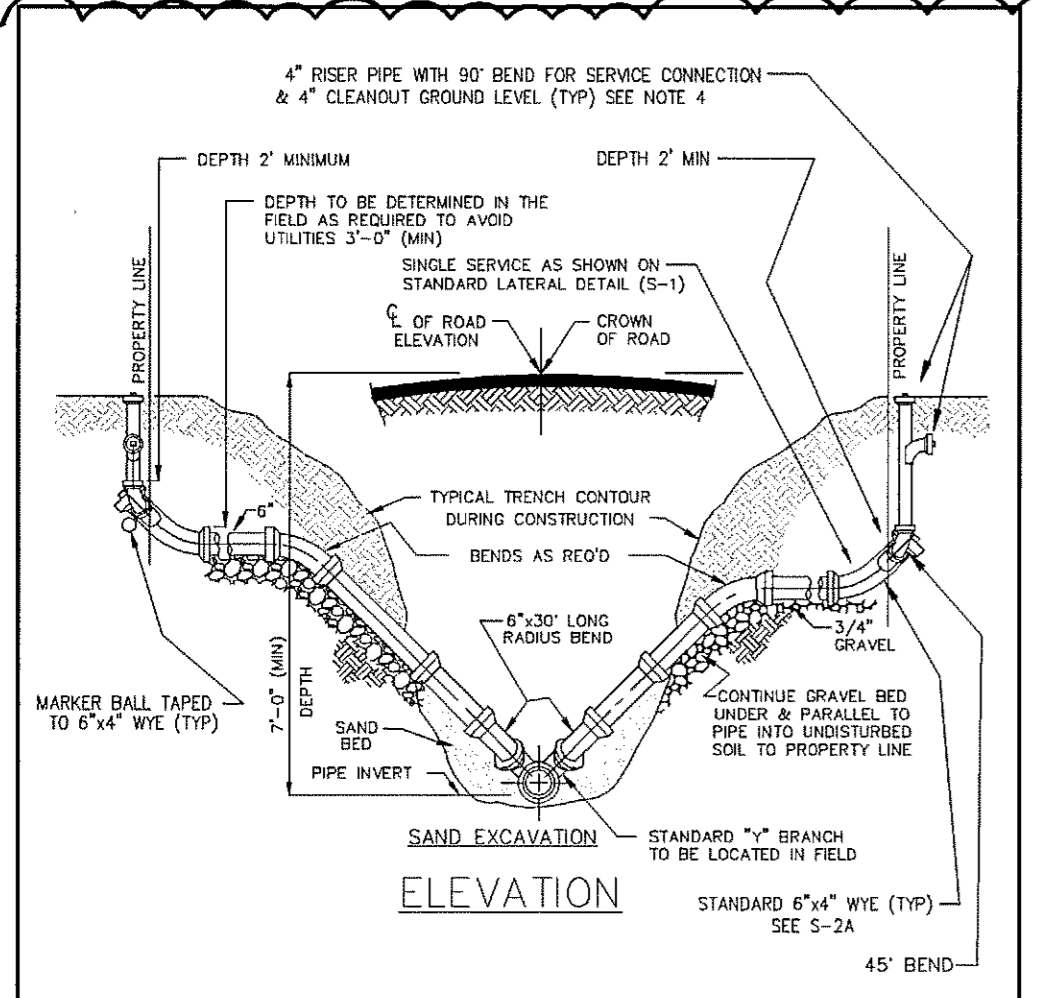


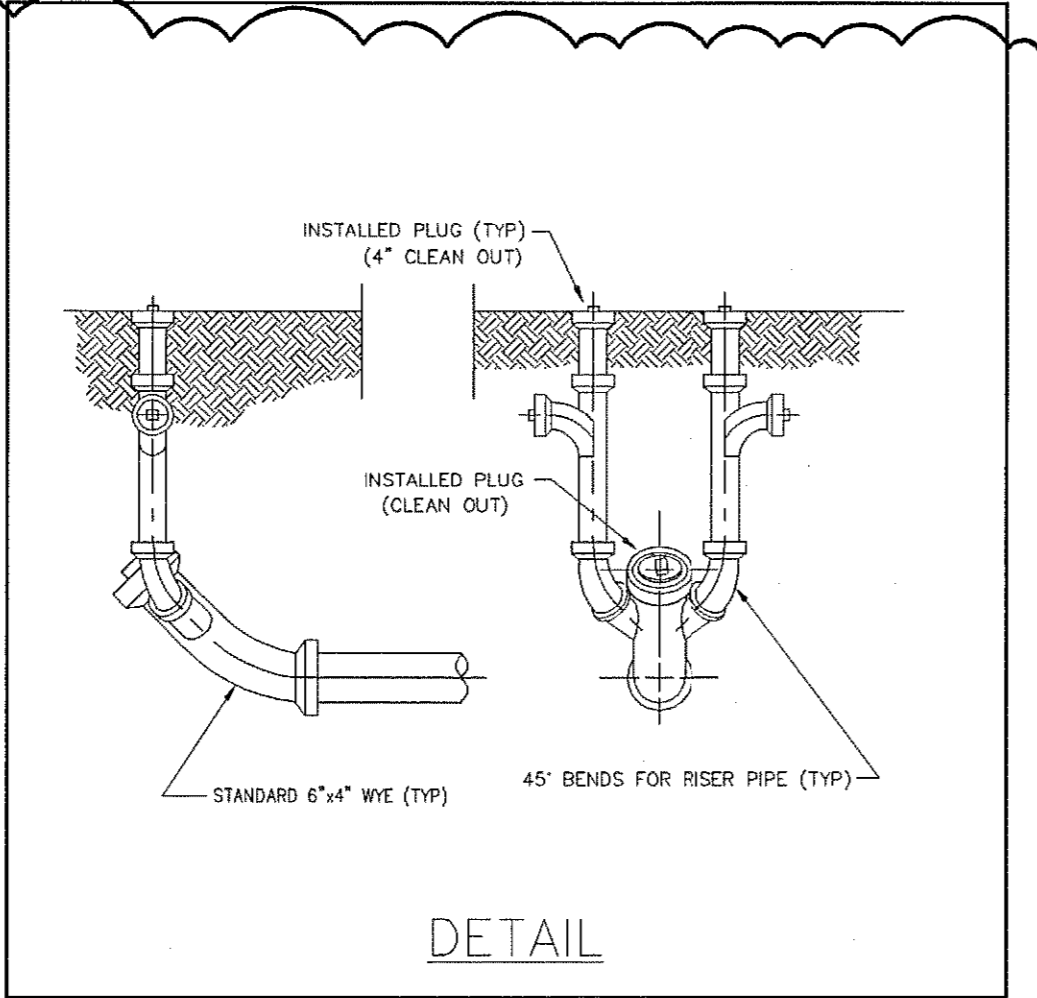
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NOTES

- 3/4" GRAVEL BEDDING SHALL BE USED FOR EXCAVATION IN ROCK. SAND BEDDING SHALL BE USED FOR EXCAVATION IN SAND.
- ALL MATERIALS ARE TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST.
- MARKER BALLS TO BE TAPED TO 6"x4" 24" BELOW FINISHED GRADE.
- PLUMBING CONTRACTOR WILL BE RESPONSIBLE FOR RISER PIPE WITH BEND FOR SERVICE CONNECTION AND FOR CUTTING 4" SEWER CLEANOUT TO FINISH GRADE PRIOR TO CONNECTION.

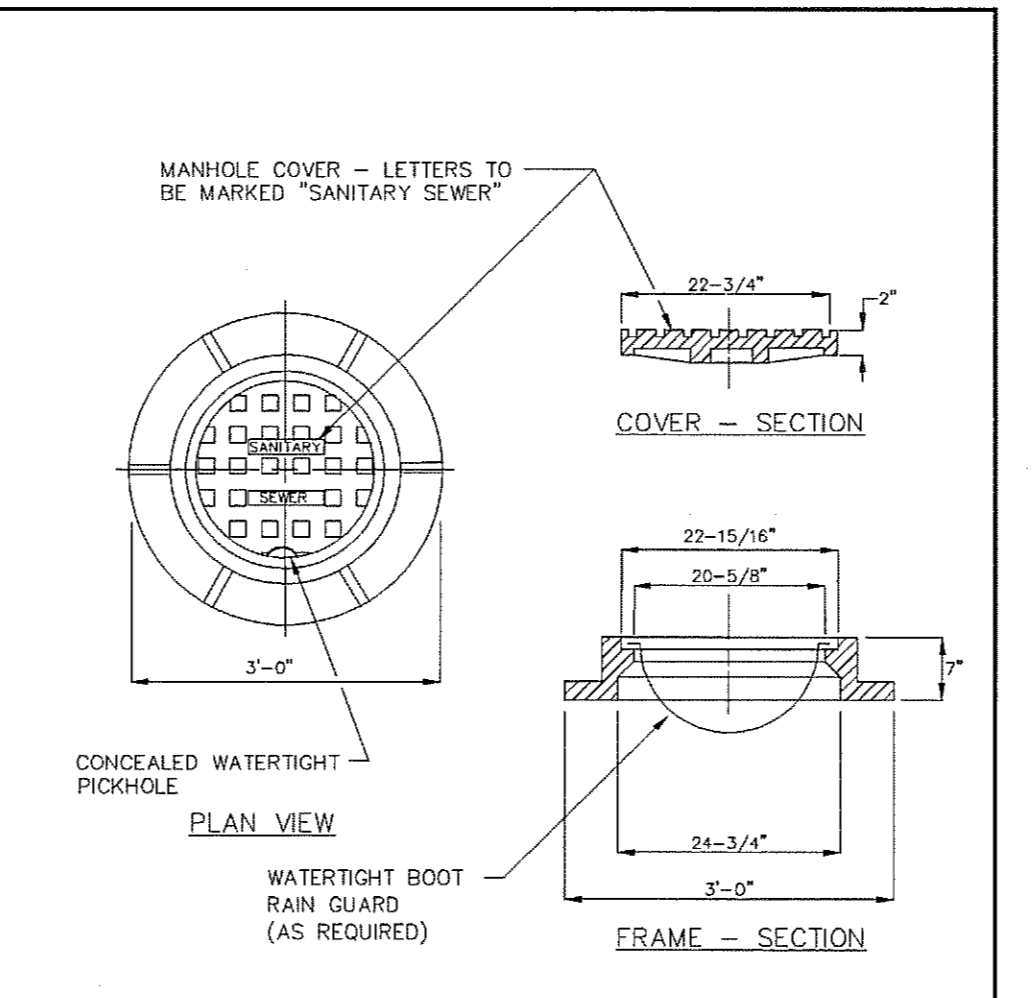
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MODIFIED RISER LATERAL (DEEP SEWER)** DRAWING NO. S-2



NOTES

- ALL SEWER LATERALS (SINGLE, DOUBLE, DEEP OR SHALLOW) SHALL HAVE A RISER PIPE WITH BENDS AS REQUIRED FOR SERVICE CONNECTIONS AND WITH A 4" SEWER CLEANOUT AT FINISHED GRADE.
- PLUMBING CONTRACTOR WILL BE RESPONSIBLE FOR RISER PIPE WITH BEND FOR SERVICE CONNECTION AND FOR CUTTING 4" SEWER CLEANOUT TO FINISH GRADE PRIOR TO CONNECTION.
- MARKER BALLS TO BE TAPED TO 6"x4" 24" BELOW FINISHED GRADE.
- ALL MATERIALS ARE TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **SEWER LATERAL RISER (DEEP OR SHALLOW SEWER)** DRAWING NO. S-2 (A)



NOTES

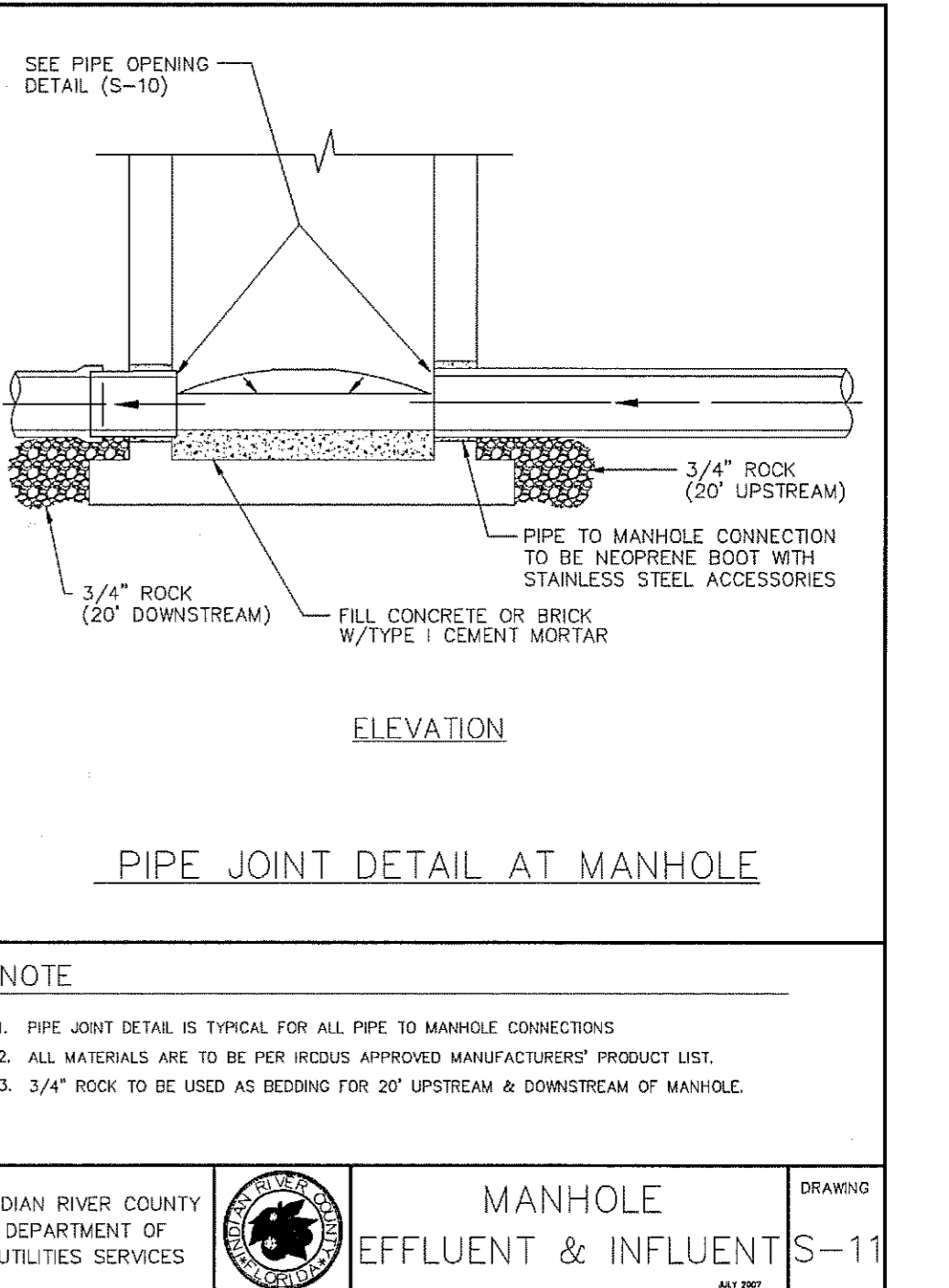
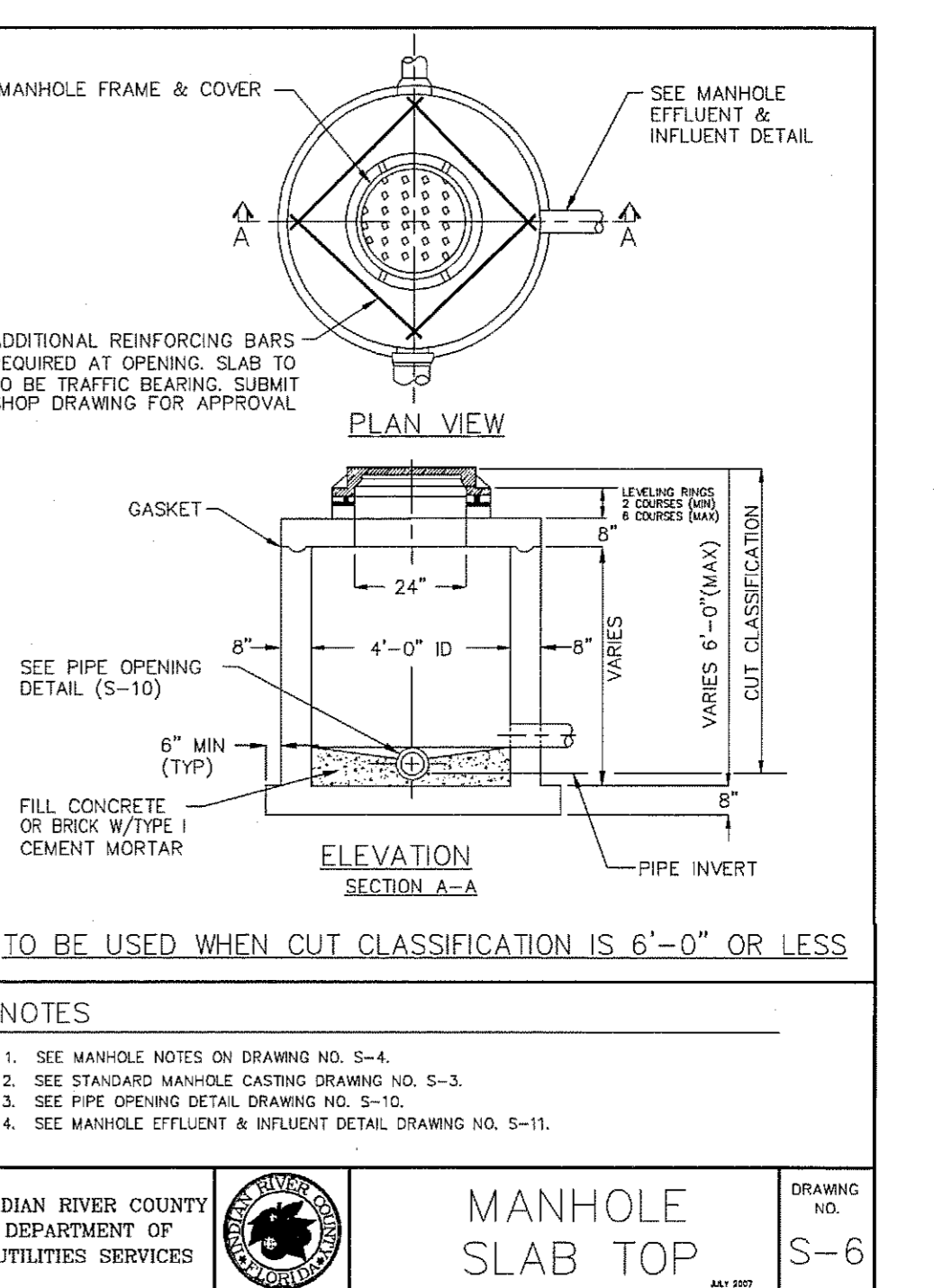
- A WATER TIGHT BOOT RAIN GUARD SHALL BE PROVIDED FOR ALL MANHOLE FRAME/COVERS AND APPROVED BY INDIAN RIVER COUNTY.
- ALL MATERIALS ARE TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **STANDARD MANHOLE CASTING** DRAWING NO. S-3

MANHOLE NOTES

- REINFORCING AREA OF 0.20 SQ. IN./FT. FOR WALL SECTION, MINIMUM TO MEET OR EXCEED A.S.T.M. A 185.
- ALL CEMENT TO BE TYPE I.
- ALL CONCRETE FOR PRECAST MANHOLES TO BE MINIMUM 3,000 P.S.I. TO MEET OR EXCEED A.S.T.M. C 478.
- BOTTOMS AND CHANNELS OF ALL MANHOLES TO BE OF 2,500 P.S.I. FIBERGLASS FINISHED SMOOTH WITH STEEL TROWEL.
- CONCRETE MANHOLES TO HAVE A MIN. WALL THICKNESS OF 8".
- INSIDE OF MANHOLE SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY AND TWO COATS OUTSIDE. (KOPPERS 300 OR EQUAL).
- CHANNELS TO BE FORMED IN ALL MANHOLES TO ACCEPT T.V. CAMERA.
- ORIENT ECCENTRIC CONE AS REQUIRED BY ENGINEER IN FIELD.
- BOTTOM SECTION TO BE MONOLITHIC POUR EXCEPT WHERE DROP CONNECTION REQUIRED.
- CONNECTIONS TO EXISTING MANHOLE AND LIFT STATION WET WELL STRUCTURES SHALL BE BY MEANS OF BORING A PENETRATION IN THE STRUCTURE, RATHER THAN PUNCHING. THE CONTRACTOR SHALL TAKE POSITIVE MEASURES TO PREVENT ANY CONCRETE OR CONSTRUCTION DEBRIS FROM ENTERING THE WASTEWATER SYSTEM.
- BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL MANHOLES.
- NO. 48 BARS 9" O.C. EACH WAY IN SLAB (TOP AND BOTTOM).
- SLOPES ON CHANNEL BOTTOMS TO EQUAL SLOPES OF LINES ENTERING AND EXITING MANHOLES.
- 2 COURSES BRICK MINIMUM, 6 COURSES BRICK MAXIMUM BETWEEN ALL PRECAST MANHOLE TOPS AND CASTINGS.
- 3/4" CRUSHED STONE FOUNDATIONS FOR A MINIMUM DEPTH OF 12" SHALL BE PROVIDED AS REQUIRED BY IRC/DUS.
- MANHOLE LID SHALL BE TRAFFIC BEARING (H-20 LOADING).
- SEWER PIPE INVERTS AT BOTTOM OF MANHOLES SHALL HAVE AN INVERT ELEVATION DIFFERENTIAL OF 0.1 FEET FOR A CHANGE IN DIRECTION AND 0.05 FEET FOR A STRAIGHT RUN.
- A WATER TIGHT RAIN GUARD BOOT, TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST, SHALL BE PROVIDED FOR ALL MANHOLE FRAME/COVERS.
- MATERIALS FOR LINING MANHOLES, WHERE REQUIRED, TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST. FIBERGLASS LINERS SHALL BE INSTALLED ON ALL MANHOLES RECEIVING PUMPED SEWAGE.
- PUMP OUT MANHOLE SHALL BE LOCATED WITHIN 20' OF LIFT STATION AND CONSTRUCTED OUT OF RIGHT OF WAY.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MANHOLE NOTES** DRAWING NO. S-4



NOTES

- SEE MANHOLE NOTES ON DRAWING NO. S-4.
- SEE STANDARD MANHOLE CASTING DRAWING NO. S-3.
- SEE PIPE OPENING DETAIL DRAWING NO. S-10.
- SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.
- USE 5'-0" L.D. MANHOLE AS DIRECTED BY THE IRC/DUS.

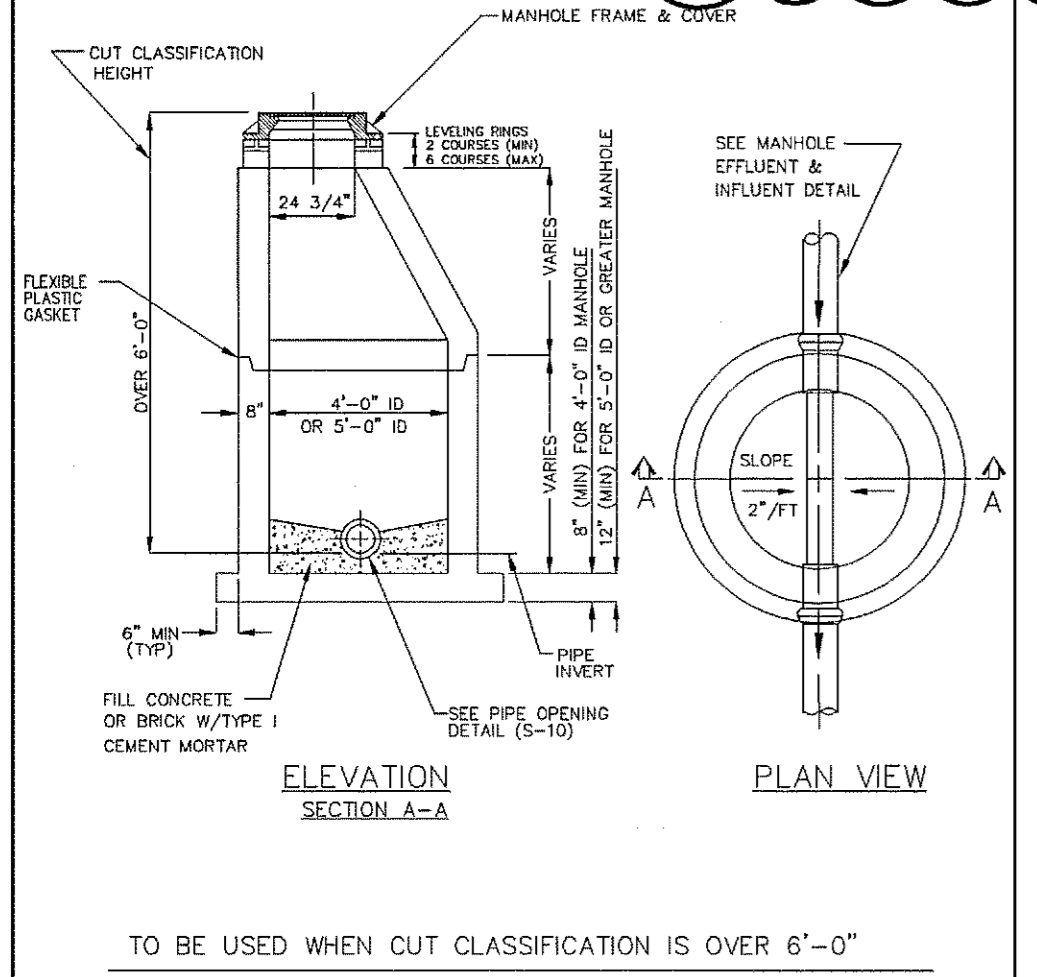
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MANHOLE SLAB TOP** DRAWING NO. S-6

PIPE JOINT DETAIL AT MANHOLE

NOTES

- PIPE JOINT DETAIL IS TYPICAL FOR ALL PIPE TO MANHOLE CONNECTIONS.
- ALL MATERIALS ARE TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST.
- 3/4" ROCK TO BE USED AS BEDDING FOR 20' UPSTREAM & DOWNSTREAM OF MANHOLE.

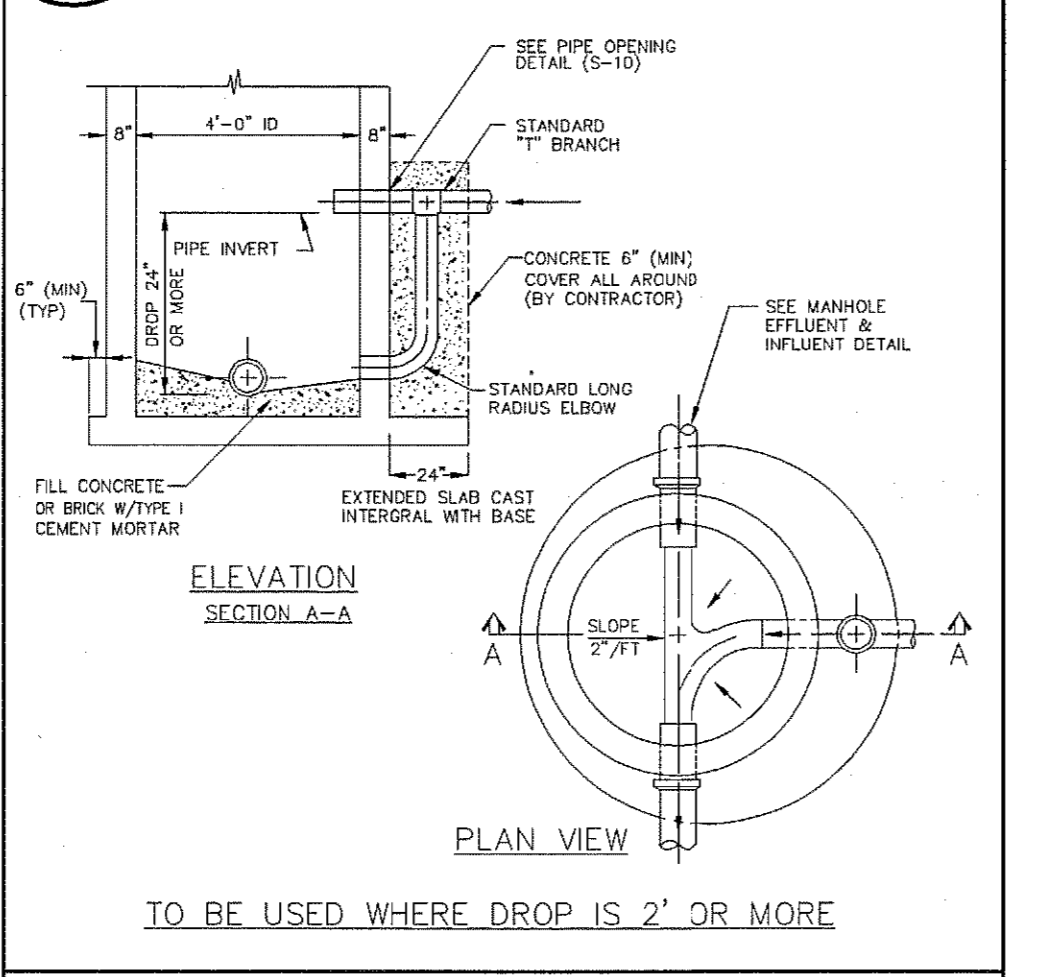
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MANHOLE EFFLUENT & INFLUENT** DRAWING NO. S-11



NOTES

- SEE MANHOLE NOTES ON DRAWING NO. S-4.
- SEE STANDARD MANHOLE CASTING DRAWING NO. S-3.
- SEE PIPE OPENING DETAIL DRAWING NO. S-10.
- SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.
- USE 5'-0" L.D. MANHOLE AS DIRECTED BY THE IRC/DUS.

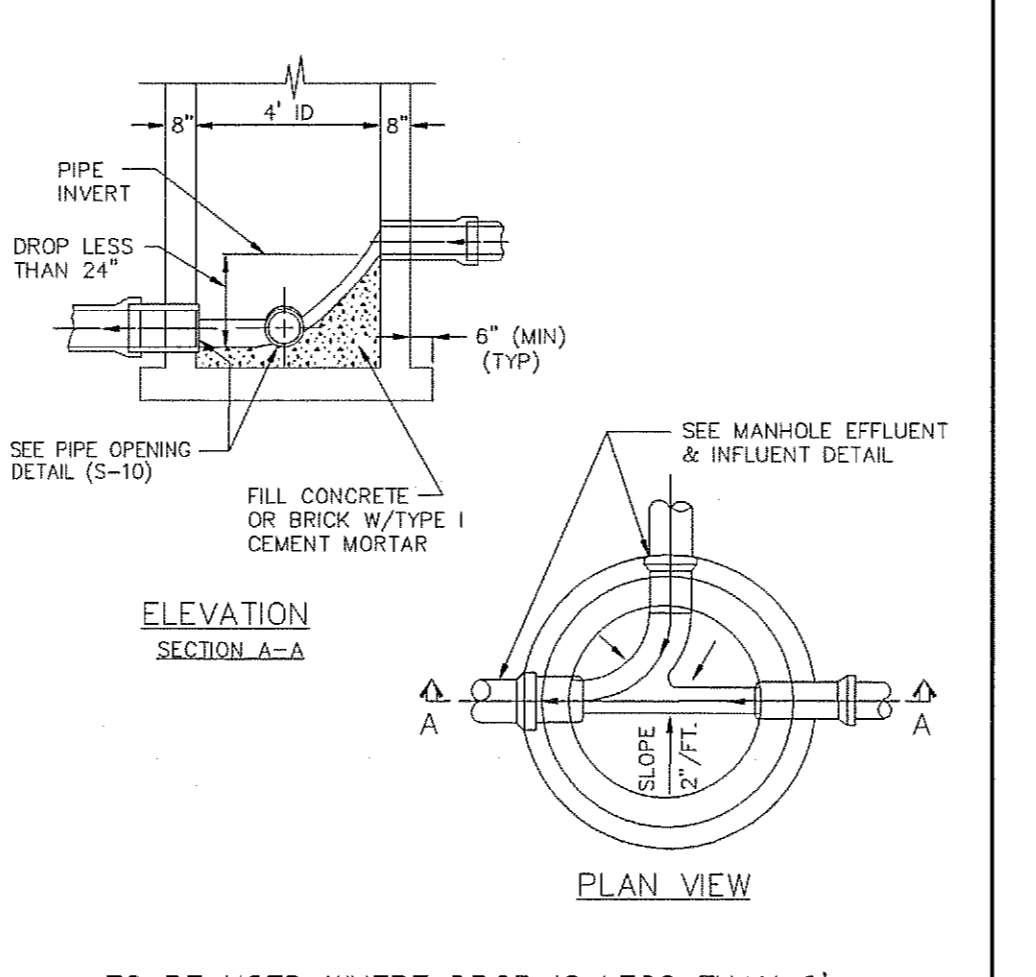
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MANHOLE STANDARD DEEP** DRAWING NO. S-7



NOTES

- SEE MANHOLE NOTES ON DRAWING NO. S-4.
- SEE PIPE OPENING DETAIL DRAWING NO. S-10.
- SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.
- SOLENOID VALVES SHALL NOT BE USED FOR DROP PIPE.
- SEWER LATERALS SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES.

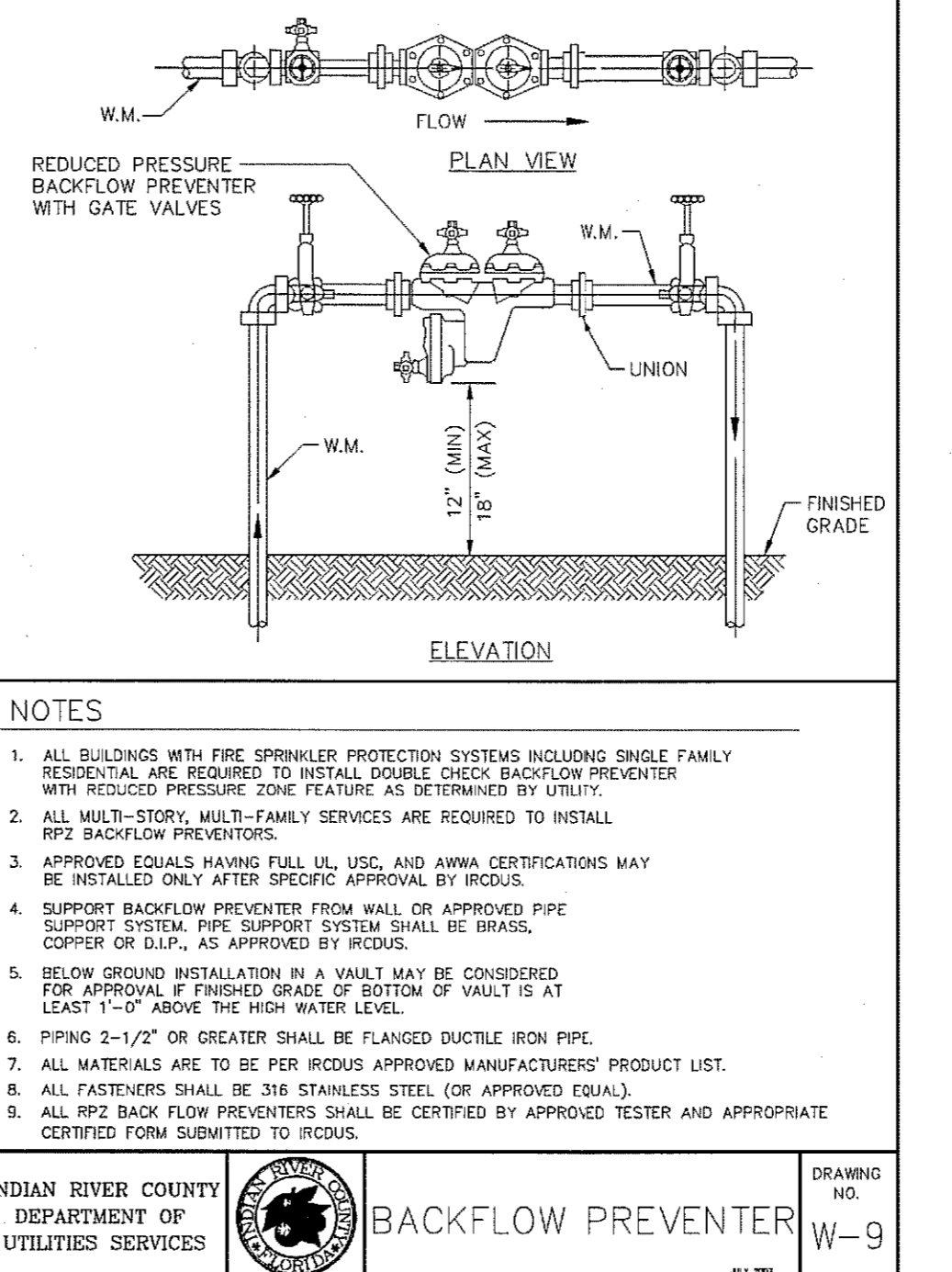
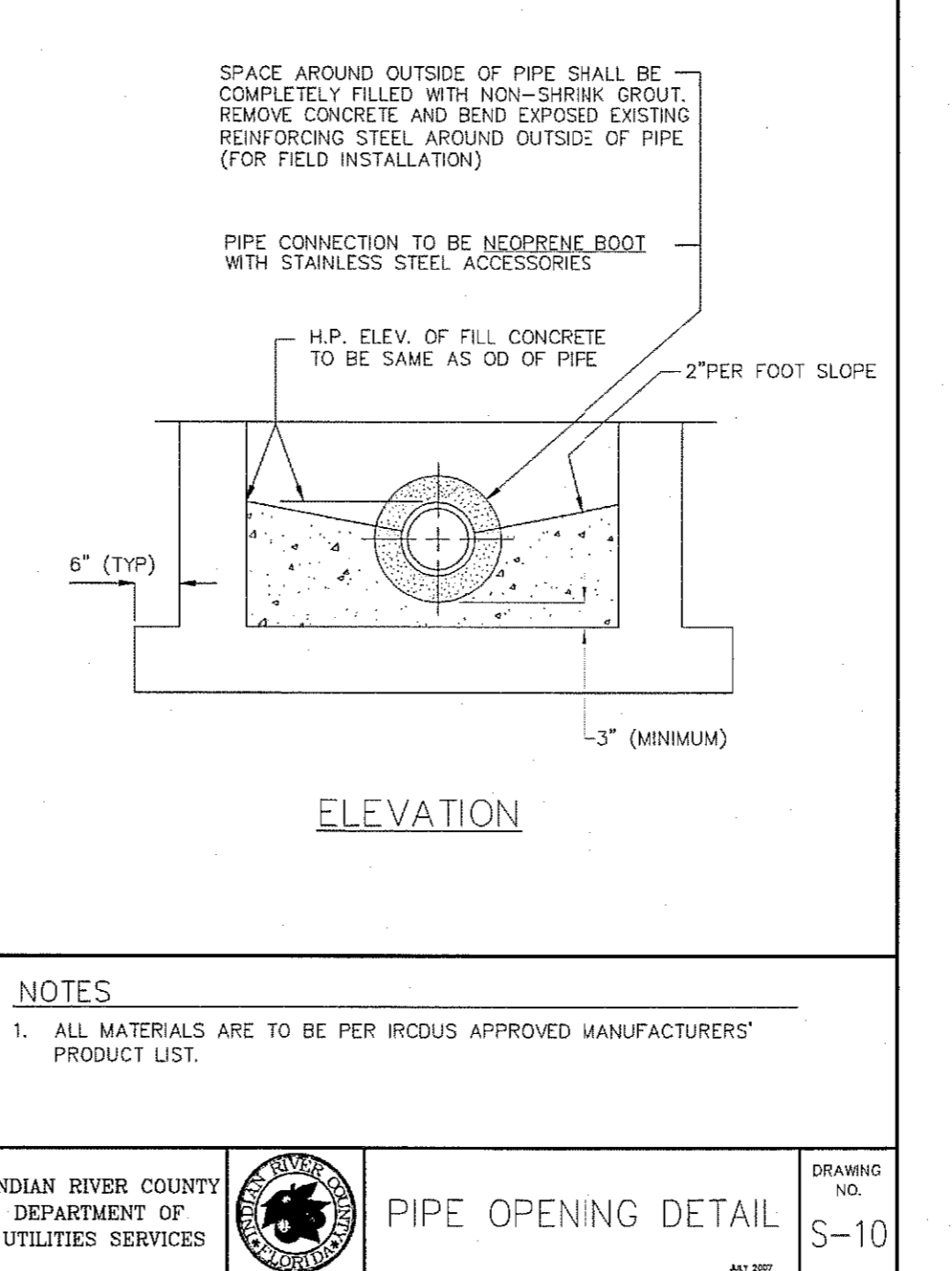
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MANHOLE TYPE "A" DROP** DRAWING NO. S-8



NOTES

- SEE MANHOLE NOTES ON DRAWING NO. S-4.
- SEE PIPE OPENING DETAIL DRAWING NO. S-10.
- SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **MANHOLE TYPE "B" DROP** DRAWING NO. S-9



NOTES

- ALL BUILDINGS WITH FIRE SPRINKLER PROTECTION SYSTEMS INCLUDING SINGLE FAMILY RESIDENTIAL ARE REQUIRED TO INSTALL DOUBLE CHECK BACKFLOW PREVENTER WITH REDUCED PRESSURE ZONE FEATURE AS OBTAINED BY UTILITY.
- ALL MULTI-STORY, MULTI-FAMILY SERVICES ARE REQUIRED TO INSTALL RPZ BACKFLOW PREVENTERS.
- APPROVED EQUALS HAVING FULL UL, IBC, AND AWWA CERTIFICATIONS MAY BE INSTALLED ONLY AFTER SPECIFIC APPROVAL BY IRC/DUS.
- SUPPORT BACKFLOW PREVENTER FROM WALL OR APPROVED PIPE SUPPORT SYSTEM. PIPE SUPPORT SYSTEM SHALL BE BRASS, COPPER OR DUCT, AS APPROVED BY IRC/DUS.
- BELOW GROUND INSTALLATION IN A VAULT MAY BE CONSIDERED FOR APPROVAL IF FINISHED GRADE OF BOTTOM OF VAULT IS AT LEAST 1'-0" ABOVE THE HIGH WATER LEVEL.
- PIPING 2-1/2" OR GREATER SHALL BE FLANGED DUCTILE IRON PIPE.
- ALL MATERIALS ARE TO BE PER IRC/DUS APPROVED MANUFACTURERS' PRODUCT LIST.
- ALL FASTENERS SHALL BE 316 STAINLESS STEEL (OR APPROVED EQUALS).
- ALL RPZ BACK FLOW PREVENTERS SHALL BE CERTIFIED BY APPROVED TESTER AND APPROPRIATE CERTIFIED FORM SUBMITTED TO IRC/DUS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **PIPE OPENING DETAIL** DRAWING NO. S-10

NOTES

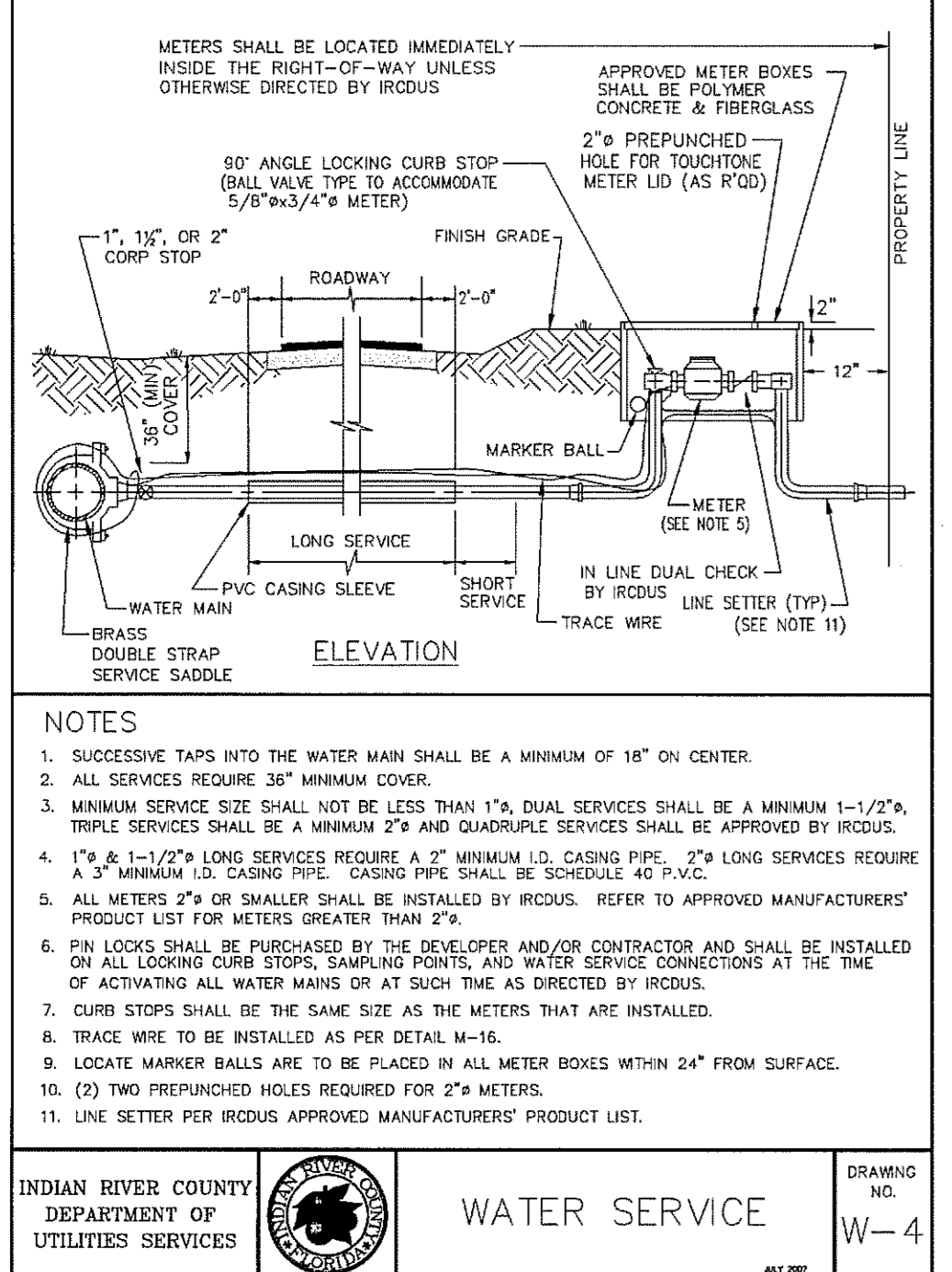
- FOR DETAILS OF LINE FILLING SEE W-12(A)
- BEND & PIPE MAY BE USED FOR FULL FLOW FLUSHING

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **FLUSHING CONNECTION** DRAWING NO. W-7

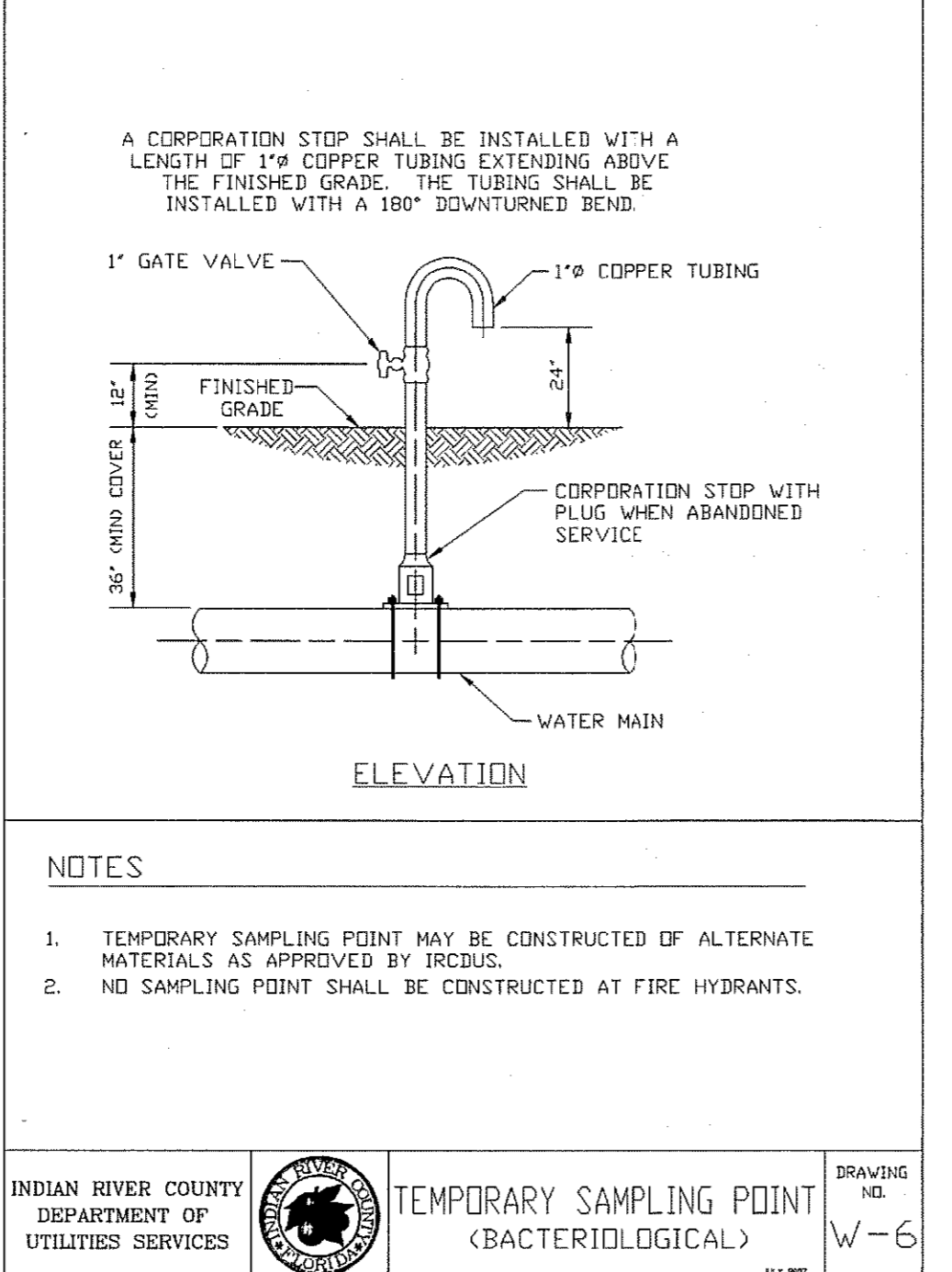
NOTES

- A FULL LINE FLUSH IS THE ONLY FLUSHING METHOD APPROVED FOR MAINS.
- ALL FIRE HYDRANTS AND DETECTOR CHECK VALVES SHALL BE INSPECTED AND TESTED TO ENSURE THAT NO FOREIGN OBJECTS WEDGE THE FLOW OF WATER.
- A PRESSURE GAUGE SHALL BE INSTALLED UPSTREAM OF THE FLUSHING POINT. THE PRESSURE UPSTREAM SHALL NOT FALL BELOW 35 P.S.I.
- PROVIDE ALL NECESSARY THRUST BLOCKS AND/OR OTHER RESTRAINTS.
- INDIAN RIVER COUNTY UTILITY PERSONNEL, AFTER A MINIMUM OF A 48 HOUR NOTICE BY THE CONTRACTOR, SHALL BE PRESENT FOR ALL FLUSHING ACTIVITIES AND SHALL OPERATE ALL EXISTING VALVES.
- FOR TRANSMISSION MAINS 12" DIAMETER OR LARGER, "PIGGING" IS REQUIRED.

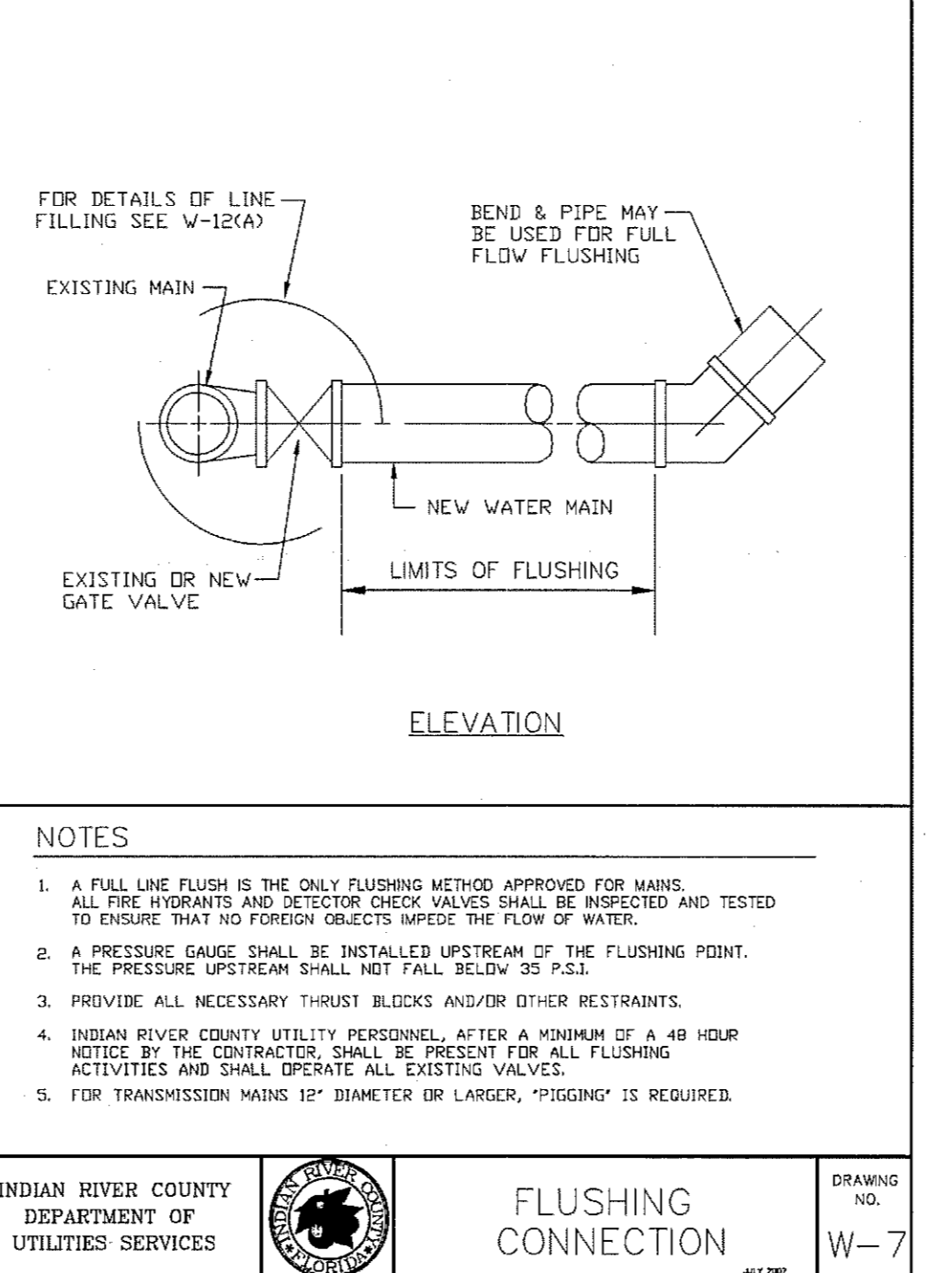
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **BACKFLOW PREVENTER** DRAWING NO. W-9



INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **WATER SERVICE** DRAWING NO. W-4



INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **TEMPORARY SAMPLING POINT (BACTERIOLOGICAL)** DRAWING NO. W-6



INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES **FLUSHING CONNECTION** DRAWING NO. W-7

REVISIONS	BY
1. I.R.C. COMMENTS	CKS

DRMP
 ENGINEERS - SURVEYORS - PLANNERS - SCIENTISTS
 941 Lake Baldwin Lane - Orlando, Florida 32814
 Phone: 407.896.0594 Fax: 407.896.4836
 Florida Certificate of Authorization No. 2648

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IRCDUS STANDARD UTILITIES DETAILS