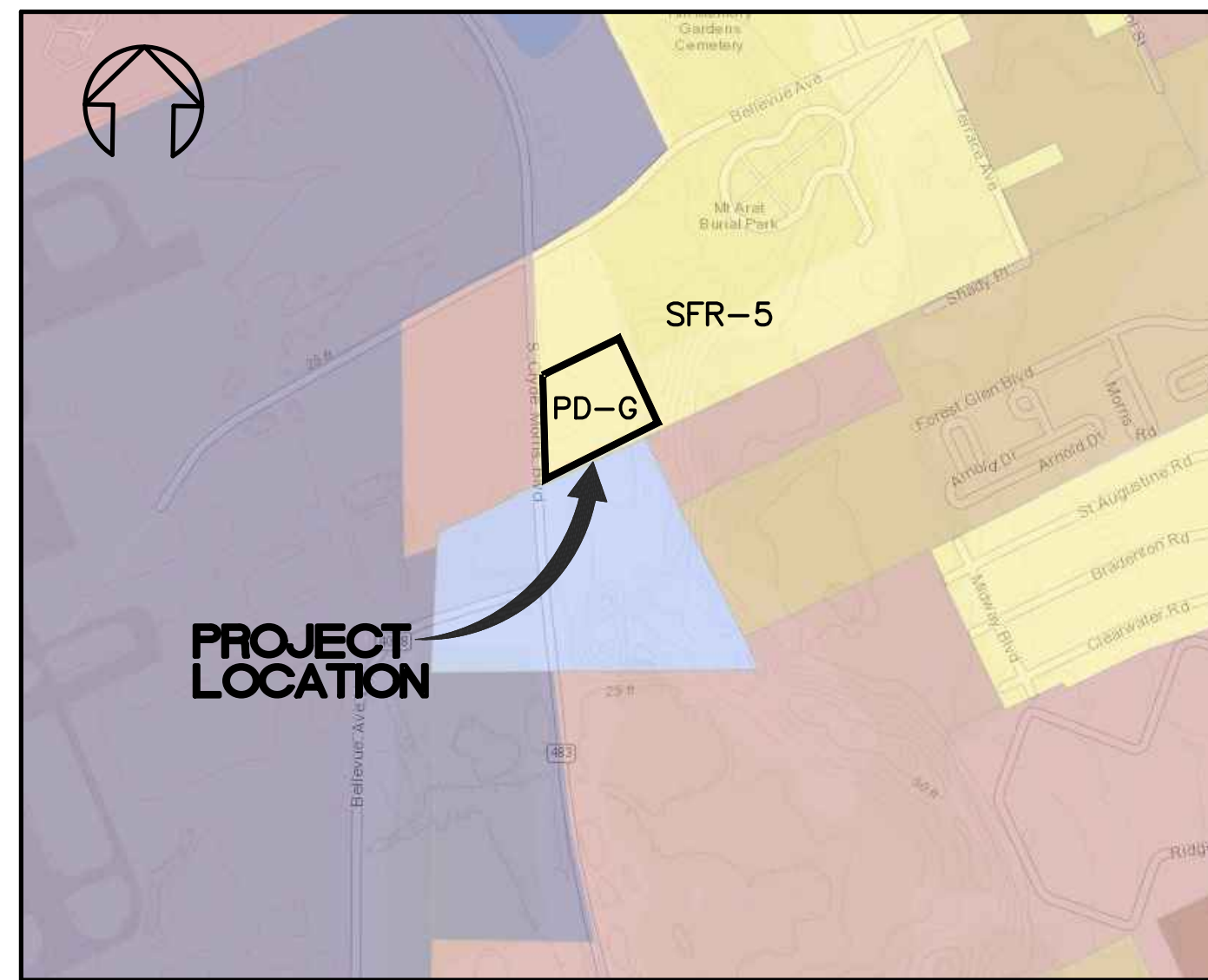


EMBR Y-RIDDLE AERONAUTICAL UNIVERSITY PRINT SHOP

SITE PLAN DAYTONA BEACH, FLORIDA DEV 2019-095

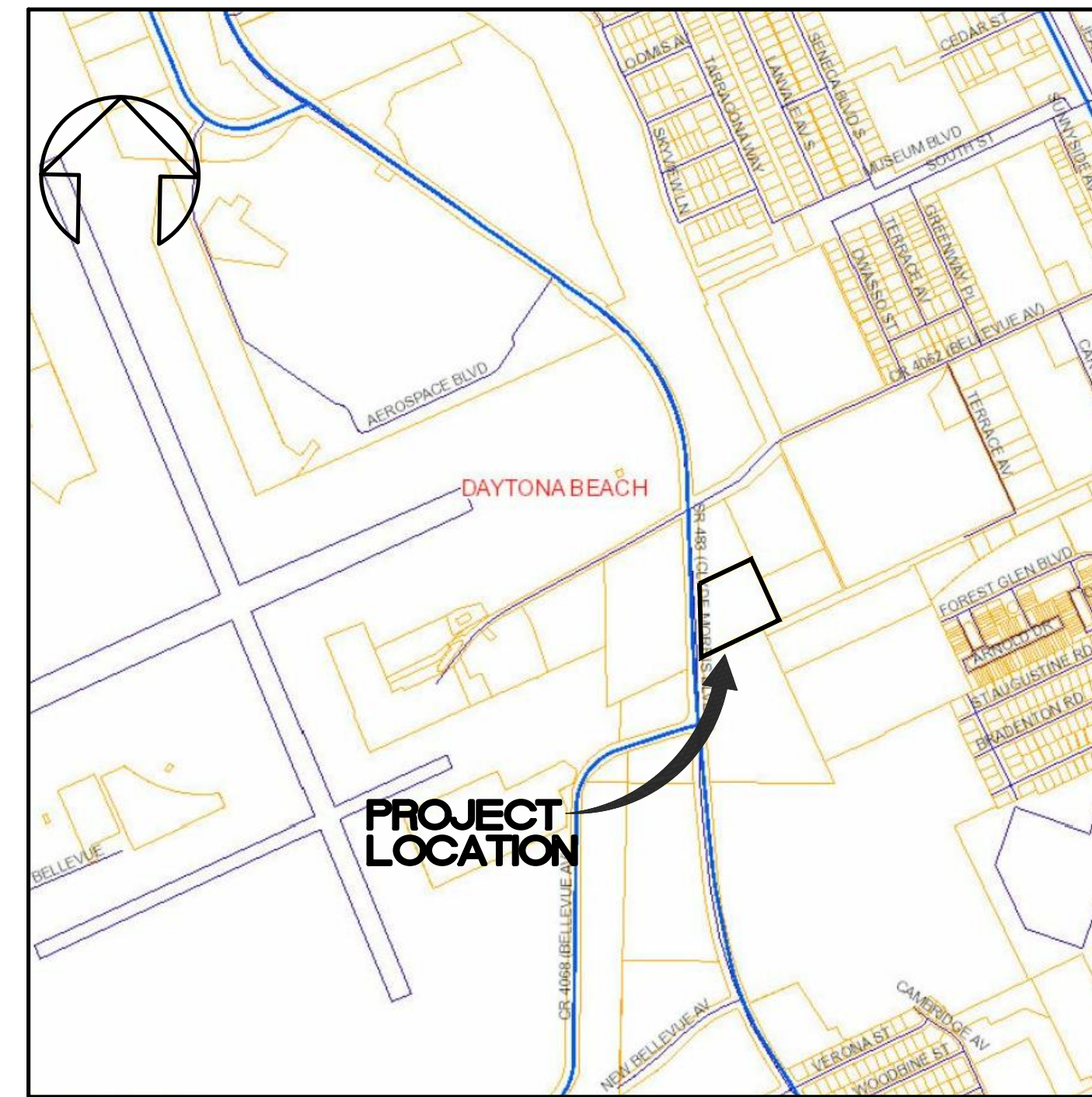
GENERAL NOTES

- EXISTING ZONING PD-G
- UNDERGROUND UTILITY LOCATIONS AS FIELD MARKED BY THE FOLLOWING COMPANIES OR THEIR REPRESENTATIVES:
FLORIDA POWER & LIGHT COMPANY 3000 SPRUCE CREEK ROAD
PORT ORANGE, FL. 32129 (386) 322-3425
AT&T 900 N. NOVA ROAD
DAYTONA BEACH, FL. 32117 (386) 257-7950
SPECTRUM 1475 S. NOVA ROAD
DAYTONA BEACH, FL. 32114 (386) 760-9941
TECO PEOPLES GAS 1722 RIDGEWOOD AVE
HOLLY HILL, FL. 32117 (386) 527-8377
CITY OF DAYTONA BEACH 950 BELLEVUE ROAD
DAYTONA BEACH, FL. 32114 (386) 671-8635
- LOCATIONS OF EXISTING UTILITIES ARE SHOWN BASED ON AVAILABLE DATA.
- IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES AND TO DETERMINE IF OTHER UTILITIES WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK AND TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION (I.E. SHEETING, DE-WATERING, ETC.). CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
CONTRACTOR TO COORDINATE DEMOLITION AND CONSTRUCTION WITH ALL PUBLIC AND PRIVATE UTILITY COMPANIES TO AVOID CONFLICTS AND/OR INTERRUPTIONS OF SERVICE.
- CONTRACTOR TO PROVIDE AS BUILT DRAWINGS OF ALL IMPROVEMENTS ON 24" X 36" MYLAR, SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR.
- THERMOPLASTIC STRIPING AND TRAFFIC CONTROL SIGNAGE TO MEET FDOT AND CITY OF DAYTONA BEACH SPECIFICATIONS.
- TRAFFIC CONTROL SIGNS TO BE IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS - ALL STOP SIGNS, SPEED LIMIT AND STREET SIGNS REQUIRED TO BE PROVIDED BY DEVELOPER TO CITY OF DAYTONA BEACH SPECIFICATION.
- ALL TRAFFIC CONTROL SIGNS SHALL BE FABRICATED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES USING 3M BRAND "SCOTCHLIGHT" SHEETING (ENGINEER GRADE) ON MINIMUM 0.080 GAUGE 5052-H38 ALUMINUM BLANKS. ALL STOP SIGNS SHALL BE HIGH INTENSITY 30" OR 36" OCTAGON INSTALLED ON 3" X 12" ROUND ALUMINUM POSTS. ALL WARNING SIGNS SHALL BE 30" X 30".
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND/OR LICENSES TO COMMENCE CONSTRUCTION.
- ALL CONCRETE SHALL DEVELOP A 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF PLANS, SPECIFICATIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
- CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
- NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- "NO CONSTRUCTION ON THE PROPOSED PORTIONS OF THIS PROJECT MAY COMMENCE UNTIL A MANDATORY PRE-CONSTRUCTION MEETING IS HELD WITH THE CITY, AS STATED IN THE APPROVED DEVELOPMENT ORDER FROM THE CITY OF DAYTONA BEACH. ANY CESSATION OF CONTINUOUS ON-GOING CONSTRUCTION ON THIS PROJECT OF 90 DAYS OR MORE SHALL TRIGGER A REQUIREMENT FOR ANOTHER PRE CONSTRUCTION MEETING BE HELD WITH THE CITY PRIOR TO CONTINUATION OF THE CONTINUING CONSTRUCTION."
- PLEASE NOTE THAT THE CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING PAVING, CURBS, SIDEWALKS, SOI, PLANTS, ETC. THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL ENGAGE A QUALIFIED TESTING AND INSPECTION AGENCY TO PERFORM CORE TESTING TO CONFIRM THAT THE INTERIOR CONCRETE FLOORS AND EXTERIOR PAVING THICKNESS COMPLIES WITH THE SPECIFICATIONS. CONCRETE SHALL RECEIVE 1 CORE PER 25,000 SF; CAR PARKING STALLS SHALL RECEIVE 1 CORE PER 75 STALLS; HEAVY DUTY ASPHALT CIRCULATION/FIRE LANES SHALL RECEIVE 1 CORE PER EVERY 600 LF.
- ADDRESS NUMBERS SHALL BE ARABIC NUMERALS. NUMBERS SHALL BE IN A COLOR CONTRASTING WITH THE STRUCTURE OR BACKGROUND SURFACE, AND NOT LESS THAN SIX (6) INCHES IN HEIGHT.
- THE ADDRESS NUMBERS SHALL BE AFFIXED HORIZONTALLY IN A CONSPICUOUS PLACE ON THE PRINCIPAL BUILDING SO THAT THE NUMBER IS CLEARLY LEGIBLE FROM THE ROADWAY ON WHICH IT IS ADDRESSED.
- CONTRACTOR SHALL EITHER CONDUCT ANY FIELD EXPLORATION OR ACQUIRE ANY GEOTECHNICAL ASSISTANCE REQUIRED DURING THE BID PROCESS TO ESTIMATE THE AMOUNT OF UNSUITABLE MATERIAL THAT WILL BE REQUIRED TO BE REMOVED/REPLACED FROM SITE.
UNUSABLE MATERIALS UNDER UTILITIES, STORM PIPING, STRUCTURES, PAVEMENT, BUILDING PADS, OR LANDSCAPE SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL.
ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR.
THE COST OF OBTAINING THE NECESSARY STATE AND LOCAL BUILDING/SITE PERMITS REQUIRED FOR THE BUILDING CONSTRUCTION AS WELL AS ALL UTILITY TAP FEES SHALL BE PAID BY THE CONTRACTOR.
CONTRACTOR IS RESPONSIBLE FOR ALL REPORTING/MONITORING AS REQUIRED BY S.J.R.M.D AND FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS, AND S.E.R.M.D.
CONTRACTOR SHALL SWEEP AND CLEAN THE PUBLIC ROADWAY DURING CONSTRUCTION.
THE GENERAL CONTRACTOR SHALL CLEAR, STRIP, EXCAVATE, FILL, AND ROUGH AND FINE GRADE THE SITE TO ACCOMPLISH BUILDING CONSTRUCTION AND PROPER STORM WATER DRAINAGE FROM THE SITE. ANY EXCESS CUT AND EXCESS SPOILS AND UNSUITABLE SOILS AND RUBBLE MUST BE REMOVED FROM THE SITE. ALL NECESSARY FILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
TESTING & INSPECTIONS: PLEASE NOTE THAT A FIELD-TESTING AND INSPECTIONS PROGRAM FOR QUALITY CONTROL DURING THE COURSE OF THE PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE, BUT NOT BE LIMITED TO SOILS, CONCRETE, STRUCTURAL STEEL, FIREPROOFING, WATERPROOFING (INCLUDING ROOFING, CAULKING, GLAZING, ETC.).
CONTRACTOR SHALL INSTALL AND MAINTAIN DEWATERING WHERE REQUIRED IN ACCORDANCE WITH ALL CODES AND LAWS.
- ALL SIDEWALKS INCLUDING THROUGH DRIVEWAY TO BE EQUAL OR LESS THAN 2% CROSS SLOPE AND MEET ALL OTHER ADA REQUIREMENTS.



ZONING MAP

PD-G



VICINITY MAP



SOILS/AERIAL MAP

54 - QUARTZIPSAMMENTS, GENTLY SLOPING

PARKER MYNCHENBERG & ASSOCIATES, INC.

PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

GENERAL INFORMATION:

SITE INFORMATION:

ADDRESS:
915, 917, 919, AND 921 SOUTH CLYDE MORRIS BLVD.
DAYTONA BEACH, FLORIDA 32114
TAX PARCEL NUMBER: 5239-00-00-0900
SECTION: 39
TOWNSHIP: 15S
RANGE: 33E
EXISTING ZONING: SFR-5
EXISTING FLUM: GENERAL INDUSTRIAL

OWNER:

EMBR Y-RIDDLE AERONAUTICAL UNIVERSITY
600 SOUTH CLYDE MORRIS BLVD.
DAYTONA BEACH, FLORIDA 32114
PHONE: (386) 226-6206 FAX: (386) 323-5056
ERAU PROJECT CONTACT: CHRIS HARDESTY, DIRECTOR,
UNIVERSITY PLANNING & CONSTRUCTION MANAGEMENT
PHONE: (386) 226-6512
EMAIL: Chris.Hardesty@erau.edu

ENGINEER/LANDSCAPE ARCHITECT

PARKER MYNCHENBERG & ASSOCIATES, INC.
PARKER MYNCHENBERG P.E. #32645, L.A. #1553
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910
1729 RIDGEWOOD AVENUE
HOLLY HILL, FLORIDA 32117
PHONE: (386) 677-6891
EMAIL: info@parkermynchenberg.com
bsuswell@parkermynchenberg.com

SURVEYOR

SLIGER & ASSOCIATES, INC.
JOSEPH E. ZAPERT, P.L.S., PRESIDENT
3921 NOVA ROAD
PORT ORANGE, FL 32127
PHONE: (386) 761-5385
EMAIL: info@sligerassociates.com

FLOOD ZONE:

PROJECT IS LOCATED IN ZONE "X" PER FEMA MAP
NUMBER 12127C0366 H, DATED FEB. 19, 2014

PROJECT DESCRIPTION:

CONSTRUCTION OF A 7,560 S.F. ONE-STORY PRINT SHOP BUILDING & A 10,375 S.F. TWO-STORY PRODUCTION BUILDING FOR USES THAT ARE ACCESSORY TO ERAU. CONSTRUCTION INCLUDES MODIFICATIONS TO RETENTION POND, DRAINAGE, WATER, SEWER, LANDSCAPE, AND IRRIGATION IMPROVEMENTS.

LAND USE TABULATION:

OVERALL PROJECT AREA = 5.67 AC.
PROJECT MODIFICATION AREA = 1.45 AC.

BUILDING COVERAGE:

EXISTING BUILDINGS = 10,300 S.F.
PROPOSED BUILDINGS = 12,745 S.F.
TOTAL = 23,045 S.F. = 9.33% COVERAGE

IMPERVIOUS AREA:

EXISTING IMPERVIOUS AREA:
EXISTING BUILDINGS (FOOTPRINT).....10,300 S.F.
EXISTING PAVEMENT, S/W CURB.....68,555 S.F.
EXISTING STABILIZED ACCESS ROAD.....6,000 S.F.
TOTAL EXISTING IMPERVIOUS AREA.....84,855 S.F. = 1.948 AC

PROPOSED IMPERVIOUS AREA:

PROPOSED BUILDINGS (FOOTPRINT).....12,745 S.F.
PROPOSED PAVEMENT, S/W CURB.....17,000 S.F.
TOTAL PROPOSED IMPERVIOUS AREA.....29,745 S.F. = 0.683 AC
TOTAL IMPERVIOUS AREA = 114,600 S.F. = 46.40%
LANDSCAPE AREA = 132,386 S.F. = 53.60%

BUILDING AREA:

EXISTING BUILDINGS.....10,300 S.F.
PRINT SHOP.....7,560 S.F.
2 STORY BUILDING.....10,375 S.F.
TOTAL BUILDING AREA.....28,235 S.F.

PARKING CALCULATION:

PARKING REQUIRED:
28,235 S.F. @ 1/900 SF ACADEMIC AREA = 32 SPACES
STUDENT/EMPLOYEE PARKING = 121 SPACES
PARKING PROVIDED:

	EXISTING	PROPOSED	TOTAL
STANDARD	113	33	146
HANDICAP	5	2	7
GRAND TOTAL:	118	35	153

BIKE PARKING CALCULATION:

154 STALLS x 5/50 = 15
EXISTING BIKE PARKING = 16

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2-2B	BOUNDARY & TOPOGRAPHIC SURVEY
3	AS-BUILT SURVEY
4	DEMOLITION & EROSION CONTROL PLAN
5	SITE PLAN
6	CIVIL SITE PLAN
7	UTILITY PLAN
8	LANDSCAPE PLAN
9	LANDSCAPE DETAILS
10	IRRIGATION PLAN
11	IRRIGATION DETAILS
12-15	PAVING AND DRAINAGE DETAILS
16-17	WATER STANDARD DETAILS
18-19	SEWER STANDARD DETAILS

NOTE:

NO CONSTRUCTION ON THE PROPOSED PORTIONS OF THIS PROJECT MAY COMMENCE UNTIL A MANDATORY PRE CONSTRUCTION MEETING IS HELD WITH THE CITY, AS STATED IN THE APPROVED DEVELOPMENT ORDER FROM THE CITY OF DAYTONA BEACH. ANY CESSATION OF CONTINUOUS ON-GOING CONSTRUCTION ON THIS PROJECT OF 90 DAYS OR MORE SHALL TRIGGER A REQUIREMENT FOR ANOTHER PRE CONSTRUCTION MEETING BE HELD WITH THE CITY PRIOR TO CONTINUATION OF THE CONTINUING CONSTRUCTION.

PARKER MYNCHENBERG & ASSOCIATES, INC.

EMBR Y-RIDDLE AERONAUTICAL UNIVERSITY
PRINT SHOP
DAYTONA BEACH * FLORIDA

DEV 2019-095
CITY APPROVAL STAMP

1 OF 19
SHEET NO.

Drawn By: MRB

Date: 6-15-19

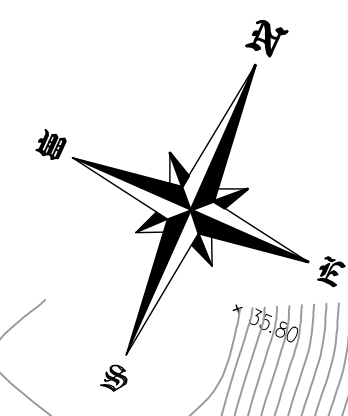
SCALE: NONE

JOB #19-03

SEAL

NO.	DATE	DESCRIPTION	REVISIONS
4	10-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB

PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117
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CERTIFICATE OF AUTHORIZATION NUMBER 00003910



SURVEYORS NOTES

- NOTICE: THERE MAY BE ADDITIONAL RESTRICTIONS AND/OR OTHER MATTERS THAT ARE NOT SHOWN ON THIS PLAT OF SURVEY/SKETCH OF DESCRIPTION THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. THIS SURVEY PREPARED WITH THE BENEFIT OF OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT FILE NO. CM141081, DATED MAY 13, 2014, 5:00 PM.
- DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
- BEARING STRUCTURE BASED ON STATE PLANE GRID, NAD 83 FLORIDA EAST ZONE
- UNDERGROUND FOUNDATIONS, IF ANY, NOT LOCATED.
- ELEVATIONS REFER TO N.A.V.D. 1988 PER CITY OF DAYTONA BEACH BENCHMARK MONUMENT HPR-139 HAVING A PUBLISHED ELEVATION OF 25.00' (26.18' N.G.V.D. 1929).
- THIS PROPERTY IS LOCATED IN FLOOD INSURANCE RATE MAP (F.I.R.M.) ZONE X. THIS LOCATION IS DETERMINED BY SCALING FROM F.I.R.M. MAP NO.1212700366H. MAP EFFECTIVE DATE: FEBRUARY 19, 2014. APPROXIMATE SCALE: 1"= 500'.
- NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- UNLESS OTHERWISE SHOWN, RECORD DISTANCES AND DIRECTIONS AND FIELD MEASURED DISTANCES AND DIRECTIONS ARE THE SAME.

UTILITY STATEMENT:

THE INACCESSIBLE UNDERGROUND UTILITIES SHOWN ON THIS SURVEY HAVE BEEN LOCATED FROM ABOVE GROUND FIELD UTILITY LOCATIONS PROVIDED BY SUNSHINE NETWORK, TICKET # _____ ON OR ABOUT 8-30-99 AND/OR EXISTING AS-BUILT DRAWINGS PROVIDED BY THE CLIENT. SLIGER AND ASSOCIATES, INC. (S&A) MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED, LIKEWISE S&A DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. ONLY THAT S&A HAS LOCATED THE UTILITIES AS ACCURATELY AS POSSIBLE FROM SAID FIELD LOCATIONS AND/OR AS-BUILT DRAWINGS PROVIDED BY OTHERS. S&A HAS NOT PHYSICALLY LOCATED THE ACTUAL INACCESSIBLE UNDERGROUND UTILITIES, EXCEPT AS SPECIFICALLY NOTED AND DEPICTED ON THIS DRAWING.

W/ WITH	TC TOP COVER	CONC	CONCRETE	ABBREVIATIONS	RES RESIDENCE
CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE
TDB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS
TOE	TOE OF SLOPE	FM	FIRE HYDRANT	L	ARC LENGTH
CLS	CENTERLINE OF SWALE	WM	WATER METER	CH	CHORD BEARING
STA	STATION	LP	LIGHT POLE	CB	CHORD DISTANCE
CO	CLEANOUT	IV	IRRIGATION VALVE	R/W	RIGHT OF WAY
SAN	SANITARY	GA	GUY ANCHOR	FPAL CO	FLORIDA POWER & LIGHT COMPANY
ES	ELECTRIC SERVICE	CPP	CORRUGATED PLASTIC PIPE	NOVD	NATIONAL GEODETIC VERTICAL DATUM
HOPE	HIGH DENSITY POLYETHYLENE PIPE	DIP	DUCTILE IRON PIPE	USC & OS	UNITED STATES COAST AND GEODETIC SURVEY
VCP	VITREOUS CLAY PIPE	PPV	POLYVINYL CHLORIDE	USC & OS	UNITED STATES COAST AND GEODETIC SURVEY
CV	CHECK VALVE	DW	DRIVEWAY	Q	CENTERLINE

LEGEND

●	IRON ROD WITH CAP	—FC—	BURIED FIBER OPTIC CABLE
○	IRON ROD	—T—	BURIED TELEPHONE LINE
○	IRON PIPE WITH CAP	—W—	BURIED WATER LINE
○	IRON PIPE	—E—	BURIED ELECTRIC LINE
○	FD 30" JACKET IN CONCRETE	—G—	BURIED GAS LINE
○	CONCRETE MONUMENT	—M—	BURIED FORCE MAIN
○	IRRATION CONTROL VALVE	—A—	AERIAL UTILITY LINE
○	FORCE MAIN VALVE	—P—	PLATTED DIMENSION
○	WATER VALVE	—R—	RANGE
○	WATER METER	—R/W—	RIGHT OF WAY
○	FIRE HYDRANT	(P)	ELEVATION
○	FIBER OPTIC MARKER	(NR)	NON RADIAL
○	TELEPHONE BOX	(Q)	MEASURED DIMENSION
○	TRAFFIC SIGNAL BOX	(C)	CALCULATED DIMENSION
○	ELECTRIC BOX	(TYP)	TYPICAL
○	CABLE TELEVISION BOX	(FOT)	FLORIDA DEPARTMENT OF TRANSPORTATION
○	MAIL BOX	REC	RECOVERED
○	LIGHT POLE		
○	UTILITY POLE		
○	GUY ANCHOR		
○	CLEAN OUT		
○	SIGN		
○	EXISTING ELEVATION		
○	EXISTING MANHOLE		
○	SANITARY MANHOLE		
○	STORM MANHOLE		

ADDITIONAL ABBREVIATIONS—TREE LEGEND

BC	BLACK CHERRY TREE	SB	SUGARBERRY TREE
MP	MAPLE TREE	CD	CEDAR TREE
SYC	SYCAMORE TREE	ELM	ELM TREE
OK	OAK TREE	CIT	CITRUS TREE
SG	SWEET GUM TREE	PN	PINE TREE
HK	HICKORY TREE	PM	PALM TREE
CB	CHINABERRY TREE	HB	HACKBERRY TREE

TREE SIZE (INCHES) DIAMETER AT BREAST HEIGHT
 TREE TYPE
 TREE SYMBOL
 MULTIPLE TRUNKS

SCALE: 1"=30'

FIELD BOOK:	SURVEY DATE:	JOB NUMBER:	PARTY CHIEF:	DRAWN BY:	CHECKED BY:
	05-15-2014	14-0420	DP,LH	JZ	JZ,DP
	05-15-2014	14-0420	DP,LH	JZ	JZ,DP

TYPE OF SURVEY : TOPOGRAPHIC SURVEY

SPECIFIC PURPOSE : BOUNDARY SURVEY

SLIGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS

3921 NOVA ROAD
 PORT ORANGE, FL 32127
 (386) 761-5385

LICENSED BUSINESS CERTIFICATION NUMBER 3019
 www.sligerassociates.com
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PLAT PREPARED FOR THE FOLLOWING: (ONLY THE LAST DATE IS CERTIFIED ON SEALED COPY)

TYPE OF SURVEY	CERTIFIED TO	SURVEY DATE	JOB NUMBER
BOUNDARY	EMBR-Y-RIDDLE AERONAUTICAL UNIVERSITY	5/08/2014	14-0420
TOPOGRAPHIC	CITY OF DAYTONA BEACH		

THIS PLAT OF SURVEY IS CERTIFIED TO AND PREPARED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE ENTITIES AND/OR INDIVIDUALS LISTED BELOW, ON THE MOST CURRENT DATE, AND SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL WHOMSOEVER.

NOT CERTIFIED TO ANY ENTITIES AND/OR INDIVIDUALS OTHER THAN THOSE LISTED ABOVE.

ERAU MOTORSPORTS
 915 CLYDE MORRIS BLVD
 DAYTONA BEACH, FLORIDA

FOR: EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

BOUNDARY & TOPOGRAPHIC SURVEY

I HEREBY CERTIFY THAT THIS PLAT MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 63-17.05, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

J.E. ZAPERT, P.L.S. NO. 4046
 STEVEN T. KRUEGER, P.L.S. NO. 4722
 C.O. VAN KLEECK, JR., P.S.M. NO. 6149
 MICHAEL S. MURPHY, P.S.M. NO. 6208

JOB NO. 14-0420

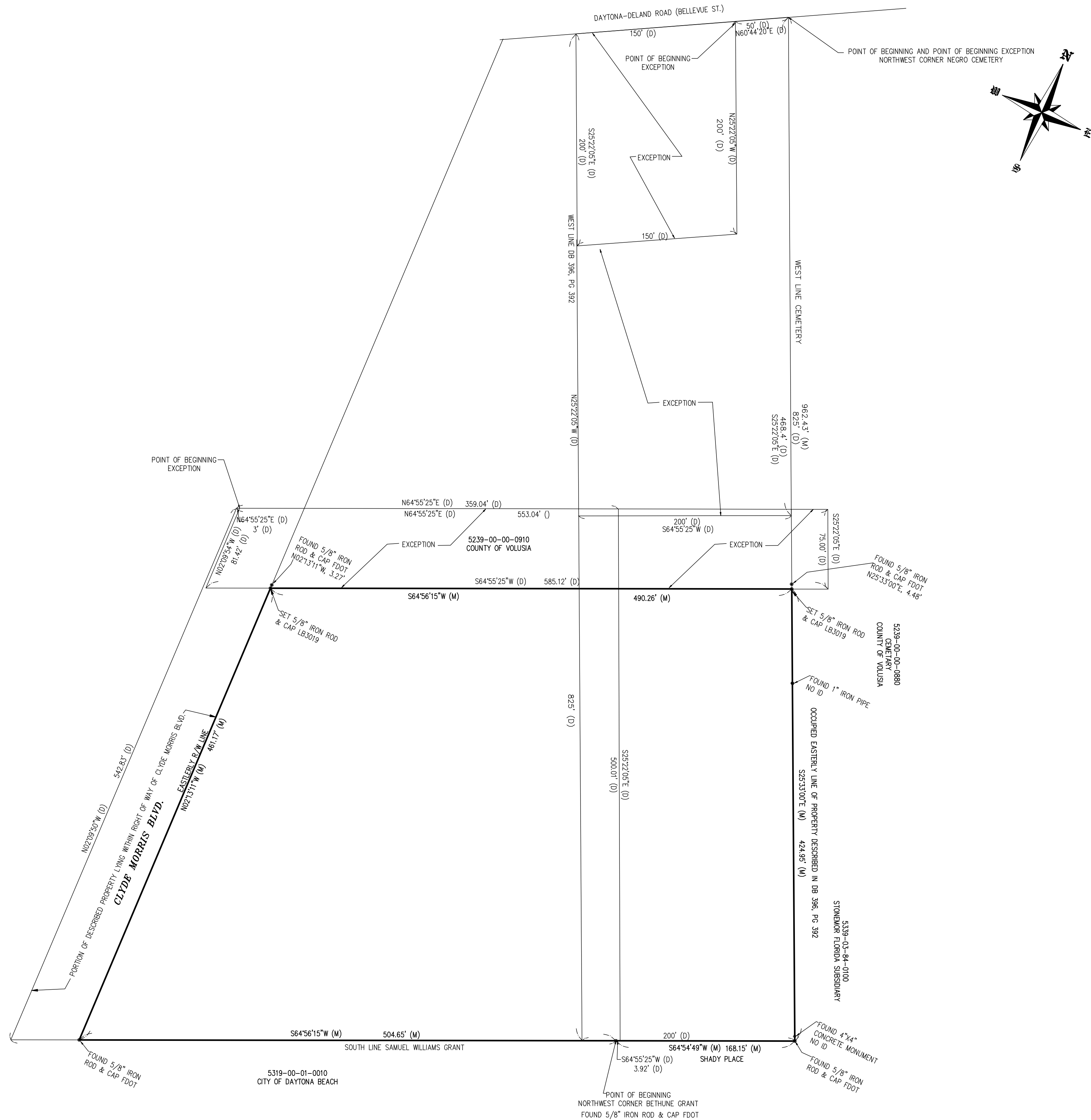
LEGAL DESCRIPTION PROVIDED BY CLIENT

THE FOLLOWING LANDS LYING IN VOLUISA COUNTY, FLORIDA:
 A PARCEL OF LAND IN THE SAMUEL WILLIAMS GRANT, SECTION 39, TOWNSHIP 15 SOUTH, RANGE 33 EAST, DESCRIBED AS FOLLOWS: BEG ON THE NORTHWEST CORNER OF THE BETHUNE GRANT, SECTION 40, TOWNSHIP 15 SOUTH, RANGE 33 EAST, BEING ON THE SOUTH LINE OF THE SAMUEL WILLIAMS GRANT, SECTION 39, SAID TOWNSHIP AND RANGE AND RUN SOUTH 64°55'25"W, ALONG SAID SOUTH LINE OF THE SAMUEL WILLIAMS GRANT, 553.04 FEET; THENCE NORTH 02°09'50"W, 542.83 FEET; THENCE NORTH 64°55'25"E, 359.04 FEET; THENCE SOUTH 25°22'05"E, 500.01 FEET TO THE SOUTH LINE OF SAID SAMUEL WILLIAMS GRANT; THENCE SOUTH 64°55'25"W, 3.92 FEET TO THE POINT OF BEGINNING; LESS AND EXCEPT A PARCEL OF LAND IN THE SAMUEL WILLIAMS GRANT, SECTION 39, TOWNSHIP 15 SOUTH, RANGE 33 EAST, DESCRIBED AS FOLLOWS: COMMENCE AT THE NORTHWEST CORNER OF THE BETHUNE GRANT, SECTION 40, TOWNSHIP 15 SOUTH, RANGE 33 EAST; BEING ON THE SOUTH LINE OF THE SAMUEL WILLIAMS GRANT, SECTION 39, SAID TOWNSHIP AND RANGE, AND RUN SOUTH 64°55'25"W, ALONG SAID SOUTH LINE OF THE SAMUEL WILLIAMS GRANT 569.01 FEET; THENCE NORTH 02°09'50"W, 542.83 FEET; THENCE NORTH 64°55'25"E, 3 FEET FOR A POINT OF BEGINNING; FROM SAID POINT OF BEGINNING CONTINUE NORTH 64°55'25"E, 553.04 FEET; THENCE SOUTH 25°22'05"E, 79 FEET; THENCE SOUTH 64°55'25"W, 585.12 FEET; THENCE NORTH 02°09'50"W, 81.42 FEET TO THE POINT OF BEGINNING.

ALSO:
 A PORTION OF THE SAMUEL WILLIAMS GRANT, BEGINNING AT A POINT ON THE DAYTONA-DELAND ROAD (BELLEVUE ST.) AT THE NORTHWEST CORNER OF THE NEGRO CEMETERY; THENCE IN A SOUTHERLY DIRECTION ALONG THE WEST LINE OF SAID CEMETERY LOT A DISTANCE OF EIGHT HUNDRED TWENTY-FIVE (825) FEET, MORE OR LESS, TO THE SOUTH SIDE OF SAMUEL WILLIAMS GRANT; THENCE WESTERLY ALONG SOUTH LINE OF SAID SAMUEL WILLIAMS GRANT TWO HUNDRED (200) FEET; THENCE NORTHERLY ON A LINE PARALLEL TO SAID WEST LINE OF SAID CEMETERY LOT EIGHT HUNDRED TWENTY-FIVE (825) FEET, MORE OR LESS, TO THE SOUTH SIDE OF SAID DAYTONA-DELAND ROAD TWO HUNDRED (200) FEET TO THE POINT OF BEGINNING; AND BEING IN SECTION 39, TOWNSHIP 15 SOUTH, RANGE 33 EAST, LESS AND EXCEPT A PORTION OF THE SAMUEL WILLIAMS GRANT, SECTION 39, TOWNSHIP 15 SOUTH, RANGE 33 EAST, BEGINNING ON THE DAYTONA-DELAND ROAD (BELLEVUE STREET) AT THE NORTHWEST CORNER OF THE NEGRO CEMETERY; THENCE SOUTH 25°22'05"E ALONG THE WEST LINE OF SAID CEMETERY LOT A DISTANCE OF 468.4 FEET; THENCE SOUTH 64°55'25"W AND PARALLEL TO THE SOUTH LINE OF SAID GRANT A DISTANCE OF 200 FEET; THENCE NORTH 25°22'05"W TO A POINT WHICH IS 200 FEET SOUTH 25°22'05"E FROM THE SOUTHERLY RIGHT OF WAY LINE OF SAID DAYTONA-DELAND ROAD; THENCE NORTHEASTERLY AND PARALLEL TO SAID ROAD A DISTANCE OF 150 FEET; THENCE NORTH 25°22'05"W 220 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF SAID DAYTONA-DELAND ROAD; THENCE NORTH 60°44'20"E ALONG SAID RIGHT OF WAY LINE 50 FEET TO THE POINT OF BEGINNING; AND LESS AND EXCEPT A PORTION OF THE SAMUEL WILLIAMS GRANT, SECTION 39, TOWNSHIP 15 SOUTH, RANGE 33 EAST, BEGINNING ON THE DAYTONA-DELAND ROAD (BELLEVUE STREET) AT A POINT 50 FEET WESTERLY FROM THE NORTHWEST CORNER OF THE NEGRO CEMETERY; THENCE RUN SOUTHERLY PARALLEL TO THE WEST LINE OF SAID CEMETERY 200 FEET; THENCE WESTERLY PARALLEL TO SAID ROAD 150 FEET TO THE WEST LINE OF LANDS DESCRIBED IN DEED RECORDED IN DEED BOOK 396, PAGE 392, VOLUISA COUNTY PUBLIC RECORDS; THENCE NORTHERLY 200 FEET; THENCE EASTERLY 150 FEET TO THE POINT OF BEGINNING.

SURVEYORS NOTES

- NOTICE: THERE MAY BE ADDITIONAL RESTRICTIONS AND/OR OTHER MATTERS THAT ARE NOT SHOWN ON THIS FLAT OF SURVEY/SKETCH OF DESCRIPTION THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. THIS SURVEY PREPARED WITH THE BENEFIT OF OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT FILE NO. CM141081, DATED MAY 13, 2014, 5:00 PM.
- DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
- BEARING STRUCTURE BASED ON STATE PLANE GRID, NAD 83 FLORIDA EAST ZONE
- UNDERGROUND FOUNDATIONS, IF ANY, NOT LOCATED.
- ELEVATIONS REFER TO N.A.V.D. 1988 PER CITY OF DAYTONA BEACH BENCHMARK MONUMENT HPR-139 HAVING A PUBLISHED ELEVATION OF 25.00' (26.18' N.G.V.D. 1929).
- THIS PROPERTY IS LOCATED IN FLOOD INSURANCE RATE MAP (F.I.R.M.) ZONE X. THIS LOCATION IS DETERMINED BY SCALING FROM F.I.R.M. MAP NO.1212700366H. MAP EFFECTIVE DATE: FEBRUARY 19, 2014. APPROXIMATE SCALE: 1"= 500'.
- NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
- UNLESS OTHERWISE SHOWN, RECORD DISTANCES AND DIRECTIONS AND FIELD MEASURED DISTANCES AND DIRECTIONS ARE THE SAME.
- REVISED DESCRIPTION 10-29-14



UTILITY STATEMENT:

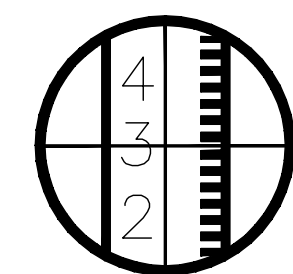
THE INACCESSIBLE UNDERGROUND UTILITIES SHOWN ON THIS SURVEY HAVE BEEN LOCATED FROM ABOVE GROUND FIELD UTILITY LOCATIONS PROVIDED BY SUNSHINE NETWORK, TICKET # _____ ON OR ABOUT 8-30-09 AND/OR EXISTING AS-BUILTS DRAWINGS PROVIDED BY THE CLIENT. SLIGER AND ASSOCIATES, INC. (S&A) MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED, LIKEWISE S&A DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. ONLY THAT S&A HAS LOCATED THE UTILITIES AS ACCURATELY AS POSSIBLE FROM SAID FIELD LOCATIONS AND/OR AS-BUILTS PROVIDED BY OTHERS. S&A HAS NOT PHYSICALLY LOCATED THE ACTUAL INACCESSIBLE UNDERGROUND UTILITIES, EXCEPT AS SPECIFICALLY NOTED AND DEPICTED ON THIS DRAWING.

LEGEND

- IRON ROD WITH CAP
- IRON ROD
- IRON PIPE WITH CAP
- IRON PIPE
- 4\"/>

ADDITIONAL ABBREVIATIONS-TREE LEGEND

- | | | | | | |
|-----|-------------------|-----|-----------------|---------------------------|-----------|
| BC | BLACK CHERRY TREE | SB | SUGARBERRY TREE | TREE SIZE (INCHES) | TREE TYPE |
| MP | MAPLE TREE | CD | CEDAR TREE | DIAMETER AT BREAST HEIGHT | |
| SYC | SYCAMORE TREE | ELM | ELM TREE | MULTIPLE TRUNKS | |
| OAK | OAK TREE | CIT | CITRUS TREE | | |
| SG | SWEET GUM TREE | PN | PINE TREE | | |
| HK | HICKORY TREE | PM | PALM TREE | | |
| CB | CHINABERRY TREE | HB | HACKBERRY TREE | | |



SLIGER & ASSOCIATES, INC.

PROFESSIONAL LAND SURVEYORS

3921 NOVA ROAD
 PORT ORANGE, FL 32127
 (386) 761-5385
 LICENSED BUSINESS CERTIFICATION NUMBER 3019
 www.sligerassociates.com
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ERAU
 915 CLYDE MORRIS BLVD
 DAYTONA BEACH, FLORIDA

FOR: EMBRY-RIDDLE
 AERONAUTICAL
 UNIVERSITY

JOB NO.
 19-1068

PLAT PREPARED FOR THE FOLLOWING: (ONLY THE LAST DATE IS CERTIFIED ON SEALED COPY)

THIS PLAT OF SURVEY IS CERTIFIED TO AND PREPARED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE ENTITIES AND/OR INDIVIDUALS LISTED BELOW, ON THE MOST CURRENT DATE, AND SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL WHOMSOEVER.

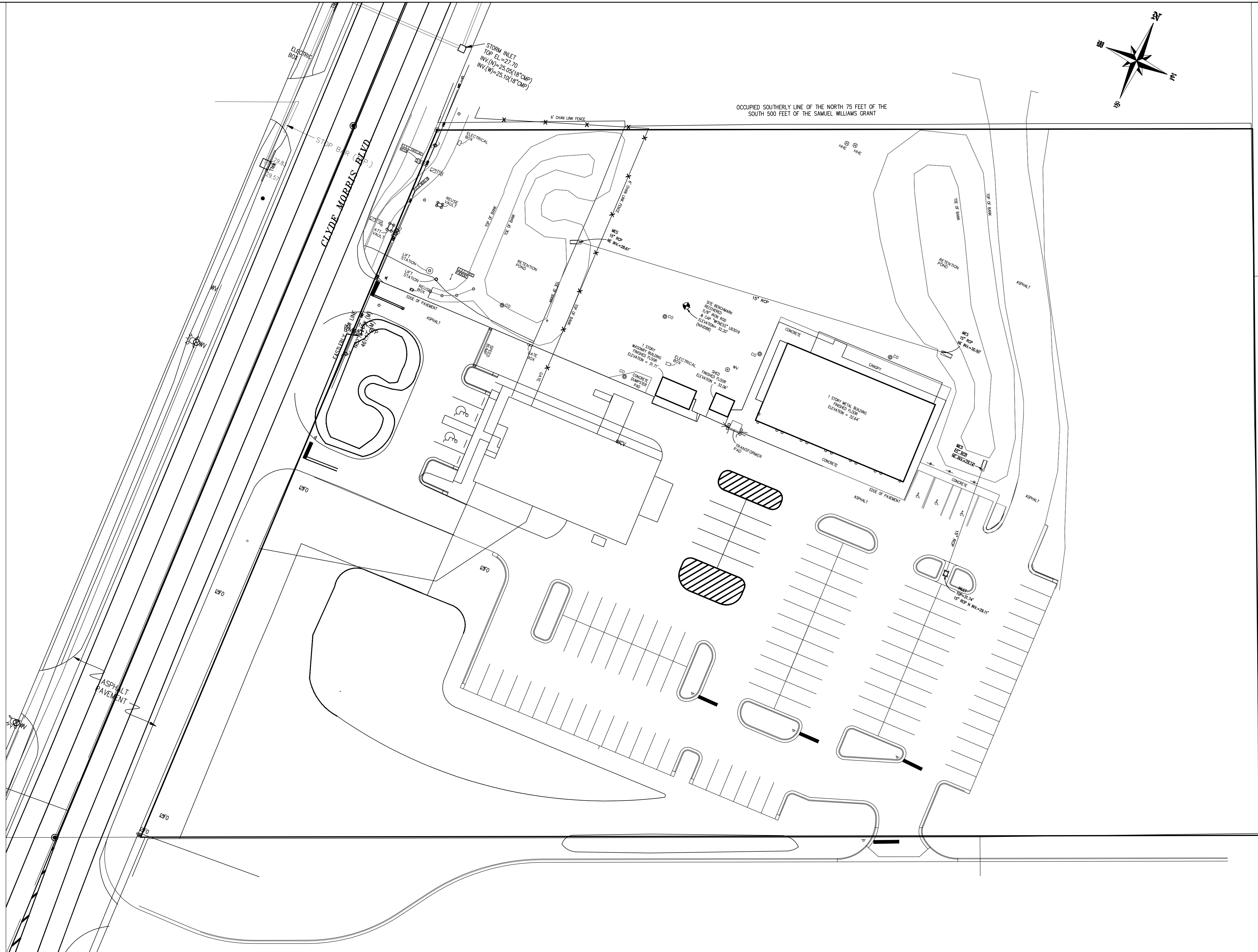
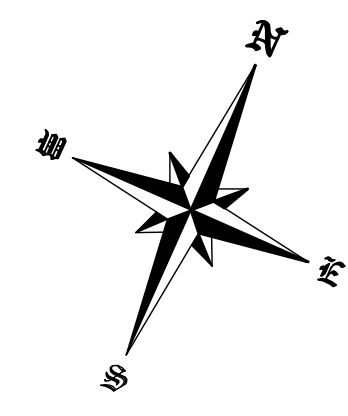
TYPE OF SURVEY	CERTIFIED TO	SURVEY DATE	JOB NUMBER
BOUNDARY	EMBRY-RIDDLE AERONAUTICAL UNIVERSITY	1/08/2020	19-1068
TOPOGRAPHIC	CITY OF DAYTONA BEACH		
	NOT CERTIFIED TO ANY ENTITIES AND/OR INDIVIDUALS OTHER THAN THOSE LISTED ABOVE		

BOUNDARY SURVEY

I HEREBY CERTIFY THAT THIS PLAT MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 63-17.05, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

J.E. ZAPERT, P.L.S. NO. 4046
 STEVEN T. KRUEGER, P.L.S. NO. 4722
 C.O. VAN KLECK, JR., P.S.M. NO. 6149
 MICHAEL S. MURPHY, P.S.M. NO. 6208

W/ WITH	TC TOP COVER	CONC	CONCRETE	ABBREVIATIONS	RES RESIDENCE	IRC IRON ROD & CAP					
CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	LEGS. ALLEGABLE	—FC—	BURIED FIBER OPTIC CABLE	IPC	IRON PIPE & CAP	
TDB	TOP OF BANK	T5B	TRAFFIC SIGNAL BOX	R	RADIUS	INV	INVERT	—T—	BURIED TELEPHONE LINE	MCS	METERED DIS SECTION
TOE	TOE OF SLOPE	PH	FIRE HYDRANT	L	ARC LENGTH	SEC	SECTION	—E—	BURIED WATER LINE	RCP	REINFORCED CONCRETE PIPE
CLS	CENTERLINE OF SNALE	WM	WATER METER	CB	CHORD BEARING	TWP	TOWNSHIP	—G—	BURIED ELECTRIC LINE	CMP	CORRUGATED METAL PIPE
STA	STATION	LP	LIGHT POLE	CH	CHORD DISTANCE	RSE	RANGE	—I—	BURIED GAS LINE	VM	MANHOLE
CO	CLEANOUT	IV	IRRIGATION VALVE	FPAL	FLORIDA POWER & LIGHT COMPANY	R/W	RIGHT OF WAY	—TV—	BURIED TELEVISION LINE	MB	MAP BOOK
SAN	SANITARY	GA	GUY ANCHOR	FL	ELEVATION	(P)	PLATTED DIMENSION	—FM—	BURIED FORCE MAIN	IP	IRON PIPE
ES	ELECTRIC SERVICE	CPP	CORRUGATED PLASTIC PIPE	NOVD	NATIONAL GEODETIC VERTICAL DATUM	(NR)	NON RADIAL	—OH—	AERIAL UTILITY LINE	ORB	OFFICIAL RECORDS BOOK
HDP	HIGH DENSITY POLYETHYLENE PIPE	DIP	DUCTILE IRON PIPE	R	UNITED STATES COAST AND GEODETIC SURVEY	(R)	RADIAL	(C)	DEEDED DIMENSION	PG	PAGE
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(R)	RADIAL	(Q)	MEASURED DIMENSION	ID	IDENTIFICATION
CV	CHECK VALVE	DW	DRIVEWAY	⊕	CENTERLINE	N&D	NAIL AND DISK	RY	RESIDE VALVE	FOT	FLORIDA DEPARTMENT OF TRANSPORTATION
										REC	RECOVERED



SURVEYORS NOTES

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- *NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.*
- UNLESS OTHERWISE SHOWN, RECORD DISTANCES AND DIRECTIONS AND FIELD MEASURED DISTANCES AND DIRECTIONS ARE THE SAME.

UTILITY STATEMENT:

THE INACCESSIBLE UNDERGROUND UTILITIES SHOWN ON THIS SURVEY HAVE BEEN LOCATED FROM ABOVE GROUND FIELD UTILITY LOCATIONS PROVIDED BY SUNSHINE NETWORK, TICKET # _____ ON OR ABOUT 8-30-99 AND/OR EXISTING AS-BUILTS DRAWINGS PROVIDED BY THE CLIENT. SLIGER AND ASSOCIATES, INC. (S&A) MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED, LIKEWISE S&A DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. ONLY THAT S&A HAS LOCATED THE UTILITIES AS ACCURATELY AS POSSIBLE FROM SAID FIELD LOCATIONS AND/OR AS-BUILTS PROVIDED BY OTHERS. S&A HAS NOT PHYSICALLY LOCATED THE ACTUAL INACCESSIBLE UNDERGROUND UTILITIES, EXCEPT AS SPECIFICALLY NOTED AND DEPICTED ON THIS DRAWING.

W/ WITH	TC TOP COVER	CONC	CONCRETE	ABBREVIATIONS	RES RESIDENCE
CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS
TOE	TOE OF SLOPE	PH	FIRE HYDRANT	L	ARC LENGTH
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING
STA	STATION	LP	LIGHT POLE	CH	CHORD DISTANCE
CO	CLEANOUT	IV	IRRIGATION VALVE	FPAL CO	FLORIDA POWER & LIGHT COMPANY
SAN	SANITARY	GA	GUY ANCHOR	EL	ELEVATION
ES	ELECTRIC SERVICE	DPP	CORRUGATED PLASTIC PIPE	NOVD	NATIONAL GEODETIC VERTICAL DATUM
HDP	HIGH DENSITY POLYETHYLENE PIPE	DIP	DUCTILE IRON PIPE	USC & OS	UNITED STATES COAST AND GEODETIC SURVEY
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE	N&D	NAIL AND DISK
CV	CHECK VALVE	DW	DRIVEWAY	RY	RISE VALVE
				REC	RECOVERED

LEGEND

●	IRON ROD WITH CAP
○	IRON PIPE WITH CAP
○	CONCRETE MONUMENT
○	IRIGATION CONTROL VALVE
○	FORCE MAIN VALVE
○	WATER VALVE
○	WATER METER
○	FIRE HYDRANT
○	FIBER OPTIC MARKER
○	TELEPHONE BOX
○	TRAFFIC SIGNAL BOX
○	ELECTRIC BOX
○	CABLE TELEVISION BOX
○	MAIL BOX
○	LIGHT POLE
○	UTILITY POLE
○	GUY ANCHOR
○	CLEAN OUT
○	SIGN
○	TREE
○	EXISTING ELEVATION
○	EXISTING MANHOLE
○	SANITARY MANHOLE
○	STORM MANHOLE

ADDITIONAL ABBREVIATIONS-TREE LEGEND

BC	BLACK CHERRY TREE	SB	SUGARBERRY TREE	TREE SIZE (INCHES)
MP	MAPLE TREE	CD	CEDAR TREE	DIAMETER AT BREAST HEIGHT
SYC	SYCAMORE TREE	ELM	ELM TREE	MULTIPLE TRUNKS
OAK	OAK TREE	CIT	CITRUS TREE	
SG	SWEET GUM TREE	PN	PINE TREE	
HK	HICKORY TREE	PM	PALM TREE	
CB	CHINABERRY TREE	HB	HACKBERRY TREE	

SCALE: 1"=30'

TYPE OF SURVEY	SURVEY DATE	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE :					
BOUNDARY SURVEY :	05-15-2014	14-0420	DP,LH	JZ	JZ,DP
TOPOGRAPHIC SURVEY :	05-15-2014	14-0420	DP,LH	JZ	JZ,DP
FOUNDATION LOCATION :					
FINAL IMPROVEMENTS :					
RE-CERTIFICATION :	01-08-2020	19-1068	DP,LH	JZ	JZ,DP

SLIGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS
 3921 NOVA ROAD
 PORT ORANGE, FL 32127
 (386) 761-5385
 LICENSED BUSINESS CERTIFICATION NUMBER 3019
 www.sligerassociates.com
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PLAT PREPARED FOR THE FOLLOWING: (ONLY THE LAST DATE IS CERTIFIED ON SEALED COPY)

TYPE OF SURVEY	CERTIFIED TO	SURVEY DATE	JOB NUMBER
BOUNDARY	EMBRY-RIDDLE AERONAUTICAL UNIVERSITY	1/08/2020	19-1068
TOPOGRAPHIC	CITY OF DAYTONA BEACH		

THIS PLAT OF SURVEY IS CERTIFIED TO AND PREPARED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE ENTITIES AND/OR INDIVIDUALS LISTED BELOW, ON THE MOST CURRENT DATE, AND SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL WHOMSOEVER.

NOT CERTIFIED TO ANY ENTITIES AND/OR INDIVIDUALS OTHER THAN THOSE LISTED ABOVE.

**ERAU 915 CLYDE MORRIS BLVD
 DAYTONA BEACH, FLORIDA**

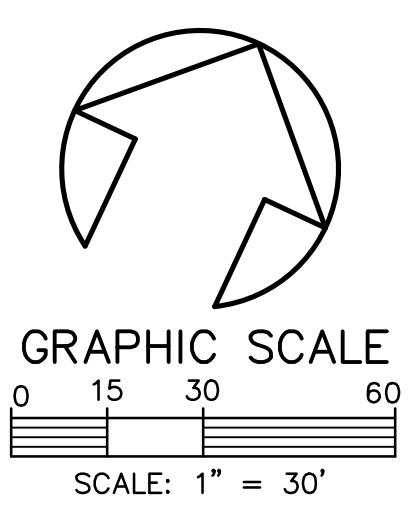
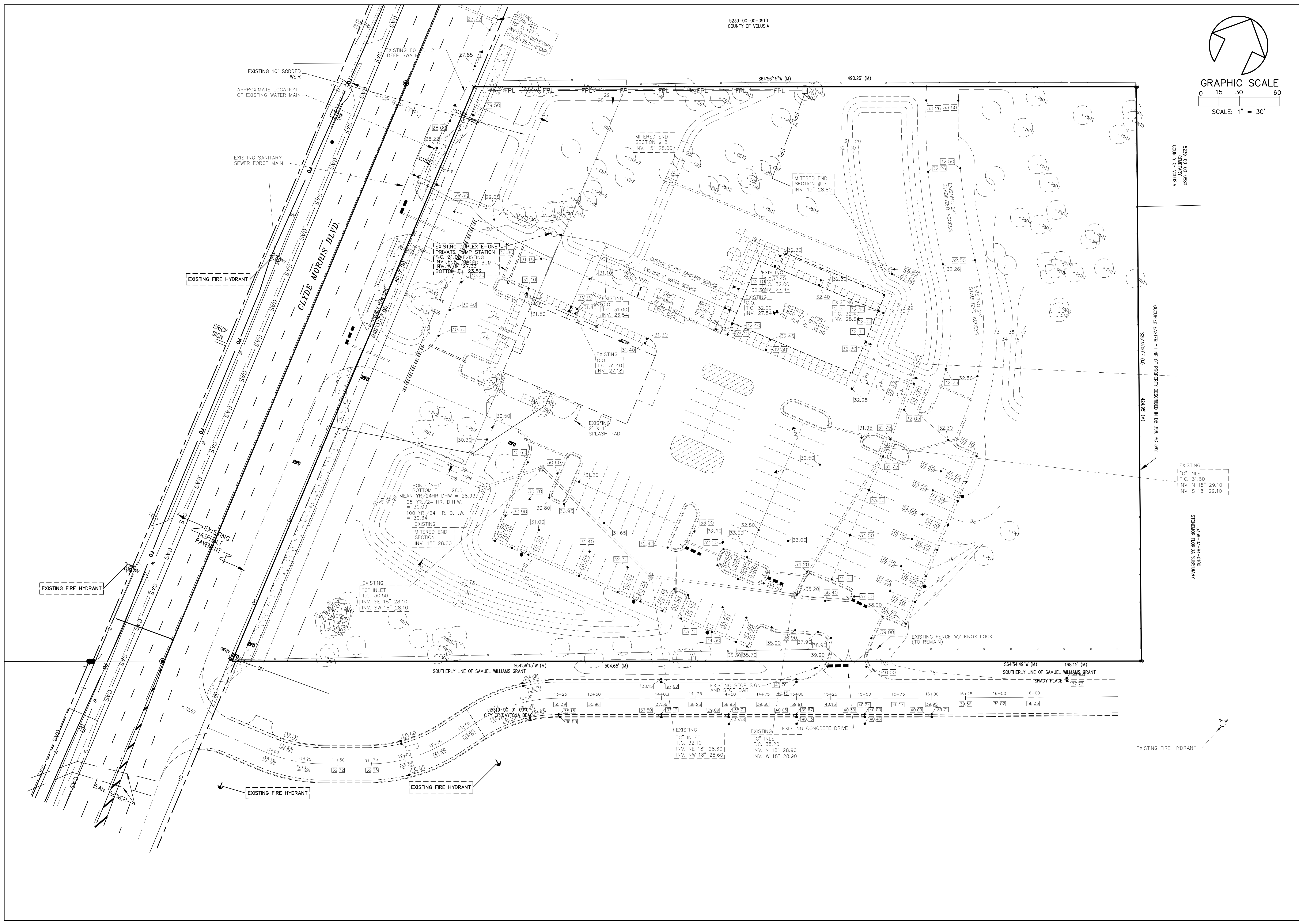
**FOR: EMBRY-RIDDLE
 AERONAUTICAL
 UNIVERSITY**

**BOUNDARY
 SURVEY**

I HEREBY CERTIFY THAT THIS PLAT MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 63-17.05, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

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 C.O. VAN KLEECK, JR., P.S.M. NO. 6149
 MICHAEL S. MURPHY, P.S.M. NO. 6208

**JOB NO.
 19-1068**



NO.	DATE	DESCRIPTION	REVISIONS
1	10-10-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
3	12-30-19	REVISED	MRB
4	02-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB

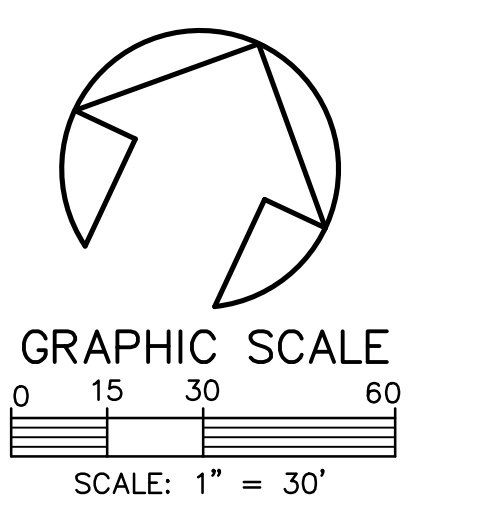
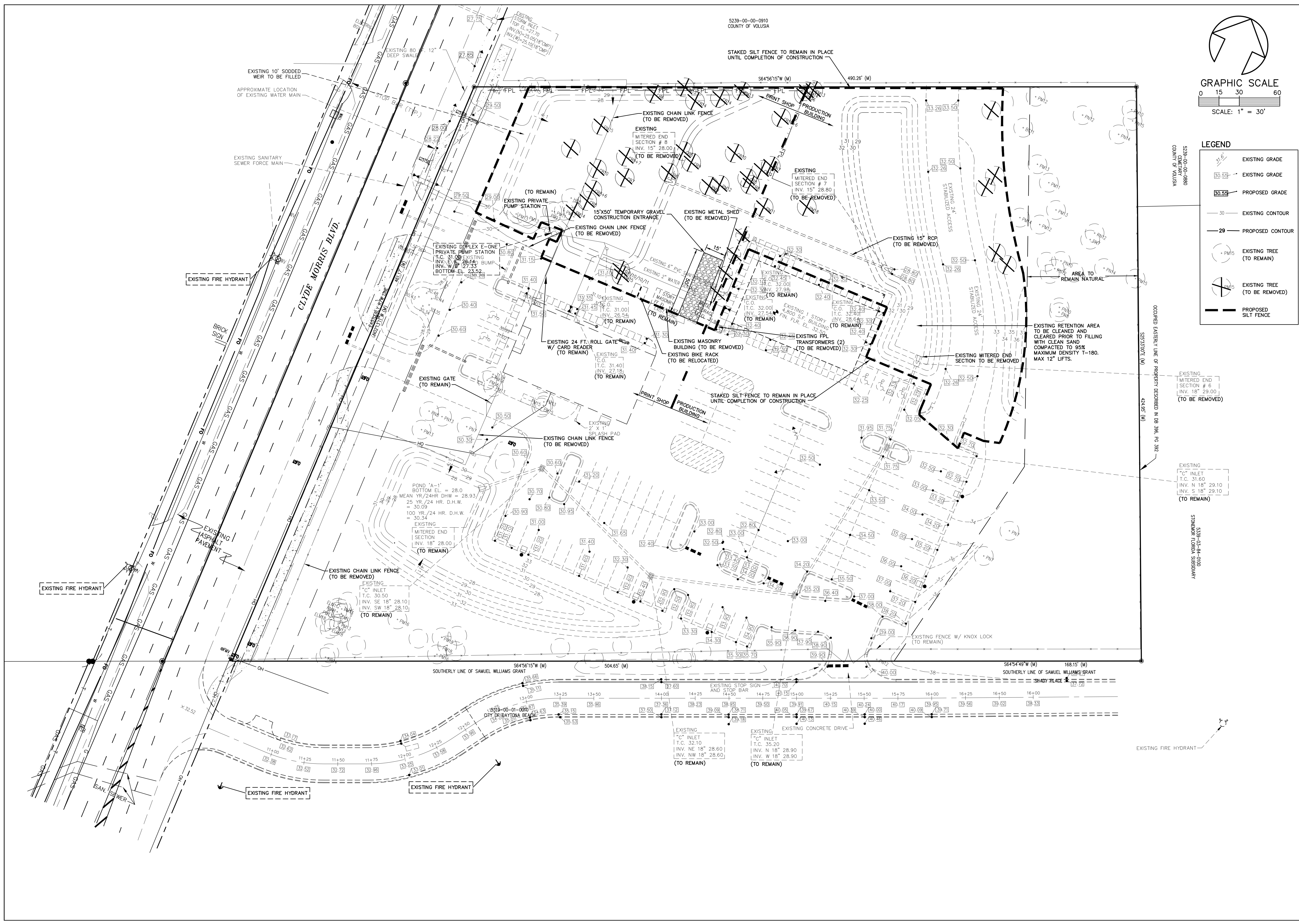
PARKER MYNCHENBERG & ASSOCIATES, INC.
 PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117
 (386) 677-6691 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
 PRINT SHOP
 DAYTONA BEACH * FLORIDA
 AS BUILT SURVEY

DEV 2019-095
 CITY APPROVAL STAMP
3 OF **19**
 SHEET NO.
 Drawn By: SLB
 Date: 6-15-19
 SCALE: 1"=30'
 JOB #19-03

SEAL

I:\B\AU\BAU - Print Shop - 19-03\Drawings\0000-SP\00.dwg, 3/12/2020 12:43:36 PM, DWG to PDF.pc3



LEGEND

	EXISTING GRADE
	EXISTING GRADE
	PROPOSED GRADE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING TREE (TO REMAIN)
	EXISTING TREE (TO BE REMOVED)
	PROPOSED SILT FENCE

NO.	DATE	DESCRIPTION	REVISIONS
4	02-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB
			BT

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 (386) 677-6869 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com
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EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
 PRINT SHOP
 DAYTONA BEACH * FLORIDA
 DEMOLITION AND EROSION CONTROL PLAN

DEV 2019-095
CITY APPROVAL STAMP
4 OF 19
 SHEET NO.
 Drawn By: SLB
 Date: 6-15-19
 SCALE: 1"=30'
 JOB #19-03

SEAL

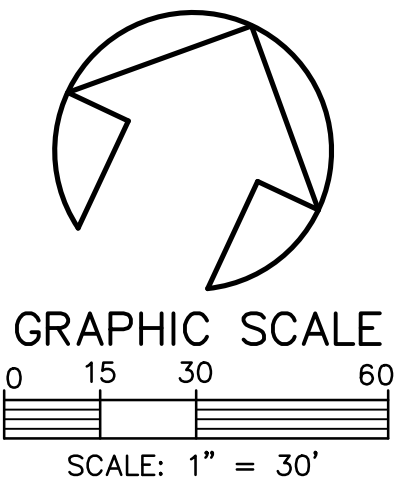
19-03-Demolition-0000-SP-00.dwg 3/12/2020 12:44:15 PM DWG to PDF.plt

FDOT NOTES:

- 1.) MAINTENANCE OF TRAFFIC TO BE SUPERVISED BY CERTIFIED PERSON. CONTRACTOR TO PROVIDE FDOT WITH NAME OF CERTIFIED PERSON PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 2.) THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT A MINIMUM OF TWO BUSINESS DAYS PRIOR TO WORK BEGINNING IN R/W.
- 3.) ALL WORK PERFORMED WITHIN THE FDOT R/W SHALL BE IN ACCORDANCE WITH THE 2016 DESIGN STANDARDS & SPECIFICATIONS AND UTILITIES MANUAL (UAM).
- 4.) IT IS THE RESPONSIBILITY OF THE PERMITTEE TO REPAIR ANY DAMAGE TO THE FDOT FACILITIES CAUSED BY CONSTRUCTION OF THIS PROJECT.
- 5.) ALL MATERIALS USED OR INSTALLED WITHIN THE FDOT R/W SHALL BE ON THE APPROVED PRODUCTS LIST.
- 6.) CONTRACTOR SHALL SOD WITH BAHIA ALL DISTURBED AREAS WITHIN THE CLYDE MORRIS BLVD. R/W.
- 7.) CONTRACTOR SHALL CONSTRUCT A 12" DEEP DRAINAGE SWALE EXTENDING 80 LINEAL FEET FROM EXISTING INLET WITHIN THE CLYDE MORRIS BLVD. R/W.

POSTED SPEED LIMIT 45

5239-00-00-0910
COUNTY OF VOLUNIA



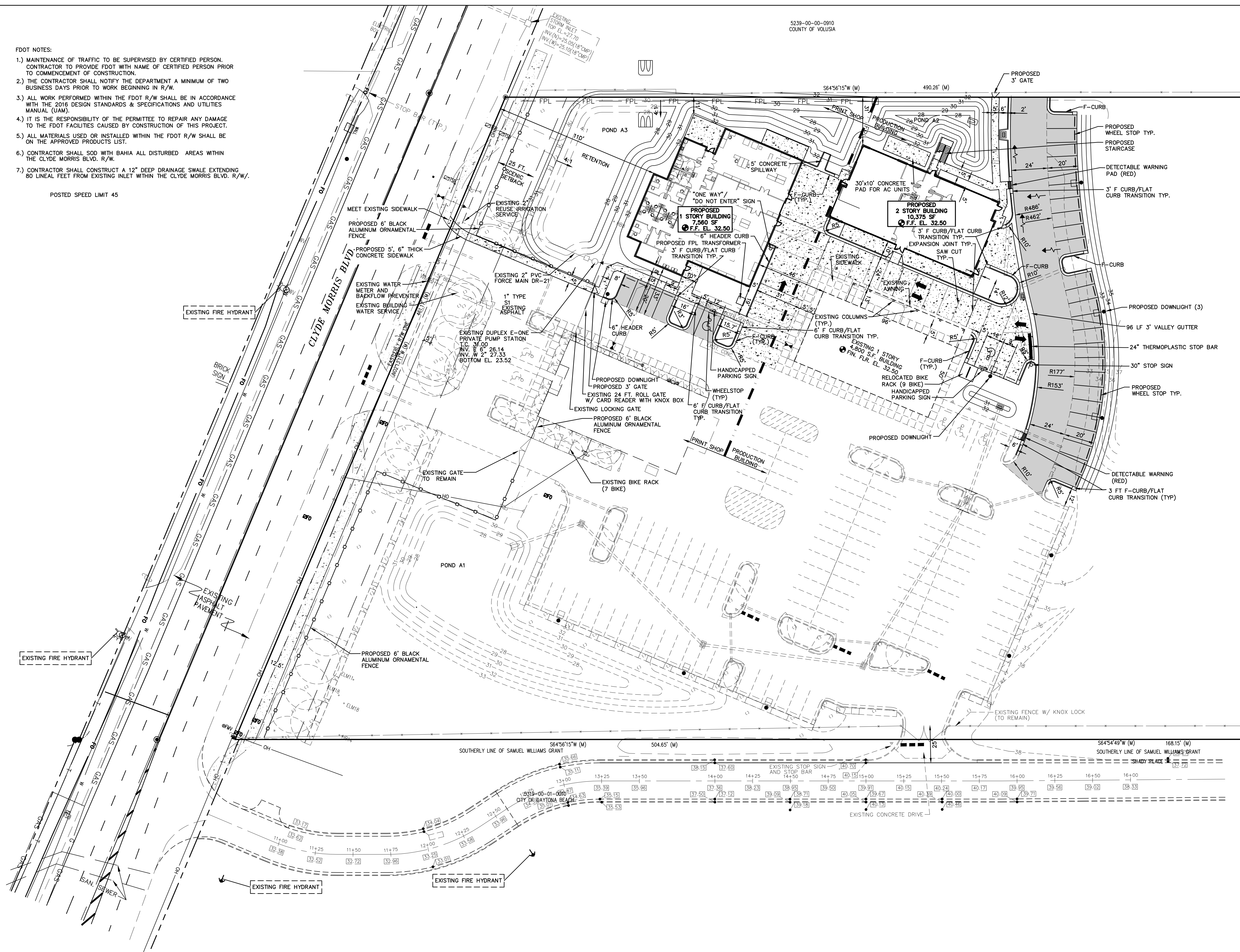
5239-00-00-0910
COUNTY OF VOLUNIA
DATE: 08/25/2019

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- DOWN LIGHT
- EXISTING CONTOUR
- PROPOSED CONTOUR
- 1 1/2" TYPE SP 9.5 ACSC
- 8" LIMEROCK BASE (LBR 100) OR CRUSHED CONCRETE (LBR 140)
- 10" STABILIZED SUBBASE (LBR 40 OR FBV 75 PSI)
- 6" CONCRETE W/FIBERMESH

OCCUPIED EXISTING LINE OF PROPERTY DESCRIBED IN DB 396, PG. 392

ADHERES VOLUNTARILY
0010-48-01-6835



NO.	DATE	DESCRIPTION	REVISIONS
4	10-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB
			BT

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(386) 677-6691 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
PRINT SHOP
DAYTONA BEACH * FLORIDA

SITE PLAN

DEV 2019-095
CITY APPROVAL STAMP

5 OF 19
SHEET NO.

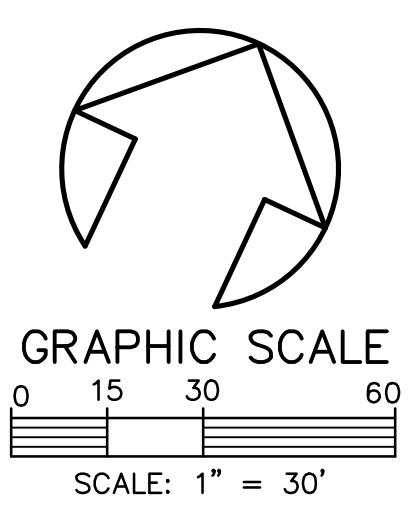
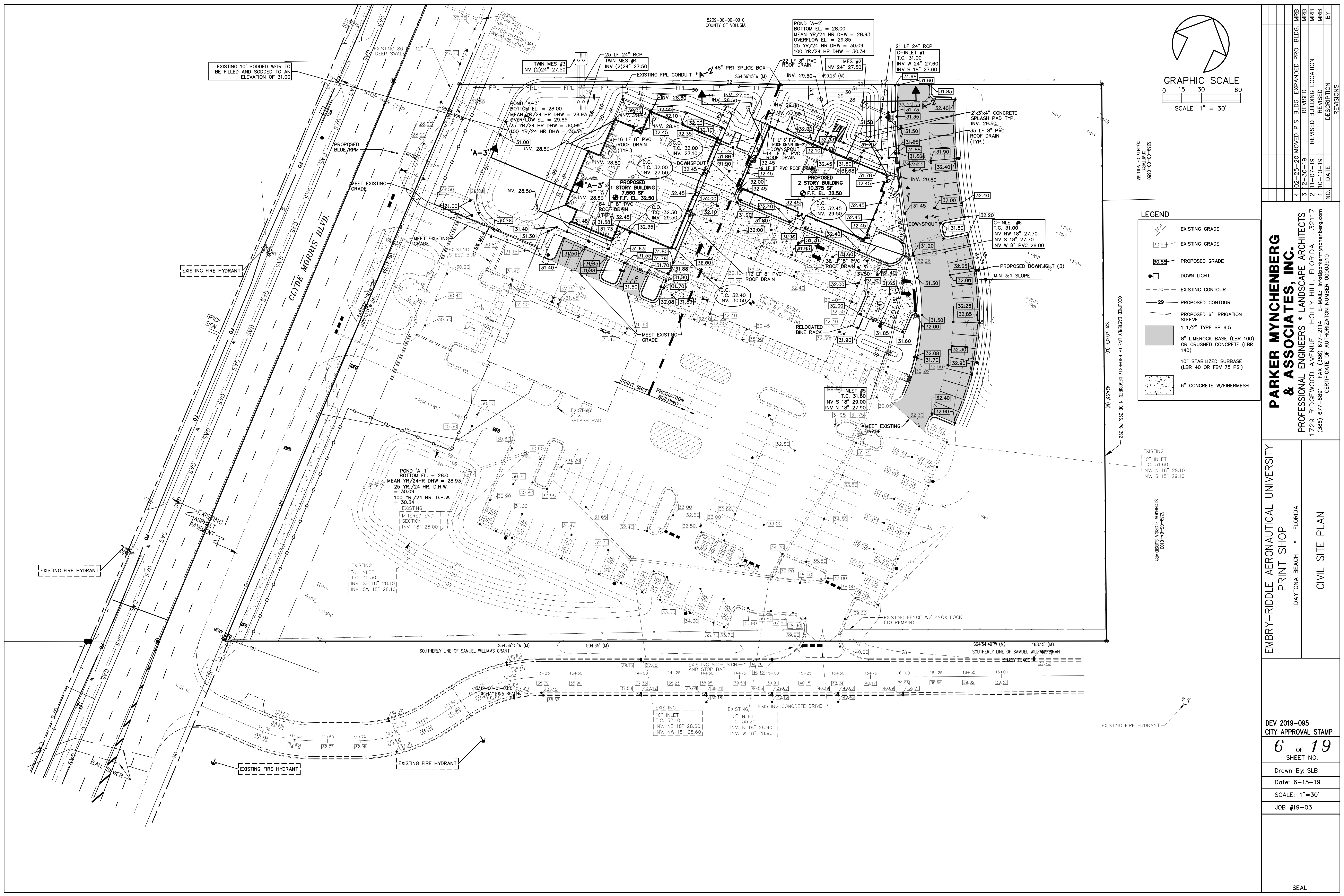
Drawn By: SLB

Date: 6-15-19

SCALE: 1"=30'

JOB #19-03

SEAL



LEGEND

- 31.6 EXISTING GRADE
- 30.55 EXISTING GRADE
- 30.55 PROPOSED GRADE
- 30 DOWN LIGHT
- - - - - EXISTING CONTOUR
- - - - - PROPOSED CONTOUR
- 30 PROPOSED 6" IRRIGATION SLEEVE
- 30 1 1/2" TYPE SP 9.5
- 30 8" LIMEROCK BASE (LBR 100) OR CRUSHED CONCRETE (LBR 140)
- 30 10" STABILIZED SUBBASE (LBR 40 OR FBV 75 PSI)
- 30 6" CONCRETE W/FIBERMESH

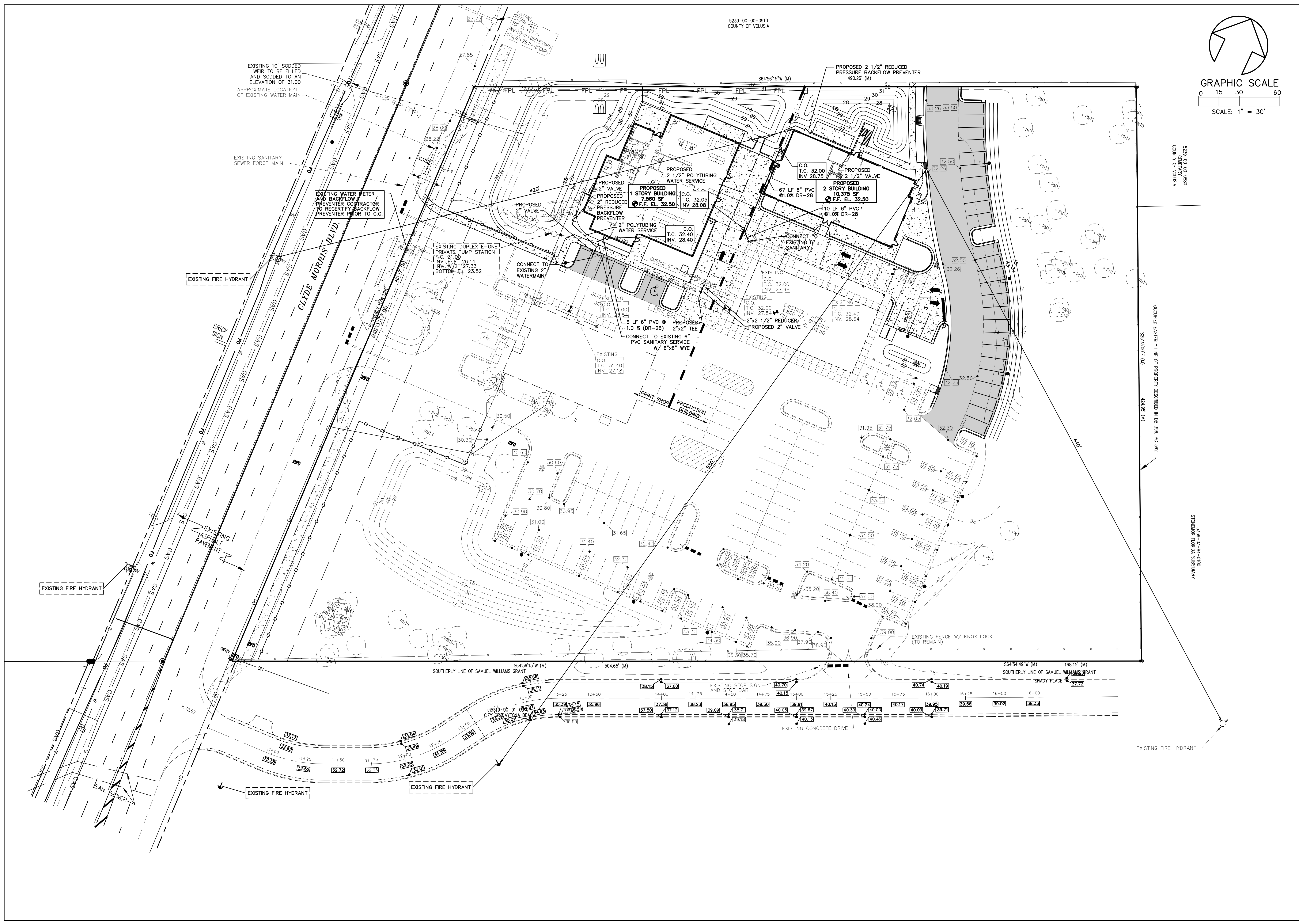
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 PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117
 (386) 677-6691 FAX (386) 672-2114 E-MAIL: info@parkermynychenberg.com
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

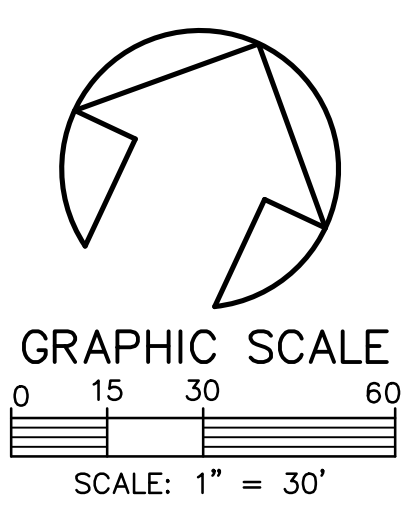
EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
 PRINT SHOP
 DAYTONA BEACH * FLORIDA
 CIVIL SITE PLAN

DEV 2019-095
 CITY APPROVAL STAMP
6 OF **19**
 SHEET NO.
 Drawn By: SLB
 Date: 6-15-19
 SCALE: 1"=30'
 JOB #19-03

SEAL



5239-00-00-0910
COUNTY OF VOLUNIA



NO.	DATE	DESCRIPTION	REVISIONS
4	10-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	11-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB
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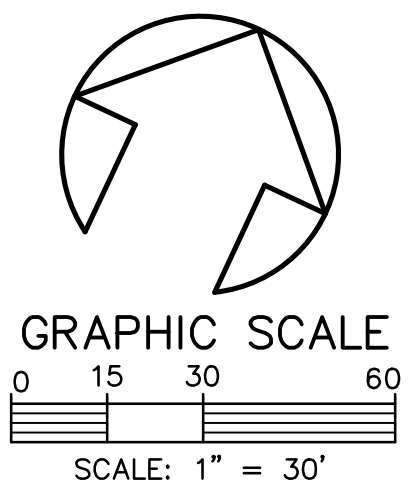
EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
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 UTILITY PLAN

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5239-00-00-0910
COUNTY OF VOLUNIA



5239-00-00-0910
COUNTY OF VOLUNIA

OCCUPIED EXTERIOR LINE OF PROPERTY DESCRIBED IN BB 396, PG. 92

ADDRESS: 1729 RIDGEWOOD AVENUE
DAYTONA BEACH, FLORIDA 32117
PHONE: (386) 677-6891 FAX: (386) 677-2114 E-MAIL: info@parkermycnberg.com

NOTE:
EXISTING ON SITE LANDSCAPING IS CODE COMPLIANT.

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8 OF 19
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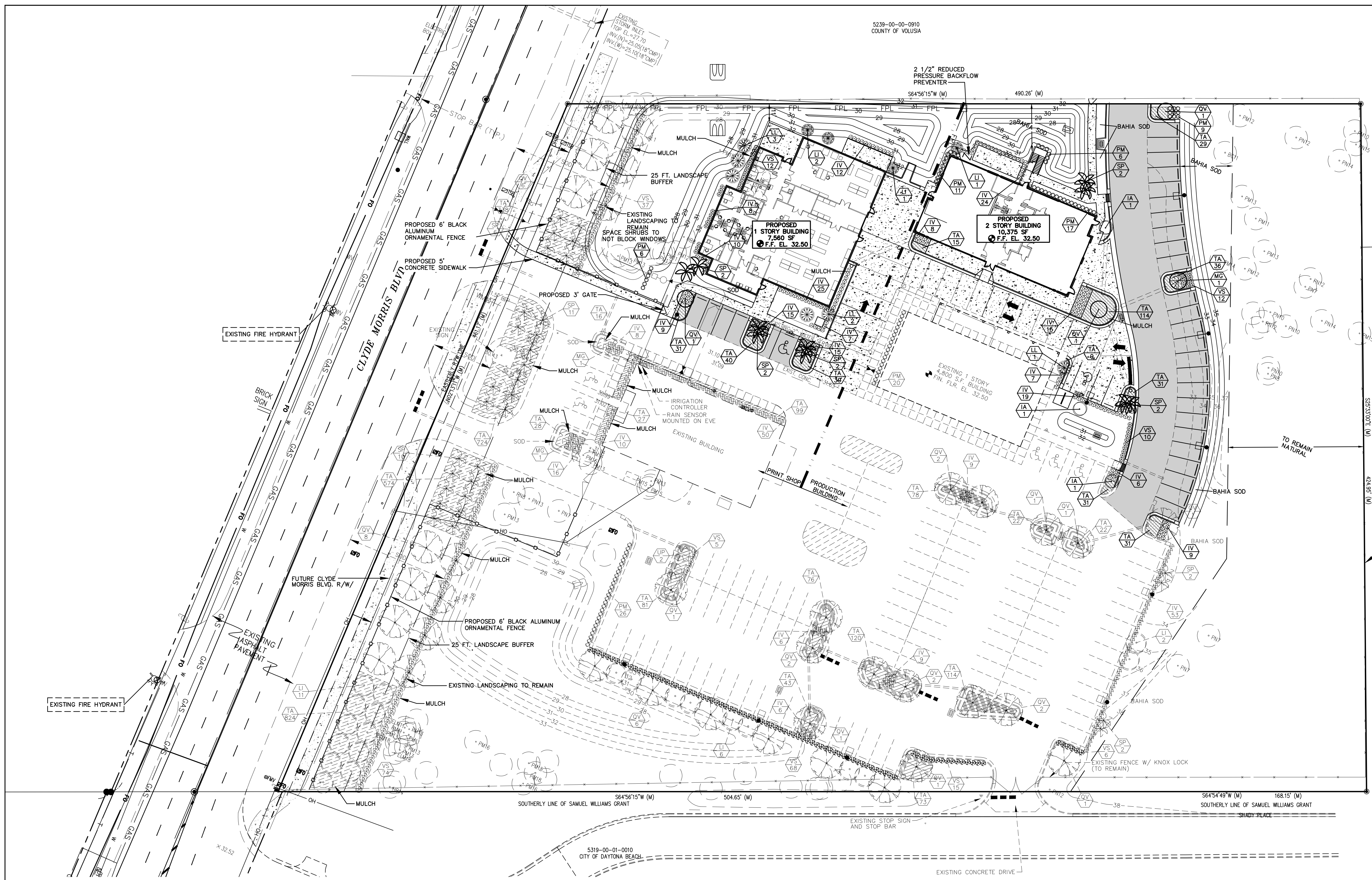
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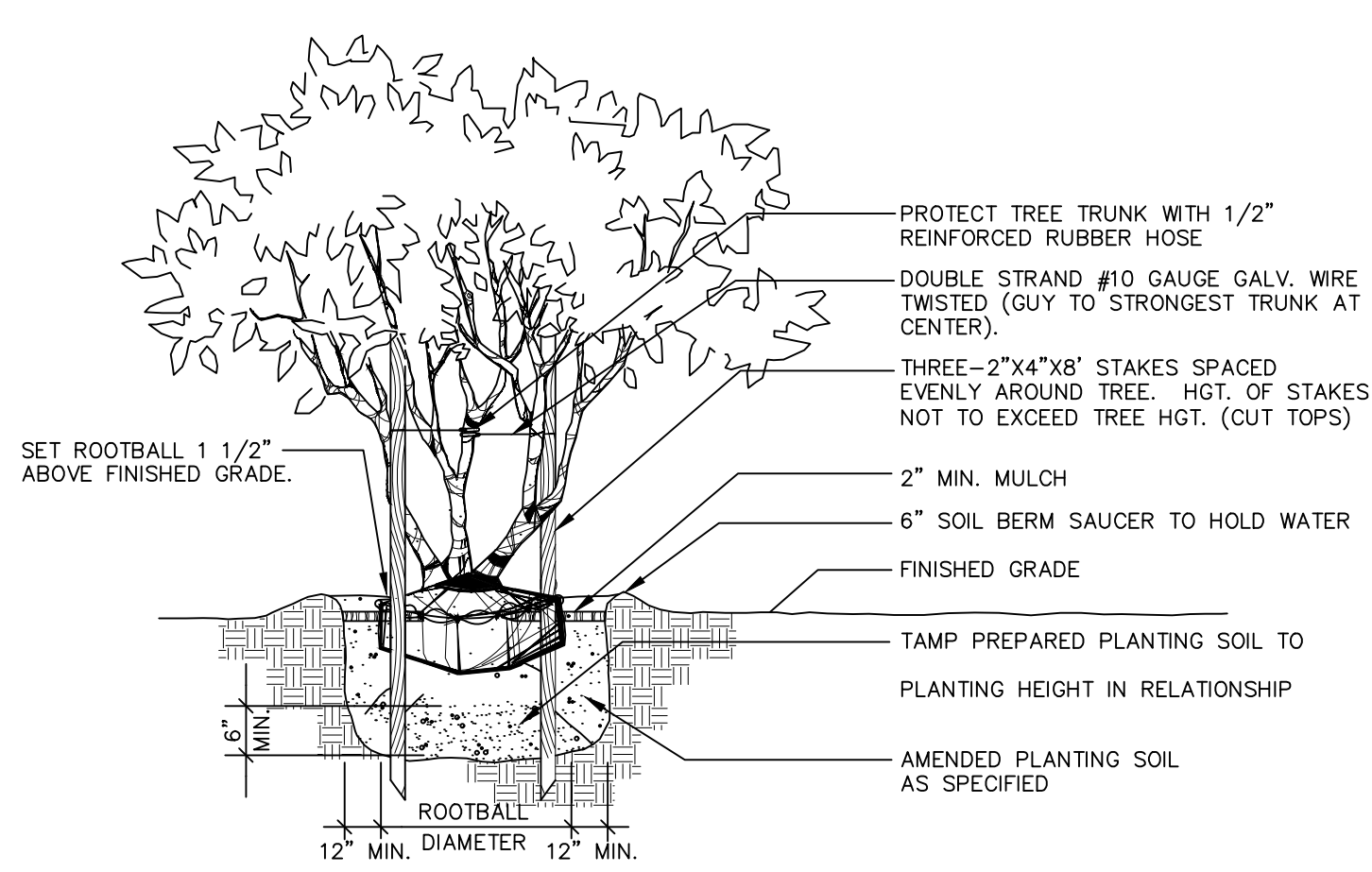
SEAL



25 FT. CLYDE MORRIS BLVD. SCENIC SETBACK BUFFER CALCULATIONS:
PROPERTY LINE (461 LF) - DRIVEWAY OPENINGS (50 LF) = 411 LF
411 L.F. X 2 SHADE TREES/40 = 21 SHADE TREES
411 L.F. X 2 SMALL TREES/80 L.F. = 11 SMALL TREES
SHRUBS (SQUARE FOOTAGE)
411 L.F. X 25' = 10,275 SF X 0.333 = 3,426 SF
SHADE TREES PROVIDED = 22
SMALL TREES PROVIDED = 11
SHRUBS PROVIDED = 4,365 SF

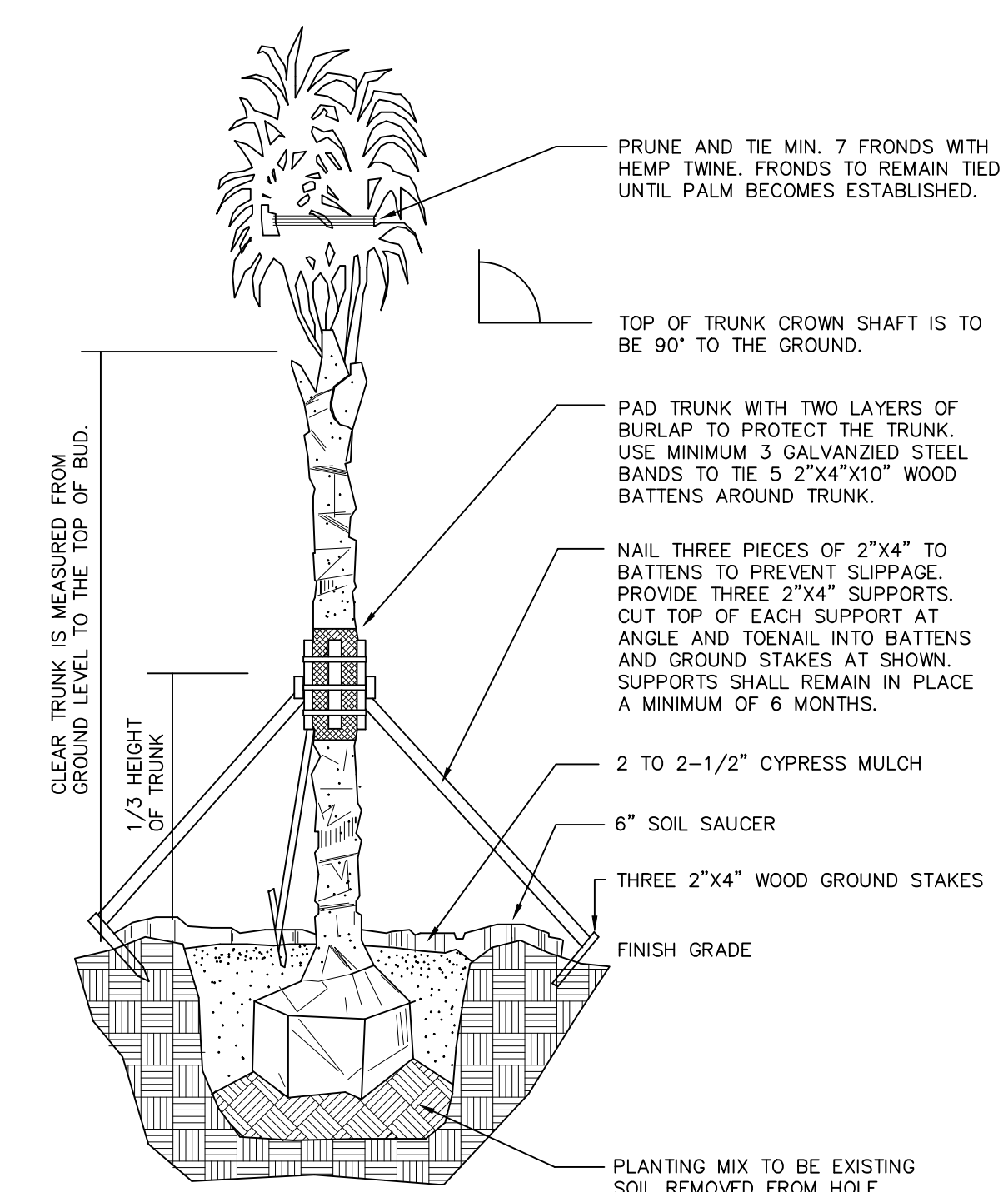
PLANT LIST					
SYMBOL	ABB.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
	TA	406	TRACHELOSPERMUM ASIATICUM	YELLOW STAR JASMINE	1 GAL., 12"-15" SPD, 20" O.C.
	PM	46	PODOCARPUS MACROPHYLLA	YEW PODOCARPUS	3 GAL., 30" O.C. 24" HT., MIN.
	VS	34	VIBURNUM SUSPENSUM	SANDANKWA VIBURNUM	3 GAL., 30" O.C. 24" HT., MIN.
	IV*	193	ILEX VOMITORIA	YAUPON HOLLY	3 GAL., 30" O.C. 24" HT., MIN.
	IA*	3	ILEX ATTENUATA	EAST PALATKA HOLLY	15 GAL. MIN., 1.5" MIN. CAL. DBH 6'-8" HT.
	LL	6	LIGUSTUM LUCIDUM	LIGUSTRUM TREE	15 GAL. MIN., 1.5" MIN. CAL. DBH 6'-8" HT.

PLANT LIST					
SYMBOL	ABB.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
	LI	4	LAGERSTROEMIA INDICA	CREPE MYRTLE	15 GAL. MIN., 1.5" MIN. CAL. DBH 6'-8" HT.
	SP*	10	SABAL PALMETTO	SABAL PALM	14' - 16' HEIGHT
	QV*	3	QUERCUS VIRGINIANA	LIVE OAK	25 GAL. MIN., 10'-12' HT. 2.5" MIN. CAL. DBH
	MG	1	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	25 GAL. MIN., 10'-12' HT., 2.5" MIN. CAL. DBH
SOD		ST. AUGUSTINE "FLORATAM" SOLID SOD (SQ. FT.) OR ARGENTINE BAHIA (SEE LANDSCAPE PLAN)			

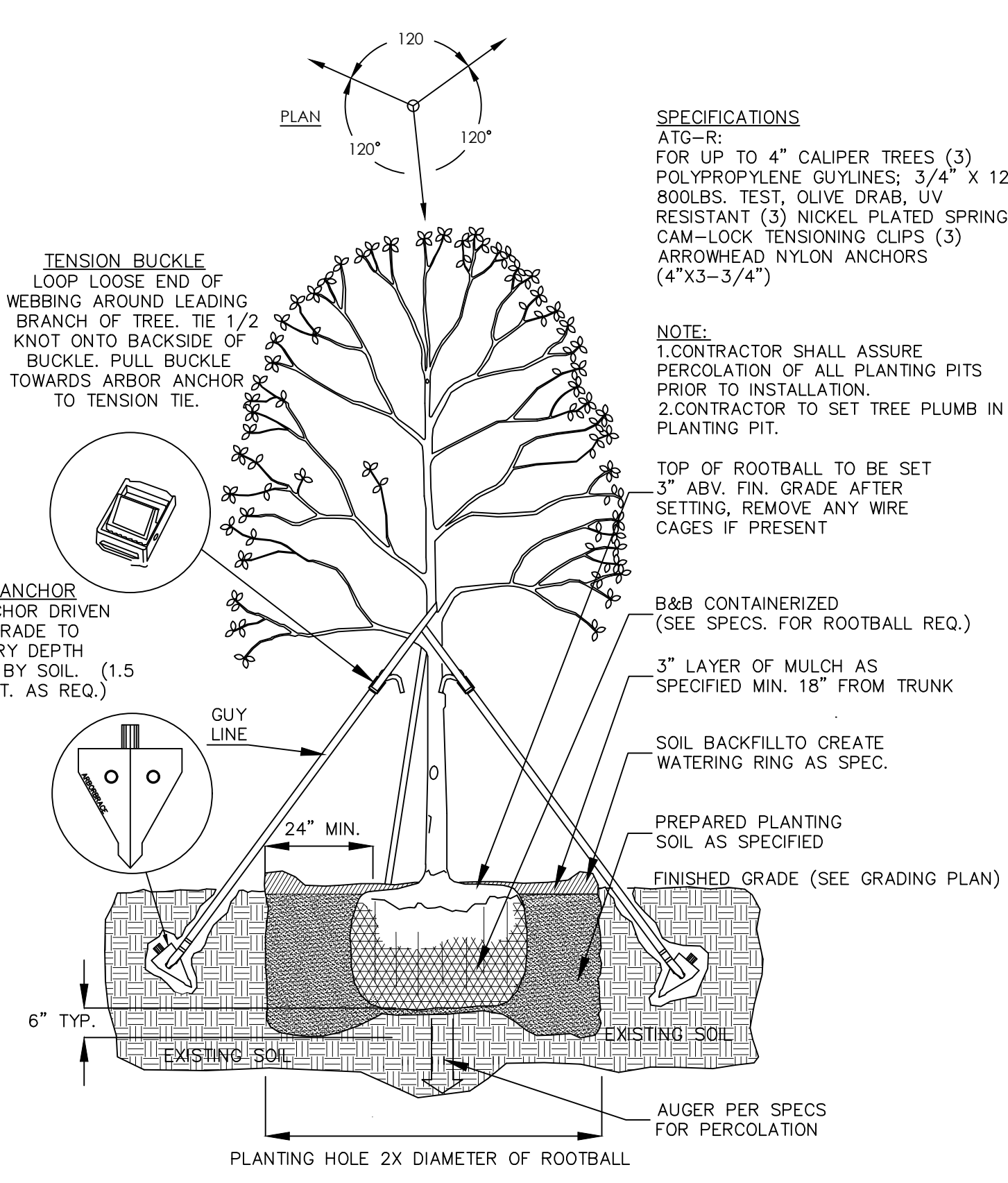


NOTE:
1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS/ PITS PRIOR TO INSTALLATION.
2. ALL STAKING AND CROSS MEMBERS TO BE PRESSURE TREATED PINE.
3. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY THE OWNER.

TYPICAL MULTI-TRUNK TREE NOTES

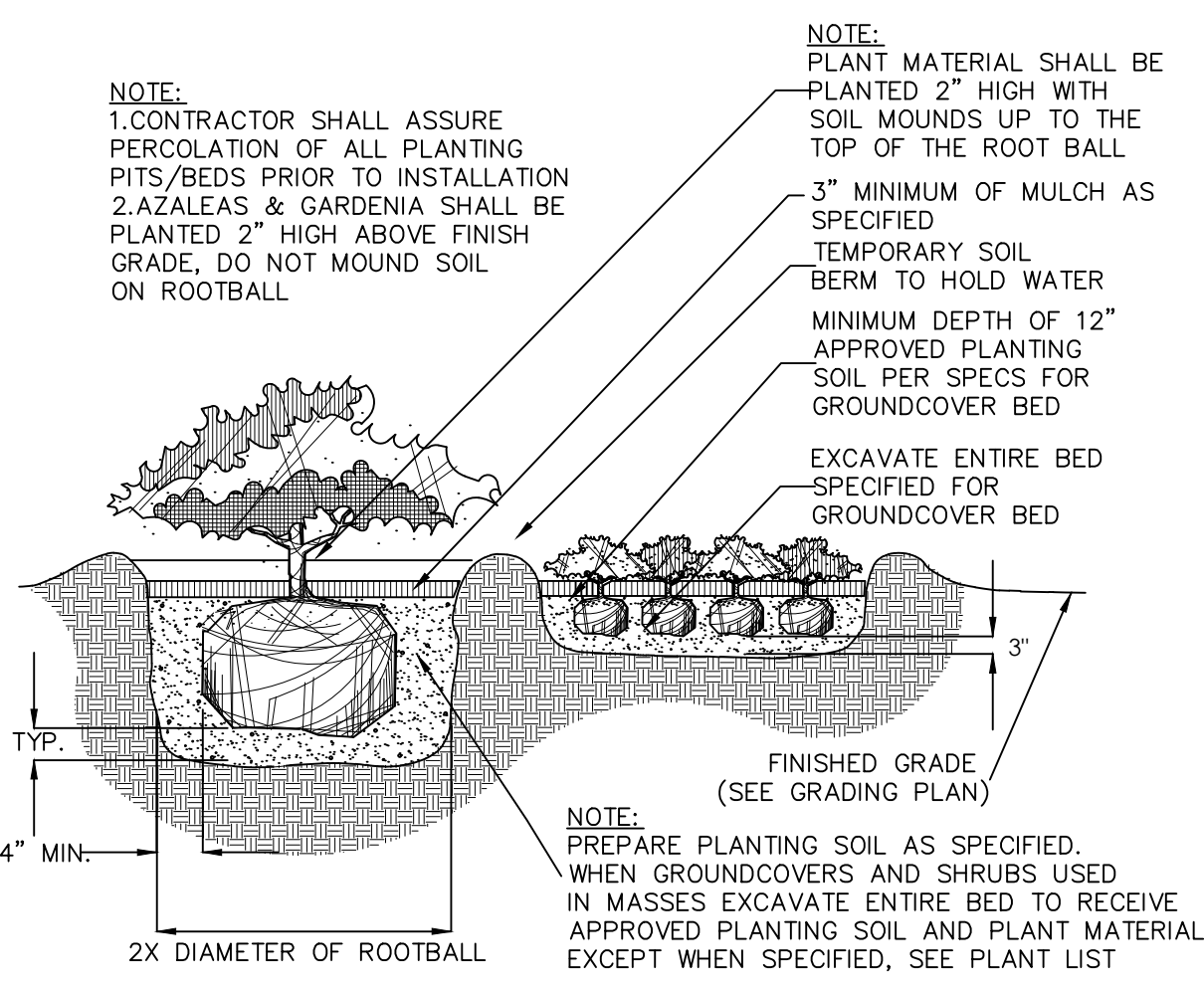


TYP. PALM TREE PLANTING DETAIL



TREE PLANTING & GUY DETAILS

NOTE: LANDSCAPE ARCHITECT TO TAG ALL TREES AT THE NURSERY PRIOR TO TRANSPORTING.



SHRUB AND GROUND COVER PLANTING DETAIL

NOTES:

1. NEVER PLACE ANY SOIL OVER THE ROOT BALL. THE ROOT BALL SHOULD BE POSITIONED IN THE HOLE SHALLOW ENOUGH SO THE FINISHED GRADE OF THE BACKFILL SOIL DOES NOT REACH THE TOP. IN OTHER WORDS, LEAVE THE TOP FEW INCHES OF THE ROOT BALL SIDES EXPOSED TO THE AIR. MULCH WILL COVER THE REMAINING COUPLE INCHES. THE TOP OF THE ROOT BALL SHOULD BE SEVERAL INCHES HIGHER THAN THE SURROUNDING LANDSCAPE SOIL. BE SURE THAT WHEN YOU ARE FINISHED PLANTING, THERE IS NO SOIL OVER THE ROOT BALL. SOIL (AS WELL AS THICK MULCH LAYERS MORE THAN 3 INCHES DEEP) OVER THE ROOT BALL CAN PREVENT WATER & AIR FROM ENTERING THE ROOT BALL. YOU SHOULD BE ABLE TO SEE THE TOP-MOST ROOT ORIGINATING FROM THE TRUNK AT THE SOIL SURFACE OR WITHIN THE TOP INCH OF SOIL IN THE ROOT BALL. THE TRUNK FLARE SHOULD BE VISIBLE.
2. MULCH SHOULD COVER ONLY THE EDGE OF THE ROOT BALL. SINCE THICK LAYERS OVER THE ROOT BALL CAN KEEP THE TRUNK TOO MOIST OR TOO DRY & CAN CAUSE OTHER PROBLEMS. LOCATE THE IRRIGATION DEVICE SO IT DELIVERS WATER DIRECTLY TO THE ROOT BALL. THERE IS USUALLY NO NEED TO WATER AREAS OUTSIDE THE ROOT BALL. NO AMENDMENTS OF ANY KIND ARE NECESSARY IN THE BACKFILL SOIL, BECAUSE EXTENSIVE RESEARCH CLEARLY SHOWS THAT THEY TYPICALLY DO NOT INCREASE THE SURVIVAL, NOR GROWTH AFTER PLANTING. NO SOIL BERM IS NEEDED IF TREES WILL BE IRRIGATED WITH A LOW-VOLUME DEVICE. PLACE THE BERM AT THE EDGE OF THE ROOT BALL IF THE ROOT BALL IS FINER TEXTURE THAN THE BACKFILL SOIL. THIS WILL HELP INSURE THAT WATER PERCOLATES INTO THE ROOTBALL.

LANDSCAPE NOTES

DIVISION 2 - SITE CONSTRUCTION

0240 - TREES, PLANTS, AND GROUND COVERS

PART 1 - GENERAL

- 1.01 - DESCRIPTION OF WORK
A. PROVIDE TREES, PLANTS, AND GROUND COVERS AS SPECIFIED. THE WORK INCLUDES:
1. SOIL PREPARATION
2. TREES, PLANTS, GROUND COVERS
3. PLANTING MIXES
4. MULCH AND PLANTING ACCESSORIES
5. MAINTENANCE
B. REBED WORK
1. SECTION 02100 SITE PREPARATION
2. SECTION 02480 SOODING
3. SECTION 02810 LANDSCAPE IRRIGATION
1.02 - QUALITY ASSURANCE
A. PLANT NAMES INDICATED COMPLETELY WITH "STANDARDIZED PLANT NAMES" AS ADOPTED BY THE LATEST EDITION OF THE AMERICAN JOINT COMMITTEE OF HORTICULTURAL NOMENCLATURE (SEE SECTION 40 FOR ACCEPTABLE PLANTS). NAMES OF VARIETIES NOT LISTED CONFORM GENERALLY WITH NAMES ACCEPTED BY THE NURSERY TRADE. PROVIDE STOCK TRUE TO BOTANICAL NAME AND LEGIBLY TAGGED.
B. PLANT MATERIAL SHALL BE GRADED FLORIDA NO. 1 OR BETTER AS OUTLINED UNDER GRADES AND STANDARDS FOR NURSERY PLANTS, STATE PLANT BOARD OF FLORIDA.
C. STOCK FURNISHED SHALL BE AT LEAST THE MINIMUM SIZE INDICATED. LARGER STOCK IS ACCEPTABLE, AT NO ADDITIONAL COST, AND PROVIDING THAT LARGER PLANTS WILL NOT BE CUT BACK TO SIZE INDICATED.
1.03 - SUBMITTALS
A. SUBMIT THE FOLLOWING MATERIAL SAMPLES:
1. MULCH
2. TREES, PLANTS, GROUND COVERS
3. PLANT FERTILIZER
1.04 - DELIVERY, STORAGE & HANDLING
A. DELIVER FERTILIZER MATERIALS IN ORIGINAL UNOPENED AND UNDAMAGED CONTAINERS SHOWING WEIGHT ANALYSIS AND NAME OF MANUFACTURER. STORE IN MANNER TO PREVENT WETTING AND DETERIORATION.
B. TAKE ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE IN PREPARING PLANTS FOR MOVING. WORKMANSHIP THAT FAILS TO MEET THE HIGHEST STANDARDS WILL BE REJECTED. DIG, PACK, TRANSPORT, AND HANDLE PLANTS WITH CARE TO ENSURE PROTECTION AGAINST INJURY. INSPECTION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT. MAKE OR ORDER TO STOCK AND ON ARRIVAL, THE CERTIFICATE SHALL BE FILED WITH THE OWNER OR LANDSCAPE ARCHITECT. PROTECT ALL PLANTS FROM DRYING OUT. IF PLANTS CANNOT BE PLANTED IMMEDIATELY UPON DELIVERY, PROPERLY PROTECT THEM WITH SOIL, WET PEAT MOSS, OR IN A MANNER ACCEPTABLE TO THE OWNER OR LANDSCAPE ARCHITECT. WATER-HEELER IN PLANTS ONLY. NO PLANT SHALL BE:

- A. BOUND WITH ROPE OR WIRE IN A MANNER THAT COULD DAMAGE OR BREAK THE BRANCHES.
B. COVER IN PLANTS TRANSPORT ON OPEN VEHICLE WITH A PROTECTIVE COVERING TO PREVENT WINDBURN.
C. MOVING CLEARANCE MUST BE MAINTAINED AT A MINIMUM OF 10 FEET FROM ANY TREE TO CURB OR SIDEWALK TO BUILDING, ETC.
1.05 - PROJECT CONDITIONS
A. WORK NOTIFICATION: NOTIFY OWNER AT LEAST 5 WORKING DAYS PRIOR TO INSTALLATION OF PLANT MATERIAL.
B. PROTECT EXISTING UTILITIES, PAVING, AND OTHER FACILITIES FROM DAMAGE CAUSED BY LANDSCAPING OPERATIONS. DAMAGE TO EXISTING UTILITIES WILL BE IMMEDIATELY REPAIRED AT NO EXPENSE TO OWNER.
C. A COMPLETE LIST OF PLANTS, INCLUDING A SCHEDULE OF SIZES, QUANTITIES, AND OTHER REQUIREMENTS IS TO BE SHOWN ON THE PROJECT DRAWINGS. ERAS STANDARD LANDSCAPE PLANT LIST IS FOUND IN "THE EVENT" THAT QUANTITY DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANT MATERIALS LIST, THE PLANTING PLANS SHALL GOVERN.
D. IF THE IRRIGATION SYSTEM IS TO BE CHANGED, OR IS NEW, THIS SYSTEM WILL BE INSTALLED PRIOR TO PLANTING. LOCATE, PROTECT AND MAINTAIN THE IRRIGATION SYSTEM DURING THE PLANTING OPERATIONS. REPAIR IRRIGATION SYSTEM COMPONENTS DAMAGED DURING PLANTING OPERATIONS, AT LANDSCAPE CONTRACTOR'S EXPENSE.
1.06 - WARRANTY
A. WARRANT PLANT MATERIAL TO REMAIN ALIVE AND IN HEALTHY AND VIGOROUS CONDITION FOR A PERIOD OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE OF ENTIRE PROJECT.
1. INSPECTION OF PLANTS WILL BE MADE BY THE OWNER OR THE ARCHITECT AT COMPLETION OF PLANTING.
B. REPLACE, IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, ALL PLANTS THAT HAVE DIED OR, AS DETERMINED BY THE OWNER OR LANDSCAPE ARCHITECT, ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION AND HAVE LOST THEIR NATURAL SHAPE OR LEAF OR BRANCHES, OR OTHER CAUSES DUE TO THE CONTRACTOR'S NEGLIGENCE. THE COST OF SUCH REPLACEMENT (S) IS AT CONTRACTOR'S EXPENSE. WARRANT ALL REPLACEMENT PLANTS FOR ONE YEAR AFTER INSTALLATION.
C. WARRANTY SHALL NOT INCLUDE DAMAGE OR LOSS OF TREES, PLANTS, OR GROUND COVERS CAUSED BY FIRES, FLOODS, FREEZING RAINS, LIGHTNING STORMS, OR WINDS OVER 30 MPH PER HOUR. WATER KILL CAUSED BY EXTREME COLD AND SEVERE WINTER CONDITIONS NOT TYPICAL OF PLANTING AREA. ACTS OF VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
D. REMOVE AND IMMEDIATELY REPLACE ALL PLANTS AS DETERMINED BY THE OWNER OR THE LANDSCAPE ARCHITECT, TO BE UNSATISFACTORY DURING THE INITIAL PLANT INSTALLATION.

PART 2 - PRODUCTS

- 2.01 - MATERIALS
A. PLANTS: PROVIDE PLANTS TYPICAL OF THEIR SPECIES OR VARIETY WITH NORMAL, DENSELY DEVELOPED BRANCHES AND VIGOROUS, FIBROUS ROOT SYSTEMS. PROVIDE ONLY SOUND, HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DISFIGURING KNOTS, SUNSCALD INJURIES, FROST CRACKS, ABRASIONS OF THE BARK, PLANT DISEASES, INSECT EGGS,
1. DIG BALLED AND BUR LAPPED PLANTS WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. PROVIDE BALL SIZES COMPLYING WITH THE LATEST EDITION OF THE AMERICAN STANDARDS FOR NURSERY STOCK. CRACKED OR MUSH-ROOMED BALLS ARE NOT ACCEPTABLE.
2. CONTAINER-GROWN STOCK GROWN IN A CONTAINER FOR SUFFICIENT LENGTH OF TIME FOR THE ROOT SYSTEM TO HAVE DEVELOPED TO HOLD ITS SOIL TOGETHER, FIRM AND WHOLE.
A. NO PLANTS SHALL BE LOOSE IN THE CONTAINER.
B. CONTAINER STOCK SHALL NOT BE POT BOUND.
3. PLANTS PLANTED IN ROWS SHALL BE MATCHED IN FORM.
4. PLANTS LARGER THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED WHEN ACCEPTABLE TO THE OWNER OR THE LANDSCAPE ARCHITECT.
A. IF THE USE OF LARGER PLANTS IS ACCEPTABLE, INCREASE THE SPREAD OF ROOTS OR ROOT BALL IN PROPORTION TO THE SIZE OF THE PLANT.
5. SHRUBS SHALL MEET THE REQUIREMENTS FOR SPREAD AND HEIGHT INDICATED IN THE PLANT LIST.
A. THE MEASUREMENTS FOR HEIGHT SHALL BE TAKEN FROM THE GROUND LEVEL TO THE AVERAGE HEIGHT OF THE TOP OF THE PLANT AND NOT THE LONGEST BRANCH.
B. SINGLE STEMMED OR THIN PLANTS WILL NOT BE ACCEPTED.
C. SIDE BRANCHES SHALL BE GENEROUSLY WELL TWIGGED, AND THE PLANT AS A WHOLE WELL BUSHED TO THE GROUND.
D. PLANTS SHALL BE IN A MOIST, VIGOROUS CONDITION, FREE FROM DAD WOOD, BRUISES, OR OTHER ROOT OR BRANCH INJURIES.

- 2.02 - ACCESSORIES
A. TOPSOIL FOR PLANTING BEDS: FERTILE, FRIABLE, NATURAL, TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIALS OBTAINED FROM A WELL-DRAINED ARABLE SITE, REASONABLE FREE FROM CLAY LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS, WITH ACIDITY RANGE OF BETWEEN PH 6.0 AND 6.8.
1. IDENTIFY SOURCE LOCATION OF TOPSOIL PROPOSED FOR USE ON THE PROJECT.
2. PROVIDE TOPSOIL FREE OF SUBSTANCES HARMFUL TO THE PLANTS, WHICH WILL BE GROWN IN THE SOIL.
B. PEAT MOSS: BROWN TO BLACK IN COLOR, WEED AND SEED FREE GRANULATED RAW PEAT OR Baled PEAT, CONTAINING NOT MORE THAN 9% MINERAL ON A DRY BASIS.
C. FERTILIZER:
1. PLANT FERTILIZER TYPE: COMMERCIAL TYPE APPROVED BY THE OWNER OR THE LANDSCAPE ARCHITECT, CONTAINING 12% NITROGEN, 1% 12-PHOSPHORIC ACID AND 12% POTASH BY WEIGHT, 1/4 IN FORM OF AMMONIA SALT AND 1/4 IN FORM OF ORGANIC NITROGEN.
D. MULCH: CYPRESS MULCH, FURNISH IN BULK.
E. WATER: FREE OF SUBSTANCES HARMFUL TO PLANT GROWTH HOSES OR OTHER METHODS OF TRANSPORTATION FURNISHED BY CONTRACTOR.

- 3.01 - INSPECTION
A. EXAMINE PROPOSED PLANTING AREAS AND CONDITIONS OF INSTALLATION. DO NOT START PLANTING WORK UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED.
3.02 - PREPARATION
A. PLANTING SHALL BE PERFORMED ONLY BY EXPERIENCED WORKMEN FAMILIAR WITH PLANTING PROCEDURES UNDER THE SUPERVISION OF A QUALIFIED SUPERVISOR.
B. LOCATE PLANTS AS INDICATED OR AS APPROVED IN THE FIELD AFTER STAKING BY THE CONTRACTOR. IF OBSTRUCTIONS ARE ENCOUNTERED THAT ARE NOT SHOWN ON THE DRAWINGS, DO NOT PROCEED WITH PLANTING OPERATIONS UNTIL ALTERNATE PLANTING LOCATIONS HAVE BEEN SELECTED.
C. EXCAVATE CIRCULAR PLANT PITS WITH VERTICAL SIDES, EXCEPT FOR PLANTS SPECIFICALLY INDICATED FOR PLANTING IN BEES. PROVIDE SHRUB PITS AT LEAST 12" GREATER THAN THE DIAMETER OF THE ROOT SYSTEM, AND 24" GREATER FOR PALMS. DEPTH OF PIT SHALL ACCOMMODATE THE ROOT SYSTEM. SCARIFY THE BOTTOM OF THE PIT TO A DEPTH OF 4". REMOVE EXCAVATED MATERIALS FROM THE SITE.
D. PROVIDE PRE-MIXED PLANTING MIXTURE FOR USE AROUND THE BALLS AND ROOTS OF THE PLANTS CONSISTING OF 5 PARTS PLANTING TOPSOIL TO 1 PART PEAT MOSS AND 1/4 LB. PLANT FERTILIZER FOR EACH CUBIC YARD OF MIXTURE, AS SPECIFIED IN 0202.1. BACKFILL THE PALMS WITH EXISTING SOIL. ONLY DO NOT BACKFILL THE PALMS WITH THE PRE-MIXED PLANTING MIXTURE.
3.03 - INSTALLATION
A. SET PLANT MATERIAL IN THE PLANTING PIT TO PROPER GRADE AND ALIGNMENT. SET PLANTS UPRIGHT, PLUM AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO EACH OTHER OR ADJACENT STRUCTURE. SET PLANT MATERIAL 1"2" ABOVE THE FINISH GRADE. NO FILLING WILL BE PERMITTED AROUND TRUNKS OR STEMS. BACKFILL THE PIT WITH PLANTING MIXTURE. DO NOT USE FROZEN OR MUDDY MIXTURES FOR BACKFILLING.
B. AFTER BALLED AND BUR LAPPED PLANTS ARE SET, MUDDLE PLANTING SOIL MIXTURE AROUND BASES OF BALLS AND FILL ALL VOIDS.
C. MULCHING:
1. MULCH TREE AND SHRUB PLANTING PITS AND SHRUB BEDS WITH REQUIRED MULCHING MATERIAL. 5" DEEP IMMEDIATELY AFTER PLANTING. THOROUGHLY WATER MULCHED AREAS AFTER WATERING, RAKE MULCH TO PROVIDE A UNIFORM FINISHED SURFACE.
3.04 - MAINTENANCE
A. MAINTAIN PLANTINGS UNTIL COMPLETION AND ACCEPTANCE OF THE ENTIRE PROJECT.
B. MAINTENANCE SHALL INCLUDE PRUNING, CULTIVATING, WEEDING, WATERING, AND APPLICATION OF APPROPRIATE INSECTICIDES AND FUNGICIDES NECESSARY TO MAINTAIN PLANTS FREE OF INSECTS AND DISEASE.
1. RE-SET SETTLED PLANTS TO PROPER GRADE AND POSITION, RESTORE PLANTING SAUCER AND ADJACENT MATERIAL AND REMOVE DEAD MATERIAL.
2. CORRECT DEFECTIVE WORK AS SOON AS POSSIBLE AFTER DEFICIENCIES BECOME APPARENT AND WEATHER AND SEASON PERMIT.
C. THE CONTRACTOR SHALL PROVIDE TO THE OWNER MONTHLY INSPECTION REPORTS REGARDING THE LANDSCAPE MATERIALS FOR THE DURATION OF THE ONE-YEAR WARRANTY PERIOD.

- 3.05 - ACCEPTANCE (BASED UPON FINAL COMPLETION)
A. INSPECTION TO DETERMINE ACCEPTANCE OF PLANTED AREAS WILL BE MADE BY THE OWNER OR THE LANDSCAPE ARCHITECT, UPON CONTRACTOR'S REQUEST. PROVIDE NOTIFICATION AT LEAST 10 WORKING DAYS BEFORE REQUESTED INSPECTION DATE.
1. PLANTED AREAS WILL BE ACCEPTED PROVIDED ALL REQUIREMENTS, INCLUDING MAINTENANCE, HAVE BEEN COMPLIED WITH AND PLANTS MATERIALS ARE ALIVE IN A HEALTHY AND VIGOROUS CONDITION.
2. LANDSCAPE WEED BARRIER IS REQUIRED UNDER ALL MULCHED AREAS.
B. UPON ACCEPTANCE, THE OWNER WILL ASSUME PLANT MAINTENANCE.
3.06 - CLEANING
A. PERFORM CLEANING DURING INSTALLATION OF THE WORK AND UPON COMPLETION OF THE WORK. REMOVE FROM SITE ALL EXCESS MATERIALS, SOIL, DEBRIS, AND EQUIPMENT. REPAIR DAMAGE RESULTING FROM PLANTING OPERATIONS.

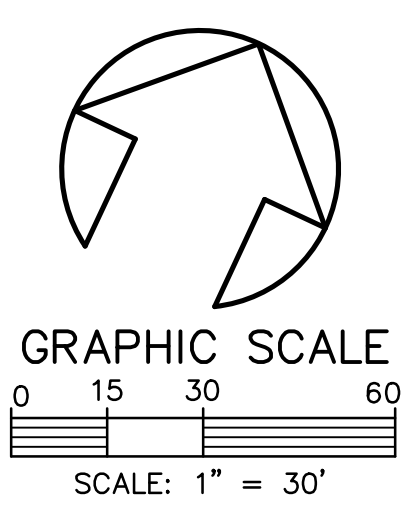
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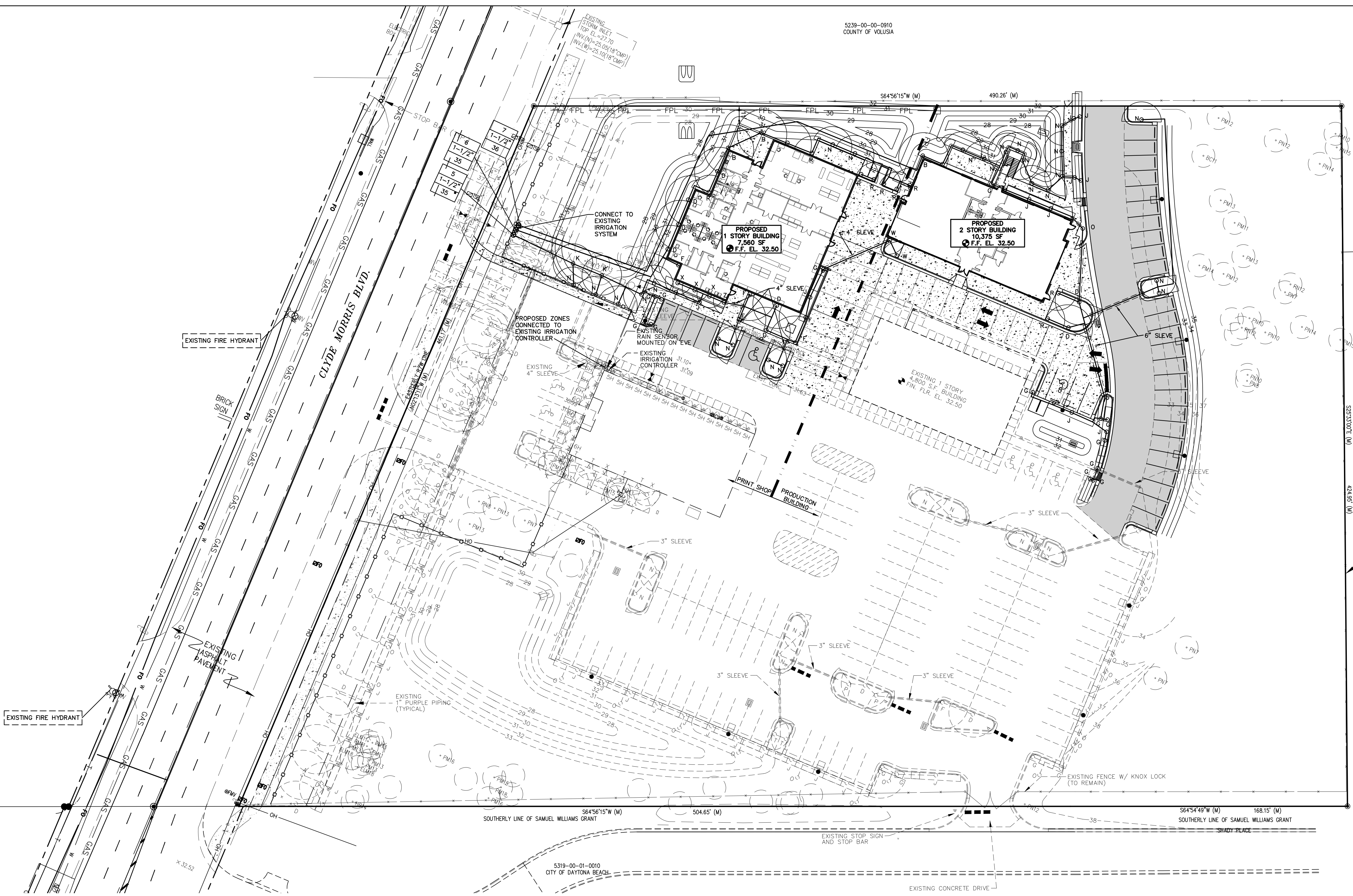
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PHONE: 386-253-8335

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42495' (M)



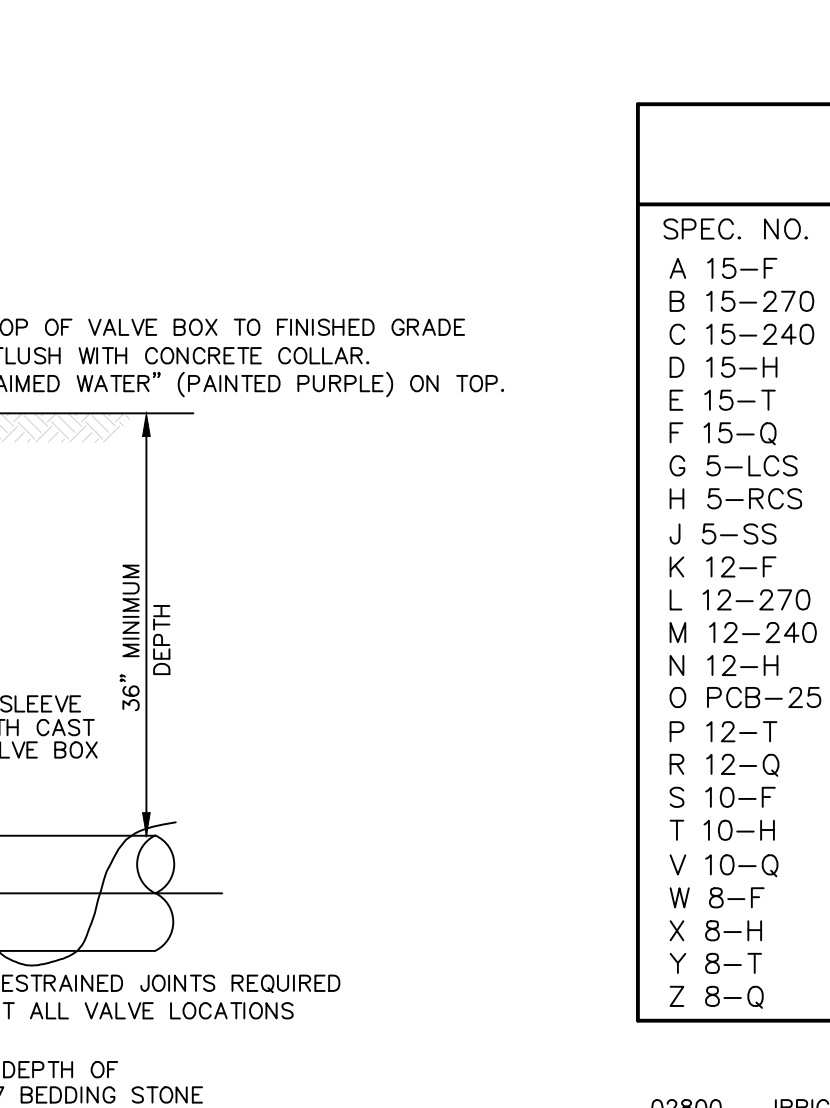
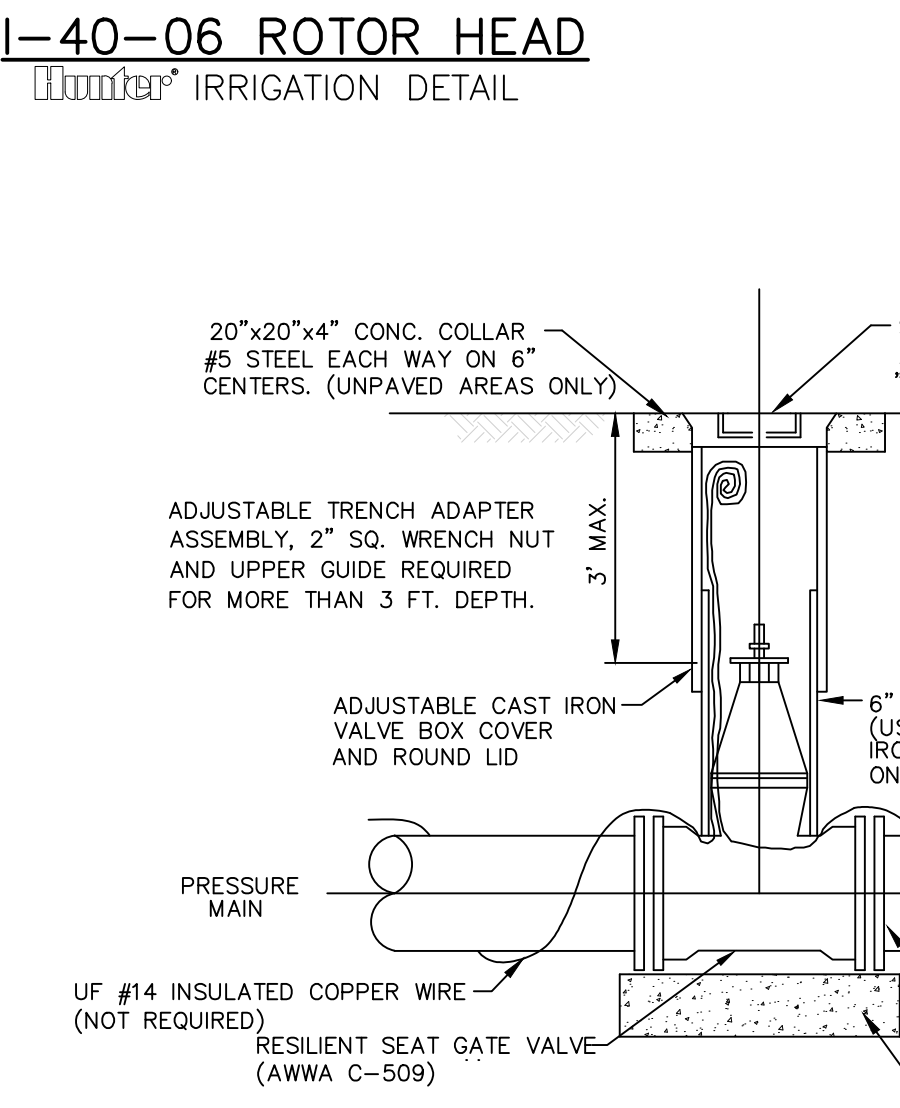
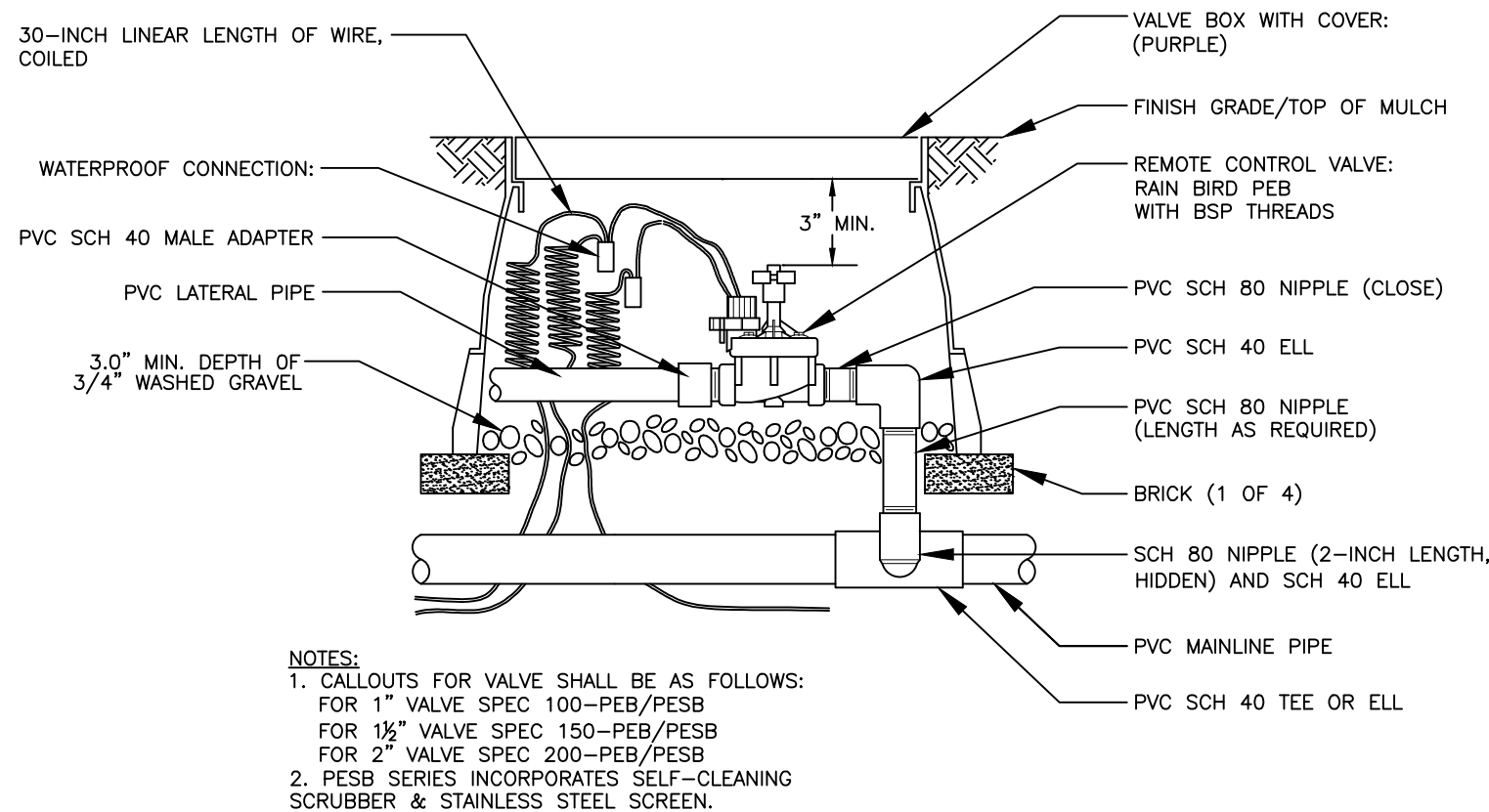
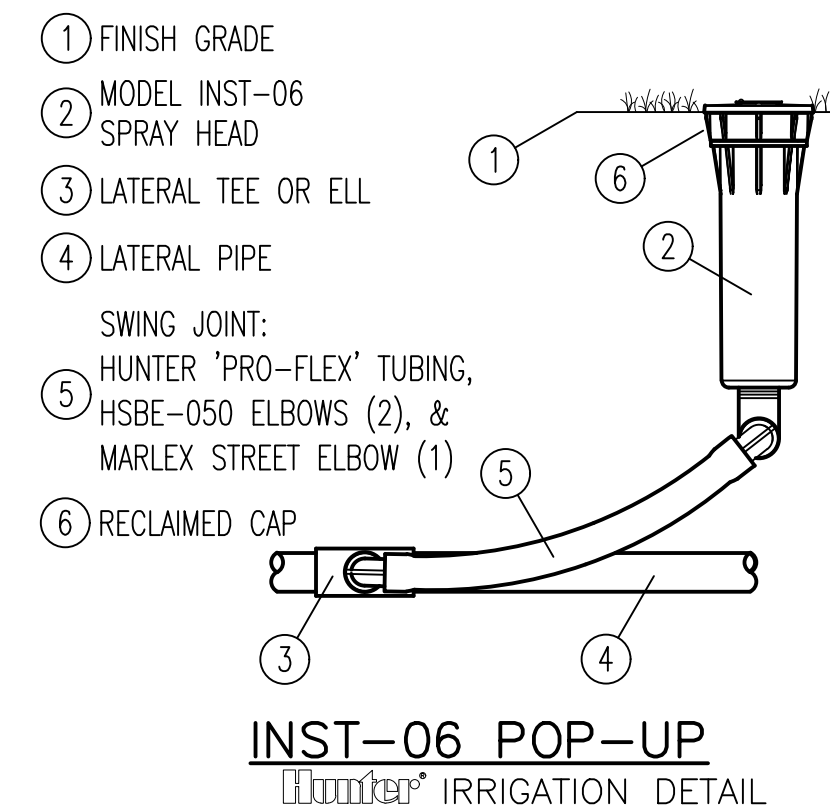
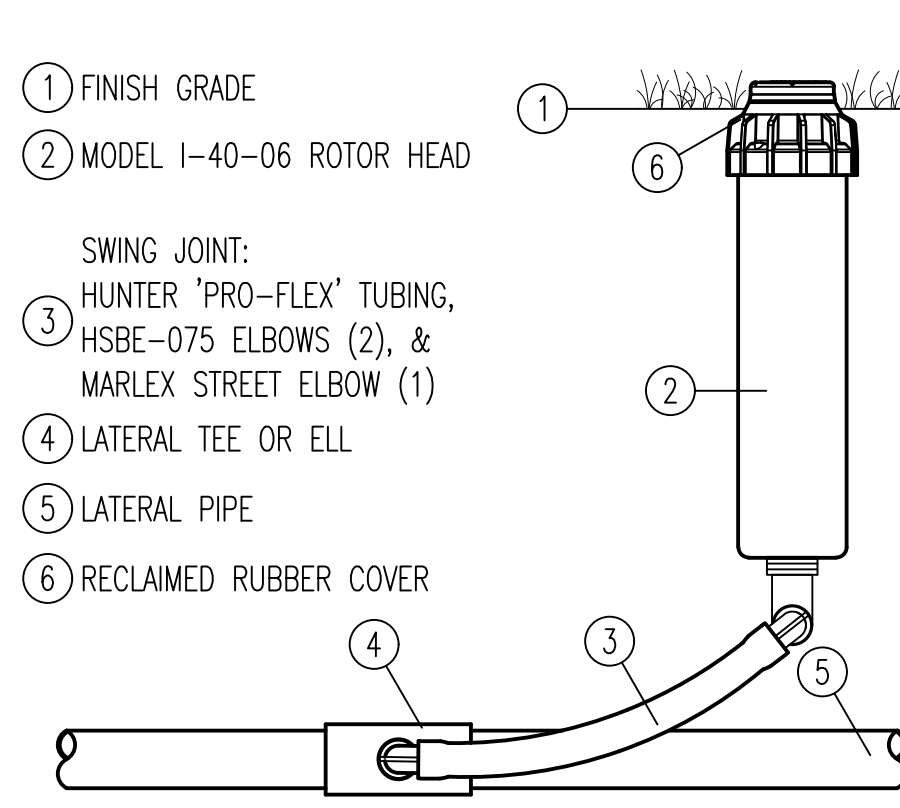
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2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB
			BT

PARKER MYNCHENBERG & ASSOCIATES, INC.
 PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
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 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
 PRINT SHOP
 DAYTONA BEACH * FLORIDA
 IRRIGATION PLAN

DEV 2019-095
 CITY APPROVAL STAMP
10 OF 19
 SHEET NO.
 Drawn By: SLB
 Date: 6-15-19
 SCALE: 1"=30'
 JOB #19-03

SEAL



HUNTER NOZZLE SELECTION CHART

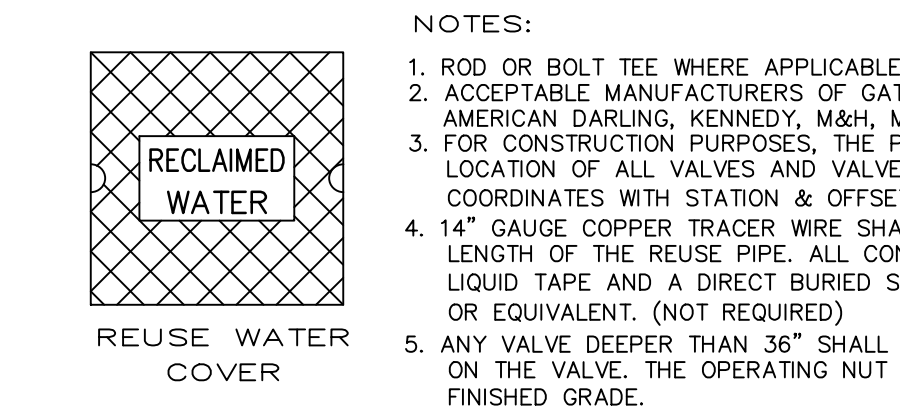
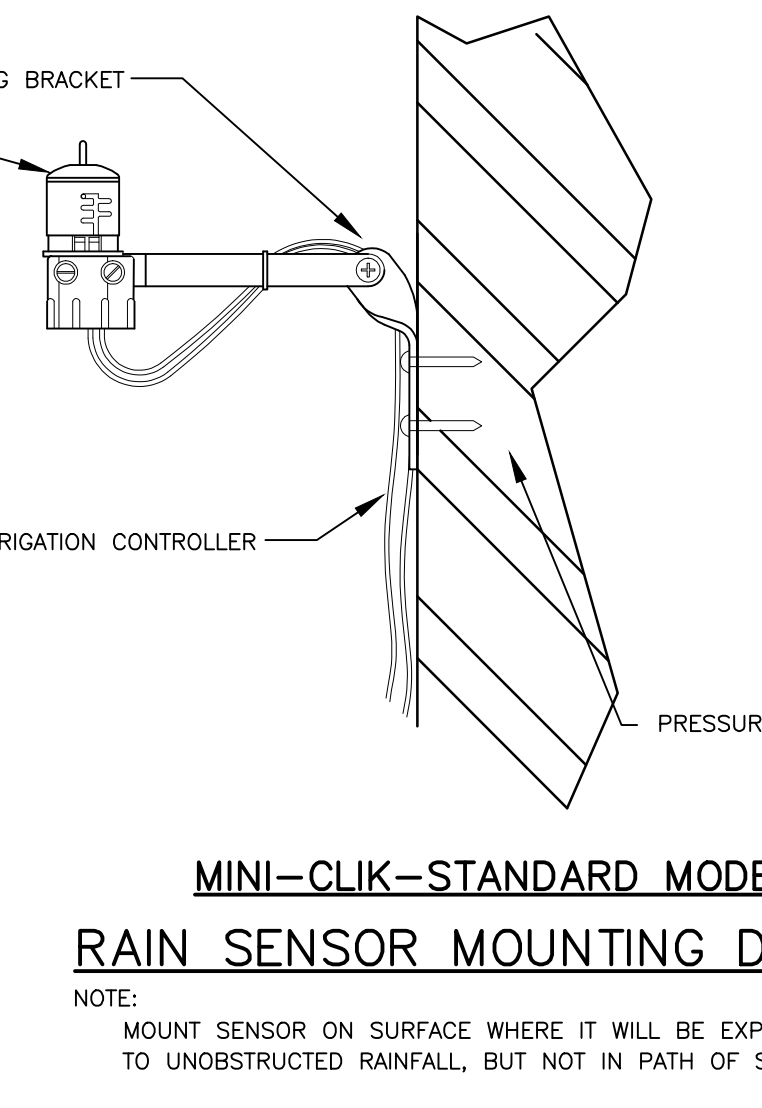
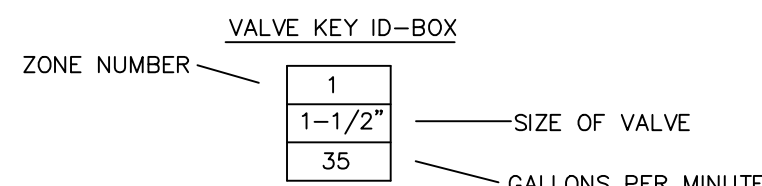
SPEC. NO.	P.S.I.	G.P.M.	RADIUS	PATTERN
A 15-F	30	3.75	15'	FULL
B 15-270	30	2.92	15'	THREE QUARTER
C 15-240	30	2.48	15'	TWO THIRDS
D 15-H	30	1.86	15'	HALF
E 15-T	30	1.3	15'	THIRD
F 15-Q	30	0.97	15'	QUARTER
G 5-LCS	30	0.65	5'X15'	LEFT CORNER STRIP
H 5-RCS	30	0.65	5'X15'	RIGHT CORNER STRIP
J 5-SS	30	1.30	5'X30'	SIDE STRIP
K 12-F	30	2.7	12'	FULL
L 12-270	30	2.0	12'	THREE QUARTER
M 12-240	30	1.74	12'	TWO THIRDS
N 12-H	30	1.3	12'	HALF
O PCB-25	30	0.25	2-1/2'	BUBBLER
P 12-T	30	0.89	12'	THIRD
R 12-Q	30	0.67	12'	QUARTER
S 10-F	30	1.59	10'	FULL
T 10-H	30	0.88	10'	HALF
V 10-Q	30	0.42	10'	QUARTER
W 8-F	30	0.97	8'	FULL
X 8-H	30	0.47	8'	HALF
Y 8-T	30	0.32	8'	THIRD
Z 8-Q	30	0.24	8'	QUARTER

IRRIGATION LEGEND

- HUNTER INST-06 - 6" POP-UP SPRAY HEAD, INSTALLED AS SHOWN, SEE NOZZLE CHART
- HUNTER PCB-25 (BUBBLER)
- ⊗ HUNTER I-40-06 ROTOR HEAD, FULLY ADJUSTABLE
- ⊗ ELECTRIC CONTROL VALVE INSTALLED IN VB-STD VALVE BOX.
- ▬ DENOTES PROPOSED VALVE (SIZE AS SHOWN)
- ▬ DENOTES PROPOSED IRRIGATION MAIN, PURPLE SCH. 40 (SIZE AS SHOWN)
- ▬ DENOTES PROPOSED IRRIGATION LATERAL PURPLE SCH. 40 (SIZE AS SHOWN)
- ▬ P.V.C. SLEEVE SIZE AS SHOWN
- DENOTES PROPOSED RAIN SENSOR, MINI-CLIK SERIES
- DENOTES CONTROLLER

SPECIFIC IRRIGATION NOTES

- IRRIGATION SPRAY HEADS SHALL BE PRESSURE REGULATING.
 - SYSTEM SUPPLY REQUIREMENTS ARE: 150 GPM @ 50 PSI AT WATER SOURCE. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF DESIGN FLOW RATE AND PRESSURE DOES NOT EXIST.
 - LATERAL PIPES SHALL BE SIZED SUCH THAT THE WATER VELOCITY DOES NOT EXCEED 5 FEET/SECOND. CONTRACTOR SHALL APPLY THE FOLLOWING TABLE:
- | PIPE SIZE (IN) | FLOW |
|----------------|----------|
| 1/2" | <6 GPM |
| 3/4" | <10 GPM |
| 1" | <15 GPM |
| 1 1/4" | <26 GPM |
| 1 1/2" | <36 GPM |
| 2" | <50 GPM |
| 2 1/2" | <80 GPM |
| 3" | <120 GPM |
| 4" | <200 GPM |



- ### REUSE WATER VALVE AND VALVE BOX DETAILS
- NOTES:
- ROD OR BOLT TEE WHERE APPLICABLE.
 - ACCEPTABLE MANUFACTURERS OF GATE VALVES INCLUDE: AMERICAN DARLING, KENNEDY, M&H, MUELLER, CLOW.
 - FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE LOCATION OF ALL VALVES AND VALVE BOXES BY STATE PLANE COORDINATES WITH STATION & OFFSETS FROM CL OF R/W.
 - 1/4" GAUGE COPPER TRACER WIRE SHALL BE LAID THE ENTIRE LENGTH OF THE REUSE PIPE. ALL CONNECTION ENDS SHALL USE LIQUID TAPE AND A DIRECT BURIED SPLICE KIT (LAWSON 95313) OR EQUIVALENT. (NOT REQUIRED).
 - ANY VALVE DEEPER THAN 36" SHALL HAVE AN EXTENSION BOLTED ON THE VALVE. THE OPERATING NUT SHALL BE 12" BELOW FINISHED GRADE.

- ### GENERAL IRRIGATION NOTES
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPING PLAN WHEN TRENCHING TO LAY PIPE TO AVOID NEW & EXISTING TREES & LARGE SHRUBS.
 - ALL WIRING FROM THE IRRIGATION CONTROLLER TO THE REMOTE CONTROL VALVES SHALL BE UF-14/1 DIRECT BURIAL CABLE. ALL WIRE SPLICES SHALL BE MADE IN VALVE BOXES USING ONLY RAIN BIRD CONNECTORS & SEALANT.
 - UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE SPRAY HEAD SHALL BE 1/2" PVC PIPING. UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE ROTOR HEAD SHALL BE 3/4" PVC PIPING.
 - ALL MAIN LINE PIPING SHALL BE BURIED TO HAVE A MINIMUM COVER OF 18". ALL LATERAL PIPING DOWNSTREAM OF THE MAIN LINE SHALL BE BURIED TO HAVE A MINIMUM COVER OF 12".
 - THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT ON THE EXACT LOCATION OF THE IRRIGATION CONTROLLERS.
 - THE CONTRACTOR SHALL VERIFY ALL CONDITIONS & DIMENSIONS SHOWN ON PLANS AT THE SITE PRIOR TO COMMENCEMENT OF WORK UNDER THIS CONTRACT.
 - ALL IRRIGATION INSTALLATION SHALL CONFORM TO LOCAL CODES & REGULATIONS.
 - ALL PIPING ON THE PLANS IS DIAGRAMMATICALLY ROUTED FOR CLARITY & SHALL BE ROUTED TO AVOID PLANTS. DESIGN MODIFICATIONS SHALL ONLY BE MADE AS NECESSARY TO MEET FIELD CONDITIONS & ONLY UPON APPROVAL OF THE LANDSCAPE ARCHITECT. PIPING SHOWN RUNNING PARALLEL UNDER SIDEWALKS ADJACENT TO PLANTED AREAS IS FOR DESIGN CONVENIENCE ONLY & SHALL BE INSTALLED WITHIN THE PLANTED AREA.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ADJUSTMENT OF THE SPRINKLERS ARC & RADIUS TO ASSURE 100 PERCENT COVERAGE.
 - 115 VOLT, SINGLE PHASE ELECTRICAL POWER FOR THE IRRIGATION CONTROLLERS SHALL BE COORDINATED BY THE IRRIGATION CONTRACTOR WITH THE ELECTRICAL ENGINEERING DRAWINGS. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL HOOK-UP INCLUDING ELECTRICAL MATERIALS.
 - VALVES LOCATED OUTSIDE OF RIGHT-OF-WAY ARE FOR DESIGN PURPOSES ONLY & SHALL BE LOCATED INSIDE OF RIGHT-OF-WAY.
 - ANY CHANGES TO IRRIGATION ZONE PIPING TO BE APPROVED BY THE CITY LANDSCAPE ARCHITECT PRIOR TO WORK BEING DONE.
 - ALL XERIC IRRIGATION ZONES SHALL HAVE RUN TIMES REDUCED OR ELIMINATED AFTER SUFFICIENT PLANT ESTABLISHMENT. THIS NOTE TO APPEAR INSIDE THE CONTROLLER FOR MAINTENANCE PERSONNEL INFORMATION.

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

PIPE SIZE (IN.)	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36"	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42"	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48"	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

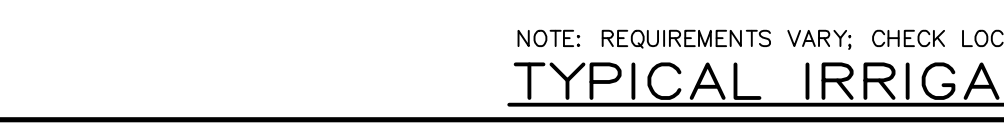
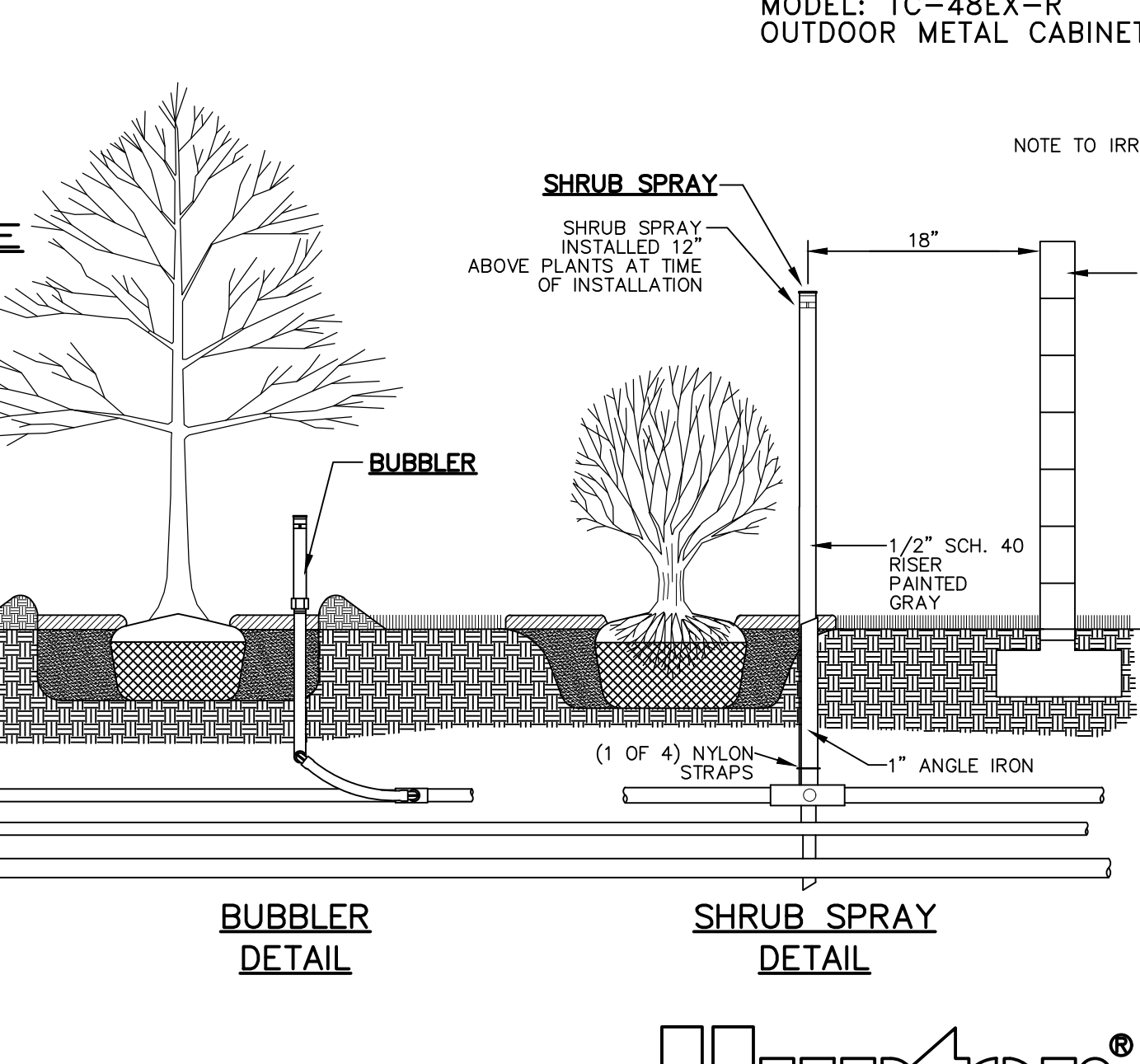
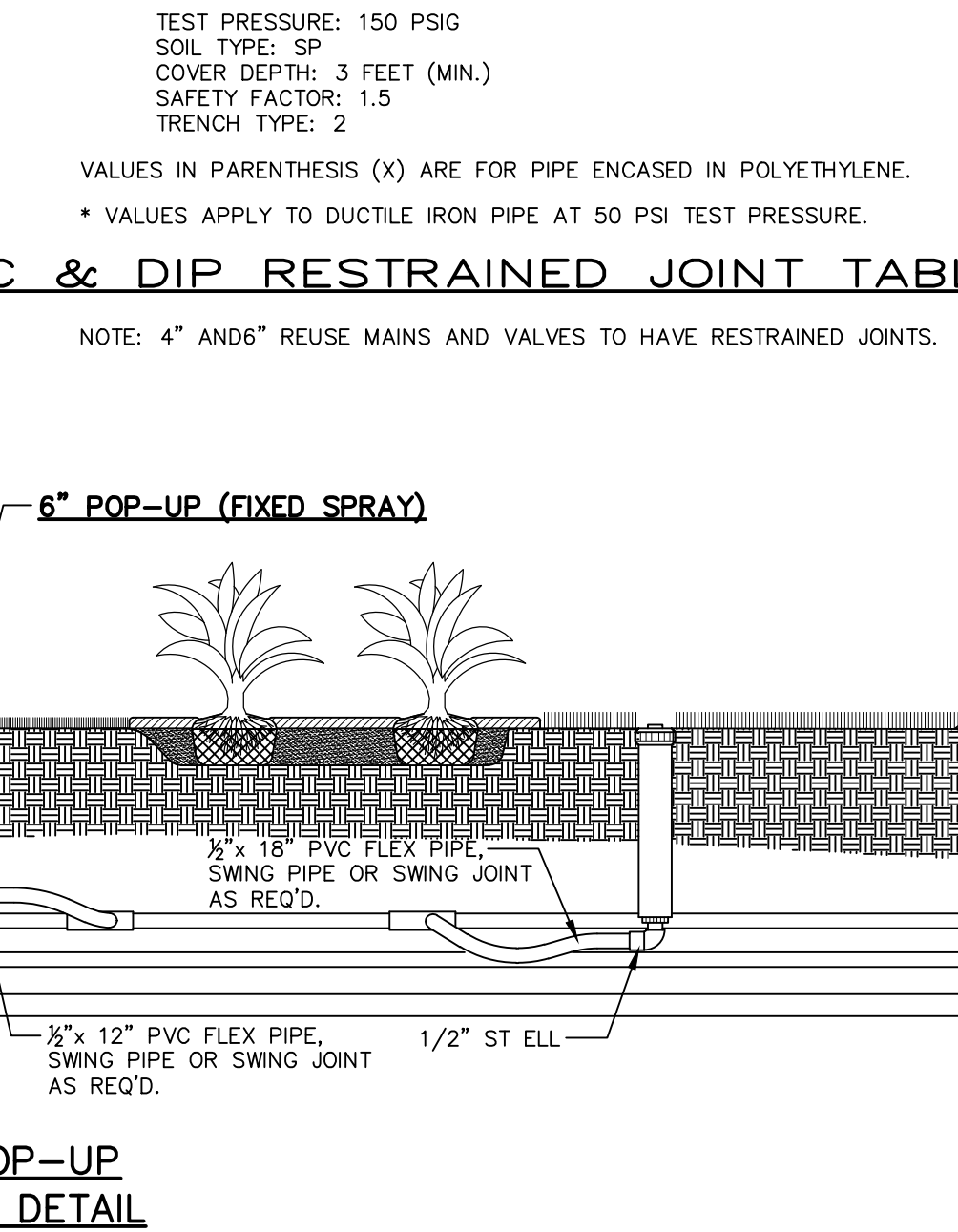
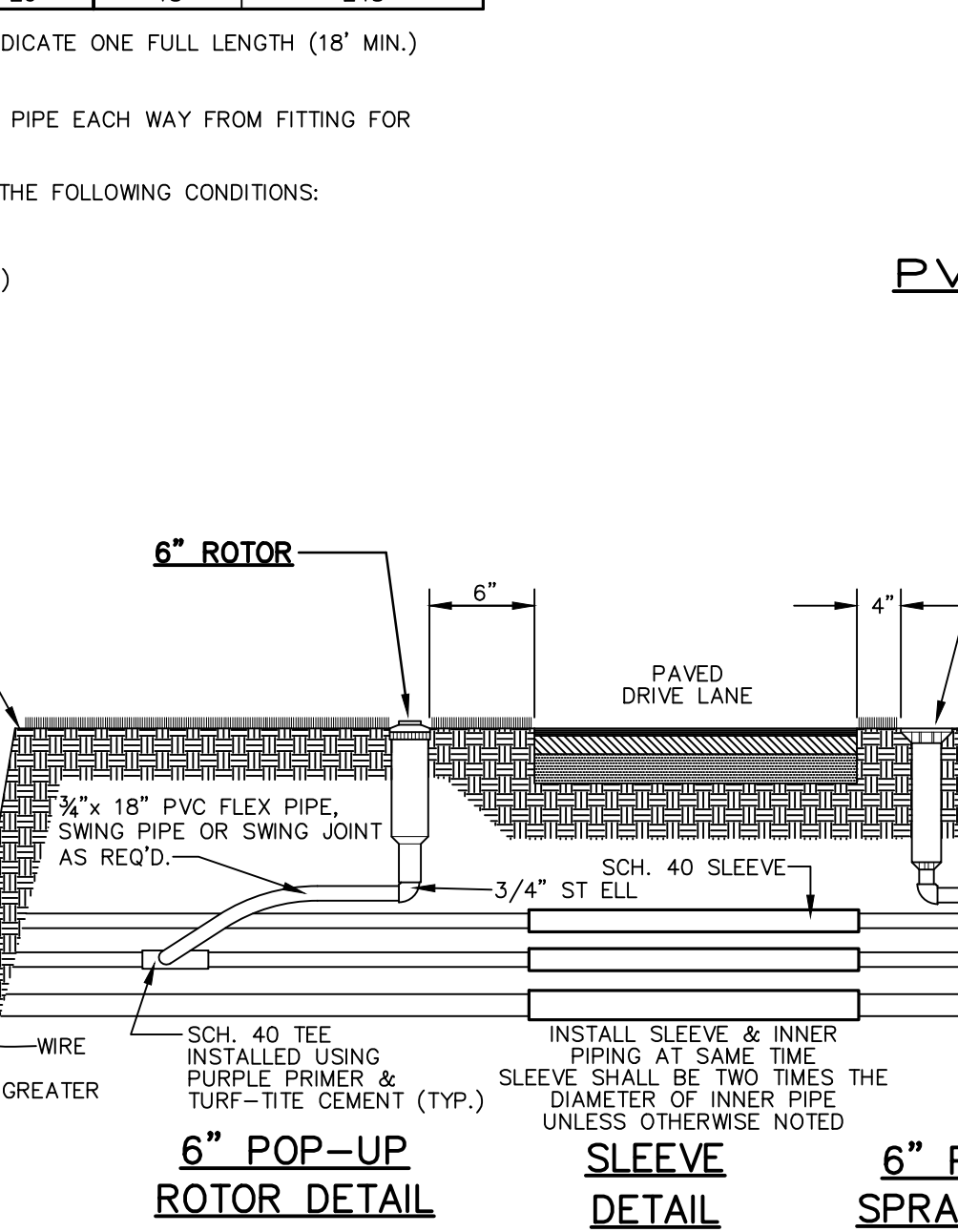
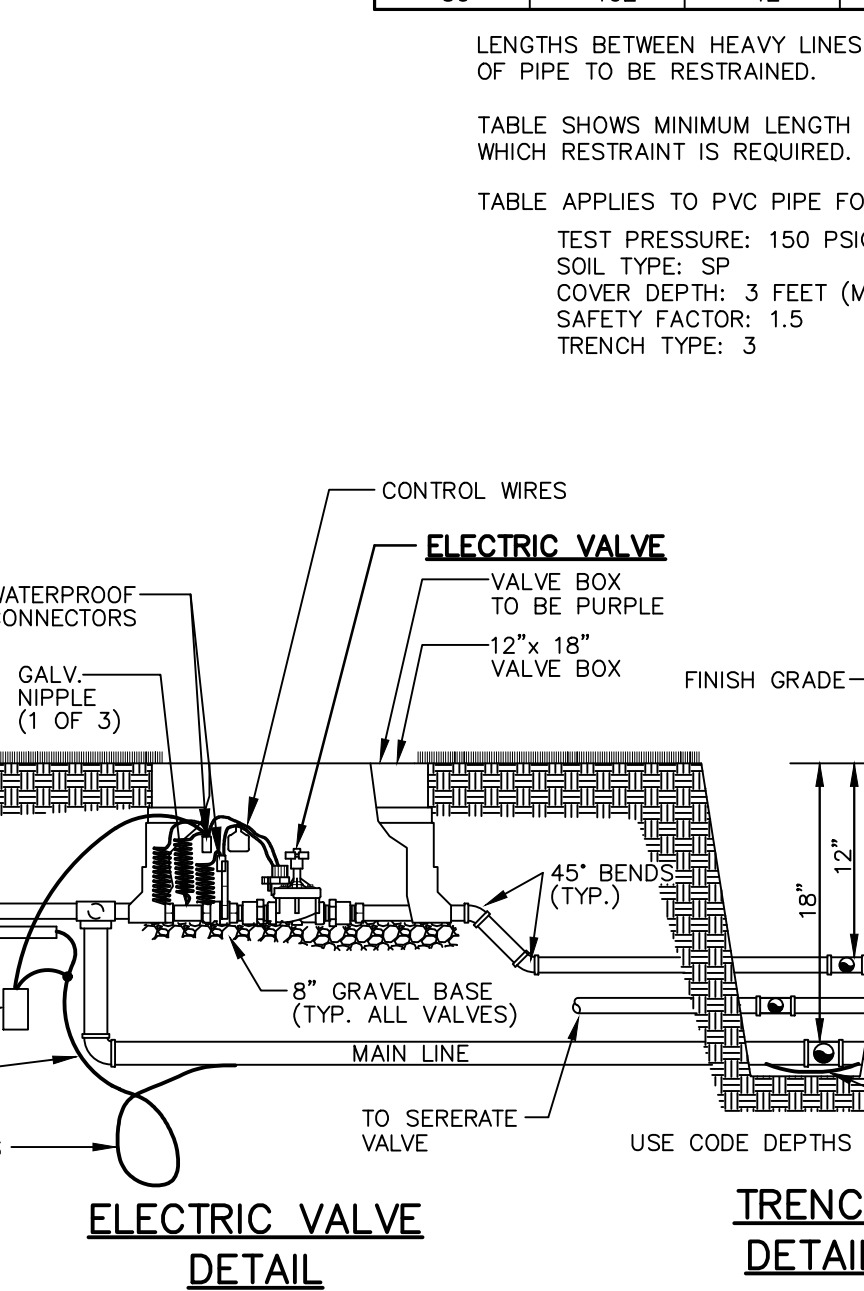
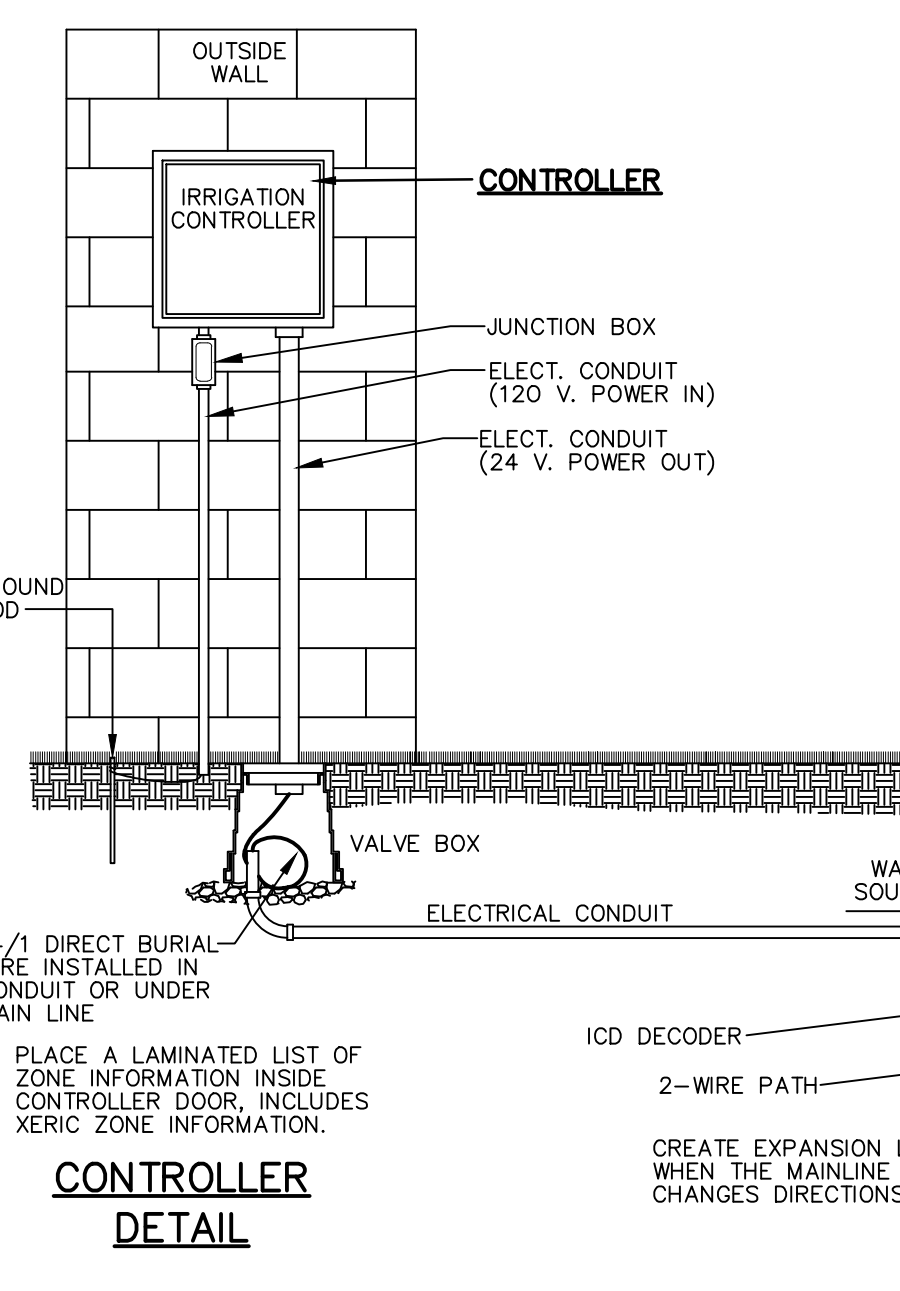
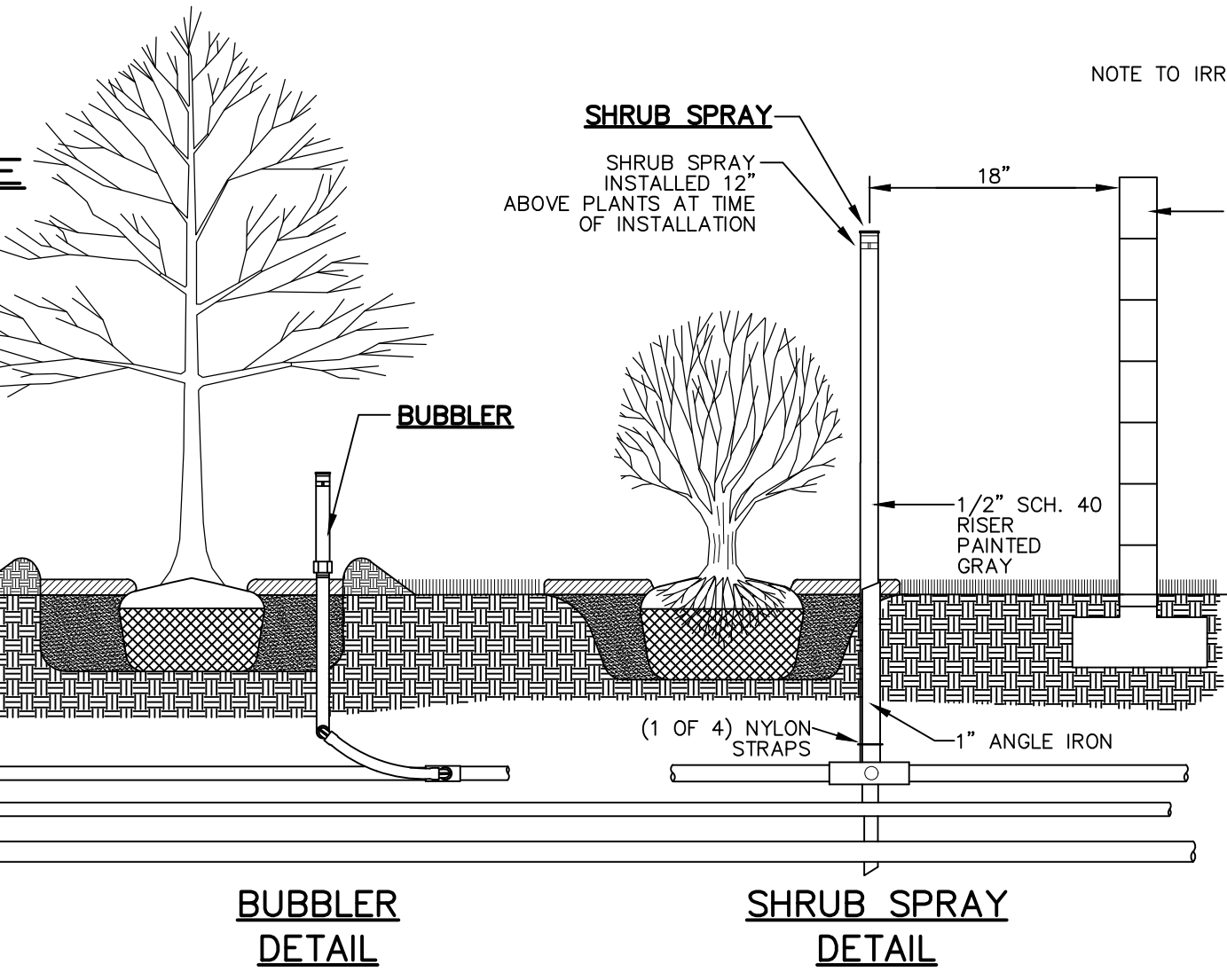
TABLE APPLIES TO DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS:

TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 3 FEET (MIN.)
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

VALUES IN PARENTHESIS (X) ARE FOR PIPE ENCASED IN POLYETHYLENE.
* VALUES APPLY TO DUCTILE IRON PIPE AT 50 PSI TEST PRESSURE.

PVC & DIP RESTRAINED JOINT TABLE

NOTE: 4" AND 6" REUSE MAINS AND VALVES TO HAVE RESTRAINED JOINTS.



NO.	DATE	DESCRIPTION	REVISIONS
4	10-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB

DEV 2019-095
CITY APPROVAL STAMP
11 OF 19
SHEET NO.
Drawn By: MRB
Date: 6-15-19
SCALE: NONE
JOB #19-03

SEAL

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CERTIFICATE OF AUTHORIZATION NUMBER 00003810

EMBRY RIDDLE AERONAUTICAL UNIVERSITY
PRINT SHOP
DAYTONA BEACH * FLORIDA

IRRIGATION DETAILS

STORMWATER CONSTRUCTION NOTES

- 1. ALL MATERIALS, INSTALLATION AND SEDIMENT AND EROSION CONTROL FOR SUBDIVISIONS AND SITE PLANS SHALL CONFORM TO CITY STANDARDS, FDEP STANDARDS, FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), AND FDOT DESIGN STANDARDS (LATEST EDITION).

STORMWATER CONSTRUCTION NOTES (CONT'D)

- 21. LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF TEMPORARY AND PERMANENT PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORMWATER INFRASTRUCTURE IN ORDER TO EVALUATE POTENTIAL CONFLICTS.

STORMWATER CONSTRUCTION NOTES (CONT'D)

- 22. DEVELOPMENT PLANS FOR ALL STORMWATER MANAGEMENT SYSTEMS SHALL CONTAIN POP-OFF DATA (OVERFLOW), BOTTOM ELEVATION, NORMAL WATER LEVELS, MEAN ANNUAL SEASONAL HIGH WATER TABLE ELEVATION, TREATMENT VOLUME AND CORRESPONDING ELEVATION, 100 YEAR HIGH WATER LEVELS, AND THE DESIGN TAILWATER ELEVATION (IF APPLICABLE).

STORMWATER CONSTRUCTION NOTES (CONT'D)

- 30. FOR CONNECTIONS BETWEEN INLETS WITH PIPING 15" IN DIAMETER AND LARGER, THE MAXIMUM DISTANCES BETWEEN INLETS AND/OR CLEAN-OUT JUNCTION BOXES SHALL BE 300 FEET. CULVERTS SHALL BE SLOPED TO MAINTAIN A MINIMUM SELF-CLEANING VELOCITY OF 2.5 FEET PER SECOND USING A MANNING'S 'n' OF 0.012.

EROSION & SEDIMENT CONTROL NOTES

- 1. ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES (BMP'S) TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.

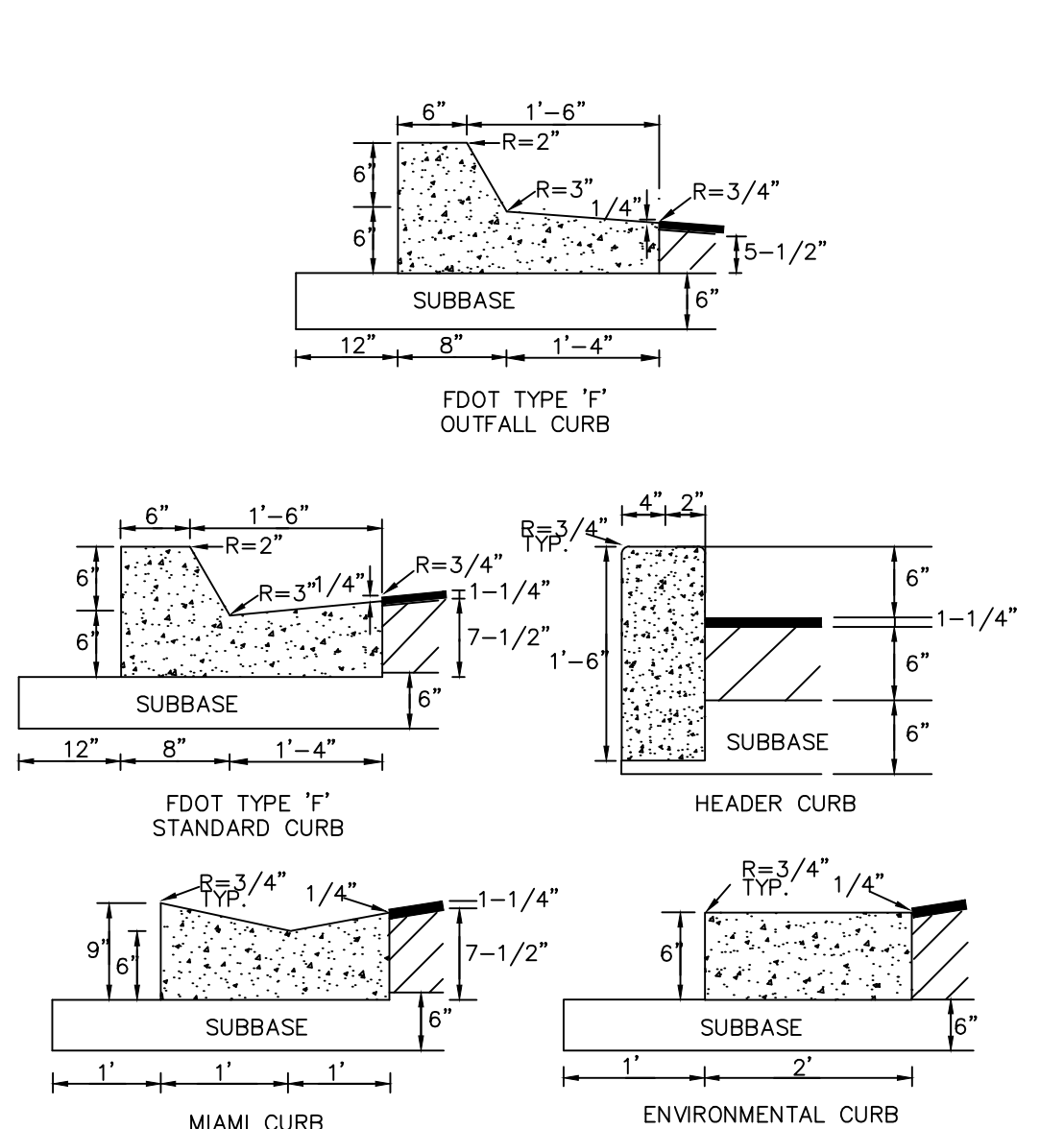
Table with columns: NO., DATE, DESCRIPTION, REVISIONS

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION STORMWATER CONSTRUCTION NOTES (PAGE 1 OF 4) ST-1

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION STORMWATER CONSTRUCTION NOTES (PAGE 2 OF 4) ST-2

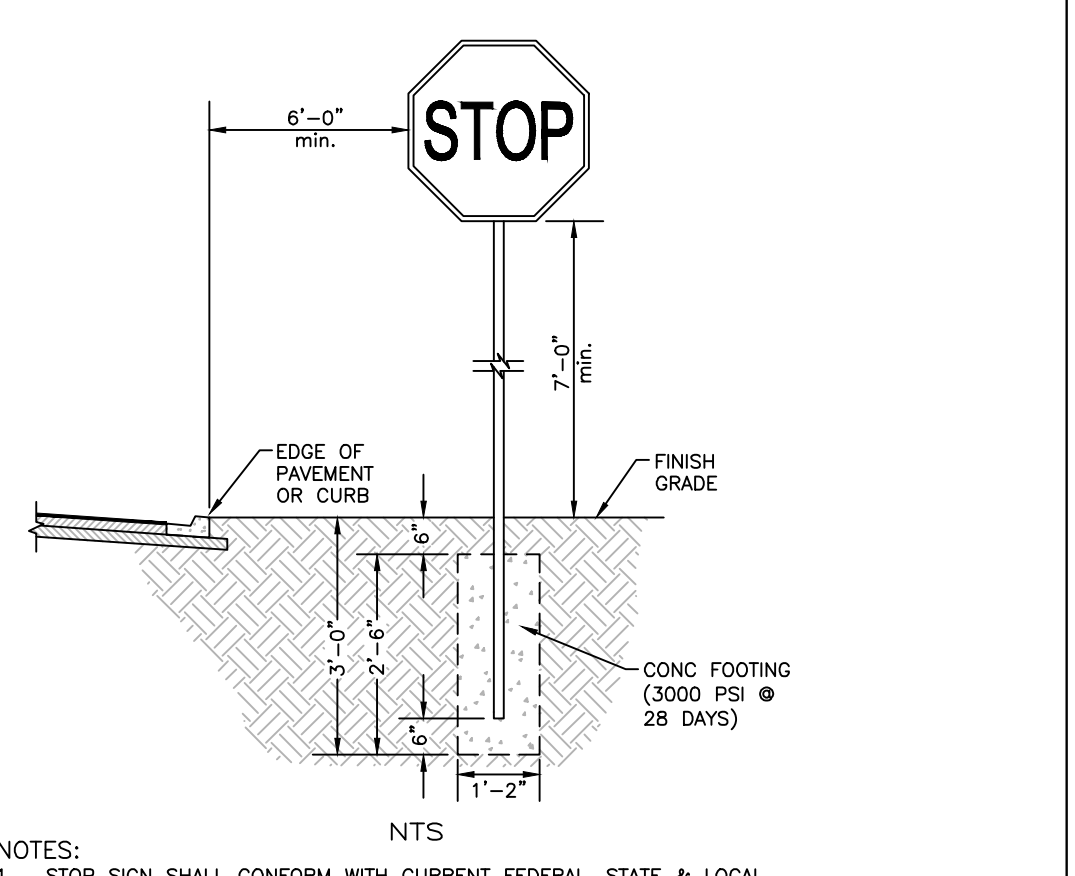
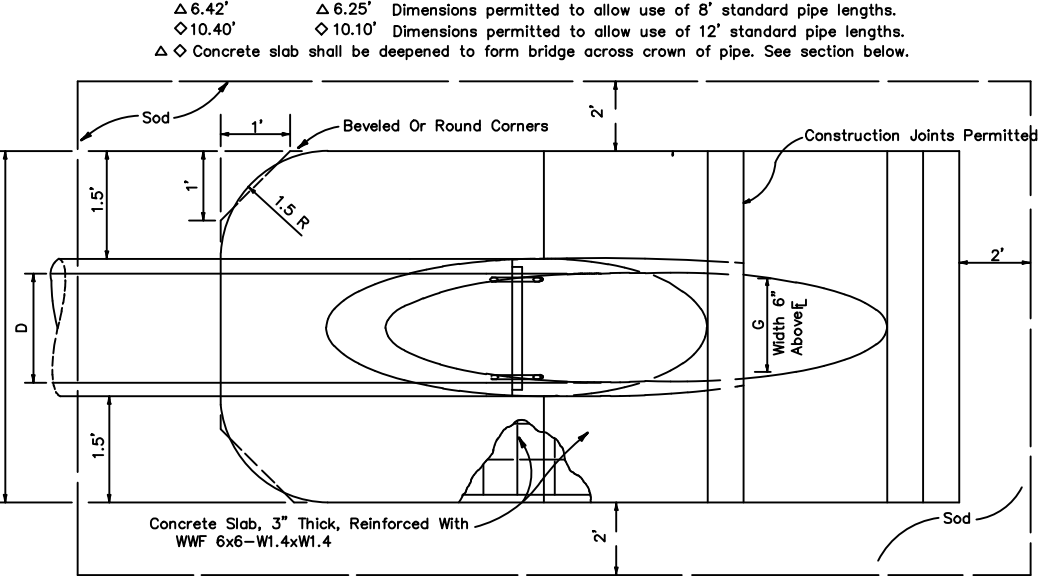
THE CITY OF DAYTONA BEACH ENGINEERING DIVISION STORMWATER CONSTRUCTION NOTES (PAGE 3 OF 4) ST-3

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION STORMWATER CONSTRUCTION NOTES (PAGE 4 OF 4) ST-4

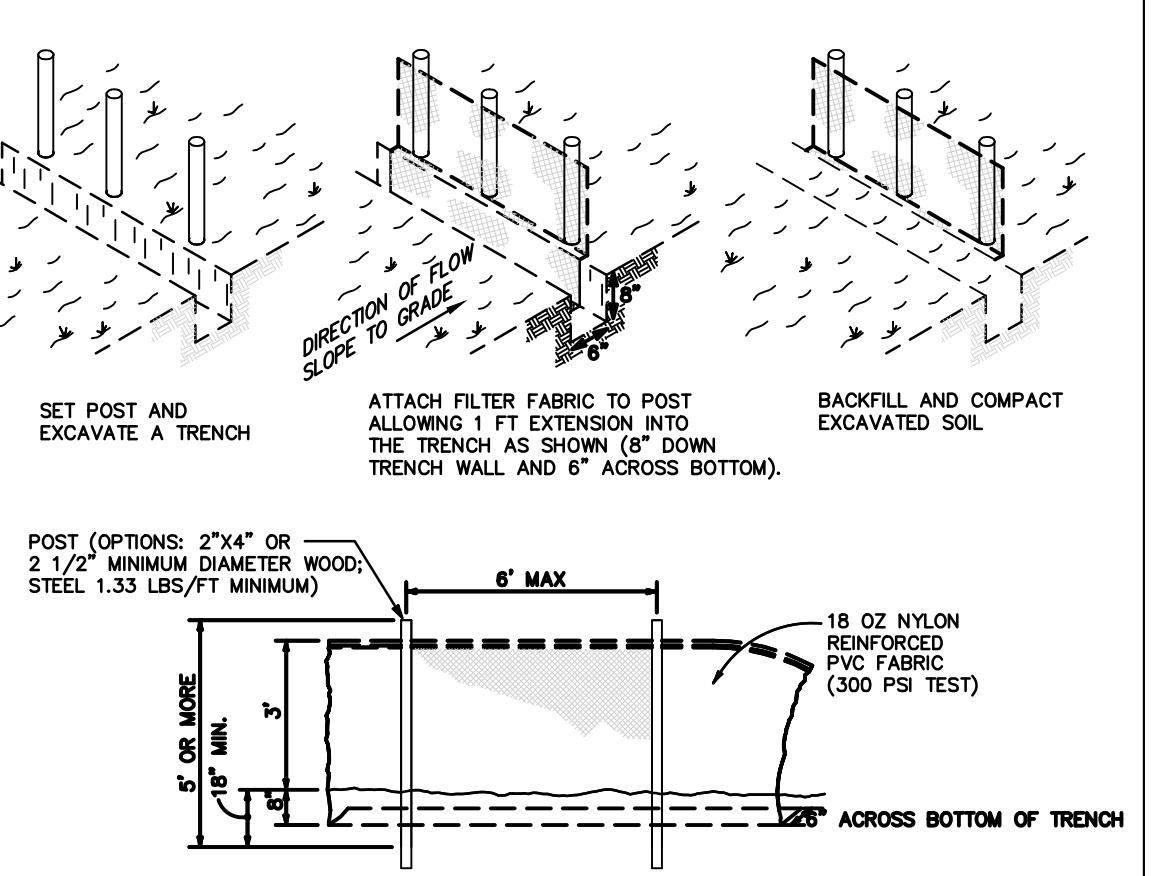


THE CITY OF DAYTONA BEACH ENGINEERING DIVISION EROSION AND SEDIMENT CONTROL NOTES ST-5

Table with columns: DIMENSIONS & QUANTITIES, D, X, A, B, C, E, F, G, M, N. Includes a table for concrete pipe sizes.

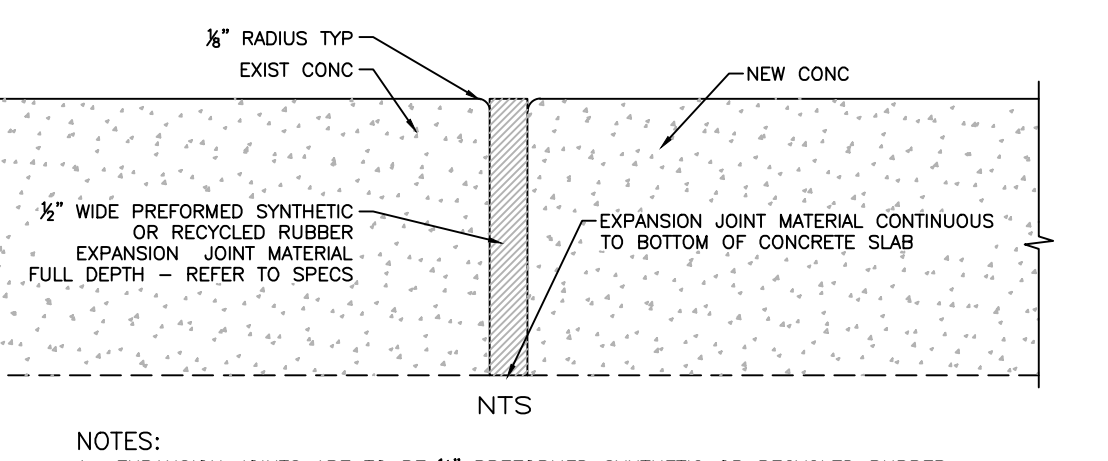


- 1. STOP SIGN SHALL CONFORM WITH CURRENT FEDERAL, STATE & LOCAL CODES & REGULATIONS, LATEST EDITION.

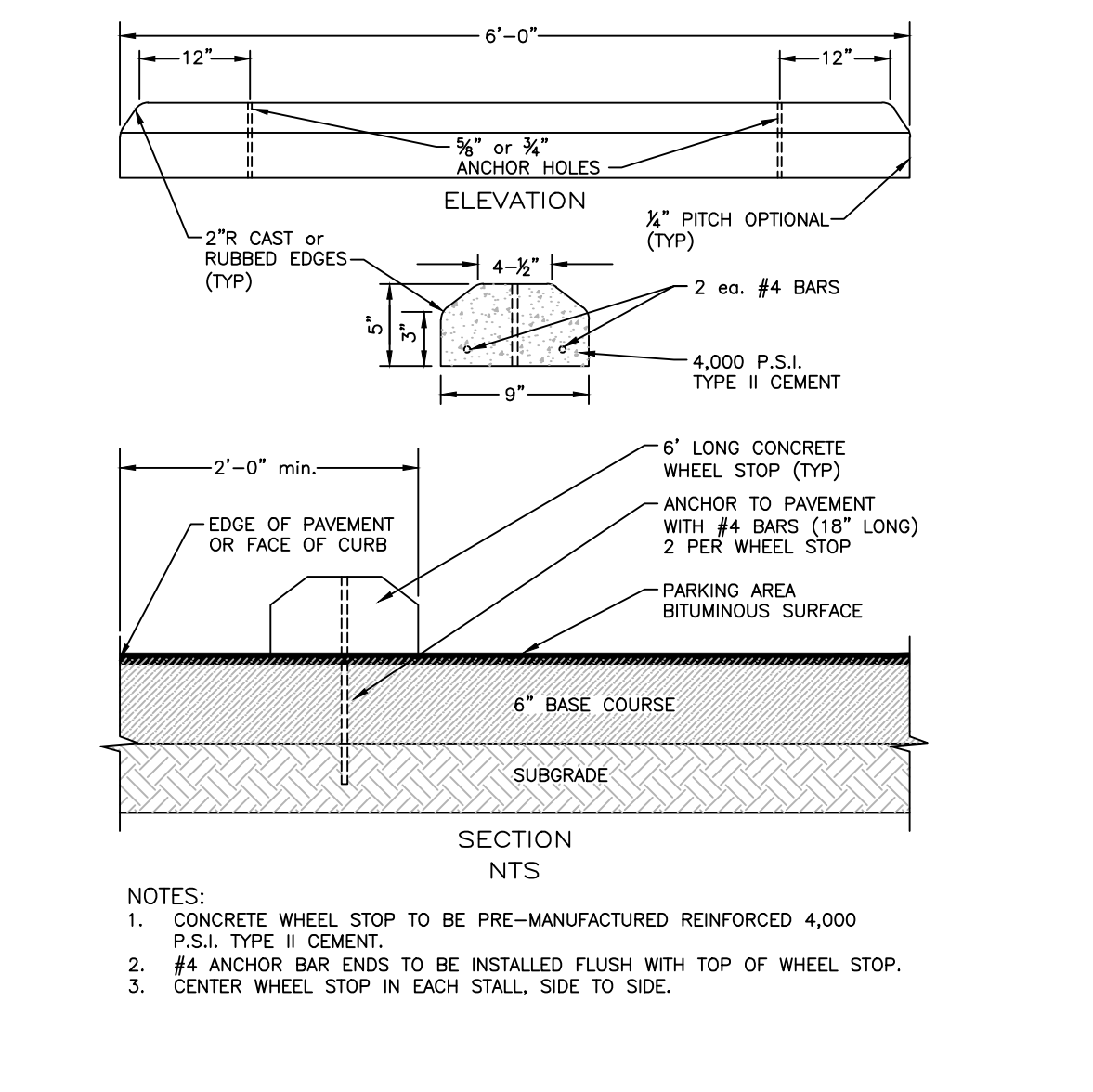


- 1. MATERIALS, CONSTRUCTION METHODS AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DESIGN STANDARDS CURRENT EDITION.

ROADWAY CURB CONSTRUCTION DETAIL



- 1. EXPANSION JOINTS ARE TO BE 1/2" PREFORMED SYNTHETIC OR RECYCLED RUBBER.



THE CITY OF DAYTONA BEACH ENGINEERING DIVISION PARKING SPACE WHEEL STOP DETAIL M-1

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION MITERED END SECTION DETAIL (NO GRATES) M-2

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION STOP SIGN INSTALLATION DETAIL (FDOT TYPE R1-1) T-1

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION STAKED SILT FENCE DETAIL ST-13

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION EXPANSION JOINT (TYPE A) DETAIL C-4

EMBRY RIDDLE AERONAUTICAL UNIVERSITY PRINT SHOP DAYTONA BEACH, FLORIDA PAVING AND DRAINAGE DETAILS

DEV 2019-095 CITY APPROVAL STAMP 12 OF 19 SHEET NO. Drawn By: MRB Date: 6-15-19 SCALE: NONE JOB #19-03

PARKER MYNCHENBERG & ASSOCIATES, INC. PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386) 677-6881 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com CERTIFICATE OF AUTHORIZATION NUMBER 00003910

Section 01720
AS-BUILTS/RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This Section sets forth the requirements for preparing as-built/record drawings and documents for verification of construction and archiving.

CONTRACTOR shall secure the services of a Florida licensed surveyor to collect data and prepare as-built/record drawings in accordance with City of Daytona Beach Utilities standards as follows:

1.2 REFERENCE:

A. The preparation work shall be in accordance with this section and supplementary details in the City of Daytona Beach Utilities Department Standard Details, latest edition.

1.3 AS-BUILTS/RECORD DRAWINGS AND DOCUMENTS:

In order to ensure that the project records are maintained to the highest standards and the information can easily be added to the City's electronic records the following information is required on all As-built/Record Drawings.

A. The intent of these details for As-built/Record Drawings are required for all public facilities constructed. Prior to construction completion these as-built/record requirements will be reviewed to be certain the Contractor's surveyor has a clear understanding of what is required for completion of this work.

- 1. Pavement and curb widths shall be verified and dimensioned for each street at each block (for subdivisions) and as appropriate to confirm paving limits (on site plans).
- 2. All radii at intersections shall be verified and dimensioned. This information is to be clearly indicated on the as-built/record drawings.

Section 01720
AS-BUILTS/RECORD DOCUMENTS
(CONTD)

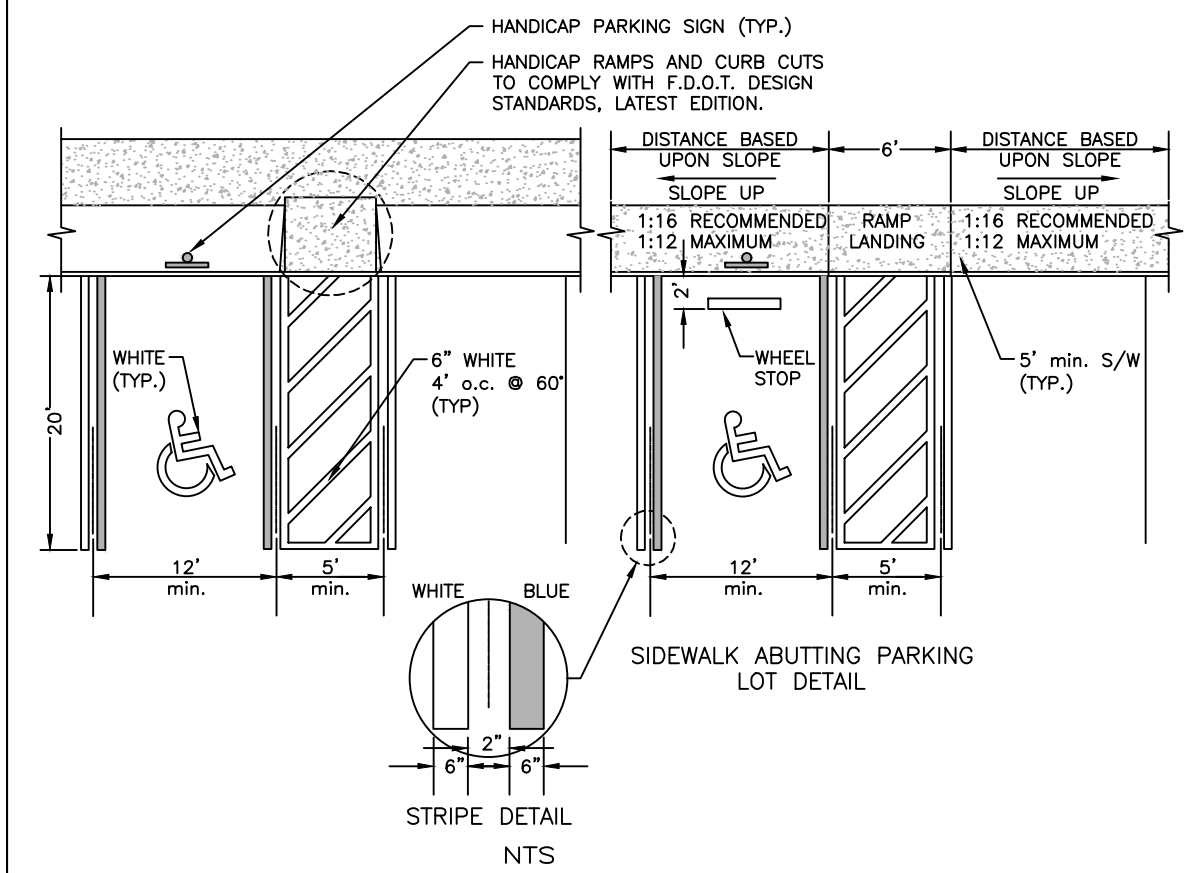
- 3. Roadway elevation shall be recorded at all grade changes, 100' intervals along roadway, and other intervals as needed along all streets. Street centerline and curb invert elevations shall be recorded as noted. The as-built centerline profile of all streets shall also be shown on the plan and profile so it may be compared to the design profile grade lines. In the event that the as-built centerline longitudinal grade does not meet the City minimum standards, additional longitudinal grades of the adjacent curbing and similar roadway cross-section surveys to verify the correct cross slope, shall be required to verify that the system will function as originally designed.
- 4. Storm drainage structures shall be located and/or dimensioned from centerlines or lot lines as appropriate. Each structure shall be located by sub-meter GPS with Station & Offset, northerly & easterly, latitude, longitude, and elevation data.
- 5. Storm drainage pipe invert and inlet elevation shall be recorded and clearly denoted as As-built information. Design elevation shall be crossed out and as-built information written next to it.
- 6. Storm drainage pipe material, length, size shall be measured and/or verified. This information is to be clearly indicated as being as-built information.
- 7. All applicable topographic information pertinent to the on-site drainage system, such as ditches, swales, lakes, canals, etc. that are deemed necessary by the City to verify the functional performance of the storm system, shall be noted. Normally, recording elevation every 100 feet at the top of bank to toe of slope will be required. Measurements shall be taken and recorded in order to accurately tie down these features to the roadway centerlines and to plat lines. Whenever possible, contour lines shall be utilized to graphically describe these topographic features.
- 8. Retention areas shall have their top of bank and bottom elevations recorded. Actual measurements shall be taken and dimensions recorded of the size of all retention areas. Measurements shall be done from top of bank with side slopes indicated. Separate calculations shall be submitted to indicate required and provided retention volumes.
- 9. Actual materials used and elevations and dimensions of overflow weir structures and skimmers shall be noted on the as-built.
- 10. Storm drainage swale centerlines shall be located and elevations of flow line and top of bank shall be recorded every 100 feet. side slopes shall also be indicated.

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AS-BUILTS/RECORD DOCUMENTS
(CONTD)

- 11. Sanitary sewer manholes shall be verified and dimensioned from street centerlines or lot lines as appropriate. Each structure shall be located by sub-meter GPS with station & offset, northerly & easterly, latitude, longitude, and elevation data. All rim and invert elevation shall be verified and recorded. This information shall be clearly indicated as being as-built information. Design elevations shall be crossed out and as-built information written next to it.
- 12. For subdivisions, proposed design finish floor elevations shall appear on all subdivision lots on the appropriate plan and profile sheet as well as on the master drainage plan.
- 13. Sanitary sewer line lengths, sizes, material, slope, etc., shall be verified and recorded, this information is to be clearly indicated as being as-built information.
- 14. Sewer Laterals shall be verified and recorded at the clean out locations, stationing and offset distances shall be measured from upstream manholes towards downstream manholes. Invert information at clean out shall be provided and be located by sub-meter GPS with station & offset, northerly & easterly, latitude, longitude, and elevation data.
- 15. Lift station and forcemain shall be verified and dimensioned from street centerlines or lot lines as appropriate. Forcemain depth and location including valves will be provided and tied to permanent above grade features. dimensional and elevation information indicated on the approved plan shall be verified and recorded. This information shall be clearly indicated as being as-built information. Buried potable water lines and electrical service lines shall be clearly dimensioned, located and labeled. Each lift station shall be located by sub-meter GPS with station & offset, northerly & easterly, latitude, longitude and elevation data.
- 16. Curb cuts or metal tabs, used to mark sewer laterals, water services and water valves, shall be verified for presence and accuracy of location.
- 17. Potable and reclaimed water main lines shall be dimensioned off the baseline construction. Water main line material size, length and depth, placed shall be noted. Locations of valves shall also be tied to baseline construction. This information shall be clearly indicated as being as-built information.

Section 01720
AS-BUILTS/RECORD DOCUMENTS
(CONTD)

- 18. Potable and reclaimed water valves, tees, bends, all services, and fire hydrants shall be located by tying them to baseline construction (Sta. & Offset). Similarly, force main valves, tees, and bends shall be located in the same manner. Stationing and offset distances shall be measured from upstream manholes to downstream manholes. All services, valves, tees, bends, and hydrants shall be located by sub-meter GPS with station & offset, northerly & easterly, latitude, longitude and elevation data.
- 19. For perpendicular crossings of storm water, sanitary sewer, potable water, or reclaimed water, the as-built plans shall clearly indicate which utilities are located over or under other utilities, as necessary.
- 20. Any special features such as, concrete flumes, lake banks, walls, fencing, etc. which are a part of the approved construction drawings should also be located and dimensioned.
- 21. If an approved subdivision plat or site plan shows a conservation easement, the project surveyor should provide the exact location of the specimen tree(s) from the right-of-way or property lines and proposed easement boundaries on the as-built drawing. The as-built location of these trees will help verify the sufficiency of the conservation easement prior to plat recording or certificate of occupancy.
- 22. When storm water, potable water, reclaimed water, or sanitary sewer improvements are located within an easement, the as-built drawing will accurately depict the location of the easement itself as well as the exact location of the improvements within the easement. This is required in order to verify that the improvements have been properly located and to ensure that future subsurface excavation to perform remedial repair can be accomplished without disturbance beyond the easement.
- 23. As-built drawings are to be prepared, signed and sealed by a Florida licensed surveyor. These as-built drawings shall also be signed and sealed by a Florida licensed engineer of record. Two (2) paper copy sets of as-built record drawings shall be provided, a CD with a digital copy in a compatible AutoCAD format, and PDF format.
- 24. Elevations shall be referenced to NAVD 1988 Data. As-built survey information shall be referenced to at least two Florida State Plane east coordinates NAD 83.



- 1. ALL HANDICAP PARKING STALLS, 5' ACCESS AISLES, HANDICAP RAMPS AND ACCESSIBLE ROUTES SHALL BE PAVED.
- 2. PERPENDICULAR AND DIAGONAL HANDICAP PARKING STALLS WILL BE 12'-0" WIDE AND 20'-0" LONG WITH A 5'-0" MIN. WIDE ACCESS AISLE ADJACENT TO EACH STALL. THE 5' ACCESS AISLE MAY BE SHARED BY TWO ADJACENT HANDICAP PARKING STALLS.
- 3. PARALLEL HANDICAP PARKING STALLS WILL BE 12'-0" WIDE AND 22'-0" LONG WITH A 5'-0" MIN. WIDE ACCESS AISLE ADJACENT TO EACH STALL.
- 4. ALL HANDICAP RAMPS SHALL BE OF 5'-0" MIN. WIDE EXCLUSIVE OF THE FLARED SIDES WITH A MAXIMUM SLOPE OF 1:21. HANDICAP RAMPS AND CURB CUTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH FDOT DESIGN STANDARDS, LATEST EDITION.
- 5. BLUE STRIPING SHALL BE BLUE TINT TO MATCH SHADE 15180 OF FEDERAL STANDARD 595a.
- 6. WHEN FDOT TYPE 'D' CURB IS USED IN LIEU OF WHEEL STOPS, SIDEWALK ABUTTING CURB SHALL BE WIDENED BY 18" MIN. SO THAT THE TOTAL SIDEWALK WIDTH IS 72" MIN. ALLOWING FOR 54" MIN. CLEAR ACCESSIBLE ROUTE.
- 7. 6" WHEEL STOPS ARE TO BE CENTERED SIDE TO SIDE IN EACH PARKING STALL. REFER TO COOB STANDARD DETAIL M-1 (dbM-1.dwg).
- 8. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS.
- 9. DIMENSIONS ARE CENTERLINE OF PAVEMENT MARKINGS.
- 10. FOR COMPLETE DETAIL OF HANDICAP SIGN INSTALLATION, REFER TO COOB STANDARD DETAIL M-6 (dbM-6.dwg).

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 1 OF 7)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 2 OF 7)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 3 OF 7)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 4 OF 7)

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION HANDICAP PARKING SPACE STRIPING DETAIL M-4

PARKER MYNCHENBERG & ASSOCIATES, INC. PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS

EMBRY RIDGE AERONAUTICAL UNIVERSITY PRINT SHOP DAYTONA BEACH * FLORIDA PAVING AND DRAINAGE DETAILS

DEV 2019-095 CITY APPROVAL STAMP

13 OF 19 SHEET NO.

Drawn By: MRB

Date: 6-15-19

SCALE: NONE

JOB #19-03

SEAL

Section 01720
AS-BUILTS/RECORD DOCUMENTS
(CONTD)

25. Benchmark Datum utilizes monumentation from the North American Vertical Datum of 1929 with elevations adjusted to NGVD 1988 data. Any NAVD 1929 monument with the limits of construction is to be protected.

1.4 SUBMITTALS

- A. CONTRACTOR shall submit each month to CITY the Project Activity Summary that shows current construction activities and a copy of notices to agencies including the City regarding road closures; plus a record of events that will be needed in the future.
- B. CONTRACTOR shall submit to CITY as required the proposed shut-off schedule, capping, temporary service scheduling, record of notices to customers and proposed roadway closings.
- C. CONTRACTOR shall submit copies of published notices.
- D. CONTRACTOR shall submit Final as-builts for each utility included in the plans. Send the two paper copies and the AutoCAD files for pre-approval. The final submittal shall include two (2) Paper Copies of Record (rolled, not folded), a CD with the AutoCAD files, and a set of PDF files (Mylars are no longer required). When the As-Builts are delivered for clearance of water lines (two paper signed and sealed copies), they will be scheduled for chlorination. CITY will not release the drinking water bacteriological laboratory report to Volusia County Health Department until the As-built information meets CITY requirements. CONTRACTOR will have 60 days from the time that the bacteriological samples are collected to submit any correction that needed to be done to the as-built and CD to CITY. If CONTRACTOR goes past the 60 days re-chlorination will be required and pay for the bacteriological laboratory report will be required. The following are minimum detail samples of how the As-built drawing information will need to be presented.

Section 01720
AS-BUILTS/RECORD DOCUMENTS
(CONTD)

E. There are examples of how to display and label valves, fittings, and pipes on the plans. Include a location arrow going to the identified object:

- Valve Example: 20" GATE VALVE STA. 22+23 (LT.55.0') LAT. = 29°12'53.009" N LONG. = 81°04'03.355"W N = 1,774,373.4058 E = 634,602.7566 TOP OF NUT ELEV. = 27.50 GROUND ELEV. = 30.50
- Manhole Example: Manhole No.25 STA. 22+23 (LT.55.0') LAT. = 29°12'53.009" N LONG. = 81°04'03.355"W N = 1,774,373.4058 E = 634,602.7566 RIM ELEV. = 27.50 NORTH 15° RCP ELEV. = 8.50 WEST 24° CMP ELEV. = 7.50 BOTTOM ELEV. = 9.30

(All Bench Marks used must be shown on the plans) Bench Mark Example: BM#13 STA. 20+33 (LT. 85.5') 3/4" Iron Rod with Plastic Cap... N = 1,774,373.4058 E = 634,602.7566 LAT. = 29°04'53.355"W LONG. = 81°04'53.355"W ELEV. = 32.55

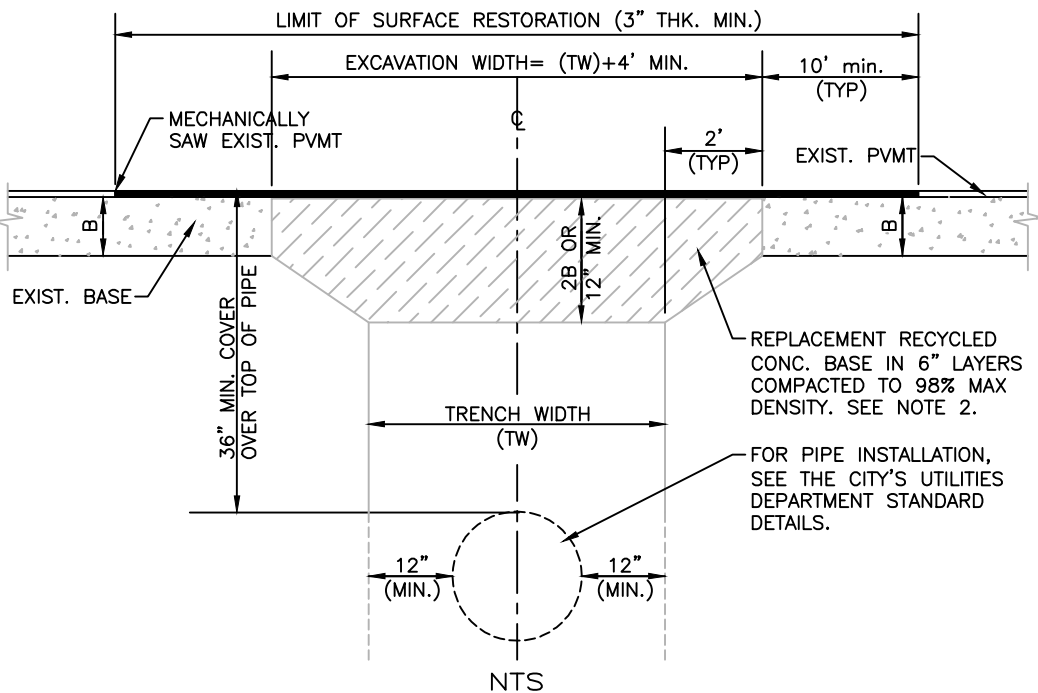
Section 01720
AS-BUILTS/RECORD DOCUMENTS
(CONTD)

PART 2- EXECUTION

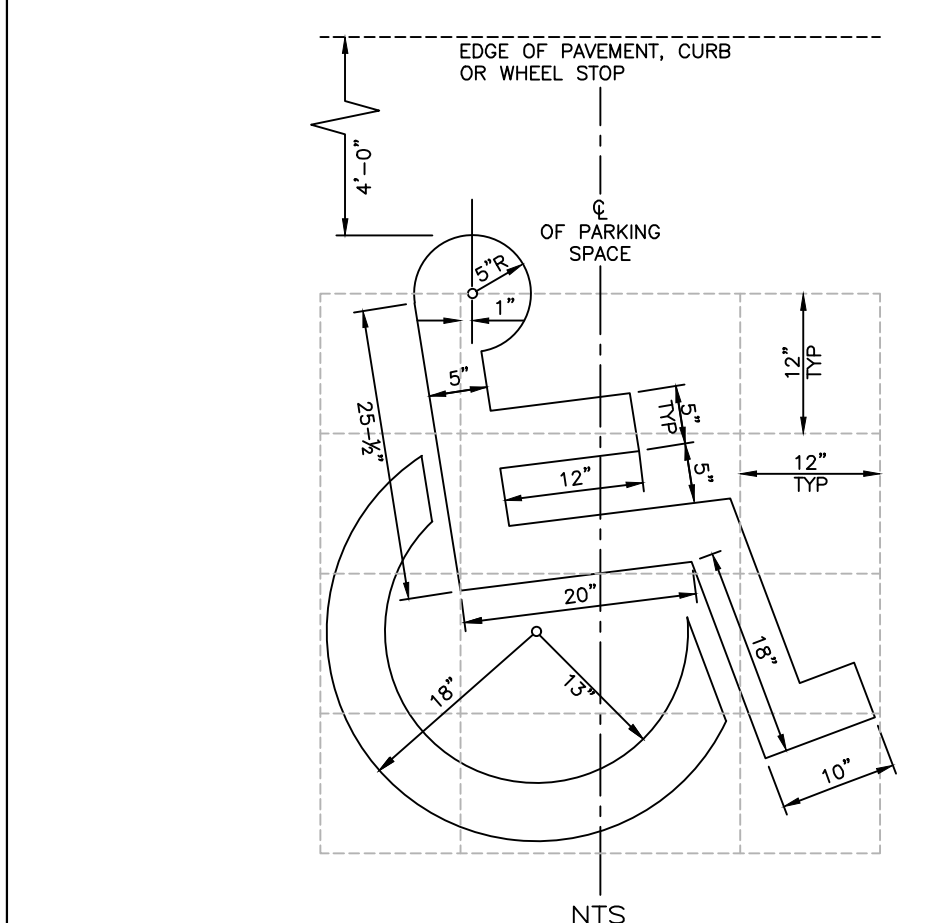
2.1 General

- All drawings shall be prepared to True State Plane Coordinates. CONTRACTOR shall provide all materials, equipment, labor needed to prepare and submit accurate As-Built/Record Drawings.
- A. It is acceptable to CITY if the surveyor utilizes an after the fact approach to collecting and verifying the location and depth by vertical PVC pipes placed by the CONTRACTOR as markers for this purpose. The surveyor shall verify the accuracy defined in Florida Statutes the As-built conditions and certify the Record Drawings.
- B. CITY shall not be considered the best source of information for valve locations that may have been lost during final grading, the surveyor or CONTRACTOR shall excavate and properly mark all valve boxes and each valve shall have a tag or color coded to define water, sewer, or reuse water valves. The use of temporary PVC pipe markers color coded is acceptable so long as cross references are provided on the Record Drawings to prevent the tops from a water valve being placed on a sewer valve.
- C. THE CONTRACTOR SHALL PROVIDE THE UTILITIES DEPARTMENT ENGINEERING DIVISION THE FINAL AS BUILT/RECORD DRAWINGS ON CD AND MYLARS. THE AS BUILT RECORD DRAWINGS SHALL BE PREPARED USING AUTOCAD FORMAT 2010 OR LATER. IN MODEL SPACE THE DRAWING SHALL BE IN FL83-EF (NAD83 FLORIDA STATE PLANES, EAST ZONE, US FOOT) STATE PLANE COORDINATES AND SHALL BE ABLE TO BE INSERTED INTO THE CITY'S OVERALL GIS SYSTEM. THE RECORD DRAWINGS SHALL ALSO BE PRINTED, SIGNED AND SEALED AS ALLOWED BY STATE OF FLORIDA REGULATIONS. A DISCLAIMER MAY BE NOTED IN A TRANSMITTAL LETTER PLUS THE SURVEYOR MAY ADD A SPECIAL NOTICE ON EACH SHEET REGARDING THE LOCATION OF THE TRUE ORIGINAL RECORD DRAWINGS OR PLACE LIMITS ON RESPONSIBILITY SHOULD SOME ONE IN THE FUTURE NEED TO MODIFY THE DRAWINGS.
- D. Identify the source markers for the survey used for Record Drawings.

END OF SECTION



- 1. ALL MATERIALS ARE TO BE APPROVED BY THE CITY ENGINEER AND THE PROJECT'S LICENSED SOILS ENGINEER PRIOR TO PLACEMENT.
- 2. COMPACTION, STABILITY & DENSITY TESTING ARE TO BE DONE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROADWAY & BRIDGE CONSTRUCTION, LATEST EDITION.
- 3. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
- 4. SHEETING WILL BE REQUIRED AS DETERMINED BY FIELD CONDITIONS.
- 5. NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED & FEATHERED JOINTS (3" MIN. THK.).
- 6. CONTRACTOR MAY USE FLOWABLE FILL IN LIEU OF RECYCLED CONC. UNDER THE APPROVAL FROM THE CITY ENGINEER OR DESIGNER.
- 7. TRENCH WIDTH (TW) = PIPE OD (CENTERED)+24" (MINIMUM).
- 8. (B) = EXISTING BASE DEPTH.
- 9. TEMPORARY PATCH MAY BE RECYCLED ASPHALT, FDOT APPROVED COLD PATCH OR APPROVED EQUAL.
- 10. FINAL PATCH TO BE 3" MIN. SP 9.5
- 11. PATCH SHALL BE TOTAL ROADWAY WIDTH.



- 1. PAVEMENT SYMBOL SHALL BE SOLID WHITE IN COLOR AND COMPLY WITH FDOT DESIGN STANDARDS, LATEST EDITION.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 5 OF 7)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 6 OF 7)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT AS-BUILT DRAWING REQUIREMENTS (SHEET 7 OF 7)

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION PAVEMENT CUT & PATCH OVER PIPE TRENCH DETAIL R-7

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION HANDICAP PARKING PAVEMENT SYMBOL DETAIL M-5

SITE PLAN & SUBDIVISION TESTING

- A. MATERIALS:**
THE INSPECTION AND TESTING OF MATERIALS AND FINISHED ARTICLES TO BE INCORPORATED IN THE WORK SHALL BE MADE BY BUREAUS, LABORATORIES, OR AGENCIES APPROVED BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL SUBMIT SUCH SAMPLES OR TEST PIECES OF MATERIALS AS THE ENGINEER OF RECORD MAY REQUIRE. THE CONTRACTOR SHALL NOT INCORPORATE ANY MATERIAL OR FINISHED ARTICLE INTO THE WORK UNTIL THE RESULTS OF THE INSPECTIONS OR TESTS ARE KNOWN AND THE CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER OF RECORD THAT THE MATERIAL OR FINISHED ARTICLE IS ACCEPTED. ALL MATERIALS MUST BE OF THE SPECIFIED QUALITY AND BE EQUAL TO THE APPROVED SAMPLE IF A SAMPLE HAS BEEN SUBMITTED. CERTIFIED COPIES OF ALL TESTS MADE SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AS WELL AS TO THE CITY'S DESIGNATED SITE INSPECTOR. THE CITY'S DESIGNATED SITE INSPECTOR MUST RECEIVE COPIES OF ALL TESTING REPORTS AND CERTIFICATES PRIOR TO THE ENGINEER OF RECORD REQUESTING A FINAL PROJECT INSPECTION FROM THE CITY.
- B. LABORATORY CONTROL AND CERTIFICATES:**
- SPECIFICATIONS: SAMPLING, TESTING, AND LABORATORY METHODS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE AASHTO OR ASTM. WHERE AASHTO OR ASTM SPECIFICATIONS ARE USED, THE REFERENCE SHALL BE CONSTRUED TO BE THE MOST RECENT STANDARD SPECIFICATIONS OR TENTATIVE SPECIFICATIONS OF THE AASHTO OR ASTM IN FORCE ON THE DATE OF THE TEST.
 - TEST & CERTIFICATES: THE CONTRACTOR SHALL ENGAGE AN APPROVED TESTING LABORATORY TO PROVIDE THE FOLLOWING TESTS AND CERTIFICATIONS SIGNED BY A REGISTERED ENGINEER OF THE STATE OF FLORIDA. ALL TECHNICIANS PERFORMING THE TESTS SHALL BE STATE CERTIFIED FOR THE TESTING PERFORMED. ADDITIONAL TESTS THAT MAY BE REQUIRED BY EITHER THE ENGINEER OF RECORD OR THE CITY SHALL ALSO BE PROVIDED BY THE CONTRACTOR, AND THE FOLLOWING SHALL NOT BE TAKEN AS A COMPLETE AND EXHAUSTIVE LIST OF THE CONTRACTOR'S TESTING RESPONSIBILITIES.
 - SOIL ANALYSIS FOR STRUCTURAL FILL MATERIAL PRIOR TO INSTALLATION.
 - PROCTOR DENSITIES, MOISTURE CONTENT, COMPACTED FIELD DENSITIES AND ATERBERG LIMITS.
 - ANALYSIS OF RECYCLED CONCRETE BASE MATERIAL PRIOR TO INSTALLATION.
 - ASPHALT MIX DESIGN, BITUMEN CONTENT, SIEVE ANALYSIS, HUBBARD FIELD STABILITY TESTS, NUCLEAR DENSITY TESTS (BACKSCATTER METHOD), AND ANALYSIS OF CORE SAMPLES.
 - CONCRETE MIX DESIGNS FOR ALL APPLICATIONS INCLUDING PAVEMENT, CAST-IN-PLACE STRUCTURES, CURBING, GUTTERS, SIDEWALKS, BIKE PATHS, APRONS AND DRIVEWAYS.
 - COMPRESSIVE TEST CYLINDERS AND SLUMP TESTS FOR ALL APPLICATIONS OF CONCRETE, INCLUDING PAVEMENT, CAST-IN-PLACE STRUCTURES, CURBING, GUTTERS, SIDEWALKS, BIKE PATHS, APRONS, AND DRIVEWAYS.
 - ALL UNDERGROUND UTILITY TESTING TO BE COMPLETED IN ACCORDANCE WITH THE CITY'S UTILITIES DEPARTMENT DESIGN STANDARDS.

SITE CLEARING AND GRADING NOTES

- THE FOLLOWING REPRESENTS MINIMUM STANDARDS TO BE ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF A PROJECT. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO BE EMPLOYED WHEN WARRANTED BY EXTREME CONDITIONS AND/OR THE FAILURE OF THE CONTRACTOR TO EMPLOY THE APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES. FAILURE TO COMPLY WITH THESE PROVISIONS SHALL RESULT IN THE ISSUANCE OF A "STOP WORK ORDER".
- NO DISTURBANCE OF EXISTING OR PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED WITHOUT PRIOR APPROVAL FROM THE CITY ENGINEER OR DESIGNEE. THE CONTRACTOR SHALL LOCATE THESE AREAS ON SITE AND BARRICADE THEM TO AVOID ANY UNAUTHORIZED CLEARING, BARRICADES AND OTHER PROTECTIVE FENCING ARE TO BE LOCATED AT THE DRIP LINE OF EXISTING NATIVE TREES OR AT THE EDGE OF THE NATIVE UNDER-STORY HABITAT, WHICHEVER IS NEAREST TO THE CONSTRUCTION ACTIVITY.
 - SPECIMEN AND HISTORIC TREES, CONSERVATION EASEMENTS, NATURAL VEGETATION BUFFERS, AND SIMILAR AREAS MUST BE PROTECTED BY BARRICADES OR FENCING PRIOR TO CLEARING. BARRICADES ARE TO BE SET AT THE DRIP LINE OF THE TREES AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. BARBED WIRE IS NOT PERMITTED AS A PROTECTIVE BARRIER.
 - WHERE A CHANGE OF GRADE OCCURS AT THE DRIP LINE OF A SPECIMEN TREE, SILT FENCE WILL BE REQUIRED DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL STRUCTURES AND MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK, INCLUDING PRELIMINARY GRUBBING. THESE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY CONSTRUCTION FENCES, SYNTHETIC JUTE BALES, SILT FENCES, AND FLOATING TURBIDITY BARRIERS. FURTHER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL DEVICES THROUGHOUT THE DURATION OF THE ENTIRE PROJECT. MAINTENANCE SHALL INCLUDE PERIODIC INSPECTION AND REMOVAL OF DEBRIS ABUTTING EROSION CONTROL DEVICES IN ACCORDANCE WITH THE CITY'S UTILITIES DEPARTMENT STANDARDS.
 - PRIOR TO THE INSTALLATION OF ANY FILL MATERIAL ON SUBJECT SITE, SILT FENCE SHALL BE INSTALLED.
 - ALONG SUBJECT SITE BOUNDARY AND PROPERTY LINES.
 - AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS.
 - ADJACENT TO NATURAL LANDSCAPE BUFFERS.
 - AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES.
 - AT ANY ADDITIONAL AREAS THAT THE CITY DEEMS NECESSARY TO BE PROTECTED FROM POTENTIAL EROSION IMPACTS DURING CONSTRUCTION. THESE CONDITIONS SHALL APPLY IN ALL INSTANCES WHERE FILL MATERIAL IS BEING INSTALLED WITHIN 25 FEET OF ANY OF THE AFOREMENTIONED LOCATIONS. WHILE THESE ITEMS REPRESENT THE MINIMUM REQUIREMENTS, THE CITY RESERVES THE RIGHT TO IMPOSE ADDITIONAL PROTECTIVE MEASURES, AS DETERMINED DURING ACTUAL SITE VISITS CONDUCTED AS PART OF THE STANDARD REVIEW OF THE SITE-SPECIFIC CLEARING PERMIT AND THROUGHOUT PROJECT CONSTRUCTION.
 - WHERE FILL MATERIAL IS INTENDED TO BE INSTALLED ADJACENT TO EXISTING VEGETATION WHICH IS INTENDED TO REMAIN NATURAL, THE CONTRACTOR MAY INSTALL SILT FENCING AS A TREE PROTECTION MEASURE. IN LIEU OF INSTALLING EITHER WOOD BRACING OR ORANGE MESH FENCING, THIS PRACTICE IS ENCOURAGED BY THE CITY. IF THE SILT FENCE FAILS TO PROVIDE ADEQUATE PROTECTION FROM IMPACT DUE TO CONSTRUCTION, THEN ADDITIONAL CONSTRUCTION FENCING OR WOOD BRACING SHALL BE REQUIRED.
 - AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. GRASS COVERAGE IS TO BE ESTABLISHED WITHIN THIRTY DAYS.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THROUGH SCHEDULING, TO MINIMIZE THE DISTURBANCE OF SITE AREAS THAT HAVE BEEN BROUGHT TO THEIR PROPOSED FINAL GRADE. WITHIN TWENTY DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD AND WATERING, AS REQUIRED.
 - FOR INDIVIDUAL CONSTRUCTION PROJECTS INVOLVING MULTIPLE PHASES, UPON COMPLETION OF EACH PHASE OF THE PROJECT, SEEDING AND MULCHING AND/OR SODDING IS TO BE PERFORMED PRIOR TO COMMENCING THE NEXT PHASE OF CONSTRUCTION.

SITE CLEARING AND GRADING NOTES (CONT)

- ONCE AN AREA IS SEEDDED OR SODDED, IT MUST BE MAINTAINED, INCLUDING WATERING AND TRIMMING BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED.
- ANY BURNING OF CLEARED MATERIALS MUST BE INSPECTED AND PERMITTED ON A DAILY BASIS. CONTACT THE PERMITS AND LICENSING DIVISION PRIOR TO EACH DAY OF DESIRED BURNING.
- ABSOLUTELY NO BURNING OF CLEARED & GRUBBED MATERIALS IS PERMITTED.
- THE REMOVAL OF ALL VEGETATION AND TOPSOIL ON THE FUTURE ROADWAY, PARKING AND BUILDING LOT AREAS IS REQUIRED TO BE COMPLETED PRIOR TO THE PLACEMENT OF FILL ON THOSE AREAS. THE TOPSOIL MAY BE TEMPORARILY STOCKPILED AND USED AS TOPSOIL OVER PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED. TEMPORARY STOCKPILE SLOPES SHALL NOT EXCEED 4:1 (H:V).
- A SIGNED, DATED, AND SEALED LETTER FROM A SOILS ENGINEER OR THE ENGINEER OF RECORD CERTIFYING THAT THE AREAS TO BE FILLED HAVE BEEN STRIPPED OF ORGANIC MATERIALS, MUST BE SUBMITTED TO THE CITY PRIOR TO FILLING.
- FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 98% FOR BUILDING PADS AND ALL OTHER AREAS AS PER MODIFIED AASHTO T-180).
- DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THESE LOTS AT 300' INTERVALS. THESE TESTS ARE TO BE PERFORMED IN 1' VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS.
- IF ANY MUCK OR ANY UNSUITABLE MATERIAL IS DISCOVERED, IT SHALL BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
- STOCKPILING IS NOT GENERALLY PERMITTED BY THE CITY. WHEN ALLOWED, STOCKPILES SHALL NOT EXCEED SIX FEET IN HEIGHT MEASURED FROM THE ORIGINAL GRADE. AT A MINIMUM, STOCK PILES THAT WILL REMAIN IN PLACE IN EXCESS OF FIVE DAYS SHALL BE COVERED OR WATERED TO MINIMIZE THE ADVERSE IMPACT ON ADJACENT PROPERTY OWNERS AT NO ADDITIONAL COST TO THE CITY OR OWNER. SEED AND MULCH IMMEDIATELY UPON PLACEMENT OF THE FINAL LIFT.
- SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES. ADEQUATE WATERING METHODS SHOULD BE EMPLOYED TO ALLOW DAILY COVERAGE OF THE ENTIRE LIMITS OF ALL AREAS THAT DO NOT HAVE AN ESTABLISHED VEGETATIVE COVER. METHODS TO BE EMPLOYED INCLUDE, BUT ARE NOT LIMITED TO, WATER TRUCKS, PERMANENT IRRIGATION SYSTEMS, TEMPORARY SPRINKLER SYSTEMS OPERATED BY PUMPING UNITS CONNECTED TO WET RETENTION PONDS, WATER CANNONS, TEMPORARY IRRIGATION SYSTEMS MOUNTED ATOP STOCKPILE AREAS, AND OTHER METHODS AS DEEMED NECESSARY BY THE CITY.
- ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
- ALL FILL TO BE PLACED IN LANDSCAPED AREAS SHALL HAVE A PH RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, OR MATCH NATIVE EXISTING SOILS.

NOTES:

- SIDEWALKS, BIKE PATHS, RAMPS AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3". A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 3500 P.S.I. IN 28 DAYS AND A MINIMUM UNIFORM THICKNESS OF 6".
- SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE SIDEWALK REMAINS WITHIN THE RIGHT-OF-WAY OR AN APPROVED SIDEWALK EASEMENT ABUTTING THE RIGHT OF WAY. SIDEWALKS AND BIKE PATHS SHOULD BE LOCATED A MINIMUM OF 4'-0" FROM THE EDGE OF THE STREET PAVEMENT UNLESS OTHERWISE APPROVED BY THE CITY.
- ALL CURB CUTS AND HANDICAP RAMPS SHALL BE ADA COMPLIANT AND TO BE CONSTRUCTED IN ACCORDANCE WITH FOOT DESIGN STANDARDS AND FLORIDA BUILDING CODE ACCESSIBILITY, LATEST EDITIONS.
- THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6" ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
- EXPANSION AND ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT OF CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN ONE HUNDRED FEET (100') IN SIDEWALKS AND THIRTY FEET (30') IN BIKE PATHS.
- PERFORMED 1/2" EXPANSION JOINT MATERIAL SHALL BE AS SPECIFIED IN FOOT STANDARDS AND SPECIFICATIONS, LATEST EDITION, AND SHALL BE SYNTHETIC, RECYCLED RUBBER OR OTHER PRE-APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD AND DECCA-DRAIN STYLE POOL DRAINS ARE STRICTLY PROHIBITED IN ACCORDANCE WITH CHAPTER 8.1.2 OF THE FOOT SOILS AND FOUNDATIONS HANDBOOK, LATEST EDITION.
- CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE OR SAW CUT INTO CURED CONCRETE TO A DEPTH EQUAL TO 25% THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB OR 5' WHICHEVER IS LESS.
- THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
- THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12" LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4" LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THAN 12" DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12" DEEP. WHERE SUCH TEST IS REQUIRED, THE SIDEWALK BASE SHALL BE COMPACTED AND TESTED TO 95% WITH MINIMUM L.B.R. BASED ON AASHTO T-180 MODIFIED PROCTOR TEST. MOISTURE SHALL BE APPLIED TO DRY FILL MATERIAL TO ACHIEVE DENSITY REQUIREMENTS.
- ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB, AFTER WHICH TIME THE OWNER OF THE ABUTTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED AT NO ADDITIONAL COST TO THE OWNER. REPAIRS ARE NOT ACCEPTABLE.
- ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, RE-GRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.
- DETECTABLE WARNING DEVICES SHALL EXTEND THE FULL WIDTH OF THE SIDEWALK AND TO A DEPTH OF 2" MIN.
- SEE FOOT DESIGN STANDARDS INDEX 304, LATEST EDITION, FOR REFERENCE.

THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION



SITE PLAN & SUBDIVISION TESTING NOTES
C-14

Drawing Date: 05/2003
Drawn By: PFT
Checked By:
Scale: NTS
Revision Date: 10/2011
File Name: ac-14

THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION



SITE CLEARING & GRADING NOTES
C-15A

Drawing Date: 05/2003
Drawn By: PFT
Checked By:
Scale: NTS
Revision Date: 10/2011
File Name: ac-15

THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION



SITE CLEARING & GRADING NOTES
C-15B

Drawing Date: 05/2003
Drawn By: PFT
Checked By:
Scale: NTS
Revision Date: 10/2011
File Name: ac-15

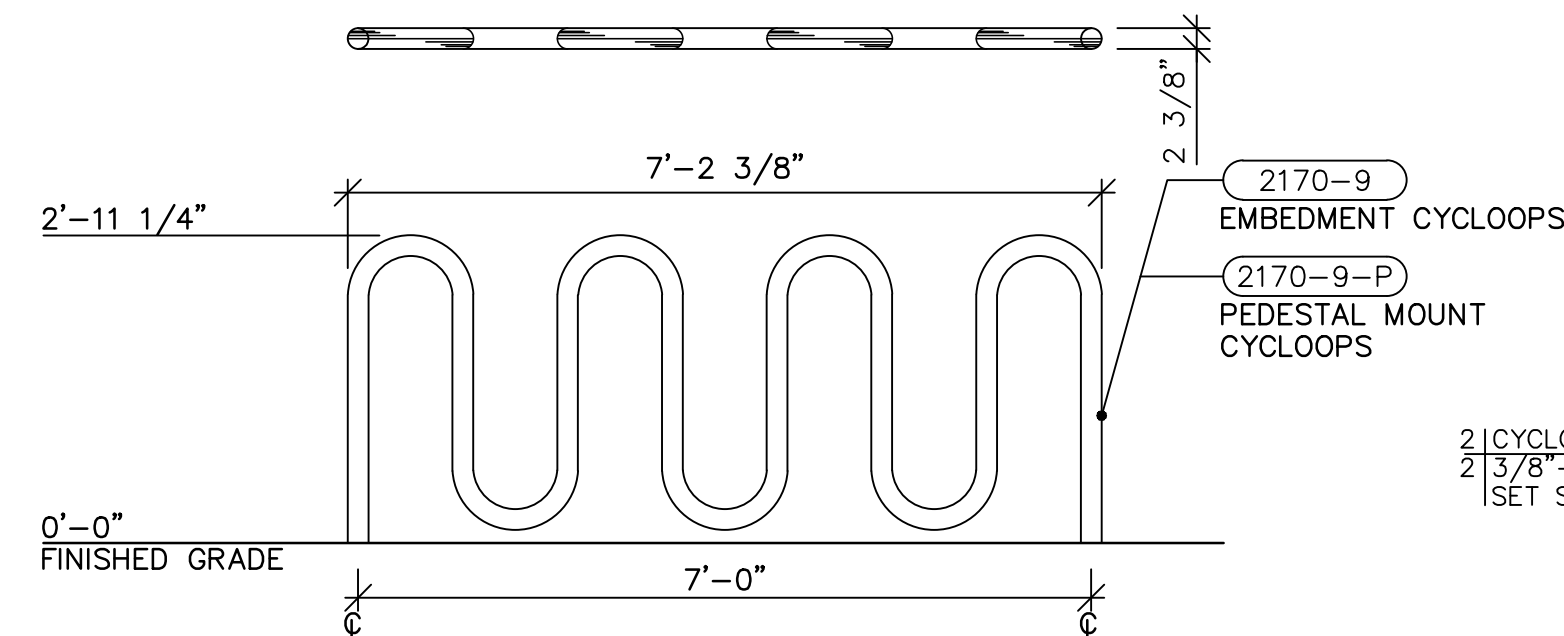
THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION



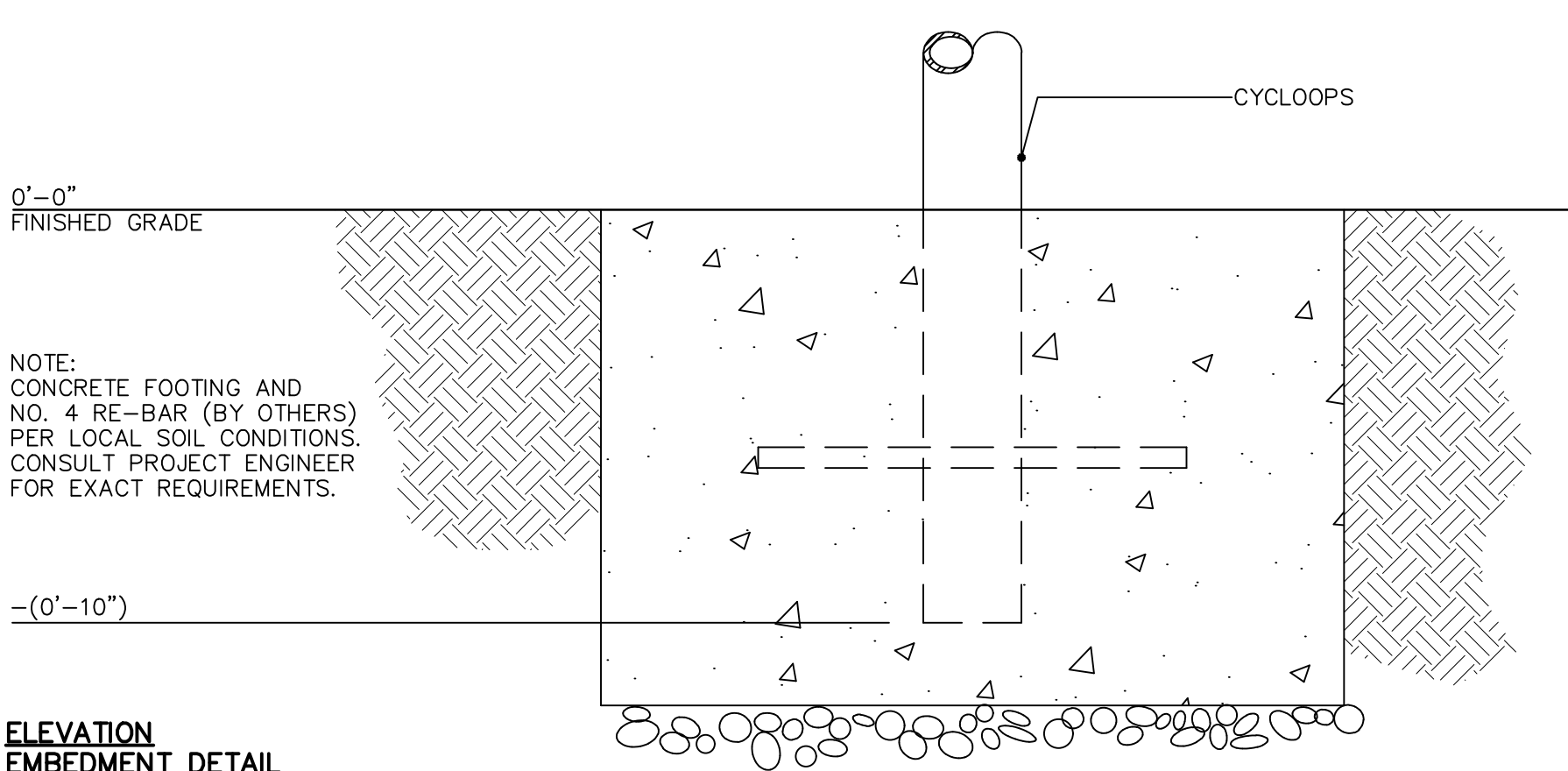
SIDEWALK/BIKE TRAIL CONSTRUCTION NOTES
C-3

Drawing Date: 09/2003
Drawn By: PFT
Checked By:
Scale: NTS
Revision Date: 12/2013
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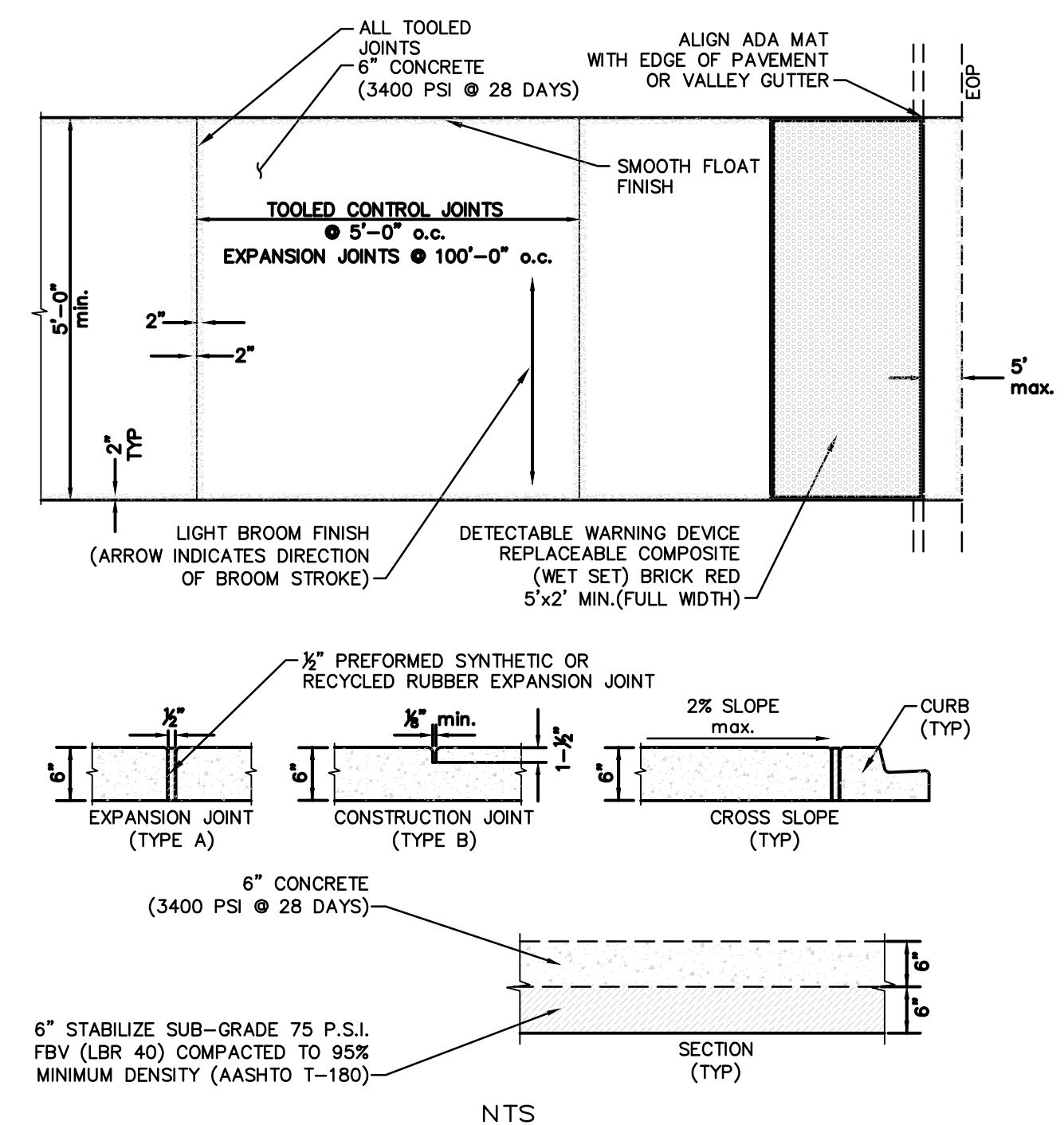
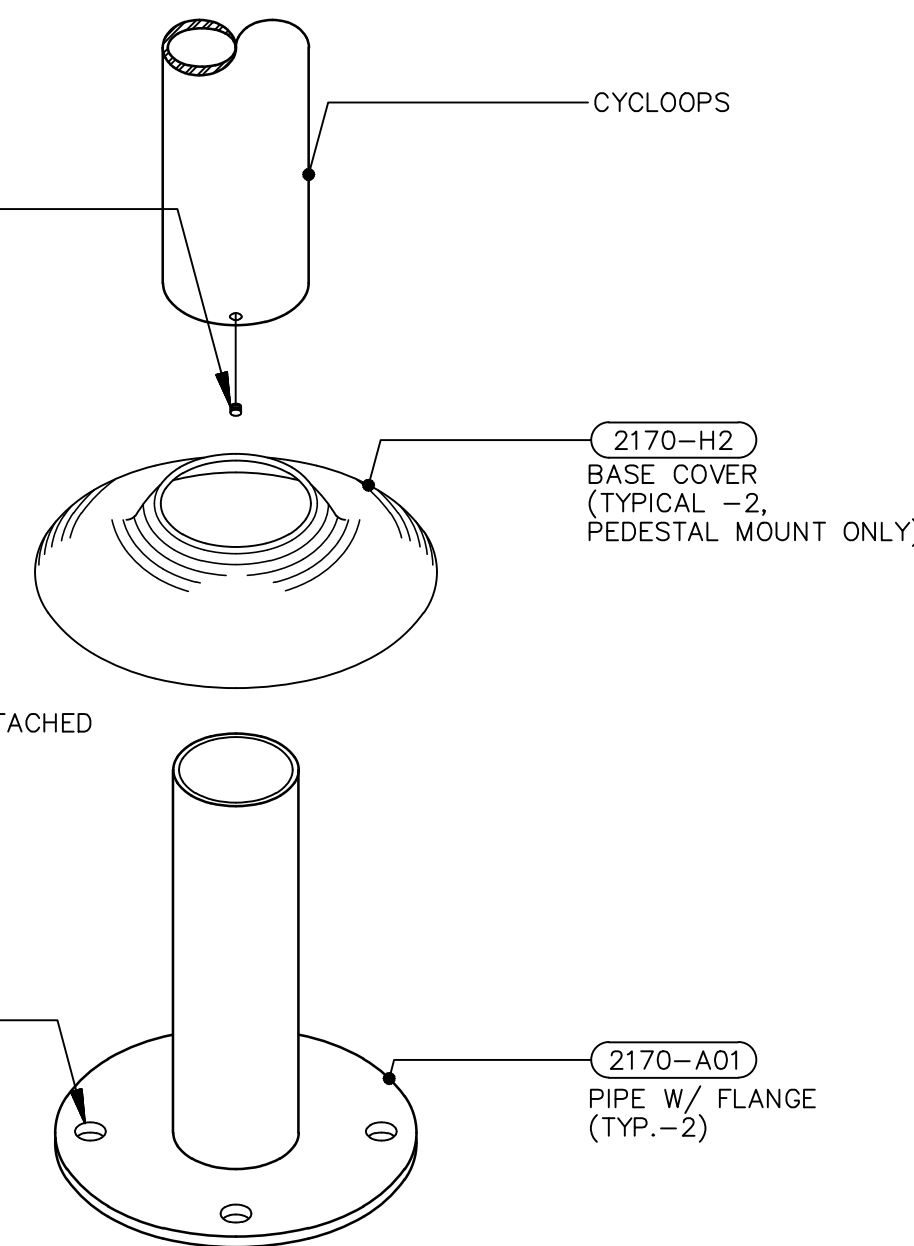
PLAN



ELEVATION MODEL NO. 2170-9
SCALE: 1/2"=1'-0"



BIKE RACK DETAIL
9 BIKE



THE CITY OF DAYTONA BEACH
ENGINEERING DIVISION



SIDEWALK CONSTRUCTION DETAIL
C-1

Drawing Date: 11/2000
Drawn By: PFT
Checked By:
Scale: NTS
Revision Date: 08/2015
File Name: ac-1

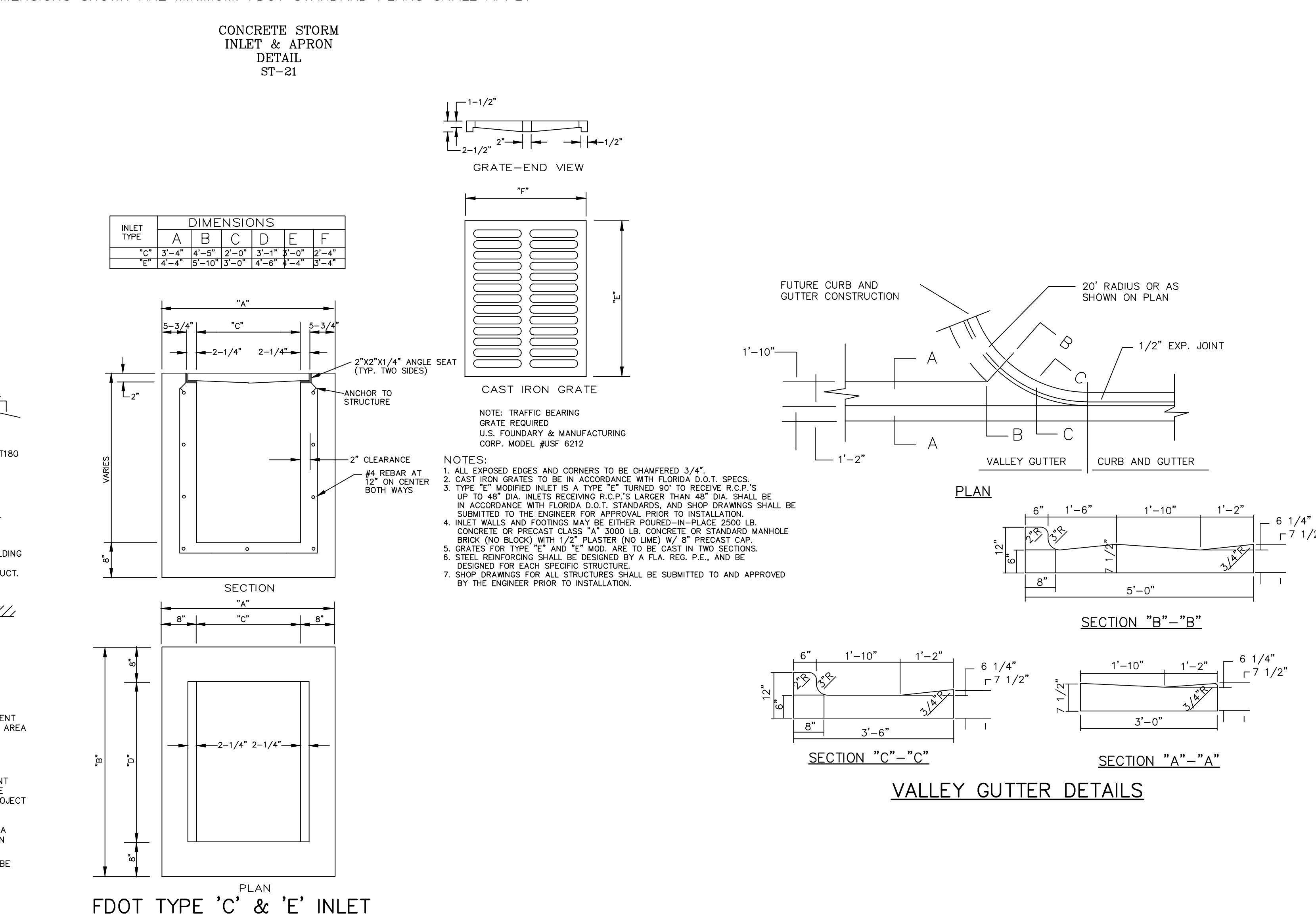
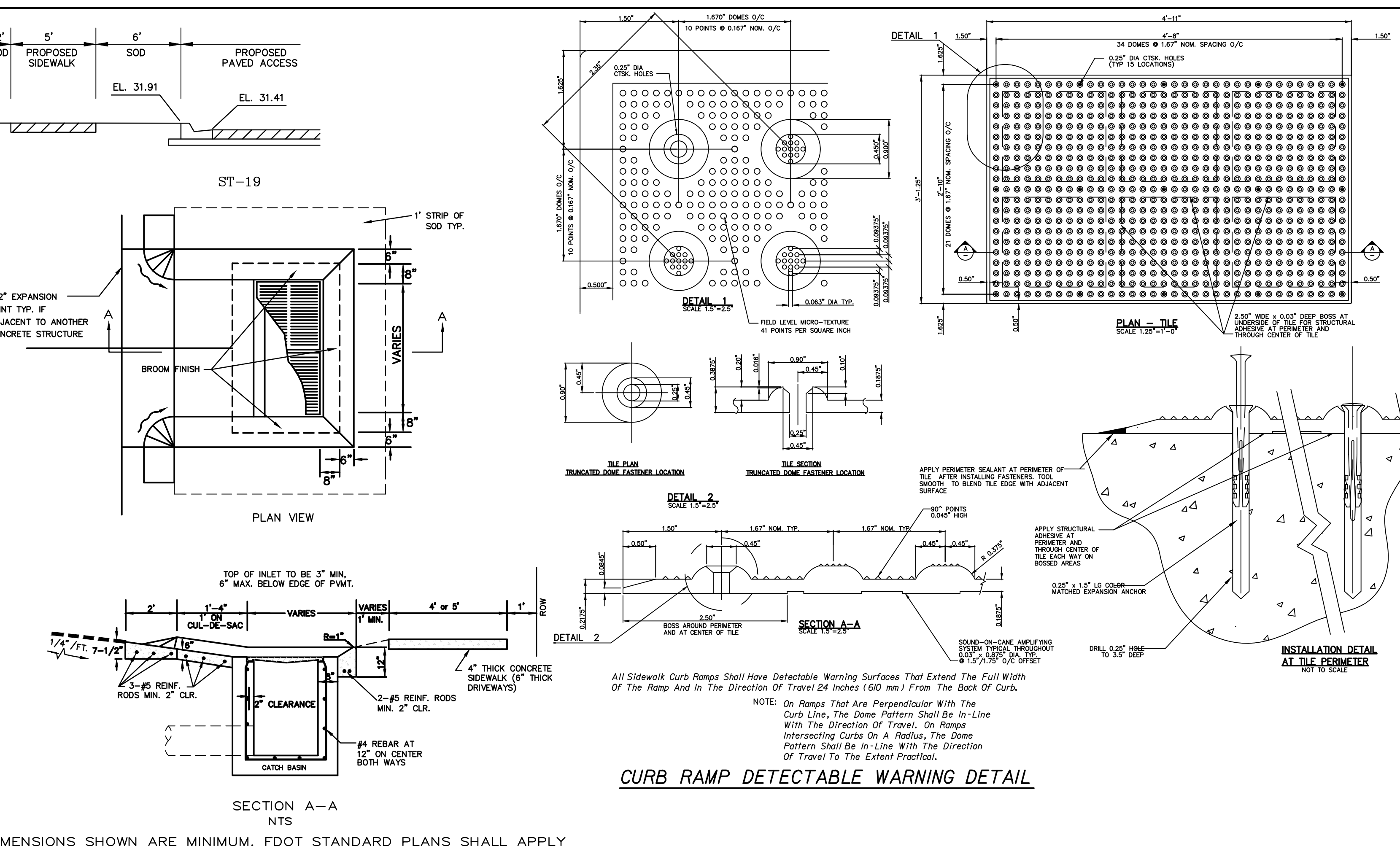
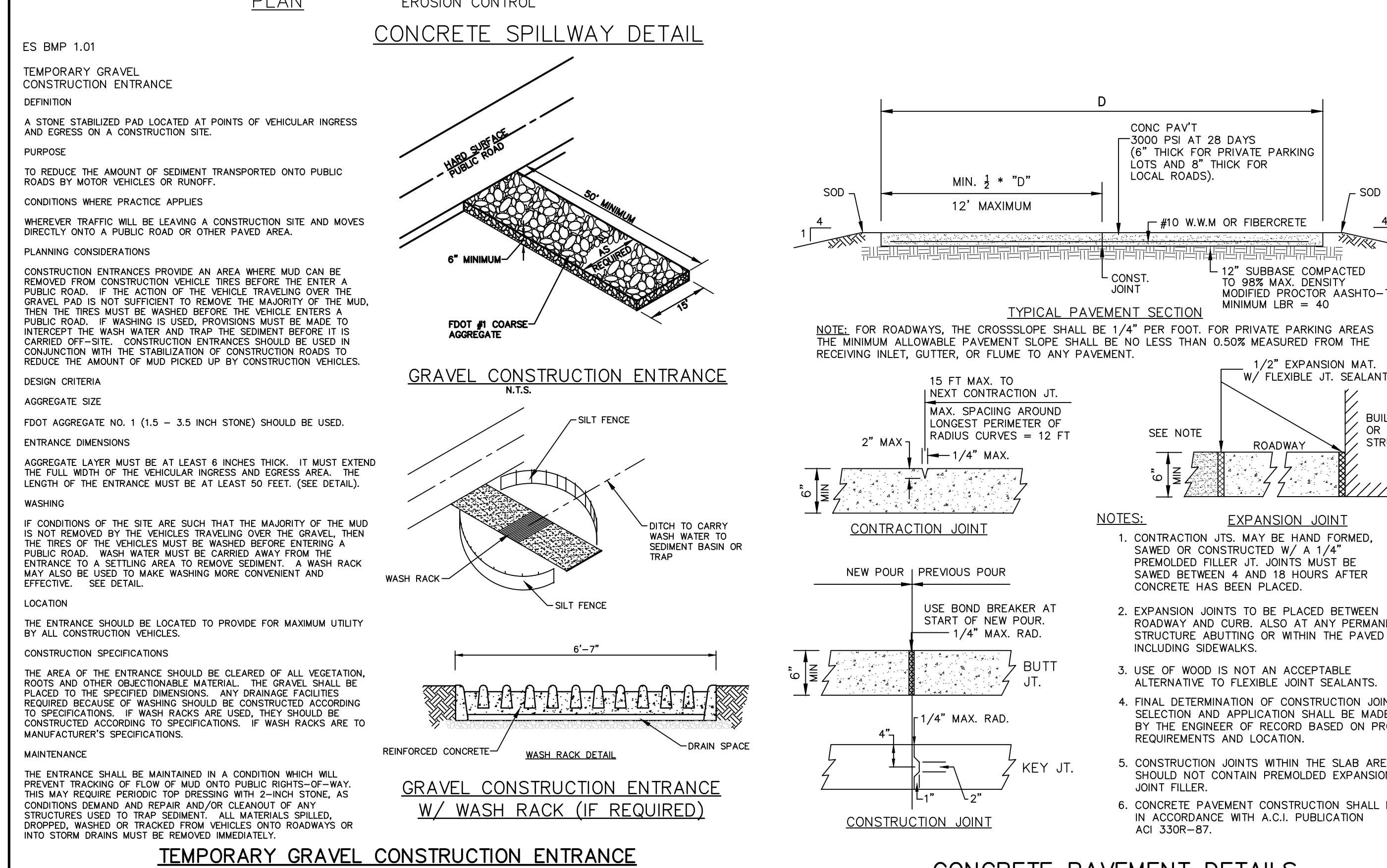
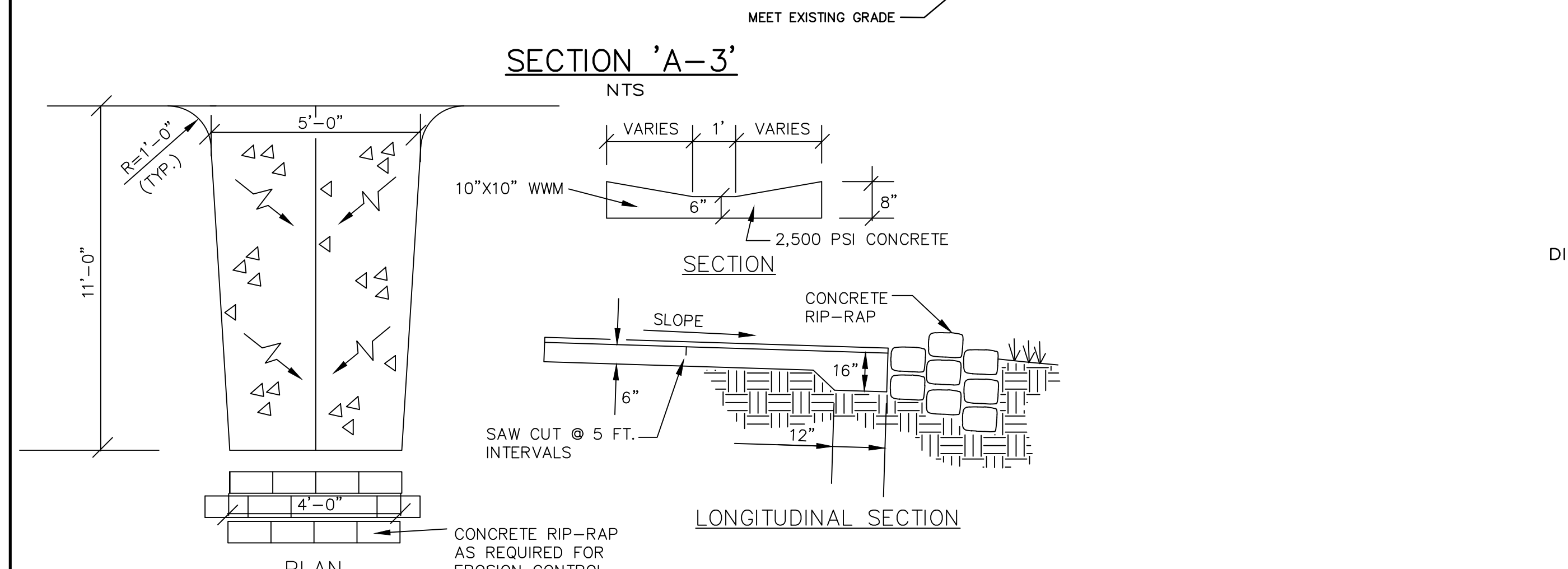
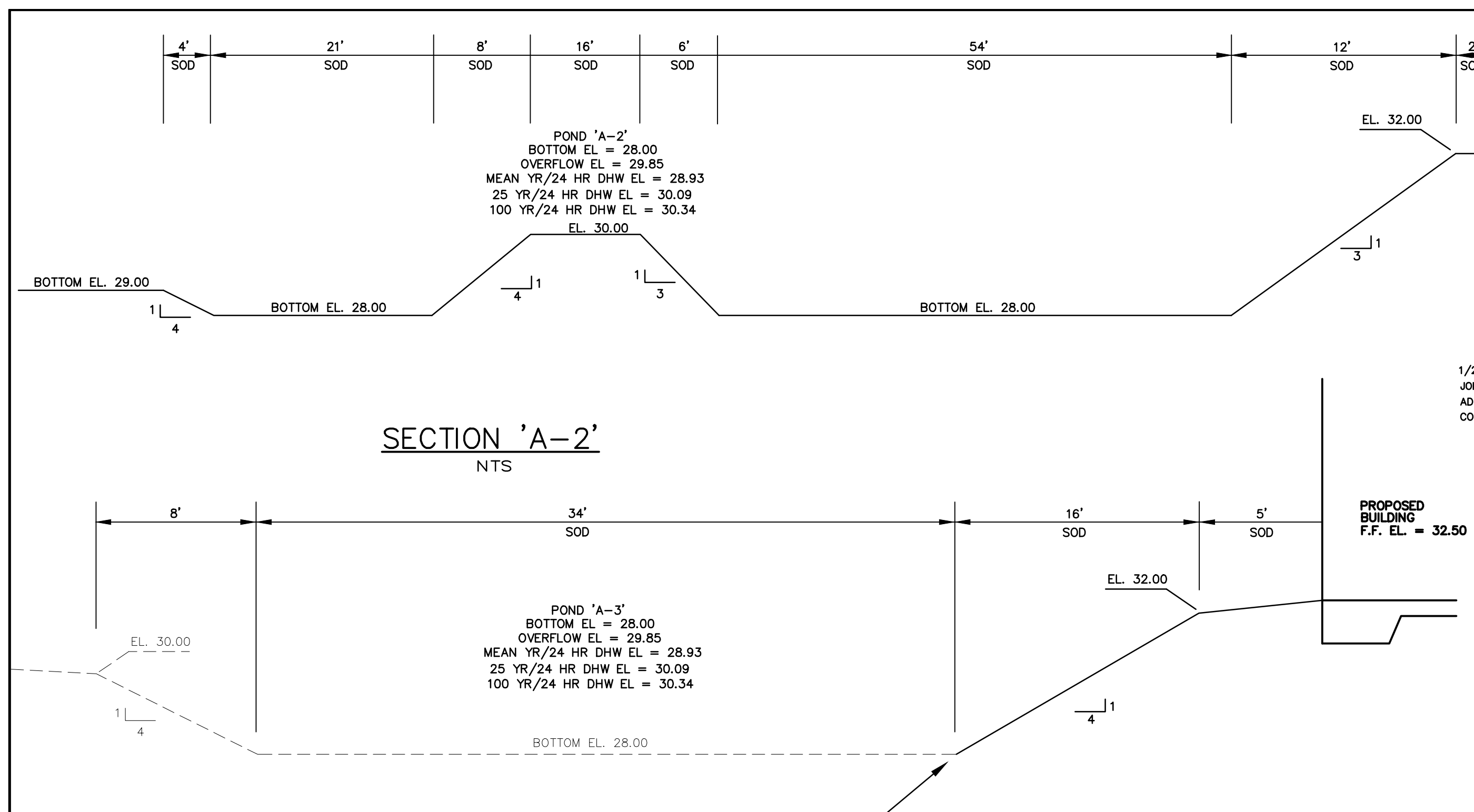
NO.	DATE	DESCRIPTION	BY
4	02-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB

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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

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14 OF **19**
SHEET NO.
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Date: 6-15-19
SCALE: NONE
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SEAL



NO.	DATE	DESCRIPTION	BY
4	02-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
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SEAL

POTABLE WATER CONSTRUCTION & DESIGN STANDARDS

UPDATED ITEMS ARE HIGHLIGHTED.

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO BEGINNING ANY POTABLE WATER SYSTEM CONSTRUCTION.
- A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING OR CONSTRUCTION ACTIVITY THAT CHANGES THE IMPERVIOUS AREA OF LAND. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES, ALLOWING CONSTRUCTION OR MAINTENANCE IN A DRY ENVIRONMENT. SITE SPECIFIC DEWATERING PERMITS SHALL REQUIRE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE AN ANNUAL FEE BASED ON A BIENNIAL SCHEDULE OF DEWATERING ACTIVITIES DISCHARGING DIRECTLY INTO THE CITY'S MS4 CONVEYANCE SYSTEM. DEWATERING PERMIT APPLICATIONS CAN BE FOUND AT <https://www.codb.us/index.aspx?cid=262>. FEES ARE SUBJECT TO ARTICLE 7, SECTION 7-2 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED WITH THE PERMIT APPLICATION TO THE CITY OF DAYTONA BEACH STORM WATER COORDINATOR AT 125 BASIN STREET, SUITE 100, DAYTONA BEACH, FLORIDA 32114 PRIOR TO ANY USE OF THE CITY'S MS4 CONVEYANCE SYSTEM. FAILURE TO COMPLY WILL RESULT IN IMMEDIATE TERMINATION OF ACCESS TO THE CITY'S MS4 SYSTEM.
- ALL WORK PERFORMED ON POTABLE WATER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE CONSTRUCTED BY AN UNDERGROUND UTILITY CONTRACTOR OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF HEALTH, AND THAT AS-BUILT DRAWINGS MEETING THE CITY'S REQUIREMENTS ARE PROVIDED TO THE CITY AND ACCEPTED PRIOR TO ANY USE OF THE SYSTEM.
- THE WATER DISTRIBUTION SYSTEM SHALL BE DESIGNED TO COMPLY WITH THE CITY'S FIRE (WATER) FLOW CODE.
- EACH WATER SERVICE TERMINATION SHALL BE MARKED WITH 2" X 4" PRESSURE TREATED LUMBER EXTENDING 4' ABOVE GRADE DIRECTLY IN FRONT OF THE METER BOX WITH 2' OF ENDOTRACE POLY-TUBE OR APPROVED EQUAL COILED AND CAPPED WITH AN ELSTER HYDROSEPT CAP INSIDE EACH METER BOX.
- ALL WATER SERVICES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB.
- ALL WATER VALVES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB.
- ALL TAPPING OF MAINS (12" OR SMALLER) SHALL BE PERFORMED BY CITY PERSONNEL. SCHEDULING OF THESE CONNECTIONS REQUIRES A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE AND SHALL BE COORDINATED WITH THE CITY INSPECTOR.
- THE PLANS SHALL INCLUDE RIGHT OF WAY LINES AND STATIONING AND OFFSETS FROM THE CENTER LINE OF CONSTRUCTION.
- DEWATERING ACTIVITIES SHALL KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE WATER MAIN BEING INSTALLED.
- ALL WATER MAINS SHALL BE INSTALLED ON A FIRM UNYIELDING FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98% IN PAVED AREAS AND 95% IN UNPAVED AREAS IN ACCORDANCE WITH AASHTO T-180 MODIFIED PROCTOR TEST.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



WATER CONSTRUCTION & DESIGN STANDARDS
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POTABLE WATER CONSTRUCTION & DESIGN STANDARDS (CONT'D)

- WHERE POTABLE WATER AND SANITARY SEWER MAINS CROSS WITH LESS THAN TWELVE (12) INCHES OF VERTICAL CLEARANCE OR WHERE THE SEWER MAIN IS ABOVE THE WATER MAIN, MEDIATION MUST BE REVIEWED AND APPROVED BY FDEP.
- WATER MAINS SHALL BE CONSTRUCTED A MINIMUM OF 4 FEET BEHIND THE BACK OF CURB OR THE EDGE OF ROADWAY PAVEMENT, WHICHEVER IS GREATER, AS MEASURED FROM OUTSIDE WALL OF THE WATER MAIN.
- 3 INCH METALIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES TO 24 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY THE MANUFACTURER FOR ALL WATER LINES. BLUE TRACER WIRE SHALL BE ATTACHED TO ALL PIPES. WIRE RUNS SHALL BE CONNECTED WITH SILICONE FILLED WIRE CONNECTORS. SERVICES SHALL BE CONNECTED TO THE MAIN WIRE WITH SILICONE FILLED WIRE CONNECTORS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE AND TEST FOR CONTINUITY (SEE CITY SPECIFICATION #15049 TRACER WIRE AND ALARMING TAPE). TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER THE SUPERVISION OF A CITY REPRESENTATIVE AFTER INSTALLATION. IF A METER BOX IS NOT WITHIN 200 FEET OF A VALVE AND VALVE BOX AN ADDITIONAL VALVE BOX FOR TRACER WIRE IS REQUIRED.
- SINGLE RESIDENTIAL WATER SERVICES SHALL BE A MINIMUM 1-INCH ENDOT, ENDOTRACE OR APPROVED EQUAL POLY-TUBE (MEETING THE SPECIFICATIONS OF NSF-14, AND AWWA C901.)
- ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE AND HAVE A MINIMUM COVER OF 36-INCHES.
- WATER MAINS LESS THAN 18" MAY USE POLYVINYL CHLORIDE (PVC) C900, OR C905, SHALL MEET AWWA REQUIREMENTS AND HAVE A MINIMUM DIMENSION RATIO (DR-18) PRESSURE CLASS 150. WATER MAINS 18" AND LARGER SHALL BE DUCTILE IRON PIPE (D.I.P.), CLASS 350, CEMENT LINED. ALL NON-DUCTILE IRON PIPE HORIZONTAL DIRECTIONAL DRILL WATER MAINS SHALL HAVE A MINIMUM WORKING PRESSURE OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING BASED ON SITE CONDITIONS. INSIDE DIAMETER OF NON D.I.P. HORIZONTAL DIRECTIONAL DRILL PIPE SHALL MATCH THE INSIDE DIAMETER OF CONNECTING PIPES. ALL GASKETS SHALL BE LUBRICATED BEFORE INSTALLATION.
- DIRECTIONAL DRILLS SHALL HAVE FUSED MJ ADAPTERS.
- ALL POTABLE WATER MAINS SHALL USE THRUST RESTRAINT AS CALCULATED BY A PROGRAM AVAILABLE AT EBAA.COM
- ALL FITTINGS, VALVES, ETC. SHALL BE DUCTILE IRON (MJ OR FLANGED) AND SHALL BE RESTRAINED.
- ALL RESTRAINED PIPE BELL JOINTS SHALL USE BELL RESTRAINTS OR GRIPPER TYPE GASKETS CAN BE USED FOR DUCTILE IRON PIPE JOINTS.
- WATER VALVES SHALL BE INSTALLED AT ALL STREET INTERSECTIONS AND AT A MAXIMUM SPACING OF 750 FEET. SPACING OF VALVES ON PRIMARY TRANSMISSION MAINS WILL BE DETERMINED BY THE CITY.
- VALVES SHALL BE INSTALLED ON ALL LEGS OF WATER MAIN TEES EXCEPT ONE.
- ALL FITTINGS SHALL MEET MINIMUM RESTRAINT REQUIREMENTS PER ANSI/AWWA/EBAA, AND ALL PRESSURE PIPES UNDER THE ROADWAYS SHALL BE RESTRAINED.
- METER LENGTHS REQUIRED FOR WATER METERS INSTALLATION ARE AS FOLLOWS:
3/4" TO 2" METER REQUIRES 6', 4" METER REQUIRES 12', 6" AND 8" METER REQUIRES 14', AND A 10" METER REQUIRES 20'.

THE CITY OF DAYTONA BEACH
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WATER CONSTRUCTION & DESIGN STANDARDS
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POTABLE WATER CONSTRUCTION & DESIGN STANDARDS (CONT'D)

- ALL WATER VALVE BOXES SHALL BE ADJUSTED, INCLUDING DEBRIS CAP, AND CONCRETE COLLAR TO FINISHED GRADE. VALVE BOX LIDS SHALL BE PAINTED BLUE TO MAKE THEM CLEARLY VISIBLE.
- UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS, WATER VALVES SHALL BE COMPLETELY OPENED BY CITY UTILITIES PERSONNEL. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING VALVES WITHOUT A CITY REPRESENTATIVE PRESENT.
- ALL VALVES 2 INCHES AND SMALLER SHALL BE CURB STOPS. VALVES LARGER THAN 2 INCHES SHALL BE GATE VALVES.
- A MINIMUM OF ONE FIRE HYDRANT SHALL BE LOCATED AT EVERY INTERSECTION. OTHER FIRE HYDRANTS SHALL BE LOCATED TO PRODUCE A MAXIMUM 500 FOOT RADIUS OF COVERAGE. ALL FIRE HYDRANTS SHALL BE INSTALLED IN EASILY ACCESSIBLE LOCATIONS FOR FIRE PERSONNEL. THE PRIMARY HYDRANT PORT SHALL FACE THE STREET.
- THE CONTRACTOR SHALL PIG ALL PIPES 6 INCHES OR LARGER IN DIAMETER. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CONTRACTOR AND CITY REPRESENTATIVE.
- FOR PIPE FLUSHING, PIGGING, TESTING, AND TIE-IN CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 8 A.M.) THE CONTRACTOR SHALL COORDINATE WITH THE CITY REPRESENTATIVE AND WATER PLANT OPERATIONS TO SCHEDULE THE DATE AND TIME FOR THESE ACTIVITIES.
- THE CITY RESERVES THE RIGHT TO PERFORM THE SAMPLING AND ANALYSIS FOR BACTERIOLOGICAL CLEARANCE OF THE WATER MAIN. ANY RETESTING WILL BE AT THE CONTRACTORS EXPENSE.
- POTABLE WATER LINES SHALL NOT BE USED OR PLACED INTO SERVICE UNTIL CLEARANCE IS ACCEPTED BY VOLUSIA COUNTY HEALTH DEPARTMENT AND THE CITY OF DAYTONA BEACH.
- BACKFLOW PREVENTERS (BFP) SHALL BE PLACED ON ALL POTABLE AND WATER LINES SERVING COMMERCIAL AND RESIDENTIAL PROPERTIES. THE TYPE OF BACKFLOW PREVENTERS REQUIRED ARE AS FOLLOWS:
POTABLE WATER SERVICE: REDUCED PRESSURE ZONE (RPZ)(BFP)
FIRE LINE SERVING A FIRE SPRINKLER SYSTEM AND/OR PRIVATE FIRE HYDRANT; DOUBLE CHECK VALVE ASSEMBLY
FIRE LINE; DOUBLE CHECK VALVE ASSEMBLY
IN CASES WHERE A WATER LINE SERVES BOTH DOMESTIC AND FIRE SERVICES, A REDUCED PRESSURE ZONE BFP IS REQUIRED.
- ALL JACK & BORES REQUIRED FOR COMMERCIAL DEVELOPMENT SHALL BE PERFORMED AT THE SOLE COST OF THE OWNER/DEVELOPER.
- ALL C-900 DR-18 PVC PIPE REQUIREMENTS REFERENCE TO THE C-900 STANDARDS.
- CHLORINATED WATER MUST BE DECHLORINATED PRIOR TO DISCHARGE INTO ANY JURISDICTIONAL WETLAND OR WATER BODY PER AWWA STANDARD, ANSI/AWWA C655.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



WATER CONSTRUCTION & DESIGN STANDARDS
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POTABLE WATER CONSTRUCTION & DESIGN STANDARDS

TESTING REQUIREMENTS:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TRENCH COMPACTION TESTS AT POINTS 12 INCHES ABOVE THE PIPE AND AT 12-INCH VERTICAL INTERVALS TO FINISHED GRADE AT A MAXIMUM HORIZONTAL SPACING OF 300 FEET.
- ON ALL PROJECTS OTHER THAN THOSE INITIATED BY THE CITY THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY, ON ALL CITY PROJECTS THE TESTING WILL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S INSPECTOR.
- ALL POTABLE WATER MAINS SHALL BE FLUSHED, DISINFECTED, PRESSURE TESTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE WHEN APPROPRIATE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WATER TREATMENT PLANT AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING FLUSHING THE MAINS BEFORE PRESSURE TESTING. THE CITY MAY REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 8 AM). THE DATE AND TIME SCHEDULE FOR FLUSHING AND PIGGING MUST BE APPROVED BY THE WATER PLANT OPERATIONS. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF BACTERIOLOGICAL SAMPLES. THE SAMPLING TAP MUST BE DEDICATED, CLEAN, DISINFECTED AND FLUSHED PRIOR TO SAMPLING. SAMPLING TAP SHALL BE SMOOTH, UNTHREADED 1/2 INCH HOSE BIB. DISINFECTION AND SAMPLING SHALL BE SCHEDULED AT THE CITY'S CONVENIENCE.
- PRESSURE TEST FOR TAPPING SADDLES AND VALVES FOR A MINIMUM OF 30 MINUTES AT 150 PSI OR 30 MINUTES AT MANUFACTURER'S RECOMMENDED TESTING PRESSURE.
- WATERMANS SHALL BE PRESSURE TESTED AT 150 PSI FOR 3 HOURS. TESTING SHALL BE IN ACCORDANCE WITH AWWA C-600 AND AWWA C-605 AS APPLICABLE WITH ALLOWABLE LEAKAGE TO BE BASED ON THE TABLE BELOW.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE * -GPH

AVERAGE PRESSURE TEST (PSI)	NOMINAL PIPE DIAMETER - INCHES																AVERAGE TEST PRESSURE (PSI)		
	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64	
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78	5.73	6.69	7.64	8.60	9.56	10.19	450
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.40	6.31	7.21	8.11	9.01	9.61	400
350	0.42	0.56	0.84	1.12	1.40	1.68	1.95	2.23	2.51	2.79	3.37	4.23	5.08	5.93	6.78	7.63	8.48	8.99	350
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90	4.69	5.46	6.24	7.02	7.80	8.32	300
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72	7.47	7.97	275
250	0.36	0.47	0.71	0.95	1.19	1.43	1.67	1.91	2.15	2.39	2.89	3.58	4.27	4.96	5.65	6.34	7.03	7.50	250
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38	4.05	4.73	5.41	6.03	6.76	7.21	225
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73	6.37	6.80	200
175	0.30	0.40	0.59	0.80	0.99	1.19	1.38	1.58	1.78	1.98	2.38	2.98	3.58	4.17	4.77	5.36	5.95	6.36	175
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97	5.52	5.88	150
125	0.25	0.34	0.50	0.67	0.84	1.00	1.18	1.34	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53	5.04	5.37	125
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.80	100

* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

WHERE:

- L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
- S = LENGTH OF PIPE TESTED, IN FEET
- D = NOMINAL DIAMETER OF PIPE, IN INCHES
- P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



WATER CONSTRUCTION & DESIGN STANDARDS
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W-4

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

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing of Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Recycled Water (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer then 12 inches is preferred.	Average 3 ft. minimum
Vacuum Sanitary Sewer	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches is preferred	Average 3 ft. minimum
Gravity or Pressure Sanitary Sewer, Recycled Water (4)	Water Main 10 ft. preferred 6 ft. minimum (3)	Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred.	Average 3 ft. minimum
On-site Sewage Treatment & Disposal System	10 ft. minimum		Average 3 ft. minimum

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Recycled water regulated under Part III of Chapter 62-600, F.A.C.
(3) Recycled water regulated under Part III of Chapter 62-600, F.A.C. is held at least 6 inches above the top of the gravity sanitary sewer.
(4) Recycled water not regulated under Part III of Chapter 62-600, F.A.C.

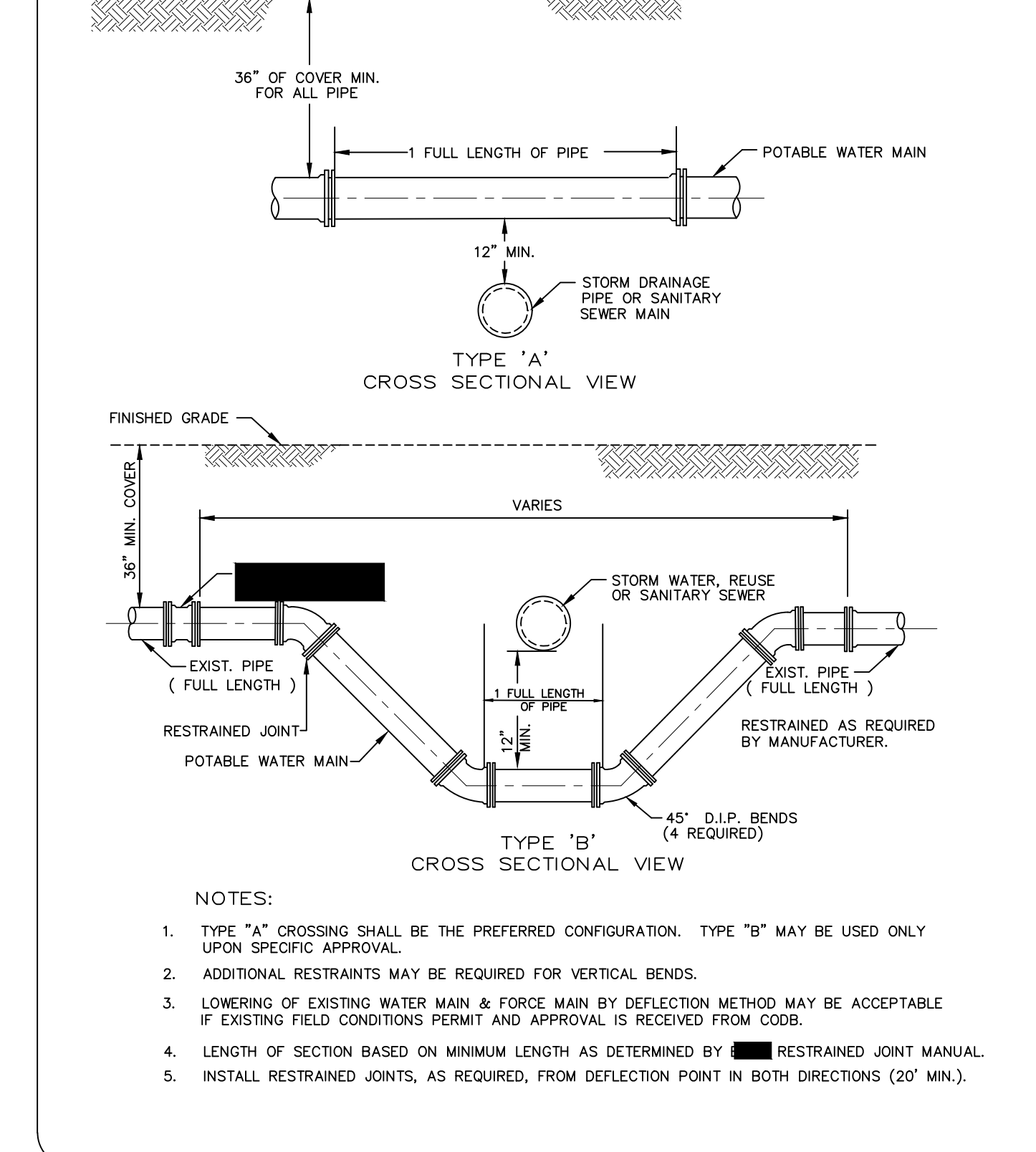
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WATER MAIN SEPARATION CHART
W-8

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TYPICAL PIPE CROSSING DETAIL



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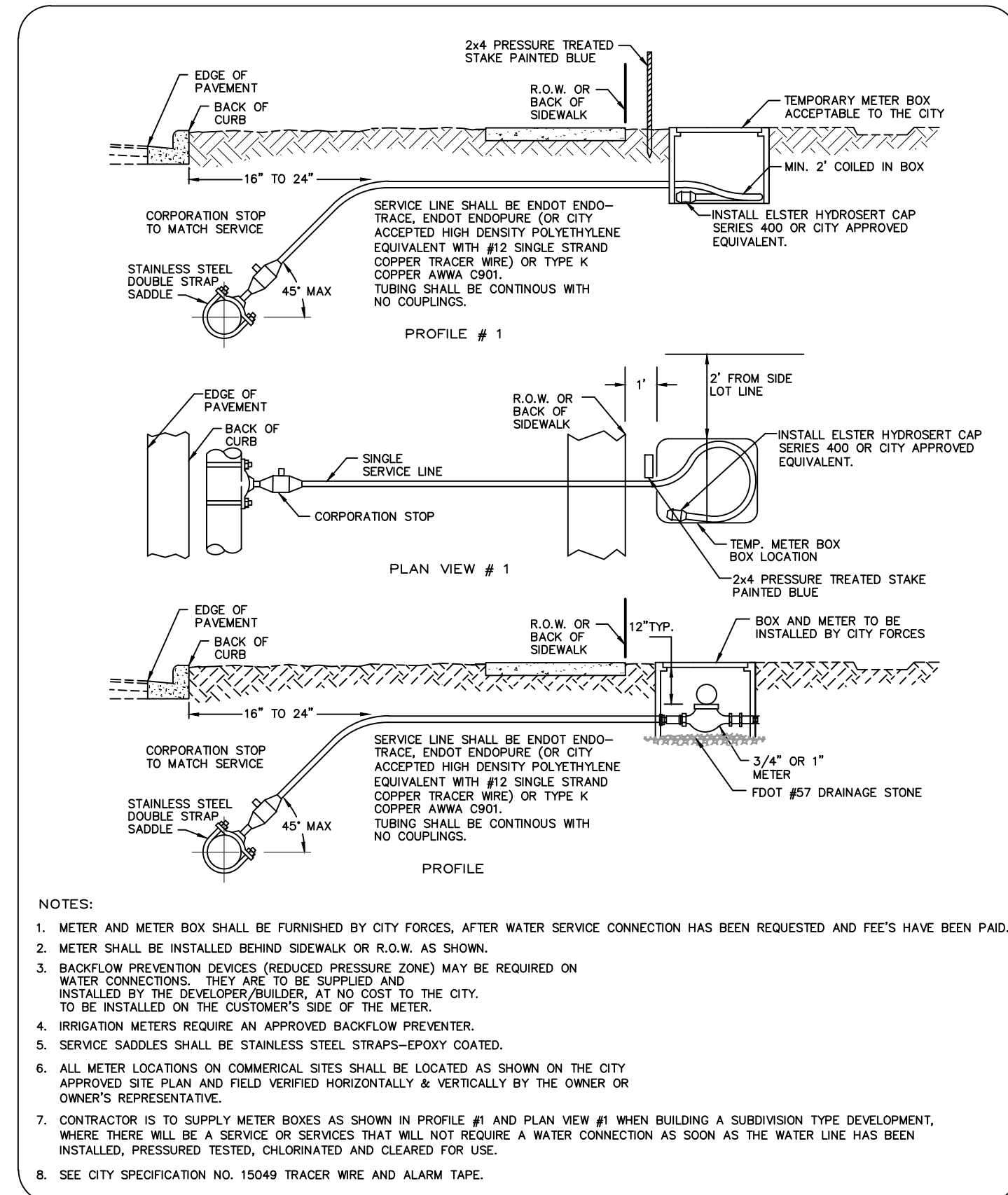
TYPICAL PIPE CROSSING DETAIL
W-7

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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

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JOB #19-03
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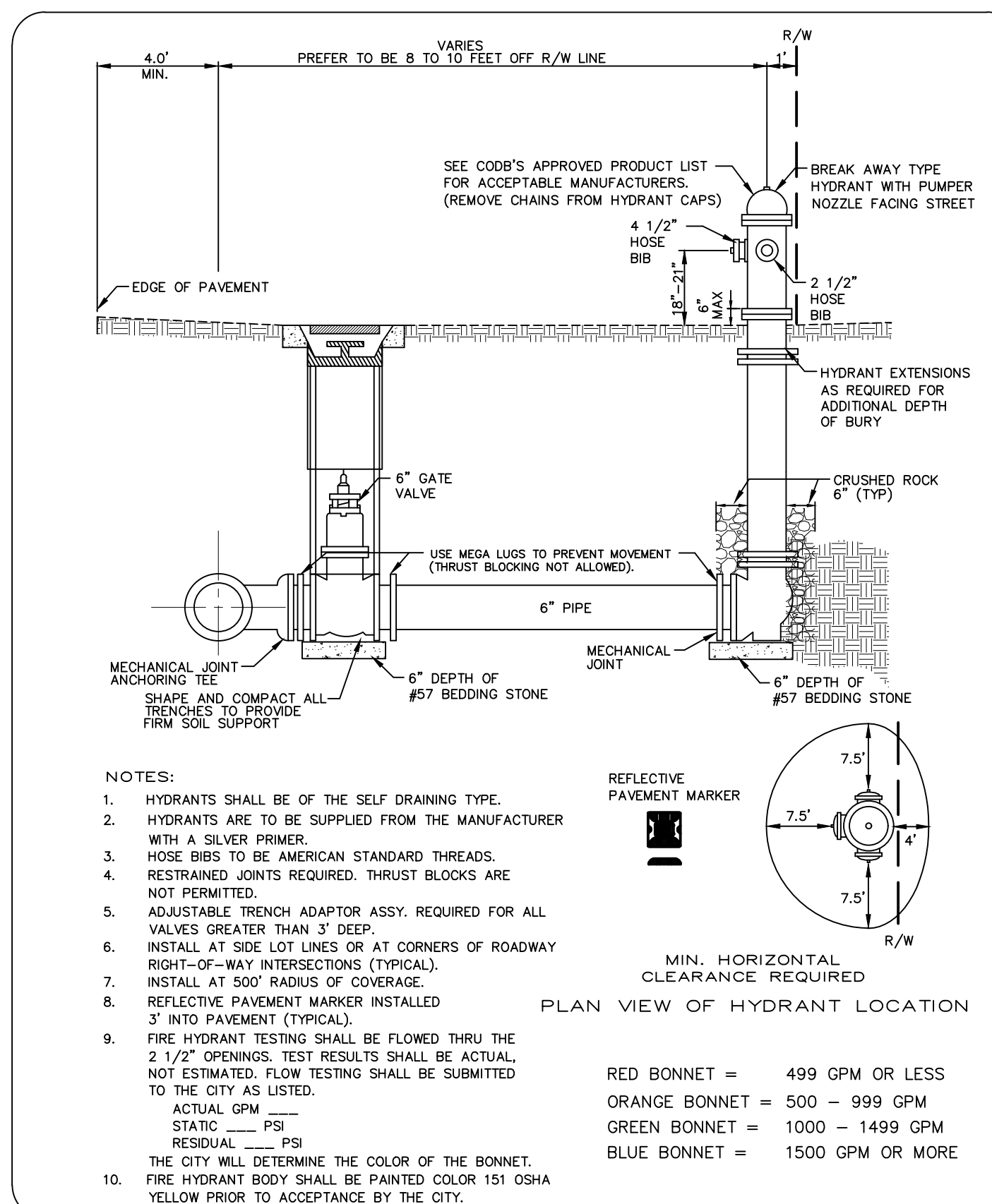


THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



WATER SERVICE CONNECTION
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THE CITY OF DAYTONA BEACH
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FIRE HYDRANT ASSEMBLY
DETAIL
W-16

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SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)

FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	81
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.
TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 3 FEET (MIN.)
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	21 (20)	18 (18)	18 (18)	18 (18)	37 (35)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	68 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	187 (250)
30"	108 (128)	44 (53)	21 (25)	18 (18)	199 (288)
36"	126 (150)	51 (60)	24 (28)	18 (18)	216 (306)
42"	144 (172)	59 (70)	27 (32)	18 (18)	234 (324)
48"	162 (196)	67 (80)	30 (36)	18 (18)	252 (342)

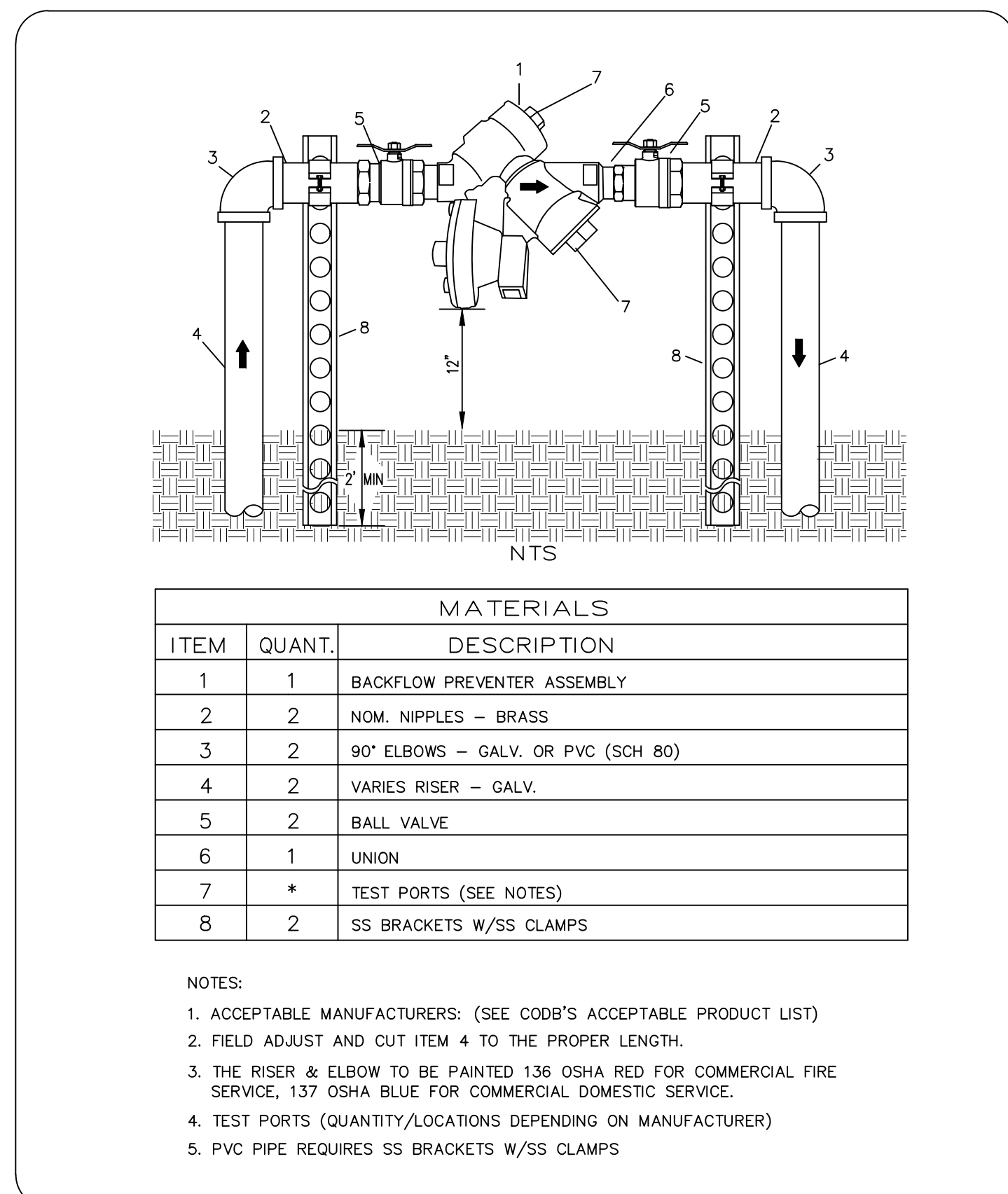
LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.
TABLE APPLIES TO DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 3 FEET (MIN.)
SAFETY FACTOR: 1.5
TRENCH TYPE: 2
VALUES IN PARENTHESIS () ARE FOR PIPE ENCASED IN POLYETHYLENE.
* VALUES APPLY TO DUCTILE IRON PIPE AT 50 PSI TEST PRESSURE.

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



PVC AND DIP RESTRAINED JOINT TABLE
RW-6

FY-17/18
Drawing Date: 01/08
Drawn By: KJM
Checked By: JAP
Scale: NTS
Revision Date: 01/19
File Name: Restrainted Joint Table RW-6
Page 51

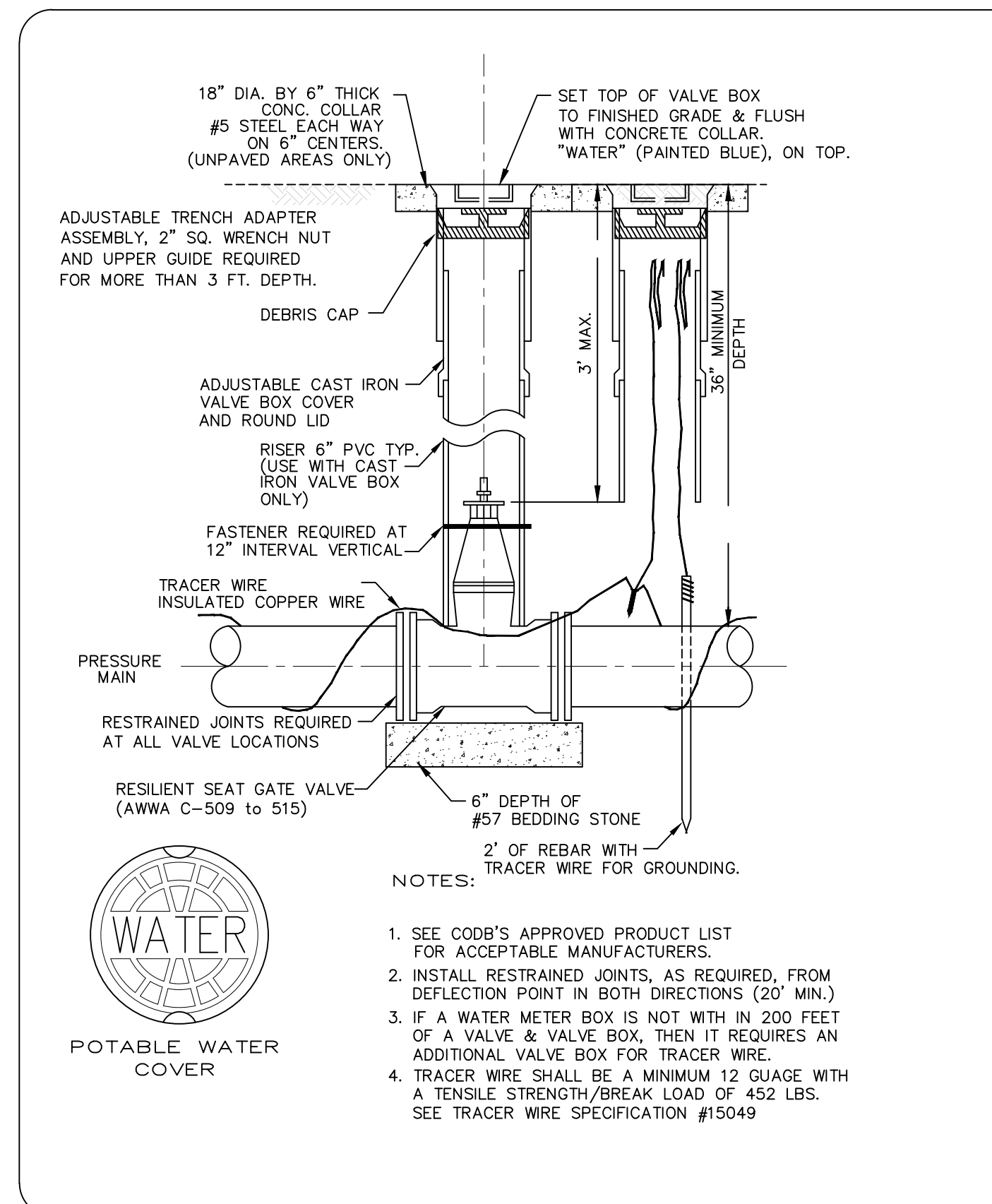


THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



COMMERCIAL REDUCED PRESSURE ZONE BACKFLOW PREVENTER, SINGLE SERVICE
3/4", 1", 1-1/2" or 2"
(PAGE 1 OF 3)
W-23

FY-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JAP
Scale: NTS
Revision Date: 01/19
File Name: Backflow Preventer, Single Svc W-23
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THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT



WATER VALVE AND VALVE BOX
DETAIL
W-13

FY-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JAP
Scale: NTS
Revision Date: 01/19
File Name: Water Valve W-13
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NO.	DATE	DESCRIPTION	BY
4	10-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB

PARKER MYNCHENBERG & ASSOCIATES, INC.
PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117
(386) 677-6891 FAX (386) 677-2114 E-Mail: info@parkermynchenberg.com
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

EMBRY RIDDLE AERONAUTICAL UNIVERSITY
PRINT SHOP
DAYTONA BEACH * FLORIDA
WATER STANDARD DETAILS

DEV 2019-095
CITY APPROVAL STAMP
17 OF **19**
SHEET NO.
Drawn By: MRB
Date: 6-15-19
SCALE: NONE
JOB #19-03

SEAL

**SANITARY SEWER
CONSTRUCTION & DESIGN STANDARDS**

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY SANITARY SEWER CONSTRUCTION.
- A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING ACTIVITIES, OR IN ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITY THAT CHANGES THE IMPERVIOUS AREA OF LAND. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES, ALLOWING CONSTRUCTION OR MAINTENANCE TO BE ONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC DEWATERING PERMITS SHALL REQUIRE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEWATERING. GENERAL PURPOSE PERMITS SHALL REQUIRE AN ANNUAL FEE BASED ON A 91-ANNUAL SCHEDULE OF DEWATERING ACTIVITIES DISCHARGING DIRECTLY INTO THE CITY'S MS4 CONVEYANCE SYSTEM. DEWATERING PERMIT APPLICATIONS CAN BE FOUND AT <https://www.codb.us/index.aspx?nid=262>. FEES ARE SUBJECT TO ARTICLE 7, SECTION 7.2 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED WITH THE PERMIT APPLICATION TO CITY OF DAYTONA BEACH STORM WATER COORDINATOR AT 125 BASIN STREET, SUITE 100, DAYTONA BEACH, FLORIDA 32114 PRIOR TO ANY USE OF MS4 FAILURE TO COMPLY WILL RESULT IN THE IMMEDIATE TERMINATION OF ACCESS TO THE CITY'S MS4 SYSTEM.
- UPON COMPLETION, THE CONTRACTOR SHALL PROVIDE THE CITY UTILITIES DEPARTMENT WITH A CCTV INSPECTION LOG ON DVD AND A PRINTED REPORT FOR ALL GRAVITY MAINS AND LATERALS CONSTRUCTED. ALL WORK, WITH THE EXCEPTION OF FINAL GRADE ADJUSTMENT TO MANHOLES AND BENCHES SHALL BE COMPLETED PRIOR TO COMMENCING THE CCTV INSPECTION. THE CONTRACTOR SHALL COORDINATE THE CCTV INSPECTION TIME WITH THE CITY UTILITY INSPECTOR PRIOR TO INITIATING THE WORK. FINAL PAVING SHALL NOT COMMENCE UNTIL APPROVAL IS RECEIVED FROM THE CITY UTILITY INSPECTOR.
- SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT "V" OR BY A METAL TAB SET INTO THE PAVEMENT.
- THE CONTRACTOR SHALL BE REQUIRED TO DIG ALL FORCE MAINS EQUAL TO OR GREATER THAN 6" IN DIAMETER AND PRIMARY TRANSMISSION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CITY.
- WITH RESPECT TO THE-IN CONNECTIONS AND CORING OPERATIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 6:00 A.M.) (IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS).
- ALL WORK ON SANITARY SEWER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE PERFORMED BY AN UNDERGROUND UTILITY CONTRACTOR OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AS-BUILTS ARE PROVIDED TO THE CITY'S UTILITIES DEPARTMENT PRIOR TO ANY USE OF THE SYSTEM.
- PLANS SHALL DIMENSION THE LOCATION OF ALL FORCE MAINS, VALVES, MANHOLES & LATERALS FROM THE BASELINE OF CONSTRUCTION AND FROM THE RIGHT-OF-WAY LINE.
- LANDSCAPE PLANS SHALL CLEARLY DEPICT THE LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORM WATER INFRASTRUCTURE.
- THE CITY'S AS-BUILT DRAWING REQUIREMENTS ARE ATTACHED TO THE BACK OF THE UTILITIES DEPARTMENT'S STANDARD DETAILS.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER
CONSTRUCTION & DESIGN
STANDARDS
(PAGE 1 OF 4)**

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**SANITARY SEWER
CONSTRUCTION & DESIGN STANDARDS
(CONT'D)**

- ALL GRAVITY SANITARY SEWER MAINS SHALL BE A MINIMUM OF 8" DIAMETER. COMMERCIAL SERVICE LATERALS SHALL BE GREEN AND A MINIMUM OF 6" IN DIAMETER, OR LARGER. ALL SINGLE FAMILY RESIDENTIAL SERVICE LATERALS SHALL BE 6" SINGLE SERVICES WITH CLEAN OUTS INSTALLED AT PROPERTY LINES.
- ALL GRAVITY SANITARY SEWER MAINS SHALL BE GREEN PVC SDR-26, ASTM D-3034, OR C-900 DR-18 MINIMUM PRESSURE CLASS 150. IN PLACES WHERE A MINIMUM COVER OF 4 FEET CANNOT BE MAINTAINED OR IN DEPTHS OF 10 FEET OR GREATER C-900 OR C-905 GREEN PVC DR-18, MINIMUM PRESSURE CLASS 150 SHALL BE USED.
- FOR SINGLE FAMILY HOMES, SINGLE SIX INCH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS SHALL BE USED ON ALL LINES. NO GLUED JOINTS ARE PERMITTED ON LATERALS.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- FORCE MAINS LESS THAN 18" MAY USE PVC C900 OR C905 DR-18. FORCE MAINS 18" AND LARGER SHALL BE DUCTILE IRON PIPE (D.I.P.), CLASS 350, EPOXY LINED. ALL NON DUCTILE IRON PIPE HORIZONTAL DIRECTIONAL DRILL FORCE MAINS SHALL HAVE A MINIMUM WORKING PRESSURE OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING DEPENDING ON SITE CONDITIONS. INSIDE DIAMETER OF NON D.I.P. HORIZONTAL DIRECTIONAL DRILL PIPE SHALL MATCH THE INSIDE DIAMETER OF CONNECTING PIPES. DIRECTIONAL DRILLS SHALL HAVE FUSED MJ ADAPTERS.
- FORCE MAIN MINIMUM DEPTH OF COVER SHALL BE 48". ALL FORCE MAINS SHALL BE DISTINCTLY MARKED BY GREEN STRIPES OR COLORED GREEN.
- ALL FITTINGS, VALVES, ECT. SHALL BE DUCTILE IRON (MJ OR FLANGED) AND RESTRAINED. ALL FORCE MAINS SHALL USE THRUST RESTRAINT AS CALCULATED BY A PROGRAM AVAILABLE AT (EBAA.COM).
- ALL RESTRAINED PIPE BELL JOINTS SHALL USE BELL RESTRAINTS. GRIPPER TYPE GASKETS CAN BE USED FOR DUCTILE IRON PIPE JOINTS.
- AS A GENERAL RULE, THE NUMBER OF JOINTS SHALL BE LIMITED WHENEVER POSSIBLE. IN SPECIAL CASES WHERE A POINT REPAIR TO AN 8" TO 12" PVC SEWER MAIN IS REQUIRED, THE PROPER RIGID WRAP AROUND SLEEVE MAY BE ALLOWED BY CITY SPECIAL APPROVAL.
- ALL IN-LINE SANITARY SEWER FORCE MAIN VALVES SHALL BE PLUG VALVES UNLESS OTHERWISE NOTED. VALVES SHALL BE INSTALLED AT EACH END OF THE FORCE MAIN AND ON STUB OUTS.
- ALL C-900 PVC PIPE REQUIREMENTS REFERENCE THE C-900 STANDARDS. DR UPGRADES FOR BURST PROTECTION MAY BE REQUIRED WHEN USING THE C-900 STANDARDS.
- MINIMUM GRAVITY SANITARY SEWER SLOPES ARE AS FOLLOWS: 8" PIPE 0.40%, 10" PIPE 0.28%, 12" PIPE 0.22%, 15" PIPE 0.15% OR OTHERWISE NOTED BY UTILITIES DEPT.
- GRAVITY SANITARY SEWER LINES SHALL BE INSTALLED WHENEVER POSSIBLE UNDER PAVED AREAS WITHIN PUBLIC RIGHT-OF-WAYS. UTILITY EASEMENTS SHALL BE PROVIDED WHENEVER PUBLICLY-OWNED SEWER LINES ARE CONSTRUCTED OUTSIDE OF A PUBLIC RIGHT-OF-WAY.
- GRAVITY SANITARY SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS APPROVED BY THE CITY.
- DURING PIPE INSTALLATION DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING INSTALLED WITHIN THE AREA OF THE TRENCH.
- ALL PIPES SHALL BE INSTALLED ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES IS NOT ACCEPTABLE. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
- ON ALL EXCAVATION AND BACKFILLING THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING IN ORDER TO PROVIDE A SAFE WORKING ENVIRONMENT.
- TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (95% IN UNPAVED AREAS AND 98% IN PAVED AREAS) AND THE OPTIMUM DENSITY BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
- ALL GASKETS SHALL BE LUBRICATED BEFORE INSTALLATION.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER
CONSTRUCTION & DESIGN
STANDARDS (CONT'D)**

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**SANITARY SEWER
CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- THE CONTRACTOR SHALL INSTALL A #12-GAUGE MINIMUM COPPER TRACER WIRE TAPED TO THE TOP OF THE PIPE AT INTERVALS NO GREATER THEN 4- FEET. COPPER WIRE SHALL HAVE A MIN. TENSILE STRENGTH/BREAK LOAD OF 452 LBS. AND REQUIRES APPROVAL BY THE CITY FOR THE FULL LENGTH OF ALL SEWER FORCE MAINS. THE PIPE LOCATOR TAPE SHALL BE INSTALLED BETWEEN 1" AND 24" BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER. TAPE SHALL BE COLOR CODED GREEN FOR FORCE MAINS. LOCATER WIRE SHALL TERMINATE AT A LOCATION AND IN A MANNER CONVENIENT FOR CITY LOCATER STAFF.
- TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER SUPERVISION OF A CITY REPRESENTATIVE AFTER INSTALLATION.
- ALL SEWER LINES CONSTRUCTED OUTSIDE OF PUBLIC RIGHT-OF-WAYS WITHIN SIDE YARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF GREEN C-900 PVC. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
- ALL LOCAL COLLECTION SANITARY SEWER MANHOLES SHALL BE PRECAST WITH A MINIMUM INSIDE DIAMETER OF 4 FEET. MANHOLES OVER 6 FEET DEEP SHALL HAVE A MINIMUM 4 FT TALL PRE-CAST BOTTOM SECTION.
- STANDARD MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- MANHOLE RIMS SHALL BE FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.5 FEET AND MAXIMUM OF 1.0 FOOT ABOVE GRADE IN UNPAVED AREAS.
- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- INDIVIDUAL SANITARY SERVICES SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES AND MUST BE CONNECTED TO SEWER MAINS BY USE OF WYE CONNECTIONS UNLESS OTHERWISE APPROVED BY THE CITY.
- SANITARY SEWER DROP MANHOLES SHALL ONLY BE USED UNDER SPECIAL CONDITIONS AS APPROVED BY THE CITY. DROPS LESS THAN 3.0' ARE NOT ALLOWED. INSIDE DROPS ARE NOT ALLOWED.
- SANITARY SEWER MANHOLES WITH SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM SHALL BE FIBERGLASS OR POLY-ETHYLENE LINED. RETRO-FITTING OF MANHOLES WITH LINERS IS REQUIRED WHEN NEW CONNECTIONS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICK UNLESS APPROVED OTHERWISE BY THE CITY. OTHER LINING METHODS AND MATERIALS MAY BE CONSIDERED ON A CASE BY CASE BASIS. UNDER CIRCUMSTANCES WHERE HYDROGEN SULFIDE IS A SIGNIFICANT CONCERN, MANHOLES UPSTREAM AND/OR DOWNSTREAM OF THE FORCE MAIN TIE-IN MAY BE REQUIRED TO HAVE LININGS INSTALLED.
- EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS SEAL GASKET CORPORATION, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WETWELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
- CONTRACTOR FOR DEVELOPMENTS WITH THE POTENTIAL TO DISCHARGE INDUSTRIAL OR COMMERCIAL WASTE INTO THE SEWER SYSTEM SHALL CONSTRUCT AND MAINTAIN AT THE OWNER'S EXPENSE A SUITABLE CONTROL MANHOLE OR MANHOLES DOWNSTREAM OF ANY TREATMENT, STORAGE, OR OTHER APPROVED WORKS, PRIOR TO THE CITY'S COLLECTION SYSTEM TO FACILITATE OBSERVATION, MEASUREMENT, AND SAMPLING OF ALL WASTE, INCLUDING ALL DOMESTIC SEWAGE FROM THE ESTABLISHMENT.
- CONTROL MANHOLE OR MANHOLES SHALL BE CONSTRUCTED AT LOCATIONS EASILY ACCESSIBLE AT ALL TIMES TO CITY PERSONNEL FOR SAMPLING.
- SANITARY SEWER LIFT STATIONS AND FORCE MAINS SHALL BE APPROVED BY THE CITY. LIFT STATIONS SHALL BE CONSTRUCTED WITH A MINIMUM WET WELL AS SHOWN IN THE LIFT STATION DETAIL.
- IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO PREPARE AND SUBMIT FLOTATION CALCULATIONS TO SIZE THE BASE OF THE WET WELL, AND ANY MANHOLES AS DEEMED NECESSARY BY THE CITY.
- ALL FITTINGS SHALL MEET THE MINIMUM RESTRAINT REQUIREMENTS PER ANSI/AWWA/DIPRA, AND ALL PRESSURE PIPES UNDER ROADWAYS SHALL BE RESTRAINED.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER
CONSTRUCTION & DESIGN
STANDARDS (CONT'D)**

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FY-19/20
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**SANITARY SEWER
CONSTRUCTION & DESIGN STANDARDS
TESTING REQUIREMENTS:**

- THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND AT ONE FOOT VERTICAL INTERVALS UNTIL FINAL GRADE IS REACHED. TESTS SHALL BE COMPLETED AT A MINIMUM FREQUENCY OF ONE SET OF TESTS EACH 300 FOOT LENGTH OF PIPING AND ONE ADDITIONAL SET OF TESTS AT EVERY MANHOLE. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S DESIGNATED SITE INSPECTOR.
- ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR / DEVELOPER.
- THE CITY OF DAYTONA BEACH RESERVES THE RIGHT TO REQUIRE THE DEVELOPER TO PERFORM VACUUM TESTING OF ALL SANITARY MANHOLES AND TO AIR TEST SEWER MAINS.
- ALL PROPOSED SEWER FORCE MAINS SHALL BE FLUSHED, PRESSURE TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING A FULL-DIAMETER FLUSH OF THE MAINS FOR PRESSURE TESTING.
- SANITARY SEWER FORCE MAINS SHALL BE PRESSURE TESTED TO 100 PSI FOR 2 HOURS WITH ALLOWABLE LEAKAGE BASED ON THE TABLE BELOW.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE * -GPH

AVERAGE TEST PRESSURE (PSI)	NOMINAL PIPE DIAMETER - INCHES																AVERAGE TEST PRESSURE (PSI)		
	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54		60	64
450	0.48	0.84	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78	5.73	6.69	7.64	8.60	9.56	10.19	450
400	0.45	0.80	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11	9.01	9.61	400
350	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58	8.43	8.99	350
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90	4.68	5.46	6.24	7.02	7.80	8.32	300
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.89	3.73	4.48	5.23	5.98	6.72	7.47	7.87	275
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41	7.12	7.60	250
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38	4.05	4.73	5.41	6.03	6.76	7.21	225
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73	6.37	6.80	200
175	0.30	0.40	0.59	0.80	1.01	1.21	1.39	1.57	1.78	1.98	2.39	2.98	3.58	4.17	4.77	5.36	5.96	6.36	175
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97	5.52	5.88	150
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53	5.04	5.37	125
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.80	100

* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

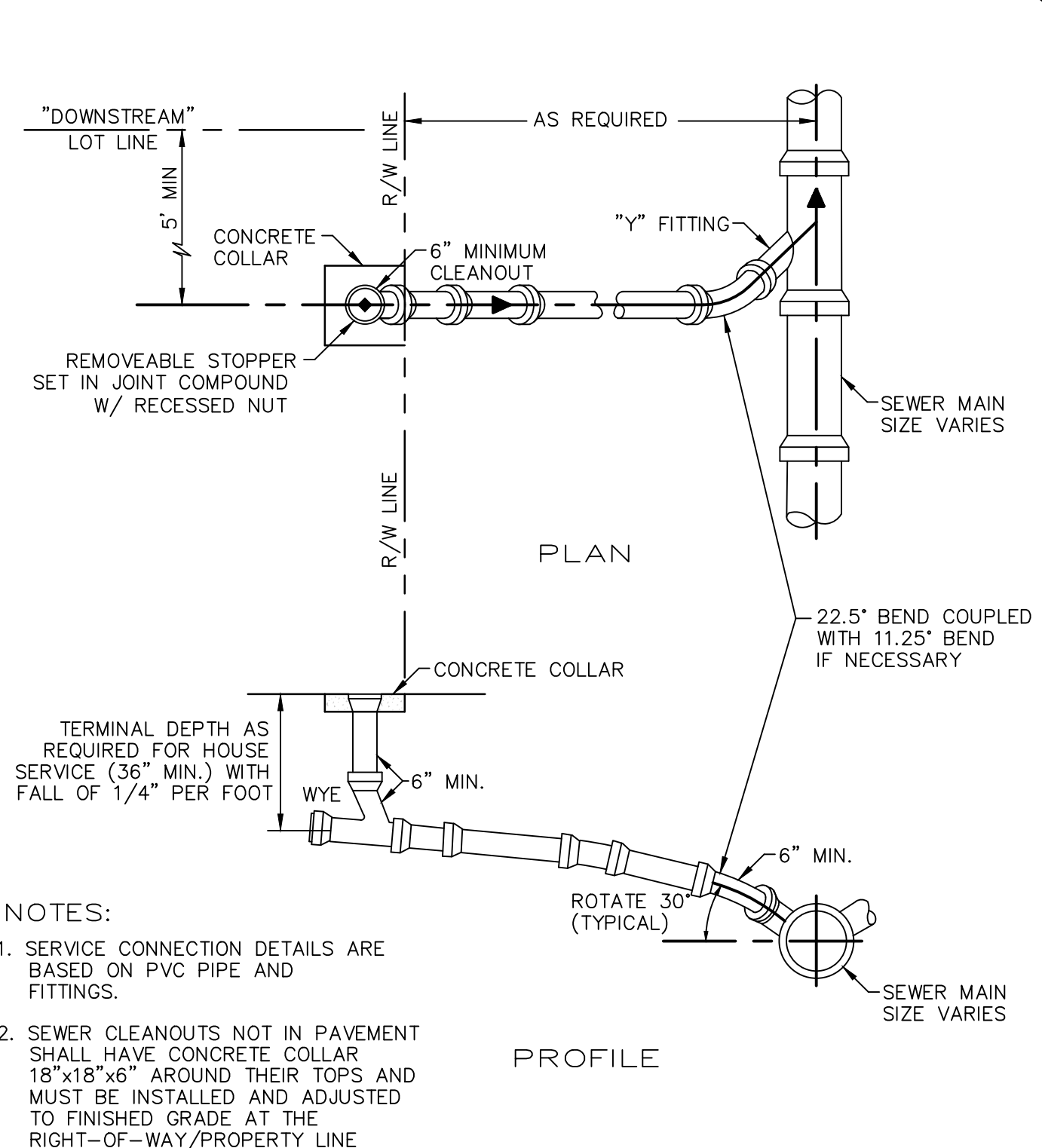
WHERE:
 $L = \frac{SD \sqrt{P}}{133,200}$
 L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
 S = LENGTH OF PIPE TESTED, IN FEET
 D = NOMINAL DIAMETER OF PIPE, IN INCHES
 P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER
TESTING REQUIREMENTS
NOTES
(PAGE 4 OF 4)**

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FY-19/20
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- NOTES:
- SERVICE CONNECTION DETAILS ARE BASED ON PVC PIPE AND FITTINGS.
 - SEWER CLEANOUTS NOT IN PAVEMENT SHALL HAVE CONCRETE COLLAR 18"x18"x6" AROUND THEIR TOPS AND MUST BE INSTALLED AND ADJUSTED TO FINISHED GRADE AT THE RIGHT-OF-WAY/PROPERTY LINE.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**RESIDENTIAL SANITARY
LATERAL DETAIL**

S-8

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**PARKER MYNCHENBERG
& ASSOCIATES, INC.**

PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS

1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117
(386) 677-6894 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

NO.	DATE	DESCRIPTION	REVISIONS
4	10-25-20	MOVED P.S. BLDG. EXPANDED PRO. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB
			BT

EMBRY RIDDLE AERONAUTICAL UNIVERSITY
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DAYTONA BEACH * FLORIDA

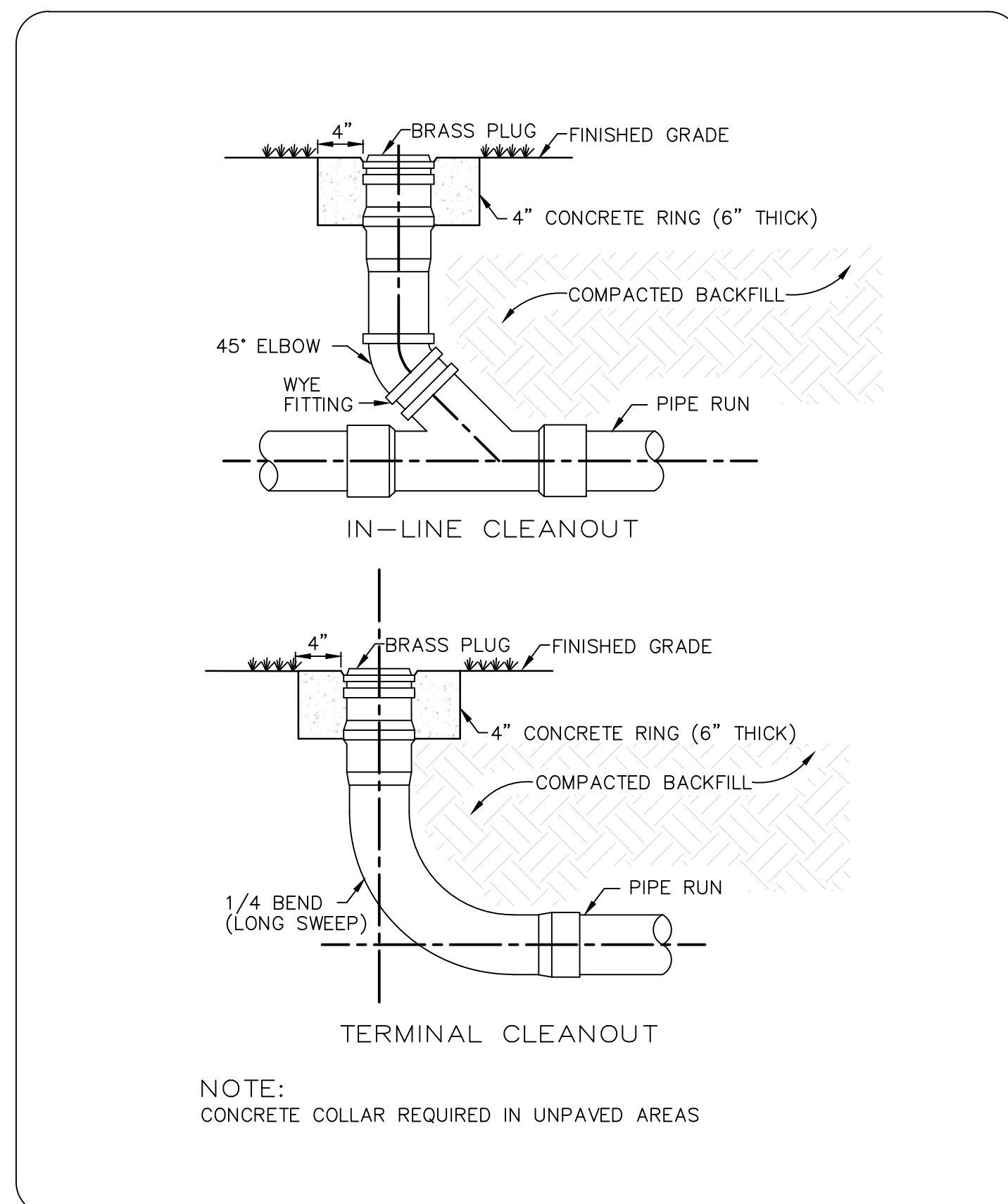
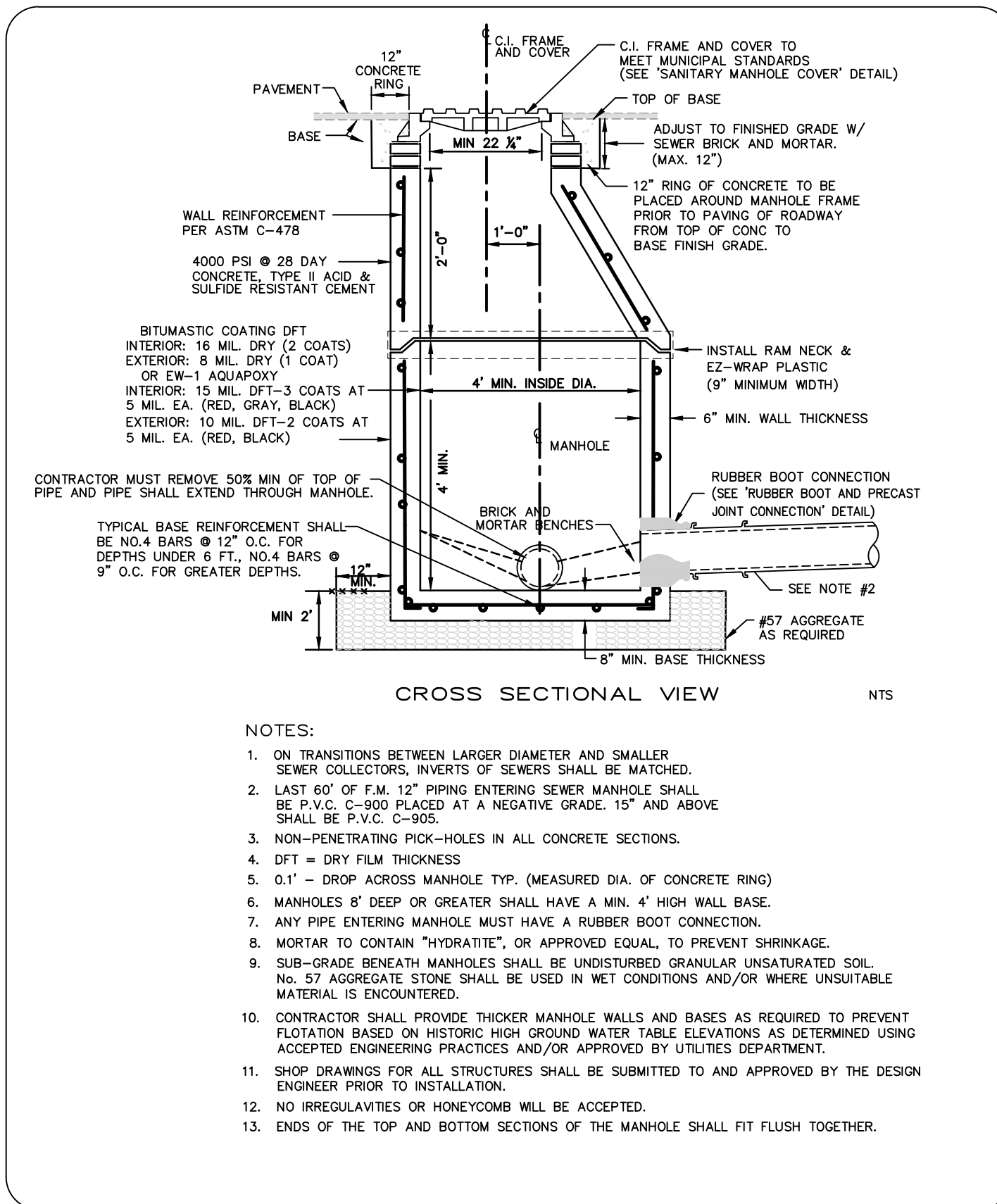
SEWER STANDARD DETAILS

DEV 2019-095
CITY APPROVAL STAMP

18 OF 19
SHEET NO.

Drawn By: MRB
Date: 6-15-19
SCALE: NONE
JOB #19-03

SEAL



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

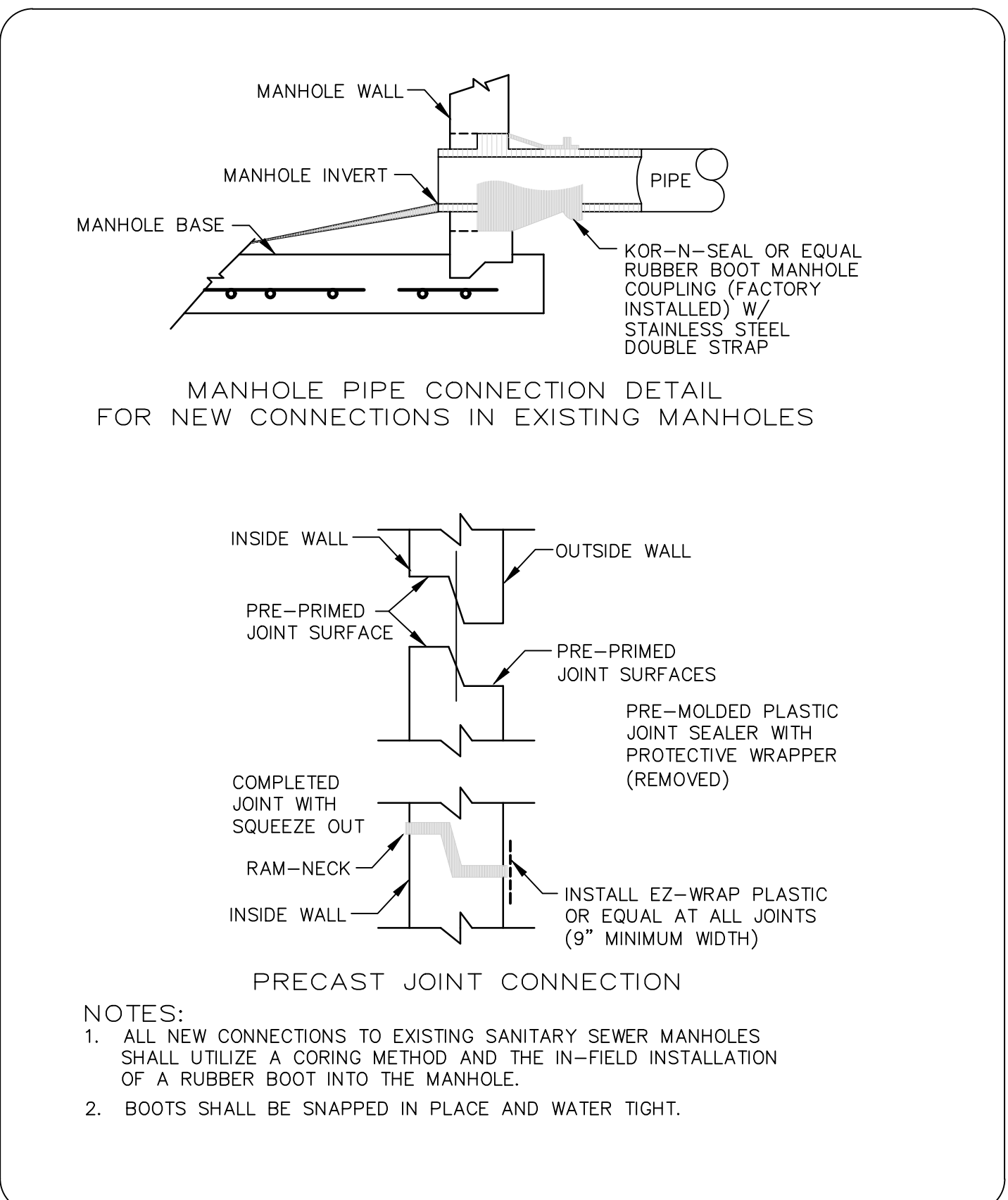
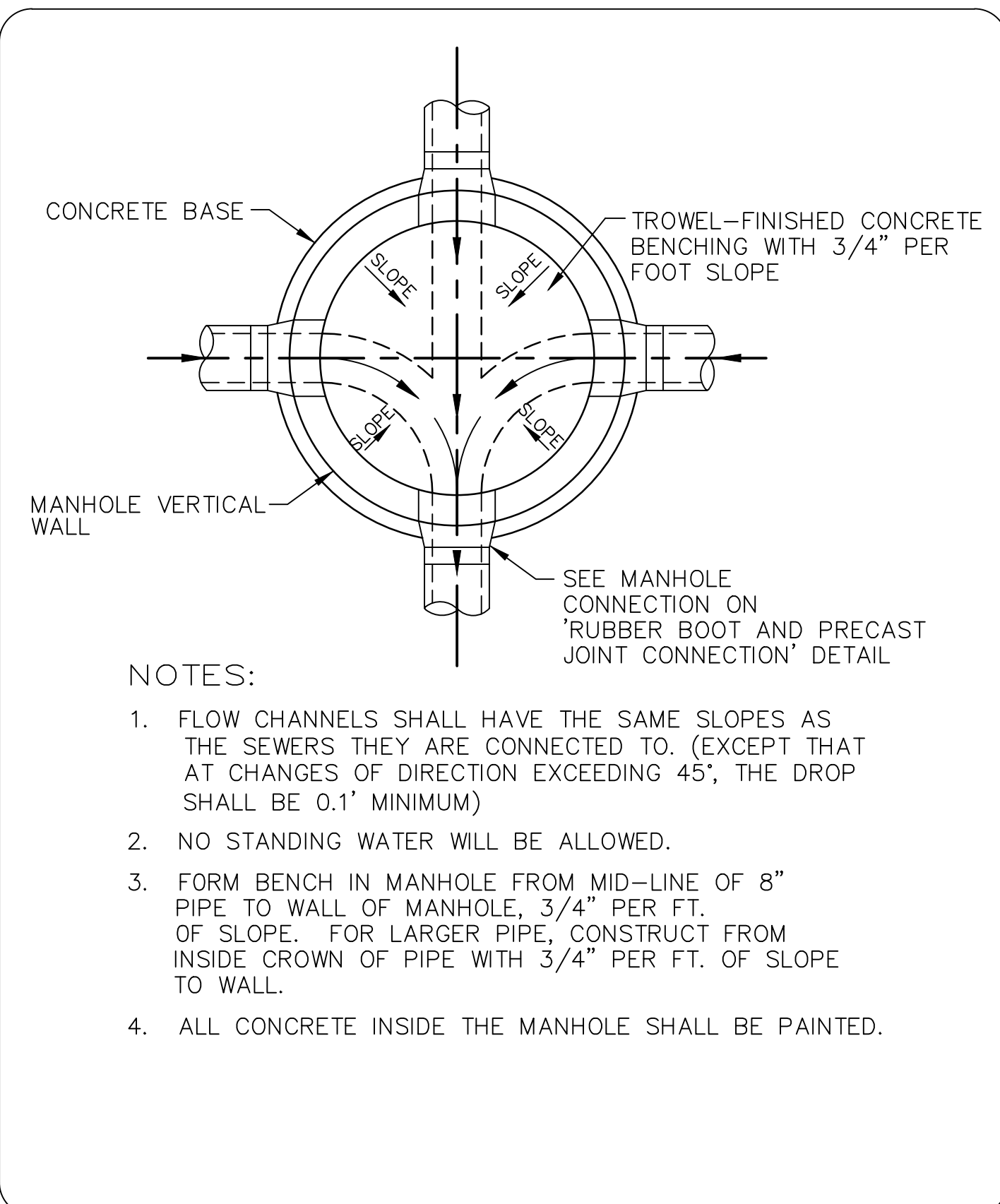
SANITARY SEWER MANHOLE AND GENERAL NOTES S-11

FX-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 01/19
File Name: Sanitary Sewer Manhole S-11
Page 73

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY LATERAL CLEANOUT DETAIL S-10

FX-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date:
File Name: Sanitary Cleanout S-10
Page 72



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

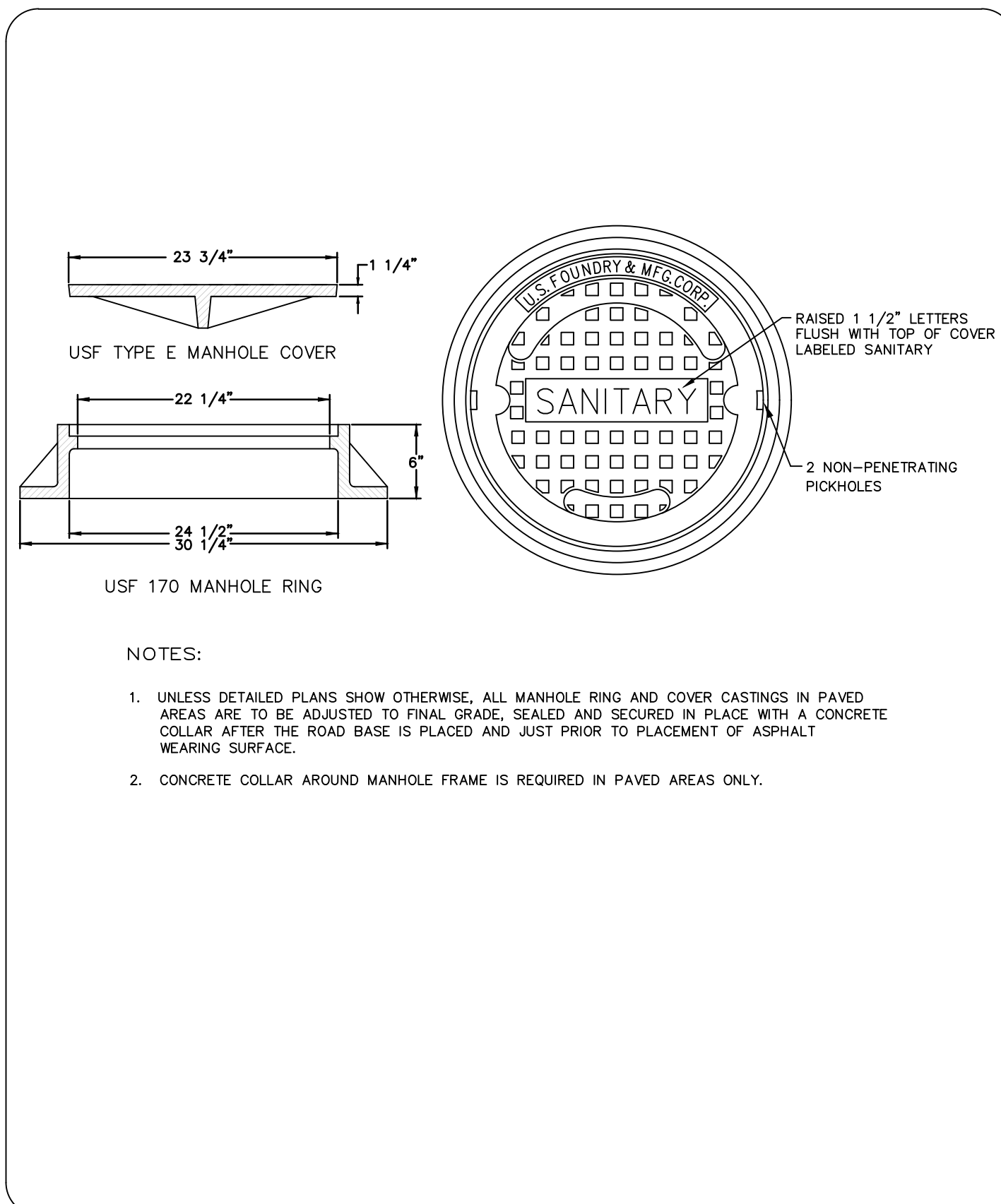
SANITARY MANHOLE INVERT DETAIL S-13

FX-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date: 01/19
File Name: Invert Detail S-13
Page 75

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL S-14

FX-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date:
File Name: Rubber Boot and Precast Joint Connection S-14
Page 76



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY SEWER COVER DETAIL S-15

FX-19/20
Drawing Date: 01/08
Drawn By: KJM
Checked By: JWP
Scale: NTS
Revision Date:
File Name: Sanitary Sewer Cover S-15
Page 77

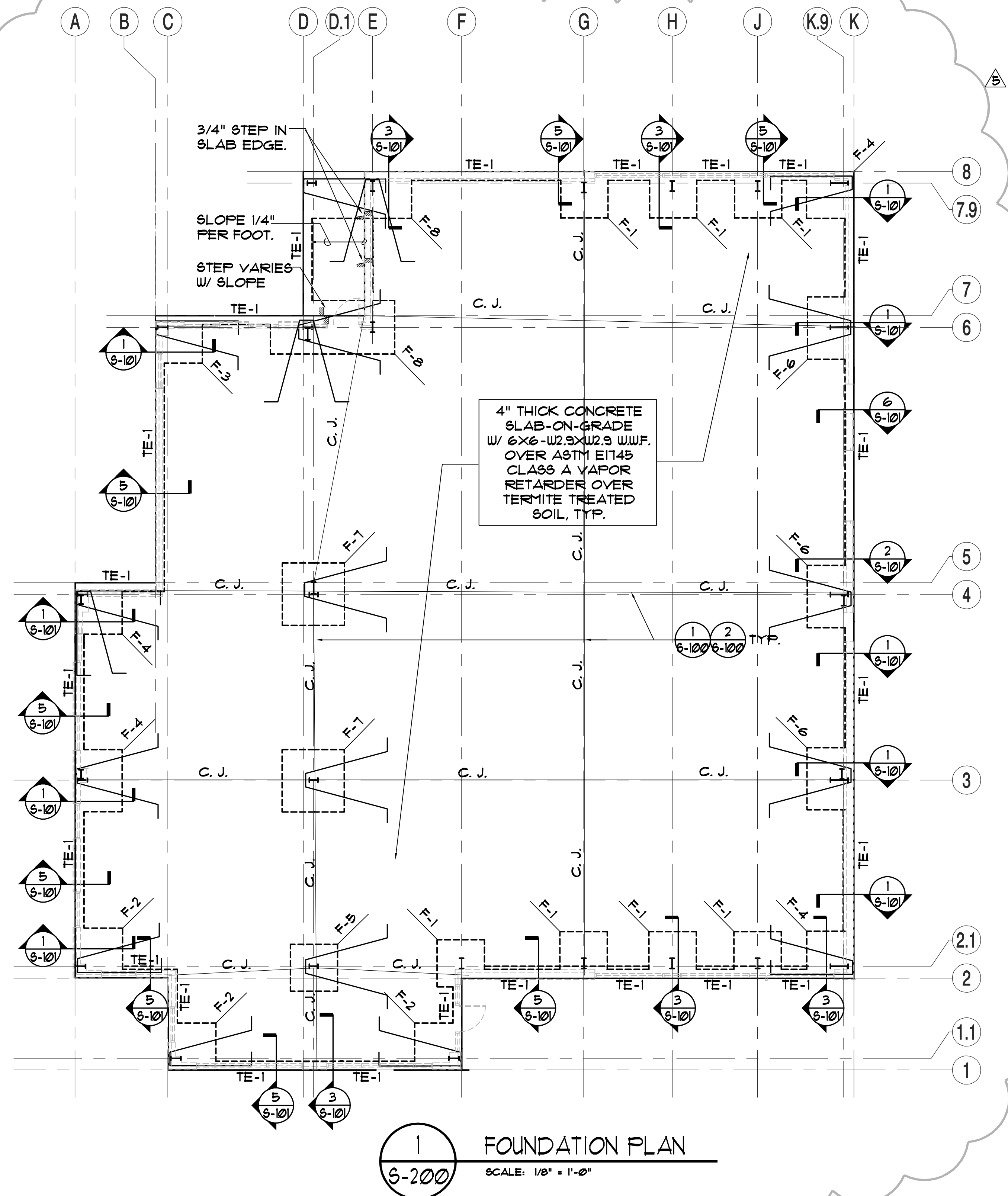
NO.	DATE	DESCRIPTION	REVISIONS
4	02-25-20	MOVED P.S. BLDG. EXPANDED PROJ. BLDG.	MRB
3	12-30-19	REVISED	MRB
2	11-07-19	REVISED BUILDING LOCATION	MRB
1	10-10-19	REVISED	MRB
			BT

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PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS
1729 RIDGEWOOD AVENUE - HOLLY HILL, FLORIDA 32117
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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

EMBRY RIDDLE AERONAUTICAL UNIVERSITY
PRINT SHOP
DAYTONA BEACH * FLORIDA
SEWER STANDARD DETAILS

DEV 2019-095
CITY APPROVAL STAMP
19 OF 19 SHEET NO.
Drawn By: MRB
Date: 6-15-19
SCALE: NONE
JOB #19-03

SEAL



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

FOUNDATION SCHEDULE							
MARK	SIZE	DEPTH	T.O.F.	REINFORCING			REMARKS
				BOTTOM	TOP	TRANSVERSE	
TE-1	0'-8" CONT.	1'-4"	-(0'-0")	1-5 CONT.	1-5 CONT.	-----	THICKENED EDGE
F-1	3'-0" X 3'-0"	1'-4"	+(0'-0")	4-5 EACH WAY	-----	-----	SPREAD FOOTING
F-2	4'-6" X 4'-6"	1'-4"	+(0'-0")	5-5 EACH WAY	-----	-----	SPREAD FOOTING
F-3	5'-6" X 5'-6"	1'-8"	+(0'-0")	6-6 EACH WAY	-----	-----	SPREAD FOOTING
F-4	6'-6" X 6'-6"	2'-0"	+(0'-0")	8-8 EACH WAY	-----	-----	SPREAD FOOTING
F-5	7'-6" X 7'-6"	2'-4"	+(0'-0") -(0'-1 1/2")	12-12 EACH WAY	12-12 EACH WAY	-----	SPREAD FOOTING
F-6	7'-0" X 9'-0"	3'-0"	+(0'-0")	8-16 LONG WAY 10-16 SHORT WAY	8-16 LONG WAY 10-16 SHORT WAY	-----	SPREAD FOOTING
F-7	9'-0" X 9'-0"	3'-0"	+(0'-0")	10-16 EACH WAY	10-16 EACH WAY	-----	SPREAD FOOTING
F-8	6'-0" X 14'-0"	3'-0"	+(0'-0")	7-16 LONG WAY 15-16 SHORT WAY	7-16 LONG WAY 15-16 SHORT WAY	-----	SPREAD FOOTING

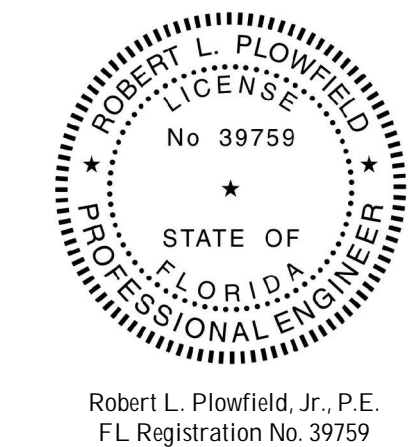
2 FOUNDATION SCHEDULE
N.T.S.

FOUNDATION PLAN NOTES:

- 4" CONCRETE SLAB w/ 6 x 6 W/4 x W/4 W/4 OVER 10 MIL VAPOR BARRIER FLOOR SHALL BE FINISHED USING A LASER SCREED TO FLATNESS FF25 AND TO LEVELNESS FL 20, TYPICALLY.
- PROVIDE 4" x 4'-0" (MINIMUM LENGTH) FOR SLAB PENETRATIONS LARGER THAN 6" DIA. OR 6" x 6" SQUARE. PLACE IN DIAMOND SHAPE PATTERN AS SHOWN. ONE SET OF FOUR MAY ENCOMPASS MORE THAN ONE PENETRATION.
- FOR SLAB PENETRATIONS GREATER THAN 6" WIDE x 3'-0" LENGTH OR LONGER PROVIDE 5" EACH SIDE OF OPENING REBAR TO BE 12" LONGER THAN PENETRATION LENGTH.
- PROVIDE 4" x 4'-0" LONG DIAGONAL AT ALL INSIDE SLAB CORNERS.

DRAWING NOTES:

- CONTRACTOR SHALL COORDINATE PAD LOCATIONS w/ ELECT, MECH, & PLUMBING, REFERENCE GENERAL NOTES SECTION 01051.
- ROUTE ALL CHASES UNDER THICKENED SLAB EDGE AND COLUMN FOOTINGS, MAINTAIN A MINIMUM 6" SOIL COVER.
- CONCRETE CONTRACTOR SHALL GROUT RECESSED THRESHOLDS.



Robert L. Plowfield, Jr., P.E.
FL Registration No. 39759



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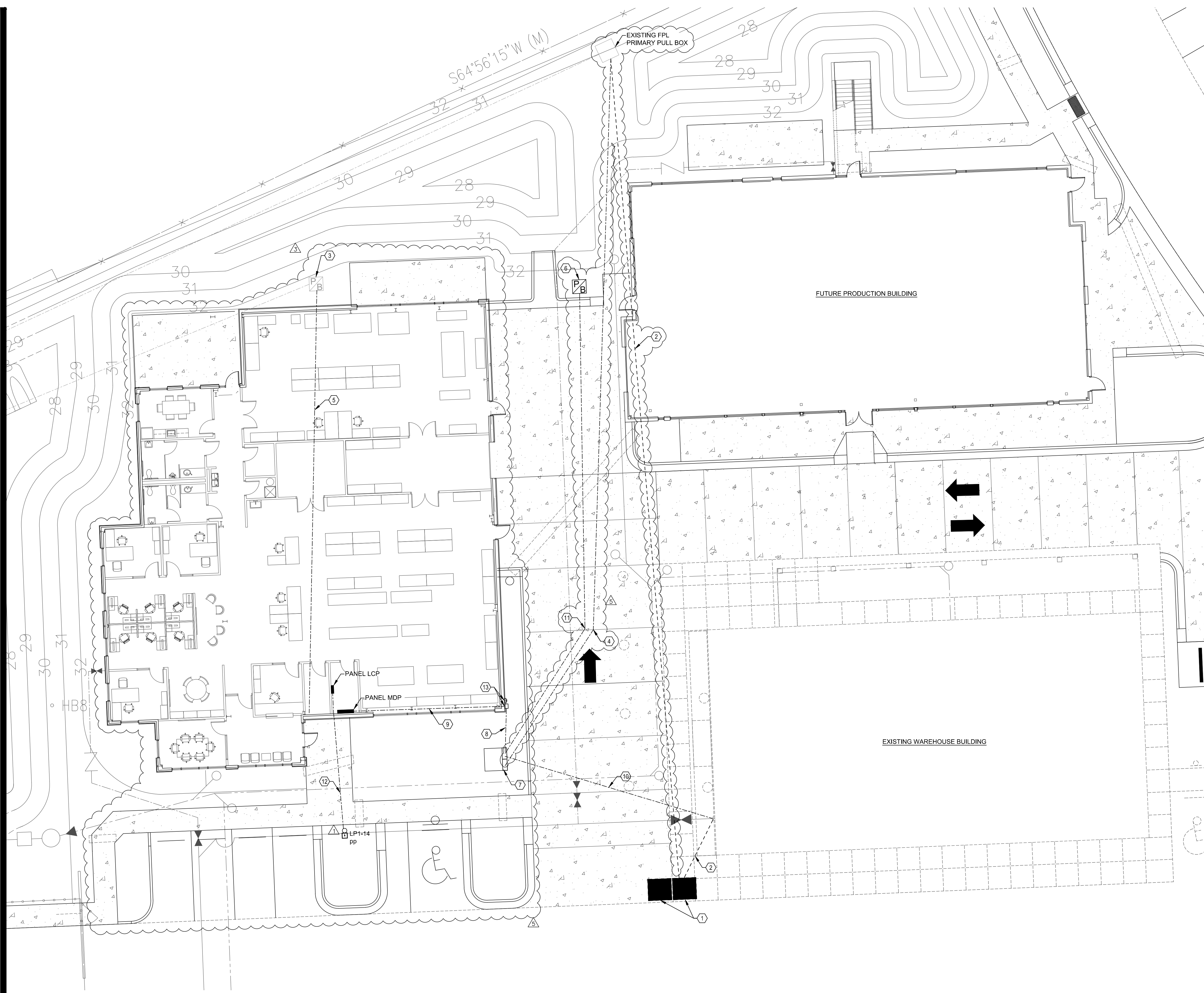
DATE	07/12/2019
REVISION	REVISION NO. 3 - MARCH 13, 2020
DRAWN	
CHECKED	

FOUNDATION PLAN
EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
NEW PRINT SHOP BUILDING

REVISION NO. 3 - 03/13/20

Job no. 07122019
SDBE 19056
Sheet no.

S-200



GENERAL NOTES

1. COORDINATE WITH FP&L FOR INSTALLATION OF THE NEW TRANSFORMER AND PRIMARY CONDUITS.
2. COORDINATE WITH ERAU AND FPL FOR THE EXISTING WAREHOUSE POWER SERVICE SWITCH OVER FROM THE EXISTING TRANSFORMERS TO THE NEW TRANSFORMER AND THE REMOVAL OF THE EXISTING TRANSFORMERS, PRIMARY, AND SECONDARY CONDUITS.
3. PROVIDE AND INSTALL NEW LAMICOID NAMEPLATES FOR EXISTING WAREHOUSE BUILDING PANELS INDICATING 208VAC OPERATING VOLTAGE.

REFERENCE NOTES

1. COORDINATE WITH FP&L FOR REMOVAL OF EXISTING 240/120 VAC SINGLE PHASE TRANSFORMERS, PRIMARY CONDUCTORS, AND PRIMARY CONDUITS BACK TO EXISTING PRIMARY PULL BOX.
2. REMOVE EXISTING SECONDARY FEEDER FROM EXISTING TRANSFORMERS TO WAREHOUSE BUILDING METER.
3. COMMUNICATIONS PULL BOX INSTALLED BY PRODUCTION BUILDING CONTRACTOR.
4. INSTALL FPL PROVIDED PRIMARY CONDUITS FROM EXISTING PRIMARY PULL BOX TO PROPOSED TRANSFORMER PRIMARY. COORDINATE WITH FPL FOR STUB-UP LOCATIONS.
5. INSTALL ONE 4 INCH SCH 40 PVC CONDUITS FROM COMMUNICATIONS PULLBOX TO THE PRINT SHOP COMMUNICATIONS ROOM. STUB UP CONDUITS ADJACENT TO TTB BOARD.
6. INSTALL 36"x36"x36" ELECTRICAL PULL BOX.
7. INSTALL NEW TRANSFORMER PAD AND COORDINATE INSTALLATION OF NEW TRANSFORMER WITH FP&L.
8. INSTALL NEW SERVICE CONDUCTORS IN SCH 40 PVC CONDUITS FROM TRANSFORMER SECONDARY TO CT CABINET. SEE PANEL FEEDER SCHEDULE ON SHEET E6.1 FOR CONDUIT AND CONDUCTOR SIZING.
9. INSTALL NEW SERVICE CONDUCTORS IN SCH 40 PVC CONDUITS FROM CT CABINET TO PANEL MDP. SEE PANEL FEEDER SCHEDULE ON SHEET E6.1 FOR CONDUIT AND CONDUCTOR SIZING.
10. INSTALL NEW SERVICE CONDUCTORS IN SCH 40 PVC CONDUITS FROM TRANSFORMER SECONDARY TO WAREHOUSE BUILDING METER BASE. SEE PANEL FEEDER SCHEDULE ON SHEET E6.1 FOR CONDUIT AND CONDUCTOR SIZING.
11. INSTALL THREE 4 INCH CONDUITS FROM TRANSFORMER SECONDARY CABINET TO ELECTRICAL PULL BOX. MAINTAIN 12" MIN SPACING BETWEEN POWER AND DATA CONDUITS.
12. INSTALL ONE 2 INCH SCH 40 PVC CONDUIT FROM LCP TO LIGHT POLE. SEE EQUIPMENT FEEDER SCHEDULE ON SHEET E6.1 FOR CONDUCTOR DETAILS. SEE DETAIL 1 ON SHEET E5.2 FOR POLE DETAILS.
13. INSTALL CT CABINET AND METER BASE IN ACCORDANCE WITH FPL ELECTRICAL SERVICE STANDARDS. SEE DETAIL 4 ON SHEET E5.1 FOR DETAILS.

SALAS O'BRIEN
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ADAM S. LEVINE, P.E. 77010
19055



REVISION	DATE
Δ ADDENDUM 1	08/21/2019
Δ REVISION 1	01/15/2020
Δ REVISION 3	03/13/2020

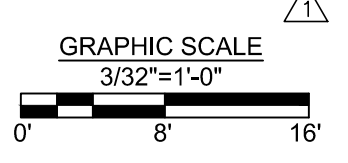
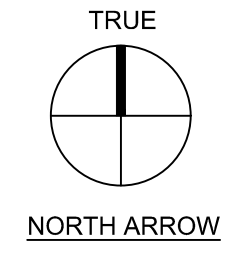
**EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
NEW PRINT SHOP BUILDING**

SITE PLAN - ELECTRICAL

E1.1

REVISION NO. 3 - 03/13/2020

1 SITE PLAN - ELECTRICAL
E1.1 3/32" = 1'-0"



Date: 07/12/2019
Job no.: SOB19005
Sheet no.: E1.1

DRAWN CHECKED

SYMBOL	QTY.	LABEL	ARRANGEMENT	TOTAL LAMP LUMENS	LLF	DESCRIPTION
○	4	RW	SINGLE	N/A	0.900	OC750-L1L15-R55
○	8	EC	SINGLE	1100	1.000	L600-13W30SNC-MA
□	4	EW	SINGLE	7335.5	0.900	WPF-70W-40K
□	4	SZ	SINGLE	N/A	1.000	ECF-L-80L-1A-NW-G2-3
□	5	ES	SINGLE	N/A	1.000	LU-MC1-30-24-13W-40K-120

LABEL	CALC TYPE	UNITS	AVG.	MAX	MIN	AVG/MIN	MAX/MIN
PRINT SHOP - EAST EXIT	illumiance	Fc	3.06	8.5	1.4	2.19	6.07
PRINT SHOP - EAST EXIT PATH	illumiance	Fc	3.19	11.4	0.6	5.32	19.00
PRINT SHOP - MAIN ENTRY	illumiance	Fc	11.01	22.9	3.0	3.67	7.63
PRINT SHOP - NORTH EXIT	illumiance	Fc	14.83	18.1	11.9	1.25	1.52
PRINT SHOP - PARKING	illumiance	Fc	6.84	11.3	2.2	3.11	5.14
PRODUCTION - EAST ROLL UP DOOR	illumiance	Fc	5.94	11.5	2.1	2.83	5.48
PRODUCTION - MECH EQUIPMENT PAD	illumiance	Fc	8.46	20.0	2.7	3.13	7.41
PRODUCTION - NORTH EAST EXIT	illumiance	Fc	3.22	7.1	0.9	3.58	7.89
PRODUCTION - NORTH EXIT PATH	illumiance	Fc	8.49	18.5	1.0	8.49	18.50
PRODUCTION - PARKING	illumiance	Fc	4.38	11.7	0.4	10.95	29.25
PRODUCTION - SOUTH EAST EXIT	illumiance	Fc	5.05	11.6	1.1	4.59	10.55
PRODUCTION - SOUTH EXIT	illumiance	Fc	8.24	21.3	0.2	41.20	108.50
PRODUCTION - WEST EXIT	illumiance	Fc	6.81	13.1	1.1	6.01	11.91
PROPERTY LINE	illumiance	Fc	0.06	1.0	0.0	N/A	N/A

DAYTONA BEACH DESIGN CRITERIA	
MAXIMUM ILLUMINATION LEVELS	
TYPE OF USE ABUTTING A LOT LINE	MAXIMUM ILLUMINATION LEVEL AT LOT LINE (FOOT-CANDLES)
COMMERCIAL USE	2
PARKING LOT	2.5

GENERAL NOTES

1. SITE LIGHTING SHALL BE IN COMPLIANCE WITH CITY OF DAYTONA BEACH LAND DEVELOPMENT CODE SECTION 6.9.
2. COORDINATE POLE LOCATIONS WITH CIVIL DRAWINGS TO AVOID CONFLICT WITH OTHER UTILITIES.
3. EXISTING PARKING SPOTS NOT INCLUDED IN DRAWS OF THIS PROJECT.
4. SEE SHEET ES.2 FOR LUMINAIRE AND POLE DETAILS

REFERENCE NOTES

1. FUTURE LIGHT TO BE PROVIDED INSTALLED WITH PRODUCTION BUILDING.



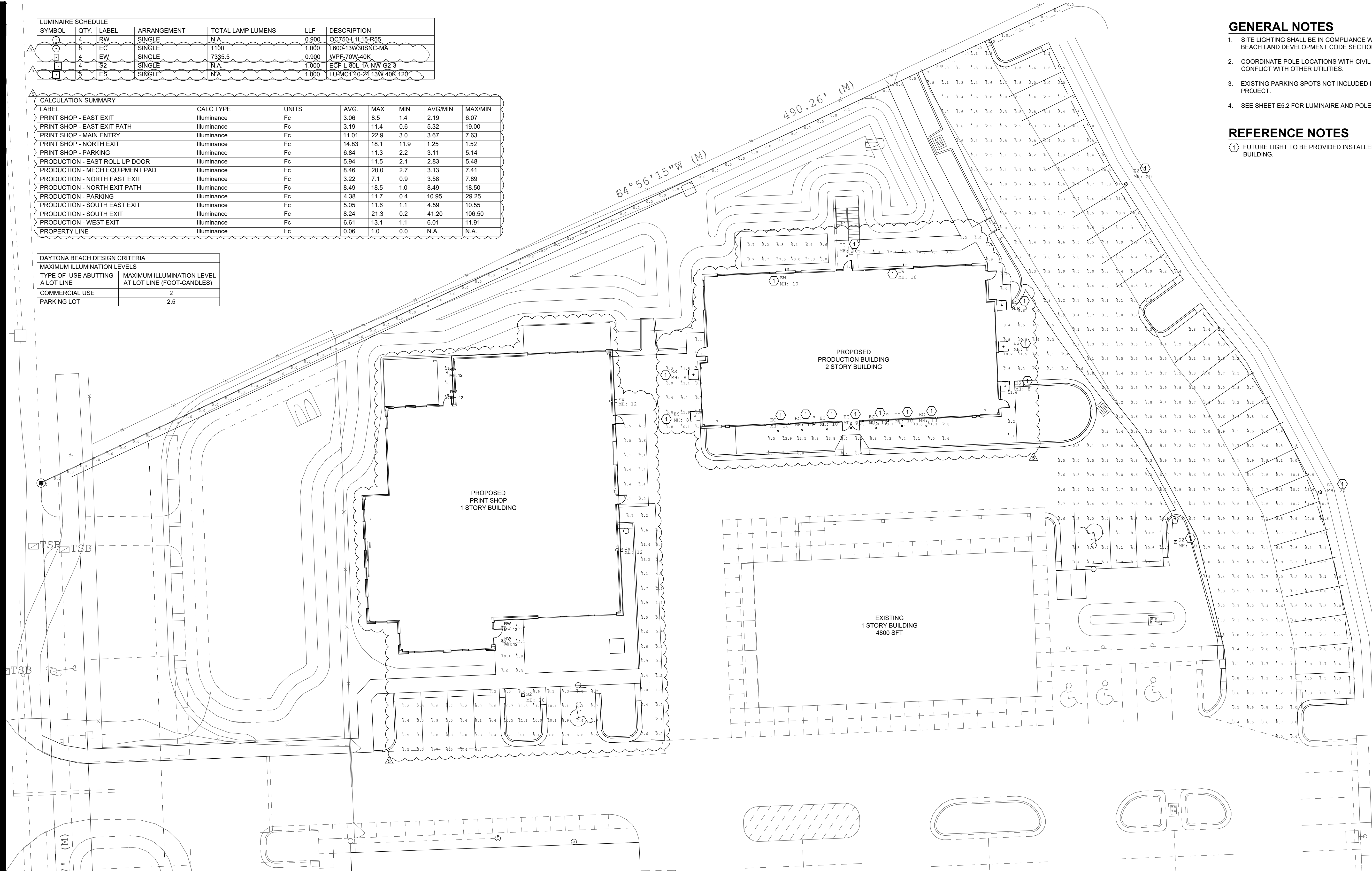
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[expect a difference]

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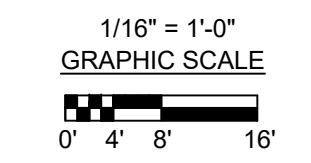
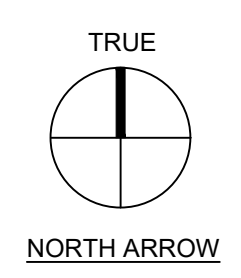
CERT. OF AUTH. NO. 6196

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■ ADAM S. LEVINE, P.E. 77010

19005



1 SITE PLAN - PHOTOMETRICS
E1.4 1/16" = 1'-0"



REVISION	DATE
REVISION 2	02/06/2020
REVISION 3	03/13/2020

REVISION NO. 3 - 03/13/2020

SITE PLAN - PHOTOMETRICS

EMBRY-RIDDLE AERONAUTICAL UNIVERSITY
NEW PRINT SHOP BUILDING

Date: 07/12/2019
Job no.: SOBIE 19005
Sheet no.: E1.4 NEW SHEET

DATE: 02/06/2020
REVISION: 03/13/2020

DRAWN: [] CHECKED: []