

UTILITIES PROVIDING SERVICE:

Charlotte County Utilities Dept
 Dean Campbell
 Dean.Campbell@charlottecountyfl.gov
 (941) 456-0041
 25550 Harborview Rd. #1
 Port Charlotte, FL 33980

Florida Power & Light
 Scott Overbaugh
 Scott.Overbaugh@fpl.com
 O. 239-332-9154
 C. 239-246-1021
 2425 Thompson St.
 Fort Myers, FL 33901

Charlotte County Lighting District
 Andy Amendola
 andy.amendola@charlottefl.com
 (941) 575-3648
 7000 Florida Street
 Punta Gorda, FL 33950

Crown Castle Fiber
 Danny Haskett
 Project Manager
 Danny.Haskett@FibernetDirect.com
 T: 786-610-7073 | M: 786-246-7827
 1601 NW 136th Avenue, Suite A-200,
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 Fiber.CrownCastle.com

Amerigas
 Teresa Shattuck
 teresa.shattuck@amerigas.com
 O. 941-255-9900
 C. 239-560-5839
 1402 Market Circle
 Port Charlotte, FL 33953

TECO (Peoples Gas)
 Marilyn D. Aloï or Tracy Yalledy
 mdaloi@tecoenergy.com
 atyalledy@tecoenergy.com
 239-690-5517
 5901 Enterprise Parkway
 Fort Myers, FL 33905

CenturyLink
 Bryan Corrigan
 Bryan.Corrigan@centurylink.com
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 Port Charlotte, FL 33980

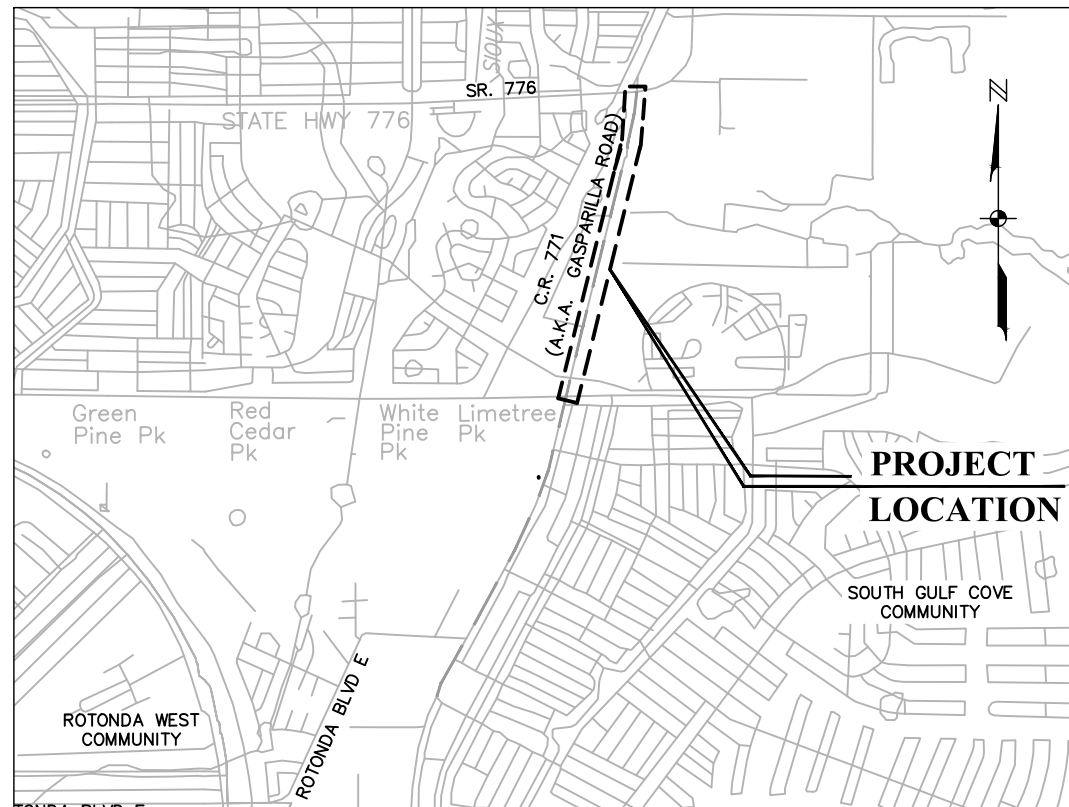
Comcast
 Gonzalo Rojas or Joshua Davis
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 Joshua_Davis4@comcast.com
 941-342-3578
 3490 Technology Drive
 Venice, FL 34275

INDEX OF PLANS

SHEET NO.	DESCRIPTION
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C.R. 771
 (AKA GASPARILLA RD.)
MEDIAN LANDSCAPE IMPROVEMENT PLANS
 (1.12 MILES)

SECTION 41, TOWNSHIP 21 S., RANGE 08 E.
CHARLOTTE COUNTY, FLORIDA



LOCATION MAP

0 2000 4000
 (INTENDED DISPLAY SCALE: 1"=4000')

JUNE 2022

Prepared for:
 Charlotte County Public Works
 7000 Florida Street
 Punta Gorda, Florida 33950
 Phone: (941) 575-3658
 Fax: (941) 575-3653



Governing Standards:
 Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways
 April 2018

GASPARILLA ROAD	DESIGN SPEED	POSTED SPEED
STA. 175+00 - STA. 211+69.03 :	50 MPH	50 MPH
STA. 211+69.03 - STA. 238+40.00 :	45 MPH	45 MPH

County Commissioners

- Ken Doherty, District 1
- Chris Constance, District 2
- Bill Truex, District 3
- Stephen R. Deutsch, District 4
- Joe Tiseo, District 5

Public Works Department

John Elias, Director
 Jason Ouimet, Maintenance Operations Manager

County Project Manager

Chuck Peters



LANDSCAPE AND IRRIGATION PLANS

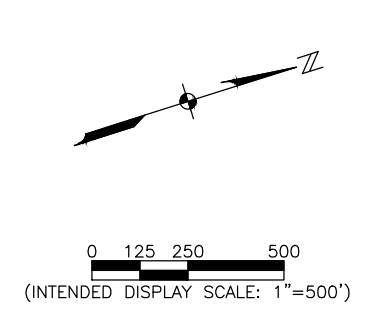


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 18501 MURDOCK CIRCLE
 SUITE 404
 PORT CHARLOTTE, FLORIDA 33948
 PHONE: (941) 625-9919
 FAX: (239) 334-3661
 E.B. #642 & L.B. #642

REGISTERED LANDSCAPE ARCHITECT
 FLORIDA LICENSE NO. LA-6667059

JEFFREY NAGLE, RLA

DATE



C:\2017\20170177-000\landscape\170177-000-KEY-NRTH.dwg (KEY) mls Jul 25, 2022 - 9:08am

REVISIONS	

**CHARLOTTE COUNTY
PUBLIC WORKS,
MAINTENANCE &
OPERATIONS**

**C.R. 771 ROADWAY
LANDSCAPE IMPROVEMENTS
CHARLOTTE COUNTY,
FLORIDA**



JOHNSON ENGINEERING, INC.
 2122 JOHNSON STREET
 P.O. BOX 1550
 FORT MYERS, FLORIDA 33902-1550
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 FAX: (239) 334-3661
 E.B. #642 & L.B. #642

JEFFREY NAGLE, RLA
 FL License No. LA-6667059

KEY				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L02

100% CR 771 NORTH -LANDSCAPE TABULATION OF QUANTITIES

PAY ITEM NO.	Key	DESCRIPTION	SIZE	UNIT	PLAN SHEET L06	PLAN SHEET L07	PLAN SHEET L08	PLAN SHEET L09	PLAN SHEET L10	PLAN SHEET L11	PLAN SHEET L12	PLAN SHEET L13	PLAN SHEET L14	SUB TOTAL THIS SHEET FINAL	PROJECT TOTAL FINAL
SECTION A															
LANDSCAPE INSTALLATION															
PALMS															
1	PR	Pygmy Date Palm (Phoenix roebelenii)	8' Ct., triple	EA	-	3	3	6	-	5	-	-	-	17	17
2	PS	Sylvester Palm (Phoenix sylvestris)	10' Ct., FG	EA	3	-	-	-	-	-	-	-	-	3	3
ACCENT SHRUBS															
3	CE	Silver Buttonwood (Conocarpus erectus 'Sericeus')	5 Ht., 3' Spr., multi-trunk.	EA	-	7	7	16	8	-	-	-	-	38	38
4	LX	Muskogee Crape Myrtle (Lagerstroemia x 'Muskogee')	10' Ht., 4' Spr., multi-trunk	EA	-	-	8	1	-	5	-	-	1	15	15
5	LJ	Japanese Privet (Ligustrum japonicum)	7' Ht., 3' Spr., multi-trunk. 3' Clear Trunk	EA	-	4	2	9	3	5	-	-	-	23	23
SHRUBS															
6	BM	Bougainvillea Ms. Alice (Bougainvillea x 'Ms. Alice')	10" Ht., 3g., 30" o.c.	EA	-	-	201	-	-	65	-	-	-	266	266
7	DR	Gold Mound Duranta (Duranta repens "Gold Mound Dewdrop")	10" Ht., 3g., 24" o.c.	EA	-	148	428	449	74	89	-	-	-	1,188	1,188
8	FM	Green Island Ficus (Ficus microcarpa "Green Island")	18" Ht., 7g., 30" o.c.	EA	-	65	65	195	-	-	-	-	52	377	377
9	GG	Thryallis (Galphimia gracillas)	16" Ht., 3g., 36" o.c.	EA	-	-	-	-	-	-	-	-	46	46	46
10	HP	Firebush (Hamelia patens 'compacta')	18" Ht., 3g., 36" o.c.	EA	-	-	-	-	-	-	-	-	46	46	46
11	LR	Ruby Loropetalum (Loropetalum chinese "Ruby")	16" Ht., 3g., 36" o.c.	EA	-	57	179	173	40	37	-	-	-	486	486
12	NO	Petite Pink Oleander (Nerium oleander "Petite Pink")	16" Ht., 3g., 36" o.c.	EA	-	109	41	225	75	-	-	-	-	450	450
13	PA	Plumbago (Plumbago auriculata 'Imperial Blue')	16" Ht., 3g., 36" o.c.	EA	60	35	-	-	-	-	-	-	-	95	95
14	SC	Silver Saw Palmetto (Serenoa repens "Cinera")	16" Ht., 7g., 48" o.c.	EA	-	-	25	-	-	-	-	-	-	25	25
15	SR	Bird of Paradise (Strelitzia reginae)	18" Ht., 3g., 48" o.c.	EA	-	-	16	-	-	-	-	-	-	16	16
16	TD	Fakahatchee Grass (Tripsacum dactyloides)	16" Ht., 3g., 36" o.c.	EA	31	47	-	-	-	-	-	-	-	78	78
17	ZP	Coontie (Zamia pumila)	16" Ht., 3g., 36" o.c.	EA	55	3	-	-	-	-	-	-	-	58	58
GROUNDCOVER															
18	AG	Perennial Peanut (Arachis glabrata)	Sod	SF	-	-	-	-	-	-	331	549	-	880	880
19	DV	Variegated Flax Lily (Dianella tasmanica "Variegata")	12" Ht., 1g., 24" o.c.	EA	-	-	322	-	-	-	-	-	-	322	322
20	LG	Liriope "Evergreen Giant" (Liriope muscari "Evergreen Giant")	4" HT., 1g., 36" o.c.	EA	-	-	74	147	-	-	-	-	-	221	221
21	CME	Dwarf Carissa 'Emerald Blanket', (Ficus macrocarpa 'Emerald Blanket')	12" HT., 3g., 30" o.c.	EA	-	270	131	373	191	73	-	-	-	1,038	1,038
22	SP2	Purple Queen (Tradescantia pallida)	6" HT., 1g., 12" o.c.	EA	498	64	-	-	-	-	-	-	-	562	562
SOD															
23	PN	Bahia Grass (Paspalum notatum) (trenching repair)	Sod	SF	440	1,000	-	-	1,266	2,400	1,450	1,600	-	8,156	8,156
MULCH															
24	MU	Mulch, Flori-mulch	3" depth	CY	34	75	141	142	35	24	-	7	6	464	464

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REVISIONS	

**CHARLOTTE COUNTY
PUBLIC WORKS,
MAINTENANCE &
OPERATIONS**

**C.R. 771 ROADWAY
LANDSCAPE IMPROVEMENTS
CHARLOTTE COUNTY,
FLORIDA**



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JEFFREY NAGLE, RLA
FL License No. LA-6667059

LANDSCAPE TABULATION OF QUANTITIES				
DATE JUNE 2022	PROJECT NO. 20170177-000	FILE NO. 41-21-08	SCALE As Shown	SHEET L03

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PAY ITEM NO.	Key	DESCRIPTION	SIZE	PLAN SHEET L17	PLAN SHEET L18	PLAN SHEET L19	PLAN SHEET L20	PLAN SHEET L21	PLAN SHEET L22	PLAN SHEET L23	PLAN SHEET L24	PLAN SHEET L25	SUBTOTAL THIS SHEET FINAL	PROJECT TOTAL FINAL
SECTION B				IRRIGATION INSTALLATION										
7.1	RU	CONNECTION TO CITY REUSE LINE INCLUDING 1 - 1/2" WATER METER	EA	-	-	-	-	1	-	-	-	-	1	1
7.2	EC	ELECTRICAL CONNECTION TO POWER SUPPLY PROVIDED BY CHARLOTTE COUNTY	EA	-	-	-	-	1	-	-	-	-	1	1
7.3	BP	BOOSTER PUMP (APPROXIMATE LOCATION STATION 206 + 00)	EA	-	-	-	-	1	-	-	-	-	1	1
7.4	C	RAIN BIRD ESP-LXD-LXMPED with (1) ESPLXD-SM75 (INCLUDING MISC. ELECTRICAL)	EA	-	-	-	-	1	-	-	-	-	1	1
7.5	RS	RAIN BIRD RSD-BEX RAIN SENSOR	EA	-	-	-	-	1	-	-	-	-	1	1
7.6	SS	RAIN BIRD MSP-1/MGP-1 (CONTROLLER SURGE PROTECTION AND SURGE GROUND MOUNTING PLATE)	EA	-	-	-	-	1	-	-	-	-	1	1
7.7	FS	SLFSI-T20 2" TEE TYPE INSERT FLOW SENSOR WITH RAIN BIRD 200-PESBR-PRS-D MASTER VALVE	EA	-	-	-	-	1	-	0	0	-	1	1
7.8	FD	RAIN BIRD FD-101TURF	EA	0	3	3	2	2	-	2	1	1	14	14
7.9	D	RAIN BIRD FD-102TURF	EA	1	2	0	2	-	2	-	-	-	7	7
7.10	ML	FURNISH AND INSTALL MAINLINE: 2.5" SCHEDULE 40 PVC, (PANTONE PURPLE) 522 C, GASKETED IRRIGATION PIPING WITH D.I. FITTINGS & THRUST BLOCKING, BY TRENCHING, SEE NOTES, SPECIFICATIONS AND DETAILS FOR INSTALLATION REQUIREMENTS AND REQUIRED COMPONENTS, INCLUDING BALL MARKERS AT CHANGES IN PIPE DIRECTION AND DEPTH.	LF	333	826	816	816	1,053	874	864	713	50	6345	6345
7.11	LL	FURNISH AND INSTALL IRRIGATION LATERAL LINE: 1" PVC CLASS 200 SDR21 (PANTONE PURPLE)	LF	41	0	5	15	-	14	0	47	115	237	237
7.12	LL	FURNISH AND INSTALL IRRIGATION LATERAL LINE: 1.25" PVC CLASS 200 SDR21 (PANTONE PURPLE)	LF	676	1,339	1,379	1,290	536	804	492	300	55	6871	6871
7.13	LL	FURNISH AND INSTALL IRRIGATION LATERAL LINE: 1.5" PVC CLASS 200 SDR21 (PANTONE PURPLE)	LF	99	193	31	150	80	75	48	-	-	676	676
7.14	LL	FURNISH AND INSTALL IRRIGATION LATERAL LINE: 2" PVC CLASS 200 SDR21 (PANTONE PURPLE)	LF	28	240	8	5	83	9	-	-	-	373	373
7.15	EL	ELECTRICAL PVC CONDUIT 1.25"	LF	259	794	870	924	919	886	730	601	-	5983	5983
7.16	DB 1	DIRECTIONAL BORE INCLUDING 1.25" PVC (ALL PAVEMENT CROSSINGS AS SHOWN ON PLANS)	LF	110	140	-	-	170	60	60	-	-	540	540
7.17	DB 2	DIRECTIONAL BORE INCLUDING 2" HDPE (ALL PAVEMENT CROSSINGS AS SHOWN ON PLANS)	LF	85	140	-	-	-	-	120	65	115	525	525
7.18	DB 6	DIRECTIONAL BORE INCLUDING 6" HDPE (ALL PAVEMENT CROSSINGS AS SHOWN ON PLANS)	LF	110	-	-	-	170	60	60	-	-	400	400
7.19	W	SMARTLINE - SLWIRE (2 PATH WIRE) 12 AWG	LF	369	934	870	924	1,089	946	900	781	-	6813	6813
7.20	PB	IRRIGATION WIRE PULL BOX (INCLUDE PULL STRING)	EA	1	1	1	-	4	2	4	1	2	16	16
7.21	SV	RAIN BIRD PESBR 1", DURABLE CHLORINE-RESISTANT VALVES FOR RECLAIMED WATER APPLICATIONS, WITH SCRUBBER MECHANISM TECHNOLOGY, AND PURPLE FLOW CONTROL HANDLE. INCLUDE MANUAL GATE VALVE PER VALVE DETAIL.	EA	0	1	1	1	-	1	1	1	-	6	6
7.22	SV1	RAIN BIRD PESBR 1-1/2", DURABLE CHLORINE-RESISTANT SOLENOID VALVES FOR RECLAIMED WATER APPLICATIONS, WITH SCRUBBER MECHANISM TECHNOLOGY, AND PURPLE FLOW CONTROL HANDLE. INCLUDE MANUAL GATE VALVE PER DETAIL.	EA	2	3	-	1	1	2	1	-	-	10	10
7.23	SV2	FURNISH & INSTALL RAIN BIRD XCZ-150-PRB-R 1.5" HIGH FLOW CONTROL ZONE KIT WITH 2 - 1" PRESSURE REGULATING QUICK CHECK BASKET FILTERS AND ISOLATION VALVE. INSTALL ASSEMBLY IN INDS PRO 14" X 19" VALVE BOX 213PBCR (PANTONE PURPLE). LID LABEL TO READ "IRRIGATION". TO INCLUDE 6" EXTENSIONS AS NEEDED.	EA	-	3	2	4	1	1	-	-	1	12	12
7.24	DL	NETAFIM TLRW-06-12(16) TECHLINE RW LANDSCAPE DRIPLINE WITH PURPLE STRIPE. 0.6GPH EMITTERS AT 12" O.C.	SF	2,095	4,979	11,659	11,405	2,790	1,848	-	570	570	35916	35916
7.25	FV	NETAFIM TLO50MFV-1 AUTOMATIC FLUSH VALVE	EA	1	2	7	5	2	2	-	-	2	21	21
7.26	GV	MATCO NORCA 759 BRASS SHUT OFF VALVE (INCLUDE VALVE BOX)	EA	1	-	-	-	1	1	3	2	-	8	8
7.27	SB	RAIN BIRD VBSTDPL STANDARD BOX (REMOTE VALVES ONLY) (PANTONE PURPLE)	EA	1	1	3	2	3	1	3	2	-	16	16
7.28	JB	RAIN BIRD VBMBPL JUMBO BOX (REMOTE VALVES ONLY) (PANTONE PURPLE). (USE WITH COMBINATIONS OF 2-3 VALVES)	EA	1	3	-	2	2	2	-	-	-	10	10
7.29	SH	RAIN BIRD RD-06-P30-F-IP SPRAY, 6 0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, FLOW-SHELD TECHNOLOGY, AND NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET. (INCLUDE NOZZLES AS SPECIFIED PER PLANS)	EA	61	66	-	-	34	50	47	31	-	289	289
7.30	FB	RAIN BIRD 1800-1400 FLOOD BUBBLER (1402 FIXED RATE), 1/2" FPT. WITH PURPLE CAP FOR RECLAIMED WATER USE.	EA	6	30	41	64	23	30	-	-	2	196	196
7.31	BA	FURNISH & INSTALL: MAIN AND SUBMAIN FLUSH BLOW OFF ASSEMBLIES PER PLAN NOTES & DETAILS, SIZES TO MATCH MAIN SIZE. VALVE BOXES (PANTONE PURPLE) AND ALL MATERIALS AS ILLUSTRATED PER INSTALLATION DETAIL.	EA	1	-	-	-	-	-	-	-	1	2	2
7.32	SP1	RAIN BIRD LSP1TURF INLINE SURGE PROTECTION	EA	1	5	3	4	2	2	2	1	1	21	21
7.33	F	NETAFIM FILTER 25A30-140	EA	-	-	-	-	1	-	-	-	-	1	1
7.34	EA	FURNISH AND INSTALL #6 AWG SOLID COPPER BARE GROUND ROD (10' LENGTH)	EA	1	5	3	4	2	2	2	2	-	21	21
7.35	GP	FURNISH AND INSTALL 4"X96" COPPER GROUND PLATE	EA	-	-	-	-	1	-	-	-	-	1	1
7.36	DI	RAIN BIRD DRIP SYSTEM OPERATION INDICATOR	EA	-	3	3	4	1	1	-	-	1	13	13

REVISIONS	

**CHARLOTTE COUNTY
PUBLIC WORKS,
MAINTENANCE &
OPERATIONS**

**C.R. 771 ROADWAY
LANDSCAPE IMPROVEMENTS
CHARLOTTE COUNTY,
FLORIDA**



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JEFFREY MAGLE, RLA
FL License No. LA-6667059

IRRIGATION TABULATION OF QUANTITIES				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L04

ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes entries like AC (ACRE), ALI (ALTERNATE), ALUM (ALUMINUM), etc.

SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for PLUG VALVE, GATE VALVE, FIRE HYDRANT, WATER METER, AIR RELEASE VALVE, etc.

LINETYPES

Table with 2 columns: Linetype and Description. Includes linetypes for EXISTING, RIGHT-OF-WAY LINE, PROJECT LIMIT, SWALE CENTER LINE, etc.

CONSTRUCTION NOTES:

- 1. CONCRETE SIDEWALKS SHALL BE CONSTRUCTED PER F.D.O.T. INDEX NO. 310 AND F.D.O.T. STANDARD SPECIFICATION NO. 522 EXCEPT FOR CURB CUT RAMP RUNS WHICH SHALL BE FINISHED IN ACCORDANCE WITH INDEX NO. 304 EXCEPT AMENDMENTS TO DESIGN PER CHARLOTTE COUNTY PUBLIC WORKS - ENGINEERING DIVISION.

GENERAL NOTES:

- 1. ELEVATIONS ARE REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.) OF 1929.
- 2. WRITTEN DIMENSIONS TO TAKE PRECEDENCE OVER SCALE. NORMAL SHEET SIZE IS 24"x36" TO SCALE. ALL REDUCED SHEET SETS ARE NOT TO SCALE.

SIGNING AND PAVEMENT MARKING NOTES:

- 1. ALL SIGNING AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH FOOT STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION, FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," AND THE CURRENT CHARLOTTE COUNTY PUBLIC WORKS - ENGINEERING DIVISION.

CHARLOTTE COUNTY UTILITIES NOTES

- 1. WATER SERVICE CONFLICTS: CONTRACTOR SHALL RELOCATE ANY EXISTING WATER SERVICE LINE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS INCLUDING NEW DRAINAGE PIPES. SERVICE LINE SHALL HAVE A MINIMUM 18" OF COVER AND A MINIMUM OF 6" CLEARANCE FROM THE NEW PIPE. SERVICE LINE SPLICES SHALL NOT BE ALLOWED. SERVICE LINES SHALL BE REPLACED PER CCU DESIGN COMPLIANCE STANDARDS.

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD DETAIL NOTES:

ALL REFERENCES TO FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD INDEXES ARE FROM THE 2016 EDITION FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) DESIGN STANDARDS (ENGLISH UNITS). THESE INDEXES WERE PREPARED BY OR AT THE DIRECTION OF FDOT AND WERE FURNISHED TO JOHNSON ENGINEERING, INC.

PRIVATE UTILITY NOTES:

- 1. CONTRACTOR SHALL COORDINATE WITH ALL PRIVATE UTILITIES FOR THE RELOCATION OF ANY/ALL UTILITY INFRASTRUCTURE.
- 2. ALL UTILITIES COMPANIES WERE NOTIFIED VIA EMAIL OF THE PROJECT DETAILS AT THE TIME OF DESIGN.

PAVING, GRADING AND DRAINAGE NOTES:

- 1. STORM DRAINAGE CULVERT SIZES, SLUMPS AND MATERIALS ARE SUBJECT TO CHANGE AS A FUNCTION OF DESIGN REQUIREMENTS, FUTURE DRAINAGE PROJECTS OR FIELD CONDITIONS AS DETERMINED BY CHARLOTTE COUNTY RIGHT-OF-WAY DEPARTMENT AT THE TIME OF LINE AND GRADE INSPECTIONS.
- 2. STORM DRAINAGE DIMENSIONING CALLED OUT IN THIS PLAN SET IS BASED ON THE LINEAL DIMENSIONS FROM THE CENTROID OF THE DRAINAGE STRUCTURES. THE METHOD OF MEASUREMENT FOR THE BID ITEM IS BASED ON THIS NUMBER. THE CONTRACTOR WILL BEAR THE RESPONSIBILITY OF FITTING/CUTTING TO LENGTH APPROPRIATE FOR THE CONSTRUCTION ACCEPTANCE OF CHARLOTTE COUNTY.

N.P.D.E.S. PERMIT NOTE:

TOTAL DISTURBED PROJECT AREA IS ±.32 ACRES. CONTRACTOR WILL BE REQUIRED TO OBTAIN AN NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND EXECUTE ITS REQUIREMENTS THROUGHOUT THE PROJECT.



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Table with 2 columns: Revision Number and Description. Includes a 'REVISIONS' header and several empty rows for tracking changes.

CHARLOTTE COUNTY PUBLIC WORKS, MAINTENANCE & OPERATIONS

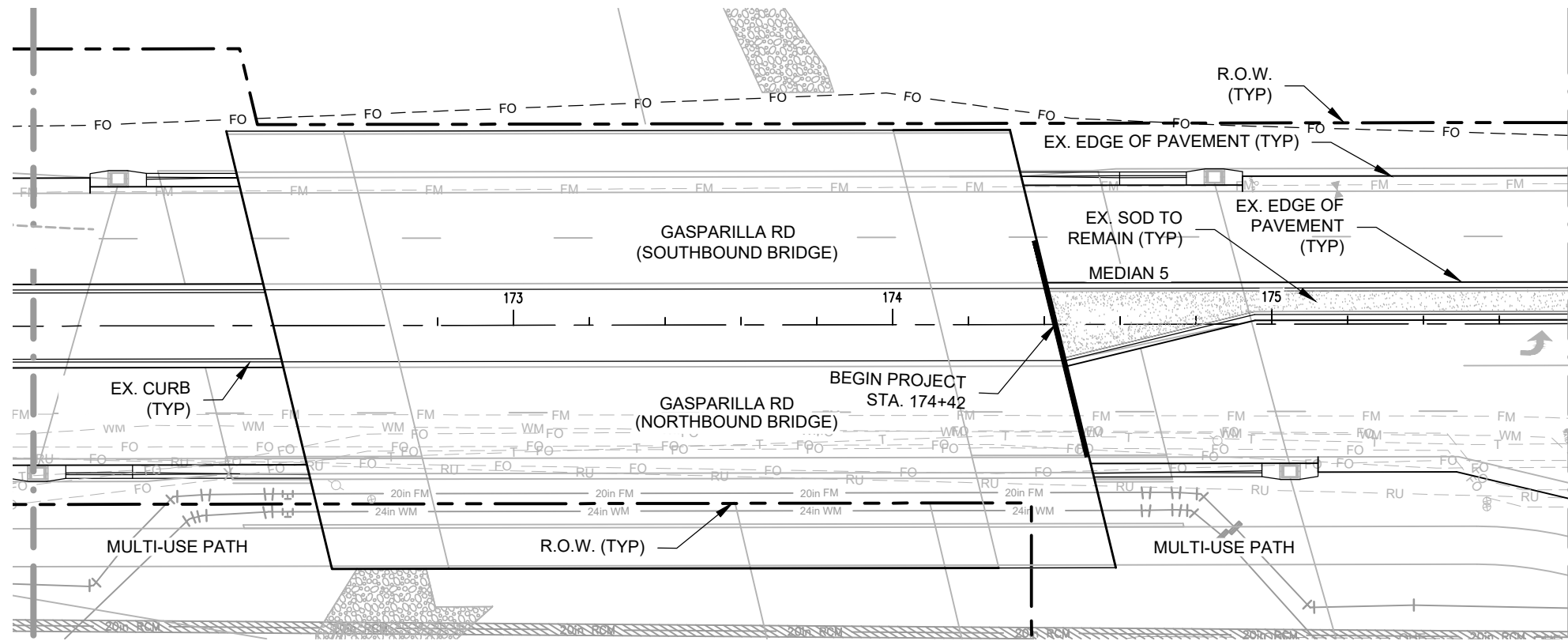
C.R. 771 ROADWAY LANDSCAPE IMPROVEMENTS CHARLOTTE COUNTY, FLORIDA

JOHNSON ENGINEERING logo and contact information: JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET P.O. BOX 1550 FORT MYERS, FLORIDA 33902-1550 PHONE: (239) 334-0046 FAX: (239) 334-3661 E.B. #642 & L.B. #642

JEFFREY NAGLE, RLA FL License No. LA-6667059

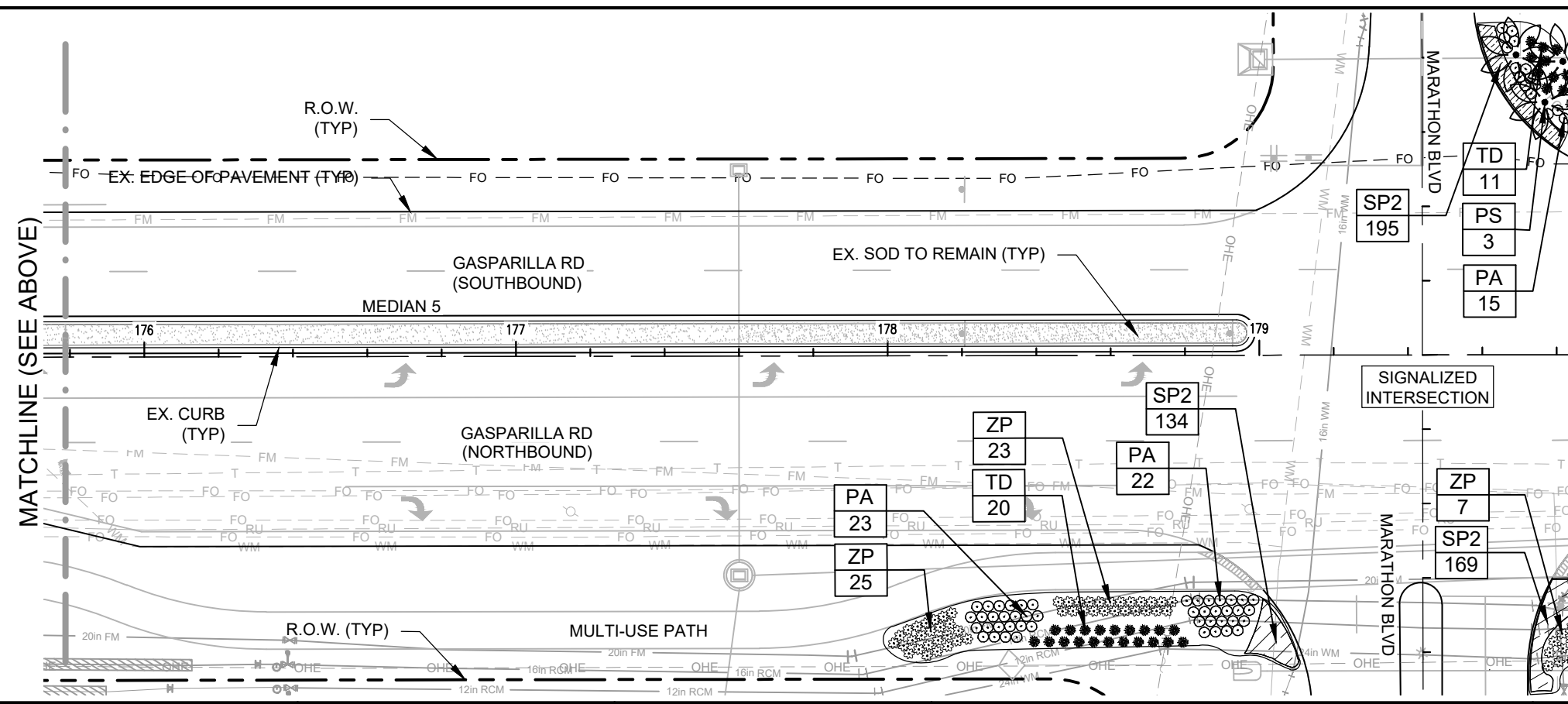
Table with 5 columns: DATE, PROJECT NO., FILE NO., SCALE, SHEET. Includes values: DATE: JUNE 2022, PROJECT NO.: 20170177-000, FILE NO.: 41-21-08, SCALE: As Shown, SHEET: L05

GENERAL NOTES AND ABBREVIATIONS



PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
	CE	Silver Buttonwood
	LX	Muskogee Crape Myrtle
	LJ	Japanese Privet
SHRUBS		
	BM	Bougainvillea Ms. Alice
	DR	Gold Mound Duranta
	FM	Green Island Ficus
	GG	Thryallis
	HP	Firebush
	LR	Ruby Loropetalum
	NO	Petite Pink Oleander

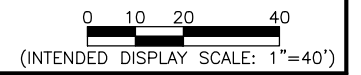
PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird of Paradise
	ZP	Coontie
GRASSES		
	TD	Fakahatchee Grass
GROUND COVERS		
	AG	Perennial Peanut
	DV	Flax Lily
	CME	Carissa Macroparpa 'Emerald'
	LG	Liriope 'Evergreen Giant'
	SP2	Purple queen



NOTES:

- THIS PROJECT HAS BEEN DESIGNED TO BE IN GENERAL COMPLIANCE WITH F.D.O.T. "MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS ('GREEN BOOK') & CHAPTER 3 - 2018. ALL PROPOSED LANDSCAPING WITHIN SIGHT LINES SHALL BE INSTALLED AS PER PLAN. PRIOR TO TIME OF INSTALLATION, ANY PLANT LOCATION CHANGES BY CONTRACTOR SHALL REQUIRE APPROVAL BY CHARLOTTE COUNTY PROJECT MANAGER.
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XX	PLANT CODE
60	PLANT QUANTITY



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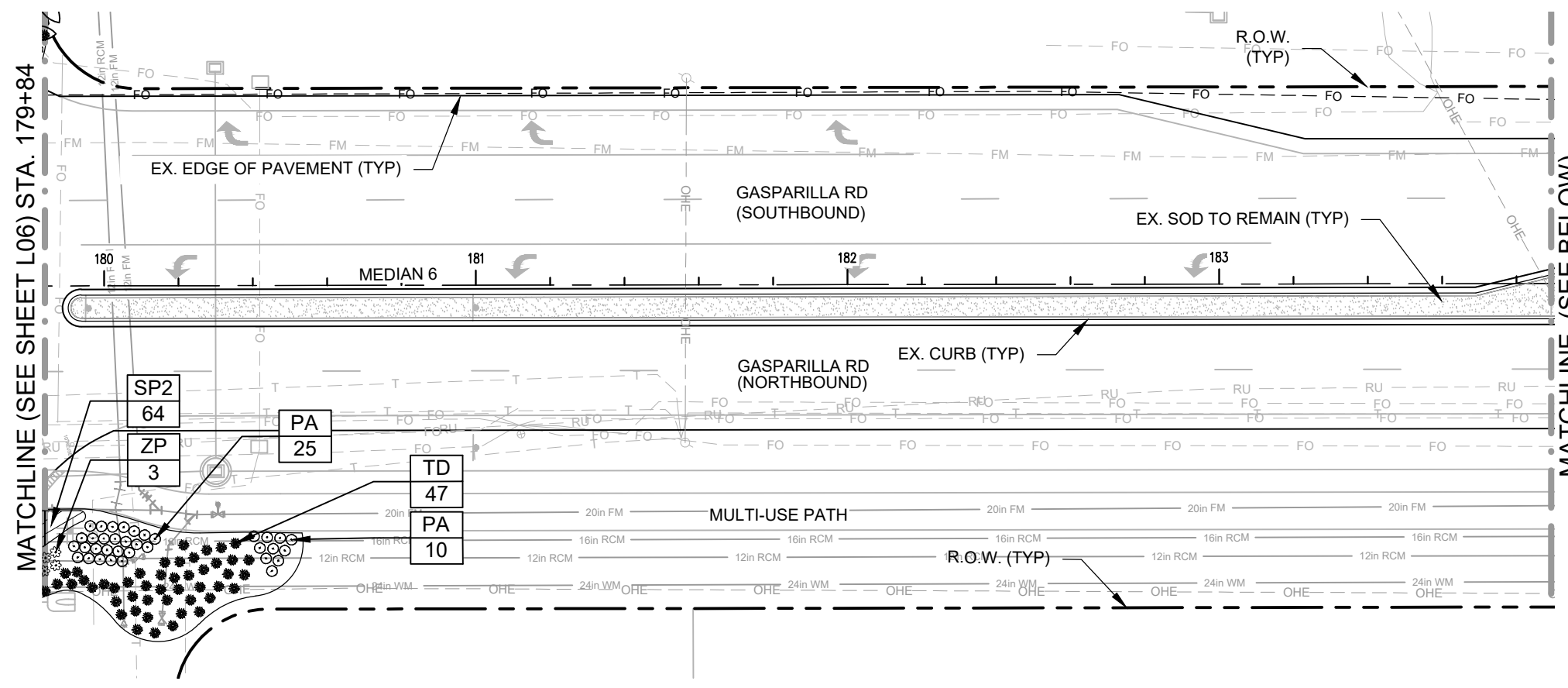
C.R. 771 ROADWAY
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CHARLOTTE COUNTY,
FLORIDA



JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
P.O. BOX 1550
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E.B. #642 & L.B. #642

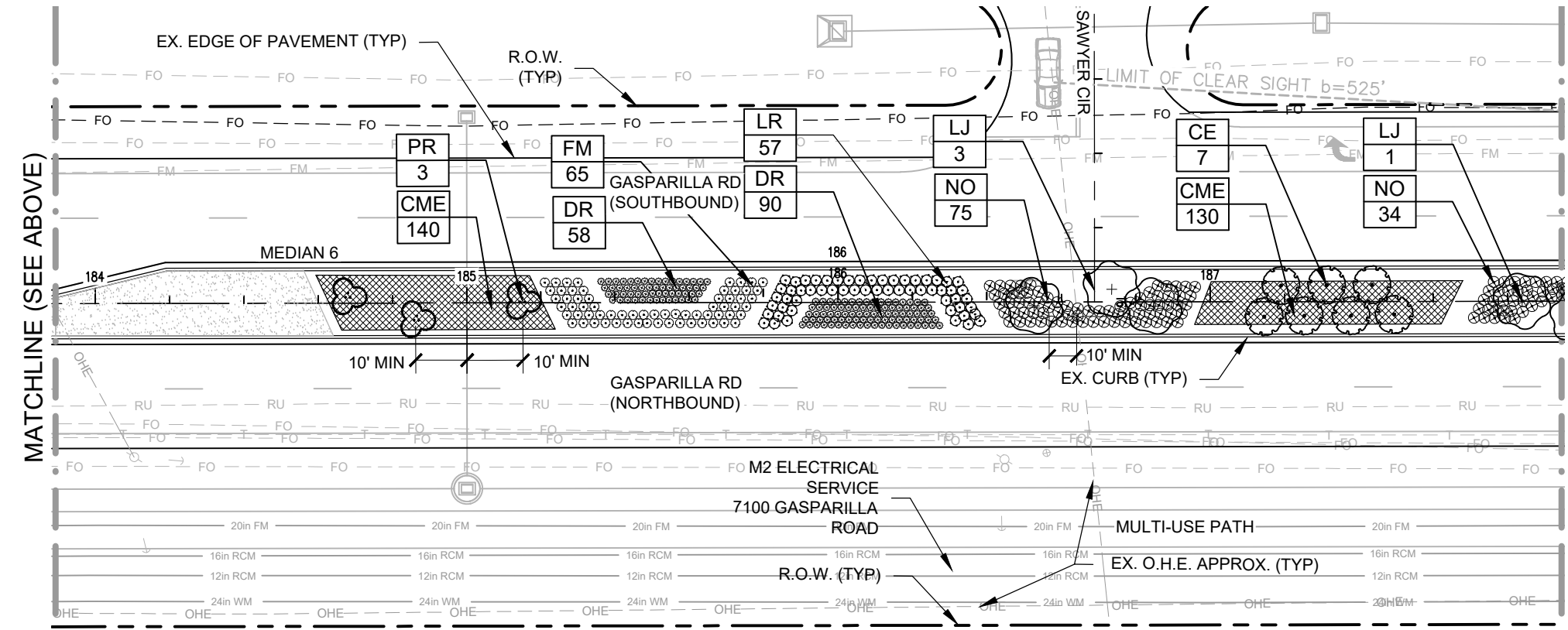
JEFFREY NAGLE, RLA
FL License No. LA-6667059

LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L06



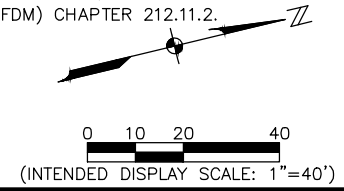
PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
	CE	Silver Buttonwood
	LX	Muskogee Crape Myrtle
	LJ	Japanese Privet
SHRUBS		
	BM	Bougainvillea Ms. Alice
	DR	Gold Mound Duranta
	FM	Green Island Ficus
	GG	Thryallis
	HP	Firebush
	LR	Ruby Loropetalum
	NO	Petite Pink Oleander

PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird Of Paradise
	ZP	Coontie
GRASSES		
	TD	Fakahatchee Grass
GROUND COVERS		
	AG	Perennial Peanut
	DV	Flax Lily
	CME	Carissa Macrocarpa 'Emerald'
	LG	Liriope 'Evergreen Giant'
	SP2	Purple queen



NOTES:

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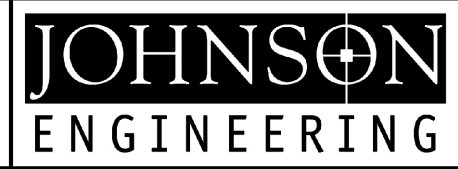


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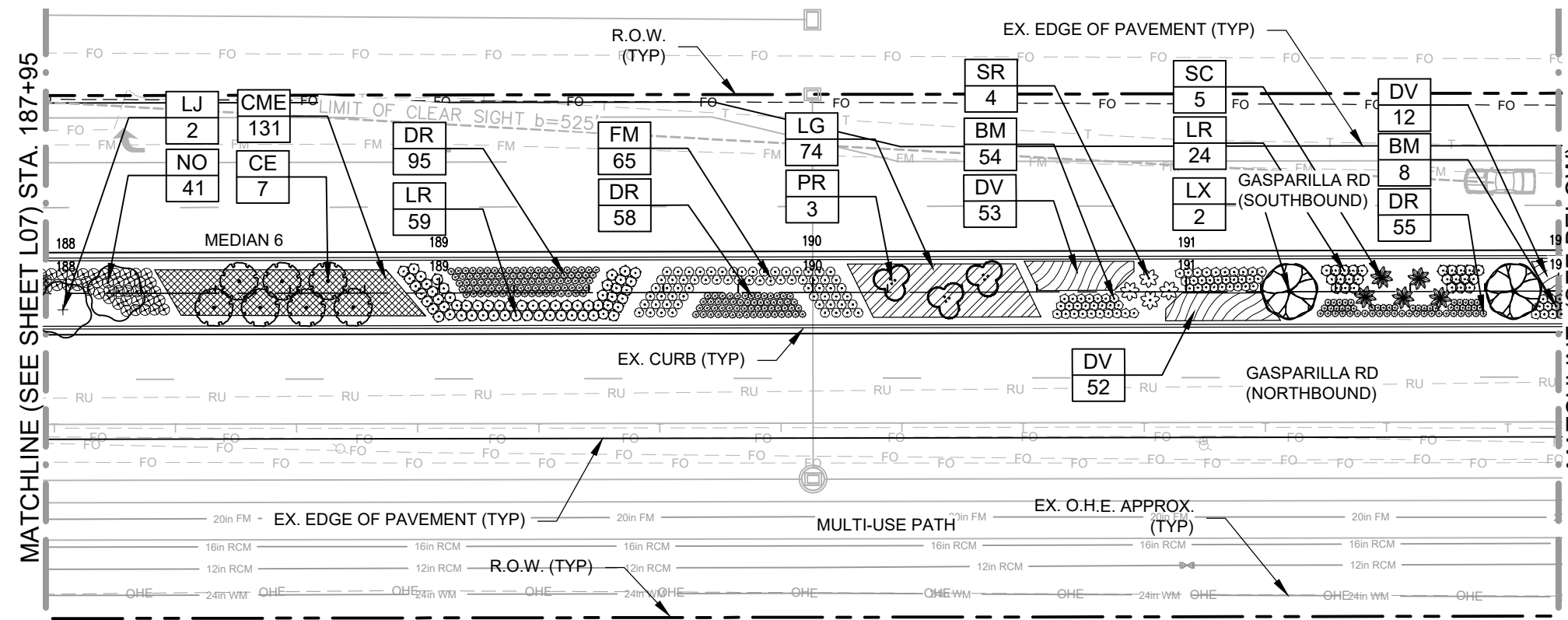
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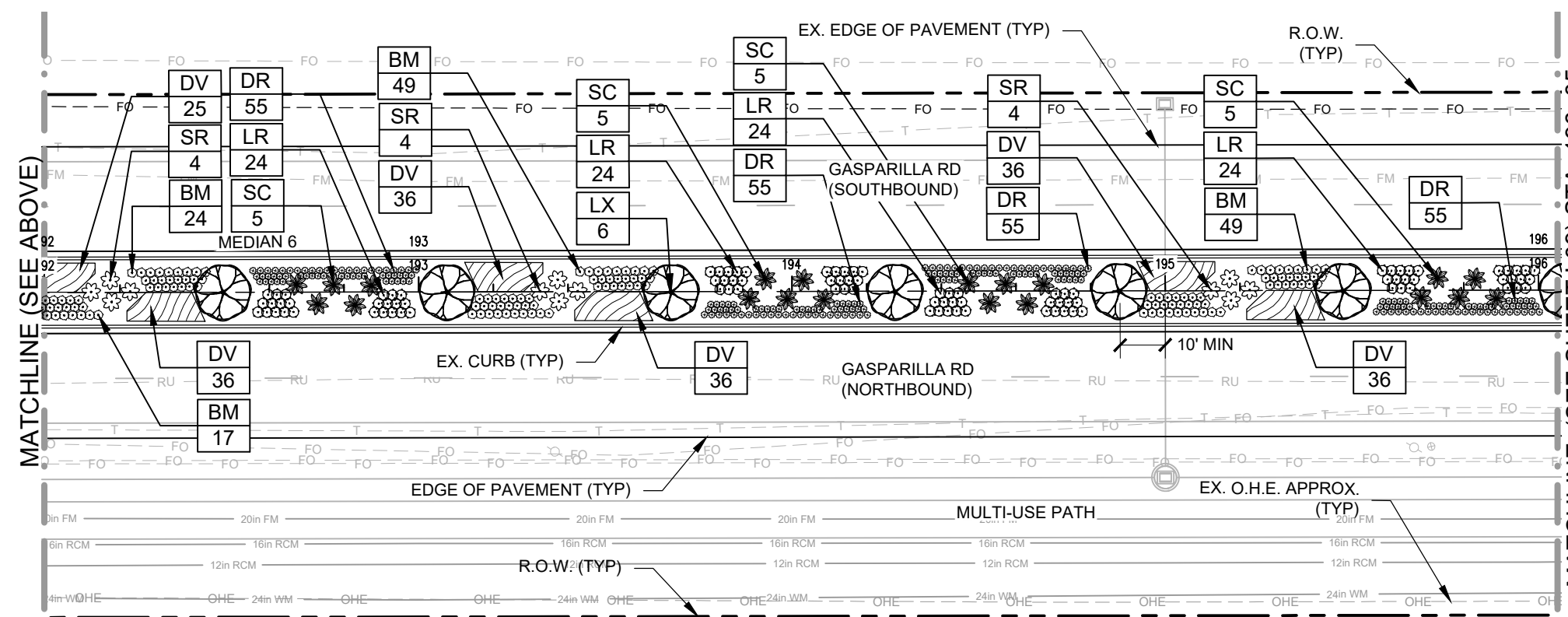
JEFFREY NAGLE, RLA
FL License No. LA-6667059

LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L07



PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
	CE	Silver Buttonwood
	LX	Muskogee Crape Myrtle
	LJ	Japanese Privet
SHRUBS		
	BM	Bougainvillea Ms. Alice
	DR	Gold Mound Duranta
	FM	Green Island Ficus
	GG	Thryallis
	HP	Firebush
	LR	Ruby Loropetalum
	NO	Petite Pink Oleander

PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird Of Paradise
	ZP	Coontie
GRASSES		
	TD	Fakahatchee Grass
GROUND COVERS		
	AG	Perennial Peanut
	DV	Flax Lily
	CME	Carissa Macrocarpa 'Emerald'
	LG	Liriope 'Evergreen Giant'
	SP2	Purple queen



XX	PLANT CODE
60	PLANT QUANTITY

NOTES:

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PUBLIC WORKS,
MAINTENANCE &
OPERATIONS

C.R. 771 ROADWAY
LANDSCAPE IMPROVEMENTS
CHARLOTTE COUNTY,
FLORIDA

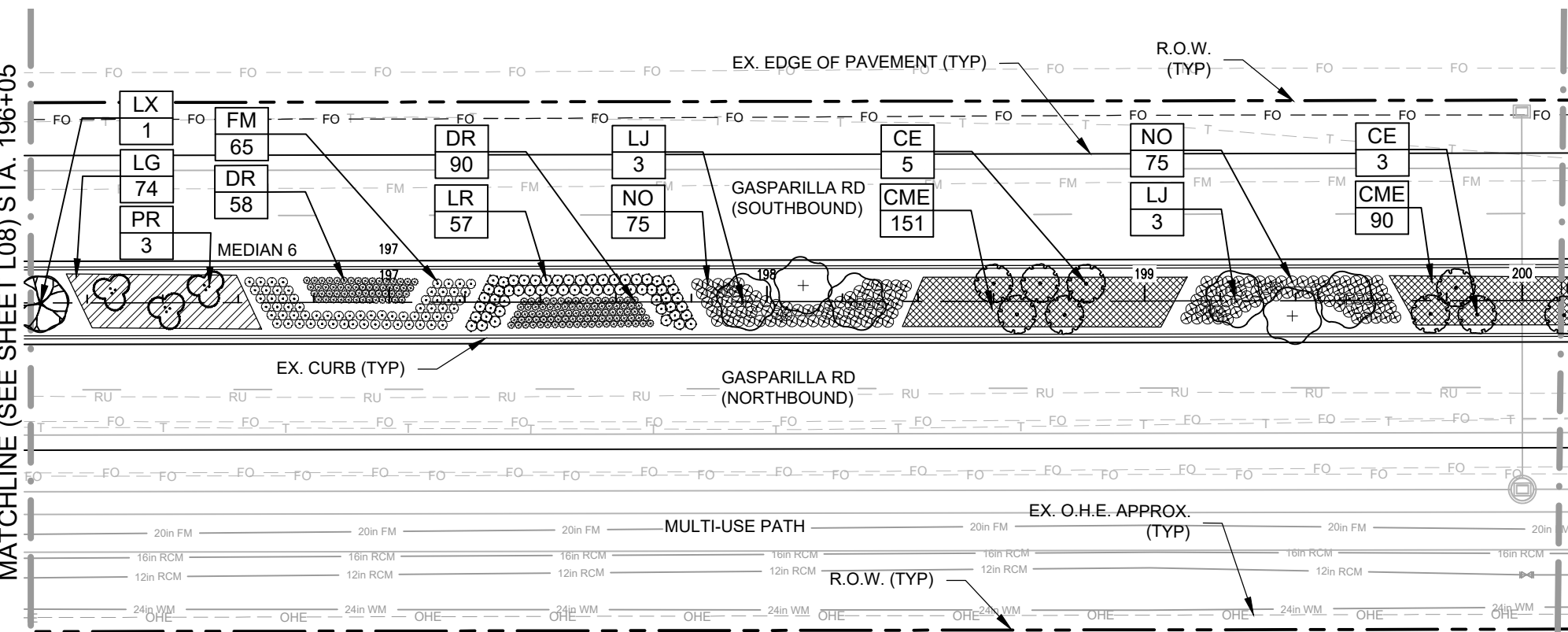


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FL License No. LA-6667059

LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L08

MATCHLINE (SEE SHEET L08) STA. 196+05



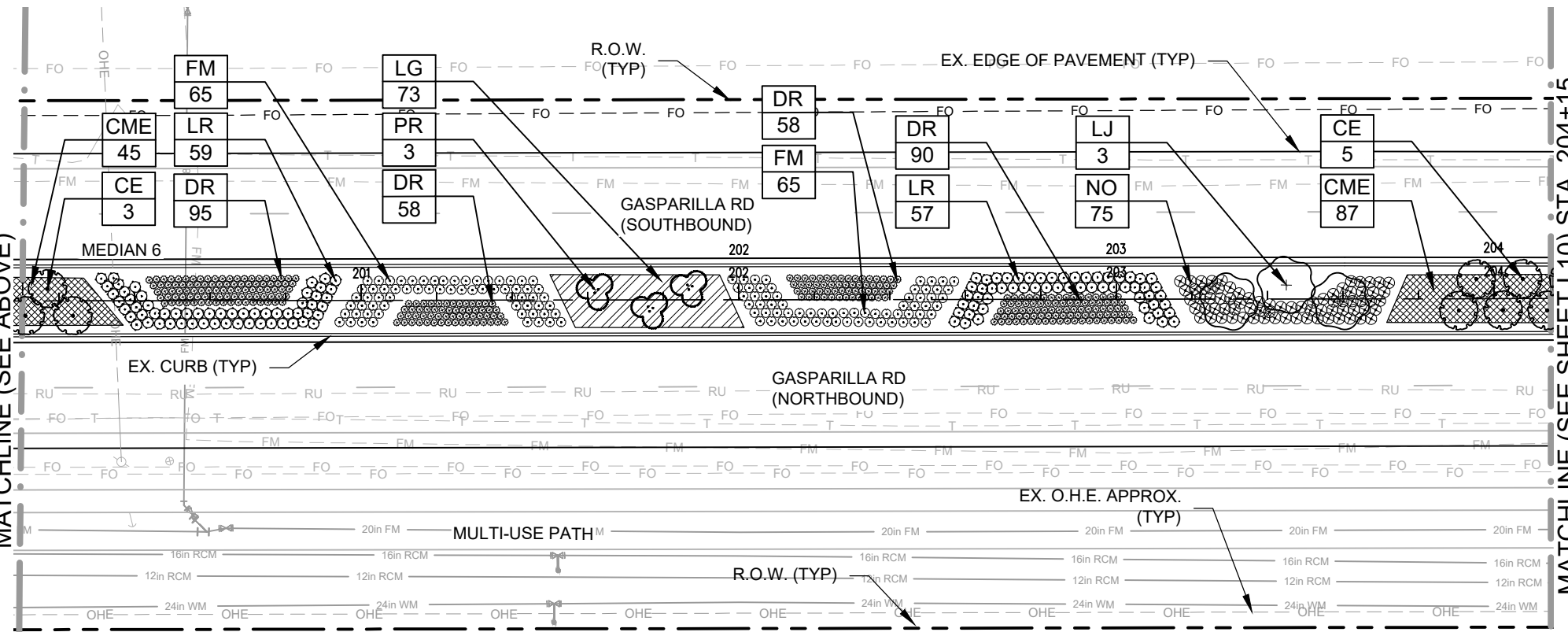
MATCHLINE (SEE BELOW)

PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
CODE	COMMON NAME	
CE	Silver Buttonwood	
LX	Muskogee Crape Myrtle	
LJ	Japanese Privet	
SHRUBS		
CODE	COMMON NAME	
BM	Bougainvillea Ms. Alice	
DR	Gold Mound Duranta	
FM	Green Island Ficus	
GG	Thyallis	
HP	Firebush	
LR	Ruby Loropetalum	
NO	Petite Pink Oleander	

PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird Of Paradise
	ZP	Coontie
GRASSES		
CODE	COMMON NAME	
TD	Fakahatchee Grass	
GROUND COVERS		
CODE	COMMON NAME	
AG	Perennial Peanut	
DV	Flax Lily	
CME	Carissa Macrocarpa 'Emerald	
LG	Liriope 'Evergreen Giant'	
SP2	Purple queen	

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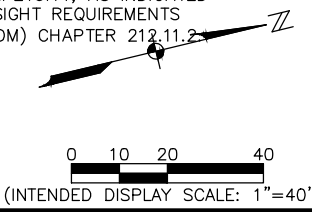
MATCHLINE (SEE ABOVE)



MATCHLINE (SEE SHEET L10) STA. 204+15

XX	PLANT CODE
60	PLANT QUANTITY

NOTES:
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REVISIONS	

CHARLOTTE COUNTY
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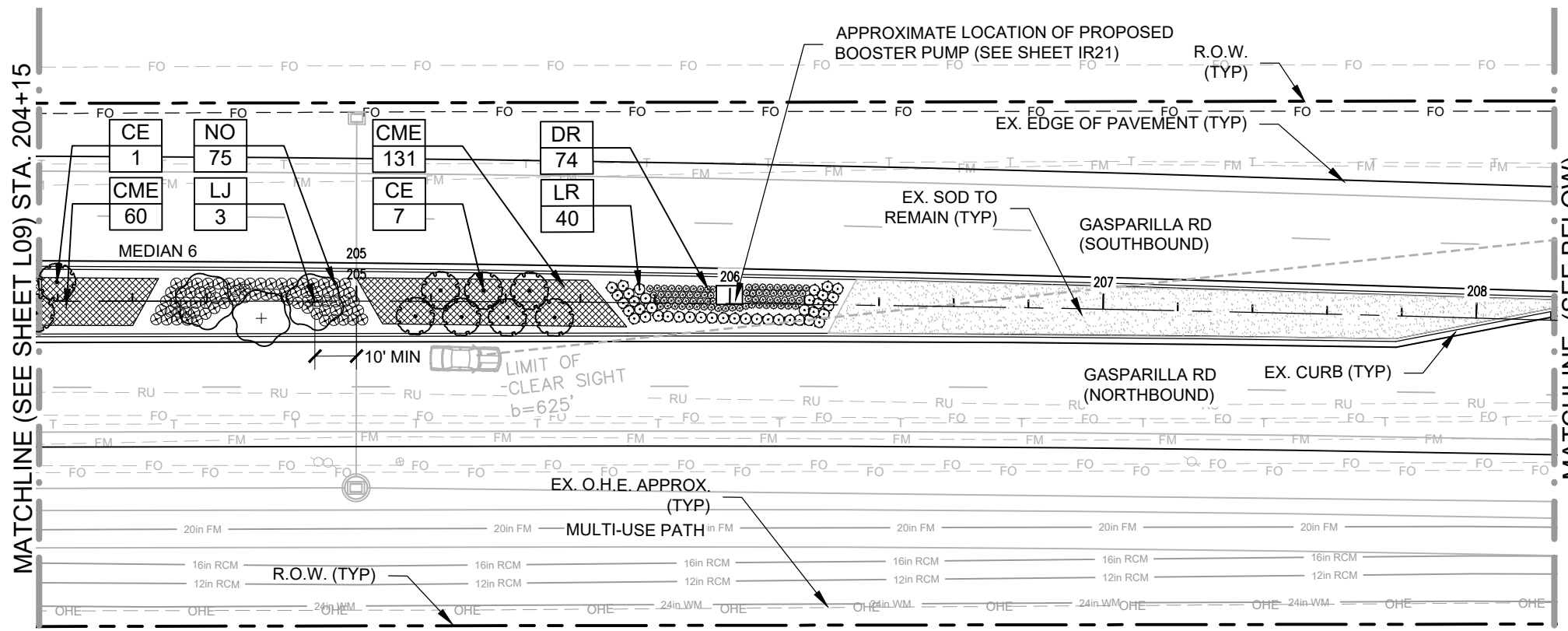
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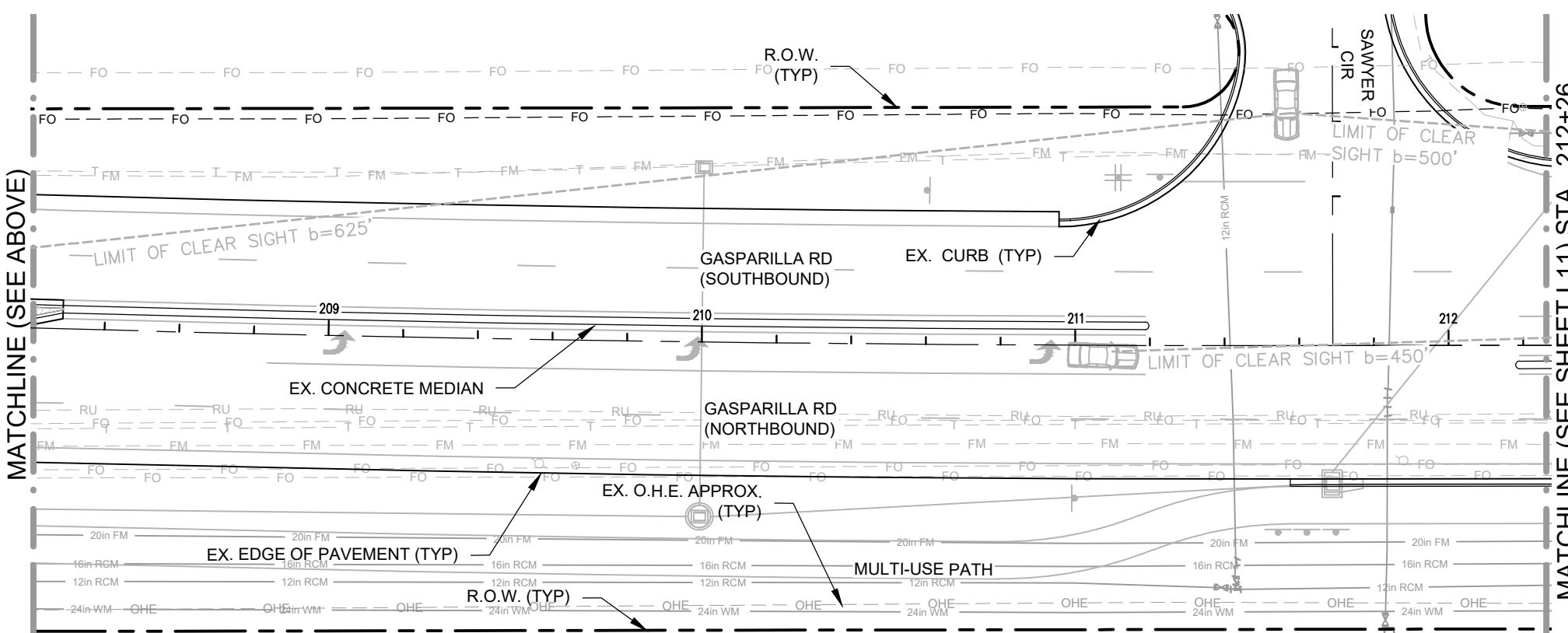
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LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L09



PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
CODE	COMMON NAME	
CE	Silver Buttonwood	
LX	Muskogee Crape Myrtle	
LJ	Japanese Privet	
SHRUBS		
CODE	COMMON NAME	
BM	Bougainvillea Ms. Alice	
DR	Gold Mound Duranta	
FM	Green Island Ficus	
GG	Thryallis	
HP	Firebush	
LR	Ruby Loropetalum	
NO	Petite Pink Oleander	

PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird Of Paradise
	ZP	Coontie
GRASSES		
CODE	COMMON NAME	
TD	Fakahatchee Grass	
GROUND COVERS		
CODE	COMMON NAME	
AG	Perennial Peanut	
DV	Flax Lily	
CME	Carissa Macrocarpa 'Emerald'	
LG	Liriope 'Evergreen Giant'	
SP2	Purple queen	



NOTES:

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XX	PLANT CODE
60	PLANT QUANTITY



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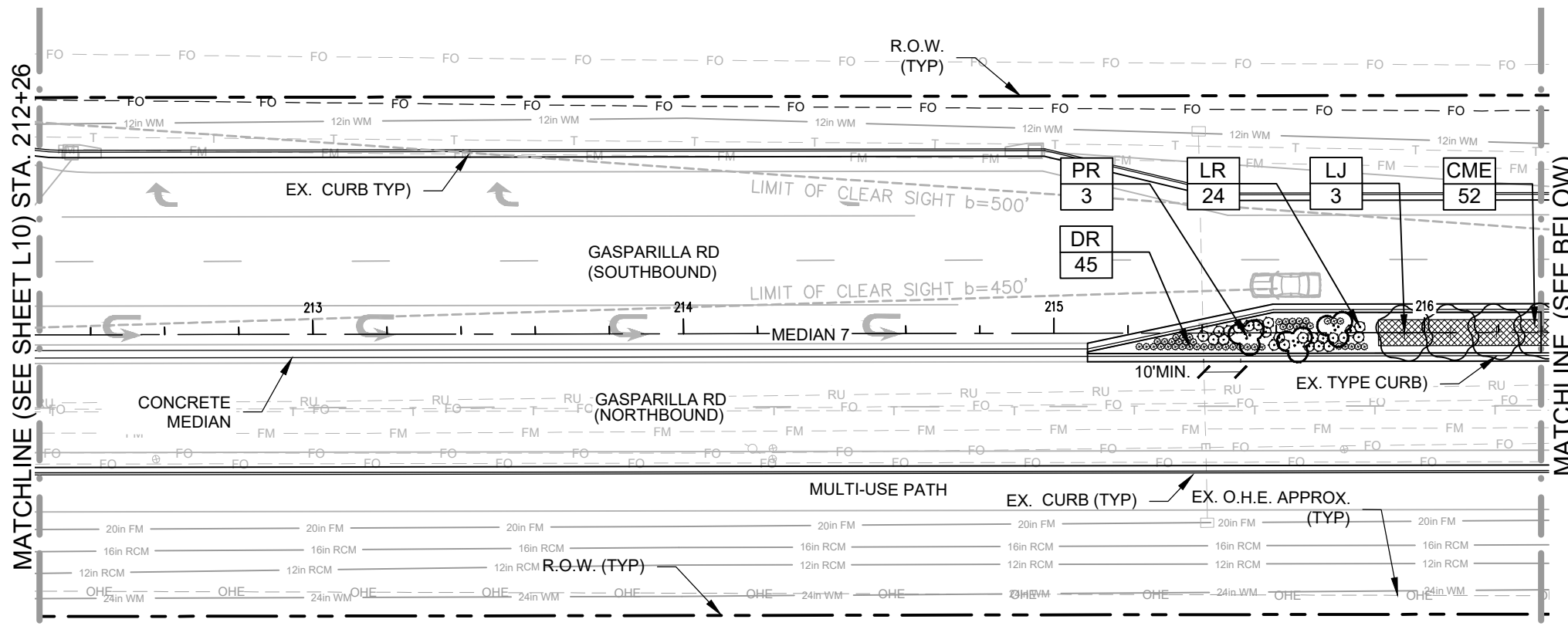
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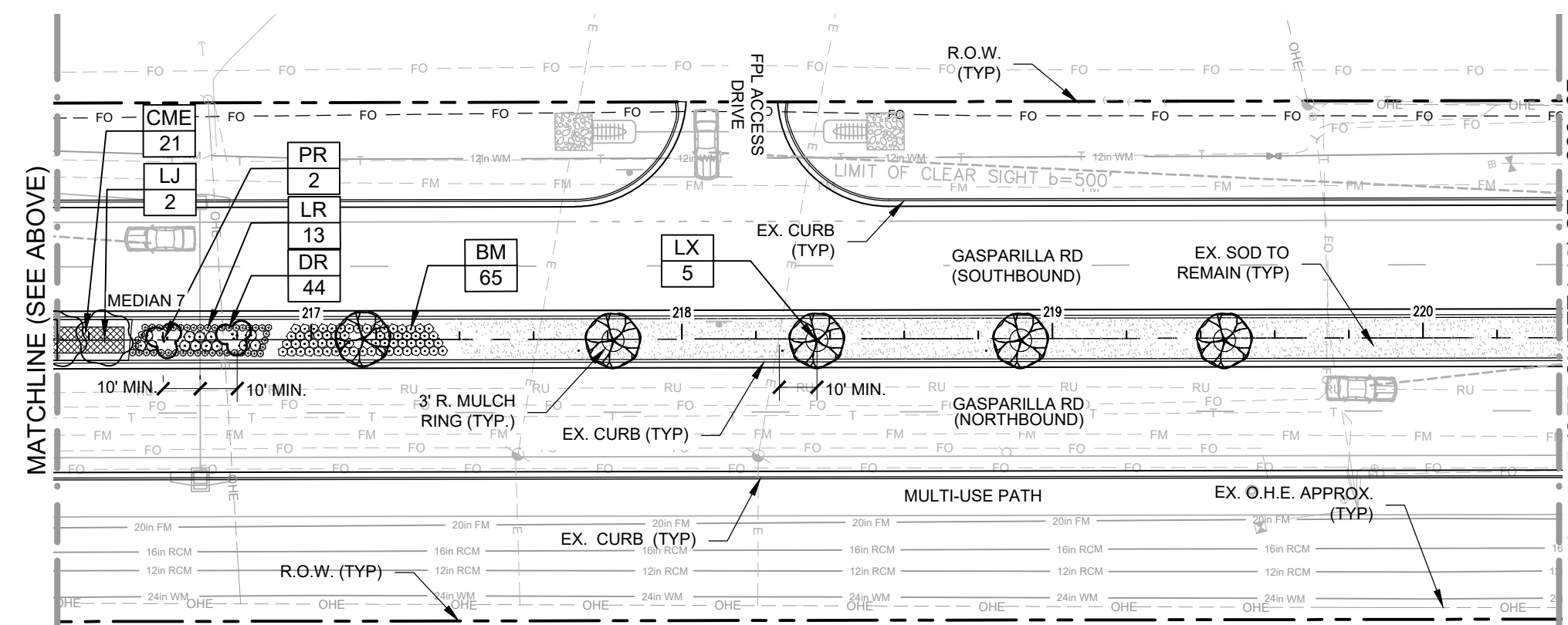
JEFFREY NAGLE, RLA
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LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L10



PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
	CE	Silver Buttonwood
	LX	Muskogee Crape Myrtle
	LJ	Japanese Privet
SHRUBS		
	BM	Bougainvillea Ms. Alice
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	FM	Green Island Ficus
	GG	Thyallis
	HP	Firebush
	LR	Ruby Loropetalum
	NO	Petite Pink Oleander

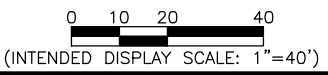
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SHRUBS	CODE	COMMON NAME
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	TD	Fakahatchee Grass
GROUND COVERS		
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	LG	Liriope 'Evergreen Giant'
	SP2	Purple queen



XX	PLANT CODE
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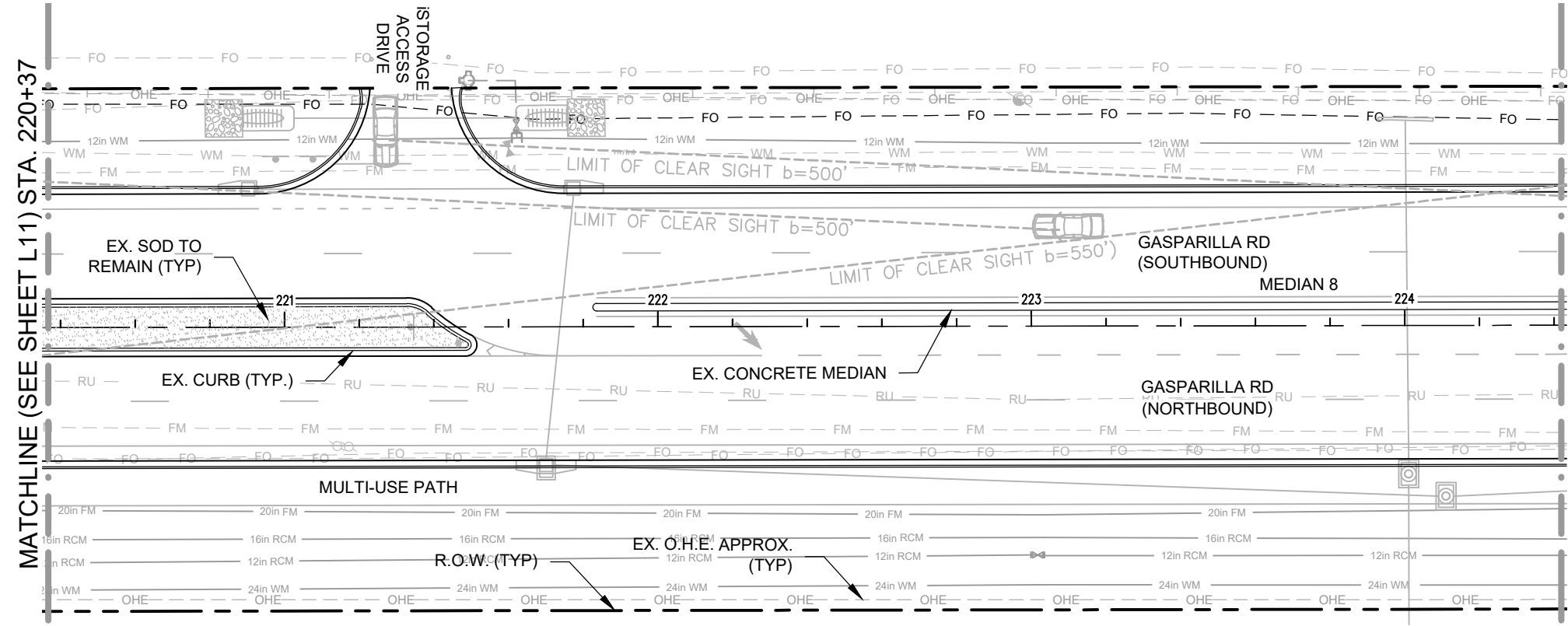
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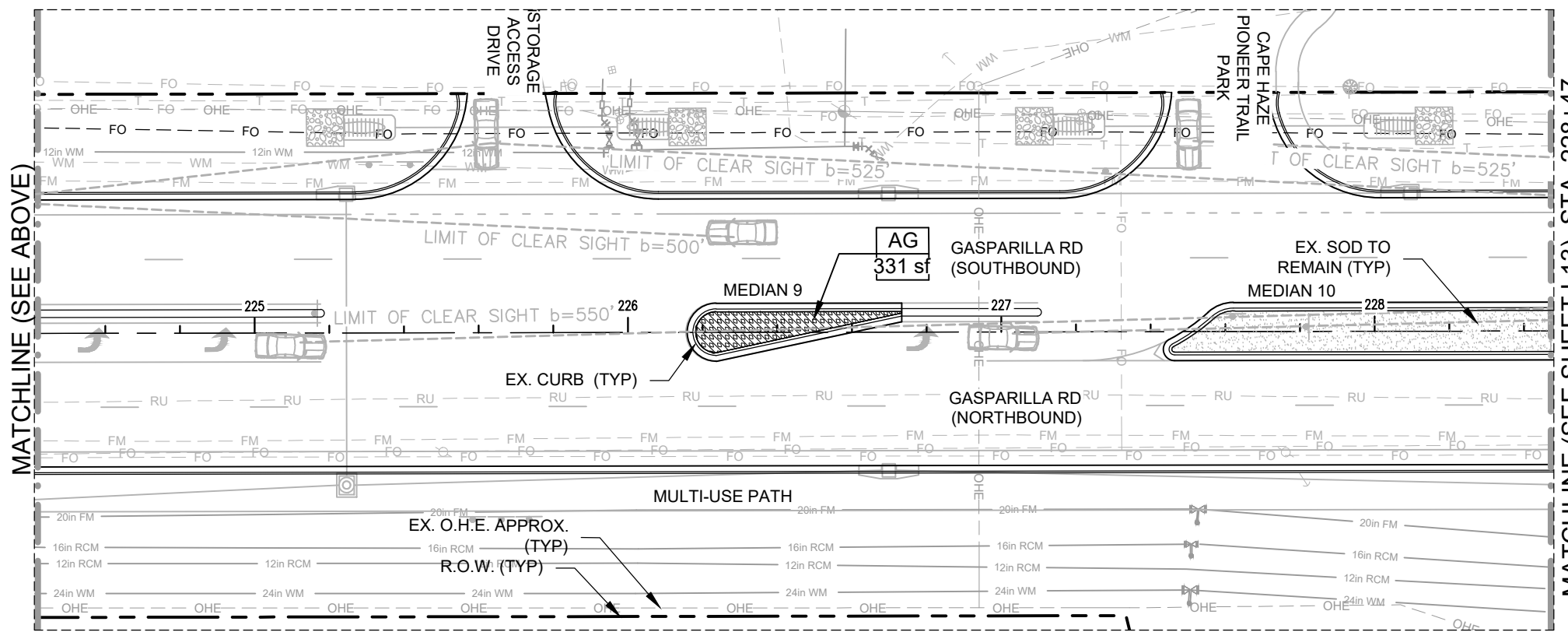
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LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L11



PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
CODE	COMMON NAME	
CE	Silver Buttonwood	
LX	Muskogee Crape Myrtle	
LJ	Japanese Privet	
SHRUBS		
CODE	COMMON NAME	
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PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird Of Paradise
	ZP	Coontie
GRASSES		
CODE	COMMON NAME	
TD	Fakahatchee Grass	
GROUND COVERS		
CODE	COMMON NAME	
AG	Perennial Peanut	
DV	Flax Lily	
CME	Carissa Macrocarpa 'Emerald'	
LG	Liriope 'Evergreen Giant'	
SP2	Purple queen	



XX	PLANT CODE
60	PLANT QUANTITY

NOTES:
 1. THIS PROJECT HAS BEEN DESIGNED TO BE IN GENERAL COMPLIANCE WITH F.D.O.T. "MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS ('GREEN BOOK') & CHAPTER 3 - 2018. ALL PROPOSED LANDSCAPING WITHIN SIGHT LINES SHALL BE INSTALLED AS PER PLAN. PRIOR TO TIME OF INSTALLATION, ANY PLANT LOCATION CHANGES BY CONTRACTOR SHALL REQUIRE APPROVAL BY CHARLOTTE COUNTY PROJECT MANAGER.

2. THE CONTRACTOR SHALL REMOVE ANY STEMS MEASURING 4" CALIPER OR GREATER, AT 6" ABOVE THE GROUND, ON ALL ACCENT SHRUBS PROPOSED IN THE ROADWAY MEDIAN. FOLLOWING FINAL ACCEPTANCE, CHARLOTTE COUNTY OR ITS LANDSCAPE MAINTENANCE REPRESENTATIVE SHALL ROUTINELY INSPECT AND MAINTAIN ALL ACCENT SHRUBS, IN PERPETUITY, IN ROADWAY MEDIANS AS INDICATED ABOVE FOR COMPLIANCE WITH CLEAR ZONE REQUIREMENTS STATED IN F.D.O.T. "MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS ('GREEN BOOK') & CHAPTER 4 - 2018

3. THE CONTRACTOR SHALL REMOVE ANY FOLIAGE WITHIN THE FOLLOWING VERTICAL LIMITS, 1.5' ABOVE GRADE AND BELOW 8.5', FOR ALL LANDSCAPE MATERIALS PROPOSED WITHIN SIGHT LINE AREAS, AS SHOWN ON THE PLANS. FOLLOWING FINAL ACCEPTANCE, CHARLOTTE COUNTY OR ITS LANDSCAPE MAINTENANCE REPRESENTATIVE SHALL ROUTINELY INSPECT AND MAINTAIN ALL ACCENT SHRUBS, IN PERPETUITY, AS INDICATED ABOVE FOR COMPLIANCE WITH CLEAR SIGHT REQUIREMENTS STATED IN F.D.O.T. DESIGN MANUAL (FDM) CHAPTER 212.11.2 (SEE WINDOW DETAIL, SHEET L15.)

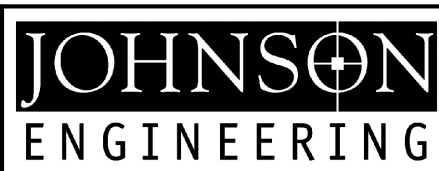


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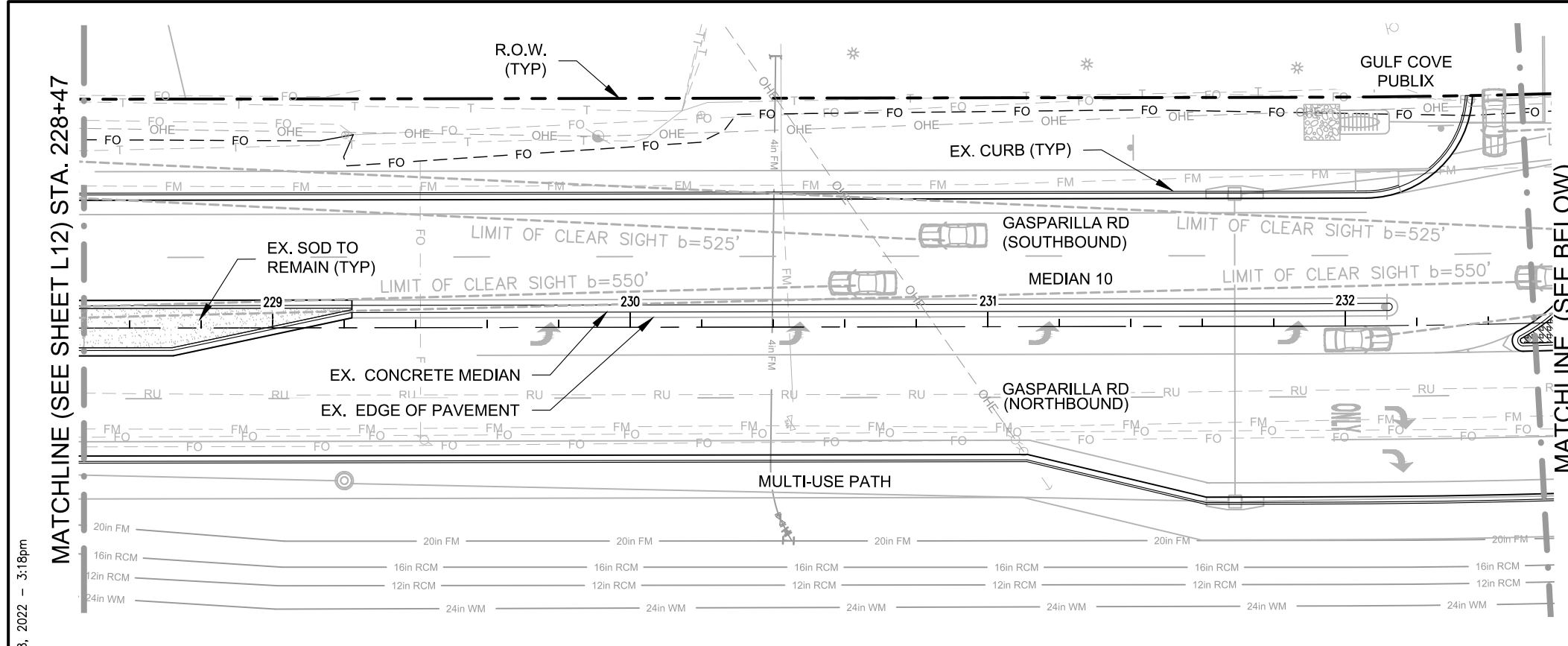
C.R. 771 ROADWAY
 LANDSCAPE IMPROVEMENTS
 CHARLOTTE COUNTY,
 FLORIDA



JOHNSON ENGINEERING, INC.
 2122 JOHNSON STREET
 P.O. BOX 1550
 FORT MYERS, FLORIDA 33902-1550
 PHONE: (239) 334-0046
 FAX: (239) 334-3661
 E.B. #642 & L.B. #642

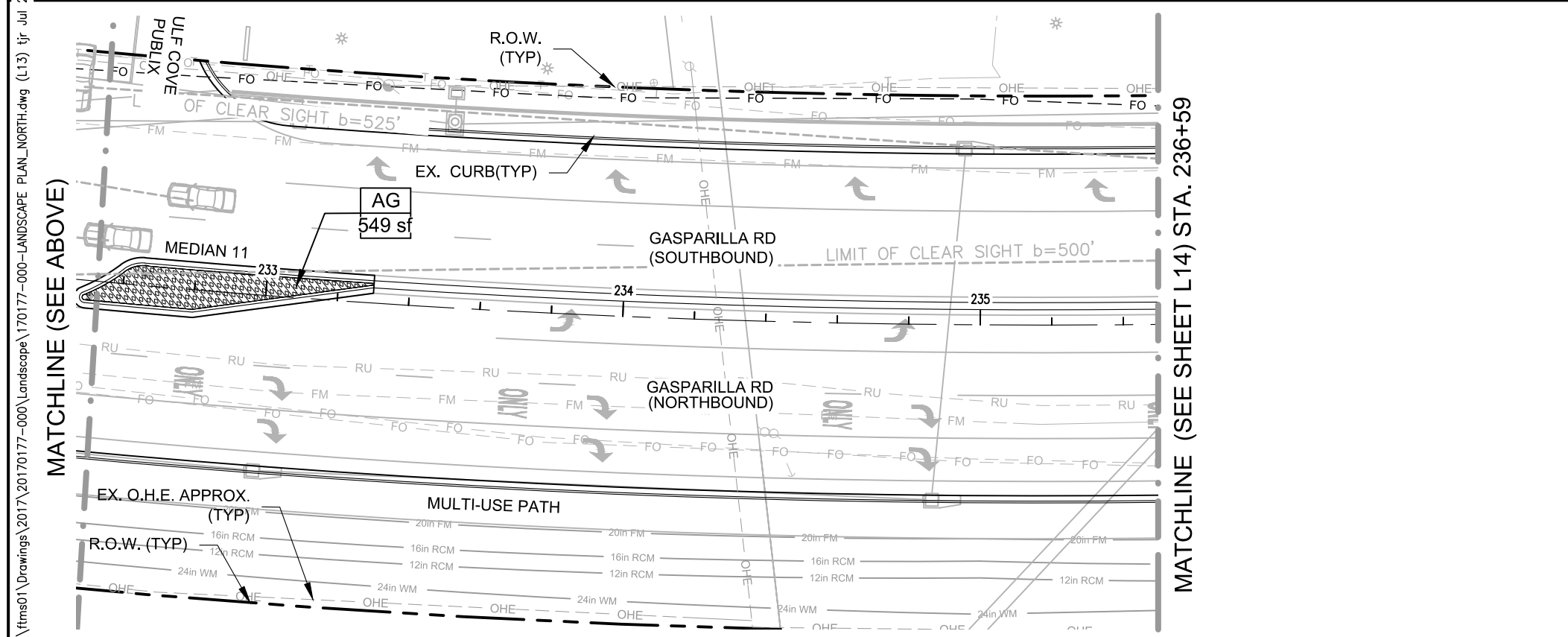
JEFFREY NAGLE, RLA
 FL License No. LA-6667059

LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L12



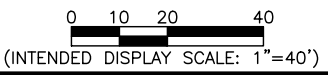
PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
	CE	Silver Buttonwood
	LX	Muskogee Crape Myrtle
	LJ	Japanese Privet
SHRUBS		
	BM	Bougainvillea Ms. Alice
	DR	Gold Mound Duranta
	FM	Green Island Ficus
	GG	Thryallis
	HP	Firebush
	LR	Ruby Loropetalum
	NO	Petite Pink Oleander

PLANT KEY		
SHRUBS	CODE	COMMON NAME
	PA	Plumbago
	SC	Silver Saw Palmetto
	SR	Bird Of Paradise
	ZP	Coontie
GRASSES		
	TD	Fakahatchee Grass
GROUND COVERS		
	AG	Perennial Peanut
	DV	Flax Lily
	CME	Carissa Macrocarpa 'Emerald'
	LG	Liriope 'Evergreen Giant'
	SP2	Purple queen



NOTES:

- THIS PROJECT HAS BEEN DESIGNED TO BE IN GENERAL COMPLIANCE WITH F.D.O.T. "MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS ('GREEN BOOK') & CHAPTER 3 - 2018. ALL PROPOSED LANDSCAPING WITHIN SIGHT LINES SHALL BE INSTALLED AS PER PLAN. PRIOR TO TIME OF INSTALLATION, ANY PLANT LOCATION CHANGES BY CONTRACTOR SHALL REQUIRE APPROVAL BY CHARLOTTE COUNTY PROJECT MANAGER.
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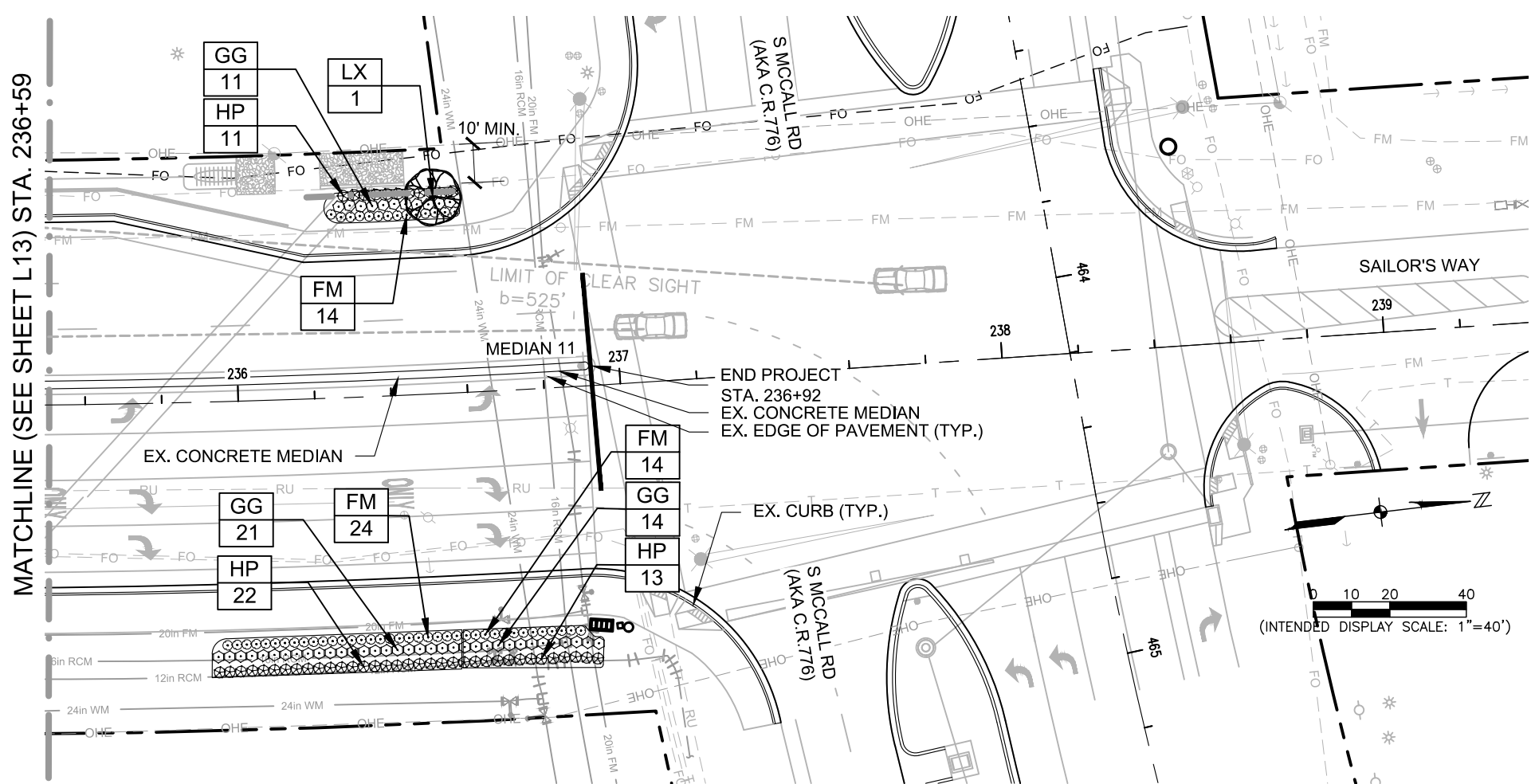


JOHNSON ENGINEERING, INC.
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JEFFREY MAGLE, RLA
FL License No. LA-6667059

LANDSCAPE PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L13

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PLANT KEY		
TREES	CODE	COMMON NAME
	PR	Pygmy Date Palm
	PS	Wild Date Palm
ACCENT SHRUBS		
	CE	Silver Buttonwood
	LX	Muskogee Crape Myrtle
	LJ	Japanese Privet
SHRUBS		
	BM	Bougainvillea Ms. Alice
	DR	Gold Mound Duranta
	FM	Green Island Ficus
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	HP	Firebush
	LR	Ruby Loropetalum
	NO	Petite Pink Oleander

PLANT KEY		
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	PA	Plumbago
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GROUND COVERS		
	AG	Perennial Peanut
	DV	Flax Lily
	CME	Carissa Macrocarpa 'Emerald'
	LG	Liriope 'Evergreen Giant'
	SP2	Purple queen

GENERAL NOTES

- ALL PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH ACCEPTED HORTICULTURAL PRACTICES, AND GROWN FOR AT LEAST TWO YEARS UNDER THE SAME CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT, UNLESS APPROVAL IS GIVEN BY THE OWNER'S REPRESENTATIVE PRIOR TO DELIVERY TO SITE.
- PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL TO THE SPECIES AND SHALL BE SOUND, HEALTHY AND VIGOROUS, AND FREE FROM INSECT PESTS.
- PLANT SHALL BE EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMAL ACCEPTABLE SIZES. PLANTS SHALL BE MEASURED BEFORE PRUNING WITH BRANCHES IN NORMAL POSITION. ANY NECESSARY PRUNING SHALL BE DONE AT THE TIME OF PLANTING. REQUIREMENTS FOR MEASUREMENTS, BRANCHING, GRADING, QUALITY, BALLING AND BURLAPPING OF PLANTS IN THE PLANT LIST GENERALLY FOLLOW THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC., IN THE AMERICAN STANDARD FOR NURSERY STOCK.
- PLANT MATERIALS SHALL BE GRADED FLORIDA NO. 1 OR BETTER AS OUTLINED UNDER GRADES AND STANDARDS FOR NURSERY PLANTS, STATE PLANT BOARD OF FLORIDA. PLANTS THAT MEET THE REQUIREMENTS SPECIFIED, BUT DO NOT HAVE THE NORMAL BALANCE OF HEIGHT AND SPREAD TYPICAL FOR THE RESPECTIVE PLANT, SHALL NOT BE ACCEPTED. THE CONTRACTOR SHALL PROVIDE CERTIFICATION THAT ALL PALMS AND TREES ARE A MINIMUM FLORIDA NO. 1 OR BETTER AS OUTLINED UNDER GRADES AND STANDARDS FOR NURSERY PLANTS, STATE PLANT BOARD OF FLORIDA. THIS SHALL BE REQUIRED AT TIME OF DELIVERY.
- ALL PLANTS SHALL BE FREE OF WEEDS OR OTHER OBJECTIONABLE VEGETATION. PLANTS GROWN IN "GROW BAGS" SHALL NOT BE ACCEPTED.
- ALL PLANT MATERIAL SHALL BE PROTECTED FROM POSSIBLE BARK INJURY OR BREAKAGE OF BRANCHES. PLANTS TRANSPORTED IN AN OPEN TRUCK SHALL BE ADEQUATELY COVERED TO PREVENT WINDBURN, DRYING OR DAMAGE TO THE PLANTS.
- PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY TO THE SITE SHALL HAVE THEIR ROOT BALL COVERED WITH MOIST SOIL, MULCH OR OTHER SUITABLE MATERIAL TO PROTECT THEM FROM DRYING OF WIND AND SUN. ALL PLANTS SHALL BE WATERED AS NECESSARY UNTIL PLANTED. STORAGE PERIOD SHALL NOT EXCEED SEVENTY TWO (72) HOURS.
- TREES AND PALMS MOVED BY WINCH OR CRANE SHALL BE THOROUGHLY PROTECTED FROM CHAIN MARKS, GIRDLING OR BARK SLIPPAGE BY MEANS OF BURLAP, WOOD BATTENS OR OTHER APPROVED METHOD.
- DURING TRANSPORT ON TRUCK OR TRAILER, PALMS SHOULD BE WELL SUPPORTED ALONG THEIR ENTIRE LENGTH. UNSUPPORTED CROWNS MAY CRACK OR DAMAGE THE BUD, RESULTING IN REDUCED SURVIVAL RATES.
- THE CONTRACTOR SHALL REPLACE ALL BAHIA SOD DISTURBED BY ASSOCIATED CONSTRUCTION ACTIVITY, OUTSIDE PROPOSED LANDSCAPE ENHANCEMENTS SHOWN ON PLANS. SEE TABULATION OF QUANTITIES FOR ANTICIPATED QUANTITY REQUIRED FOR REPLACING SOD DISTURBED BY TRENCHING MAINLINE.

NOTES:

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XX	PLANT CODE
60	PLANT QUANTITY

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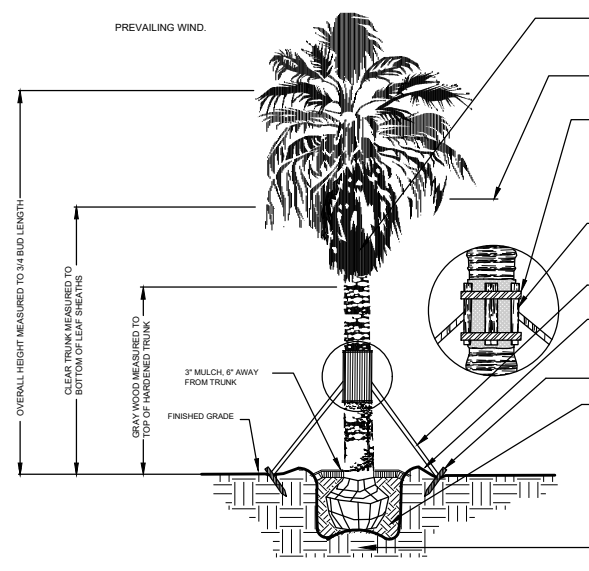
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LANDSCAPE IMPROVEMENTS
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FLORIDA



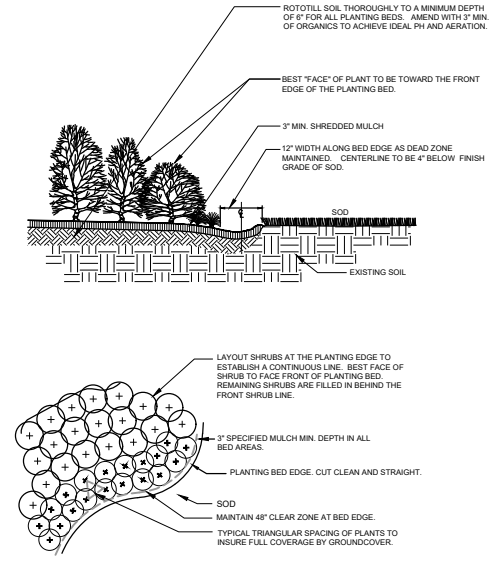
JOHNSON ENGINEERING, INC.
2122 JOHNSON STREET
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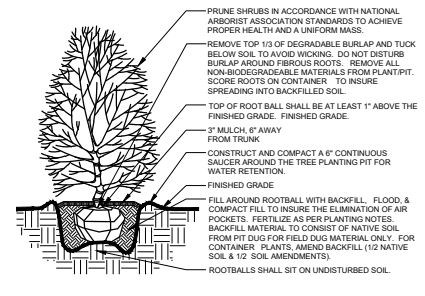
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JUNE 2022	20170177-000	41-21-08	As Shown	L14



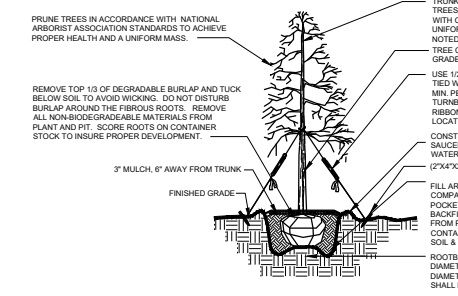
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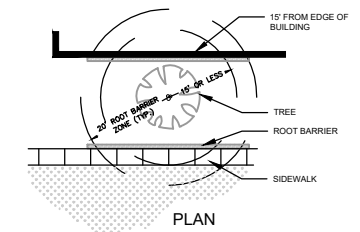
2 TYPICAL SHRUB BED PLANTING N.T.S.



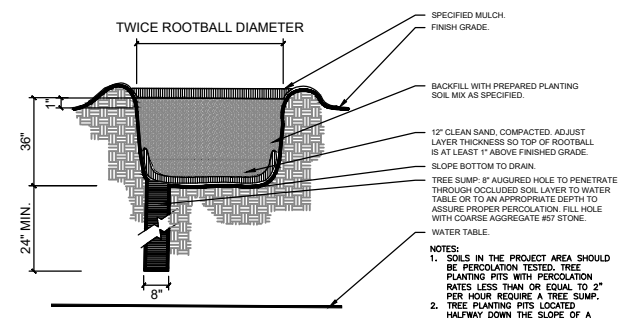
3 TYPICAL SHRUB PIT PLANTING N.T.S.



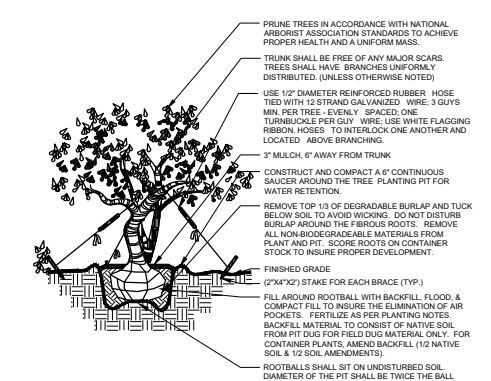
4 TYPICAL SINGLE TRUNK TREE PLANTING (TO BE INSTALLED INSIDE SIGHT-LINE AREAS ONLY) N.T.S.



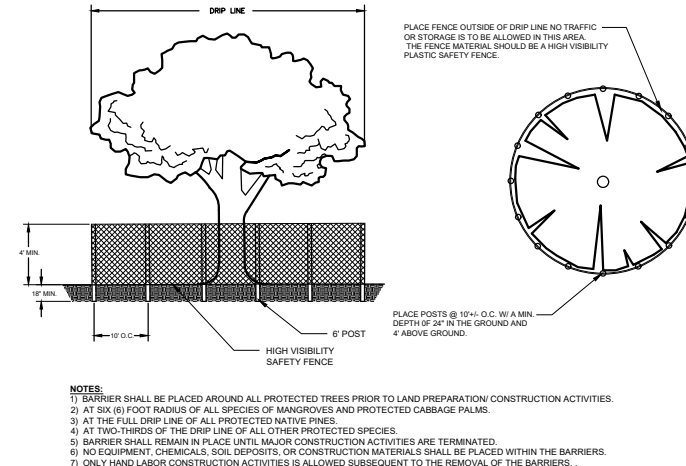
5 TYPICAL ROOT BARRIER DETAIL N.T.S.



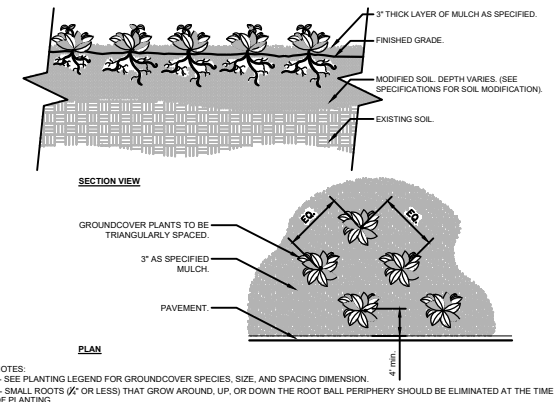
6 TREE SUMP DETAIL FOR POOR DRAINAGE N.T.S.



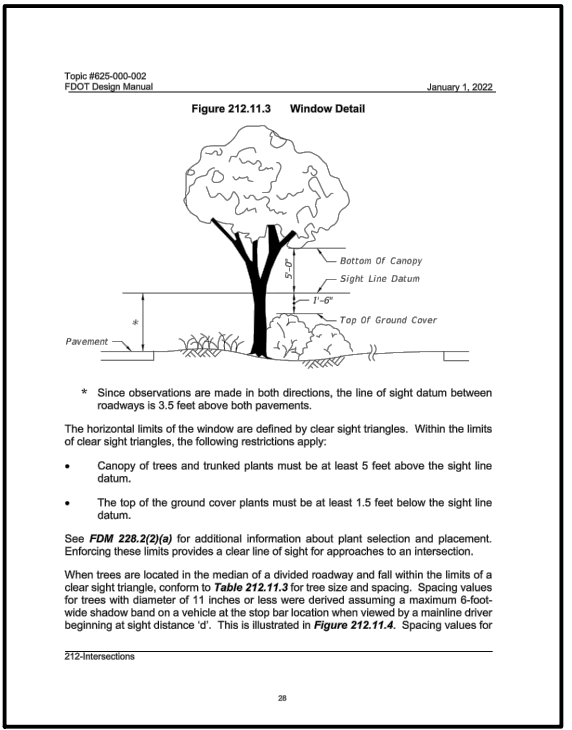
7 TYPICAL MULTI-TRUNK TREE PLANTING N.T.S.



8 TYPICAL TREE/CONSERVATION AREA PROTECTION BARRIER N.T.S.



9 GROUNDCOVER N.T.S.



10 FDOT WINDOW DETAIL N.T.S.

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ENGINEERING**

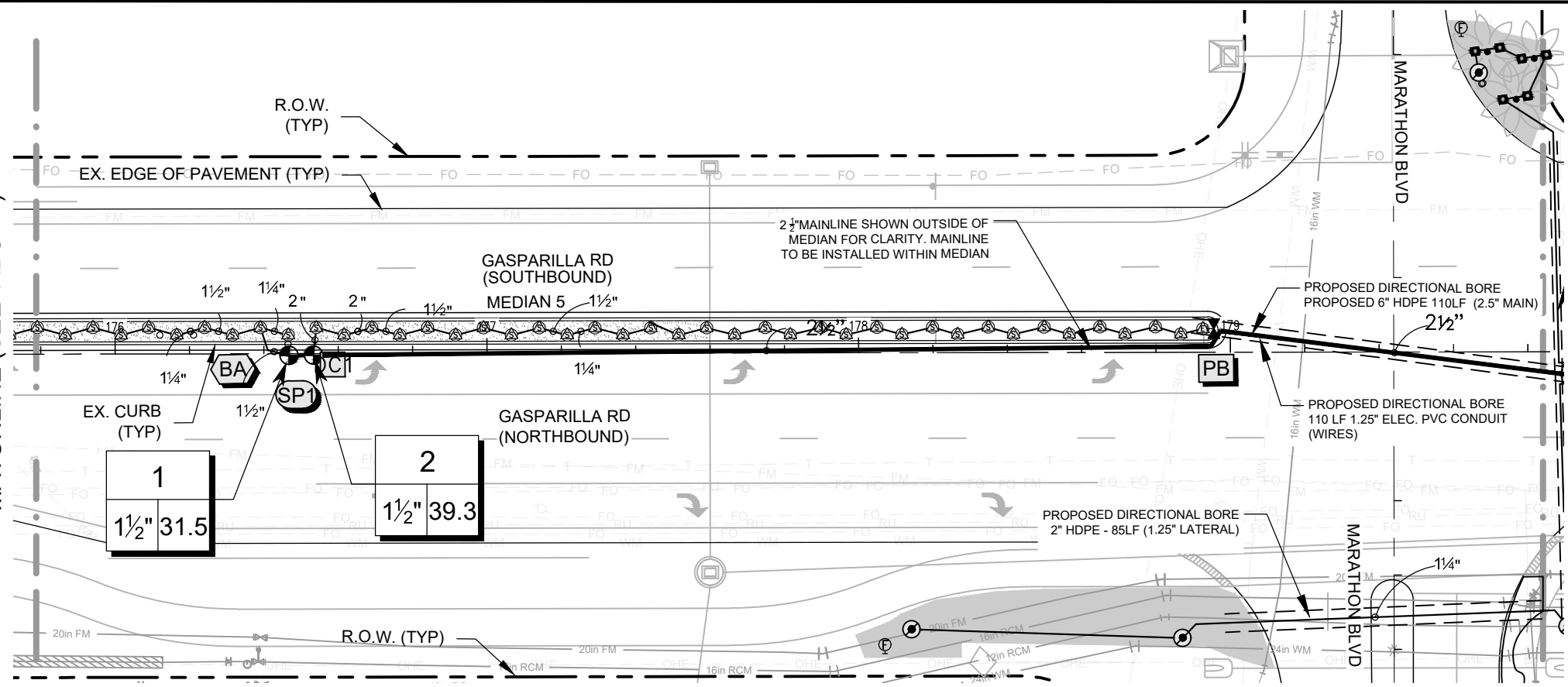
JOHNSON ENGINEERING, INC.
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LANDSCAPE DETAILS

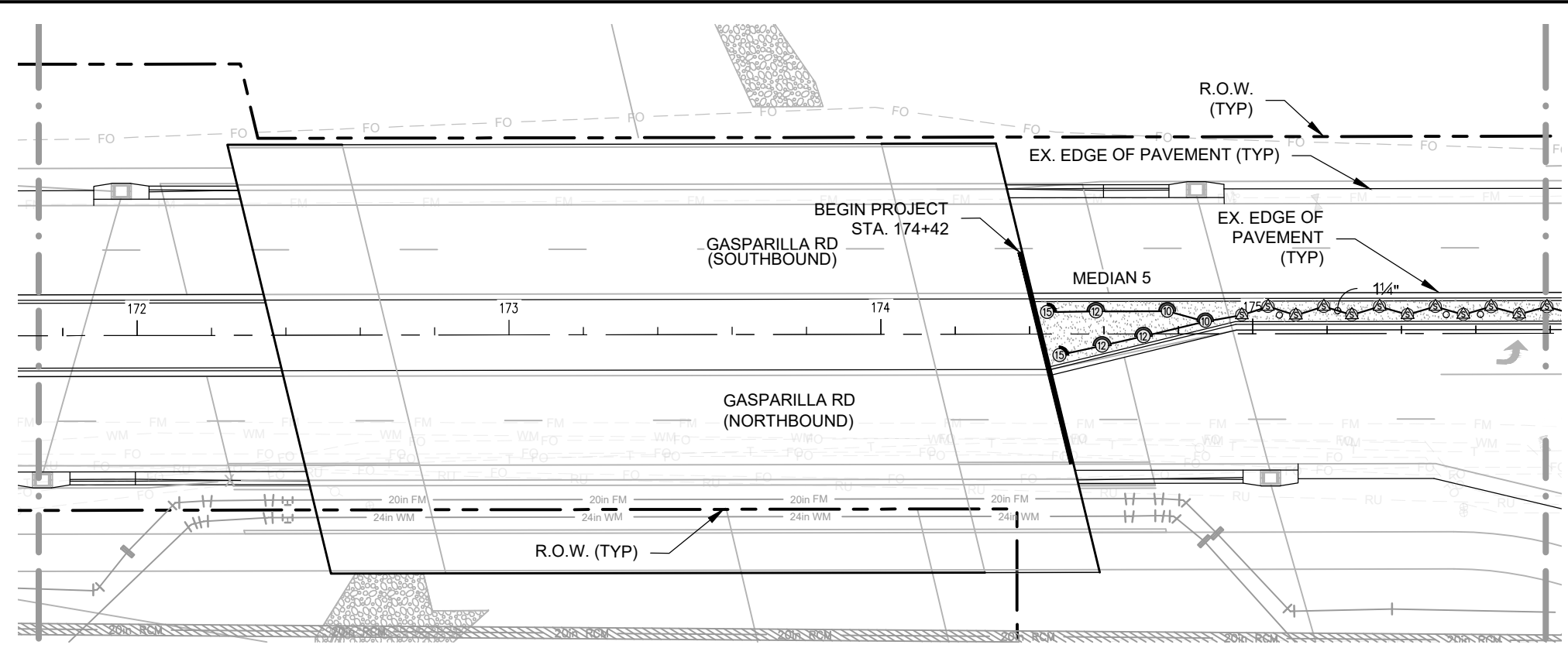
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L15

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MATCHLINE (SEE ABOVE)

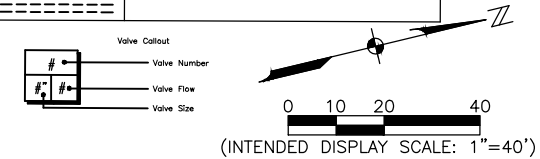


MATCHLINE (SEE SHEET L18) STA. 179+84



MATCHLINE (SEE BELOW)

IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 8 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 10 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 12 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 15 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U ADJ Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird 1800-1400 Flood 1401 Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" FIPT.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XCZ-150-PRB-COM High Flow Control Zone Kit for Large Commercial Drip Zones. 1-1/2" PESB Valve with two 1" Pressure Regulating (40psi) Quick-Check Basket Filters. Flow range: 15-40gpm.
	Pipe Transition Point above grade Pipe transition point from PVC lateral to drip tubing with riser to above grade installation.
	Netalim TLO5MFV-1 Automatic flush valve, 1/2" male pipe thread.
	Rain Bird OPERIND Drip System Operation Indicator. stem rises 6" for clear visibility when drip system is charged to a minimum of 20psi. Includes 16' of 1/4" distribution tubing with connection fitting pre-installed.
Area to Receive Dripline	
	Netalim TLRW-06-12 (16) Techline RW Landscape Dripline with Purple Stripes for Non-Potable Water Applications. 0.8GPH emitters at 12.0" O.C. Dripline laterals spaced at 16.0" apart, with emitters offset for triangular pattern. Designed for Reclaimed Water Use Only.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.
	Matco-Norca 759 Brass Shut Off Ball Valve, 1/2" to 4". Two Piece Body, Blow-Out Proof Stem, Chrome Plated Solid Brass Ball, Threaded, with PTFE Swells. Same size as mainline pipe.
	Rain Bird 300-BPE Angle 3" 3" Brass Master Valve, with Angle Configuration.
	Rain Bird ESP-LXD-LXMPED with (1) ESPLXD-SM75 Flow sensing Two-Wire Decoder Commercial Controller. 125 Stations, UV-Resistant, Outdoor-Rated, Powder-Coated Metal Pedestal Case. Available in the US market, International, European, or Australian Markets.
	Rain Bird FD-101TURF (2) Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid. Use line surge protection as per manufacturer's directions.
	Rain Bird FD-102TURF Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid or one pair of valves. Use line surge protection as per manufacturer's directions.
	Rain Bird MGP-1 (2) Provides a mounting location for MSP-1 or other grounding wires directly to a grounding rod or pipe. Installed on grounding rod or pipe. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird MSP-1 Protects central control components from electrical surges on a two-wire communication path. Can be installed in satellite or CCU pedestal or underground in conjunction with MGP-1. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird RSD-BEX Rain Sensor, with metal latching bracket, extension wire.
	Netalim DF200-120 2" Disc Filter 2", 120 mesh ring, red. Corrosion Resistant. Up to 120GPM flow rate.
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11



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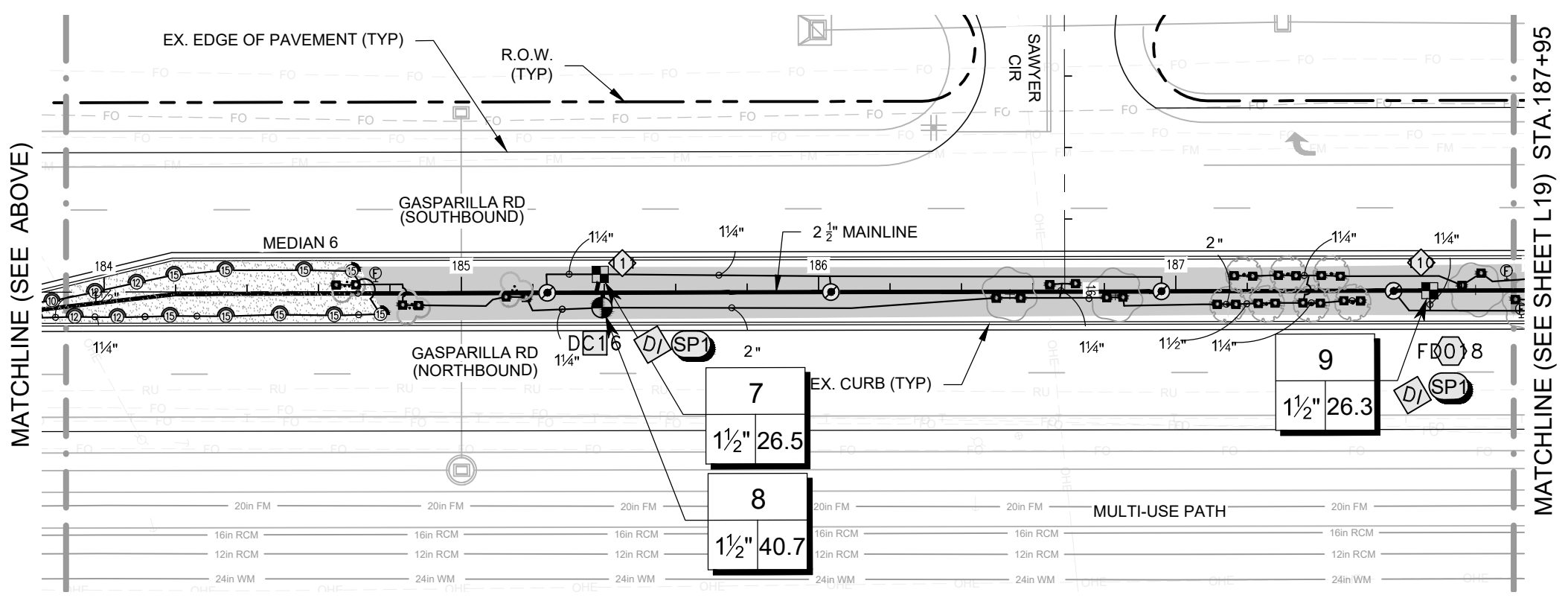
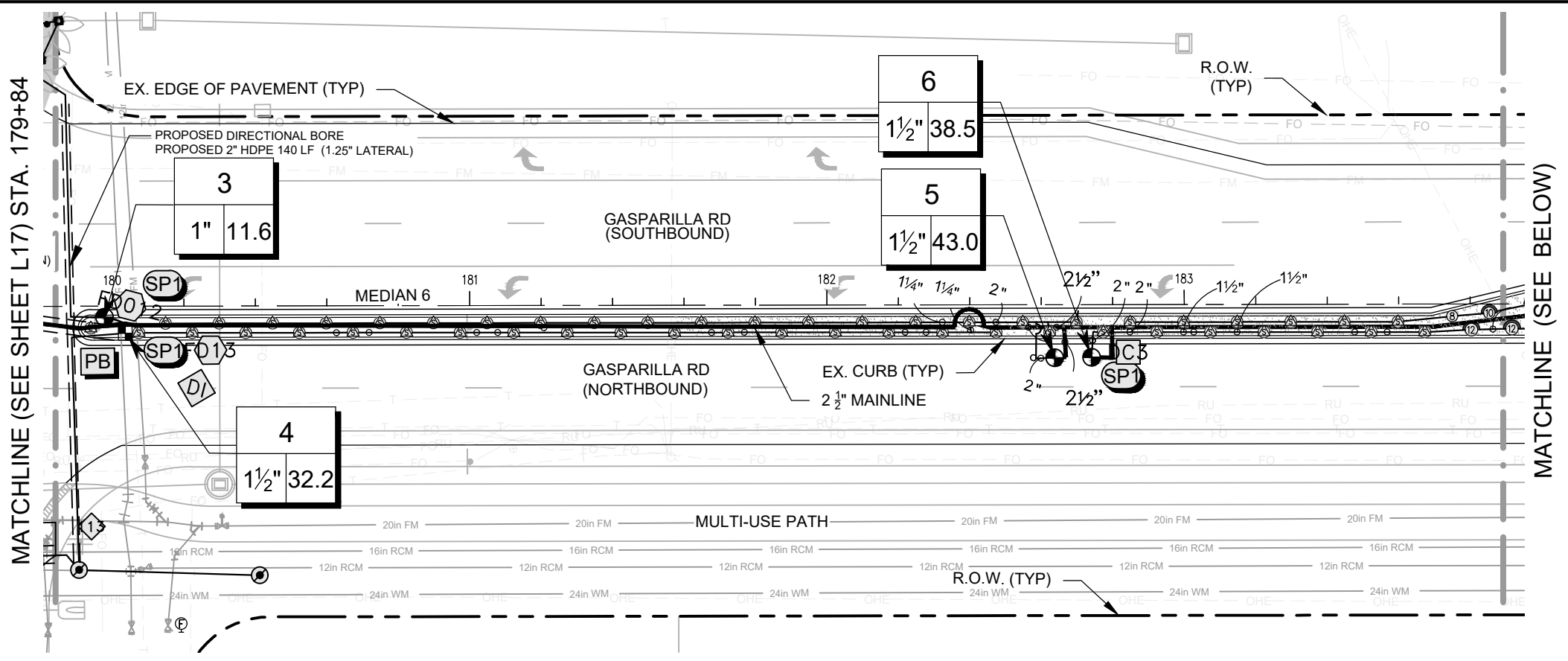


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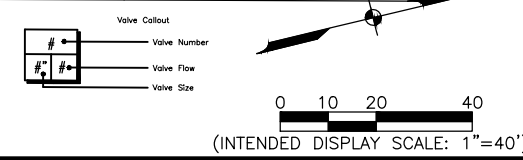
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IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L17

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IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 8 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 10 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 12 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 15 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U ADJ Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird 1800-1400 Flood 1401 Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" FIPT.
SYMBOL	
	Rain Bird XZC-150-FRB-COM High Flow Control Zone Kit, for Large Commercial Drip Zones. 1-1/2" PESB Valve with two 1" Pressure Regulating (40psi) Quick-Check Basket Filters. Flow range: 15-40gpm.
	Pipe Transition Point above grade Pipe transition point from PVC lateral to drip tubing with riser to above grade installation.
	Netafim TL050MFV-1 Automatic flush valve, 1/2" male pipe thread.
	Rain Bird OPERIND Drip System Operation Indicator, stem rises 6" for clear visibility when drip system is charged to a minimum of 20psi. Includes 16" of 1/4" distribution tubing with connection fitting pre-installed.
	Area to Receive Dripline Netafim TLRW-06-12 (16) Techline RW Landscape Dripline with Purple Stripes for Non-Potable Water Applications. 0.6GPH emitters at 12.0" O.C. Dripline laterals spaced at 16.0' apart, with emitters offset for triangular pattern. Designed for Reclaimed Water Use Only.
SYMBOL	
	Rain Bird PESBR 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.
	Matco-Norca 759 Brass Shut Off Ball Valve, 1/2" to 4". Two Piece Body, Blow-Out Proof Stem, Chrome Plated Solid Brass Ball, Threaded, with PTFE Seats. Same size as mainline pipe.
	Rain Bird 300-BPE Angle 3" 3" Brass Master Valve, with Angle Configuration.
	Rain Bird ESP-LXD-LXMPED with (1) ESPLXD-SM75 Flow sensing Two-Wire Decoder Commercial Controller, 125 Stations. UV-Resistant, Outdoor-Rated, Powder-Coated Metal Pedestal Case. Available in the US market, International, European, or Australian Markets.
	Rain Bird FD-101TURF (2) Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid. Use line surge protection as per manufacturer's directions.
	Rain Bird FD-102TURF Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid or one pair of valves. Use line surge protection as per manufacturer's directions.
	Rain Bird MGP-1 (2) Provides a mounting location for MSP-1 or other grounding wires directly to a grounding rod or pipe. Installed on grounding rod or pipe. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird MSP-1 Protects central control components from electrical surges on a two-wire communication path. Can be installed in satellite or CCU pedestal or underground in conjunction with MGP-1. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird RSD-BEx Rain Sensor, with metal latching bracket, extension wire.
	Netafim DF200-120 2" Disc Filter 2", 120 mesh ring, red. Corrosion Resistant. Up to 120GPM flow rate.
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11



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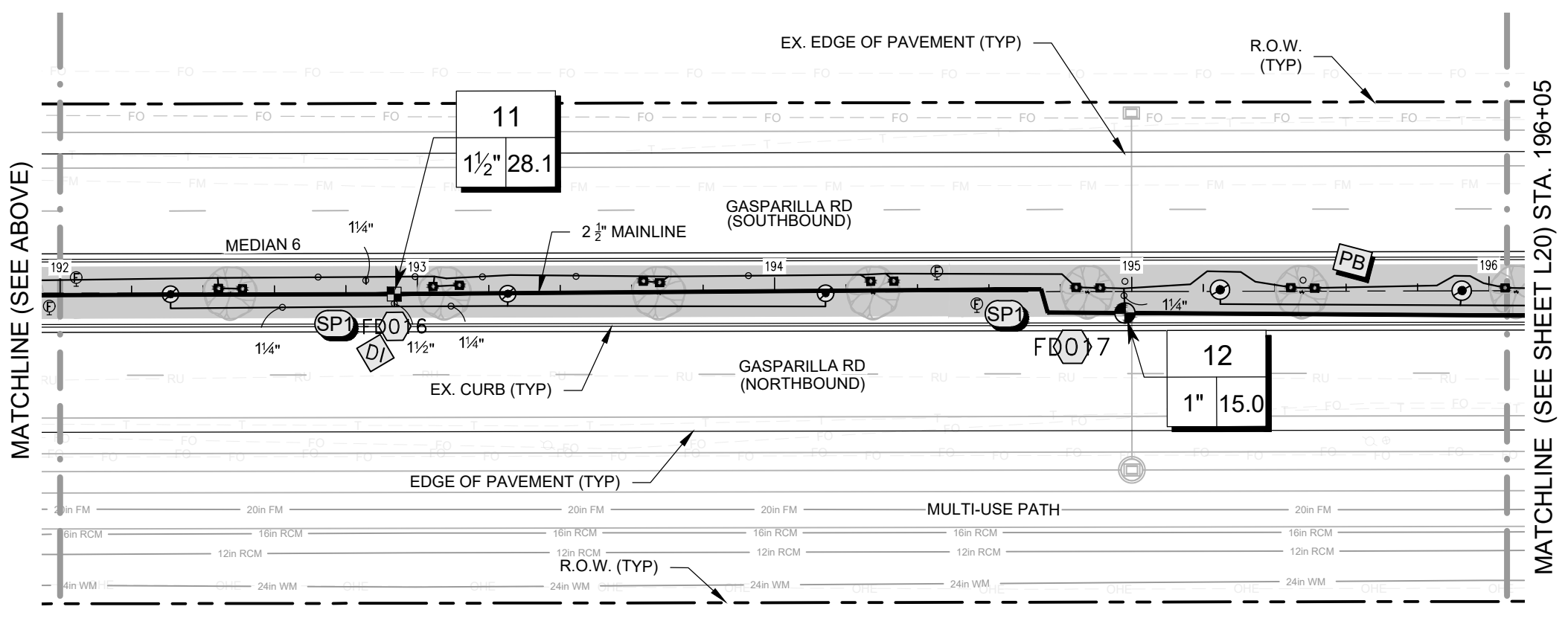
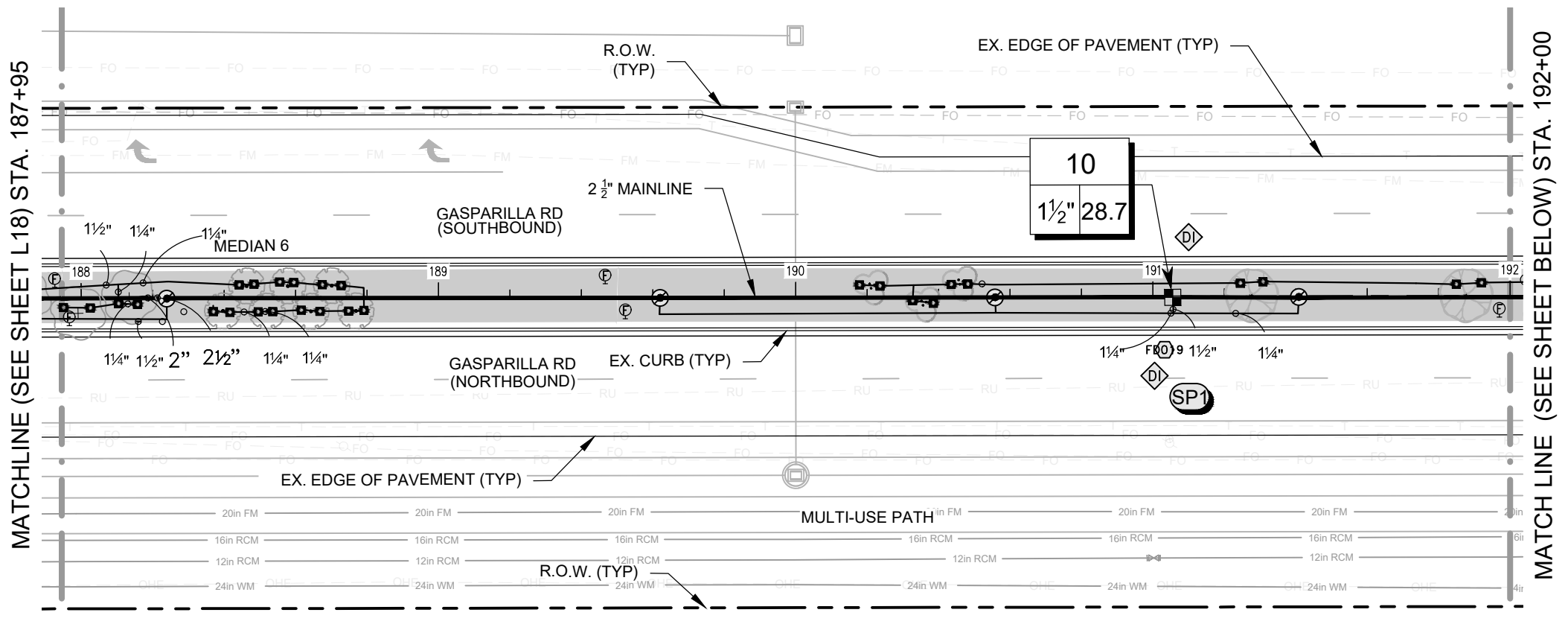
**JOHNSON
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E.B. #642 & L.B. #642

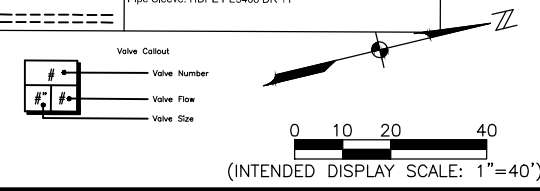
JEFFREY NAGLE, RLA
FL License No. LA-6667059

IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L18

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IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series
	Rain Bird RD-06-P30-F-NP-U 8 Series
	Rain Bird RD-06-P30-F-NP-U 10 Series
	Rain Bird RD-06-P30-F-NP-U 12 Series
	Rain Bird RD-06-P30-F-NP-U 15 Series
	Rain Bird RD-06-P30-F-NP-U ADJ
	Rain Bird 1800-1400 Flood 1401
SYMBOL	
	Rain Bird XZ-150-FRB-COM
	Pipe Transition Point from PVC lateral to drip tubing with riser to above grade installation.
	Netafim TL050MFV-1
	Rain Bird OPERIND
	Area to Receive Dripline
SYMBOL	
	Rain Bird PESBR
	Matco-Norca 759
	Rain Bird 300-BPE
	Rain Bird ESP-LXD-LXMPED
	Rain Bird FD-101TURF
	Rain Bird FD-102TURF
	Rain Bird MGP-1
	Rain Bird MSP-1
	Rain Bird RSD-BEx
	Netafim DF200-120 2"
	BLOW OFF ASSEMBLY
	LSP1 IN LINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11



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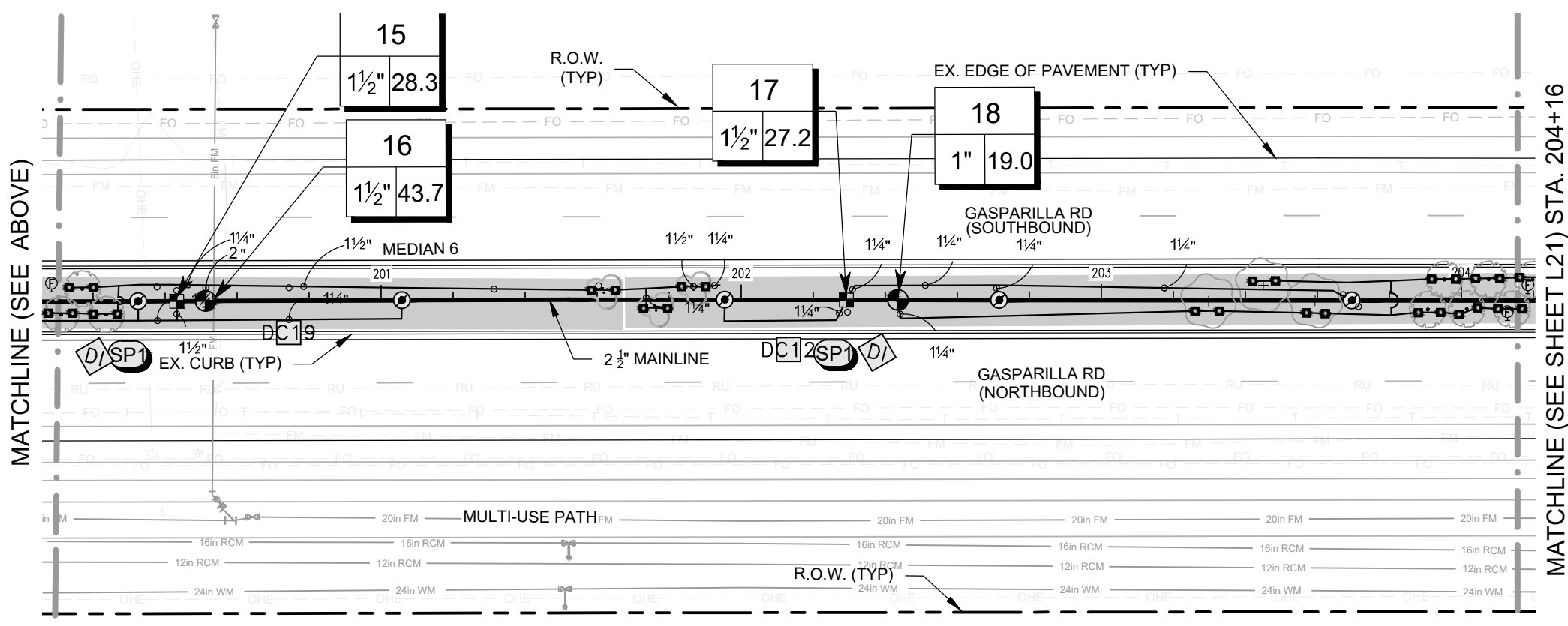
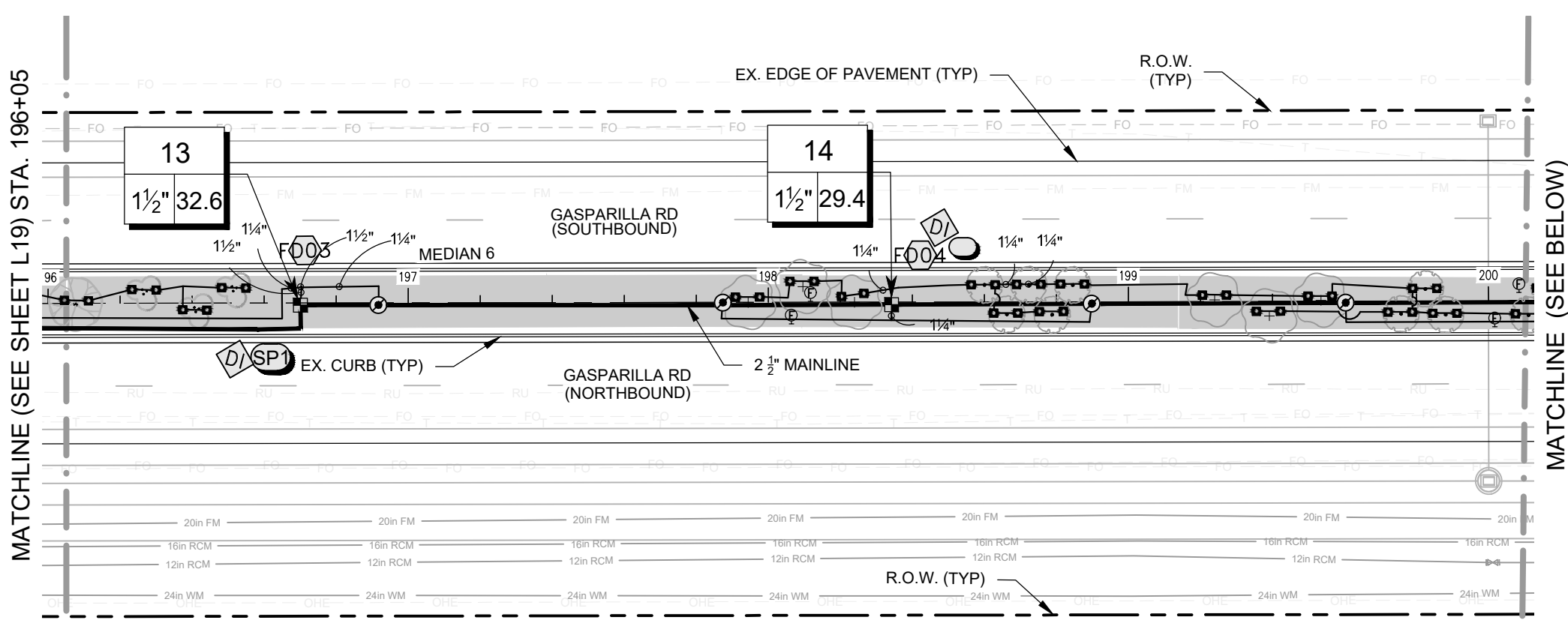
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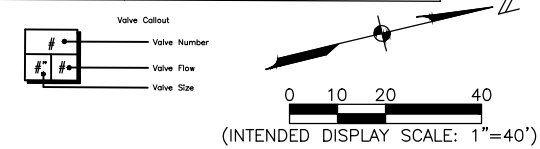
JEFFREY NAGLE, RLA
FL License No. LA-6667059

IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L19

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IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series
	Rain Bird RD-06-P30-F-NP-U 8 Series
	Rain Bird RD-06-P30-F-NP-U 10 Series
	Rain Bird RD-06-P30-F-NP-U 12 Series
	Rain Bird RD-06-P30-F-NP-U 15 Series
	Rain Bird RD-06-P30-F-NP-U ADJ
	Rain Bird 1800-1400 Flood 1401
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XZC-150-PRB-COM
	Pipe transition point from PVC lateral to drip tubing with riser to above grade installation.
	Netafim TL050MFV-1
	Rain Bird OPERIND
	Area to Receive Dripline
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR
	Matco-Norca 759
	Rain Bird 300-BPE
	Rain Bird ESP-LXD-LXMPED
	Rain Bird FD-101TURF
	Rain Bird FD-102TURF
	Rain Bird MGP-1
	Rain Bird MSP-1
	Rain Bird RSD-BEx
	Netafim DF200-120 2'
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2'
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11



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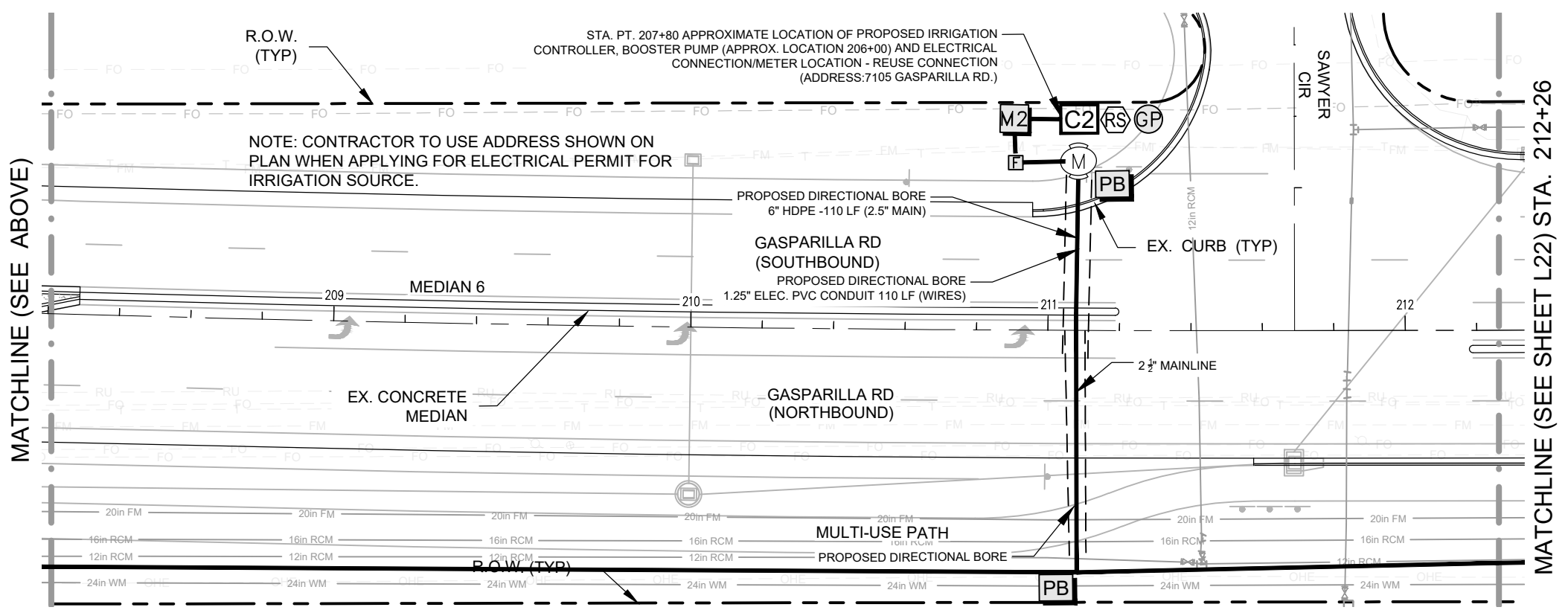
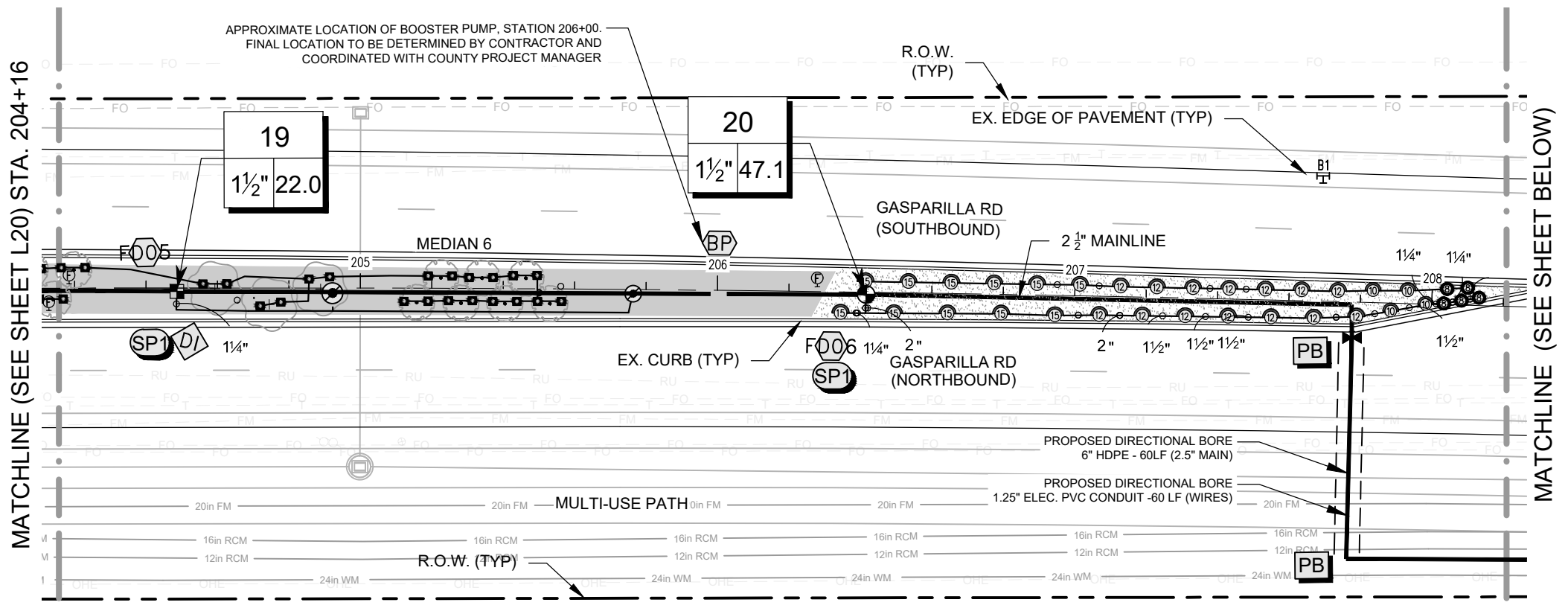
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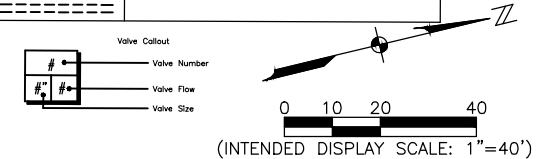
JEFFREY NAGLE, RLA
FL License No. LA-6667059

IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L20

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IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-P30-F-NP-U 15 Strip Series
	Rain Bird RD-P30-F-NP-U 8 Series
	Rain Bird RD-P30-F-NP-U 10 Series
	Rain Bird RD-P30-F-NP-U 12 Series
	Rain Bird RD-P30-F-NP-U 15 Series
	Rain Bird RD-P30-F-NP-U ADJ
	Rain Bird 1800-1400 Flood 1401
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XZ-150-PRB-COM
	Pipe Transition Point above grade
	Netafim TL050MFV-1
	Rain Bird OPERIND
	Area to Receive Dripline
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR
	Matco-Norca 759
	Rain Bird 300-BPE
	Rain Bird ESP-LXD-LXMPED
	Rain Bird FD-101TURF
	Rain Bird FD-102TURF
	Rain Bird MGP-1
	Rain Bird MSP-1
	Rain Bird RSD-BEx
	Netafim DF200-120 2"
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11



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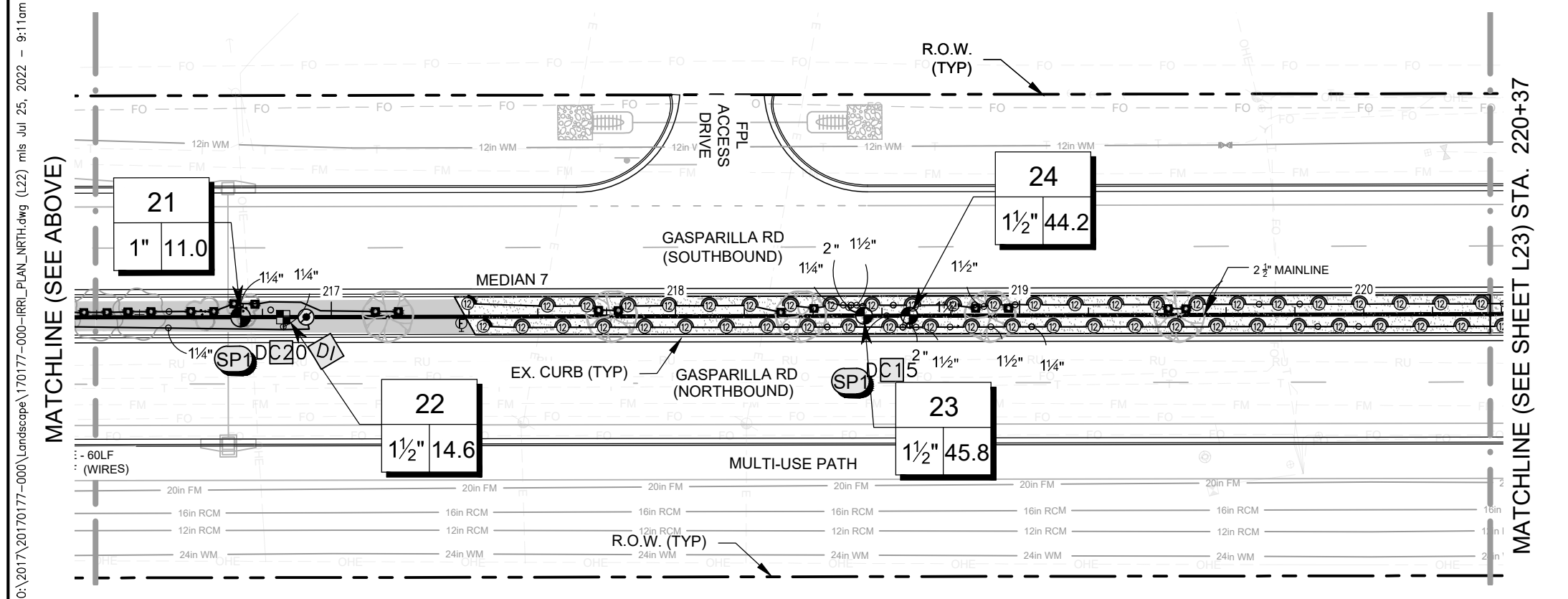
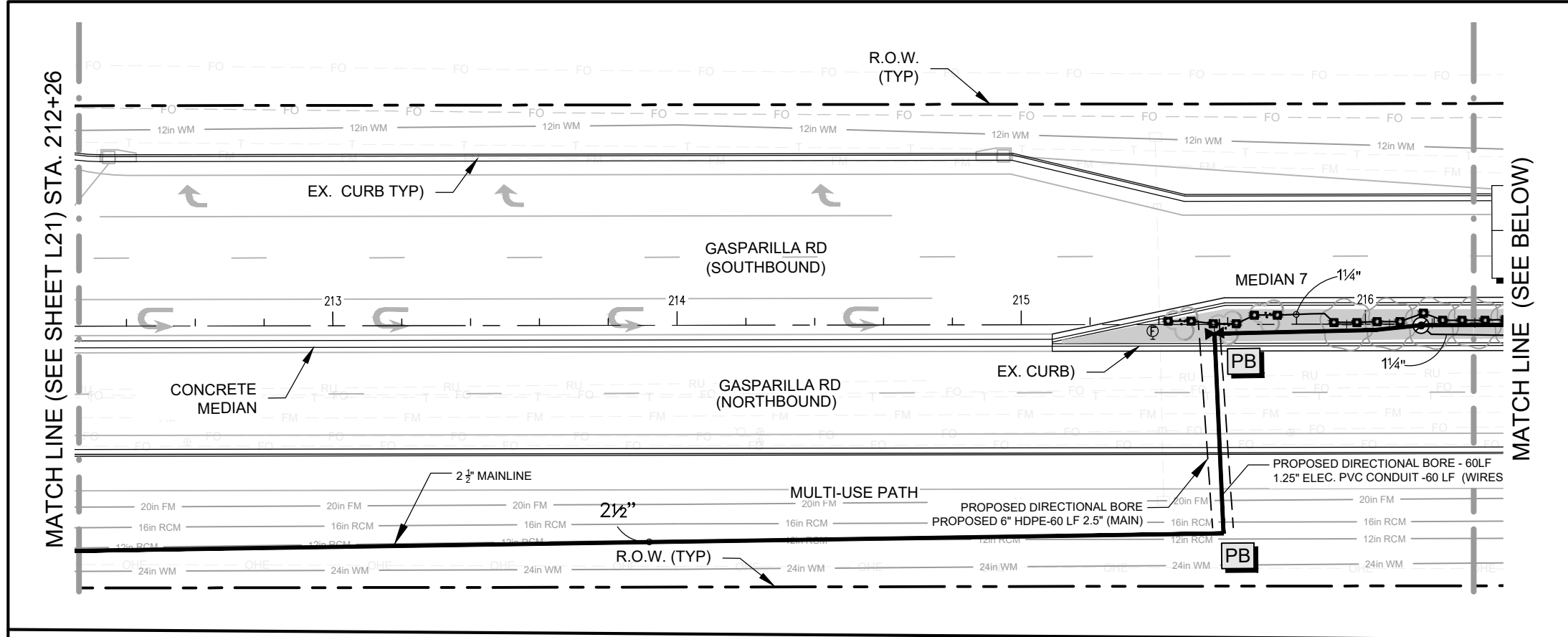
**JOHNSON
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IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L21

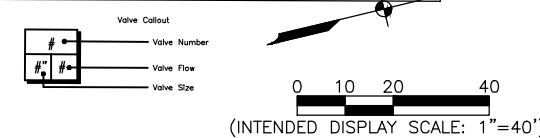
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IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 8 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 10 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 12 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 15 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U ADJ Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird 1800-1400 Flood 1401 Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" FIPT.

IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XCZ-150-PRB-COM High Flow Control Zone Kit for Large Commercial Drip Zones. 1-1/2" PESB Valve with two 1" Pressure Regulating (40psi) Quick-Check Basket Filters. Flow range: 15-40gpm.
	Pipe Transition Point above grade Pipe transition point from PVC lateral to drip tubing with riser to above grade installation.
	Netafim TL050MFV-1 Automatic flush valve, 1/2" male pipe thread.
	Rain Bird OPERIND Drip System Operation Indicator. stem rises 6" for clear visibility when drip system is charged to a minimum of 20psi. Includes 16' of 1/4" distribution tubing with connection fitting pre-installed.
	Area to Receive Dripline Netafim TLRW-06-12 (16) Techni RW Landscape Dripline with Purple Stripes for Non-Potable Water Applications. 0.6GPH emitters at 12.0" O.C. Dripline laterals spaced at 16.0" apart, with emitters offset for triangular pattern. Designed for Reclaimed Water Use Only.

IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.
	Matco-Norca 759 Brass Shut Off Ball Valve, 1/2" to 4". Two Piece Body, Blow-Out Proof Stem, Chrome Plated Solid Brass Ball, Threaded, with PTFE Seats. Same size as mainline pipe.
	Rain Bird 300-BPE Angle 3" 3" Brass Master Valve, with Angle Configuration.
	Rain Bird ESP-LXD-LXMPED with (1) ESPLXD-SM75 Flow sensing Two-Wire Decoder Commercial Controller. 125 Stations. UV-Resistant, Outdoor-Rated, Powder-Coated Metal Pedestal Case. Available in the US market, International, European, or Australian Markets.
	Rain Bird FD-101TURF (2) Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid. Use line surge protection as per manufacturer's directions.
	Rain Bird FD-102TURF Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid or one pair of valves. Use line surge protection as per manufacturer's directions.
	Rain Bird MGP-1 (2) Provides a mounting location for MSP-1 or other grounding wires directly to a grounding rod or pipe. Installed on grounding rod or pipe. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird MSP-1 Protects central control components from electrical surges on a two-wire communication path. Can be installed in satellite or CCU pedestal or underground in conjunction with MGP-1. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird RSD-BEx Rain Sensor, with metal latching bracket, extension wire.
	Netafim DF200-120 2" Disc Filter 2", 120 mesh ring, red. Corrosion Resistant. Up to 120GPM flow rate.
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11



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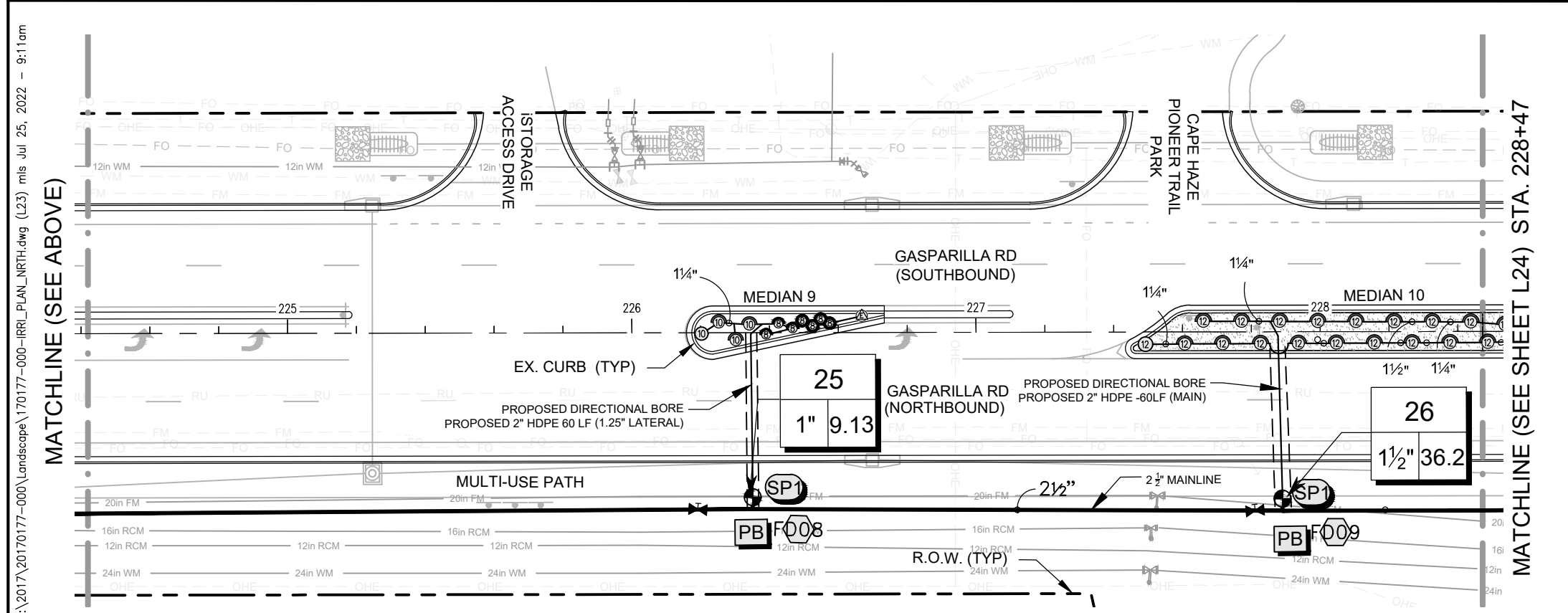
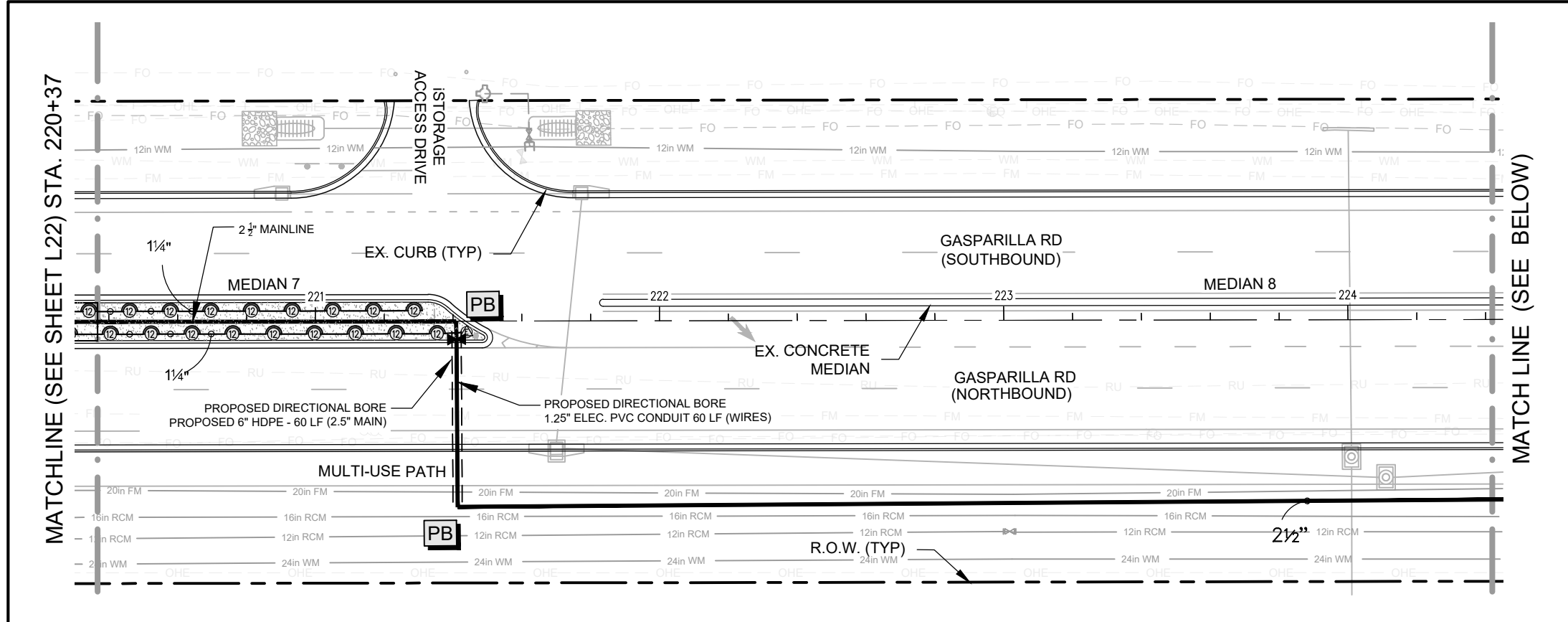
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IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L22



IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series
	Rain Bird RD-06-P30-F-NP-U 08 Series
	Rain Bird RD-06-P30-F-NP-U 10 Series
	Rain Bird RD-06-P30-F-NP-U 12 Series
	Rain Bird RD-06-P30-F-NP-U 15 Series
	Rain Bird RD-06-P30-F-NP-U ADJ
	Rain Bird 1800-1400 Flood 1401
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XZ-150-PRB-COM
	Pipe Transition Point above grade
	Netafim TL050MFV-1
	Rain Bird OPERIND
	Area to Receive Dripline
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR
	Matco-Norca 759
	Rain Bird ESP-LXD-LXMPED
	Rain Bird FD-101TURF
	Rain Bird FD-102TURF
	Rain Bird MSP-1
	Rain Bird RSD-BEx
	Netafim DF200-120 2"
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11

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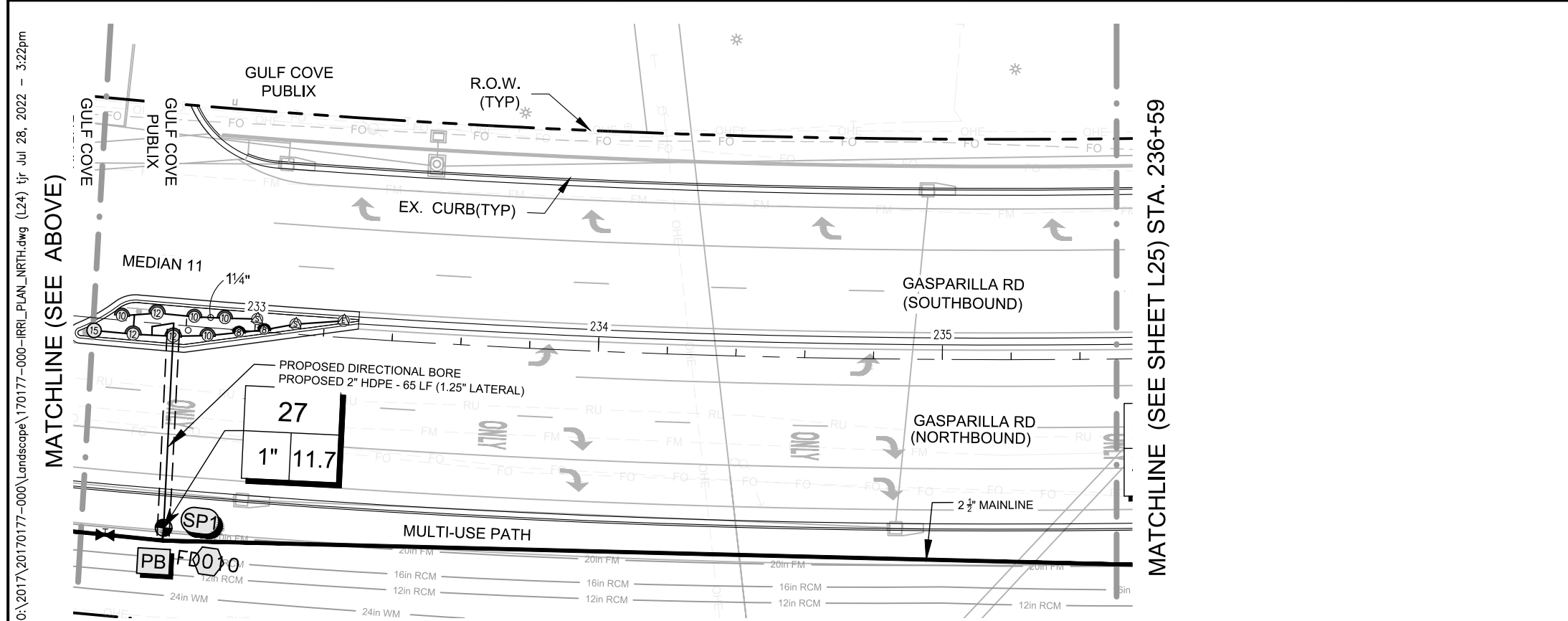
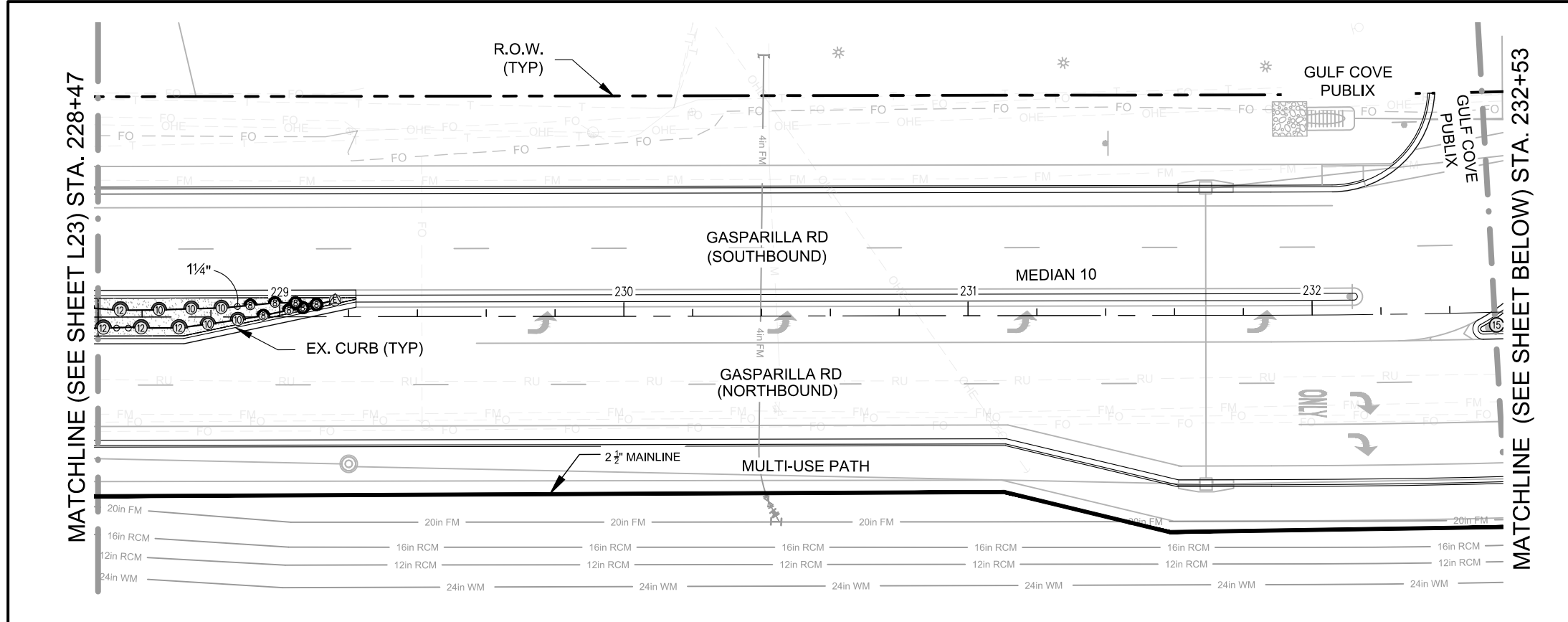
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IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L23



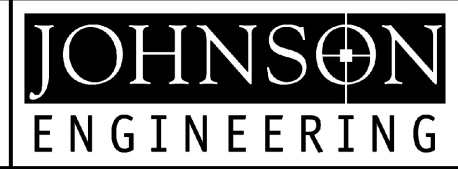
IRRIGATION KEY	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 8 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 10 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 12 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U 15 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird RD-06-P30-F-NP-U ADJ Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.
	Rain Bird 1800-1400 Flood 1401 Fixed flow rate (0.25-2.0GPM), full circle bubbler, 1/2" FIPT.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XCZ-150-PRB-COM High Flow Control Zone Kit for Large Commercial Drip Zones, 1-1/2" PESB Valve with two 1" Pressure Regulating (40psi) Quick-Check Basket Filters. Flow range: 15-40gpm.
	Pipe Transition Point from PVC lateral to drip tubing with riser to above grade installation.
	Netafim TL050MFV-1 Automatic flush valve, 1/2" male pipe thread.
	Rain Bird OPERIND Drip System Operation Indicator, stem rises 6" for clear visibility when drip system is charged to a minimum of 20psi, includes 16' of 1/4" distribution tubing with connection fitting pre-installed.
	Area to Receive Dripline Netafim TLRW-06-12 (16) Techline RW Landscape Dripline with Purple Stripes for Non-Potable Water Applications, 0.8GPH emitters at 12.0" O.C. Dripline laterals spaced at 16.0' apart, with emitters offset for triangular pattern. Designed for Reclaimed Water Use Only.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PESBR 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.
	Matco-Norca 759 Brass Shut Off Ball Valve, 1/2" to 4". Two Piece Body, Blow-Out Proof Stem, Chrome Plated Solid Brass Ball, Threaded, with PTFE Seals. Same size as mainline pipe.
	Rain Bird 300-BPE Angle 3" 3" Brass Master Valve, with Angle Configuration.
	Rain Bird ESP-LXD-LXMPED with (1) ESPLXD-SM75 Flow sensing Two-Wire Decoder Commercial Controller, 125 Stations, UV-Resistant, Outdoor-Rated, Powder-Coated Metal Pedestal Case. Available in the US market, International, European, or Australian Markets.
	Rain Bird FD-101TURF (2) Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid. Use line surge protection as per manufacturer's directions.
	Rain Bird FD-102TURF Field Decoder for Two-Wire system. Install in valve box for valve. Operates one valve/solenoid or one pair of valves. Use line surge protection as per manufacturer's directions.
	Rain Bird MGP-1 (2) Provides a mounting location for MSP-1 or other grounding wires directly to a grounding rod or pipe. Installed on grounding rod or pipe. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird MSP-1 Protects central control components from electrical surges on a two-wire communication path. Can be installed in satellite or CCU pedestal or underground in conjunction with MGP-1. Surge protection for Two-Wire Satellite and Decoder Systems.
	Rain Bird RSD-BEX Rain Sensor, with metal latching bracket, extension wire.
	Netafim DF200-120 2" Disc Filter 2", 120 mesh ring, red. Corrosion Resistant. Up to 120GPM flow rate.
	BLOW OFF ASSEMBLY
	LSP1 INLINE SURGE PROTECTION
	Pull Box
	Water Meter 1-1/2"
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP
	Irrigation Mainline: PVC Schedule 40-NP
	Pipe Sleeve: HDPE PE3408 DR 11

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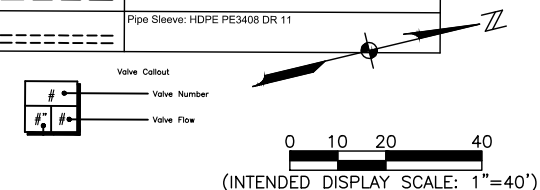
C.R. 771 ROADWAY
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FLORIDA

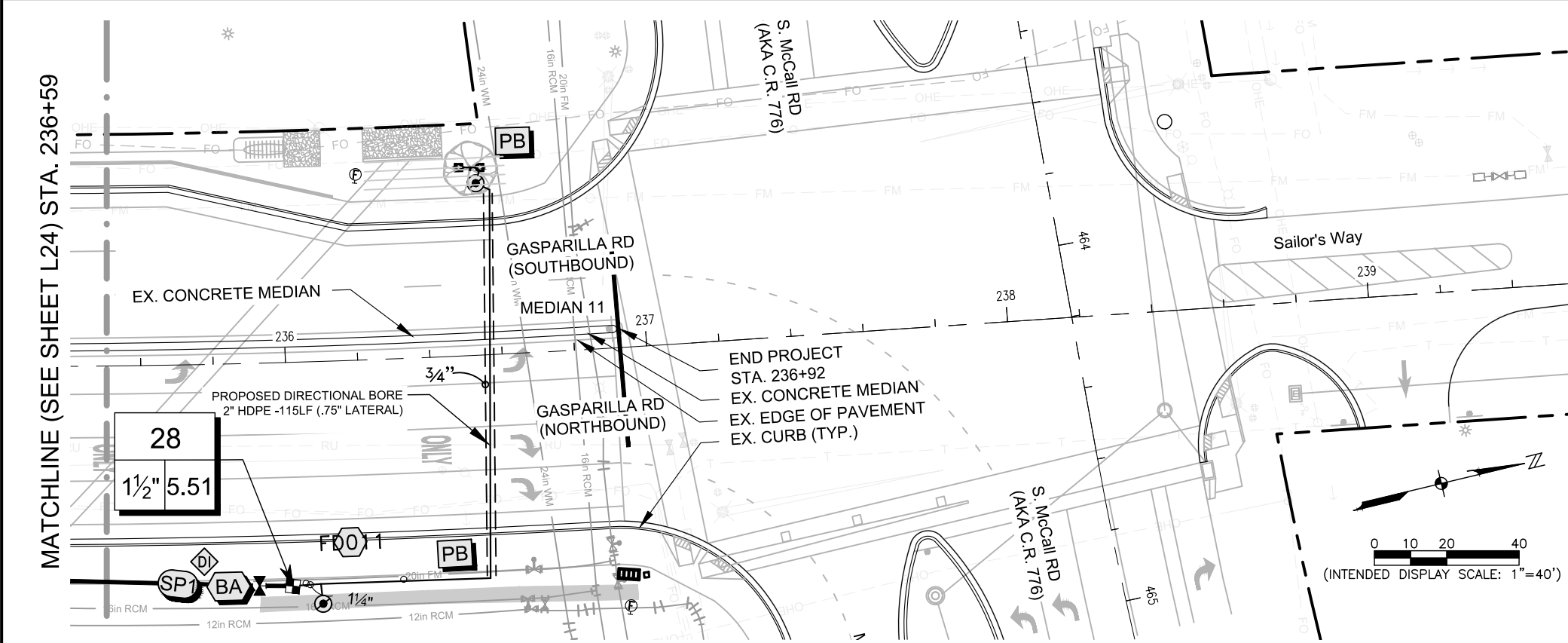


JOHNSON ENGINEERING, INC.
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E.B. #642 & L.B. #642

JEFFREY MAGLE, RLA
FL License No. LA-6667059

IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L24





MATCHLINE (SEE SHEET L24) STA. 236+59

CRITICAL ANALYSIS

Generated: 2021-09-10 15:43

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Water Meter Size: 1-1/2"
Flow Available: 75.00 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 80.00 PSI
Elevation Change: 5.00 ft
Service Line Size: 3"
Length of Service Line: 20 ft
Pressure Available: 78.00 psi

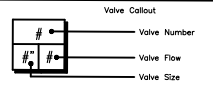
DESIGN ANALYSIS
Maximum Station Flow: 47.08 gpm
Flow Available at POC: 75.00 gpm
Residual Flow Available: 27.92 gpm

Critical Station: 2
Design Pressure: 30.00 psi
Friction Loss: 3.58 psi
Fittings Loss: 0.36 psi
Elevation Loss: 0.00 psi
Loss through Valve: 2.35 psi
Pressure Req. at Critical Station: 36.29 psi
Loss for Fittings: 1.58 psi
Loss for Main Line: 15.81 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 0.00 psi
Loss for Master Valve: 6.80 psi
Loss for Water Meter: 3.21 psi
Critical Station Pressure at POC: 63.69 psi
Pressure Available: 78.00 psi
Residual Pressure Available: 14.31 psi

NOTE TO CONTRACTOR:

1. ALL AVAILABLE UTILITY AND STRUCTURE INFORMATION HAS BEEN PROVIDED IN THIS PLAN SET; HOWEVER, CONTRACTOR SHALL VERIFY THE LOCATION OF ANY/ALL UTILITIES PRIOR TO MATERIAL PROCUREMENT, SITE PREPARATION, AND INSTALLATION OF ANY WORK.
2. IF ANY CONFLICTS SHALL ARISE DURING INSTALLATION, CONTRACTOR SHALL NOTIFY PROJECT MANAGER AND DESIGN LANDSCAPE ARCHITECT IMMEDIATELY.
3. ALL PROPOSED SLEEVING AS SHOWN TO BE INSTALLED BY IRRIGATION CONTRACTOR.
4. IRRIGATION COMPONENTS SHOWN IN ROAD FOR CLARITY ONLY. ALL IRRIGATION COMPONENTS TO BE INSTALLED IN LANDSCAPE AREAS.
5. COORDINATE WITH COUNTY REGARDING BOOSTER PUMP INSTALLATION.

IRRIGATION SCHEDULE				
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	DETAIL
	Rain Bird RD-06-P30-F-NP-U 15 Strip Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap), 1/2" NPT female threaded inlet.	110	30	
	Rain Bird RD-06-P30-F-NP-U US Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap), 1/2" NPT female threaded inlet.	21	30	
	Rain Bird RD-06-P30-F-NP-U U10 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap), 1/2" NPT female threaded inlet.	19	30	
	Rain Bird RD-06-P30-F-NP-U U12 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap), 1/2" NPT female threaded inlet.	112	30	
	Rain Bird RD-06-P30-F-NP-U U15 Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap), 1/2" NPT female threaded inlet.	22	30	
	Rain Bird RD-06-P30-F-NP-U ADJ Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap), 1/2" NPT female threaded inlet.	4	30	
	Rain Bird 1800-1400 Flood 1401 Fixed flow rate (0.25-2.0GPM), 1/2" circle bubbler, 1/2" FIRT.	192	30	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	DETAIL
	Rain Bird XCZ-150-PRB-COM High Flow Control Zone Kit, for Large Commercial Drip Zones, 1-1/2" PESB Valve with two 1" Pressure Regulating (40psi) Quick-Check Basket Filters, Flow range: 15-40gpm.	12		
	Pipe Transition Point in Drip Box. Pipe transition point from PVC lateral to drip tubing with riser in 6" (150mm) drip box.	3		
	Netafim TL050MFV-1 Automatic flush valve, 1/2" male pipe thread.	23		
	Rain Bird OPERIND Drip System Operation Indicator, stem rises 6" for clear visibility when drip system is charged to a minimum of 20psi, includes 16' of 1/4" distribution tubing with connection fitting pre-installed.	13		
	Area to Receive Dripline Netafim TLRW-06-12 (16) Techline RW Landscape Dripline with Purple Stripes for Non-Potable Water Applications, 0.6GPH emitters at 12.0" O.C. Dripline laterals spaced at 16.0" apart, with emitters offset for triangular pattern. Designed for Reclaimed Water Use Only.	34,803 s.f.		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	DETAIL
	Rain Bird PESBR 1" 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.	6		
	Rain Bird PESBR 1-1/2" 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.	10		
	Malco-Norca 799 Brass Shut Off Ball Valve, 1/2" to 4". Two Piece Body, Blow-Out Proof Stem, Chrome Plated Solid Brass Ball, Threaded, with PTFE Seats. Same size as mainline pipe.	8		
	Rain Bird 300-BPE Angle 3" 3" Brass Master Valve, with Angle Configuration.	1		
	Rain Bird ESP-LXD-LXMPED with (1) ESPLXD-SM75 Flow sensing Two-Wire Decoder Commercial Controller, 125 Stations, UV-Resistant, Outdoor-Rated, Powder-Coated Metal Pedestal Case. Available in the US market, International, European, or Australian Markets.	1		
	Rain Bird MSP-1 (2) Provides a mounting location for MSP-1 or other grounding wires directly to a grounding rod or pipe. Installed on grounding rod or pipe. Surge protection for Two-Wire Satellite and Decoder Systems.	1		
	Rain Bird RSD-BEx Rain Sensor, with metal latching bracket, extension wire.	1		
	Booster Pump	1		
	Netafim DF200-120 2" Disc Filter 2", 120 mesh ring, red, Corrosion Resistant. Up to 120GPM flow rate.	1		
	BLOW OFF ASSEMBLY	2		
	LSP1 INLINE SURGE PROTECTION	20		
	Pull Box	16		
	Water Meter 1-1/2"	1		
	Point of Connection 3" 50 PSI Booster Pump	1		
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP	411.1 Lf.		
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP 1 1/4"	6,658 Lf.		
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP 1 1/2"	661.4 Lf.		
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP 2"	364.5 Lf.		
	Irrigation Mainline: PVC Schedule 40-NP 2"	0.0 Lf.		
	Irrigation Mainline: PVC Schedule 40-NP 2 1/2"	6,402 Lf.		
	Pipe Sleeve: HDPE PE3408 DR 11	763.1 Lf.		
	Pipe Sleeve: HDPE PE3408 DR 11 3/4"	105.6 Lf.		



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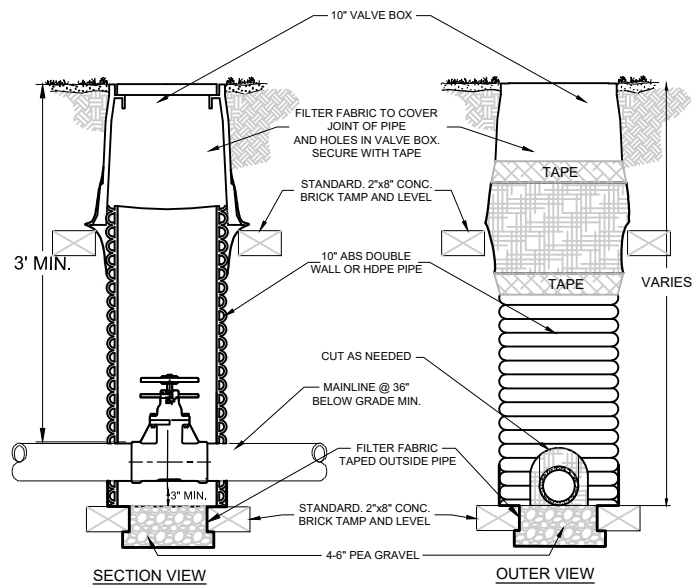
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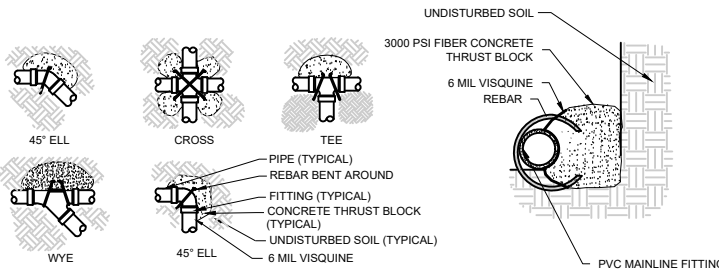
JEFFREY NAGLE, RLA
FL License No. LA-6667059

IRRIGATION PLAN				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L25



1 GATE/ ISOLATION VALVE DETAIL

N.T.S.

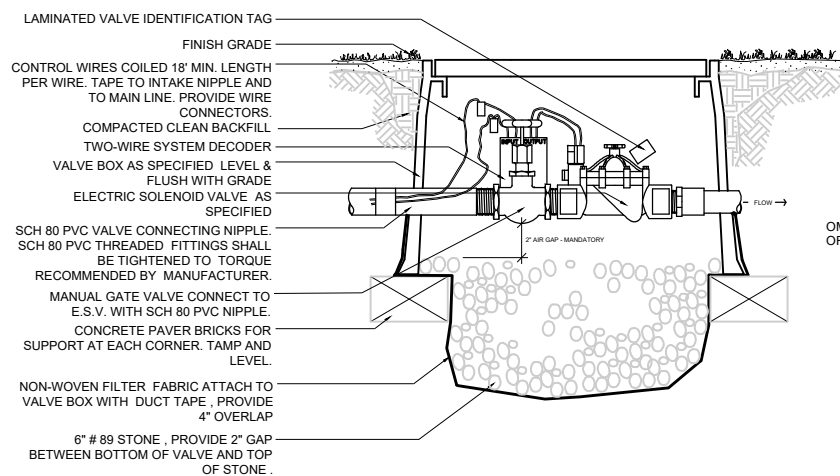


2 THRUST BLOCK DETAILS

N.T.S.

- NOTES:
- SUPPLY LINES 2.0 INCHES IN DIAMETER AND LARGER SHALL RECEIVE CONCRETE THRUST BLOCKS AS SPECIFIED HEREIN & AS APPLICABLE.
 - ALL CONCRETE TO BE 2800 PSI OR STRONGER.
 - ALL REBAR SHALL BE RUST-FREE.
 - FITTINGS TO BE WRAPPED IN VISQUEEN BEFORE POURING THE THRUST BLOCK.
 - CONCRETE IS NOT TO INCASE THE IRRIGATION MAINLINE.

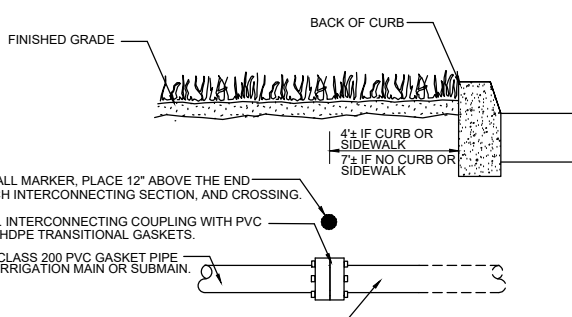
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 Sheet: 1



4 ELECTRIC SOLENOID VALVE W/ GATE VALVE

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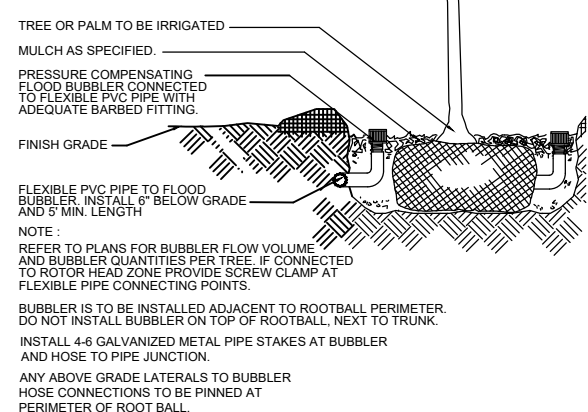
- NOTE:
- LOCATE VALVE BOXES WITHIN 24\"/>
 - LOCATE VALVE BOXES WITHIN 24\"/>
 - ALL WIRE RUNS SHALL BE CONTINUOUS WITHOUT ANY SPLICES UNLESS APPROVED BY THE CHARLOTTE COUNTY PROJECT MANAGER. SEE SPLICE BOX DETAIL.
 - VALVE BOX SHALL BE WRAPPED WITH 3 MIL. THICK PLASTIC AND SECURED WITH DUCT/ELECTRICAL TAPE.
 - VALVE BOXES SHALL BE LOCATED WITHIN PLANTING AREAS.
 - FURNISH AND INSTALL PULL STRING THE LENGTH OF THE MAINLINE FROM CONTROLLER TO LAST VALVE BOX.
 - CONTRACTOR TO PROVIDE 18\"/>
 - CONTRACTOR TO INCLUDE ISOLATION GATE VALVE WITH EACH REMOTE VALVE ASSEMBLY.



5 IRRIGATION MAIN PVC TO HDPE CONNECTION DETAIL

N.T.S.

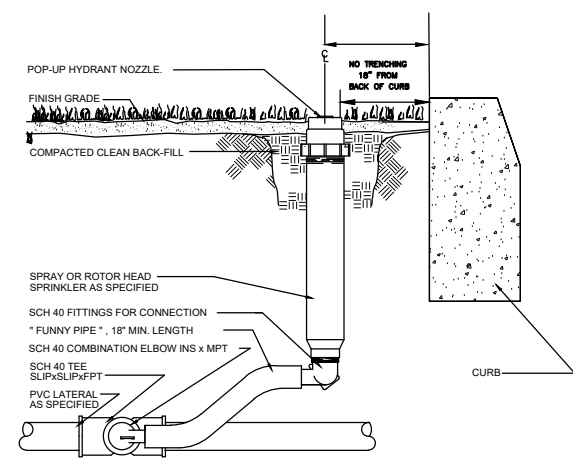
- NOTE:
- ALL PVC TO HDPE CONNECTIONS SHALL BE LEAK-PROOF AND DONE IN ACCORDANCE TO THE LATESTS AWWA SPECIFICATIONS.



6 TREE IRRIGATION FLOOD BUBBLER BELOW GRADE, INSTALLATION DETAIL

N.T.S.

- NOTE:
- REFER TO PLANS FOR BUBBLER FLOW VOLUME AND BUBBLER QUANTITIES PER TREE. IF CONNECTED TO ROTOR HEAD ZONE PROVIDE SCREW CLAMP AT FLEXIBLE PIPE CONNECTING POINTS.
- BUBBLER IS TO BE INSTALLED ADJACENT TO ROOTBALL PERIMETER. DO NOT INSTALL BUBBLER ON TOP OF ROOTBALL, NEXT TO TRUNK.
- INSTALL 4-6 GALVANIZED METAL PIPE STAKES AT BUBBLER AND HOSE TO PIPE JUNCTION.
- ANY ABOVE GRADE LATERALS TO BUBBLER HOSE CONNECTIONS TO BE PINNED AT PERIMETER OF ROOT BALL.



7 6\"/>

N.T.S.

- NOTES:
- NO SPRINKLER HEADS SHALL OCCUR WITHIN 18\"/>

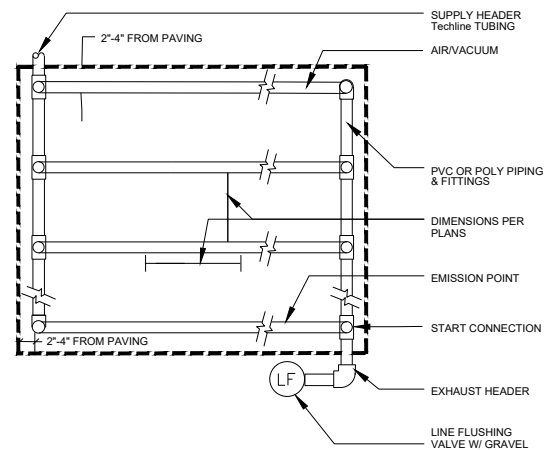
AT SOD AREAS, OR 24\"/>

DO NOT OPERATE AT HIGH PRESSURE LEVELS. ADJUST THE ZONE CONTROL VALVE PRESSURE REGULATOR DIAL DOWN TO 50 PSI FOR ROTOR HEADS, AND 30 PSI FOR SPRAY HEADS.

CALL 48 HOURS BEFORE YOU DIG
It's the Law 1-800-432-4770
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.

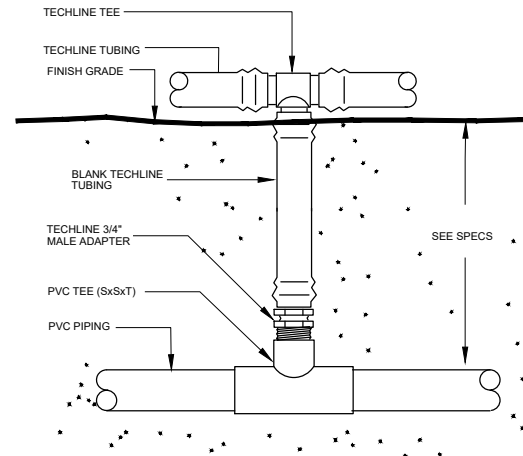
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DATE	PROJECT NO.	FILE NO.	SCALE	SHEET																				
JUNE 2022	20170177-000	41-21-08	As Shown	L26																				



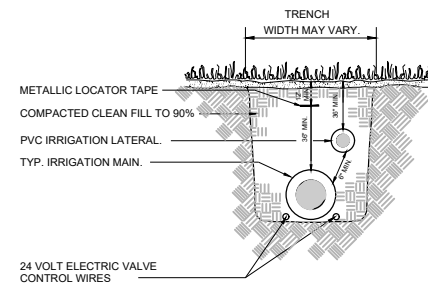
1 TECHLINE TUBING CONNECTION DETAILS

NOTES:
 1. DRIP IRRIGATION ZONES SHOULD BE SIZED AND SPACED PER MANUFACTURER'S RECOMMENDATION FOR SANDY SOIL AND MUST INCLUDE A PROPERLY SIZED FILTER AND PRESSURE REGULATOR.
 2. DRIP LINE NETAFIM TECHLINE® CV (17MM DRIPLINE) BRAND WITH 18" SPACING AT .9 GPH RATE, ASSEMBLED USING TECHLINE FITTINGS AND APPROPRIATE SIZED NETAFIM PRESSURE REGULATORS AND FILTER SYSTEM PER THE TECHLINE CV DESIGN GUIDE.



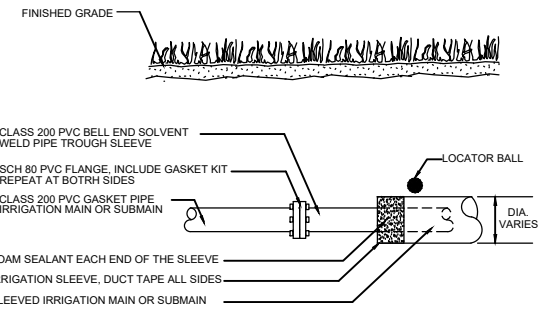
2 TECHLINE PVC CONNECTION

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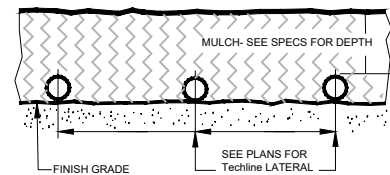


3 SLEEVING AND TRENCHING DETAIL

N.T.S.

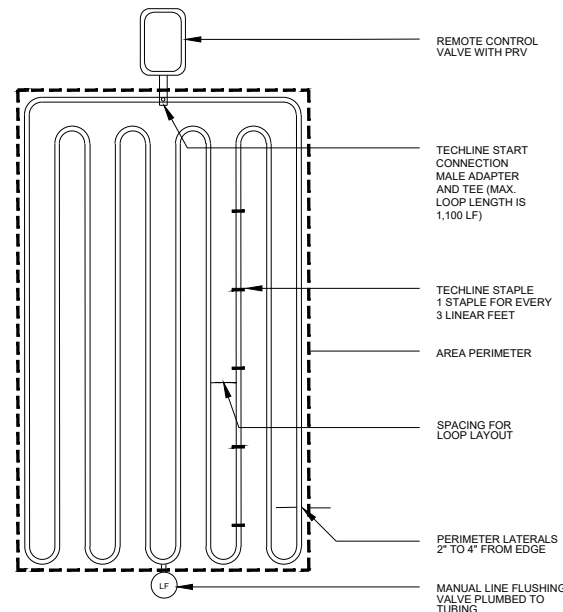


IRRIGATION SLEEVE SEALING DETAIL



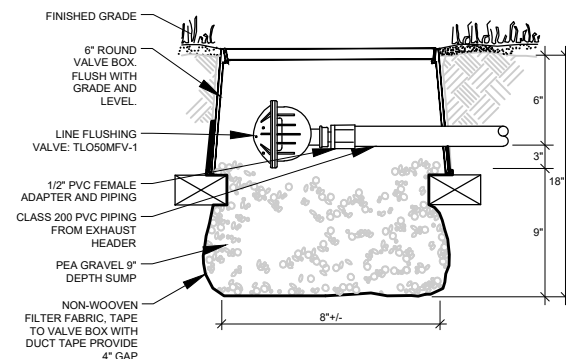
4 TECHLINE BED DETAIL

N.T.S.



5 TECHLINE SAMPLE SHRUB LOOP LAYOUT

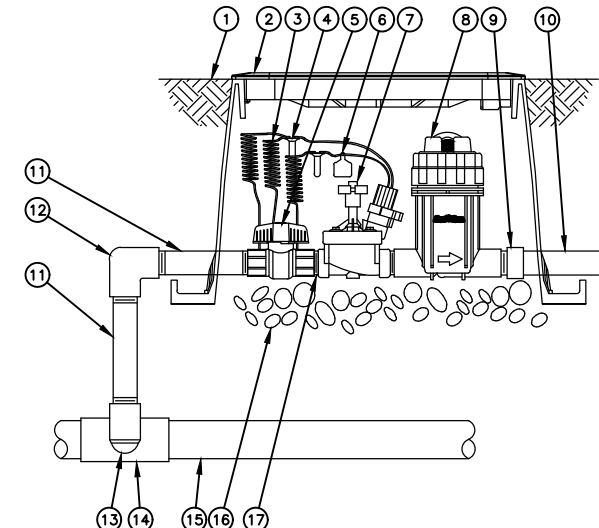
NOTES:
 1. DRIP IRRIGATION ZONES SHOULD BE SIZED AND SPACED PER MANUFACTURER'S RECOMMENDATION FOR SANDY SOIL AND MUST INCLUDE A PROPERLY SIZED FILTER AND PRESSURE REGULATOR.
 2. DRIP LINE NETAFIM TECHLINE® CV (17MM DRIPLINE) BRAND WITH 18" SPACING AT .9 GPH RATE, ASSEMBLED USING TECHLINE FITTINGS AND APPROPRIATE SIZED NETAFIM PRESSURE REGULATORS AND FILTER SYSTEM PER THE TECHLINE CV DESIGN GUIDE.



6 DRIP LINE FLUSHING VALVE

N.T.S.

NOTES:
 1. IN THE EVENT THAT THICK WALLED PE TUBING IS USED FOR EXHAUST PIPING, INSTALL COMPRESSION FITTING ADAPTERS AT ALL SCH 40 PVC FITTINGS. IF GLUING ADAPTER TO FITTING, USE ABS TO PVC BONDING SOLVENT. USE TEFLON TAPE AT ALL THREADED PVC CONNECTIONS.
 2. AT LEAST ONE LINE FLUSH SHALL BE INSTALLED ON EACH DRIP ZONE.



7 X CZ-PRB-150-COM

N.T.S. 1.5" COMMERCIAL CONTROL ZONE KIT IN VALVE BOX

- ① FINISH GRADE/TOP OF MULCH
- ② VALVE BOX WITH COVER: RAIN BIRD VB-STD
- ③ 30-INCH LINEAR LENGTH OF WIRE, COILED
- ④ WATERPROOF CONNECTION: RAIN BIRD DB SERIES
- ⑤ 1-INCH BALL VALVE (INCLUDED IN X CZ-PRB-100-COM KIT)
- ⑥ ID TAG
- ⑦ REMOTE CONTROL VALVE: RAIN BIRD PESB (INCLUDED IN X CZ-PRB-150-COM KIT)
- ⑧ PRESSURE REGULATING QUICK CHECK BASKET FILTER: RAIN BIRD PRB-QKCHK-150 (INCLUDED IN X CZ-PRB-150-COM KIT)
- ⑨ PVC SCH 40 FEMALE ADAPTOR
- ⑩ LATERAL PIPE
- ⑪ PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- ⑫ PVC SCH 40 ELL
- ⑬ PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
- ⑭ PVC SCH 40 TEE OR ELL
- ⑮ MAINLINE PIPE
- ⑯ 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- ⑰ PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN X CZ-PRB-100-COM KIT)

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JOHNSON
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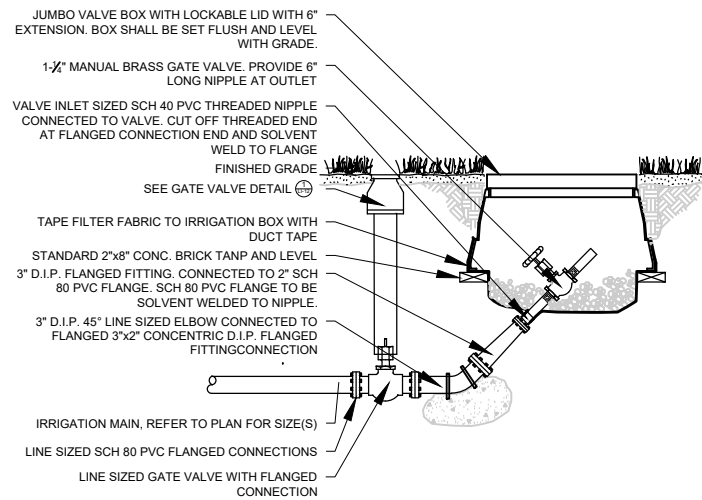
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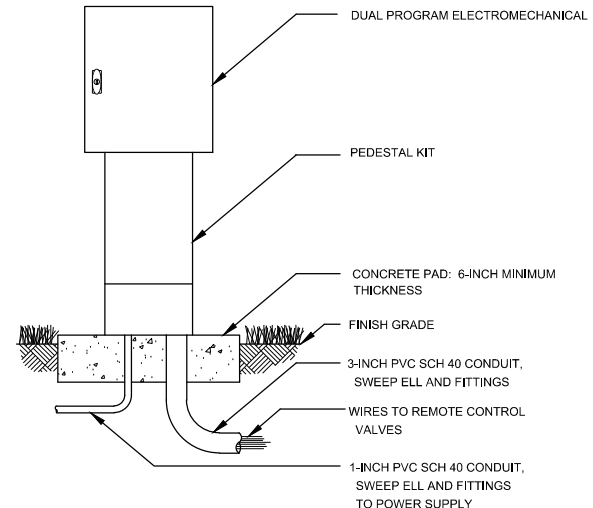
IRRIGATION DETAILS

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L27

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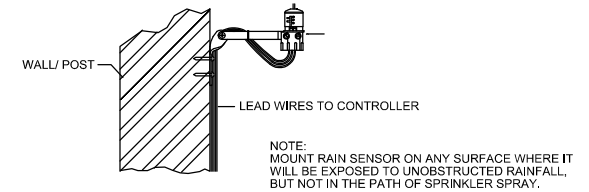


1 IRRIGATION MAINLINE FLUSH
 NOTES:
 ALL THREADED RODS, NUTS AND WASHERS SHALL BE STAINLESS STEEL. OPEN AND CLOSE SLOWLY THE VALVES DURING FLUSHING. OPEN 1-1/4" VALVE FIRST, THEN OPEN LARGER VALVE. USE A MINIMUM TIME OF 30 SECONDS FOR OPENING OR CLOSING EACH VALVE UNDER PRESSURE.
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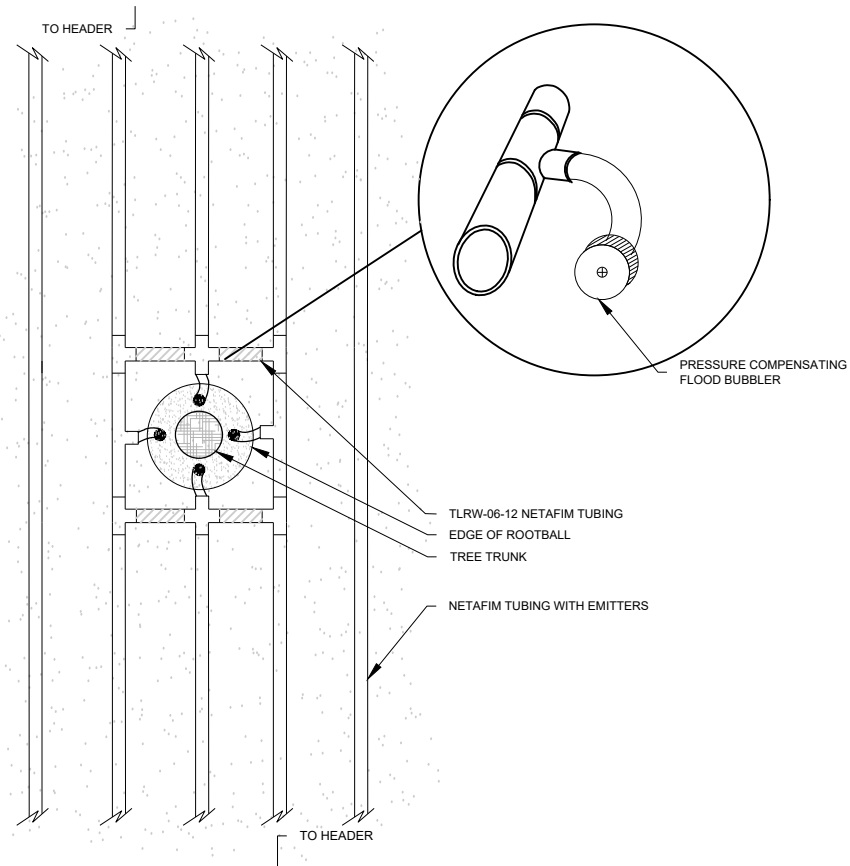


3 CONTROLLER PEDESTAL DETAIL
 N.T.S.

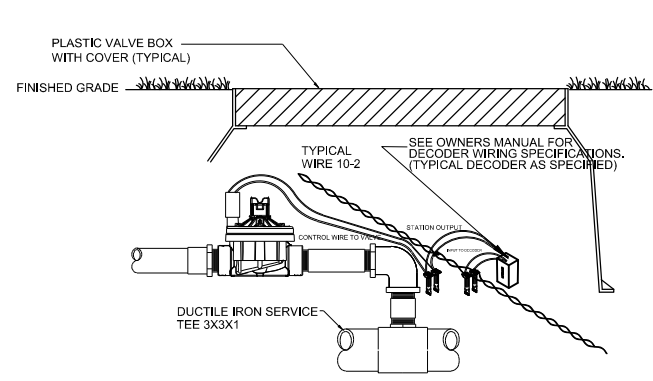
CALL 48 HOURS BEFORE YOU DIG
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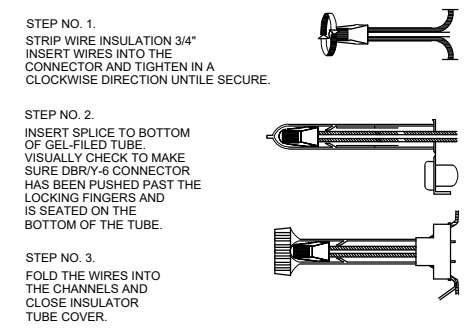
6 RAIN SENSOR
 N.T.S.



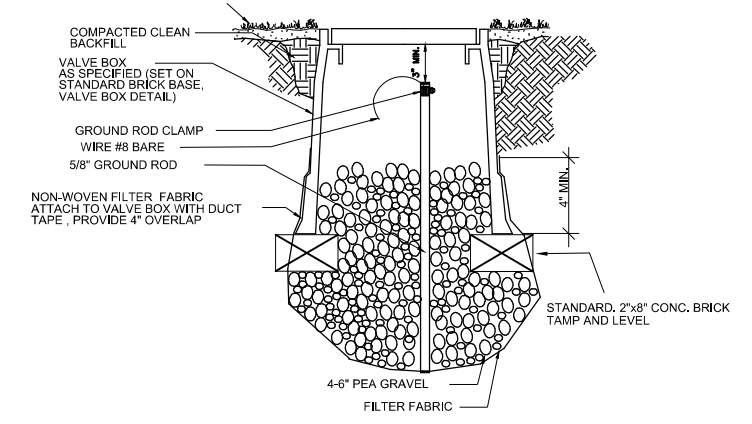
2 TREE DRIPPER WITHIN DRIP ZONE DETAIL - TYPICAL
 N.T.S.



4 DECODER INSTALLATION DETAIL
 -TYPICAL
 N.T.S.

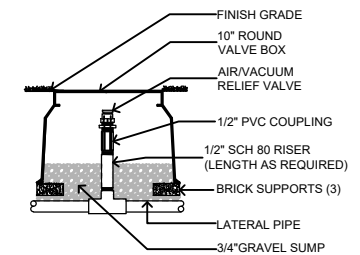


5 24-VOLT WIRE CONNECTION DETAIL
 -TYPICAL
 N.T.S.



7 GROUND ROD SURGE PROTECTOR DETAIL
 -TYPICAL
 N.T.S.

NOTES:
 THE CONTRACTOR SHALL PROVIDE A SURGE PROTECTOR, COMPATIBLE WITH THE PRODUCTS SPECIFIED AT EACH VALVE & VALVE BOX LOCATION.
 THE WIRES SHALL BE SOLDERED AT ANY POINT ALONG THE PATH WHERE A DECODER OR SURGE PROTECTOR IS ADDED, SOLDERING IS NOT REQUIRED FROM THE DECODERS TO THE SOLENOIDS. (SEE DETAIL 3/8 ON SHEET IR-3 FOR COMPLETE WIRING DIAGRAM)



8 AIR RELIEF PVC RISER
 N.T.S.

REVISIONS	

CHARLOTTE COUNTY
 PUBLIC WORKS,
 MAINTENANCE &
 OPERATIONS

C.R. 771 ROADWAY
 LANDSCAPE IMPROVEMENTS
 CHARLOTTE COUNTY,
 FLORIDA

**JOHNSON
 ENGINEERING**

JOHNSON ENGINEERING, INC.
 2122 JOHNSON STREET
 P.O. BOX 1550
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 PHONE: (239) 334-0046
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JEFFREY NAGLE, RLA
 FL License No. LA-6667059

IRRIGATION DETAILS				
DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L28

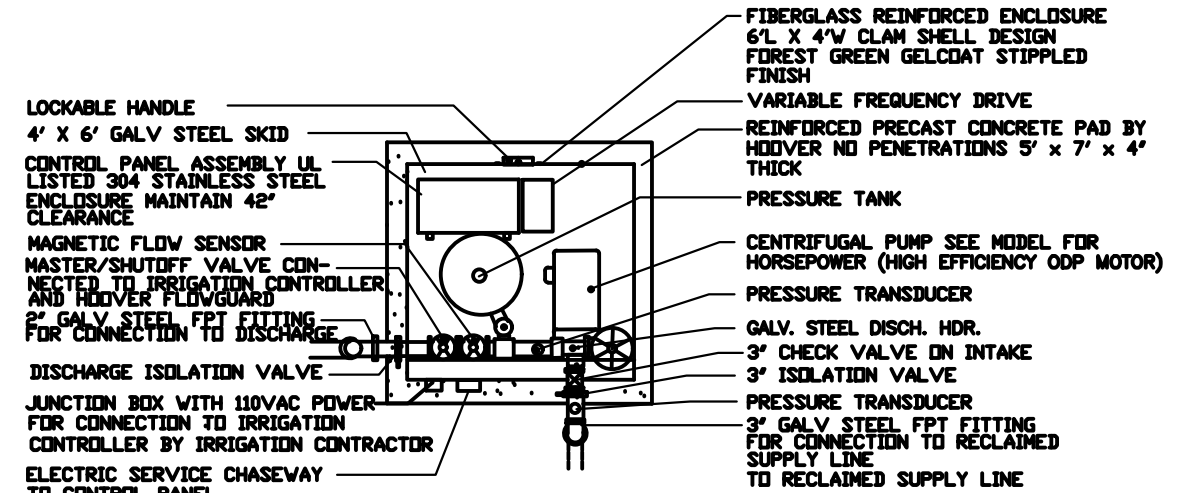
O:\2017\20170177-000\Landscapes\170177-000 IR DETAILS-NORTH.dwg (IRRIGATION DETAIL) mls Jul 25, 2022 - 9:11am

NOTE: SUCTION PIPE SHALL BE SCHED 40 GALV STEEL WITH GALVANIZED GROOVED OR FLANGED FITTINGS. CHECK VALVE SHALL BE CAST IRON SWING TYPE. ALL EXPOSED SUCTION & DISCHARGE PIPE ADJACENT TO THE PUMP SYSTEM SHALL BE GALVANIZED STEEL. BUTTERFLY OR BALLVALVE PROVIDED AT EACH PUMP.

- * FEATURES ARE INCLUDED IF MARKED WITH AN "X"
- IRRIGATION CONTROLLER STATIONS, WITH RAIN SENSOR ON 8' POLE
- X PRESSURE TANK FOR PRESSURE DEMAND SYSTEMS

HOOVER FLOWGUARD REMOTE MONITORING AND CONTROL COMMUNICATION VIA CELLULAR MODEM. USER DEFINED INTERNET BASED CONTROL PARAMETERS USING STANDARD WEB BROWSER WITH EVENT LOGGING AND EMAIL ALERTS FOR WARNINGS AND ALARMS AS FOLLOWS:

- X HMI DISPLAY ON CONTROL PANEL
 - X MAXIMUM GALLON PER MINUTE USAGE WITH ADJUSTABLE TIME DELAY AND NUMBER OF RESTART ATTEMPTS
 - X MINIMUM TOTAL DAILY WATER USAGE
 - X DAILY, MONTHLY AND ANNUAL WATER USAGE BUDGETS
 - X GRAPHING OF REAL TIME AND HISTORICAL FLOW AND PRESSURE (INCOMING SUPPLY & DISCHARGE) AND SYSTEM EVENTS WITH TIME AND DATE SHOWN
 - X RAIN SENSOR STATUS
 - X HISTORIC WATER USAGE BY DAY AND MONTH
 - X LOSS OF PRIME
 - X VFD FAULT
 - X PUMP HIGH TEMPERATURE
 - X PUMP RAPID CYCLE
 - X SHUTOFF VALVE STATUS
- SAFETY FEATURES
PRESSURE DEMAND:
-TRANSIENT SURGE
-LOSS OF PRIME
-PUMP OVERHEAT
-HIGH FLOW
-LOW PRESSURE



PUMP PERFORMANCE
50 GPM @ 130 TDH, 80 PSI AT DISCHARGE
WITH UP TO 40 PSI PRESSURE BOOST

NOTE: 12" RECLAIM MAIN WITH PRESSURE BETWEEN
50 PSI & 90 PSI, AVG 70 psi

ELECTRIC SERVICE TO BE, IN ORDER OF PREFERENCE:
480V 3-PHASE, 230V CLOSED-DELTA 3-PHASE, 230 OPEN-DELTA 3-PHASE,
208 WYE 3-PHASE, 230 1-PHASE, 208V 1-PHASE,

HOOVER PUMPING MODEL: HCBF-5PDV-208/3-M,R3,Q,Z
Pompano Beach, Florida, Tel: 954-971-7350

FILE PN18121.DWG 09/21

GASPARILLA ROADWAY CR771 BOOSTER PUMP CENTRIFUGAL PUMP SYSTEM DETAIL

FIBERGLASS ENCLOSED SINGLE RECLAIMED WATER
PRESSURE DEMAND VARIABLE FREQUENCY DRIVE (VFD)
HOOVER FLOWGUARD®

1 BOOSTER PUMP DETAIL

REVISIONS	

CHARLOTTE COUNTY
PUBLIC WORKS,
MAINTENANCE &
OPERATIONS

C.R. 771 ROADWAY
LANDSCAPE IMPROVEMENTS
CHARLOTTE COUNTY,
FLORIDA

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JEFFREY NAGLE, RLA
FL License No. LA-6667059

IRRIGATION DETAIL

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
JUNE 2022	20170177-000	41-21-08	As Shown	L29

IRRIGATION NOTES:

- THE PLANS AND DRAWINGS ARE DIAGRAMMATIC OF THE WORK TO BE PERFORMED. SOME COMPONENTS MAY BE SHOWN OUTSIDE THE WORK AREA FOR CLARITY. THE WORK SHALL BE EXECUTED IN A MANNER TO AVOID CONFLICTS WITH UTILITIES AND OTHER ELEMENTS OF CONSTRUCTION, INCLUDING LANDSCAPE MATERIALS. ALL DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY ASPECT OF THE IRRIGATION SYSTEM AS SHOWN ON THE PLANS AND DRAWINGS, WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES EXIST THAT MIGHT NOT HAVE BEEN KNOWN DURING THE DESIGN OF THE IRRIGATION SYSTEM. IN THE EVENT THAT NOTIFICATION OF THE CONFLICT IS NOT APPROVED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS.
- THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS, IRRIGATION SYSTEM SPECIFICATIONS AND ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH ALL PREVAILING LOCAL CODES, ORDINANCES, AND REGULATIONS.
- CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, INCLUDING UTILITY LOCATIONS, BEFORE INSTALLATION OF THE IRRIGATION SYSTEM. ALL UTILITIES AND STRUCTURES MAY NOT BE SHOWN ON THE PLANS - CONTRACTOR TO VERIFY. COORDINATE ALL IRRIGATION SYSTEM CONSTRUCTION WITH EXISTING AND NEW PLANTINGS TO AVOID CONFLICT OR INTERFERENCE WITH LOCATION OF PIPING, SLEEVING, CABLES, AND SERVICE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION WITH ALL OTHER CONSTRUCTION ON SITE, ESPECIALLY LANDSCAPE INSTALLATION. IRRIGATION SYSTEM SHALL BE RELOCATED AT NO ADDITIONAL COST FOR ANY CONFLICT WITH LANDSCAPE INSTALLATION OR ANY OTHER SITE CONSTRUCTION OR EXISTING CONDITIONS. ALL COMPONENTS THAT ARE NOT CONTAINED WITHIN THE SPECIFIC AREAS SHOWN OR CALLED OUT ON THE DRAWINGS WILL NOT BE ACCEPTED. ALL PIPING AND OTHER COMPONENTS ARE TO REMAIN WITHIN THE PROPERTY OF THE OWNER.
- WHERE EXISTING OR NEW TREES, LIGHT STANDARDS, SIGNS, ELECTRONIC CONTROLLERS AND/OR OTHER OBJECTS ARE AN OBSTRUCTION TO AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN PROPER COVERAGE OF AN IRRIGATION SPRINKLER'S PATTERN, THE COMPONENT AND PIPING SHALL BE RELOCATED AS NECESSARY TO OBTAIN THE PROPER COVERAGE WITHOUT DAMAGING THE OBSTRUCTION. OWNER'S REPRESENTATIVE SHALL DETERMINE WHETHER AN OBSTRUCTION OCCURS OR NOT.
- COMPONENT SPACINGS ARE MAXIMUM. DO NOT EXCEED SPACINGS SHOWN OR NOTED ON THE PLANS. COMPONENT SPACINGS MAY BE ADJUSTED TO ACCOMMODATE CHANGES IN TERRAIN AND PLANTING LAYOUT AS LONG AS THE MODIFIED SPACINGS DO NOT EXCEED THE SPACINGS SHOWN IN THE PLANS. UNLESS SHOWN OTHERWISE, CONTRACTOR SHALL PROVIDE 100% COVERAGE.
- ALL MATERIALS AND EQUIPMENT SHOWN SHALL BE NEW AND INSTALLED AS DETAILED ON THE PLANS. IF THE DRAWINGS DO NOT THOROUGHLY DESCRIBE THE TECHNIQUES TO BE USED, THE INSTALLER SHALL FOLLOW THE INSTALLATION METHODS AND INSTRUCTIONS RECOMMENDED BY THEIR MANUFACTURER.
- THE LOCATION OF THE IRRIGATION MAINLINE SHALL BE IDENTIFIED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- IRRIGATION CONTRACTOR SHALL ADJUST ALL SPRINKLERS, CONTROLLER AND OTHER DEVICES TO OBTAIN SPECIFIED OPERATING PARAMETERS, INCLUDING COVERAGE, OPERATING PRESSURE, FLOW RATES AND OPERATION TIME, AS INDICATED ON THE DRAWINGS AND IN THE IRRIGATION SYSTEM SPECIFICATIONS.
- CONTRACTOR TO PROVIDE INSTALLATION SHOP DRAWINGS AND MANUFACTURER PRODUCT INFORMATION FOR ALL IRRIGATION COMPONENTS. ALL INSTALLATIONS SHALL BE AS RECOMMENDED BY MANUFACTURERS. THE QUANTITIES SHOWN IN THE LEGENDS AND SYMBOL SHEETS SHALL NOT BE USED FOR BIDDING PURPOSES. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONDUCTING A COMPREHENSIVE MATERIALS TAKEOFF TO DETERMINE THE ACTUAL QUANTITIES OF MATERIAL NECESSARY TO EXECUTE THE WORK DESCRIBED IN THE DOCUMENTS.
- ALL TRENCHES SHALL BE BACKFILLED TO 90% DENSITY WITH CLEAN, DEBRIS-FREE MATERIALS. CLEAN SAND SHALL BE USED FOR BEDDING MATERIAL IF PARENT SOIL CANNOT BE ADEQUATELY RID OF ROCK AND OTHER EXTRANEIOUS DEBRIS. PULLING PIPE SHALL BE PROHIBITED.
- ALL SOLVENT WELDING SHALL BE PRECEDED BY PRIMING OF THE FITTINGS AND PIPE AS RECOMMENDED BY THE MANUFACTURER.
- PRIOR TO INSTALLATION, CONTRACTOR TO VERIFY LOCATION OF ALL REFLECTIVE PAVEMENT MARKERS WITH THE CHARLOTTE COUNTY PROJECTS MANAGER.
- CONTRACTOR TO PLACE TREE BUBBLERS AT OUTER EDGE OF ROOT BALL, NOT OUTER EDGE OF PLANTING HOLE.
- PIPING INCLUDING MAINLINES AND LATERALS SHALL BE COLOR CODED PANTONE PURPLE 522C FOR FUTURE CONVERSION OF THE SYSTEM TO REUSE WATER PER COUNTY ORDINANCES AND STATE STATUTES. THE IRRIGATION SYSTEM COMPONENTS SHALL BE COMPATIBLE FOR USE WITH REUSE WATER AND FLORIDA ADMINISTRATIVE CODE 62-610 REUSE OF RECLAIMED WATER AND LAND APPLICATION. ALL VALVES, VALVE BOX COVERS, AND OTHER APPLICABLE EQUIPMENT SHALL BE COLOR CODED PANTONE PURPLE 522C (EXCEPT FOR SCH. 40 DRIPLINE HEADER/EXHAUST PIPE).
- ELECTRICAL CONNECTIONS: CONTRACTOR WILL BE RESPONSIBLE FOR THE LOW VOLTAGE ELECTRICAL CONNECTION(S) TO THE IRRIGATION CONTROLLER. THE ELECTRICAL CONNECTION FOR THE CONTROLLER WILL BE WITHIN 25' OF THE DESIGNATED CONTROLLER LOCATION AS SHOWN ON THE IRRIGATION PLANS. CHARLOTTE COUNTY WILL BE RESPONSIBLE FOR MAKING ALL PROJECT RELATED ELECTRICAL CONNECTIONS BEYOND LOW VOLTAGE CONNECTION FOR THE IRRIGATION SYSTEM EQUIPMENT.
- ALL CONNECTIONS TO THE IRRIGATION MAINLINE (2 1/2" OR LARGER) SHALL BE ACCOMPLISHED VIA THE USE OF DUCTILE IRON SERVICE TEES. ALL CHANGES OF DIRECTION SHALL BE ACCOMPLISHED VIA THE USE OF DUCTILE IRON 45 DEGREE ELBOWS W/ PROPER THRUST BLOCKING.
- LOCATE ALL VALVES IN PLANTING BEDS OR MULCHED AREAS WITH A MINIMUM OFFSET OF 3'-0" FROM BACK OF CURB OR EDGE OF PAVEMENT. VALVES LOCATED IN MEDIANS SHALL BE INSTALLED AS CLOSE TO THE MEDIAN CENTER AS POSSIBLE.
- ALL VALVES (SOLENOID, GATE, ISOLATION, AIR RELIEF AND FLUSH), SURGE PROTECTORS AND FILTERS SHALL BE LOCATED WITHIN RAINBIRD VALVE BOXES .
- ALL IRRIGATION LINES UNDER PAVEMENT SHALL BE INSTALLED WITHIN HDPE DR 11 OR 19. IRRIGATION LINES UNDER PAVEMENT SHALL BE INSTALLED WITHIN HDPE DR 11 OR EXISTING SCH 40 PVC SLEEVES AS NOTED. IRRIGATION COMMUNICATION CABLE SHALL HAVE IT'S OWN SEPARATE SLEEVE UNLESS NOTED OTHERWISE. WHERE ELECTRIC CONTROL VALVE WIRES PASS THROUGH A SLEEVE WITH MAIN OR LATERAL LINES THEY SHALL BE CONTAINED WITHIN A SEPARATE, SMALLER SCH 80 PVC CONDUIT.
- THE IRRIGATION CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR ALL SLEEVING AND DIRECTIONAL BORES, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL FURNISH AND INSTALL TECHLINE AS REQUIRED TO REFLECT THE PROPOSED PLANT MATERIAL SPACING AS SHOWN ON THE LANDSCAPE PLANS.
- ALL UNSIZED PIPE SHALL BE 1".
- EACH TREE AND PALM SHALL HAVE PRESSURE COMPENSATING FLOOD BUBBLERS AS SHOWN ON THE PLANS. EACH BUBBLER SHALL BE ON A MINIMUM 5'-0" LENGTH OF FUNNY PIPE TO ALLOW ITS POSITIONING AT THE TREE. LOCATE BUBBLERS ON THE UPHILL SIDE OF TREES ON ALL SLOPES. LOCATE BUBBLERS IN THE CENTER OF THE ROOTBALL AND EQUAL DISTANCE APART.
- THE IRRIGATION CONTRACTOR SHALL INSTALL A COLOR CODED DETECTABLE METAL MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: WATER LINE BURIED BELOW". TAPE SHALL BE MANUFACTURED BY LINEGUARD, INC., OR APPROVED EQUAL AND SHALL BE ONE (1) FOOT BELOW SITE FINISH GRADE.
- IRRIGATION LATERAL LINES TO BE BURIED AT A DEPTH OF 24" UNLESS NOTED OTHERWISE.
- IRRIGATION MAINLINES TO BE BURIED AT A DEPTH OF 36" UNLESS NOTED OTHERWISE.

- ALL COMPONENTS INSTALLED BY THE IRRIGATION CONTRACTOR, SHALL BE LOCATED ON THE "AS-BUILT" DRAWINGS. THE EXACT LOCATION AND DEPTH BELOW FINISH GRADE OF ALL COMPONENTS SHALL BE NOTED ON THE "AS-BUILT" DRAWINGS. EACH POINT OF IRRIGATION SHALL BE MEASURED FROM 2 FIXED POINTS OF REFERENCE.
- CAP SLEEVES UNTIL PIPE IS INSTALLED. SEAL EACH END OF SLEEVES WITH FOAM-A-SEAL AFTER PIPE AND WIRE IS INSTALLED.
- IRRIGATION CONTRACTOR SHALL SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF HIS OPERATIONS ON-SITE. COPIES OF THE PERMITS SHALL BE SENT TO THE LANDSCAPE SUPERVISOR. WORK IN THE RIGHT OF WAY SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LOCAL AND/OR STATE HIGHWAY JURISDICTION.
- INSTALLATION OF WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR A SPEEDY AND ORDERLY FLOW OF VEHICULAR TRAFFIC AND COMPLETION OF ALL WORK ON THE SITE.
- RESTORE ALL TRENCHING DISTURBED AREAS, OUTSIDE EDGE OF PAVEMENT (EOP) AND WITHIN R.O.W., WITH ARGENTINE BAHIA GRASS SEED AT THE RATE OF 10 LBS. PER 100 SQUARE FEET. SOD AREAS 12" OR WIDER WITH ARGENTINE BAHIA GRASS SOD. PROVIDE A SMOOTH TRANSITION BETWEEN THE REPAIRED DISTURBED AREAS AND THE UNDISTURBED AREAS.
- PIPE LOCATIONS SHOWN ARE SCHEMATIC. THE MAINLINE SHALL BE INSTALLED 36" FROM THE EDGE OF PAVEMENT BUT NO CLOSER THAN 12". THE CONTRACTOR IS RESPONSIBLE FOR LOCATION ADJUSTMENTS WHEN NECESSARY TO AVOID CONFLICTS.
- ALL MAINLINES SHALL BE INSTALL WITH A CONTINUOUS METALLIC TAPE FOR FUTURE LOCATING PURPOSES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IRRIGATION SYSTEM INCIDENTALS NOT SPECIFICALLY LISTED IN THE BID FORM, NECESSARY TO PROVIDE A FULLY FUNCTIONAL AUTOMATIC IRRIGATION SYSTEM. I.E. FITTINGS, WIRE ENDS, SWEEPS, SPLICES, GLUE, ETC.
- COMMON WIRE GROUND WILL BE WHITE. CONTROL WIRE HOT WILL BE RED. GAUGE WILL DEPEND ON LENGTH OF WIRE RUN. LONGER RUNS REQUIRE LARGER WIRES.
- ALL VALVES SHALL BE LOCATED ON EITHER SIDE OF THE MEDIAN WITH REFLECTIVE PAVEMENT MARKERS (GREEN)
- ALL SLEEVE TERMINALS SHALL BE ACCOMPANIED WITH OMNI MARKERS (MODEL 168-PURPLE).
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUPPLEMENTAL IRRIGATION/ HAND WATERING OF ALL PROPOSED LANDSCAPE MATERIAL AT NO ADDITIONAL COST SHOULD THE PROPOSED IRRIGATION NOT BE AVAILABLE OR OPERATIONAL AT THE TIME OF PLANT INSTALLATION. USE OF WATER BAGS IS NOT AN ACCEPTABLE ALTERNATIVE.

FINAL ACCEPTANCE

FINAL ACCEPTANCE OF THE IRRIGATION SYSTEM WILL BE GIVEN AFTER THE FOLLOWING DOCUMENTS AND CONDITIONS HAVE BEEN COMPLETED AND APPROVED. FINAL PAYMENT WILL NOT BE RELEASED UNTIL THESE CONDITIONS ARE SATISFIED.


- FINAL WALK-THRU AND CORRECTION OF ALL PUNCH LIST ITEMS.
- COMPLETION AND ACCEPTANCE OF 'AS-BUILT' DRAWINGS.
- ACCEPTANCE OF REQUIRED CONTROLLER CHARTS AND PLACEMENT INSIDE OF CONTROLLERS.
- TURN OVER OF ALL REQUIRED PARTS AND TOOLS AS OUTLINED IN THE PROJECT SPECIFICATIONS.
- TURN OVER OF THE "IRRIGATION MANUAL" AS OUTLINED IN THE PROJECT SPECIFICATIONS.

GUARANTEE: THE IRRIGATION SYSTEMS SHALL BE GUARANTEED FOR A MINIMUM OF ONE CALENDAR YEAR FROM THE TIME OF FINAL ACCEPTANCE.

MINIMUM RECOMMENDED IRRIGATION MAINTENANCE PROCEDURES FOR CHARLOTTE COUNTY UNTIL AND UPON FINAL ACCEPTANCE OF PROJECT.

- EVERY IRRIGATION ZONE SHOULD BE CHECKED MONTHLY AND WRITTEN REPORTS GENERATED DESCRIBING THE DATE(S) EACH ZONE WAS INSPECTED, PROBLEMS IDENTIFIED, DATE PROBLEMS REPAIRED, AND A LIST OF MATERIALS USED IN THE REPAIR. AT MINIMUM, THESE INSPECTIONS SHOULD INCLUDE THE FOLLOWING TASKS:
 - TURN ON EACH ZONE FROM THE CONTROLLER TO VERIFY AUTOMATIC OPERATION.
 - CHECK SCHEDULES TO ENSURE THEY ARE APPROPRIATE FOR THE SEASON, PLANT AND SOIL TYPE, AND IRRIGATION METHOD. CONSULT AN I.A. CERTIFIED AUDITOR FOR METHODS USED IN DETERMINING PROPER IRRIGATION SCHEDULING REQUIREMENTS.
 - CHECK REMOTE CONTROL VALVE TO ENSURE PROPER OPERATION.
 - CHECK SETTING ON PRESSURE REGULATOR TO VERIFY PROPER SETTING, IF PRESENT.
 - CHECK FLOW CONTROL AND ADJUST AS NEEDED; ENSURE VALVE CLOSURE WITHIN 10-15 SECONDS AFTER DEACTIVATION BY CONTROLLER.
 - CHECK FOR LEAKS - MAINLINE, LATERAL LINES, VALVES, HEADS, ETC.
- CHECK CONTROLLER GROUNDS FOR RESISTANCE (10 OHMS OR LESS) ONCE PER YEAR. SUBMIT WRITTEN REPORTS.
- CHECK RAIN SHUT-OFF DEVICE MONTHLY TO ENSURE IT FUNCTIONS PROPERLY.
- INSPECT ALL FILTERS MONTHLY AND CLEAN/REPAIR/REPLACE AS NEEDED.
- INSPECT ALL VALVE BOXES TO ENSURE THEY ARE IN GOOD CONDITION, LIDS ARE IN PLACE AND LOCKED.
- CHECK CONTROLLER STATIONS FOR PROPER OPERATION, PRESSURES, FILTRATION, SETTINGS, ETC. - REFER TO PUMP STATION OPERATIONS MANUAL.
- CHECK AND CLEAN INTAKE SCREENS ON ALL SUCTION LINES QUARTERLY, AT MINIMUM. CLEAN AND/OR REPAIR, AS NEEDED.
- CONDUCT ADDITIONAL INSPECTIONS, MAINTENANCE TASKS, ETC. THAT ARE PARTICULAR FOR YOUR SITE.

o:\2017\20170177-000\IR DETAILS_NORTH.dwg (IRRIGATION NOTES) mls Jul 25, 2022 - 9:11am

REVISIONS		CHARLOTTE COUNTY PUBLIC WORKS, MAINTENANCE & OPERATIONS	C.R. 771 ROADWAY LANDSCAPE IMPROVEMENTS CHARLOTTE COUNTY, FLORIDA		JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET P.O. BOX 1550 FORT MYERS, FLORIDA 33902-1550 PHONE: (239) 334-0046 FAX: (239) 334-3661 E.B. #642 & L.B. #642	JEFFREY NAGLE, RLA FL License No. LA-6667059	IRRIGATION NOTES					
								DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
								JUNE 2022	20170177-000	41-21-08	As Shown	L30

O:\2017\20170177-000\landscape\160177_MOT_NORTH.dwg (MOBILIZATION OF TRAFFIC PLAN) mis Jul 25, 2022 - 9:12am

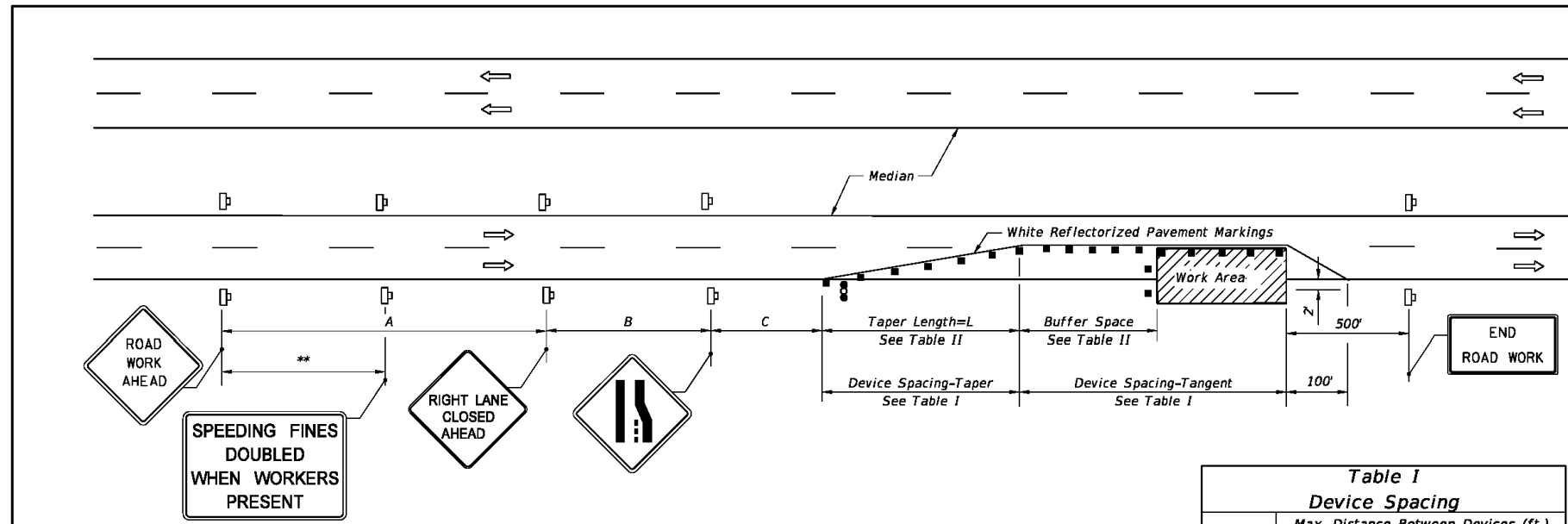


Table II
Buffer Space and Taper Length

Speed (mph)	Buffer Space (ft.)	Taper Length (12' Lateral Transition)	
		L (ft.)	Notes (Merge)
25	155	125	L = WS ² / 60
30	200	180	
35	250	245	
40	305	320	L = WS
45	360	540	
50	425	600	
55	495	660	
60	570	720	
65	645	780	
70	730	840	

DISTANCE BETWEEN SIGNS

Speed	Spacing (ft.)		
	A	B	C
40 mph or less	200	200	200
45 mph	350	350	350
50 mph	500	500	500
*55 mph or greater	2640	1640	1000

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign and the RIGHT LANE CLOSED 1/2 MILE sign may be used as an alternate to the RIGHT LANE CLOSED AHEAD sign.

** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

SYMBOLS

- Work Area
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Advance Warning Arrow Board

GENERAL NOTES

- Work operations shall be confined to one traffic lane, leaving the adjacent lane open to traffic.
- On undivided highways the median signs as shown are to be omitted.
- When work is performed in the median lane on divided highways, the channelizing device plan is inverted and left lane closed and lane ends signs substituted for the right lane closed and lane end signs.
The same applies to undivided highways with the following exceptions:
 - Work shall be confined within one median lane.
 - Additional barricades, cones, or drums shall be placed along the centerline abutting the work area and across the trailing end of the work area.
- When work on undivided highways occurs across the centerline so as to encroach on both median lanes, the inverted plan is applied to the approach of both roadways.
- Signs and traffic control devices are to be modified in accordance with INTERMITTENT WORK STOPPAGE details (sheet 2 of 2) when no work is being performed and the highway is open to traffic.
- The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
- When paved shoulders having a width of 8 ft. or more are closed, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the travel way. See Index No. 612 for shoulder taper formulas.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- This TCZ plan does not apply when work is being performed in the middle lane(s) of a six or more lane highway. See Index No. 614.
- For general TCZ requirements and additional information, refer to Index No. 600.

Table I
Device Spacing

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use Where:

L = Length of taper in feet
W = Width of lateral transition in feet
S = Posted speed limit (mph)

DURATION NOTES

- Temporary white edgeline may be omitted for work operations less than 3 consecutive calendar days.
- For work operations up to approximately 15 minutes, signs, channelizing devices, arrow board, and buffer space may be omitted if all of the following conditions are met:
 - Speed limit is 45 mph or less.
 - No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space and the taper length combined.
 - Volume and complexity of the roadway has been considered.
 - The closed lane is occupied by a class 5 or larger, medium duty truck(s) with a minimum gross weight vehicle rating (GWVR) of 16,001 lb with high-intensity, rotating, flashing, oscillating, or strobe lights mounted above the cab height and operating.
- For work operations up to 60 minutes, arrow board and buffer space may be omitted if conditions a, b, and c in DURATION NOTE 2 are met, and vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE LANE ADJACENT TO EITHER SHOULDER AND THE AREA 2' OUTSIDE THE EDGE OF TRAVEL WAY.

LAST REVISION 07/01/15	DESCRIPTION:	2016 DESIGN STANDARDS	MULTILANE, WORK WITHIN TRAVEL WAY MEDIAN OR OUTSIDE LANE	INDEX NO. 613	SHEET NO. 1 of 2
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- NOTES:**
- BASIS OF MAINTENANCE OF TRAFFIC PLAN REFERS TO FDOT INDEX 600 SERIES. SEE CURRENT EDITION. CONTRACTOR TO SUBMIT M.O.T. PHASE RECOMMENDATIONS FOR APPROVAL BY COUNTY AND ENGINEER.
 - SEE GENERAL NOTE #20 ON SHEET C2.
 - THIS CONCEPTUAL MOT IS INTENDED FOR THE LANDSCAPE AND IRRIGATION CONSTRUCTION ONLY. THE CONTRACTOR SHALL PREPARE, SUBMIT AND OBTAIN COUNTY APPROVAL FOR THIS MOT PLAN.

THIS DRAWING CONTAINS DETAILS DESIGNED BY, STANDARD TO, AND FURNISHED BY
FLORIDA DEPARTMENT OF TRANSPORTATION
SAID DETAILS WERE NOT DESIGNED BY JOHNSON ENGINEERING.

REVISIONS	CHARLOTTE COUNTY PUBLIC WORKS, MAINTENANCE & OPERATIONS	C.R. 771 ROADWAY LANDSCAPE IMPROVEMENTS CHARLOTTE COUNTY, FLORIDA		JOHNSON ENGINEERING, INC. 2122 JOHNSON STREET P.O. BOX 1550 FORT MYERS, FLORIDA 33902-1550 PHONE: (239) 334-0046 FAX: (239) 334-3661 E.B. #642 & L.B. #642	JEFFREY NAGLE, RLA FL License No. LA-6667059		MOBILIZATION OF TRAFFIC PLAN			
						DATE JUNE 2022	PROJECT NO. 20170177-000	FILE NO. 41-21-08	SCALE As Shown	SHEET L31

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THE FOLLOWING NARRATIVE OF THE STORMWATER POLLUTION PREVENTION PLAN CONTAINS REFERENCES TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE DESIGN STANDARDS, AND OTHER SHEETS OF THESE CONSTRUCTION PLANS. THE FIRST SHEET OF THE CONSTRUCTION PLANS (CALLED THE KEY SHEET) CONTAINS AN INDEX TO THE OTHER SHEETS. THE COMPLETE STORMWATER POLLUTION PREVENTION PLAN INCLUDES SEVERAL ITEMS: THIS NARRATIVE DESCRIPTION, THE DOCUMENTS REFERENCED IN THIS NARRATIVE, THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN REQUIRED BY SPECIFICATION SECTION 104, AND REPORTS OF INSPECTIONS MADE DURING CONSTRUCTION.

- 1.0 SITE DESCRIPTION:
- 1.A NATURE OF CONSTRUCTION ACTIVITY:

THE PROJECT IS THE PROPOSED LANDSCAPING AND IRRIGATION IMPROVEMENTS OF JONES LOOP ROAD. THIS INVOLVES LANDSCAPE AND IRRIGATION INSTALLATION. THE PROJECT EXTENDS A DISTANCE OF APPROXIMATELY 1.15 MILES.

- 1.B SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE A DETAILED SEQUENCE OF CONSTRUCTION FOR ALL CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL FOLLOW THE SEQUENCE OF MAJOR ACTIVITIES DESCRIBED BELOW, UNLESS THE CONTRACTOR PROPOSES A DIFFERENT SEQUENCE THAT IS EQUAL OR BETTER AT CONTROLLING EROSION AND TRAPPING SEDIMENT AND IS APPROVED BY THE ENGINEER.

FOR EACH CONSTRUCTION PHASE, INSTALL PERIMETER CONTROLS AFTER CLEARING AND GRUBBING NECESSARY FOR INSTALLATION OF LANDSCAPE AND IRRIGATION BUT BEFORE BEGINNING OTHER WORK FOR THE CONSTRUCTION PHASE. REMOVE PERIMETER CONTROLS ONLY AFTER ALL UPSTREAM AREAS ARE STABILIZED.

- 1. INSTALLATION OF IRRIGATION SYSTEM.
- 2. INSTALLATION OF LANDSCAPING

- 1.C AREA ESTIMATES:

TOTAL SITE AREA: 0.37 ACRES
 TOTAL AREA TO BE DISTURBED: 0.37 ACRES

- 1.D RUNOFF DATA:

RUNOFF COEFFICIENTS:

BEFORE: N/A
 DURING: N/A
 AFTER: N/A

OUTFALL INFORMATION:

THERE ARE 0 OUTFALLS.

- 1.E SITE MAP:

THE CONSTRUCTION PLANS ARE BEING USED AS THE SITE MAPS. THE LOCATION OF THE REQUIRED INFORMATION IS DESCRIBED BELOW. THE SHEET NUMBERS FOR THE PLAN SHEETS REFERENCED ARE IDENTIFIED ON THE KEY SHEET OF THESE CONSTRUCTION PLANS.

DRAINAGE PATTERNS: N/A

APPROXIMATE SLOPES: N/A

*AREAS OF SOIL DISTURBANCE: THE AREAS TO BE DISTURBED ARE INDICATED ON THE PLAN SHEETS. ANY AREAS WHERE PERMANENT FEATURES, LANDSCAPE AND IRRIGATION ARE SHOWN TO BE CONSTRUCTED ABOVE OR BELOW GROUND WILL BE DISTURBED.

*AREAS NOT TO BE DISTURBED: ANY AREA OUTSIDE THE PLANTING AND IRRIGATION INSTALLATION.

*LOCATIONS OF TEMPORARY CONTROLS: THESE ARE SHOWN ON THE EROSION CONTROL SHEETS

* OLD LOCATIONS OF PERMANENT CONTROLS: N/A

* AREAS TO BE STABILIZED: N/A

* SURFACE WATERS: N/A

* DISCHARGE POINTS TO SURFACE WATERS: ROADSIDE SWALES JUST ALONG THE ROADWAY SHOULDERS.

- 1.F RECEIVING WATERS: N/A

- 2.0 CONTROLS:

- 2.A EROSION AND SEDIMENT CONTROLS:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE PROPOSED STABILIZATION AND STRUCTURAL PRACTICES BASED ON THE CONTRACTOR'S PROPOSED TEMPORARY TRAFFIC CONTROL (TTC) PLAN. THE FOLLOWING RECOMMENDED GUIDELINES ARE BASED ON THE TEMPORARY TRAFFIC CONTROL PLAN OUTLINED IN THE CONSTRUCTION PLANS. WHERE FOLLOWING THE TEMPORARY TRAFFIC CONTROL PLAN OUTLINED IN THESE CONSTRUCTION PLANS, THE CONTRACTOR MAY CHOSE TO ACCEPT THE FOLLOWING GUIDELINES OR MODIFY THEM IN THE SEDIMENT AND EROSION CONTROL PLAN, SUBJECT TO APPROVAL BY THE ENGINEER. AS WORK PROGRESSES, THE CONTRACTOR SHALL MODIFY THE PLAN TO ADAPT TO SEASONAL VARIATION, CHANGES IN CONSTRUCTION ACTIVITIES, AND THE NEED FOR BETTER PRACTICES.

FOR EACH CONSTRUCTION PHASE, INSTALL PERIMETER CONTROLS AFTER CLEARING AND GRUBBING NECESSARY FOR INSTALLATION OF CONTROLS BUT BEFORE BEGINNING OTHER WORK FOR THE CONSTRUCTION PHASE. REMOVE PERIMETER CONTROLS ONLY AFTER ALL UPSTREAM AREAS ARE STABILIZED.

PHASE I OF TEMPORARY TRAFFIC CONTROL PLANS :

IMMEDIATELY AFTER LANDSCAPE AND IRRIGATION INSTALLATION, STABILIZE THE ENTIRE AREA OF DISTURBANCE USING SOD.

- 2.A.1 STABILIZATION PRACTICES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE STABILIZATION PRACTICES PROPOSED TO CONTROL EROSION. THE CONTRACTOR SHALL INITIATE ALL STABILIZATION MEASURES AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. THE STABILIZATION PRACTICES SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

TEMPORARY:

* ARTIFICIAL COVERINGS IN ACCORDANCE WITH SPECIFICATION SECTION 104.

* TURF AND SOD IN ACCORDANCE WITH SPECIFICATION SECTION 104.

PERMANENT: SOD

- 2.A.2 STRUCTURAL PRACTICES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE PROPOSED STRUCTURAL PRACTICES TO CONTROL OR TRAP SEDIMENT AND OTHERWISE PREVENT THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. SEDIMENT CONTROLS SHALL BE IN PLACE BEFORE DISTURBING SOIL UPSTREAM OF THE CONTROL. THE STRUCTURAL PRACTICES SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER:

TEMPORARY:

* SEDIMENT BARRIERS IN ACCORDANCE WITH DESIGN STANDARD 102 AND SPECIFICATION SECTION 104.

* INLET PROTECTION IN ACCORDANCE WITH DESIGN STANDARD 102 AND SPECIAL DETAILS SHOWN IN THE TTC PLAN.

* SEDIMENT CONTAINMENT SYSTEM: THE PERMANENT STORMWATER PONDS WILL BE TEMPORARILY MODIFIED ACCORDING TO THE DETAILS IN THE TTC PLAN.

PERMANENT: SOD

- 2.B STORMWATER MANAGEMENT: N/A

- 2.C OTHER CONTROLS:

- 2.C.1 WASTE DISPOSAL:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE PROPOSED METHODS TO PREVENT THE DISCHARGE OF SOLID MATERIALS, INCLUDING BUILDING MATERIALS, TO WATERS OF THE UNITED STATES. THE PROPOSED METHODS SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER:

* PROVIDING LITTER CONTROL AND COLLECTION WITHIN THE PROJECT DURING CONSTRUCTION ACTIVITIES.

* DISPOSING OF ALL FERTILIZER OR OTHER CHEMICAL CONTAINERS ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.

* DISPOSING OF SOLID MATERIALS INCLUDING BUILDING AND CONSTRUCTION MATERIALS OFF THE PROJECT SITE BUT NOT IN SURFACE WATERS, OR WETLANDS.

- 2.C.2 OFF-SITE VEHICLE TRACKING & DUST CONTROL:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE PROPOSED METHODS FOR MINIMIZING OFFSITE VEHICLE TRACKING OF SEDIMENTS AND GENERATING DUST. THE PROPOSED METHODS SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

* COVERING LOADED HAUL TRUCKS WITH TARPAULINS.

* REMOVING EXCESS DIRT FROM ROADS DAILY.

* STABILIZING CONSTRUCTION ENTRANCES ACCORDING TO DESIGN STANDARD 106.

* USING ROADWAY SWEEPERS DURING DUST GENERATING ACTIVITIES SUCH AS EXCAVATION AND MILLING OPERATIONS.

- 2.C.3 STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS:

IN THE SECTION 104 EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE PROPOSED PROCEDURES TO COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL, AND SANITARY SEWER OR SEPTIC SYSTEMS.

- 2.C.4 FERTILIZERS AND PESTICIDES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL DESCRIBE THE PROCEDURES FOR APPLYING FERTILIZERS AND PESTICIDES. THE PROPOSED PROCEDURES SHALL COMPLY WITH APPLICABLE SUBSECTIONS OF SECTION 570 OF THE SPECIFICATIONS.

- 2.C.5 TOXIC SUBSTANCES:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE A LIST OF TOXIC SUBSTANCES THAT ARE LIKELY TO BE USED ON THE JOB AND PROVIDE A PLAN ADDRESSING THE GENERATION, APPLICATION,

MIGRATION, STORAGE, AND DISPOSAL OF THESE SUBSTANCES.

- 2.D.4 APPROVED STATE AND LOCAL PLANS AND PERMITS:

* FDEP RULE CHAPTER 62-25 F.A.C.

* CITY OF NARCOOSSEE ENVIRONMENTAL MANAGEMENT ORDINANCE NUMBER 90-0-0044AA.

- 3.0 MAINTENANCE:

IN THE SEDIMENT AND EROSION CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE A PLAN FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROLS THROUGHOUT CONSTRUCTION. THE MAINTENANCE PLAN SHALL AT A MINIMUM, COMPLY WITH THE FOLLOWING:

* SILT FENCE: MAINTAIN PER SECTION 104. THE CONTRACTOR SHOULD ANTICIPATE REPLACING SILT FENCE ON 12 MONTH INTERVALS.

* SEDIMENT BARRIERS: REMOVE SEDIMENT AS PER MANUFACTURER'S RECOMMENDATIONS OR WHEN WATER PONDS IN UNACCEPTABLE AMOUNTS OR AREAS.

* PONDS ONE AND TWO: THE PONDS ARE TEMPORARY SEDIMENT BASINS UNTIL THE AREAS THAT DRAIN TO THEM ARE STABILIZED, SO UNTIL THEN, REMOVE SEDIMENT FROM THE POND WHEN IT BECOMES 1.5' DEEP AT ANY POINT.

- 4.0 INSPECTIONS:

QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.50 INCHES OR GREATER. TO COMPLY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES AND RECORD THE DAILY RAINFALL. WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. THE CONTRACTOR SHALL ALSO INSPECT THAT CONTROLS INSTALLED IN THE FIELD AGREE WITH THE LATEST STORMWATER POLLUTION PREVENTION PLAN.

* POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES.

* POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM DRAIN SYSTEMS.

* DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.

* AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.

* STRUCTURAL CONTROLS.

* STORMWATER MANAGEMENT SYSTEMS.

* LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

THE CONTRACTOR SHALL INITIATE REPAIRS WITHIN 24 HOURS OF INSPECTIONS THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER.

IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES, AS APPROVED BY THE ENGINEER.

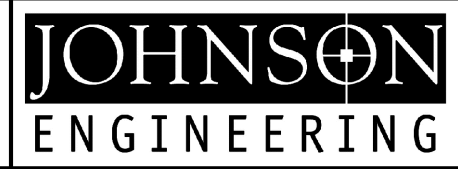
- 5.0 NON-STORMWATER DISCHARGES:

IN THE SECTION 104 EROSION CONTROL PLAN, THE CONTRACTOR SHALL IDENTIFY ALL ANTICIPATED NON-STORMWATER DISCHARGES (EXCEPT FLOWS FROM FIRE FIGHTING ACTIVITIES). THE CONTRACTOR SHALL DESCRIBE THE PROPOSED MEASURES TO PREVENT POLLUTION OF THESE NON-STORMWATER DISCHARGES. IF THE CONTRACTOR ENCOUNTERS CONTAMINATED SOIL OR GROUNDWATER, CONTACT DAVE LETTERMAN, DISTRICT HAZARDOUS MATERIALS COORDINATOR AT (305) 638-R549.

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 PUBLIC WORKS,
 MAINTENANCE &
 OPERATIONS**

**C.R. 771 ROADWAY
 LANDSCAPE IMPROVEMENTS
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MOBILIZATION OF TRAFFIC PLAN				
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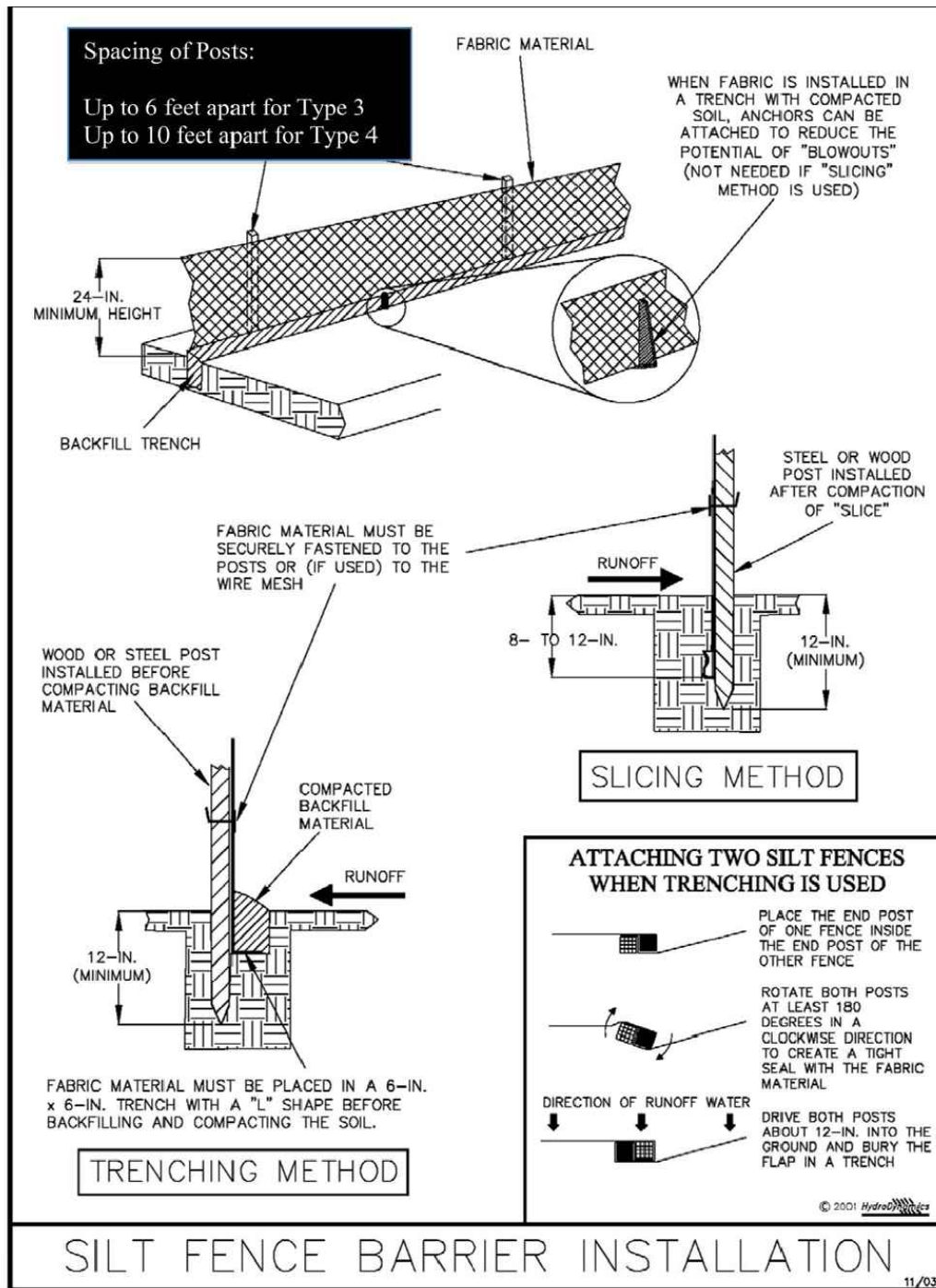


Figure V-2: Illustration of a Silt Fence Barrier

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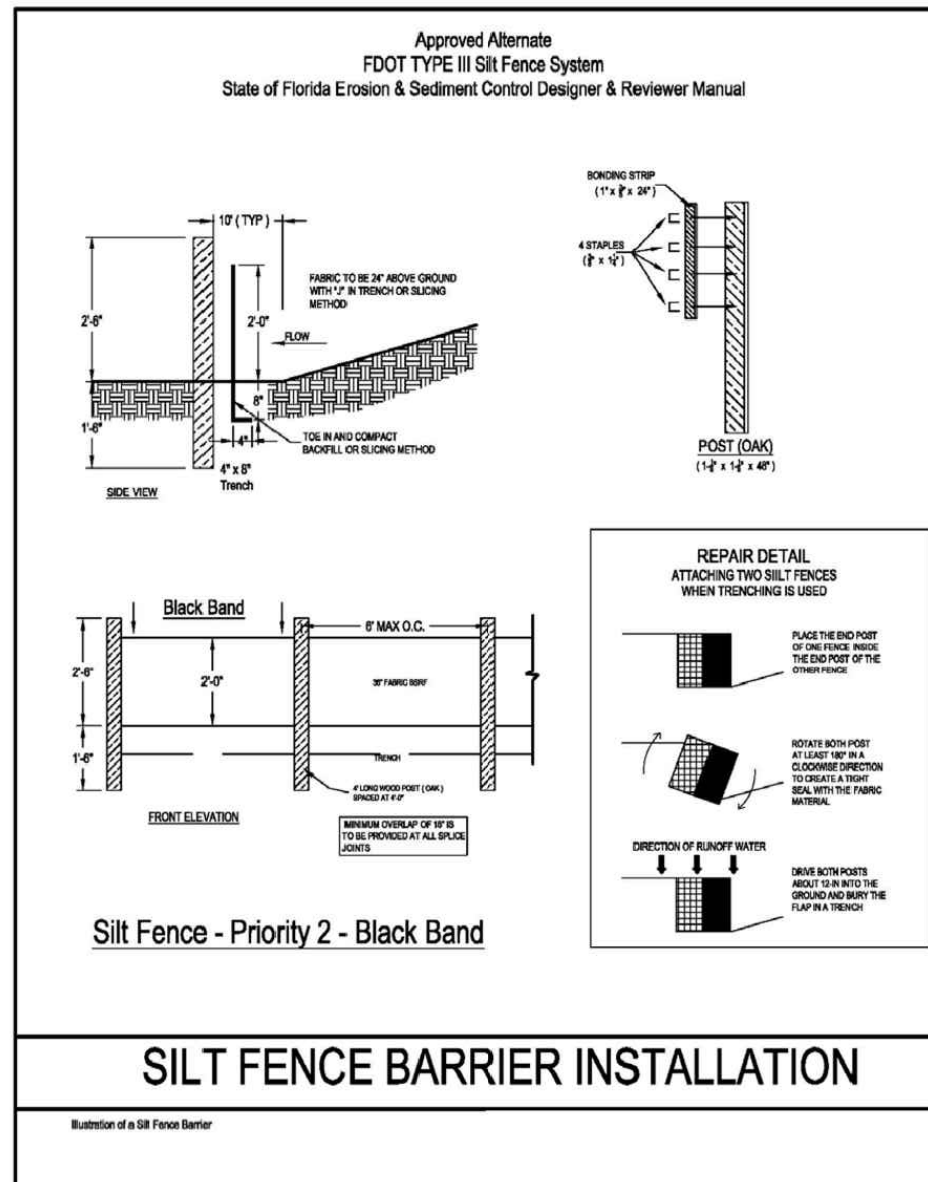


Figure V-3: Illustration of Silt Fence Priority 2 - Black Band

BEST MANAGEMENT PRACTICES

1. INSTALL SILT FENCE AND ALL EROSION CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OR IMMEDIATELY AFTER INITIAL CLEARING ACTIVITIES.
2. STABILIZE ALL DISTURBED AREAS AS EARLY IN THE CONSTRUCTION PROCESS AS POSSIBLE.
3. ADDITIONAL TEMPORARY EROSION/SEDIMENT CONTROLS (NOT SHOWN ON THE CONSTRUCTION PLAN) THAT ARE NECESSARY TO MAINTAIN COMPLIANCE WITH STATE FLORIDA WATER QUALITY STANDARDS, AS AMENDED, SHALL BE DESIGNED, SPECIFIED, LOCATED AND INSTALLED IN THE FIELD UNDER THE SUPERVISION OF THE ENGINEER/CONTRACTOR OR DESIGNATED REPRESENTATIVE.
4. 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 BARRIERS TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS.
5. DO NOT PLACE SILT FENCE IN MANNER THAT THE SILT FENCE WILL ACT AS DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
6. TURBID OFFSITE DISCHARGE (I.E. IN EXCESS OF 29 NTUS ABOVE BACKGROUND LEVEL.) SHALL BE REPORTED WITHIN 24 HOURS TO THE ENGINEER OF RECORD. CORRECTIVE ACTION TAKEN TO REMEDIATE THE DISCHARGE SHOULD BE INCLUDED AS PART OF THE NOTIFICATION. A SITE SPECIFIC TURBIDITY MONITORING PLAN MAY BE REQUIRED FOR PERSISTENT PROBLEM AREAS.
7. FUEL OR OTHER PETROLEUM PRODUCT SPILLS IN EXCESS OF 25 GALLONS THAT MAY OCCUR DUE TO OPERATION AND MAINTENANCE OF HEAVY EQUIPMENT DURING CONSTRUCTION SHALL BE CONTAINED/CLEANED UP AND IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD. SMALLER GROUND SURFACE SPILLS SHALL BE CLEANED UP BY THE CONTRACTOR AS SOON AS PRACTICAL.
8. THE UNDERSIGNED, BEING FIRST DULY SWORN, CERTIFY THAT I/WE AM/ARE THE OWNER(S) OF THE PROPERTY AND WILL COMPLY WITH ALL MEASURES SHOWN IN THE CONSTRUCTION PLAN AND REPORTS AS IT RELATES TO EROSION CONTROL DURING CONSTRUCTION OF THE PROPOSED PROJECT.

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