINIMIZE ADVERSE IMPACTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.

24. **SAFETY** THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SAFETY MEASURES DURING CONSTRUCTION OPERATIONS TO PROTECT THE PUBLIC ACCORDING TO ALL APPLICABLE CODES AND PROFESSIONAL AND LOCAL PRACTICES.

LANDSCAPE MAINTENANCE NOTES:

1. **MAINTENANCE PRIOR TO INITIAL ACCEPTANCE**

A. BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE UNTIL THE DATE OF FINAL COMPLETION WHEN THE 365 DAY PLANT WARRANTY PERIOD BEGINS.

B. PLANT MAINTENANCE SHALL INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, TIGHTENING AND REPAIRING OF GUYS, REPLACEMENT OF SICK OR DEAD PLANTS, RESETTING PLANTS, RESETTING PLANTS TO PROPER GRADES OR UPRIGHT POSITION, RESTORATION OF THE PLANTING SAUCER, AND ALL OTHER CARE NEEDED FOR PROPER GROWTH AND HEALTH OF THE PLANT MATERIAL.

2. **INITIAL ACCEPTANCE / MAINTENANCE WARRANTY CONTRACT COMMENCEMENT**

A. UPON COMPLETION OF ALL LANDSCAPING, AN INSPECTION FOR SUBSTANTIAL COMPLETION OF THE WORK SHALL BE HELD. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT FOR SCHEDULING OF THE INSPECTION AT LEAST SEVEN (7) DAYS PRIOR TO THE ANTICIPATED INSPECTION DATE. A PUNCH LIST WILL BE COMPLETED, IF APPLICABLE. WHEN THE PUNCH LIST HAS BEEN COMPLETED, A FINAL INSPECTION SHALL BE SCHEDULED. THE CONTRACTOR WILL NOTIFY THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT AT LEAST SEVEN (7) DAYS PRIOR TO THE FINAL ACCEPTANCE INSPECTION DATE.

B. **WARRANTY** CONTRACTOR TO SUBMIT A WRITTEN WARRANTY WILL COMMENCE ON THE DATE OF FINAL ACCEPTANCE THAT ALL PLANTS WILL REMAIN IN A "HEALTHY, VIGOROUS CONDITION" AND MEET SPECIFICATIONS FROM THE DATE OF INITIAL ACCEPTANCE AND UNTIL FINAL ACCEPTANCE (AFTER 365 DAYS). A WRITTEN NOTICE WILL BE GIVEN BY THE LANDSCAPE ARCHITECT TO THE CONTRACTOR STATING THE DATE WHEN THE 365 DAY MAINTENANCE AND GUARANTEE PERIOD BEGIN.

C. IF PLANTS ARE DIRECTED TO BE REPLACED, REPLACEMENT SHALL TAKE PLACE WITHIN 14 DAYS OF RECEIPT OF WRITTEN REPORT.

D. IF THE INSTALLATION CONTRACTOR WILL NOT BE PERFORMING THE MAINTENANCE DURING THE MAINTENANCE PERIOD, THE INSTALLATION CONTRACTOR WILL BE REQUIRED TO PERFORM MONTHLY INSPECTIONS AND DIRECT THE PROPER MAINTENANCE TECHNIQUES AND DIRECT ANY DEAD PLANT MATERIAL BE REPLACED. IF THERE IS A DISCREPANCY AT THE END OF THE MAINTENANCE PERIOD, THE INSTALLATION CONTRACTOR WILL BE RESPONSIBLE FOR ALL PROPER MAINTENANCE AND REPLACEMENT OF DEAD PLANT MATERIAL AT NO COST TO THE OWNER.

3. **FINAL INSPECTION AND ACCEPTANCE/ END OF MAINTENANCE CONTRACT**

A. WHEN 365 DAY MAINTENANCE WORK IS COMPLETE (PLANT MATERIAL GUARANTEE PERIOD), THE CONTRACTOR SHALL SUBMIT WRITTEN NOTIFICATION TO THE LANDSCAPE ARCHITECT. THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT WILL CONDUCT A FINAL ACCEPTANCE INSPECTION.WITHIN 14 DAYS OF WRITTEN NOTIFICATION.

B. PLANTS SHALL BE ACCEPTABLE IF THEY ARE IN A HEALTHY AND VIGOROUS CONDITION AND ARE IN COMPLIANCE WITH THE SPECIFICATIONS FOR EACH PLANT AS DETERMINED BY THE LANDSCAPE ARCHITECT. REPLACE REJECTED WORK/PLANTS WITHIN 14 DAYS OF NOTIFICATION. CONTINUE LANDSCAPE MAINTENANCE UNTIL WORK IS RE-INSPECTED AND FOUND ACCEPTABLE. PLANT REPLACEMENTS SHALL BE GUARANTEED FOR AN ADDITIONAL 30 DAYS. UPON SATISFACTORY COMPLETION, THE LANDSCAPE ARCHITECT WILL PROVIDE A WRITTEN FINAL ACCEPTANCE OF THE PLANT MATERIAL.

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, dnQualifier=A01410D000001993448AFE2000C2FC, O=Unaffiliated, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:21:50-04'00'

REVISIONS	DATE

DESIGNED BY: RJK
DRAWN BY: RJK
CHECKED BY: KAV
DATE: 03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE: LANDSCAPE NOTES

SHEET NUMBER: LP006

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

NORTH BUFFER

MEDIUM BUFFER

25' BUFFER WIDTH; 1306 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	65	65
Med./Sm. Trees	53	53
Shrubs	392	392

WEST BUFFER

MEDIUM BUFFER

25' BUFFER WIDTH; 1365 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	69	69
Med./Sm. Trees	55	55
Shrubs	410	410

NOTES:

1. PLEASE REFER TO SHEET LP001 FOR PLANT MATERIAL SCHEDULE.
2. PLEASE REFER TO SHEET LP002 FOR LANDSCAPE REQUIREMENTS & CALCULATIONS.

EXISTING TREE TO REMAIN (TYP.)

TOP OF BANK (TYP.)

PROPERTY LINE (TYP.)

PED 15

IVN 131

SC 12

MOC 17

QVH 26

HPF 107

TD 8

EG 73.00

76.10

75.50

75.00

74.00

73.00

CWL 72.00

69.00

BTM 61.00

POND A (WET)
TOB 76.10
CWL 72.00
BTM 61.00

SEE CIVIL ENGINEERING PLANS

MATCHLINE 1
MATCHLINE 2

11

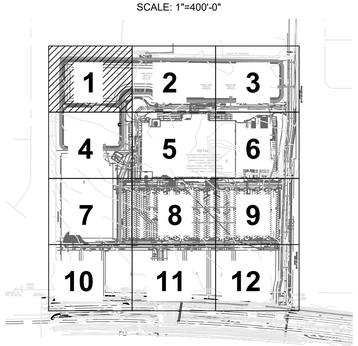
PNA (SOD). CONFIRM EXTENTS WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION

CWL 72.00
73.00
74.00
75.00
74.50
73.95

POND A1 (DRY)
TOB 75.00
BTM 73.95

MATCHLINE 1
MATCHLINE 4

SHEET KEY
SCALE: 1"=400'-0"



NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026
PROJECT NUMBER:	5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP101

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

NORTH BUFFER

MEDIUM BUFFER

25' BUFFER WIDTH; 1306 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	65	65
Med./Sm. Trees	53	53
Shrubs	392	392

EXISTING TREE TO REMAIN (TYP.)

PROPERTY LINE (TYP.)

PED 8

SC 15

MOC 6

IVN 86

QVH 12

HPF 53

MATCHLINE 1
MATCHLINE 2

POND A (WET)
TOB 76.10
CWL 72.00
BTM 61.00

STORMWATER POND (WET POND) SEE CIVIL ENGINEERING PLANS

TOP OF BANK (TYP.)

STORMWATER POND (DRY POND) SEE CIVIL ENGINEERING PLANS

MATCHLINE 2
MATCHLINE 3

POND A2 (DRY)
TOB 75.00
BTM 74.00

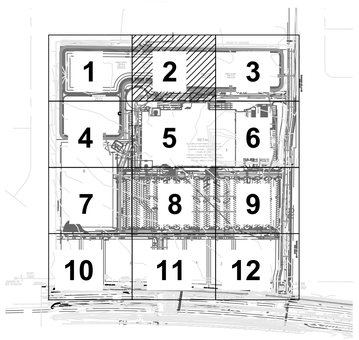
TD 15

IC 5

PNA (SOD). CONFIRM EXTENTS WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION

MATCHLINE 2
MATCHLINE 5

SHEET KEY
SCALE: 1"=400'-0"



NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE: LANDSCAPE PLAN

SHEET NUMBER: LP102

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

NORTH BUFFER

MEDIUM BUFFER
25' BUFFER WIDTH; 1306 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	65	65
Med./Sm. Trees	53	53
Shrubs	392	392

EAST BUFFER

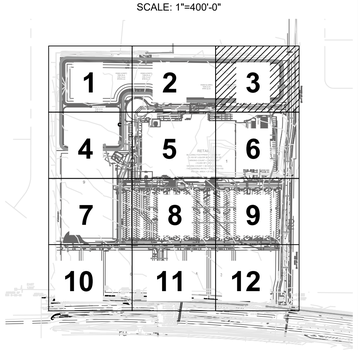
MEDIUM BUFFER
25' BUFFER WIDTH; 316 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

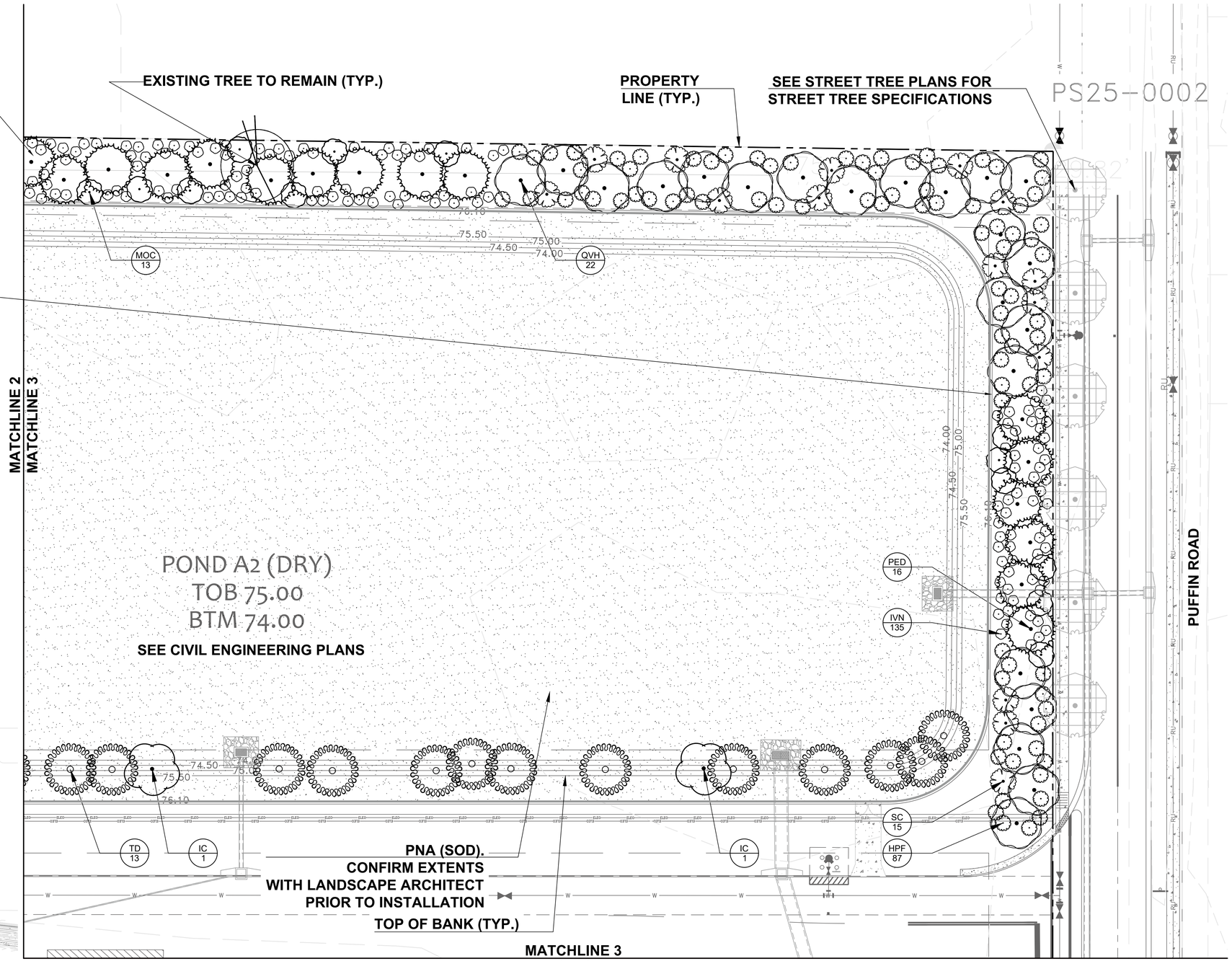
	Required	Provided
Large Trees	16	16
Med./Sm. Trees	13	13
Shrubs	95	95

NOTES:

1. PLEASE REFER TO SHEET LP001 FOR PLANT MATERIAL SCHEDULE.
2. PLEASE REFER TO SHEET LP002 FOR LANDSCAPE REQUIREMENTS & CALCULATIONS.

SHEET KEY
SCALE: 1"=400'-0"





NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:23:53-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP103

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

WEST BUFFER

MEDIUM BUFFER

25' BUFFER WIDTH; 1365 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	69	69
Med./Sm. Trees	55	55
Shrubs	410	410

NOTES:

1. PLEASE REFER TO SHEET LP001 FOR PLANT MATERIAL SCHEDULE.
2. PLEASE REFER TO SHEET LP002 FOR LANDSCAPE REQUIREMENTS & CALCULATIONS.

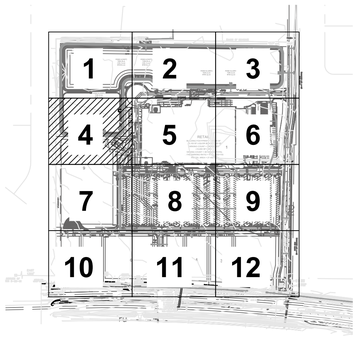
TOP OF BANK (TYP.)

PROPERTY LINE (TYP.)

EXISTING TREE TO REMAIN (TYP.)

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.

SHEET KEY
SCALE: 1"=400'-0"



MATCHLINE 1
MATCHLINE 4

PNA (SOD). CONFIRM EXTENTS WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION

POND A1 (DRY)
TOB 75.00
BTM 73.95

TD 15
PED 10
IVN 84
MOC 9
QVH 8
HPF 41
SC 7
IC 8

QVH 5
COR 25
COR 36
UA 6
AR2 7
COR 90
AR2 1
COR 116
CA 106
CE 10

10

73.95
74.50
75.00
75.50
76.10

MATCHLINE 4
MATCHLINE 5

MATCHLINE 4
MATCHLINE 7

NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

20 0 10 20 40
SCALE: 1" = 20'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA LA6666803

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, C=US, E=kveaudry@nfcarchitects.com, O=NFC Landscape Architects, OU=LA6666803
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:23:27-04'00'

REVISIONS	DATE

DESIGNED BY: RJK
DRAWN BY: RJK
CHECKED BY: KAV
DATE: 03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP104

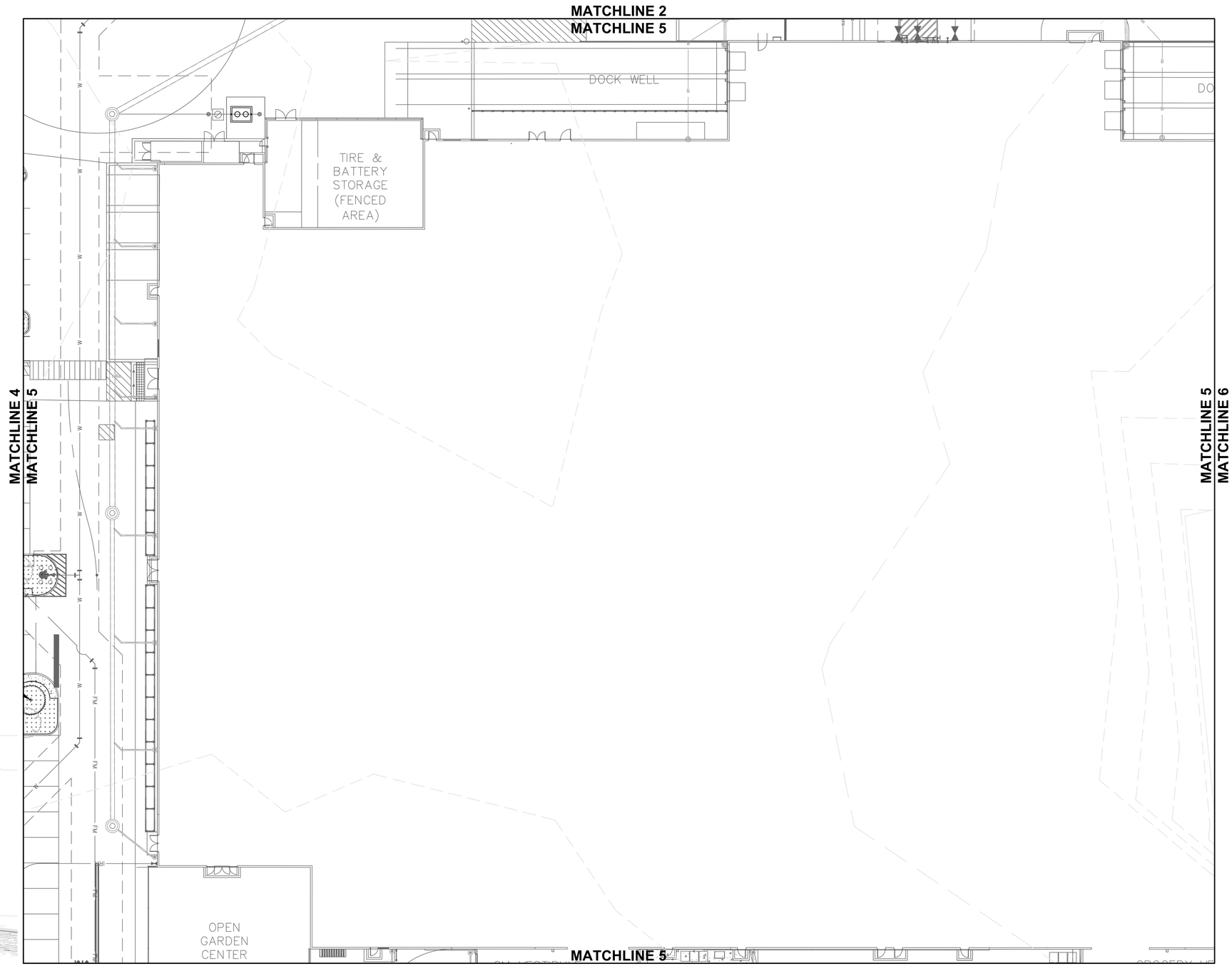
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

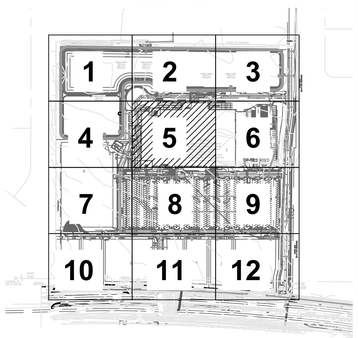
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



SHEET KEY
SCALE: 1"=400'-0"



NOTE:
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811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

20 0 10 20 40
SCALE: 1" = 20'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: cn=Karina Veaudry, o=NFC, ou=Qualified, c=US
Reason: I am the author of this document
Date: 2026.03.26 13:23:51-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP105

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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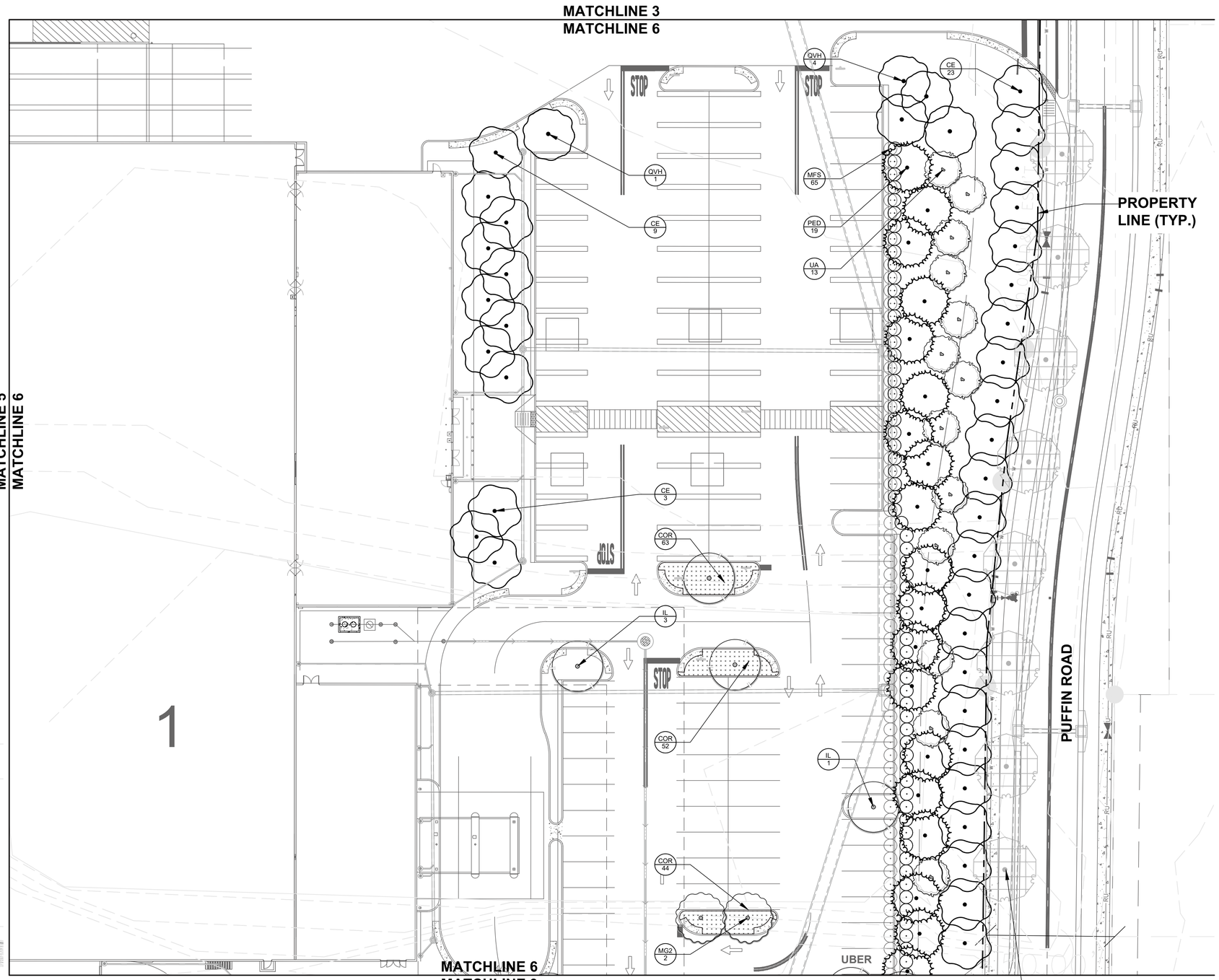
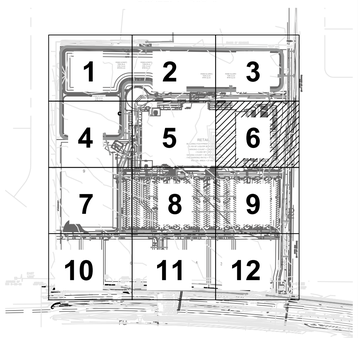
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



SHEET KEY
SCALE: 1"=400'-0"



NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

20 0 10 20 40
SCALE: 1" = 20'

NORTH

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, ...
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:24:16-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP106

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

WEST BUFFER

MEDIUM BUFFER

25' BUFFER WIDTH; 1365 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	69	69
Med./Sm. Trees	55	55
Shrubs	410	410

NOTES:

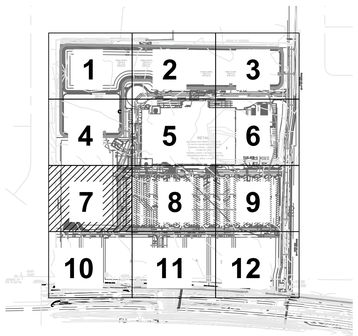
1. PLEASE REFER TO SHEET LP001 FOR PLANT MATERIAL SCHEDULE.
2. PLEASE REFER TO SHEET LP002 FOR LANDSCAPE REQUIREMENTS & CALCULATIONS.

EXISTING TREE TO REMAIN (TYP.)

PROPERTY LINE (TYP.)

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.

SHEET KEY
SCALE: 1"=400'-0"



MATCHLINE 4
MATCHLINE 7

9

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.

SC 2
PED 10
IVN 71
QVH 9
MOC 14
HPF 35
HP 5
COR 76
AR2 2
COR 56
COR 57

MATCHLINE 7
MATCHLINE 8

MATCHLINE 7
MATCHLINE 10

NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry

Digitally signed by Karina Veaudry
DN: c=US, st=FLORIDA, l=ST CLOUD, o=NFC Landscape Architects, ou=Licensed Professional, cn=Karina Veaudry, email=karina@nfcla.com, c=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:24:40-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP107

St. Cloud FLORIDA
Your Centerplace for Life

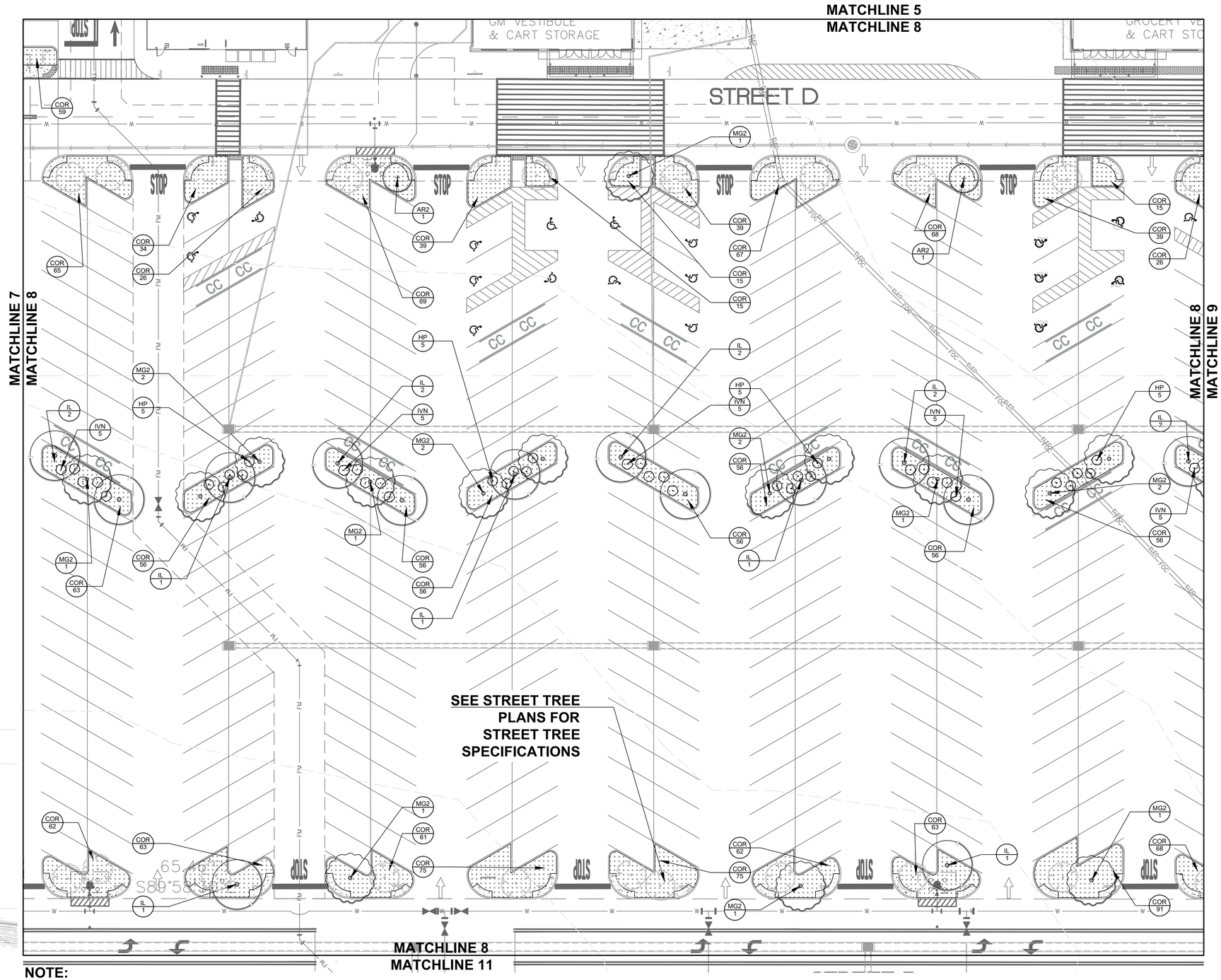
APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



SHEET KEY
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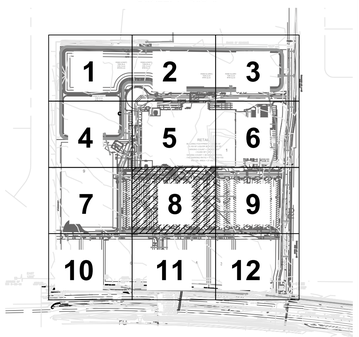

NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 20'

NORTH

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:25:05-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP108

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE 6
MATCHLINE 9

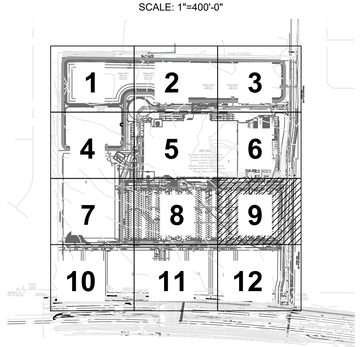
MATCHLINE 8
MATCHLINE 9

PROPERTY LINE (TYP.)

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

MATCHLINE 9
MATCHLINE 12

SHEET KEY
SCALE: 1"=400'-0"



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20 0 10 20 40
SCALE: 1" = 20'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY LA 6666803 STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, E=karina@nfcla.com, OU=Architecture, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:25:30-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP109

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE 7
MATCHLINE 10

QVH 4
HPF 17
SC 6
MOC 5
PED 10
IVN 50

8

7

6

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

MATCHLINE 10
MATCHLINE 11

WEST BUFFER

MEDIUM BUFFER

25' BUFFER WIDTH; 1365 LF
(5 LRG. TREES/100 LF)
(4 MED./SM. TREES/100 LF)
(30 SHRUBS/100 LF)
PER LDC ART. 8, SEC. 4.8.4.

	Required	Provided
Large Trees	69	69
Med./Sm. Trees	55	55
Shrubs	410	410

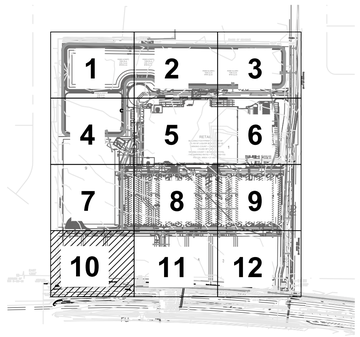
NOTES:

1. PLEASE REFER TO SHEET LP001 FOR PLANT MATERIAL SCHEDULE.
2. PLEASE REFER TO SHEET LP002 FOR LANDSCAPE REQUIREMENTS & CALCULATIONS.

PROPERTY LINE (TYP.)

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.

SHEET KEY
SCALE: 1"=400'-0"



SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

E. IRLO BRONSON MEMORIAL HIGHWAY

NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

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20 0 10 20 40
SCALE: 1" = 20'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, email=kveaudry@nfcla.com, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:25:54-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP110

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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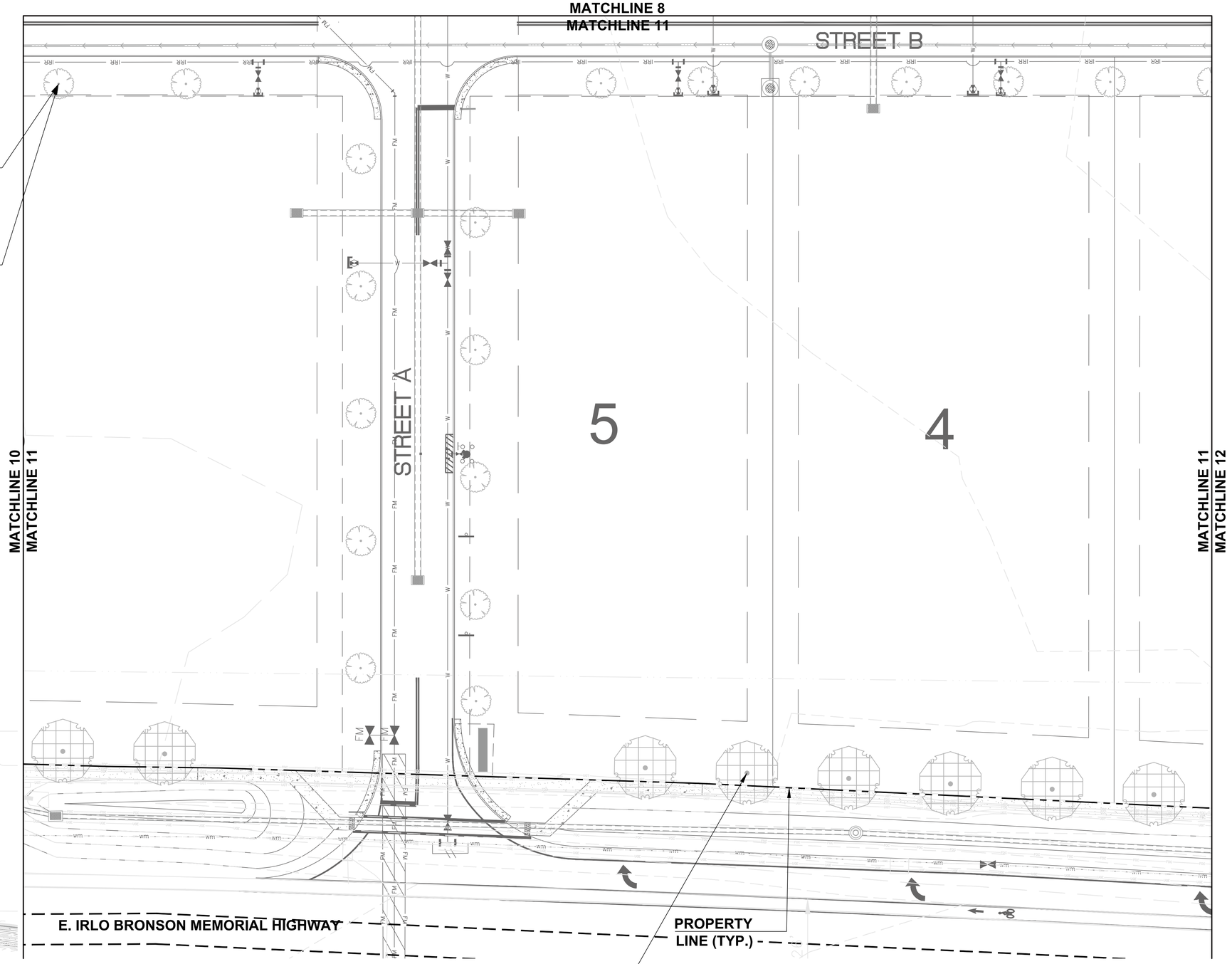
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

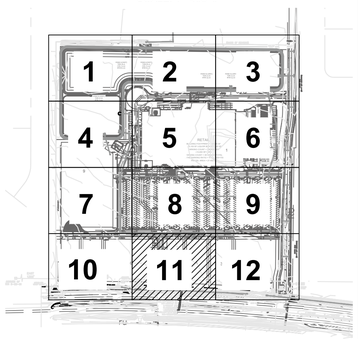
Authorized Signature

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.



SHEET KEY
SCALE: 1"=400'-0"



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SCALE: 1" = 20'

NORTH

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

REGISTERED LANDSCAPE ARCHITECT MARINA A. VEAUDRY LA 6666803 STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, O=Qualified=NOU=1015000013R4MAAFE200KC2PC0, C=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:26:20-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP111

APPROVED WITH CONDITIONS

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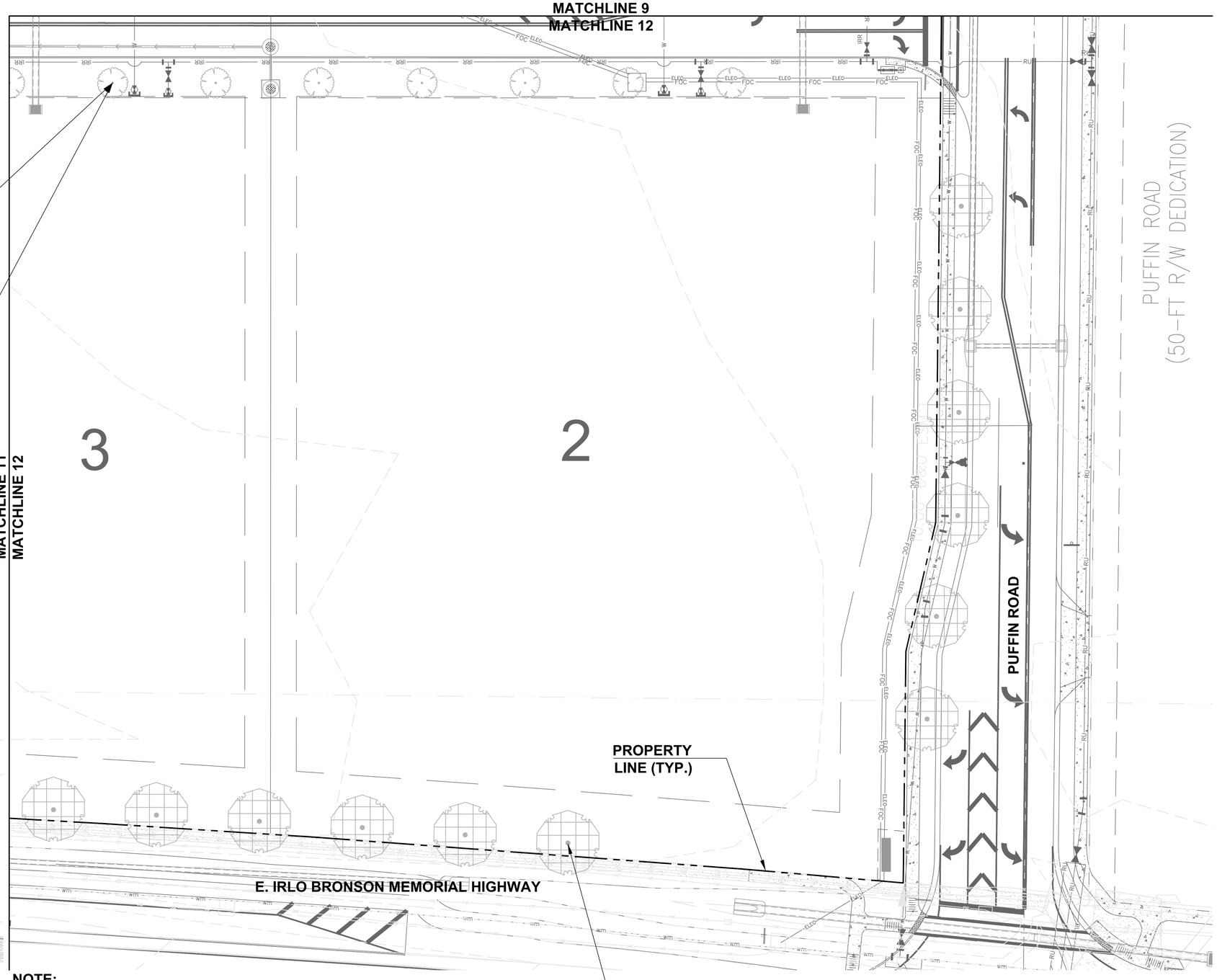
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

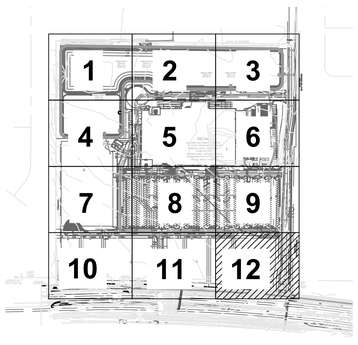
Authorized Signature

SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.



SHEET KEY
SCALE: 1"=400'-0"



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SEE STREET TREE PLANS FOR STREET TREE SPECIFICATIONS

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20 0 10 20 40
SCALE: 1" = 20'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY LA6666803 STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: cn=Karina Veaudry, o=NFC Landscape Architects, ou=Staff, email=KV@NFCARCHITECTS.COM, c=US
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:26:44-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

LP112

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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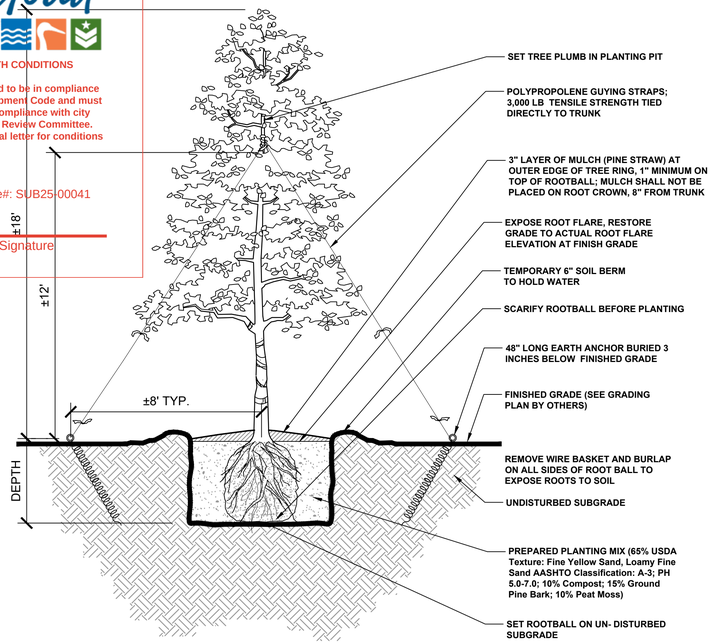
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

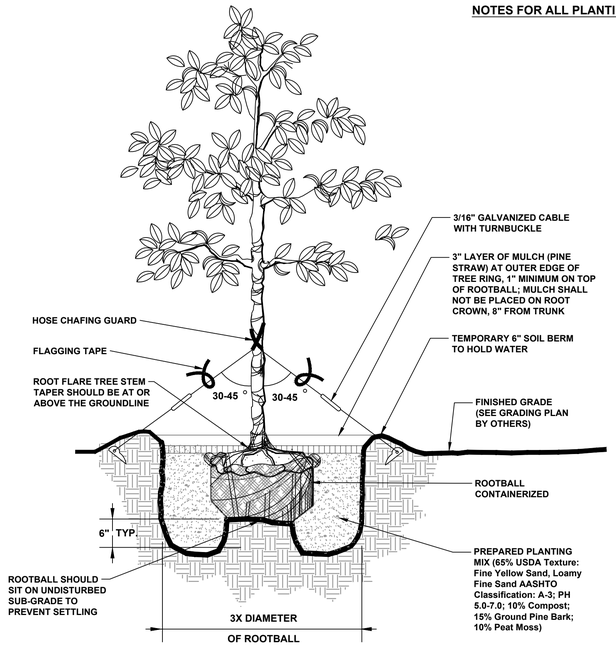


LARGE TREE PLANTING & GUYING DETAIL

N.T.S.

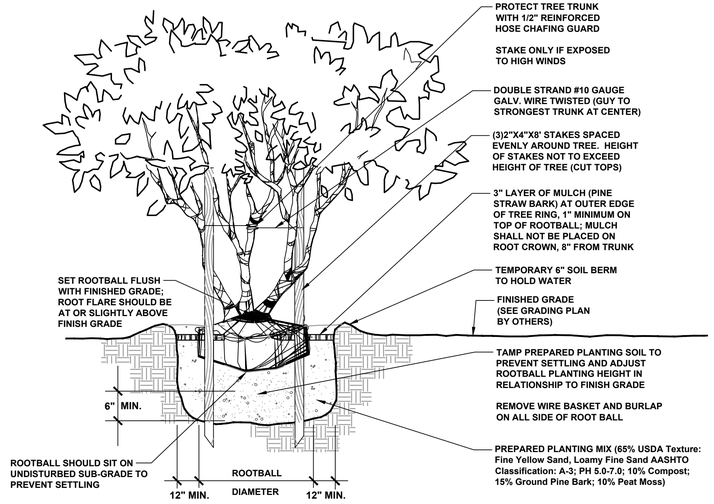
NOTES FOR ALL PLANTINGS:

1. DO NOT MOUND OR INSTALL MULCH AGAINST THE TRUNK OR STEM OF TREES AND SHRUBS OR THE CROWN OF PERENNIALS AND GROUNDCOVERS. THERE SHOULD BE FREE AND OPEN AIR CIRCULATION AROUND THE TRUNK OF THE PLANT AND THE GROUND IN THE IMMEDIATE AREA AT THE BASE OF THE TRUNK.
2. CONTRACTOR TO REMOVE ALL WIRE BASKETS AND BURLAP FROM B&B PLANTS LEAVING ONLY THE FABRIC AND WIRE ON THE VERY BOTTOM OF BALL IF IMPOSSIBLE TO REMOVE.



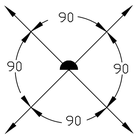
SMALL TREE PLANTING & GUYING DETAIL

N.T.S.



MULTI-TRUNK TREE PLANTNG DETAIL

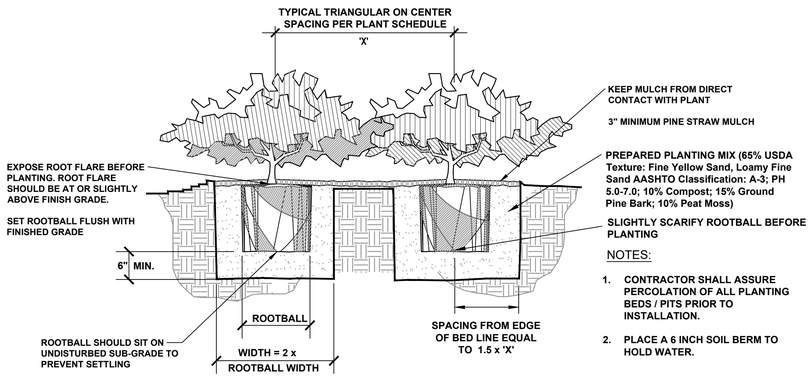
N.T.S.



STAKING DIAGRAM
PLAN VIEW

NOTES:

1. ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION. SEE LANDSCAPE NOTES ON SEPARATE SHEET.
2. WATERING REQUIREMENTS ARE DIFFERRENT FOR EACH TREE SPECIES AND SOIL CONDITION. CONSULT AN ARBORIST AS TO THE APPROPRIATE WATER REGIMEN.
3. DISCARD SUBGRADE REMOVED FROM PLANTING PIT AND REPLACE WITH PREPARED SOIL MIX, PER SPECIFICATIONS. PLACE NEW SOIL MIX AROUND ROOTBALL IN SIX-INCH LAYERS, FIRMLY TAMPING AND WATERING EACH LAYER UNTIL THE PLANTING PIT IS FILLED TO FINISHED GRADE LEVEL.
4. TREES UNDER 3 INCH CALIPER DO NOT REQUIRE TO BE GUYED; HOWEVER CONTRACTOR IS RESPONSIBLE TO ENSURE TREES DO NOT BLOW OVER DURING MAINTENANCE PERIOD.

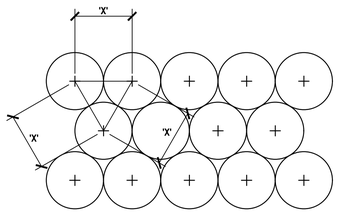


NOTES:

1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS / PITS PRIOR TO INSTALLATION.
2. PLACE A 6 INCH SOIL BERM TO HOLD WATER.

GROUNDCOVER & SHRUB PLANTING DETAIL

N.T.S.



ALL SHRUBS & GROUNDCOVER MASSES TO USE TRIANGULAR SPACING EXCEPT WHERE NOTED. REFER TO PLANT SCHEDULE FOR INDIVIDUAL PLANT SPACING 'X'

TYPICAL PLANT SPACING DETAIL

N.T.S.

REGISTERED LANDSCAPE ARCHITECT
KARINA A. VEAUDRY
STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
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REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LANDSCAPE INSTALLATION DETAILS

SHEET NUMBER:

LP201

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

STREET TREE SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPECIFICATION	SPACING	HT. 10 YEARS	SP. 10 YEARS
STREET TREES									
	AR	86	ACER RUBRUM	FLORIDA RED MAPLE	65 GAL. / 3" CAL.	8-10` HT. X 4-5` SP.	AS SHOWN	20'	12'
	MG	50	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	65 GAL. / 3" CAL.	12-14` HT. X 5-6` SP.	AS SHOWN	18'	12'

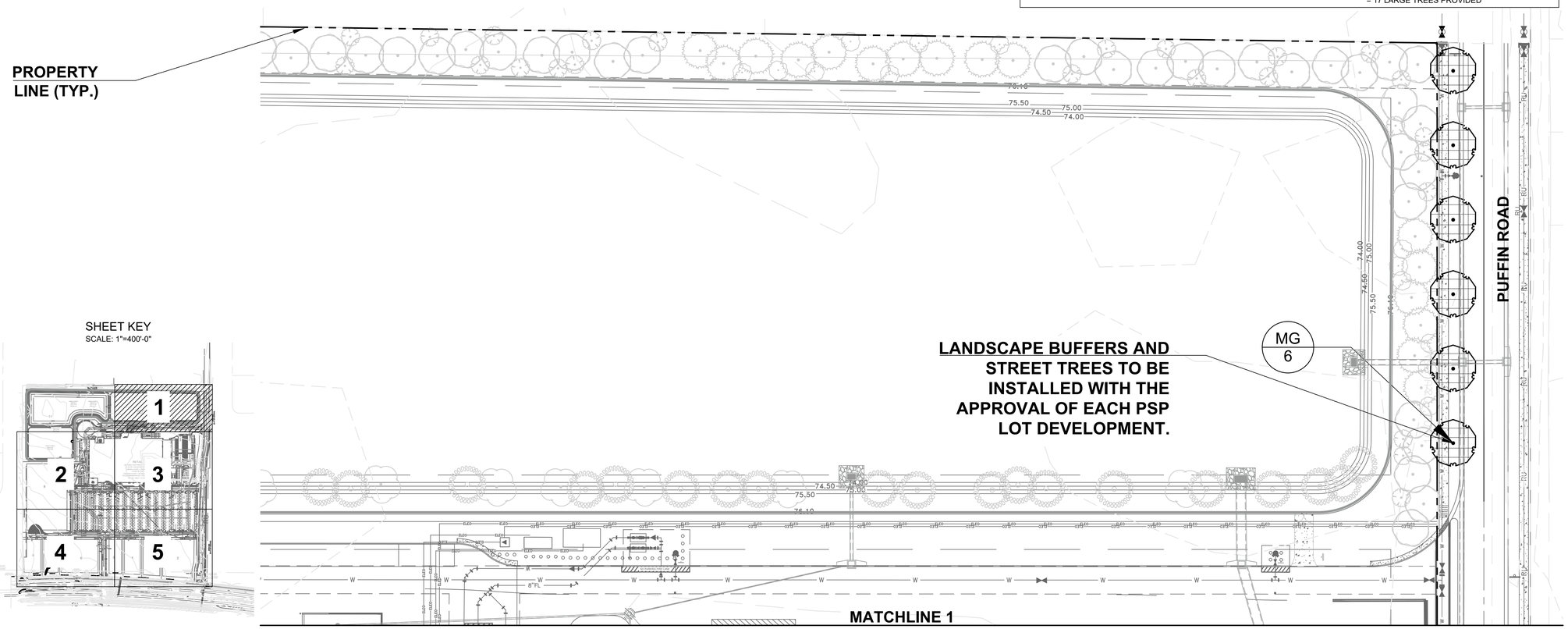
STREET TREE CALCULATIONS

EXTERNAL ROADWAY TREES (PER ARTICLE 8, SEC. 4.8.5)

PUFFIN ROAD (WEST FRONTAGE) 1390 LF/ 55 LF	= 26 LARGE TREES REQUIRED = 26 LARGE TREES PROVIDED
E. IRLO BRONSON MEMORIAL HIGHWAY (NORTH FRONTAGE) 1,311 LF/ 55 LF	= 24 LARGE TREES REQUIRED = 24 LARGE TREES PROVIDED

INTERNAL ROADWAY TREES (PER ARTICLE 8, SEC. 4.8.5)

STREET A (EAST FRONTAGE) 280 LF/ 55 LF	= 5 LARGE TREES REQUIRED = 5 LARGE TREES PROVIDED
STREET A (WEST FRONTAGE) 280 LF/ 55 LF	= 5 LARGE TREES REQUIRED = 5 LARGE TREES PROVIDED
STREET B (NORTH FRONTAGE) 1,200 LF/ 55 LF	= 22 LARGE TREES REQUIRED = 22 LARGE TREES PROVIDED
STREET B (SOUTH FRONTAGE) 1,200 LF/ 55 LF	= 22 LARGE TREES REQUIRED = 22 LARGE TREES PROVIDED
STREET C (EAST FRONTAGE) 326 LF/ 55 LF	= 6 LARGE TREES REQUIRED = 6 LARGE TREES PROVIDED
STREET C (WEST FRONTAGE) 480 LF/ 55 LF	= 9 LARGE TREES REQUIRED = 9 LARGE TREES PROVIDED
STREET D (SOUTH FRONTAGE) 906 LF/ 55 LF	= 17 LARGE TREES REQUIRED = 17 LARGE TREES PROVIDED



SHEET KEY
SCALE: 1"=400'-0"

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30 0 15 30 60
SCALE: 1" = 30'

NORTH

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SUB25-00041

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FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
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REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026
PROJECT NUMBER:	5450

SHEET TITLE:

STREET TREE PLAN

SHEET NUMBER:

ST101

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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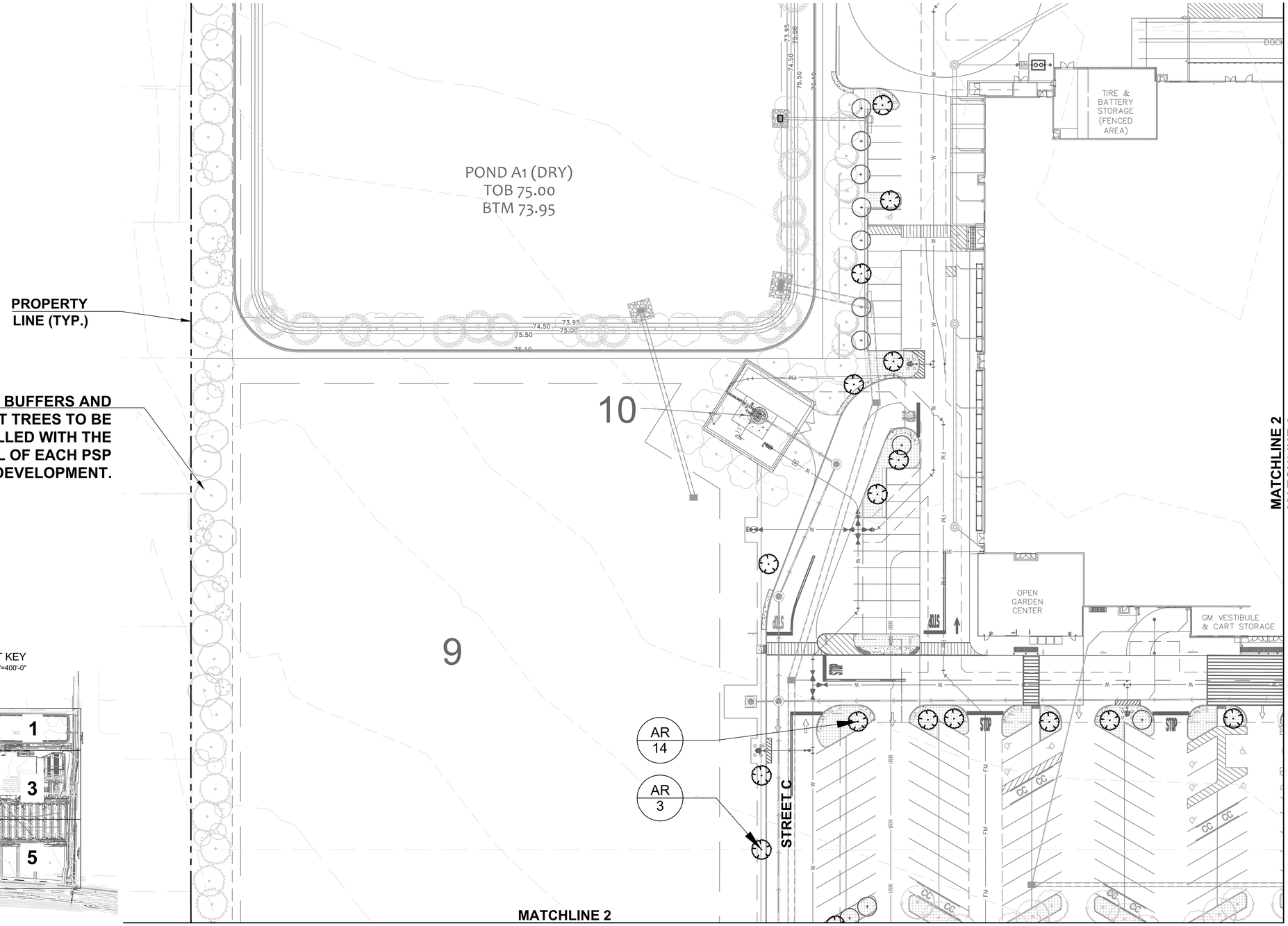
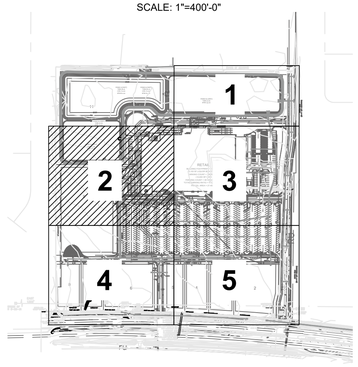
SHAUN RAJA

Authorized Signature



SHEET KEY
SCALE: 1"=400'-0"



NOTE:
ALL PROPOSED LANDSCAPING SHALL MAINTAIN 5 FEET HORIZONTAL SEPARATION FROM THE ROOT BALL OF TREES TO TOHO MAINTAINED UTILITIES.

811 Know what's below. Call before you dig. Dial 811 Or Call 800-282-7411

SCALE: 1" = 30'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

This item has been digitally signed and sealed by Karina A. Veaudry, PLA, LA6666803 on 03/26/2026. Signature must be verified on any electronic copies.

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry, OU=Qualifier:AD410D000013934445FE2000CBFC0...
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:27:42-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

STREET TREE PLAN

SHEET NUMBER:

ST102

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

These plans are found to be in compliance with The Land Development Code and must be constructed in compliance with city codes Development Review Committee. Please refer to approval letter for conditions

Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE 1
MATCHLINE 3

MATCHLINE 2
MATCHLINE 3

WELL

DOCK WELL

CONFLICT 72
SEE SHEET C-22

PROPERTY LINE (TYP.)

RETAIL

BUILDING FOOTPRINT = 171,995 SF
+5,105 SF LIQUOR BOX=177,100 SF
PARKING COUNT = 709 SPACES
+10,000 SF= OPD
PARKING COUNT = 46 SPACES TOTAL
TOTAL PARKING RATIO = 4.00 / 1000=755
PARCEL AREA = 27.49± AC

1

STREET E

CONFLICT 61

PUFFIN ROAD

UBER

AR 11

GROCERY VESTIBULE & CART STORAGE

STREET D

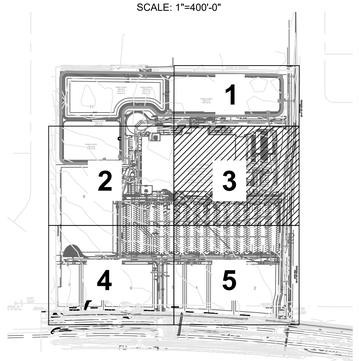
CONFLICT 54

CONFLICT 74

MG 10

MATCHLINE 3
MATCHLINE 5

SHEET KEY
SCALE: 1"=400'-0"



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30 0 15 30 60
SCALE: 1" = 30'

NORTH

REGISTERED LANDSCAPE ARCHITECT
KARINA A. VEAUDRY
LA6666803
STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:28:10-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

STREET TREE PLAN

SHEET NUMBER:

ST103

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature

MATCHLINE 2
MATCHLINE 4

25' LANDSCAPE BUFFER

STREET C

AR 34

PROPERTY LINE (TYP.)

LANDSCAPE BUFFERS AND STREET TREES TO BE INSTALLED WITH THE APPROVAL OF EACH PSP LOT DEVELOPMENT.

STREET B

STREET A

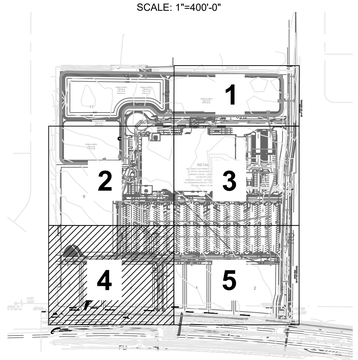
MATCHLINE 4
MATCHLINE 5

8 7 6 5

MG 12

E. IRLO BRONSON MEMORIAL HIGHWAY

SHEET KEY
SCALE: 1"=400'-0"



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SCALE: 1" = 30'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
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DN: CN=Karina Veaudry
dnQualifier=A01410D000001903A8AFE200C27C0...
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:39:33-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

STREET TREE PLAN

SHEET NUMBER:

ST104

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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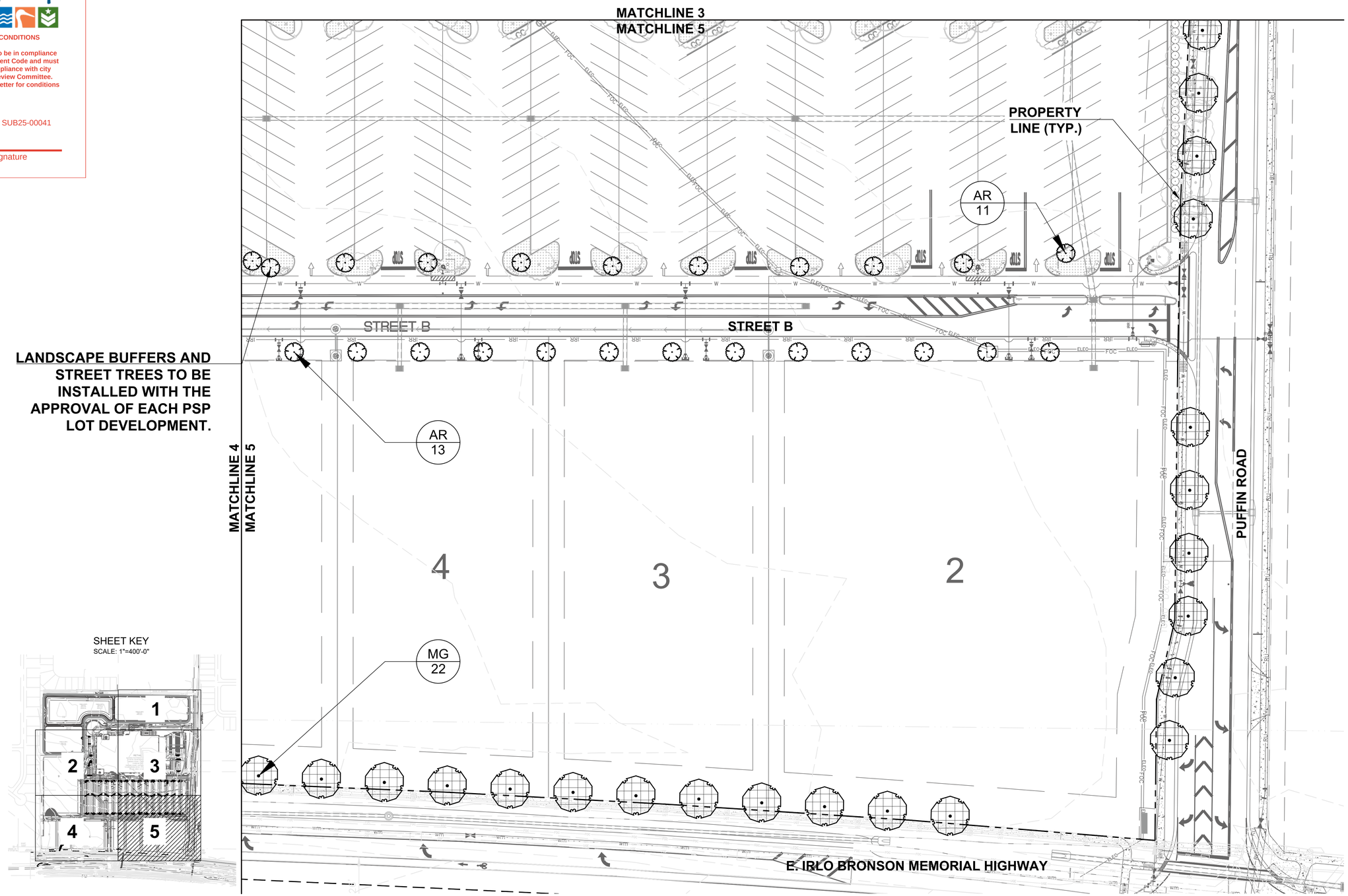
Date: 6/18/2026 Case#: SUB25-00041

SHAUN RAJA

Authorized Signature



SHEET KEY
SCALE: 1"=400'-0"

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SCALE: 1" = 30'

NORTH

REGISTERED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD COMMERCIAL LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

Karina Veaudry
Digitally signed by Karina Veaudry
DN: CN=Karina Veaudry
emailAddress=KEVIN@NFCDESIGN.COM
Reason: I attest to the accuracy and integrity of this document
Date: 2026.03.26 13:28:57-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

STREET TREE PLAN

SHEET NUMBER:

ST105

St. Cloud FLORIDA
Your Centerplace for Life

APPROVED WITH CONDITIONS

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Date: 6/18/2026 Case#: SUB25-00041

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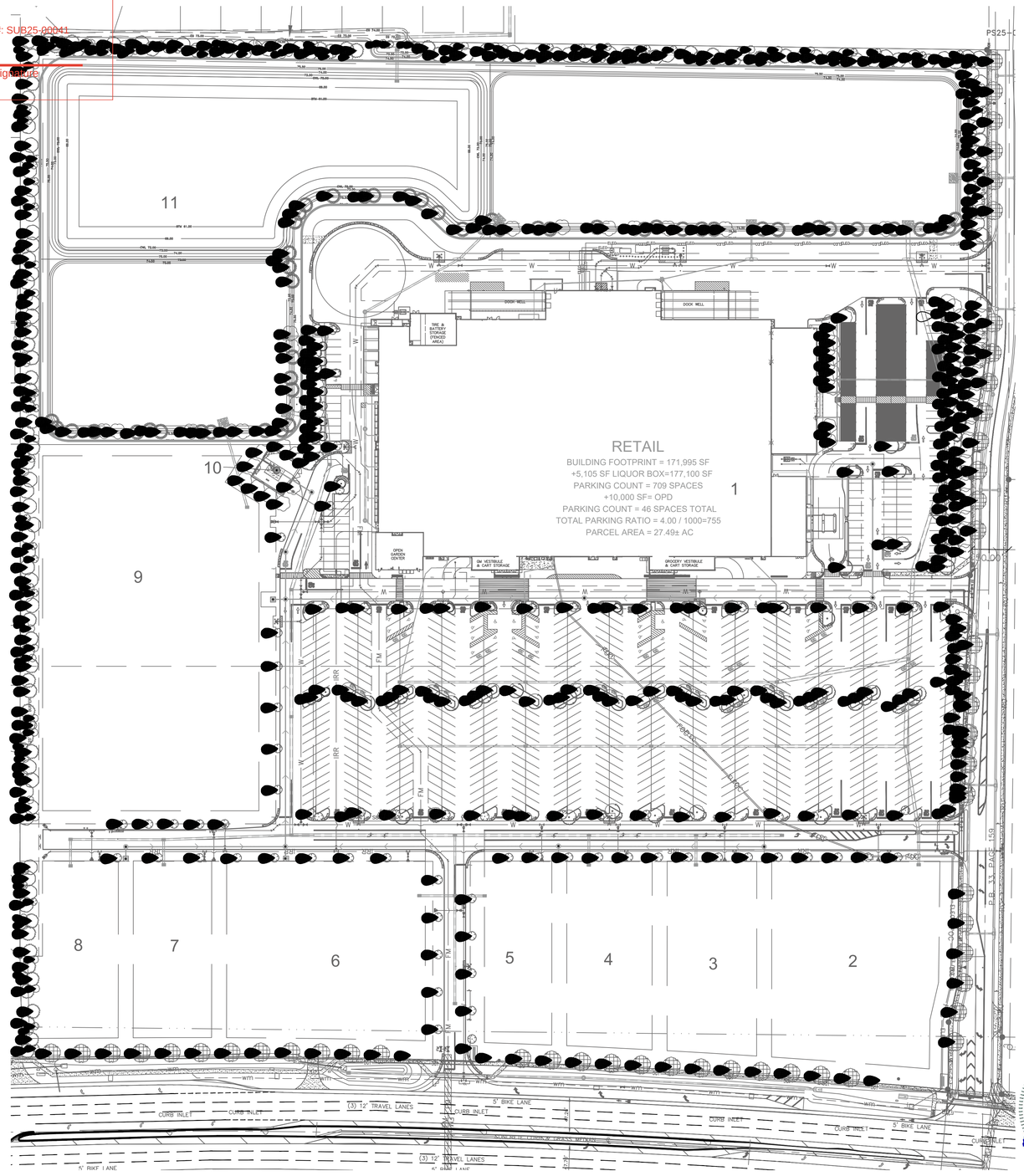
Authorized Signature



LC3 - NATIVE PLANT LIST EXHIBIT

REQUIRED:
100% FLORIDA FRIENDLY PLANT SELECTIONS WITH A MINIMUM OF 50% NATIVE PLANTS

PROVIDED:
PROJECT PLANT SCHEDULE (EXCERPT FROM SHEET LP001)

QTY.	BOTANICAL NAME	COMMON NAME	FLORIDA NATIVE
LARGE TREES			
15	ILEX CASSINE	DAHOON HOLLY	NATIVE
30	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	NATIVE
88	PINUS ELLIOTTII VAR. DENSA	DENSA SLASH PINE	NATIVE
105	QUERCUS VIRGINIANA `HIGH RISE`	HIGH RISE LIVE OAK	NATIVE
51	TAXODIUM DISTICHUM	BALD CYPRESS	NATIVE
MEDIUM TREES			
15	ACER RUBRUM	FLORIDA RED MAPLE	NATIVE
45	CONOCARPUS ERECTUS	BUTTONWOOD	NATIVE
33	ILEX X ATTENUATA 'SAVANNAH'	SAVANNAH HOLLY	NATIVE
27	ULMUS ALATA	WINGED ELM	NATIVE
SMALL TREES			
64	MORELLA CERIFERA	WAX MYRTLE	NATIVE
57	SAMBUCUS CANADENSIS	AMERICAN ELDERBERRY	NATIVE
QTY	BOTANICAL NAME	COMMON NAME	
SHRUBS			
107	CALLICARPA AMERICANA	AMERICAN BEAUTYBERRY	NATIVE
340	HAMELIA PATENS	FIRE BUSH	NATIVE
40	HAMELIA PATENS 'FIREFLY'	FIREFLY DWARF FIREBUSH	NATIVE
592	ILEX VOMITORIA `NANA`	DWARF YAUPON	NATIVE
116	MYRCIANTHES FRAGRANS	SIMPSON'S STOPPER	NATIVE
QTY	BOTANICAL NAME	COMMON NAME	NATIVE
GROUNDCOVERS			
3,348	COREOPSIS LANCEOLATA	LANCELEAF TICKSEED	NATIVE
STREET TREES			
86	ACER RUBRUM FLORIDA RED MAPLE		NATIVE
50	MAGNOLIA GRANDIFLORA SOUTHERN MAGNOLIA		NATIVE

LC5 - TREE SHADE CALCULATION

LEGEND:

425 LARGE TREE CANOPY SHADE X 470 SF	=	199,750 SF
105 MEDIUM TREE CANOPY SHADE X 300 SF	=	36,000 SF
121 SMALL TREE CANOPY SHADE X 200 SF	=	24,200 SF
	=	259,950 SF TREE CANOPY SHADE PROVIDED

REQUIRED:

TOTAL OPEN SPACE AREA (PER TRACT TABLE ON LP002)	=	193,842 SF
193,842 X 30%	=	58,153 SF TREE CANOPY SHADE REQUIRED

PROVIDED:

	=	259,950 SF CANOPY SHADE PROVIDED

IRC1 - IRRIGATION EXHIBIT

TOTAL OPEN SPACE (COMMON) AREA	=
TOTAL IRRIGATED AREA	=
TOTAL UNIRRIGATED AREA	=
DRIP TUBING IRRIGATION	=
LOW VOLUME (.5 GPM OR LESS)	=
TREE BUBBLERS	=
TOTAL LOW VOLUME IRRIGATION	=
SPRAY HEADS	=
ROTARY HEADS	=
TOTAL HIGH VOLUME IRRIGATION	=

NOTES:
1. THERE ARE RAIN/FREEZE SENSORS ON ALL CONTROLLERS.
2. CALCULATIONS BASED ON WATERING AFTER ESTABLISHMENT PERIOD.

LICENSED LANDSCAPE ARCHITECT KARINA A. VEAUDRY STATE OF FLORIDA

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80 0 40 80 160
SCALE: 1" = 80'

NORTH

SUB25-00041

CLIENT:

FERBER COMPANY
100 SECOND AVENUE S.
SUITE 201-N
ST. PETERSBURG, FL 33701

PROJECT:

PUFFIN ROAD
COMMERCIAL
LOT #1
PRELIMINARY SITE PLAN

LOCATION:

CITY OF
ST. CLOUD, FL

CONSULTANT:

NFC Landscape Architects
2228 Jessica Lane
Kissimmee, FL 34744
(321) 388-4781

SEAL:

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emQuadNam:AE01E1DD000001895648FE2000CDF0C...
Reason: I attest to the accuracy and integrity of the document
Date: 2026.03.26 13:29:46-04'00'

REVISIONS	DATE

DESIGNED BY:	RJK
DRAWN BY:	RJK
CHECKED BY:	KAV
DATE:	03/24/2026

PROJECT NUMBER: 5450

SHEET TITLE:

LC3, LC5 & IRC1
EXHIBITS

SHEET NUMBER:

TEP101