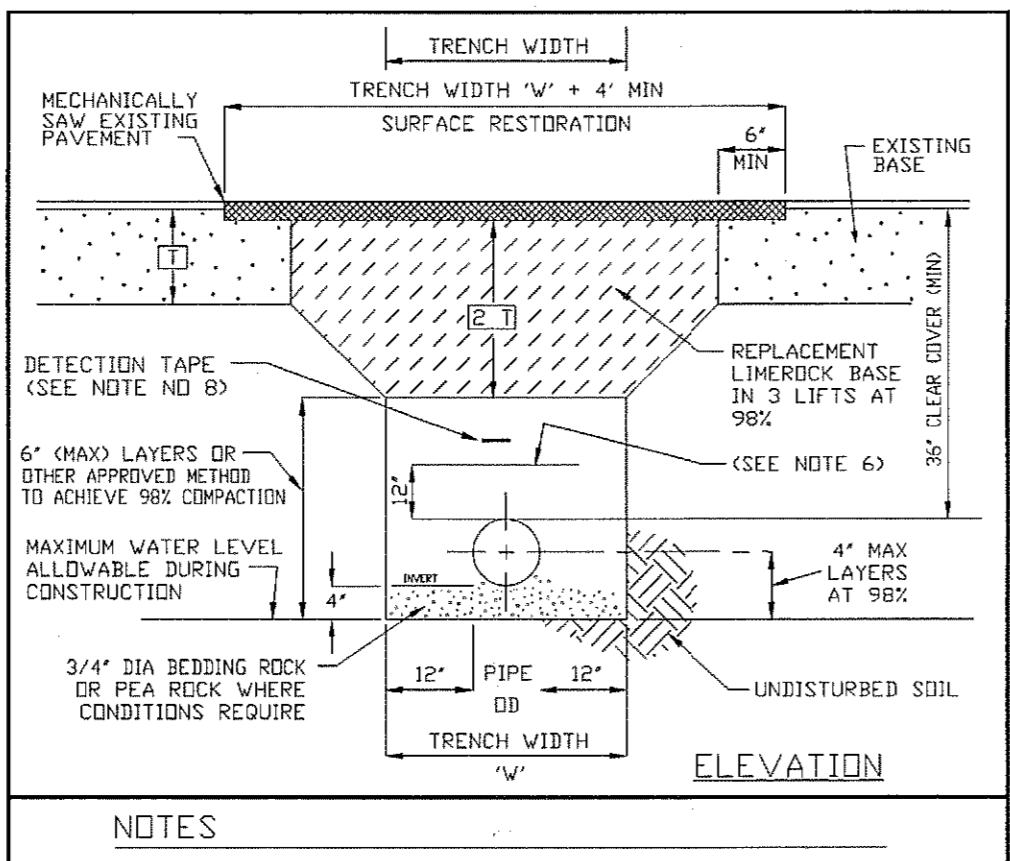


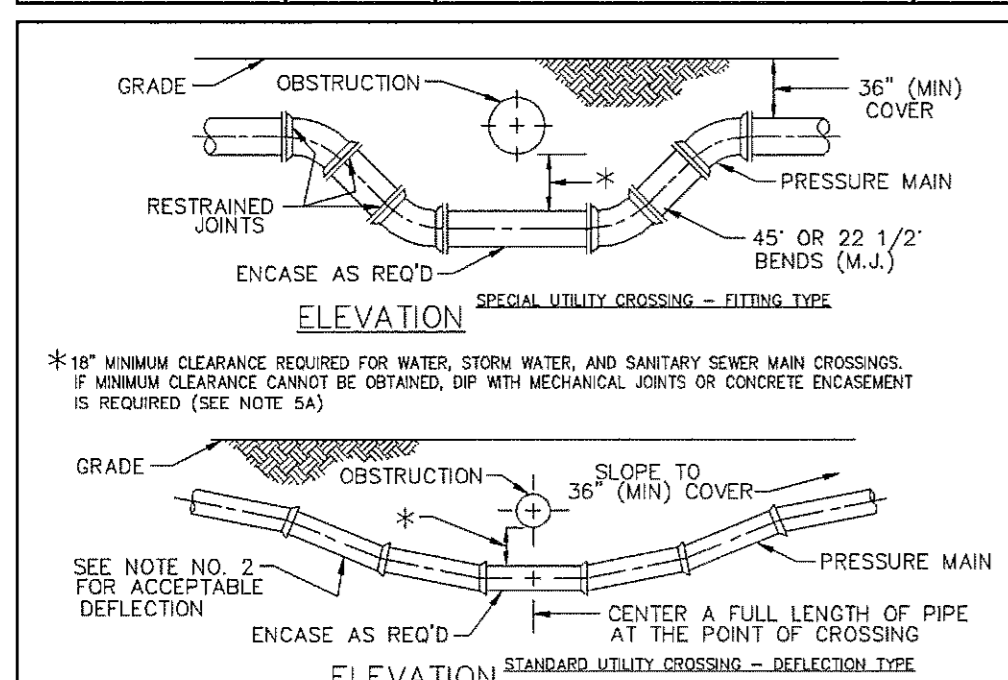
- NOTES**
- WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 - SMELTING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 - COMPACTION PERCENTAGES SHOWN REFER TO ASTM D 1558.
 - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 - TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0".
 - 2" VISE DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED OVER MAIN V. BELOW SURFACE. TAPE TO BE MARKED "CAUTION WATER MAIN BELOW", CAUTION FORCE MAIN BELOW, OR "CAUTION REUSE WATER MAIN BELOW". TRACE WIRE SHALL ALSO BE USED CONTINUOUSLY ON ALL PIPE. (SEE DETAIL M-14).
 - ALL RESTORATION IN EASEMENTS OR RIGHTS OF WAY OR WHEN REQUIRED BY OTHER JURISDICTIONAL AGENCIES SHALL CONFORM TO SPECIFICATIONS OR THE OTHER JURISDICTIONAL AGENCY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
 - ALL PIPE TO BE LOCATED 5' O.C. (TYPICAL) FROM EDGE OF PAVEMENT, PER FOOT INDEX 105.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
TRENCH DETAIL (UNPAVED EASEMENTS)
 DRAWING NO. M-1



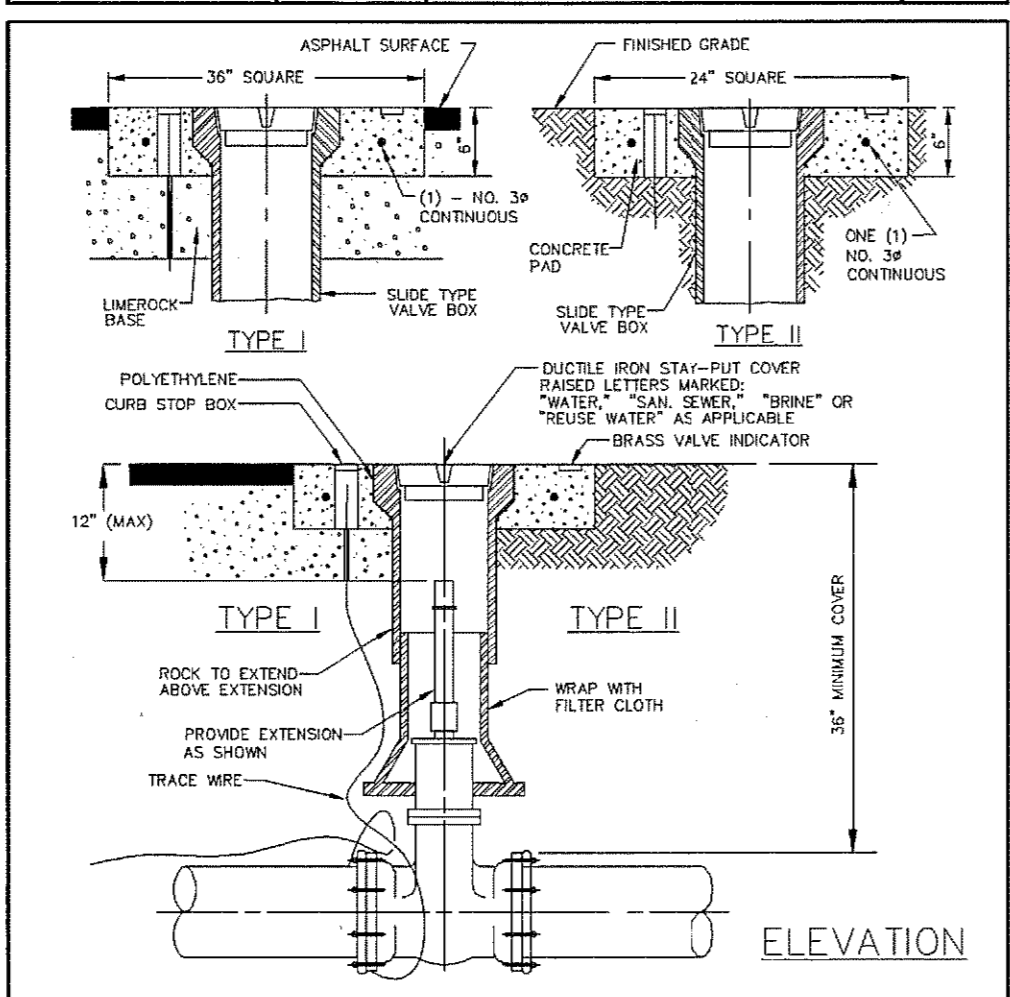
- NOTES**
- WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 - SMELTING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 - NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING MATERIALS AND SHALL HAVE LAPPED AND FEATHERED JOINTS. (1-1/2" MIN. THK.)
 - COMPACTION PERCENTAGES SHOWN REFER TO ASTM D 1558.
 - ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS/POD STANDARDS.
 - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 - TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0".
 - 2" VISE DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED OVER MAIN V. BELOW SURFACE. TAPE TO BE MARKED "CAUTION WATER MAIN BELOW", CAUTION FORCE MAIN BELOW, OR "CAUTION REUSE WATER MAIN BELOW". TRACE WIRE SHALL BE USED CONTINUOUSLY ON ALL PIPE. (SEE DETAIL M-14).
 - 90% COMPACTION IN SHOULDER OF RIGHT OF WAY.
 - ALL PIPE TO BE LOCATED 5' O.C. (TYPICAL) FROM EDGE OF PAVEMENT, PER FOOT INDEX 105.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
TRENCH DETAIL (PAVED AREAS & SHOULDERS)
 DRAWING NO. M-2



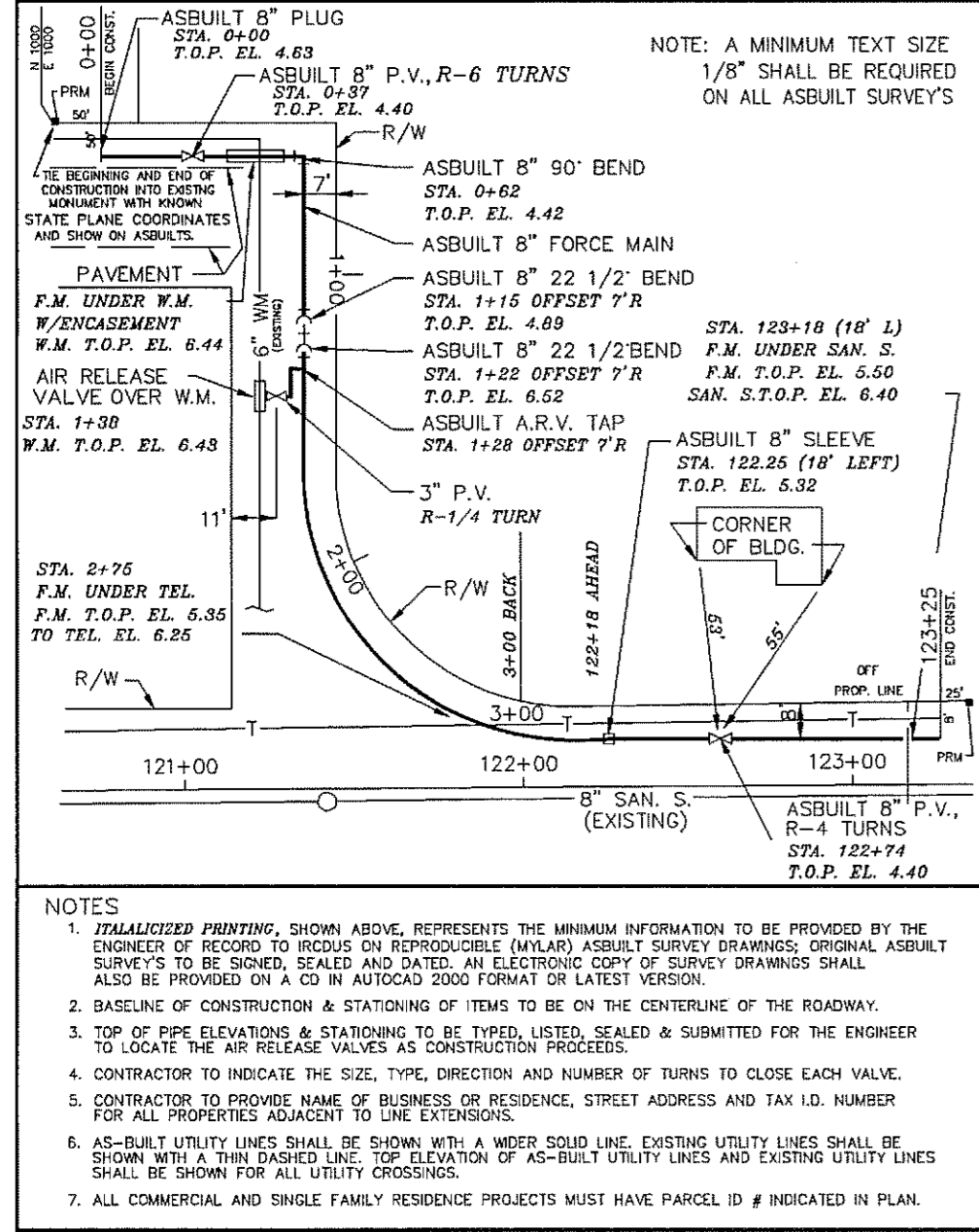
- NOTES**
- THE DEFLECTION TYPE CROSSING SHALL BE USED WHEREVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER AND APPROVED BY IRCDUS SHALL THE FITTING TYPE CROSSING BE ALLOWED.
 - CONSTRUCT STANDARD CROSSING NOT TO EXCEED 75% OF THE MANUFACTURER'S MAXIMUM JOINT DEFLECTION.
 - IF USED, THE ROADS ARE TO BE COATED WITH A COAL TAR ENAMEL AFTER ASSEMBLY. (2 COATS MINIMUM)
 - OTHER METHODS OF RESTRAINT MAY BE USED AS APPROVED BY IRCDUS.
 - USE DIP FOR GRAVITY CLEARANCE WHERE VERTICAL CLEARANCE BETWEEN WATER MAIN AND SEWER IS LESS THAN 18 INCHES. DIP SHALL BE USED FOR GRAVITY SEWER AT WATER LINE CROSSING WITH A LENGTH OF PIPE. THE PIPE SHALL BE CENTERED AT THE POINT OF CROSSING, SO AS TO LOCATE JOINTS AT A POINT OF CROSSING AND TO LOCATE THE JOINTS AT A MAXIMUM DISTANCE FROM THE WATER LINE.
 - ONLY UNDER EXTREME CIRCUMSTANCES MAY MINIMUM HORIZONTAL SEPARATION REQUIREMENTS BE WAIVED AND ENCASUREMENT BE UTILIZED BETWEEN WATER MAINS AND FORCE MAINS.
 - SEE TRACER WIRE DETAIL M-14.
 - ALL WATER AND SEWER UTILITIES SHALL BE LOCATED A MINIMUM HORIZONTAL SEPARATION EQUAL TO THE DEPTH OF THE PIPE PLUS THE DIAMETER OF THE PIPE FROM ANY PERMANENT ABOVE GROUND STRUCTURES (IE WALLS, TRUSSES, TRANSFORMER PADS, ETC.) AND A MINIMUM HORIZONTAL SEPARATION EQUAL TO FOUR (4) FEET FROM ANY UNDERGROUND UTILITIES (IE GAS MAINS, TELEPHONE LINES, CABLE LINES, IRRIGATION MAINS, ETC.)
 - ALL WATER AND SEWER UTILITIES SHALL BE LOCATED A MINIMUM HORIZONTAL SEPARATION EQUAL TO TWO TIMES THE DEPTH OF THE PIPE PLUS THE DIAMETER OF THE PIPE FROM THE TOP OF THE BANKS OF ANY BODIES OF WATER (IE STORMWATER PONDS, CANALS, ETC.)
 - ALL WATER AND SEWER UTILITIES SHALL BE LOCATED SUCH THAT A MINIMUM HORIZONTAL SEPARATION OF 10' EXISTS AS MEASURED FROM THE OUTSIDE WALL OF EACH MAIN.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
UTILITY CROSSINGS
 DRAWING NO. M-4

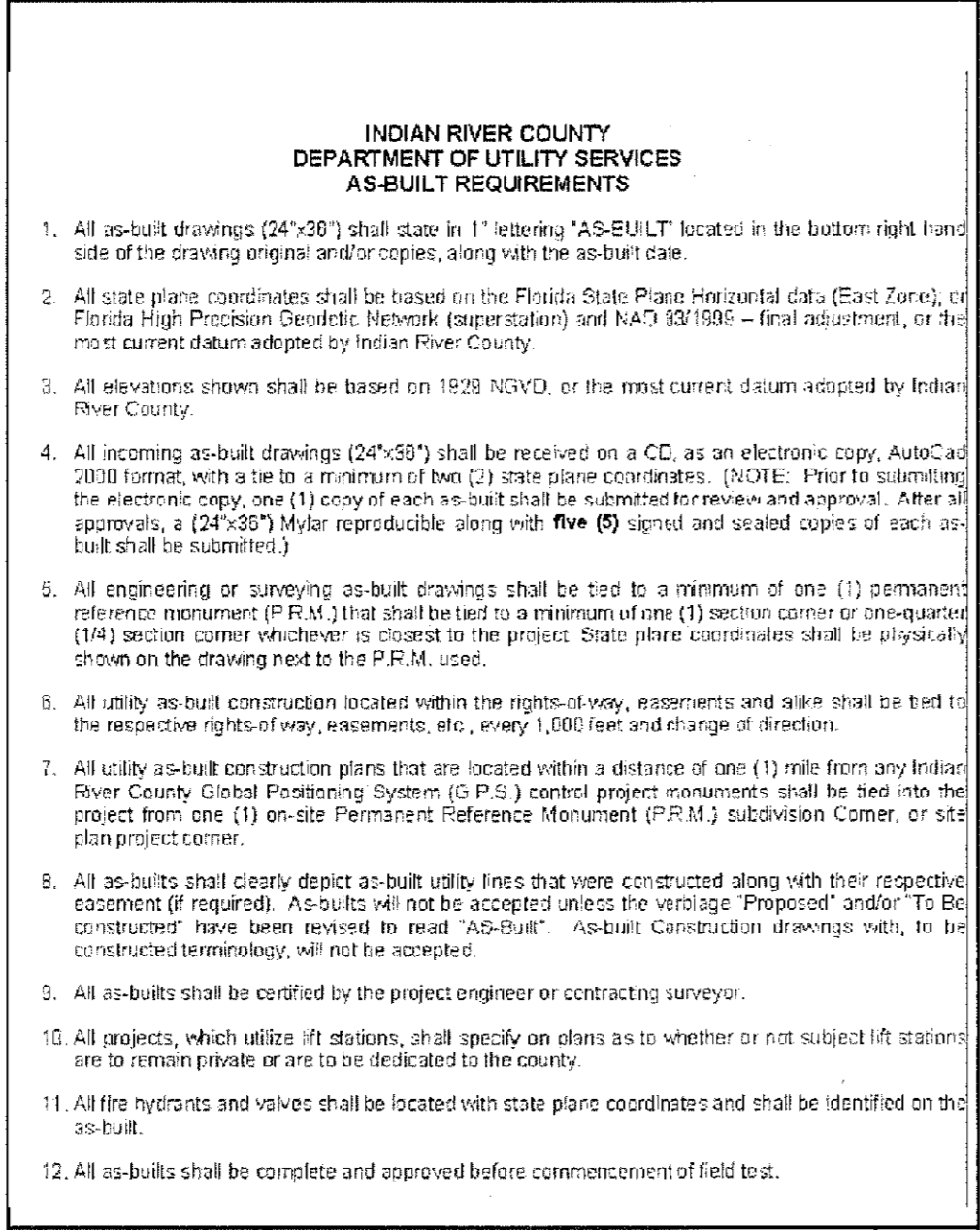


- NOTES**
- ALL VALVE BOLTS SHALL BE STAINLESS STEEL WITH BRASS NUTS
 - PERMANENT LAND MARKERS ARE TO BE USED OVER ALL F.M. VALVES (SEE M-11)
 - ALL VALVES REQUIRE A LAT & LONG IN DEGREES & MINUTES
 - SEE TRACER WIRE DETAIL M-14
 - RPNs ARE TO BE LOCATED IN ROADWAY FOR ALL WATER VALVES. (SEE M-1)
 - REFLECTIVE MARKERS FOR: FIRE HYDRANT (WATER) - BLUE
 WATER MAIN VALVE - WHITE
 FORCE MAIN VALVE - GREEN
 REUSE MAIN VALVE - PURPLE
 BRINE - ORANGE

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
VALVE AND BOX
 DRAWING NO. M-5



INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
AS-BUILT DRAWING (EXAMPLE)
 DRAWING NO. M-15

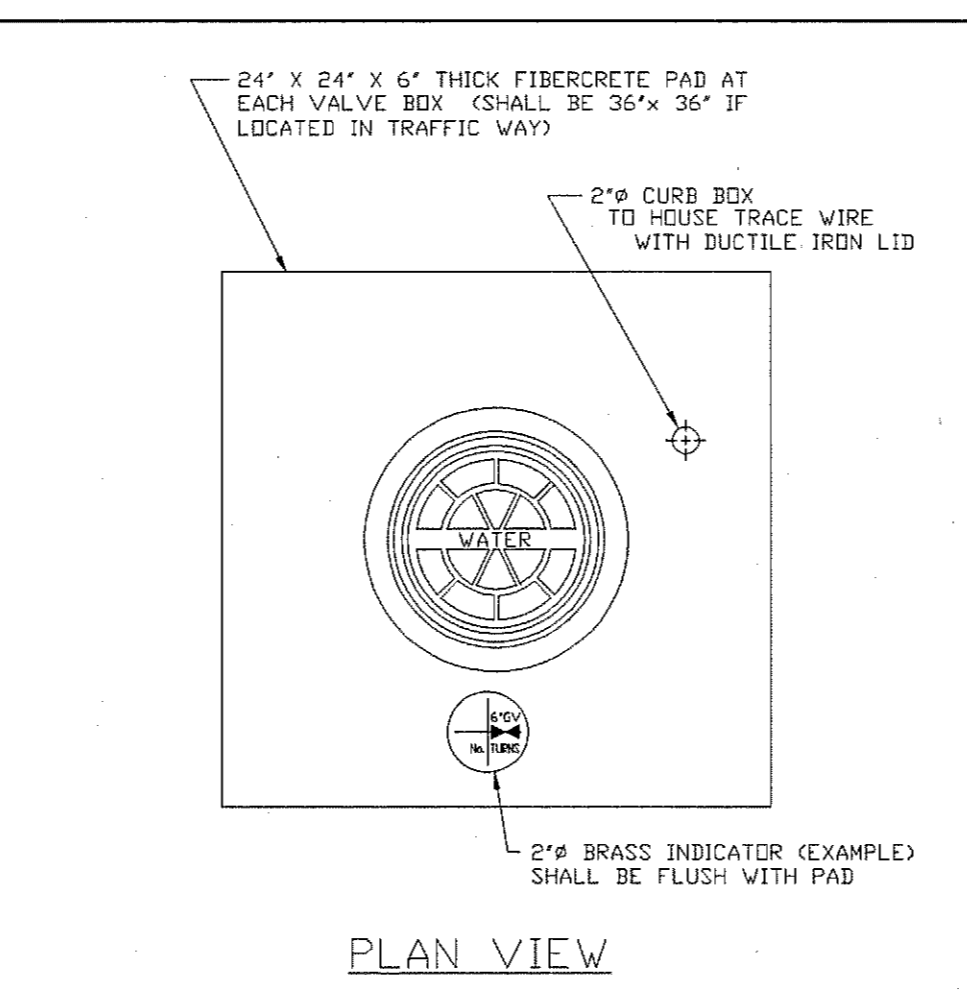


INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
AS-BUILT REQUIREMENTS
 DRAWING NO. M-16

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
SCHEDULE AND NOTES
 DRAWING NO. M-3

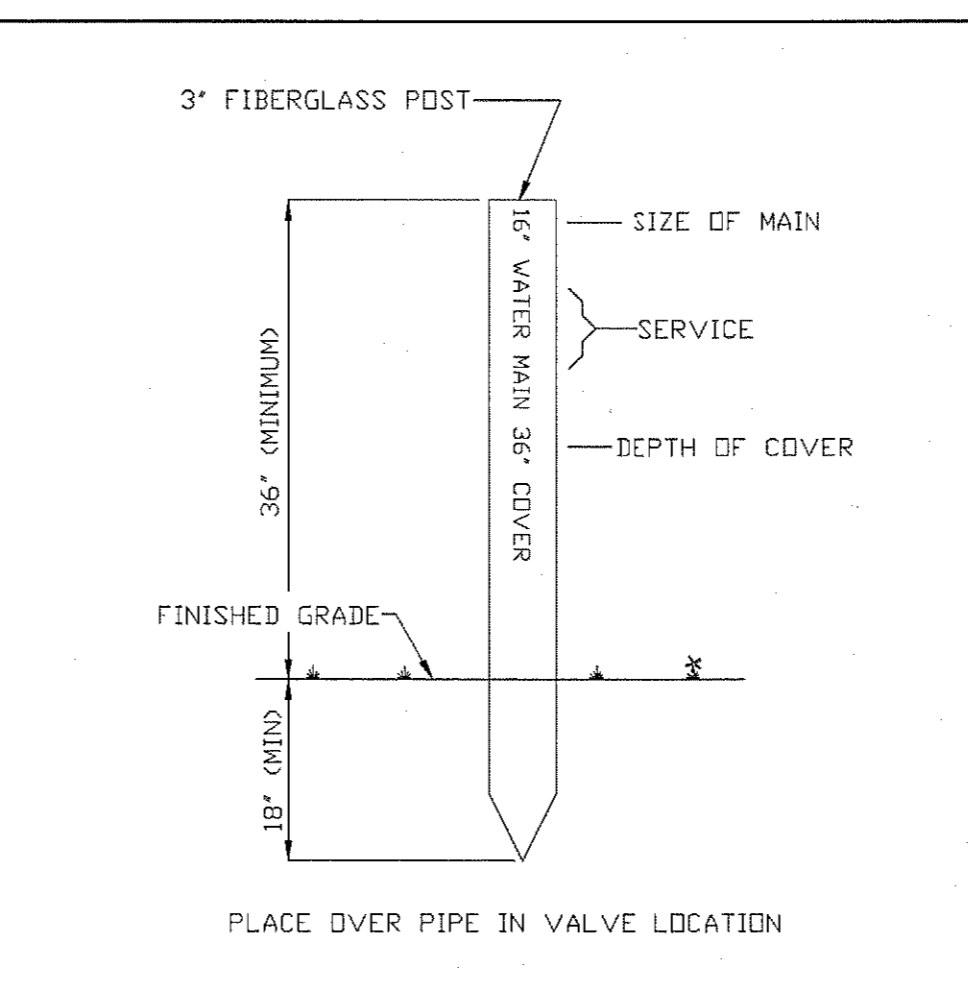
PIPE DIAMETER (INCHES)	RESTRAINED LENGTH IN FEET EACH SIDE OF						RESTRAINED LENGTH IN FEET FOR REDUCER											
	D. I. P.	P. V. C. OF	PIPE DIAMETER (INCHES)															
3"	90"	45"	22 1/2"	11 1/4"	90"	45"	22 1/2"	11 1/4"	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
4"	35'	15'	10'	5'	40'	20'	10'	5'	6"	0	0	0	0	0	0	0	0	0
6"	55'	25'	10'	5'	60'	30'	15'	10'	6"	50'	40'	0	0	0	0	0	0	0
8"	65'	30'	10'	5'	70'	35'	15'	10'	6"	75'	70'	40'	0	0	0	0	0	0
10"	80'	35'	10'	5'	85'	40'	15'	10'	10"	95'	90'	40'	0	0	0	0	0	0
12"	95'	40'	10'	5'	100'	50'	15'	10'	12"	120'	110'	40'	0	0	0	0	0	0
16"	120'	50'	15'	10'	130'	60'	15'	10'	16"	160'	150'	40'	0	0	0	0	0	0
20"	150'	65'	15'	10'	160'	80'	15'	10'	20"	200'	195'	40'	0	0	0	0	0	0
24"	180'	75'	15'	10'	210'	90'	15'	10'	24"	240'	230'	40'	0	0	0	0	0	0
30"	190'	80'	15'	10'	230'	100'	15'	10'	30"	250'	240'	40'	0	0	0	0	0	0
36"	220'	95'	15'	10'	260'	115'	15'	10'	36"	270'	260'	40'	0	0	0	0	0	0
42"	245'	105'	15'	10'	290'	130'	15'	10'	42"	295'	285'	40'	0	0	0	0	0	0
48"	260'	120'	15'	10'	310'	140'	15'	10'	48"	320'	310'	40'	0	0	0	0	0	0

RESTRAINED LENGTHS FOR DEAD ENDS AND BRANCHES FROM TEES SHALL BE THE SAME AS FOR 90° BENDS



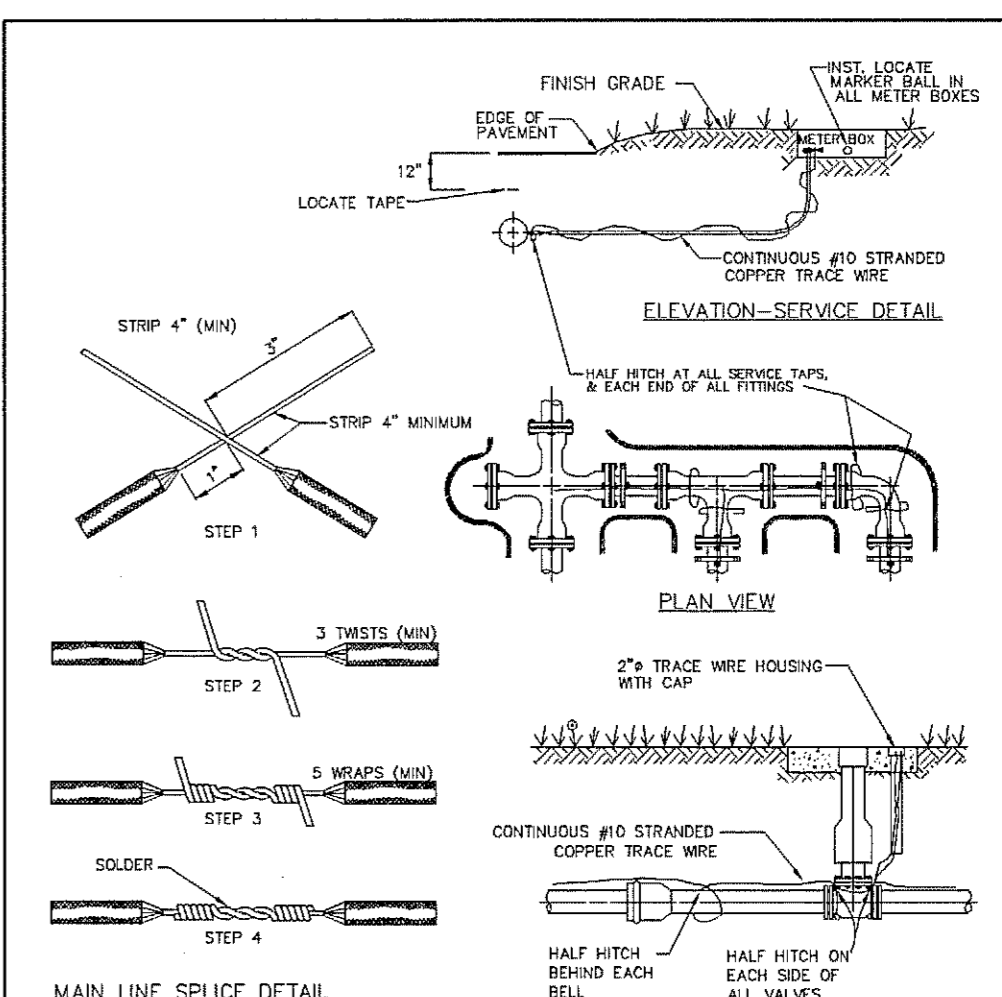
- NOTES**
- VALVE BOX LID SHALL BE PAINTED: BLUE - WATER
 GREEN - FORCE MAINS
 PURPLE - REUSE WATER
 BRINE - ORANGE
 - BRASS VALVE INDICATOR TO BE PROVIDED WITH ENGRAVED DIAGRAM OF VALVE LOCATION AND DESCRIPTION. (SEE EXAMPLE) INDICATOR SHALL BE FLUSH WITH PAD.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
VALVE BOX PAD
 DRAWING NO. M-6



- NOTES**
- MARKER TO BE PLACED DIRECTLY OVER PIPE.
 - MARKER TO BE USED AT ALL CANAL CROSSING AND AS DIRECTED BY IRCDUS.
 - MARKER TO BE USED OVER WATER MAIN VALVES, FORCE MAIN VALVES AND RE-USE MAIN VALVES.
 - ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCTS LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
PERMANENT LAND MARKER
 DRAWING NO. M-9



- NOTES**
- TRACE WIRE IS REQUIRED ON ALL PIPES.
 - INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.
 - CONTRACTOR RESPONSIBLE FOR CONTINUITY THROUGHOUT ENTIRE PROJECT OF ALL TRACE WIRE.
 - ALL SPLICED CONNECTIONS ARE TO BE HOT SOLDERED (50/50 RESIN DOPED). WRAP W/3 ALTERNATING LAYERS TAPE. COVER WITH WATERPROOFING COMPOUND AND HEAT SHRINK WRAP.
 - ALL SOLDER JOINTS WILL BE WATERPROOFED WITH HEAT SHRINK WRAP.
 - ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
TRACE WIRE DETAILS
 DRAWING NO. M-14

- INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
CONSTRUCTION/ROUTE SURVEY REQUIREMENTS
 DRAWING NO. M-16 (A)
- All Construction and/or Route surveys shall meet the minimum requirements of the Chapter 61G67, Florida Administration Code Pursuant to section 472 of the Florida Statutes.
 - All state plane coordinates shall be based on the Florida State Plane Horizontal data (East Zone) or Florida High Precision Geodetic Network (superstation) and NAD 83/1999 - final adjustment, or the most current datum adopted by Indian River County.
 - All elevations shown shall be based on 1929 NGVD, or the most current datum adopted by Indian River County.
 - All incoming route construction survey drawings shall be received on a CD, as an electronic copy, AutoCad 2000 format, with a file to a minimum of two (2) state plane coordinates. (NOTE: Prior to submitting the electronic copy, one (1) copy of each sheet shall be submitted for review and approval. After all approvals, a (24"x36") Mylar reproducible along with five (5) signed and sealed copies of each as-built shall be submitted.
 - All engineering or surveying as-built drawings shall be tied to a minimum of one (1) permanent reference monument (P.R.M.) that shall be tied to a minimum of one (1) section corner or one-quarter (1/4) section corner whichever is closest to the project. State plane coordinates shall be physically shown on the drawing next to the P.R.M. used.
 - All utility as-built construction plans that are located within a distance of one (1) mile from any Indian River County Global Positioning System (GPS) control project monuments shall be tied into the project from one (1) on-site Permanent Reference Monument (P.R.M.) subdivision corner, or site plan project corner.
 - All as-built shall clearly depict as-built utility lines that were constructed along with their respective easement (if required). As-builts will not be accepted unless the language "Proposed" and/or "To Be Constructed" have been revised to read "AS-BUILT". As-built construction drawings will, to be constructed hereafter, will not be required.
 - All as-builts shall be certified by the project engineer or contracting surveyor.
 - All projects, which utilize "VI" stations, shall specify on plans as to whether or not subject lift stations are to remain private or to be dedicated to the county.
 - All fire hydrants and valves shall be located with state plane coordinates and shall be identified on the as-built.
 - All as-builts shall be complete and approved before commencement of field to set.

- INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES
GENERAL INFORMATION TO BE SHOWN ON AS-BUILT AND SURVEY DRAWINGS
 DRAWING NO. M-17 (B)
- Existing right-of-way limits and/or easements within the limits of construction.
 - Survey baseline stationing every 100' control points set every 50', and at angle change of direction.
 - Show cross section elevations at grade every 100' for gravity sewer line construction and 500' for water line and force main construction. Elevations that reflect any significant change in grade between the continuously stated footage shall be shown on plans.
 - Existing parcels, tracts, and lot corner locations shown with front footage dimensions per plat when platting. If construction project is along back of lots, then show back lot dimensions.
 - EXISTING ROADWAY EDGE OF PAVEMENT OR EDGE OF DIRT ROAD.
 - Existing utilities as located in field (water, sewer, telephone, electric, cable TV, etc.). (NOTE: Sunshine One to be contacted by surveying firm prior to survey locate, with the intent of county excavation.)
 - Existing utilities as associated with number 5 above (example: valves, meters, manholes, etc.)
 - Existing curbs, driveway widths and types.
 - Existing drainage pipe crossings and driveway culverts (type, sizes and invert elevations.)
 - Existing fences.
 - Existing trees and/or shrubbery.
 - All other non-movable items such as manholes, flag poles, etc.
 - All street names.

REVISIONS	BY
1	IRCDUS
2	IRCDUS
3	IRCDUS
4	IRCDUS
5	IRCDUS
6	IRCDUS
7	IRCDUS
8	IRCDUS
9	IRCDUS
10	IRCDUS

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

Dyer, Riddle, Mills, & Pricout, Inc.
 IF THIS BAR DOES NOT MEASURE TO THIS COPY OF THIS DOCUMENT IS NOT TO SCALE
 JOHN CUCKELLY, P.E.
 FLORIDA P.E. #44011

ABC LIQUORS, INC.
 8895 S. ORANGE AVE. - ORLANDO, FLA. 32824
ABC FINE WINE & SPIRITS STORE NO. 43
 5905 20th STREET, VERO BEACH, FLORIDA, 32966

DRAWN: OKS
 CHECKED: JCK
 DATE: AUGUST, 2009
 SCALE: AS NOTED
 JOB No: 04-0284.000
 SHEET: 13 OF 21
 C13

\\Vol-cluater01\Projects\Projects\09-0289.000_ABC_Store_#43_Web_Vero\General-Civil\39-05-Plans\C13_43_IRCDUS-DET.dwg
 Plotted: Oct 22, 2009 1:35:59pm by csmth
 C13_43_IRCDUS-DET.dwg