CONSTRUCTION PLANS FOR

SUNTRUST

1900 EAST HALLANDALE BEACH BOULEVARD
HALLANDALE BEACH, FLORIDA 33009
SECTION 26 - TOWNSHIP 51 SOUTH - RANGE 42 EAST
PARCEL ID: 5142-26-08-0120 ~ BROWARD COUNTY

VERTICAL DATUM: NVDA 88

CONSULTANTS

OWNER
SUNTRUST BANK
200 S. ORANGE AVENUE
ORLANDO, FLORIDA 32801
ATTN: BOBBY JICHA
(407) 237-1071

ENGINEER
CPH, INC.
1031-C W. 23RD STREET
PANAMA CITY, FLORIDA 32405
ATTN: YVONNE PAGUADA, P.E
(850) 563-1490

SURVEYOR
CPH, INC.
500 WEST FULTON STREET
SANFORD, FLORIDA 32771
ATTN.: PAUL J. KATREK P.S.M.
(407) 322-6841

ARCHITECT
GENSLER
999 PEACHTREE STREET, NE
SUITE 1400
ATLANTA, GEORGIA 30309
RYAN CAVANAUGH
(404) 507-0907

LANDSCAPE ARCHITECT
CPH, INC.
500 WEST FULTON STREET
SANFORD, FLORIDA 32771
ATTN: JIM WINTER, R.L.A.
(407) 322-6841

NOTICE
THE SIZE OF THESE PLANS MAY HAVE BEEN SLIGHTLY ALTERED BY REPRODUCTION PROCESSES. THIS MUST BE CONSIDERED WHEN SCALING ANY REPRODUCED PLANS FOR THE PURPOSE OF COLLECTING DATA.

UTILITY PROVIDERS

ELECTRIC
FLORIDA POWER AND LIGHT
4000 DAVIE ROAD EXTENSION
HOLLYWOOD, FLORIDA 33024
ATTN.: LENIN VARGAS
(954) 442-6362

TELEPHONE
AT&T
8601 WEST SUNRISE BOULEVARD
PLANTATION, FLORIDA 33322
ATTN.: EDUARDO IBARRA
(954) 476-2734

WATER
CITY OF HALLANDALE BEACH
WATER DISTRIBUTION SERVICES
630 NW 2ND STREET
HALLANDALE BEACH, FLORIDA 33009
ATTN.: JAMES SYLVAIN, P.E., ASST. DIRECTOR
(954) 457-1669

SEWER
CITY OF HALLANDALE BEACH
WASTEWATER SERVICES
630 NW 2ND STREET
HALLANDALE BEACH, FLORIDA 33009
ATTN.: JAMES SYLVAIN, P.E., ASST. DIRECTOR
(954) 457-1669

GAS
TECO PEOPLES GAS
ATTN.: DELESHA MICKELL
(FOR DEMOLITION CUT/CAP GAS SERVICE)
(305) 957-3857 ext. 77247

APPROVAL AGENCIES

BUILDING DEPARTMENT
CITY OF HALLANDALE BEACH
BUILDING DIVISION
400 SOUTH FEDERAL HIGHWAY
HALLANDALE BEACH, FLORIDA 33009
ATTN.: EDWARD LEONHARDT, PERMIT COORDINATOR
(954) 457-1386

PUBLIC WORKS
CITY OF HALLANDALE BEACH
DEPARTMENT OF PUBLIC WORKS
630 NW 2ND STREET
HALLANDALE BEACH, FLORIDA 33009
ATTN.: MARIANA PITIRICIU, P.E. PMP, ASST. DIRECTOR
(954) 457-3042

FIRE DEPARTMENT
CITY OF HALLANDALE BEACH
FIRE RESCUE, ADMINISTRATION STATION 7
121 SW 3RD STREET
HALLANDALE BEACH, FLORIDA 33009
ATTN.: LORI WILLIAMS, FIRE MARSHALL
(954) 457-1470

WATER MANAGEMENT DISTRICT
SOUTHWEST FLORIDA
WATER MANAGEMENT DISTRICT (SWFWMD)
3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33406
ATTN.: REVIEWER
(561) 686-8800

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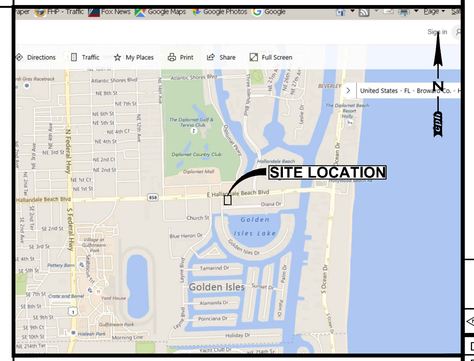
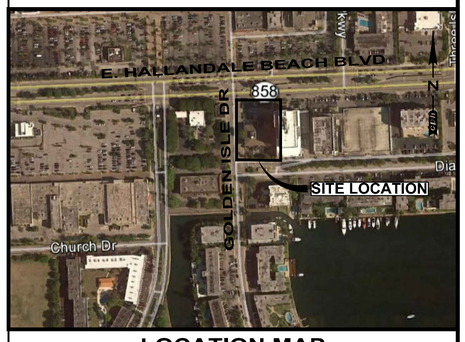
	A3.2	ROOF PLANS
	A4.0	ARCHITECTURAL SECTION

X INDICATES SHEETS NOT INCLUDED WITH SUBMITTAL

MAPS



VICINITY MAP
SCALE: 1" = 2,000'
HALLANDALE BEACH, BROWARD COUNTY, FLORIDA



LOCATION MAP
SCALE: 1" = 300'
HALLANDALE BEACH, BROWARD COUNTY, FLORIDA

Always call 811 two full business days before you dig
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www.sunshine811.com

cph
www.cphcorp.com
A Full Service A & E Firm
Plans Prepared By:
CPH, Inc.
1031-C W. 23rd Street
Panama City, FL 32405
Ph: 850.563.1490
Licenses:
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Lndscp. Lic. No. LC0000298
YVONNE PAGUADA, P.E.
FL LICENSE NO. 81437
03-21-18

No.	Date	Revision

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17 © 2018

COVER SHEET

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.1

BOUNDARY & TOPOGRAPHIC SURVEY
ALSO BEING AN
(ALTA/NSPS LAND TITLE SURVEY)
FOR
SunTrust Bank
AT
1900 E HALLANDALE BEACH BOULEVARD
LYING IN
SECTION 26-TOWNSHIP 51 SOUTH-RANGE 42 EAST
CITY OF HALLANDALE
BROWARD COUNTY, FLORIDA

SCHEDULE B-SECTION II PER FIRST AMERICAN TITLE INSURANCE COMPANY TITLE COMMITMENT FILE NO. NCS-784403-08-ATL EFFECTIVE DATE FEBRUARY 06, 2017 AT 8:00 A.M. AMENDED 02/09/17

(9) Matter shown on plat of Golden Isles Section "E", recorded in Plat Book 46, Page 20. **(AFFECTS PARCEL, BLANKET IN NATURE)**

(10) The terms, provisions and conditions contained in that certain Sewerage and Water Agreement recorded in Official Records Book 1146, Page 174; as affected by Official Records Book 1235, Page 406. **(AFFECTS PARCEL, BLANKET IN NATURE)**

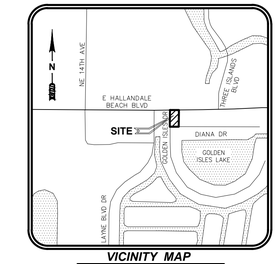
(11) Terms, conditions and other provisions contained in that unrecorded lease agreement, by and between IA Branch Florida Portfolio, L.L.C., a Delaware limited liability company, as Landlord, and SunTrust Bank, a Georgia Banking corporation, as Tenant, as evidenced by that certain Memorandum of Lease Agreement, recorded in Official Records Book 45265, Page 26. **(AFFECTS PARCEL, BLANKET IN NATURE)**

12. Utility Easement to City of Hallandale Beach, a political subdivision of the State of Florida, recorded at Instrument No. 112988428. **(DOES NOT AFFECT PARCEL, PLOTS OFFSITE)**

Legal Description:
(PER COMMITMENT FOR TITLE INSURANCE FILE NO. NCS-784403-08-ATL, EFFECTIVE DATE 2/6/17, AMENDED 2/9/17)

The land referred to herein below is situated in the County of Broward, State of Florida, and is described as follows:

LOT 10, BLOCK 1, GOLDEN ISLES SECTION "E", A SUBDIVISION ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 46, PAGE 20, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.



VICINITY MAP
NOT TO SCALE

Survey Notes:

1. COPIES OF THIS SURVEY ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2. "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."
3. 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 0.008' WHICH MEETS THE ALLOWABLE CLOSURE OF 0.036'. THIS FIELDWORK WAS PERFORMED USING A 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 FLORIDA DEPARTMENT OF TRANSPORTATION PROJECT NETWORK CONTROL FP ID# 228159-1-52-01 AS FOLLOWS:

   o) DESIGNATION #DBLC6, A FOUND BRASS DISC FOUND IN CONCRETE SIDEWALK AT THE NORTH SIDE OF HALLANDALE BEACH BOULEVARD 1530 FEET± EAST OF SITE. (NAVD '88) ELEVATION = 6.253

   SITE BENCHMARKS ARE AS SHOWN ON SHEET 2 OF 2.
4. THIS SURVEY IS NOT VALID WITHOUT SHEETS 1 THROUGH 2 OF 2.
5. THE LAST DAY FIELD WORK WAS PERFORMED WAS 6/28/17; ALL BOUNDARY CORNERS WERE RECOVERED OR SET AS NOTED HEREON.
6. THE "LEGAL DESCRIPTION" HEREON IS IN ACCORD WITH THE COMMITMENT FOR TITLE INSURANCE BY FIRST AMERICAN TITLE INSURANCE COMPANY, FILE NO. NCS-784403-08-ATL, EFFECTIVE DATE 2/6/17, AMENDED 2/9/17, AND WAS PROVIDED BY THE CLIENT.
7. BEARINGS SHOWN HEREON ARE RELATIVE TO THE SOUTHERLY RIGHT-OF-WAY LINE OF E HALLANDALE BEACH BLVD (SR 824) AS BEING NORTH 87°09'48" EAST.
8. HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 125110 0732 H, CITY OF HALLANDALE BEACH, EFFECTIVE DATE AUGUST 18, 2014, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE AE, WHICH ARE SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100 YEAR FLOOD WITH BASE FLOOD ELEVATIONS DEPICTED AS 6 FEET (NAVD '88). THIS DETERMINATION WAS BASED ON A GRAPHIC INTERPOLATION OF SAID MAP AND NOT ON ACTUAL FIELD MEASUREMENTS.
9. 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 V.
10. 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 C10, AND A TOPCON GPS HIPER V.
11. BROWARD COUNTY PROPERTY APPRAISER INFORMATION DISPLAYED HEREON AS FOLIO# IS PER THE BROWARD COUNTY PROPERTY APPRAISER'S WEBSITE (WWW.BCPA.NET) AS OF JUNE 28, 2017.
12. UNLESS OTHERWISE NOTED, ALL RECORD INFORMATION SHOWN HEREON IS BASED ON INFORMATION CONTAINED IN THE COMMITMENT FOR TITLE INSURANCE BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT FILE NO. NCS-784403-08-ATL, EFFECTIVE DATE 2/6/17, AMENDED 2/9/17 AND WAS PROVIDED BY THE CLIENT.
13. NO UNDERGROUND UTILITIES, FOUNDATIONS OR IMPROVEMENTS, IF ANY, HAVE BEEN LOCATED EXCEPT AS SHOWN.
14. THIS SURVEY DOES NOT IDENTIFY THE LIMITS OR EXTENT OF POTENTIAL JURISDICTIONAL WETLAND BOUNDARIES.
15. FENCES AND WALLS EXISTING ON, OVER OR ADJACENT TO SUBJECT PROPERTY, ARE DISPLAYED HEREON; OWNERSHIP WHETHER SINGULAR OR JOINT WAS NOT DETERMINED BY THIS SURVEY.
16. 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)."
17. 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.
18. CERTAIN INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY, AND/OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR AS NOTED OR DISPLAYED HEREON.
19. THE UNDERGROUND UTILITIES DEPICTED BY PIPE LINE/TYPES 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.
20. TREE SIZE (DIAMETER AS MEASURED IN INCHES AT BREAST HEIGHT), COMMON NAME, SPECIES, CONDITION, AND NOTATIONS OF THE TREES LISTED HEREON WERE FURNISHED TO THE SURVEYOR BY CPH, INC. ENVIRONMENTAL DEPARTMENT. SEE SHEETS 2 OF 2 FOR TREE LOCATIONS FOR SPECIFIC NUMBERED TREES. ALL OTHER TREES ARE AS NOTED BY SYMBOL AND SIZE.

Abbreviation Legend:

(A)	– ACTUAL	MH	– MANHOLE
A/C	– AIR CONDITIONER	MLP	– METAL LIGHT POLE
ACSM	– AMERICAN CONGRESS ON SURVEYING & MAPPING	MPH	– MILES PER HOUR
ADA	– AMERICANS WITH DISABILITIES ACT	MPP	– METAL POWER POLE
ALTA	– AMERICAN LAND TITLE ASSOCIATION	N/A	– NOT APPLICABLE
APPROX	– APPROXIMATE	NAVD	– NORTH AMERICAN VERTICAL DATUM
ARV	– AIR RELEASE VALVE	NAD	– NORTH AMERICAN DATUM
AVE	– AVENUE	NG	– NATURAL GROUND
AVG	– AVERAGE	NGS	– NATIONAL GEODETIC SURVEY
(BB)	– BEARING BASIS	NGVD	– NATIONAL GEODETIC VERTICAL DATUM
BFP	– BACK FLOW PREVENTER	N & D	– NAIL AND DISK
BLK	– BLOCK	NO.	– NUMBER
BLDG	– BUILDING	NR	– NON-RADIAL
BLVD	– BOULEVARD	NSPS	– NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
BM	– BENCH MARK	NT	– NON-TANGENT
BOC	– BACK OF CURB	NTS	– NOT TO SCALE
BOW	– BACK OF WALK	OD	– OUTSIDE DIAMETER
BSL	– BUILDING SETBACK LINE	ORB	– OFFICIAL RECORDS BOOK
BWF	– BARBED WIRE FENCE	OR	– OFFICIAL RECORDS
C-X	– DENOTES SHEET NUMBERING FOR ENGINEERING PLANS	OUL	– OVERHEAD UTILITY LINES
(C)	– CALCULATED	OTL	– OVERHEAD TRAFFIC LINES
C	– CHORD	(P)	– PLAT
CATV	– CABLE TELEVISION RISER	PB	– PLAT BOOK
CB	– CHORD BEARING	PC	– POINT OF CURVATURE
CBS	– CONCRETE BLOCK STRUCTURE	PCC	– POINT OF COMPOUND CURVATURE
C.C.R.	– CERTIFIED CORNER RECORD	PCP	– PERMANENT CONTROL POINT
C&G	– CURB & GUTTER	PFF	– PROPOSED FINISHED FLOOR
CI	– CATCH INLET	PG	– PAGE
C/L	– CENTERLINE	PGS	– PAGES
CLF	– CHAIN LINK FENCE	PI	– POINT OF INTERSECTION
CM	– CONCRETE MONUMENT	PIV	– POST INDICATOR VALVE
CMP	– CORRUGATED METAL PIPE	PK	– PARKER KAYLON
CO	– CLEANOUT	POB	– POINT OF BEGINNING
CONC	– CONCRETE	POC	– POINT OF COMMENCEMENT
COR	– CORNER	POL	– POINT ON LINE
CRPP	– CORRUGATED PLASTIC PIPE	PP	– POWER POLE
CUE	– COUNTY UTILITY EASEMENT	PRC	– POINT OF REVERSE CURVATURE
CWS	– CROSSWALK SIGNAL	PRM	– PERMANENT REFERENCE MONUMENT
Δ	– DELTA	PSM	– PROFESSIONAL SURVEYOR & MAPPER
(D)	– DESCRIPTION	PT	– POINT OF TANGENCY
DB	– DEED BOOK	PVC	– POLYVINYL CHLORIDE PIPE
DBH	– DIAMETER AT BREAST HEIGHT IN INCHES	PVMT	– PAVEMENT
DE	– DRAINAGE EASEMENT	R42E	– RANGE 42 EAST
DEPT	– DEPARTMENT	R	– RADIUS
DIP	– DUCTILE IRON PIPE	RAD	– RADIAL
DR	– DRIVE	RCP	– REINFORCED CONCRETE PIPE
D/U	– DRAINAGE AND UTILITY EASEMENT	REC	– RECOVERED
(E)	– ENGINEERING PLAN	REV	– REVISION
EJB	– ELECTRIC JUNCTION BOX	RP	– RADIUS POINT
EL	– UNDERGROUND ELECTRICAL LINES	R/W	– RIGHT-OF-WAY
ELEC	– ELECTRIC	RLS	– REGISTERED LAND SURVEYOR
ELEV	– ELEVATION	RP	– RADIUS POINT
ELLIP	– ELLIPTICAL	RWL	– UNDERGROUND RECLAIM WATER LINE
EOI	– END OF INFORMATION	RWM	– RECLAIMED WATER METER
EOP	– EDGE OF PAVEMENT	SE	– SPECIAL EASEMENT
FB	– FIELD BOOK	SEC 26	– SECTION 26
FDOT	– FLORIDA DEPARTMENT OF TRANSPORTATION	SMH	– SANITARY SEWER MANHOLE
FF	– FINISH FLOOR	(SP)	– STATE PLANE
FGI	– FLAT GRATE INLET	SQ	– SQUARE
FGLP	– FIBERGLASS LIGHT POLE	SQ FT	– SQUARE FEET
FHYD	– FIRE HYDRANT	ST	– STREET
FM	– FORCE MAIN	STMH	– STORM DRAINAGE MANHOLE
FND	– FOUND	S/W	– SIDEWALK
FP&L	– FLORIDA POWER AND LIGHT	TB	– TANGENT BEARING
FS	– FLORIDA STATUTES	T51S	– TOWNSHIP 51 SOUTH
(G)	– GRID (STATE PLANE)	TELE	– TELEPHONE
GL	– UNDERGROUND GAS LINES	TL	– OVERHEAD TRAFFIC SIGNAL LINES
GOV'T	– GOVERNMENT	TOB	– TOP OF BANK
GPR	– GROUND PENETRATING RADAR	TOE	– TOE OF SLOPE
GTMH	– GREASE TRAP MANHOLE	TR	– TELEPHONE RISER
HDPE	– HIGH DENSITY POLYETHYLENE PIPE	TRANS	– TRANSFORMER
HWF	– HOG WIRE FENCE	TSB	– TRAFFIC SIGNAL BOX
ID	– IDENTIFICATION	TSSP	– TRAFFIC SIGNAL SUPPORT POLE
ICV	– IRRIGATION CONTROL VALVE	TVL	– UNDERGROUND CABLE TV LINES
INFO	– INFORMATION	(TYP)	– TYPICAL
INV	– INVERT	UE	– UTILITY EASEMENT
IP	– IRON PIPE	UNK	– UNKNOWN
IP&C	– IRON PIPE & CAP	UTL	– UNDERGROUND TELEPHONE LINES
IR	– IRON ROD	W/	– WITH
IR&C	– IRON REBAR & CAP	WL	– UNDERGROUND WATER LINE
IRR	– IRRIGATION	WLP	– WOOD LIGHT POLE
L	– ARC LENGTH	WM	– WATER METER
LB#	– LICENSED BUSINESS NUMBER	WP	– WORK PROGRAM
LP	– LIGHT POLE	WPF	– WOOD POST FENCE
(M)	– MEASURED	WPP	– WOOD POWER POLE
MB	– MAP BOOK	WV	– WATER VALVE
MBX	– MAILBOX		
MES	– MITERED END SECTION		

Line Legend:
NOT 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
= ORANGE PAINT LINE
= GREEN PAINT LINE
= RED PAINT LINE
= WHITE PAINT LINE
= PURPLE PAINT LINE
= BLUE PAINT LINE
= YELLOW PAINT LINE

Symbol Legend:
NOT TO SCALE

- AIR RELEASE VALVE
- BORING HOLE LOCATION
- BRICK PAVERS
- CABLE TV RISER
- CENTRAL ANGLE
- CLEAN OUT
- CONCRETE
- CONCRETE LIGHT POLE
- CONCRETE LIGHT POLE (DUAL)
- CONCRETE LIGHT POLE (TRIPLE)
- CONCRETE LIGHT POLE (QUAD)
- CONCRETE MITERED END SECTION
- CONCRETE PAVERS
- CONCRETE RIP RAP
- CONCRETE UTILITY POLE
- COUNTY ROAD SYMBOL
- CROSSWALK SIGNAL POLE
- DETECTABLE WARNING AREA
- DUAL SUPPORT SIGN
- ELECTRICAL MANHOLE
- ELECTRIC METER
- ELECTRICAL JUNCTION BOX
- ELECTRIC OUTLET
- ELECTRIC RISER
- FIBER OPTIC MARKER
- FIRE HYDRANT
- FLOOD LIGHT
- FOUND CONCRETE MONUMENT (AS NOTED)
- FOUND IRON PIPE (AS NOTED)
- FOUND IRON REBAR (AS NOTED)
- FOUND/SET NAIL (AS NOTED)
- GARBAGE CAN
- GAS MARKER
- GAS VALVE
- GOPHER TORTOISE HOLE
- GRATE INLET
- GRAVEL/DIRT
- GREASE TRAP MANHOLE
- GROUND LIGHT
- GUY ANCHOR
- HANDICAP PARKING SPACE
- INTERSTATE SYMBOL
- IRRIGATION CONTROL VALVE
- LIGHT POLE
- LIGHT POLE (DUAL)
- LIGHT POLE (TRIPLE)
- LIGHT POLE (QUAD)
- MAILBOX
- MONITOR WELLS
- NAIL & DISC (AS NOTED)
- PARKING SPACES (2)
- PULL BOX (AS NOTED)
- REVISION NUMBER (3)
- RECLAIMED WATER METER
- RECLAIMED WATER VALVE
- ROOF DRAIN
- SANITARY SEWER MANHOLE
- SANITARY SEWER VALVE
- SCHEDULE B ITEM NUMBER (8)
- SECTION CORNER
- 4" X 4" CM LB #7143
- 5/8" IR&C LB #7143
- SIGN
- SITE BENCH MARK
- STORM SEWER MANHOLE
- STRIPING (DIRECTIONAL)
- TELEPHONE CABLE RISER
- TELEPHONE MANHOLE
- TELEPHONE JUNCTION BOX
- TEST HOLE
- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL SUPPORT POLE
- UNKNOWN MANHOLE
- UNKNOWN UTILITY MARKER
- UNKNOWN RISER
- UNKNOWN VALVE
- VENT (AS NOTED)
- WATER METER
- WATER SERVICE
- WATER SPIGOT
- WATER SPRINKLER
- WATER VALVE
- WELL
- WETLAND FLAG
- WOOD UTILITY POLE
- WATER LINE MARKER
- WIRE HEIGHTS (SEE CHART)

Sign Legend:
NOT TO SCALE

(R1)	ROW NUMBER SIGN
(B)	BUS STOP SIGN
(DE)	DEAD END SIGN
(DNE)	DO NOT ENTER SIGN (R5-1)
(HC)	HANDICAP SIGN
(HC)	DUAL HANDICAP SIGN
(INFO)	INFORMATION SIGN
(KR)	KEEP RIGHT SIGN
(LTO)	LEFT TURN ONLY
(ME)	MEDIAN SIGN
(ND)	NO DUMPING SIGN
(NL)	NO LEFT TURN SIGN (R3-2)
(NLI)	NO LITTERING SIGN
(NO)	NO OUTLET SIGN
(FL)	NO PARKING FIRE LANE SIGN
(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
(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)	UNKNOWN SIGN
(WL)	WEIGHT LIMIT SIGN
(WW)	WRONG WAY SIGN
(Y)	YIELD SIGN
(YP)	YIELD TO PEDESTRIAN SIGN

Reference Material

1) GOLDEN ISLES SECTION "E", A SUBDIVISION ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 46, PAGE 20, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

2) FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP SECTION# 86200-2102, DATED 1-18-63.

Parking Table

STANDARD SPACES =	31*
ACCESSIBLE HANDICAP SPACES =	2
TOTAL SPACES =	33

(*-INCLUDES 3 UNMARKED SPACES WITH CURB STOPS)

NOTE:
THIS SURVEY IS NOT VALID WITHOUT SHEETS 1 THROUGH 2 OF 2.

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C.O.A. = CERTIFICATE OF AUTHORIZATION Arch.= ARCHITECTURAL
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No. = NUMBER P.O. = POST OFFICE © = COPYRIGHT

Index of Sheets

1 ALTA/NSPS LAND TITLE SURVEY (COVER SHEET)
2 ALTA/NSPS LAND TITLE SURVEY (BOUNDARY SURVEY)

Surveyor's Certification:

Certified to: SunTrust Bank, a Georgia Banking corporation
First American Title Insurance Company
National Retail Properties, LP, a Delaware limited partnership

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1-5, 6(a)(none provided), 7(a), 8, 9, 11(observed only), 13 and 14 of Table A thereof. The field work was completed on June 28, 2017.

Also

I hereby certify that the attached "ALTA/NSPS Land Title 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 June 28, 2017. I further certify that this "Boundary & Topographic Survey" meets the standards of practice set forth in Rule Chapter 5J-17 of the Florida Administrative Code, pursuant to FS 472.027.

For the Firm By: _____
Paul J. Katrek
Professional Surveyor and Mapper
Florida Registration No. 6233

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• Connecticut
• Maryland
• Texas

No.	Date	Revision	By
1	9/25/17	ADDED TREE LIST	JTF
2	8/21/17	ADDED SANITARY SEWER INFORMATION	PJK

Field Crew:	L.S.
Drawn by:	J.T.F.
Checked by:	R.L.R.
Approved by:	P.J.K.
Scale:	N/A
Date:	6/28/17
Job No.:	S13365
File: S13365.dwg	© 2017

Survey Prepared By:
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Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Lndscp. Lic. No. LC0000298

BOUNDARY & TOPOGRAPHIC SURVEY
ALSO BEING AN
(ALTA/NSPS LAND TITLE SURVEY)

SunTrust Bank
1900 E HALLANDALE BEACH BLVD
SECTION 26-TOWNSHIP 51 SOUTH-RANGE 42 EAST
CITY OF HALLANDALE, BROWARD COUNTY, FLORIDA

Sheet No.
1
of 2

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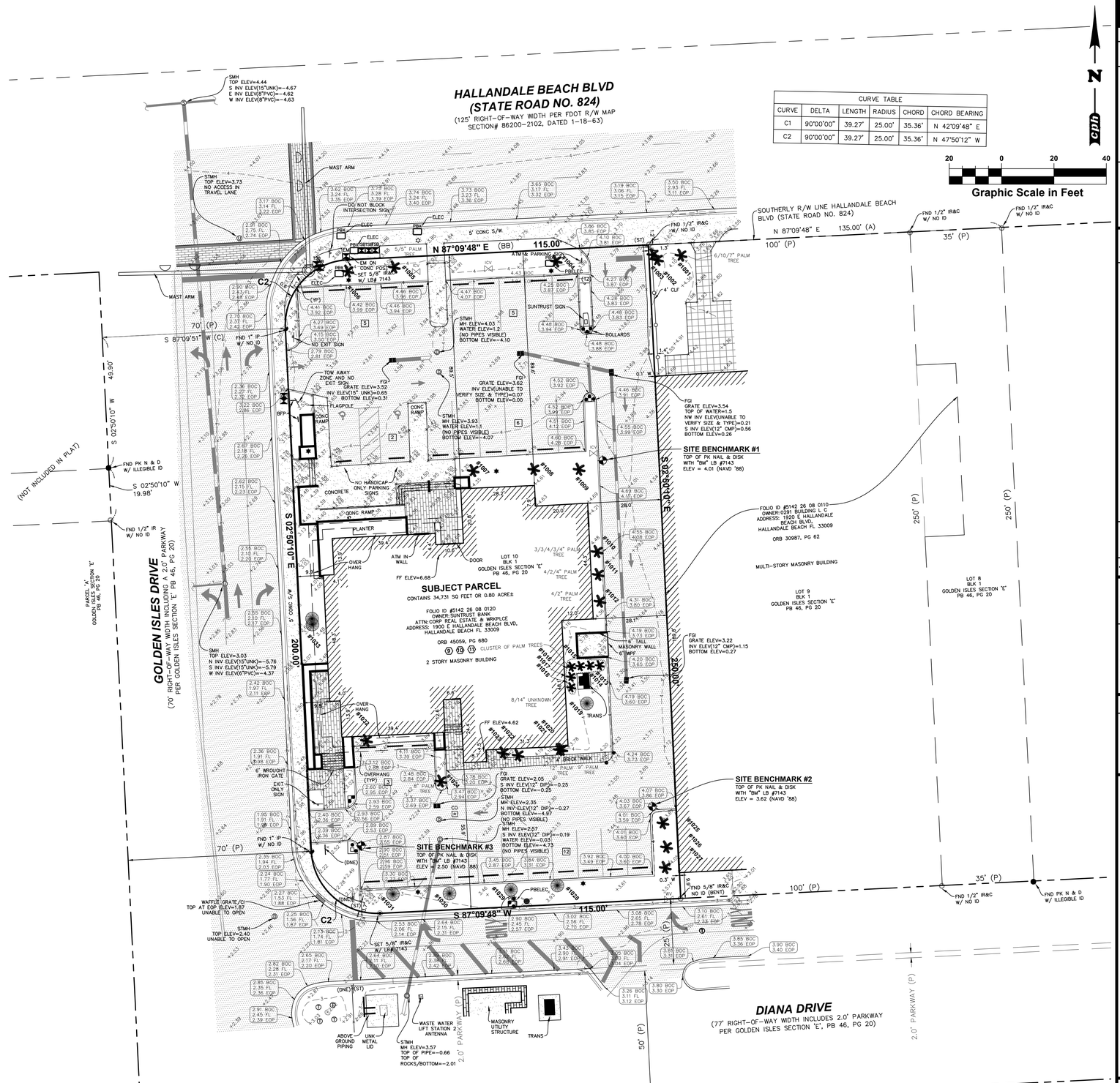
TREE LIST

*–DENOTES MULTITRUNK TREE. DBH IS THE SUM OF DIAMETERS OF INDIVIDUAL TRUNKS.

Tree #	DBH (in.)	Common Name	Botanical Name	Height (ft.)	Condition	Disposition	Credits
1001	28.5*	Piccabeen Pal□	*Archontophoenix cunninghamiana*	40	Fair	REMAIN	0
1002	16	Cabbage Pal□	*Sabal palmetto*	15	Good	REMAIN	0
1003	18	Cabbage Pal□	*Sabal palmetto*	15	Good	REMAIN	0
1004	4	Ale□ander Pal□	*Ptychosperma elegans*	25	Fair	RELOCATE	0
1005	5	Ale□ander Pal□	*Ptychosperma elegans*	30	Fair	RELOCATE	0
1006	5.5	Ale□ander Pal□	*Ptychosperma elegans*	30	Fair	RELOCATE	0
1007	8.5*	Ale□ander Pal□	*Ptychosperma elegans*	40	Fair	RELOCATE	0
1008	8*	Ale□ander Pal□	*Ptychosperma elegans*	40	Fair	RELOCATE	0
100□	4.5	Ale□ander Pal□	*Ptychosperma elegans*	40	Fair	RELOCATE	0
1010	15.5*	Areca Pal□	*Dypsis lutescens*	25	Fair	RELOCATE	0
1011	□*	Areca Pal□	*Dypsis lutescens*	25	Fair	RELOCATE	0
1012	6*	Areca Pal□	*Dypsis lutescens*	30	Fair	RELOCATE	0
1013	7*	Areca Pal□	*Dypsis lutescens*	20	Fair	REMAIN	0
1014	14.5*	Areca Pal□	*Dypsis lutescens*	20	Fair	REMAIN	0
1015	15*	Areca Pal□	*Dypsis lutescens*	20	Fair	REMAIN	0
1016	5.5*	Areca Pal□	*Dypsis lutescens*	20	Fair	REMAIN	0
1017	12*	Areca Pal□	*Dypsis lutescens*	20	Fair	REMAIN	0
1018	15*	Areca Pal□	*Dypsis lutescens*	20	Fair	REMAIN	0
101□	1□.5*	Green Buttonwood	*Conocarpus erectus*	40	Poor	REMAIN	3
1020	8.5	Chinese Fan Pal□	*Livistona chinensis*	6	Fair	REMOVE	0
1021	7	Chinese Fan Pal□	*Livistona chinensis*	4	Fair	REMOVE	0
1022	16.5*	Travelers Pal□	*Ravenala madagascariensis*	20	Poor	RELOCATE	0
1023	8	Cabbage Pal□	*Sabal palmetto*	10	Fair	REMOVE	0
1024	8	Cabbage Pal□	*Sabal palmetto*	20	Fair	REMOVE	0
1025	7	□ueen Pal□	*Syagrus romanzoffiana*	20	Poor	REMOVE	0
1026	6.5	□ueen Pal□	*Syagrus romanzoffiana*	15	Poor	REMAIN	0
1027	8	□ueen Pal□	*Syagrus romanzoffiana*	15	Poor	REMAIN	0
1028	33*	Green Buttonwood	*Conocarpus erectus*	35	Poor	REMAIN	3
102□	13	Green Buttonwood	*Conocarpus erectus*	20	Poor	REMAIN	3
1030	8	Green Buttonwood	*Conocarpus erectus*	20	Poor	REMAIN	3
1031	12	Green Buttonwood	*Conocarpus erectus*	25	Poor	REMAIN	3
1032	8	Chinese Fan Pal□	*Livistona chinensis*	10	Fair	REMOVE	0
1033	33.5*	Black Olive	*Bucida buseras*	50	Fair	REMAIN	4
					TOTAL CREDITS		16



CURVE TABLE					
CURVE	DELTA	LENGTH	RADIUS	CHORD	CHORD BEARING
C1	90°00'00"	39.27'	25.00'	35.36'	N 42°09'48" E
C2	90°00'00"	39.27'	25.00'	35.36'	N 47°50'12" W

NOTE:
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Sheet No.
2
of 2

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GENERAL PROVISIONS

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

2. 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.

3. 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 SAME.

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

1. 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.

6. 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

1. 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 RESPONSIBLE 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.

2. 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.

   I. 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.

   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.

   L. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.

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

   N. ANY ADDITIONAL INFORMATION REQUIRED BY GOVERNING AGENCIES.

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

1. 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 APPROVED M.O.T.

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 MAINTAINED DURING CONSTRUCTION.

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.

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.

8. 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, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.

4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS 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 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.

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 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, WATER MANAGEMENT DISTRICT 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.

4. 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 EQUIPMENT NEEDED EXCEEDS ANY OF THE FOLLOWING: 1) 6" PUMP 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.

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

1. 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.

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

3. 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.

4. 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.

5. 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

1. 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.

2. 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.

7. 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.

8. 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.

9. 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 EASEMENTS = 95 PERCENT; BACKFILL 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.

2. 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.

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

   C. 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.

WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER AND RECLAIMED WATER SYSTEMS SHOWN ON THESE PLANS IS THE GOVERNING AGENCY. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE GOVERNING AGENCY.

2. INSTALL ALL WATER AND RECLAIMED 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 ACCORDANCE WITH ANSI/AWWA C105/A21.5.

4. 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.

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.

6. 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.

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 BE USED.

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 THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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".

20. 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.

21. 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.

22. 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.

23. 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.

24. 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.

25. 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.

26. 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 LEAKS.

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

28. 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.

29. 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.

30. 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.

31. 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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03-21-18

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Date: 07/17

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GENERAL NOTES SHEET

SUNTRUST

CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.2

32. 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.

33. 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.

34. 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.

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

36. ALL TAPS REQUIRED FOR FLUSHING AND THE TEMPORARY OR PERMANENT RELEASE OF AIR AS NEEDED FOR FLUSHING SHALL BE PROVIDED BY THE CONTRACTOR.

37. 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.

38. 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

1. 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.

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

3. 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.

5. 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.

8. 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. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

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

16. 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

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

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.

4. 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 MANUFACTURER.

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).

6. 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.

7. 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.

9. 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 LEAKS.

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.

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 RE-TESTED FOR LEAKAGE.

FORCE MAIN SYSTEMS

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

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 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.

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 LOCAL UTILITY.

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 BE USED.

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 THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER.

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 COLOR SHALL BE AS SELECTED BY THE LOCAL UTILITY.

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 PV, OR APPROVED EQUAL.

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 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.

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 "SEWER".

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.

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 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.

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 INSPECTED OR TESTED.

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 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 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 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, OR AS NOTED ON PLANS.

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).

PRECAST STRUCTURES AND APPURTENANCES

1. 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.

2. 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.

3. 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.

6. 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

1. 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 COVER 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.

3. 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.

5. 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.

SIGNS AND PAVEMENT MARKINGS

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.

2. ALL ROADWAY PAVEMENT MARKINGS SHALL BE THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 - 4" x 4"). RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH THESE PLANS AND FDOT INDEX NO. 17352.

3. 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.

3. 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 FEET.

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.

5. 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 NOTES.

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 LOCATION.

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. 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.

30. 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.

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YVONNE PAGUADA, P.E.
FL LIC NO. 67437
03-21-18

No.	Date	Revision
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Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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GENERAL NOTES SHEET

SUNTRUST

CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.3

LOCAL JURISDICTIONAL NOTES

LOCAL UTILITY NOTES:

SYMBOLS:

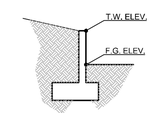
- XX.XX / XX.XX — TOP OF CURB ELEV. / PAVEMENT ELEV.
- XX.XX — PAVEMENT ELEV.
- 10 — PARKING SPACE COUNT
- DIRECTION OF FLOW
- X.X% — SLOPE OF FLOW
- RR — RIP RAP - GROUTED
- C.O. — CLEAN OUT
- D.S. — DOWN SPOUT
- STORM / SANITARY MANHOLE
- DITCH BOTTOM INLET
- MITERED END SECTION
- FLARED END SECTION
- "U" TYPE END WALL
- FLUME
- CURB INLETS
- NYLOPLAST DRAIN BASIN
- RETAINING WALL
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER LINE FITTINGS
- GATE VALVE
- REDUCER
- PC1 — PIPE CROSSING
- UTILITY POLE
- SITE LIGHTING
- FLAG POLE
- TRANSFORMER
- A A — CROSS SECTION (SEE CONSTRUCTION DETAILS SHEET)

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
CE	- CONSTRUCTION ENTRANCE
C/L	- CENTERLINE
CMP	- CORRUGATED METAL PIPE
CO	- CLEAN OUT
CONC	- CONCRETE
DEPT	- DEPARTMENT
DS	- DOWN SPOUT
ELEC	- ELECTRIC
EM	- ELECTRICAL METER
ELEV	- ELEVATION
EOP	- EDGE OF PAVEMENT
FDC	- FIRE DEPARTMENT CONNECTION
FDOT	- FLORIDA DEPARTMENT OF TRANSPORTATION
FF	- FINISH FLOOR
FG	- FINISH GRADE
FH	- FIRE HYDRANT
FM	- FORCE MAIN
FOC	- FACE OF CURB
FP&L	- FLORIDA POWER AND LIGHT
GOV'T	- GOVERNMENT
HB	- HOSE BIB
HC	- ADA ACCESSIBLE
HDPE	- HIGH DENSITY POLYETHYLENE PIPE
INV	- INVERT
IRR	- IRRIGATION
ME	- MATCH EXISTING ELEVATION
MES	- MITERED END SECTION
MH	- MANHOLE
PVC	- POLYVINYL CHLORIDE PIPE
PVMT	- PAVEMENT
R	- RADIUS
RCP	- REINFORCED CONCRETE PIPE
REV	- REVISION
R/W	- RIGHT-OF-WAY
SF	- SQUARE FEET
S/W	- SIDEWALK
TOB	- TOP OF BANK
TOE	- TOE OF SLOPE
TW	- TOP OF WALL
TYP	- TYPICAL
UNK	- UNKNOWN
UTL	- UNDERGROUND TELEPHONE LINES
W/	- WITH
WV	- WATER VALVE

PAINT STRIPING ABBREVIATIONS:

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



RETAINING WALL ELEVATION

LINE TYPES:

- GUIDE RAIL
- BASIN LINE
- BUILDING SETBACK LINE
- FENCE (AS NOTED ON PLAN)
- CATV — CABLE TELEVISION
- EC — CONDUIT ELECTRIC
- TC — CONDUIT TELEPHONE
- DC — CONDUIT DATA
- CN-F — CONSTRUCTION FENCE (AS NOTED ON PLAN)
- XX — CONTOUR ELEVATION
- EASEMENT
- E — ELECTRIC LINE
- FO — FIBER OPTIC
- FW — FIRE WATER
- FM — FORCE MAIN
- G — GAS LINE
- H.P. — HIGH POINT
- IC — IRRIGATION LINE
- LANDSCAPE BUFFER
- LOD — LIMITS OF DISTURBANCE
- OHE — OVERHEAD ELECTRIC
- PROPERTY LINE
- RAILROAD
- RWM — RECLAIM WATER
- S — SANITARY SEWER
- STORM PIPE
- TS — TAMPER SWITCH
- T — TELEPHONE LINE
- SF — TEMPORARY SILT FENCE
- UB — UTILITY BOLLARD CONDUIT
- W — WATER MAIN
- WALL (AS NOTED ON PLAN)

SIGNS:

- (B) — BUS STOP (R7-7)
- (DNE) — DO NOT ENTER (R5-1)
- (FL) — NO PARKING - FIRE LANE (R7-94)
- (HC) — HANDICAP (FTP-25)
- (KR) — KEEP RIGHT (R4-7A)
- (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) — X — 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)
- (DT) — RESERVED DRIVE-THRU PARKING

NOTE:

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

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YVONNE PAGUADA, P.E.
FL LIC NO. 67437
03-21-18

No.	Date	Revision

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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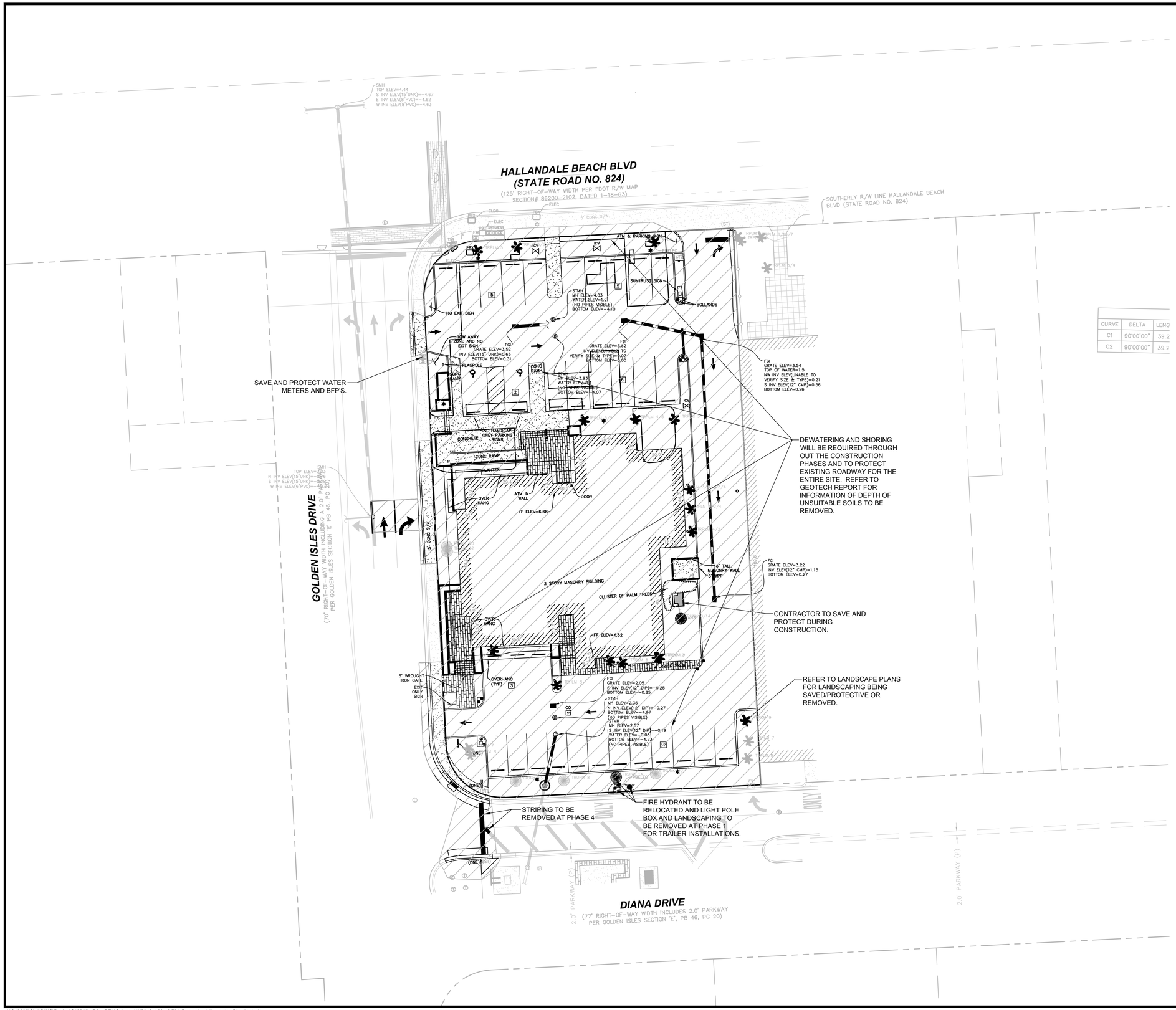
GENERAL NOTES, LEGENDS, AND SYMBOLS SHEET

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.4


HALLANDALE BEACH BLVD
(STATE ROAD NO. 824)
(125' RIGHT-OF-WAY WIDTH PER FDOT R/W MAP SECTION# 86200-2102, DATED 1-18-63)
SOUTHERLY R/W LINE HALLANDALE BEACH BLVD (STATE ROAD NO. 824)
GOLDEN ISLES DRIVE
(70' RIGHT-OF-WAY WIDTH INCLUDING A 2.0' PARKWAY PER GOLDEN ISLES SECTION "E" PB 46, PG 20)
DIANA DRIVE
(77' RIGHT-OF-WAY WIDTH INCLUDES 2.0' PARKWAY PER GOLDEN ISLES SECTION 'E', PB 46, PG 20)
2.0' PARKWAY (P)
SAVE AND PROTECT WATER METERS AND BFP'S.
DEWATERING AND SHORING WILL BE REQUIRED THROUGH OUT THE CONSTRUCTION PHASES AND TO PROTECT EXISTING ROADWAY FOR THE ENTIRE SITE. REFER TO GEOTECH REPORT FOR INFORMATION OF DEPTH OF UNSUITABLE SOILS TO BE REMOVED.
CONTRACTOR TO SAVE AND PROTECT DURING CONSTRUCTION.
REFER TO LANDSCAPE PLANS FOR LANDSCAPING BEING SAVED/PROTECTIVE OR REMOVED.
STRIPING TO BE REMOVED AT PHASE 4
FIRE HYDRANT TO BE RELOCATED AND LIGHT POLE BOX AND LANDSCAPING TO BE REMOVED AT PHASE 1 FOR TRAILER INSTALLATIONS.
2 STORY MASONRY BUILDING
CLUSTER OF PALM TREES
ATM & PARKING SIGN
SUNTRUST SIGN
BOLLARDS
NO EXIT SIGN
FLAGPOLE
CONCRETE
HANDICAP ONLY PARKING SIGN
CONC RAMP
PLANTER
OVER HANG
ATM IN WALL
DOOR
FF ELEV=6.68
FF ELEV=4.62
6' TALL MASONRY WALL
6' WROUGHT IRON GATE
EXIT ONLY SIGN
OVERHANG (TYP)
FGI
GRATE ELEV=3.54
TOP OF WATER=1.5
NW INV ELEV(UNABLE TO VERIFY SIZE & TYPE)=0.21
S INV ELEV(12" CMP)=0.56
BOTTOM ELEV=0.26
FGI
GRATE ELEV=3.22
INV ELEV(12" CMP)=1.15
BOTTOM ELEV=0.27
FGI
GRATE ELEV=2.05
S INV ELEV(12" DIP)=-0.25
BOTTOM ELEV=-0.25
STMH
MH ELEV=2.35
N INV ELEV(12" DIP)=-0.27
BOTTOM ELEV=-4.97
(NO PIPES VISIBLE)
STMH
MH ELEV=2.57
IS INV ELEV(12" DIP)=-0.19
WATER ELEV=-0.03
BOTTOM ELEV=-4.73
(NO PIPES VISIBLE)
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WATER ELEV=1.21
(NO PIPES VISIBLE)
BOTTOM ELEV=-4.10
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GRATE ELEV=3.52
INV ELEV(15" UNK)=0.63
BOTTOM ELEV=0.31
FGI
GRATE ELEV=3.62
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BOTTOM ELEV=0.00
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(NO PIPES VISIBLE)
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TOW ANAY ZONE AND NO EXIT SIGN
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TOP ELEV=4.44
S INV ELEV(15"UNK)=-4.67
E INV ELEV(8"PVC)=-4.62
W INV ELEV(8"PVC)=-4.63
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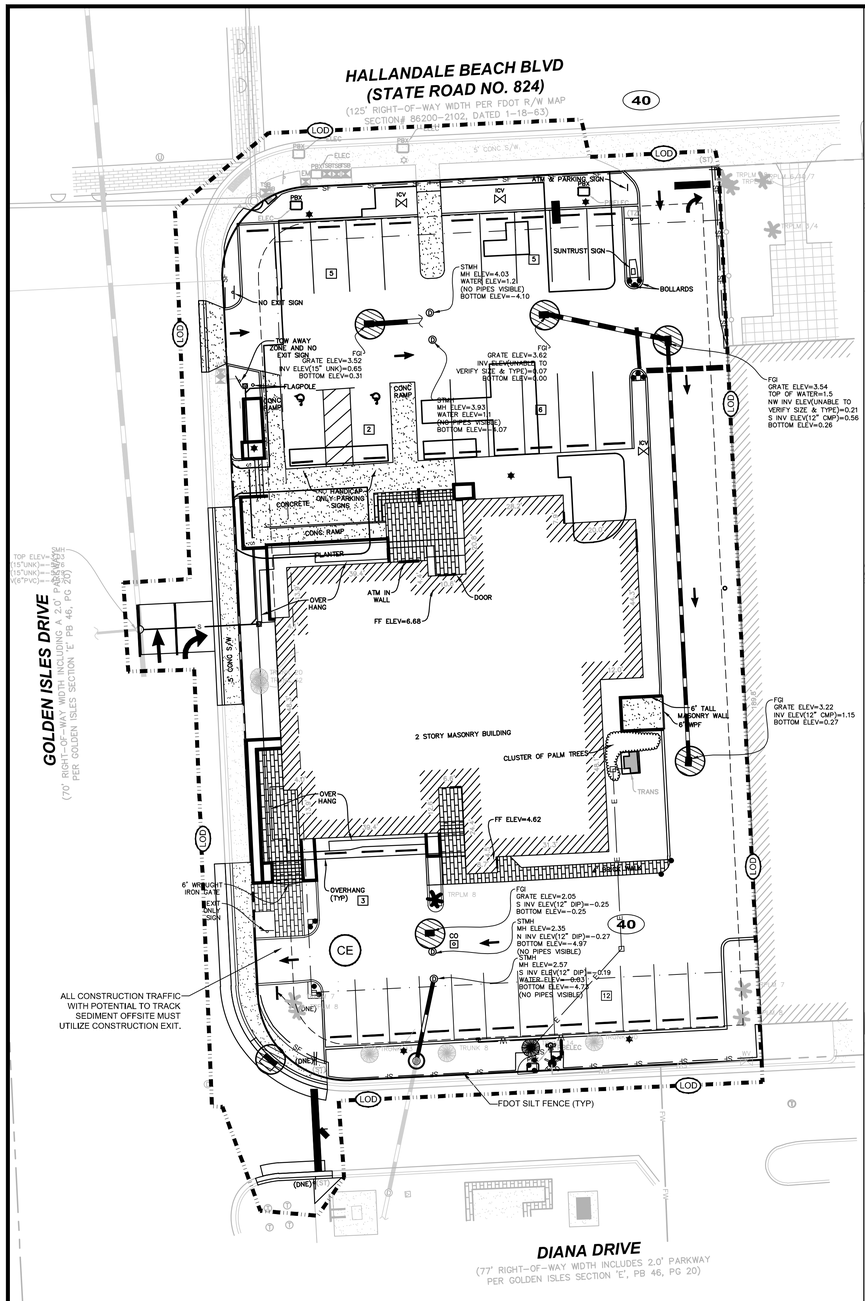
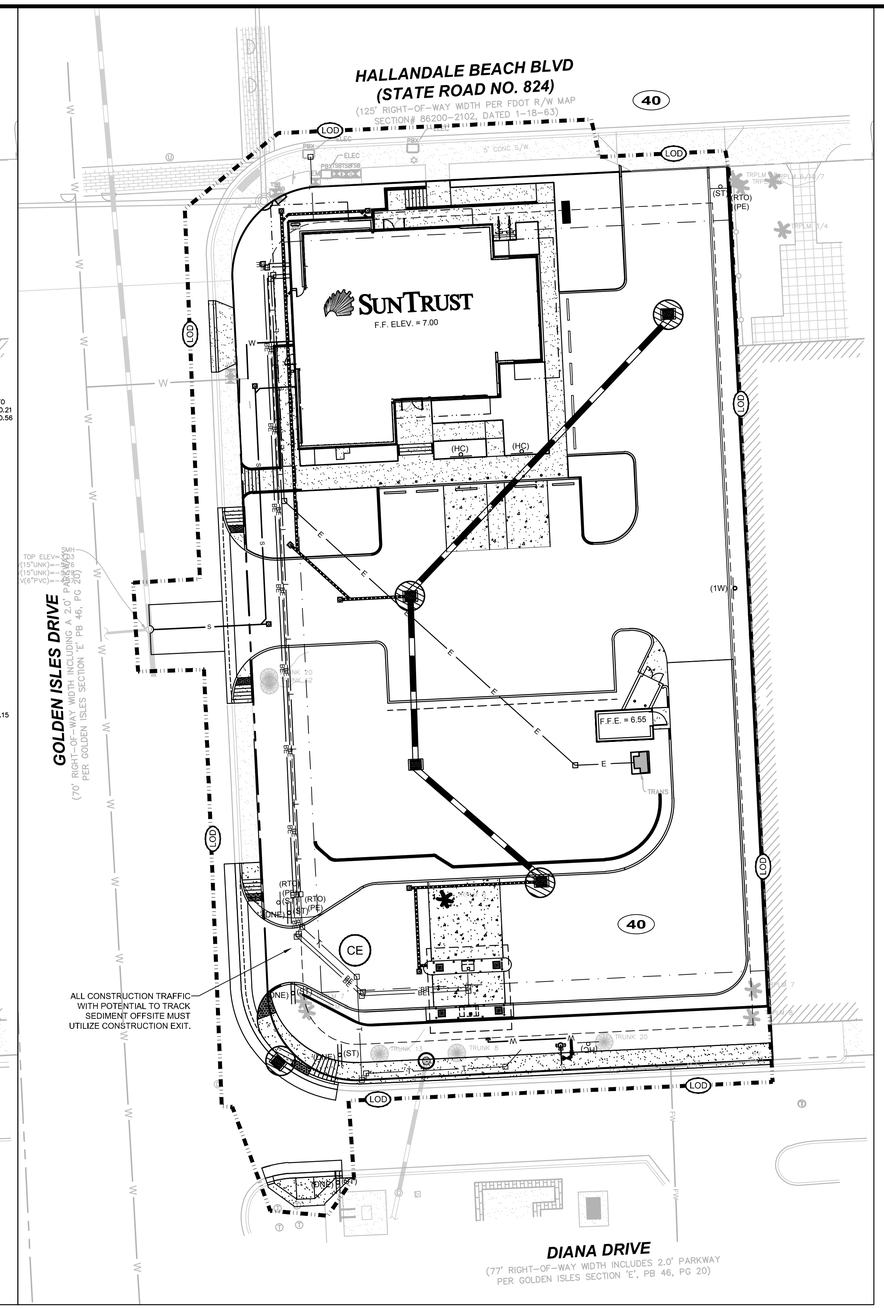


PHASE 1



FINAL PHASE

N

Graphic Scale in Feet (20 0 20 40)

LEGEND:

- LOD — LIMITS OF DISTURBANCE
- SOIL BOUNDARY
- SF — SILT FENCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- BARRICADE (AT ALL ENTRANCE LOCATIONS W/O TEMPORARY CONSTRUCTION ACCESS)
- INLET PROTECTION
- CE — CONSTRUCTION ENTRANCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- 40 — SOIL TYPE: URBAN LAND

ACREAGE SUMMARY	
TOTAL SITE AREA	0.80 A.C.
TOTAL DISTURBED AREA	0.97 A.C.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name (Operator and/or Responsible Authority) _____ Date _____

Project Name and location information:

cph
www.cphcorp.com
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Panama City, FL 32405
Ph: 850.563.1490
Licenses:
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Lndscp. Lic. No. LC0000298
YVONNE PAGUADA, P.E.
FL LIC. No. 81437
04/06/18

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Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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STORMWATER POLLUTION PREVENTION PLAN

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C1.1

STORMWATER POLLUTION PREVENTION NOTES

THESE PLANS HAVE BEEN PREPARED TO ASSIST THE CONTRACTOR IN OBTAINING COVERAGE UNDER THE FDEP GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE PERMIT REQUIREMENTS AND MODIFY THESE PLANS AS NEEDED TO BE IN COMPLIANCE WITH THE PERMIT REQUIREMENTS.

SITE DESCRIPTION

A. SITE LOCATION
1900 E. HALLANDALE BEACH BOULEVARD HALLANDALE, BROWARD COUNTY, FLORIDA
SECTION 26, TOWNSHIP 51 SOUTH, RANGE 42 EAST
LATITUDE: 25.9853758"N LONGITUDE: -80.129965"W

B. SITE CONDITIONS & ACTIVITIES NARRATIVE:
THE EXISTING CONDITION OF THE SITE IS DEVELOPED. DURING CONSTRUCTION THE SITE WILL BE CLEARED AND GRUBBED. THIS PROJECT WILL HAVE NO MAJOR EFFECT ON ANY THE ABUTTING PROPERTIES.

WETLANDS/BUFFERS

NO WETLANDS OR BUFFERS ARE ASSOCIATED WITH THIS PROJECT.

SWPPP INTENT

THE INTENT OF THIS SWPPP IS TO COMPLY WITH THE INTENT OF THE GENERIC PERMIT AND TO PREVENT THE RELEASE OF SOILS, TRASH, CHEMICALS, TOXINS AND OTHER POLLUTANTS, BY WATER , AIR, VEHICLE TRANSPORT OR OTHER MEANS THAT CAN IMPACT STORM WATER QUALITY. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GENERIC PERMIT AND RETAIN ON-SITE FOR FUTURE REFERENCE. THE CONTRACTOR SHALL READ AND UNDERSTAND THE PERMIT, AND ENSURE THAT THE BMP'S ARE INSTALLED AND THE EXECUTION OF THE WORK IS PERFORMED TO MEET THE INTENT OF THE GENERIC PERMIT AND THE SWPPP.

POTENTIAL SOURCES OF POLLUTION

THE POTENTIAL SOURCES OF POLLUTION THAT MAY REASONABLY BE EXPECTED TO AFFECT THE QUALITY OF STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY INCLUDE: SEDIMENT, PESTICIDES, FERTILIZER, PLASTER, CLEANING SOLVENTS, ASPHALT, CONCRETE, GLUE, ADHESIVES, PAINTS, CURING COMPOUNDS, WOOD PRESERVATIVES, HYDRAULIC OIL FLUIDS, GASOLINE, DIESEL FUEL AND KEROSENE.

SEQUENCE OF CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION HAS BEEN DEVELOPED AS A GUIDE FOR THE CONTRACTOR. THE CONTRACTOR SHALL SEQUENCE THE CONSTRUCTION AS NEEDED BASED ON BEST MEANS AND METHODS IN ORDER TO BE IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS. THE INSTALLATION OR REMOVAL OF BMPS, EARTH DISTURBANCE, GRADING, TEMPORARY STABILIZATION AND PERMANENT STABILIZATION SHALL BE IMMEDIATELY NOTED IN THE SWPPP IMPLEMENTATION LOG. ALL TEMPORARY BMPS SHALL BE REPAIRED AND MAINTAINED UNTIL STABILIZATION HAS OCCURRED AND THERE IS NO RISK OF DISCHARGE. TEMPORARILY SEED, IMMEDIATELY AND THROUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.

1. POST A COPY OF THE NOI OR LETTER FROM FDEP CONFIRMING COVERAGE UNDER THE GENERIC PERMIT, AND THE NAME AND PHONE NUMBER OF THE CONTRACTOR'S REPRESENTATIVE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL INSTALLATION AND MAINTENANCE ON A 24 HOUR BASIS.
2. INSTALL PERIMETER CONTROLS IMMEDIATELY DOWNSTREAM OF THE PLANNED LOCATION OF THE CONSTRUCTION EXIT.
3. INSTALL STABILIZED CONSTRUCTION EXIT.
4. INSTALL PERMITER CONTROLS. THE CONTRACTOR SHALL INSTALL THE REMAINING BMPS AS SHOWN AND AS REQUIRED TO MEET PERMIT REQUIREMENTS. SOME BMP INSTALLATIONS MAY NOT BE POSSIBLE AT THE BEGINNING OF THE PROJECT BUT MUST BE INSTALLED AS SOON AS POSSIBLE TO ENSURE COMPLIANCE.
5. INSTALL TEMPORARY STAGING AND STORAGE AREAS.
6. CONSTRUCT AND STABILIZE THE SEDIMENT BASINS AND SEDIMENT TRAPS WITH APPROPRIATE OUTFALL STRUCTURES, IF REQUIRED.
7. CONSTRUCT AND STABILIZE HYDRAULIC CONTROLS (DITCHES, SWALES, DIKES, CHECK DAMS, ETC.), IF REQUIRED.
8. BEGIN DEMOLITION, CLEARING AND GRUBBING OPERATIONS AS APPLICABLE.
9. BEGIN CONSTRUCTION OF SITE IMPROVEMENTS.
10. PAVE SITE AND STABILIZE PER PLAN.
11. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER SITE HAS ACHIEVED FINAL STABILIZATION.
12. SUBMIT NOTICE OF TERMINATION (NOT) ONCE ALL CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED PER PLAN.

GENERAL NOTES

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FILE "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES" (DEP FORM 62-621.300(4)(B) OR LATEST VERSION) TO FDEP TO THE FOLLOWING ADDRESS OR THROUGH THE FDEP ON-LINE SYSTEM AT LEAST TWO (2) DAYS BEFORE COMMENCEMENT OF CONSTRUCTION:

NPDES STORMWATER NOTICES CENTER, MS #2510 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, 2600 BLAIR STONE ROAD, TALLAHASSEE, FLORIDA 32399-2400

THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 14 CALENDAR DAYS AFTER THE SITE HAS ACHIEVED FINAL STABILIZATION (I.E. ALL DISTURBED SOILS AT THE SITE HAVE BEEN FINAL STABILIZED), TEMPORARY BMPS HAVE BEEN REMOVED, AND STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE AUTHORIZED BY THE PERMIT HAVE BEEN ELIMINATED.

AN ENVIRONMENTAL RESOURCE PERMIT IS REQUIRED FOR THE PROJECT. CONTRACTOR SHALL PROVIDE THE PERMIT INFORMATION ON THE NOI APPLICATION.

MS4 OPERATOR NAME (IF ANY): XXXXX

THE CONTRACTOR SHALL PROVIDE A COPY OF THE NOI AND SUBSEQUENT NOT OR THE ACKNOWLEDGEMENT LETTERS FOR THE NOI OR NOT TO THE MS4 WITHIN 7 DAYS OF RECEIPT. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE MS4 TO ENSURE THAT ALL SPECIFIC REQUIREMENTS ARE MET.

B. WHERE PRACTICAL, STORMWATER SHALL BE CONVEYED BY SWALES. SWALES SHALL BE CONSTRUCTED AS SHOWN ON PLANS.

C. EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:

I. IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.
II. NEW AND EXISTING STORMWATER INLETS AND OUTFALL STRUCTURES SHALL BE PROTECTED DURING CONSTRUCTION. PROTECTION MEASURES SHALL BE EMPLOYED IMMEDIATELY AS REQUIRED DURING THE VARIOUS STAGES OF CONSTRUCTION.
III. PERIMETER EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION HAS BEEN ESTABLISHED

D. CLEARING AND GRUBBING OPERATIONS SHALL BE CONTROLLED SO AS TO MINIMIZE UNPROTECTED ERODIBLE AREAS EXPOSED TO WEATHER. GENERAL EROSION CONTROL BMP'S SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION AND OFF-SITE SEDIMENTATION. WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED PRIOR TO ANY CONSTRUCTION ACTIVITY.

E. THE CONTRACTOR SHALL FURNISH, INSTALL PER THE SEQUENCE OF CONSTRUCTION, MAINTAIN AND SUBSEQUENTLY REMOVE, ALL NECESSARY TEMPORARY BMPS. THE CONTRACTOR WILL FURNISH AND INSTALL ALL NECESSARY PERMANENT BMPS.

F. THE CONTRACTOR SHALL ADJUST, ADD OR MODIFY BMPS AS NECESSARY TO COMPLY WITH THE INTENT OF THE GENERIC NPDES PERMIT AND THE SWPPP FOR NO ADDITIONAL COMPENSATION. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO ADJUSTING, ADDING OR MODIFYING BMPS THAT AFFECT THE HYDRAULICS OF THE SITE OR BEFORE ADDING BMPS NOT DETAILED IN THE SWPPP.

G. THE CONTRACTOR IS ADVISED THAT THE CONTRACT DRAWINGS ONLY INDICATE EROSION, SEDIMENT, AND TURBIDITY CONTROLS AT LOCATIONS DETERMINED IN THE DESIGN PROCESS. HOWEVER, THE CONTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL CONTROLS NECESSARY TO PREVENT THE POSSIBILITY OF SILTING ANY ADJACENT LOWLAND PARCEL OR RECEIVING WATER.

H. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN THE CONSTRUCTION DOCUMENTS SHOULD BE CONSIDERED TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDENT UPON THE STAGE OF CONSTRUCTION, THE SEVERITY OF THE RAINFALL EVENT AND/OR AS DEEMED NECESSARY AS A RESULT OF ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR THE APPLICABLE JURISDICTIONAL AUTHORITIES. THESE ADDITIONAL MEASURES (IF NEEDED) SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BEST MANAGEMENT PRACTICES (BMPS). THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS SPECIFIED IN FDOT INDEXES #100 THROUGH #102 AND AS NECESSARY FOR EACH SPECIFIC APPLICATION. IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO ASSURE THAT THE STORMWATER DISCHARGE FROM THE SITE DOES NOT EXCEED THE TOLERANCES ESTABLISHED BY ANY OF THE APPLICABLE JURISDICTIONAL AUTHORITIES.

I. THE CONTRACTOR SHALL KEEP THE SWPPP CURRENT AT ALL TIMES. THE CONTRACTOR SHALL SIGN AND DATE ANY CHANGES TO THE SWPPP AND KEEP THEM AS ATTACHMENTS TO THE ORIGINAL PLAN. WHENEVER ANY OF THE FOLLOWING EVENTS OCCUR, THE CONTRACTOR SHALL UPDATE THE SWPPP WITHIN 7 DAYS:
I. THERE IS A CHANGE IN DESIGN, CONSTRUCTION OPERATION OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE FROM THE PROJECT
II. THERE IS A NEW DISCHARGE POINT OUR OUTFALL
III. THERE IS A CHANGE IN THE LOCATION OF A DISCHARGE POINT OF OUTFALL
IV. AN INSPECTION REVEALS THAT BMPS ARE INEFFECTIVE AT ELIMINATING OR MINIMIZING POLLUTANTS IN THE STORMWATER DISCHARGED FROM THE SITE.
V. THERE IS A NEW SUBCONTRACTOR IMPLEMENTING ANY PORTION OF THE SWPPP
VI. A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR GREATER THAN A REPORTABLE QUANTITY OCCURS DURING A 24-HOUR PERIOD

J. THE CONTRACTOR SHALL ENSURE THAT THE CONTRACTOR AND ALL SUBCONTRACTORS RESPONSIBLE FOR IMPLEMENTING SWPPP CONTROL MEASURES FILL OUT THE CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE INCLUDED IN THIS SWPPP.

K. THE CONTRACTOR SHALL COMPLETE THE CONSTRUCTION SEQUENCE TABLE INCLUDING IN THIS SWPPP PRIOR TO PROCEEDING WITH THE INSTALLATION OF BMPS AND PRIOR TO GROUND DISTURBING ACTIVITIES. THE CONTRACTOR SHALL COMPLETE THE TABLE WITH ANTICIPATED DATES IN WHICH THE BMP WILL BE UTILIZED OR THE ACTIVITY WILL OCCUR.

TURBIDITY

A. TURBIDITY REDUCTION TO NO MORE THAN 29 NTUs ABOVE BACKGROUND LEVEL PRIOR TO DISCHARGE OFF SITE.

B. CONTRACTOR TO FILE FOR A FDEP NOTICE OF INTENT (NOI) WITHIN 14 DAYS OF CONSTRUCTION COMPLETION.

STABILIZATION

A. STABILIZATION MEASURES SHALL BE INITIATED IMMEDIATELY IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND WILL REMAIN UNDISTURBED FOR 7 DAYS OR MORE. STABILIZE BY COVERING WITH ADEQUATE AMOUNTS OF MULCH OVER SEED AND PERIODICALLY WATER TO PROMOTE AND MAINTAIN GROWTH OF THE TEMPORARY GROUNDCOVER, OR BY THE USE OF AN APPROPRIATE ALTERNATIVE BMP.

B. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREAS SHALL BE COMPLETED IMMEDIATELY AFTER FINAL GRADING. WHEN IT IS NOT POSSIBLE TO PERMANENTLY PROTECT A DISTURBED AREA IMMEDIATELY AFTER GRADING OPERATIONS, TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED. ALL TEMPORARY PROTECTION SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE AND ESTABLISHED.

C. ALL GRASS SLOPES CONSTRUCTED STEEPER THAN 4H:1V SHALL BE SODDED IMMEDIATELY AFTER FINAL GRADE IS ESTABLISHED.

DUST CONTROL

A. BARE EARTH AREAS SHALL BE WATERED DURING CONSTRUCTION AS NECESSARY TO MINIMIZE THE TRANSPORT OF FUGITIVE DUST. IN NO CASE SHALL FUGITIVE DUST BE ALLOWED TO LEAVE THE SITE UNDER CONSTRUCTION.

B. AS REQUIRED AFTER COMPLETION OF CONSTRUCTION, BARE EARTH AREAS SHALL BE VEGETATED.

AT ANY TIME BOTH DURING AND AFTER SITE CONSTRUCTION THAT WATERING AND/OR VEGETATION ARE NOT EFFECTIVE IN CONTROLLING WIND EROSION AND/OR TRANSPORT OF FUGITIVE DUST, OTHER METHODS AS ARE NECESSARY FOR SUCH CONTROL SHALL BE EMPLOYED. THESE METHODS MAY INCLUDE ERECTION OF DUST CONTROL FENCES.

WASTE MANAGEMENT

A. THE CONTRACTOR SHALL ENSURE THAT ALL WASTE AND DEBRIS ARE MANAGED DAILY SUCH THAT THEY WILL NOT IMPACT STORMWATER OR LEAVE THE PERMITTED AREA, AND DISPOSED OF PROPERLY IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS.

B. THE CONTRACTOR SHALL ENSURE THAT ALL CHEMICALS, OILS, FUELS, HAZARDOUS WASTE, UNIVERSAL WASTE AND TOXIC SUBSTANCES ARE PROPERLY MANAGED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL ENSURE THAT WASTE IS NOT DISCHARGED FROM THE SITE, AND DOES NOT IMPACT STORMWATER OR GROUNDWATER.

C. THE CONTRACTOR SHALL PROVIDE APPROPRIATE AND ADEQUATE WASHOUT FACILITIES TO ENSURE THAT CHEMICALS AND WASTE IS NOT DISCHARGED FROM THE SITE, AND DO NOT IMPACT STORMWATER OR GROUNDWATER. (E.G. CONCRETE/MASONRY WASHOUT, PAINT WASHOUT, EIFS, ETC.) THE CONTRACTOR SHALL CLEAN UP SPILLS PROMPTLY AND ENSURE THAT WASHOUT AREAS ARE PROPERLY MAINTAINED TO PROVIDE ADEQUATE VOLUME TO PREVENT OVERFLOW.

D. THE CONTRACTOR SHALL PROVIDE ADEQUATE SANITARY FACILITIES FOR SITE PERSONNEL, MAINTAIN THROUGHOUT CONSTRUCTION, AND PROVIDE FOR PROPER DISPOSAL IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. SANITARY FACILITIES SHALL BE PROPERLY SECURED TO PREVENT TIPPING.

E. A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND IT'S LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGEAND SHOWN ON THE SITE MAPS.
A. THE SPILL CONTROL AND CONTAINMENT KIT SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.

F. WHEN A SPILL OF REPORTABLE QUANTITIES IS DISCOVERED ON THE SITE, THE CONTRACTOR SHALL CLEAN UP ALL SPILLED MATERIALS AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITIES IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS, THE OWNER AND PROJECT ENGINEER. THE CONTRACTOR SHALL RETAIN CLEANUP INFORMATION AS WELL AS DISPOSAL MANIFESTS WITH THEIR SWPPP.

MATERIALS MANAGEMENT, AND EQUIPMENT STAGING AND MAINTENANCE

A. EXCAVATED MATERIAL SHALL NOT BE DEPOSITED IN LOCATIONS WHERE IT COULD BE WASHED AWAY BY HIGH WATER OR STORM WATER RUNOFF. STOCKPILED MATERIAL SHALL BE COVERED OR ENCIRCLED WITH SEDIMENT CONTAINMENT DEVICES.

B. HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES OR SILT SCREENS AROUND, AND SEDIMENT SUMPS WITHIN, SUCH AREAS AS REQUIRED TO CONTAIN SPILLS OR OIL, GREASE, LUBRICANTS, OR OTHER CONTAMINANTS. CONTRACTOR SHALL HAVE AVAILABLE, AND SHALL USE, ABSORBENT FILTER PADS TO CLEAN UP SPILLS IMMEDIATELY AFTER ANY OCCURRENCE.

C. THE CONTRACTOR SHALL ENSURE THAT ALL TOXIC / HAZARDOUS SUBSTANCES AND CHEMICALS ARE PROPERLY STORED, OUT OF THE WEATHER, AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL ENSURE THAT THESE PRODUCTS ARE STORED AND USED IN SUCH A MANNER THAT WILL NOT NEGATIVELY IMPACT STORMWATER, GROUNDWATER OR PROTECTED SPECIES.

D. THE CONTRACTOR SHALL ENSURE THAT ALL MATERIALS, EQUIPMENT, DEBRIS, WASTE, TRAILERS, AND OTHER SUPPORT RELATED ITEMS ARE CONTAINED WITHIN THE PERMITTED LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL ENSURE THAT THE STORAGE AND USE OF SUCH ITEMS DOES NOT NEGATIVELY IMPACT STORMWATER OR GROUNDWATER.

OFFSITE VEHICLE TRACKING

A. THE CONTRACTOR SHALL ENSURE THAT THE CONSTRUCTION EXIT IS USED BY ALL VEHICLES AND EQUIPMENT ENTERING OR LEAVING THE JOBSITE. THE CONTRACTOR SHALL MONITOR AND MAINTAIN THE CONSTRUCTION EXIT TO ENSURE THAT NO SOILS ARE TRACKED OFFSITE BY TIRES OR TRACKS, AND THAT NO SOILS ARE SPILLED BY TRUCKS OR EQUIPMENT LEAVING THE SITE. ALL TRACKED OR SPILLED SOILS SHALL BE SHOVELED OR SWEPT FROM THE ROADWAY AND RETURNED TO THE SITE. WATER SHALL NOT BE USED TO CLEAN THE SOILS FROM THE ROADWAY UNLESS THE WATER AND SOILS ARE RECOVERED BY THE USE OF A VACUUM TRUCK OR SIMILAR DEVICE.

FERTILIZERS, HERBICIDES AND PESTICIDES

A. THE CONTRACTOR SHALL ENSURE THAT ALL FERTILIZERS, HERBICIDES, PESTICIDES AND SIMILAR PRODUCTS ARE PROPERLY STORED, OUT OF THE WEATHER, AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL ENSURE THAT THESE PRODUCTS ARE USED IN SUCH A MANNER THAT WILL NOT NEGATIVELY IMPACT STORMWATER, GROUNDWATER OR PROTECTED SPECIES.

B. NUTRIENTS SHALL BE APPLIED ONLY AT RATES NECESSARY TO ESTABLISH AND MAINTAIN VEGETATION.

INSPECTIONS AND MAINTENANCE

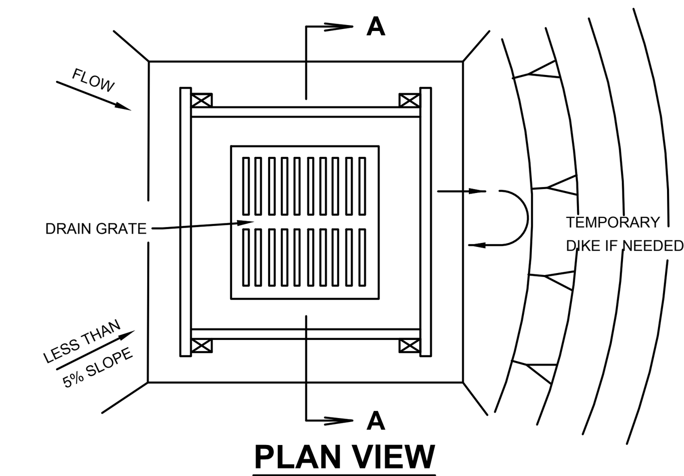
A. THE CONTRACTOR SHALL INSPECT BMPS (I.E. DISCHARGE LOCATIONS, CONSTRUCTION EXIT, PERIMETER CONTROLS, INLET PROTECTION, STABILIZATION, EROSION CONTROL, DOCUMENTATION, WASTE DISPOSAL AREAS, MATERIAL STORAGE AREAS, ETC.) TO ENSURE THAT BMPS ARE NOT CAUSING OR CONTRIBUTION TO VIOLATIONS OF WATER QUALITY STANDARDS OR RESULTING IN OFFSITE SEDIMENTATION; ENSURE THAT BMPS ARE INSTALLED, MAINTAINED AND OPERATING CORRECTLY AND EFFECTIVELY; ENSURE THAT BMPS ASSOCIATED WITH STORAGE AND WASTE DISPOSAL AREAS ARE BEING USED AND MAINTAINED PROPERLY; ENSURE THAT THE CONSTRUCTION EXIT IS FUNCTION PROPERLY TO PREVENT OFFSITE TRACKING OF SEDIMENT; ENSURE THAT EROSION PREVENTION MEASURES ARE MAINTAINED TO PREVENT VISIBLE EROSION OF DISTURBED AREAS AND SEDIMENTATION AT THE DISCHARGE POINTS; AND DETERMINE IF CONSTRUCTION ACTIVITIES HAVE ALTERED THE EFFECTIVENESS OF BMPS. INSPECTIONS MUST BE COMPLETED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS, AND WITHIN 24 HOURS AFTER A RAINSTORM OF 0.50 INCHES OR GREATER EVEN IF IT RAINS ON THE WEEKEND OR A HOLIDAY.

B. THE CONTRACTOR SHALL REPORT ALL INSPECTION FINDINGS AND CORRECTIVE ACTIONS TAKEN AS A RESULT OF THE INSPECTION USING THE STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT FORM PROVIDED BY FDEP OR AN EQUIVALENT FORM. INSPECTION REPORTS SHALL BE SIGNED BY THE INSPECTOR AND A RESPONSIBLE AUTHORITY AS DEFINED BY THE PERMIT. INSPECTION REPORTS SHALL BE MAINTAINED WITH THE SWPPP. THE INSPECTOR MUST BE A QUALIFIED EROSION AND SEDIMENT CONTROL INSPECTOR AS DEFINED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

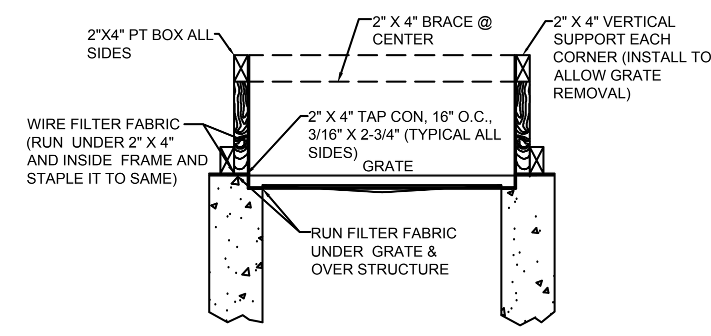
C. ANY MAINTENANCE, REPAIR AND NECESSARY REVISIONS TO BMP ITEMS SHALL BE ADDRESSED IN A TIMELY MANNER, BUT IN NO CASE LATER THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION OR IDENTIFICATION OF THE ISSUE. UNLESS OTHERWISE SPECIFIED, ACCUMULATED SEDIMENTS SHOULD BE REMOVED BEFORE THEY REACH ONE-HALF OF THE CAPACITY OF THE CONTROL DEVICE.

ALLOWABLE NON-STORMWATER DISCHARGES

THE GENERIC PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES PROHIBIT MOST NON-STORMWATER DISCHARGES DURING THE CONSTRUCTION PHASE. CERTAIN DISCHARGES ARE ALLOWED BY THE PERMIT, PROVIDED APPROPRIATE BMP'S ARE UTILIZED AND THE DISCHARGE DOES NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS. ALLOWABLE NON-STORMWATER DISCHARGES THAT OCCUR DURING CONSTRUCTION ON THIS PROJECT PER PART 3.2 OF THE GENERIC PERMIT ARE:
DISCHARGES FROM FIRE FIGHTING ACTIVITIES.
FIRE HYDRANT FLUSHINGS.
WATERS WITHOUT DETERGENTS USED TO SPRAY OFF LOOSE SOLIDS FROM VEHICLES.
WATERS USED TO CONTROL DUST.
POTABLE WATER SOURCES SUCH AS WATERLINE FLUSHINGS.
LANDSCAPE IRRIGATION AND DRAINAGE.
ROUTINE EXTERNAL BUILDING WASHDOWN PROVIDED NO DETERGENTS ARE USED.
PAVEMENT WASHWATERS THAT DO NOT CONTAIN DETERGENTS, LEAKS, SPILLS OF TOXIC OR HAZARDOUS MATERIALS.
AIR CONDITIONING CONDENSATE.
SPRING WATER.
FOUNDATION OR FOOTING DRAIN FLOWS THAT ARE NOT CONTAMINATED WITH PROCESS MATERIAL SUCH AS SOLVENTS.
NONCONTAMINATED GROUND WATER ASSOCIATED WITH DEWATERING ACTIVITIES AS DESCRIBED IN PART 3.4 OF THE GENERIC PERMIT.



PLAN VIEW



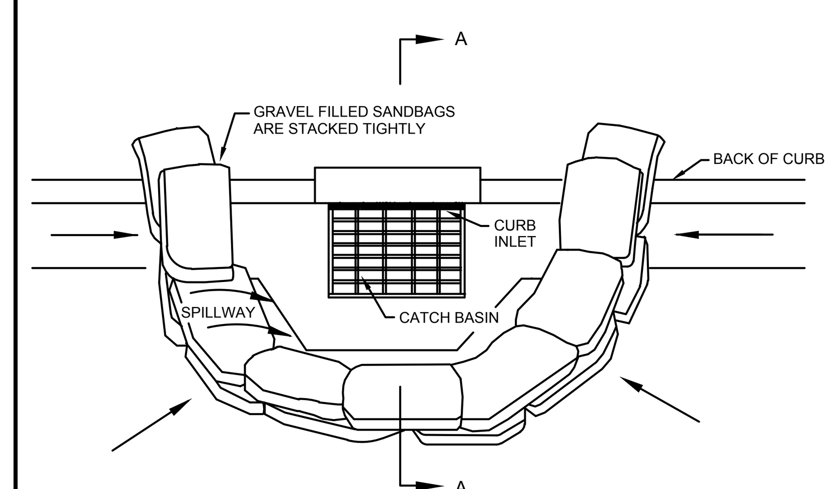
SECTION A - A

NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%).
2. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.
3. FASTEN FRAMING TO STRUCTURE TO ALLOW GRATE REMOVAL.
4. LEAVE EXPOSED EDGE TO ALLOW FOR PAVING TO GRADE

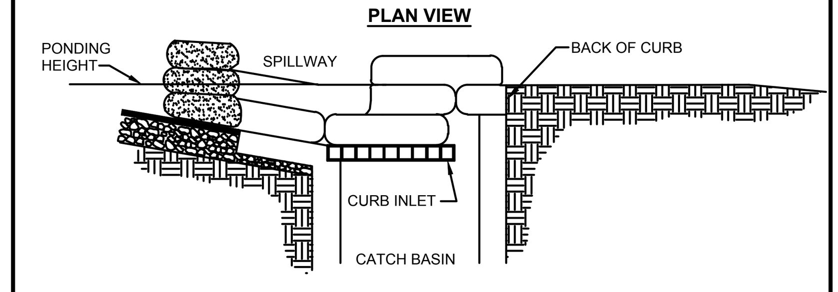
FILTER FABRIC INLET PROTECTION DETAIL

N.T.S.

NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



PLAN VIEW



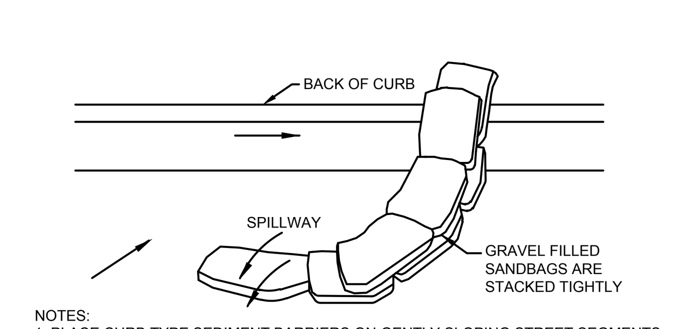
SECTION A-A

NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AS NECESSARY. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET PROTECTION DETAIL

N.T.S.

NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.



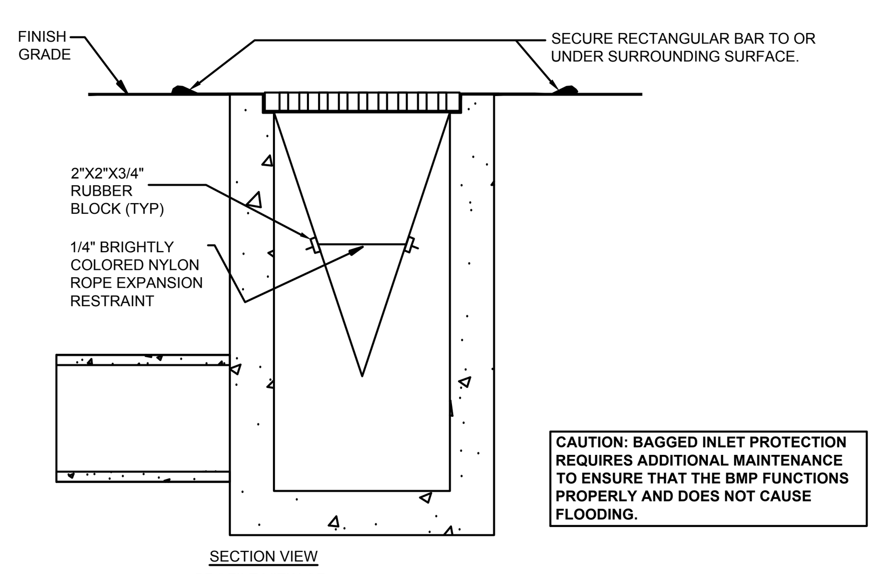
NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. TAPER TO ONE SANDBAG TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AS NECESSARY. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB LINE PROTECTION DETAIL

N.T.S.

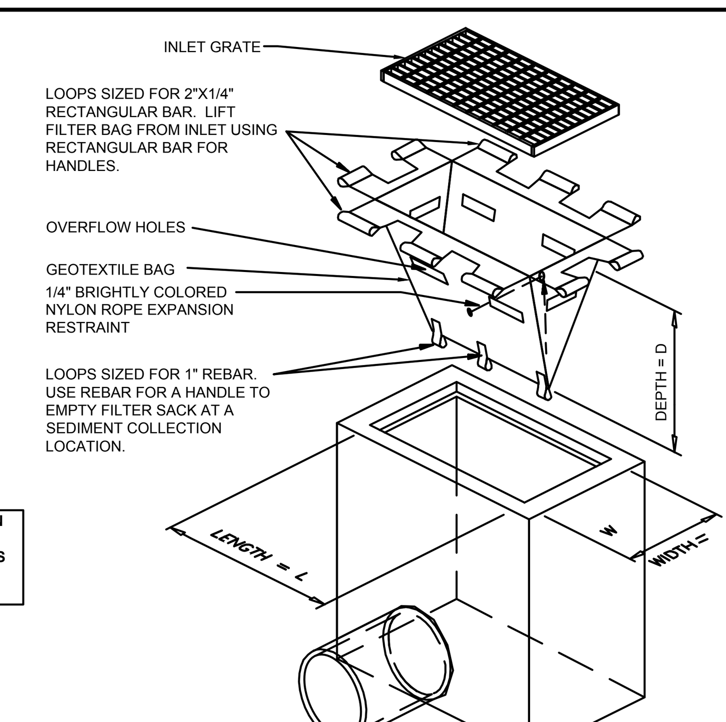
1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY EQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.
8. EXTRA CARE SHALL BE TAKEN TO ENSURE REGULAR MAINTENANCE OF FILTER SACKS USED IN RIGHT OF WAY TO ENSURE ADEQUATE DRAINAGE CAPACITY.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1



SECTION VIEW
PROFILE VIEW OF INSTALLED FILTER SACK

CAUTION: BAGGED INLET PROTECTION REQUIRES ADDITIONAL MAINTENANCE TO ENSURE THAT THE BMP FUNCTIONS PROPERLY AND DOES NOT CAUSE FLOODING.



ISOMETRIC VIEW

GEOTEXTILE BAG INLET PROTECTION DETAIL

N.T.S.

CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE

THIS SWPPP MUST CLEARLY IDENTIFY, FOR EACH MEASURE IDENTIFIED WITHIN THE SWPPP, THE CONTRACTOR(S) OR SUBCONTRACTOR(S) WHO WILL IMPLEMENT EACH MEASURE. ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) IDENTIFIED IN THE SWPPP MUST SIGN THE FOLLOWING CERTIFICATION:

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN."

Name / Signature	Title	Company Name, Address and Phone Number	Date

NOTE: CONTRACTOR TO ADD SHEETS TO CERTIFICATION TABLE AS NECESSARY.

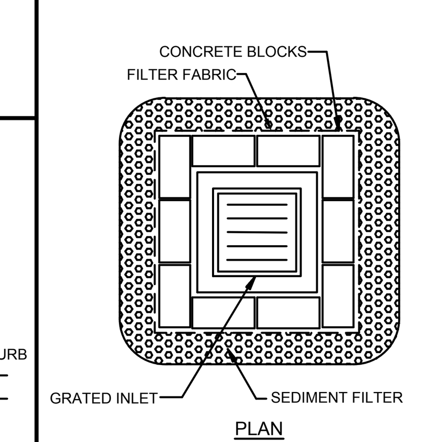
SWPPP IMPLEMENTATION LOG

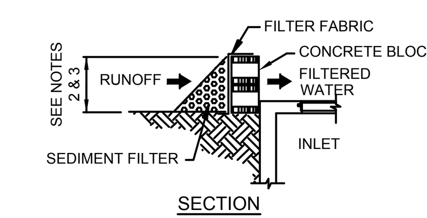
A RECORD OF DATES WHEN BMPs ARE INSTALLED OR REMOVED, STABILIZATION MEASURES ARE INITIATED, MAJOR GRADING ACTIVITIES OCCUR, AND CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON PORTIONS OF THE SITE. THIS FORM MUST BE UPDATED CONTINUOUSLY THROUGHOUT THE PROJECT UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

DESCRIPTION OF ACTIVITY	LOCATION	CONTRACTOR	BEGIN DATE	END DATE

NOTE: CONTRACTOR TO ADD SHEETS TO THE SWPPP IMPLEMENTATION LOG AS NECESSARY.

NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.

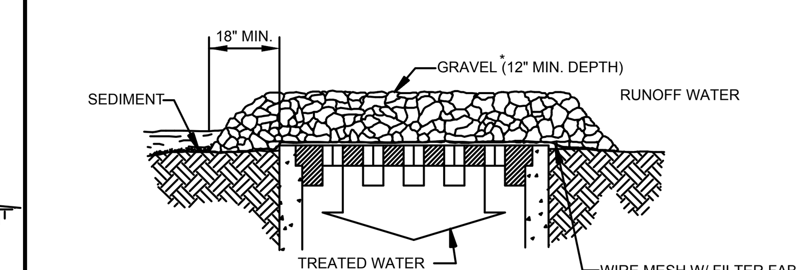




1. PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4-INCH, 8-INCH, OR 12" BLOCKS. MIN.
3. HEIGHT OF BARRIER 12" AND MAX. HEIGHT OF 24" PLACE FILTER FABRIC OVER VERTICAL FACE OF CONCRETE BLOCKS.
4. THE SEDIMENT FILTER SHALL BE ANY NON-ERODIBLE MATERIAL SUCH AS LOOSE ROCK, BROKEN CONCRETE THAT WILL SLOW THE FLOW OF THE WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.

BLOCK AND AGGREGATE INLET SEDIMENT FILTER

N.T.S.



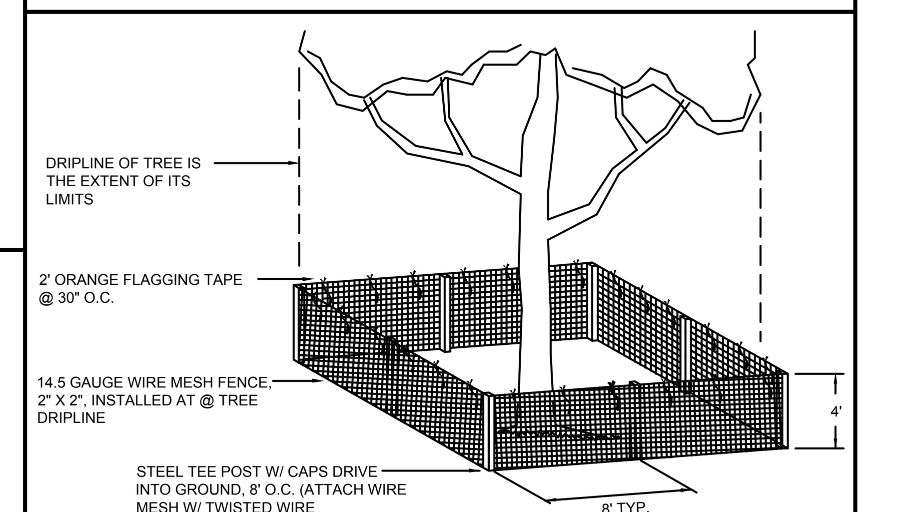
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED ACRES.

* GRAVEL SHALL BE 2"-3" CLEAN STONE

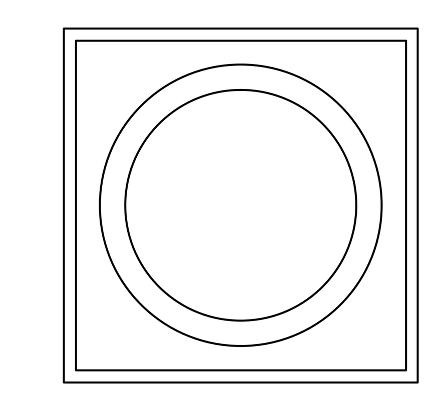
GRAVEL & WIRE MESH INLET SEDIMENT FILTER

N.T.S.

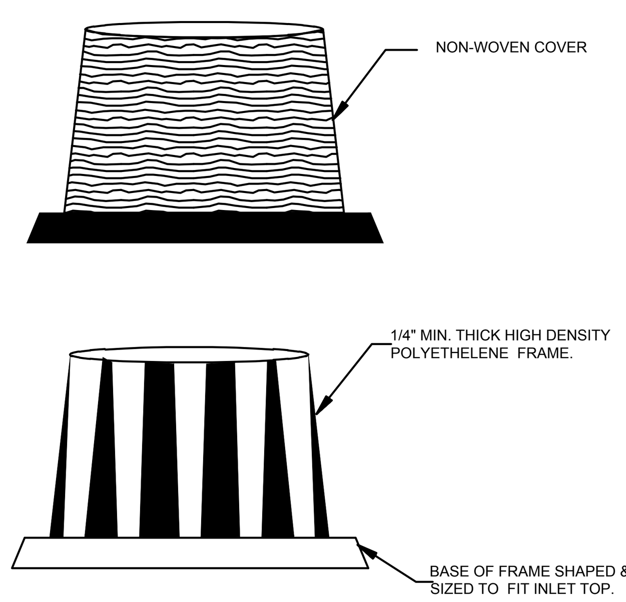


TREE PROTECTION DETAIL

N.T.S.



TOP VIEW



SIDE VIEW

TYPICAL CONSTRUCTION SEQUENCE FOR DOME FRAME & COVER

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.
3. SLIDE THE COVER OVER THE FRAME.
4. FILL THE COVER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE COVER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.
5. BACK FILL AROUND THE FRAME AND COVER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

DOMED INLET PROTECTION (PREFABRICATED)

N.T.S.

CONSTRUCTION SEQUENCING TABLE

ANTICIPATED CONSTRUCTION SEQUENCE*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CONSTRUCTION ENTRANCE												
TEMPORARY CONTROL MEASURES												
STORM FACILITIES												
ROUGH GRADE / SEDIMENT CONTROL												
FOUNDATION / BUILDING CONSTRUCTION												
SITE CONSTRUCTION												
FINISH GRADING												
PERMANENT CONTROL MEASURES												

* THIS IS ONLY A GUIDE, CONTRACTOR IS TO USE HIS JUDGMENT TO MODIFY AS NEEDED.

Stormwater Team

Description	Name	Company
Contractor:		
Contractor's Responsible Authority:		
Qualified Inspector(s):		
Maintenance Personnel:		

The contractor shall complete this table identifying the individuals of the stormwater team and their responsibilities.

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Plans Prepared By:
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1031-C W. 23rd Street
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Licenses:
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Lndscp. Lic. No. LC0000298

YVONNE PAGUADA, P.E.
FL LIC NO. 67437
04-04-18

No.	Date	Revision
1		
2		
3		
4		
5		
6		
7		

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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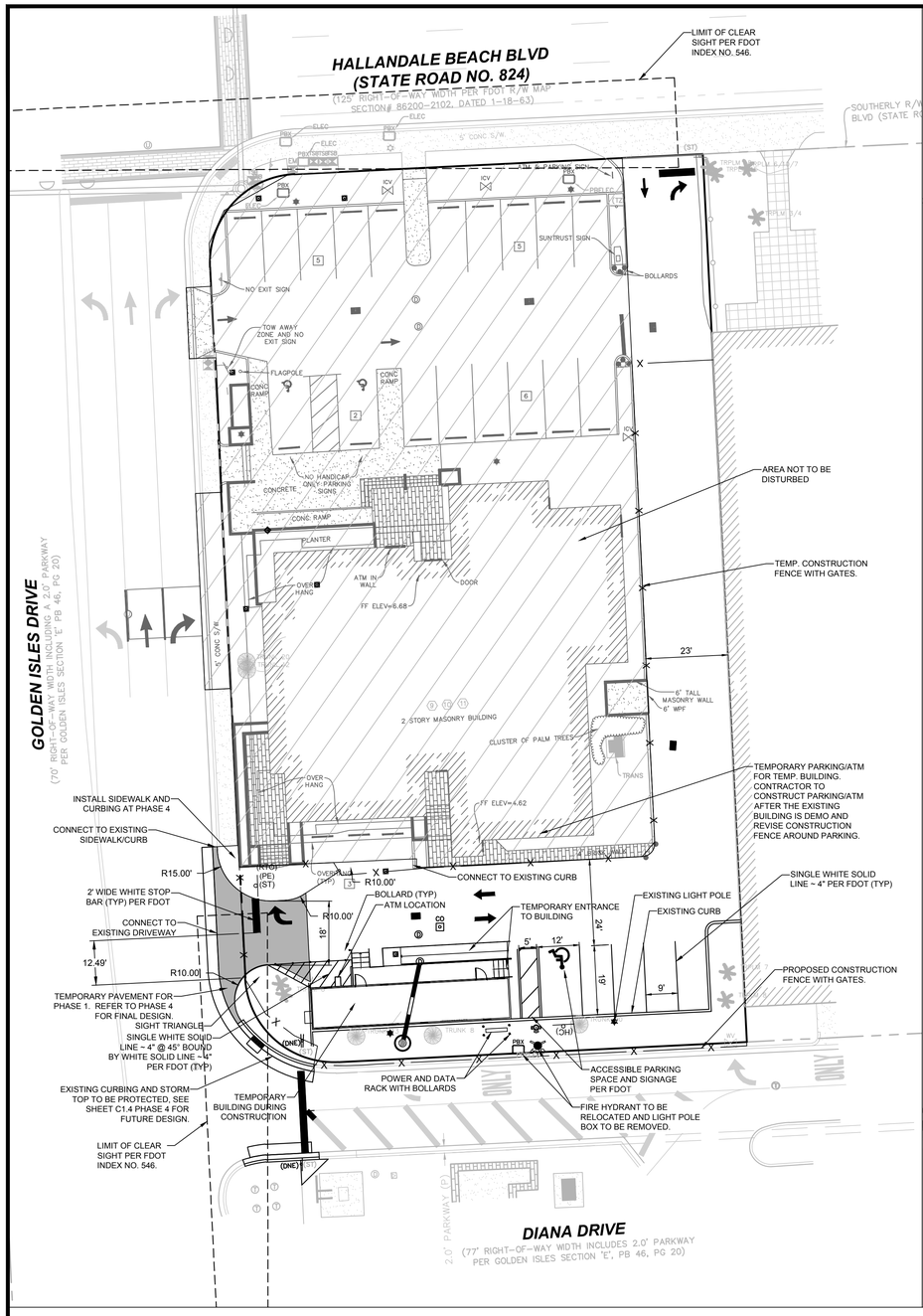
STORMWATER POLLUTION PREVENTION DETAILS

SUNTRUST

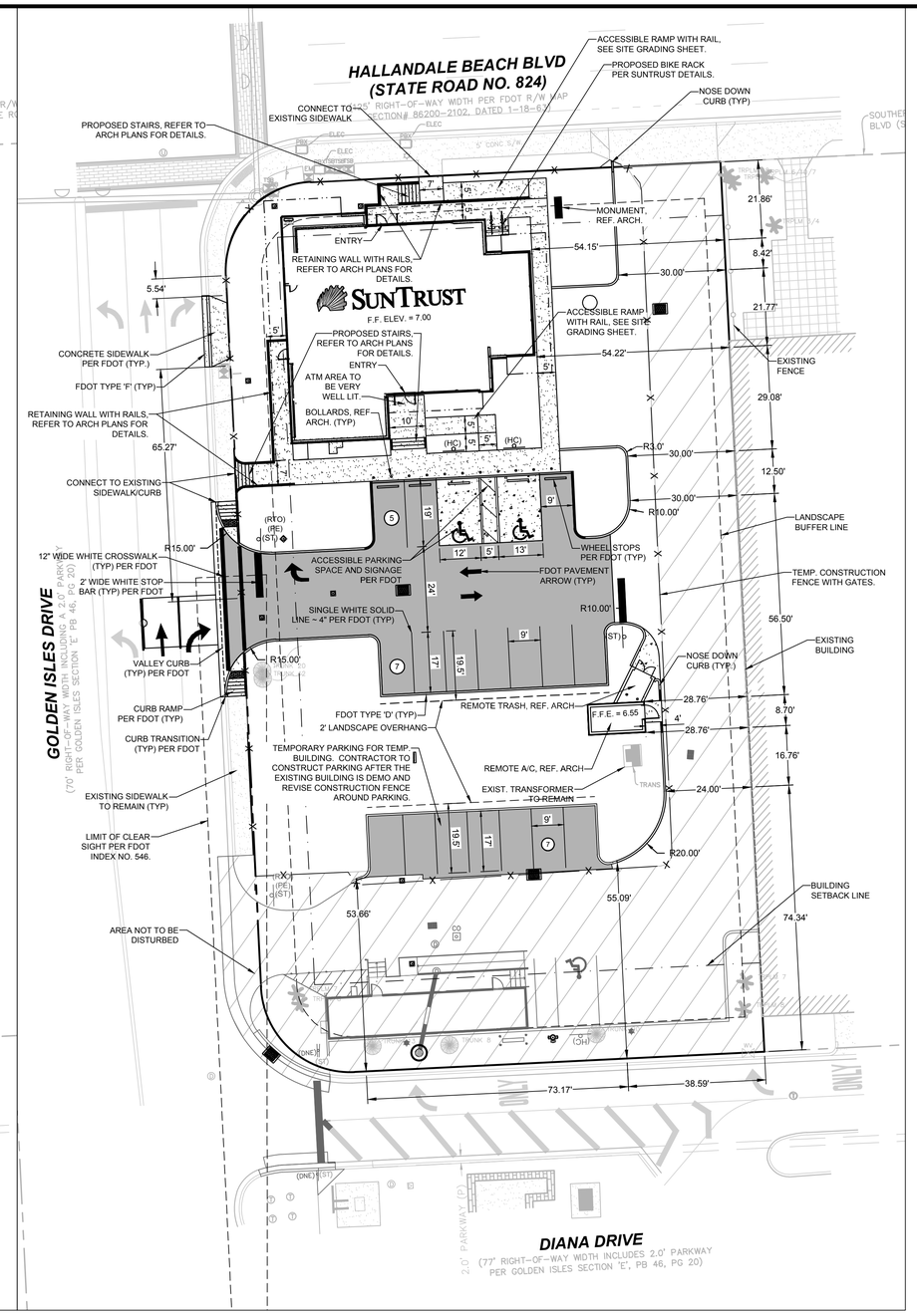
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C1.2



PHASE 1



PHASE 2

N

GRID

1 0 1 2

Graphic Scale in Feet

LEGEND:

- STANDARD DUTY ASPHALT
- CONCRETE SIDEWALK
- BLACK CONCRETE. REF. ARCH. PLANS
- AREA TO BE HAVE LIMITED TO NO DISTURBANCES DURING CONSTRUCTION

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Date: 07/17

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SITE DIMENSION PLAN, PHASE 1 & 2

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CITY OF HALLANDALE BEACH, FLORIDA

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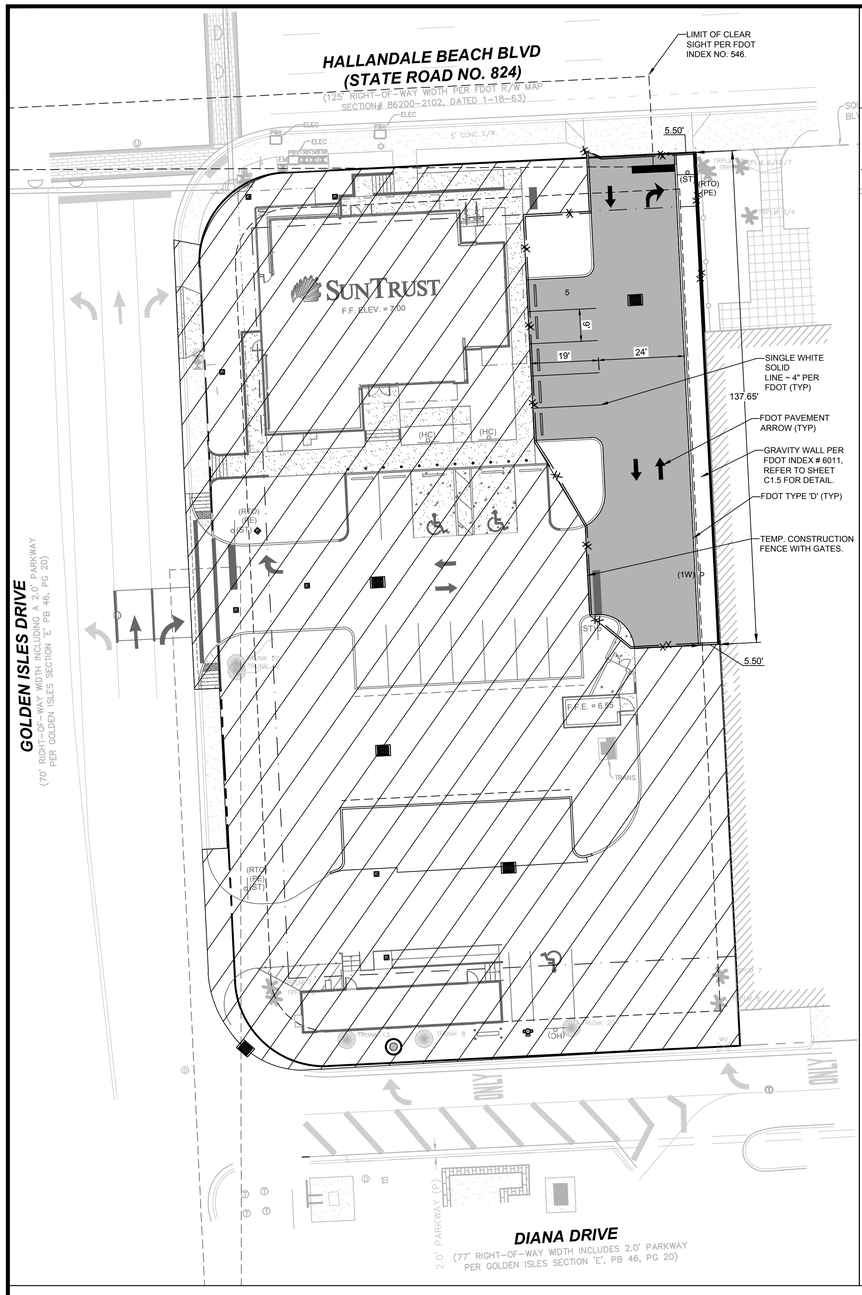
Sheet No.
C1.3



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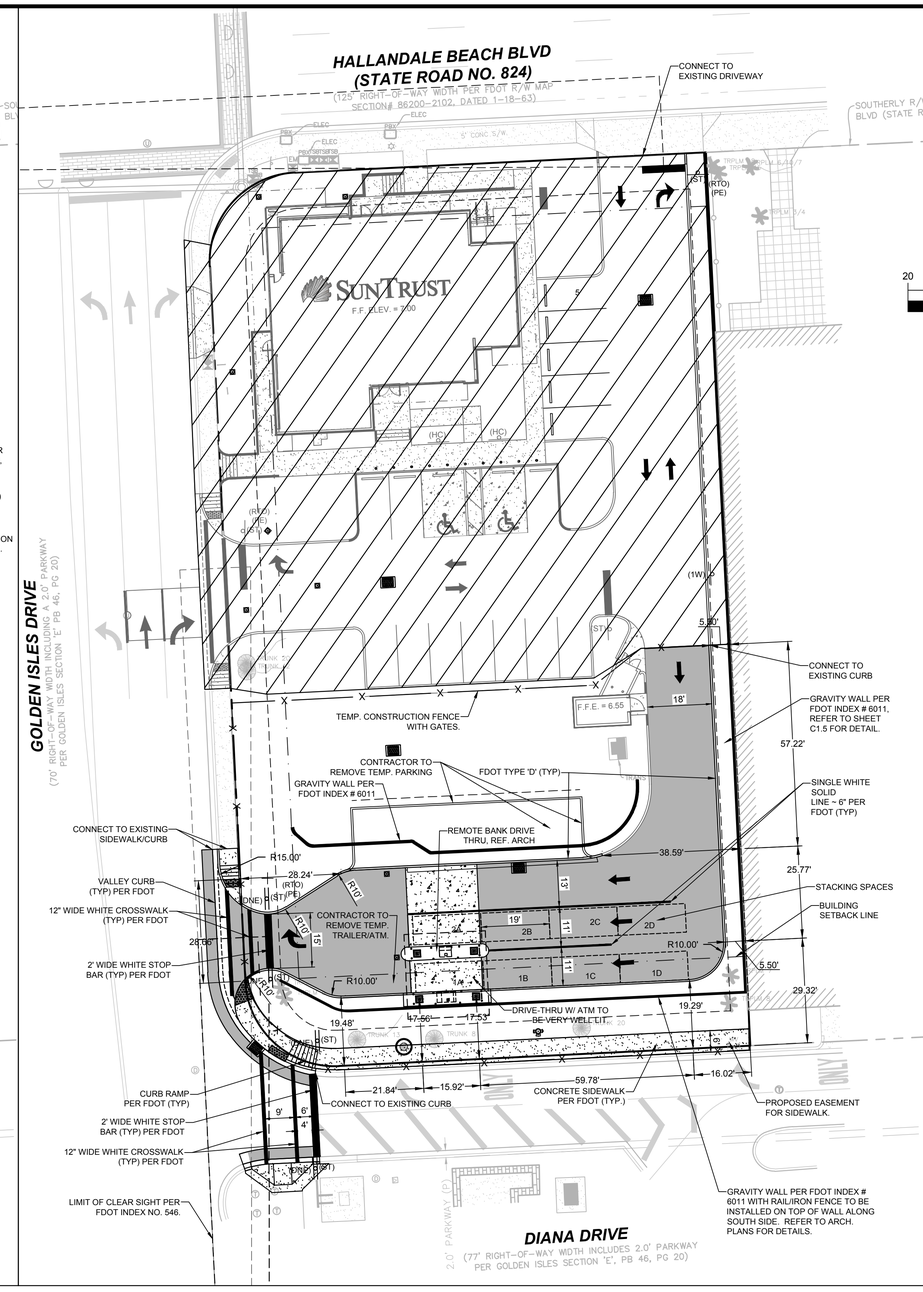

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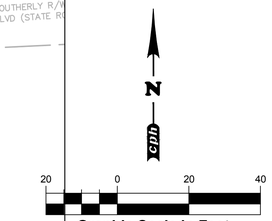

Graphic Scale in Feet

LEGEND:

- STANDARD DUTY ASPHALT
- CONCRETE SIDEWALK
- BLACK CONCRETE. REF. ARCH. PLANS
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YVONNE PAGUADA, P.E.
FL LICENSE NO. 81437
6/4/18

No.	Date	Revision

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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SITE DIMENSION PLAN, PHASE 3 & 4

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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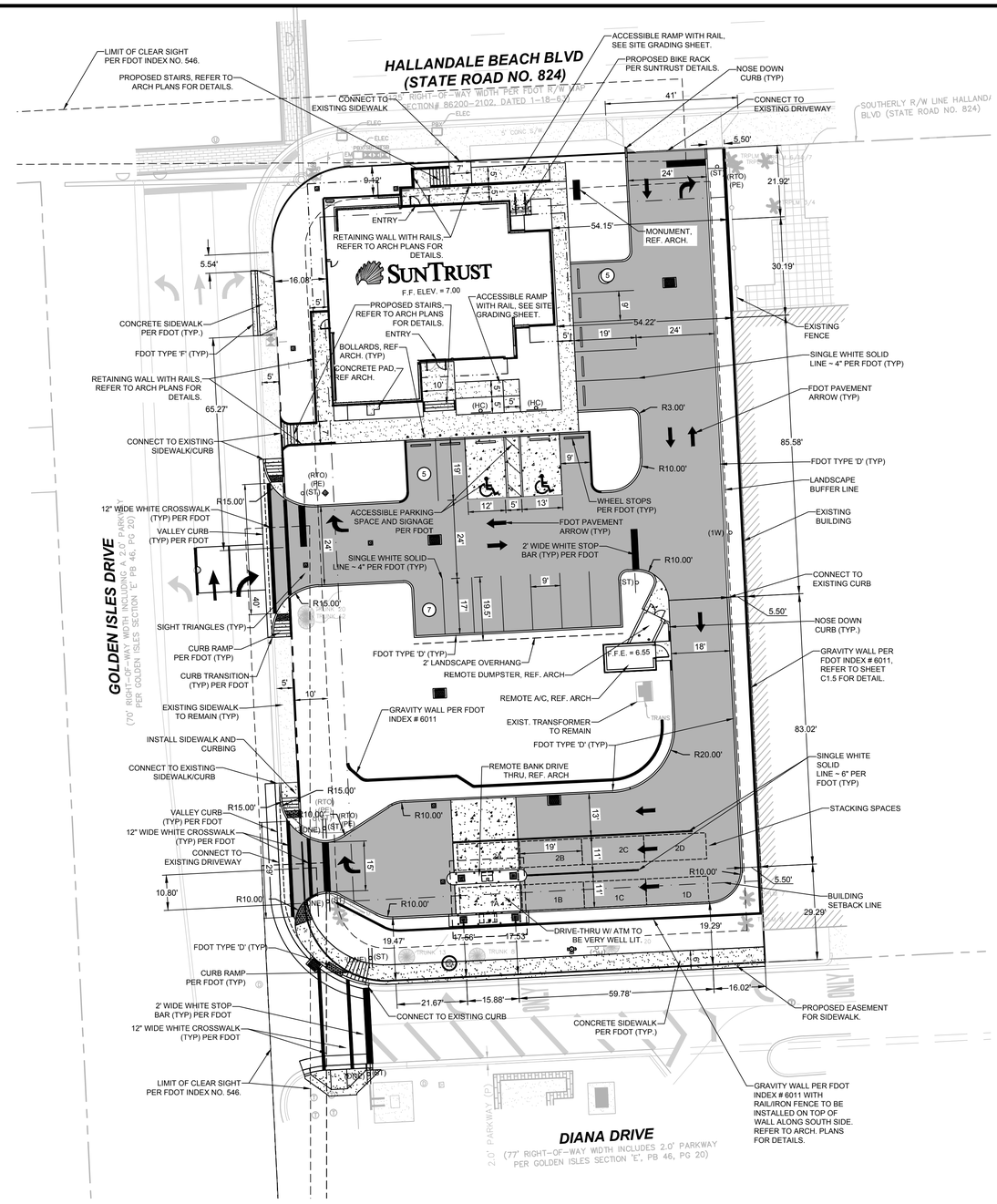
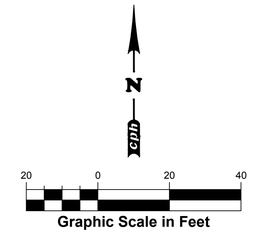
Sheet No.
C1.4



FINAL PLAN



LEGEND:

- STANDARD DUTY ASPHALT
- CONCRETE SIDEWALK
- BLACK CONCRETE. REF. ARCH. PLANS
- AREA TO BE HAVE LIMITED TO NO DISTURBANCES DURING CONSTRUCTION

SITE DATA INFORMATION:

SITE PARCEL NUMBERS:

FOLIO# 5142 26 08 0120 1900 E. HALLANDALE BEACH BLVD. 34,731 S.F. (0.80 A.C.)

SECTION - 26 / TOWNSHIP - 51 S / RANGE - 42 E

ON-SITE LAND INFORMATION:

CURRENT LAND USE: BANK
PROPOSED LAND USE: BANK

CURRENT ZONING: CITY CENTRAL BUSINESS DISTRICT WITH REDEVELOPED OVERLAY
PROPOSED ZONING: CITY CENTRAL BUSINESS DISTRICT WITH REDEVELOPED OVERLAY

AREA OF PROPOSED IMPROVEMENTS: 34,731 S.F. (0.80 A.C.)

ADJACENT LAND INFORMATION:

	NORTH	EAST	SOUTH	WEST
EXISTING LAND USE	RETAIL	CONDO	CONDO	OFFICE
FUTURE LAND USE	RETAIL	CONDO	CONDO	OFFICE
EXISTING ZONING	CITY CENTRAL BUSINESS DISTRICT WITH REDEVELOPED OVERLAY			
PROPOSED ZONING	CITY CENTRAL BUSINESS DISTRICT WITH REDEVELOPED OVERLAY			

FLOOD ZONE INFORMATION:

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 125110 0732 H, CITY OF HALLANDALE BEACH, EFFECTIVE DATE AUGUST 18, 2014, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE AE, WHICH ARE SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100 YEAR FLOOD WITH BASE FLOOD ELEVATIONS DEPICTED AS 6 FEET (NAVD '88), THIS DETERMINATION WAS BASED ON A GRAPHIC INTERPOLATION OF SAID MAP AND NOT ON ACTUAL FIELD MEASUREMENTS.

BUILDING INFORMATION:

BUILDING AREA:	3,478 S.F.
BUILDING USE:	BANK
MINIMUM BUILDING HEIGHT (CITY CODE):	30'-0"
ACTUAL BUILDING HEIGHT:	30'-0"
MAXIMUM FLOOR AREA RATIO (FAR) PROVIDED:	10%

PERVIOUS / IMPERVIOUS AREAS:

PRE DEVELOPMENT:

PERVIOUS AREA:	05,980 S.F.	(0.14 A.C.)	(17.50%)
IMPERVIOUS AREA:	28,751 S.F.	(0.66 A.C.)	(82.50%)
TOTAL SITE AREA:	34,731 S.F.	(0.80 A.C.)	(100.00%)

POST DEVELOPMENT:

PERVIOUS AREA:	13,416 S.F.	(0.31 A.C.)	(38.83%)
IMPERVIOUS AREA:	21,315 S.F.	(0.49 A.C.)	(61.17%)
TOTAL SITE AREA:	34,731 S.F.	(0.80 A.C.)	(100.00%)

PARKING INFORMATION:

EXISTING PARKING = 33 SPACES

PARKING REQUIRED:

USE TYPE:
1 SPACES PER 250 GFA
3,478 S.F. / 250 = 14

BUILDING	BLDG. S.F.	PARKING SPACES REQ'D	PARKING SPACES PROVIDED
BLDG NO. 1:	3,478 S.F.	14	17 (INC. 2 ADA SPACES)

BLDG. SETBACKS AND LANDSCAPE BUFFERS:

BLDG. SETBACKS:

	REQUIRED	PROVIDED
NORTH:	5'-15'	9.1'
SOUTH:	25'	17.53'
EAST:	00'	54'
WEST:	15'	16'

LANDSCAPE BUFFERS:

	REQUIRED	PROVIDED
NORTH:	10'	10'
SOUTH:	10'	14.80'
EAST:	5'	5.5'
WEST:	10'	10.5'

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Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Lndscp. Lic. No. LC0000298
YVONNE PAGUADA, P.E.
FL LICENSE NO. 75437
04-06-18

No.	Date	Revision

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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FINAL SITE DIMENSION PLAN

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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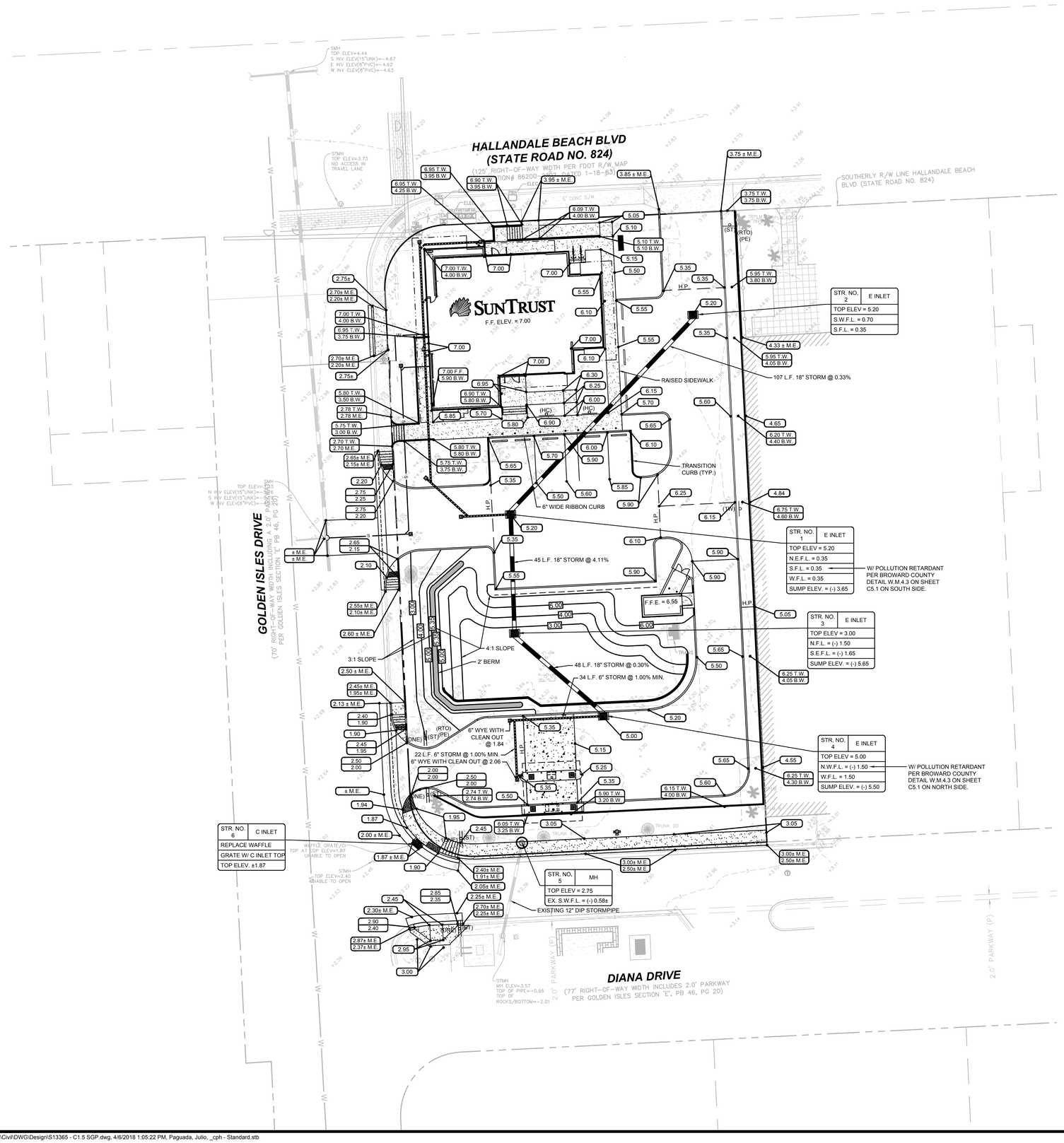
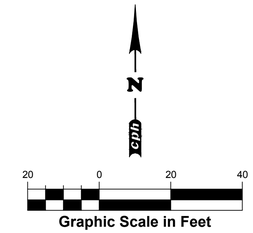
Sheet No.
C1.4A





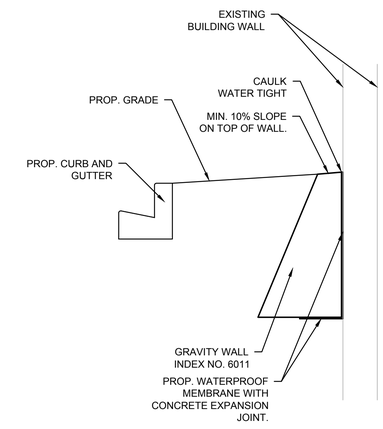
PIPE MATERIALS:

STORMWATER PIPE

RCP PIPE SHALL COMPLY WITH ASTM C76
ERCP PIPE SHALL COMPLY WITH ASTM C507
HDPE PIPE SHALL COMPLY WITH ASTM D3350
PVC PIPE SHALL COMPLY WITH ASTM D3034, SDR 35

NOTES:

1. 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 ENSURE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. THE FOLLOWING MINIMUM SLOPES SHALL BE PROVIDED BY THE CONTRACTOR:
   a. ASPHALT PAVEMENT: MIN. 1% SLOPE
   b. CONCRETE PAVEMENT: MIN. 1% SLOPE
   c. GUTTERS: MIN 0.5%
2. STRUCTURE BOTTOMS SHALL BE TYPE 'P' BOTTOMS PER FDOT REQUIREMENTS, UNLESS PIPE SIZES AND LOCATION REQUIRE A TYPE 'J' BOTTOM. CONTRACTOR SHALL REVIEW DESIGN AND PROVIDE APPROPRIATELY SIZED BOTTOMS PER FDOT REQUIREMENTS.
3. ALL ELEVATIONS ARE IN NAVD 88 VERTICAL DATUM.



GRAVITY WALL
NTS

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YVONNE PAGUADA, P.E.
FL LICENSE NO. 81437
04-06-18

No.	Date	Revision
1		
2		
3		
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5		
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7		

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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GRADING AND STORM DRAINAGE PLAN

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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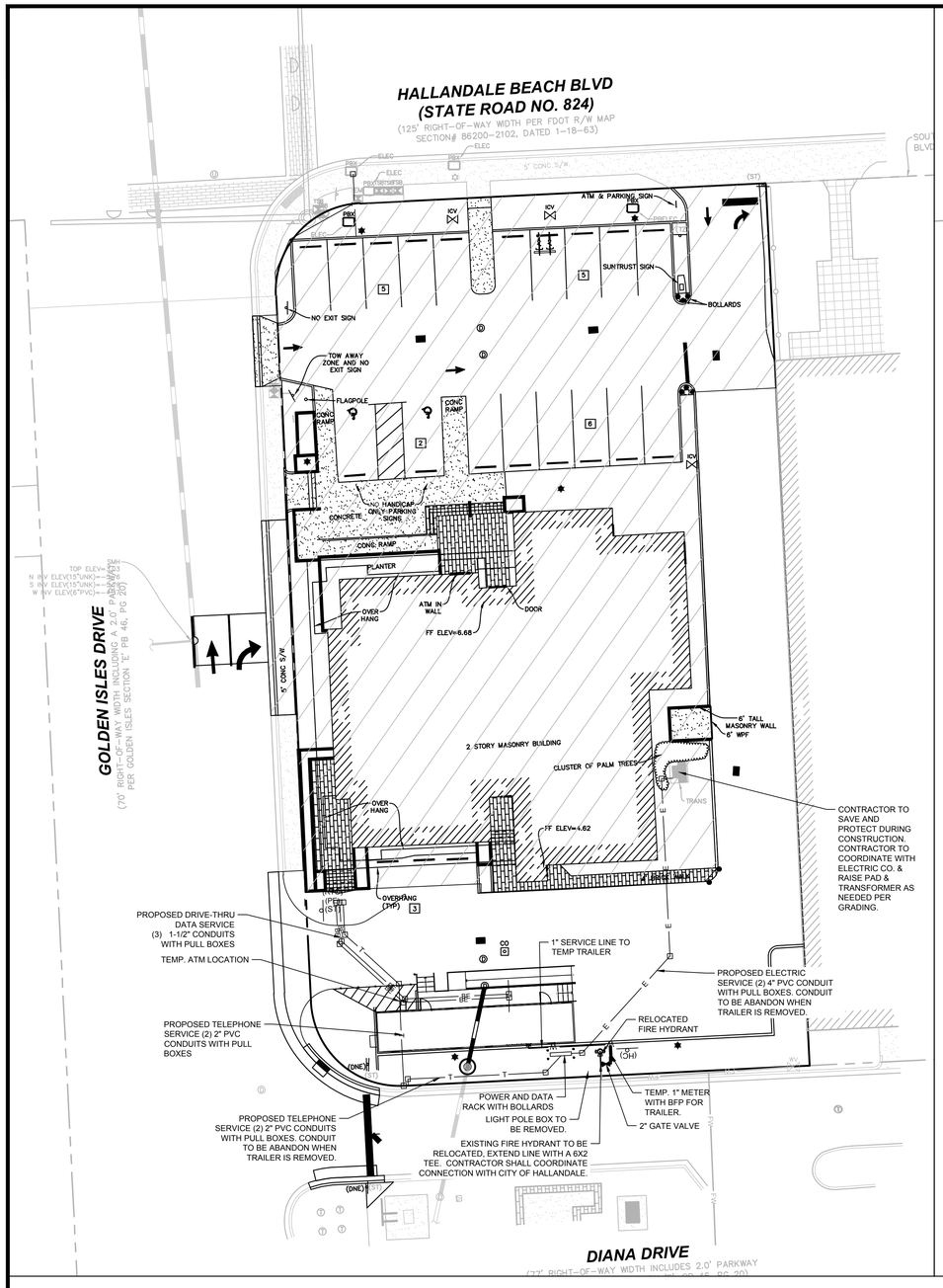
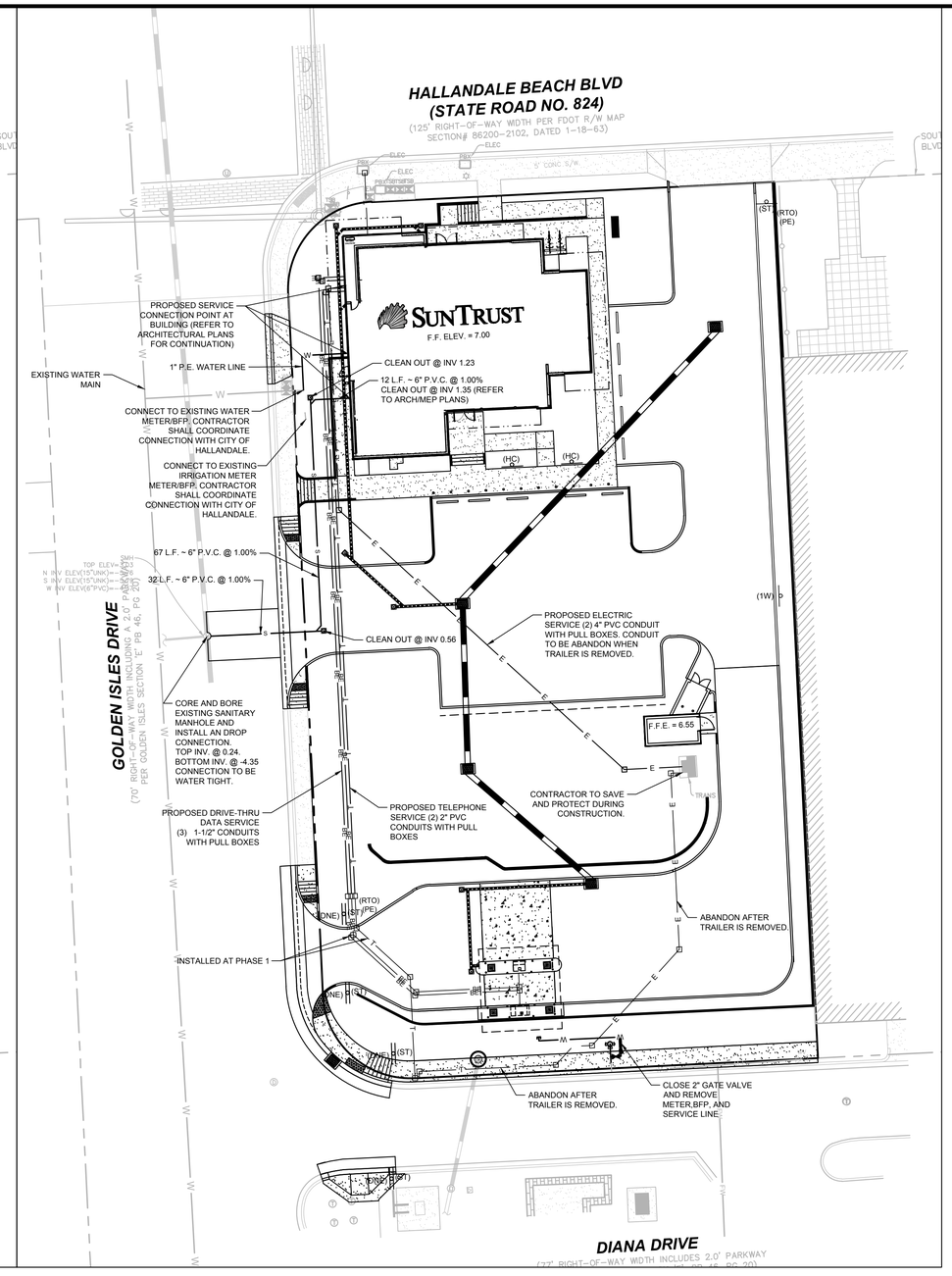
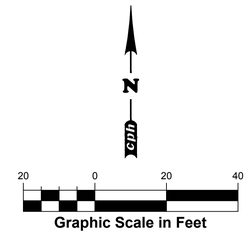
Sheet No.
C1.5



PHASE 1



PHASE 2



UTILITY LINE MATERIALS

POTABLE WATER LINE
2" PVC SHALL CONFIRM TO AWWA C900, DR 18
3" PVC SHALL CONFIRM TO AWWA C900, DR 18
4" PVC SHALL CONFIRM TO AWWA C900, DR 18
6" PVC SHALL CONFIRM TO AWWA C900, DR 18

GRAVITY SEWER LINE
6" PVC SHALL CONFIRM TO ASTM D3034, SDR 26

LEGEND:

AREA TO BE HAVE LIMITED TO NO DISTURBANCES DURING CONSTRUCTION

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No.	Date	Revision

Designed: J.PAGUADA
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COMPOSITE UTILITY PLAN

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CITY OF HALLANDALE BEACH, FLORIDA

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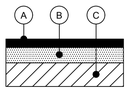
Sheet No.
C1.6

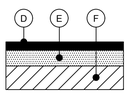


(A) 1 ½ INCHES TYPE S ASPHALTIC CONCRETE

(B) 6 INCHES LIMEROCK/CRUSHED CONCRETE BASE COURSE (LBR = 100) OR SOIL CEMENT (350 PSI DESIGN OR EQUIVALENT)

(C) 12 INCHES STABILIZED SUBGRADE (LBR=40) IF A LIMEROCK OR CRUSHED CONCRETE BASE IS USED OR A SUBGRADE COMPACTED TO 98 PERCENT OF THE MATERIAL'S ASTM D-1557 MAXIMUM DRY DENSITY IF SOIL CEMENT IS USED AS BASE MATERIAL.

LIGHT-DUTY (CAR PARKING AREAS)

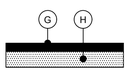


(D) 2 INCHES TYPE S ASPHALTIC CONCRETE

(E) 8 INCHES LIMEROCK/CRUSHED CONCRETE BASE COURSE (LBR = 100) OR SOIL CEMENT (350 PSI DESIGN OR EQUIVALENT)

(F) 12 INCHES STABILIZED SUBGRADE (LBR=40) IF A LIMEROCK/CRUSHED CONCRETE BASE IS USED OR A SUBGRADE COMPACTED TO 95 PERCENT OF THE MATERIAL'S ASTM D-1557 MAXIMUM DRY DENSITY IF SOIL CEMENT IS USED AS BASE MATERIAL.

MEDIUM-DUTY (DRIVEWAYS AND ENTRANCE/EXIT AREAS)



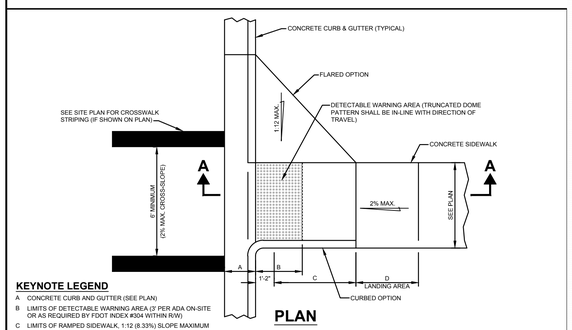
(G) 7 INCHES PORTLAND CEMENT CONCRETE, MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.

(H) 12 INCHES WELL-DRAINING GRANULAR SUBGRADE, COMPACTED TO 98 PERCENT OF THE MATERIAL'S AASHTO T-180 MAXIMUM DRY DENSITY.

HEAVY-DUTY (RIGID PAVEMENT)

PAVEMENT SECTIONS

N.T.S.



KEYNOTE LEGEND

A CONCRETE CURB AND GUTTER (SEE PLAN)

B LIMITS OF DETECTABLE WARNING AREA (3' PER ADA ON-SITE OR AS REQUIRED BY FDOT INDEX #304 WITHIN R/W)

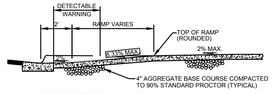
C LIMITS OF RAMPED SIDEWALK, 1:12 (8.33%) SLOPE MAXIMUM

D LIMITS OF LANDING AREA (5' ON-SITE OR AS REQUIRED BY FDOT INDEX #304 WITHIN R/W)

NOTES

1. DETECTABLE WARNING AREA (INCLUDING COLOR, TRUNCATED DOMES, SPECIFICATIONS, ETC.) SHALL BE IN ACCORDANCE WITH FDOT INDEX #304 LATEST EDITION
2. ALL MATERIALS FOR TRUNCATED DOMES WITHIN THE FDOT RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE FDOT QUALIFIED PRODUCT LIST (QPL)
3. ACCEPTANCE CRITERIA FOR DETECTABLE WARNINGS:
   (A) THE RAMP DETECTABLE WARNING SURFACE SHALL BE COMPLETE AND UNIFORM IN COLOR AND TEXTURE
   (B) 90% OF THE INDIVIDUAL TRUNCATED DOMES MUST COMPLY WITH THE DESIGN CRITERIA
   (C) THERE MAY BE NO MORE THAN 4 NON-COMPLYING DOMES IN ANY ONE SQUARE FOOT OF SURFACE
   (D) NO TWO ADJACENT DOMES MAY BE NON-COMPLIANT
   (E) SURFACE MAY NOT DEVIATE MORE THAN 0.10" FROM A TRUE PLANE

PLAN

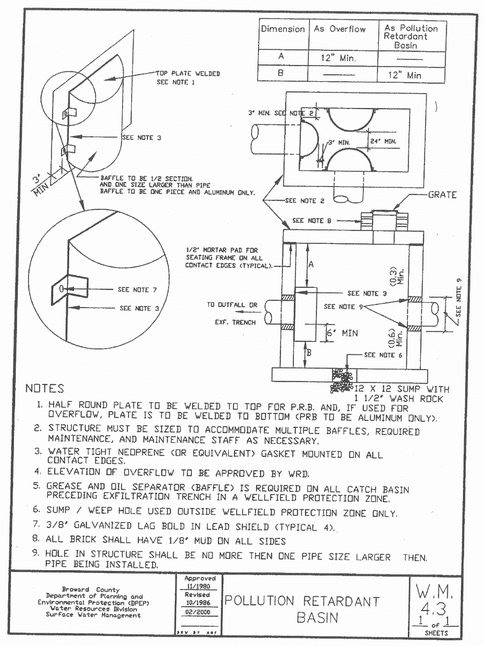


SECTION A-A

ADA RAMP DETAIL

N.T.S.

DTRAMP - CPH ENGINEERS, INC. | 9/22/09



Dimension	As Overflow	As Pollution Retardant Basin
A	12" Min.	——
B	——	12" Min

NOTES

1. HALF ROUND PLATE TO BE WELDED TO TOP FOR P.R.B. AND, IF USED FOR OVERFLOW, PLATE IS TO BE WELDED TO BOTTOM (PRB TO BE ALUMINUM ONLY).
2. STRUCTURE MUST BE SIZED TO ACCOMMODATE MULTIPLE BAFFLES, REQUIRED MAINTENANCE, AND MAINTENANCE STAFF AS NECESSARY.
3. WATER TIGHT NEOPRENE (OR EQUIVALENT) GASKET MOUNTED ON ALL CONTACT EDGES.
4. ELEVATION OF OVERFLOW TO BE APPROVED BY WRD.
5. GREASE AND OIL SEPARATOR (BAFFLE) IS REQUIRED ON ALL CATCH BASIN PRECEDING EXFILTRATION TRENCH IN A WELLFIELD PROTECTION ZONE.
6. SUMP / WEEP HOLE USED OUTSIDE WELLFIELD PROTECTION ZONE ONLY.
7. 3/8" GALVANIZED LAG BOLD IN LEAD SHIELD (TYPICAL 4).
8. ALL BRICK SHALL HAVE 1/8" MUD ON ALL SIDES
9. HOLE IN STRUCTURE SHALL BE NO MORE THEN ONE PIPE SIZE LARGER THEN. PIPE BEING INSTALLED.

Broward County Department of Planning and Environmental Protection (BPEP) Water Resources Division Surface Water Management	Approved 11/1980 Revised 10/1986 02/2000 REV BY APP	POLLUTION RETARDANT BASIN	W.M. 4.3 1 of 1 SHEETS

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03-21-18

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Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17

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CONSTRUCTION DETAILS SHEET

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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Sheet No.
C5.1

PLANT LIST

SYM.	COMMON NAME	BOTANICAL NAME	DESCRIPTION	QTY	NATIVE	D. TOLERANCE	GROWTH HABIT (SPREAD)
TREES							
QV	LIVE OAK	QUERCUS VIRGINIANA	3" CAL., 15' MIN. HT., 7' MIN. SPRD., 6' C.T.	7	YES	HIGH	AT LEAST 60'
LL	WILD TAMARIND	LYSILOMA LATISILIQUUM	3" CAL., 15' MIN. HT., 6' MIN. SPRD., 6' C.T.	6	YES	HIGH	AT LEAST 30'
CD	PIGEON PLUM	COCCOLOBA DIVERSIFOLIA	3" CAL., 15' MIN. HT., 6' SPRD.	6	YES	HIGH	AT LEAST 20'
RE	ROYAL PALM	ROYSTONEA ELATA	10' GW., 20' O.A.	4	YES	MEDIUM	AT LEAST 15'
PR	MACARTHUR PALM	PTYCHOSPERMA MACARTHURII	10' CT., TRIPLE	1	YES	HIGH	AT LEAST 6'
PE	ALEXANDER PALM	PTYCHOSPERMA ELEGANS	14' CT.	11	NO	HIGH	AT LEAST 6'
EX	EXISTING TREES	REFER TO TRP	REFER TO TRP	-			
SHRUBS							
CI	RED TIP COCOPLUM	CHRYSOBALANUS ICACO 'RED TIP'	7 GAL., 24" MIN. HT., 15" MIN. SPRD., 24" O.C.	+89	YES	MEDIUM	
CG	LITTLE LEAF CLUSIA	CLUSIA GUTIFERA	7 GAL., 24" MIN. HT., 15" MIN. SPRD., 24" O.C.	62	YES	HIGH	
FM	GREEN ISLAND FICUS	FICUS MICROCARPA 'GREEN ISLAND'	3 GAL., 10" MIN. HT., 15" MIN. SPRD., 30" O.C.	11	NO	HIGH	
GROUNDCOVER							
EL	GOLDEN CREEPER	ERNODEA LITTORALIS	3 GAL., 10" MIN. HT., 15" MIN. SPRD., 30" O.C.	134	YES	HIGH	
MS	SENSITIVE PLANT	MIMOSA STRIGILLOSA	1 GAL., 1" MIN. HT., 8" MIN. SPRD., 18" O.C.	526	YES	MEDIUM	
HD	BEACH DAISY	HELIANTHUS DEBILIS	1 GAL., 4" MIN. HT., 8" MIN. SPRD., 18" O.C.	1451	YES	MEDIUM	
MC	MUHLY GRASS	MUHLENBERGIA CAPILARIS	3 GAL., 15" MIN. HT., 10" MIN. SPRD., 30" O.C.	257	YES	MEDIUM	
SOD	ST. AUGUSTINE GRASS	STENOTAPHRUM SECUNDATUM	SOLID SOD, CONTRACTOR TO VERIFY QTY.				

NOTE:

PLANT DESCRIPTIONS ARE FOR MINIMUM ACCEPTABLE SPECIFICATIONS. ALL CRITERIA LISTED FOR CONTAINER SIZE, CALIPER, HEIGHT, SPREAD, ETC. MUST BE MET FOR PLANT MATERIAL ACCEPTANCE. FOR EXAMPLE, IF A THREE GALLON SHRUB DOES NOT MEET THE HEIGHT OR SPREAD SPECIFICATION, IT WILL NOT BE ACCEPTED.

IF SPECIFIED PLANTS ARE UNAVAILABLE AT TIME OF CONSTRUCTION, CONTRACTOR MAY REPLACE SPECIFIED PLANTS WITH PLANTS APPROVED BY LANDSCAPE ARCHITECT AND CITY STAFF.

ALL OPEN SPACE AREAS WITHIN THE PROPERTY SHALL BE SODDED UNLESS PAVED, SEEDED AND MULCHED OR PLANTED WITH SHRUBS AND GROUND COVER.

ALL LANDSCAPED AREAS WILL BE 100% IRRIGATED WITH A CENTRAL AUTOMATIC IRRIGATION SYSTEM INCLUDING A RAIN SENSOR.

+ CONTRACTOR TO PROVIDE ADDITIONAL RED TIP COCOPLUM HEDGE AS NECESSARY WHERE TREES ARE REMOVED PER NOTE IN SHEET TR-1.

LANDSCAPE CODE DATA

LANDSCAPE AREA REQUIREMENTS:
15% OF SITE AREA = REQUIRED LANDSCAPE AREA
SITE AREA = 34,741.00 SF
34,741.00 X 15% = 5,211.00 SF REQUIRED LANDSCAPE AREA
13,107 SF (37.7%) LANDSCAPE AREA PROVIDED

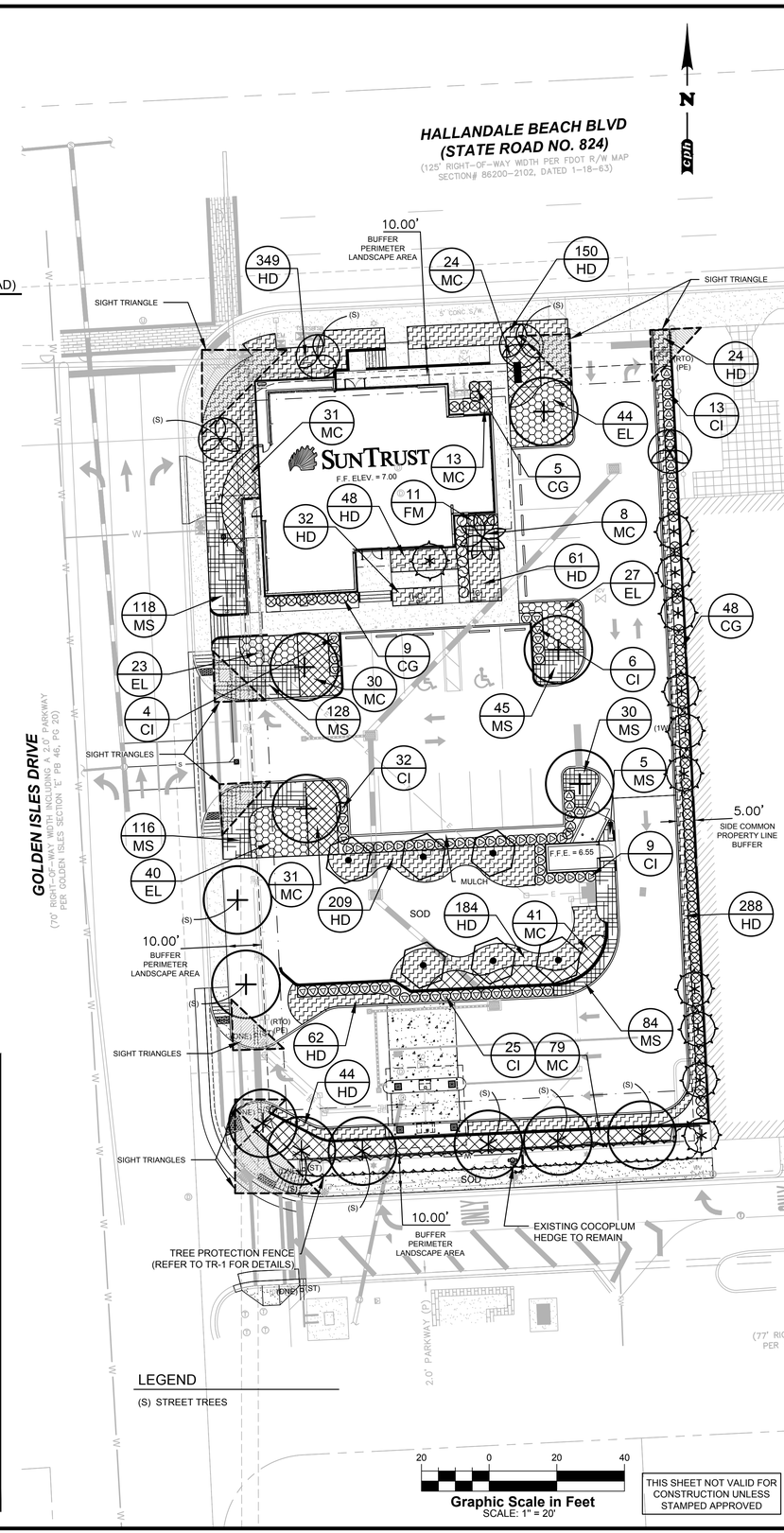
TREE REQUIREMENTS:
1 TREE / 1,500.00 SF OF SITE AREA = REQUIRED TREES
34,741.00 SF / 1,500.00 SF = 24 TREES REQUIRED
50% OF REQUIRED TREES MUST BE SHADE TREES.
24 / 2 = 12 SHADE TREES REQUIRED
12 SHADE TREES PROVIDED
TREE CREDITS = 0 (REFER TO SHEET TR-1)
TREES PROVIDED = 7 LIVE OAKS + 6 PIGEON PLUM + 6 WILD TAMARINDS
+ 4 ROYAL PALMS + 3 ALEXANDER PALMS = 26 TREES
TOTAL TREES PROVIDED = 26

NATIVE & DROUGHT TOLERANCE REQUIREMENTS:
24 TREES REQUIRED X 50% = NATIVE & DROUGHT TOLERANT TREES REQUIRED
24 X 50% = 12 NATIVE & DROUGHT TOLERANT TREES REQUIRED
19 NATIVE & DROUGHT TOLERANT TREES PROVIDED
(7 LIVE OAKS + 6 PIGEON PLUM + 6 WILD TAMARIND)

SPECIES REQUIREMENTS:
24 TREES REQUIRED
FROM 21 TO 50 TREES REQUIRED 4 DIFFERENT SPECIES REQUIRED.
6 DIFFERENT SPECIES PROVIDED

SOD AREA REQUIREMENT:
NO MORE THAN 70% OF LANDSCAPED AREA (12,944 SF) = SOD AREA
SOD AREA PROPOSED = 3,313.97 SF (25%)

TREE MITIGATION:
24 PALMS AND 6 TREES REMOVED.
TREES ARE IN POOR CONDITIONS. NO MITIGATION TREES REQUIRED PER GARY GIBSON.



LEGEND

(S) STREET TREES

20 0 20 40
Graphic Scale in Feet
SCALE: 1" = 20'

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Survey L.B. No. 7143
Arch. Lic. No. AA26000926
Lndscp. Lic. No. LC0000298
REGISTERED LANDSCAPE ARCHITECT James K. Walter LA 0000911 STATE OF FLORIDA
James K. Walter, RLA
LA0000911
Apr 04, 2018

No.	Date	Revision

Designed: JKW
Drawn: JM
Checked: JKW
Job No.: S13365
Date: 07/17

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LANDSCAPE PLAN

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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Sheet No.
L-1

LANDSCAPE NOTES:

1. 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.

3. 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.

4. 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.

5. 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.

6. 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.

9. 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.

10. 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.

11. Except as otherwise specified, the Landscape Contractor's work shall conform to accepted horticultural practices as used in the trade.

12. Plants shall be protected upon arrival at the site, by being thoroughly watered and properly maintained until planted.

13. 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. 6" Top Soil shall be placed in all turf & landscape areas.

14. 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.

15. 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 for plants to thrive as defined by Florida Grades and Standards for Nursery stock until time of acceptance. It shall be the Landscape Contractor's responsibility to assure that plants are not over watered.

16. 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.

17. 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.

18. 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 Owner.

19. 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 mowing 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.

20. It shall be the Contractor's responsibility to measure and determine the exact quantity 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.

21. 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.

22. 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.

    B. 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.

    D. 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.

23. The Landscape Contractor shall insure that his work does not interrupt established or projected drainage patterns.

24. 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.

25. Mulch - All plant beds shall be top dressed with 4" shredded hardwood mulch (or approved equal).

26. 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.

27. 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 spraying 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.

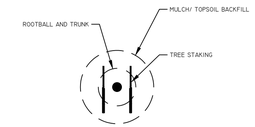
    At the time of the inspection, if all of the materials are acceptable, a written notice will be given by the Landscape Architect or Owner to the Landscape Contractor Stating the date when the Maintenance Period ends.

GUARANTEE AND REPLACEMENT:

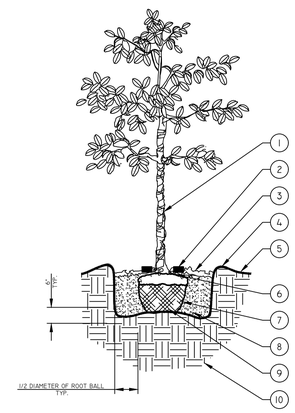
All plant materials shall be guaranteed for one (1) year from the time of final inspection and interim acceptance shall be alive and in satisfactory growth for each specific kind of plant at the end of the guaranteed period.

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.



PLAN



SECTION

NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

D. PRUNE TREE AS DIRECTED BY LANDSCAPE ARCHITECT.

E. BRANCHING HEIGHT TO A.A.N. STANDARDS.

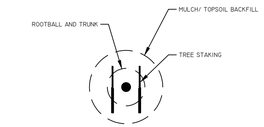
1. TREE WRAP.
2. **Tree Frog® RBK40pt** FOR UP TO 4" TREE CALIPER OR **Tree Frog® RBK60pt** FOR GREATER THAN 4" AND UP TO 6" TREE CALIPER. REFER TO SITEWORK SPECIFICATIONS FOR APPROVED MATERIALS AND INSTALLATION REQUIREMENTS.
3. 4" MINIMUM OF HARDWOOD MULCH COMPACTED OR AS SPECIFIED.
4. 3" HIGH SOIL BERM TO HOLD WATER.
5. FINISHED GRADE (SEE GRADING PLAN).
6. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
7. B & B OR CONTAINERIZED (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
8. PREPARED PLANTING SOIL AS SPECIFIED.
9. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOTBALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
10. UNDISTURBED SUBSOIL.

LARGE TREE PLANTING (14' OR GREATER)

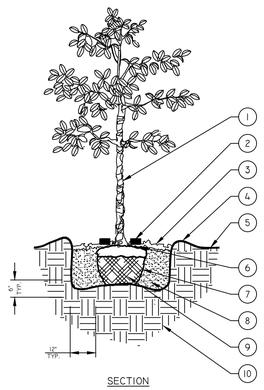
N.T.S.

NOTE TO LA:
ASSURE PERCOLATION OF ALL PLANTING PITS.

09/21/16



PLAN



SECTION

NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

D. PRUNE TREE AS DIRECTED BY LANDSCAPE ARCHITECT.

E. BRANCHING HEIGHT TO A.A.N. STANDARDS.

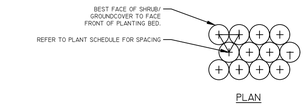
1. TREE WRAP.
2. **Tree Frog® RBK40pt** FOR UP TO 4" TREE CALIPER OR **Tree Frog® RBK60pt** FOR GREATER THAN 4" AND UP TO 6" TREE CALIPER. REFER TO SITEWORK SPECIFICATIONS FOR APPROVED MATERIALS AND INSTALLATION REQUIREMENTS.
3. 4" MINIMUM OF HARDWOOD MULCH COMPACTED OR AS SPECIFIED.
4. 3" HIGH SOIL BERM TO HOLD WATER.
5. FINISHED GRADE (SEE GRADING PLAN).
6. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE.
7. B & B OR CONTAINERIZED (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
8. PREPARED PLANTING SOIL AS SPECIFIED.
9. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOTBALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
10. UNDISTURBED SUBSOIL.

SMALL TREE PLANTING (14' OR LESS)

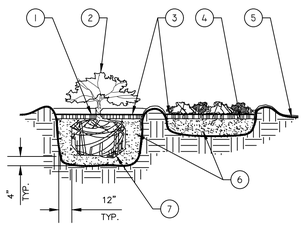
N.T.S.

NOTE TO LA:
ASSURE PERCOLATION OF ALL PLANTING PITS.

09/21/16



PLAN



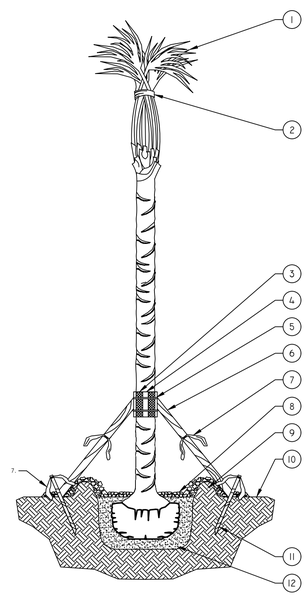
SECTION

1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" - 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. WHEN USED IN MASSES- PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
3. 4" MINIMUM OF HARDWOOD MULCH COMPACTED OR AS SPECIFIED.
4. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
5. 4" MINIMUM OF TOPSOIL TO BRING TO FINISHED GRADE (SEE GRADING PLAN).
6. PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND- COVERS AND SHRUBS USED IN MASSES ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED IN THE PLANTING SPECIFICATION.
7. SCARIFY ROOTBALL SIDES AND BOTTOM.

SHRUB/GROUNDCOVER PLANTING

N.T.S.

09/21/16



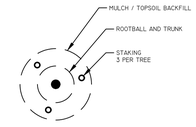
NOTES:

A. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

B. REMOVE BURLAP, WIRE AND STRAPS (ANYTHING THAT COULD GIRDLE TREE OR RESTRICT ROOT GROWTH) ON UPPER 1/3 OF ROOTBALL.

C. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

1. MINIMUM OF NINE (9) GOOD PALM FRONDS.
2. PRUNE AND TIE FRONDS WITH HEMP TWINE. CABBAGE PALMS TO BE "HURRICANE CUT"
3. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
4. FIVE 2" X 4" X 18" WOOD BATTENS.
5. SECURE BATTENS WITH 2-3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED IN RELATION TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
6. ATTACH 3-2" X 4" X 8' (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. FLAG AT MIDPOINT AND AT BASE.
7. PROVIDE FLAGGING
8. 3" SPECIFIED MULCH
9. BERM SOIL TO HOLD WATER
10. FINISH GRADE
11. 2" X 4" X 24" (MIN.) P.T. WOOD STAKES (TYP.) NAIL TO SUPPORT POLES
12. PREPARED PLANTING SOIL MIX AS SPECIFIED. COMPACT BENEATH ROOT BALL.



PLAN

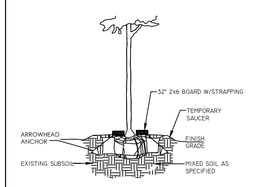
PALM TREE PLANTING

N.T.S.

NOTE TO LA:
ASSURE PERCOLATION OF ALL PLANTING PITS.

09/21/16

Tree Frog Environmental Products® (formerly Arborguy®) RBK40pt/RBK60pt STAKING DETAIL



Tree Frog® RBK40pt SYSTEM

FOR UP TO 4" CALIPER TREES
(2) TREE FROG EP™ 32"X2"X6" WOOD BOARDS
(4) 3/4"X70' STRAPPING (1,800 LB. TENSIBLE STRENGTH)
(4) ARROWHEAD ® ANCHORS

Tree Frog® RBK60pt SYSTEM

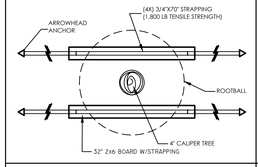
FOR UP TO 6" CALIPER TREES
(4) TREE FROG EP™ 32"X2"X6" WOOD BOARDS
(8) 3/4"X70' STRAPPING (1,800 LB. TENSIBLE STRENGTH)
(8) ARROWHEAD ® ANCHORS

Tree Frog® RBK INSTALLATION NOTES

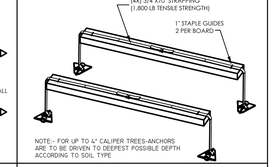
* Specify Anchor
  1. Biodegradable (soft or hard soil)
  2. Nylon (soft soil)
  3. Heavy Duty (hard soil)

See page 2 for installing root ball tree staking kit with bending machine.
See page 3 for installing root ball tree staking kit with ratchet.

Tree Frog® RBK40pt PLAN VIEW

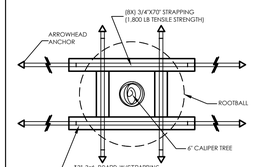


Tree Frog® RBK40pt DIAGRAM

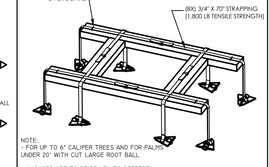


NOTE:- FOR UP TO 4" CALIPER TREES-ANCHORS ARE TO BE DRIVEN TO DEEPEST POSSIBLE DEPTH ACCORDING TO SOIL TYPE

Tree Frog® RBK60pt PLAN VIEW



Tree Frog® RBK60pt DIAGRAM



NOTE:
- FOR UP TO 6" CALIPER TREES AND FOR PALMS UNDER 20' WITH CUT LARGE ROOT BALL
- ANCHORS ARE TO BE DRIVEN TO DEEPEST POSSIBLE DEPTH ACCORDING TO SOIL TYPE

TREE FROG ENVIRONMENTAL PRODUCTS WWW.TREEFROGEP.COM
352-735-7411

"TREE FROG" TREE STAKING

N.T.S.

09/21/16

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REGISTERED LANDSCAPE ARCHITECT LICENSE NO. LA0000911 STATE OF FLORIDA
James K. Mueller RLA
LA0000911
Apr 04, 2018

No.	Date	Revision
1		
2		
3		
4		
5		
6		
7		

Designed: JKW
Drawn: JM
Checked: JKW
Job No.: S13365
Date: 07/17
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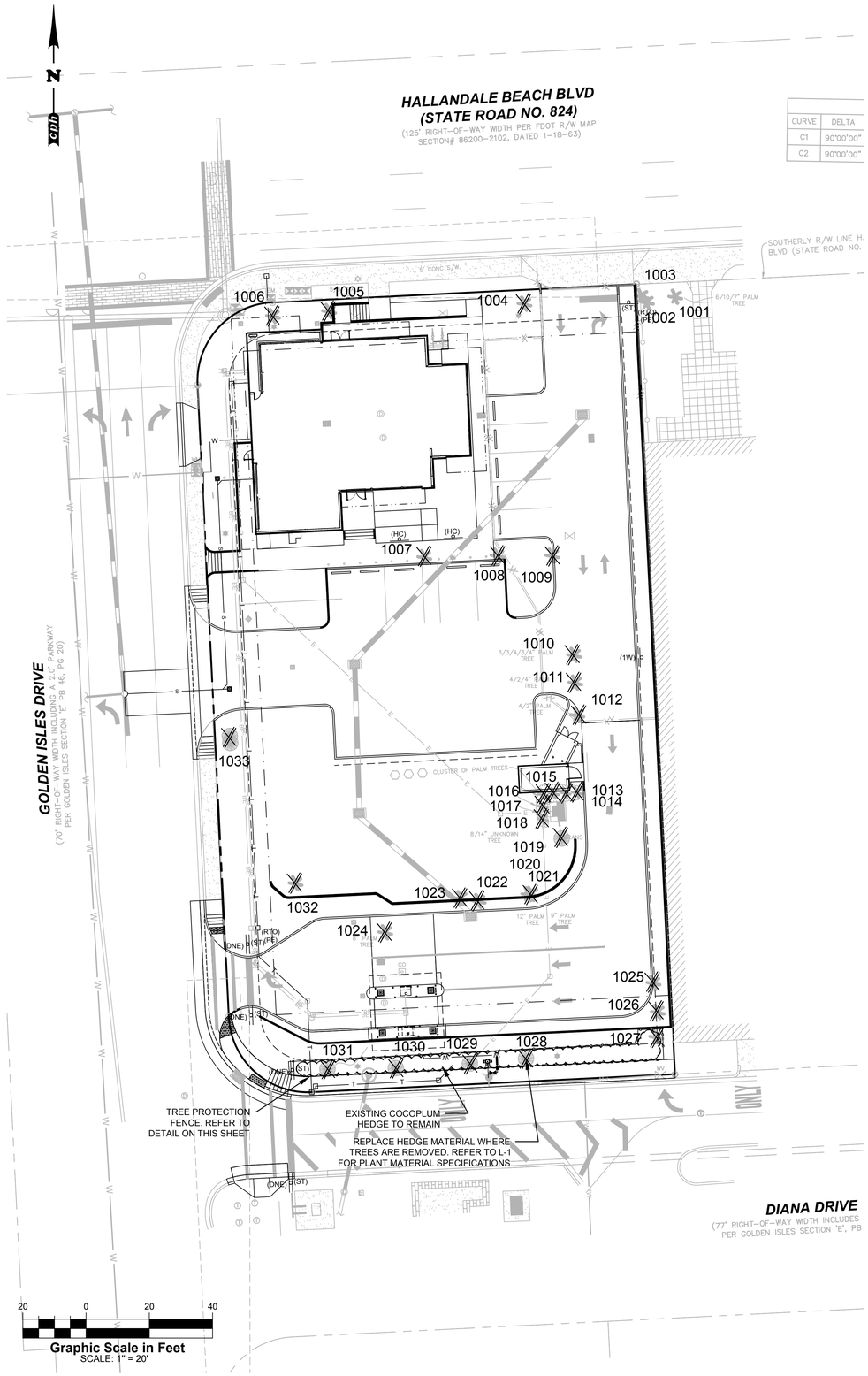
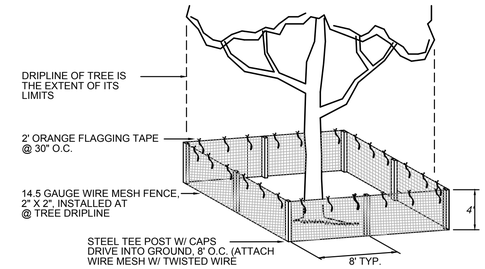
LANDSCAPE NOTES & DETAILS

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
L-2





TREE PROTECTION DETAIL

N.T.S.

TREE PROTECTION NOTES:

1. Four (4) foot high solid orange construction 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 clearly 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.

Tree Data Table

Tree #	DBH (in.)	Common Name	Botanical Name	Height (ft.)	Condition	Disposition	Credits
1001	28.5*	Piccabeen Palm	*Archontophoenix cunninghamiana*	40	Poor	REMAIN O.S.	0
1002	16	Cabbage Palm	*Sabal palmetto*	15	Poor	REMAIN O.S.	0
1003	18	Cabbage Palm	*Sabal palmetto*	15	Poor	REMAIN O.S.	0
1004	4	Alexander Palm	*Ptychosperma elegans*	25	Poor	REMOVE	0
1005	5	Alexander Palm	*Ptychosperma elegans*	30	Poor	REMOVE	0
1006	5.5	Alexander Palm	*Ptychosperma elegans*	30	Poor	REMOVE	0
1007	8.5*	Alexander Palm	*Ptychosperma elegans*	40	Poor	REMOVE	0
1008	8*	Alexander Palm	*Ptychosperma elegans*	40	Poor	REMOVE	0
1009	4.5	Alexander Palm	*Ptychosperma elegans*	40	Poor	REMOVE	0
1010	15.5*	Areca Palm	*Dypsis lutescens*	25	Poor	REMOVE	0
1011	9*	Areca Palm	*Dypsis lutescens*	25	Poor	REMOVE	0
1012	6*	Areca Palm	*Dypsis lutescens*	30	Poor	REMOVE	0
1013	7*	Areca Palm	*Dypsis lutescens*	20	Poor	REMOVE	0
1014	14.5*	Areca Palm	*Dypsis lutescens*	20	Poor	REMOVE	0
1015	15*	Areca Palm	*Dypsis lutescens*	20	Poor	REMOVE	0
1016	5.5*	Areca Palm	*Dypsis lutescens*	20	Poor	REMOVE	0
1017	12*	Areca Palm	*Dypsis lutescens*	20	Poor	REMOVE	0
1018	15*	Areca Palm	*Dypsis lutescens*	20	Poor	REMOVE	0
1019	19.5*	Green Buttonwood	*Conocarpus erectus*	40	Poor	REMOVE	0
1020	8.5	Chinese Fan Palm	*Livistona chinensis*	6	Poor	REMOVE	0
1021	7	Chinese Fan Palm	*Livistona chinensis*	4	Poor	REMOVE	0
1022	16.5*	Travelers Palm	*Ravenala madagascariensis*	20	Poor	REMOVE	0
1023	8	Cabbage Palm	*Sabal palmetto*	10	Poor	REMOVE	0
1024	8	Cabbage Palm	*Sabal palmetto*	20	Poor	REMOVE	0
1025	7	Queen Palm	*Syagrus romanzoffiana*	20	Poor	REMOVE	0
1026	6.5	Queen Palm	*Syagrus romanzoffiana*	15	Poor	REMOVE	0
1027	8	Queen Palm	*Syagrus romanzoffiana*	15	Poor	REMOVE	0
1028	33*	Green Buttonwood	*Conocarpus erectus*	35	Poor	REMOVE	0
1029	13	Green Buttonwood	*Conocarpus erectus*	20	Poor	REMOVE	0
1030	8	Green Buttonwood	*Conocarpus erectus*	20	Poor	REMOVE	0
1031	12	Green Buttonwood	*Conocarpus erectus*	25	Poor	REMOVE	0
1032	8	Chinese Fan Palm	*Livistona chinensis*	10	Poor	REMOVE	0
1033	33.5*	Black Olive	*Bucida buseras*	50	Poor	REMOVE	0
	404	TOTAL DBH				TOTAL CREDITS	0

* Denotes multitrunk tree. DBH is the sum of diameters of individual trunks.
O.S. Denotes OFF SITE

LEGEND

PALM OR TREE TO BE REMOVED

NOTE:
1. TREE & PALM REMOVAL:
REMOVE TREE & PALM COMPLETE, INCLUDING STUMP REMOVAL. BACKFILL EXCAVATED HOLE WITH APPROVED TOPSOIL.

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Licenses:
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Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Lndscp. Lic. No. LC0000298
REGISTERED LANDSCAPE ARCHITECT JAMES K. WHITE LA 0000911 STATE OF FLORIDA
James K. White, RLA
LA0000911
Apr 04, 2018

No.	Date	Revision
1		
2		
3		
4		
5		
6		
7		

Designed: JKW
Drawn: JM
Checked: JKW
Job No.: S13365
Date: 07/17
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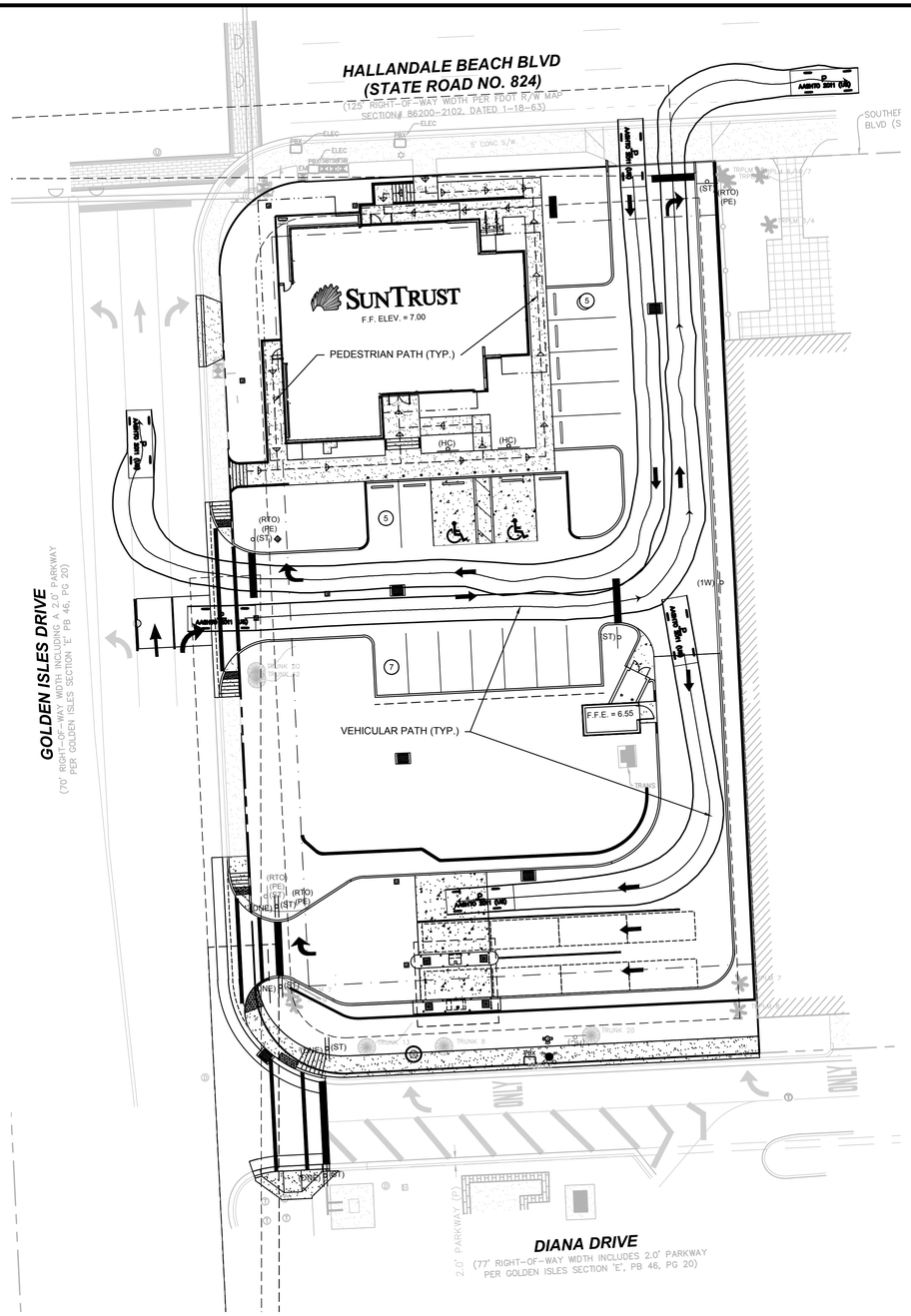
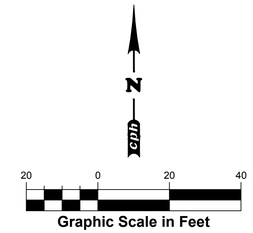
TREE RETENTION PLAN

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
TR-1





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04-06-18

No.	Date	Revision

Designed: J.PAGUADA
Drawn: J.PAGUADA
Checked: Y. PAGUADA
Job No.: S13365
Date: 07/17 © 2018

TRAFFIC AND PEDESTRIAN CIRCULATION

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
T-1

POWER SYMBOLS:

- HOMERUN CIRCUIT TO PANELBOARD
- CIRCUITING
  - = TIME CONTROLLED
  - = SWITCHED HOT
  - = UNSWITCHED HOT
  - = NEUTRAL
  - = GROUND
  - = ISOLATED GROUND
- 20A, 125V, DUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, DUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD ISOLATED GROUND
- 20A, 125V, GFCI DUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, SPLIT WIRED DUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, QUADRUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, QUADRUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD, ISOLATED GROUND
- 20A, 125V, GFCI QUADRUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, SPLIT WIRED QUADRUPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, SIMPLEX RECEPTACLE (NEMA 5-20R), WALL MTD
- 20A, 125V, SIMPLEX RECEPTACLE (NEMA 5-20R), WALL MTD ISOLATED GROUND
- POWER RECEPTACLE, FLOOR MTD (SEE SPECS OR NOTES)
- 20A, 125V, DUPLEX RECEPTACLE (NEMA 5-20R), FLOOR MTD
- 20A, 125V, DUPLEX RECEPTACLE (NEMA 5-20R), FLOOR MTD ISOLATED GROUND
- 20A, 125V, GFCI DUPLEX RECEPTACLE (NEMA 5-20R), FLOOR MTD
- 20A, 125V, QUADRUPLEX RECEPTACLE (NEMA 5-20R), FLOOR MTD
- 20A, 125V, QUADRUPLEX RECEPTACLE (NEMA 5-20R), FLOOR MTD ISOLATED GROUND
- 20A, 125V, GFCI QUADRUPLEX RECEPTACLE (NEMA 5-20R), FLOOR MTD
- SPECIAL PURPOSE RECEPTACLE, FLOOR MTD (SEE EQUIPMENT SCHEDULE OR NOTES)
- 20A, 125V, DUPLEX RECEPTACLE (NEMA 5-20R), CEILING MTD
- 20A, 125V, DUPLEX RECEPTACLE (NEMA 5-20R), CEILING MTD ISOLATED GROUND
- 20A, 125V, GFCI DUPLEX RECEPTACLE (NEMA 5-20R), CEILING MTD
- 20A, 125V, QUADRUPLEX RECEPTACLE (NEMA 5-20R), CEILING MTD
- 20A, 125V, QUADRUPLEX RECEPTACLE (NEMA 5-20R), CEILING MTD ISOLATED GROUND
- 20A, 125V, GFCI QUADRUPLEX RECEPTACLE (NEMA 5-20R), CEILING MTD
- SPECIAL PURPOSE RECEPTACLE, WALL MTD (SEE EQUIPMENT SCHEDULE OR NOTES)
- 30A, 125 / 250V, DRYER RECEPTACLE (NEMA 14-30R), WALL MTD
- 50A, 125 / 250V, RANGE RECEPTACLE (NEMA 14-50R), WALL MTD
- 60A, 480V, 3PH, WELDING RECEPTACLE, WALL MTD
- DROP CORD (SEE SPECS OR NOTES)
- POWER POLE (SEE SPECS OR NOTES)
- RECEPTACLE RACEWAY / PLUG MOLD
- JUNCTION BOX, WALL MTD
- JUNCTION BOX
- JUNCTION BOX, FLOOR MTD
- JUNCTION BOX, EXPLOSION PROOF
- SAFETY SWITCH, 30A, 3-POLE, NON-FUSED
- SAFETY SWITCH, 30A, 3-POLE, FUSED @ 20A
- STARTER OR MOTOR CONTROLLER
- STARTER, COMBINATION W/ DISC. SWITCH
- TRANSFORMER
- ELECTRICAL PANEL / ENCLOSURE AS NOTED ON PLAN DRAWINGS, SURFACE/RECESSED MTD
- 208Y/120V PANELBOARD, SURFACE/RECESSED MTD
- 208Y/120V LIGHTING PANELBOARD, SURFACE/RECESSED MTD
- 480Y/277V PANELBOARD, SURFACE MTD
- ELECTRIC UTILITY METER

LIGHTING SYMBOLS:

NOTE: REFER TO LIGHTING FIXTURE SCHEDULE FOR FIXTURE TYPES. REFER TO SENSOR SCHEDULE FOR SENSOR TYPES. REFER TO PLAN DRAWINGS FOR ADDITIONAL SYMBOLS.

- A: CAPITAL LETTER ADJACENT TO FIXTURE = TYPE
- a: LOWERCASE LETTER = SWITCHING GROUP
- EM: EMERGENCY LIGHTING
- NL: NIGHT LIGHTING (UNSWITCHED FIXTURE)
- SWITCH, 20A, 120/277V, TOGGLE TYPE, U.N.O.
  - a,b,c,.. = SWITCHING GROUP
  - BLANK = SINGLE POLE
  - 2 = DOUBLE POLE
  - 3 = THREE-WAY
  - 4 = FOUR-WAY
  - D = DIMMER SWITCH
  - K = SINGLE POLE KEY OPERATED
  - L = LOW VOLTAGE
  - M = MOTOR RATED
  - P = SINGLE POLE W/ PILOT LIGHT
  - RC = REMOTE CONTROL
  - T = TIMER OPERATED SWITCH
- AUTOMATIC EMERGENCY POWER TRANSFER CONTROLLER
- OCCUPANCY SENSOR, CEILING MTD
- DAYLIGHT SENSOR, CEILING MTD
- ROOM CONTROLLER
- OCCUPANCY SENSOR, WALL MTD
- PHOTOCELL
- LIGHTING CONTACTOR
- TIME CLOCK
- 2'X4' LAY-IN TROFFER
- 2'X4' LAY-IN TROFFER, NIGHT LIGHT
- 2'X4' LAY-IN TROFFER, EMERGENCY LIGHT
- 2'X2' LAY-IN TROFFER
- 1'X4' LAY-IN TROFFER
- STRIP/CHANNEL FIXTURE
- TRACK LIGHTING W/ DIRECTIONAL HEADS
- DOWN LIGHT, CEILING MTD
- WALL WASHER, CEILING MTD
- CEILING MTD LIGHT FIXTURE
- WALL MTD LIGHT FIXTURE
- WALL SCONCE
- WALL PACK
- SINGLE HEAD POLE MTD LIGHT FIXTURE
- DUAL HEAD POLE MTD LIGHT FIXTURE
- EXHAUST FAN
- EMERGENCY WALLPACK
- EXIT SIGN, CEILING/WALL MTD, SINGLE FACE (ARROW INDICATES DIRECTION OF EGRESS)
- EXIT SIGN, CEILING/WALL MTD, DOUBLE FACE (ARROW INDICATES DIRECTION OF EGRESS)
- EXIT SIGN W/ COMBINATION EMERGENCY LIGHT, CEILING/WALL MTD, SINGLE FACE (ARROW INDICATES DIRECTION OF EGRESS)

ONE-LINE SYMBOLS:

- LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER (MCCB), THERMAL MAGNETIC, 3-POLE
  - AF - FRAME CURRENT RATING
  - AT - TRIP CURRENT SETTING
- DISCONNECT SWITCH, NON-FUSED, 3-POLE UNLESS NOTED OTHERWISE
- FUSED DISCONNECT SWITCH, 3-POLE UNLESS NOTED OTHERWISE (200A SWITCH, 100A FUSES)
- FUSE 3-POLE UNLESS NOTED OTHERWISE (100A HOLDER, 30A FUSES)
- GROUND (GND)
- BUS
- TRANSFORMER, DESCRIPTION AND RATING AS NOTED
- CURRENT TRANSFORMER
  - 100:5 - CT RATIO
  - (3) - QUANTITY OF THREE REQUIRED
  - ● - POLARITY

SPECIAL SYSTEMS SYMBOLS:

NOTE: UNLESS NOTED OTHERWISE, PROVIDE BACK BOX AND 1" EMPTY CONDUIT STUBBED 6" INTO ACCESSIBLE CEILING SPACE. FOR FLOOR BOXES, PROVIDE CONDUIT EITHER IN SLAB OR VIA FLOOR BELOW TO ACCESSIBLE CEILING SPACE OF DEVICE LOCATION. COORDINATE WITH LV CONTRACTOR FOR FINAL REQUIREMENTS.

- TELEPHONE OUTLET, WALL MTD
  1 TELE OUTLET, U.N.O.
  - X = NUMBER OF TELEPHONE PORTS
- DATA OUTLET, WALL MTD
  1 DATA OUTLET, U.N.O.
  - Y = NUMBER OF DATA PORTS
- COMBINATION TELE/DATA OUTLET, WALL MTD
  1 TELE / 2 DATA OUTLETS, U.N.O.
  - X = NUMBER OF TELEPHONE PORTS
  - Y = NUMBER OF DATA PORTS
- TELEPHONE OUTLET, FLOOR MTD
- DATA OUTLET, FLOOR MTD
- COMBINATION TELE/DATA OUTLET, FLOOR MTD
- WIRELESS ACCESS POINT, CEILING MTD
- TELEPHONE BACKBOARD (TBB)
- INTERCOM OUTLET
- INTERCOM MASTER STATION
- INTERCOM STATION
- TELEVISION OUTLET, WALL MTD
- A/V OUTLET, WALL MTD
- TELEVISION OUTLET, CEILING MTD
- A/V OUTLET, CEILING MTD
- VOLUME CONTROL, WALL MTD
- MICROPHONE OUTLET, WALL MTD
- SOUND SYSTEM AMPLIFIER
- SPEAKER, WALL MTD
- SPEAKER, CEILING MTD
- BELL
- CHIME
- GONG
- BUZZER
- HORN "H" OR SIREN "S"
- BELL RINGING TRANSFORMER
- RELAY
- BELL & BUZZER COMBINATION
- ELECTRIC DOOR OPENER
- LOW VOLTAGE TRANSFORMER
- ANNUNCIATOR
- SINGLE BUTTON PUSHBUTTON STATION
- TWO-BUTTON PUSHBUTTON STATION
- THREE-BUTTON PUSHBUTTON STATION
- CLOCK
  - M = MASTER
  - DF = DOUBLE FACE
  - S = COMBINATION SPEAKER
- SECURITY CONTROL PANEL
- KEYPAD
- SECURITY ALARM INITIATING DEVICE
  - DC = DOOR CONTACT
  - GB = GLASS BREAK DETECTOR
  - MD = MOTION DETECTOR
  - VS = VIBRATION SENSOR
  - WC = WINDOW CONTACT
- ACCESS CONTROL DEVICE
  - CR = CARD READER
  - ES = ELECTRIC STRIKE
  - ML = MAGNETIC LOCK
  - RX = REQUEST EXIT PUSH BUTTON
- SECURITY CAMERA, WALL MTD
  - PTZ = PAN/TILT/ZOOM
  - BX = BOX
  - D = MINI DOME
  - BL = BULLET
  - WP = WEATHERPROOF
- SECURITY CAMERA, CEILING MTD
  - PTZ = PAN/TILT/ZOOM
  - BX = BOX
  - D = MINI DOME
  - BL = BULLET
  - WP = WEATHERPROOF
- NORMAL / EMERGENCY CALL BUTTON
- PUSH BUTTON
- THERMOSTAT, WALL MTD
- THERMOSTAT, CEILING MTD

FIRE ALARM SYMBOLS:

- MANUAL FIRE ALARM BOX
- AUDIBLE NOTIFICATION DEVICE
  - SS = BELL - SINGLE STROKE
  - T = BELL - TROUBLE
  - G = GONG
  - C = CHIME
- HORN, WALL MTD
- HORN, CEILING MTD
- MINI HORN, WALL MTD
- MINI HORN, CEILING MTD
- SPEAKER, WALL MTD
  - W = WATTAGE TAP
- SPEAKER, CEILING MTD
  - W = WATTAGE TAP
- STROBE UNIT, WALL MTD
  - CD = CANDELA RATING
- STROBE UNIT, CEILING MTD
  - CD = CANDELA RATING
- COMBINATION HORN / STROBE, WALL MTD
  - CD = CANDELA RATING
- COMBINATION SPEAKER / STROBE, WALL MTD
  - W = WATTAGE
  - CD = CANDELA RATING
- COMBINATION HORN / STROBE, CEILING MTD
  - CD = CANDELA RATING
- COMBINATION SPEAKER / STROBE, CEILING MTD
  - W = WATTAGE
  - CD = CANDELA RATING
- FIRE ALARM ANNUNCIATOR
- FIRE ALARM CONTROL PANEL
- REMOTE ALARM INDICATING & TEST STATION
- KNOX BOX
- WATER FLOW SWITCH
- NON-ADDRESSABLE OUTPUT RELAY
- PRESSURE SWITCH
- JUNCTION BOX
- DOOR CLOSER
- DOOR HOLDER
- VALVE SUPERVISORY SWITCH (TAMPER SWITCH)
- VALVE W/ INTEGRAL SUPERVISORY SWITCH (TAMPER SWITCH)
- ABORT SWITCH
- HEAT DETECTOR (THERMAL DETECTION)
- HEAT DETECTOR - FIXED TEMPERATURE TYPE
- HEAT DETECTOR - COMBINATION RATE OF RISE / FIXED TEMPERATURE TYPE
- SMOKE DETECTOR
- SMOKE DETECTOR - IONIZATION TYPE
- SMOKE DETECTOR - PHOTOELECTRIC TYPE
- SMOKE DETECTOR, DUCT MTD
- CARBON MONOXIDE DETECTOR
- CARBON DIOXIDE DETECTOR
- END OF LINE RESISTOR
- FIRE SERVICE OR EMERGENCY PHONE STATION
  - A = ACCESSIBLE
  - H = HANDSET
  - J = JACK
- DAMPER - MOTORIZED FIRE / SMOKE

RACEWAY SYMBOLS:

- UG — UNDERGROUND POWER COMPANY SERVICE FEEDER
- OH — OVERHEAD POWER COMPANY SERVICE FEEDER
- TEL — UNDERGROUND TELEPHONE SERVICE CONDUIT
- CONDUIT BURIED
- CONDUIT CONCEALED
- CONDUIT EXPOSED
- CONDUIT UP
- CONDUIT DOWN
- CONDUIT SEAL-OFF
- CONDUIT CAP
- CONDUIT TEE BODY
- CONDUIT EL BODY
- CONDUIT SLEEVE WITH BUSHINGS
- PULL BOX

GENERAL NOTES:

1. COMPLETE SYSTEM: FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, SUPERINTENDENTS AND SERVICES REQUIRED TO CONSTRUCT, INSTALL, AND MODIFY THE ELECTRICAL SYSTEMS AS HEREIN SPECIFIED AND SHOWN ON THESE DRAWINGS FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE WORK TO BE PERFORMED OR INSTALLED BY OTHERS AFFECTING THE ELECTRICAL WORK AND FURNISH AND INSTALL ALL NECESSARY STEEL SHAPES, BLOCKING, ANCHORS, SLEEVES, HANGERS, ETC. FOR ATTACHING OR CONNECTING ELECTRICAL WORK TO RELATED WORK OF OTHER TRADES. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN, WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
2. REGULATIONS: ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST ADOPTED NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE LOCAL BUILDING CODES, RULES, REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
3. WORKMANSHIP: ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER SUBJECT TO THE APPROVAL OF THE OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE. RACEWAY, FIXTURES, AND WIRING DEVICES SHALL BE PROPERLY ALIGNED AND SUPPORTED. RACEWAY SHALL BE GROUPED AND INSTALL IN RUNS WHICH ARE PARALLEL AND PERPENDICULAR WITH BUILDING LINES.
4. COORDINATION: PRIOR TO COMMENCEMENT OF WORK, EXAMINE ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND COORDINATE WITH ALL OTHER TRADES IN ORDER TO BECOME FAMILIAR WITH ALL ASPECTS OF THE DESIGN AFFECTING THE ELECTRICAL WORK. REFER TO ARCHITECTURAL DRAWINGS AND EQUIPMENT VENDOR CUT SHEETS FOR EQUIPMENT POWER/CONTROL REQUIREMENTS, CONNECTIONS, MOUNTING HEIGHTS, AND LOCATIONS OF ALL NEW ELECTRICAL DEVICES. FIELD VERIFY EXACT NAMEPLATE DATA ON ALL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS AND/OR BY THE OWNER PRIOR TO THE INSTALLATION OF ELECTRICAL WORK AND MAKE ANY ADJUSTMENTS TO OUTLETS, CONDUITS, WIRE, AND/OR CIRCUIT BREAKER RATINGS AS REQUIRED TO MATCH EQUIPMENT ACTUALLY FURNISHED. FINAL LOCATION OF EQUIPMENT AND DEVICES TO BE COORDINATED WITH OWNER.
5. EXISTING CONDITIONS: SURVEY SITE OF WORK PRIOR TO SUBMITTING BID TO BECOME FULLY INFORMED OF ALL CONDITIONS THAT EFFECT THE WORK AND COST THEREOF. CONSIDERATIONS WILL NOT BE GRANTED FOR ANY ALLEGED MISUNDERSTANDING OF THE AMOUNT OF WORK TO BE PERFORMED. NOTIFY THE ARCHITECT AND/OR ENGINEER IN ADVANCE OF ANY DISCREPANCIES OR OMISSIONS.
6. PERMITS: OBTAIN ALL NECESSARY PERMITS, LICENSES, AND INSPECTIONS AS REQUIRED BY THE MUNICIPALITY AND UTILITY COMPANY. PAY ALL ASSOCIATED FEES FOR PERMITS AND OTHER MUNICIPAL AND GOVERNING REQUIREMENTS.
7. UTILITIES: COORDINATE WITH POWER AND TELEPHONE COMPANIES FOR SERVICE REQUIREMENTS. NOTIFY UTILITIES OF COMMENCEMENT OF WORK AND MAKE ALL ARRANGEMENTS FOR TEMPORARY SERVICES. THE COST FOR ALL WORK AND MATERIALS REQUIRED BY UTILITY COMPANIES AND SET-UP OF SERVICE SHALL BE INCLUDED IN BID.
8. INTERRUPTION OF ELECTRICAL POWER: COORDINATE ALL WORK REQUIRING INTERRUPTION OF ELECTRICAL POWER WITH THE BUILDING OWNER AND OBTAIN WRITTEN PERMISSION FROM THE BUILDING OWNER PRIOR TO SHUTTING DOWN POWER TO ANY SWITCHBOARD. PROVIDE NOTICE TO ALL OTHER TRADES OF ALL SCHEDULED INTERRUPTIONS OF POWER.
9. PRODUCTS: ALL ELECTRICAL MATERIALS SHALL BE NEW EXCEPT WHERE SPECIFICALLY NOTED AS EXISTING TO BE REUSED. MATERIAL AND METHODS OF INSTALLATION SHALL CONFORM TO THE STANDARDS OF UNDERWRITERS LABORATORIES, INC. (UL), ANSI, NFPA, ADA, AND ALL APPLICABLE LOCAL ORDINANCES. DEFECTIVE EQUIPMENT AND/OR EQUIPMENT DAMAGED DURING INSTALLATION AND/OR TESTING SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE ARCHITECT AND THE ENGINEER. PROPOSED EQUIPMENT SHALL BE NRTL LISTED, LABELED, OR APPROVED.
10. PENETRATIONS: COORDINATE FLOOR AND WALL PENETRATIONS WITH STRUCTURAL ENGINEER. ALL PENETRATIONS THROUGH FIRE-RATED SLABS AND/OR PARTITIONS SHALL BE FIRE-PROOFED BY AN APPROVED METHOD TO THE SAME OR GREATER RATING THAN THAT OF THE SLAB OR PARTITION. ALL PENETRATION SHALL RECEIVE CAULKING TO SEAL ANY TYPE OF ENERGY LOSS.
11. FAULT CURRENT: VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND MAKE EQUIPMENT PROVISIONS AS NECESSARY.
12. VOLTAGE DROP: INCREASE WIRE SIZES AS REQUIRED TO MAINTAIN VOLTAGE DROPS @ A MAXIMUM OF 3% FOR BRANCH CIRCUITS AND 2% FOR FEEDERS.
13. WIRING: ALL CONDUCTORS CARRYING 50 VOLTS OR MORE SHALL BE MINIMUM #12 AWG, CU, UNO. PROVIDE TYPE THHN - THWN FOR ABOVE GROUND AND TYPE THW OR XHHW FOR BELOW GROUND, COORDINATE INSULATION TYPES WITH ENVIRONMENTAL CONDITIONS, NEC REQUIREMENTS, AND CONDUIT FILL REQUIREMENTS. CONDUCTORS #10 AND SMALLER SHALL BE SOLID, CONDUCTORS #8 AND LARGER SHALL BE STRANDED. ALL CONDUCTOR SIZES ARE BASED ON COPPER WITH 60 C INSULATION FOR CIRCUITS RATED 100 A OR LESS AND 75 C FOR CIRCUITS RATED MORE THAN 100 A.
14. COLOR CODING: FOR EXISTING WIRING SYSTEMS, COLOR CODING SHALL FOLLOW EXISTING SITE REQUIREMENTS. FOR NEW INSTALLATIONS OR WHERE EXISTING INSTALLATIONS DO NOT HAVE A COLOR CODING CONVENTION, THE FOLLOWING SYSTEMS OF COLOR CODING SHALL BE STRICTLY ADHERED TO AND FOLLOWED THROUGHOUT:

CONDUCTOR	480Y/277V	240V OR LESS
PHASE A:	BROWN	BLACK
PHASE B:	ORANGE	RED
PHASE C:	YELLOW	BLUE
NEUTRAL:	GRAY	WHITE
EQUIPMENT GROUND:	GREEN	GREEN
ISOLATED GROUND:	---	GREEN W/ YELLOW STRIPE

15. GROUNDING: ALL CIRCUITS SHALL BE RUN WITH AN INSULATED GREEN COPPER GROUND WIRE SIZED PER NEC. USE OF CONDUIT AS A GROUND IS UNACCEPTABLE.
16. CONDUIT: ALL WIRING SHALL BE INSTALLED IN CONDUIT, MINIMUM 1/2" FOR INDOOR AND 3/4" FOR OUTDOOR. EMT IS ACCEPTABLE WITH COMPRESSION FITTINGS ONLY. MC IS ACCEPTABLE FOR FIXTURE WHIPS ONLY. ALL CONDUIT AND WIRING SHALL BE CONCEALED IN CEILINGS AND/OR WALLS UNLESS SPECIFICALLY NOTED OTHERWISE. CHANNEL EXISTING WALLS WHERE REQUIRED. WHERE CONDUITS ARE UNABLE TO BE CONCEALED, HARD PIPED CONDUIT SHALL BE USED AND PAINTED TO MATCH ADJOINING SURFACE.
17. ROUTING: CONDUIT ROUTING SHOWN IS SYMBOLIC AND DIAGRAMMATIC. INSTALL CONDUIT TO FIT ACTUAL FIELD CONDITIONS.
18. MODIFICATIONS TO EXISTING PANELBOARDS: PROVIDE NEW CIRCUIT BREAKERS AND/OR FUSED SWITCHES AS REQUIRED. NEW EQUIPMENT SHALL MATCH EXISTING INSTALLED EQUIPMENT AND SHALL BE OF THE SAME MANUFACTURER AND TYPE AS SIMILAR EXISTING EQUIPMENT. INTERRUPTING RATING OF EQUIPMENT SHALL BE THE SAME AS OF THE EXISTING EQUIPMENT.
19. IDENTIFICATION: ALL ELECTRICAL DISTRIBUTION EQUIPMENT, TRANSFORMERS, PANELBOARDS, AND OTHER ENCLOSED EQUIPMENT SHALL BE IDENTIFIED AS INDICATED IN THE CONTRACT DOCUMENTS. SAID IDENTIFICATION SHALL CONSIST OF PERMANENTLY ATTACHED ENGRAVED LAMINATED PLASTIC NAMEPLATES. EACH BRANCH CIRCUIT OVER-CURRENT PROTECTION DEVICE SHALL BE IDENTIFIED BY CIRCUIT NUMBER AND SCHEDULED INSIDE PANEL DOOR. EACH BRANCH CIRCUIT SPLICE OR TERMINATION SHALL BE IDENTIFIED BY PANEL AND CIRCUIT DESIGNATION SHOWN ON THE JUNCTION OR OUTLET BOX, OR UPON INDIVIDUAL WIRES IN CASES WHERE MORE THAN ONE OF EACH PHASE CONDUCTOR OCCUR.
20. SHOP DRAWINGS AND SUBMITTALS: SUBMIT MANUFACTURERS' STANDARD PRODUCT INFORMATION, PERFORMANCE SPECIFICATIONS, PHYSICAL DIMENSIONS, AND OTHER INFORMATION NECESSARY FOR ENGINEER TO ENSURE COMPLIANCE WITH SPECIFICATIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO ORDERING AND INSTALLING ANY EQUIPMENT.
21. SUBSTITUTION AND ALTERATIONS: THERE SHALL BE NO DEVIATION FROM THE REQUIREMENTS HEREIN WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ALL COSTS INCURRED RESULTING FROM SUBSTITUTION OF EQUIPMENT AS WELL AS THE PERFORMANCE AND SPACE REQUIREMENTS OF SUCH EQUIPMENT.
22. PROJECT RECORD DOCUMENTS: THE ELECTRICAL CONTRACTOR SHALL MAINTAIN AT THE SITE, FOR THE OWNER, ONE COPY OF ALL DRAWINGS, ADDENDA, APPROVED SHOP DRAWINGS, REVISIONS AND OTHER MODIFICATIONS IN GOOD ORDER AND MARKED TO RECORD ALL CHANGES MADE DURING CONSTRUCTION. THE SET OF DRAWINGS AND OTHER INFORMATION SHALL BE DELIVERED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE AND ONE COPY GIVEN TO THE ENGINEER UPON COMPLETION OF WORK. DRAWINGS SHALL INCLUDE AT A MINIMUM:
    A. A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND
    B. FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.
23. CERTIFICATES OF APPROVAL: ALL CERTIFICATES OF APPROVAL SHALL BE IN TRIPLICATE, DELIVERED TO THE ENGINEER AND BECOME THE PROPERTY OF THE OWNER.
24. OPERATIONS AND MAINTENANCE MANUALS: PROVIDE OPERATING AND MAINTENANCE MANUALS TO THE BUILDING OWNER. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
    A. SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE,
    B. OPERATING MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
    C. NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
25. WARRANTY: THE ENTIRE ELECTRICAL SYSTEM INSTALLED UNDER THIS CONTRACT SHALL BE HANDED OVER IN PROPER WORKING ORDER. ANY WORK OR MATERIALS WHICH DEVELOP DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE SHALL BE REPLACED WITHOUT CHARGE. BENEFICIAL USE SHALL NOT BE CONSTRUED AS FINAL ACCEPTANCE. THE ELECTRICAL CONTRACTOR SHALL, DURING THE ONE YEAR GUARANTEE PERIOD, BE RESPONSIBLE FOR THE PROPER REPAIR AND ADJUSTMENTS OF ALL ELECTRICAL SYSTEMS AND EQUIPMENT, APPARATUS, DEVICES, ETC. INSTALLED BY HIM, AND DO ALL WORK NECESSARY TO ENSURE EFFICIENT AND PROPER FUNCTIONING.

ABBREVIATIONS:

A	AMPERE	HOA	HAND-OFF-AUTO	P	POLE
AFF	ABOVE FINISHED FLOOR	IG	ISOLATED GROUND	PH	PHASE
AFG	ABOVE FINISHED GRADE	JB	JUNCTION BOX	PNL	PANEL
AHJ	AUTHORITY HAVING JURISDICTION	KVA	KILOVOLT-AMPERE	PWR	POWER
AFC	AVAILABLE FAULT CURRENT	KW	KILOWATT	RECEP	RECEPTACLE
AIC	AMPERE INTERRUPTING CAPACITY	L.S.I.G.	LONG, SHORT, INSTANTANEOUS, GROUND FAULT TRIP	RM	ROOM
ATS	AUTOMATIC TRANSFER SWITCH			SW	SWITCH
BLDG	BUILDING	LTG	LIGHTING	SWBR	SWITCHBOARD
BRKR	BREAKER	MCA	MINIMUM CIRCUIT AMPS	SWGR	SWITCHGEAR
C	CONDUIT	MCB	MAIN CIRCUIT BREAKER	TBB	TELECOM BACKBOARD
CKT	CIRCUIT	MCC	MOTOR CONTROL CENTER	TELE	TELEPHONE
CLG	CEILING	MCCB	MOLDED CASE CIRCUIT BREAKER	TYP	TYPICAL
CT	CURRENT TRANSFORMER	MCP	MOTOR CIRCUIT PROTECTOR	UG	UNDERGROUND
CU	COPPER	MDP	MAIN DISTRIBUTION PANEL	UNO	UNLESS NOTED OTHERWISE
CTR	CENTER	MFS	MAXIMUM FUSE SIZE	UPS	UNINTERRUPTIBLE POWER SUPPLY
EA	EACH	MLO	MAIN LUG ONLY		
EGC	EQUIPMENT GROUNDING CONDUCTOR	MOCP	MAXIMUM OVERCURRENT PROTECTION	V	VOLT
EOL	ELECTRONIC OVERLOAD	MTD	MOUNTED	VIF	VERIFY IN FIELD
FDR	FEEDER	MTS	MANUAL TRANSFER SWITCH	W/	WITH
FLA	FULL LOAD AMPS	N.C.	NORMALLY CLOSED	W	WIRE
GEC	GROUNDING ELECTRODE CONDUCTOR	N.O.	NORMALLY OPEN	WP	WEATHER PROOF
GFI	GROUND FAULT INTERRUPTER	NTS	NOT TO SCALE	XFMR	TRANSFORMER
GND	GROUND	OCPD	OVERCURRENT PROTECTION DEVICE		
GRS	GALVANIZED RIGID STEEL	OH	OVERHEAD		

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ANDREW MOHR, P.E.
FL LIC NO. 73077

No.	Date	Revision
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2	12/14/17	DRC REVIEW

Designed: C. VALENCIA
Drawn: C. VALENCIA
Checked: A. MOHR
Job No.: S13365/70-76.00
Date: 04/03/2018 ©

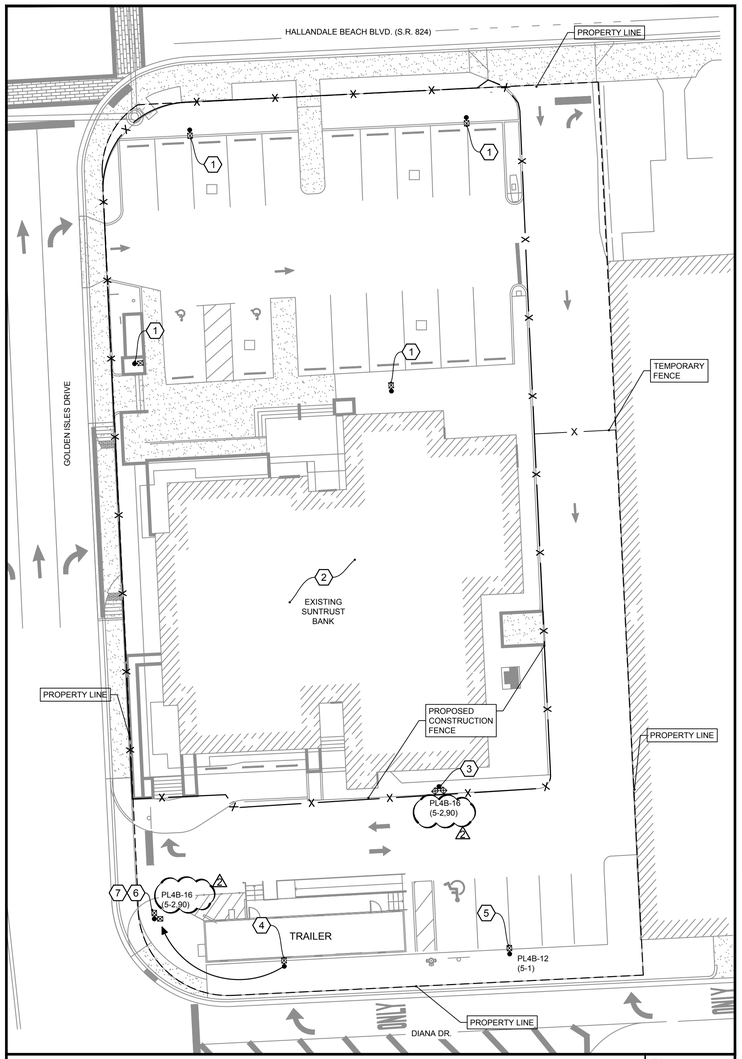
ELECTRICAL GENERAL NOTES & LEGEND

SUNTRUST

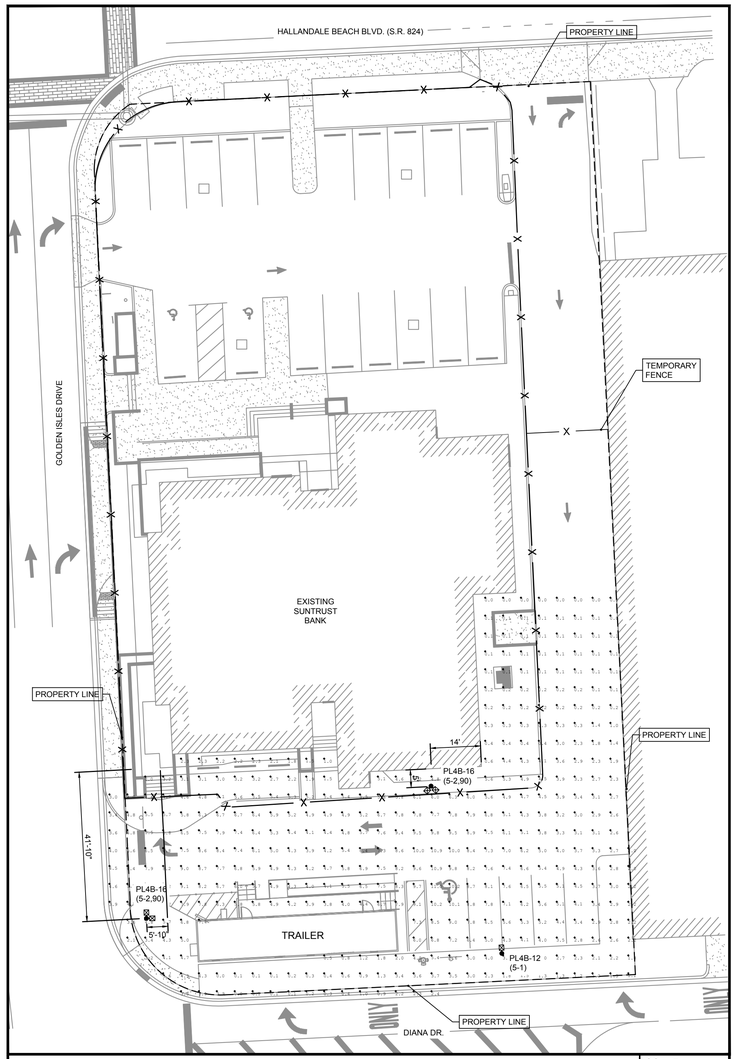
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
E0.0



ELECTRICAL SITE PLAN - PHASE I | SCALE 1" = 20'-0"



PHOTOMETRIC SITE PLAN AT GRADE - PHASE I | SCALE 1" = 20'-0"

KEYED NOTES:

1. DISCONNECT AND REMOVE EXISTING LIGHT POLE. SALVAGE EXISTING BRANCH CIRCUIT AND CONCRETE POLE. FOR REUSE. WORK TO BE PERFORMED AT DIFFERENT PHASE. COORDINATE WITH GENERAL CONTRACTOR FOR RESPONSIBILITIES.
2. EXISTING BUILDING AND EXTERIOR WALL MOUNTED LIGHTING TO BE COMPLETELY REMOVED. WORK TO BE PERFORMED BY OTHERS AT DIFFERENT PHASE. COORDINATE WITH GENERAL CONTRACTOR FOR RESPONSIBILITIES.
3. NEW PROPOSED POLE LIGHT. REFER TO POLE DETAIL FOR FURTHER DETAILS. REFER TO LIGHTING SCHEDULE FOR SPECIFICATION
4. EXISTING POLE TO BE RELOCATED AS SHOWN. PROVIDE ALL NECESSARY WORK AND LABOR AS REQUIRED.
5. PROVIDE NEW HEAD, ORIENTED AS SHOWN ON PLANS. MOUNT NEW LUMINAIRE ON EXISTING POLE. REFER TO LIGHTING SCHEDULE FOR NEW HEAD SPECIFICATION.
6. PROVIDE NEW TWO HEADS, ORIENTED AS SHOWN ON PLANS. MOUNT NEW LUMINAIRE ON EXISTING/RELOCATED POLE. REFER TO LIGHTING SCHEDULE FOR NEW LUMINAIRE SPECIFICATION.
7. PROVIDE BACK SHIELD TO MINIMIZE LIGHTING SPILLAGE OUTSIDE PROPERTY LINE.

PHOTOMETRIC CALCULATION SUMMARY

DESCRIPTION	SYMBOL	Avg(FC)	Max(FC)	Min(FC)	Avg/Min	Max/Min
PARKING AREA (AT GRADE)	+	5.99	11.0	2.0	3.00	5.50

EXISTING/RELOCATED SITE POLES:

FIELD VERIFY EXISTING POLE LIGHT FIXTURE EPA IS GREATER THAN PROPOSED EPA SHOWN IN THIS PROJECT. NOTIFY ENGINEER OF RECORD IN CASE OF ANY DISCREPANCIES.

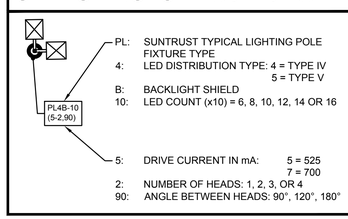
SHEET NOTES:

1. UTILITY LOCATE: FIELD VERIFY ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING. ALL PROPOSED EXCAVATION IN THE VICINITY OF EXISTING UTILITIES SHALL BE HAND EXCAVATED.
2. RACEWAY: NO UNDERGROUND CONDUITS SHALL BE SMALLER THAN 3/4", UNLESS NOTED OTHERWISE.
3. COORDINATION: COORDINATE ALL SITE CONDUIT ROUTINGS WITH GENERAL CONTRACT. REFER TO CIVIL PLANS FOR FINAL LOCATION OF ALL SITE LIGHTING, SIGNAGE, SITE EQUIPMENT, AND UTILITY CONNECTION POINTS. REFER TO BUILDING ELECTRICAL PLANS FOR INTERIOR ELECTRICAL REQUIREMENTS.
4. UTILITY SERVICE: SET-UP AND COORDINATE TEMPORARY AND PERMANENT ELECTRICAL AND TELECOM SERVICES WITH LOCAL PROVIDERS. PROVIDE ALL EQUIPMENT, MATERIAL, AND LABOR TO MEET UTILITY REQUIREMENTS. INCLUDE ALL ASSOCIATED COSTS IN BASE BID.
5. SITE UTILITIES: COORDINATE WITH CIVIL PLANS FOR LOCATIONS AND POWER REQUIREMENTS OF ALL SITE UTILITIES SUCH AS LIFT STATIONS, IRRIGATION PUMPS, ETC.
6. FAULT CURRENT: COORDINATE EQUIPMENT SHORT CIRCUIT CURRENT RATINGS (SCCR) WITH POWER COMPANY. PROVIDE POWER COMPANY AVAILABLE FAULT CURRENT (AFC) AT TRANSFORMER SECONDARY AND PROPOSED EQUIPMENT SCCR FOR ENGINEER APPROVAL.
7. VOLTAGE DROP: INCREASE FEEDER AND SERVICE ENTRANCE CONDUCTOR SIZE BASED ON ACTUAL TRANSFORMER LOCATION TO MEET VOLTAGE DROP LIMITATIONS OF 2% CUMULATIVE FOR FEEDERS AND 3% BRANCH CIRCUITS.
8. LIGHTING: REFER TO LIGHTING FIXTURE SCHEDULE FOR FIXTURE CATALOG NUMBERS AND ADDITIONAL REQUIREMENTS.
9. ATM LIGHTING: SITE LIGHTING SHALL MEET ALL LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS WITH RESPECT TO MINIMUM ILLUMINATION LEVELS IN THE VICINITY OF AN ATM.
10. UNDERGROUND: ALL UNDERGROUND WIRING SHALL BE LOCATED WITHIN 12" OF BACK OF CURB IN ALL LOCATIONS.
11. POLE BASES: POLE BASES SHALL BE INSTALLED 4'-0" BEHIND BACK OF CURB TO CENTER OF POLE BASE, UNO.
12. PRE-BID SITE VISIT: CONTRACTOR PROPOSING TO UNDERTAKE WORK UNDER THIS DIVISION SHALL VISIT THE SITE OF THE WORK AND FULLY INFORM THEMSELVES OF ALL CONDITIONS THAT EFFECT THE WORK AND COST THEREOF, AND EXAMINE THE DRAWINGS AND SPECIFICATIONS AS RELATED TO THE SITE CONDITIONS.
13. BID TERMS AND CONDITIONS: CONSIDERATION WILL NOT BE GRANTED FOR ANY ALLEGED MISUNDERSTANDINGS OF THE AMOUNT OF WORK TO BE PERFORMED. TENDER OF PROPOSAL SHALL CONVEY FULL AGREEMENT TO THE ITEMS AND CONDITIONS INDICATED ON THE DRAWINGS. SHOULD THE CONTRACTOR FIND DISCREPANCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS OR BE IN DOUBT AS TO THE INTENT THEREOF, HE SHALL IMMEDIATELY OBTAIN CLARIFICATION FROM THE ENGINEER AND/OR OWNER'S REPRESENTATIVE PRIOR TO SUBMITTING HIS PROPOSAL FOR WORK.

PHOTOMETRIC SHEET NOTES:

1. PHOTOMETRIC VALUES ARE INTENDED FOR DESIGN AND EVALUATION PURPOSES ONLY. THE POINT-BY-POINT SHOWN ON THIS SHEET IS BASED ON A COMPUTER LIGHTING PROGRAM WITH APPROXIMATED PARAMETERS. PHOTOMETRIC VALUES MAY VARY FROM ACTUAL FIELD READINGS.
2. SITE LIGHTING HAS BEEN DESIGNED IN ACCORDANCE WITH BANK CRITERIA.
3. ALL LIGHTING MEASUREMENTS ARE TAKEN AT THIRTY-SIX (36) INCHES ABOVE THE GROUND ON A HORIZONTAL PLANE.
4. REFER TO EXTERIOR PHOTOMETRIC PLAN AT GRADE LEVEL FOR PARKING SPACE AVERAGE ILLUMINATION LEVELS AND ELECTRICAL SITE PLAN FOR LUMINARIES INFORMATION.

SITE LIGHTING POLE LABEL DETAIL



NOTE:
PHOTOMETRIC PLANS HAVE BEEN REVISED.

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Designed: C. VALENCIA
Drawn: C. VALENCIA
Checked: A. MOHR
Job No.: S13365/70-76.00
Date: 04/03/2018 ©

ELECTRICAL SITE AND PHOTOMETRIC PLANS - PHASE I

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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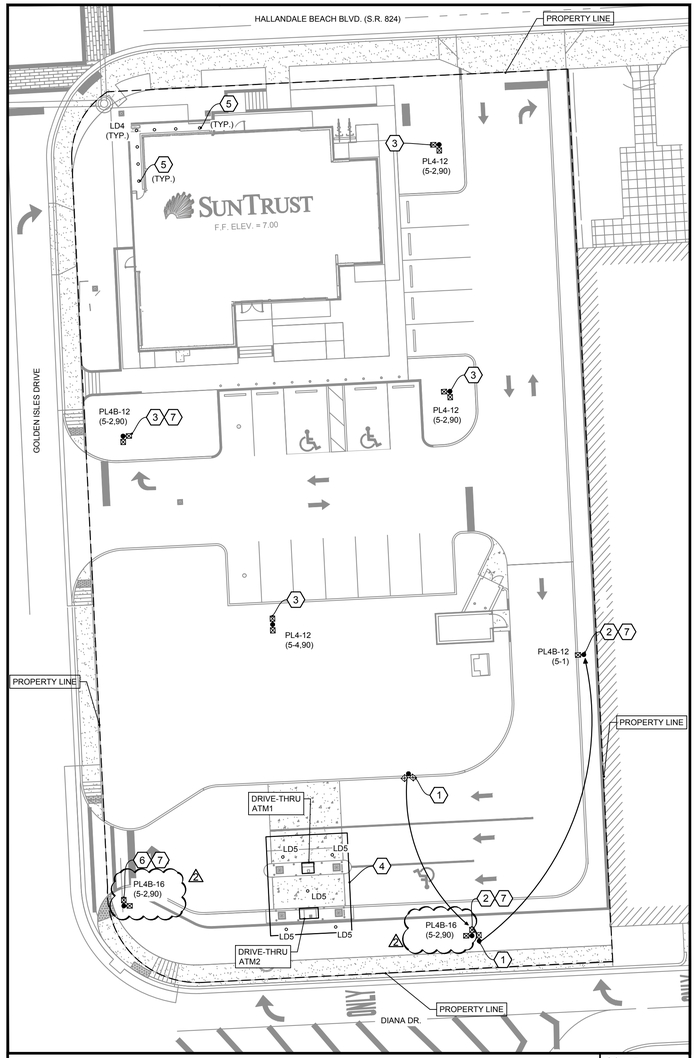
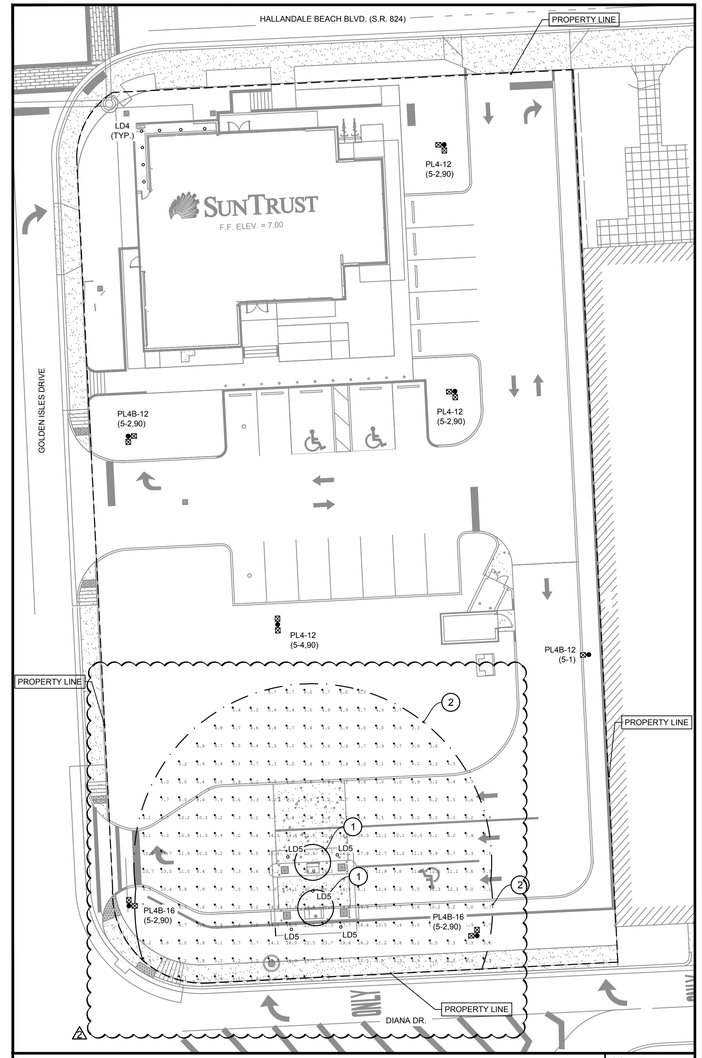
Sheet No.
E1.0



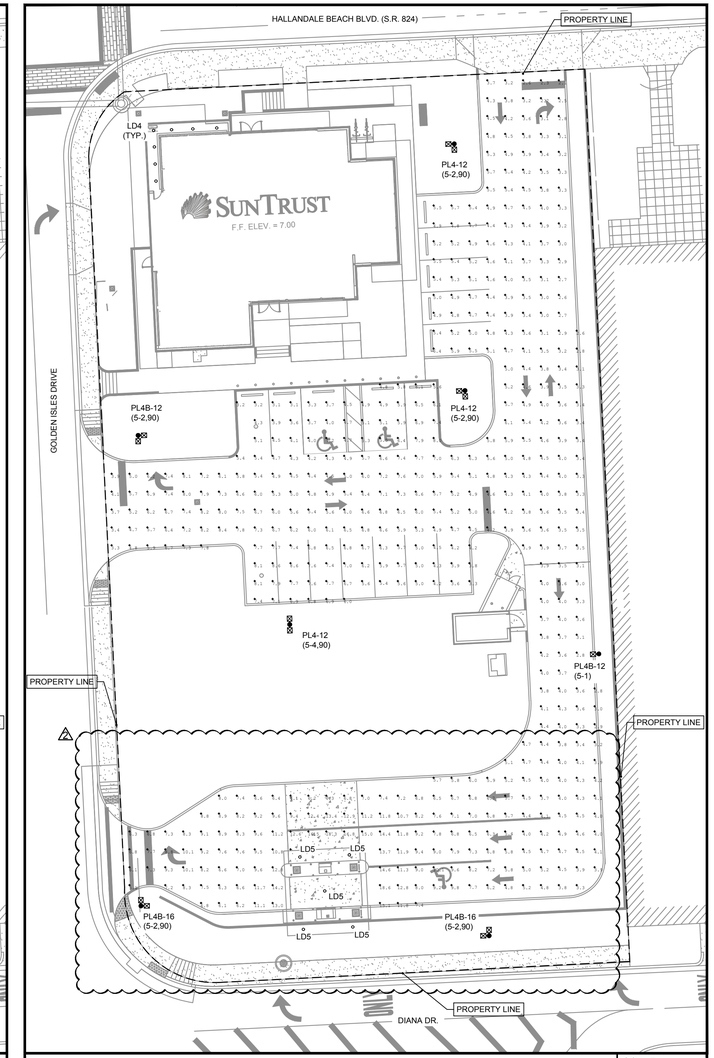
ELECTRICAL SITE PLAN - PHASE II

SCALE 1"=20'-0"



PHOTMETRIC SITE PLAN AT 36" - PHASE II

SCALE 1"=20'-0"



PHOTMETRIC SITE PLAN AT GRADE - PHASE II

SCALE 1"=20'-0"

SITE PLAN KEYED NOTES:

1. EXISTING POLE FROM PHASE I TO BE RELOCATED AS SHOWN. PROVIDE ALL NECESSARY WORK AND LABOR AS REQUIRED.
2. NEW PROPOSED LOCATION OF THE LIGHT POLE FOR PHASE II, ORIENTED AS SHOWN ON PLANS.
3. NEW PROPOSED POLE LIGHT. REUSE SALVAGED CONCRETE POLE FROM DEMOLITION PHASE I. PROVIDE NEW HEAD, ORIENTED AS SHOWN ON PLANS. REFER TO POLE DETAIL FOR FURTHER DETAILS. REFER TO LIGHTING SCHEDULE FOR SPECIFICATION
4. NEW DRIVE-THRU CANOPY LIGHT TYPE "LD5", REFER TO LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. LIGHT FIXTURES TO BE MOUNTED AT CANOPY HEIGHT = 11'-4" A.F.G.
5. NEW SOFFIT LIGHT TYPE "LD4". REFER TO LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. LIGHT FIXTURES TO BE MOUNTED AT SOFFIT HEIGHT = 8'-1" A.F.G.
6. EXISTING LIGHT POLE FROM PHASE I TO REMAIN.
7. PROVIDE BACK SHIELD TO MINIMIZE LIGHTING SPILLAGE OUTSIDE PROPERTY LINE.

SITE LIGHTING ILLUMINATION CONTROLS:

1. ALL EXTERIOR SITE LIGHTING SHALL BE CONTROLLED BY AUTOMATIC DEVICES.
2. REFER TO LOCAL CODES NOTE FOR ADDITIONAL INFORMATION.

PHOTOMETRIC PLAN KEYED NOTES:

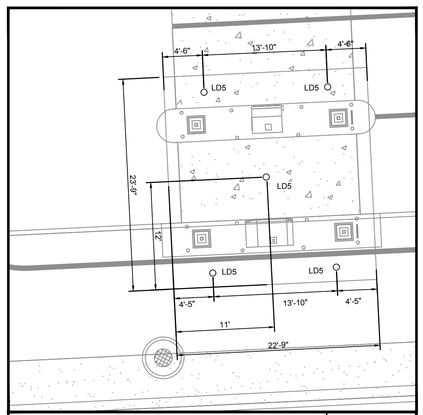
1. 5' COMPLIANCE RADIUS WITH A MINIMUM 10 FC AT 3'-0" AFG.
2. 50' COMPLIANCE RADIUS WITH A MINIMUM 2 FC AT 3'-0" AFG.

PHOTOMETRIC CALCULATION SUMMARY

DESCRIPTION	SYMBOL	Avg(FC)	Max(FC)	Min(FC)	Avg/Min	Max/Min
5FT RADIUS AT DRIVE-UP ATM1 (AT 36" AFG.)	+	23.72	29.9	12.5	1.90	2.39
50FT RADIUS AT DRIVE-UP ATM1 (AT 36" AFG.)	+	10.37	40.0	3.3	3.14	12.12
5FT RADIUS AT DRIVE-UP ATM2 (AT 36" AFG.)	+	25.69	40.0	13.9	1.85	2.88
50FT RADIUS AT DRIVE-UP ATM2 (AT 36" AFG.)	+	11.02	40.0	3.0	3.67	13.33
PARKING AREA (AT GRADE)	+	5.73	19.3	2.1	2.73	9.19

EXISTING/RELOCATED SITE POLES:

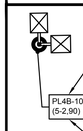
FIELD VERIFY EXISTING POLE LIGHT FIXTURE EPA IS GREATER THAN PROPOSED EPA SHOWN IN THIS PROJECT. NOTIFY ENGINEER OF RECORD IN CASE OF ANY DISCREPANCIES.



CANOPY DIMENSION PLAN

SCALE 1/8" = 1'-0"

SITE LIGHTING POLE LABEL DETAIL



PL: SUNTRUST TYPICAL LIGHTING POLE FIXTURE TYPE
4: LED DISTRIBUTION TYPE: 4 = TYPE IV, 5 = TYPE V
B: BACKLIGHT SHIELD
10: LED COUNT (x10) = 6, 8, 10, 12, 14 OR 16

5: DRIVE CURRENT IN mA: 5 = 525, 7 = 700
2: NUMBER OF HEADS: 1, 2, 3, OR 4
90: ANGLE BETWEEN HEADS: 90°, 120° OR 180°

NOTE:
PHOTOMETRIC PLANS HAVE BEEN REVISED.

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FL LIC NO. 73077

No.	Date	Revision
1	04/05/18	DRC REVIEW
2	12/14/17	DRC REVIEW
3		
4		
5		

Designed: C. VALENCIA
Drawn: C. VALENCIA
Checked: A. MOHR
Job No.: S13365/70-76.00
Date: 04/03/2018

ELECTRICAL SITE AND PHOTOMETRIC PLANS - PHASE II

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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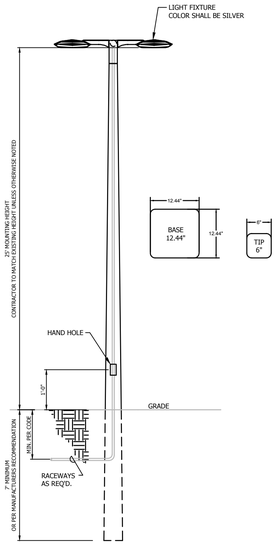
Sheet No.
E2.0

LIGHT POLE DETAIL:



LIGHT POLE DETAIL
(DIRECT BURIAL CONCRETE POLE)

NOT TO SCALE

DESIGN CRITERIA:
Calculation has been prepared in compliance with ASCE 7-10 and FBC2014 including HVHZ Section Requirements. (Sec 1620 and Sec 1819.7)

INPUT DATA:

Project Location	**FL**
Basic Wind Speed, V	**170** mph
Exposure Category	**C**
Topographic Factor, K_{zt}	**1.0** (Flat Terrain)
Velocity Pressure Exposure Coefficient, K_h	**1.04**
Wind Directionality Factor, K_d	**0.85**
Gust Effect Factor, G	**0.85**
Net Force Coefficient, C_f	**1.95** (Case A)
Wind Effective Sign Area, A_s	**15.50** ft^2
Mean Height, H	**14.92** ft
Number of Support, Ns	**1**
Diameter (Round Post) or Diagonal (Square Post), b	**1.61** ft
Proposed Depth of Foundation, $D_{Proposed}$	**7.00 ft (MINIMUM EMBEDMENT)**

ANALYSIS:

Velocity Pressure

$q_h = 0.00256\, K_z\, K_{zt}\, K_d\, V^2$ = **65.40** psf

Wind Force (per support)

$F = q_h\, G\, C_f\, A_s / Ns$ = **1,680.26** lb.

Overturning Moment at Base

M = F.H = **25,068.33** ft.lb

Required Buried Depth per FBC section 1819.7.2.1

A = 2.34xP/(S1xb)

P = **1,680.26** lb

S1 = Per section 1806.3.4 **1,500.00** psf

Per table 1819.6- Allowable Lateral Bearing per 1819.6 (sand, Silty clay)

Segment below grade

0 ft - 1 ft	**150**	psf
1 ft - 2 ft	**300**	psf
2 ft - 3ft	**450**	psf

b = 1.61

A = 1.62807959

d = 0.5A[1+(1+(4.36h/A)]1/2) **6.20946697** **< D proposed OK!**

Mean Heigh Calculation

Mean Height, H	**14.92**	ft
Area Base	**0.00**	sf
Area pole	**12.50**	sf
EPA fixture	**3.00**	sf
Centroid Height Base	**0.00**	ft
Centroid Height pole	**12.50**	ft
Centroid height fixture	**25.00**	ft

STRUCTURAL NOTES:

1. THE COMPLETE LIGHT POLE ASSEMBLY INCLUDING POLE, CROSS ARM(S), LIGHT FIXTURES AND FOUNDATION MEET THE MINIMUM REQUIREMENTS OF FBC2014 5TH EDITION, ASCE7-10 AND ACI318-14.
2. WIND LOAD = 170 MPH, RISK CATEGORY "II", EXPOSURE "C"
3. POLE SHALL PROVIDE A MINIMUM EPA RATING OF 3.0 SF

LUMINAIRE FIXTURE SPECIFICATION

SYMBOL	LABEL	CATALOG NUMBER	DESCRIPTION	LAMP	LUMENS	WATTS
	PL4-12	ARE-EDG-4M-_-12-E-UL-525-40K	Cree Edge Area, Type IV Medium, 120 LEDs, 525mA, 4000K	LED	ABSOLUTE	199
	PL4B-12	ARE-EDG-4MB-_-12-E-UL-525-40K	Cree Edge Area, Type IV Medium, 120 LEDs, 525mA, 4000K, with backshield	LED	ABSOLUTE	199
	PL4B-16	ARE-EDG-4MB-_-16-E-UL-525-40K	Cree Edge Area, Type IV Medium, 160 LEDs, 525mA, 4000K, with backshield	LED	ABSOLUTE	263
	LD5	ORB-18LED-60-3K-T5QN	BEACON, ORBEON Series 18 LED array, 3000k Type V, Square Narrow	LED	ABSOLUTE	60
	LD4	LRR-06018-WFL	KIRLINLIGHTING, Downlight, Regressed Lens, Specular Trim with Wide Flood Distribution	LED	ABSOLUTE	20

CODE OF ORDINANCES - CITY OF HALLANDALE BEACH, FL

PART I - CHARTER

CHAPTER 8 - BUILDINGS, CONSTRUCTION AND CONDOMINIUMS

ARTICLE V.- PARKING FACILITIES

Sec. 8-141. - Illumination installation requirements.

...

(1) For the purposes of this section, exterior parking facilities shall include the parking surface of open parking lots and access to such lots, and parking areas and other nonenclosed areas at grade level for which the parking facilities are a requirement. Garage parking facilities shall include underground, multilevel parking garages, and enclosed grade level parking facilities.

(2)

a. For exterior parking facilities, the intensity of illumination shall provide an average of onefootcandle equal to one lumen per square foot, and shall be well distributed on the pavement areas; however, at no point shall illumination be less than one-fourth footcandle.

b. Garage parking facilities shall provide an average intensity of illumination of 50 footcandles at the entrance, ten foot candles in traffic lanes and five footcandles in storage areas.

c. The current edition of the "IES Lighting Handbook," published by the Illuminating Engineers Society, is the standard to be used by the architect or engineer as a guide for the design and testing of parking facility lighting. The standards contained in that handbook shall apply unless standards developed and adopted by this section or subsequent amendments are more severe, in which case the more restrictive standards shall apply.

(3) All plans for buildings to be constructed after November 25, 1977, to be used for groups A, E (exclusive of public schools), I, H, S, F, B, M, R (exclusive of single-family, duplex, and triplex units), and A5 (stadiums, reviewing stands, grandstands, enclosed grandstands, arenas, and enclosed domed structures) and open storage yards, including lumberyards and contractors' storage yards of group U occupancies as set forth in the Florida Building Code, as amended from time to time, must contain a parking facility lighting plan submitted by a registered architect or a registered engineer. The lighting plan shall be certified by the registered architect or registered engineer as providing illumination in accordance with the applicable minimum standards set forth in subsection (2) of this section. Subsequent construction must comply with the lighting plan. If there exists a question concerning whether the work was done in accordance with specifications, the building official may require as a prerequisite to the issuance of a certificate of occupancy that the architect or engineer who prepared the plans certify that all work was done in accordance with specifications.

(4) All required illumination shall be controlled by automatic devices.

a. For business uses with exterior or garage parking facilities, the required illumination shall be provided at least 30 minutes after the closing time of any establishment served by the parking facility.

b. Any parking facility that serves a residential use must maintain the minimum levels of illumination established by this section through the use of natural or artificial light 24 hours per day.

(1) All lighting shall be shaded or screened and aimed in such a manner as to minimize offensiveness to any neighboring property.

(Code 1980, § 8-17)

SUNTRUST ATM ILLUMINATION NOTES:

Site lighting is a necessary provision for safety as the business day extends beyond the daylight hours of operation.

Foot-candle power: the light intensity in foot-candles meansured on a horizontal plane at 36" above ground level.

Hours of darkness: the period that commences 30 minutes after sunset and ends 30 mins before sunrise.

Access area: any pavd walkway or sidewalk within 50 ft of any ATM, Teller Connect, or Night drop. This does not include any street or highway open to the use of the public including any adjacent sidewalk.

Defined parking area: portion of any parking area open for customer parking which is contiguous to an access area with respect to an ATM, TC or ND. is regulary, principally, and lawfully used for parking by users of the ATM, TC, and ND. while conducting transactions during the hours of darkness and is owned or leased by SunTrust. The term does not included any parking area that is not open or regulary used for parking by users of the ATM, TC, or ND who are conducting transactions during the hours of darkenss. A parking area is not open if it is physically closed to access or if conspicuous signs indicated that it is closed.

Control with respect to an access area or defined parking area, means to have the present legal authority to determine how, when, and by whom such area is to be used, and how such area is to be maintained, lighted, and landscaped. If SunTust leases an access area or defined parking as leassee, SunTrust shall not be considered to have control.

Lot lighting should be designed primarily for the safety and convenience of the client, the safety of the teammate and to meet SunTrust security requirements as well as code requirements. SunTrust has created this policy that satisfies the most stringent state status across its portfolio (refer to SunTrust Corporate Real Estate Policies and Procedures for more information).

- All site lighting should be LED.
- Lights should illuminate dark and hidden areas.
- Lighting temperature to be 3000K.

Minimum exterior lighting levels will be applied to both the ATM | Teller Connect and After-Hour Depository units at all bank locations and any defined parking area, access area and exterior of any enclosed units. The exterior lighting levels will be determined in accordance with applicable local governmental requirements. In the absence of applicable local governmental requirements, the following minimum light levels will be applied.

The minimum exterior light level requirement shall be as follows:

- 10 foot candles at the face of the ATM unit and extending outward 5 feet in all directions
- 2 foot candles extending outward beyond 5 feet to 50 feet from the face of the unit in all directions
- 2 foot candles in defined parking areas beyond 50 feet outward to 60 feet in all unobstructed directions from the face of the unit
- If the unit is located within 10 feet of the corner of the building and the unit is generally accessible from the adjacent side, the 2 foot candle coverage shall extend 40 feet down the building side.
- If the unit is located in a vestibule and is directly accessible after-hours, the previous minimums shall apply.
- In new construction, all equipment to be 38 FC at client interaction height and 5 FC at floor / ground height.

The following lines are excerpt the Florida Statutes and they are showing on this drawing for informational purposes only:

FLORIDA STATUTES

TITLE XXXVIII

BANKS AND BANKING
CHAPTER 655
FINANCIAL INSTITUTIONS GENERALLY

.....

655.960 Definitions; ss. 655.960-655.965. -- As used in this section and ss. 655.961-655.965, unless the context otherwise requires:

(1) "Access area" means any paved walkway or sidewalk which is within 50 feet of any automated teller machine. The term does not include any street or highway open to the use of the public, as defined in 1s. 316.003(77) (a) or (b), including anyadjacent sidewalk, as defined in s. 316.003.

(2) "Access device" has the same meaning as set forth in Federal Reserve Board Regulation E, 12 C.F.R. part 205, promulgated pursuant to the Electronic Fund Transfer Act, 15 U.S.C. ss. 1601 et seq.

(3) "Automated teller machine" means any electronic information processing device located in this state which accepts or dispenses cash in connection with a credit, deposit, checking, or convenience account. The term does not include devices used solely to facilitate check guarantees or check authorizations or which are used in connection with the acceptance or dispensingof cash on a person-to-person basis, such as by a store cashier.

(4) "Candlefoot power" means the light intensity of candles on a horizontal plane at 36 inches above ground level and 5 feet infront of the area to be measured.

(5) "Control," with respect to an access area or defined parking area, means to have the present legal authority to determine how, when, and by whom such area is to be used, and how such area is to be maintained, lighted, and landscaped. If an operator leases an access area or defined parking area as lessee, such lessee shall not be considered to have control for thepurposes of ss. 655.960-655.965.

(6) "Customer" means a natural person to whom an access device has been issued for personal, family, or household use.

(7) "Defined parking area" means that portion of any parking area open for customer parking which is contiguous to an access area with respect to an automated teller machine, is regularly, principally, and lawfully used for parking by users of the automated teller machine while conducting automated teller machine transactions during the hours of darkness, and is owned or leased by the operator of the automated teller machine or owned or controlled by the party leasing the automated teller machine site to the operator. The term does not include any parking area which is not open or regularly used for parking by users of the automated teller machine who are conducting automated teller machine transactions during the hours of darkness. A parking area is not open if it is physically closed to access or if conspicuous signs indicate that it is closed. If a multiple level parking area satisfies the conditions of this subsection and would therefore otherwise be a defined parking area, only the single parking level deemed by the operator of the automated teller machine to be the most directly accessible to the users of the automated tellermachine shall be considered a parking area.

(8) "Financial institution office" means a main office or principal office, as defined in s. 655.005, and a branch or branch officeas defined in s. 658.12(4).

(9) "Hours of darkness" means the period that commences 30 minutes after sunset and ends 30 minutes before sunrise.

(10) "Operator" means any financial institution, as defined in s. 655.005, other business entity, or any person who controls the use or operation by a customer or other member of the general public of an automated teller machine. An operator controls the use or operation of an automated teller machine for the purposes of ss. 655.960-655.965 if such person or entity has the present legal authority to determine when and by whom the automated teller machine may be used or operated and how it is to be maintained in compliance with the provisions of ss. 655.960-655.965. An operator does not include any person or entity which is not a financial institution, if the primary function of such person or entity is to provide data processing services for automated teller machine transactions or to provide for the exchange, transfer, or dissemination ofelectronic funds transfer data.

(11) Terms which are defined in the financial institution codes, unless the context otherwise requires, have the meaningsascribed to them therein for purposes of ss. 655.960-655.965.

.....

655.962 Lighting; mirrors; landscaping. --

(1) Each operator, or other person responsible for an automated teller machine pursuant to ss. 655.960-655.965, shall provide lighting during the hours of darkness with respect to an open and operating automated teller machine and any defined parking area, access area, and the exterior of an enclosed automated teller machine installation, as follows:

(a) There shall be a minimum of 10 candlefoot power at the face of the automated teller machine and extending in anunobstructed direction outward 5 feet.

(b) There shall be a minimum of 2 candlefoot power within 50 feet in all unobstructed directions from the face of the automated teller machine. If the automated teller machine is located within 10 feet of the corner of the building and the automated teller machine is generally accessible from the adjacent side, there shall be a minimum of 2 candlefootpower along the first 40 unobstructed feet of the adjacent side of the building.

(c) There shall be a minimum of 2 candlefoot power in that portion of the defined parking area within 60 feet of theautomated teller machine.

(2) The operator shall provide reflective mirrors or surfaces at each automated teller machine which provide thecustomer with a rear view while the customer is engaged in using the automated teller machine.

(3) The operator, or other person responsible pursuant to ss. 655.960-655.965 for an automated teller machine, shall ensure that the height of any landscaping, vegetation, or other physical obstructions in the area required to be lighted pursuant to subsection (1) for any open and operating automated teller machine shall not exceed 3 feet, except that trees trimmed to a height of 10 feet and whose diameters are less than 2 feet and manmade physical obstructions required by statute, law, code, ordinance, or other governmental regulation shall not be affected by this subsection.

INFINITY

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IEG #: 70-76.00

ANDREW MOHR, P.E.
FL LIC NO. 73077

No.	Date	Revision
4		
3		
2		
1		
0	04/05/18	DRC REVIEW
1	12/14/17	DRC REVIEW

Designed: C. VALENCIA
Drawn: C. VALENCIA
Checked: A. MOHR
Job No.: S13365/70-76.00
Date: 04/03/2018

ELECTRICAL DETAILS AND NOTES

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
E3.0

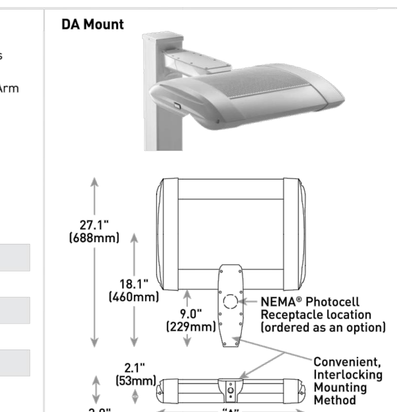
Cree Edge™ Series

LED Area/Flood Luminaire

Product Description

The Cree Edge™ Series has a slim, low profile design. Its rugged cast aluminum housing minimizes wind load requirements and features an integral, weathertight LED driver compartment and high performance aluminum heat sinks. Various mounting choices: Adjustable Arm, Direct Arm, Direct Arm Long, or Side Arm (details on page 2). Includes a leaf/debris guard.
Applications: Parking lots, walkways, campuses, car dealerships, office complexes, and internal roadways

DA Mount



Performance Summary

- Patented NanoOptic® Product Technology
- Made in the U.S.A. of U.S. and imported parts
- **CRI:** Minimum 70 CRI
- **CCT:** 4000K (+/- 300K), 5700K (+/- 500K) standard
- **Limited Warranty†:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

† See http://lighting.cree.com/warranty for warranty terms

LED Count (x10)	Dim. "A"	Weight
02	12.1" (306mm)	21 lbs. (10kg)
04	12.1" (306mm)	24 lbs. (11kg)
06	14.1" (357mm)	27 lbs. (12kg)
08	16.1" (408mm)	28 lbs. (13kg)
10	18.1" (459mm)	32 lbs. (15kg)
12	20.1" (510mm)	34 lbs. (15kg)
14	22.1" (560mm)	37 lbs. (17kg)
16	24.1" (611mm)	41 lbs. (19kg)

AA/DL/SA Mount - see page 22 for weight & dimensions

Accessories

Field-Installed

Bird Spikes XA-BRDSPK **Hand-Held Remote** XA-SENSREM - For successful implementation of the programmable multi-level option, a minimum of one hand-held remote is required	**Backlight Control Shields** XA-20BLS-4 - Four-pack - Unpainted stainless steel

Ordering Information

Example: ARE-EDG-2M-AA-12-E-UL-SV-350

Product	Optic			Mounting*	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options	
						E					
ARE-EDG	**2M** Type II Medium **2MB** Type II Medium w/BLS **2MP** Type II Medium w/Partial BLS **3M** Type III Medium	**3MB** Type III Medium w/BLS **3MP** Type III Medium w/Partial BLS **4M** Type IV Medium **4MB** Type IV Medium w/BLS	**4MP** Type IV Medium w/Partial BLS **5M** Type V Medium **5S** Type V Short	**AA** Adjustable Arm **DA** Direct Arm **DL** Direct Long Arm	02 04 06 08 10 12 14 16	E	**UL** Universal 120-277V **UH** Universal 347-480V	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**350** 350mA **525** 525mA **700** 700mA - Available with 20-60 LEDs	**DIM 0-10V Dimming** - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current **F Fuse** - Refer to ML spec sheet for availability with ML options - Available with UL voltage only - Available for U.S. applications only - When code dictates fusing, use time delay fuse **HL Hi/Low (Dual Circuit Input)** - Refer to HL spec sheet for details - Sensor not included **ML Multi-Level** - Refer to ML spec sheet for details - Intended for downlight applications at 0° tilt **P Photocell** - Refer to ML spec sheet for availability with ML options - Available with UL voltage only	**PML Programmable Multi-Level, 20-40' Mounting Height** - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt **PML2 Programmable Multi-Level, 10-30' Mounting Height** - Refer to PML spec sheet for details - Intended for downlight applications at 0° tilt **R NEMA® Photocell Receptacle** - Intended for downlight applications with maximum 45° tilt - Photocell by others - Refer to ML spec sheet for availability with ML options **40K 4000K Color Temperature** - Minimum 70 CRI - Color temperature per luminaire
FLD-EDG	**25** 25° Flood **40** 40° Flood	**70** 70° Flood **SN** Sign	**N6** NEMA® 6	**AA** Adjustable Arm **SA** Side Arm - Available with 20-60 LEDs							

* Reference EPA and pole configuration suitability data beginning on page 19
NOTE: Price adder may apply depending on configuration

Rev. Date: V4 09/20/2016

US: lighting.cree.com/lighting T (800) 236-6800 F (262) 504-5415
Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

Product Specifications

CONSTRUCTION & MATERIALS
- Slim, low profile, minimizing wind load requirements
- Luminaire sides are rugged die cast aluminum with integral, weathertight LED driver compartment and high performance heat sinks
- DA and DL mount utilizes convenient interlocking mounting method. Mounting is rugged die cast aluminum, mounts to 3-6" (76-152mm) square or round pole and secures to pole with 5/16-18 UNC bolts spaced on 2" (51mm) centers
- AA and SA mounts are rugged die cast aluminum and mount to 2" (51mm) IP, 2.375" (60mm) O.D. tenons
- Includes leaf/debris guard
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver, and white are available
- **Weight:** See Dimensions and Weight Charts on pages 1 and 22

ELECTRICAL SYSTEM
- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- DA and DL mounts designed with integral weathertight electrical box with terminal strips (12Ga–20Ga) for easy power hookup
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- **Maximum 10V Source Current:** 20 LED (350mA): 10mA; 20 LED (525 & 700mA) and 40-80 LED: 0.15mA; 100-160 LED: 0.30mA

REGULATORY & VOLUNTARY QUALIFICATIONS
- cULus Listed
- Suitable for wet locations
- Enclosure rated IP66 per IEC 60529 when ordered without P or R options
- Consult factory for CE Certified products
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards when ordered with AA, DA and DL mounts
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- DLC qualified. Exceptions apply when ordered with full backlight control or 3MP optic with 20 LEDs. Please refer to www.designlights.org/QPL for most current information
- Meets Buy American requirements within ARRA

Electrical Data*

LED Count (x10)	System Watts 120-480V	Total Current (A) 120V	208V	240V	277V	347V	480V
350mA							
02	25	0.21	0.13	0.11	0.10	0.08	0.07
04	46	0.36	0.23	0.21	0.20	0.15	0.12
06	66	0.52	0.31	0.28	0.26	0.20	0.15
08	90	0.75	0.44	0.38	0.34	0.26	0.20
10	110	0.92	0.53	0.47	0.41	0.32	0.24
12	130	1.10	0.63	0.55	0.48	0.38	0.28
14	158	1.32	0.77	0.68	0.62	0.47	0.35
16	179	1.49	0.87	0.77	0.68	0.53	0.39
525mA							
02	37	0.30	0.19	0.17	0.16	0.12	0.10
04	70	0.58	0.34	0.31	0.28	0.21	0.16
06	101	0.84	0.49	0.43	0.38	0.30	0.22
08	133	1.13	0.66	0.58	0.51	0.39	0.28
10	171	1.43	0.83	0.74	0.66	0.50	0.38
12	202	1.69	0.98	0.86	0.77	0.59	0.44
14	232	1.94	1.12	0.98	0.87	0.68	0.50
16	263	2.21	1.27	1.11	0.97	0.77	0.56
700mA							
02	50	0.41	0.25	0.22	0.20	0.15	0.12
04	93	0.78	0.46	0.40	0.36	0.27	0.20
06	134	1.14	0.65	0.57	0.50	0.39	0.29

* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%

Recommended Cree Edge™ Series Lumen Maintenance Factors (LMF)[1]

Ambient	Initial LMF	25K hr Projected[2] LMF	50K hr Projected[2] LMF	75K hr Calculated[3] LMF	100K hr Calculated[3] LMF
5°C (41°F)	1.04	1.01	0.99	0.98	0.96
10°C (50°F)	1.03	1.00	0.98	0.97	0.95
15°C (59°F)	1.02	0.99	0.97	0.96	0.94
20°C (68°F)	1.01	0.98	0.96	0.95	0.93
25°C (77°F)	1.00	0.97	0.95	0.94	0.92

[1] Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing
[2] In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)
[3] In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)

US: lighting.cree.com/lighting T (800) 236-6800 F (262) 504-5415
Canada: www.cree.com/canada T (800) 473-1234 F (800) 890-7507

SITE POLE FIXTURE TYPES "PL4-12, PL4B-12, & PL4B-16" | SCALE N.T.S. | 1

KIRLIN Lighting Since 1895

CATALOG #		TYPE
JOB NAME	WATTAGE	VOLTAGE

6" LED 1300•800 LUMEN SERIES 20•11 WATT **LRR-06018**

Lensed Downlight • Specular Trim • LED

Up to 90,000 Hour Life • Type IC • Air Tight Optional
LM-80 Qualified • LM-79 Certified Photometry • Wet Location

Specifications

Delivered System Performance*
- Standard MFL distribution: 1329 delivered lumens / 63 LPW / 0.8 SC.
- -NFL: 1341 lumens / 63 LPW / 0.5 SC.
- -WFL: 1252 lumens / 60 LPW / 1.3 SC.
- 20 watt LED array. 3500°K standard (or see Options -27K, -30K or -41K).
- Up to 85 CRI and 90,000 hour life (L70**). For 90+ CRI, see Option -HC.
- Option -43: 800 lumen / 11 watt instead.
- Fully sustainable: removable for servicing.

Thermal Management System
- All aluminum proprietary heat sink, components and housing maximize cool operation and long life while minimizing maintenance.

LED Power Supply
- Suitable for outdoor / indoor use: -30°C (-22°F) to 60°C (140°F).
- 120-277V / 50-60Hz standard. Load insensitive.
- 0-10V CCR dimming standard. (100-10%)
- For Lutron HiLume dimming, see -29 or -39.
- Kirlin remote SmartSupply™ driver instead, see Option -SS for restrictions and details.

Trim Assembly
- Seamless tapered low brightness clear aluminum self-flanged trim.
- Regressed tempered prismatic spread lens.

Acrylic Enameled Aluminum Housing
- Rustproof and corrosion resistant: Exceeds 1000 hour ASTM 5% salt spray test.
- Shallow depth fits restricted plenums.
- Cool operation: Extends life of all components.
- Fully sustainable: Entire luminaire, including LED light engine, is modular, easily visible and serviced through aperture.
- Built-in plaster flange.
- Air Tight design available, see Option -AT.

Outlet Box
- UL listed J-box with insulated removable cover. Prewired 14 GA (NEC) with ½" and ¾" knockouts.

Installation
- Recess indoor or outdoor.
- Accommodates ceilings up to 1¼" thick or see Option -79.
- 27" galvanized hanger bars with adjustable mounting brackets (2) supplied.
- For residential mounting hardware for wood joist ceilings, see Option -RH.

UL, C-UL (Canada) Listings
- Wet, damp or dry locations, covered ceilings.
- Type IC: for direct contact with insulation.
- Through-branch conductors (4 #12 AWG 90°C) for Type IC Listing.

CE & FCC Compliance
- Meets IEC/EN 60601-1-2 electromagnetic compatibility standard for medical electrical equipment.
- FCC Part 15 certified for EMI/RFI emissions.

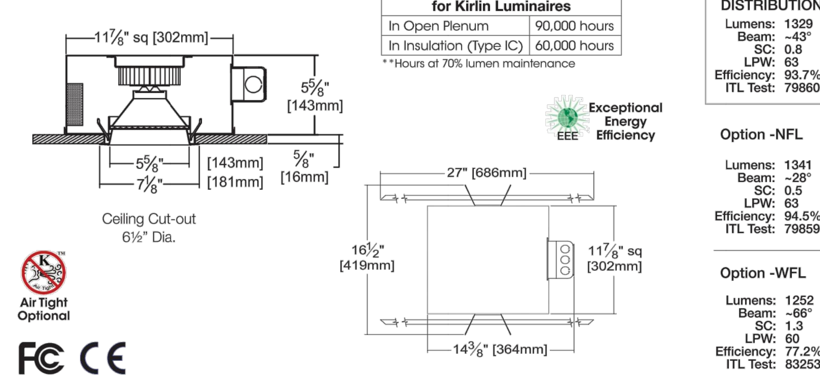
5 Year — FIVE YEAR Limited Warranty
- Complete standard fixture.

Performance at a Glance

Projected L70** for Kirlin Luminaires	
In Open Plenum	90,000 hours
In Insulation (Type IC)	60,000 hours

**Hours at 70% lumen maintenance

Exceptional Energy Efficiency (EEE)



Air Tight Optional

STANDARD (MFL) DISTRIBUTION — Lumens: 1329; Beam: ~43°; SC: 0.8; LPW: 63; Efficiency: 93.7%; ITL Test: 79860

Option -NFL — Lumens: 1341; Beam: ~28°; SC: 0.5; LPW: 63; Efficiency: 94.5%; ITL Test: 79859

Option -WFL — Lumens: 1252; Beam: ~66°; SC: 1.3; LPW: 60; Efficiency: 77.2%; ITL Test: 83253

THE KIRLIN COMPANY
3401 EAST JEFFERSON AVENUE • DETROIT, MICHIGAN 48207-4232
(313) 259-6400 • Fax: (313) 259-9409 or (313) 259-3121 • www.kirlinlighting.com

*See note next page

CATALOG NUMBER
LATITUDES LED LIGHTING **LRR-06018**

DUE TO OUR CONTINUING EFFORT TO IMPROVE PRODUCTS, TECHNICAL INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE. THE KIRLIN COMPANY EXPECTS PHOTOMETRIC PERFORMANCE TO IMPROVE SIGNIFICANTLY AND FREQUENTLY AS LED SOURCE TECHNOLOGY IMPROVES.

LED LIGHTING REV OCT 2015

LRR-06018 6" LED 1300•800 LUMEN SERIES 20•11 WATT — KIRLIN Since 1895

Detailed Photometry - Installed Fixture

Photometric testing done in accordance with IESNA LM-79-08 — Photometry from I.T.L., Boulder, CO

STANDARD (MFL)

Lumens: 1329; Beam: ~43°; SC: 0.8; LPW: 63; Efficiency: 93.7%; ITL Test: 79860 — Total System Watts 21.2

Dist.	FC	Dia.
6	60.1	4.5
8	33.8	6.0
10	21.6	7.5
12	15.0	9.1
14	11.0	10.6
16	8.4	12.1

CANDLEPOWER DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	2163	2163	2163	2163	2163
5	2163	2164	2167	2169	2177
10	1774	1869	1983	1960	1930
15	741	796	864	835	787
20	201	218	212	218	208
25	60	60	58	62	62
30	23	24	24	24	23
35	10	10	10	10	10
40	2	2	2	2	1
45	0	0	0	0	0
90	0	0	0	0	0

Option -NFL

Lumens: 1341; Beam: ~28°; SC: 0.5; LPW: 63; Efficiency: 94.5%; ITL Test: 79859 — Total System Watts 21.2

Dist.	FC	Dia.
6	132.4	2.7
8	74.5	3.6
10	47.7	4.5
12	33.1	5.4
14	24.3	6.3
16	18.6	7.2

CANDLEPOWER DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	4765	4765	4765	4765	4765
5	4342	4326	4305	4274	4273
10	2147	2102	2026	1986	1993
15	626	581	546	545	570
20	151	132	121	127	132
25	34	32	33	31	31
30	11	11	13	13	11
35	6	5	5	5	5
40	1	1	1	1	1
45	0	0	0	0	0
90	0	0	0	0	0

Option -WFL

Lumens: 1252; Beam: ~66°; SC: 1.3; LPW: 60; Efficiency: 77.2%; ITL Test: 83253 — Total System Watts 20.8

Dist.	FC	Dia.
6	17.2	7.8
8	9.7	10.4
10	6.2	13.0
12	4.3	15.6
14	3.2	18.2
16	2.4	20.8

CANDLEPOWER DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	618	618	618	618	618
5	624	626	622	622	622
10	637	647	654	646	635
15	619	618	620	615	612
20	485	494	497	491	484
25	303	308	312	307	300
30	134	141	142	138	135
35	45	46	46	46	46
40	10	10	10	10	10
45	0	0	0	0	0
90	0	0	0	0	0

LM-80 Qualified • LM-79 Certified Photometry

* LED manufacturers maintain a tolerance of ±7% on flux (lumens) and power (electrical) measurements. Kirlin photometrics are actual test data from Independent Testing Laboratories (ITL) where photometry was measured from 1418 lumen (20W) and 1622 lumen (20W -WFL) light engines (within the established tolerance).

▲Cone of Light Key (Dia. (in ft.) shown is where FC value is half the FC at nadir.) — **Ft.** Distance from fixture; **FC** Footcandles at nadir (0°); **Dia.** Circle of light at 50% of FC

Options

LED Power Supply
- -29 **Two wire** full range (100-1%) PWM dimming instead (Lutron). 120V only. Not available with Option -EI.
- -39 **Three wire** full range (100-1%) PWM dimming instead (Lutron).
- -43 800 lumen / 11 watt series package instead. Apply lumen factor of 60.7% to above data. Also see Options -29 and -39.
- -97 Specify other voltage. Consult factory.
- -EI Remote emergency inverter for 100% of rated lumens. Run time: 90+ minutes. 120 or 277V, 60 Hz input only. Specify voltage. Not for use with -SS SmartSupply™ driver or with Option -29.
- -SS Remote mounted Kirlin SmartSupply™ driver, sold separately. Drives up to 12 (20W only) luminaires. Order LPS-1220A (0-10V analog for 100-1% PWM dimming). See submittal sheet at www.kirlinlighting.com.

Color (CCT and CRI)
- -27K Color temperature 2700°K instead.
- -30K Color temperature 3000°K instead.
- -41K Color temperature 4100°K instead.
- -HC 90+ CRI instead. 2700° or 3000°K only. Reduces output by ~15%.

Optics
- -NFL Narrow flood distribution. (0.5 SC)
- -WFL Wide flood distribution. (1.3 SC)

Lenses and Trims
- -13 Clear poly lens below standard lens. Photometric distribution is unaffected.
- -21 White transluscent flat poly diffuser instead.
- -23 Frosted microprismatic lens instead.
- -31 White acrylic enameled trim flange.
- -32 White oversize trim ring. Specify O.D.
- -45 Gasket between trim flange and ceiling.
- -46 Gasket between trim and lens.
- -94 Custom color/finish. Specify. Consult factory.
- -CF Custom color filter (Rosco). Specify.
- -DF Electrically isolated "dead front" gasketed trim.

Other
- -79 Extension collar for up to 2" thick ceilings.
- -99 Special modification. Consult factory.
- -AT Air tight version. Meets ASTM E283 restricted airflow of 2 CFM maximum. Option -RH required.
- -FS In-line fusing.
- -RH Residential mounting hardware instead. Suitable for wood joist ceilings with spacing from 14⅛" to 25⅞" with ⅝" vertical adjustability.

SUBMITTAL DATA — APPROVAL STAMP

JOB NAME
TYPE
WATTAGE VOLTAGE
CATALOG NUMBER

ARRA QUALIFIED

LIMITED WARRANTY: CATALOGED KIRLIN FIXTURES ARE WARRANTED FREE OF DEFECTS IN WORKMANSHIP OR MATERIAL FOR THREE YEARS FROM DATE OF PURCHASE, INSTALLED TO N.E.C., IN NORMAL USE. Manufacturer at his option will replace or repair such fixture or refund the purchase price on presentation of proof of purchase and defective fixture at the offices of manufacturer within three years of original shipment. Liability of manufacturer is limited to the foregoing, and manufacturer shall not be liable for any other damages, direct or indirect, sustained or suffered by purchaser or any person. This warranty is supplied to the buyer in place of all other warranties, expressed or implied. Seller does not warrant as to merchantability or fitness for a particular use, nor will any oral statement constitute a warranty or amend this specific warranty. Abnormal use, abuse of the fixture, improper installation, or repair, or modification of the fixture without prior written authorization from the manufacturer will render the warranty void.

LED LIGHTING REV OCT 2015

CANOPY LIGHT FIXTURE "LD4" | SCALE N.T.S. | 2

ORBEON SERIES

SURFACE/CEILING/GARAGE

Cat.#		BEACON
Job	Type	Approvals

SPECIFICATIONS

Intended Use:
Orbeon is a commercial grade LED parking garage and canopy luminaire which utilizes high powered LEDs, precise efficient optical control, and features application versatility through integrated intelligent control options. Orbeon is designed to replace up to 175W HID lamps with 60 Watts, and at the same time reduce maintenance by delivery of over 100,000 hours of projected life.

Construction:
- Monolithic die cast aluminum housing, providing direct convective heat exchange between the LED light engine and the cool ambient air.
- LED drivers are strategically heat sinked to the main housing for maximum reliability and longevity.
- Electro-galvanized mounting bracket is provided for quick and easy mounting to an overhead junction box.

LED/Optics:
- Each Orbeon luminaire is supplied with one of multiple lamp and optical systems designed to meet specific needs of optical performance or control.
- Each of these options features an LED engine with thermally conductive metal clad PCB, high power and efficacy LED lamps, and PMMA (acrylic) optics/lenses.
- Silicone foam gasketing ensures a weather tight seal around the optical assembly.

Electrical:
- 120V through 277V, 50 Hz to 60 Hz.
- Orbeon comes standard with 70 CRI.
- Power factor is min 0.90 at full load.
- All electrical components are rated over 100,000 hours at full load and 25ºC ambient conditions.
- Driver is specially designed to minimize the burden of wiring and connections within the luminaire - and the concurrent risk of failure of those components.
- Driver is also specially designed for use with Beaconnect – including the ability to turn off LED lamps without use of a relay.

Controls/Options:
- Dimming schedules, diagnostics, and other advanced features are optionally available through Beaconnect lighting control system.
- Proprietary Beaconnect board is tightly integrated to the LED module, for an affordable solution with aggressive return on investment times.
- Battery-backed real time clock
- Self-contained wireless control for maximum simplicity and reliability.
- Installation does not rely on dedicated hardware such as routers or access points; only a single PC with the **Beacon**nect GUI is needed for user interface.
- With Beacon's optional pre-commissioning service, the field effort can be as simple as installing the luminaires in the proper locations and wirelessly setting the time and date.
- An optional passive infrared motion detector shall be fully integrated into the LED engine, and fully integrated with the **Beacon**nect wireless control.
- The feature shall be wirelessly adjustable with respect to dimmed and high brightness levels, cycle duration, time periods when the motion detection is active, and sensitivity level.
- A luminaire so equipped may also be set as a "master" to remotely drive one or more "satellite" luminaires high upon detecting motion.
- This functionality can be used to limit motion sensors to strategic locations, with "satellites" acting in near unison and with minimal latency.
- An integrated photo sensor can be utilized for daylight harvesting by inhibiting motion activation in the presence of sufficient ambient light.

Installation:
- Eight pound luminaire body is easily hung from the bracket to facilitate wiring, then is swung up and secured in place with a single screw to complete the installation process.
- An optional bird guard provides a conical surface surrounding the junction box, to deter birds from nesting atop the luminaire.

Finish:
- Beacote V polyester powder-coat electro-statically applied and thermocured.
- Beacote V finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super TGIC polyester powder coat finish.
- The finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds.

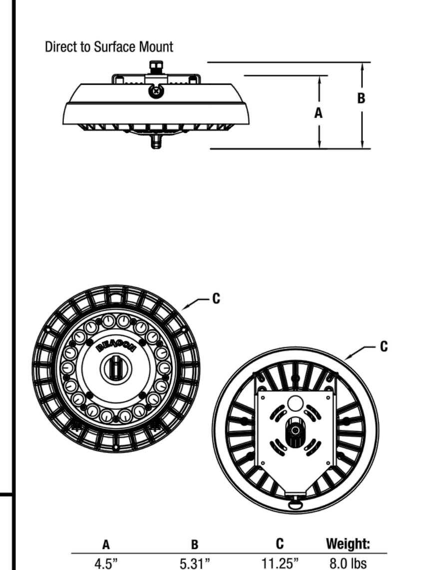
Listings:
The luminaire shall be NRTL certified to IP65, UL 1598 and 8750 standards for use in wet locations.

Warranty:
Beacon luminaires feature a 5 year limited warranty. Beacon LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED drivers are covered by a 5 year limited warranty.

PRODUCT IMAGE(S)

*Shown with **beacon**nect and motion sensor options

DIMENSIONS



A	B	C	Weight:
4.5" (114 mm)	5.31" (135 mm)	11.25" (286 mm)	8.0 lbs (3 kg)

CERTIFICATIONS/LISTINGS

UL 1598 · UL 8750 · DLC · IP65

Beacon Products • 2041 58th Avenue Circle East Bradenton, FL 34203 • Phone: 800-345-4928
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ORDERING INFORMATION ORDERING EXAMPLE: ORB/18LED-60/5K/T5R/UNV/BCG-G1-Z1/BMD-30M-50-8F/BDG/GYS

SERIES	ENGINE-WATTS	LED COLOR	OPTICS	VOLTAGE	CONTROL OPTIONS	SENSOR OPTIONS[1,2,3,4]	FINISH
ORB	18LED-60						
ORB Orbeon surface/ ceiling/garage luminaire	**18LED-60** 60W, 18 LED array	**3K** 3000K **4K** 4000K **5K** 5000K	**L5W** one-piece lens type V, wide **T5W** type V, wide **T5R** type V, rectangular **T5QN** type V, square narrow **T5QM** type V, square medium **5X5** type V, concentrated **DF** diffused lens	**UNV** 120-277V	**BCG[1]** Beaconnect	**BMD[2,3,4]** Beaconnect with motion sensor, low mounting height lens	**BBT** basic black textured **BMT** black matte textured **WHT** white textured **MBT** metallic bronze textured **BZT** bronze textured **DBT** dark bronze textured **GYS** gray smooth **DPS** dark platinum smooth **GNT** green textured **MST** metallic silver textured **MTT** metallic titanium textured **OWI** old world iron **RAL** ___________

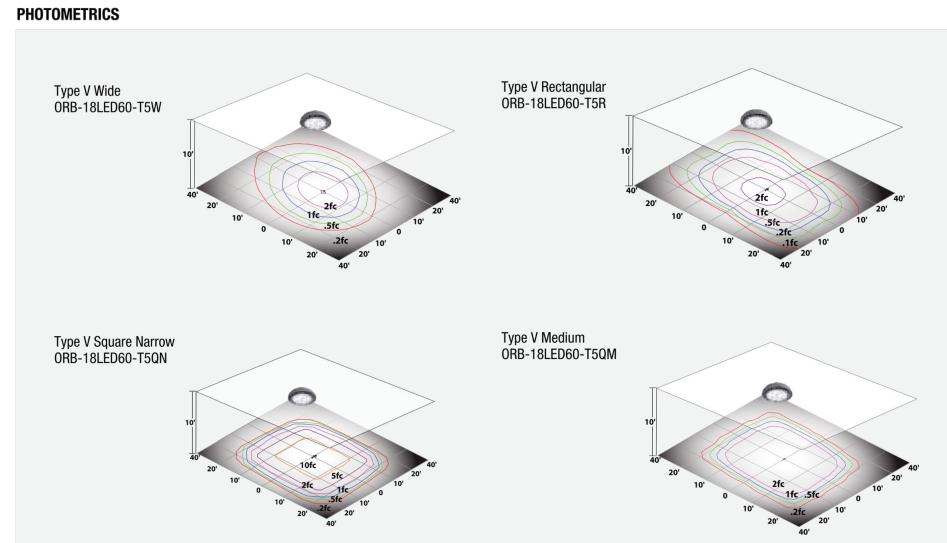
ACCESSORIES/REPLACEMENT PARTS - Order Separately

Catalog Number	Description
ORB-BRDGRD	Bird Guard

1. Specify group and zone. See **Beacon**nect product page on www.beaconproducts.com for more details.
2. When specifying Beaconnect with motion sensor, a Beaconnect wireless control module is required. See Beaconnect product page on www.beaconproducts.com for more details.
3. Specify time delay; dimming level and mounting height.
4. Not available with L5W or DF lens options.

DesignLights Consortium qualified. Consult DLC website for more details: http://www.designlights.org/QPL

PHOTOMETRICS



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HUBBELL Lighting

SOFFIT LIGHT FIXTURE "LD5" | SCALE N.T.S. | 3

REFERENCE ONLY NOTES:

1. THESE DRAWINGS ARE BEING PROVIDED BY THE LIGHTING MANUFACTURER . THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE LATEST CUTSHEETS PRIOR TO START OF CONSTRUCTION.
2. IT IS NOT THE INTENT OF THE ENGINEER OF RECORD TO VALIDATE THE INFORMATION ABOVE. THESE MANUFACTURER CUTSHEETS ARE SHOWING FOR INFORMATIONAL PURPOSES ONLY.

INFINITY ENGINEERING GROUP, LLC
1208 E. Kennedy Blvd, Suite 230.
Tampa, Florida 33602
[p]: 813.434.4770
[f]: 813.445.4211
www.iegroup.net
Cert. of Auth. No. 27889
IEG #: 70-76.00

LIGHT FIXTURE CUTSHEETS FOR REFERENCE ONLY

ANDREW MOHR, P.E. FL LIC NO. 73077

No.	Date	Revision
1	12/14/17	DRC REVIEW
2	04/05/18	DRC REVIEW
3		
4		
5		
6		
7		

Designed: C. VALENCIA
Drawn: C. VALENCIA
Checked: A. MOHR
Job No.: S13365/70-76.00
Date: 04/03/2018

LIGHT FIXTURES SPECIFICATION SHEETS

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No. **E4.0**

ELECTRICAL SPECIFICATIONS
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. The general provisions of the contract including General and Special Conditions and General Requirements shall apply to all work under this Section.

1.02 REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS
A. Equipment, fixtures, material and installation shall conform to the requirements of the local Building Department, the serving utility companies, the National Electrical Code, National Electrical Safety Code, Life Safety Code, Occupational Safety and Health Act, and applicable national, state and local codes, ordinances and regulations.
B. All equipment shall be equal to or exceed the minimum requirements of NEMA, IEEE, and UL.
C. Should any change in Drawings or Specifications be required to comply with governmental regulations, the Contractor shall notify Architect/Engineer prior to execution of the Work. The work shall be carried out according to the requirements of such code in accordance with the instruction of the Architect/Engineer and at no additional cost to the Owner.
D. The provisions of Standards, Codes, Laws, Ordinances, etc., shall be considered minimum requirements. In case of conflict between their published requirements, the Owner's Representative shall determine which is to be followed and his decision shall be binding. Specific requirements of this specification or the drawings, which exceed the published requirements, shall take precedence over them.

1.03 FEES
A. All local fees, permits, and services of inspection authorities shall be obtained and paid for by the Contractor. The Contractor shall cooperate fully with local companies with respect to their services. Contractor shall include in his bid any costs to be incurred relative to power service (primary and/or secondary) and telephone service.

1.04 SCOPE OF WORK
A. This division of the specifications covers the electrical systems of the project. It includes work performed by the electrical trades as well as trades not normally considered as electrical trades.
B. Provide all incidentals, equipment, appliances, services, hoisting, scaffolding, supports, tools, supervision, labor consumable items, fees, licenses, etc., necessary to provide complete systems. Perform start-up and checkout on each item and system to provide fully operable systems.
C. Examine and compare the Electrical Drawings with these specifications, and report any discrepancies between them to the Architect/Engineer and obtain from him written instructions for changes necessary in the work. At time of bid the most stringent requirements must be included in the bid.
D. Examine and compare the Electrical Drawings and Specifications with the Drawings and Specifications of other trades, and report any discrepancies between them to the Architect/Engineer and obtain from him written instructions for changes necessary in the work. At time of bid, the most stringent requirements must be included in said bid.
E. Install and coordinate the electrical work in cooperation with other trades installing interrelated work. Before installation, make proper provisions to avoid interferences in a manner approved by the Architect/Engineer. All changes required in the work of the Contractor, caused by his neglect to do so, shall be made by him at his own expense.
F. It is the intent of the Drawings and Specifications to provide a complete workable system ready for the Owner's operation. Any item not specifically shown on the Drawings or called for in the Specifications, but normally required to conform with the intent, are to be considered a part of the Contract.
G. All materials furnished by the Contractor shall be new and unused (temporary lighting and power products are excluded) and free from defects. All materials used shall bear the Underwriter's Laboratory, Inc. label provided a standard has been established for the material in question.
H. Except for conduit, conduit fittings, outlet boxes, wire and cable, all items of equipment or material shall be the product of one manufacturer throughout the entire project. Multiple manufacturers will not be permitted.

1.05 REFERENCES
A. Utilize the following abbreviations and definitions for discernment within the Drawings and Specifications.
1. Abbreviations
a) NEC National Electrical Code.
b) OSHA Occupational Safety and Health Act.
c) ANSI American National Standards Institute.
d) NFPA National Fire Protection Association.
e) ASA American Standards Association.
f) IEEE Institute of Electrical and Electronics Engineers.
g) NEMA National Electrical Manufacturers Association.
h) UL Underwriters' Laboratories, Inc.
i) IES Illuminating Engineering Society.
j) ICEA Insulated Cable Engineers Association.
k) ASTM American Society of Testing Materials.
l) ETL Electrical Testing Laboratories, Inc.
m) CBM Certified Ballast Manufacturers.
n) EIA Electronic Industries Association.
o) LED Light Emitting Diode.
p) OEM Original Equipment Manufacturer.

1.06 DEFINITIONS
A. "PROVIDE" means to supply, purchase, transport, place, erect, connect, test, and turn over to Owner, complete and ready for regular operation, the particular Work referred to.
B. "INSTALL" means to join, unite, fasten, link, attach, set up, or otherwise connect together before testing and turning over to Owner, complete and ready for regular operation, the particular Work referred to.
C. "FURNISH" means to supply all materials, labor, equipment, testing apparatus, controls, tests, accessories, and all other items customarily required for the proper and complete application for the particular Work referred to.
D. "WIRING" means the inclusion of all raceways, fittings, conductors, connectors, tape, junction and outlet boxes, connections, splices, and all other items necessary and/or required in connection with such Work.
E. "CONDUIT" means the inclusion of all fittings, hangers, supports, sleeves, etc.
F. "AS DIRECTED" means as directed by the Architect/Engineer, or his representative.
G. "CONCEALED" means embedded in masonry or other construction, installed behind wall furring or within double partitions, or installed above hung ceilings.

1.07 COORDINATION OF THE WORK
A. Certain materials will be provided by other trades. Examine the Contract Documents to ascertain these requirements.
B. Carefully check space requirements with other trades and the physical confines of the area to insure that all material can be installed in the spaces allotted thereto including finished suspended ceilings and the spaces within the existing building. Make modifications thereto as required and approved.
C. Transmit to other trades all information required for work to be provided under their respective Sections in ample time for installation.
D. Wherever work interconnects with work of other trades, coordinate with other trades to insure that all trades have the information necessary so that they may properly install all the necessary connections and equipment. Identify all items of work that require access so that the ceiling trade will know where to install access doors and panels.
E. Coordinate, project and schedule work with other trades in accordance with the construction sequence.
F. The Drawings show only the general run of raceways and approximate location of outlets. Any significant changes in location of outlets, cabinets, etc., necessary in order to meet field conditions shall be brought to the immediate attention of the Architect/Engineer and receive his approval before such alterations are made. All such modifications shall be made without additional cost to the Owner.
G. Obtain from the Architect/Engineer in the field the location of such outlets or equipment not definitely located on the Drawings.
H. Circuit "tags" in the form of arrows are used where shown to indicate the home runs of raceways to electrical distribution points. These tags show the circuits in each home run and the panel designation. Show the actual circuits numbers on the finished record drawings and on panel directory card. Where circuiting is not indicated, Electrical Subcontractor must provide required circuiting in accordance with the loading indicated on the drawings and/or as directed.
I. Adjust location of conduits, panels, equipment, pull boxes, fixtures, etc. to accommodate the work to prevent interferences, both anticipated and encountered. Determine the exact route and location of each raceway prior to fabrication.
1. Right-of-Way:
a) Lines that pitch have the right-of-way over those that do not pitch. For example: steam, condensate, and plumbing drains normally have right-of-way. Lines whose elevations cannot be changed to have right-of-way over lines whose elevations can be changed.
b) Make offsets, transitions and changes in direction in raceways as required to maintain proper headroom in pitch of sloping lines whether or not indicated on the Drawings.
J. Wherever the work is of sufficient complexity, prepare additional Detail Drawings to scale similar to that of the bidding Drawings, prepared on tracing medium of the same size as Contract Drawings. With these layouts, coordinate the work with the work of other trades. Such detailed work to be clearly identified on the Drawings as to the area to which it applies. Submit for review Drawings clearly showing the work and its relation to the work of other trades before commencing shop fabrication or erection in the field.
K. Coordinate with the local Electric Utility Company and the local Telephone Company as to their requirements for service connections and provide all necessary materials, labor and testing.
L. Coordinate with contractors for work under other Divisions of this specification for all work necessary to accomplish this contractor's work.

1.08 EXAMINATION OF SITE
A. Prior to the submitting of bids, the Contractor shall visit the site of the job and shall familiarize himself with all conditions affecting the proposed installation and shall make provisions as to the cost thereof. Failure to comply with the intent of this paragraph will in no way relieve the contractor of performing all necessary work shown on the Drawings.

1.09 PROGRESS OF WORK
A. The Contractor shall order the progress of his work to conform to the progress of the work of other trades and shall complete the entire installation as soon as the conditions of the building will permit. Any cost resulting from the defective or ill-timed work performed under this section shall be borne by the Contractor.

1.10 DELIVERY, STORAGE, AND HANDLING
A. Ship and store all products and materials in a manner that will protect them from damage, weather and entry of debris. If items are damaged, do not install, but take immediate steps to obtain replacement or repair. Any such repairs shall be subject to review and acceptance of the Architect/Engineer.
B. Deliver materials in manufacturer's unopened container fully identified with manufacturer's name, trade name, type, class, grade, size and color.
C. Store materials suitably sheltered from the elements, but readily accessibly for inspection by the Architect/Engineer until installed. Store all items subject to moisture damage in dry, heated spaces.

1.11 EQUIPMENT ACCESSORIES
A. Provide supports, hangers and auxiliary structural members required for support of the work.
B. Furnish and set all sleeves for passage of raceways through structural, masonry and concrete walls of floors and elsewhere as will be required for the proper protection of each raceway passing through building surfaces.
C. Wall mounted equipment may be directly secured to wall by means of steel bolts. Maintain at least 1" air space between equipment and supporting wall. Groups or arrays of equipment may be mounted on adequately sized steel angles, channels, or bars. Prefabricated steel channels providing a high degree of mounting flexibility, such as those manufactured by Kindorf, Glob-Strutt and Unistrut, may be used for mounting arrays of equipment.

1.12 OPERATIONS AND MAINTENANCE MANUALS
A. General: Provide operations & maintenance (O&M) manuals in accordance with the Contract Documents.
1. Provide two (2) copies of each manual.
2. Manuals shall be 8-1/2 inches X 11 inches in hard cover 3-ring loose-leaf binders.
3. Manuals shall be complete and in Owner's hands prior to turning building over to Owner and at least 10 days prior to instruction to operating personnel.
B. Provide manufacturer's literature as regularly published by the respective manufacturers for proper preventative and comprehensive maintenance.
C. Provide O&M manuals including but not limited to the following.
1. Alphabetical list of all system components, with the name, address, and 24-hour phone number of the company responsible for servicing each item during the first year of operation.
2. Operating instructions for complete system including:
a) Normal starting, operating, and shut-down.
b) Emergency procedures for fire or failure of major equipment.
c) Summer and winter special procedures, if any.
d) Day and night special procedures, if any.
3. Maintenance instruction including:
a) Proper lubricants and lubricating instructions for each piece of equipment, and date when lubricated.
b) Necessary cleaning, replacement and/or adjustment schedule.
4. Manufacturer's data for each piece of equipment including:
a) Installation instructions.
b) Drawings and specifications.
c) Parts list, including recommended items to be stocked.
d) Complete wiring diagrams.
e) Marked or changed prints locating all concealed parts and all variations from the original system design.
f) Test and inspection certificates.
D. Refer to individual specification sections for additional O&M requirements.

1.13 RECORD DOCUMENTS
A. During construction, keep an accurate record of all deviations between the work as shown on Drawings and that which is actually installed. Keep this record set of prints at the job site for review by the Architect/Engineer.
B. Upon completion of the installation and acceptance by the owner, transfer all record drawing information to one neat and legible set of prints. Then deliver them to the Architect/Engineer for transmittal to the Owner.
C. Provide in each main electrical switchboard room a framed copy under glass of the appropriate Single Line Riser Diagram as reviewed by the electrical engineer. Media shall be a high quality presentation type paper. Blueprints or other media which fade shall not be used.

1.14 GUARANTEE
A. Guarantee all material and workmanship for a period of one (1) year from date of final acceptance by the Owner, except that where guarantees or warranties for longer terms are specified herein, such longer term to apply. Within 24 hours after notification, correct any deficiencies that occur during the guarantee period at no additional cost to the Owner, all to the satisfaction of the Owner and Architect/Engineer. Obtain similar guarantees from subcontractors, manufacturers, suppliers and subtrade specialists.

PART 2 - PRODUCTS

2.01 MATERIALS
A. Applicable equipment and materials shall be listed by Underwriters' Laboratories and Manufactured in accordance with ASME, NEMA, ANSI or IEEE standards, and as approved by local authorities having jurisdiction as mentioned in Division 1.
B. If products and materials are specified or indicated on the Drawings for a specific item or system, use those products or materials. If products and materials are not listed in either of the above, use first class products and materials, subject to approval of Shop Drawings where Shop Drawings are required or as approved in writing where Shop Drawings are not required.
C. All equipment capacities, etc. are listed for job site operating conditions. All equipment sensitive to altitudes or ambient temperatures to be derated and method of derating shown on Shop Drawings. Where operating conditions shown differ from the laboratory test conditions, the equipment to be derated and the method of derating shown on Shop Drawings.

2.02 SUBSTITUTION OF MATERIALS OR EQUIPMENT
A. All requests for substitution of materials or equipment shall be made in writing by the Contractor. The request must be in the Engineers office not less than 10 days prior to the bid date. Samples of proposed substitute materials or equipment shall be submitted to the Engineer for review whenever they are requested. Bids shall be based only upon the specified materials and equipment, or substitutes that have received written acceptance from the Engineer prior to the bid.
B. Wherever the words "for approval" or "approved" are used in regard to manufactured specialties, or wherever it is desired to substitute a different make or type of apparatus for that specified, submit all information pertinent to the adequacy and adaptability of the proposed apparatus, and secure Architect/Engineer's acceptance before apparatus is ordered.
C. Wherever quantities or a definite make and size of apparatus is specified, the make and size of apparatus which is proposed must conform substantially (in regard to the operating results) to that specified or implied. Same shall apply to important dimensions relating to operation of apparatus in coordination with the rest of the system, or to properly fitting it into available space conditions. Any substitution of equipment or apparatus shall include all necessary revisions, as required to complete the installation.
D. Acceptance of substitutions, for equipment specified herein, will not be given merely upon submission of manufacturer's names and will be given only after receipt of complete and satisfactory performance data covering the complete range of operating conditions in tabular and graphical form. Furnish complete and satisfactory information relative to equipment dimensions, weight, etc. Acceptance of all equipment specified or shown on the Drawings, or substitutions submitted for that specified or shown on the Drawings, will be granted if such equipment, in the opinion of the Architect/Engineer, conforms to the performance requirements, space conditions, weight requirements and quality requirements. Any additional construction and design costs incurred as a result of any accepted substitution shall be borne by the Contractor. The opinion and judgement of the Architect/Engineer shall be final, conclusive, and binding.

2.03 SHOP DRAWINGS
A. Prepare and submit detailed Shop Drawings for materials, systems, and equipment as listed herein, including locations and sizes of all openings in floor decks, walls, and floors.
B. The Work described in any Shop Drawing submission shall be carefully checked for all clearances (including those required for maintenance and servicing), field conditions, maintenance of architectural conditions, and proper coordination with all trades on the job. Each submitted Shop Drawing shall include a certification that all related job conditions have been checked and that no conflict exists.
C. All drawings shall be submitted sufficiently in advance of field requirements to allow ample time for checking and resubmittal as may be required. All submittals shall be complete and contain all required and detailed information.
D. Acceptance of any submitted data or Shop Drawings for material, equipment apparatus, devices, arrangements, and layout shall not relieve Contractor from responsibility of furnishing same of proper dimensions and weight, capacities, sizes, quantity, quality and installation details, to efficiently perform the requirements and intent of the Contract. Such acceptance shall not relieve Contractor from responsibility for errors, omissions, or inadequacies of any sort on submitted data or Shop Drawings.
E. Each Shop Drawing shall contain the following information.
1. Provide general information on each copy of the submittal.
a) Project title.
b) Reference to the applicable drawing and specification article.
c) Contractor and supplier identification, addresses and telephone numbers.
d) Submittal Date.
2. Certification that the contractor has reviewed the submittal.
3. Refer to individual specification sections for additional information requirements.
F. Shop Drawing submittals shall be provided for each specific material, system, or equipment as identified herein.
1. As a minimum, make submittals on the following items:
a) Raceways, conduit & wire
b) Wiring devices and plates
c) Switchboards
d) Transformers
e) Panelboards
f) Fuses
g) Disconnect switches
h) Motor control centers
i) Motor controllers, starters, and contactors
j) Lighting fixtures, lamps
k) Instrumentation, metering equipment
l) Special systems - fire alarm, security, CCTV, intercom, etc.
2. Refer to individual specification sections for additional submittal requirements.

PART 3 - EXECUTION

3.01 INSTALLATION
B. Follow manufacturer's instructions for installing, connecting, and adjusting all equipment. Provide one copy of such instructions to the Architect/Engineer before installing any equipment. Provide a copy of such instructions at the equipment during any work on the equipment. Provide all special supports, connections, wiring, accessories, etc.
C. Use mechanics skilled in their trade for all work.
D. Keep all items protected before and after installation. Clean up all debris.
E. Before commencing Work, examine all adjoining, underlying, etc., Work on which this Work is in any way dependent for perfect workmanship and report any condition which prevents performance of first class work. Become thoroughly familiar with actual existing conditions to which connections must be made or which must be changed or altered.

3.02 PREMIUM TIME WORK
A. The following Work shall be performed at night or weekend other than holiday weekends as directed and coordinated with the Owner.
1. All tie-in, cut-over and modifications to the existing electrical system and other existing system requiring tie-ins or modifications shall be arranged and scheduled with the Owner to be done at a time as to maintain continuity of the service and not interfere with normal building operations.

3.03 EXCAVATION, TRENCHING AND BACKFILL
A. Provide excavation for the Work. Excavate all material encountered, to the depths indicated on the drawings or required. Remove from the site, excavated materials not required or suitable for backfill. Provide grading, as may be necessary, to prevent surface water from flowing into trenches or other excavations. Remove any water accumulating therein. Provide sheeting and shoring as may be necessary for the protection of the Work and for the safety of personnel.
B. Provide trenches of widths necessary for the proper execution of the Work. Grade bottom of the trenches accurately to provide uniform bearing and support the Work on undisturbed soil at every point along its entire length. Except where rock is encountered, do not excavate below the depths indicated. Where rock excavations are required, excavate rock to a minimum overdepth of four (4") inches below the trench depths indicated on the Drawings or required. Backfill overdepths in the rock excavation and unauthorized overdepths with loose granular, moist earth, thoroughly machine tamped, to a compaction level of at least 95 percent to standard protector density or 75 percent relative density or as specified by the Architect. Whenever unstable soil that is incapable of properly supporting the Work, as determined by Architect/Engineer, is encountered in the bottom of the trench, remove soil to a depth required and backfill the trench to the proper grade with coarse sand, fine gravel, or other suitable material.
C. Excavate trenches for utilities to a depth that will provide the following minimum depths of cover from existing grade or from indicated finished grade, whichever is lower, unless otherwise specifically shown.
1. Primary electric service: four (4) feet (minimum)
2. Secondary electric service: two (2) feet (minimum)
3. Telephone service: two (2) feet (minimum)
D. Trenches shall not be placed within ten (10) feet of foundation or soil surfaces which must resist horizontal forces.
E. Do not backfill trenches until all required tests have been preformed and the installation observed by the Engineer. Comply with the requirements of other sections of these specifications. Backfill shall consist of non-expansive soil with limited porosity. Deposit in six (6") inch layers and thoroughly and carefully tamp until the Work has a cover of not less than one (1) foot. Backfill and tamp remainder of trench at twelve (12") inch intervals until complete. Uniformly grade the finished surface. Backfill and tamp with compaction at least equal to the surrounding area.

3.04 CUTTING, PATCHING AND REPAIRING
A. The work shall be carefully laid out in advance. Where cutting, channeling, chasing or drilling of floors, walls, partitions, ceilings or other surfaces is necessary for the proper installation, support or anchorage of raceway, outlets or other equipment, the work shall be carefully done. Any damage to the building, piping, equipment or defaced finish plaster, woodwork, metalwork, etc. shall be repaired by skilled mechanics of the trades involved at no additional cost to the Owner.
B. Where conduits, mounting channels, outlet, junction, or pull boxes are mounted on a painted surface, or a surface to be painted, they shall be painted to match the surface. Whenever support channels are cut, the bare metal shall be cold galvanized.

3.05 DEMOLITION AND CONTINUANCE OF EXISTING SERVICES
A. All existing electrical services not specifically indicated to be removed or altered shall remain as they presently exist.
B. Should any existing services interfere with new construction, the Contractor shall (after obtaining written approval from the Architect/Engineer) alter or reroute such existing equipment to facilitate new construction.
C. Under no circumstances shall existing services be terminated or altered unless deemed necessary by the Architect/Engineer or specified herein; also, prior to altering any existing situation, the Contractor shall notify the Owner in writing giving two (2) weeks advance notice of planned alteration.
D. It shall be solely the Contractor's responsibility to guarantee continuity of present facilities (with respect to damage or alteration due to new construction) and any unauthorized alteration to existing equipment shall be corrected by the Contractor to the Architect/Engineer's satisfaction at the Contractor's expense.

3.06 CLEANING UP
A. Contractor shall take care to avoid accumulation of debris, boxes, crates, etc., resulting from the installation of his work. Contractor shall remove from the premises each day all debris, boxes, etc., and keep the premises clean.
B. Contractor shall clean up all fixtures and equipment at the completion of the project.
C. All switchboards, panelboards, wireways, trench ducts, cabinets and enclosures shall be thoroughly vacuumed clean prior to energizing equipment and at the completion of the project. Equipment shall be opened for observation by the Architect/Engineer as required.

3.07 WATERPROOFING
A. Avoid, if possible, the penetration of any waterproof membranes such as roofs, machine room floors, basement walls, and the like. If such penetration is necessary, perform it prior to the waterproofing and furnish all sleeves or pitch-pockets required. Advise the Architect/Engineer and obtain written permission before penetrating any waterproof membrane, even where such penetration is shown on the Drawings.
B. If Contractor penetrates any walls or surfaces after they have been waterproofed, he shall restore the waterproof integrity of that surface as directed by the Architect/Engineer at his own expense.

3.08 SUPPORTS
A. Support work in accordance with the best industry practice and the following.
B. Include supporting frames or racks extending from building structure for work indicated as being supported from walls where the walls are incapable of supporting the weight. In particular, provide such frames or racks in electric closets.
C. Include supporting frames or racks for equipment, intended for vertical surface mounting, which is required in a free standing position.
D. Supporting frames or racks shall be of standard angle, standard channel or specialty support system steel members. They shall be rigidly bolted or welded together and adequately braced to form a substantial structure. Racks shall be of ample size to assure a workmanlike arrangement of all equipment mounted on them.
E. Nothing, (including outlet, pull and junction boxes and fittings) shall depend on electric conduits, raceways, or cables for support, except that threaded hub type fittings having a gross volume not in excess of 100 cubic inches may be supported from heavy wall conduit, where the conduit is securely supported from the structure within five inches of the fitting on two opposite sides.
F. Nothing shall rest on, or depend for support on, suspended ceilings media (tiles, lath, plaster, as well as splines, runners, bars and the like in the plane of the ceiling).
G. Provide required supports and hangers for conduit, equipment, etc., so that loading will not exceed allowable loadings of structure.

3.09 FASTENINGS
A. Fasten electric work to building structure in accordance with the best industry practice and the following.
B. Floor or pad mounted equipment shall not be held in place solely by its own dead weight. Include anchor fastening in all cases.
C. For items which are shown as being ceiling mounted at locations where fastening to the building construction element above is not possible, provide suitable auxiliary channel or angle iron bridging, tying to the building structural elements.

3.10 TESTING EQUIPMENT AND MATERIALS
A. The Contractor shall provide all testing instruments, equipment and all materials, connections, labor, etc., required to perform tests.
B. Test all circuits, fixtures, equipment, and systems for proper operation and freedom from grounds, shorts and open circuits before acceptance is requested.
C. Measure voltage at panelboards and outlets after the building is fully occupied. Make final transformer tap adjustments based on these measurements.
D. Perform all tests required by local authorities, such as tests of life safety systems, in addition to tests specified herein.
E. Perform tests required by other specification sections.

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www.iegroup.net
Cert. of Auth. No. 27889
IEG #: 70-76.00

ANDREW MOHR, P.E.
FL LIC NO. 73077

No.	Date	Revision
1	04/05/18	DRC REVIEW
2	12/14/17	DRC REVIEW

Designed: C. VALENCIA
Drawn: C. VALENCIA
Checked: A. MOHR
Job No.: S13365/70-76.00
Date: 04/03/2018

ELECTRICAL SPECIFICATIONS

SUNTRUST
CITY OF HALLANDALE BEACH, FLORIDA

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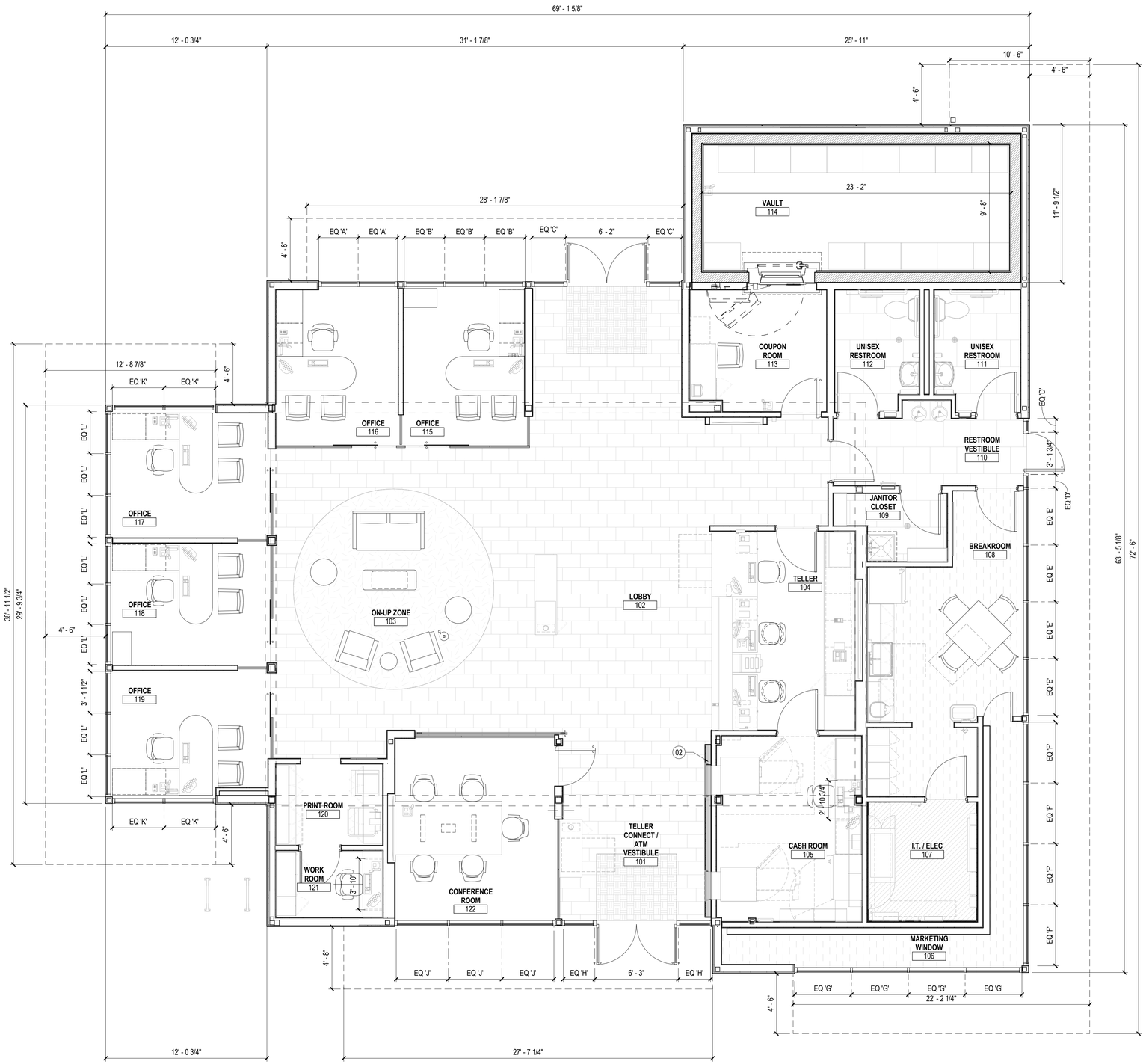
Sheet No.
E5.0



01 ARCHITECTURAL FLOOR PLAN

SCALE: 1/4" = 1'-0"

Gensler

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STEPHEN T. SWICEGOOD
FLA REG # AR93461

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2	02/08/18	DRC REVIEW
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ARCHITECTURAL FLOOR PLAN

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CITY OF HALLANDALE BEACH, FLORIDA

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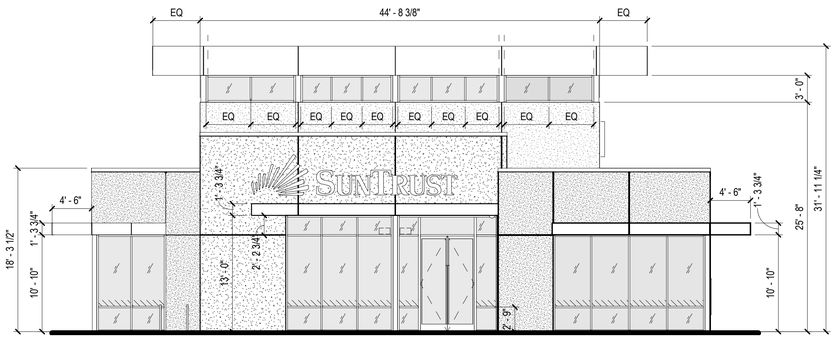
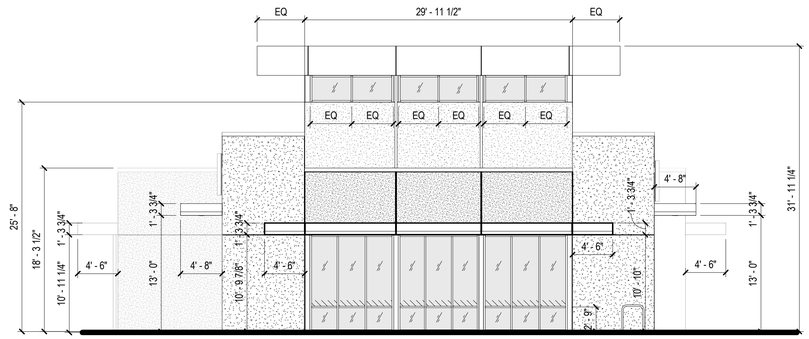
Sheet No.
A1.0



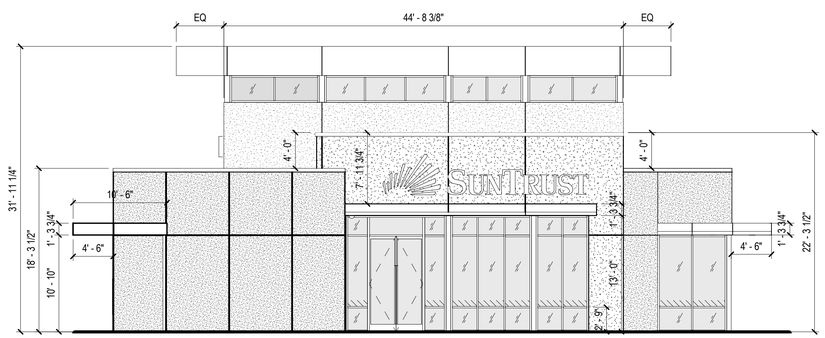
03 NORTH ELEVATION

SCALE: 1/8" = 1'-0"



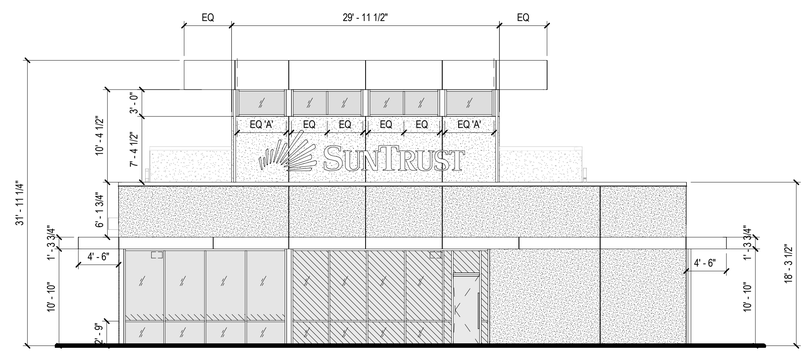
01 EAST ELEVATION

SCALE: 1/8" = 1'-0"



04 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



02 WEST ELEVATION

SCALE: 1/8" = 1'-0"

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FLA REG # AR93361

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ARCHITECTURAL EXTERIOR ELEVATIONS

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CITY OF HALLANDALE BEACH, FLORIDA

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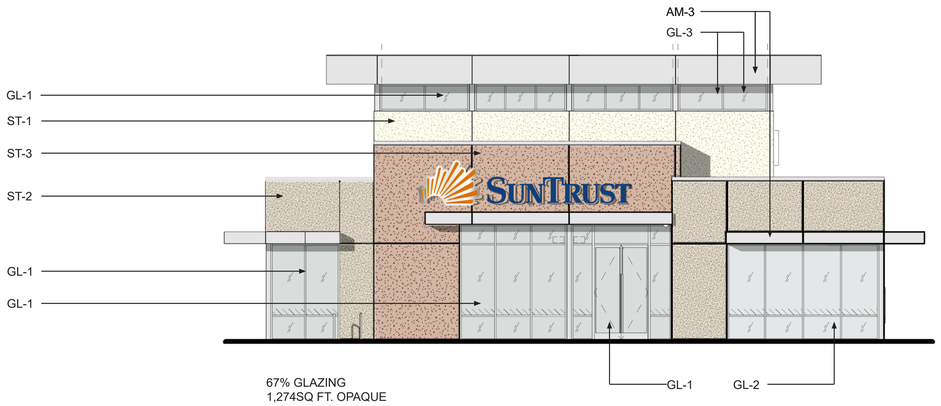
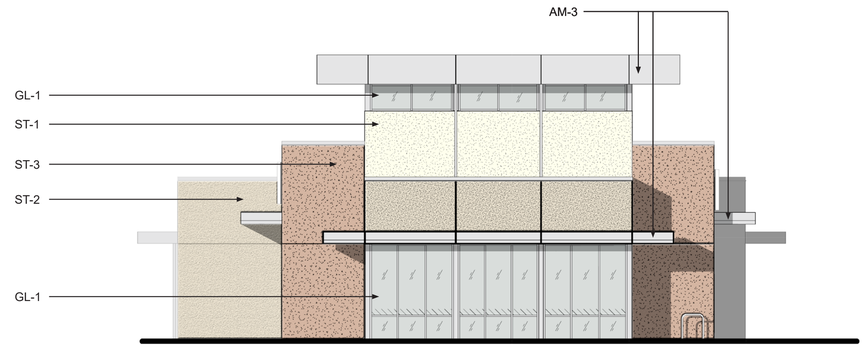
Sheet No.
A2.1



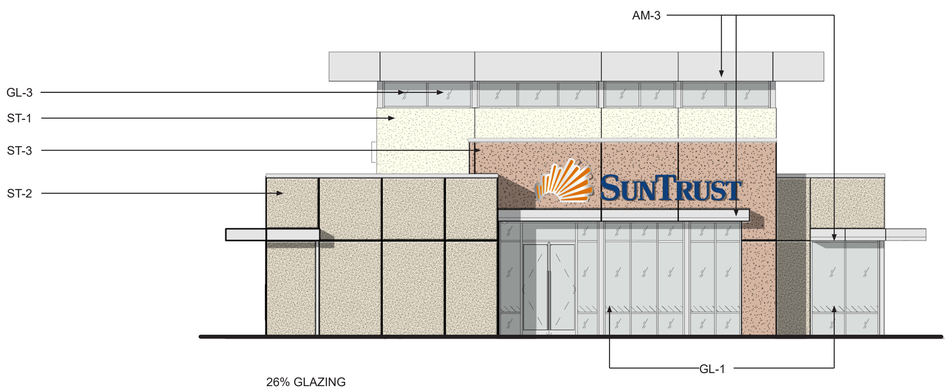
67% GLAZING
1,274SQ FT. OPAQUE

03 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



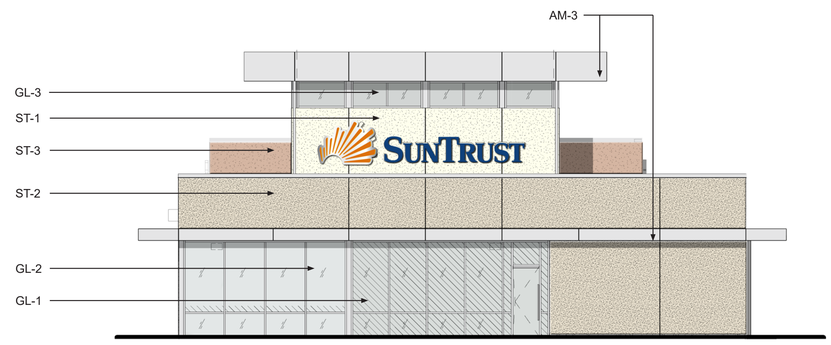
33% GLAZING
1,332 SQ FT. OPAQUE

01 EAST ELEVATION
SCALE: 1/8" = 1'-0"



26% GLAZING
1413 SQ FT. OPAQUE

04 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



29% GLAZING
1199 SQ FT. OPAQUE

02 WEST ELEVATION
SCALE: 1/8" = 1'-0"

ST-1	ST-2	ST-3	GL-1	GL-2	GL-3
SNOWBALL	LARIAT	NAPLES	GL-1 SOLARBAN 90 GLAZING	GL-2 SOLARBAN 90 GLAZING	GL-3 SPANDREL GLAZING

STOREFRONT FRAMING

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ARCHITECTURAL RENDERED ELEVATIONS

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CITY OF HALLANDALE BEACH, FLORIDA

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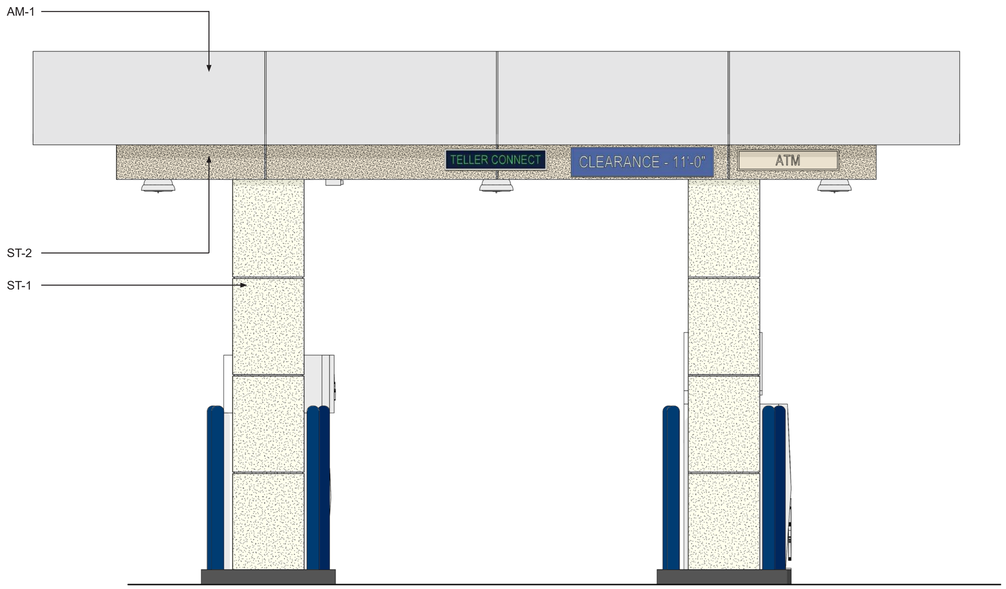
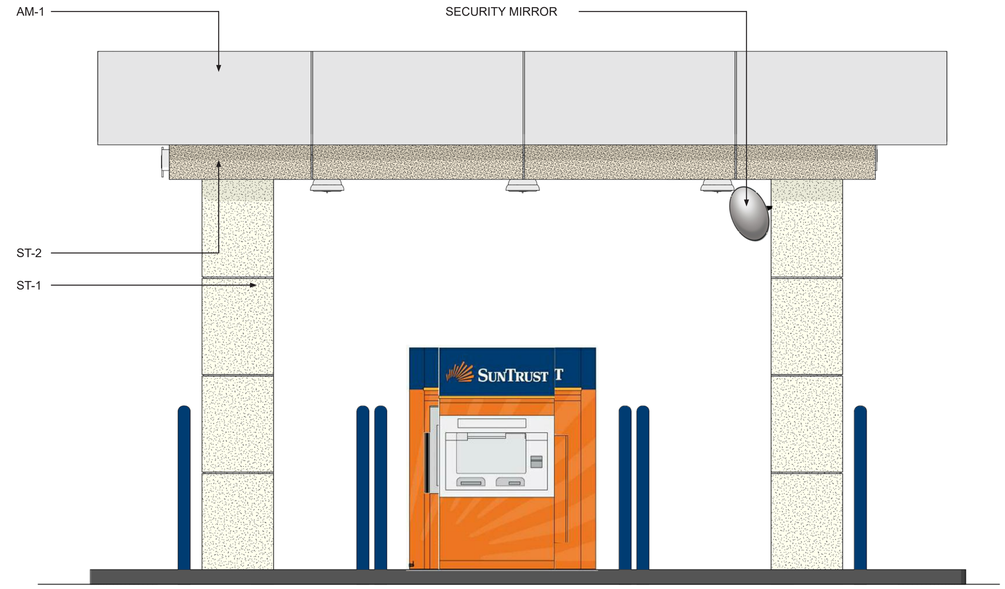
Sheet No.
A2.2



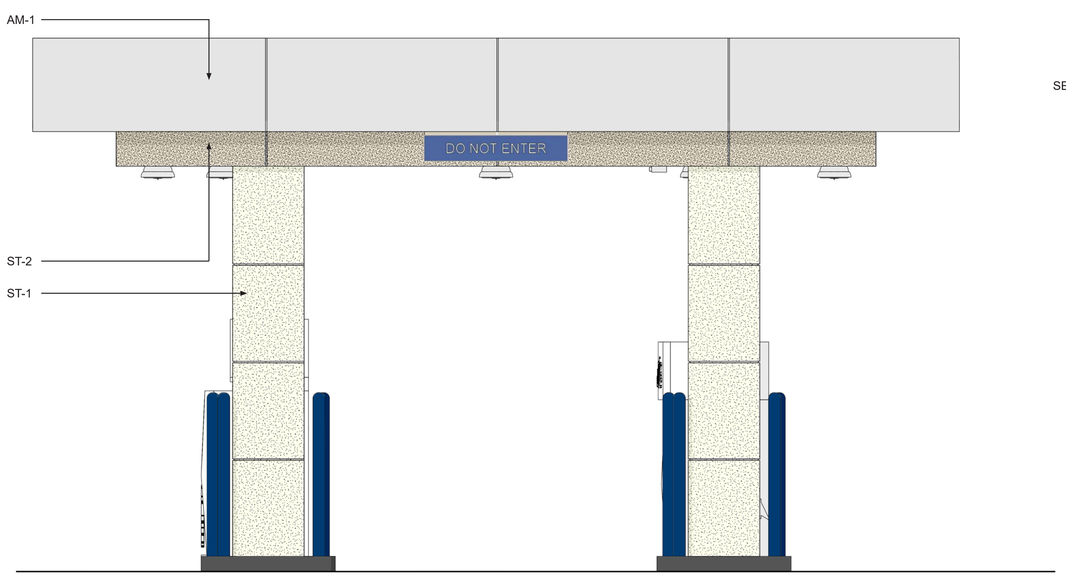
03 EAST DRIVE-THRU ELEVATION

SCALE: 1/2" = 1'-0"



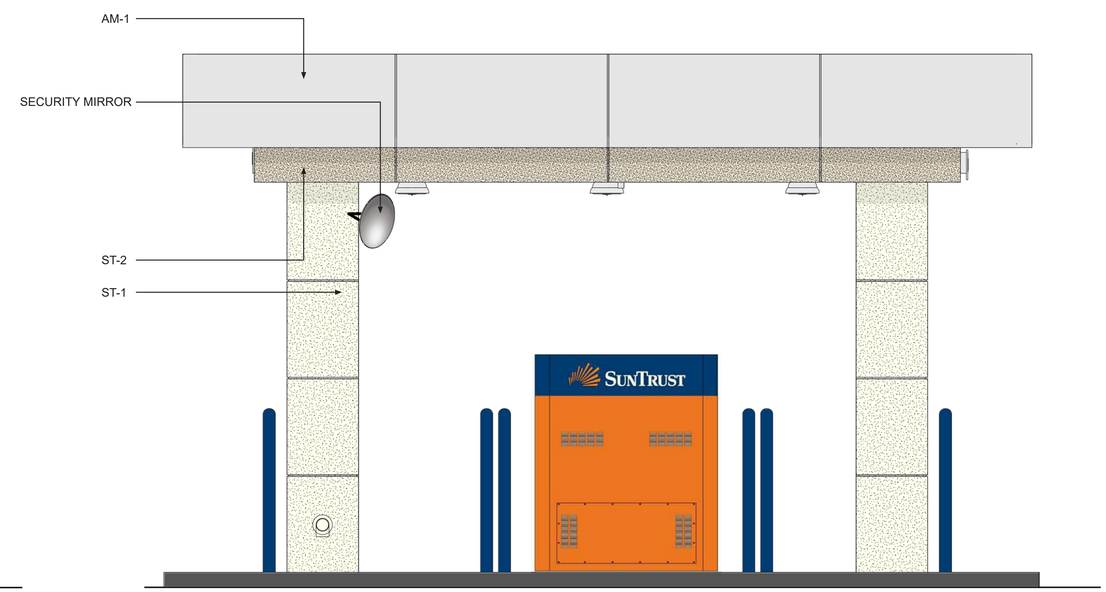
01 NORTH DRIVE-THRU ELEVATION

SCALE: 1/2" = 1'-0"



04 WEST DRIVE - THRU ELEVATION

SCALE: 1/2" = 1'-0"



02 SOUTH DRIVE-THRU ELEVATION

SCALE: 1/2" = 1'-0"

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DRIVE-THRU ELEVATIONS

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A2.3

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EXTERIOR RENDERINGS

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CITY OF HALLANDALE BEACH, FLORIDA

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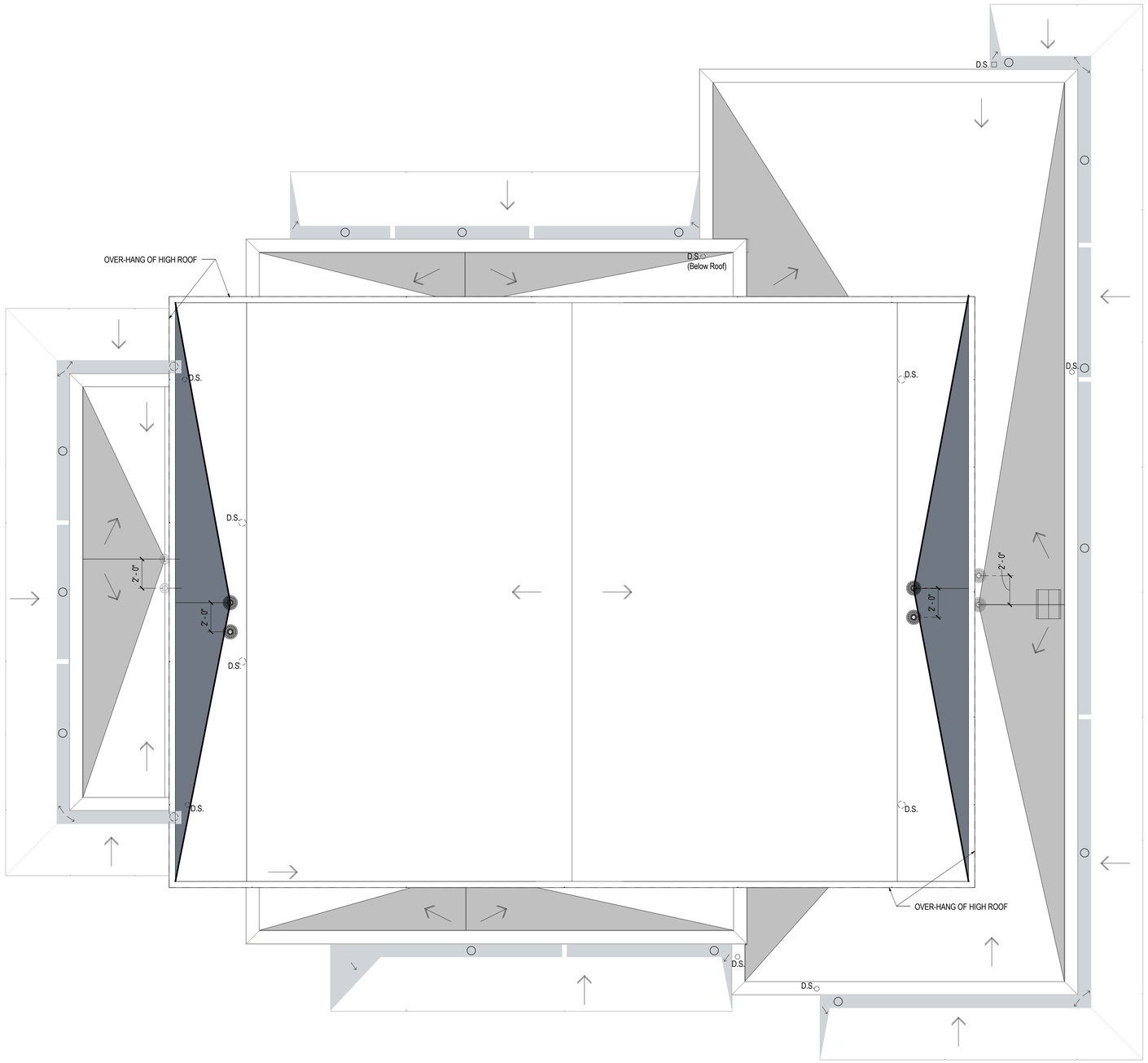
Sheet No.
A3.0



01 ROOF PLAN DRC
SCALE: 1/4" = 1'-0"

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ROOF PLAN

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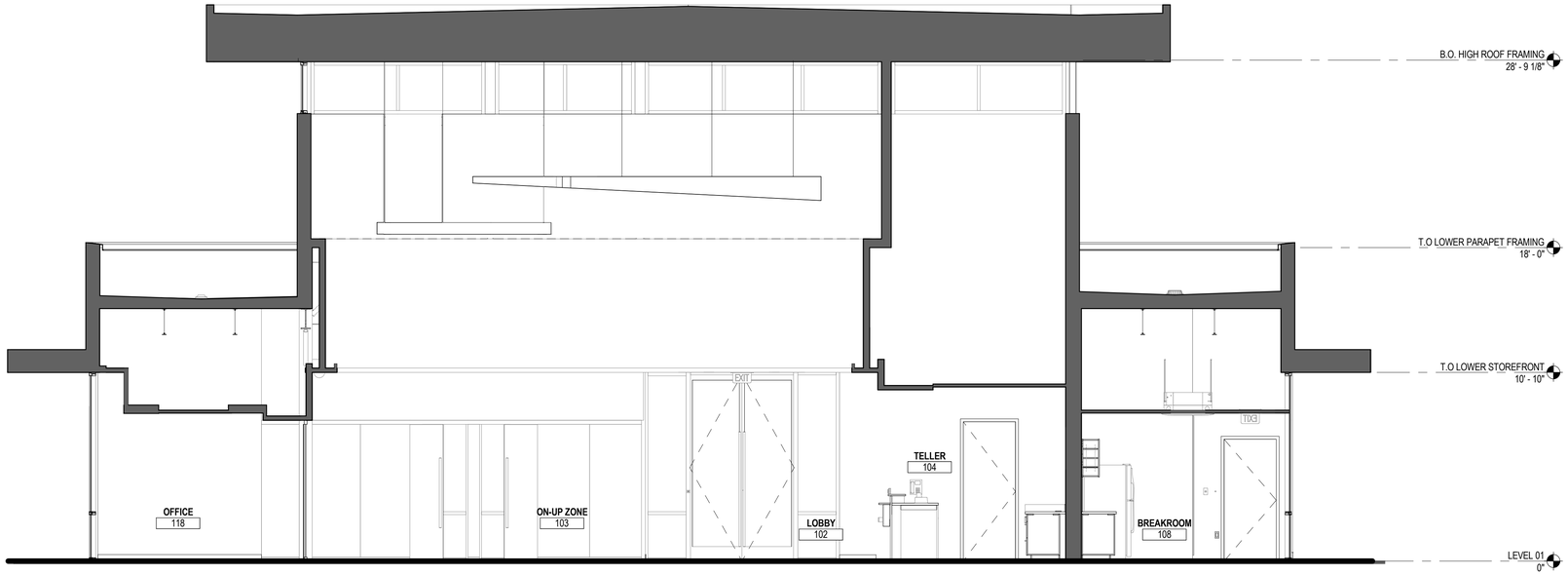
Sheet No.
A3.2



01 BUILDING SECTION B DRC

SCALE: 1/4" = 1'-0"

03 INTERIOR PERSPECTIVE AA

SCALE:

02 INTERIOR PERSPECTIVE BB

SCALE:

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3	02/08/18	DRC REVIEW
2	12/14/17	DRC REVIEW
1		

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ARCHITECTURAL SECTION

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CITY OF HALLANDALE BEACH, FLORIDA

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A4.0