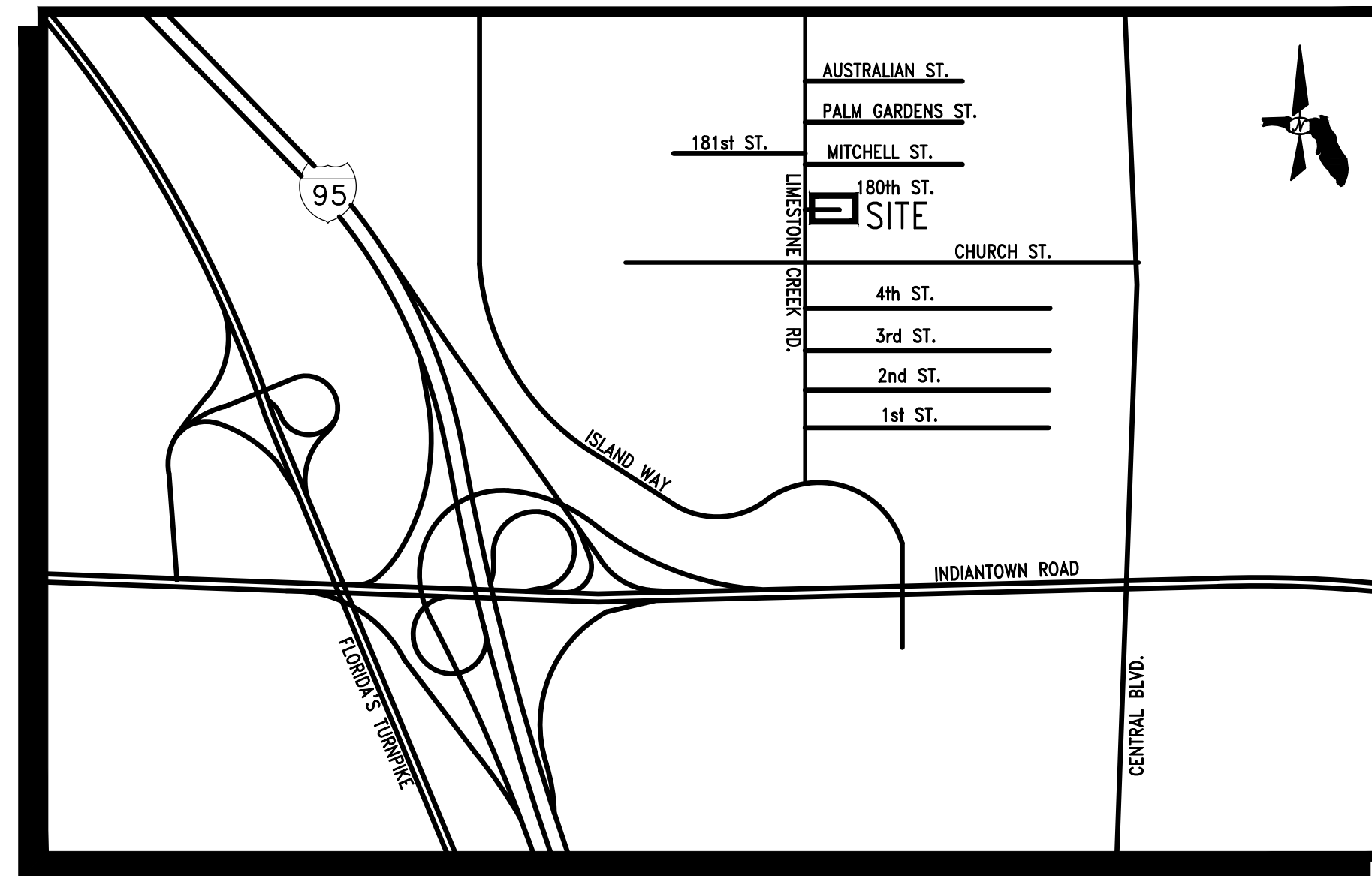


# LIMESTONE LANDING

## AT

### PALM BEACH COUNTY, FLORIDA

# WATER AND SEWER PLANS



**LOCATION MAP**  
N.T.S.

#### INDEX OF DRAWINGS

- 1 COVER SHEET
- 2 KEY PLAN
- ~~3 - 4 PAVING, GRADING & DRAINAGE PLAN~~
- ~~5 PAVING, GRADING & DRAINAGE DETAILS~~
- ~~6 DRAINAGE DETAILS & CONTROL STRUCTURE~~
- 7 - 8 WATER DISTRIBUTION & SANITARY SEWER SYSTEMS
- 9 WATER STANDARD DETAILS
- 10-11 SANITARY SEWER DETAILS
- ~~12 POLLUTION CONTROL PLAN~~

PREPARED BY

**MESSLER & ASSOCIATES**  
CONSULTING ENGINEERS



77 East Village Square, Vero Beach, FLORIDA 32966  
Phone (561) 373-2107  
Certificate of Authorization No. 00003616

TIMOTHY J. MESSLER, PROFESSIONAL ENGINEER, LICENSE NO. 16422  
THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED  
BY TIMOTHY J. MESSLER, PE ON MAY 15, 2019 USING A SHA-1  
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED  
AND SEALED AND THE SHA-1 AUTHENTICATION CODE MUST BE  
VERIFIED ON ANY ELECTRONIC COPIES

ENGINEERING CERTIFICATION:

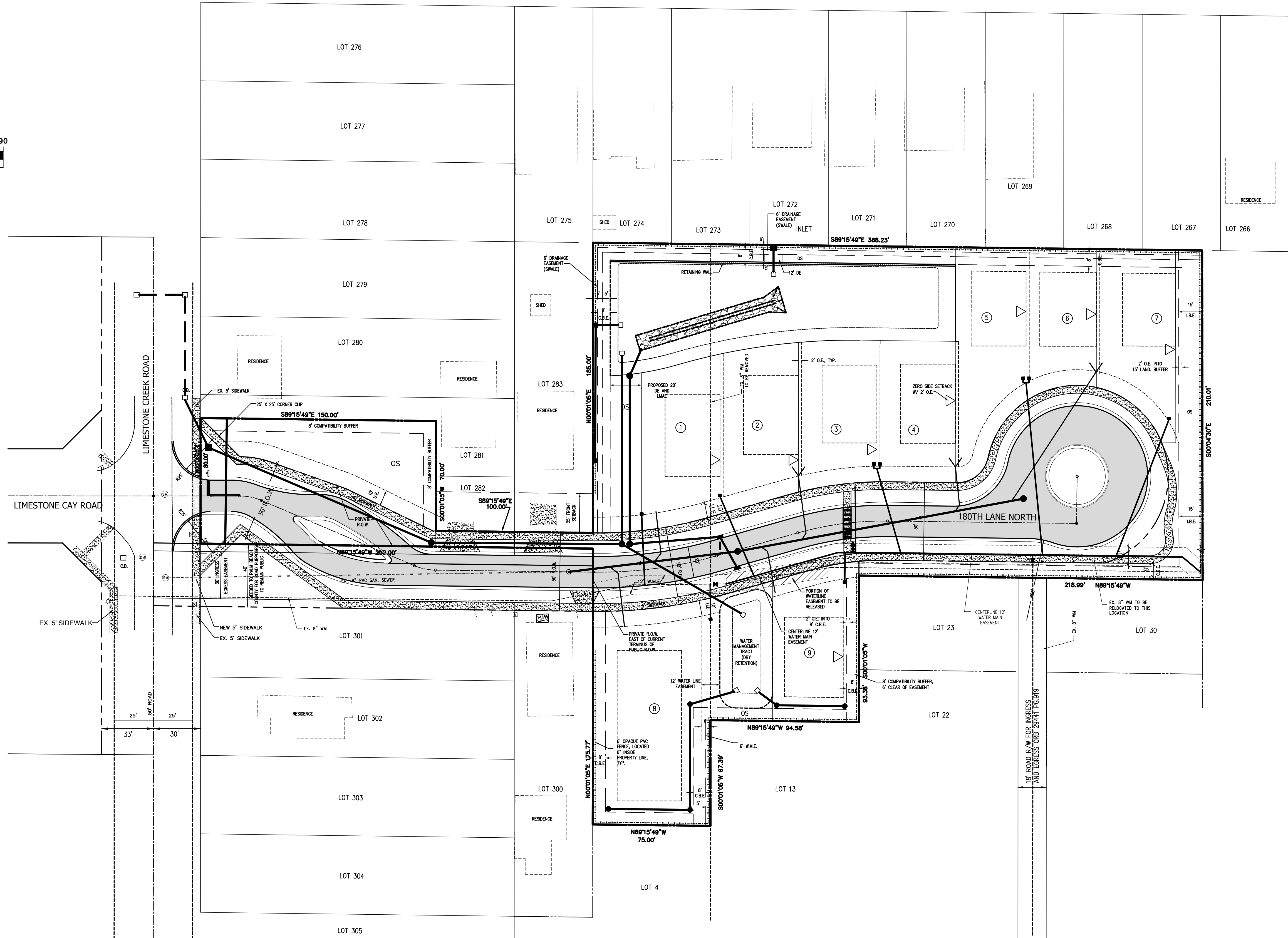
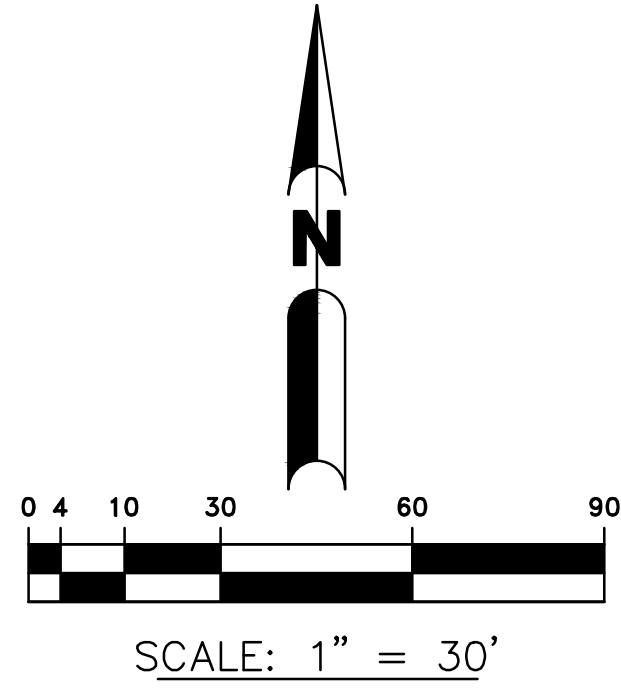
I hereby certify that the attached plans and design are  
in substantial compliance with the Design Standards and  
Criteria in effect on this date for Palm Beach, Florida  
Engineering Department.

DATE: \_\_\_\_\_

TIMOTHY J. MESSLER  
PROFESSIONAL ENGINEER  
REGISTRATION No. 16422

PROJECT No. 17-045  
SHEET No. 1 OF 12  
REVISED 10/23/19 PER PBC

C:\My Drive\PROJECTS\17-045 Limestone Landing\CONSTRUCTION PLANS\Plans 1620\SHEETS 1- 2 COVER SHEET & KEY PLAN (1) Aug. 2/25/2020 8:51:29 AM, DWG To PDF 33



DESIGN	TJM	5			
DRAWN	JAO	4			
CHECKED	TJM	2	2/9/20	REVISED PER PBC COMMENTS DATED 1/17/2020	TJM
		1	10/23/19	REVISED PER PBC COMMENTS DATED 10/10/19	TJM
Q.C.					

NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

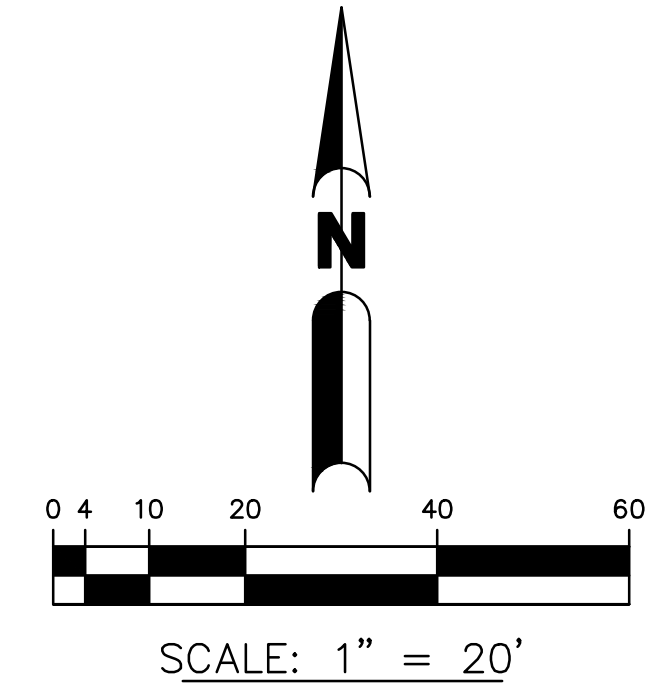
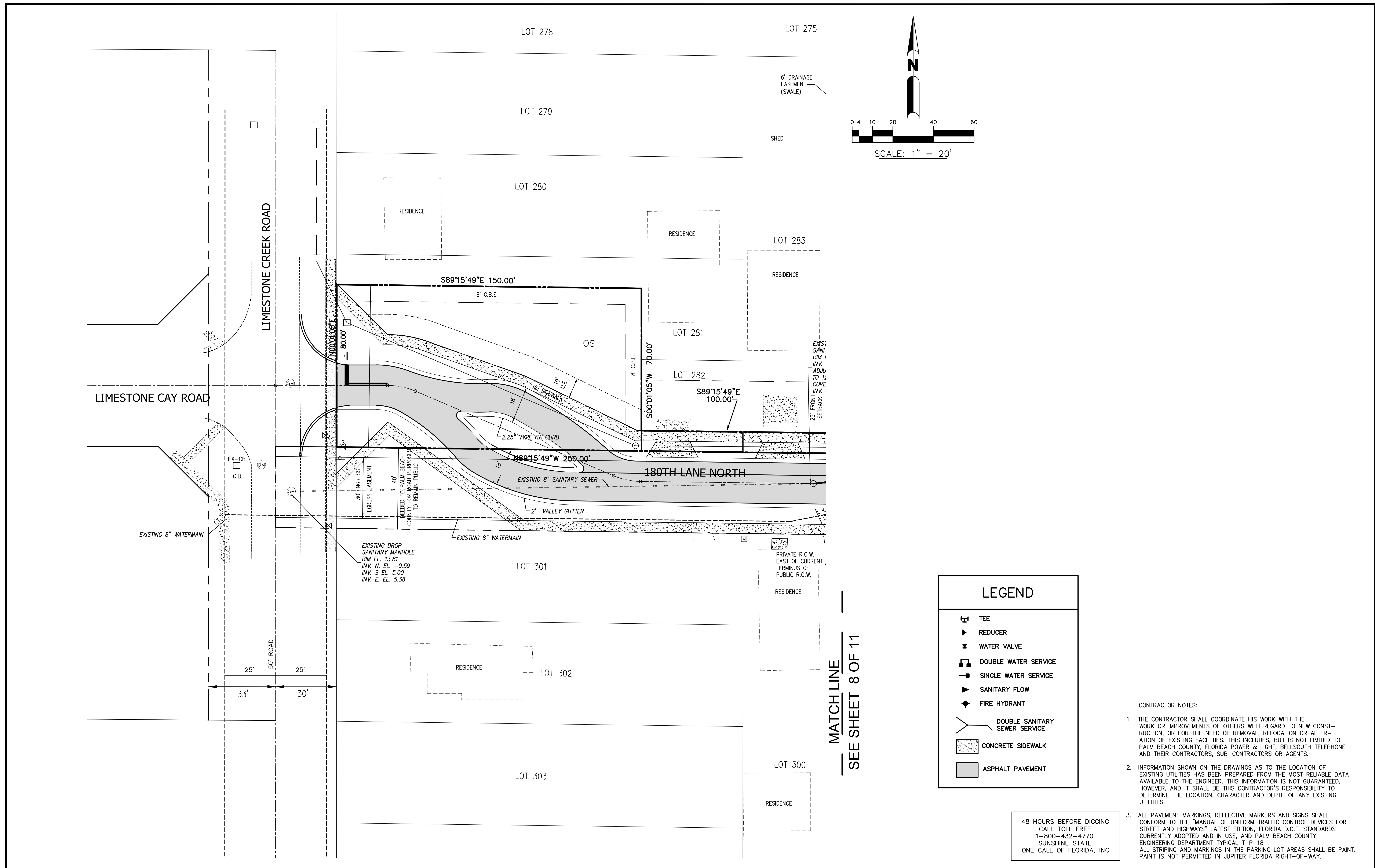
**Messler & Associates**  
 CONSULTING ENGINEERS  
 5746 VIA RIO, JUPITER, FLORIDA 33458  
 Phone (561) 748-6015 Fax (561) 748-6889  
 Certificate of Authorization No. 00003616

LIMESTONE LANDING  
 AT  
 PALM BEACH COUNTY, FLORIDA

KEY PLAN

PROJ. NO.	17-045
SCALE	1"=30'
DATE	FEB. 2018
SHT	2 OF 12

TIMOTHY J. MESSLER, P.E.  
 FL. REG. No. 16422



LEGEND	
	TEE
	REDUCER
	WATER VALVE
	DOUBLE WATER SERVICE
	SINGLE WATER SERVICE
	SANITARY FLOW
	FIRE HYDRANT
	DOUBLE SANITARY SEWER SERVICE
	CONCRETE SIDEWALK
	ASPHALT PAVEMENT

- CONTRACTOR NOTES:**
1. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OR IMPROVEMENTS OF OTHERS WITH REGARD TO NEW CONSTRUCTION, OR FOR THE NEED OF REMOVAL, RELOCATION OR ALTERATION OF EXISTING FACILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO PALM BEACH COUNTY, FLORIDA POWER & LIGHT, BELLSOUTH TELEPHONE AND THEIR CONTRACTORS, SUB-CONTRACTORS OR AGENTS.
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  3. ALL PAVEMENT MARKINGS, REFLECTIVE MARKERS AND SIGNS SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS" LATEST EDITION, FLORIDA D.O.T. STANDARDS CURRENTLY ADOPTED AND IN USE, AND PALM BEACH COUNTY ENGINEERING DEPARTMENT TYPICAL T-P-18. ALL STRIPING AND MARKINGS IN THE PARKING LOT AREAS SHALL BE PAINT. PAINT IS NOT PERMITTED IN JUPITER FLORIDA RIGHT-OF-WAY.

48 HOURS BEFORE DIGGING  
CALL TOLL FREE  
1-800-432-4770  
SUNSHINE STATE  
ONE CALL OF FLORIDA, INC.

DESIGN	TJM	3			
DRAWN	JAO	4			
CHECKED	TJM	2	1/6/20	REVISED PER PBC FIRE RESCUE PAVT WIDTH ENTRY	TJM
		1	10/23/19	REVISED PER PBC COMMENTS DATE 10/10/19	TJM
Q.C.					

NOT VALID FOR CONSTRUCTION  
UNLESS SIGNED IN THIS BLOCK

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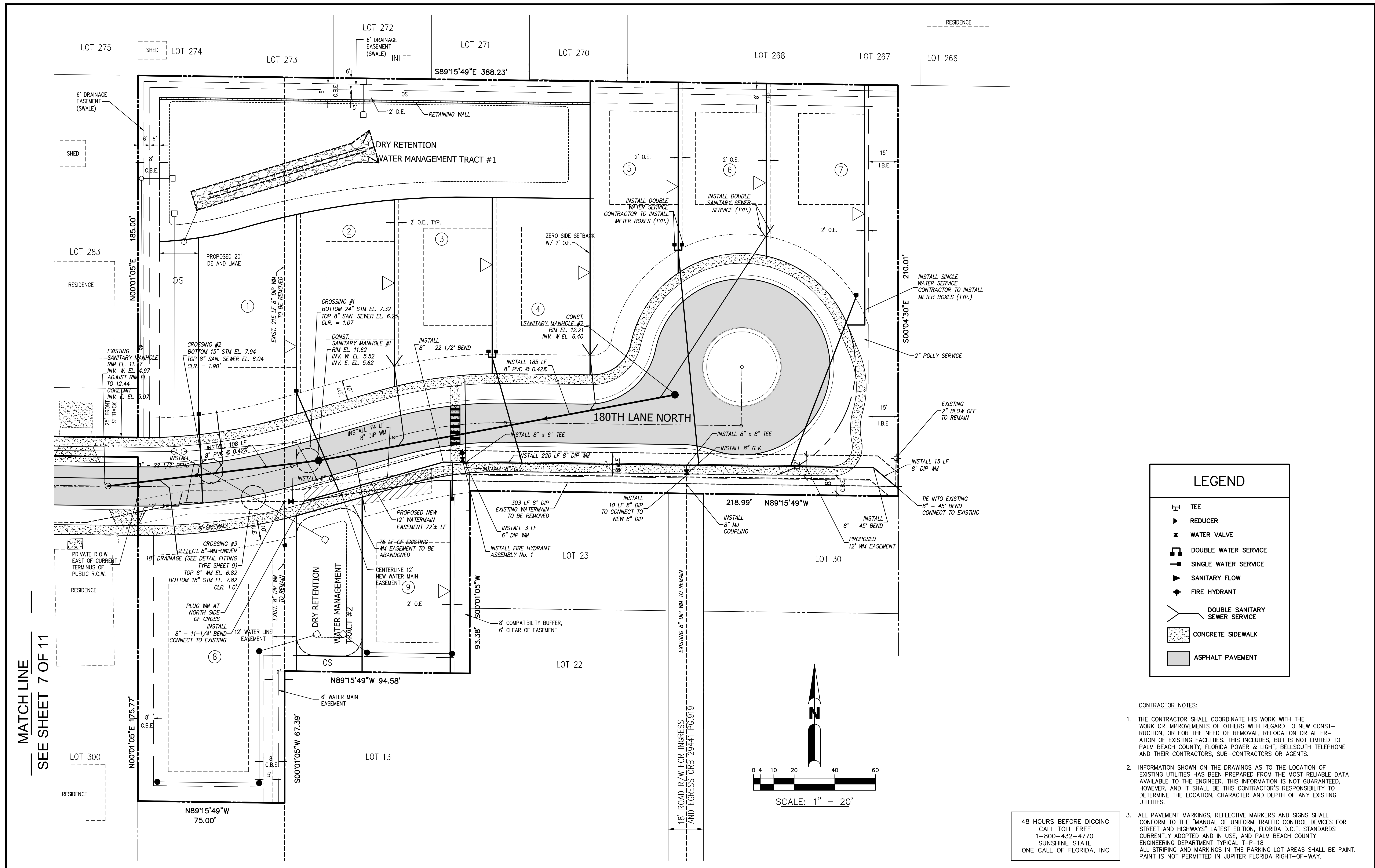
LIMESTONE LANDING  
AT  
PALM BEACH COUNTY, FLORIDA

WATER DISTRIBUTION &  
SANITARY SEWER SYSTEMS

PROJ. NO.	17-045
SCALE	1"=20'
DATE	FEB. 2018
SHT	7 OF 12

TIMOTHY J. MESSLER, P.E.  
FL. REG. NO. 16422

C:\My Drive\PROJECTS\17-045 Limestone Landing\Plans\CONSTRUCTION PLANS\17-045 Limestone Landing\17-045 Limestone Landing.dwg, 4/16/2020 1:26:54 PM, DWG, To Plot

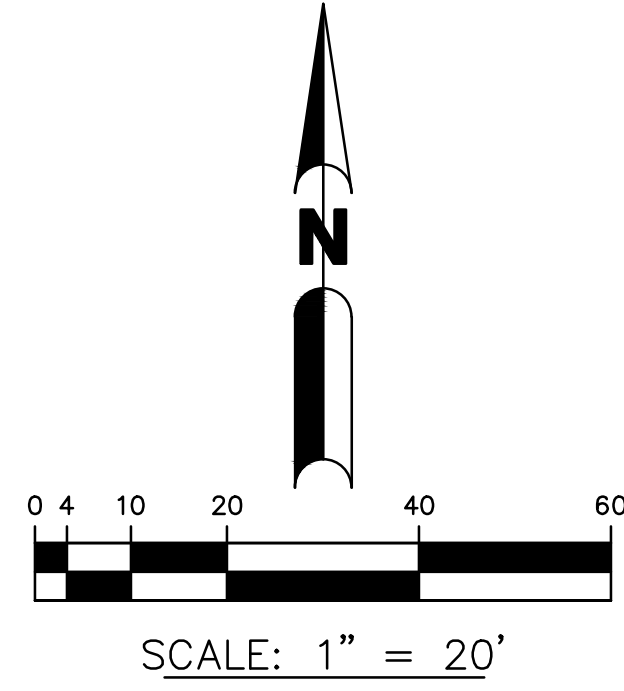


### LEGEND

	TEE
	REDUCER
	WATER VALVE
	DOUBLE WATER SERVICE
	SINGLE WATER SERVICE
	SANITARY FLOW
	FIRE HYDRANT
	DOUBLE SANITARY SEWER SERVICE
	CONCRETE SIDEWALK
	ASPHALT PAVEMENT

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1-800-432-4770  
SUNSHINE STATE  
ONE CALL OF FLORIDA, INC.



MATCH LINE  
SEE SHEET 7 OF 11

DESIGN	TJM	3	1/6/20	REVISED PER PBC FIRE RESCUE FH LOCATION	TJM
DRAWN	JAO	2	10/23/19	REVISED PER PBC COMMENTS DATE 10/10/19	TJM
CHECKED	TJM	1	4/30/19	REVISED PER WATER DEPARTMENT COMMENTS	TJM
Q.C.					

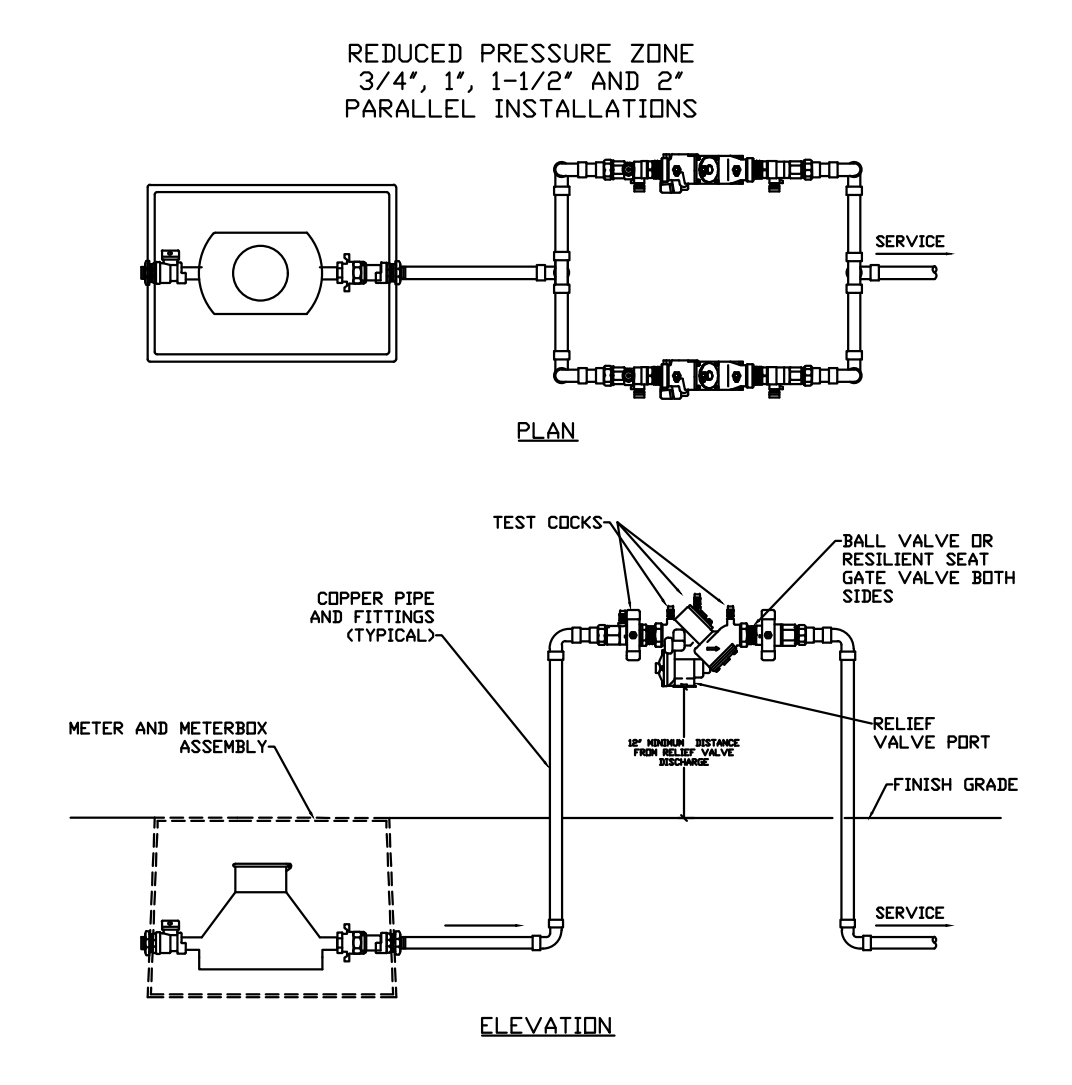
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Phone (561) 748-6015 Fax (561) 748-6889  
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LIMESTONE LANDING  
AT  
PALM BEACH COUNTY, FLORIDA

WATER DISTRIBUTION &  
SANITARY SEWER SYSTEMS

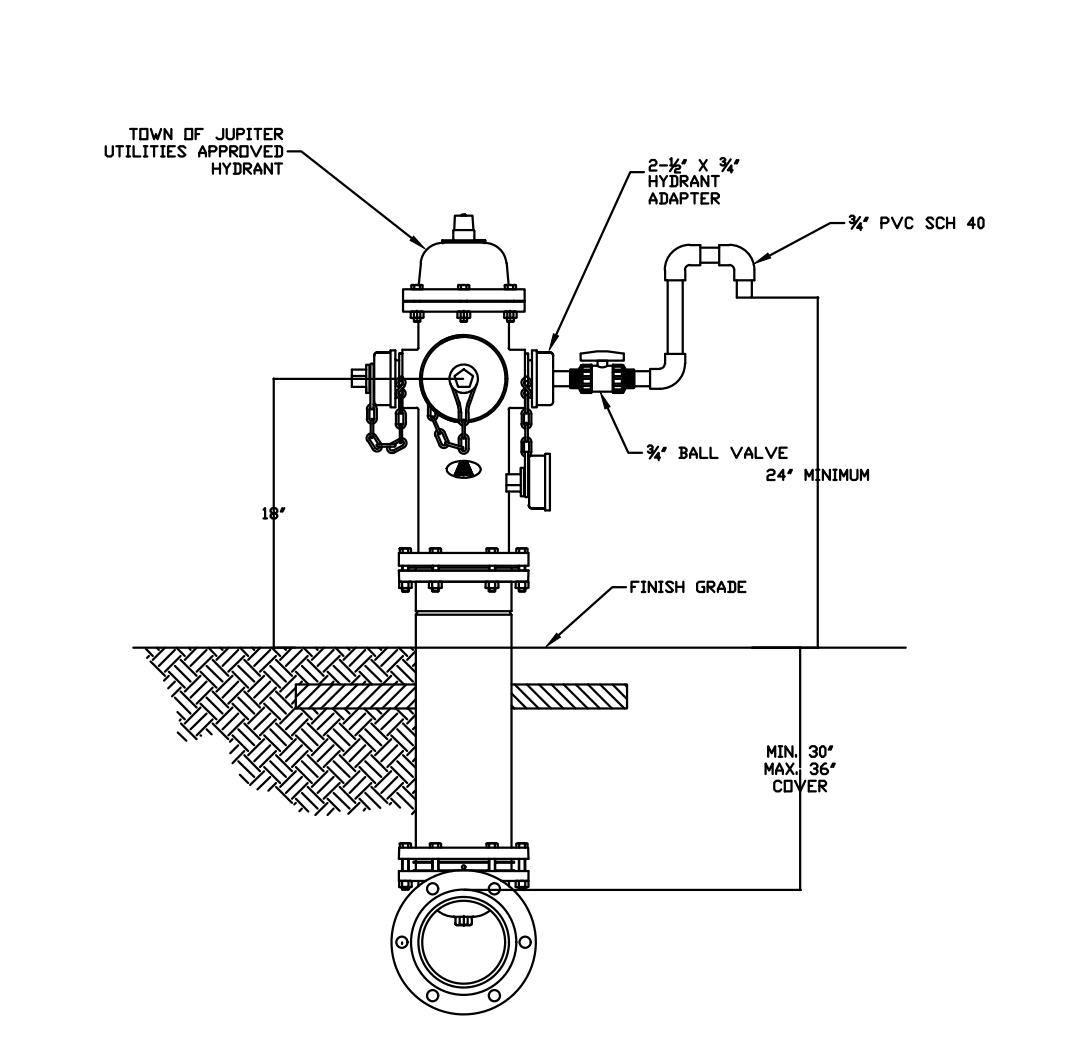
PROJ NO.	17-045
SCALE	1"=20'
DATE	FEB. 2018
SHT	8 OF 12



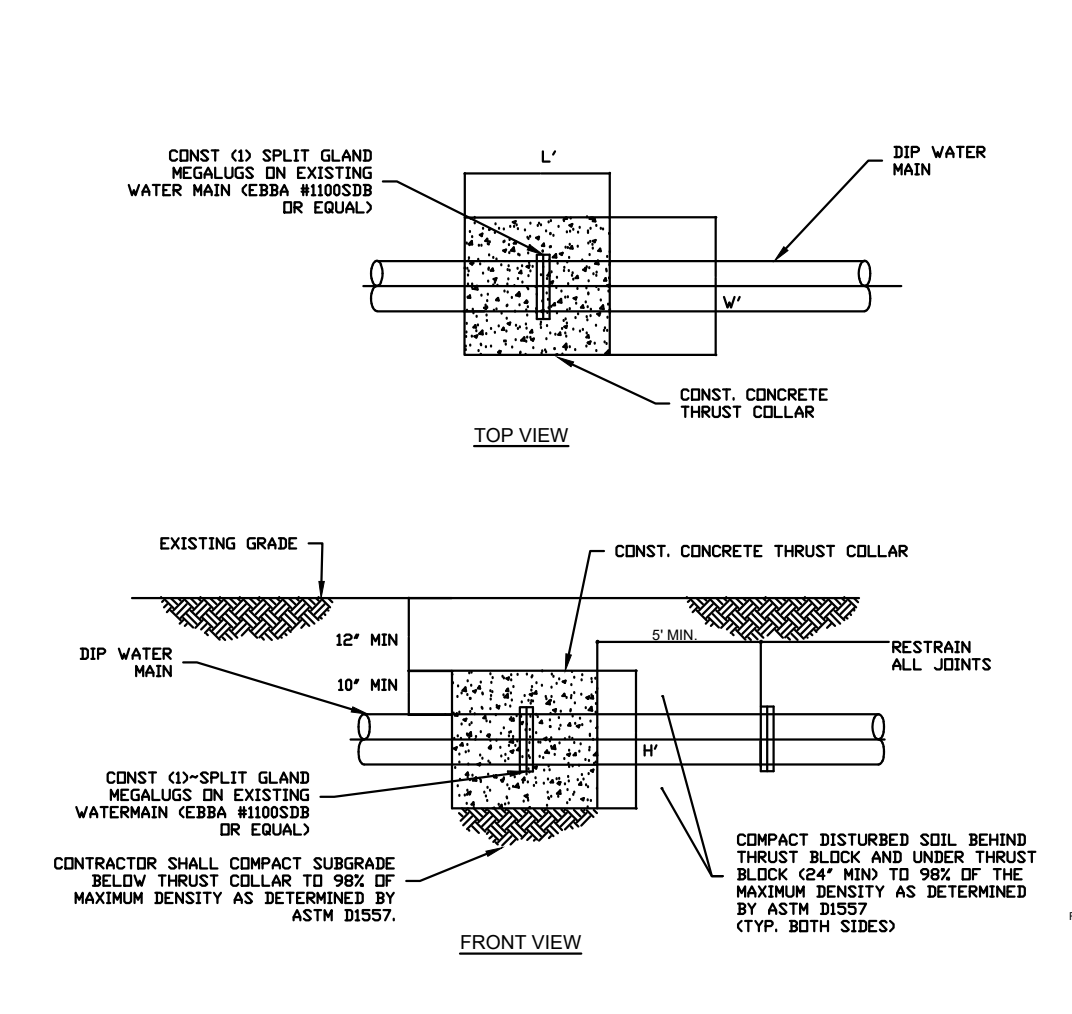
NOTES:

- ALL BRASS FITTING MATERIAL INSTALLED SHALL CONTAIN NO LEAD IN ACCORDANCE WITH THE CURRENT DRINKING WATER STANDARDS.
- PARALLEL BACKFLOW DEVICE INSTALLATIONS SHALL BE USED WHERE CONTINUOUS FLOW IS REQUIRED DURING SERVICING AND FOR TESTING OR WADING GREATER CAPACITY THAN A SINGLE UNIT IS NECESSARY.

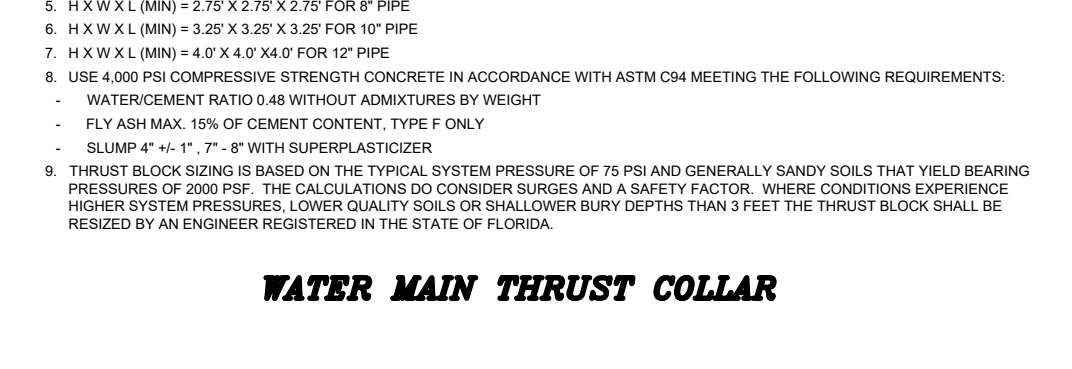
**REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION ASSEMBLY**



**FIRE HYDRANT SAMPLING POINT**



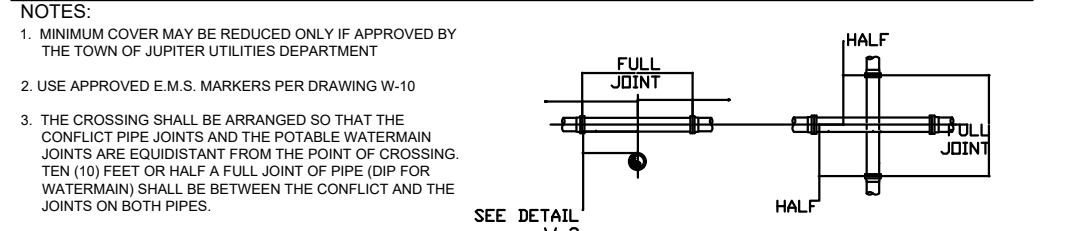
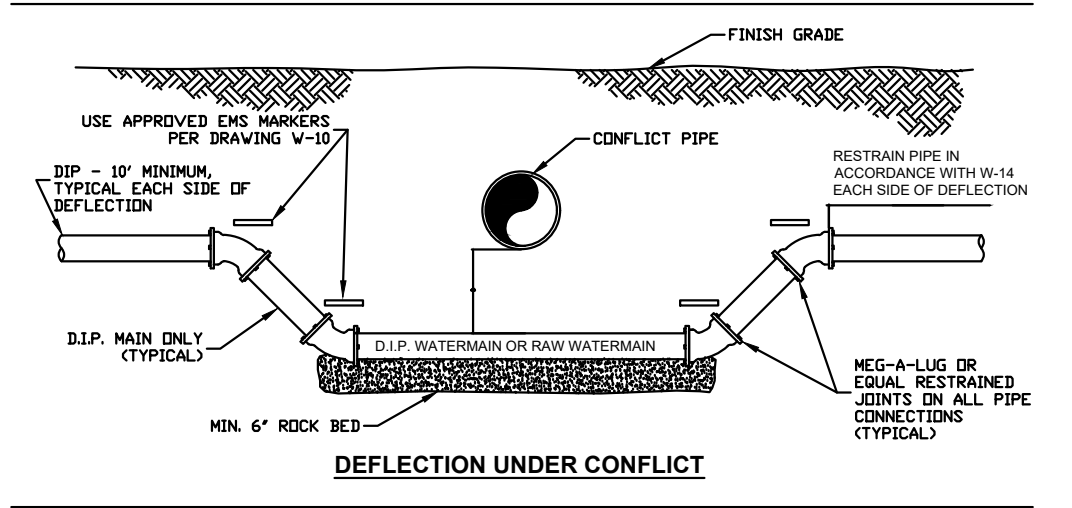
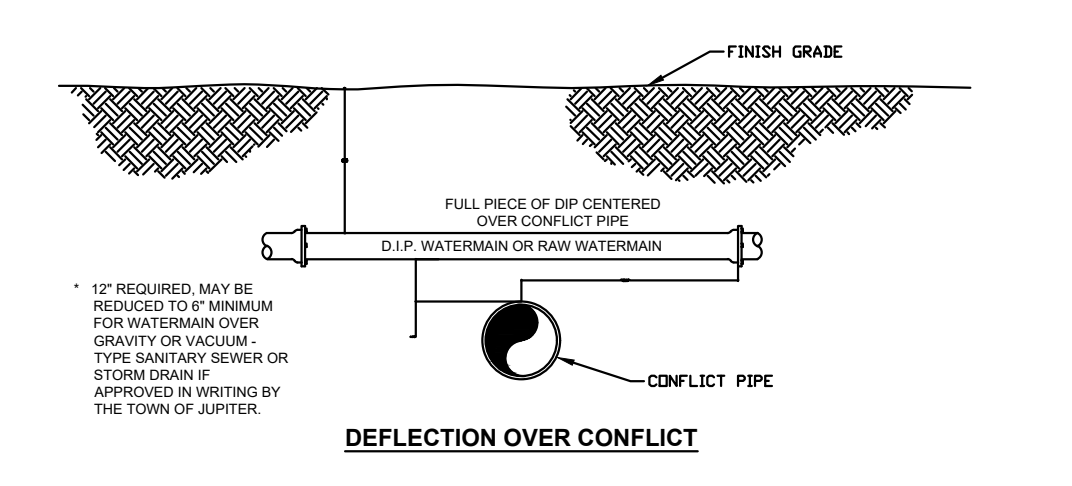
**WATER SERVICE ROAD CROSSING**



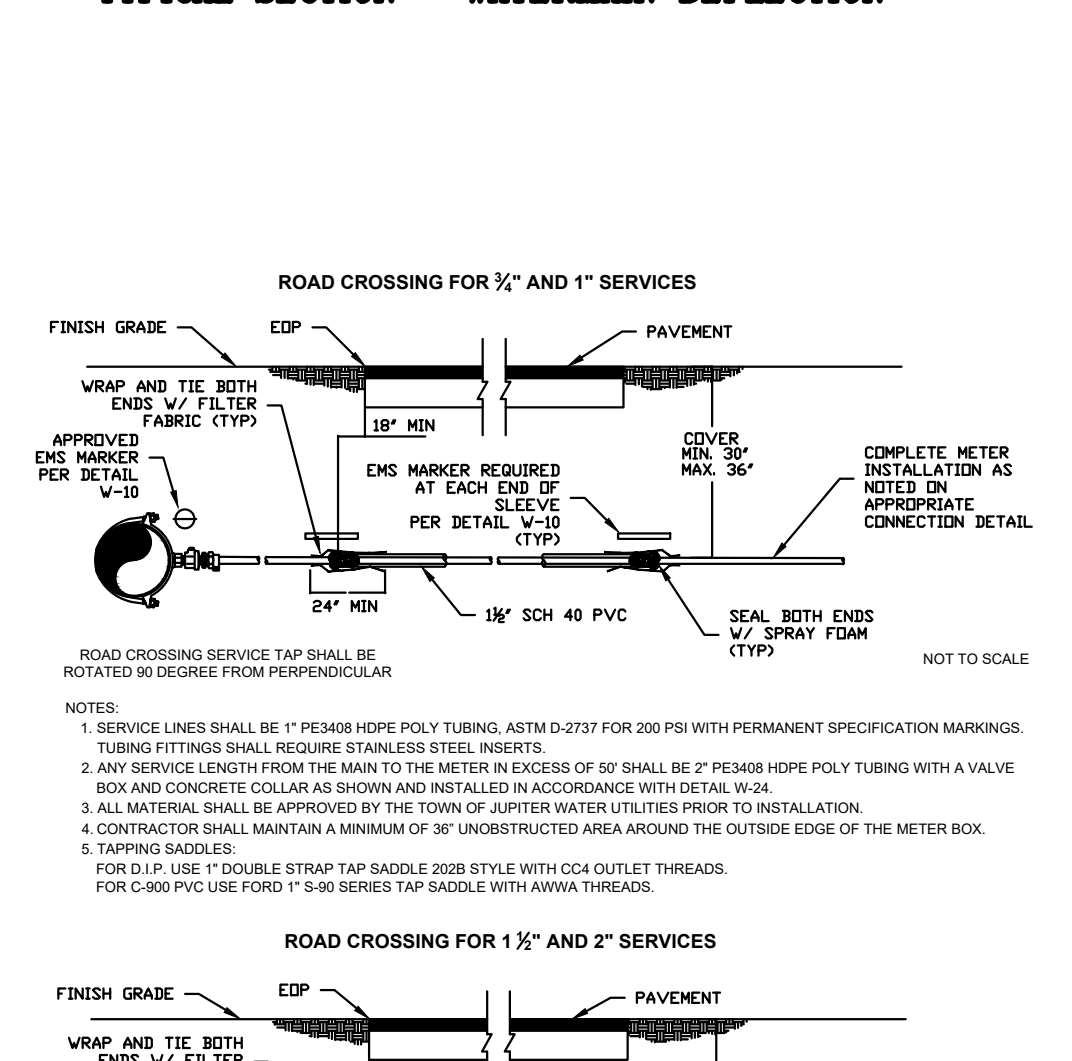
**RESIDENTIAL WATER SERVICE TYPES**

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CHECKED	TJM	2			
DATE		10/23/19	REVISED PER PBC COMMENTS DATE	10/10/19	TJM
NO.			DATE	REVISION	APP'D BY

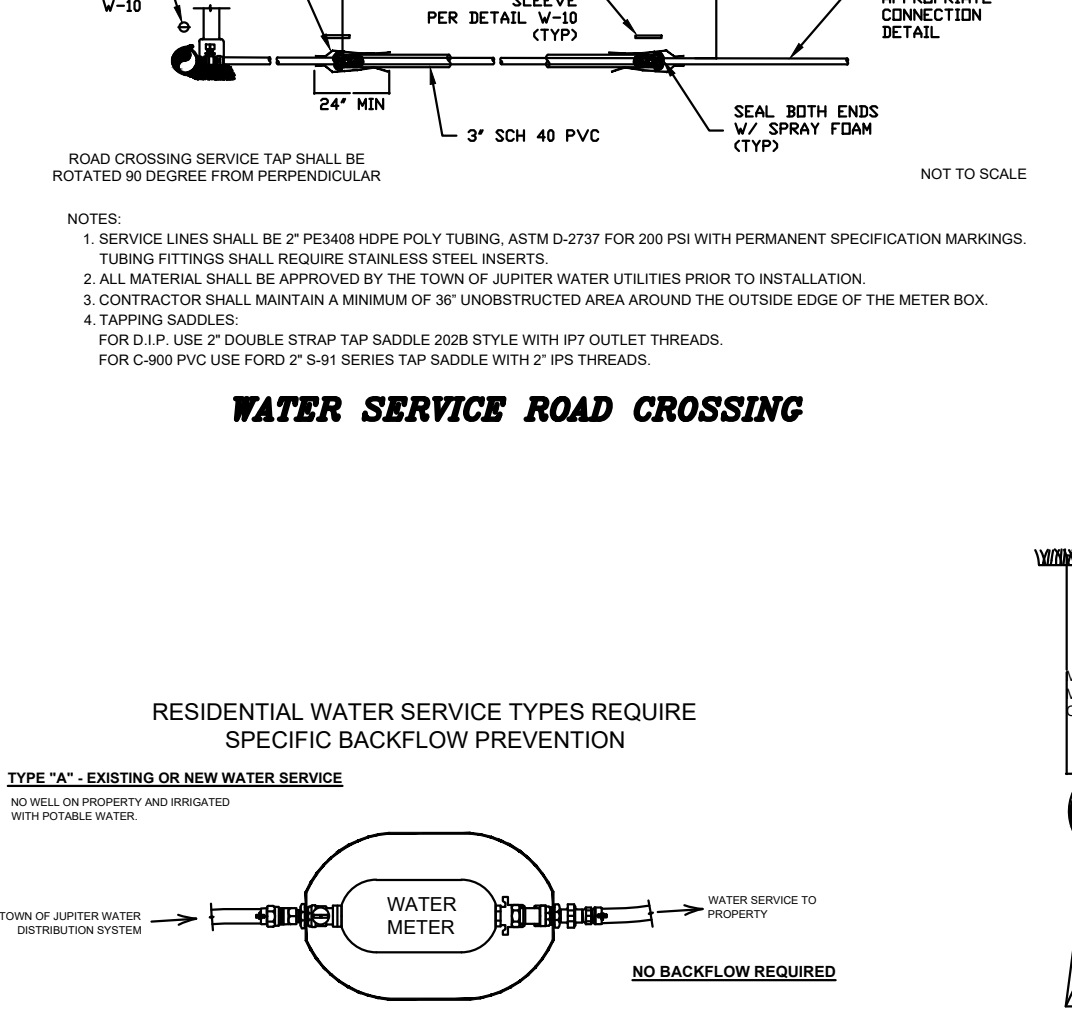
NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK



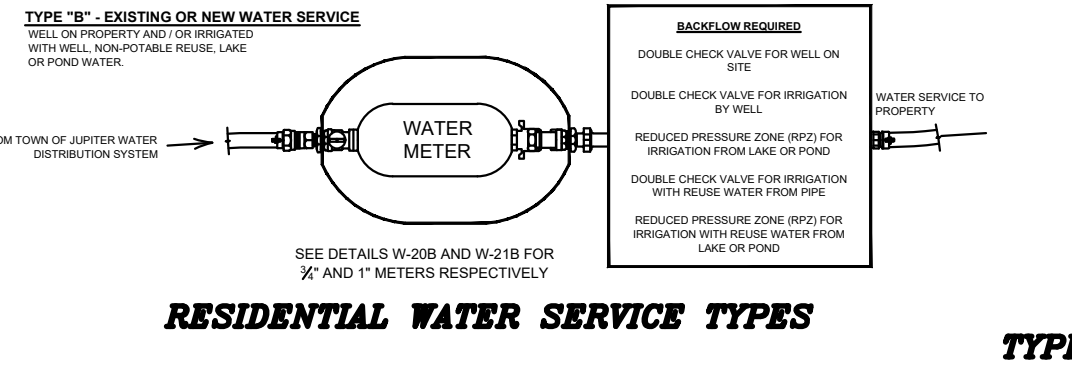
**TYPICAL SECTION - WATERMAIN DEFLECTION**



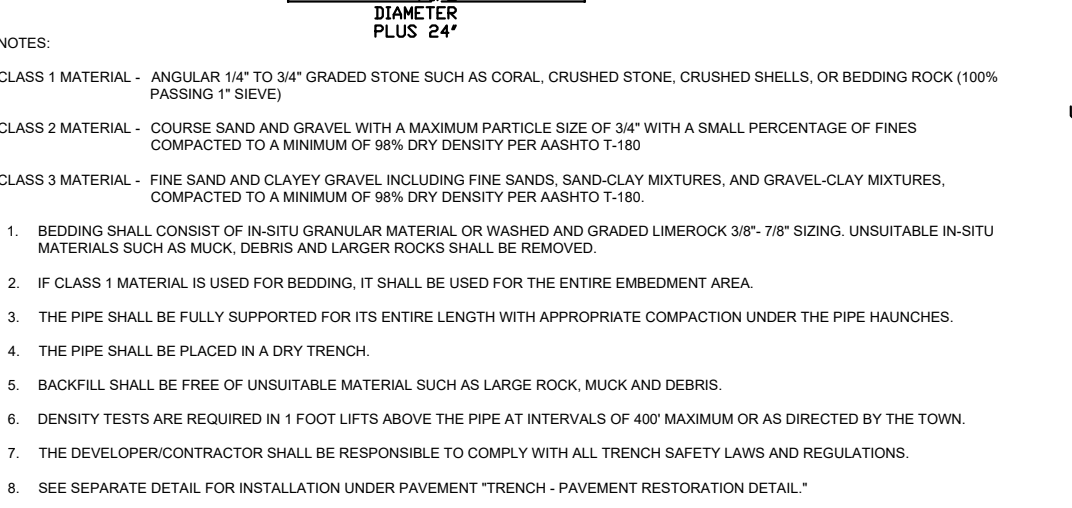
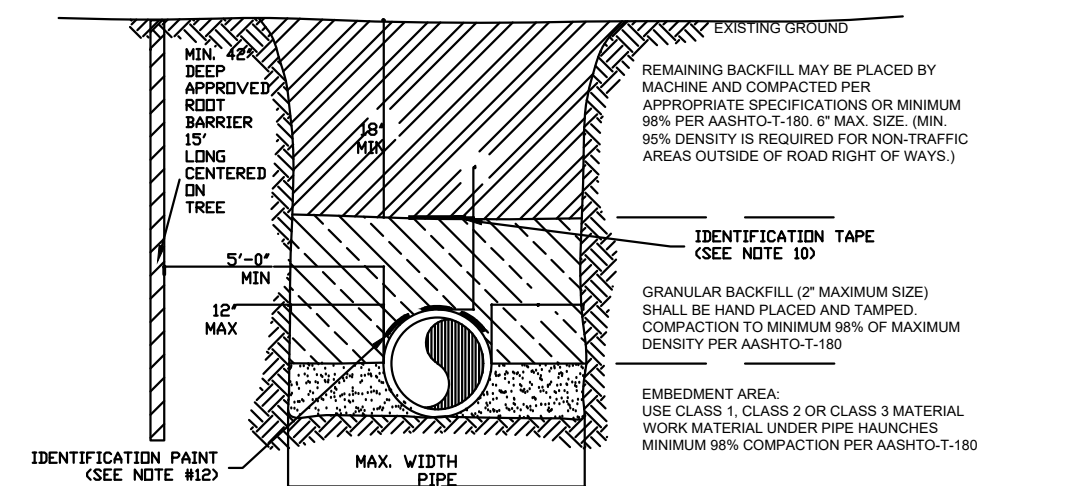
**WATERMAIN EMBEDMENT DETAIL**



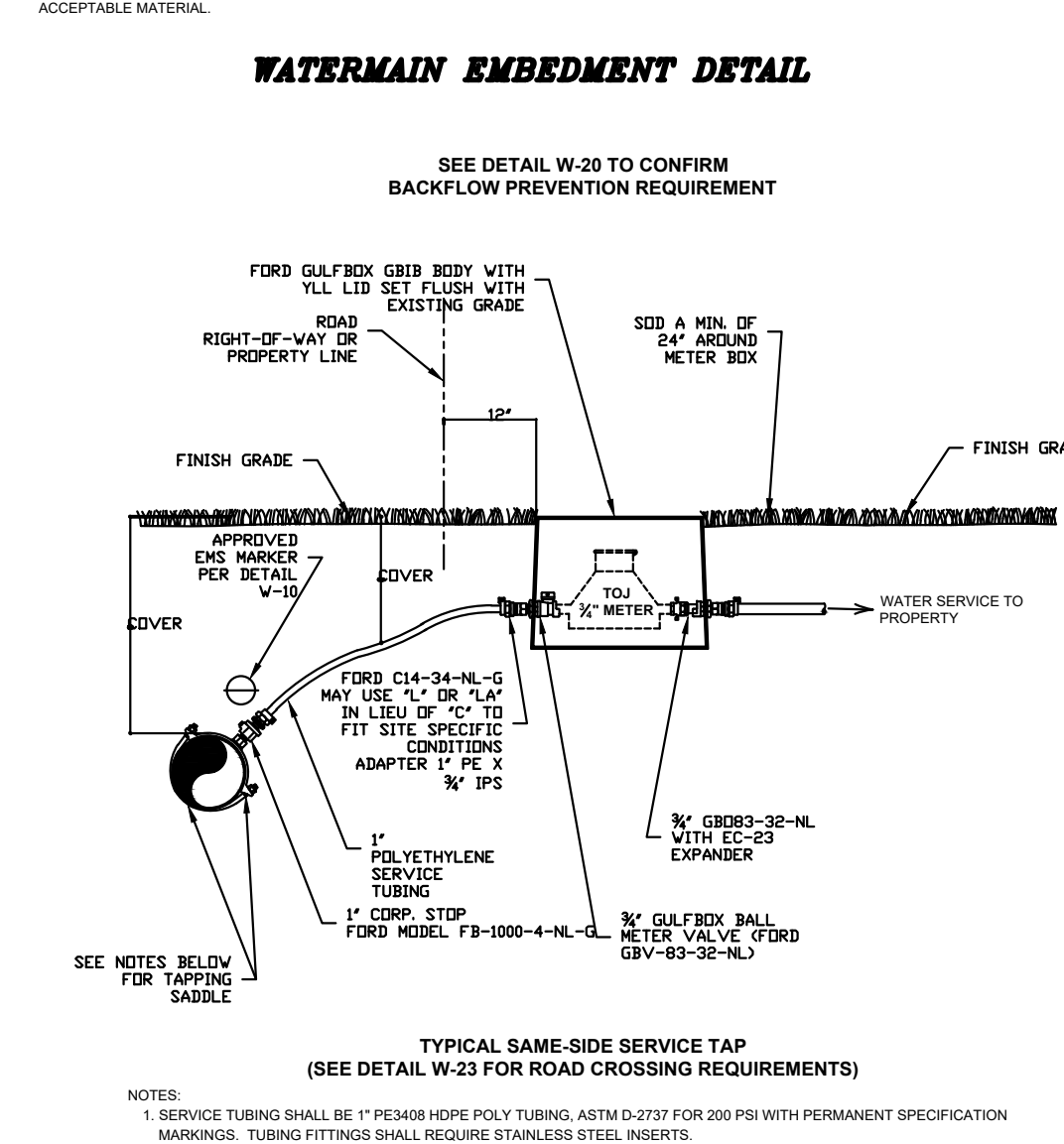
**TYPICAL SAME-SIDE SERVICE TAP**



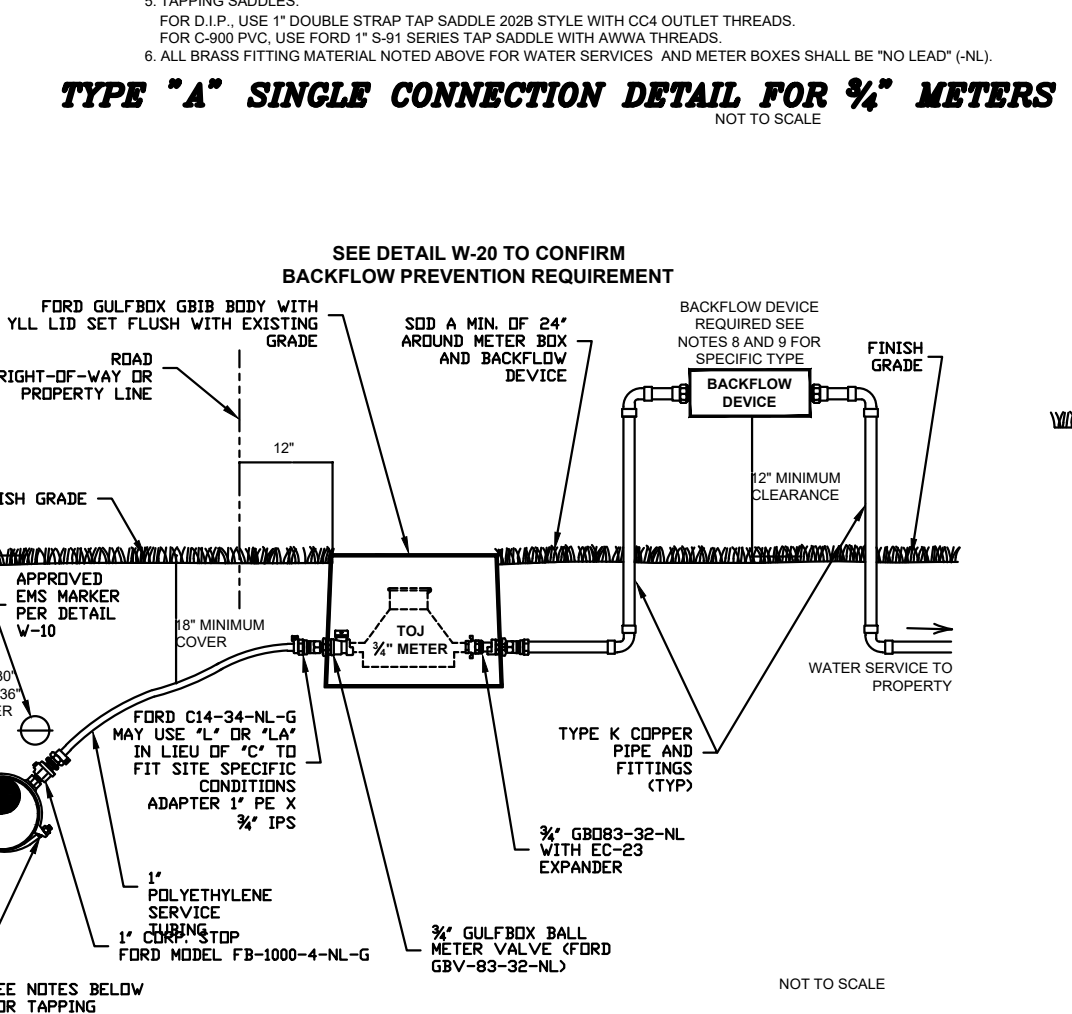
**TYPICAL SAME-SIDE SERVICE TAP (SEE DETAIL W-23 FOR ROAD CROSSING REQUIREMENTS)**



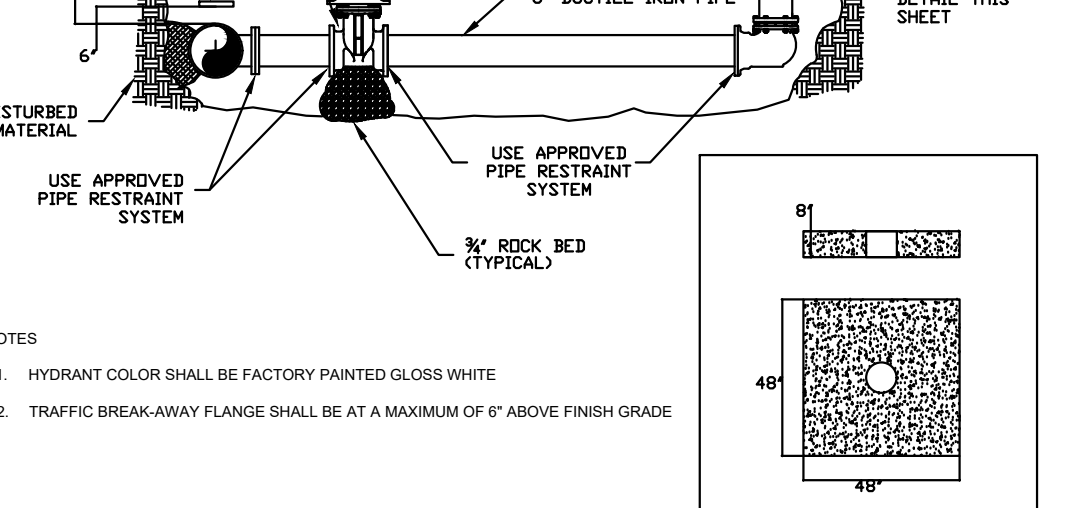
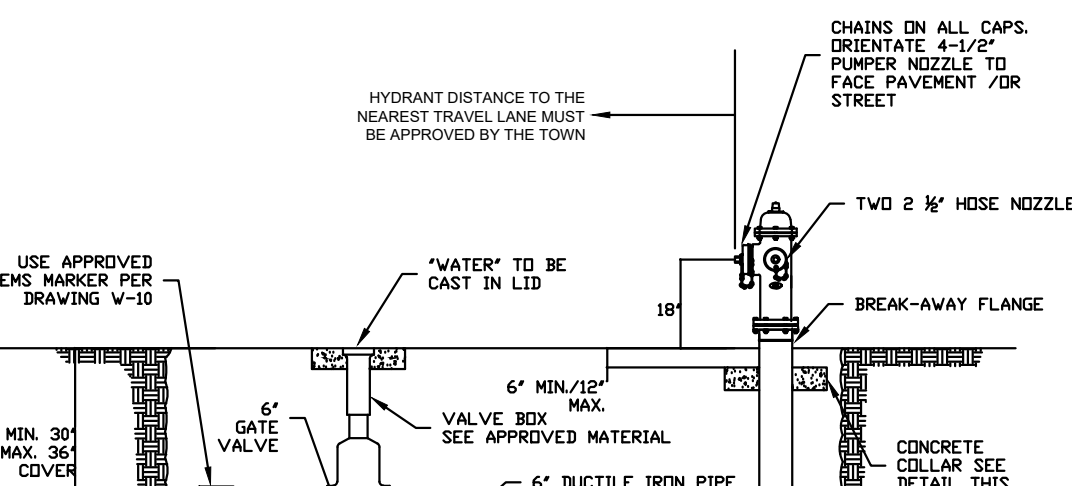
**TYPICAL BACKFLOW PREVENTION REQUIREMENT**



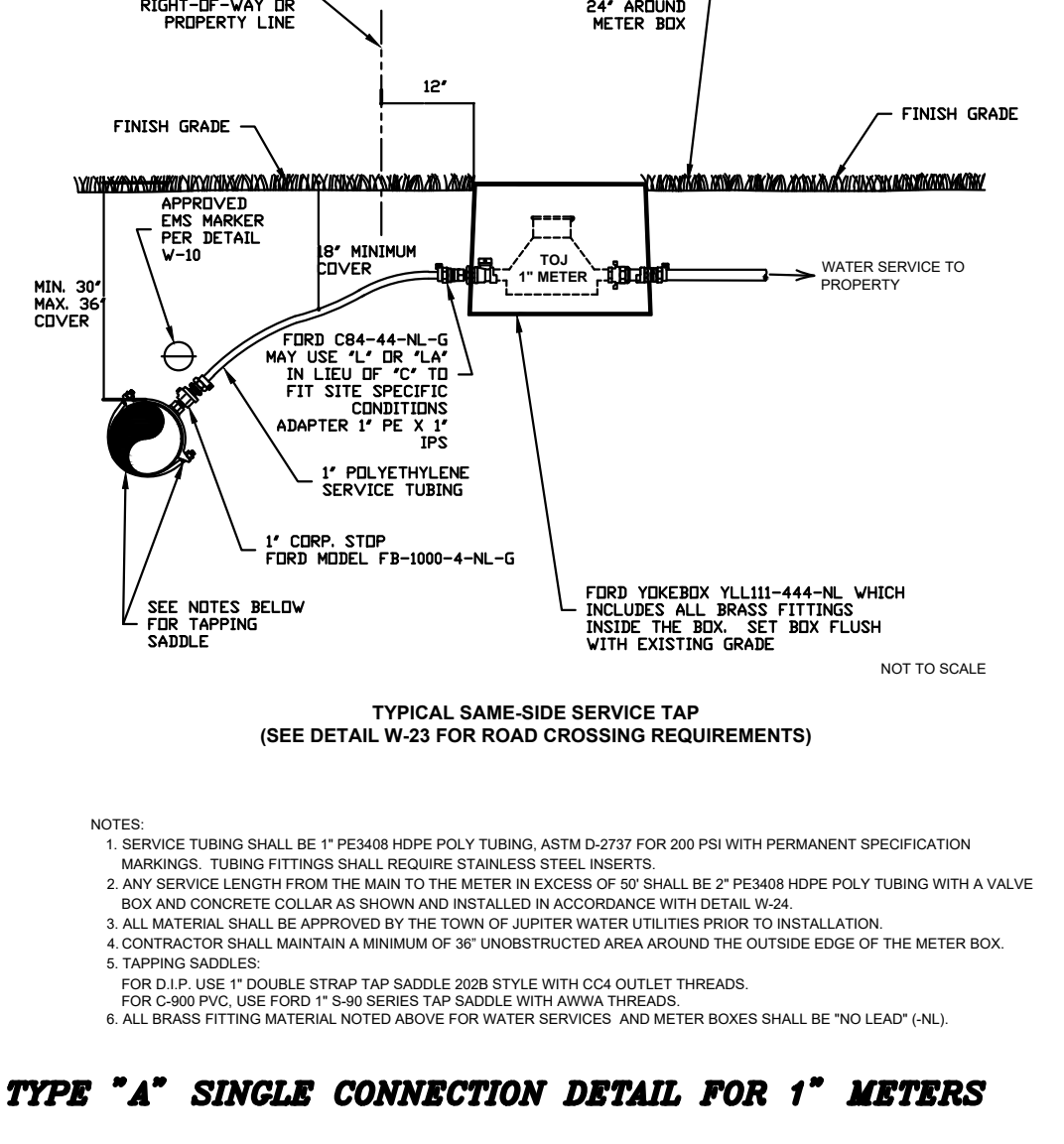
**TYPICAL SAME-SIDE SERVICE TAP**



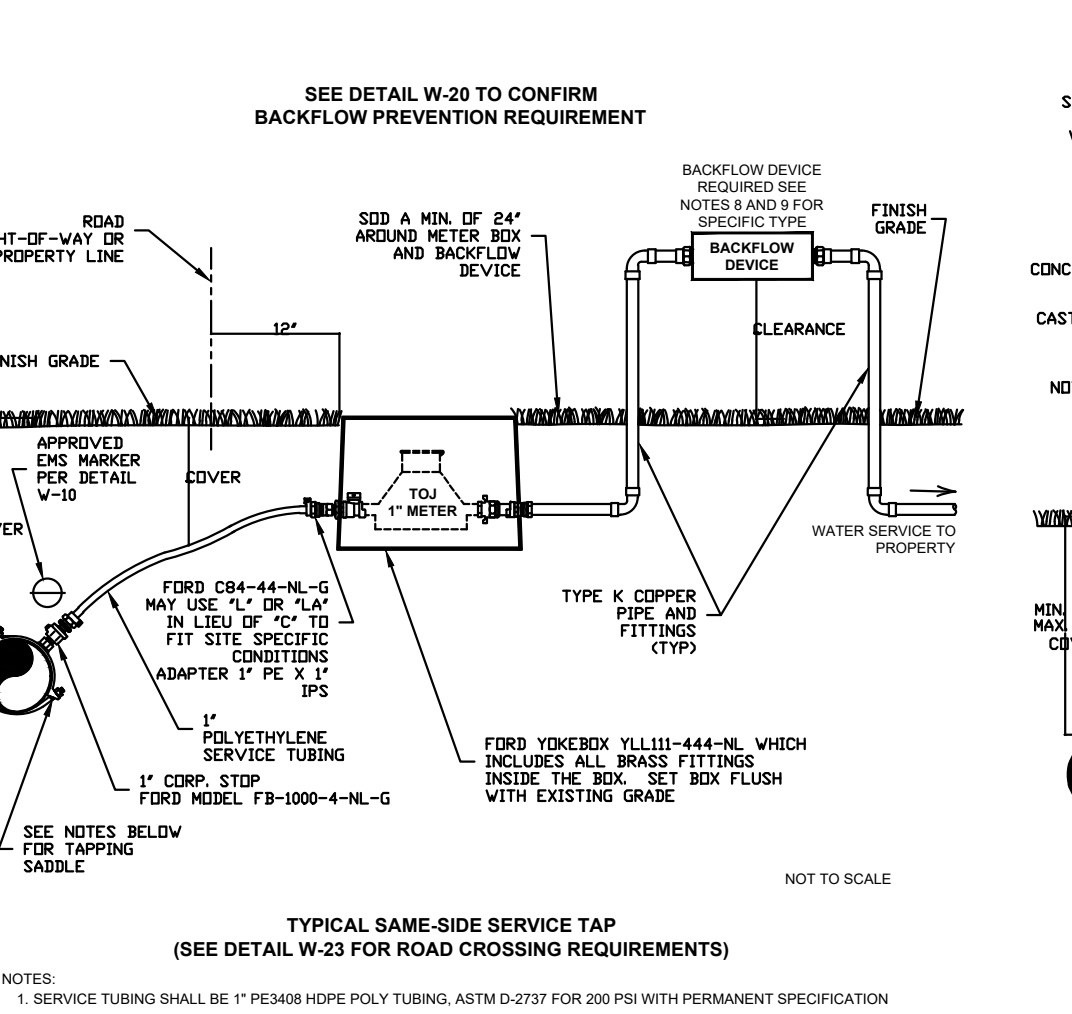
**TYPICAL SAME-SIDE SERVICE TAP (SEE DETAIL W-23 FOR ROAD CROSSING REQUIREMENTS)**



**TYPICAL BACKFLOW PREVENTION REQUIREMENT**



**TYPICAL SAME-SIDE SERVICE TAP**

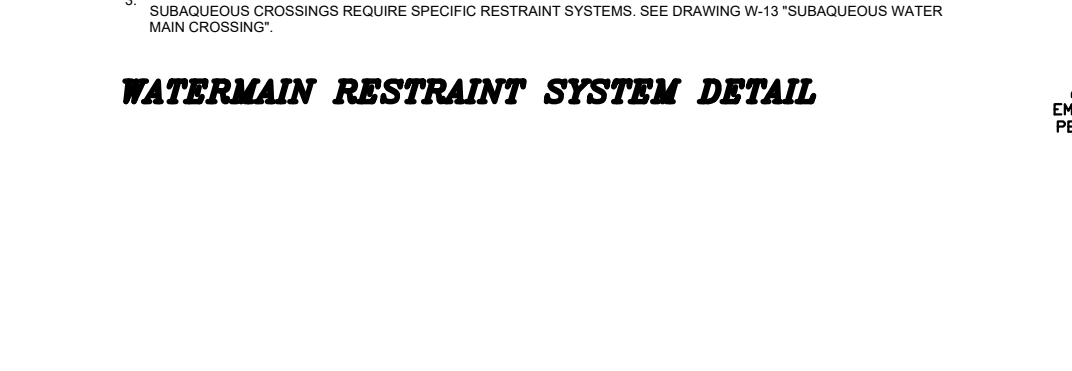


**TYPICAL SAME-SIDE SERVICE TAP (SEE DETAIL W-23 FOR ROAD CROSSING REQUIREMENTS)**

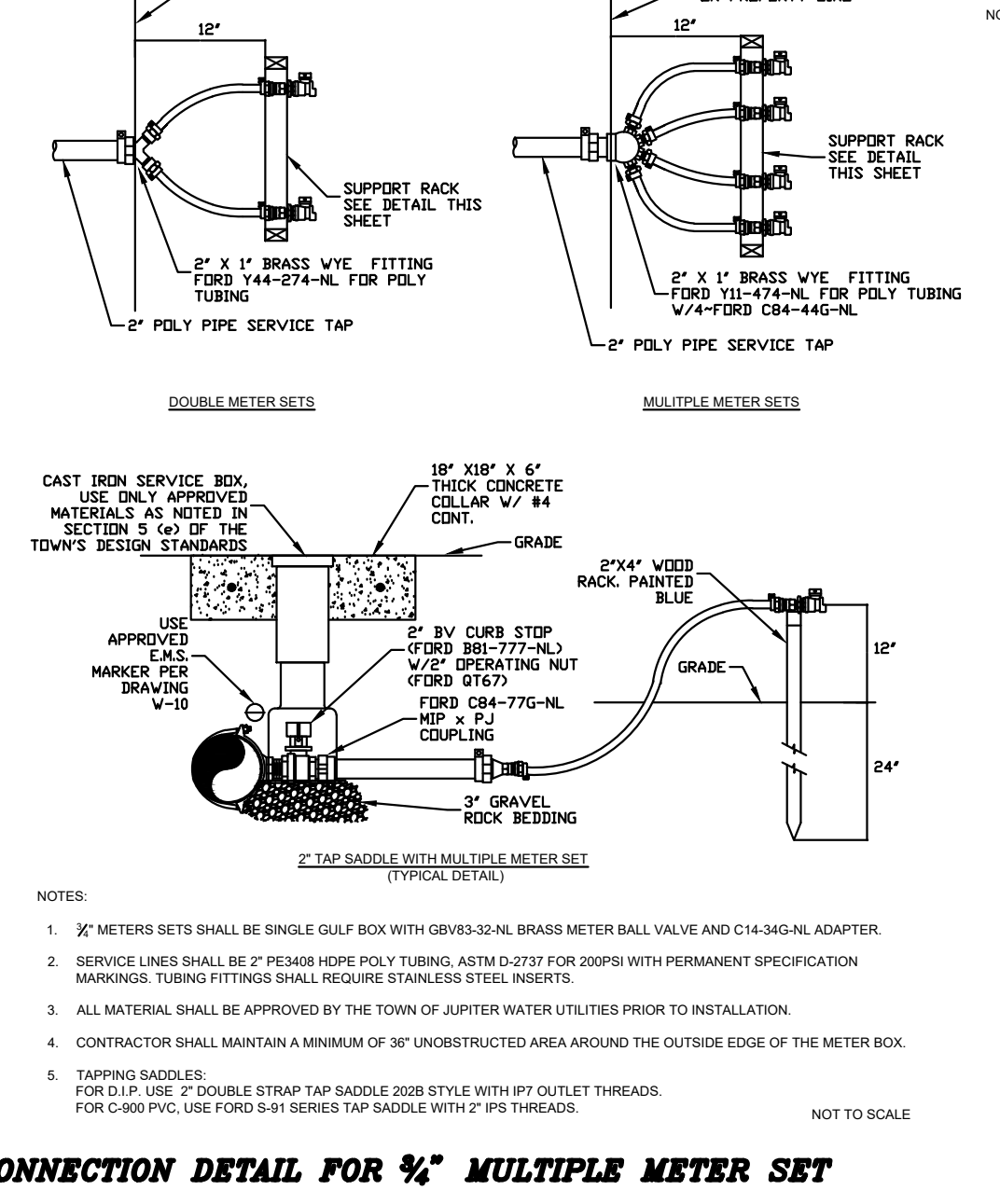
PIPE DIAMETER	4" BEND IN HORIZONTAL OR VERTICAL DOWN POSITION	4" BEND IN HORIZONTAL OR VERTICAL UP POSITION	2 1/2" BEND IN HORIZONTAL OR VERTICAL UP POSITION	1 1/2" BEND IN HORIZONTAL OR VERTICAL UP POSITION	DEAD END AND VALVES INLINE OR BRANCH
4"	2L	1L	1L	1L	3L
6"	4L	2L	1L	1L	6L
8"	6L	3L	2L	1L	8L
10"	8L	4L	2L	1L	10L
12"	10L	5L	2L	1L	12L
18"	15L	7L	3L	1L	18L

L = ONE PIPE LENGTH (10FT MIN)

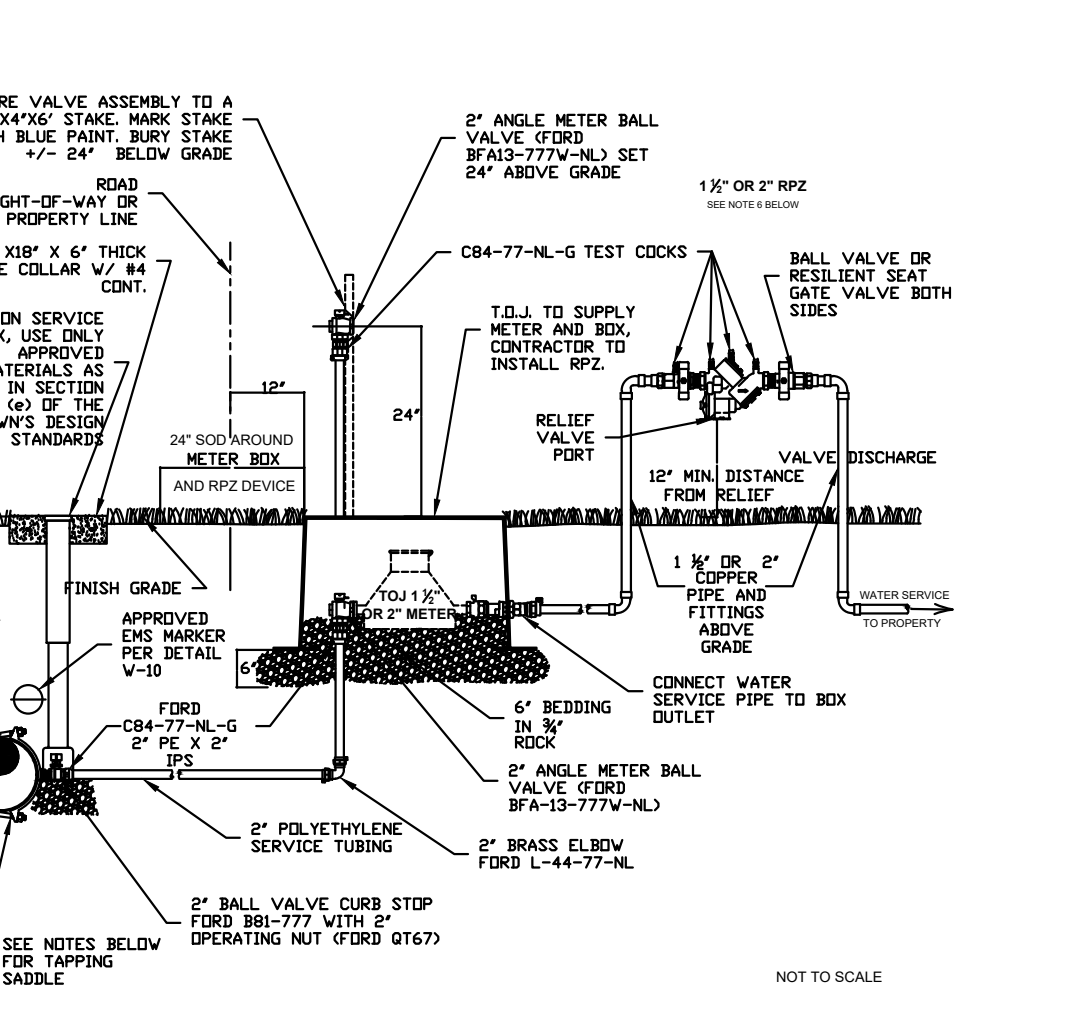
**WATERMAIN RESTRAINT SYSTEM DETAIL**



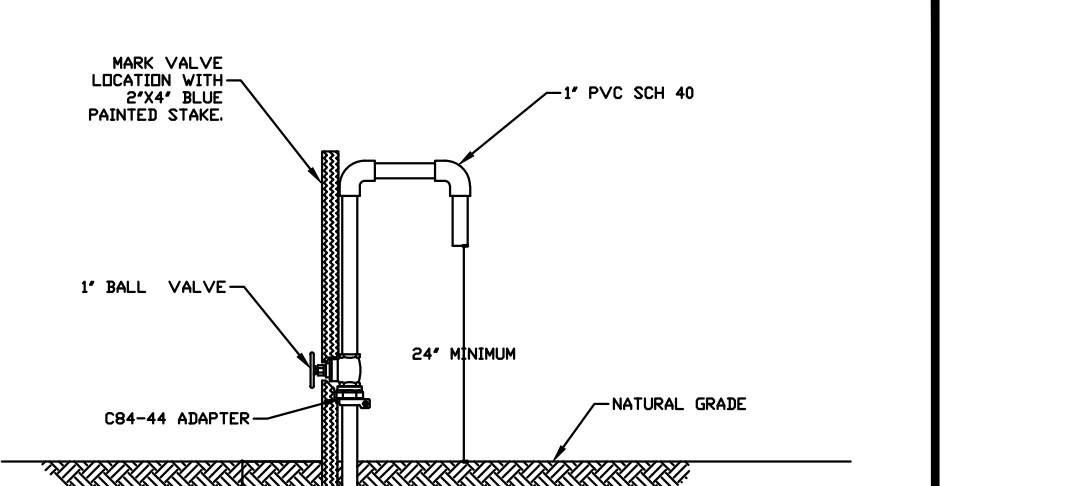
**WATERMAIN RESTRAINT SYSTEM DETAIL**



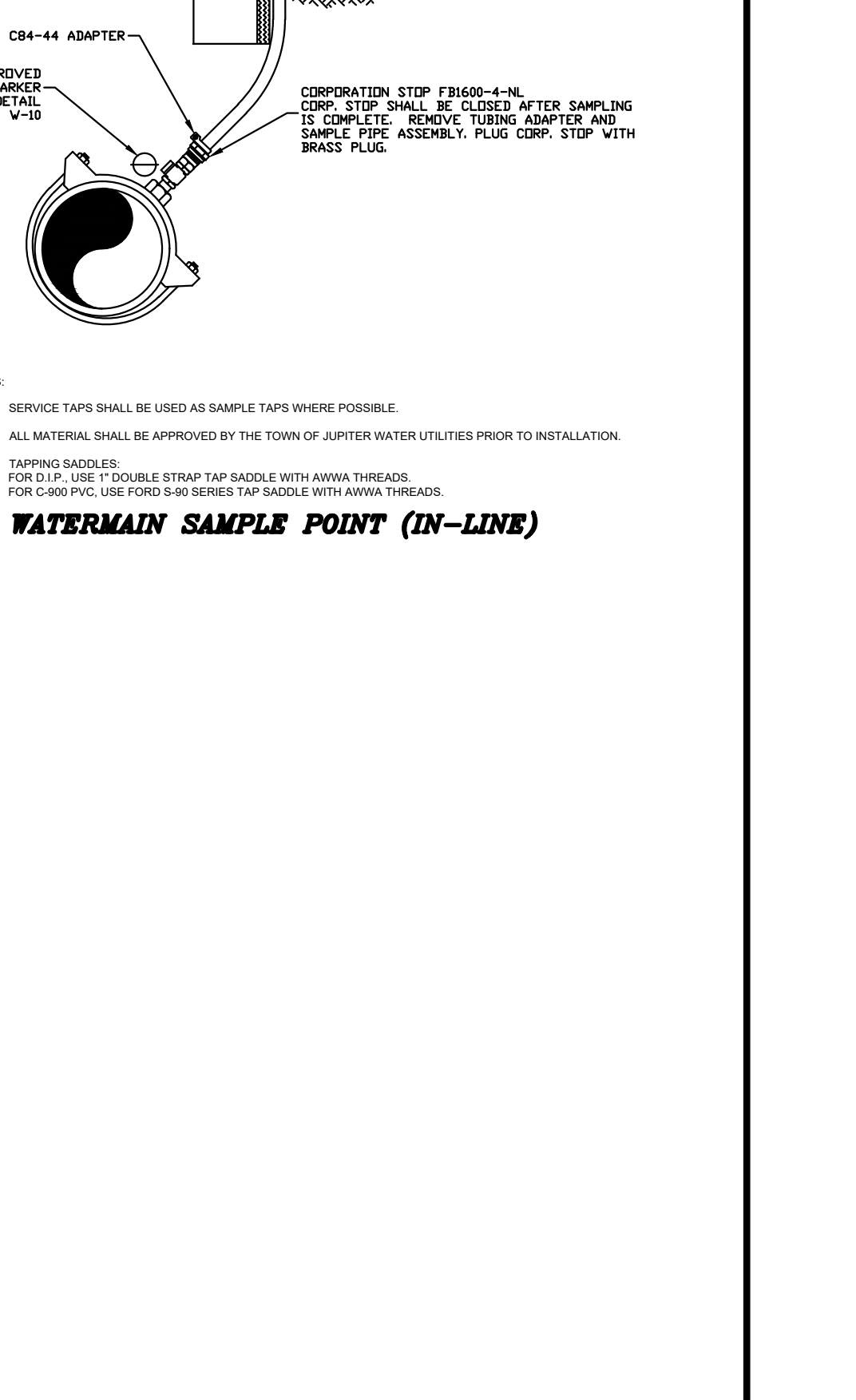
**TYPICAL SAME-SIDE SERVICE TAP**



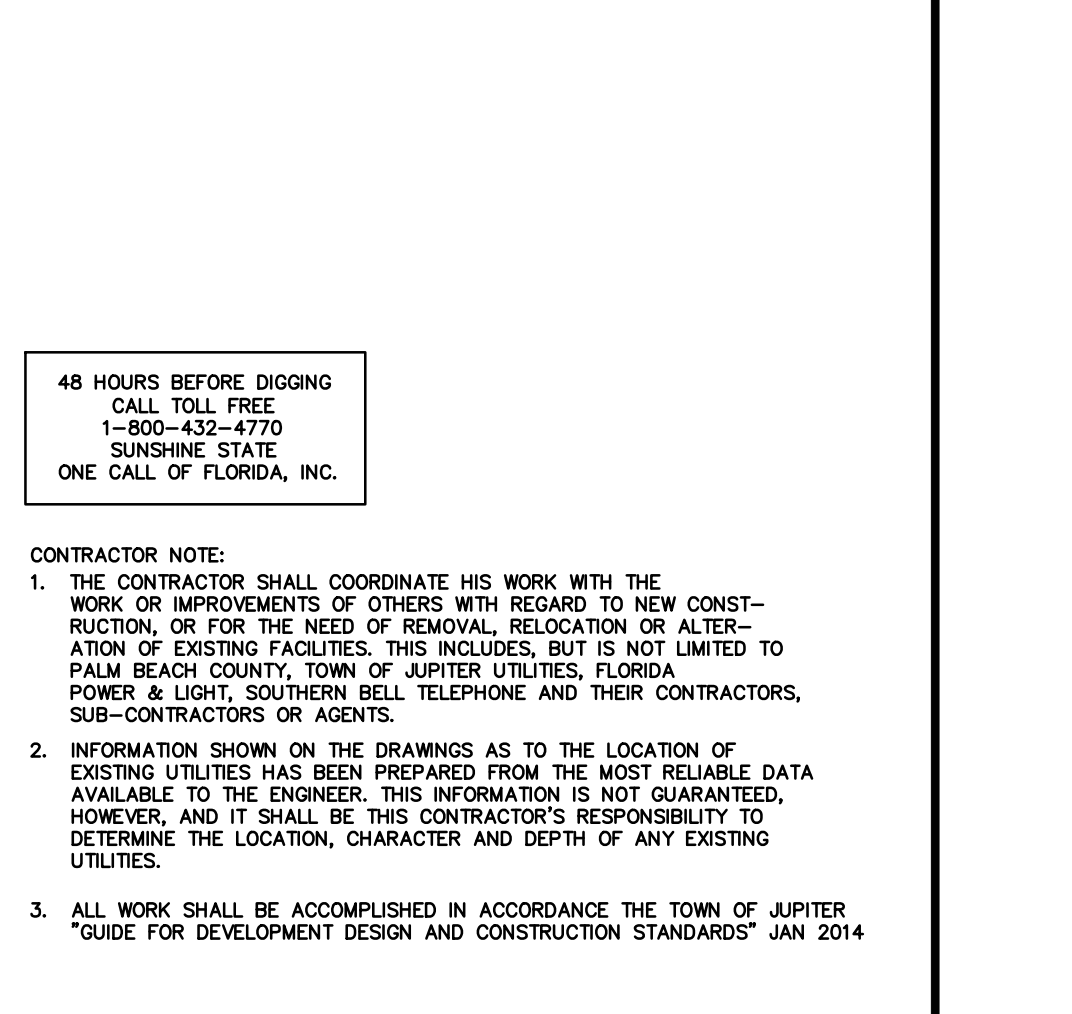
**TYPICAL SAME-SIDE SERVICE TAP (SEE DETAIL W-23 FOR ROAD CROSSING REQUIREMENTS)**



**WATERMAIN SAMPLE POINT (IN-LINE)**



**TYPICAL SAME-SIDE SERVICE TAP**



**TYPICAL SAME-SIDE SERVICE TAP (SEE DETAIL W-23 FOR ROAD CROSSING REQUIREMENTS)**

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STANDARD WATER AND SEWER SEPARATION SYSTEM

**STANDARD WATER AND SEWER SEPARATION SYSTEM**

DESIGN	TJM	3			
DRAWN	JAO	4			
CHECKED	TJM	2			
DATE		10/23/19	REVISED PER PBC COMMENTS DATE	10/10/19	TJM
NO.			DATE	REVISION	APP'D BY

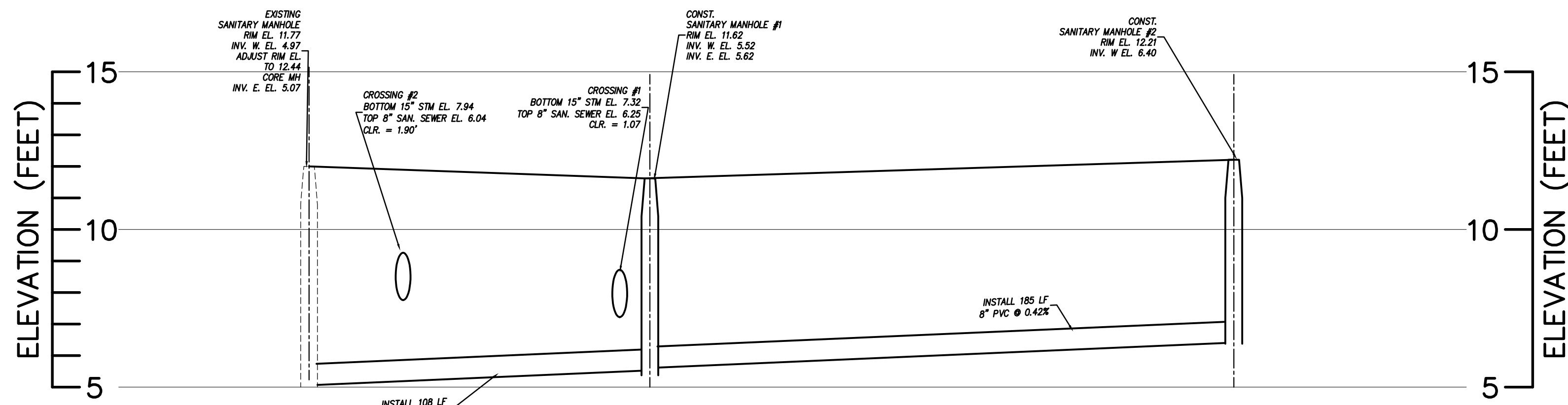
NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

**Messler & Associates**  
CONSULTING ENGINEERS  
5746 VIA RIO, JUPITER, FLORIDA 33458  
Phone (561) 748-6015 Fax (561) 748-6889  
Certificate of Authorization No. 00003616

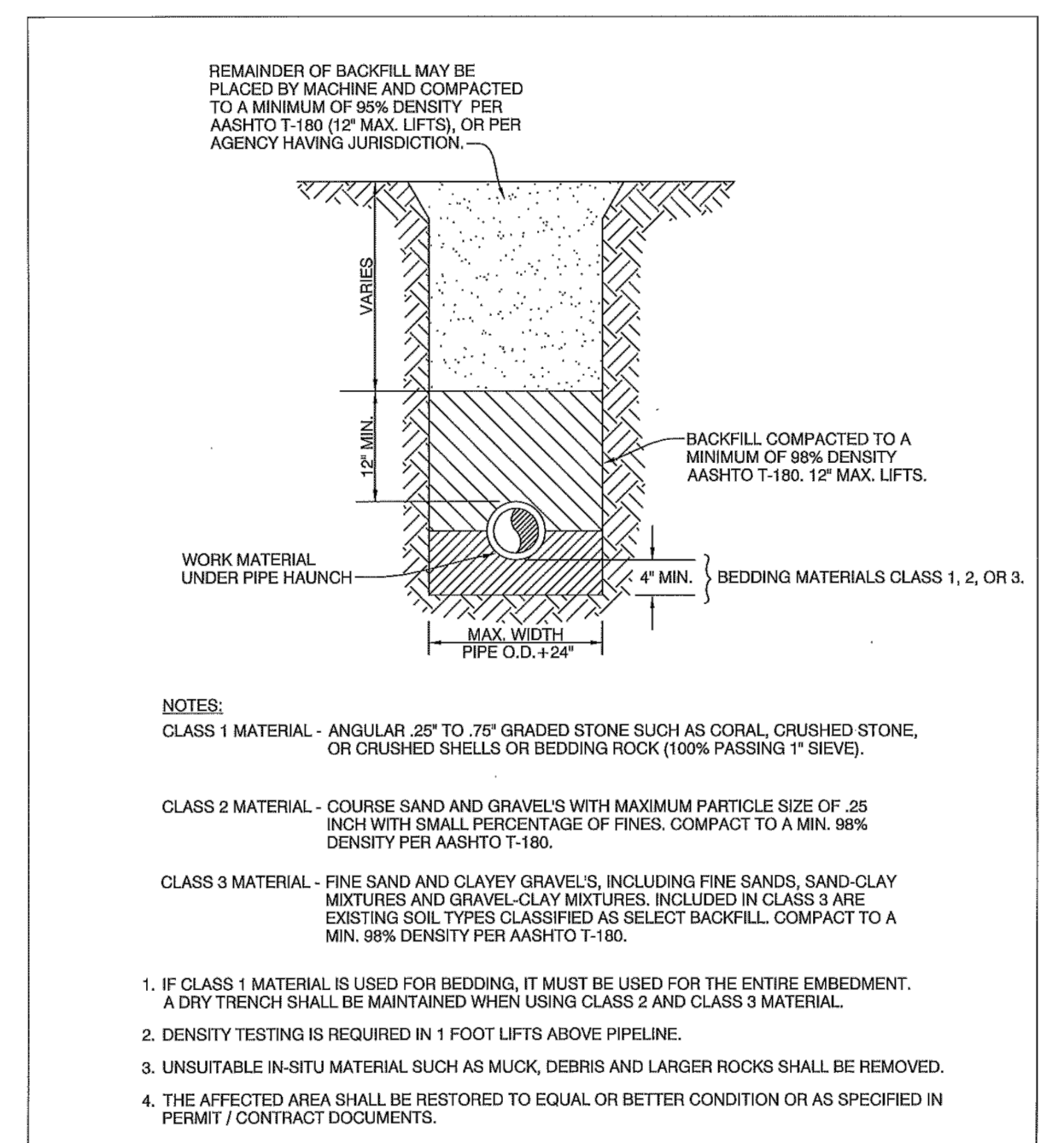
LIMESTONE LANDING  
AT  
PALM BEACH COUNTY, FLORIDA

**WATER STANDARD DETAILS**

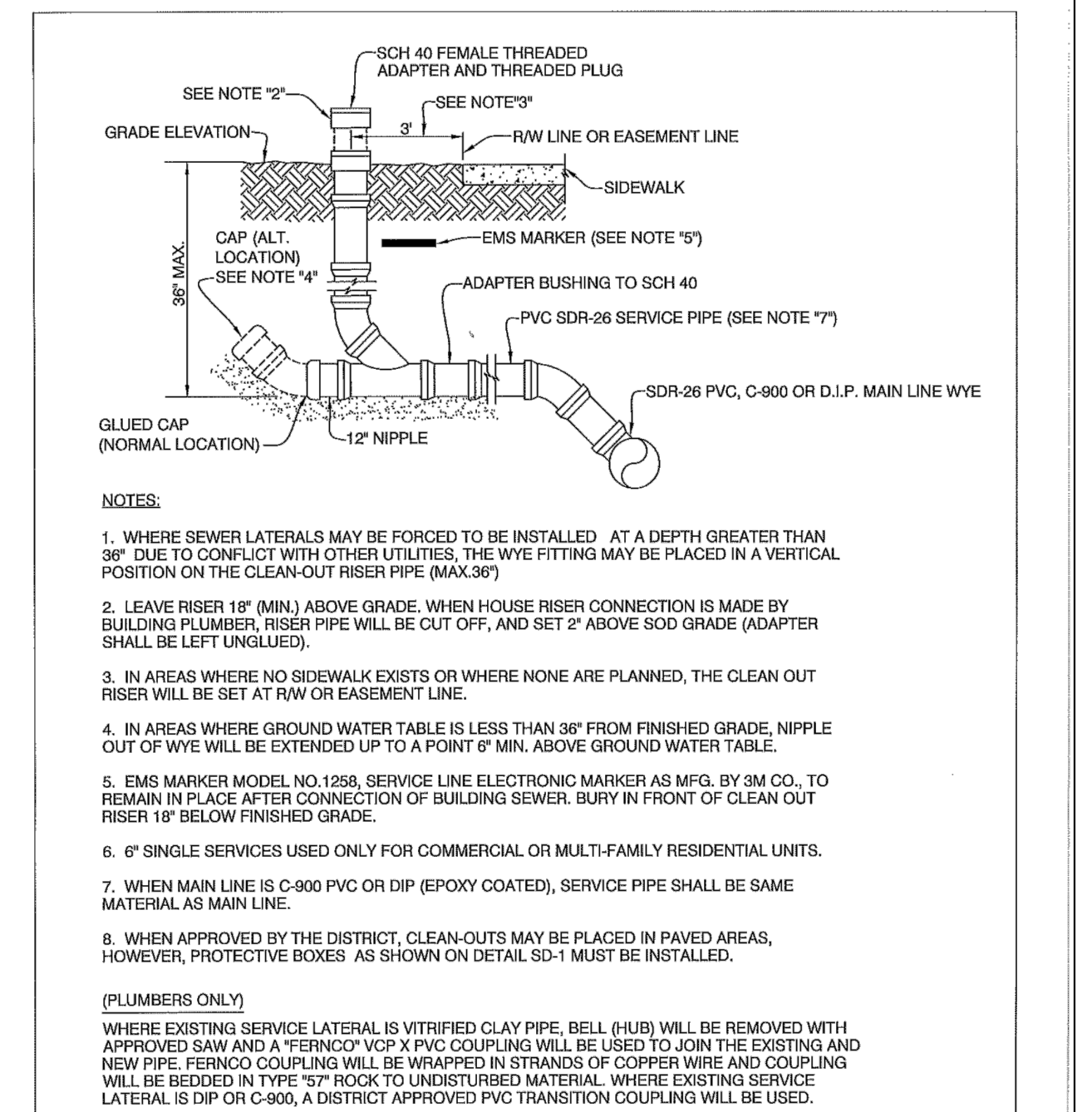
PROJ. NO. 17-045  
SCALE 1"=20'  
DATE FEB. 2018  
SHT 9 OF 12  
TIMOTHY J. MESSLER, P.E.  
FL. REG. NO. 16422



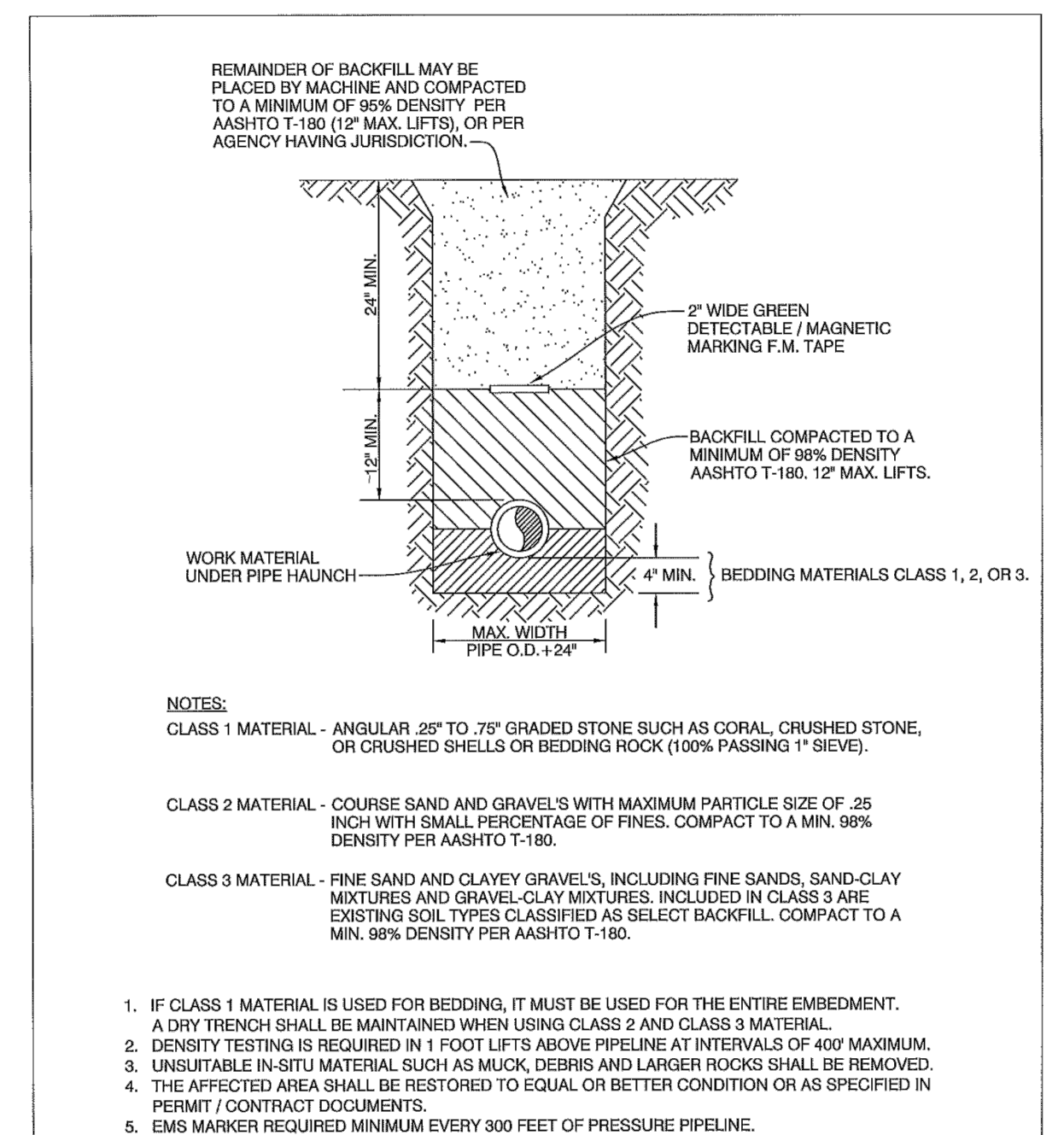
**SANITARY SEWER PROFILE**  
 HORZ. SCALE 1"=30'  
 VERT. SCALE 1"=3'



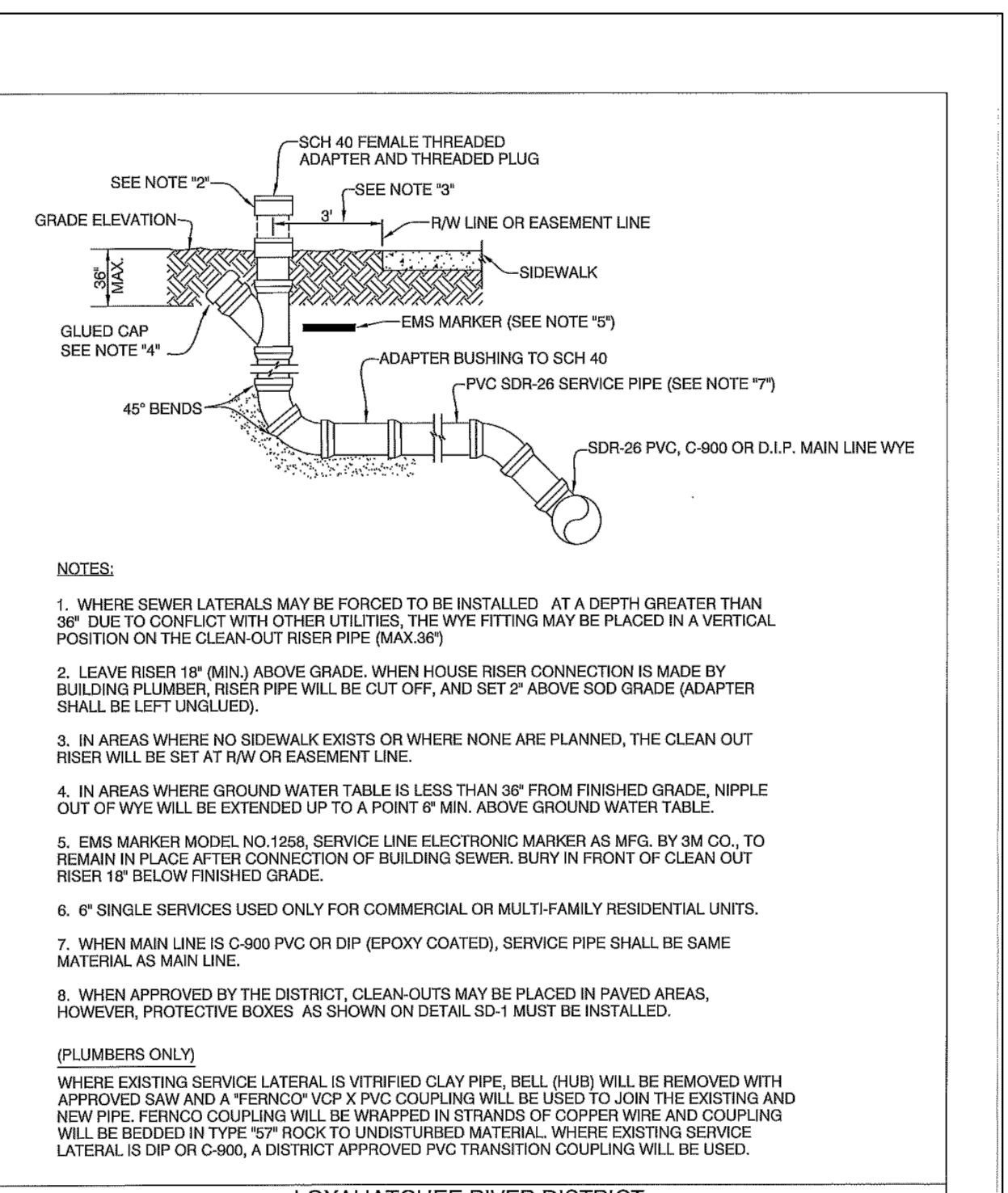
LOXAHATCHEE RIVER DISTRICT  
 TYPICAL GRAVITY SEWER EMBEDMENT DETAIL SD-4



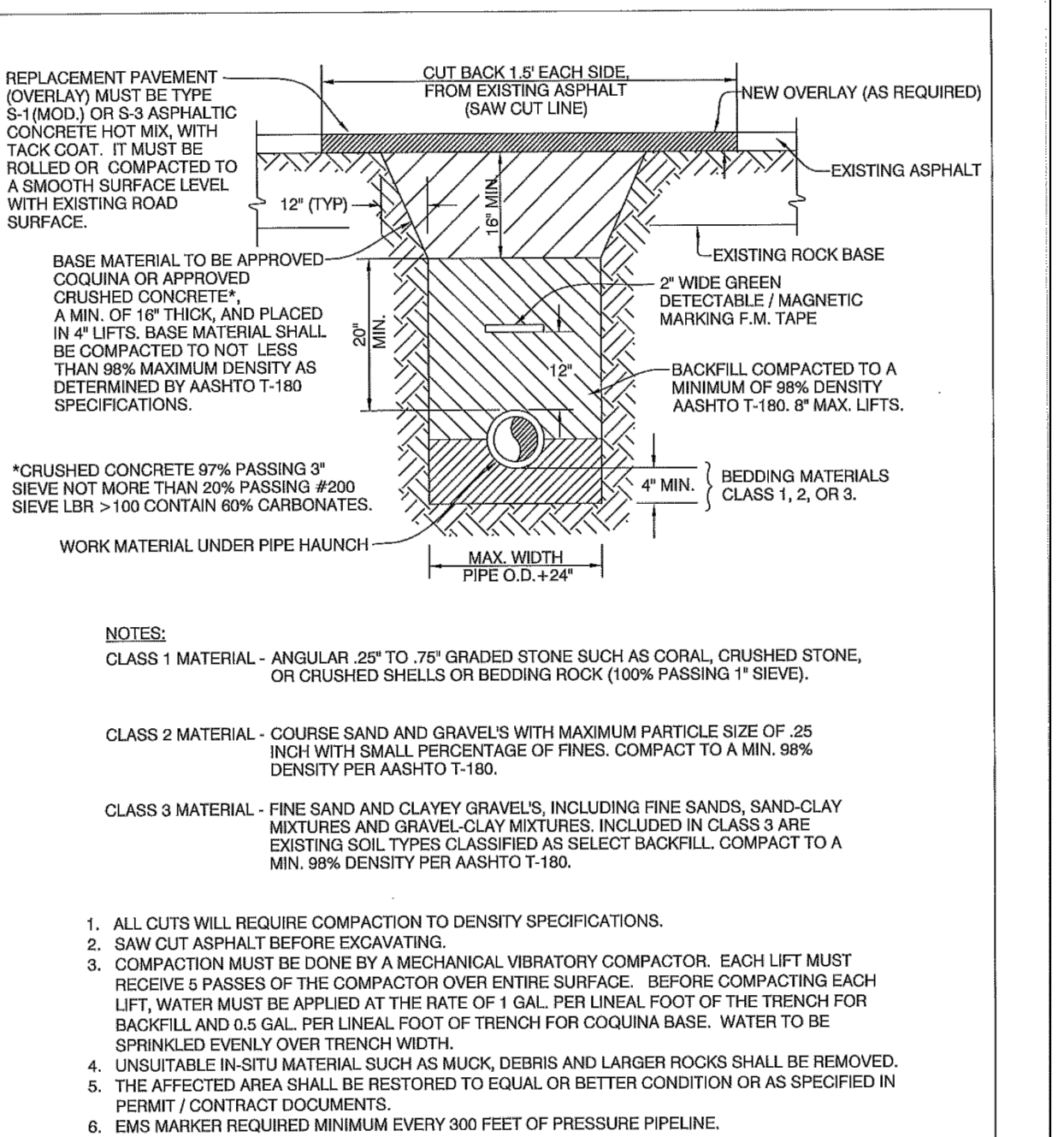
LOXAHATCHEE RIVER DISTRICT  
 4" OR 6" SINGLE SERVICE CONNECTION DETAIL SD-6



LOXAHATCHEE RIVER DISTRICT  
 TYPICAL TRENCH DETAIL FOR NON - PAVED AREAS SD-1



LOXAHATCHEE RIVER DISTRICT  
 4" OR 6" SINGLE SERVICE CONNECTION ALTERNATE CONFIGURATION DETAIL SD-7



LOXAHATCHEE RIVER DISTRICT  
 TYPICAL TRENCH & PAVEMENT RESTORATION DETAIL SD-2

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 SUNSHINE STATE  
 ONE CALL OF FLORIDA, INC.

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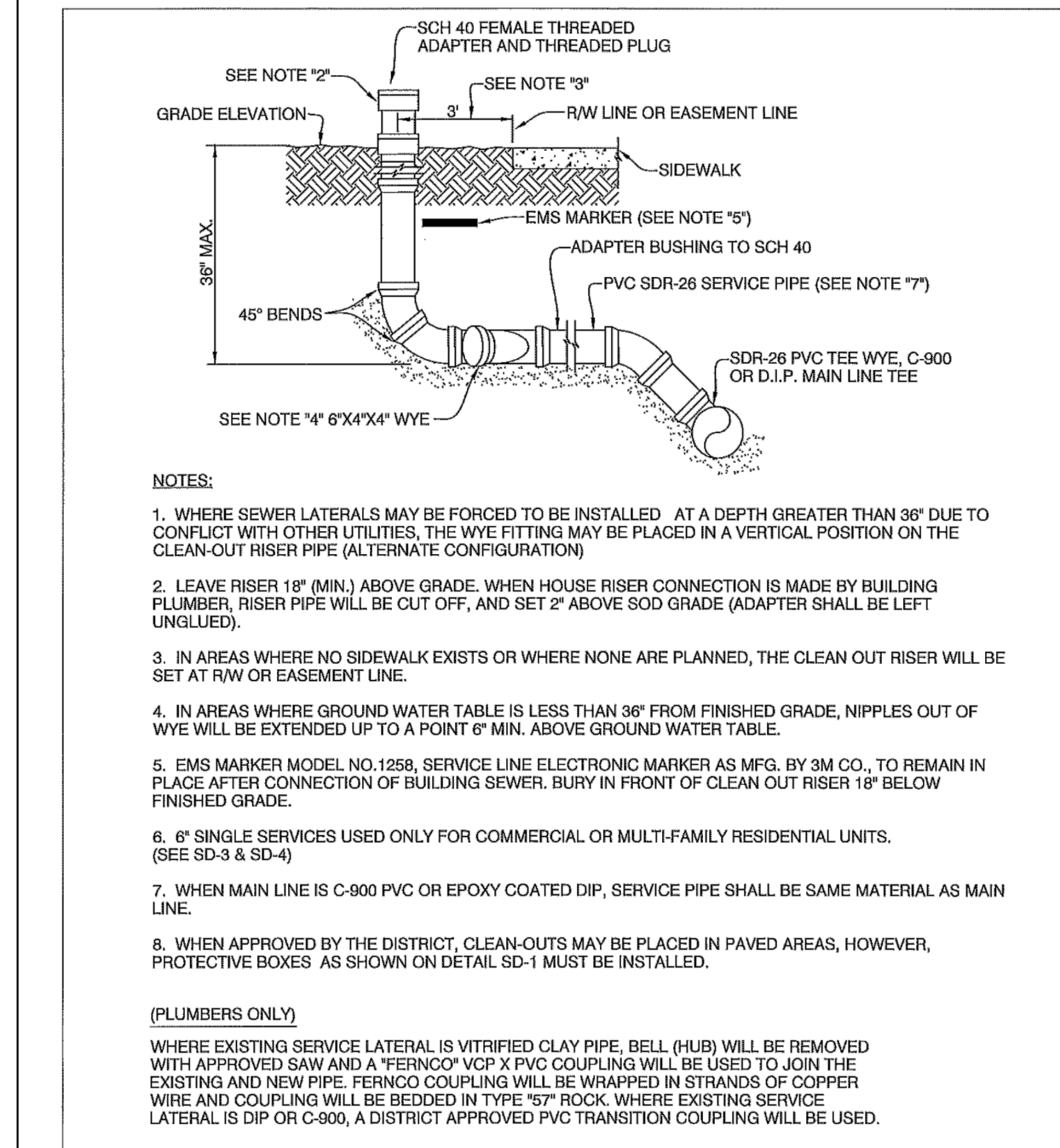
**Messler & Associates**  
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 5746 VIA RIO, JUPITER, FLORIDA 33458  
 Phone (561) 748-6015 Fax (561) 748-6889  
 Certificate of Authorization No. 00003616

LIMESTONE LANDING  
 AT  
 PALM BEACH COUNTY, FLORIDA

SANITARY SEWER DETAILS

PROJ NO. 17-045  
 SCALE 1"=20'  
 DATE FEB. 2018  
 SHEET 10 OF 12

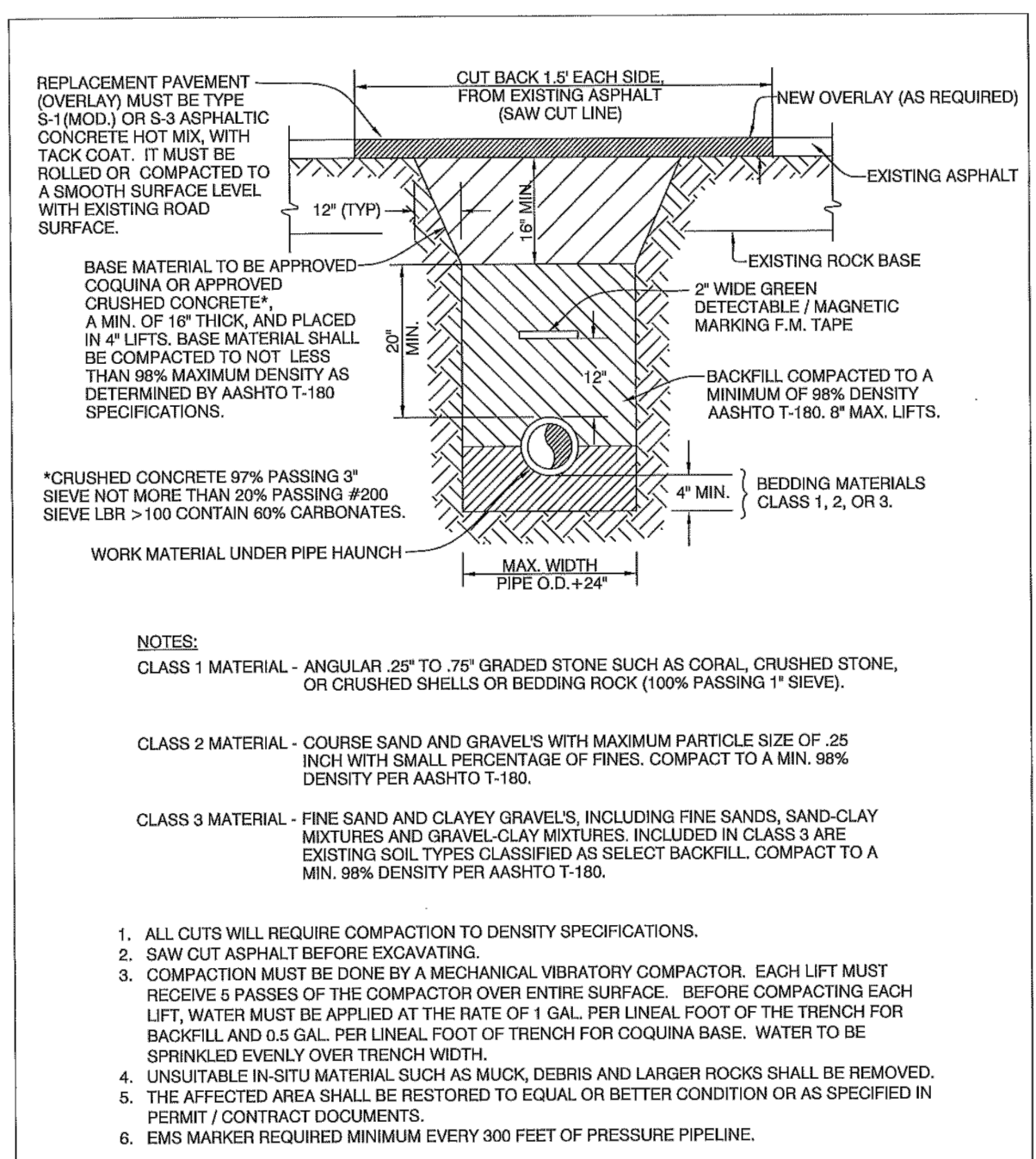
THOMAS J. MESSLER, P.E.  
 FL REG. NO. 16422



- NOTES:**
- WHERE SEWER LATERALS MAY BE FORCED TO BE INSTALLED AT A DEPTH GREATER THAN 36" DUE TO CONFLICT WITH OTHER UTILITIES, THE WYE FITTING MAY BE PLACED IN A VERTICAL POSITION ON THE CLEAN-OUT RISER PIPE (ALTERNATE CONFIGURATION).
  - LEAVE RISER 18" (MIN.) ABOVE GRADE. WHEN HOUSE RISER CONNECTION IS MADE BY BUILDING PLUMBER, RISER PIPE WILL BE CUT OFF, AND SET 2" ABOVE SOD GRADE (ADAPTER SHALL BE LEFT UNGLUED).
  - IN AREAS WHERE NO SIDEWALK EXISTS OR WHERE NONE ARE PLANNED, THE CLEAN OUT RISER WILL BE SET AT RW OR EASEMENT LINE.
  - IN AREAS WHERE GROUND WATER TABLE IS LESS THAN 36" FROM FINISHED GRADE, NIPPLES OUT OF WYE WILL BE EXTENDED UP TO A POINT 6" MIN. ABOVE GROUND WATER TABLE.
  - EMS MARKER MODEL NO. 1258, SERVICE LINE ELECTRONIC MARKER AS MFG. BY 3M CO., TO REMAIN IN PLACE AFTER CONNECTION OF BUILDING SEWER. BURY IN FRONT OF CLEAN OUT RISER 18" BELOW FINISHED GRADE.
  - 6" SINGLE SERVICES USED ONLY FOR COMMERCIAL OR MULTI-FAMILY RESIDENTIAL UNITS. (SEE SD-3 & SD-4)
  - WHEN MAIN LINE IS C-900 PVC OR EPOXY COATED DIP, SERVICE PIPE SHALL BE SAME MATERIAL AS MAIN LINE.
  - WHEN APPROVED BY THE DISTRICT, CLEAN-OUTS MAY BE PLACED IN PAVED AREAS, HOWEVER, PROTECTIVE BOXES AS SHOWN ON DETAIL SD-1 MUST BE INSTALLED.

**(PLUMBERS ONLY)**  
 WHERE EXISTING SERVICE LATERAL IS VITRIFIED CLAY PIPE, BELL (HUB) WILL BE REMOVED WITH APPROVED SAW AND A "FERROCO" 1/2" PVC COUPLING WILL BE USED TO JOIN THE EXISTING AND NEW PIPE. FERROCO COUPLING WILL BE WRAPPED IN STRANDS OF COPPER WIRE AND COUPLING WILL BE BEDDED IN TYPE "57" ROCK. WHERE EXISTING SERVICE LATERAL IS DIP OR C-900, A DISTRICT APPROVED PVC TRANSITION COUPLING WILL BE USED.

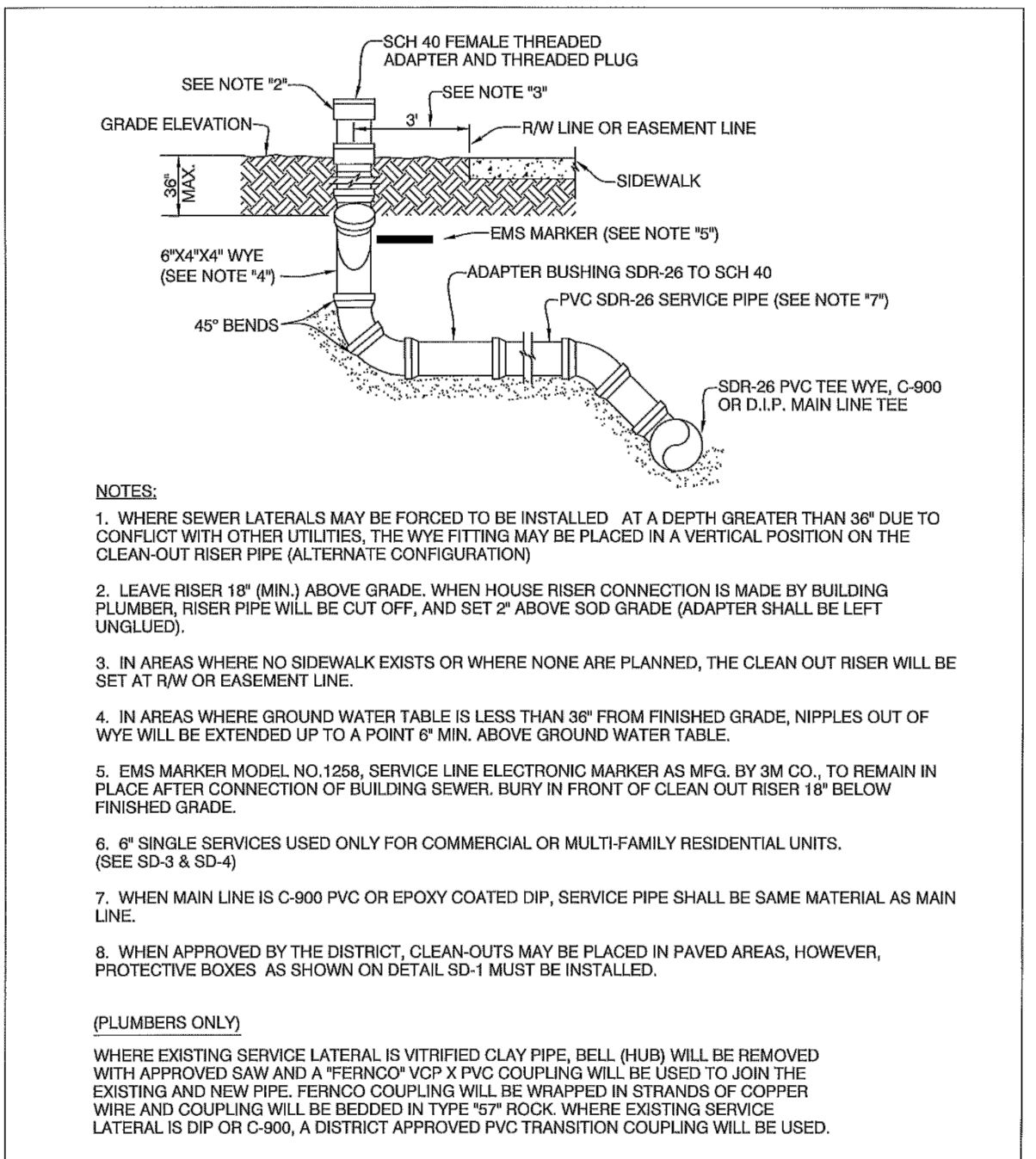
LOXAHATCHEE RIVER DISTRICT		
N.T.S.	<b>6" DOUBLE SERVICE CONNECTION DETAIL</b>	SD-8
REVISION: APRIL, 2012		



- \*CRUSHED CONCRETE 97% PASSING 9" SIEVE NOT MORE THAN 20% PASSING #200 SIEVE LSR > 100 CONTAIN 60% CARBONATES.**
- NOTES:**
- CLASS 1 MATERIAL - ANGULAR, 20" TO .75" GRADED STONE SUCH AS CORAL, CRUSHED STONE, OR CRUSHED SHELLS OR BEDDING ROCK (100% PASSING 1" SIEVE).
  - CLASS 2 MATERIAL - COURSE SAND AND GRAVELS WITH MAXIMUM PARTICLE SIZE OF .25 INCH WITH SMALL PERCENTAGE OF FINES. COMPACT TO A MIN. 98% DENSITY PER AASHTO T-190.
  - CLASS 3 MATERIAL - FINE SAND AND CLAYEY GRAVELS, INCLUDING FINE SANDS, SAND-CLAY MIXTURES AND GRAVEL-CLAY MIXTURES. INCLUDED IN CLASS 3 ARE EXISTING SOIL TYPES CLASSIFIED AS SELECT BACKFILL. COMPACT TO A MIN. 98% DENSITY PER AASHTO T-190.

- ALL CUTS WILL REQUIRE COMPACTION TO DENSITY SPECIFICATIONS.
- SAW CUT ASPHALT BEFORE EXCAVATING.
- COMPACTION MUST BE DONE BY A MECHANICAL VIBRATORY COMPACTOR. EACH LIFT MUST RECEIVE 5 PASSES OF THE COMPACTOR OVER ENTIRE SURFACE. BEFORE COMPACTING EACH LIFT, WATER MUST BE APPLIED AT THE RATE OF 1 GAL. PER LINEAL FOOT OF THE TRENCH FOR BACKFILL AND 0.5 GAL. PER LINEAL FOOT OF TRENCH FOR COQUINA BASE. WATER TO BE SPRINKLED EVENLY OVER TRENCH WIDTH.
- UNUSABLE IN-SITU MATERIAL, SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
- THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT / CONTRACT DOCUMENTS.
- EMS MARKER REQUIRED MINIMUM EVERY 300 FEET OF PRESSURE PIPELINE.

LOXAHATCHEE RIVER DISTRICT		
N.T.S.	<b>TYPICAL TRENCH &amp; PAVEMENT RESTORATION DETAIL</b>	SD-2
REVISION: JULY, 2019		



- NOTES:**
- WHERE SEWER LATERALS MAY BE FORCED TO BE INSTALLED AT A DEPTH GREATER THAN 36" DUE TO CONFLICT WITH OTHER UTILITIES, THE WYE FITTING MAY BE PLACED IN A VERTICAL POSITION ON THE CLEAN-OUT RISER PIPE (ALTERNATE CONFIGURATION).
  - LEAVE RISER 18" (MIN.) ABOVE GRADE. WHEN HOUSE RISER CONNECTION IS MADE BY BUILDING PLUMBER, RISER PIPE WILL BE CUT OFF, AND SET 2" ABOVE SOD GRADE (ADAPTER SHALL BE LEFT UNGLUED).
  - IN AREAS WHERE NO SIDEWALK EXISTS OR WHERE NONE ARE PLANNED, THE CLEAN OUT RISER WILL BE SET AT RW OR EASEMENT LINE.
  - IN AREAS WHERE GROUND WATER TABLE IS LESS THAN 36" FROM FINISHED GRADE, NIPPLES OUT OF WYE WILL BE EXTENDED UP TO A POINT 6" MIN. ABOVE GROUND WATER TABLE.
  - EMS MARKER MODEL NO. 1258, SERVICE LINE ELECTRONIC MARKER AS MFG. BY 3M CO., TO REMAIN IN PLACE AFTER CONNECTION OF BUILDING SEWER. BURY IN FRONT OF CLEAN OUT RISER 18" BELOW FINISHED GRADE.
  - 6" SINGLE SERVICES USED ONLY FOR COMMERCIAL OR MULTI-FAMILY RESIDENTIAL UNITS. (SEE SD-3 & SD-4)
  - WHEN MAIN LINE IS C-900 PVC OR EPOXY COATED DIP, SERVICE PIPE SHALL BE SAME MATERIAL AS MAIN LINE.
  - WHEN APPROVED BY THE DISTRICT, CLEAN-OUTS MAY BE PLACED IN PAVED AREAS, HOWEVER, PROTECTIVE BOXES AS SHOWN ON DETAIL SD-1 MUST BE INSTALLED.

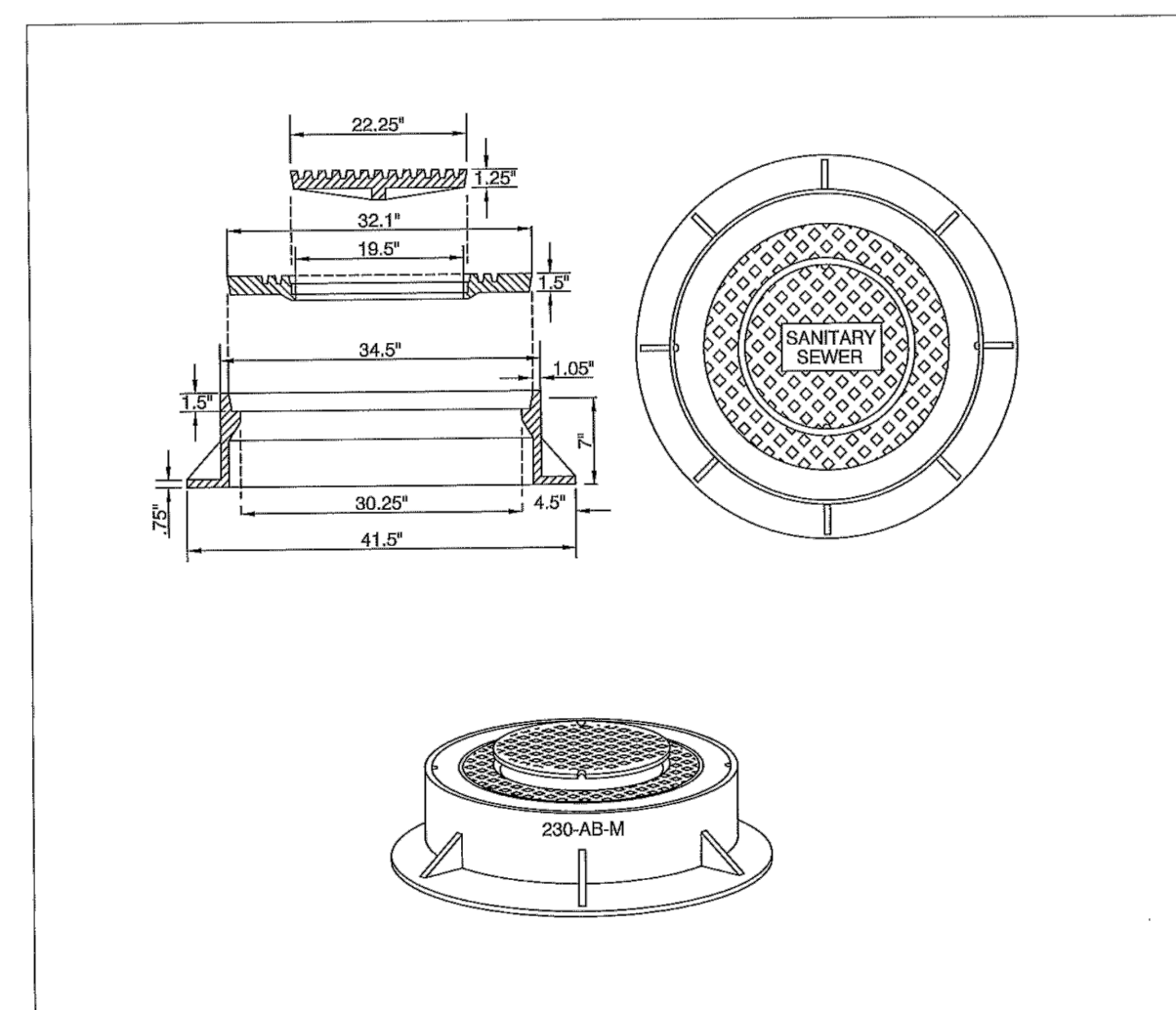
**(PLUMBERS ONLY)**  
 WHERE EXISTING SERVICE LATERAL IS VITRIFIED CLAY PIPE, BELL (HUB) WILL BE REMOVED WITH APPROVED SAW AND A "FERROCO" 1/2" PVC COUPLING WILL BE USED TO JOIN THE EXISTING AND NEW PIPE. FERROCO COUPLING WILL BE WRAPPED IN STRANDS OF COPPER WIRE AND COUPLING WILL BE BEDDED IN TYPE "57" ROCK. WHERE EXISTING SERVICE LATERAL IS DIP OR C-900, A DISTRICT APPROVED PVC TRANSITION COUPLING WILL BE USED.

LOXAHATCHEE RIVER DISTRICT		
N.T.S.	<b>6" DOUBLE SERVICE CONNECTION ALTERNATE CONFIGURATION DETAIL</b>	SD-9
REVISION: APRIL, 2012		

**SEPARATION REQUIREMENTS**  
 62-855.314 F.A.C. AUGUST 28, 2003

- HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.**
    - NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
    - NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
    - NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
  - VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.**
    - NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
    - NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
    - AT THE UTILITY CROSSING DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- \*REQUIRED BY: HRS, STATE OF FLORIDA, PALM BEACH COUNTY PUBLIC HEALTH UNIT

LOXAHATCHEE RIVER DISTRICT		
N.T.S.	<b>STANDARD WATER AND SEWER SEPARATION STATEMENT</b>	SD-30
REVISION: APRIL, 2012		



- NOTES:**
- U.S.F. #230-AB-M MANHOLE RING & DOUBLE COVER, APPROXIMATE TOTAL WEIGHT 605 POUNDS
  - IN CASES WHERE A SHALLOW FRAME IS REQUIRED USF MODEL #655 MAY BE SUBSTITUTED FOR MODEL #230-AB-M

LOXAHATCHEE RIVER DISTRICT		
N.T.S.	<b>MANHOLE FRAME AND COVER DETAIL</b>	SD-13
REVISION: APRIL, 2012		

48 HOURS BEFORE DIGGING  
 CALL TOLL FREE  
 1-800-432-4770  
 SUNSHINE STATE  
 ONE CALL OF FLORIDA, INC.

- CONTRACTOR NOTE:**
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OR IMPROVEMENTS OF OTHERS WITH REGARD TO NEW CONSTRUCTION, OR FOR THE NEED OF REMOVAL, RELOCATION OR ALTERATION OF EXISTING FACILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO PALM BEACH COUNTY, CITY OF RIVIERA BEACH UTILITIES, FLORIDA POWER & LIGHT, SOUTHERN BELL TELEPHONE AND THEIR CONTRACTORS, SUB-CONTRACTORS OR AGENTS.
  - INFORMATION SHOWN ON THE DRAWINGS AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE DATA AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED, HOWEVER, AND IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION, CHARACTER AND DEPTH OF ANY EXISTING UTILITIES.

DESIGN	TJM	5						
		4						
DRAWN	JAO	3						
		2						
CHECKED	TJM	1	10/23/19	REVISED PER PBC COMMENTS DATE 10/10/19	TJM			
Q.C.		NO.	DATE	REVISION	APPD BY			

**Messler & Associates**  
 CONSULTING ENGINEERS  
 5746 VIA RIO, JUPITER, FLORIDA 33458  
 Phone (561) 748-6015 Fax (561) 748-6889  
 Certificate of Authorization No. 00003616

**LIMESTONE LANDING**  
 AT  
**PALM BEACH COUNTY, FLORIDA**

**SANITARY SEWER DETAILS**

PROJ NO.	17-045
SCALE	1"=20'
DATE	FEB. 2018
SHT	11 OF 12
TIMOTHY J. MESSLER, P.E. FL REG. NO. 16422	