

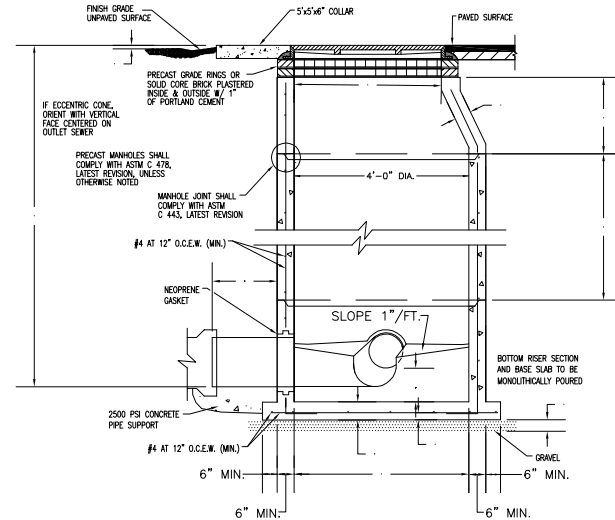
DESCRIPTION: WASTEWATER GRAVITY SEWER TAPPING SADDLE.

SIZE	MANUFACTURER	MODEL #
VARIES	GENCO	EH

- NOTE:
- FOR USE IN ADDING SERVICE TO EXISTING GRAVITY SEWER MAIN, PVC OR D.I.P. ONLY.

**WASTEWATER
TAPPING SADDLE**
DETAIL No.400-2

NOT TO SCALE



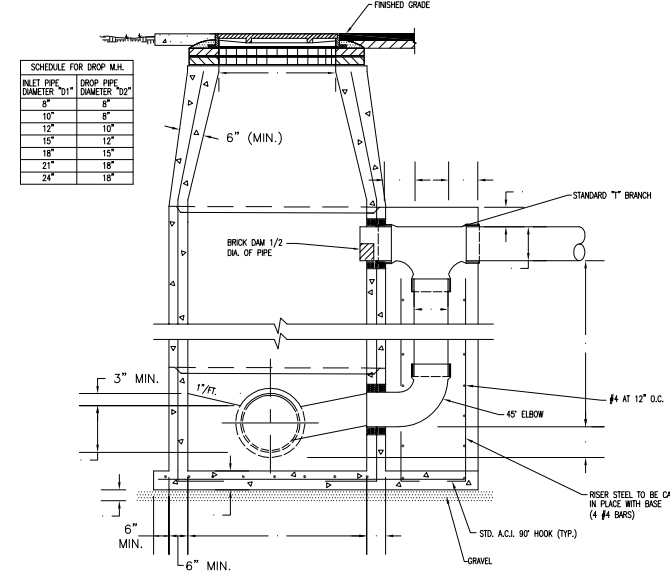
- NOTES:
- PRECAST CONCRETE TYPE II 4000 P.S.I.
 - "RAMNEX" OR EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT INSIDE AND OUTSIDE.
 - ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
 - FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM (SEE DETAIL).
 - LIFT HOLES ARE PERMITTED AND SHALL BE SEALED AFTER PLACEMENT OF RISER.
 - ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
 - APPROVED RUBBER BOOT MUST BE USED WITH PVC PIPE.
 - INSIDE DROPS SHALL NOT EXCEED 2.0 FEET.
 - COAT INTERIOR & EXTERIOR WITH 2 COATS COAL TAR EPOXY, 8 mil. MIN. EACH DRY FILM THICKNESS COAT.
 - 5'x5'6" CONCRETE COLLAR IS REQUIRED WHEN MANHOLE IS OUT OF PAVEMENT.

DESCRIPTION: PRE-CAST SANITARY MANHOLE

SIZE	MANUFACTURER	MODEL #
VARIES	MACK INDUSTRIES	
VARIES	SOUTHERN PRE-CAST	
VARIES	STANDARD PRE-CAST	
VARIES	TAYLOR PRECAST	
VARIES	DEL ZOTTO	

**PRE-CAST
SANITARY MANHOLE**
DETAIL No.400-3

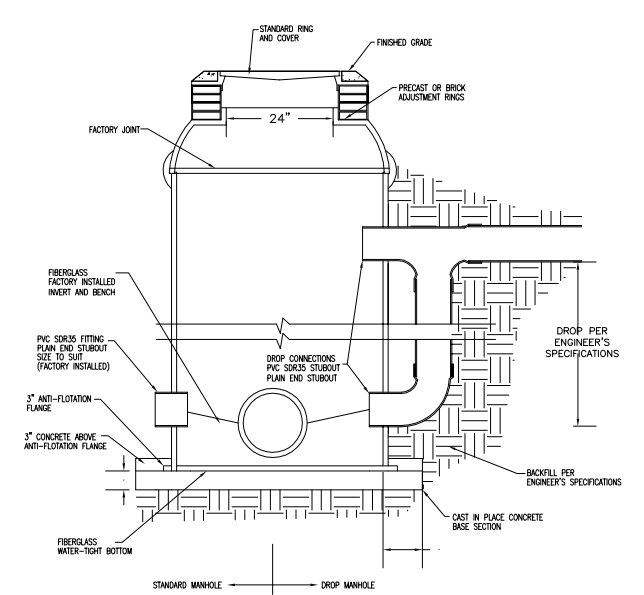
NOT TO SCALE



- DESCRIPTION: PRE-CAST SANITARY SEWER DROP MANHOLE
- | SIZE | MANUFACTURER | MODEL # |
|--------|-------------------|---------|
| VARIES | MACK INDUSTRIES | |
| VARIES | SOUTHERN PRE-CAST | |
| VARIES | STANDARD PRE-CAST | |
| VARIES | TAYLOR PRECAST | |
| VARIES | DEL ZOTTO | |
- NOTES:
- ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
 - THE PRECAST BASE SHALL EXTEND FULLY UNDER THE DROP ASSEMBLY.
 - DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN CHANNEL INVERT.
 - SOLVENT TYPE JOINT PVC FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
 - 5'x5'6" CONCRETE COLLAR IS REQUIRED WHEN MANHOLE IS OUT OF PAVEMENT.

WW3.DWG NOT TO SCALE

**PRE-CAST SANITARY
SEWER DROP MANHOLE**
DETAIL No.400-4



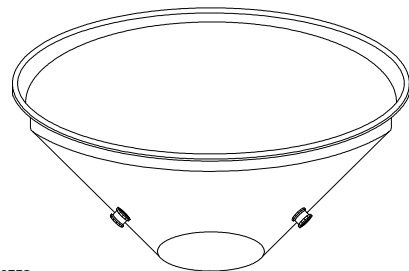
DESCRIPTION: PRE-CAST FIBERGLASS MANHOLE

SIZE	MANUFACTURER	MODEL #
VARIES	CONTAINMENT SOLUTIONS, INC.	
VARIES	CONROE, TX	
VARIES	L.F. MANUFACTURING, INC.	
VARIES	GIDDINGS, TX	

NOTE: FRP MANHOLE SHALL HAVE A FIBERGLASS WATERTIGHT BOTTOM AND A MINIMUM 3" ANTI-FLOTATION FLANGE.

WW4.DWG NOT TO SCALE

**PRE-CAST
FIBERGLASS MANHOLE**
DETAIL No.400-5



- NOTES:
- SEWER RAIN GUARDS SHALL BE INSTALLED ON MANHOLES, WHEREVER REQUIRED BY THE UTILITY DIVISION.
 - SEWER RAIN GUARDS SHALL BE AS MANUFACTURED BY FOSROC-PRECO INDUSTRIES, INC., OR SOUTH WEST PACKING AND SEALS, INC., OR APPROVED EQUAL.

DESCRIPTION: MANHOLE RAIN GUARD

SIZE	MANUFACTURER	MODEL #
*	FOSROC-PRECO INDUSTRIES SOUTHWEST PACKING & SEALS INC.	

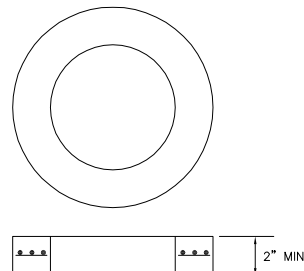
* TO FIT STANDARD 24" RING & COVER, OR AS DIRECTED BY THE UTILITIES DIVISION FOR OTHER REQUIRED SIZES.

NOT INCLUDED IN CITRUS COUNTY APPROVED MATERIAL LIST.

WW5.DWG

MANHOLE RAIN GUARD
DETAIL No.400-6

NOT TO SCALE



DESCRIPTION: PRE-CAST CONCRETE MANHOLE GRADE RING OR HDPE ADJUSTING RING.

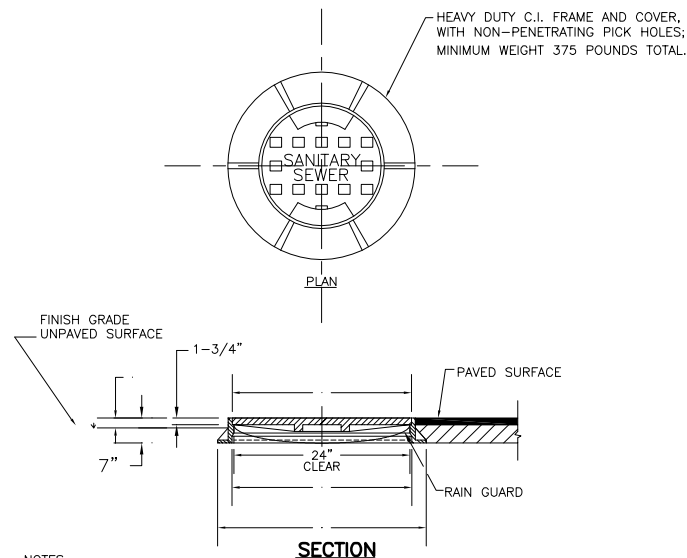
SIZE	MANUFACTURER	MODEL #
VARIES	PRECASTER (CONCRETE)	
VARIES	LADTECH INC. (HDPE)	

- NOTE:
- HDPE GRADE RING NOT INCLUDED IN "CITRUS COUNTY" APPROVED MATERIAL LIST.
 - MANUFACTURER OF PRECAST CONCRETE GRADE RINGS MUST COMPLY WITH ASTM C478 REQUIREMENTS.

WW6.DWG

MANHOLE GRADE RING
DETAIL No.400-7

NOT TO SCALE



- NOTES:
- A WATER-TIGHT MANHOLE "RAIN GUARD" INSERT SHALL BE INSTALLED IN ALL MANHOLES AT LOCATIONS AS DIRECTED BY THE UD.
 - USE 9" RING HEIGHT IF REQUIRED TO ACCOMMODATE BASE AND PAVING THICKNESS FOR STREET CONSTRUCTION.

DESCRIPTION: MANHOLE FRAME & COVER, MINIMUM LOAD RATING OF AASHTO H-20. (APPROXIMATELY 16,000 lbs. OVER 8'x20' AREA.)

SIZE	MANUFACTURER	MODEL #
24" STANDARD CLEAR OPENING	U.S. FOUNDRY (SPECIFY "SEWER")	USF 227,229
24" CLEAR OPENING	NEENAH FOUNDRY	N/A

WW7.DWG

MANHOLE FRAME & COVER
DETAIL No.400-8

NOT TO SCALE

SURVEY BY:
F.B. NO.:
PGS.:
DESIGN BY:
PROJECT ENGR.:
CHECKED BY:
DATE:

CITRUS COUNTY
DEPARTMENT OF WATER RESOURCES
UTILITIES DIVISION

1300 S. LECANTO HWY.
LECANTO, FLORIDA 34461
(352)527-7650

NO.	DATE	REVISION	APP'D. BY
0	7/23/04	ORIGINAL ISSUE DATE	

AUTHORIZED BY:

DATE _____

REGISTERED ENGINEER NO. _____
STATE OF FLORIDA
DATE _____

TYPICAL DETAILS

SCALE: _____
DATE: _____
PLAN SET: _____
FILE NAME: _____
TWP: _____ RGE: _____
SHEET DT-1