SITE & DEVELOPMENT PLANS FOR **PARCEL ID: 0408130012**

SARASOTA COUNTY - VENICE LIBRARY 300 NOKOMIS AVENUE, 326 NOKOMIS AVENUE & 390 NOKOMIS AVENUE CITY OF VENICE, SARASOTA COUNTY, FLORIDA

CONSULTANTS

OWNER

CITY OF VENICE 401 WEST VENICE AVE. VENICE, FLORIDA, 34285

DEVELOPER

SARASOTA COUNTY 1001 SARASTOA CENTER BLVD. SARASOTA. FLORIDA, 34240

ENGINEER

3277A FRUITVILLE ROAD SARASOTA, FLORIDA 34237 ATTN: DANIEL P. MOYER, P.E. (941) 365-4771

SURVEYOR CPH, INC.

500 WEST FULTON STREET SANFORD, FLORIDA 32771 (407) 322-6841 ATTN: THOMAS J. GALLOWAY, P.S.M.

ARCHITECT

SWEET SPARKMAN ARCHITECTS 2168 MAIN ST. SARASOTA, FLORIDA 34237 (941) 952-0084 ATTN. JOHN BRYANT

LANDSCAPE ARCHITECT

CPH, INC. **500 WEST FULTON STREET** SANFORD, FLORIDA 32771 (407) 322-6841 ATTN. MAXWELL D. SPANN, RLA

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J:\S29701\Civil\DWG\Design\Plan Sheets\S29701 - C0.1 COVER.dwg, 5/19/2017 12:08:36 PM, Upp, Kristin, _cph - Standard.stb

UTILITY PROVIDER

ELECTRIC FLORIDA POWER AND LIGH 5657 S MCINTOSH RD. SARASOTA, FLORIDA 34233 (941) 927-4236

TELEPHONE FRONTIER COMMUNICATIONS (800) 921-8101

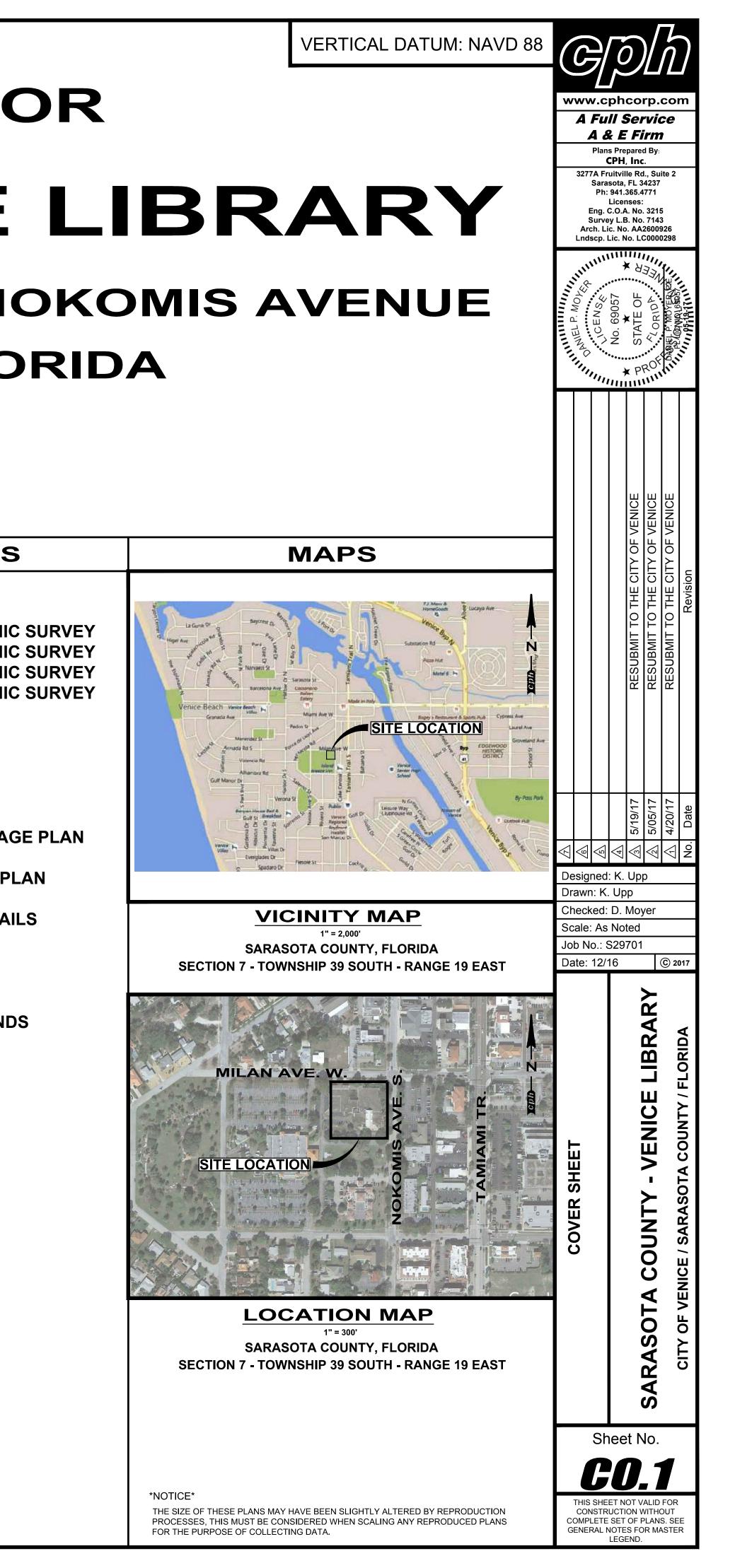
SARASOTA COUNTY EIT (941) 861-5000

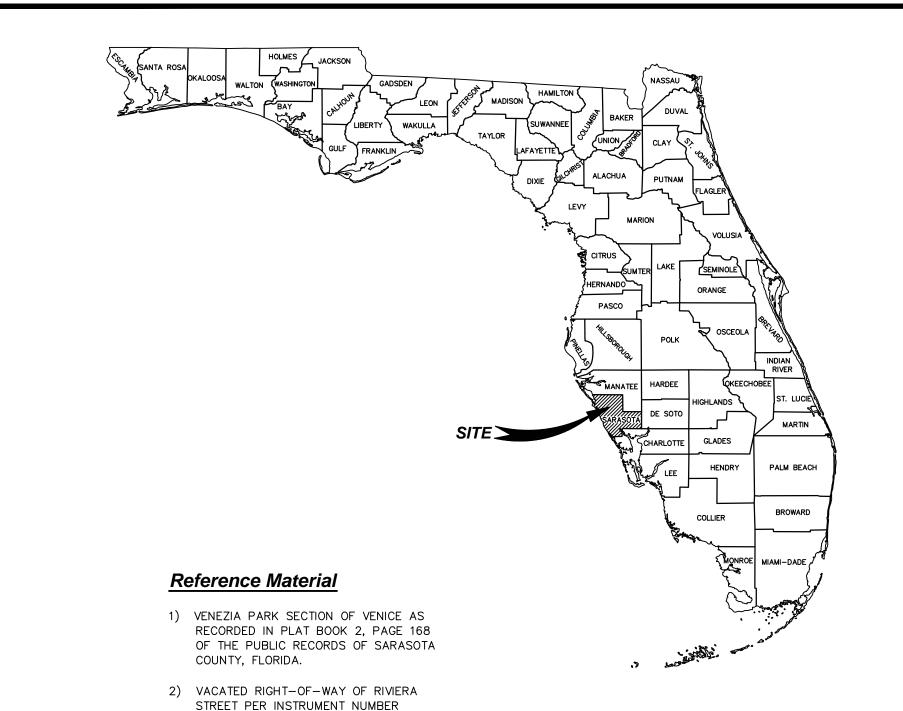
WATER / SEWER CITY OF VENICE

401 W VENICE AVE **VENICE, FLORIDA 34285** (941) 882-7389

GAS **TECO PEOPLE'S GAS** 8261 VICO COURT SARASOTA, FLORIDA 34240 (800) 235-4427

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	401 W VENICE AVE VENICE, FLORIDA 34285	3 of 4	BOUNDARY AND TOPOGRAPHIC
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	FLORIDA DEPARTMENT OF	C1.6	COMPOSITE UTILITY PLAN
	ENVIRONMENTAL PROTECTION	C1.7	TRUCK TURNING MOVEMENT PI
	SOUTH DISTRICT	L1.1	LANDSCAPE PLAN
	2295 VICTORIA AVE., SUITE 364	L5.1	LANDSCAPE NOTES AND DETAI
	FORT MYERS, FLORIDA 33901 (239) 344-5600	TR1.1	TREE PROTECTION PLAN
		TR5.1	TREE PROTECTION DATA
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	DISTRICT	E1.2.1	LUMINAIRE PRODUCT DATA
	SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT 6750 FRUITVILLE RD.	A2.1	FIRST FLOOR PLANS & LEGEND
	SARASOTA, FLORIDA 34240	A5.1	EXTERIOR ELEVATIONS
	(941) 377-3722		





SARASOTA COUNTY, FLORIDA.

206143527 OF THE PUBLIC RECORDS OF

Abbreviation Legend:

	Abbreviation Leg	gend:	
(A)	– ACTUAL	MES	_
À/C	– AIR CONDITIONER	МН	_
ACSM	- AMERICAN CONGRESS ON SURVEYING & MAPPING	MLP	-
ADA	 AMERICANS WITH DISABILITIES ACT AMERICAN LAND TITLE ASSOCIATION 	MPH MPP	_
ALTA APPROX	– AMERICAN LAND TITLE ASSOCIATION – APPROXIMATE	N/A	_
ARV	– AIR RELEASE VALVE	NAVD	_
AVE	– AVENUE	NAD	_
AVG	– AVERAGE	NG	-
(BB)	BE/ WINTO B/ KOIO	NGS NGVD	_
BFP BLK	– BACK FLOW PREVENTER – BLOCK	N & D	_
BLDG	– BUILDING	NO.	_
BLVD		NR	_
BM	- BENCH MARK	NSPS	_
BOC	- BACK OF CURB	NT	_
BOW BSL	– BACK OF WALK – BUILDING SETBACK LINE	NTS	_
BWF	- BARBED WIRE FENCE	OD	_
C-X	- DENOTES SHEET NUMBERING FOR ENGINEERING PLANS	ORB	_
(C)	- CALCULATED	OR	-
C	- CHORD	OUL OTL	_
CATV CB	– CABLE TELEVISION RISER – CHORD BEARING	(P)	_
CBS	- CONCRETE BLOCK STRUCTURE	PB	_
C.A.R.	- CERTIFIED CORNER RECORD	PC	_
C&G	- CURB & GUTTER	PCC	-
CI	- CATCH INLET	PCP PFF	_
C/L CLF	– CENTERLINE – CHAIN LINK FENCE	PG	_
CM	- CONCRETE MONUMENT	PGS	_
CMP	- CORRUGATED METAL PIPE	PI	-
CO	- CLEANOUT	PIV PK	-
CONC	- CONCRETE	POB	_
COR CRPP	– CORNER – CORRUGATED PLASTIC PIPE	POC	_
CUE	- COUNTY UTILITY EASEMENT	POL	_
CWS	– CROSSWALK SIGNAL	PP	-
Δ	DEETIN	PRC PRM	_
(D)	- DESCRIPTION	PSM	_
DB DBH	– DEED BOOK – DIAMETER AT BREAST HEIGHT IN INCHES	PT	_
DE	- DRAINAGE EASEMENT	PVC	_
DEPT	– DEPARTMENT	PVMT	-
DIP		R19E R	_
DR	- DRIVE	RAD	_
D/U (E)	 DRAINAGE AND UTILITY EASEMENT ENGINEERING PLAN 	RCP	_
EJB	– ELECTRIC JUNCTION BOX	REC	-
EL		REV RP	_
ELEC		R/W	_
ELEV		RLS	_
ELLIP EOI	– ELLIPTICAL – END OF INFORMATION	RP	-
EOP	- EDGE OF PAVEMENT	RWL	-
FB	– FIELD BOOK	RWM SE	_
FDOT	- FLORIDA DEPARTMENT OF TRANSPORTATION	SEC 07	_
FF FGI	– FINISH FLOOR – FLAT GRATE INLET	SMH	_
FGLP	– FIBERGLASS LIGHT POLE	(SP)	_
FHYD	- FIRE HYDRANT	SQ	-
FM	- FORCE MAIN	SQ FT ST	_
FND FP&L	– FOUND – FLORIDA POWER AND LIGHT	STMH	_
FF&L	- FLORIDA FOWER AND LIGHT	S/W	_
(G)	– GRID (STATE PLANE)	Τ̈́B	-
ĠĹ	- UNDERGROUND GAS LINES	T39S	-
GOV'T	- GOVERNMENT	TELE TL	_
GPR	- GROUND PENETRATING RADAR	TOB	_
GTMH HDPE	– GREASE TRAP MANHOLE – HIGH DENSITY POLYETHYLENE PIPE	TOE	_
HWF	- HOG WIRE FENCE	TR	-
ID	- IDENTIFICATION	TRANS	-
ICV	- IRRIGATION CONTROL VALVE	TSB TSSP	_
INFO		TVL	_
INST INV	– INSTRUMENT – INVERT	(TYP)	-
IP	- IRON PIPE	ÙE É	-
IP&C	– IRON PIPE & CAP	UNK	-
IR		UTL W/	_
IR&C IRR	– IRON REBAR & CAP – IRRIGATION	W/ WL	_
L	– ARC LENGTH	WLP	_
LB#	- LICENSED BUSINESS NUMBER	WM	-
LP	- LIGHT POLE	WP	-
(M)	- MEASURED	WPF WPP	_
MB MBX	– MAP BOOK – MAILBOX	WV	_

- MITERED END SECTION	
– MANHOLE	
- METAL LIGHT POLE	
- MILES PER HOUR	
- METAL POWER POLE	
– NOT APPLICABLE	
- NORTH AMERICAN VERTICAL DATUM	
 NORTH AMERICAN DATUM 	
- NATURAL GROUND	
 NATIONAL GEODETIC SURVEY 	
 NATIONAL GEODETIC VERTICAL DATUM 	
– NAIL AND DISK	
– NUMBER	
 NON-RADIAL 	
 NATIONAL SOCIETY OF 	
PROFESSIONAL SURVEYORS	
– NON–TANGENT	
– NOT TO SCALE	
 OUTSIDE DIAMETER 	
 OFFICIAL RECORDS BOOK 	
- OFFICIAL RECORDS	
 OVERHEAD UTILITY LINES 	
 OVERHEAD TRAFFIC LINES 	
- PLAT	
– PLAT BOOK	Lin
- POINT OF CURVATURE	NO.
- POINT OF COMPOUND CURVATURE	NO
- PERMANENT CONTROL POINT	<u> </u>
- PROPOSED FINISHED FLOOR	,
- PAGE	<u> </u>
- PAGES	
- POINT OF INTERSECTION	
- POST INDICATOR VALVE	xx
- PARKER KAYLON	{/
- POINT OF BEGINNING	•
- POINT OF COMMENCEMENT	UC
- POINT ON LINE - POWER POLE	UCTV
– POINT OF REVERSE CURVATURE	
– PERMANENT REFERENCE MONUMENT	UE
- PROFESSIONAL SURVEYOR & MAPPER	UFO
- POINT OF TANGENCY	UG
- POLYVINYL CHLORIDE PIPE	00
- PAVEMENT	URW
- RANGE 19 EAST	SAN
- RADIUS	0,11
– RADIAL	—— FM ——
- REINFORCED CONCRETE PIPE	TC
- RECOVERED	
- REVISION	UT
- RADIUS POINT	UW
- RIGHT-OF-WAY	
 REGISTERED LAND SURVEYOR 	
- RADIUS POINT	<u> </u>
 UNDERGROUND RECLAIM WATER LINE 	
 RECLAIMED WATER METER 	
- SPECIAL EASEMENT	
- SECTION 07	
- SANITARY SEWER MANHOLE	—— EOW ——
- STATE PLANE	
- SQUARE	
- SQUARE FEET	
- STREET	
- STORM DRAINAGE MANHOLE	FW
- SIDEWALK	—— нw ——
- TANGENT BEARING	IRR
- TOWNSHIP 39 SOUTH	
	OTL
 OVERHEAD TRAFFIC SIGNAL LINES TOP OF BANK 	ОНИ
– TOP OF BANK – TOE OF SLOPE	
– TELEPHONE RISER	+++++
– TRANSFORMER	
- TRAFFIC SIGNAL BOX	
- TRAFFIC SIGNAL SUPPORT POLE	
- UNDERGROUND CABLE TV LINES	∞
- TYPICAL	
– UTILITY EASEMENT	ТОВ
– UNKNOWN	TOE
- UNDERGROUND TELEPHONE LINES	
- WITH	
– UNDERGROUND WATER LINE	TRAV
- WOOD LIGHT POLE	UNK
- WATER METER	
- WORK PROGRAM	//
- WOOD POST FENCE	<u>0</u> 0
- WOOD POWER POLE	-
– WATER VALVE	·

ne Legend: OT TO SCALE = 1 FOOT CONTOURS = 5 FOOT CONTOURS = ADJOINER PROPERTY LINES = BARBED WIRE FENCE = BROKEN LINE = BURIED CABLE = BURIED CABLE TELEVISION = BURIED ELECTRIC = BURIED FIBER OPTICS = BURIED GAS = BURIED RECLAIMED WATER LINE = BURIED SANITARY LINES = BURIED SANITARY SEWER FORCE MAIN LINE = BURIED TRAFFIC CONTROL = BURIED TELEPHONE LINE = BURIED WATER LINES = CENTER LINE R/W= CHAIN LINK FENCE = EASEMENT LINES (EXISTING) = EASEMENT LINES (PROPOSED) = EDGE OF WATER LINES = EXISTING DRAINAGE PIPES = EXISTING DRAINAGE PIPES (OUTFALL NOT LOCATED) = FIRE WATER MAIN LINES = HOT WATER SUPPLY LINES = IRRIGATION LINES = OVERHEAD TRAFFIC LINES = OVERHEAD UTILITY LINES = RAILROAD TRACKS = RIGHT-OF-WAY LINES = SECTION LINES = STONE WALL LINES = TOP OF BANK LINES = TOE OF SLOPE LINES = TREE LINES = TRAVERSE LINES = UNKNOWN BURIED LINES = VINYL FENCE = WOOD FENCE _____ . ____ = WETLAND LINE

BOUNDARY & TOPOGRAPHIC SURVEY

FOR

SARASOTA COUNTY - VENICE LIBRARY

300 NOKOMIS AVENUE, 326 NOKOMIS AVENUE & 390 NOKOMIS AVENUE LYING IN

SECTION 07-TOWNSHIP 39 SOUTH-RANGE 19 EAST SARASOTA COUNTY, FLORIDA

Legal Description:

BLOCK 88-A RESERVED, VENEZIA PARK SECTION OF VENICE AS RECORDED IN PLAT BOOK 2. PAGE 168 OF THE PUBLIC RECORDS OF SARASOTA COUNTY, FLORIDA. CONTAINING 204,750 SQUARE FEET or 4.70 ACRES MORE OR LESS. AND

BLOCK 91-A RESERVED, VENEZIA PARK SECTION OF VENICE AS RECORDED IN PLAT BOOK 2, PAGE 168 OF THE PUBLIC RECORDS OF SARASOTA COUNTY, FLORIDA. CONTAINING 201,500 SQUARE FEET or 4.62 ACRES MORE OR LESS.

AND

A PARCEL OR TRACT OF LAND BEING A PORTION OF RIVIERA STREET (60.00 FOOT RIGHT-OF-WAY), VENICE VENEZIA PARK SECTION, AS PER PLAT THEREOF AS RECORDED IN PLAT BOOK 2, PAGE 168, OF THE PUBLIC RECORDS OF SARASOTA COUNTY, FLORIDA. SAID LANDS BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE POINT OF BEGINNING BEING THE SOUTHWEST CORNER OF BLOCK 88-A, AS SHOWN ON SAID PLAT, THENCE WEST ALONG THE NORTH RIGHT-OF-WAY LINE OF TURIN STREET (60 FOOT RIGHT-OF-WAY) A DISTANCE OF 60.00 FEET TO THE SOUTHEAST CORNER OF BLOCK 91-A, AS SHOWN ON SAID PLAT; THENCE NORTH ALONG THE WEST RIGHT-OF-WAY LINE OF SAID RIVIERA STREET, A DISTANCE OF 650.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF MILAN STREET (60 FOOT RIGHT-OF-WAY); THENCE EAST ALONG SAID SOUTH RIGHT-OF-WAY LINE A DISTANCE OF 60.00 FEET TO THE EAST RIGHT-OF-WAY LINE OF SAID RIVIERA STREET; THENCE SOUTH ALONG SAID EAST RIGHT-OF-WAY LINE A DISTANCE OF 650.00 FEET TO THE POINT OF BEGINNING.

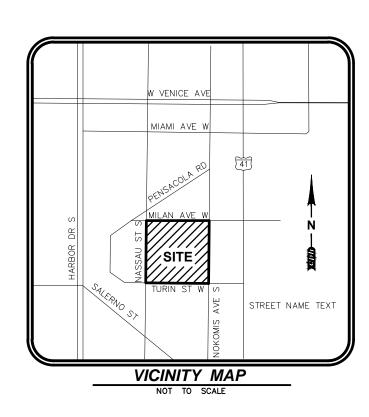
SAID LANDS CONTAINING 39,000 SQUARE FEET or 0.90 ACRE MORE OR LESS.

OVERALL SITE AREA TOTALS = 445,250 SQUARE FEET or 10.22 ACRES MORE OR LESS.

		<u>Symbol Le</u>	<u>gend:</u>	
		NOT TO SC	ALE	
arv M	_	AIR RELEASE VALVE	2 —	PARKING SPACES (2)
Sec.	-	BORING HOLE LOCATION	<u>3</u> –	REVISION NUMBER (3)
HA	—	BRICK PAVERS	RWM —	RECLAIMED WATER METER
СТУ	-	CABLE TV RISER	R₩V —	RECLAIMED WATER VALVE
Δ		CENTRAL ANGLE	⊠ -	ROOF DRAIN
		CONCRETE	0	SANITARY SEWER MANHOLE
CO ©		CLEAN OUT	⊳× –	SANITARY SEWER VALVE
		CONCRETE MITERED END SECTION		SCHEDULE B ITEM NUMBER (8)
		CONCRETE RIP RAP		GROUND LIGHT
~~~		CONCRETE UTILITY POLE COUNTY ROAD SYMBOL	-×u×	SECTION CORNER
41		DUAL SUPPORT SIGN	· –	4"X 4"CM LB #7143
Ē		ELECTRICAL MANHOLE	• -	5/8"IR&C LB #7143
EJB		ELECTRICAL JUNCTION BOX	<u> </u>	SIGN
E0		ELECTRIC OUTLET	<b>+</b> -	SITE BENCH MARK
E	_	ELECTRIC RISER	D	STORM SEWER MANHOLE
	_	FIRE HYDRANT	<b>7</b> –	STRIPING (DIRECTIONAL)
	_	FLOOD LIGHT		TELEPHONE CABLE RISER
	_	FOUND CONCRETE MONUMENT (AS		TELEPHONE MANHOLE
	_	FOUND IRON PIPE (AS NOTED)	TH	TELEPHONE JUNCTION BOX
$\bigcirc$	_	FOUND IRON REBAR (AS NOTED)	TSB	TEST HOLE TRAFFIC SIGNAL BOX
$\bigcirc$	_	FOUND/SET NAIL (AS NOTED)		TRAFFIC SIGNAL BUX
$\otimes$	_	GARBAGE CAN	10.4	WATER METER
GV	-	GAS VALVE		WATER SERVICE
~ <b>@</b>	-	GOPHER TORTOISE HOLE	<b>•</b> –	WATER SPIGOT
	-	GRATE INLET	WS –	WATER SPRINKLER
G	-	GREASE TRAP MANHOLE	₩v –	WATER VALVE
<u> </u>		GUY ANCHOR	· -	WELL
		HANDICAP PARKING SPACE		WETLAND FLAG
95 ICV		INTERSTATE SYMBOL		WOOD UTILITY POLE
V N		IRRIGATION CONTROL VALVE		UNKNOWN MANHOLE
1		CONCRETE LIGHT POLE LIGHT POLE		CONCRETE PAVERS
1		LIGHT POLE (DUAL)	-:020-	DETECTABLE WARNING AREA
				CONCRETE LIGHT POLE (DUAL)
		LIGHT POLE (TRIPLE)	n n	CONCRETE LIGHT POLE (TRIPLE)
п		LIGHT POLE (QUAD)		CONCRETE LIGHT POLE (QUAD)
0		MAILBOX MONITOR WELLS		UNKNOWN RISER
		NAIL & DISC (AS NOTED)	•	VENT (AS NOTED)
PRX				WIRE HEIGHTS (SEE CHART)
		PULL BOX (AS NOTED)		CROSSWALK SIGNAL POLE
Š		GAS MARKER	0	UNKNOWN VALVE
UP 91	_	FIBER OPTIC MARKER	[H20] —	WATER LINE MARKER

-	Legend:	16. STATE CONTI
	TO SCALE ROW NUMBER SIGN	a) I
	BUS STOP SIGN	
(B)		b)
• •	DEAD END SIGN	THE E POINT
	DO NOT ENTER SIGN (R5-1	) 17. DIMEN
	HANDICAP SIGN	SHOW
	DUAL HANDICAP SIGN	MEAS
. ,	INFORMATION SIGN	18. THE U INSPE
• •	KEEP RIGHT SIGN	VIEWE
• •	LEFT TURN ONLY	19. TREE
	MEDIAN SIGN	NOTA DEPAI
	NO DUMPING SIGN	
	NO LEFT TURN SIGN (R3-2	)
	NO LITTERING SIGN	
(NO) <u></u>	NO OUTLET SIGN	
(FL) ————————————————————————————————————	NO PARKING FIRE LANE SIG	N
(NOR) ———	NO RIGHT TURN SIGN (R3-	1)
(NTT) ———————————————————————————————————	NO THRU TRAFFIC SIGN	
(NOT) ————————————————————————————————————	NO TRUCKS (R5–2)	
(NP) ———	NO PARKING SIGN	
(1W) ————————————————————————————————————	ONE WAY SIGN (R6-2)	
(PE) ————————————————————————————————————	PEDESTRIAN CROSSING SIGN	l
(RTO)	RIGHT TURN ONLY	
(SL)	SPEED LIMIT SIGN	
(ST)	STOP SIGN (R1-1)	
(SS)	STREET SIGN	
(TZ)	TOW AWAY ZONE SIGN	
(TE)	TRUCK ENTRANCE SIGN	
(U) <u> </u>	UNKNOWN SIGN	<u>NOTE:</u>
(WL) ————————————————————————————————————	WEIGHT LIMIT SIGN	THIS SURVEY IS NOT VALID WITHOUT SHEETS
(WW) — <u> </u>	WRONG WAY SIGN	TITLE BLOCK ABBREVIATIO Eng. = ENGINEERING L.B. = LICE
(Y) ————————————————————————————————————	YIELD SIGN	C.O.A. = CERTIFICATE OF AUTHORIZATION A Landscp. = LANDSCAPE N/A = NOT APPLICA No. = NUMBER P.O. = POST OFFICE

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12 2

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LIBRAI

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Licenses:

 Puerto Rico • Connecticut Maryland

#### Survey Notes:

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

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

THE SITE BENCHMARKS FOR THIS TOPOGRAPHIC SURVEY ARE DISPLAYED ON THE RESPECTIVE SURVEY FILE. THESE BENCHMARKS ARE BASED ON A CLOSED VERTICAL CONTROL LOOP HAVING AN ACTUAL ERROR OF CLOSURE OF 0.01' WHICH MEETS THE ALLOWABLE CLOSURE OF 0.037'. THIS FIELDWORK WAS PERFORMED USING TOPCON LEVEL MODEL #AT-G4 AND REFERENCES THE FOLLOWING PUBLISHED BENCHMARKS AS ESTABLISHED BY THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND SAID ELEVATIONS ARE BASED ON VERTICAL CONTROL BENCHMARKS SUPPLIED BY FDOT DISTRICT ONE VERTICAL CONTROL DATA SHEETS AS FOLLOWS:

a) DESIGNATION #BM 15, STANDARD 4"x4" FDOT CM WITH BRASS DISK NOT STAMPED. NAVD '88 ELEVATION = 13.397

b) DESIGNATION #BM 222, STANDARD 4"x4" FDOT CM WITH BRASS DISK NOT STAMPED.

SITE BENCHMARKS ARE AS SHOWN ON SHEET 3 OF 4.

NAVD '88 ELEVATION = 11.369

THIS SURVEY IS NOT VALID WITHOUT SHEETS 1 THROUGH 4 OF 4.

THE LAST DAY FIELD WORK WAS PERFORMED WAS 10/13/16; ALL BOUNDARY CORNERS WERE RECOVERED OR SET AS NOTED HEREON.

THE "LEGAL DESCRIPTION" HEREON IS IN ACCORD WITH THE SARASOTA COUNTY PROPERTY APPRAISER OFFICE.

BEARINGS SHOWN HEREON ARE RELATIVE TO THE LINE BETWEEN THE TWO STATE PLANE CONTROL POINTS LISTED IN NOTE 16, HAVING A CALCULATED BEARING OF N 05°07'15" W (SEE SHEET 2 OF 4 FOR DETAIL).

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 125154–0005–D REVISED DATE MAY 18, 1992, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE C, WHICH ARE AREAS OF MINIMAL FLOODING (NO SHADING). THIS DETERMINATION WAS BASED ON A GRAPHIC NTERPOLATION OF SAID MAP AND NOT ON ACTUAL FIELD MEASUREMENTS.

THE APPARENT USE OF THE LAND, AS CLASSIFIED BY THE STANDARDS OF PRACTICE SET FORTH IN RULE CHAPTER 5J-17 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO FS 472.027, ESTABLISHES THAT THE MINIMUM RELATIVE ACCURACY FOR THIS TYPE OF BOUNDARY SURVEY MEET THE HORIZONTAL CONTROL ACCURACY OF 1/10.000 FEET FOR A HIGH RISK SURVEY THE MEASUREMENTS AND CALCULATIONS OF THE CLOSED GEOMETRIC FIGURES WERE FOUND TO MEET THIS ACCURACY REQUIREMENT. THE EQUIPMENT USED TO VERIFY THE HORIZONTAL CONTROL ON THE SUBJECT SURVEY WAS A TOPCON GPS HIPER II.

HORIZONTAL WELL-IDENTIFIED FEATURES IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED HORIZONTAL POSITIONAL ACCURACY OF 0.05 (FT). THE EQUIPMENT USED TO LOCATE THE FEATURES WAS A LEICA SCANSTATION P30 AND A TOPCON GPS HIPER II.

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OR OPINION OF TITLE. NO INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY, AND/OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR EXCEPT AS NOTED.

NO UNDERGROUND UTILITIES, FOUNDATIONS OR IMPROVEMENTS, IF ANY, HAVE BEEN LOCATED EXCEPT AS SHOWN. THIS SURVEY DOES NOT IDENTIFY THE LIMITS OR EXTENT OF POTENTIAL JURISDICTIONAL WETLAND BOUNDARIES.

FENCES EXISTING ON, OVER OR ADJACENT TO SUBJECT PROPERTY, ARE DISPLAYED HEREON; OWNERSHIP WHETHER SINGULAR OR JOINT WAS NOT DETERMINED BY THIS SURVEY.

VERTICAL FEATURE ACCURACY: "ELEVATIONS OF WELL-IDENTIFIED FEATURES CONTAINED IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED VERTICAL POSITIONAL ACCURACY OF 0.05 (FT)."

STATE PLANE INFORMATION SHOWN HEREON IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (1990) USING CONTROL POINTS FROM FDOT DISTRICT ONE VERTICAL CONTROL DATA SHEETS AND ARE AS FOLLOWS:

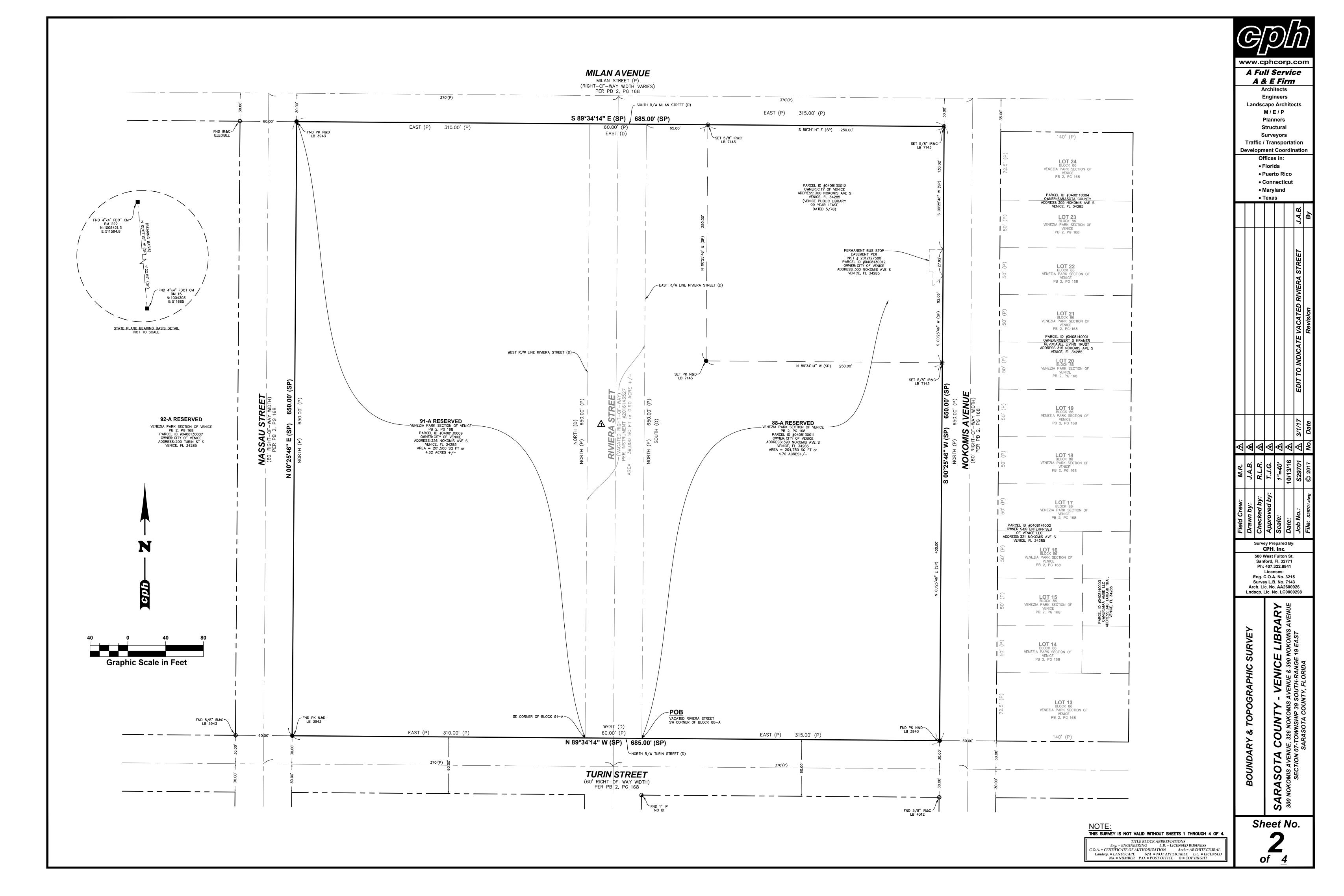
a) DESIGNATION # BM 15 = N 1,004,303 FEET, E 511,665 FEET b) DESIGNATION # BM 222 = N 1,005,422 FEET, E 511,569 FEET

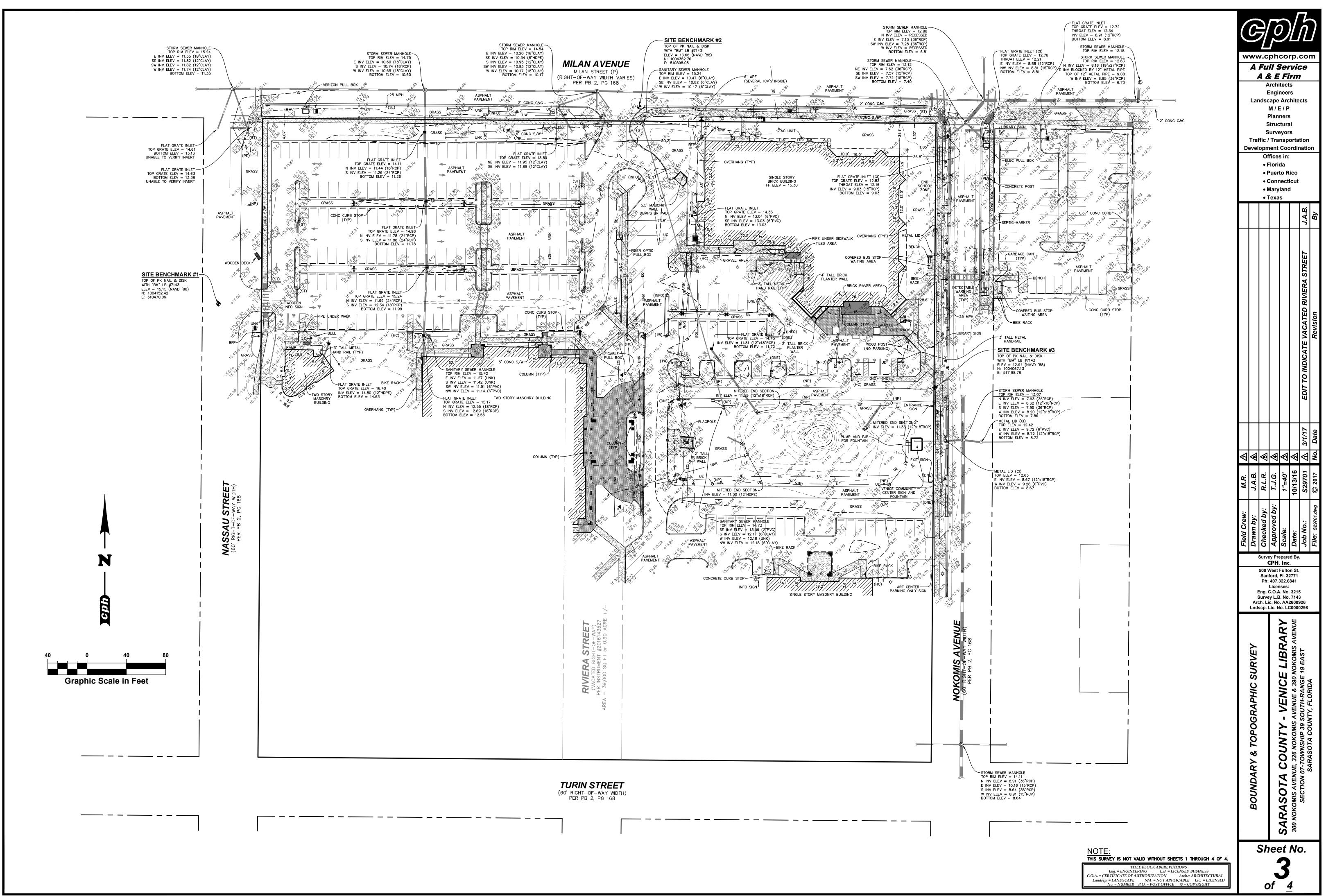
THE EQUIPMENT USED TO TRANSFER THE STATE PLANE INFORMATION FROM THE ABOVE REFERENCED CONTROL

POINTS TO THE SUBJECT SURVEY WAS A TOPCON GPS HIPER II. DIMENSIONS ARE SHOWN RELATIVE TO UNITED STATES STANDARD FEET AND DECIMALS THEREOF, UNLESS THE OBJECT SHOWN IS COMMONLY IDENTIFIED IN INCHES, I.E. TREE DIAMETER, PIPE DIAMETER, ETC. TREES DEPICTED ARE

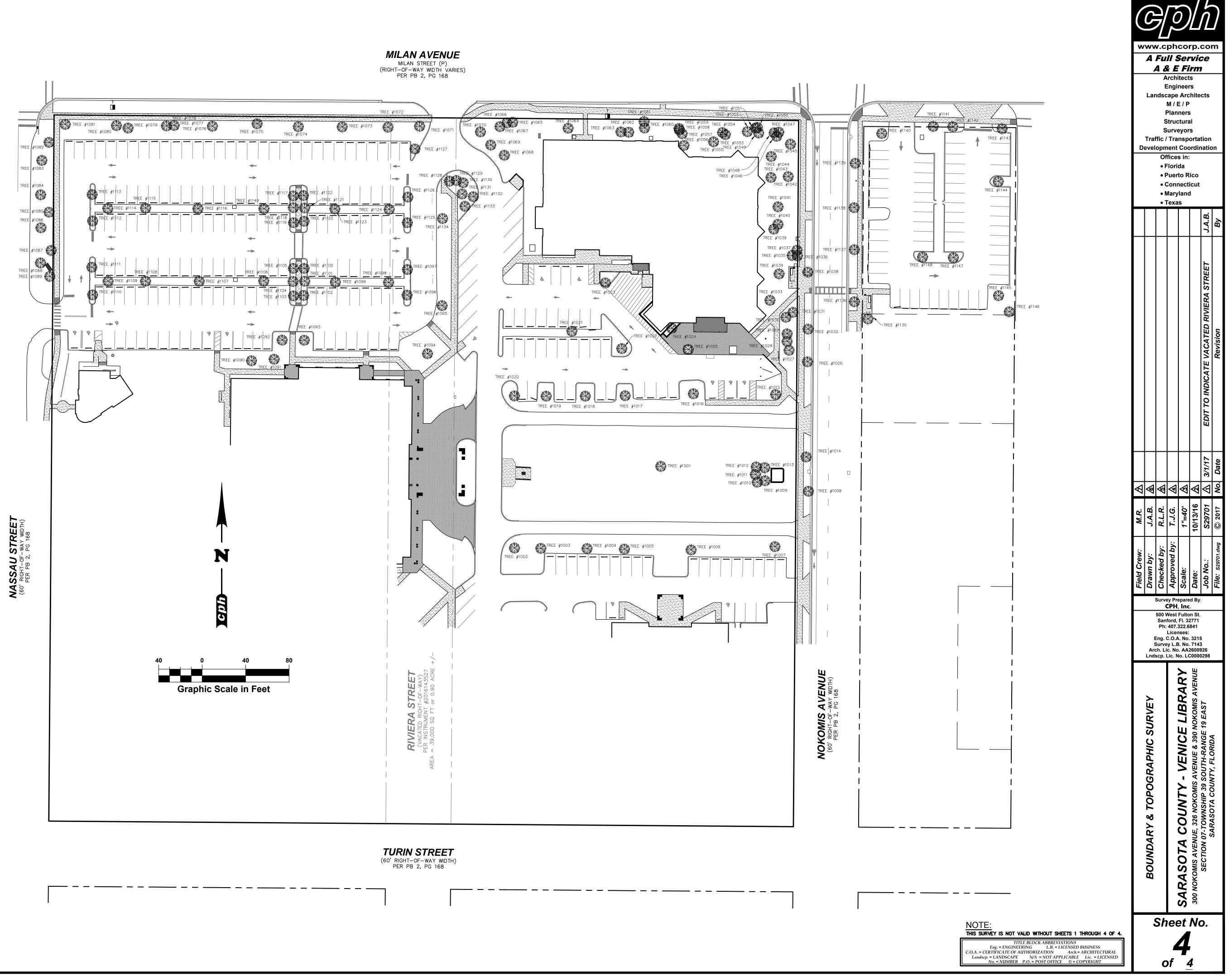
MEASURED AND LABELED AS DIAMETER AT BREAST HEIGHT IN INCHES. THE UNDERGROUND UTILITIES DEPICTED BY PIPE LINETYPES ARE APPROXIMATE IN NATURE BASED UPON AN INSPECTION OF THE MANHOLE, GRATE, ETC. OF EACH FACILITY. EXISTING PIPES WERE NOT LAMPED OR REMOTELY VIEWED FOR DIRECTION, OBSTRUCTIONS OR CONNECTIVITY.

19. TREE SIZE (DIAMETER AS NOTATIONS OF THE TREES	BSTRUCTIONS OR CONNECTIVITY. MEASURED IN INCHES AT BREAST HEIGHT), COMMON NAME, SPECIES, CONDITION, AND S LISTED HEREON WERE FURNISHED TO THE SURVEYOR BY CPH, INC. ENVIRONMENTAL SEE SHEET 4 OF 4 FOR TREE LOCATIONS FOR SPECIFIC NUMBERED TREES. <b>Index of Sheets</b> 1 COVER SHEET 2 BOUNDARY SURVEY 3 TOPOGRAPHIC SURVEY 4 TREE LOCATION	BOUNDARY & TOPOGRAPHIC SI	OTA COUNTY - VENICE IS AVENUE, 326 NOKOMIS AVENUE & 390 N ECTION 07-TOWNSHIP 39 SOUTH-RANGE SARASOTA COUNTY, FLORIDA
	Surveyor's Certification:	BC	AS KOW S
	I hereby certify that the attached "Boundary & Topographic Survey" of the hereon-described property is true and correct to the best of my knowledge, information and belief as surveyed in the field on October 13, 2016. I further certify that this "Boundary & Topographic Survey" meets the standards of practice set forth in Rule		SARASO 300 NOKOMIS / SECT
	Chapter 5J—17 of the Florida Administrative Code, pursuant to FS 472.027.	Sh	eet No.
NOTE: This survey is not valid without sheets 1 through 4 of 4.			
TITLE BLOCK ABBREVIATIONS	For the Firm By: Thomas J. Galloway, PSM		
Eng. = ENGINEERING       L.B. = LICENSED BUSINESS         C.O.A. = CERTIFICATE OF AUTHORIZATION       Arch.= ARCHITECTURAL         Landscp. = LANDSCAPE       N/A = NOT APPLICABLE       Lic. = LICENSED         No. = NUMBER       P.O. = POST OFFICE       © = COPYRIGHT	Professional Surveyor and Mapper Florida Registration No. 6549	c	of <u>4</u>





ree #	DBH (in.)	Common Name	Botanical Name	Height (ft.)	Spread (ft.)	Condition
1001	59	Indian Rosewood	Dalbergia sissoo	50	45	Fair
1002 1003	27 15.5	Live Oak Live Oak	Quorcus virginiana Quercus virginiana	40 40	50 30	Fair Cood
1004	23	Live Oak	Quercus virginiana	45	40	Good Good
1008	28.5	Live Oak	Quercus virginiana Quercus virginiana	45 50	58	Fair
1007 1008	5 14.5	Black Olive Live Oak	Bucida bucoras Quercus virginiana	20 30	15 30	Feir Fair
009	11	Cabbage Palm	Sabal paimetto	12	-	Good
1010 1011	8 9	Cabbage Palm Cabbage Palm	Sabal paimetto Sabal paimetto	15 20	-	Good Good
1012	10.5	Cabbage Palm	Sabai paimetto	20	-	Good
013 014	11 14,5	Cabbage Palm Live Oak	Sabal paimetto Quercus virginiana	15 40	- 40	Good Fair
015	25	Live Oak	Quercus virginiana	50	60	Good
1016 1017	22.5	Live Oak Live Oak	Quercus virginiana Quercus virginiana	35 36	40 40	Good
018	15.5	Live Oak	Quercus virginiana	30	30	Fair
1019 1020	17 19.5	Live Oak Live Oak	Quercus virginiana Quercus virginiana	40 30	30 35	Fair Fair
021	27	Cabbage Palm	Sabal paimetto	1	-	⊦aır
1022 1023	24 10	Bofflebrush Queen Palm	Cullistemon viminulis Syagrus romanzoffiana	20 10	20 -	Fair
024	18	Christmas Palm	Adonidia memilii	8	-	Fair
1025 1026	20 16.5	Royal Palm Live Oak	Roystonea regia Quercus virginiana	25 40	- 30	Fair Fair
1027	9	Queen Pairn	Syngues romanz offiana	20		Fair
1028 1029	9 7	Queen Palm Queen Palm	Syagrus romanzoffiana Syagrus romanzoffiana	25 13	-	Fair Fair
1030 1031	9 10.5	Queen Polm Queen Palm	Syagrus romanz offiana Syagrus romanz offiana	20 30		Fair Fair
032	13.5	Live Oak	Quorcus virginiana	25	25	Fair
033	6.5 30	Christmas Palm Ponytail Palm	Adonidia memilii Beaucamea recurvata	20 20	-	Fair
1035	9	Cabbage Palm	Subul paimetto	20		Poor
1036 1037	10.5 14.5	Cabbage Palm Cabbage Palm	Sabal palmetto Sabal palmotto	20 15	-	Fair Fair
1038	16.5	Live Oak	Quercus virginiana	25	25	Fair
1039 1040	13.5 32	Washingtonia Palm Bottlebrush	Washingtonia filitera Callistomon viminalis	25 25	- 30	⊦air Fair
1041	10	Queen Palm	Syngrus romanz offiana	25	-	Fair
1042 1043	46	Laurel Oak Queen Palm	Quarcus luurfolia Syagrus romanzoffiana	40 20	50 -	Fair
1044	9,5	Queen Palm	Syngrus romanz offiana	20	-	Fair
1045 1046	7 10	Oueen Palm Cabbage Palm	Syagics romanzofflana Sabal palmetto	15 20	-	Fair Poor
1047	10	Cabbage Palm	Sobal palmotto	25	-	Fair
1048 1049	9.5 8	Cabbage Palm Queen Palm	Subul primotto Syagrus romanzottiana	25 25	-	Fair Hair
1050	8	Queen Palm	Syngrus romanzoffiana	25		Faur
1061 1062	8 8	Queen Palm Queen Palm	Syagrus romanzoffiana Syagrus romanzoffiana	20 20	-	Fair Fair
1053	10.5 ទ	Cabbage Palm	Subal palmotto	20	-	Fair
1064	9 60	Cabbage Palm Aroca Palm	Sabai paimetto Dypsis lutoscons	25 20	26	Fair Fair
1056	14.5 11.5	Simpson's Stopper Cabbage Palm	Myrcianthas fragrans Sabal palmetto	25 25	20	Fair
1058	1()	Cabbago Palm	Sabal paimotto	20	-	⊢air
1059 1060	10.5 24	Cabbage Palm Longleat Pine	Subul palmotto Pinus palustris	25 45	40	Fau Fau
1061	12	Cabbage Palm	Subal palmotto	20		Fair
1062 1063	9 8.5	Cabbage Palm Cabbage Palm	Subul pulmotto Sabal palmetto	15 18	-	Fair Fair
1064	11	Black Olivo	Bucida hucoras	40	30	Fair
1065 1066	56 56.5	Seagrape Seagrape	Coccoloba uvitera Coccoloba uvitera	30 35	30 25	Fair Fair
1067	33,5	Seagrape	Coccoloba uvifora	20	20	Fair
1068 1069	67 21	Seagrape Seagrape	Coccoloba uvifera Coccoloba uvifera	15 20	25 20	Poor ⊢air
1070	33.5	Mahogany	Swiatoniu mahagoni	40	50	Fair
1071 1072	9 20	Mahogany Laurel Oak	Swetenia mahagoni Quercus launtolia	15 45	10 30	Fair Fair
1073 1074	14 5 16	Date Palm	Phoonix ductyliforu	7		Fair
1074	10	Laurel Oak Date Palm	Quercus launtolia Phoonix doctylifora	5	- 30	Fair Fair
1076	20	Laurel Oak	Quorcus launfolia	35	30	Fair
1077	16.5 13	Live Oak Dato Palm	Quercus virginiane Phoonix dactyliforo	35 8	- 25	Fair Fair
1079	24.5	Live Oak	Quarcus virginiana	35	25	Fair
1080 1081	14	Laurel Oak Date Palm	Quercus launtolia Phoonix ductyliforn	20 13	- 25	⊢a⊮ Fair
1082	13	Slash Pine	Pinus elliottii	20	20	Fair
1083 1084	9 8	Cabbage Palm Cabbage Palm	Sabai paimetto Subul paimotto	12	-	⊢a)r Fair
1085 1086	12.5 10.5	Slash Pine	Pinus elliottii	25	20	Fair Fair
1087	7	Cobbage Palm Slash Pine	Sabal palmetto Pinos olliottii	15 20	15	Fair
1088 1089	15 15	Cabbage Palm Cabbage Palm	Sobal palmotto Subal polmotto	15	-	Fair Fair
1090	13	Cold free	Tabebula aurea	15 25	- 25	Fair
1091 1092	10,5 13	Gold Tree Cabbage Palm	Tabobuia awaa Sabal palmetto	20 15	20	Fair Fair
1093	13	Cabbage Palm	Sabal paimetto	12		Fair
1094 1095	18 30.5	Sonegal Date Palm Live Oak	Phoonix melinnta Quercus virginiane	25 40	25 46	Еліг Ган
1096	11.5	Cabbage Palm	Sabai palmetto	10		Fair
1097 1098	10.5 10	Cabbage Palm Dahoon Holly	Subat palmotto Ilex cassino	15 25	- 20	Fair Fair
1099	8	Winged Elm	Uimus alata	15	20 15	Hair
1100 1101	10 10	Cabbage Palm Cabbage Palm	Subul palmotto Sabai palmetto	10 15	-	Fair Fair
1102	12.5	Cabbage Palm	Sobal palmotto	15	-	Fair
1103 1104	11.5 9.5	Cabbage Palm Cabbage Palm	Sobal palmotto Sabal palmetto	10 15	-	Fair Fair
1105	10.5	Cabbage Palm	Sobal palmotto	1.7		Fair
1106 1107	8 7.5	Dahoon Holly Dahoon Holly	llex cassine Ilex cassine	15 15	15 15	Fair
1108	4	Wingod Elm	Ulmus alota	17	10	Fair
1109 1110	3 11	Black Olive Cabbage Palm	Bocida bocoras Sabai palmetto	12 12	10	Fair Fair
1111	12	Cabbage Palm	Sohal palmotto	12		Faur
1112	10 10.5	Cabbage Palm Cabbage Palm	Subul palmotto Sabai palmetto	15 15	-	Fair Fair
1114	3	Black Olive	Bucida bucoms	10	6	Fair
1115 1116	8 3.5	Dahoon Holly Winged Elm	llex cassine Uimus alata	15	15 8	Fair Fair
1117	11.5 12	Cabbage Palm	Sabal palmotto Sabal palmetto	12	-	Fair
1118	12	Cabbage Palm Cabbago Palm	Sabai palmetto Sobal palmotto	10	-	Fair Fair
1120	13.5 12	Cabbage Palm Cabbage Palm	Subul primotto Sabai paimetto	10	-	Fair Fair
	13.6	Cabbago Palm	Sobal palmotto	12	-	Fair
	5.5 10	Winged Elm Winged Elm	Ulmus alata Ulmus alata	10 15	10 20	Fair Fair
1123	12	Cabbage Palm	Subal palmotto	12		Fair
1123 1124 1125	12 11	Cabbage Palm Cabbage Palm	Subut palmotto Sabai palmetto	13 10	-	Faur
1123 1124 1125 1126	11	Cabbage Palm	Sabal palmotto	15	-	Fair
1123 1124 1125 1126 1127 1128	12	Cabbage Palm	Sabai palmetto Sabai palmetto	20 20	-	Fair Fair
1123 1124 1125 1126 1127 1128 1128 1129	12 12	Cabbarie Palm	Sabal palmetto Subal palmotto	20	-	Fair
1123 1124 1125 1126 1127 1128 1129 1130 1131	12 12 15.5 13	Cabbage Palm Cabbage Palm	i	15		Fair
1122 1123 1124 1125 1126 1127 1128 1127 1128 1129 1130 1131 1132	12 12 15.5 13 12.5	Cabbage Palm Cabbage Palm	Sabal palmetto Sebal palmetto		-	E aut
1123 1124 1125 1126 1127 1128 1129 1130 1131	12 12 15.5 13	Cabbage Palm	Sabal palmetto Sabal palmotto Quarcus virginiana	20 20 20	- 25	⊢air Fair
1123           1124           1125           1126           1127           1128           1129           1130           1131           1132           1133           1134           1135	12 12 15.5 13 12.5 12.5 12.5 14 25	Cabbage Palm Cabbage Palm Cabbago Palm Live Ook Senegal Date Palm	Sobal palmotto Quarcos virginiana Phoenix reclinata	20 20 25	-	Fair Fair
1123           1124           1125           1126           1127           1128           1127           1128           1129           1130           1131           1132           1133           1134           1135           1136           1137	12 12.5 13.5 12.5 12.5 14.2 25 14.5 15	Cabbage Palm Cabbage Palm Cabbago Palm Live Oak Senegal Date Palm Live Oak Live Oak	Sabal palmatto Quarans virginiana Phoenix reclinata Quercus virginiana Quercus virginiana	20 20 25 25 20	- 30 30	Fair Fair Fair Fair
1123       1124       1125       1126       1127       1128       1129       1130       1131       1132       1133       1134       1135       1136       1137       1138	12 12.5 13.5 12.5 14.5 14.5 14.5 15 19.5	Cabbage Palm Cabbage Palm Cabbage Palm Live Oak Senegal Date Palm Live Oak Live Oak Live Oak	Sabal palmatto Quarans virginiana Phoenix reclinata Quercus virginiana Quercus virginiana Quercus virginiana	20 25 25 20 35	- 30 30 40	Fair Fair Fair Fair Fair
1123           1124           1125           1126           1127           1128           1129           1130           1131           1132           1133           1134           1135           1136           1137           1138           1139           1140	12 12.5 13.1 12.5 12.5 14.5 14.5 14.5 15.5 20.5 4.5	Cabbage Palm Cabbage Palm Cabbage Palm Live Oak Senegal Date Palm Live Oak Live Oak Live Oak Live Oak Black Olive	Sebal palmatto Quacus vrginiana Phoenix reclinata Quercus virginiana Quercus virginiana Quercus virginiana Quercus virginiana Bucida buceras	20 25 25 20 35 35 10	- 30 30 40 40 10	Fair Fair Fair Fair Fair Fair
1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140	12 12.5 13.5 12.5 14 25 14.5 15 19.5 20.5 4.5 17	Cabbage Palm Cabbage Palm Cabbage Palm Live Oak Senegal Date Palm Live Oak Live Oak Live Oak Live Oak Live Oak Black Olive Live Oak	Sebal palmatto Quacus vrginiana Phoenix reclinata Quercus virginiana Quercus virginiana Quercus virginiana Quercus virginiana Bucida buceras Quercus virginiana	20 25 25 20 35 35 10 35	- 30 30 40 40 10 35	Fair Fair Fair Fair Fair Fair Fair Fair
1123           1124           1125           1126           1127           1128           1129           1129           1130           1131           1132           1133           1134           1135           1136           1137           1138           1139           1140           1141           1142	12 12 15.5 13 12.5 14 25 14.5 15 19.5 20.5 4.5 17 18 15	Cabbage Palm Cabbage Palm Cabbage Palm Live Oak Senegal Date Palm Live Oak Live Oak Live Oak Live Oak Black Olive Live Oak Live Oak Live Oak Live Oak	Sabal paimatto Quaratis virginiana Phoenix reclinata Quercus virginiana Quercus virginiana Quercus virginiana Bucida buceras Quercus virginiana Quercus virginiana Quercus virginiana	20 25 25 20 35 35 10 35 40 25	- 30 30 40 40 10 35 40 30	Fair Fair Fair Fair Fair Fair Fair Fair
1123           1124           1125           1126           1127           1128           1129           1130           1131           1132           1133           1134           1135           1136           1137           1138           1139           1140           1141           1142           1143	12 12 15.5 13 12.5 14 25 14.5 15 19.5 20.5 4.5 17 18 15 5	Cabbage Palm Cabbage Palm Cabbage Palm Live Oak Senegal Date Palm Live Oak Live Oak Live Oak Live Oak Black Olive Live Oak Live Oak Live Oak Live Oak Live Oak Black Olive	Sabal paimatto Quarans virginiana Phoenix reclinata Quercus virginiana Quercus virginiana Quercus virginiana Bucida buceras Quercus virginiana Quercus virginiana Quercus virginiana Bucida buceras	20 25 25 20 35 35 10 35 40 25 25	- 30 30 40 40 10 35 40 30 15	Fair Fair Fair Fair Fair Fair Fair Fair
1123           1124           1125           1126           1127           1128           1129           1129           1130           1131           1132           1133           1134           1135           1136           1137           1138           1139           1140           1141           1142	12 12 15.5 13 12.5 14 25 14.5 15 19.5 20.5 4.5 17 18 15	Cabbage Palm Cabbage Palm Cabbage Palm Live Oak Senegal Date Palm Live Oak Live Oak Live Oak Live Oak Black Olive Live Oak Live Oak Live Oak Live Oak	Sabal paimatto Quaratis virginiana Phoenix reclinata Quercus virginiana Quercus virginiana Quercus virginiana Bucida buceras Quercus virginiana Quercus virginiana Quercus virginiana	20 25 25 20 35 35 10 35 40 25	- 30 30 40 40 10 35 40 30	Fair Fair Fair Fair Fair Fair Fair Fair





#### GENERAL PROVISIONS

1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS

CONTRACTOR, AS PART OF THE BASE BID. SHALL FIELD LOCATE ALL UNDERGROUND UTILITIES WITHIN THE PROJECT AREA WITHIN THE 30 DAYS OF PROJECT AWARD. CONTRACTOR SHALL REVIEW THE PLANS AND SHALL NOTE ANY DISCREPENCIES TO THE ENGINEER IMMEDIATELY

CONTRACTORS, AS PART OF THE BASE BID, SHALL PROVIDE ALL COORDINATION WITH UTILITY PROVIDERS TO PROVIDE FOR THE MATERIALS AND WORK NEEDED TO PROVIDE SERVICES TO THE PROJECT.

4. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR ALL DEMOLITION OF ABOVE GROUND AND UNDERGROUND IMPROVEMENTS IN ORDER TO CONSTRUCT THE PROPOSED IMPROVEMENTS NOTED ON THE PLANS. UNLESS APPROVED IN WRITING FROM THE OWNER, ALL MATERIALS SHALL BE REMOVED FROM THE SITE AS PART OF THE BASE BID.

5. ALL DETAILS AND REFERENCES TO FDOT REFER TO THE LATEST EDITION OF THE FDOT DESIGN STANDARDS.

6. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES, IN SUCH A MANNER AS TO AVOID CONFLICT AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH UTILITY REQUIREMENTS AS TO LOCATION AND SCHEDULING FOR TIE-INS/ CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.

7. CONTRACTOR AND HIS SURVEYOR SHALL NOTE THE PROJECT BENCHMARK INFORMATION PROVIDED IN THE PLANS AND VERIFY PRIOR TO CONSTRUCTION. 8. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO

COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP. COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT, THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

9. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

10. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH. INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

11. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.

12. THE CONTRACTOR SHALL SUBMIT ONE ELECTRONIC COPY OF SHOP DRAWINGS TO THE ENGINEER TO KEEP FOR HIS RECORDS. THE ENGINEER WILL NOT PROVIDE FOR APPROVAL OF SHOP DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL MATERIALS FOR ACCURACY PRIOR TO ORDERING THE MATERIALS. ANY DESCREPENCIES IDENTFIED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

13. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY

14. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.

15. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.

16. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER APPROVED IN WRITING AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.

17. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.

18. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS. PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.

19. ALL DISTRUBED AREAS WITHIN RIGHT OF WAYS SHALL BE SODDED.

20. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS TO INCLUDE BUT NOT BE LIMITED, FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.

21. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.

22. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINATE IS ENCOUNTERED DURING EXCAVATION.

#### UTILITY GENERAL NOTES

THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.

2 THE LOCATION MATERIAL TYPE AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED. FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.

3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

4. THE UTILITY PROVIDERS NOTED ON THE COVER SHEET HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA. 5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.

THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.

7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.

8. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. WHERE SUCH PROPOSED REVISIONS DEVIATE FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO REQUIRE APPROVAL FROM FDEP.

9. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL TYPE, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE. SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

10. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

#### AS-BUILT DRAWING REQUIREMENTS

ALL RECORD DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR IN ACAD FORMAT USING CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER. AS-BUILT INFORMATION SHALL BE FIELD VERIFIED, MEASURED, ADDED TO THE ACAD FILES OF THE CONSTRUCTION PLAN SHEETS PROVIDED BY THE ENGINEER, AND CERTIFIED, SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED SURVEYOR WHO WILL BE RESPONSIBLE FOR THE ACCURACY OF ALL DIMENSIONS AND ELEVATIONS.

3. THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND STORM STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS. B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES.

C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND, AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY

D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND SKIMMERS.

E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS. F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC. G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS

EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET. H. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.

J. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.

K. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS. ... WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT

DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.

ACTUAL MEASURED VERTICAL ELEVATION.

4. IN CASES WHERE THE OWNER DETERMINES PARTIAL CLEARANCES FROM PERMITTING AGENCIES ARE BENEFICIAL TO THE OWNER FOR COMPLETED PORTIONS OF THE PROJECT, PROVIDE PRELIMINARY AS-BUILT DRAWINGS (ACAD FORMAT) TO THE ENGINEER FOR ITS USE IN PREPARING THE PARTIAL CLEARANCE APPLICATIONS FOR THE OWNER.

5. COMPLETE AS-BUILT DRAWINGS THAT ARE FOUND TO BE SATISFACTORY AS A RESULT OF THE ENGINEER'S REVIEW WILL BE USED AS THE BASIS FOR THE FINAL PROJECT RECORD DRAWINGS PREPARED BY THE ENGINEER USING THE CONTRACTOR PROVIDED AS-BUILT DRAWINGS PLUS ENGINEER ADDED INFORMATION. TRAFFIC CONTROL

APPROVED M.O.T.

MAINTAINED DURING CONSTRUCTION.

5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.

6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.

7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.

WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL LANES BUT NO CLOSER THAN 2-FT FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 600 AND 602. 9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER DROP-OFFS OR OTHER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE

SITE PREPARATION

1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.

3 PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY FASEMENTS AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS. I. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS

PATH, CENTERED ON THE PIPELINE.

5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD

6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.

7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON

OR OTHERWISE OBSTRUCT THE WORK. 8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.

DISPOSAL AREAS. DEWATERING

1. DESIGN AND PROVIDE A DEWATERING SYSTEM USING ACCEPTED AND PROFESSIONAL METHODS CONSISTENT WITH CURRENT INDUSTRY PRACTICE. PROVIDE A DEWATERING SYSTEM OF SUFFICIENT SIZE AND CAPACITY TO CONTROL GROUNDWATER IN A MANNER THAT PRESERVES STRENGTH OF FOUNDATION SOILS. DOES NOT CAUSE INSTABILITY OR RAVELING OF EXCAVATION SLOPES, AND DOES NOT RESULT IN DAMAGE TO EXISTING STRUCTURES. WHERE NECESSARY TO THESE PURPOSES, LOWER WATER LEVEL IN ADVANCE OF EXCAVATION, UTILIZING WELLS, WELLPOINTS, OR SIMILAR POSITIVE METHODS. MAINTAIN THE GROUNDWATER LEVEL TO A MINIMUM OF 2 FEET BELOW EXCAVATIONS. PROVIDE PIEZOMETERS IF DIRECTED BY THE ENGINEER TO DOCUMENT THE GROUNDWATER LEVEL IS BEING MAINTAINED.

2. CONTROL. BY ACCEPTABLE MEANS, ALL WATER REGARDLESS OF SOURCE AND BE FULLY RESPONSIBLE FOR DISPOSAL OF THE WATER. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SUPPLEMENTAL MEASURES TO CONTROL SEEPAGE, GROUNDWATER, OR ARTESIAN HEAD.

3. DEWATERING DISCHARGE FROM THE SITE SHALL COMPLY WITH ALL NPDES GENERAL PERMIT REQUIREMENTS AND STATE WATER QUALITY STANDARDS. PROVIDE ALL TESTING AND PERMITTING REQUIRED AND COMPLY WITH ALL TREATMENT OR DISPOSAL METHODS REQUIRED TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.

OPEN PUMPING WITH SUMPS AND DITCHES SHALL BE ALLOWED. PROVIDED IT DOES NOT RESULT IN BOILS. LOSS OF FINES SOFTENING OF THE GROUND, OR INSTABILITY OF SLOPES. SUMPS SHALL BE LOCATED OUTSIDE OF LOAD BEARING AREAS SO THE BEARING SURFACES WILL NOT BE DISTURBED. WATER CONTAINING SILT IN SUSPENSION SHALL NOT BE PUMPED INTO SEWER LINES OR ADJACENT STREAMS. DURING NORMAL PUMPING, AND UPON DEVELOPMENT OF WELL(S), LEVELS OF FINE SAND OR SILT IN THE DISCHARGE WATER SHALL NOT EXCEED 5 PPM.

5 IF DEWATERING FOUIPMENT NEEDED EXCEEDS ANY OF THE FOULOWING: 1) 6" PLIMP VOLUTE: 2) 100 000 GPD TOTAL 24 HOUR (1 DAY) DEWATERING, AND; 3) 1,000,000 GPD PUMP CAPACITY, THE CONTRACTOR SHALL BE REQUIRED TO PERMIT THE DEWATERING SYSTEM WITH THE WATER MANAGEMENT DISTRICT

#### AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AT LEAST THREE WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY THE RESPONSIBLE PARTY. THE CONTRACTOR SHALL BE RESPONSBILE TO IDENTIFY ALL AS-BUILT SURVEY REQUIREMENTS BY THE GOVERNING AGENCIES PRIOR TO START OF CONSTRUCTION TO ENSURE THAT AS-BUILT INFORMATION IS PROVIDED FOR

PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL DRIVE AISLES AND ISLANDS.

M. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE

N. ANY ADDITIONAL INFORMATION REQUIRED BY GOVERNING AGENCIES.

 THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN AND INSTALLED TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER. OWNER. AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. IN GENERAL ROADWAY AND DRIVEWAY LANE CLOSURES ARE PROHIBITED DURING CONSTRUCTION UNLESS SPECIFICALLY DETAILED ON THESE PLANS. IN THE EVENT IT IS DETERMINED THAT ROADWAY AND DRIVEWAY LANE CLOSURES WILL BE ALLOWED, THE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE

2. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. 600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND

3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.

4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.

TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE

9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN 2" IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND.

10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE

6. CONTINUOUSLY MAINTAIN EXCAVATIONS IN A DRY CONDITION WITH POSITIVE DEWATERING METHODS DURING PREPARATION OF SUBGRADE, INSTALLATION OF PIPE, AND CONSTRUCTION OF STRUCTURES UNTIL THE CRITICAL PERIOD OF CONSTRUCTION AND/OR BACKFILL IS COMPLETED TO PREVENT DAMAGE OF SUBGRADE SUPPORT, PIPING, STRUCTURE, SIDE SLOPES, OR ADJACENT FACILITIES FROM FLOTATION OR OTHER HYDROSTATIC PRESSURE IMBALANCE.

7. WHEN CONSTRUCTION IS COMPLETE, REMOVE ALL DEWATERING EQUIPMENT FROM THE SITE, INCLUDING WELLS AND RELATED TEMPORARY ELECTRICAL SERVICE.

GRADING

GRADING SHOWN ON THESE PLANS IS PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. THE FOLLOWING MINIMUM SLOPES SHALL BE PROVIDED BY THE CONTRACTOR: a. ASPHALT PAVEMENT: MIN. 1% SLOPE CONCRETE PAVEMENT: MIN. 1% SLOPE

GUTTERS: MIN 0.5%

SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.

3. ALL PROPOSED ELEVATIONS ON THE PLANS WITHIN PAVED AREAS ARE SHOWN AT PAVEMENT, UNLESS OTHERWISE NOTED.

4. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

5. UNIFORMLY SMOOTH GRADE THE SITE. DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE-GRADER OPERATIONS.

6. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

EXCAVATION, TRENCHING, AND FILL

THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS. INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.

ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TO THE PONDS TO MINIMIZE RUNOFF TO OFFSITE AREAS.

3 POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTRACTOR SHALL BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER.

4. FIELD DENSITY TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING, MINIMUM 2 TESTS EACH LAYER; B) ONE TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS.

5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE UTILIZED WHEREVER POSSIBLE. A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2-4, A-2-6; ASTM D2487 CLASSIFICATION GW, GP, GM,

SM, SW, SP; UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS. NO MORE THAN 12% OF ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 200 SIEVE.

B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 CLASSIFICATION GC, SC, ML, MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS

6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.

SIDEWALKS, ROADS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS, EXCEPT AS AUTHORIZED BY THE ENGINEER. IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS MUST BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS, AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO TENANTS OCCUPYING ADJOINING PROPERTY.

FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.

SHEETING, SHORING, AND BRACING USED FOR THE SUPPORT OF EXCAVATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF FLORIDA.

10. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT.

11. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES A MINIMUM OF 2 FEET WHERE EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS.

12. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE BOTTOM OF THE TRENCH OR STRUCTURE. 13. ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL. WHERE TRENCH OR

EXCAVATION IS WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH.

14. MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T180): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY FASEMENTS = 95 PERCENT BACKELL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT = 95 PERCENT; BACKFILL AND FILL PLACED IN ALL OTHER AREAS = 90 PERCENT.

RIPRAP

1. ALL RIPRAP CONSTRUCTION SHALL MEET THE REQUIREMENTS OF SECTION 530 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

UTILITY SEPARATION REQUIREMENTS

1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS. STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF FIVE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.

B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES ABOVE THE TOP OF THE SEWER.

C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY. SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 18 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST TEN FEET FROM GRAVITY SANITARY SEWER JOINTS

B. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS. WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST FIVE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST TEN FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS

3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.

4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST

A. FIVE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.

TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT

B. TEN FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.

FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER AND RECLAIMED WATER SYSTEMS SHOWN ON THESE PLANS IS THE CITY OF VENICE. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF VENICE. 2. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.

3. BURIED DUCTILE IRON PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.

4. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.

5. PVC PIPE SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL HAVE MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.

6. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.

7. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104/A21.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.

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

9. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD. RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1100. STAR GRIP SERIES 3000. OR TYLER UNION TUE-GRIP SERIES TI D. LOCKING BELL JOINT RESTRAINT SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C900 PVC), SERIES 2800 (C905 PVC), FORD UNI-FLANGE SERIES 1390, OR SMITH-BLAIR BELL-LOK SERIES 165. PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.

10. POLYETHYLENE PIPE AND TUBING SHALL BE COLOR CODED BLUE (POTABLE WATER) OR PURPLE (RECLAIMED WATER). PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.

11. SERVICE SADDLES SHALL MEET THE REQUIREMENTS OF AWWA C800 AND SHALL CONSIST OF EPOXY COATED DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL SHALL BE TYPE 304, AND NUTS ARE TO BE TEFLON COATED. THE DUCTILE IRON BODY IS TO BE FUSION BONDED NYLON COATED, MINIMUM THICKNESS 12 MILS, OUTLET OF SADDLE IS TO HAVE NPT THREADS. SERVICE SADDLES SHALL BE MANUFACTURED BY FORD, MUELLER, OR SMITH-BLAIR.

12. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS. CUT W'S AND V'S SHALL BE HIGHLIGHTED WITH BLUE PAINT.

13. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP.

14. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.

15. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. BURIED AND EXPOSED VALVES SHALL BE COATED INSIDE AND OUT WITH A RUST INHIBITING EPOXY PRIMER, FOLLOWED BY AN EPOXY COATING MEETING THE REQUIREMENTS OF AWWA C550. APPLIED AT THE FACTORY. THE INTERIOR OF VALVES WITH A CAST IRON OR DUCTILE IRON BODY SHALL BE COATED WITH AN EPOXY PROTECTIVE COATING MEETING NSF INTERNATIONAL STANDARD 61 AND AWWA C550. AFTER INSTALLATION. EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.

16. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509 OR AWWA C515 THE VALVES SHALL BE IRON BODY, CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH O-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.

17. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, CLOW SERIES F-6100, OR MUELLER SERIES A2361

18. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.

19. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. O-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE. SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.

20. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "WATER" OR "RECLAIMED WATER".

21. PVC PIPES SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "POTABLE WATER MAIN" OR "RECALIMED WATER MAIN" AS APPLICABLE

22. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE. CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON BLUE BACKGROUND (WATER MAINS), BLACK PRINTING ON PURPLE BACKGROUND (RECLAIMED WATER MAINS). PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

23. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW", OR "CAUTION: RECLAIMED WATER MAIN BURIED BELOW". AS APPLICABLE.

24. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER CITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.

25. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

26. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.

7. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE IFAKS

28. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

29. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) DECHLORINATE AND FLUSH AFTER DISINFECTION.

30. APPLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS), OR 150 PSI (RECLAIMED WATER MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE

31. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 150 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.

32. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.

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33. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET) D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.

34. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.

35. PRIOR TO DISINFECTION, CONDUCT FULL DIAMETER FLUSHING OF PIPELINE IN SECTIONS IN ORDER TO REMOVE ANY SOLIDS OR CONTAMINATED MATERIAL THAT MAY HAVE BECOME LODGED IN THE PIPE.

36. OBTAIN A MINIMUM FLUSHING VELOCITY OF 2.5 FEET PER SECOND PER AWWA C651.

37. ALL TAPS REQUIRED FOR FLUSHING AND THE TEMPORARY OR PERMANENT RELEASE OF AIR AS NEEDED FOR FLUSHING SHALL BE PROVIDED BY THE CONTRACTOR. 38. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS

SHALL CONFORM TO AWWA C651. THE DISCHARGE LOCATIONS FOR THE CHLORINATED WATER SHALL BE APPROVED BY THE OWNER. NEUTRALIZE THE CHLORINE RESIDUAL BY MEANS OF A REDUCING AGENT IN ACCORDANCE WITH AWWA C651.

39. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION. THOSE OF THE AUTHORITY SHALL GOVERN. ALL BACTERIOLOGICAL TESTING SHALL BE PERFORMED BY A STATE CERTIFIED LABORATORY CONTRACTED BY THE CONTRACTOR. PROPER CHAIN OF CUSTODY PROCEDURES MUST BE FOLLOWED AND SAMPLES SHALL ONLY BE COLLECTED BY CERTIFIED LABORATORY PERSONNEL. COPIES OF ALL TESTING RESULTS AND ALL RELATED CORRESPONDENCE FROM THE TESTING LAB SHALL BE SUBMITTED TO THE OWNER, UTILITY, AND ENGINEER.

#### FIRE PROTECTION SYSTEMS

COMBUSTIBLE CONSTRUCTION CANNOT OCCUR UNTIL PROPER DOCUMENTATION HAS BEEN SUBMITTED TO THE LOCAL FIRE MARSHAL. DOCUMENTATION SHALL SHOW THAT HYDRANTS HAVE BEEN INSTALLED, TESTED, AND ARE IN PROPER WORKING ORDER.

INSTALL ALL FIRE LINE PIPING AT A MINIMUM 36 INCHES OF COVER.

THE CONTRACTOR INSTALLING THE UNDERGROUND FIRE PROTECTION PIPING SHALL HOLD A CLASS I, II, OR LEVEL V CERTIFICATION AS ISSUED BY THE STATE OF FLORIDA, AS REQUIRED BY FS 633.021(5).

4. ALL FIRE PROTECTION SPRINKLER SYSTEMS INSTALLED SHALL COMPLY WITH NFPA 13, AND SHALL BE MONITORED BY A COMPANY LISTED AS A CENTRAL STATION

HYDRANTS SHALL CONFORM TO AWWA C502 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED.

6. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE HYDRANTS SHALL CONTAIN TWO-TWO AND A HALF INCH (2-1/2") HOSE CONNECTIONS AND ONE-FOUR AND A HALF INCH (4-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE QUARTER INCH (5-1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1-1/2") PENTAGON OPERATING NUT. THE HYDRANTS SHALL OPEN COUNTERCLOCKWISE.

7. ALL HYDRANTS SHALL BE PAINTED IN AN APPROVED MANNER WITH THE PRIMER PAINT BEING KOPPER'S "GLAMORTEX" NO. 622 RUST PRIMER AND THE FINISH PAINT SHALL BE TWO COATS OF ENAMEL OR SPECIAL COATING TO COLOR AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.

BLUE PAVEMENT REFLECTORS (CAT EYES) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF ALL FIRE HYDRANTS. THERE SHALL BE NO TREES, SHRUBS, OR LANDSCAPING PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.

9. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST: THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER. STORMWATER FORCE MAIN. RECLAIMED WATER MAIN OR VACUUM TYPE SANITARY SEWER; SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN; AND TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

10. THE SEQUENCE OF TESTING AND DISINFECTION SHALL BE AS FOLLOWS: 1) CONDUCT FIRE FLOW, PRESSURE AND LEAKAGE TESTING; 2) PERFORM FLUSHING PER UTILITY REQUIREMENTS AND AWWA C651; 3) DISINFECT THE WATER MAIN, INCLUDING VALVES AND FITTINGS; AND 4) FLUSH AFTER DISINFECTION.

11. THE CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND THE UTILITY. HYDRANTS SHALL DELIVER A MINIMUM OF 1250 GPM WITH A RESIDUAL PRESSURE OF 20 PSI.

12. APPLY HYDROSTATIC TEST PRESSURE OF 200 PSI (FIRE MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.

13. APPLY LEAKAGE TEST PRESSURE OF 200 PSI (FIRE MAINS) MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.

14. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.

15. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.

16. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS.

17. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION. THOSE OF THE AUTHORITY SHALL GOVERN. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651.

SANITARY SEWER SYSTEMS

MANUFACTURER.

THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS THE CITY OF VENICE. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF VENICE.

2. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.

3. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY THE PIPE

5. SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).

INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE: 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE: 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW". INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE.

8. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE.

PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED. 10. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE

11. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

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

13. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS A) 4" PIPE = 1 MIN 53 SEC; B) 6" PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8" PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.

14. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 5%. MEASURE DEFLECTION BY MANUALLY PULLING A MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING 6" SEWER = 5.45" MANDREL 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12" SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL.

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RE-TESTED FOR LEAKAGE.

#### FORCE MAIN SYSTEMS

ACCORDANCE WITH ANSI/AWWA C105/A21.5.

4. PVC PIPE JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE

5. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.

LOCAL UTILITY.

BE USED.

THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.

COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.

PV. OR APPROVED EQUAL

MUELLER SERIES A2361

12. AIR RELEASE VALVES SHALL BE COMBINATION CAPABLE OF DISCHARGING ACCUMULATED AIR IN THE LINE WHILE THE LINE IS OPERATING UNDER A PRESSURE OF 150 PSI. FLOAT MATERIAL SHALL BE STAINLESS STEEL. AIR RELEASE VALVES SHALL HAVE A STAINLESS STEEL BODY AND SHALL BE MANUFACTURED BY ARI (NO. ARI-D-020) OR VENT-O-MAT RGX SERIES. ENCLOSURES FOR AIR RELEASE VALVES SHALL BE POLYETHYLENE WITH STAINLESS STEEL HARDWARE, AND SHALL BE PROVIDED WITH A TAMPER PROOF LOCKING DEVICE. ENCLOSURES SHALL BE AS MANUFACTURED BY WATER PLUS CORPORATION (MODEL 182635) OR APPROVED EQUAL, AND SHALL HAVE VENTS AND SHALL BE GREEN IN COLOR.

14. PVC PIPE SHALL BE COLOR CODED GREEN AND STENCILED (0.75-INCH LETTERING ON THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION) "SEWER FORCE MAIN

15. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH, TEXT TO BE "SEWER FORCE MAIN". APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM JOINT TO JOINT. TAPE COLOR AND LETTERING SHALL BE BLACK PRINTING ON GREEN BACKGROUND, PLACE TAPE AS FOLLOWS: 2" - 8" PIPE - CENTER ALONG TOP HALF OF PIPE: 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE: 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

BURIED BELOW"

17. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 2" AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER UTILITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY

18. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION, BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

INSPECTED OR TESTED.

LEAKS

21. APPLY HYDROSTATIC TEST PRESSURE OF 100 PSI FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURER'S SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.

22. APPLY LEAKAGE TEST PRESSURE OF 100 PSI. MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.

23. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES. 24. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/148000 WHERE L = MAXIMUM PERMISSIBLE

OWNER SHALL BE LOCATED AND

PAVING, SIDEWALKS, AND CURBING

1. MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS. 3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND SHALL BE IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, LATEST EDITION.

4. CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.

5. FIELD COMPACTION DENSITY, STABILITY, AND THICKNESS TESTING FREQUENCIES OF SUB-BASE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FT WIDE STRIP, STAGGERED LEFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUB-BASE, BASE, AND ASPHALT IS PLACED IN ONE DAY, PROVIDE MIN. OF ONE TEST FOR EACH PER DAY'S CONSTRUCTION AT A LOCATION DESIGNATED BY THE ENGINEER. ASPHALT EXTRACTION GRADATION SHALL BE TESTED FROM GRAB SAMPLES COLLECTED ONCE EVERY 1800 SQUARE YARDS OF ASPHALT DELIVERED TO THE SITE (OR A MINIMUM OF ONCE PER DAY).

#### 15. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE, REPLACE OR CORRECT THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE

#### 1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE FORCE MAIN SYSTEM SHOWN ON THESE PLANS IS THE CITY OF VENICE. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF VENICE.

2. INSTALL ALL FORCE MAINS AT A MINIMUM 36 INCHES OF COVER.

3. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN

6. INTERIOR LINING FOR PIPES AND FITTINGS SHALL BE EITHER MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF CERAMIC EPOXY LINING, AS MANUFACTURED UNDER THE NAME OF "PROTECTO 401", OR MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF FUSION BONDED EPOXY AND POLYETHYLENE LINING. AS MANUFACTURED UNDER THE NAME OF "POLYBOND PLUS", OR EQUAL. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT COLOR SHALL BE AS SELECTED BY THE

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

8. RESTRAINED JOINTS FOR DUCTILE IRON PIPE BELL JOINTS SHALL BE AMERICAN FAST GRIP GASKET, MCWANE SURE GRIP 350 GASKET, U.S. PIPE FIELD LOK 350 GASKET, OR EBAA IRON MEGA LUG SERIES 1100HD. RESTRAINED JOINTS FOR DUCTILE IRON PIPE AND FITTING MECHANICAL JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1100, STAR GRIP SERIES 3000, OR TYLER UNION TUF-GRIP SERIES TLD. LOCKING BELL JOINT RESTRAINT SHALL BE AMERICAN FLEX RING JOINT, AMERICAN LOK-RING JOINT, OR U.S. PIPE TR-FLEX. RESTRAINED JOINTS FOR PVC PIPE MECHANICAL JOINTS SHALL BE TYLER UNION SERIES 2000 TUF GRIP TLP, JCM SUR-GRIP BELL RESTRAINER, FORD UNI-FLANGE SERIES 1500 CIRCLE LOCK, OR EBAA IRON MEGA LUG SERIES 2000PV. RESTRAINED JOINTS FOR PVC PIPE PUSH ON JOINTS SHALL BE EBAA IRON MEGA LUG SERIES 1500 OR SERIES 1600 (C900 PVC) SERIES 2800 (C905 PVC) FORD UNI-FLANGE SERIES 1390, OR SMITH-BLAIR BELL-LOK SERIES 165, PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS OR

9. INTERIOR LINING FOR VALVES 4 INCH AND LARGER SHALL BE EITHER MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF CERAMIC EPOXY LINING, AS MANUFACTURED UNDER THE NAME OF "PROTECTO 401", OR MINIMUM 40 MILS DRY FILM THICKNESS (60 MILS NOMINAL) OF FUSION BONDED EPOXY AND POLYETHYLENE LINING AS MANUFACTURED UNDER THE NAME OF "POLYBOND PLUS", OR EQUAL. EXTERIOR COATING FOR BURIED VALVES SHALL BE RUST INHIBITING EPOXY PRIMER. FOLLOWED BY A COAL TAR EPOXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY APPLIED RUST INHIBITING EPOXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH A TWO COAT SYSTEM. THE FIRST COAT (INTERMEDIATE COAT) SHALL BE 4.0-10.0 MIL DFT TNEMEC COLOR HI-BUILD EPOXOLINE II SERIES N69 OR APPROVED EQUAL, AND THE FINAL COAT SHALL BE 2.0-3.0 MIL DFT TNEMEC ENDURASHIELD SERIES 73 OR APPROVED EQUAL. THE FINAL COAT PAINT

10. ALL FORCE MAIN VALVES SHALL BE CAST IRON SUITABLE FOR WASTEWATER SERVICE WITH PRESSURES UP TO 250 PSIG. AND SHALL BE QUARTER-TURN, NON-LUBRICATED, ECCENTRIC TYPE WITH RESILIENT FACED PLUG, MANUFACTURED AND TESTED IN ACCORDANCE WITH AWWA C517. PORT AREAS OF NOT LESS THAN 100% OF PIPE AREA SHALL BE SUPPLIED ON ALL VALVES. STANDARD PLUG VALVES SHALL BE CLOW F5412 / F5413, VALMATIC 5600 / 5800, DEZURIK SERIES PEC, M&H 1820, PRATT

11. TAPPING SLEEVES ARE TO BE 18-8 TYPE 304 STAINLESS STEEL AND STAINLESS STEEL OUTLET, AS MANUFACTURED BY JCM OR APPROVED EQUAL. TAPPING VALVES SHALL BE RESILIENT SEATED GATE VALVES AND SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509. TAPPING VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, CLOW SERIES F-6100, OR

13. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION "SFWFR"

16. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BROWN WITH BLACK LETTERING, CODED AND WORDED "CAUTION: FORCE MAIN

19. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE

20. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE

LEAKAGE RATE. IN GALLONS PER HOUR. THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED: S = LENGTH OF LINE TESTED (IN FEET): D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE: AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE. 25. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE

PRECAST STRUCTURES AND APPURTENANCES

ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED. BASES SHALL BE ONE-PIECE PRECAST BASE SECTIONS CONSISTING OF INTEGRALLY CAST SLAB. BOTTOM RING SECTION AND CONCRETE FLOW CHANNELS. BASE SECTIONS SHALL HAVE INTEGRAL INVERTS WITH GASKETS TO MATCH THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL INVERT ANGLES. PROVIDE OUTLET STUBS WITH JOINTS TO MATCH THE PIPE.

RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478, MANUFACTURED USING SULFATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH DIAMETER UNLESS OTHERWISE INDICATED AND SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES.

4. GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE INDICATED.

5. UNLESS OTHERWISE INDICATED. CONE TOP SECTIONS SHALL BE PRECAST. ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAB TOPS WITH ECCENTRIC 24 INCH DIAMETER OPENING, UNLESS OTHERWISE INDICATED.

PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. CONNECTION OF CONCRETE PIPE TO THE MANHOLE SHALL BE MADE WITH NON-SHRINK METALLIC GROUT. CONNECTION OF DUCTILE IRON OR PVC PIPE TO THE MANHOLE SHALL PROVIDE A WATERTIGHT CONNECTION PER ASTM C923. WHERE CONNECTORS ARE USED, THEY SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER. THE USE OF ADHESIVES OR LUBRICANTS FOR INSTALLATION OF RUBBER CONNECTORS IS PROHIBITED.

7. FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE U.S. FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), UNLESS OTHERWISE NOTED IN THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE. RAISED LETTERING ON COVERS SHALL BE "STORM", "SEWER", OR AS DETAILED ON THE DRAWINGS.

8. PROVIDE CAST IRON INLETS, FRAMES, AND GRATES IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. ALL FRAMES AND INLET GRATES SHALL BE PRODUCTS OF U.S. FOUNDRY & MANUFACTURING CORPORATION, OR EQUAL. 9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE.

10. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN PAVED AREAS SHALL MATCH FINISHED GRADE. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN GRASSED AREAS SHALL BE 4" ABOVE FINISHED GRADE (UNLESS NOTED OTHERWISE). 11. ALL MANHOLES AND CLEAN OUTS CONSTRUCTED WITHIN PAVED AREAS SHALL BE INSTALLED WITH TRAFFIC BEARING RINGS AND COVERS.

12. MANHOLE COATINGS AND FINISHES SHALL BE:

A. SANITARY SEWER MANHOLE INTERIOR - BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE - INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT, FIBERGLASS LINER, LINER THICKNESS TO BE IN ACCORDANCE WITH THE DRAWINGS.

C. EXTERIOR - BITUMINOUS EPOXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

#### STORM SEWER SYSTEMS

SIGNS AND PAVEMENT MARKINGS

REINFORCED CONCRETE PIPE (RCP) JOINTS SHALL COMPLY WITH ASTM C443 AND FDOT SPECIFICATION SECTION 430, AND RUBBER GASKETS SHALL COMPLY WITH FDOT SPECIFICATION SECTION 942. MINIMUM COVER OVER THE PIPE, INCLUDING COVFR OVER THE BELL OF THE PIPE WHERE APPLICABLE, SHALL BE 30 INCHES.

2. RCP PIPE SHALL NOT BE SHIPPED FROM MANUFACTURER UNTIL THE COMPRESSIVE STRENGTH OF THE PIPE HAS REACHED 4000 PSI AND A MINIMUM OF 5 DAYS HAVE PASSED SINCE THE MANUFACTURING OR REPAIR OF THE PIPE HAS BEEN COMPLETED. UNDERDRAIN PIPE SHALL BE PERFORATED POLYVINYL CHLORIDE PIPE IN ACCORDANCE WITH ASTM F758. FILTER FABRIC

UNDERDRAIN SOCK SHALL BE TYPE D-3 IN ACCORDANCE WITH FDOT INDEX NO. 199. 4. ALL PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC. FILTER FABRIC SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. 199, TYPE D-3, A.O.S. 70-100. INSTALL IN ACCORDANCE WITH FDOT INDEX NO. 280. PROVIDE MINIMUM 12" OVERLAP.

INSTALL POLYETHYLENE PIPE IN ACCORDANCE WITH ASTM D2321. BACKFILL AND COMPACT EVENLY ON EACH SIDE TO PREVENT DISPLACEMENT. MINIMUM COVER OVER POLYETHYLENE PIPE SHALL BE AS FOLLOWS: A) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS SUITABLE SOILS AS DEFINED IN THE GENERAL NOTES: MINIMUM COVER SHALL BE 36 INCHES OR ONE PIPE DIAMETER. WHICHEVER IS GREATER: B) PIPE UNDER FLEXIBLE PAVEMENT RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS MANUFACTURED AGGREGATES CLASS 1A OR 1B AS DEFINED IN ASTM D2321: MINIMUM COVER SHALL BE 30 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER.

6. INSTALL UNDERDRAINS IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 440. INSTALL CLEANOUTS AS SHOWN ON THE DRAWINGS.

7. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND STRUCTURES.

1 ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST IMPLEMENTED EDITION OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.

PE 911 - 4" x 4"). RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH THESE PLANS AND FDOT INDEX NO. 17352.

PARKING STALL PAVEMENT MARKINGS SHALL BE PAINTED. PAINT SHALL MEET THE REQUIREMENTS OF FDOT SPECIFICATION SECTION 971. NON-REFLECTIVE WHITE TRAFFIC PAINT. TWO COATS.

4. ALL ROADWAY TRAFFIC SIGNS SHALL BE MANUFACTURED USING HIGH INTENSITY RETROREFLECTIVE MATERIALS. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, THE FABRICATOR'S INITIALS, AND THE NAME OF THE SHEETING IN THREE-INCH LETTERS.

5. INTERNAL SITE TRAFFIC SIGNS ARE NOT REQUIRED TO BE RETROREFLECTIVE.

6. THE CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH OF THE SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO FABRICATION.

7. CONTRACTOR SHALL PROVIDE AND INSTALL ALL SIGNS, BASES, ANCHOR BOLTS, CONDUITS, WIRING, ETC.

8. ALL PAVEMENT MARKINGS REQUIRE LAYOUT APPROVAL IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

9. PRIOR TO FINAL PAVEMENT MARKING INSTALLATION. A TWO WEEK CURE TIME OF THE ASPHALT IS REQUIRED. JACKING AND BORING

1. STEEL CASING PIPE SHALL CONFORM TO ASTM A139, GRADE "B" WITH MINIMUM YIELD STRENGTH OF 35,000 PSI. INTERIOR LINING OF PIPE SHALL BE A COAL TAR LINING CONFORMING TO AWWA C203. EXTERIOR COATING OF PIPE SHALL BE MULTIPLE COATS OF HEAVY DUTY COAL TAR BASE COATING BUILT UP TO 30 MILS TOTAL DRY THICKNESS AND APPLIED IN ACCORDANCE WITH THE COATING MANUFACTURER'S RECOMMENDATIONS

2. EACH SPACER SHALL BE 12 INCHES WIDE AND MANUFACTURED OF MINIMUM 14 GAUGE TYPE 304 STAINLESS STEEL OR 14 GAUGE STEEL WITH FUSION BONDED PVC COATING. SPACERS SHALL BE LINED WITH A 90 MIL PVC LINER. ALL NUTS AND BOLTS SHALL BE T-304 STAINLESS STEEL. EACH SPACER SHALL HAVE A MINIMUM OF 4 RUNNER SUPPORTS MANUFACTURED OF A HIGH MOLECULAR WEIGHT POLYMER PLASTIC. THE RUNNER SUPPORTS SHALL BE T304 STAINLESS STEEL, MINIMUM 10 GAUGE, OF ADEQUATE HEIGHT TO POSITION THE CARRIER PIPE IN THE CENTER OF CASING WITH A MINIMUM TOP CLEARANCE OF 0.5 INCHES.

ADD ON SECTIONS OF CASING PIPE SHALL BE FULL-RING WELDED TO THE PRECEDING LENGTH. DEVELOPING WATER-TIGHT TOTAL PIPE-STRENGTH JOINTS. ALL WELDING OF STEEL PIPE SHALL BE DONE BY COMPETENT, EXPERIENCED WELDERS. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C206.

4. CASING PIPE WALL MINIMUM WALL THICKNESS SHALL BE AS FOLLOWS: 16" THROUGH 24" = 0.250"; 30" = 0.312"; 36" = 0.375"; 42" AND 48" = 0.500". AT RAILROAD CROSSINGS, CASING PIPE WALL THICKNESS SHALL BE AS FOLLOWS: 16" THROUGH 18" = 0.250"; 20" = 0.281"; 24" = 0.312"; 30" = 0.406"; 36" = 0.469". UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS, THE MINIMUM CASING PIPE DIAMETER SHALL BE BASED ON THE SIZE OF THE CARRIER PIPE NOMINAL DIAMETER AS FOLLOWS: WHERE CARRIER IS 6", THEN MINIMUM CASING IS 18"; WHERE CARRIER IS 8", THEN MINIMUM CASING IS 20"; WHERE CARRIER IS 10", THEN MINIMUM CASING IS 24"; WHERE CARRIER IS 12" OR 16", THEN MINIMUM CASING IS 30"; WHERE CARRIER IS 20", THEN MINIMUM CASING IS 36".

5. BORED INSTALLATIONS SHALL HAVE A HOLE DIAMETER WHICH SHALL NOT EXCEED THE O.D. OF THE CASING PIPE (INCLUDING COATING) BY MORE THAN ONE INCH. WHERE UNSTABLE SOIL CONDITIONS ARE FOUND TO EXIST, BORING OPERATIONS SHALL BE CONDUCTED IN SUCH MANNER AS NOT TO BE DETRIMENTAL TO THE FACILITY BEING CROSSED, IF EXCESSIVE VOIDS OR TOO LARGE A BORED HOLE RESULTS. OR IT IS NECESSARY TO ABANDON A BORED HOLE. PROMPT REMEDIAL MEASURES SHALL BE TAKEN BY THE CONTRACTOR, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CONTROLLING AGENCY OF THE FACILITY BEING CROSSED.

6. CORRECT LINE AND GRADE SHALL BE MAINTAINED. ADD ON SECTIONS OF CASING PIPE SHALL BE FULL RING WELDED TO THE PRECEDING LENGTH, DEVELOPING WATERTIGHT TOTAL PIPE STRENGTH JOINTS. FOLLOWING PLACEMENT OF THE CARRIER PIPE. MASONRY PLUGS SHALL BE INSTALLED AT EACH OPEN END. WITH A WEEP HOLE INSTALLED NEAR THE BOTTOM OF THE PLUG.

7. UNLESS OTHERWISE SHOWN ON THE PLANS, INSTALL CASING AT MINIMUM OF 36-INCH COVER.

8. CARRIER PIPES INSIDE OF STEEL CASING PIPE SHALL BE SUPPORTED BY CASING SPACERS. CARRIER PIPE JOINTS INSIDE OF STEEL CASING PIPE SHALL BE RESTRAINED.

9. SPACERS ALONG DUCTILE IRON CARRIER PIPE SHALL BE PLACED NO MORE THAN 2 FEET FROM THE END OF THE CASING, WITH SUBSEQUENT SPACER PLACEMENT AT INTERVALS OF NO MORE THAN 10 FEET.

10. SPACERS ALONG PVC CARRIER PIPE SHALL BE PLACED NEAR THE SPIGOT END OF EACH SEGMENT OF PIPE. WHEN THE JOINT IS COMPLETE, THE SPACER SHALL BE IN CONTACT WITH THE JOINT RESTRAINT ASSEMBLY SO THAT THE SPACER PUSHES THE RESTRAINT ASSEMBLY. SUBSEQUENT SPACER PLACEMENT ALONG PVC PIPE SHALL BE AT INTERVALS OF NO MORE THAN 6 FFFT

11. THE USE OF WOOD SKIDS IN LIEU OF SPACERS IS NOT ALLOWED.

12. THE CARRIER MAY BE PUSHED OR PULLED (DEPENDING UPON PIPING MATERIAL, JOINT TYPE AND METHOD OF PIPE SUPPORT) INTO THE CASING AS PIPE LENGTHS ARE ASSEMBLED. THE CARRIER SHALL BE ADEQUATELY BLOCKED ALL AROUND TO PREVENT ANY MOVEMENT AND TO ATTAIN THE SPECIFIED GRADE FOR GRAVITY LINES. THE PROPOSED METHOD OF CARRIER PIPE INSTALLATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO STARTING THE CROSSING.

#### HORIZONTAL DIRECTIONAL DRILLING

1. POLYETHYLENE PIPE AND FITTINGS FOR POTABLE WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C906, STANDARD CODE DESIGNATION STANDARD CODE DESIGNATION PE 3408. PIPE 4-30 INCH DIAMETER SHALL BE DR11, PC 160. THE MANUFACTURER SHALL CERTIFY THAT THE MATERIALS USED TO MANUFACTURE PIPE AND FITTINGS MEET THESE REQUIREMENTS. THE PIPE SIZING SHALL BE IN ACCORDANCE WITH DUCTILE IRON SIZING SYSTEM (DIOD). PIPE USING THE NEWER ASTM DESIGNATIONS FOR THE MATERIAL IS ACCEPTABLE, PROVIDED IT IS STAMPED "PE3408/PE4710 - AWWA C906" OR "PE3408/PE3608/PE4710 - AWWA C906".

2. POLYETHYLENE PIPE AND FITTINGS FOR RECLAIMED WATER, SEWER FORCE MAIN, OR STORM SEWER SHALL BE IN ACCORDANCE WITH AWWA C906, STANDARD CODE DESIGNATION PE 4710, DR 11, 200 PSI. THE MANUFACTURER SHALL CERTIFY THAT THE MATERIALS USED TO MANUFACTURE PIPE AND FITTINGS MEET THESE REQUIREMENTS. THE PIPE SIZING SHALL BE IN ACCORDANCE WITH DUCTILE IRON PIPE SIZING SYSTEM (DIPS)

3. POLYETHYLENE PIPE AND TUBING USED FOR SERVICE LINES ½-3 INCH DIAMETER SHALL BE POLYETHYLENE IN ACCORDANCE WITH AWWA C901, STANDARD CODE DESIGNATION PE 4710, SDR 9 (OUTSIDE DIAMETER BASED DIMENSION RATIO), 250 PSI. PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. PIPE AND TUBING SHALL BE COLOR CODED BLUE FOR POTABLE WATER, PURPLE FOR RECLAIMED WATER, AND GREEN FOR SANITARY SEWER

4. POLYETHYLENE MECHANICAL JOINT ADAPTERS AND FLANGE ADAPTERS SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C906. MECHANICAL JOINT ADAPTERS SHALL BE FITTED WITH GLAND RINGS PRESSURE RATED EQUAL TO OR GREATER THAN THE MATING PIPE, AND SHALL BE MADE WITH SUFFICIENT THROUGH-BORE LENGTH TO BE CLAMPED IN A HEAT FUSION JOINING MACHINE WITHOUT THE USE OF SUB-END HOLDER. THE SEALING SURFACE OF THE FLANGE ADAPTER SHALL BE MACHINED WITH A SERIES OF SMALL V-SHAPED GROOVES TO PROVIDE GASTKETLESS SEALING, OR TO RESTRAIN THE GASKET AGAINST BLOW-OUT.

HDPE PIPE TERMINATIONS SHALL BE FITTED WITH A MECHANICAL JOINT ADAPTER KIT THAT WILL ENABLE THE HDPE PIPE TO BE JOINED WITH MECHANICAL JOINT FITTINGS. THE ADAPTER SHALL BE AWWA COMPLIANT, AND THE PRESSURE RATING FOR THE ADAPTER SHALL MATCH THE PRESSURE RATING FOR THE HDPE PIPE. MECHANICAL JOINT ADAPTERS SHALL BE MANUFACTURED IN STANDARD DIPS SIZES FOR CONNECTING DIPS SIZED POLYETHYLENE PIPE TO MECHANICAL JOINT FITTINGS, SHALL CONTAIN A STAINLESS STEEL REINFORCING COLLAR AND AWWA C110 DUCTILE IRON GLAND RING, GASKET AND EXTRA LENGTH T-BOLTS.

6. GLANDS, BOLTS, AND GASKETS SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C153. BOLTS AND NUTS SHALL BE GRADE 2 OR HIGHER.

7. ALL POLYETHYLENE PIPE SHALL BE BLACK, AND SHALL CONTAIN A CONTINUOUS COLORED STRIPE, 2 INCHES WIDE, LOCATED AT NO GREATER THAN 90 DEGREE INTERVALS AROUND THE PIPE. STRIPE COLOR SHALL BE EITHER BLUE (WATER MAINS), PURPLE (RECLAIMED WATER MAINS), GREEN (SANITARY SEWER AND FORCE MAINS) OR BLACK (NO STRIPE - STORM SEWER).

8. TRACER WIRE SHALL BE COLOR-CODED 10 GAUGE CONTINUOUS INSULATED WIRE, WITH HDPE JACKET (MIN. THICKNESS OF 45 MILS) SPECIFICALLY MANUFACTURED FOR USE IN HORIZONTAL DIRECTIONAL DRILL INSTALLATIONS. THE COLOR OF THE WIRE JACKET SHALL BE SIMILAR TO PIPELINE IDENTIFICATION COLORS. INSTALL TRACER WIRE ALONG POLYETHYLENE PIPE PRIOR TO PULLING THROUGH BORE HOLE. TAPE WIRE TO PIPE EVERY 5 FEET MINIMUM ALONG THE PIPELINE. AFTER PULLING PIPE, CLEAN EXPOSED ENDS FOR INSTALLATION OF FITTINGS. TEST TRACER WIRE FOR CONTINUITY.

9. HIGH DENSITY POLYETHYLENE PIPE SHALL BE HEAT FUSED AND TESTED AS PER MANUFACTURER'S GUIDELINES BEFORE INSTALLATION IN THE BORE HOLE.

10. BRANCH CONNECTIONS TO THE MAIN SHALL BE MADE WITH POLYETHYLENE SADDLE FITTINGS OR MECHANICAL JOINT DUCTILE IRON TEES.

11. JOINTS BETWEEN PLAIN END POLYETHYLENE PIPES AND POLYETHYLENE FITTINGS SHALL BE MADE BY BUTT FUSION, AND JOINTS BETWEEN THE POLYETHYLENE MAIN AND SADDLE BRANCH POLYETHYLENE FITTINGS SHALL BE MADE USING SADDLE FUSION USING ONLY PROCEDURES THAT ARE RECOMMENDED BY THE PIPE AND FITTING MANUFACTURER. EXTERNAL AND INTERNAL BEADS SHALL NOT BE REMOVED.

12. CONNECT POLYETHYLENE PIPE TO HYDRANTS, VALVES, AND DUCTILE IRON FITTINGS USING A MECHANICAL JOINT ADAPTER WITH A GLAND RING. PLACE GLAND RING BEHIND ADAPTER PRIOR TO FUSING. FUSE USING AN ELECTROFUSION COUPLING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. AFTER FUSING. CONNECT TO MECHANICAL JOINT RESTRAIN ALL NON-POLYETHYLENE PIPE AND PRESSURE TEST CONNECTIONS AS REQUIRED IN INDIVIDUAL PIPELINE GENERAL

13. CONNECT POLYETHYLENE PIPE TO ABOVE GRADE VALVES AND FITTINGS USING MECHANICAL FLANGE ADAPTERS. THE FLANGE ADAPTERS ARE TO BE SELF-RESTRAINED.

14. INSTALL ALL MECHANICAL JOINTS AND FLANGE CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURE. AT LEAST 1 HOUR AFTER INITIAL ASSEMBLY, FLANGE CONNECTIONS SHALL BE RE-TIGHTENED FOLLOWING THE TIGHTENING PATTERN AND TORQUE STEP RECOMMENDATIONS OF THE MANUFACTURER. THE FINAL TIGHTENING TORQUE SHALL BE 100 FT-LBS OR LESS AS RECOMMENDED BY THE MANUFACTURER.

15. THE SIZE OF THE HORIZONTAL DIRECTIONAL DRILL RIG USED SHALL BE THE INDUSTRY STANDARD SIZE NEEDED BASED ON DRILLING DISTANCE. PIPE DIAMETER. AND SOIL CONDITIONS.

16. AT ROAD CROSSINGS WITHIN FDOT RIGHT-OF-WAY, THE MINIMUM COVER SHALL BE 10 TIMES THE REAMER SIZE IN INCHES UNDER THE PAVED SURFACE. ANY PROPOSED CHANGES TO THE DEPTH AND LENGTH OF THE DIRECTIONAL BORE FROM WHAT IS SHOWN ON THE DRAWINGS MUST BE APPROVED BY THE ENGINEER IN WRITING, PRIOR TO COMMENCEMENT OF DRILLING.

17. AT ROAD CROSSINGS WITHIN PUBLIC OR PRIVATE RIGHT-OF-WAY THAT IS NOT FDOT RIGHT-OF-WAY, THE MINIMUM COVER SHALL BE AS INDICATED IN THE DRAWINGS. IN NO CASE SHALL MAINS 4" AND LARGER HAVE LESS THAN 4 FEET COVER AT ROAD CROSSINGS. ANY PROPOSED CHANGES TO THE DEPTH AND LENGTH OF THE DIRECTIONAL BORE FROM WHAT IS SHOWN ON THE DRAWINGS MUST BE APPROVED BY THE ENGINEER IN WRITING, PRIOR TO COMMENCEMENT OF DRILLING.

18. IN ROAD RIGHT-OF-WAY IN NON-PAVED AREAS, THE MINIMUM DIRECTIONAL BORE DEPTH SHALL BE 4 FEET MINIMUM AND 8 FEET MAXIMUM (TYPICAL DEPTH OF 4-6 FEET), AS INDICATED ON THE DRAWINGS.

19. AS-BUILT VARIANCE FROM THE DESIGN BOREPATH SHALL BE WITHIN 2 FEET IN THE HORIZONTAL PLANE. VERTICALLY, INSTALL AT ROAD CROSSINGS AT THE MINIMUM DEPTH SPECIFIED HEREIN, AND INSTALL AT A MAXIMUM DEPTH OF NO MORE THAN 3-FT DEEPER THAN THE SPECIFIED MINIMUM DEPTH. ANY PROPOSED CHANGE TO THE LENGTH OF THE DIRECTIONAL DRILLED PIPELINE MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. FINAL ACCEPTANCE INCLUDING FINAL PAYMENT OF DIRECTIONAL BORED PIPELINES WILL NOT BE MADE UNTIL DIRECTIONAL BORE LOGS HAVE BEEN SUBMITTED AND THE INFORMATION ON THE BORE LOGS DOCUMENTS THE DEPTH OF THE INSTALLED PIPELINE IS IN ACCORDANCE WITH THESE GENERAL NOTES

20. BACK REAMING SHALL BE CONDUCTED TO ENLARGE AND PREPARE THE BORE HOLE FOR PIPE INSTALLATION. MINIMIZE POTENTIAL DAMAGE FROM SOIL DISPLACEMENT OR SETTLEMENT BY LIMITING THE RATIO OF THE BORE HOLE TO THE PRODUCT SIZE. THE SIZE OF THE BACK REAMER BIT OR PILOT BIT, IF NO BACK REAMING IS REQUIRED, SHALL BE LIMITED RELATIVE TO THE PRODUCT DIAMETER TO BE INSTALLED AS FOLLOWS:: 4" PIPE = 8" BIT: 6" PIPE = 10" BIT: 8" PIPE = 12" BIT: 10" PIPE = 14" BIT: 12" AND LARGER PIPE = BIT TO BE PIPE OUTSIDE DIAMETER PLUS 6 INCHES. NOTE THESE REAMER SIZES ARE APPROXIMATE. SHOULD THE DIRECTIONAL DRILL CONTRACTOR CHOOSE TO USE A LARGER REAMER SIZE. THE LARGER SIZE COULD RESULT IN THE NEED FOR A DEEPER AND LONGER BORE. THE RESULTING INCREASED BORE LENGTH AND OR DEPTH SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

21. ENSURE ADEQUATE REMOVAL OF SOIL CUTTINGS AND STABILITY OF THE BORE HOLE BY MONITORING THE DRILLING FLUIDS SUCH AS THE PUMPING RATE. PRESSURES, VISCOSITY AND DENSITY DURING THE PILOT BORE, BACK REAMING AND PIPE INSTALLATION. OBTAIN THE ENGINEER'S APPROVAL OF THE LOCATION AND ALL CONDITIONS NECESSARY TO CONSTRUCT RELIEF HOLES TO RELIEVE EXCESS PRESSURE AND ENSURE THE PROPER DISPOSITION OF DRILLING FLUIDS IS MAINTAINED.

22. MINIMIZE HEAVING DURING PULL BACK. THE PULL BACK RATE USED SHALL MAXIMIZE THE REMOVAL OF SOIL CUTTINGS WITHOUT BUILDING EXCESS DOWN HOLE PRESSURE. CONTAIN EXCESS DRILLING FLUIDS AT ENTRY AND EXIT POINTS UNTIL THEY ARE RECYCLED OR REMOVED FROM THE SITE OR VACUUMED DURING DRILLING OPERATIONS. ENTRY AND EXIT PITS ARE TO BE OF SUFFICIENT SIZE TO CONTAIN THE EXPECTED RETURN OF DRILLING FLUIDS AND SOIL CUTTINGS.

23. ENSURE THAT ALL DRILLING FLUIDS ARE DISPOSED OF OR RECYCLED IN A MANNER ACCEPTABLE TO THE APPROPRIATE LOCAL, STATE, OR FEDERAL REGULATORY AGENCIES. IF IN THE DRILLING PROCESS IT BECOMES EVIDENT THAT THE SOIL IS CONTAMINATED, CONTACT THE ENGINEER IMMEDIATELY. DO NOT CONTINUE DRILLING WITHOUT THE ENGINEER'S APPROVAL.

24. INSTALL THE CARRIER IN THE BORE HOLE WITHIN THE SAME DAY THAT THE PRE-BORE IS COMPLETED TO ENSURE STABILITY.

25. IF AN OBSTRUCTION IS ENCOUNTERED DURING BORING WHICH PREVENTS COMPLETION OF THE INSTALLATION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, EITHER REMOVE THE PIPE OR ABANDON THE PIPE IN PLACE AT THE DISCRETION OF THE ENGINEER. IF PIPE CANNOT BE WITHDRAWN AND ENGINEER APPROVES ABANDONING THE PIPE IN PLACE, CUT PIPE OFF AT LEAST 3 FEET BELOW GROUND SURFACE, FILL ANNULAR SPACE AND PIPE WITH EXCAVATABLE FLOWABLE FILL AND CAP ENDS OF PIPE WITH BLIND FLANGE.

26. IN THE EVENT OF FAILURE TO INSTALL PIPE, RETAIN POSSESSION OF PIPE AND REMOVE IT FROM THE SITE, UPON APPROVAL OF THE ENGINEER. FILL THE ABANDONED BORE HOLE WITH EXCAVATABLE FLOWABLE FILL. SUBMIT A NEW INSTALLATION PROCEDURE AND REVISED PLANS TO THE ENGINEER FOR APPROVAL BEFORE RESUMING WORK AT ANOTHER

27. IF THE SUBMITTED BORING LOGS INDICATE THE INSTALLED ALIGNMENT DOES NOT MEET VERTICAL OR HORIZONTAL ALIGNMENT REQUIREMENTS, THE BORING IS CONSIDERED A FAILURE, AND THE DIRECTIONAL BORED PIPELINE SHALL BE EITHER RE-BORED OR OTHERWISE REMEDIED AT THE DISCRETION OF THE OWNER.

28. IF, DURING CONSTRUCTION, DAMAGE IS OBSERVED TO THE FACILITY, CEASE ALL WORK UNTIL RESOLUTION TO MINIMIZE FURTHER DAMAGE AND A PLAN OF ACTION FOR RESTORATION IS OBTAINED AND APPROVED BY THE ENGINEER.

29. DISINFECT ALL POTABLE WATER MAINS IN ACCORDANCE WITH AWWA C651. ALL POLYETHYLENE WATER MAINS, FORCE MAINS, AND RECLAIMED WATER MAINS ARE TO BE PRESSURE TESTED. SUBJECT PIPELINE TO BE TESTED TO A 4 HOUR EXPANSION PHASE PRIOR TO COMMENCING LEAKAGE TESTING. PIPELINE EXPANSION SHALL BE ACCOMPLISHED BY APPLYING HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS, RECLAIMED WATER MAINS) OR 100 PSI (FORCE MAINS). IN ORDER TO COMPENSATE FOR THE INITIAL EXPANSION OF THE PIPELINE, ADD SUFFICIENT MAKE-UP WATER AT HOURLY INTERVALS TO RETURN TO THE REQUIRED TEST PRESSURE. AT THE END OF THE FOURTH HOUR, THE TEST PHASE IS TO COMMENCE.

30. CONDUCT FIELD LEAK TESTING IN ACCORDANCE WITH ASTM F2164 AND AS INDICATED HEREIN. THE ASTM F2164 DEFINED ONE HOUR TEST AND PASSING TEST CRITERIA (NO VISIBI E LEAKS AND THE PRESSURE IS MAINTAINED WITHIN 5% OF THE TEST PRESSURE) DOES NOT APPLY TO THIS PROJECT. THE TEST PHASE SHALL CONSIST OF A TWO HOUR PRESSURE TEST, AS REQUIRED BY THE ENGINEER. AT THE END OF THE TEST PHASE. MEASURE THE AMOUNT OF MAKEUP WATER REQUIRED TO RETURN TO THE TEST PRESSURE. THE PIPELINE PASSES THE PRESSURE TEST IF THE MAKEUP WATER REQUIRED DOES NOT EXCEED THE FOLLOWING: 6" MAINS - ALLOWABLE MAKEUP WATER IS 0.6 GAL/100 FT OF PIPELINE TESTED; 8" MAINS - ALLOWABLE MAKEUP WATER IS 1.0 GAL/100 FT OF PIPELINE TESTED; 12" MAINS - ALLOWABLE MAKEUP WATER IS 2.3 GAL/100 FT OF PIPELINE TESTED; 16" MAINS - ALLOWABLE MAKEUP WATER IS 3.3 GAL/100 FT OF PIPELINE TESTED.

31. IF ANY DEFECTS OR LEAKS ARE REVEALED, THEY SHOULD BE CORRECTED AND THE PIPELINE RETESTED AFTER A MINIMUM 24 HOUR RECUPERATION PERIOD BETWEEN TESTS. TOTAL TESTING CONDUCTED ON A SECTION OF PIPELINE SHALL NOT EXCEED 8 HOURS WITHIN A 24 HOUR PERIOD.

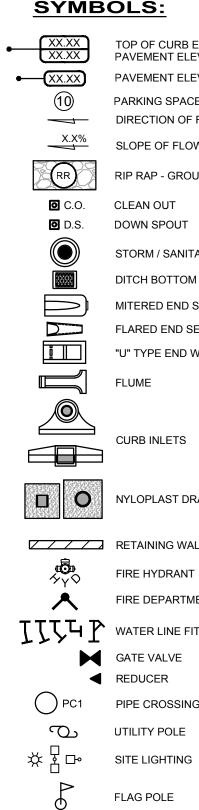
32. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.

THIS SHEET NOT	Sheet	GENERAL NOTES SHEET	Checked: D. M Scale: As Note Job No.: S2970 Date: 12/16	Designed: K. U Drawn: K. Upp			OPANIEL P. MOLES	License Eng. C.O.A. M Survey L.B. M Arch. Lic. No. A Lndscp. Lic. No.	Plans Prepa <b>CPH</b> , In 3277A Fruitville Sarasota, FL Ph: 941.365	www.cphc <i>A Full Se</i> <i>A &amp; E</i>	G
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COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.



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	TOP OF CURB ELEV. PAVEMENT ELEV.
	PAVEMENT ELEV.
	PARKING SPACE COUNT
	DIRECTION OF FLOW
	SLOPE OF FLOW
	RIP RAP - GROUTED
	CLEAN OUT
	DOWN SPOUT
	STORM / SANITARY MANHOLE
	DITCH BOTTOM INLET
	MITERED END SECTION
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	NYLOPLAST DRAIN BASIN
	NYLOPLAST DRAIN BASIN
	RETAINING WALL
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION
,	WATER LINE FITTINGS
	GATE VALVE
	REDUCER
	PIPE CROSSING

**ABBREVIATIONS:** A/C - AIR CONDITIONER APPROX - APPROXIMATE ASPH - ASPHALT AVG - AVERAGE BFP - BACK FLOW PREVENTER BLK - BLOCK BLDG - BUILDING BOC - BACK OF CURB BOW - BACK OF WALL C & G - CURB & GUTTER - CONSTRUCTION ENTRANCE CE C/L - CENTERLINE CMP - CORRUGATED METAL PIPE CONc - CONCRETE DEPT - DEPARTMENT ELEC - ELECTRIC - ELECTRICAL METER EM ELEV - ELEVATION - EDGE OF PAVEMENT EOP - FIRE DEPARTMENT CONNECTION FDC FDOT - FLORIDA DEPARTMENT OF TRANSPORTATION - FINISH FLOOR FG - FINISH GRADE FH - FIRE HYDRANT FM - FORCE MAIN FOC - FACE OF CURB FP&L - FLORIDA POWER AND LIGHT - GOVERNMENT GOV'T HB - HOSE BIB HC - ADA ACCESSIBLE HDPE - HIGH DENSITY POLYETHYLENE PIPE INV - INVERT - IRRIGATION IRR - MATCH EXISTING ELEVATION ME - MITERED END SECTION MES MH - MANHOLE - POLYVINYL CHLORIDE PIPE PVC PVMT - PAVEMENT - RADIUS RCP - REINFORCED CONCRETE PIPE REV - REVISION R/W - RIGHT-OF-WAY - SQUARE FEET - SIDEWALK S/W - TOP OF BANK TOB - TOE OF SLOPE TOE ΤW - TOP OF WALL TYP - TYPICAL UNK - UNKNOWN UTL - UNDERGROUND TELEPHONE LINES - WITH W/ - WATER VALVE

FF

R

SF

# PAINT STRIPING

CROSS SECTION

(SEE CONSTRUCTION DETAILS SHEET)

**ABBREVIATIONS:** SWSL - SINGLE WHITE SOLID LINE - SINGLE YELLOW SOLID LINE SYSL - DOUBLE YELLOW SOLID LINE DYSL - SINGLE WHITE DASHED LINE SWDL SBYL - SINGLE BROKEN YELLOW LINE

#### LINE TYPES:

O GUIDE RAIL ---- BASIN LINE ---- BUILDING SETBACK LINE CONTOUR ELEVATION ----- EASEMENT ELECTRIC LINE -------FW--------FIRE WATER ------- FM ------- FORCE MAIN GAS LINE — — — — — ^{H.p.} — — — — HIGH POINT IRRIGATION LINE ----- LANDSCAPE BUFFER SANITARY SEWER STORM PIPE TAMPER SWITCH TELEPHONE LINE ------- SF ------- TEMPORARY SILT FENCE UTILITY BOLLARD CONDUIT WATER MAIN

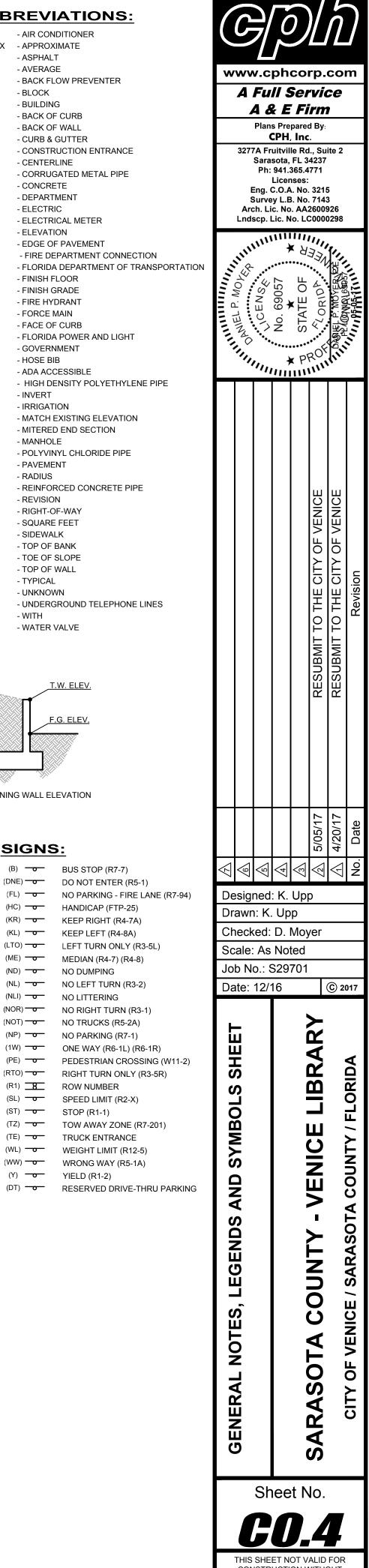
WV T.W. ELEV. F.G. ELEV

RETAINING WALL ELEVATION

SIGNS:

#### (B) - BUS STOP (R7-7) (DNE) O NOT ENTER (R5-1) (FL) - NO PARKING - FIRE LANE (R7-94) (HC) - HANDICAP (FTP-25)

(KL) - KEEP LEFT (R4-8A) (LTO) - LEFT TURN ONLY (R3-5L) (ME) — MEDIAN (R4-7) (R4-8) (ND) - NO DUMPING (NL) - NO LEFT TURN (R3-2) (NLI) - NO LITTERING (NOR) • NO RIGHT TURN (R3-1) (NOT) - NO TRUCKS (R5-2A) (NP) - NO PARKING (R7-1) (1W) - ONE WAY (R6-1L) (R6-1R) (PE) - PEDESTRIAN CROSSING (W11-2) (RTO) - RIGHT TURN ONLY (R3-5R) (R1) 8 ROW NUMBER (SL) - SPEED LIMIT (R2-X) (ST) - STOP (R1-1) (TZ) **-** TOW AWAY ZONE (R7-201) (TE) - TRUCK ENTRANCE (WL) - WEIGHT LIMIT (R12-5) (WW) - WRONG WAY (R5-1A) (Y) - YIELD (R1-2)

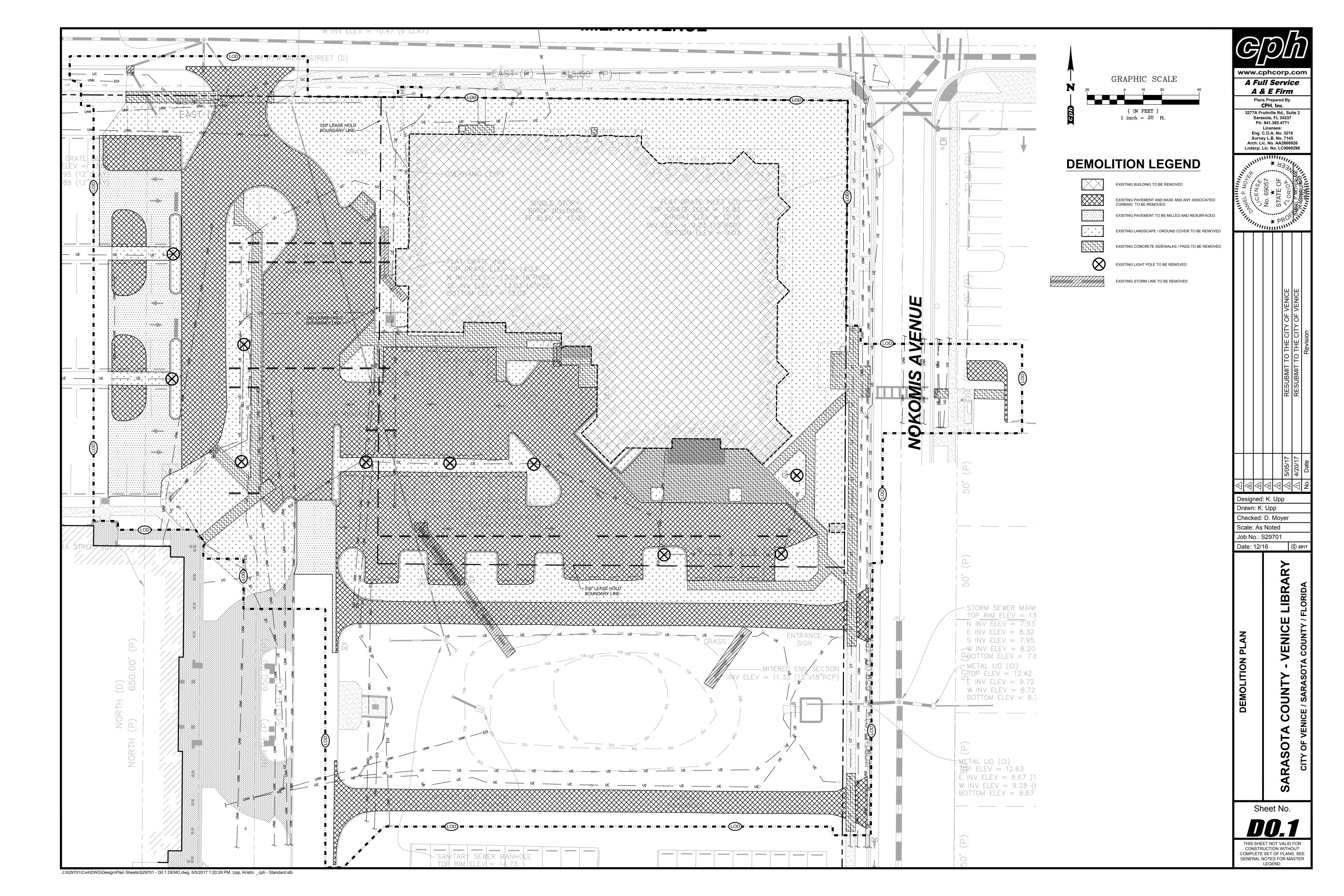


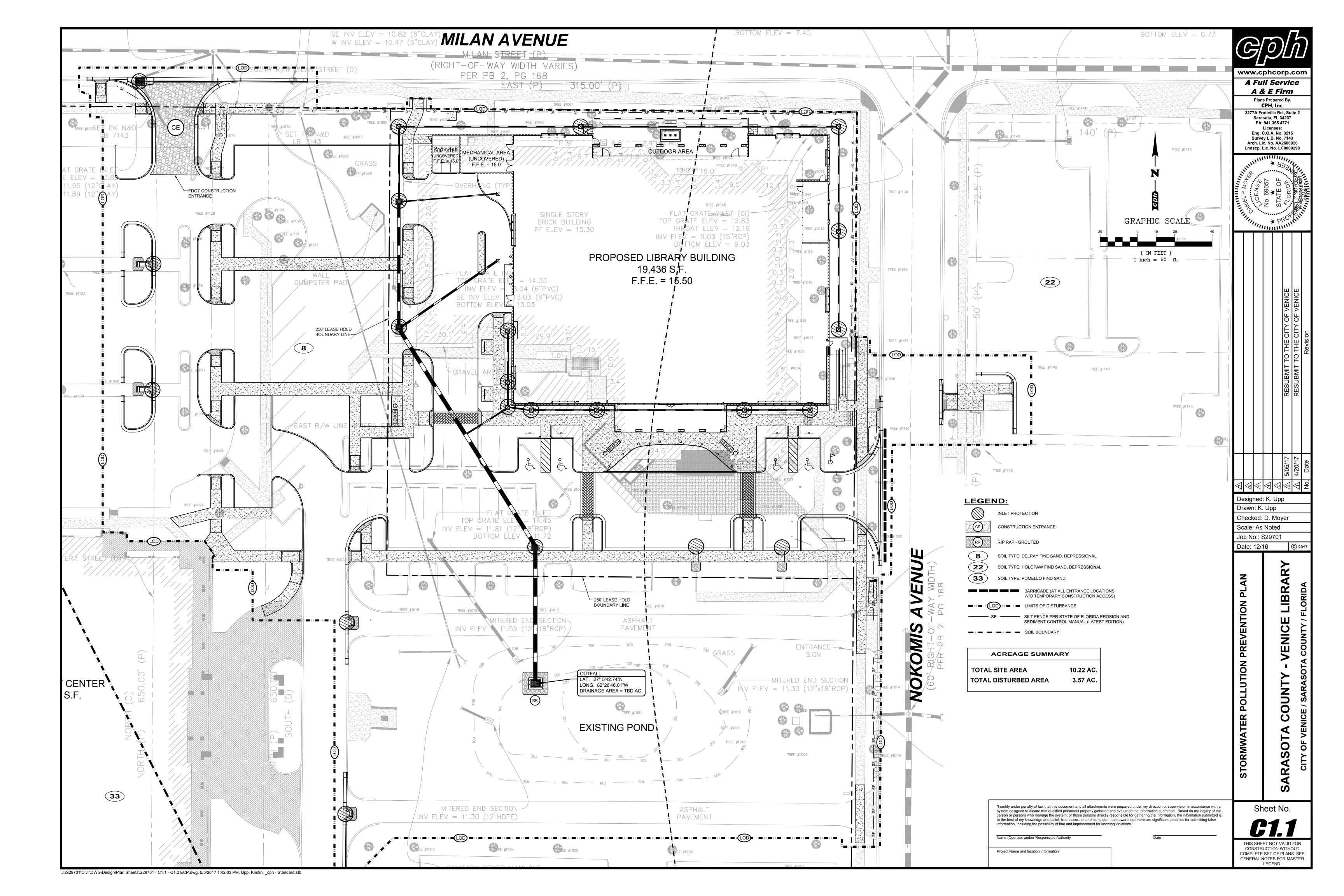
CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

NOTE:

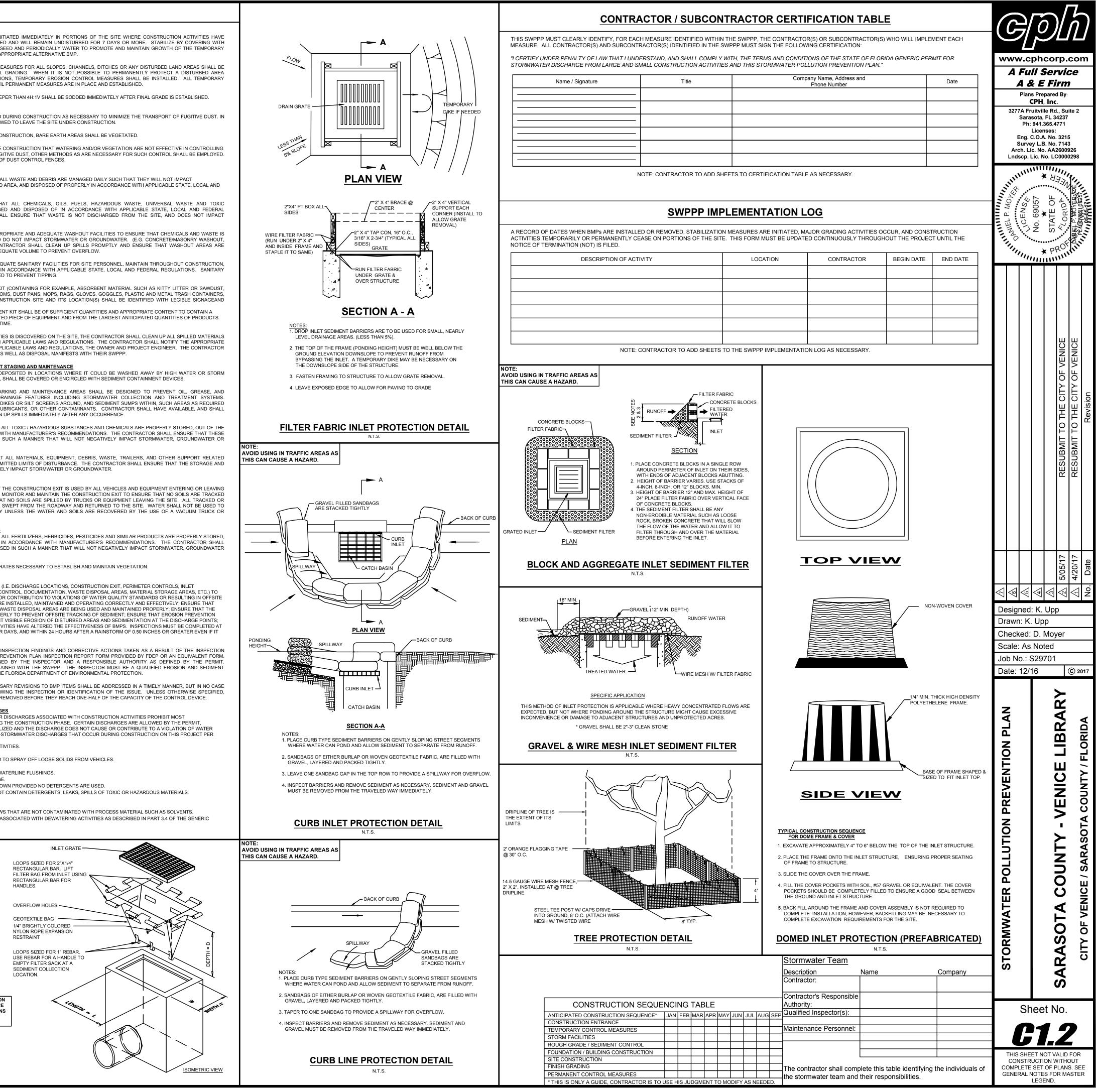
ITEMS SHOWN THAT ARE DASHED / SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN THAT ARE SOLID / BOLD REPRESENT PROPOSED CONDITIONS.

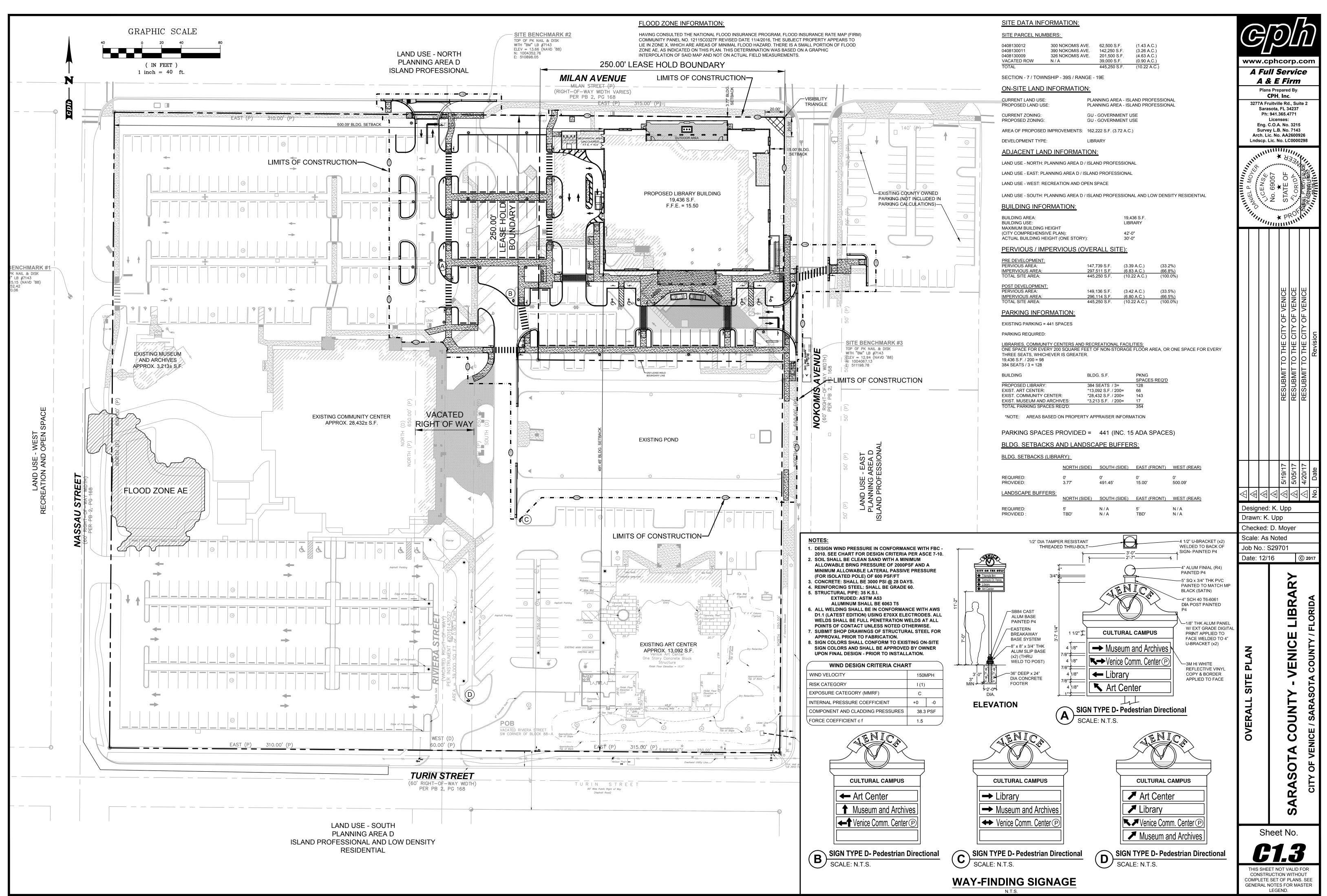
WALL (AS NOTED ON PLAN)

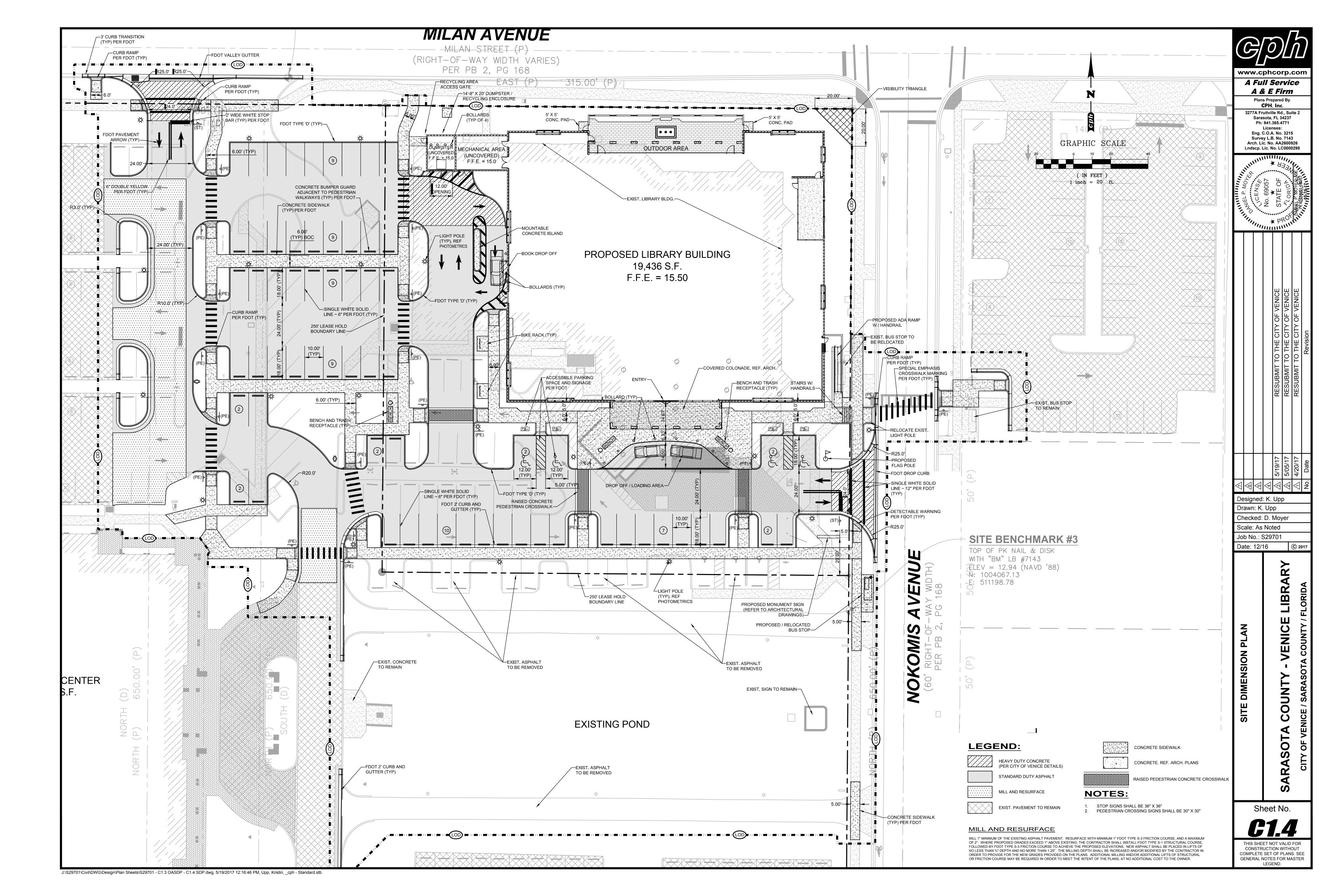


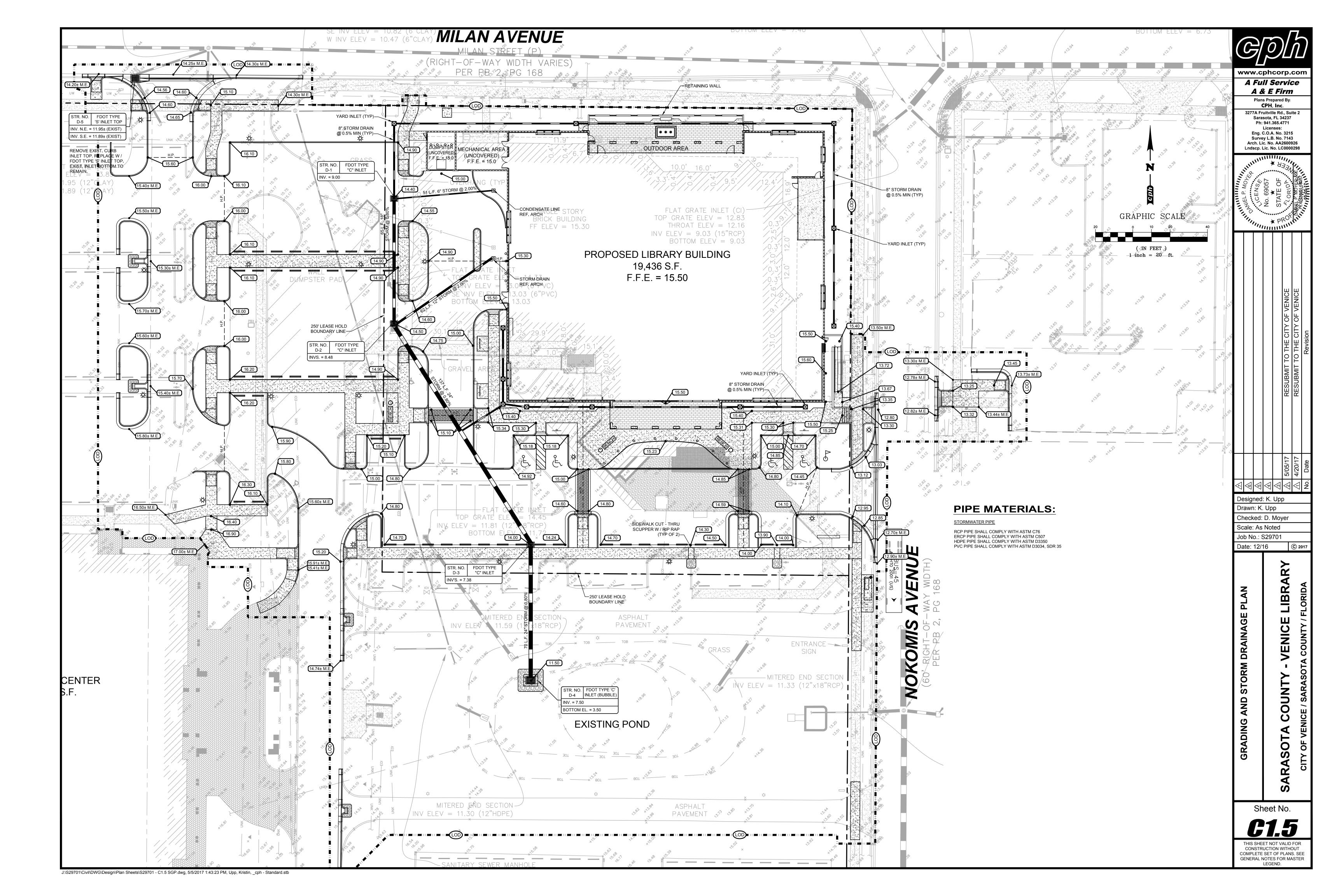


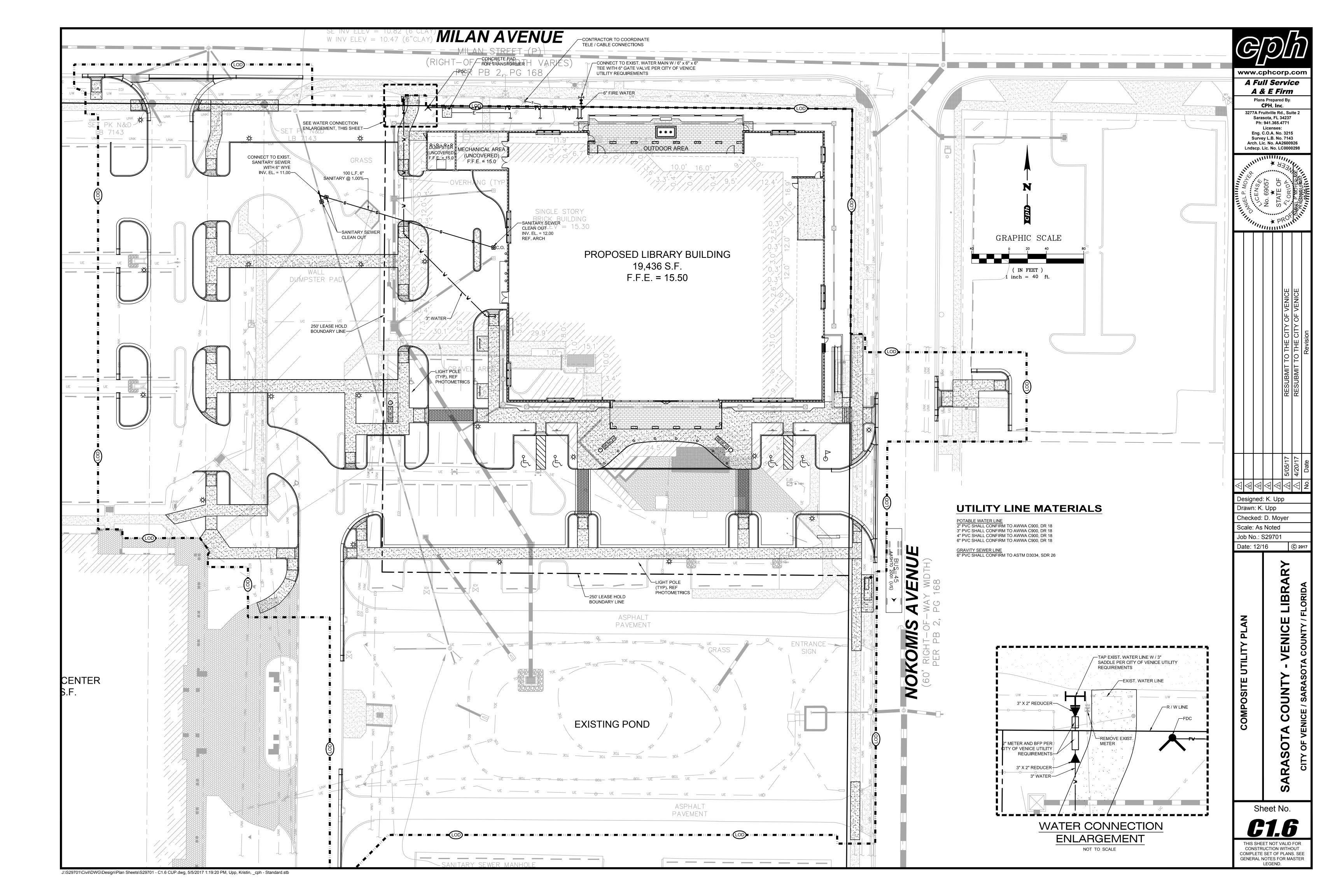
			STORMWATER POLLUTION PRE	EVENTION NOTES
DISCHARGE FROM LARG MODIFY THESE PLANS A <u>SITE DESCRIPTION</u>	GE AND SMALL C	ONSTRUCTION ACTIVI	ACTOR IN OBTAINING COVERAGE UNDER THE FDEP GENERIC PERMIT FOR STORMWATER TIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE PERMIT REQUIREMENTS AND H THE PERMIT REQUIREMENTS.	STABILIZATION A. STABILIZATION MEASURES SHALL BE INITIA TEMPORARILY OR PERMANENTLY CEASED ADEQUATE AMOUNTS OF MULCH OVER SEE GROUNDCOVER, OR BY THE USE OF AN APP
SECTION 7, TOWN LATITUDE: 27° 5'	SHIP 39 SOUTH, F 44.79"N LONGITU	RANGE 19 EAST JDE: 82°26'45.39"W	E, SARASOTA COUNTY, FLORIDA	B. PERMANENT SOIL EROSION CONTROL MEAS COMPLETED IMMEDIATELY AFTER FINAL G IMMEDIATELY AFTER GRADING OPERATION PROTECTION SHALL BE MAINTAINED UNTIL P
B. SITE CONDITIONS & A THE EXISTING COND NO MAJOR EFFECT C VETLANDS/BUFFERS	ITION OF THE SIT	E IS "DEVELOPED". DL	JRING CONSTRUCTION THE SITE WILL BE CLEARED AND GRUBBED. THIS PROJECT WILL HAVE	C. ALL GRASS SLOPES CONSTRUCTED STEEPE
NO WETLANDS OR BU		OCIATED WITH THIS PF	ROJECT. IT OF THE GENERIC PERMIT AND TO PREVENT THE RELEASE OF SOILS, TRASH, CHEMICALS,	DUST CONTROL A. BARE EARTH AREAS SHALL BE WATERED DU NO CASE SHALL FUGITIVE DUST BE ALLOWED
TOXINS AND OTHER CONTRACTOR SHALL UNDERSTAND THE PI THE GENERIC PERMI	POLLUTANTS, BY OBTAIN A COPY ERMIT, AND ENSL T AND THE SWPP	WATER , AIR, VEHICLE OF THE GENERIC PER JRE THAT THE BMP'S A	TRANSPORT OR OTHER MEANS THAT CAN IMPACT STORM WATER QUALITY. THE MIT AND RETAIN ON-SITE FOR FUTURE REFERENCE. THE CONTRACTOR SHALL READ AND RE INSTALLED AND THE EXECUTION OF THE WORK IS PERFORMED TO MEET THE INTENT OF	B. AS REQUIRED AFTER COMPLETION OF CONS AT ANY TIME BOTH DURING AND AFTER SITE CC WIND EROSION AND/OR TRANSPORT OF FUGITI' THESE METHODS MAY INCLUDE ERECTION OF D
ITH CONSTRUCTION A	OURCES OF POLI CTIVITY INCLUDE DUNDS, WOOD PF	E: SEDIMENT, PESTICID	SONABLY BE EXPECTED TO AFFECT THE QUALITY OF STORM WATER DISCHARGE ASSOCIATED DES, FERTILIZER, PLASTER, CLEANING SOLVENTS, ASPHALT, CONCRETE, GLUE, ADHESIVES, AULIC OIL FLUIDS, GASOLINE, DIESEL FUEL AND KEROSENE.	WASTE MANAGEMENT A. THE CONTRACTOR SHALL ENSURE THAT ALL STORMWATER OR LEAVE THE PERMITTED AF FEDERAL REGULATIONS.
E SEQUENCE OF CON NEEDED BASED ON I MOVAL OF BMPS, EAI	NSTRUCTION HAS BEST MEANS AND RTH DISTURBANC	D METHODS IN ORDER CE, GRADING, TEMPOR	A GUIDE FOR THE CONTRACTOR. THE CONTRACTOR SHALL SEQUENCE THE CONSTRUCTION TO BE IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS. THE INSTALLATION OR ARY STABILIZATION AND PERMANENT STABILIZATION SHALL BE IMMEDIATELY NOTED IN THE BE REPAIRED AND MAINTAINED UNTIL STABILIZATION HAS OCCURRED AND THERE IS NO RISK	B. THE CONTRACTOR SHALL ENSURE THAT SUBSTANCES ARE PROPERLY MANAGED REGULATIONS. THE CONTRACTOR SHALL STORMWATER OR GROUNDWATER.
RMANENTLY STABILIZ	ZE AREAS TO BE	VEGETATED AS THEY /	DUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE. ARE BROUGHT TO FINAL GRADE.	C. THE CONTRACTOR SHALL PROVIDE APPROF NOT DISCHARGED FROM THE SITE, AND DC PAINT WASHOUT, EIFS, ETC.) THE CONTR PROPERLY MAINTAINED TO PROVIDE ADEQU
CONTRACTOR'S RE INSTALL PERIMETER INSTALL STABILIZED INSTALL PERMITER	PRESENTATIVE F R CONTROLS IMM D CONSTRUCTION CONTROLS. THI	RESPONSIBLE FOR ERC IEDIATELY DOWNSTRE N EXIT. E CONTRACTOR SHALL	MING COVERAGE UNDER THE GENERIC PERMIT, AND THE NAME AND PHONE NUMBER OF THE DSION AND SEDIMENTATION CONTROL INSTALLATION AND MAINTENANCE ON A 24 HOUR BASIS. EAM OF THE PLANNED LOCATION OF THE CONSTRUCTION EXIT.	D. THE CONTRACTOR SHALL PROVIDE ADEQUA AND PROVIDE FOR PROPER DISPOSAL IN A FACILITIES SHALL BE PROPERLY SECURED T
POSSIBLE TO ENSU INSTALL TEMPORAF CONSTRUCT AND S	RE COMPLIANCE RY STAGING AND TABILIZE THE SE	STORAGE AREAS. DIMENT BASINS AND S	POSSIBLE AT THE BEGINNING OF THE PROJECT BUT MUST BE INSTALLED AS SOON AS EDIMENT TRAPS WITH APPROPRIATE OUTFALL STRUCTURES, IF REQUIRED. HES, SWALES, DIKES, CHECK DAMS, ETC.), IF REQUIRED.	E. A SPILL CONTROL AND CONTAINMENT KIT ( ACID, BASE, NEUTRALIZING AGENT, BROOMS ETC.) SHALL BE PROVIDED AT THE CONST
BEGIN DEMOLITION BEGIN CONSTRUCT PAVE SITE AND STA	, CLEARING AND ION OF SITE IMPF BILIZE PER PLAN	GRUBBING OPERATION ROVEMENTS. I.		SHOWN ON THE SITE MAPS. A. THE SPILL CONTROL AND CONTAINMENT SPILL FROM THE LARGEST ANTICIPATED STORED ON THE SITE AT ANY GIVEN TIME
SUBMIT NOTICE OF NERAL NOTES IT IS THE CONTRACT	TERMINATION (N	IOT) ONCE ALL CONST	RUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED PER PLAN. OF INTENT TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION	F. WHEN A SPILL OF REPORTABLE QUANTITIES AND DISPOSE OF IN ACCORDANCE WITH AP AUTHORITIES IN ACCORDANCE WITH APPLIC
ACTIVITIES" (DEP FO TWO (2) DAYS BEFOR	RM 62-621.300(4)( RE COMMENCEME	B) OR LATEST VERSION	N) TO FDEP TO THE FOLLOWING ADDRESS OR THROUGH THE FDEP ON-LINE SYSTEM AT LEAST	SHALL RETAIN CLEANUP INFORMATION AS W <u>MATERIALS MANAGEMENT, AND EQUIPMENT ST</u> A. EXCAVATED MATERIAL SHALL NOT BE DEP
ALL DISTURBED SOIL	S AT THE SITE H	AVE BEEN FINAL STABI	ON (NOT) WITHIN 14 CALENDAR DAYS AFTER THE SITE HAS ACHIEVED FINAL STABILIZATION (I.E. ILIZED), TEMPORARY BMPS HAVE BEEN REMOVED, AND STORMWATER DISCHARGES TAULTHORIZED BY THE DEBMIT HAVE BEEN ELIMINATED	WATER RUNOFF. STOCKPILED MATERIAL SH B. HEAVY CONSTRUCTION EQUIPMENT PARK LUBRICANTS FROM ENTERING SITE DRAI CONTRACTORS SHALL PROVIDE BROAD DIKI
	RESOURCE PER	MIT IS REQUIRED FOR	E AUTHORIZED BY THE PERMIT HAVE BEEN ELIMINATED. THE PROJECT. CONTRACTOR SHALL PROVIDE THE PERMIT INFORMATION ON THE NOI	TO CONTAIN SPILLS OR OIL, GREASE, LUBF USE, ABSORBENT FILTER PADS TO CLEAN UF C. THE CONTRACTOR SHALL ENSURE THAT ALL
THE CONTRACTOR S WITHIN 7 DAYS OF RI	HALL PROVIDE A ECEIPT. THE COM	COPY OF THE NOI ANE NTRACTOR SHALL ALS	D SUBSEQUENT NOT OR THE ACKNOWLEDGEMENT LETTERS FOR THE NOI OR NOT TO THE MS4 O COORDINATE WITH THE MS4 TO ENSURE THAT ALL SPECIFIC REQUIREMENTS ARE MET.	WEATHER, AND USED IN ACCORDANCE WITH PRODUCTS ARE STORED AND USED IN SU PROTECTED SPECIES. D. THE CONTRACTOR SHALL ENSURE THAT A
EROSION CONTROL	MEASURES SHAL	L BE EMPLOYED TO M	Y SWALES. SWALES SHALL BE CONSTRUCTED AS SHOWN ON PLANS. IINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE	ITEMS ARE CONTAINED WITHIN THE PERMIT USE OF SUCH ITEMS DOES NOT NEGATIVELY OFFSITE VEHICLE TRACKING
I. NEW AND EXISTIN BE EMPLOYED IMM	G STORMWATER MEDIATELY AS RE	INLETS AND OUTFALL	URTHEST PRACTICAL UPSTREAM LOCATION. STRUCTURES SHALL BE PROTECTED DURING CONSTRUCTION. PROTECTION MEASURES SHALL VARIOUS STAGES OF CONSTRUCTION. IN PLACE UNTIL FINAL SITE STABILIZATION HAS BEEN ESTABLISHED	A. THE CONTRACTOR SHALL ENSURE THAT TH THE JOBSITE. THE CONTRACTOR SHALL MC OFFSITE BY TIRES OR TRACKS, AND THAT I SPILLED SOILS SHALL BE SHOVELED OR SW CLEAN THE SOILS FROM THE ROADWAY U SIMILAR DEVICE.
EROSION CONTROL E WILL BE SITE AND PL	BMP'S SHALL BE E AN SPECIFIC, TH	EMPLOYED TO MINIMIZ EY SHOULD BE EMPLO	LLED SO AS TO MINIMIZE UNPROTECTED ERODIBLE AREAS EXPOSED TO WEATHER. GENERAL E SOIL EROSION AND OFF-SITE SEDIMENTATION. WHILE THE VARIOUS TECHNIQUES REQUIRED YED PRIOR TO ANY CONSTRUCTION ACTIVITY.	FERTILIZERS, HERBICIDES AND PESTICIDES A. THE CONTRACTOR SHALL ENSURE THAT ALL OUT OF THE WEATHER, AND APPLIED IN ENSURE THAT THESE PRODUCTS ARE USED OR PROTECTED SPECIES.
TEMPORARY BMPS. THE CONTRACTOR S	THE CONTRACTO	DR WILL FURNISH AND	JENCE OF CONSTRUCTION, MAINTAIN AND SUBSEQUENTLY REMOVE, ALL NECESSARY INSTALL ALL NECESSARY PERMANENT BMPS. S NECESSARY TO COMPLY WITH THE INTENT OF THE GENERIC NPDES PERMIT AND THE SWPPP	B. NUTRIENTS SHALL BE APPLIED ONLY AT RAT
AFFECT THE HYDRAU	JLICS OF THE SIT	E OR BEFORE ADDING	HALL CONSULT WITH THE ENGINEER PRIOR TO ADJUSTING, ADDING OR MODIFYING BMPS THAT BMPS NOT DETAILED IN THE SWPPP. INGS ONLY INDICATE EROSION, SEDIMENT, AND TURBIDITY CONTROLS AT LOCATIONS NTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL CONTROLS NECESSARY TO PREVENT	A. THE CONTRACTOR SHALL INSPECT BMPS (I.E PROTECTION, STABILIZATION, EROSION CON ENSURE THAT BMPS ARE NOT CAUSING OR ( SEDIMENTATION; ENSURE THAT BMPS ARE II
THE POSSIBILITY OF	SILTING ANY ADJ	ACENT LOWLAND PAR	CEL OR RECEIVING WATER. PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION. THE CONTRACTOR IS DL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN	BMPS ASSOCIATED WITH STORAGE AND WAS CONSTRUCTION EXIT IS FUNCTION PROPERL MEASURES ARE MAINTAINED TO PREVENT VI AND DETERMINE IF CONSTRUCTION ACTIVITI
THE CONSTRUCTION EROSION CONTROL I AS DEEMED NECESS AUTHORITIES. THESE	DOCUMENTS SH MEASURES MAY E ARY AS A RESUL ADDITIONAL ME	IOULD BE CONSIDERED BE REQUIRED DEPEND T OF ON-SITE INSPECT ASURES (IF NEEDED) \$	D TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL DENT UPON THE STAGE OF CONSTRUCTION, THE SEVERITY OF THE RAINFALL EVENT AND/OR TONS BY THE OWNER, THEIR REPRESENTATIVES, OR THE APPLICABLE JURISDICTIONAL SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT SHOULD BE NOTED THAT THE	LEAST ONCE EVERY SEVEN (7) CALENDAR D/ RAINS ON THE WEEKEND OR A HOLIDAY. B. THE CONTRACTOR SHALL REPORT ALL INS USING THE STORMWATER POLLUTION PREV
PREVENTION AND ER APPLICATION. IT IS T	ROSION CONTROL HE CONTRACTOR	MEASURES AS SPECI	ED BEST MANAGEMENT PRACTICES (BMPS). THE CONTRACTOR SHALL PROVIDE POLLUTION FIED IN FDOT INDEXES #100 THROUGH #102 AND AS NECESSARY FOR EACH SPECIFIC SIBILITY TO ASSURE THAT THE STORMWATER DISCHARGE FROM THE SITE DOES NOT EXCEED LE JURISDICTIONAL AUTHORITIES.	USING THE STORMWATER POLLUTION PREV INSPECTION REPORTS SHALL BE SIGNED INSPECTION REPORTS SHALL BE MAINTAIN CONTROL INSPECTOR AS DEFINED BY THE F
THEM AS ATTACHME WITHIN 7 DAYS:	NTS TO THE ORI	GINAL PLAN. WHENEV	LL TIMES. THE CONTRACTOR SHALL SIGN AND DATE ANY CHANGES TO THE SWPPP AND KEEP ER ANY OF THE FOLLOWING EVENTS OCCUR, THE CONTRACTOR SHALL UPDATE THE SWPPP ON OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE FROM THE	C. ANY MAINTENANCE, REPAIR AND NECESSAF LATER THAN 7 CALENDAR DAYS FOLLOWIN ACCUMULATED SEDIMENTS SHOULD BE REM
PROJECT . THERE IS A NEW DIS I. THERE IS A CHANG /. AN INSPECTION RE	SCHARGE POINT	OUR OUTFALL ON OF A DISCHARGE P		ALLOWABLE NON-STORMWATER DISCHARGES THE GENERIC PERMIT FOR STORMWATER DI NON-STORMWATER DISCHARGES DURING TH PROVIDED APPROPRIATE BMP'S ARE UTILIZE QUALITY STANDARDS. ALLOWABLE NON-STO
			ORTION OF THE SWPPP A AMOUNT EQUAL TO OR GREATER THAN A REPORTABLE QUANTITY OCCURS DURING A	QUALITY STANDARDS. ALLOWABLE NON-STO PART 3.2 OF THE GENERIC PERMIT ARE: DISCHARGES FROM FIRE FIGHTING ACTIVI FIRE HYDRANT FLUSHINGS. WATERS WITHOUT DETERGENTS USED TO
FILL OUT THE CONTR	RACTOR / SUBCOM	NTRACTOR CERTIFICA	AND ALL SUBCONTRACTORS RESPONSIBLE FOR IMPLEMENTING SWPPP CONTROL MEASURES TION TABLE INCLUDED IN THIS SWPPP.	WATERS USED TO CONTROL DUST. POTABLE WATER SOURCES SUCH AS WAT LANDSCAPE IRRIGATION AND DRAINAGE.
OF BMPS AND PRIOR WILL BE UTILIZED OR	TO GROUND DIS	TURBING ACTIVITIES.	SEQUENCE TABLE INCLUDING IN THIS SWPPP PRIOR TO PROCEEDING WITH THE INSTALLATION THE CONTRACTOR SHALL COMPLETE THE TABLE WITH ANTICIPATED DATES IN WHICH THE BMP	ROUTINE EXTERNAL BUILDING WASHDOWI PAVEMENT WASHWATERS THAT DO NOT C AIR CONDITIONING CONDENSATE. SPRING WATER.
TURBIDITY TURBIDITY REDUC DISCHARGE OFF S		RE THAN 29 NTUs ABO\	/E BACKGROUND LEVEL PRIOR TO	FOUNDATION OR FOOTING DRAIN FLOWS T NONCONTAMINATED GROUND WATER ASS PERMIT.
CONTRACTOR TO CONSTRUCTION C		PNOTICE OF INTENT (N	IOI) WITHIN 14 DAYS OF	
REMOVE TRAPPED SE		RIGHTLY COLORED EX	RPANSION RESTRAINT GRADE	SECURE RECTANGULAR BAR TO OR UNDER SURROUNDING SURFACE.
EXCEEDS REQUIREM	ENTS IN THE SPE BENT PAD OR PIL	LLOW OVER INLET GRA		
THE WIDTH, "W", OF T GRATED INLET BOX. THE DEPTH, "D", OF T NCHES.	HE FILTER SACK	SHALL MATCH THE INS	B INCHES AND 36	
GRATED INLET BOX. EXTRA CARE SHALL E	BE TAKEN TO ENS	SHALL MATCH THE IN SURE REGULAR MAINTE SURE ADEQUATE DRAI	ENANCE OF FILTER COLORED NYLON COLORED NYLON	
DW TO MODERATE FLOW GE PROPERTIES RAB TENSILE STRENGTH RAB TENSILE ELONGATION	OTEXTILE FABRIC SPEC TEST METHOD ASTM D-4632 ASTM D-4632			
NCTURE LLEN BURST APEZOID TEAR RESISTANCE PARENT OPENING SIZE	ASTM D-4833 ASTM D-3786 ASTM D-4533 ASTM D-4355 ASTM D-4751	120 LBS 800 PSI 120 LBS 80 % 40 US SIEVE		CAUTION: BAGGED INLET PROTECTION REQUIRES ADDITIONAL MAINTENANCE TO ENSURE THAT THE BMP FUNCTIONS
OW RATE ERMITTIVITY MODERATE TO HIGH FLOW G PROPERTIES RAB TENSILE STRENGTH	TEST METHOD ASTM D-4632	UNITS 265 LBS		PROPERLY AND DOES NOT CAUSE FLOODING.
AB TENSILE STAENGTH NAB TENSILE ELONGATION NCTURE ILLEN BURST APEZOID TEAR RESISTANCE PARENT OPENING SIZE	ASTM D-4632 ASTM D-4632 ASTM D-4833 ASTM D-4533 ASTM D-4533 ASTM D-4355 ASTM D-4751	20% 135 LBS 420 PSI 45 LBS 90% 20 US SIEVE	SECTION VIEW PROFILE VIEW OF INSTALLED FILTER SACK	
PARENT OPENING SIZE OW RATE RMITTIVITY	ASTM D-4751 ASTM D-4491 ASTM D-4491	20 US SIEVE 200 GAL/MIN/SQ FT 1.5 SEC -1	GEOTEXTILE BAG INLET PR	OTECTION DETAIL

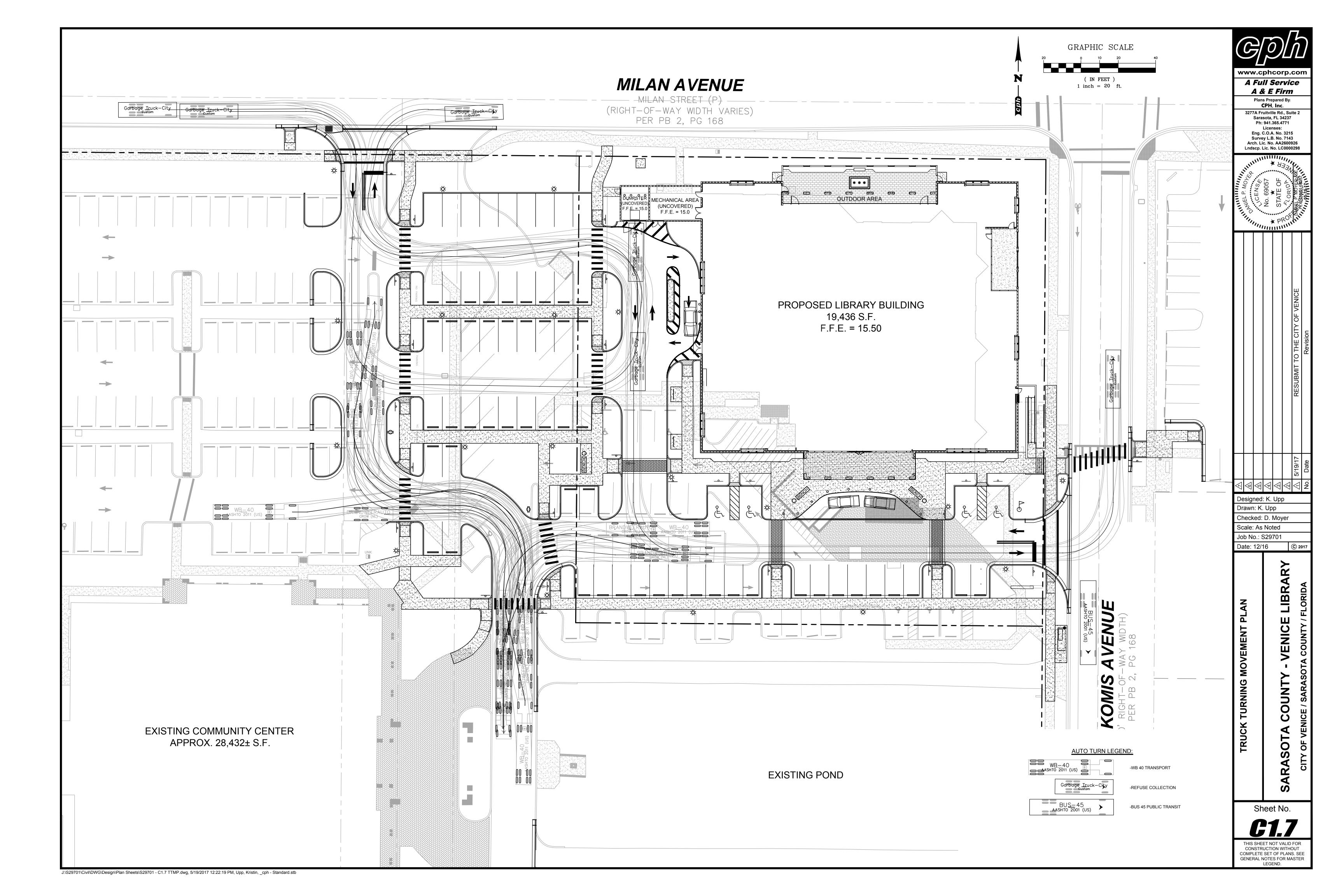


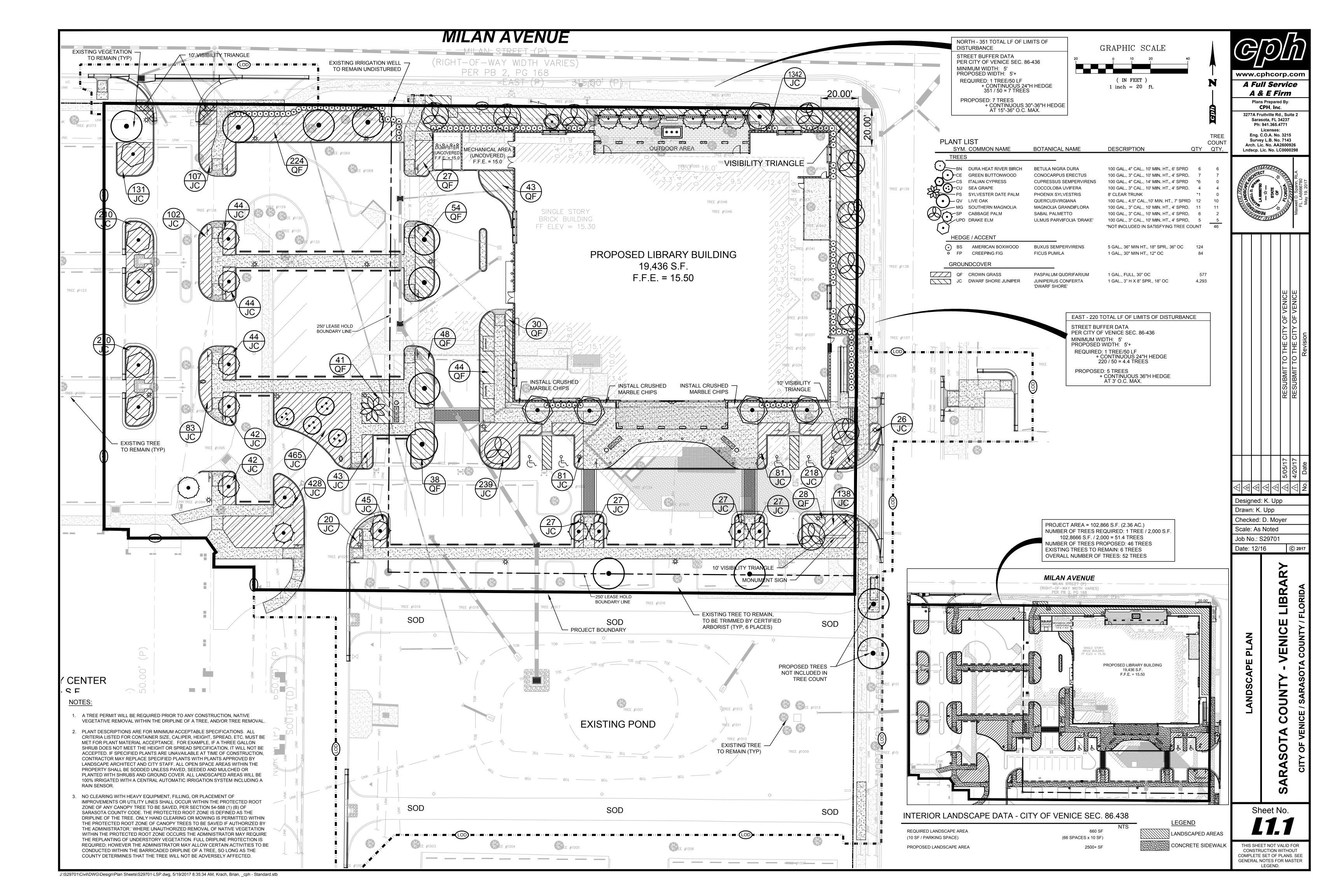












#### LANDSCAPE NOTES:

- The landscape Contractor shall be responsible for all materials and all work as called for on the Landscape Plans and in the Landscape Specifications. In the event of variation between quantities shown on plant list and the plans, the plans shall control. The Landscape Contractor shall verify all quantities and report any discrepancies at the time of bidding.
- 2. The Landscape Contractor shall review architectural/engineering plans and become thoroughly familiar with surface and subsurface utilities.
- Prior to construction, the contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. Locations of existing buried utility lines shown on the plans are based upon best available information and are considered to be approximate. It shall be the responsibility of the contractor 1) to verify the locations of utility lines within and adjacent to the work area 2) to protect all utility lines during the construction period 3) to repair any and all damage to utilities, structures, site appurtenances, etc. which occurs as a result of the construction 4) To field adjust the location of proposed trees and palms 10' off the center of the utility lines. Notify the Landscape Architect if a 10' offset does not function.
- The work shall be coordinated with other trades to prevent conflicts. Coordinate the planting with the irrigation work to assure availability and proper location of irrigation items and plants.
- Contractor shall ensure that there are no visual obstructions to vehicle lines of sight and traffic controls. Contractor shall field adjust tree and/or large shrub locations to avoid any such obstructions
- Trees shall be maintained by the owner to avoid future such obstructions by pruning trees and/or shrubs as necessary utilizing horticulturally sound techniques.
- 7. All planting shall be performed by personnel familiar with planting procedure and under the supervision of a qualified planting foreman.
- 8. All plant material shall be graded Florida No. 1 or better as outlined under Grades and Standards for Nursery Stock, Part I and II, published by the Florida Department of Agriculture and Consumer Services.
- The Landscape Architect or Owner shall have the right, at any stage of the operations, to reject any and all work and materials which, in his opinion, do not meet with the requirements of these specifications.
- 10. Except as otherwise specified, the Landscape Contractor's work shall conform to accepted horticultural practices as used in the trade. The minimum acceptable size of all plants, measured after pruning, with branches in normal positions, shall conform to the measurements specified on the plant list or as indicated on the landscape drawing. Height and spread dimensions refer to main body of the plant and not extreme branch tip to tip. Trunk caliper (trunk diameter) is measured 6 inches from the ground on trees up to and including 4 inches in caliper, and 12 inches from the ground for larger trees. Since trunks are seldom round, the average of the largest diameter and that perpendicular to it is referred to as caliper
- 12. Plants shall be protected upon arrival at the site, by being thoroughly watered and properly maintained until planted.
- 13. All tree pits shall be excavated to size and depth in accordance with the Florida Grades & Standards for Nursery Stock, unless shown otherwise on the drawings, and backfilled with the specified planting soil. The Landscape Contractor shall test fill all tree pits with water before planting to assure proper drainage percolation is available.
- 14. The Landscape Contractor shall be responsible for proper watering of all plants. All plants shall be thoroughly watered at time of planting and kept adequately watered until time of acceptance. It shall be the Landscape Contractor's responsibility to assure that plants are not over watered
- 15. It shall be the Landscape Contractor's responsibility to prevent plants from falling or being blown over, to re-straighten and replant all plants which lean or fall and to replace all plants which are damaged due to lack of proper guying or staking. The Landscape Contractor shall be legally liable for any damage caused by instability of any plant material.
- 16. All Palms to be staked as indicated per Palm staking details. All other trees to be stabilized utilizing 8' lodge poles per tree planting details. Plants blown over by high winds, within the guaranteed period, shall not be cause for additional expense to the Owner, but shall be the responsibility of the Landscape Contractor. Damaged plants shall be replaced by the Landscape Contractor at no additional cost to the
- 18. Sod shall be of a species specified on the drawings and originate from a commercial turf grower. It shall be a dense stand of live turf, reasonably free of weeds, well matted with grass roots in rectangles 12 inch by 24 inch or in 12 inch wide rolls in a length consistent with the equipment and methods used to handle the rolls and place the sod. Any netting contained within the sod shall be certified by the manufacturer to be bio-degradable. The soil and root mat shall be a minimum of 1-1/2 inch thick and must hold together during placement Sod shall be place adjacent to one another to avoid gaps and overlaps. Joints shall be staggered between the rows. Sod placed on slopes exceeding 3:1 shall be pinned with turf staples. Sod turf, shall have been mowed a minimum of one week prior to cutting and delivery, so that the length of the turf is no longer than 4 inches at time of delivery. Place sod within 48 hours of cutting the sod. The sod shall be kept moist throughout the 48 hour period to maintain the health and viability of the sod. Submit a letter of certification to the Owner's CEI Representative, at time of delivery, as to the source of the sod, the time it was cut, the species and cultivars provided, last moving date, and that the sod is free of fire ants. Sod which has been cut for longer than 48 hours after being cut shall not be used unless specifically authorized by Owner's CEI Representative.
- 19. It shall be the Contractor's responsibility to measure and determine the exact guantity of sod required for a complete job at the time of bidding or providing a price quote. The Owner shall not be responsible for additional cost due to the Contractor's under estimating of the quantity of sod for the original bid area
- 20. The Landscape Contractor shall insure adequate vertical drainage in all plant beds, planters, and sod areas. Vertical drilling through any compacted fill to native soil shall be accomplished to insure drainage. If well drained fill is necessary to assure positive drainage, this issue shall be brought up by the Landscape Contractor at time of bidding.
- The Landscape Contractor shall insure that his work does not interrupt established or projected drainage patterns.
- The Landscape Contractor shall prune, shape and remove dead foliage/limbs from existing plant material to remain. Confirm with the Landscape Architect or Owner the extent of work required at time of Bidding.
- Mulch All plant beds shall be top dressed with 4" shredded hardwood mulch (or approved equa
- Transplanted Material The Landscape Contractor shall be responsible for determining and evaluating which plant materials are suitable for transplanting and shall verify this with the Landscape Architect or Owner. The Landscape Contractor shall take all reasonable, horticulturally acceptable measures to assure the successful transplanting of determined plant materials. The Landscape Contractor shall be responsible for replacing any relocated plant materials which die if such measures are not taken, as determined by the Landscape Architect or Owner. Replacement plants shall be of identical species and size if required.
- 25. MAINTENANCE PRIOR TO FINAL INSPECTION AND ACCEPTANCE:
- Maintenance shall commence after each plant is planted and the maintenance period shall continue until the job or specific phase of the job is accepted by the Landscape Architect or Owner. Extreme care shall be taken to instruct the Owner or his representatives in general maintenance procedures

Plant maintenance shall include watering, pruning, weeding, cultivating, mulching, tightening, and repairing of guys, replacement of sick or dead plants, resetting plants to proper grades or upright positions and restoration of the planting saucer and all other care needed for proper growth of the plants.

During the maintenance period and up to the date of final acceptance, the Landscape Contractor shall do all seasonal spraving and/or dusting of trees and shrubs. Upon completion of all planting, an inspection for acceptance of work will be held. The Landscape Contractor shall notify the Landscape Architect or Owner for scheduling of the inspection 10 days prior to the anticipated date.

At the time of the inspection, if all of the materials are acceptable, a written notice will be given by the Landscape Architect or Owner to the Landscape Contractor Stating the date when the Maintenance Period ends.

GUARANTEE AND REPLACEMENT:

All plant materials shall be guaranteed for one (1) year from the time of final inspection and interim acceptance shall be alive and in satisfactory growth for each specific kind of plant at the end of the guaranteed period.

At the end of the guarantee period, any plant required under this contract that is dead or not in satisfactory growth, as determined by the Owner or the Landscape Architect, shall be removed and replaced. Replacement plants shall have an extended guarantee, as noted above, from time of replacement.

All replacements shall be planted of the same kind and size as specified on the plant list. They shall be the responsibility of the Landscape Contractor.

26. TOPSOIL

Topsoil shall be natural, friable, fertile, fine loamy soil possessing characteristics of representative topsoil in the vicinity that produces heavy growth. Topsoil shall have a pH range of 5.5 to 7.4, free from subsoil, objectionable weeds, litter, sods, stiff clay, stones larger than 1-inch in diameter, stumps, roots, trash, toxic substances, or any other material which may be harmful to plant growth or hinder planting operations. Top soil shall contain a minimum of three percent organic material.

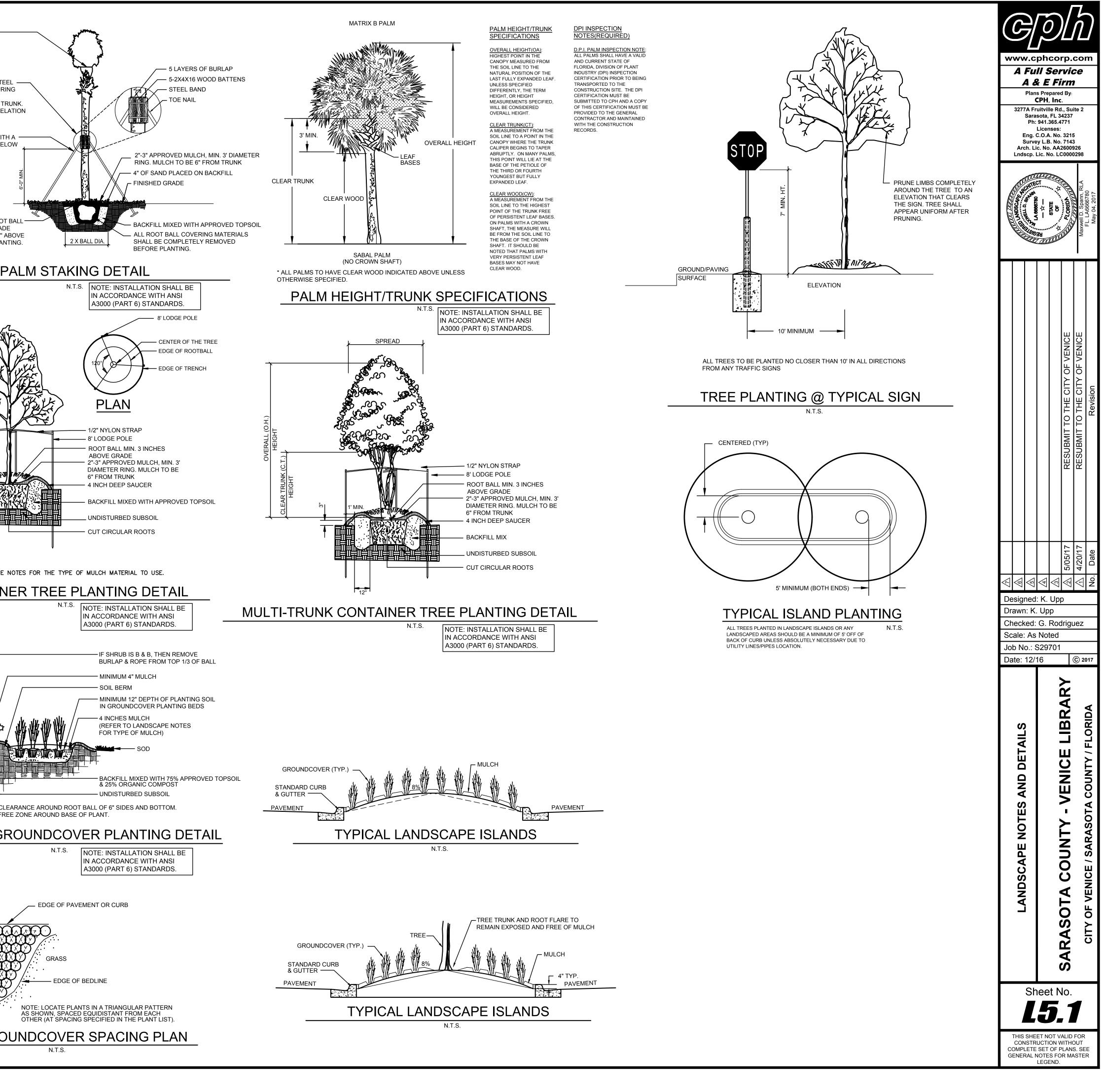
- 27. UNSUITABLE SUBSOILS
- Locations containing unsuitable subsoil shall be treated by one or more of the following:
- A. Where unsuitability is deemed by Owner or Owner's Representative to be due to excessive compaction caused by heavy equipment and where natural subsoil is other than AASHTO classification of A6 or A7, loosen such areas with spikes, discing, or other means to loosen soil to condition acceptable to Owner. Loosen soil to minimum depth of 12 inches with additional loosening as required to obtain adequate drainage. Contractor may introduce peat moss, sand, or organic matter into the subsoil to obtain adequate measures shall be considered as incidental, without additional cost to Owner
- Where unsuitability is deemed by Owner or Owner's Representative to be due to presence of boards, mortar, concrete, graded aggregate base, or other construction materials in sub grade and where natural subsoil is other than AASHTO classification of A6 or A7, remove debris and objectionable material. Such remedial measures shall be considered as incidental, without additional cost to Owner.
- C. Where unsuitability is deemed by Owner to be because natural subsoil falls into AASHTO classification of A6 or A7 and contains moisture in excess of 30 percent, then installation of sub drainage system or other means described elsewhere in Specifications shall be used. Where such conditions have not been known or revealed prior to planting time and they have not been recognized in preparation of The Drawings and Specifications, then Owner shall issue pricing order to install proper remedial measures.
- Planting beds where existing subsoil is determined by Owner to be unsuitable for plant growth in accordance paragraph Unsuitable Subsoil herein shall be excavated to a depth of 12 inches or as needed to provide adequate drainage. Replace excavated soil with planting soil.

#### NOTE

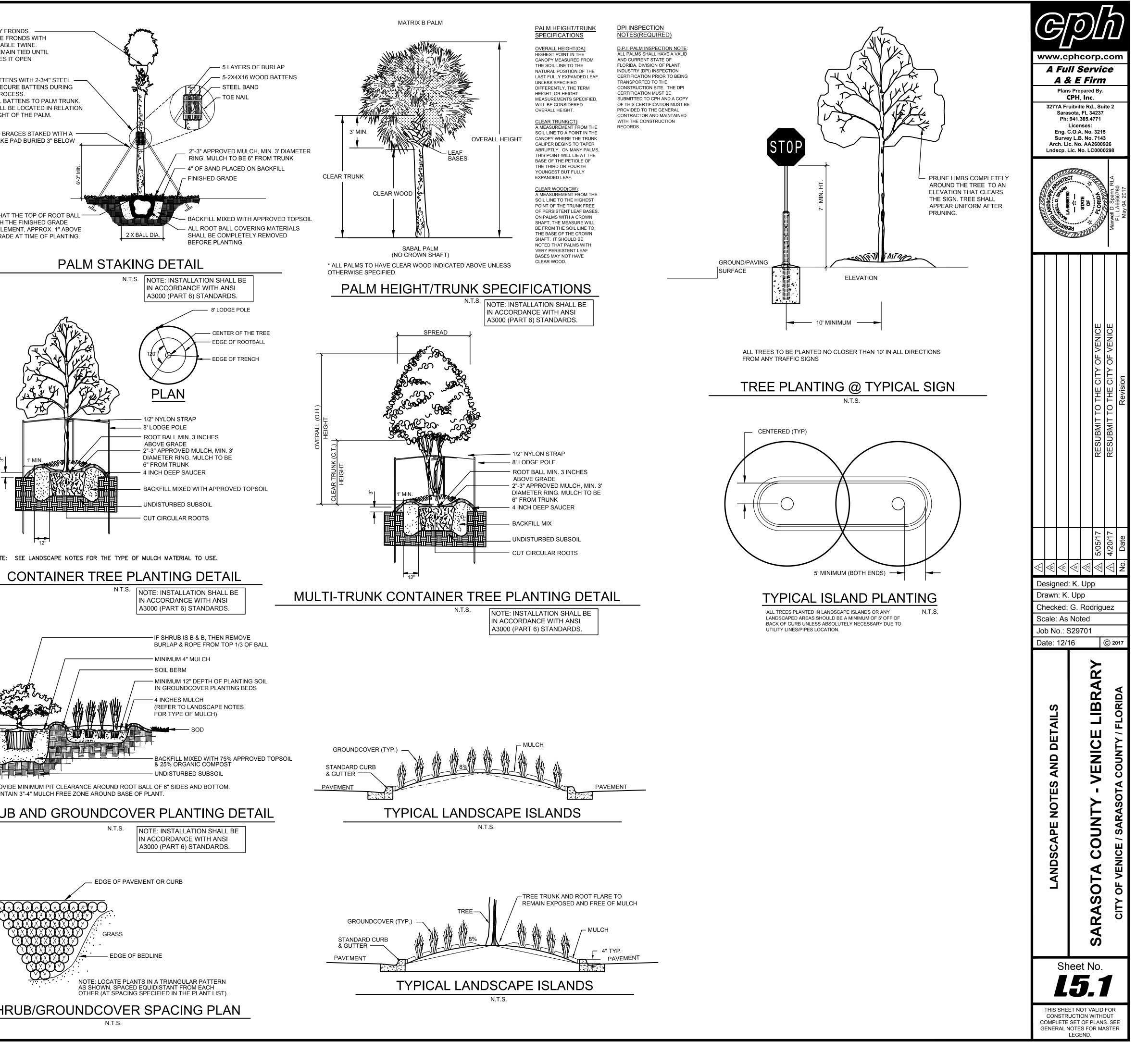
1. A TREE PERMIT WILL BE REQUIRED PRIOR TO ANY CONSTRUCTION, NATIVE VEGETATIVE REMOVAL WITHIN THE DRIPLINE OF A TREE, AND/OR TREE REMOVAL. 5-7 HEALTHY FRONDS -----MINIMUM. TIE FRONDS WITH BIODEGRADABLE TWINE.

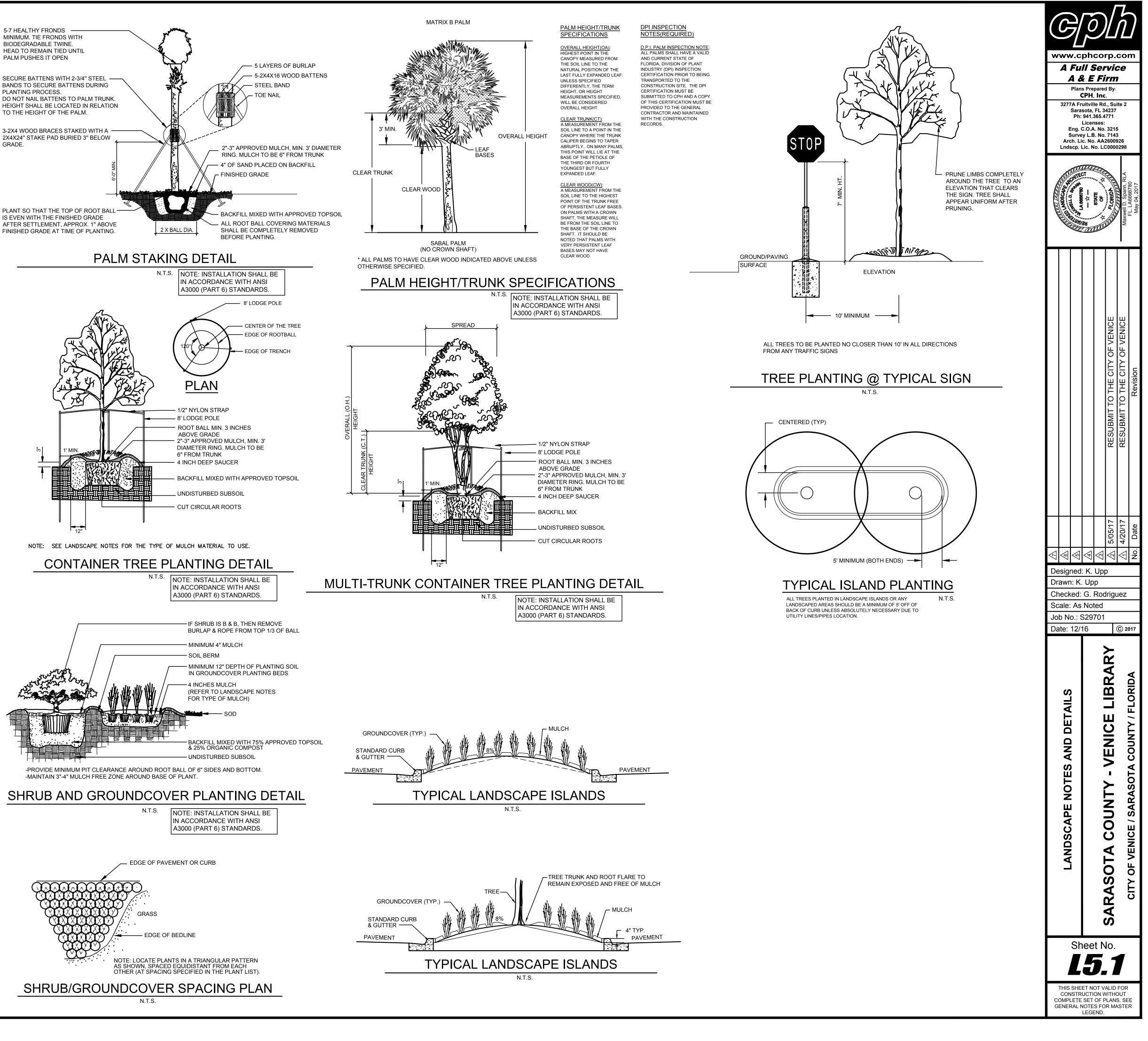
SECURE BATTENS WITH 2-3/4" STEEL -BANDS TO SECURE BATTENS DURING PLANTING PROCESS. DO NOT NAIL BATTENS TO PALM TRUNK. HEIGHT SHALL BE LOCATED IN RELATION

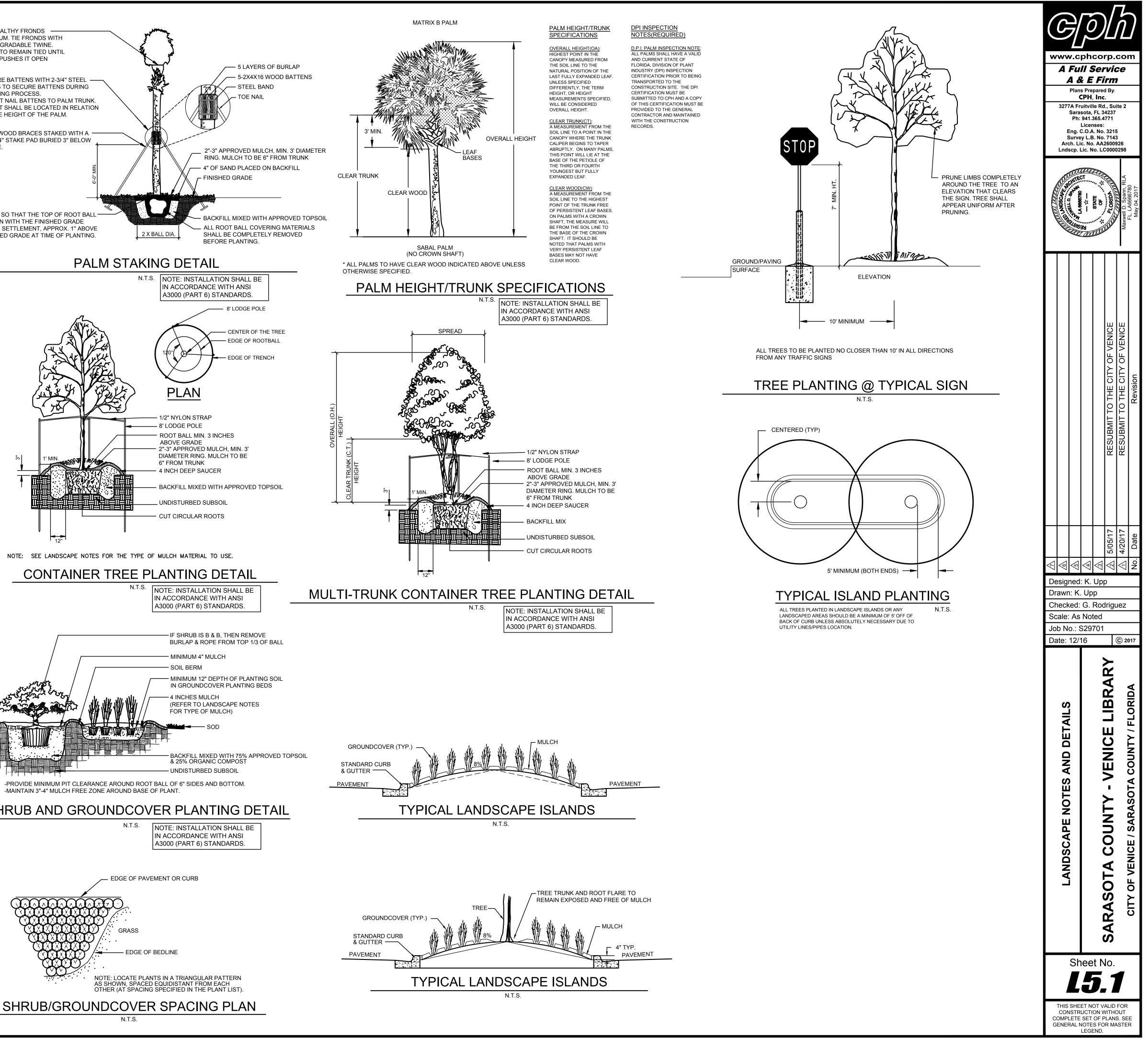
2X4X24" STAKE PAD BURIED 3" BELOW

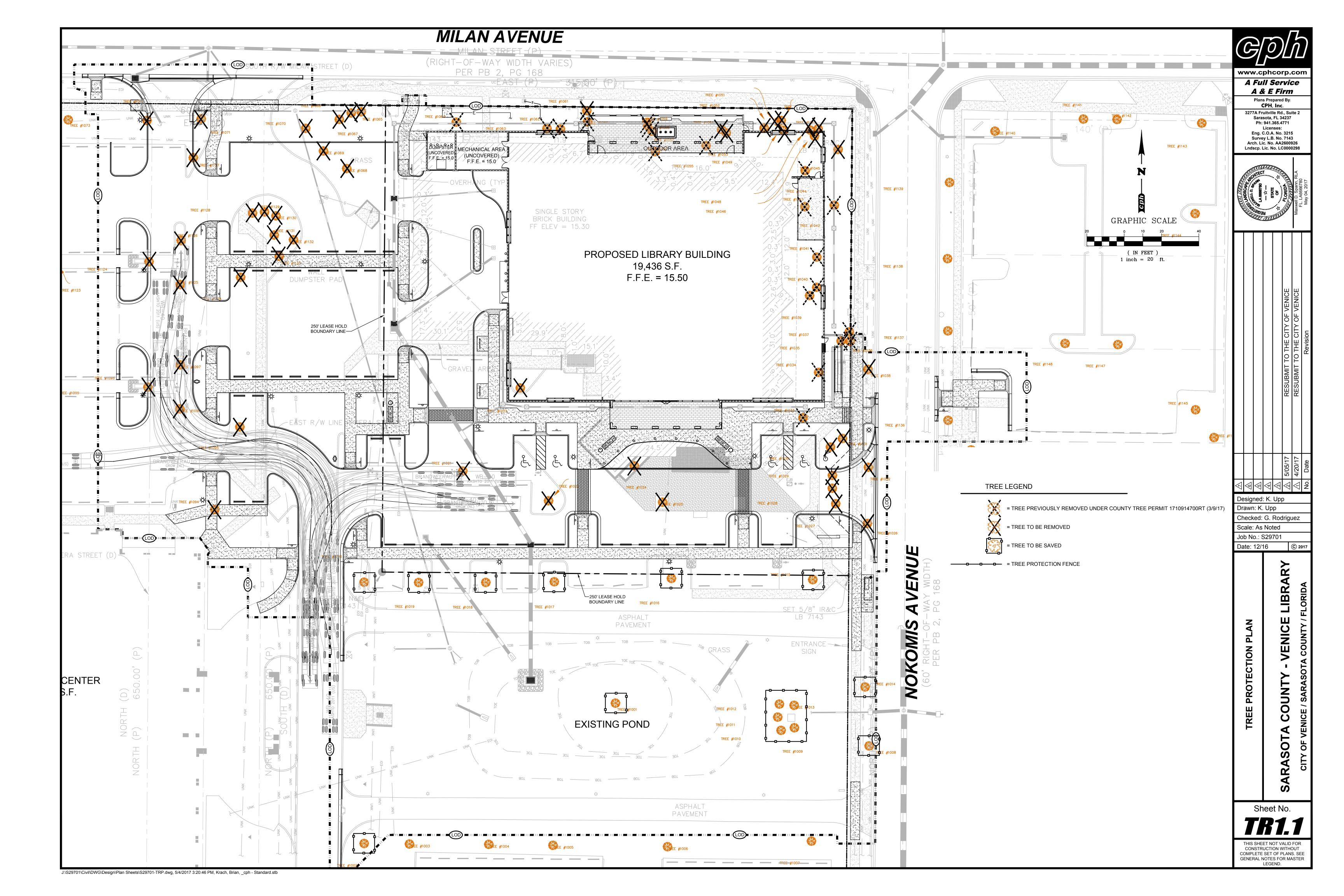


PLANT SO THAT THE TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE AFTER SETTLEMENT, APPROX. 1" ABOVE FINISHED GRADE AT TIME OF PLANTING.









Tree #	DBH (in.)	Common Name	Botanical Name	Disposition	Tree #	DBH (in.)	Commo
1001	59	Indian Rosewood	Dalbergia sissoo	Save	1079	24.5	Live Oak
1002	27	Live Oak	Quercus virginiana	Save	1080	14	Laurel Oak
1003	15.5	Live Oak	Quercus virginiana	Save	1081	18	Date Palm
1004	23	Live Oak	Quercus virginiana	Save	1082	13	Slash Pine
1004	20	Live Oak	Quercus virginiana	Save	1083	9	Cabbage P
			Quercus virginiana				Cabbage P
1006	28.5	Live Oak		Save	1084	8	-
1007	5	Black Olive	Bucida buceras	Save	1085	12.5	Slash Pine
1008	14.5	Live Oak	Quercus virginiana	Save	1086	10.5	Cabbage
1009	11	Cabbage Palm	Sabal palmetto	Save	1087	7	Slash Pine
1010	8	Cabbage Palm	Sabal palmetto	Save	1088	15	Cabbage P
1011	9	Cabbage Palm	Sabal palmetto	Save	1089	15	Cabbage P
1012	10.5	Cabbage Palm	Sabal palmetto	Save	1090	13	Gold Tree
1013	11	Cabbage Palm	Sabal palmetto	Save	1091	10.5	Gold Tree
1014	14.5	Live Oak	Quercus virginiana	Save	1092	13	Cabbage P
1015	25	Live Oak	Quercus virginiana	Save	1093	13	Cabbage P
1016	22.5	Live Oak	Quercus virginiana	Save	1093	18	Senegal Da
1017	22.0	Live Oak	Quercus virginiana	Save			-
					1095	30.5	Live Oak
1018	15.5	Live Oak	Quercus virginiana Quercus virginiana	Save	1096	11.5	Cabbage P
1019	17	Live Oak	_	Save	1097	10.5	Cabbage P
1020	19.5	Live Oak	Quercus virginiana	Save	1098	10	Dahoon Ho
1021	27	Cabbage Palm	Sabal palmetto	Remove	1099	8	Winged Elr
1022	24	Bottlebrush	Callistemon viminalis	Remove	1100	10	Cabbage P
1023	10	Queen Palm	Syagrus romanzoffiana	Remove	1101	10	Cabbage P
1024	18	Christmas Palm	Adonidia merrillii	Remove	1102	12.5	Cabbage P
1025	20	Royal Palm	Roystonea regia	Remove	1103	11.5	Cabbage P
1026	16.5	Live Oak	Quercus virginiana	Remove	1104	9.5	Cabbage P
1027	9	Queen Palm	Syagrus romanzoffiana	Remove	1105	10.5	Cabbage P
1028	9	Queen Palm	Syagrus romanzoffiana	Remove	1106	8	Dahoon Ho
1029	7	Queen Palm	Syagrus romanzoffiana	Remove	1107	7.5	Dahoon Ho
1020	9	Queen Palm	Syagrus romanzoffiana	Remove	1107	4	Winged Elr
1030	10.5	Queen Palm	Syagrus romanzoffiana	Remove			Black Olive
		Live Oak	Quercus virginiana		1109	3	
1032	13.5		_	Remove	1110	11	Cabbage P
1033	6.5	Christmas Palm	Adonidia merrillii	Prev. Rem.	1111	12	Cabbage P
1034	30	Ponytail Palm	Beaucarnea recurvata	Prev. Rem.	1112	10	Cabbage P
1035	9	Cabbage Palm	Sabal palmetto	Prev. Rem.	1113	10.5	Cabbage P
1036	10.5	Cabbage Palm	Sabal palmetto	Prev. Rem.	1114	3	Black Olive
1037	14.5	Cabbage Palm	Sabal palmetto	Prev. Rem.	1115	8	Dahoon Ho
1038	16.5	Live Oak	Quercus virginiana	Remove	1116	3.5	Winged Elr
1039	13.5	Washingtonia Palm	Washingtonia filifera	Prev. Rem.	1117	11.5	Cabbage P
1040	32	Bottlebrush	Callistemon viminalis	Prev. Rem.	1118	12	Cabbage P
1041	10	Queen Palm	Syagrus romanzoffiana	Prev. Rem.	1119	12	Cabbage P
1042	46	Laurel Oak	Quercus laurifolia	Prev. Rem.	1120	13.5	Cabbage P
1043	7	Queen Palm	Syagrus romanzoffiana	Prev. Rem.	1121	12	Cabbage P
1044	9.5	Queen Palm	Syagrus romanzoffiana	Prev. Rem.	1121	13.5	Cabbage P
1045	7	Queen Palm	Syagrus romanzoffiana	Remove	1122	5.5	Winged Elr
1046	10	Cabbage Palm	Sabal palmetto	Remove	1123	10	Winged Elr
1047	10	Cabbage Palm	Sabal palmetto	Remove	1124	10	Cabbage P
	9.5	Cabbage Palm	Sabal palmetto	Remove		14	Cabbage P
10/19			Syagrus romanzoffiana	Remove	1126	10	- JUNNAYE F
1048		Oueen Dolm	, cragius i unanzunana			12	
1049	8	Queen Palm			1127	11	Cabbage P
1049 1050	8	Queen Palm	Syagrus romanzoffiana	Remove	1128	11 12	Cabbage P Cabbage P
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1049 1050 1051 1052	8 8 8 8	Queen Palm Queen Palm Queen Palm	Syagrus romanzoffiana Syagrus romanzoffiana Syagrus romanzoffiana	Remove Remove Remove	1128	11 12	Cabbage P Cabbage P Cabbage P Cabbage P
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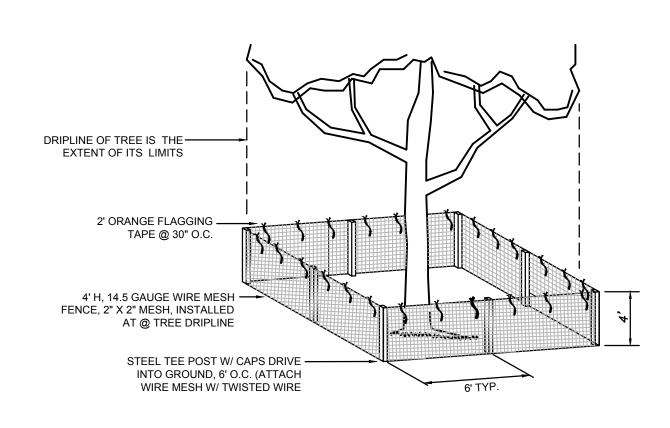
Tree Data Table										
Common Name	Botanical Name	Disposition								
ve Oak	Quercus virginiana	Save								
aurel Oak	Quercus laurifolia	Save								
ate Palm	Phoenix dactylifera	Save								
ash Pine	Pinus elliottii	Save								
abbage Palm	Sabal palmetto	Save								
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abbage Palm	Sabal palmetto	Save								
abbage Palm	Sabal palmetto	Save								
enegal Date Palm	Phoenix reclinata	Remove								
ve Oak	Quercus virginiana	Remove								
abbage Palm	Sabal palmetto	Remove								
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### **TREE PRESERVATION DATA**

TOTAL PROTECTED TREE DBH INCHES REMOVED:

818



# TREE PROTECTION DETAIL

TREE BARRICADE APPROVAL

OBTAIN CITY APPROVAL OF TREE BARRICADES PRIOR TO BEGINNING CLEARING OPERATIONS OR ANY SITE DEVELOPMENTS

TREE PROTECTION NOTES:

1. Four (4) foot high 14.5 guage wire 2"x2" mesh fencing shall be installed encompassing the drip line of each tree, or one foot in diameter for each inch of trunk diameter, whichever is greater. When surveyed fencing shall be moved to the edge of the tree protection area (TPA) as indicated on plans and be maintained through completion of construction.

2. Where the TPA occurs within 10 feet of the tree trunk, a trenching device shall be used to sever tree roots. Root raking shall not occur before roots have been cleanly severed.

3. All equipment and/or materials are prohibited within the TPA. Including but not limited to cement wash-out, chemicals, fuel or equipment servicing.

4. Grade changes shall not occur within the TPA. No fill shall be added, removed or stored within the TPA with exception of prescribed potting soil (see item 10).

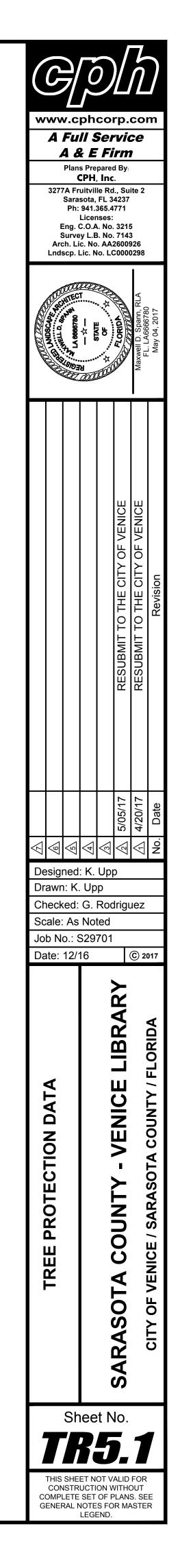
5. Brush and weeds occuring within the TPA shall be cleared by hand or utilizing only the mower of a light wheeled farm tractor (less than 60 hp). During such activities soil profiles shall not be disturbed.

6. Roto-tilling, disking, root raking or other clearing methods that disturb the soil profile are expressly prohibited.7. Utility lines and/or irrigation lines shall not occur within the TPA.

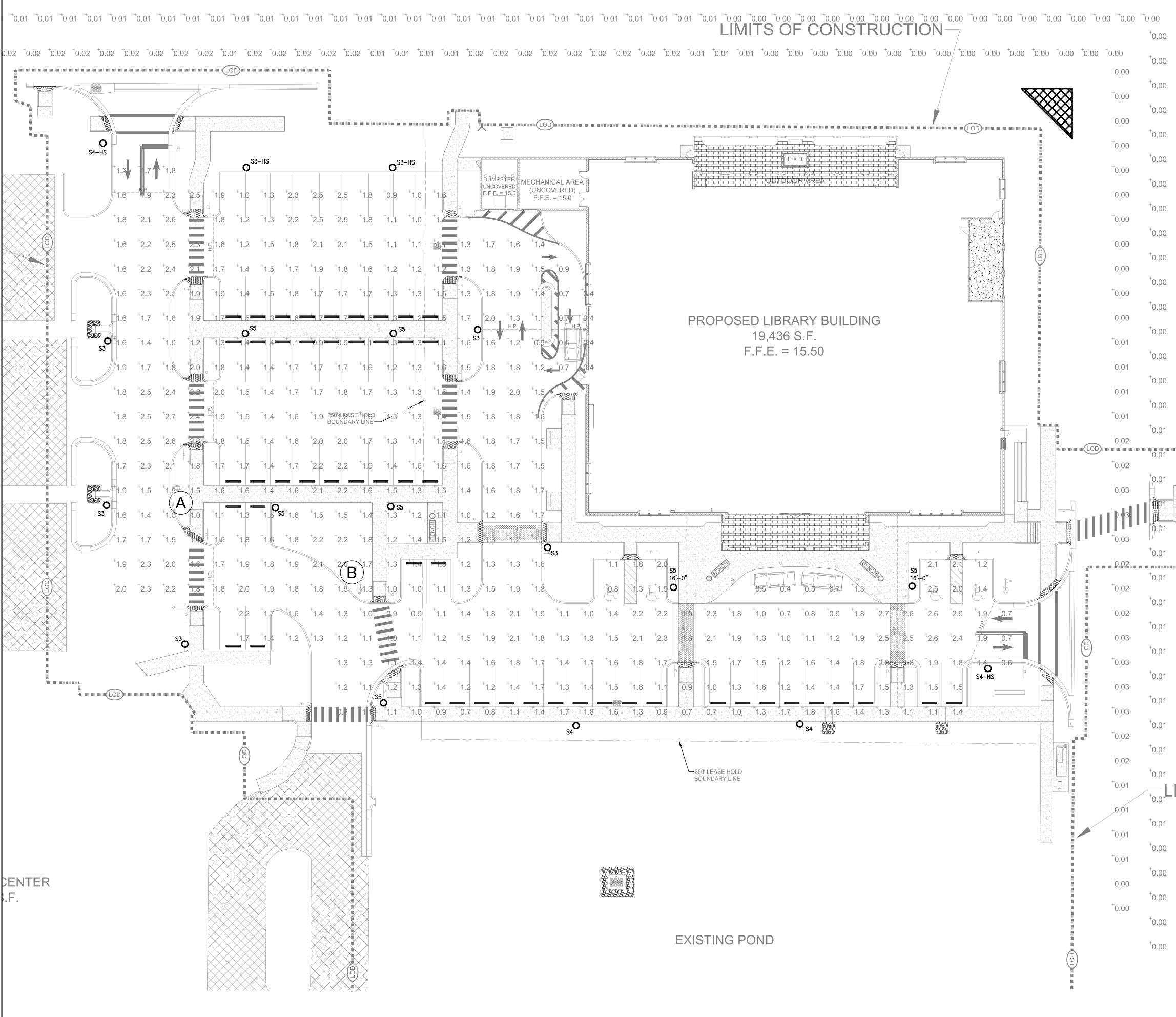
8. Saved trees shall be pruned to remove dead and damaged wood, correct structural defects and to provide access and visibility.

9. Pruning shall be completed under direct observation by the Designated Forester of CPH Engineers, Inc. or owner designated ISA certified arborist and be accomplished by an arborist with five years or more experience pruning live oaks to ISA standards. Arborist must obtain approval from the owner prior to commencement of pruning activities. Two week advance notification is required.

10. Landscaping within TPA shall not disturb existing soil profiles. Eight inches of potting soil shall be imported and evenly spread to provide a planting medium within TPA.

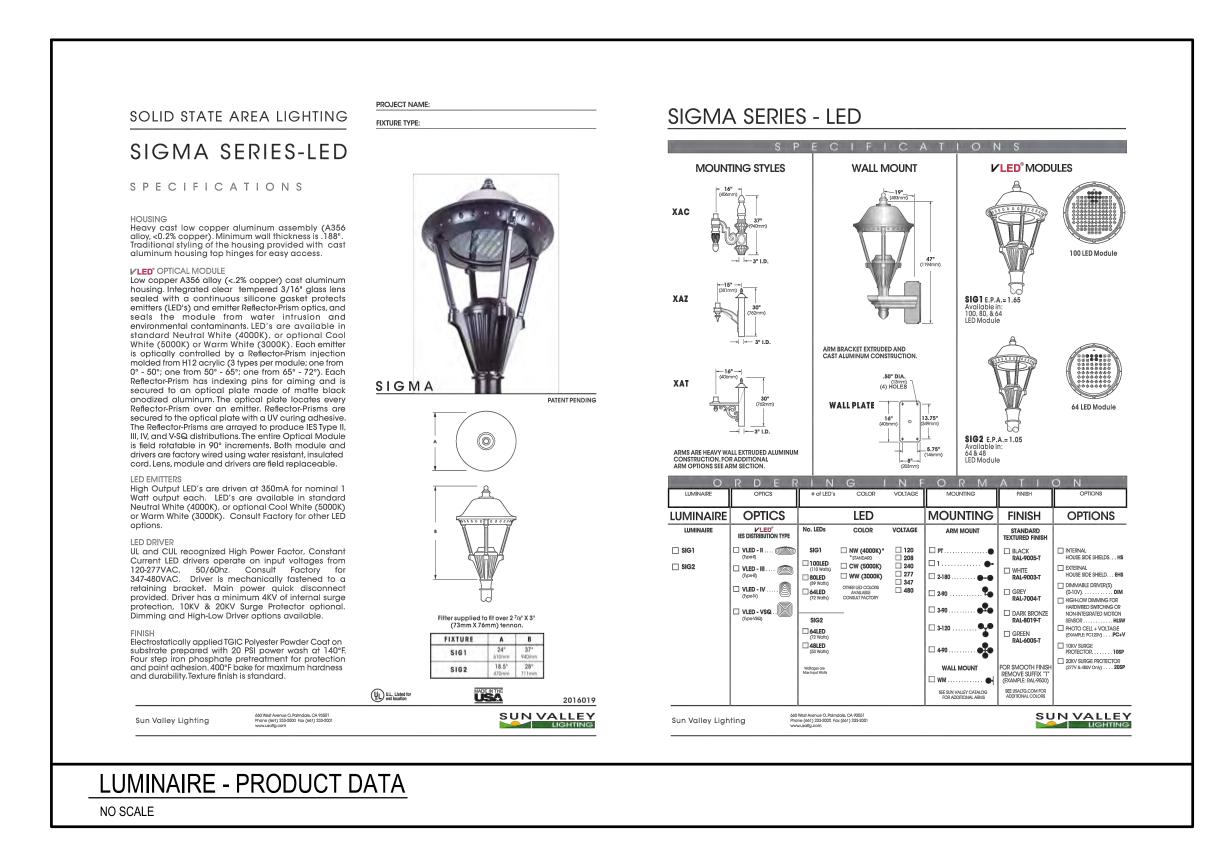


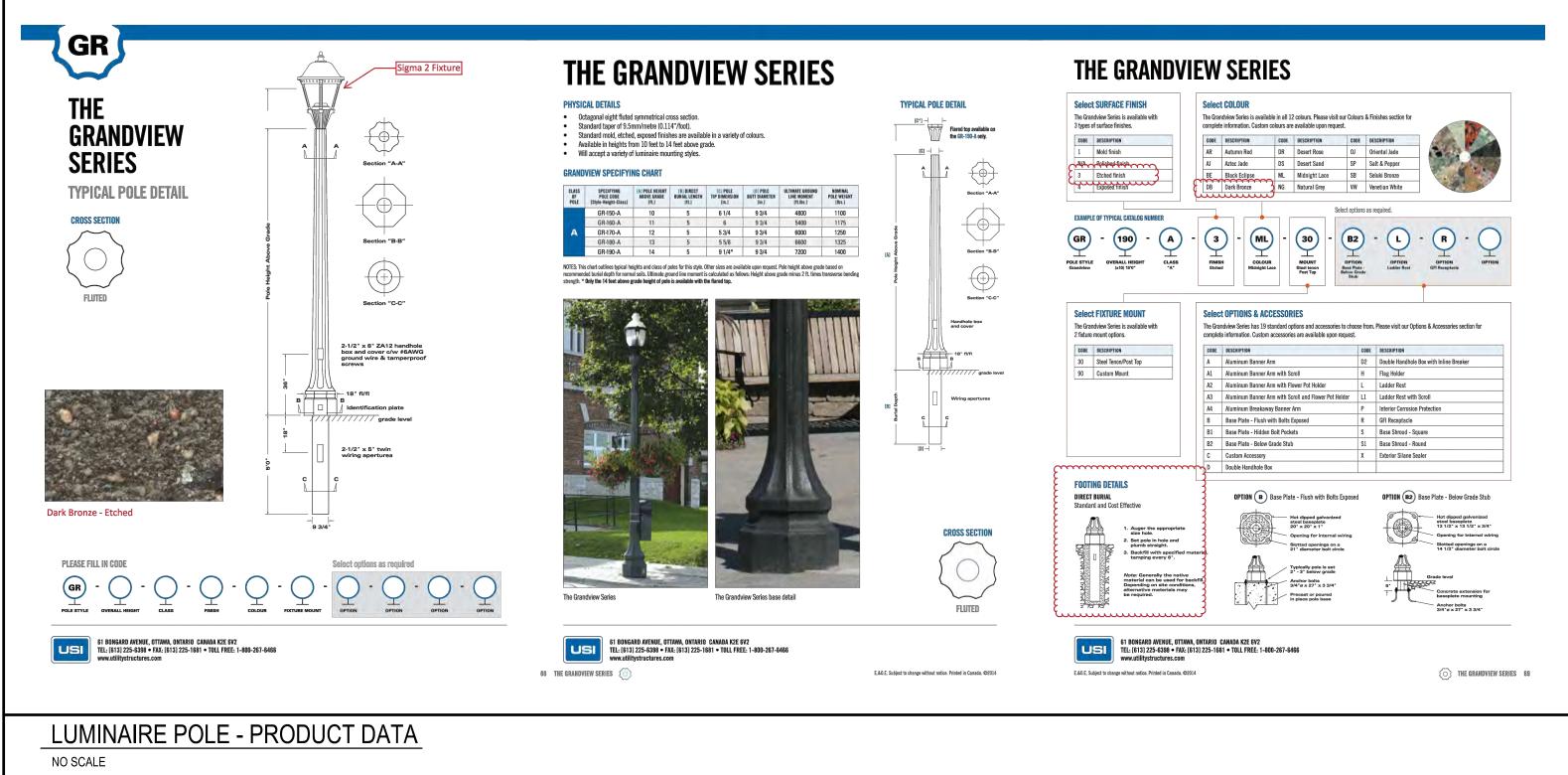


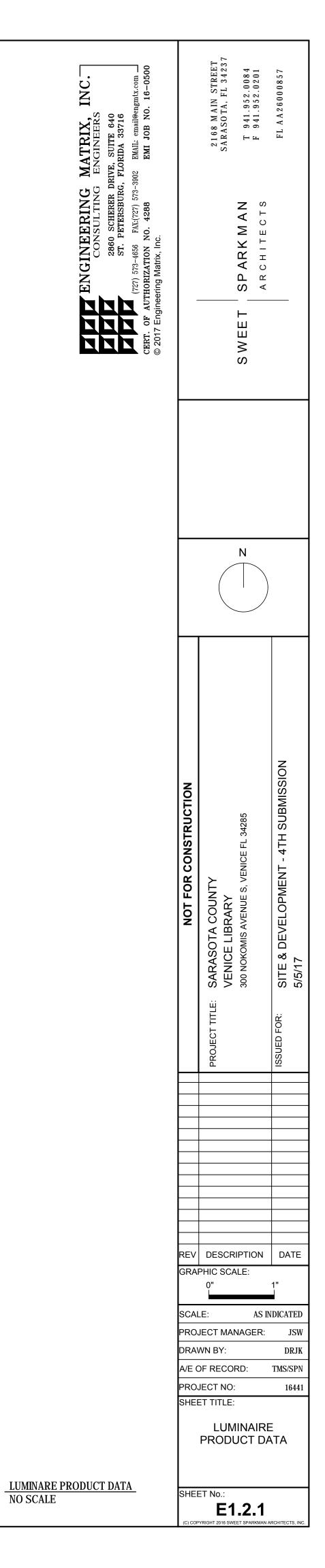


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