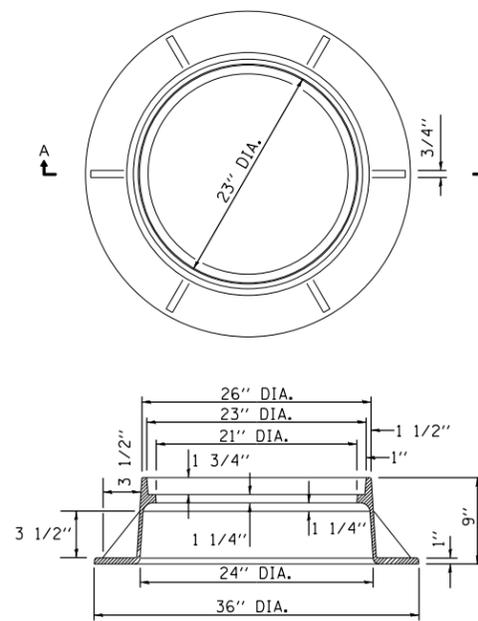


- NOTES:
- ADJUSTMENTS SHALL NOT EXCEED 12" USING ADJUSTMENT RINGS.
 - PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C478.

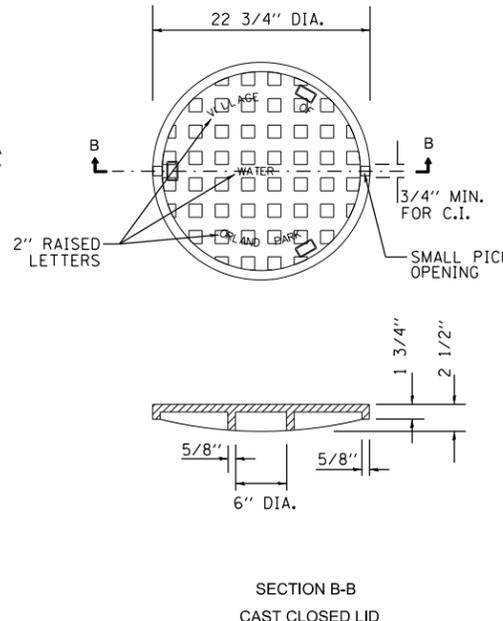
WATER MAIN VALVE VAULT



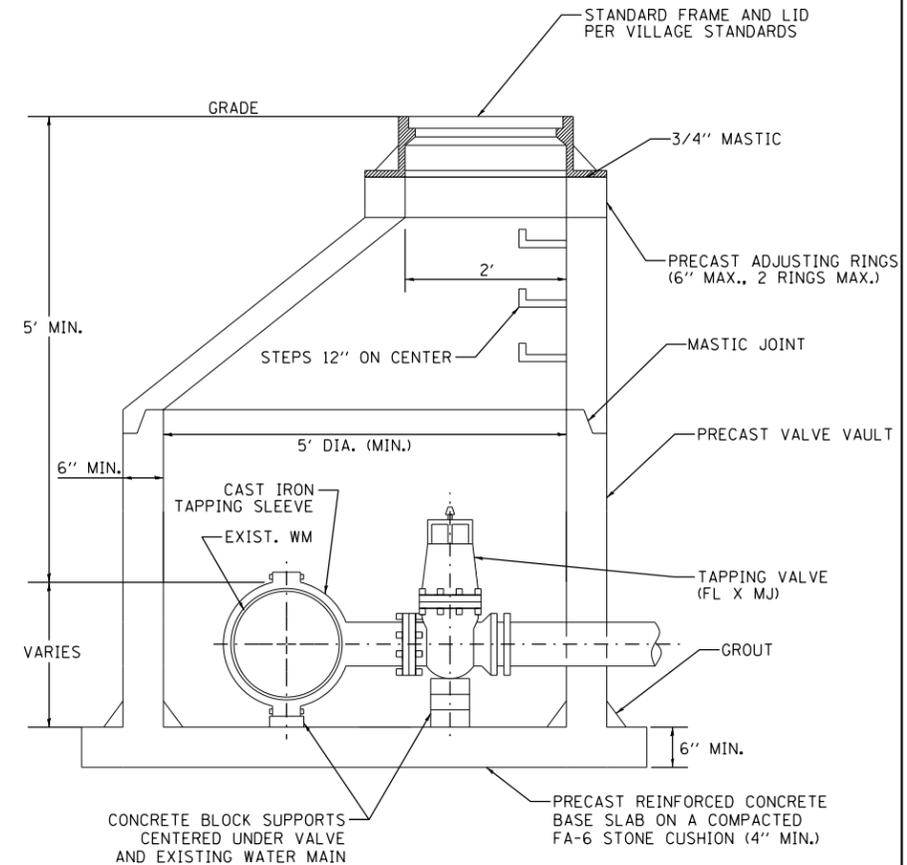
**SECTION A-A
CAST FRAME**
WT. = 330 LBS.

- DUCTILE IRON CASTINGS SHALL BE GRADE 60-40-18 & SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
- ALL LIDS AND COVERS SHALL BE MACHINED
- THE MANHOLE COVERS SHALL HAVE RAISED LETTERS AS SHOWN.
- ALTERNATIVE TO DUCTILE IRON LID, GRAY IRON LID MAY BE USED
- MINIMUM WEIGHTS FOR CASTINGS AS SHOWN
- CASTINGS SHALL BE EAST JORDAN IRON WORKS 105021 FRAME & 1020A COVER.

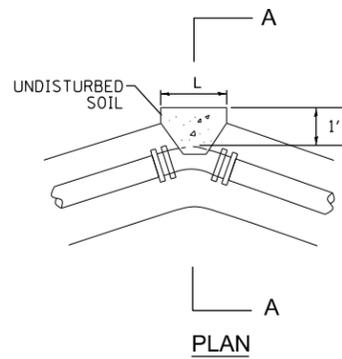
VALVE VAULT FRAME AND COVER



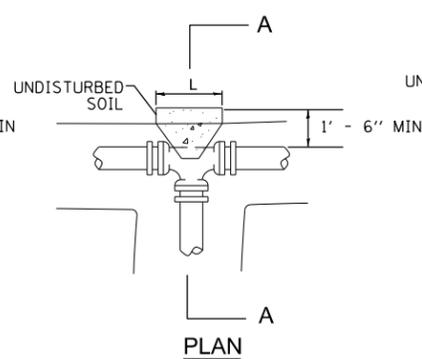
**SECTION B-B
CAST CLOSED LID**



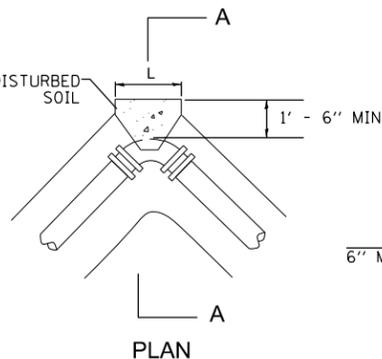
PRESSURE CONNECTION



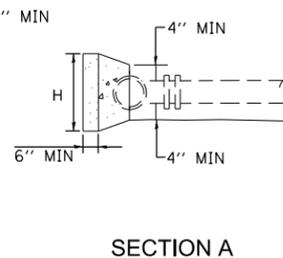
PLAN



PLAN



PLAN



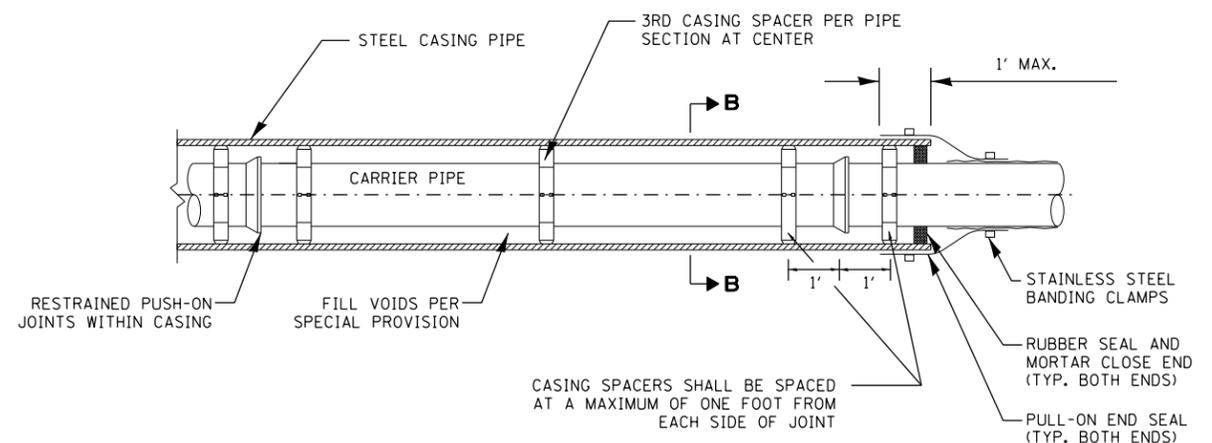
SECTION A

CONCRETE THRUST BLOCK DIMENSIONS										
PIPE SIZE	11-15° BEND		22-30° BEND		45°-BEND		90°-BEND		TEE & PLUG	
	H	L	H	L	H	L	H	L	H	L
< 8"	1'-6"	1'-6"	2'-0"	2'-6"	2'-6"	3'-0"	3'-6"	4'-0"	3'-0"	3'-6"
< 12"	1'-6"	2'-0"	2'-3"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	3'-6"	4'-0"
< 16"	2'-0"	2'-0"	2'-6"	3'-0"	4'-0"	4'-6"	5'-0"	6'-0"	4'-6"	5'-6"

WATER MAIN THRUST BLOCKS

THRUST BLOCK NOTES:

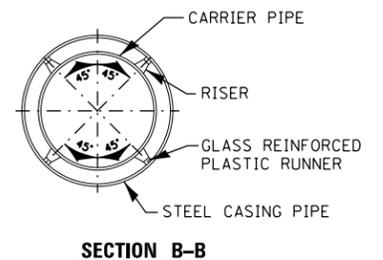
- ALL BLOCKING SHALL BE CONSTRUCTED WITH POURED CL. X CONCRETE AGAINST UNDISTURBED VERTICAL EARTH FACE WITH A MINIMUM WIDTH OF 12 INCHES.
- THRUST BLOCKS MUST BE USED AT ALL BENDS 11° DEGREES OR GREATER. RESTRAINED JOINT PIPE MAY BE USED AS AN ALTERNATIVE TO CONCRETE THRUST BLOCKS WHEN APPROVED BY THE ENGINEER. THE CONTRACTOR MUST SUBMIT RESTRAINED JOINT LENGTHS WITH CALCULATIONS WHERE RESTRAINED JOINT PIPE IS TO BE USED. THE CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF ILLINOIS.
- ALL PIPE PLACED UNDER PAVED ROADWAY MUST BE RESTRAINED JOINT PIPE. TRUST BLOCKING SHALL NOT BE REQUIRED IN THESE AREAS.
- TEST PRESSURE SHALL BE 150 PSI.



CASING PIPE DETAIL

BORING AND JACKING NOTES:

- JACKING AND BORING OPERATIONS AND CASING PIPE SHALL MEET THE REQUIREMENTS OF THE PROJECT SPECIAL PROVISIONS.
- ACCESS PITS SHALL BE LOCATED A MINIMUM 10 FEET FROM THE ROADWAY EDGE OF PAVEMENT AND BE LOCATED OUTSIDE OF THE I.D.O.T. HIGHWAY RIGHT-OF-WAY.
- SHORING SHALL BE INSTALLED IMMEDIATELY DURING THE EXCAVATION OF ACCESS PITS AND SHALL CONFORM TO OSHA STANDARDS FOR TRENCH PROTECTION.
- SHORING SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED, AND MAINTAINED SUCH THAT IT WILL SAFELY SUPPORT ALL VERTICAL AND HORIZONTAL LOADS DURING CONSTRUCTION OPERATIONS.
- OPEN ACCESS PITS SHALL BE CLEARLY MARKED AND REMAIN PROTECTED WITH TEMPORARY CONCRETE BARRIERS AT ALL TIMES.
- BACKFILL ACCESS PITS WITH CA-6 AND COMPACT.



SECTION B-B

FILE NAME = D160M61-SHT-WATER20.dgn	USER NAME = Anthony.Plutz	DESIGNED - DF	REVISED -
SHT.PLAN	PLOT SCALE = 48.0000' / in.	DRAWN - DF	REVISED -
	PLOT DATE = 3/14/2013	CHECKED - TDW	REVISED -
		DATE - 03/13/2013	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	103R-4	COOK	877	251
WT-20		CONTRACT NO. 60M61		
ILLINOIS FED. AID PROJECT				