

CITY OF KINGMAN UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION

(INCLUDES REVISIONS THROUGH 2012)

CITY OF KINGMAN
ENGINEERING DEPARTMENT
310 NORTH 4TH STREET
KINGMAN, AZ 86401
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www.cityofkingman.gov

100 SERIES: GENERAL INFORMATION

DETAIL	REVISED	TITLE
110	1996	STANDARD PLAN SYMBOLS
120	1995	STANDARD UTILITY LOCATIONS (LOCAL STREET)
121	1995	STANDARD UTILITY LOCATIONS (COLLECTOR STREET)
122	1995	STANDARD UTILITY LOCATIONS (RURAL STREET)
123	2004	STANDARD UTILITY SERVICE LOCATIONS (WITHIN THE RIGHT OF WAY)
124-1	2012	CASING INSTALLATION
124-2	2010	JACK AND BORE
160	2010	6' CHAIN LINK FENCE AND GATE

200 SERIES: STREET INFORMATION

DETAIL	REVISED	TITLE
200-1	2012	BACKFILL, PAVEMENT AND SURFACE REPLACEMENT
203	2010	STEEL PLATE SCUPPER
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230	2012	SIDEWALKS
235	2012	SIDEWALK RAMPS - TYPE 'E'
236	2012	SIDEWALK RAMPS - TYPE 'F'
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251	2012	RURAL TYPE DRIVEWAYS

300 SERIES: WATER INFORMATION

DETAIL	REVISED	TITLE
301	2010	BLOCKING FOR WATER GATE AND BUTTERFLY VALVES
310	2010	CAST IRON WATER METER BOX COVER NO. 1
311	2010	CAST IRON WATER METER BOX COVER NO. 2
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314	2010	CAST IRON WATER METER BOX COVER NO. 5
320	2012	CONCRETE METER BOXES
321	2012	3",4" WATER METER VAULT
322	2012	6" WATER METER VAULT
340	2012	INSTALLING TAPPING SLEEVES AND VALVES 3" AND LARGER
344-1	2012	1" - 2" WATER SERVICE INSTALLATION
344-2	1996	WATER SERVICE REPLACEMENT
344-3	2010	DOUBLE WATER SERVICE
345-1	2012	3",4",6" WATER METER
345-2	2012	3",4",6" WATER METER WITH ON-SITE FIRE HYDRANTS

300 SERIES: WATER INFORMATION (CONT.)

DETAIL	REVISED	TITLE
346	2010	FIRE LINE DETECTOR CHECK VAULT
347	2012	6" & 8" PRESSURE REDUCING VALVE ASSEMBLY
348	2012	PRECAST PRV OR CHECKVALVE VAULT
349	1996	PRESSURE VACUUM BREAKER ASSEMBLY (2" OR LESS)
350	2012	DOUBLE CHECK BACKFLOW ASSEMBLY (3/4" TO 2")
351	2012	DOUBLE CHECK AND DOUBLE DETECTOR CHECK BACKFLOW ASSEMBLY (3" TO 10")
352	2012	REDUCED PRESSURE BACKFLOW ASSEMBLY (3/4" TO 2")
353	1996	REDUCED PRESSURE BACKFLOW ASSEMBLY (3" TO 10")
360	2012	FIRE HYDRANT INSTALLATION
363	2010	REMOTE FIRE DEPT. CONNECTION
364	2010	UNDERGROUND STUB UP DETAIL WITH REMOTE FDC.
365	2010	FIRE SPRINKLER RISER DETAIL WITH WALLMOUNT FDC.
387	2012	2" BLOWOFF ASSEMBLY
388	2012	AIR RELEASE VALVE
390	2012	FLUSHING PIPE
391-1	2012	VALVE BOX INSTALLATION
391-2	2010	VALVE BOX OPERATOR EXT. ASSEMBLY
392	2012	WATER LINE TRENCH AND BACKFILL

400 SERIES: SEWER INFORMATION

DETAIL	REVISED	TITLE
400	2012	SEWER LINE TRENCH AND BACKFILL
404-1	2012	WATER AND SANITARY SEWER SEPARATION / PROTECTION
420-1	2012	PRECAST CONCRETE SEWER MANHOLE
422	2012	SEWER MANHOLE AND COVER FRAME ADJUSTMENT
427	2010	STUB OUT AND PLUGS
430	2010	SHALLOW MANHOLE
431	2010	CONNECTION TO EXISTING MANHOLE
432	2010	PRESSURE MAIN CONNECTION EXISTING MANHOLE
440-4	2010	SERVICE CURB CROSSING MARK DETAIL
442	2012	SEWER SERVICE TAP TO EXISTING MAIN
443	2010	SEWER PIPE COUPLING DETAIL

DETAIL NO.	STANDARD DETAIL	INDEX	CITY OF KINGMAN	N.T.S. DETAIL NO.
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CONCRETE SECTION	
SUBGRADE SEAL SECTION	
SELECT MATERIAL SECTION	
AGGREGATE BASE SECTION	
BITUMINOUS PAVEMENT SECTION	
EXISTING GROUND SECTION	
EXISTING PAVEMENT	
OBLITERATE PAVEMENT	
PROPERTY LINE	
SECTION LINE	
CENTER LINE	
EXISTING RIGHT OF WAY	
PROPOSED RIGHT OF WAY	
EXISTING WATER LINE	
EXIST. TELEPHONE LINE	
EXISTING SEWER LINE	
EXISTING GAS LINE	
EXISTING STORM DRAIN	
EXISTING IRRIGATION LINE	
EXISTING ELECTRIC LINE	
EXISTING TV CABLE	
RAILROAD	
OR	
EXIST. WASH FLOW LINE	
BARBED WIRE FENCE W/GATE	
CHAIN LINK FENCE W/GATE	
WOODEN FENCE W/GATE	
GUARD RAIL	
BENCHMARK (DESCRIBE)	
SURVEY MONUMENT (DESCRIBE)	

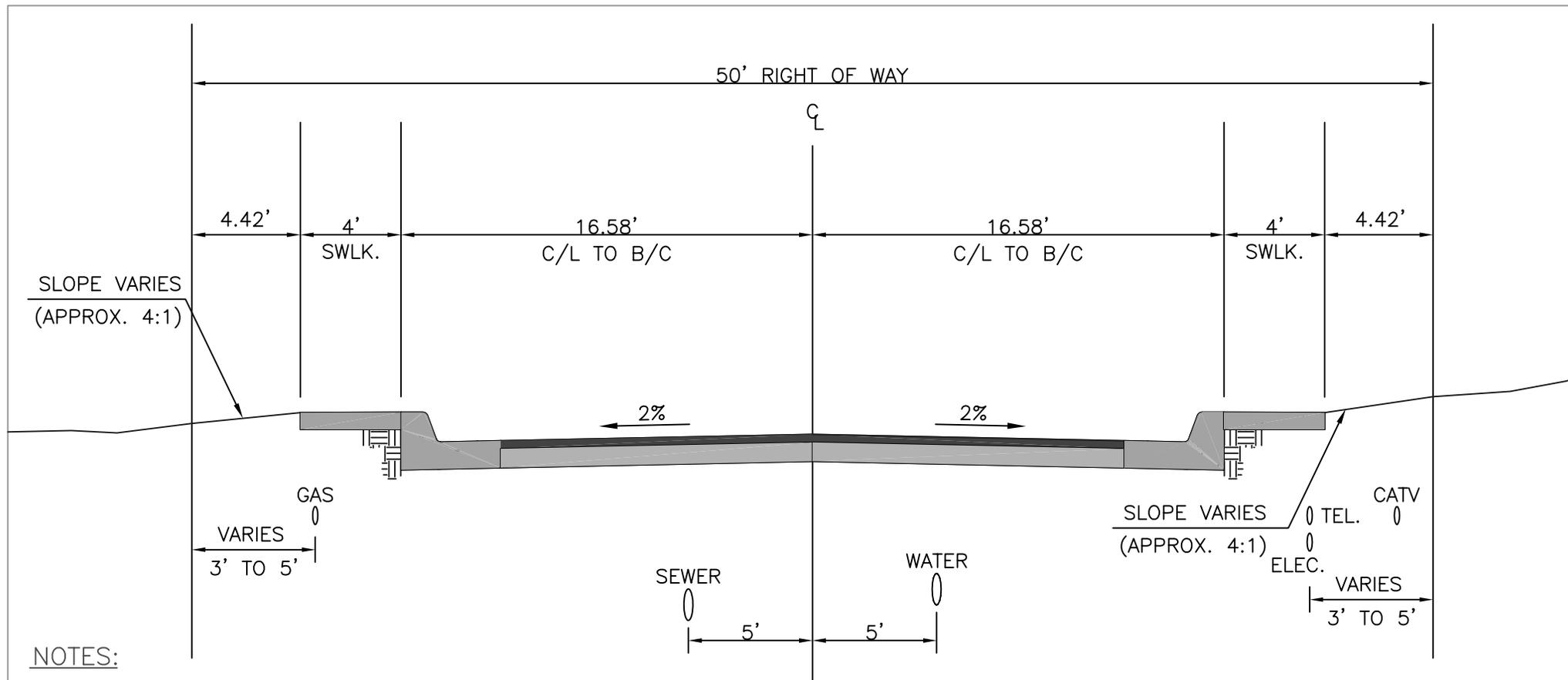
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
EXISTING WATER METER	
PROPOSED WATER METER	
EXISTING WATER VALVE	
PROPOSED WATER VALVE	
GAS METER	
MANHOLE (LABEL TYPE)	
SEWER CLEANOUT	
STANDPIPE	
TELEPHONE PEDESTAL	
TELEVISION PEDESTAL	
POWER POLE	
DOWN GUY & ANCHOR	
STREET LIGHT	
STREET SIGN	
SIGN, SINGLE POST	
SIGN, DOUBLE POST	
MAILBOX	
TRAFFIC SIGNAL	
OR	
ELECTRIC JUNCTION BOX	
BLOCK WALL	

	OR	
	OR	

NOTES

1. EXISTING FEATURES SHOULD BE SHOWN WITH LIGHT, DASHED LINES.
2. PROPOSED FEATURES SHOULD BE SHOWN WITH HEAVIER, SOLID LINES.
3. WHEN SYMBOLS USED ON THE PLANS ARE DIFFERENT THAN THOSE SHOWN ON THIS DETAIL, A LEGEND SHALL BE INCLUDED ON THE PLANS, TO CLARIFY THE SYMBOLISM USED.

DETAIL NO. 110	STANDARD DETAIL	STANDARD PLAN SYMBOLS	CITY OF KINGMAN	N.T.S. DETAIL NO. 110
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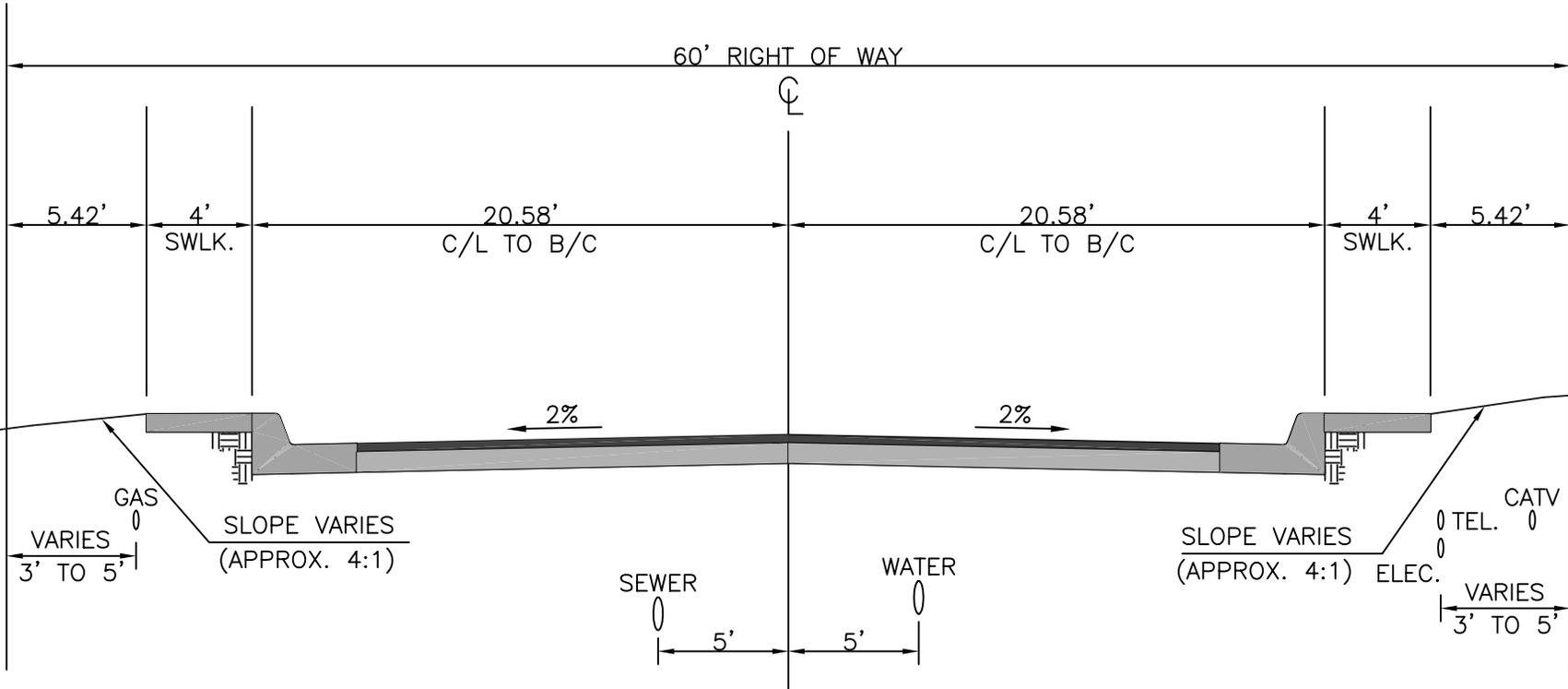


NOTES:

1. MINIMUM COVER OVER WATER LINES SHALL BE PER CITY STANDARD DETAIL NO. 392, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. MINIMUM COVER OVER SEWER LINES SHALL BE PER CITY STANDARD DETAIL NO. 400, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
3. MINIMUM COVER OVER OTHER UTILITIES SHALL BE AS REQUIRED AND APPROVED BY THE RESPECTIVE UTILITY OWNER.

TYPICAL LOCAL STREET
 LOOKING NORTH AND WEST
 (FOR NEW SUBDIVISIONS AND UNIMPROVED RIGHT OF WAY)

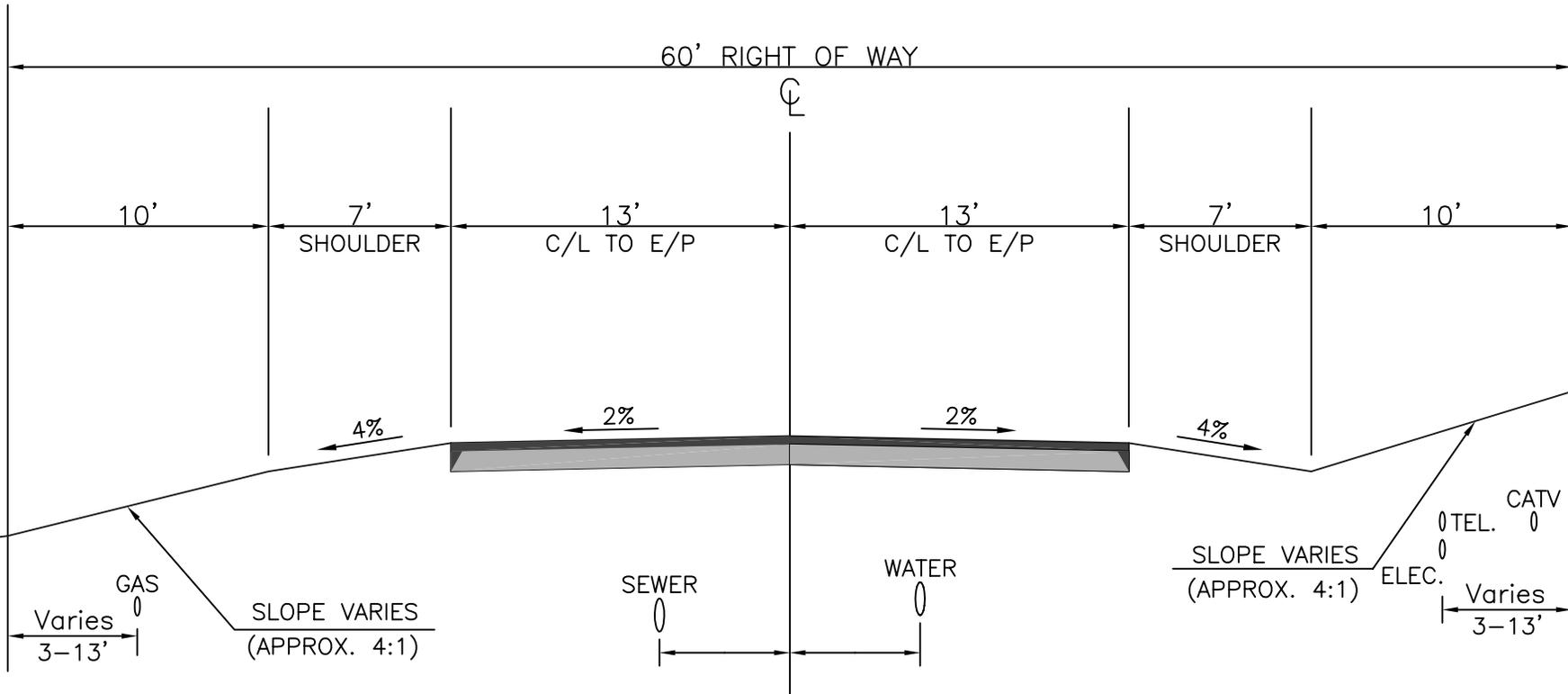
DETAIL NO. 120	STANDARD DETAIL	STANDARD UTILITY LOCATIONS LOCAL STREET	CITY OF KINGMAN	N.T.S. DETAIL NO. 120
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- NOTES:**
1. MINIMUM COVER OVER WATER LINES SHALL BE PER CITY STANDARD DETAIL NO. 392, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 2. MINIMUM COVER OVER SEWER LINES SHALL BE PER CITY STANDARD DETAIL NO. 400, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 3. MINIMUM COVER OVER OTHER UTILITIES SHALL BE AS REQUIRED AND APPROVED BY THE RESPECTIVE UTILITY OWNER.

TYPICAL COLLECTOR STREET
 LOOKING NORTH AND WEST
 (FOR NEW SUBDIVISIONS AND UNIMPROVED RIGHT OF WAY)

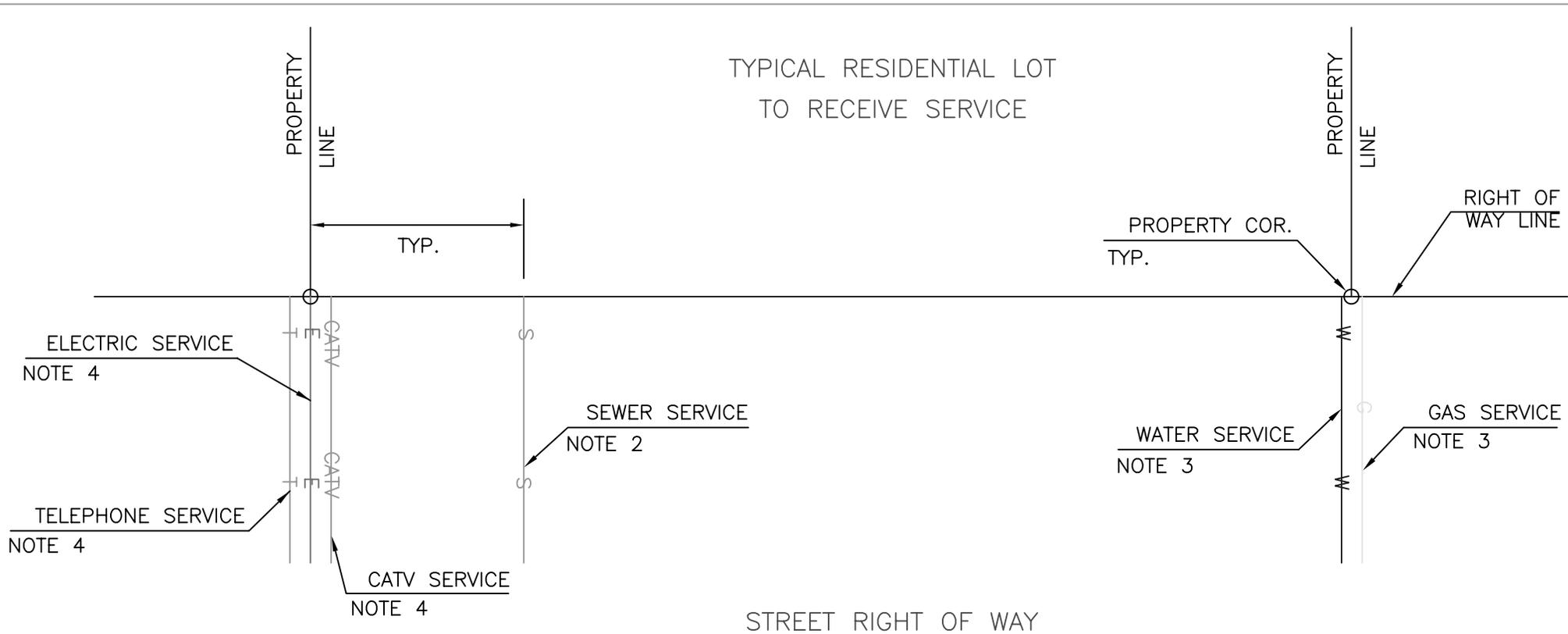
DETAIL NO. 121	STANDARD DETAIL	STANDARD UTILITY LOCATIONS COLLECTOR STREET	CITY OF KINGMAN	N.T.S. DETAIL NO. 121
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- NOTES:**
1. MINIMUM COVER OVER WATER LINES SHALL BE PER CITY STANDARD DETAIL NO. 392, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 2. MINIMUM COVER OVER SEWER LINES SHALL BE PER CITY STANDARD DETAIL NO. 400, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 3. MINIMUM COVER OVER OTHER UTILITIES SHALL BE AS REQUIRED AND APPROVED BY THE RESPECTIVE UTILITY OWNER.

TYPICAL RURAL STREET
 LOOKING NORTH AND WEST
 (FOR NEW SUBDIVISIONS AND UNIMPROVED RIGHT OF WAY)

DETAIL NO. 122	STANDARD DETAIL	STANDARD UTILITY LOCATIONS RURAL STREET	CITY OF KINGMAN	N.T.S. DETAIL NO. 122
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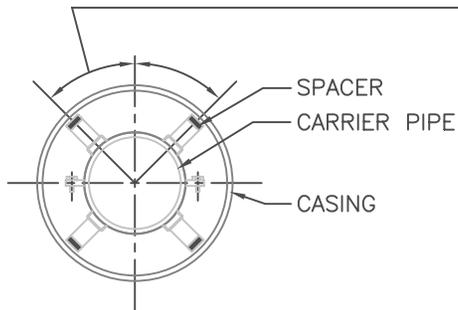


NOTES:

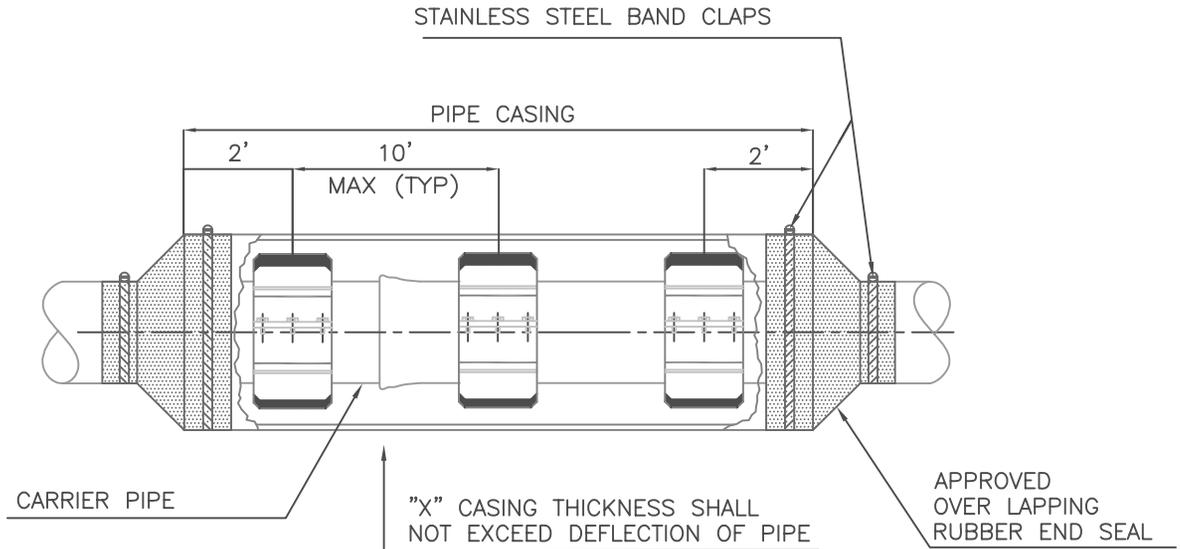
1. SEE CITY STANDARD DETAILS 120-122 FOR LOCATIONS OF UTILITY MAINS WITHIN THE RIGHT OF WAY.
2. SEWER SERVICES SHALL BE LOCATED 10' FROM THE LOWEST PROPERTY CORNER, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
3. MINIMUM SEPARATION FOR WATER & GAS SERVICE LINES SHALL BE 12 INCHES UNLESS OTHERWISE AGREED BY EACH RESPECTIVE UTILITY OWNER.
4. MINIMUM SEPARATION FOR ELECTRIC, PHONE & CABLE TV SERVICE LINES SHALL BE AS REQUIRED BY EACH RESPECTIVE UTILITY OWNER.

DETAIL NO. 123	STANDARD DETAIL	STANDARD UTILITY SERVICE LOCATIONS WITHIN THE RIGHT OF WAY	CITY OF KINGMAN	N.T.S. DETAIL NO. 123
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ANGLES TO BE CONSTANT AROUND ENTIRE CIRCUMFERENCE OF THE PIPE. NUMBER OF SPACERS PER MANUFACTURER'S SPECIFICATIONS



CROSS-SECTION



NOTES:

1. STEEL PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A53. ALL JOINTS SHALL BE WELDED. INTERIOR JOINTS SHALL BE GROUND TO A SMOOTH FINISH. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C206, "AWWA STANDARD FOR FIELD WELDING OF STEEL WATER PIPE." COATINGS FOR STEEL CASING NOT REQUIRED.
2. STEEL PIPE CASING SHALL BE INSTALLED SYMMETRICAL ABOUT CARRIER MAIN CENTERLINE (TYP). PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.
3. AGENCY APPROVED CASING SPACERS AND END SEALS SHALL BE INSTALLED PER MANUFACTURE'S SPECIFICATIONS. USE A CENTERED CONFIGURATION AND PROVIDE THE MANUFACTURE WITH THE FOLLOWING: PIPE OD, CASING ID, AND CASING LENGTH.
4. ALL PIPE WITHIN THE CASING SHALL BE DUCTILE IRON WITH RESTRAINED JOINTS.
5. CASING TO FILLED WITH SAND OR GROUT AS REQUIRED BY THE CITY ENGINEER.
6. CASING INSTALLATIONS OVER 25 FEET BELOW FINISHED GRADE TO HAVE THICKNESS DETERMINED BY A ARIZONA LICENSED PROFESSIONAL ENGINEER.
7. ALL CASING INSTALLATIONS SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.

CARRIER PIPE		
PIPE SIZE	CASING ID *	THICKNESS *
6"	16"	1/4"
8"	18"	1/4"
10"	20"	5/16"
12"	24"	5/16"
16"	30"	3/8"
18"	30"	3/8"
20"	36"	1/2"
24"	42"	1/2"

* MINIMUM.

N.T.S.

DETAIL NO.

124-1

STANDARD DETAIL

CASING INSTALLATION

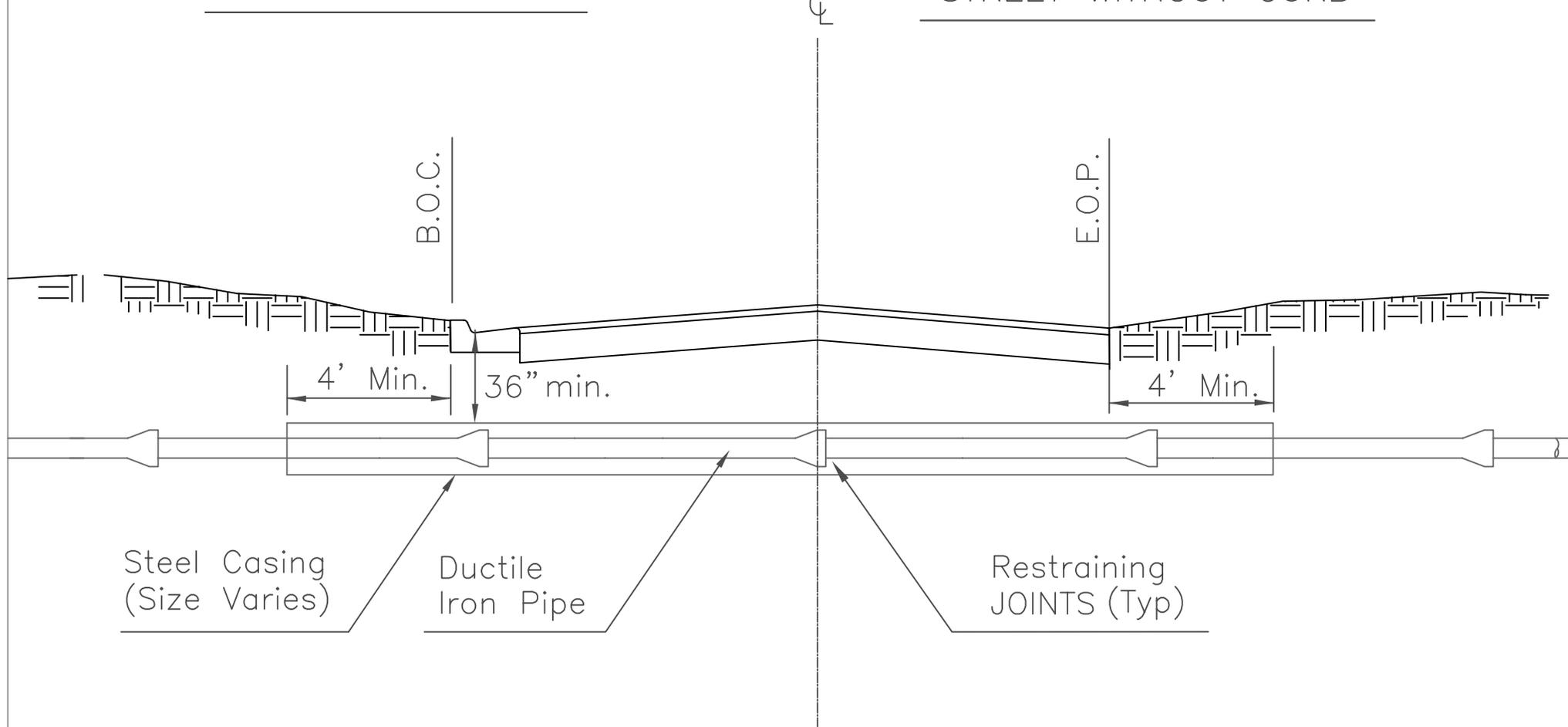
CITY OF KINGMAN

DETAIL NO.

124-1

STREET WITH CURB

STREET WITHOUT CURB



NOTES:

1. ALL PIPE THRU CASING TO BE DUCTILE IRON PIPE.
2. NUMBER 12 TRACING WIRE SHALL BE USED OVER D.I.P.
3. ALL PIPES WITHIN CASING TO BE RESTRAINED AS APPROVED BY CITY ENGINEER.
4. CASING PIPE TO MEET ASTM A53.
5. IN STREET SECTIONS WITH SIDEWALK EXTEND MIN 4' BACK OF SIDEWALK.

DETAIL NO.

124-2

STANDARD DETAIL

JACK AND BORE

CITY OF KINGMAN

N.T.S.

DETAIL NO.

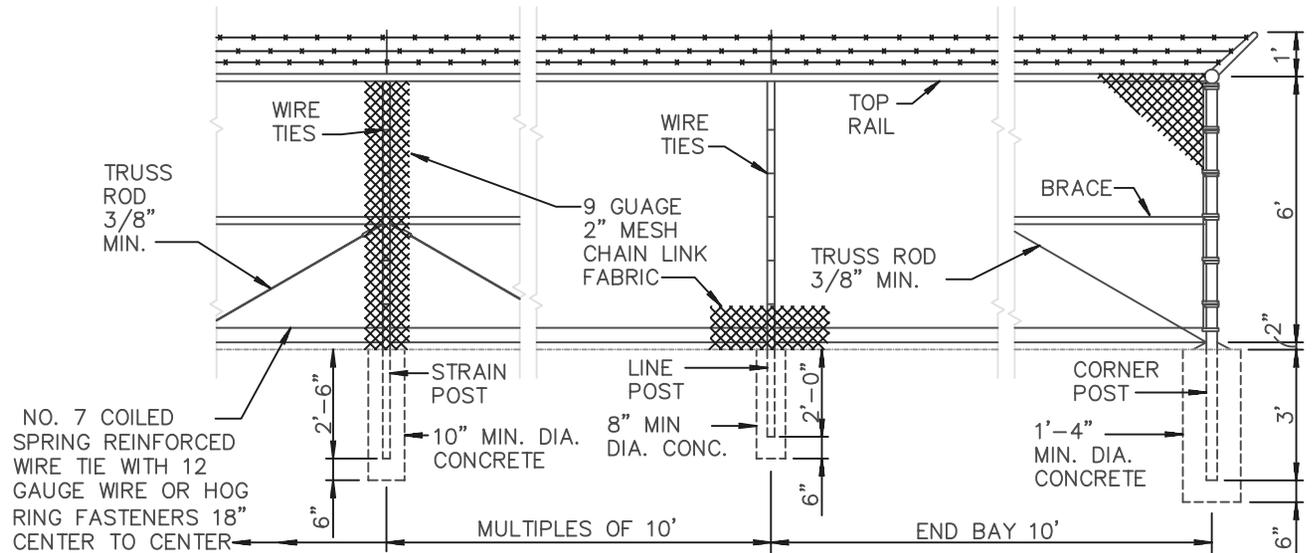
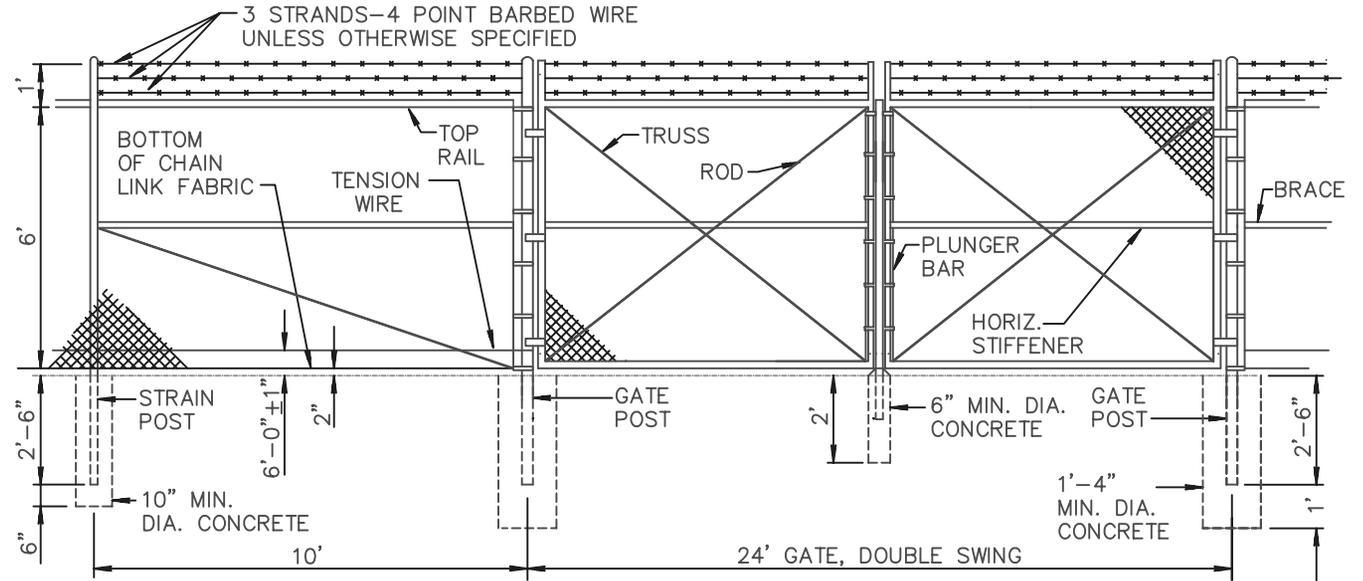
124-2

NOTES

1. ALL CONCRETE SHALL BE CLASS 'C' PER SECT. 725.
2. FITTINGS NOT SPECIFICALLY DETAILED SHALL BE HEAVY DUTY DESIGN.
3. STRAIN POSTS SHALL BE SPACED AT 500' MAXIMUM SPACING.
4. BOTH CORNER AND STRAIN POSTS SHALL HAVE STRAIN PANELS.
5. ALL POSTS SHALL BE CAPPED.
6. MEMBER SIZES SHALL BE THE FOLLOWING:

MEMBER	AISC SIZE	OUTSIDE DIA.
CORNER POST	2-1/2"	2.875"
LINE POST	1-1/2"	1.900"
STRAIN POST	1-1/2"	1.900"
BRACE	1-1/4"	1.666"
STRETCH BAR	3/16"x3/4" FLAT	3/16"x3/4" FLAT
GATE POST	3-1/2"	4.000"
TOP RAIL	1-1/4"	1.666"

7. CONSTRUCTION AND MATERIALS SHALL CONFORM TO SECT. 420 AND 772, RESPECTIVELY. SEE TABLE 772 FOR WEIGHTS OF MEMBERS.
8. LOCKING HARDWARE FOR MAN GATES SHALL BE MALLEABLE DROP FORK LATCH TYPE OR AS APPROVED.



N.T.S.

DETAIL NO.

160

STANDARD DETAIL

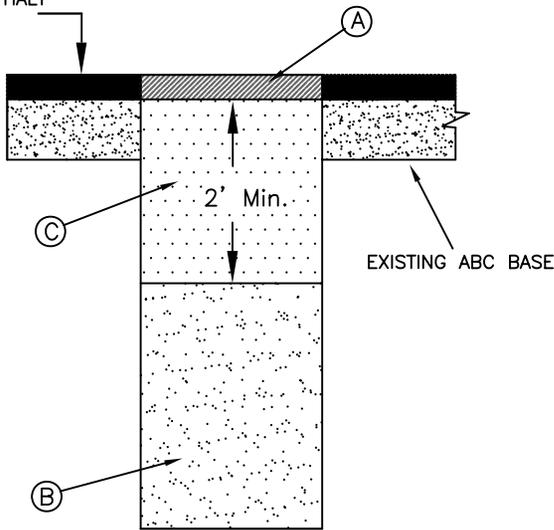
6' CHAIN LINK FENCE + GATE

CITY OF KINGMAN

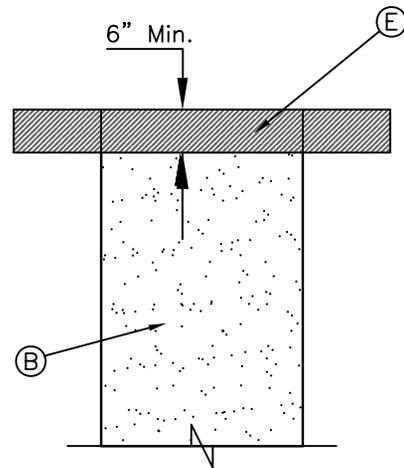
DETAIL NO.

160

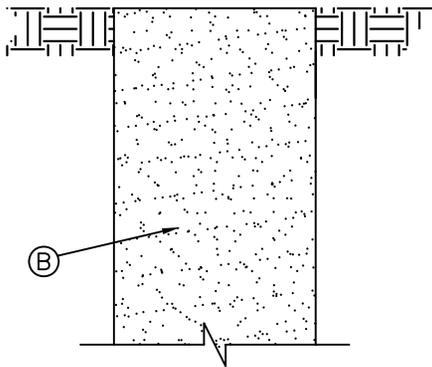
EXISTING ASPHALT SECTION



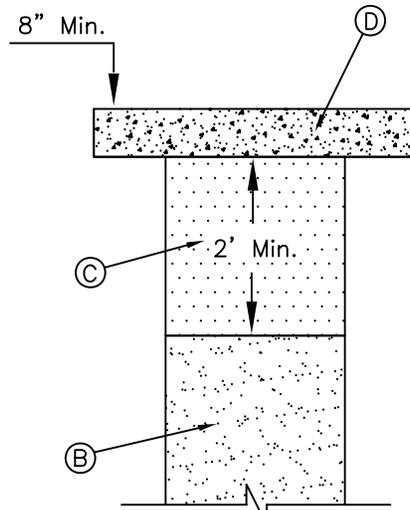
TYPE - A



TYPE - B



TYPE - C



TYPE - D

NOTES

1. **TYPE 'A'** IS REQUIRED IN EXISTING STREETS OR AREAS CONSTRUCTED OF ASPHALT, COLD MIX ASPHALT, CHIP SEAL COATS, OR OIL CAKE MILLINGS.
2. **TYPE 'B'** EXISTING GRAVEL OR BASE COURSE SURFACED ROADWAYS.
3. **TYPE 'C'** FOR FUTURE STREETS OR ALLEYS AND AREAS OUTSIDE OF THE ROADWAY PRISM. MATCH ADJACENT GROUND SURFACE OR FINISH GRADE ELEVATION.
4. **TYPE 'D'** IS REQUIRED IN STREETS CONSTRUCTED OF PORTLAND CEMENT CONCRETE.
5. INITIAL PATCHING OF TYPE A SURFACE MUST BE COMPLETED WITHIN 48 HOURS OF TRENCH BACKFILLING. A TEMPORARY PATCH USING COLD MIX MAY BE USED IF HOT MIX IS UNAVAILABLE.
6. THE TEMPORARY PATCH MUST BE REPLACED WITH HOT MIX WITHIN 15 WORKING DAYS OF INITIAL PLACEMENT.
7. SAW CUTS OR DAMAGE TO ASPHALT SHALL BE REPAIRED BY AN ACCEPTABLE METHOD AND SEALED WITH AN ASPHALT EMULSION APPROVED BY THE CITY ENGINEER.

REPLACEMENT MATERIALS

- (A) NEW A.C. PAVEMENT. PER MAG 321, 336 & 710 EXCEPT AS OTHERWISE SHOWN, THE NEW THICKNESS SHALL MATCH THE EXISTING PAVEMENT, WITH A MINIMUM THICKNESS OF 2" AND A MAXIMUM THICKNESS OF 5". THE COMPACTED THICKNESS OF LIFTS SHALL NOT EXCEED 3". THE VERTICAL EDGES SHALL BE PAINTED WITH A COAT OF ASPHALT CEMENT OR EMULSIFIED ASPHALT IMMEDIATELY PRIOR TO THE PLACEMENT OF HOT MIX.
- (B) COMPACTED A.B.C. PER MAG SECTION 702, OR GRANULAR MATERIAL PER MAG SPECIFICATION 601.4.6, OR PROCESSED NATIVE MATERIAL (4" MINUS) PER MAG SECTION 601 & 702.
- (C) ONE SACK A.B.C. CONTROLLED LOW STRENGTH MATERIAL (SLURRY) BACKFILL PER MAG SECTION 728.
- (D) CLASS AA CONCRETE PER MAG SECTION 725.
- (E) COMPACTED A.B.C. PER MAG SECT. 702

N.T.S.

DETAIL NO.
200-1

STANDARD DETAIL

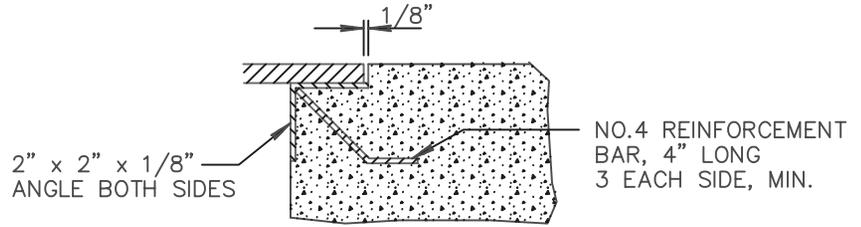
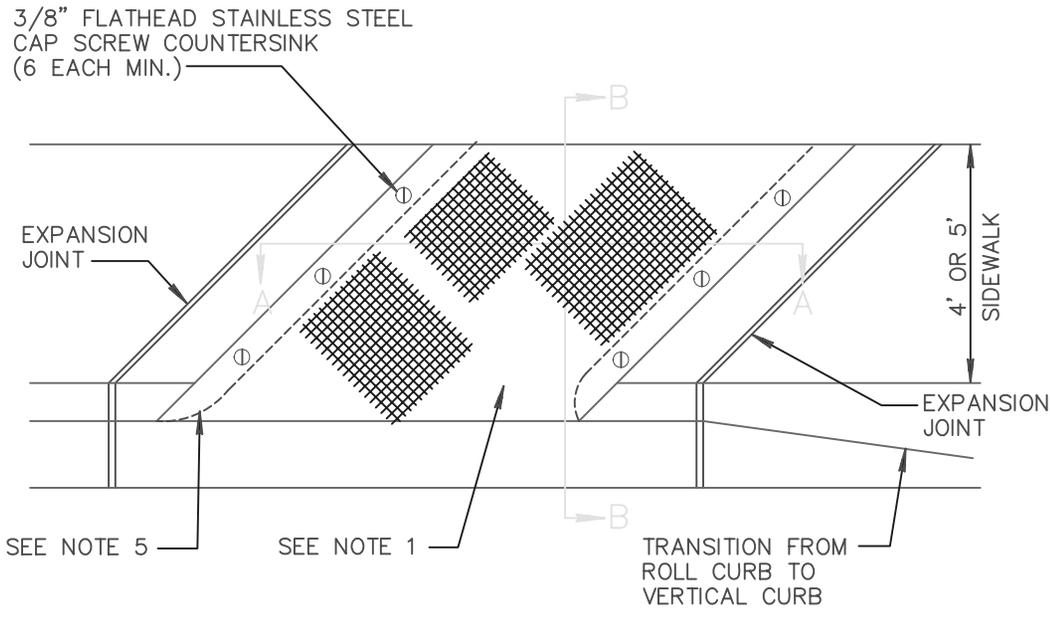
**BACKFILL, PAVEMENT AND SURFACE
REPLACEMENT**

CITY OF KINGMAN

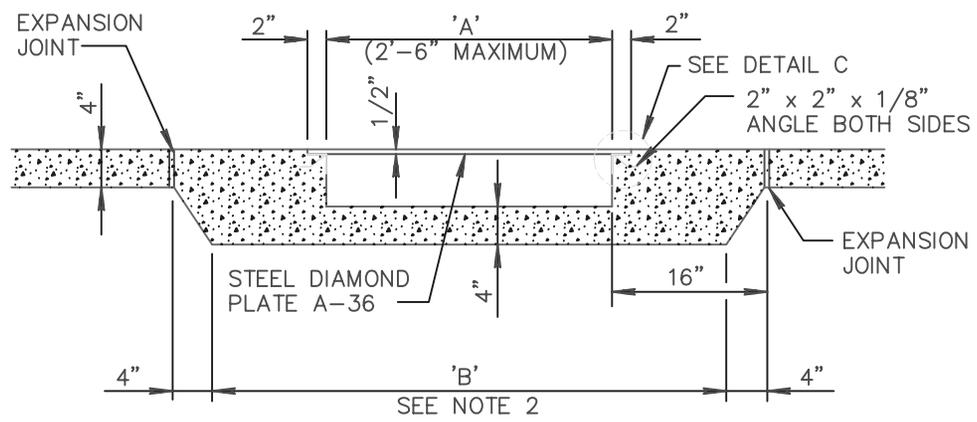
DETAIL NO.
200-1

NOTES:

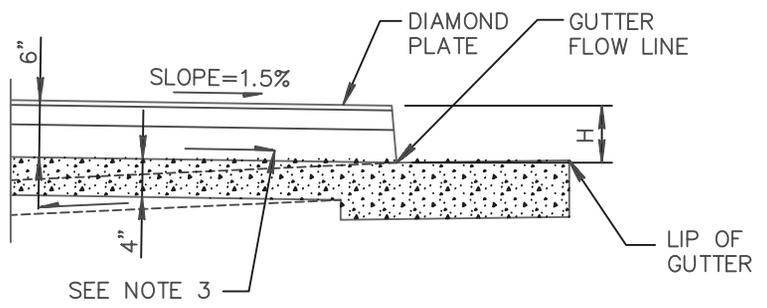
1. ANGLE EQUALS 45° UNLESS SPECIFIED ON PLAN.
2. DIMENSION 'B' EQUALS 'A' + 2'
3. (—————) INDICATES DIRECTION OF FLOW.
4. PAINT STEEL ACCORDING TO SECTION 790. PAINT COLOR #9.
5. R EQUALS 1" UNLESS OTHERWISE DIRECTED.
6. H EQUALS CURB FACE HEIGHT.
7. FOR ROLL CURB AND GUTTER, USE 2' TRANSITIONS TO VERTICAL CURB.
8. CONCRETE SHALL BE CLASS B PER SECT. 725 AND INSTALLED PER SECT. 505.
9. PLACE EROSION CONTROL AT INLET AS APPROVED BY CITY ENGINEER.



DETAIL C

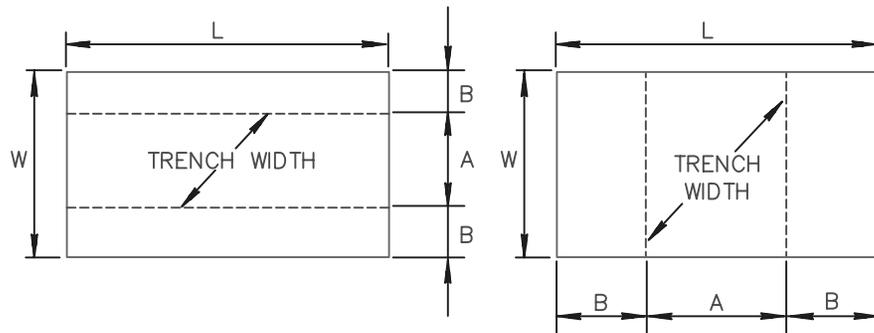


SECTION 'A-A'



SECTION 'B-B'

DETAIL NO. 203	STANDARD DETAIL	STEEL PLATE SCUPPER	CITY OF KINGMAN	N.T.S. DETAIL NO. 203
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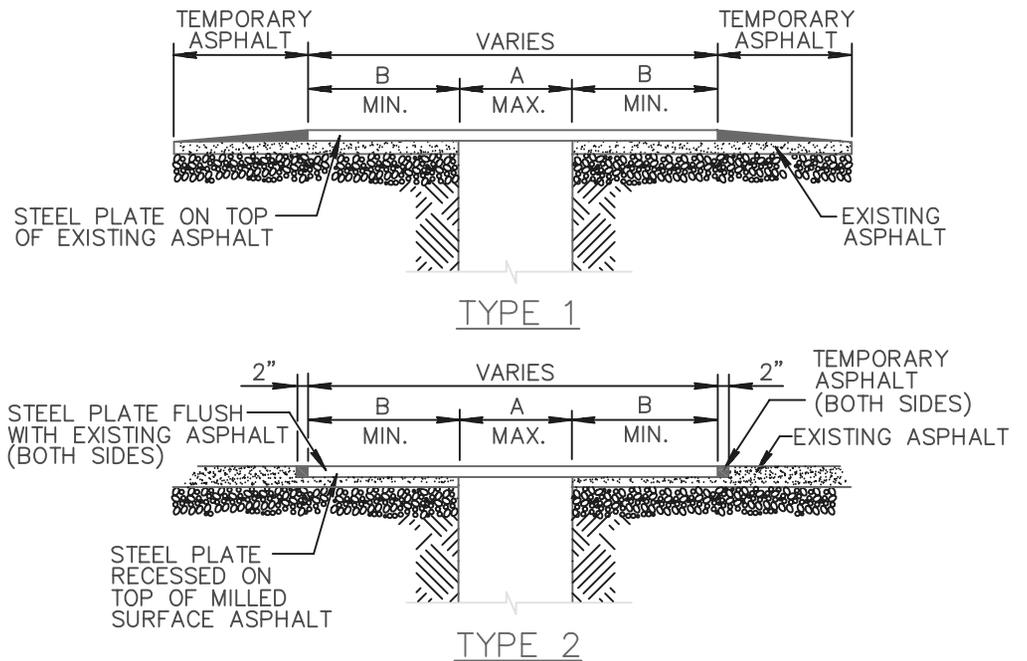
LONGITUDINAL
STEEL PLATE

TRANSVERSE
STEEL PLATE

PLATE SIZE						
LONGITUDINAL			TRANSVERSE			
(A)	(B)	THICKNESS	(W)	(L)	(A)	(B)
12"	18"	1"	4'	8'	58"	19"
12"	18"	1"	4'	10'	58"	31"
24"	18"	1"	5'	10'	70"	25"
36"	18"	1"	6'	10'	44"	38"
48"	18"	1"	7'	10'	52"	34"
60"	18"	1"	8'	10'	58"	31"
12"	18"	1-1/4"	4'	15'	88"	47"
24"	18"	1-1/4"	5'	12'	104"	20"
36"	18"	1-1/4"	6'	12'	66"	39"
36"	18"	1-1/4"	6'	16'	66"	63"
48"	18"	1-1/4"	7'	12'	76"	33"
48"	18"	1-1/4"	7'	16'	76"	58"
60"	18"	1-1/4"	8'	12'	86"	29"
60"	18"	1-1/4"	8'	15'	86"	47"
60"	18"	1-1/4"	8'	16'	86"	63"
60"	18"	1-1/4"	8'	20'	86"	77"
60"	18"	1-3/8"	8'	20'	102"	69"

NOTES:

1. USE TYPE 1 PLATE INSTALLATION WHERE POSTED SPEED LIMIT IS LESS THAN 30 MPH. USE TYPE 2 PLATE INSTALLATION WHERE POSTED SPEED LIMIT IS 30 MPH OR GREATER.
2. FOR TYPE 2 PLATE INSTALLATION, THE STEEL PLATE SHALL BE RECESSED BY MILLING INTO THE EXISTING ASPHALT TO SET FLUSH WITH THE SURFACE OF THE EXISTING ASPHALT. FULL DEPTH CUTTING OF PAVEMENT SECTION OUTSIDE OF TRENCH IS NOT PERMITTED. MILLING DEPTH SHALL MATCH THICKNESS OF PLATE. THE GAP BETWEEN THE EDGE OF THE PLATE AND THE ADJACENT EXISTING ASPHALT PAVEMENT MUST BE FILLED WITH TEMPORARY ASPHALT.
3. TRENCH WIDTHS ARE BASED ON AN ANALYSIS PER THE 14TH EDITION OF STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES BY AASHTO. AN ASSUMED AXLE LOADING OF 12 TONS WITH A 30% IMPACT FACTOR WAS USED. THE AXLE LENGTH IS 6 FEET; THEREFORE THE NUMBER OF WHEELS CARRIED BY A PLATE DEPENDS ON THE ROADWAY WIDTH.
4. STEEL PLATE MUST BE ABLE TO WITHSTAND H-20 TRAFFIC LOADINGS WITHOUT ANY MOVEMENT.
5. PLATES SHALL BE FABRICATED FROM ASTM A36 STEEL (MIN).
6. PLATES SHALL BE SECURED FROM LATERAL MOVEMENT AND VERTICAL VIBRATION (ASSOCIATED NOISE) WHILE IN USE BY TEMPORARY ASPHALT (COLD MIX.)
7. BUMP SIGN(S) SHALL BE USED PER M.U.T.C.D.



DETAIL NO.

211

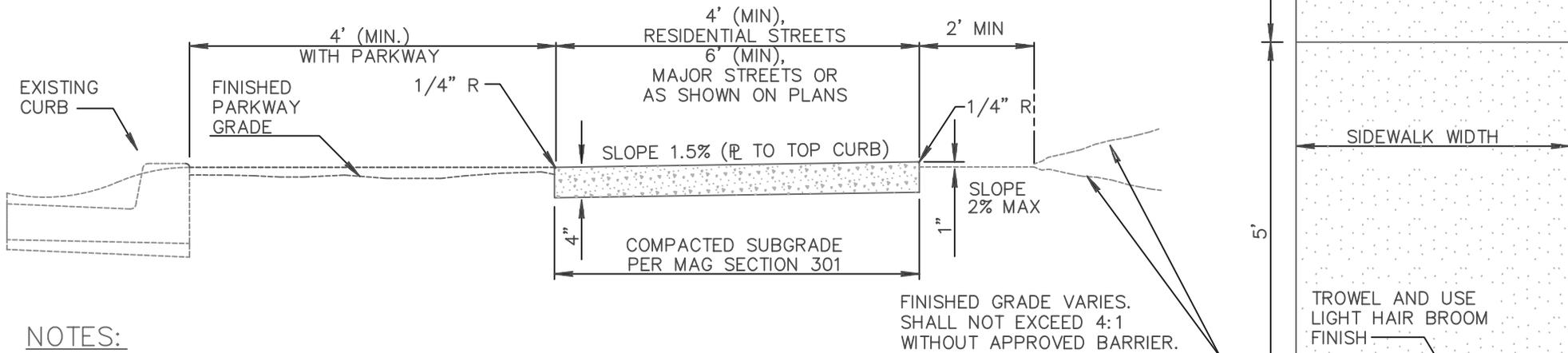
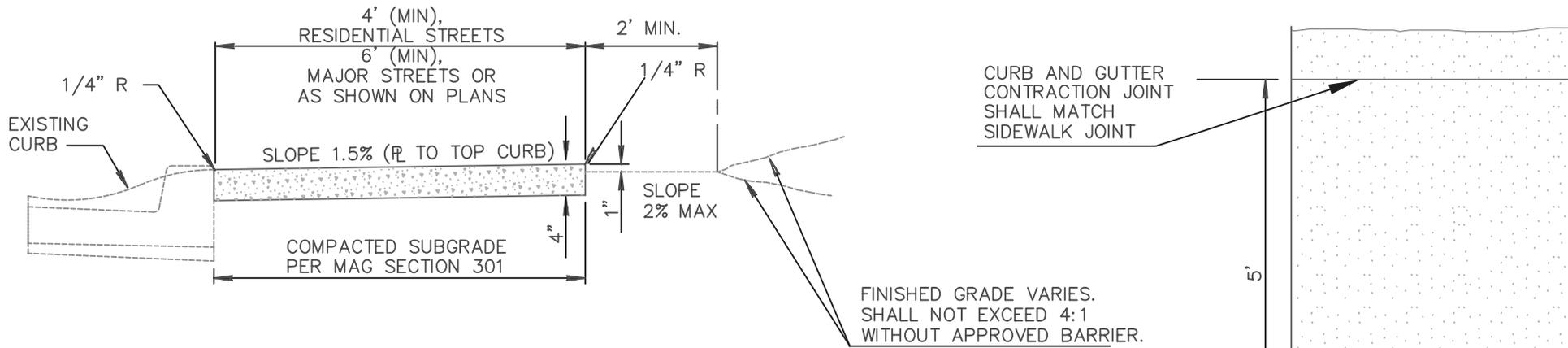
STANDARD DETAIL

TRENCH PLATING

CITY OF KINGMAN

N.T.S.
DETAIL NO.

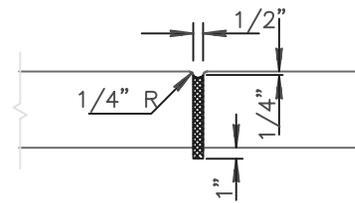
211



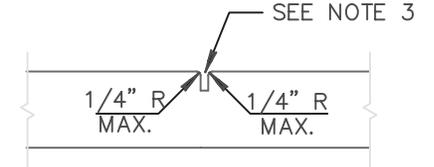
NOTES:

1. SIDEWALK CONSTRUCTION SHALL CONFORM TO SECT. 340.
2. EXPANSION JOINTS SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER PER MAG SECT 729.
3. LARGE AGGREGATE, IN CONTRACTION JOINT, SHALL BE SEPARATED TO A DEPTH OF 3/4", FINISH DEPTH SHALL BE A MINIMUM OF 3/4".
4. EXPANSION JOINT 25' MAX. SPACING FOR SIDEWALK 50' MAX. FOR CURB
5. CLASS 'B' CONCRETE CONSTRUCTION AS PER MAG SECT. 725.

CURB AND GUTTER CONTRACTION JOINT SHALL MATCH SIDEWALK JOINT



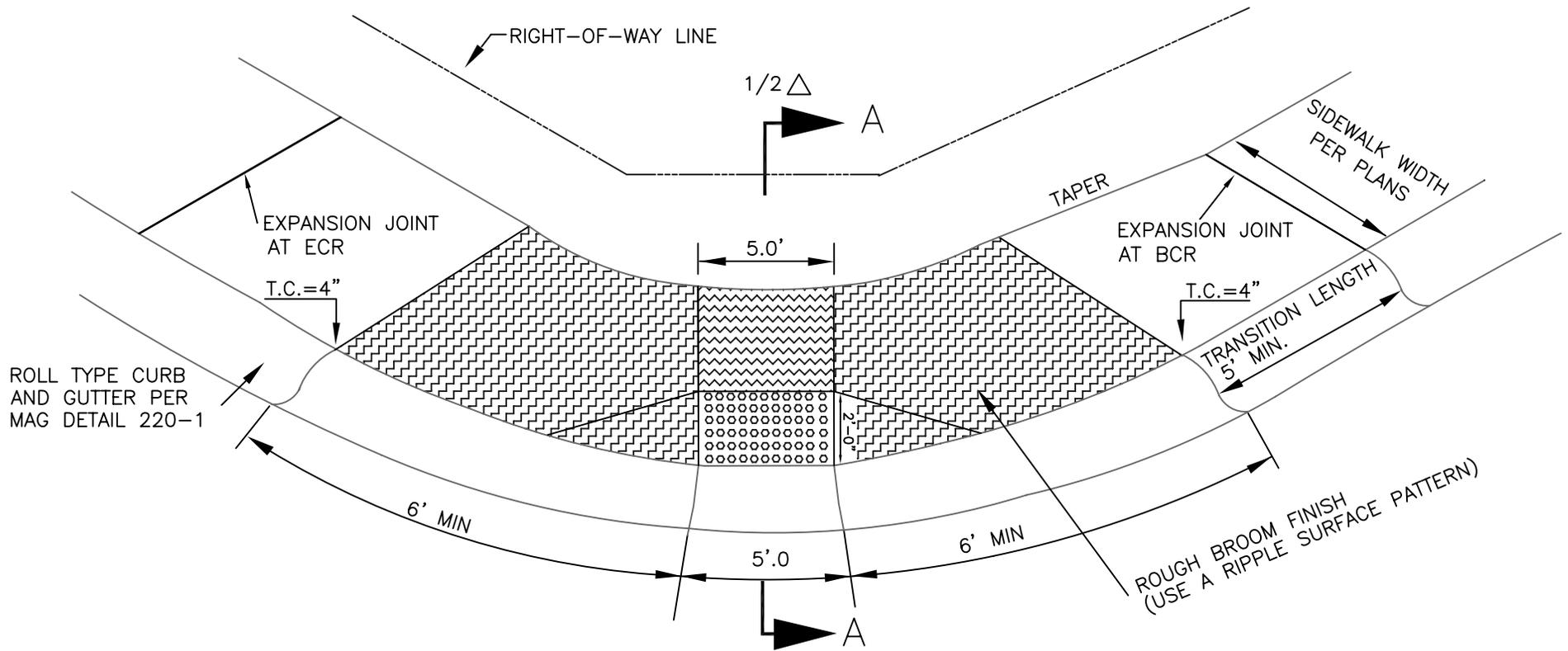
EXPANSION JOINT



CONTRACTION JOINT

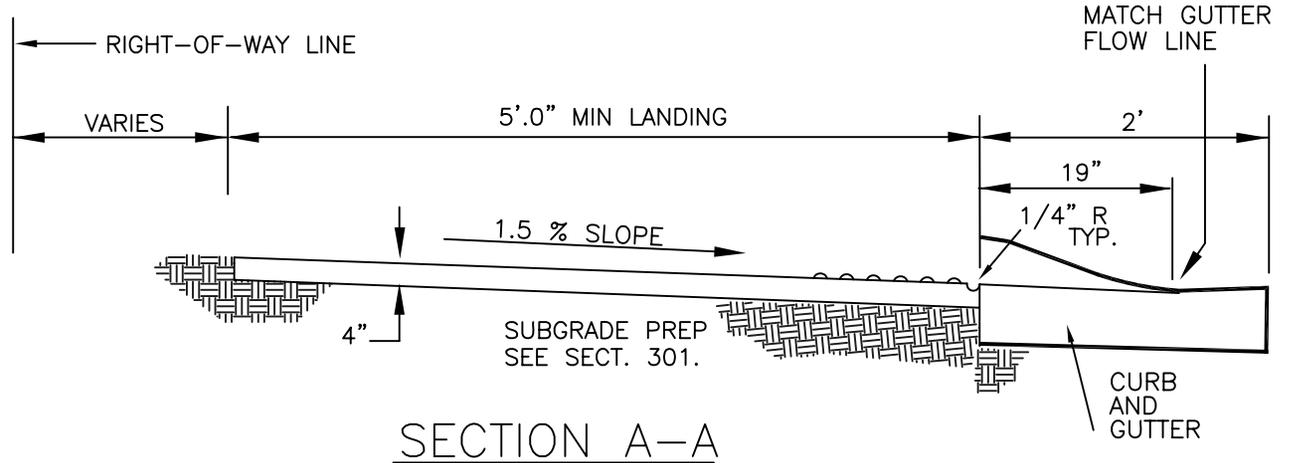
N.T.S.

DETAIL NO.	STANDARD DETAIL	SIDEWALKS	CITY OF KINGMAN	DETAIL NO.
230				230

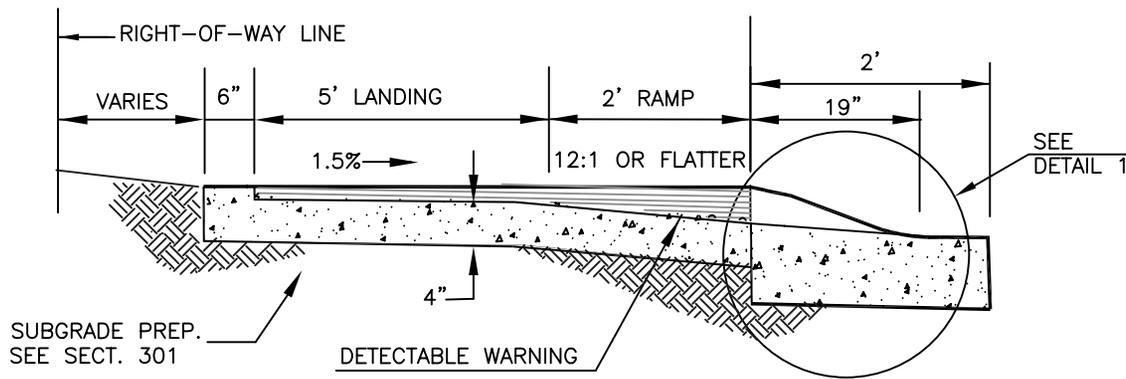
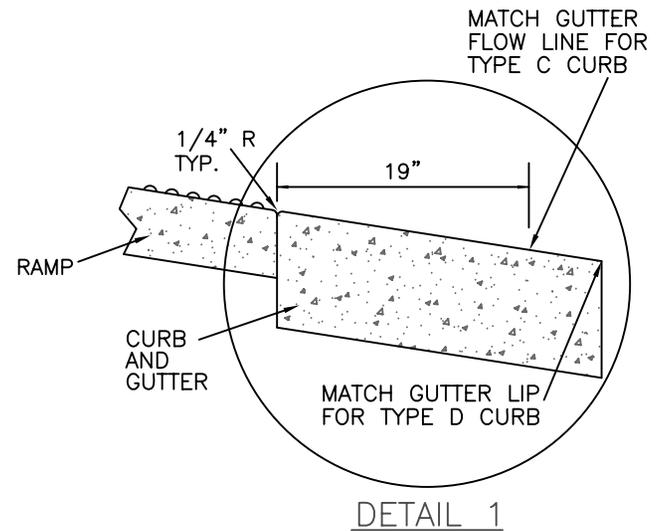
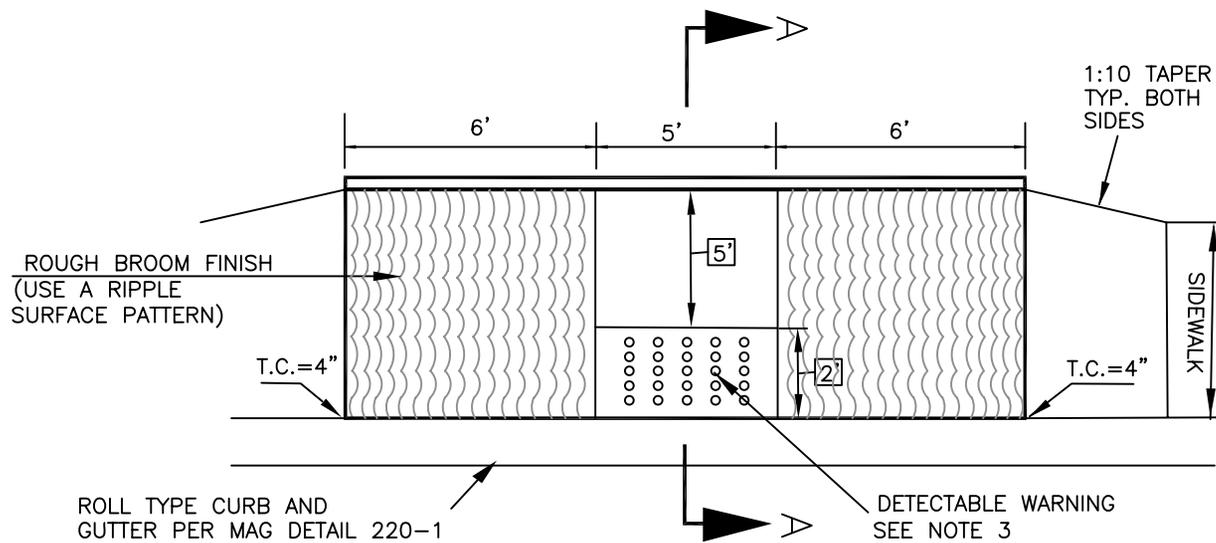


NOTES

1. CLASS 'B' CONC. CONSTRUCTION AS PER SECT. 725.
2. PAYMENT FOR SIDEWALK RAMP CONSTRUCTION SHALL BE THE AREA BETWEEN THE BCR AND ECR INCLUDING CURB & GUTTER.
3. DETECTABLE WARNING TO COMPLY WITH COK STANDARD SPECIFICATION SECTION 340.



DETAIL NO. 235	STANDARD DETAIL	SIDEWALK RAMPS - TYPE 'E'	CITY OF KINGMAN	N.T.S. DETAIL NO. 235
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NOTES

1. CONTROL ELEVATIONS SHOWN ARE IN RELATION TO THE GUTTER. GUTTER ELEV. = 0
2. CLASS 'B' CONC. CONSTRUCTION AS PER SECT. 725.
3. DETECTABLE WARNING TO COMPLY WITH COK STANDARD SPECIFICATION SECTION 340.

SECTION A-A

N.T.S.

DETAIL NO.

236

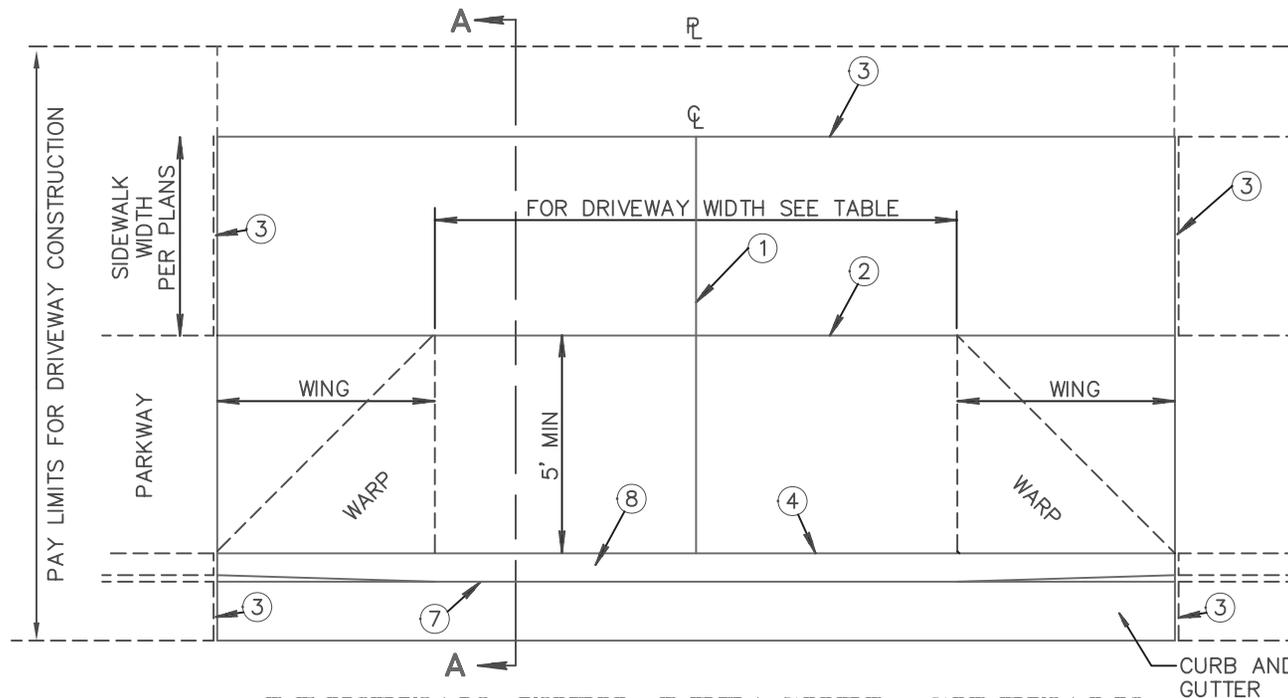
STANDARD DETAIL

SIDEWALK RAMPS - TYPE 'F'

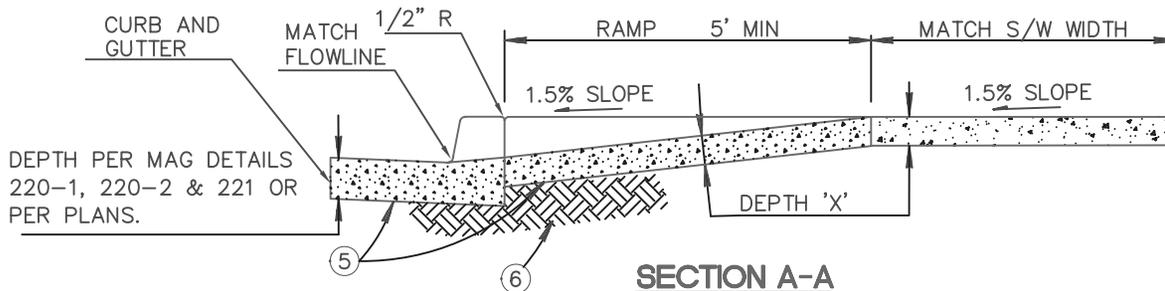
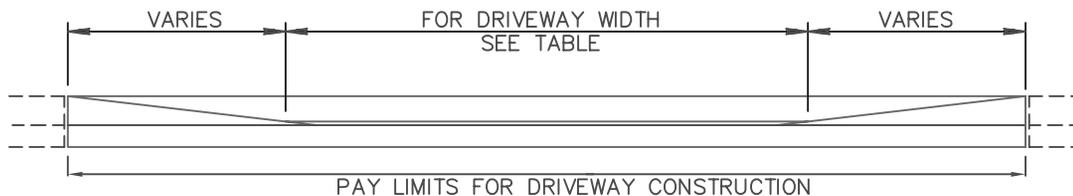
CITY OF KINGMAN

DETAIL NO.

236



DRIVEWAY WITH DETACHED SIDEWALK



N.T.S.

LEGEND

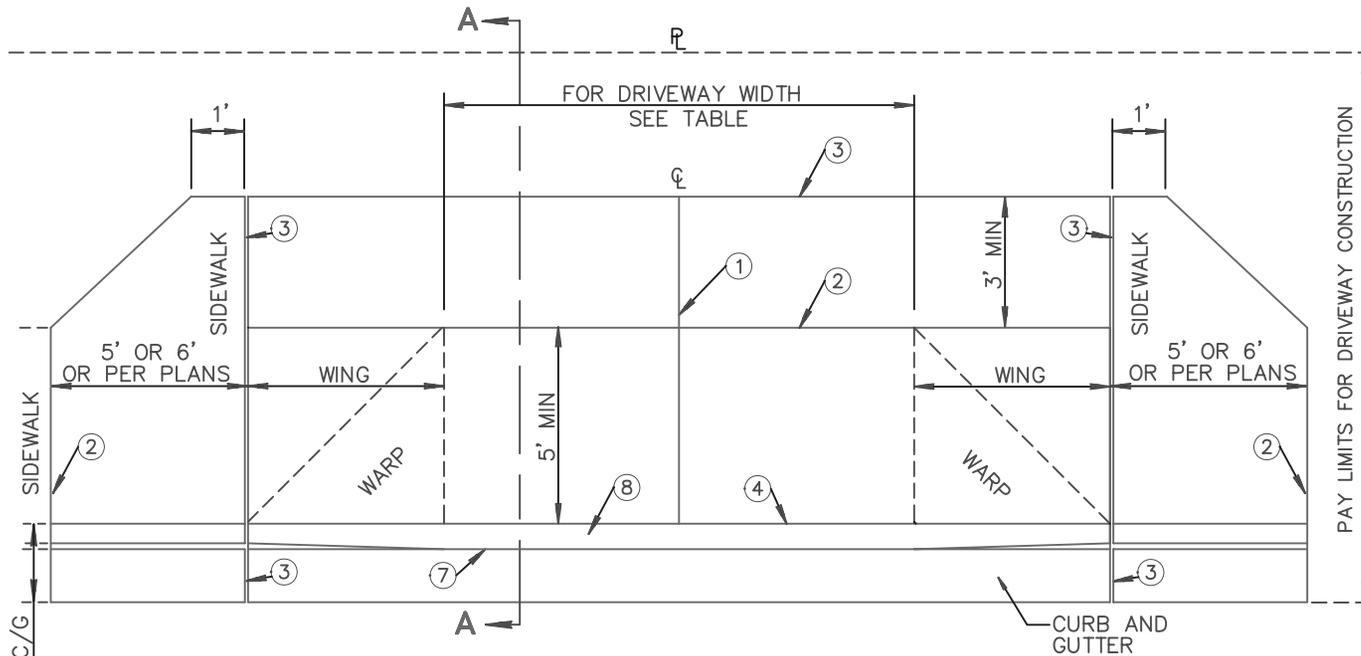
- ① CONTRACTION JOINT ON D/W CENTERLINE.
- ② CONTRACTION JOINT.
- ③ 1/2-INCH EXPANSION JOINTS SHALL COMPLY WITH SECTION 340 and COK DETAIL 230.
- ④ BACK OF CURB - CONSTRUCTION JOINT.
- ⑤ CONCRETE CLASS AS NOTED IN TABLE. CONCRETE PER SECTION 725.
- ⑥ SUBGRADE PREPARATION, MAG SECT. 301.
- ⑦ FLOW LINE OF GUTTER.
- ⑧ DEPRESSED CURB.

NOTES:

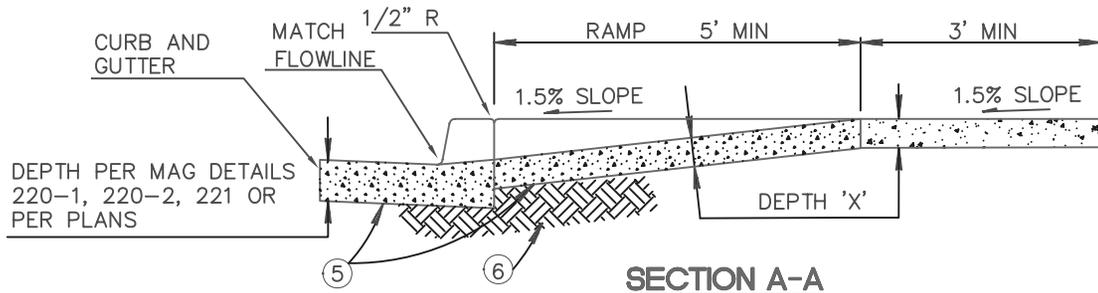
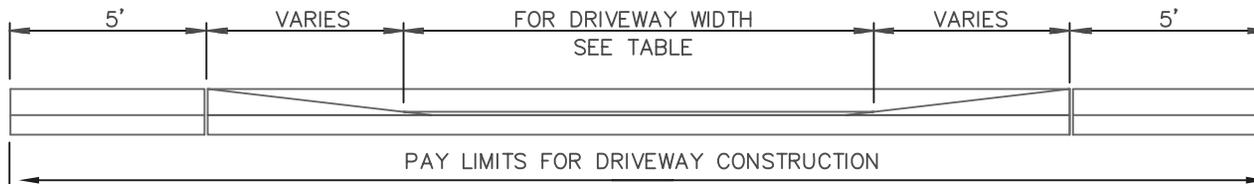
- 1. SECT. A-A AND ELEVATION: D/W SHOWN WITH VERTICAL CURB AND GUTTER, ROLL TYPE CURB AND GUTTER TREATED SIMILARLY.
- 2. ROUGH BROOM FINISH FULL WIDTH OF RAMP AND WINGS. TROWEL AND USE LIGHT HAIR BROOM FINISH FOR WALKWAY AREA.
- 3. SINGLE FAMILY IS RESIDENTIAL. ANY LOCATION OTHER THAN SINGLE FAMILY RESIDENTIAL IS CONSIDERED COMMERCIAL AND INDUSTRIAL.

COMMERCIAL AND INDUSTRIAL				
DRIVEWAY WIDTH	MIN.	MAX.	CLASS	DEPTH 'X'
COMMERCIAL	* 16'	40'	A	9"
INDUSTRIAL	* 16'	40'	A	9"
* 24' MIN. FOR TWO WAY TRAFFIC				
RESIDENTIAL				
DRIVEWAY WIDTH	MIN.	MAX.	CLASS	DEPTH 'X'
MAJOR STREET	16'	30'	B	5"
COLLECTOR STREET	* 12'	30'	B	5"
LOCAL STREET	12'	30'	B	5"
* 16' DESIRABLE				

DETAIL NO. 250-1	STANDARD DETAIL	DRIVEWAY ENTRANCES WITH DETACHED SIDEWALK	CITY OF KINGMAN	DETAIL NO. 250-1
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DRIVEWAY WITH SIDEWALK ATTACHED TO CURB



SECTION A-A

N.T.S.

LEGEND

- ① CONTRACTION JOINT ON D/W CENTERLINE.
- ② CONTRACTION JOINT.
- ③ 1/2-INCH EXPANSION JOINTS SHALL COMPLY WITH SECTION 340.
- ④ BACK OF CURB - CONSTRUCTION JOINT.
- ⑤ CONCRETE CLASS AS NOTED IN TABLE. CONCRETE PER SECTION 725.
- ⑥ SUBGRADE PREPARATION, MAG SECT. 301.
- ⑦ FLOW LINE OF GUTTER.
- ⑧ DEPRESSED CURB.

NOTES:

1. SECT. A-A AND ELEVATION: D/W SHOWN WITH VERTICAL CURB AND GUTTER, ROLL TYPE CURB AND GUTTER TREATED SIMILARLY.
2. ROUGH BROOM FINISH FULL WIDTH OF RAMP AND WINGS. TROWEL AND USE LIGHT HAIR BROOM FINISH FOR WALKWAY AREA.
3. SINGLE FAMILY IS RESIDENTIAL. ANY LOCATION OTHER THAN SINGLE FAMILY RESIDENTIAL IS CONSIDERED COMMERCIAL AND INDUSTRIAL.

COMMERCIAL AND INDUSTRIAL

DRIVEWAY WIDTH	MIN.	MAX.	CLASS	DEPTH 'X'
COMMERCIAL	* 16'	40'	A	9"
INDUSTRIAL	* 16'	40'	A	9"
* 24' MIN. FOR TWO WAY TRAFFIC				

RESIDENTIAL

DRIVEWAY WIDTH	MIN.	MAX.	CLASS	DEPTH 'X'
MAJOR STREET	16'	30'	B	5"
COLLECTOR STREET	* 12'	30'	B	5"
LOCAL STREET	12'	30'	B	5"
* 16' DESIRABLE				

DETAIL NO.

250-2

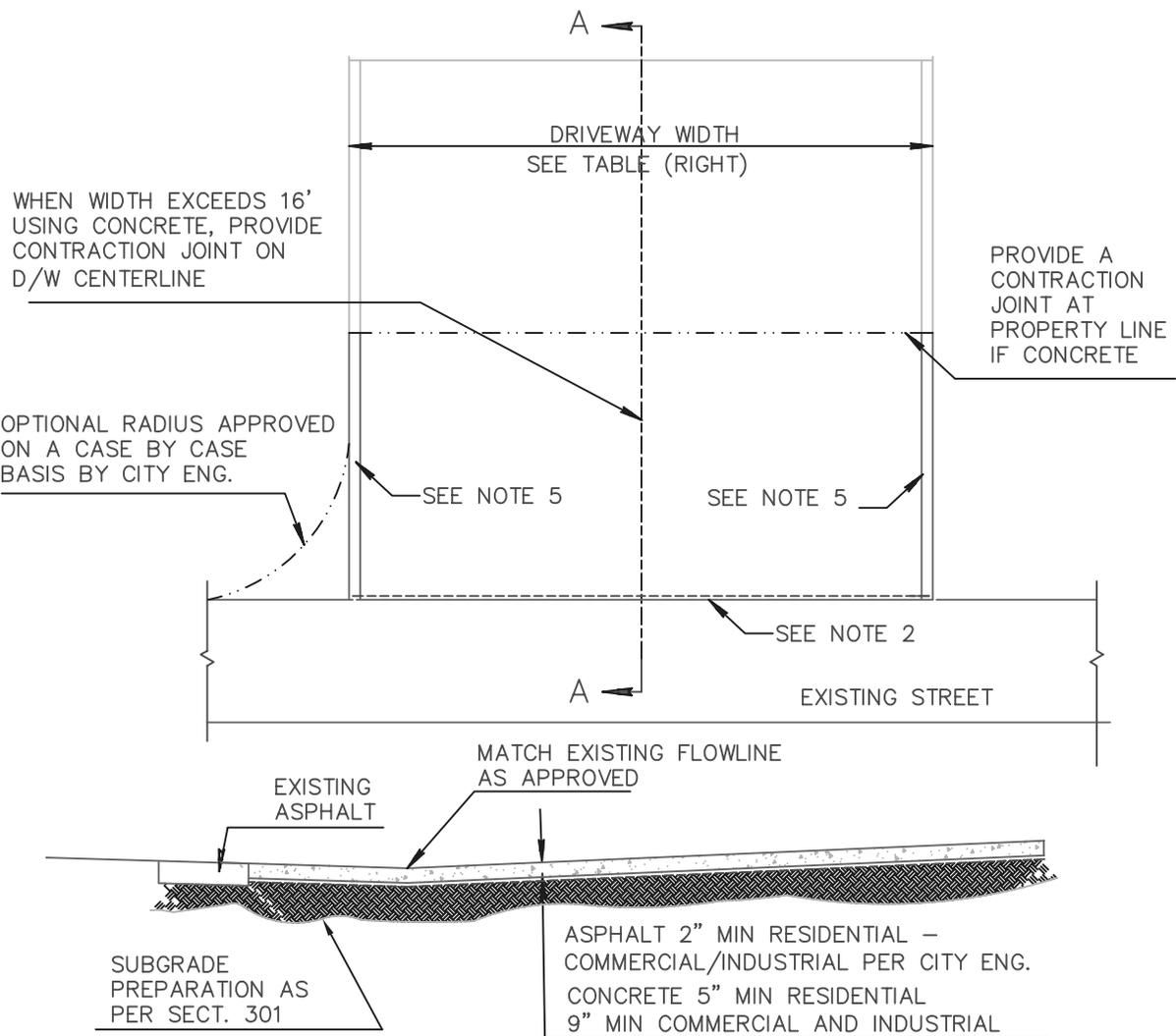
STANDARD DETAIL

**DRIVEWAY ENTRANCES WITH
SIDEWALK ATTACHED TO CURB**

CITY OF KINGMAN

DETAIL NO.

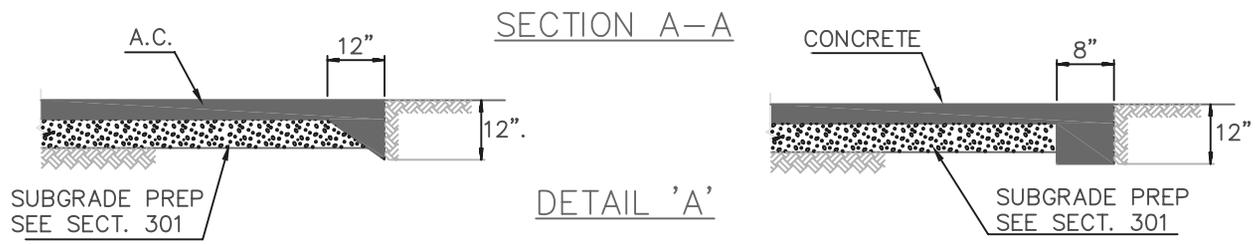
250-2



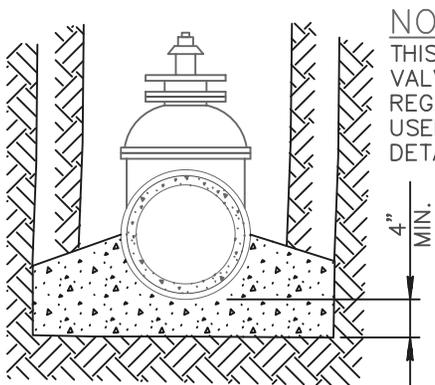
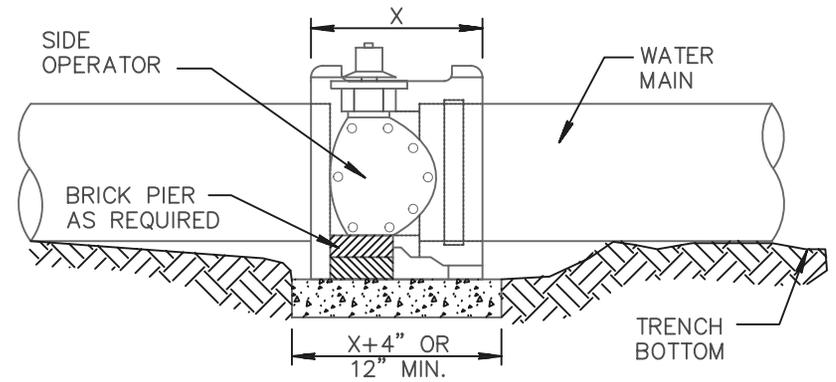
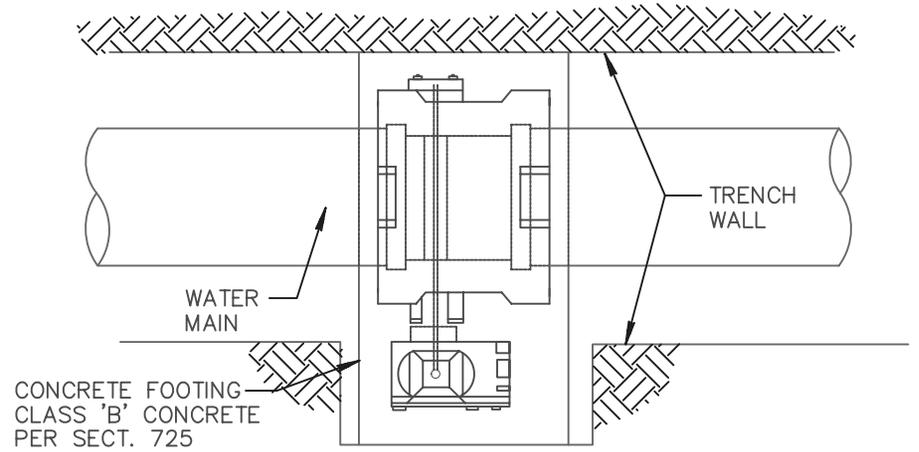
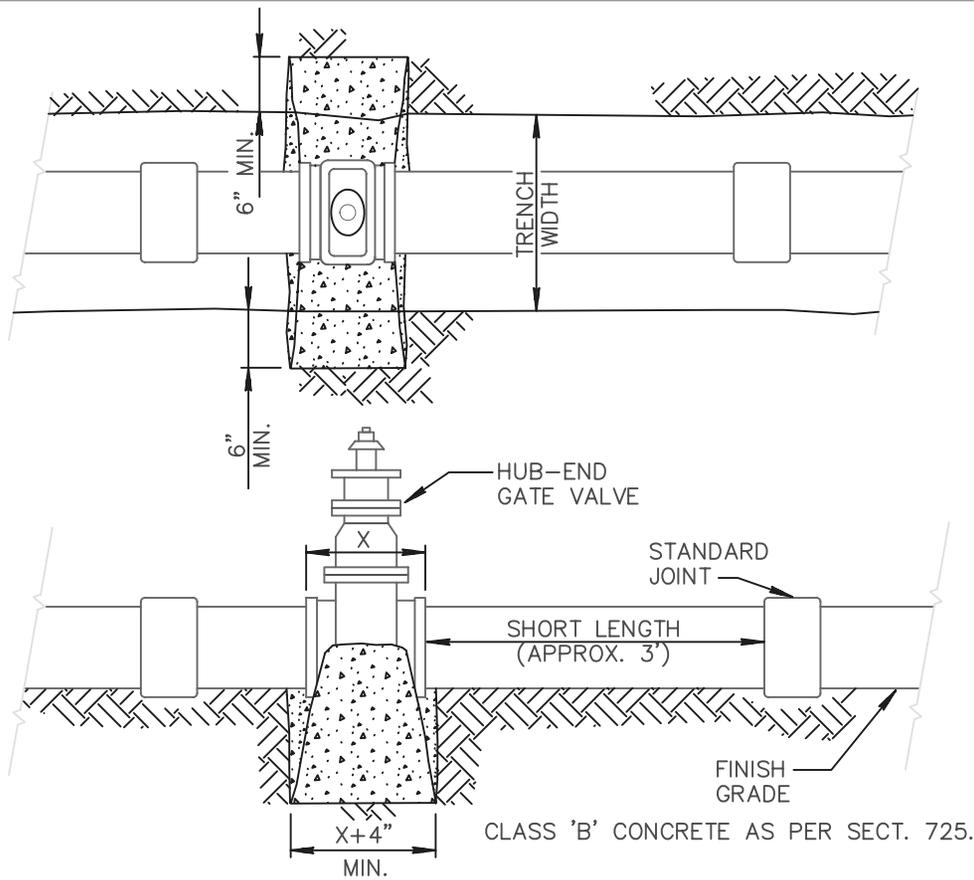
ZONING	DRIVEWAY WIDTH	
	MIN.*	MAX.
RESIDENTIAL		
MAJOR STREET	16'	30'
COLLECTOR STREET	12'	30'
LOCAL STREET	12'	30'
* 16' WIDTH IS DESIRABLE		

NOTES:

1. THIS TYPE OF D/W TO BE USED ONLY UPON APPROVAL BY THE CITY ENGINEER.
2. EXISTING ASPHALT SHALL BE SAW CUT TO A STRAIGHT VERTICAL EDGE FREE FROM ANY IRREGULARITIES. SAW CUT SHALL NOT PROTRUDE MORE THAN 3" INTO EXISTING ASPHALT. IF MORE THAN 3" IS REQUIRED TO OBTAIN A VERTICAL EDGE THEN THE EXISTING ASPHALT SHALL BE CUT BACK A MIN. OF 12" FOR ENTIRE WIDTH OF DRIVEWAY AND REPLACED WITH NEW HOT MIX ASPHALT.
3. CLASS 'B' CONCRETE FOR RESIDENTIAL CONSTRUCTION AS PER SECT. 725 CLASS 'A' CONCRETE FOR COMMERCIAL-INDUSTRIAL CONSTRUCTION AS PER SEC 725.
4. ASPHALT PER SEC 710.
5. THICKENED EDGE 12" DEEP ON BOTH SIDES OF DRIVEWAY (SEE DETAIL A).
6. D/W TO MATCH EXISTING DRAINAGE AS APPROVED.
7. SINGLE FAMILY IS RESIDENTIAL. ANY LOCATION OTHER THAN SINGLE FAMILY RESIDENTIAL IS CONSIDERED COMMERCIAL AND INDUSTRIAL.

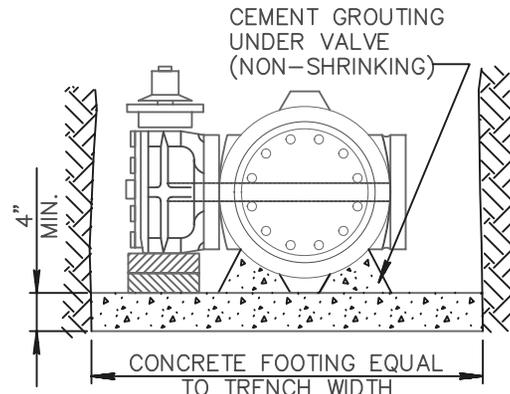


DETAIL NO. 251	STANDARD DETAIL	RURAL TYPE DRIVEWAYS	CITY OF KINGMAN	N.T.S. DETAIL NO. 251
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WATER GATE VALVE

NOTE:
THIS DETAIL COVERS WATER GATE VALVES, 4" TO 12" INCLUSIVE REGARDLESS OF TYPE OF PIPE USED. LARGER LINES TO BE DETAILED ON PLANS.



BUTTERFLY VALVE

NOTES:

1. THIS DETAIL COVERS BUTTERFLY VALVE INSTALLATION, 3" TO 12" INCLUSIVE, REGARDLESS OF TYPE OF PIPE OR JOINT USED. LARGER LINES TO BE DETAILED ON PLANS.
2. VALVE BOX AND COVER REQUIRED PER DETAILS 270 AND 391.

N.T.S.

DETAIL NO.

301

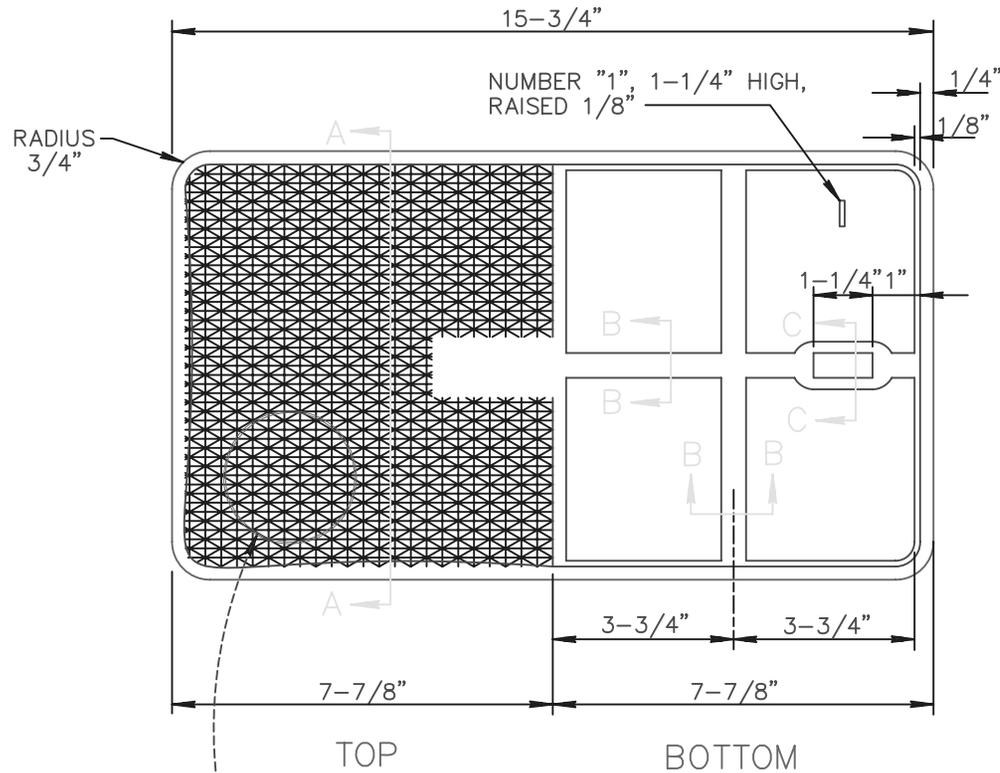
STANDARD DETAIL

**BLOCKING FOR
WATER GATE AND BUTTERFLY VALVES**

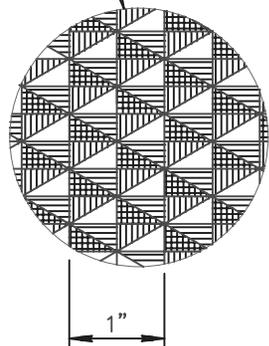
CITY OF KINGMAN

DETAIL NO.

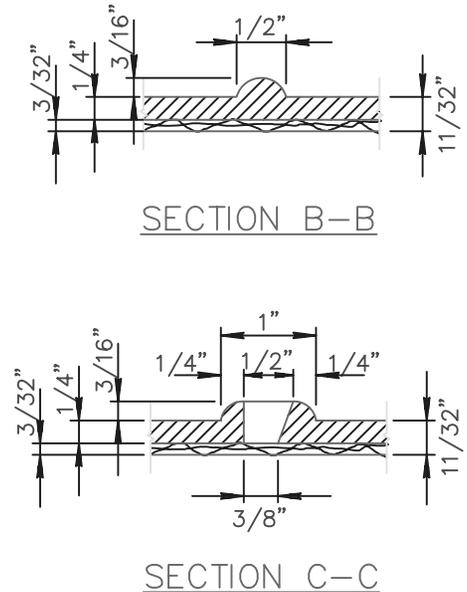
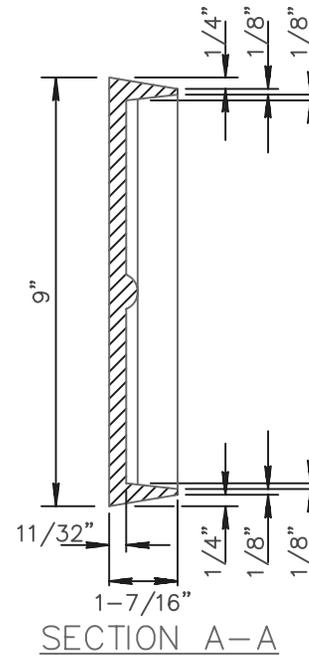
301



PLAN



TOP OF COVER



NOTE

DIAMOND PLATE STEEL TO BE 1/8" MINIMUM THICKNESS, AND DOES NOT REQUIRE "WATER" DESIGNATION. DIAMOND PLATE TO BE USED IN NON-TRAFFIC AREAS ONLY.

DETAIL NO.

310

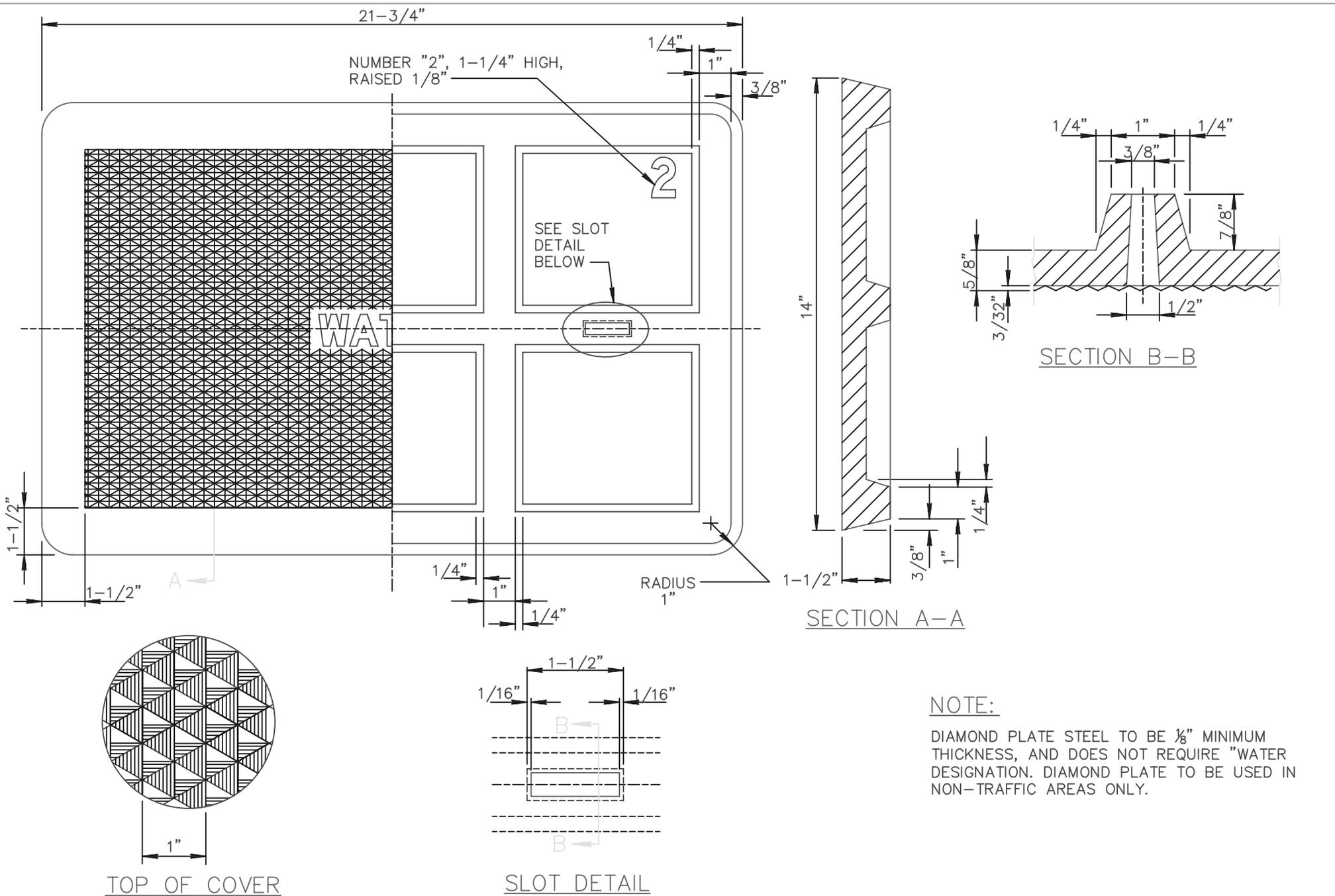
STANDARD DETAIL

**CAST IRON OR DIAMOND PLATE STEEL
WATER METER BOX COVER NO. 1**

CITY OF KINGMAN

N.T.S.
DETAIL NO.

310



DETAIL NO.

311

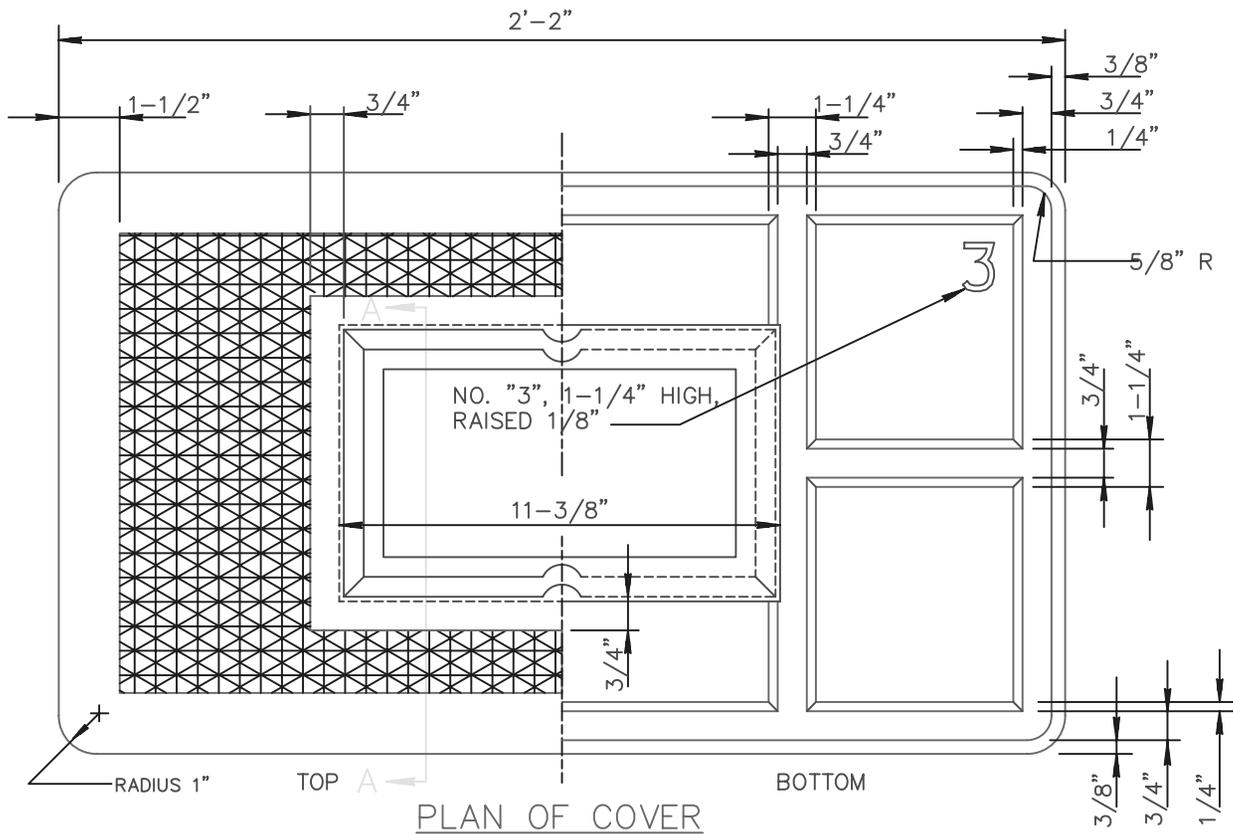
STANDARD DETAIL

CAST IRON OR DIAMOND PLATE STEEL
WATER METER BOX COVER NO. 2

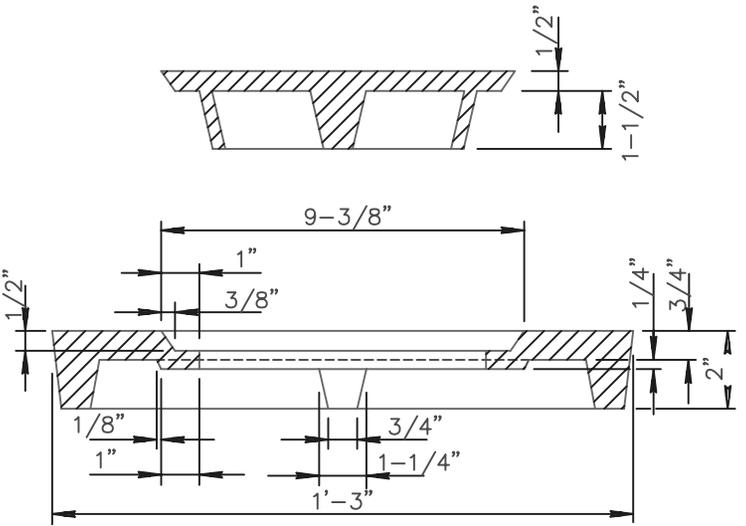
CITY OF KINGMAN

N.T.S.
DETAIL NO.

311



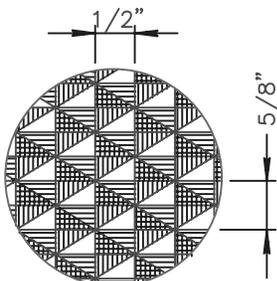
PLAN OF COVER



SECTION A-A

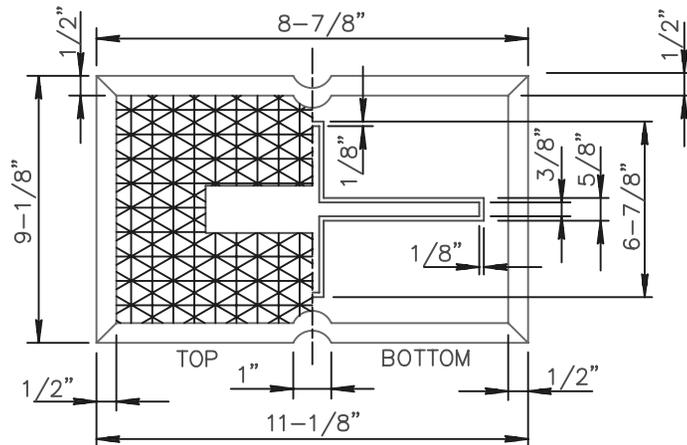
NOTES:

1. INSPECTION PLATE IS SAME AS USED WITH METER BOX COVER NO. 4.
2. FOR CASTING SPECIFICATIONS, SEE SECTION 787.
3. THE BEARING EDGES OF THESE CASTINGS SHALL BE MACHINED TO INSURE A FULL BEARING ON A FLAT SURFACE.
4. DIAMOND PLATE STEEL TO BE 1/8" MINIMUM THICKNESS, AND DOES NOT REQUIRE "WATER" DESIGNATION. DIAMOND PLATE TO BE USED IN NON-TRAFFIC AREAS ONLY.



DETAIL

TOP OF COVER & PLATE



INSPECTION PLATE

DETAIL NO.

312

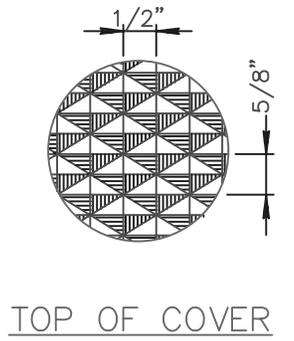
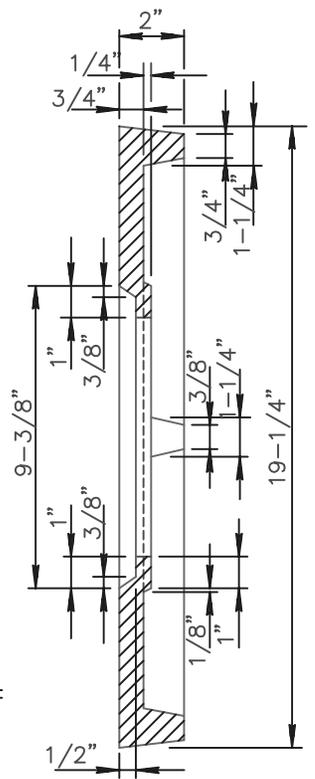
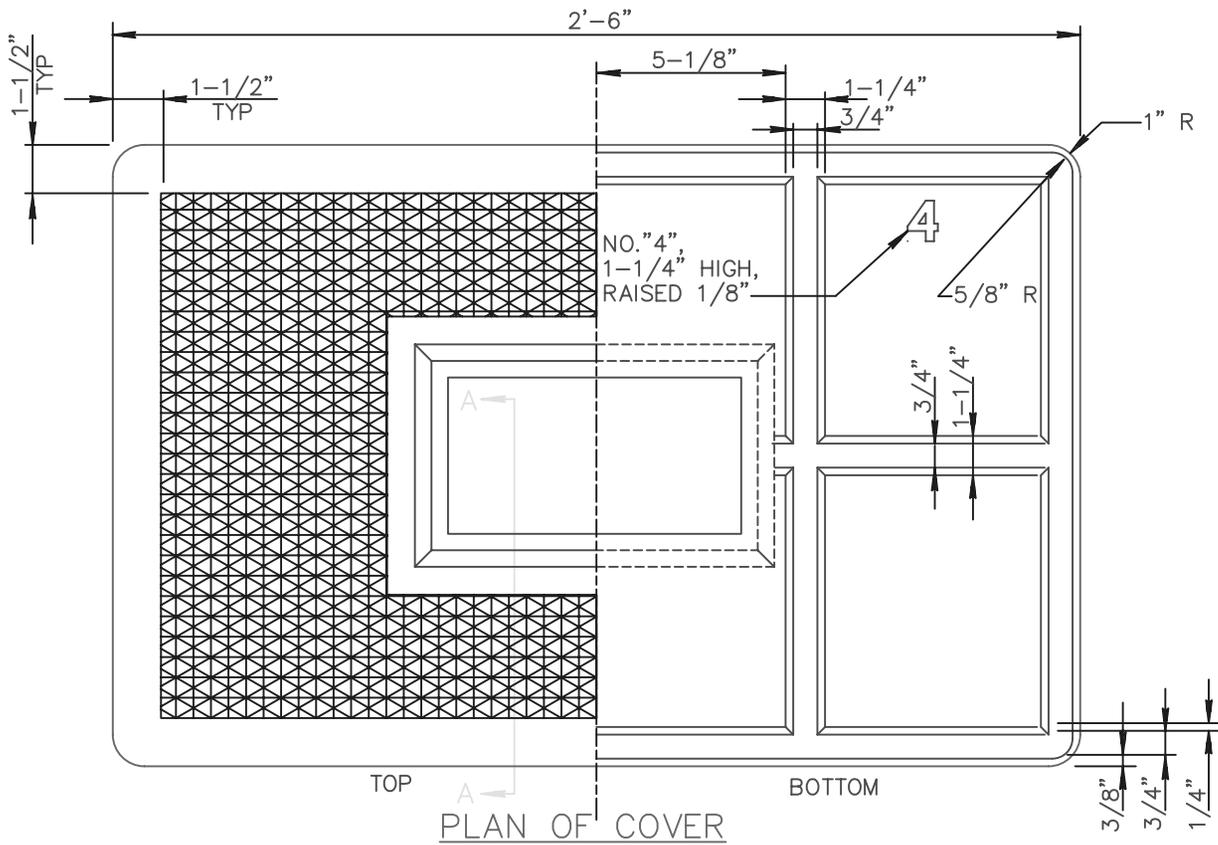
STANDARD DETAIL

**CAST IRON OR DIAMOND PLATE STEEL
WATER METER BOX COVER NO. 3**

CITY OF KINGMAN

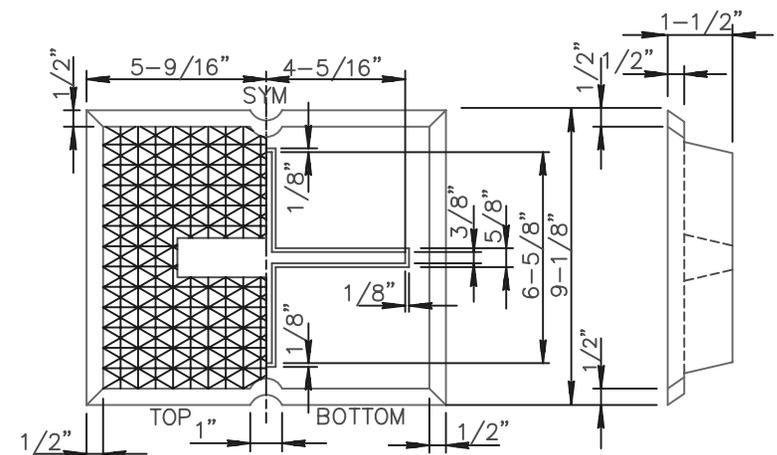
N.T.S.
DETAIL NO.

312



PLAN OF COVER

SECTION A-A

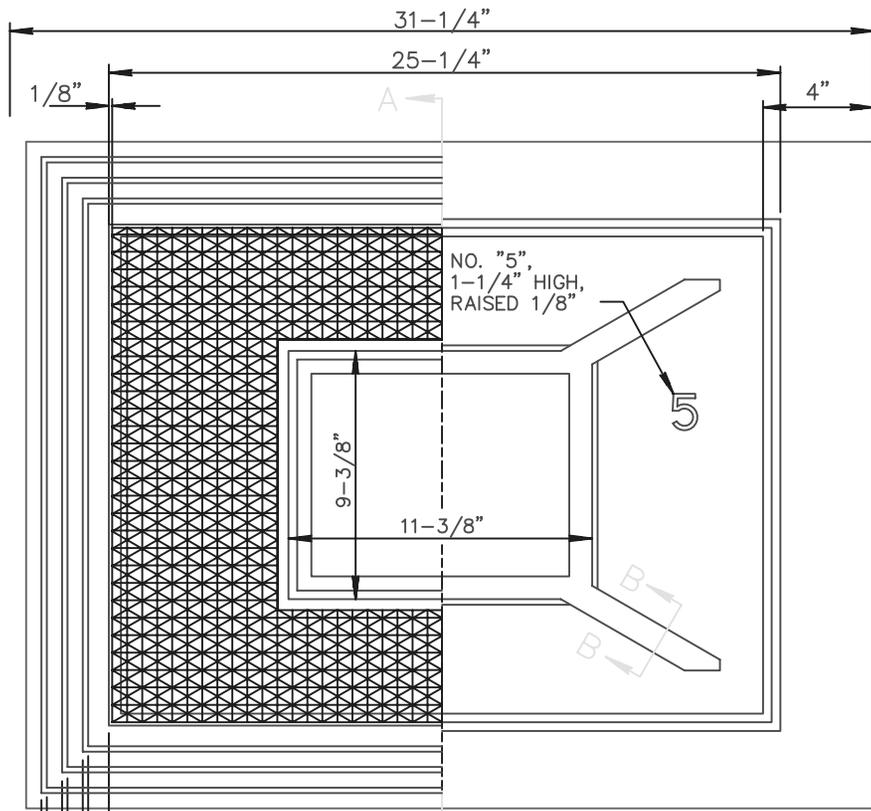


INSPECTION PLATE

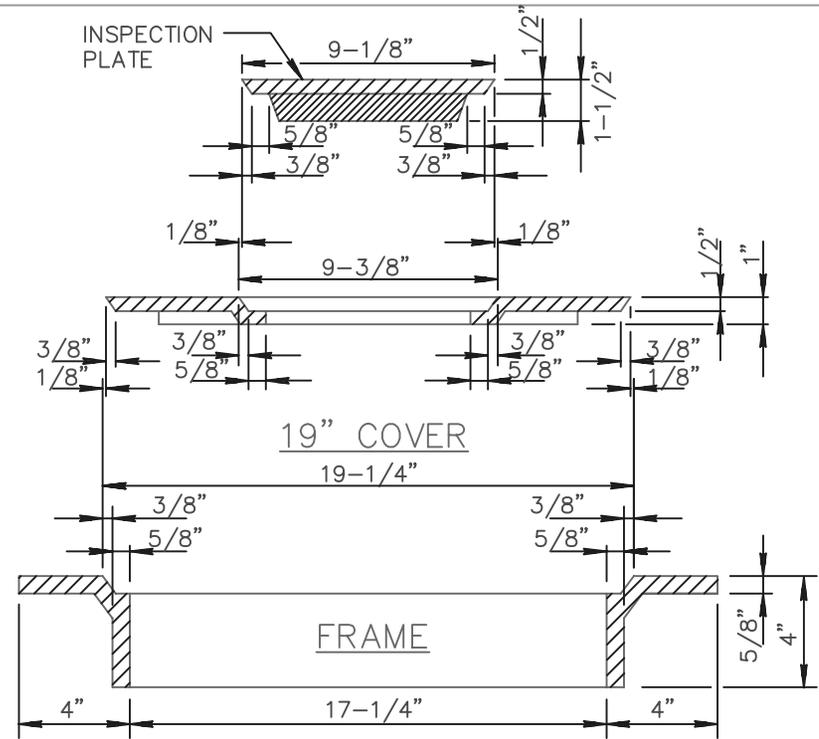
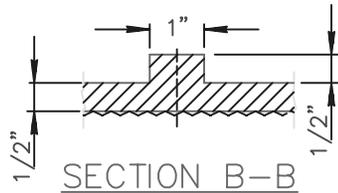
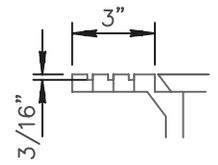
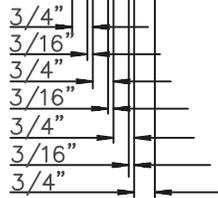
NOTES:

1. FOR CASTING SPECIFICATIONS, SEE SECT. 787. THE BEARING
2. THE BEARING EDGES OF THESE CASTINGS SHALL BE MACHINED TO INSURE A FULL BEARING ON A FLAT SURFACE.
3. DIAMOND PLATE STEEL TO BE 3/8" MINIMUM THICKNESS, AND DOES NOT REQUIRE "WATER" DESIGNATION. DIAMOND PLATE TO BE USED IN NON-TRAFFIC AREAS ONLY.

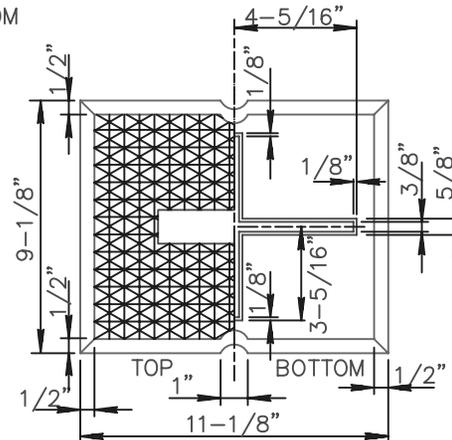
DETAIL NO. 313	STANDARD DETAIL	CAST IRON OR DIAMOND PLATE STEEL WATER METER BOX COVER NO. 4	CITY OF KINGMAN	N.T.S. DETAIL NO. 313
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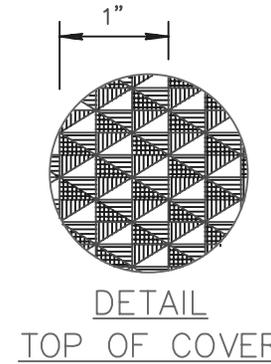
PLAN OF COVER



SECTION A-A



INSPECTION PLATE



DETAIL TOP OF COVER

NOTES:

1. FOR CASTING SPECIFICATIONS, SEE SECT. 787.
2. THE BEARING EDGES OF THESE CASTINGS SHALL BE MACHINED TO INSURE A FULL BEARING ON A FLAT SURFACE.
3. DIAMOND PLATE STEEL TO BE 3/8" MINIMUM THICKNESS, AND DOES NOT REQUIRE "WATER" DESIGNATION. DIAMOND PLATE TO BE USED IN NON-TRAFFIC AREAS ONLY.

DETAIL NO.

314

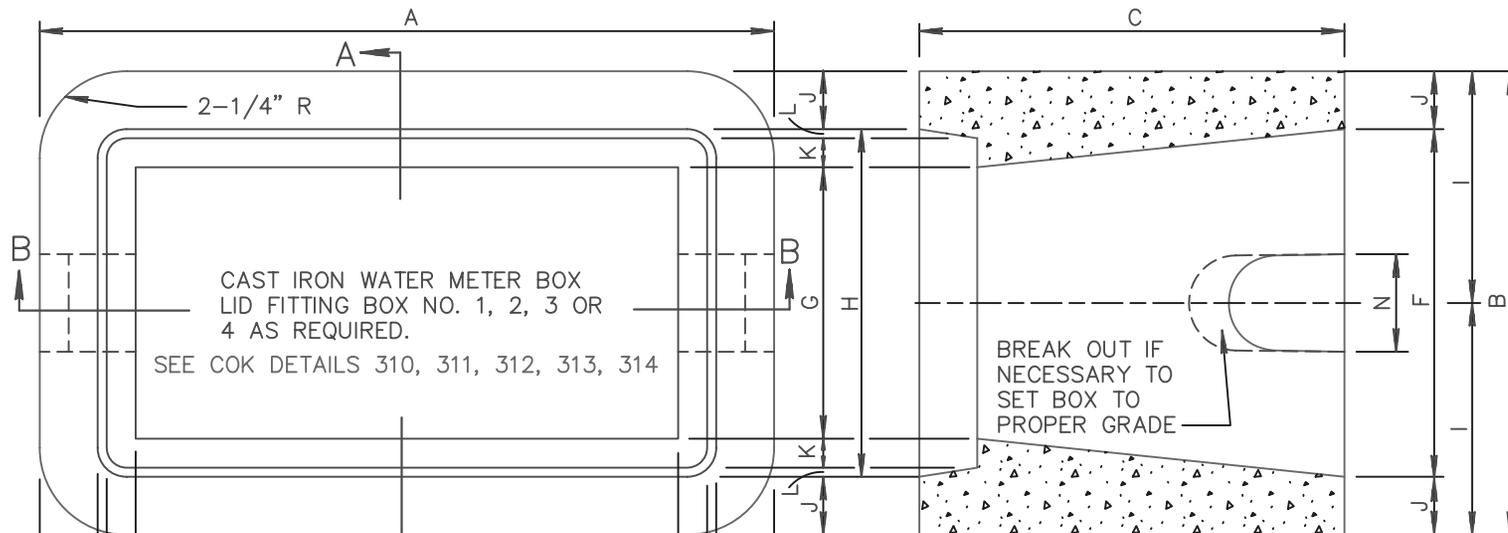
STANDARD DETAIL

**CAST IRON OR DIAMOND PLATE STEEL
WATER METER BOX COVER NO. 5**

CITY OF KINGMAN

N.T.S.
DETAIL NO.

314

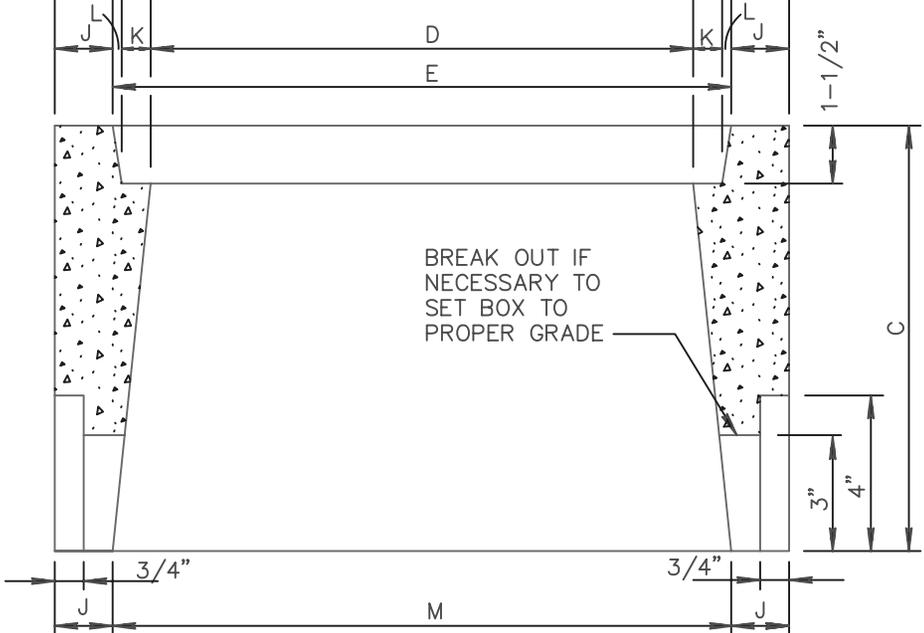


PLAN VIEW

SECTION A-A

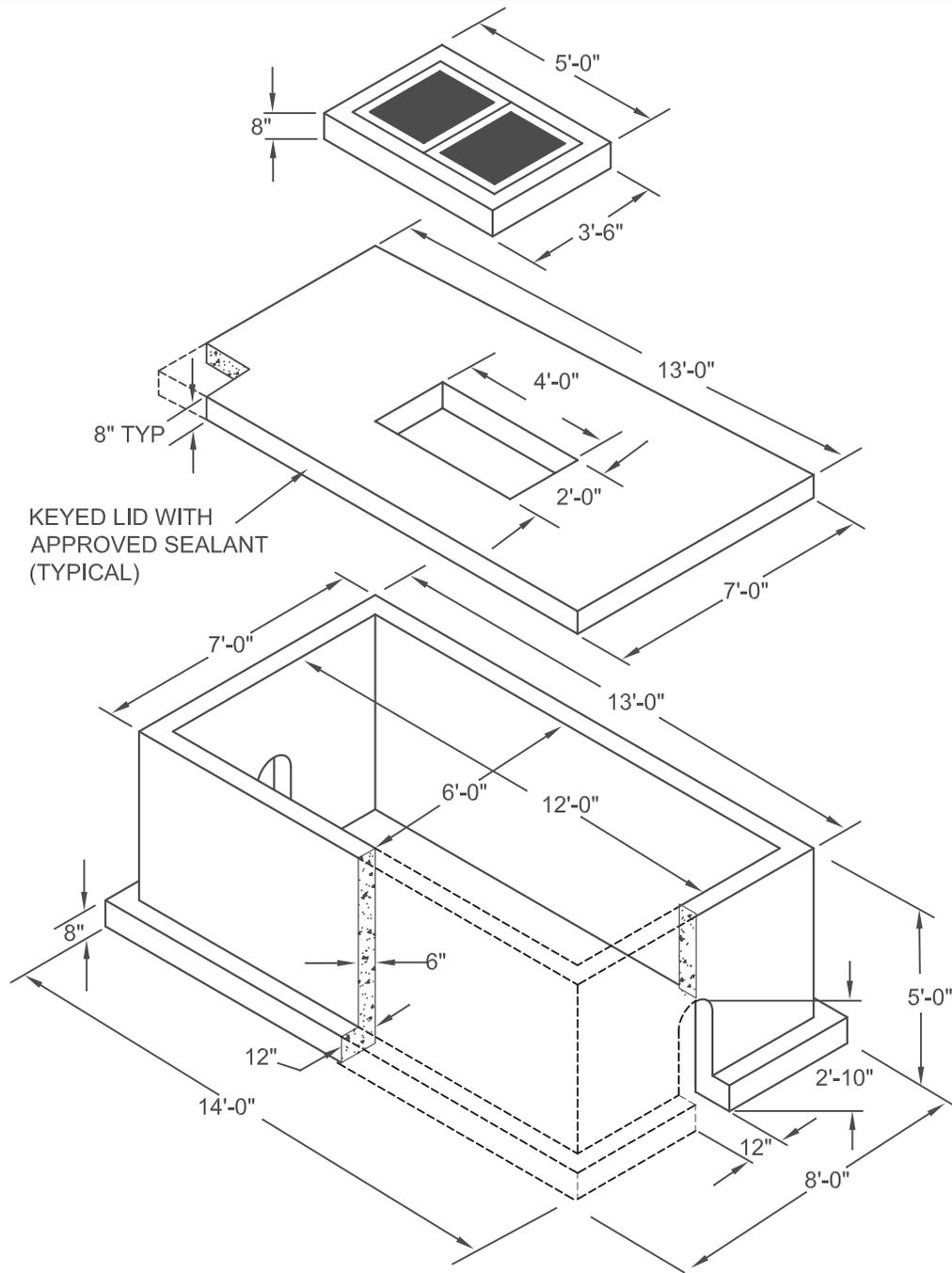
NOTES:

1. METER BOXES SHALL BE PRECAST PORTLAND CONCRETE USING CLASS AA CONCRETE PER SECT. 725.
2. METER BOXES SHALL CONFORM TO THE DIMENSIONS AS SHOWN.
3. ALL METER BOXES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
4. METER BOXES SHALL BE SET TO FINISH GRADE AS DIRECTED BY THE CITY ENGINEER.



SECTION B-B

METER BOX DIMENSIONS				
DIMS	BOX NUMBER			
	1	2	3	4
A	19"	24-1/2"	29-1/2"	33-1/2"
B	12"	16-3/4"	18-1/2"	22-3/4"
C	11"	12"	13"	12"
D	14"	19"	23-3/4"	27-3/4"
E	16"	22"	26-1/2"	30-1/2"
F	9"	13-1/4"	15"	19-3/4"
G	7"	11-1/4"	12-3/4"	17"
H	9"	14-1/4"	15-1/2"	19-3/4"
I	6"	8-3/8"	9-1/4"	11-3/8"
J	1-1/2"	1-3/4"	1-3/4"	1-1/2"
K	3/4"	1-1/8"	1"	1"
L	1/4"	3/8"	3/8"	3/8"
M	16"	21"	25-1/2"	30-1/2"
N	2-1/2"	3-1/2"	4"	4"
	5/8" OR 3/4" METER	1" METER	1-1/2" METER	2" METER



NOTES

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CONSTRUCTION SPECIFICATIONS AND DETAILS FROM THE MANUFACTURER FOR REVIEW AND APPROVAL BY THE CITY ENGINEER PRIOR TO INSTALLING THE VAULT AND ENTRY HARDWARE. VAULTS SHALL BE PRE-CAST CONCRETE ONLY.
2. VAULTS SHALL BE DESIGNED AND MEET AASHTO (HS20-44).
3. A NO. 1 METER BOX AND COVER PER CITY OF KINGMAN DETAIL 320 AND CITY OF KINGMAN DETAIL 310 SHALL BE PROVIDED AND MODIFIED BY THE CONTRACTOR TO HOUSE REMOTE READ DEVICES AND ASSOCIATED WIRING. 1/2 INCH DIA SCHEDULE 40 PVC CONDUIT SHALL BE RUN FROM THE VAULT TO THE INTERIOR OF THE METER BOX TO HOUSE REMOTE READ WIRING AS DIRECTED BY THE CITY ENGINEER.
4. THE VAULT FLOOR SHALL CONSIST OF 2" MAX DIA CRUSHED ROCK PER MAG SPECIFICATIONS SECTION 701, PLACED TO 4" MIN DEPTH.

* VAULT SPECIFICATIONS MAY DIFFER SLIGHTLY FROM MANUFACTURER TO MANUFACTURER (SEE NOTE 1)

N.T.S.

DETAIL NO.

322

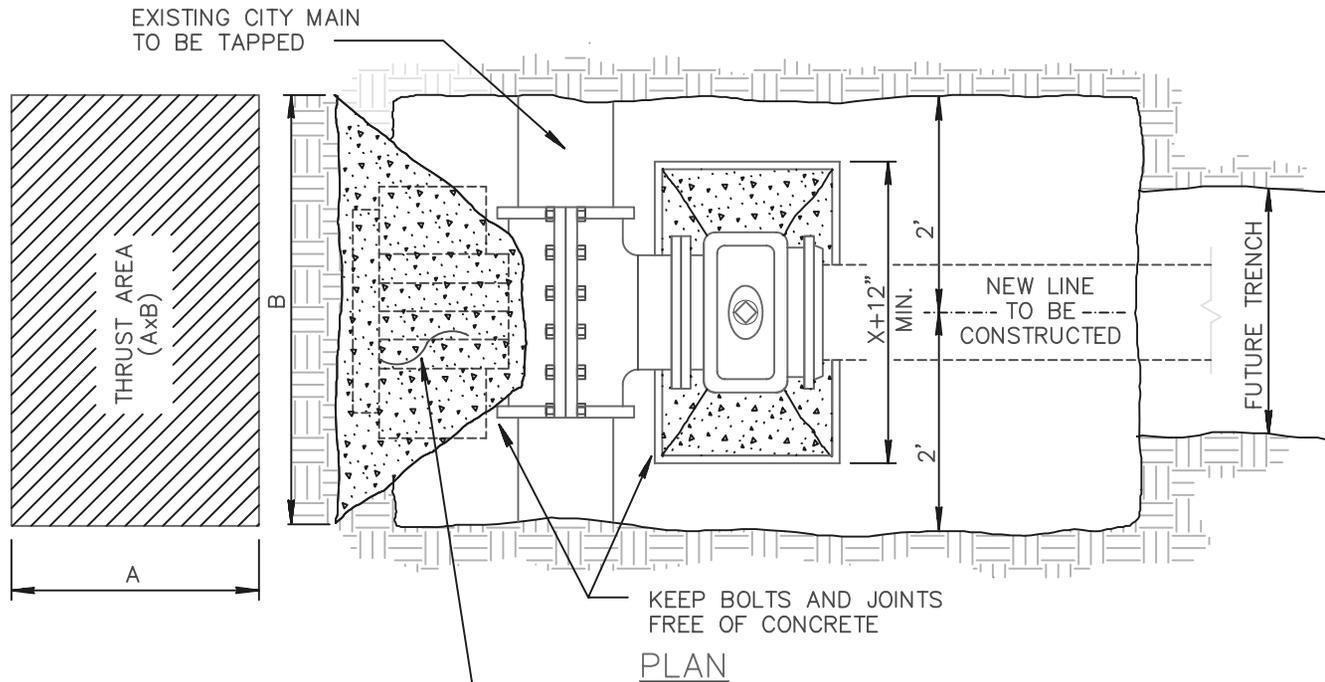
STANDARD DETAIL

6" WATER METER VAULT

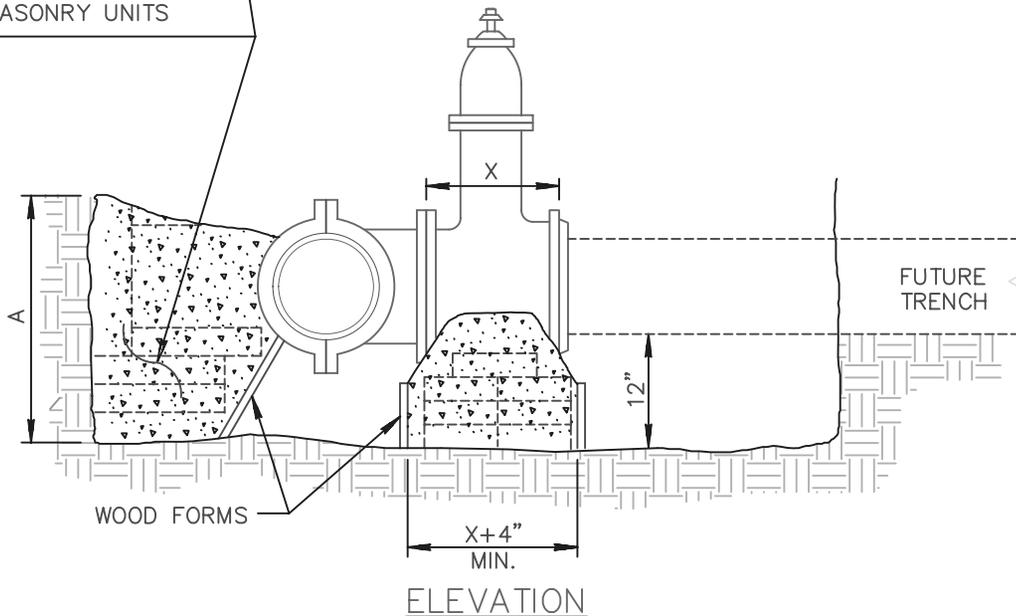
CITY OF KINGMAN

DETAIL NO.

322



OPTIONAL BLOCKING - 2" x 8" x 12" SOLID CONCRETE MASONRY UNITS AS INDICATED.



NOTES:

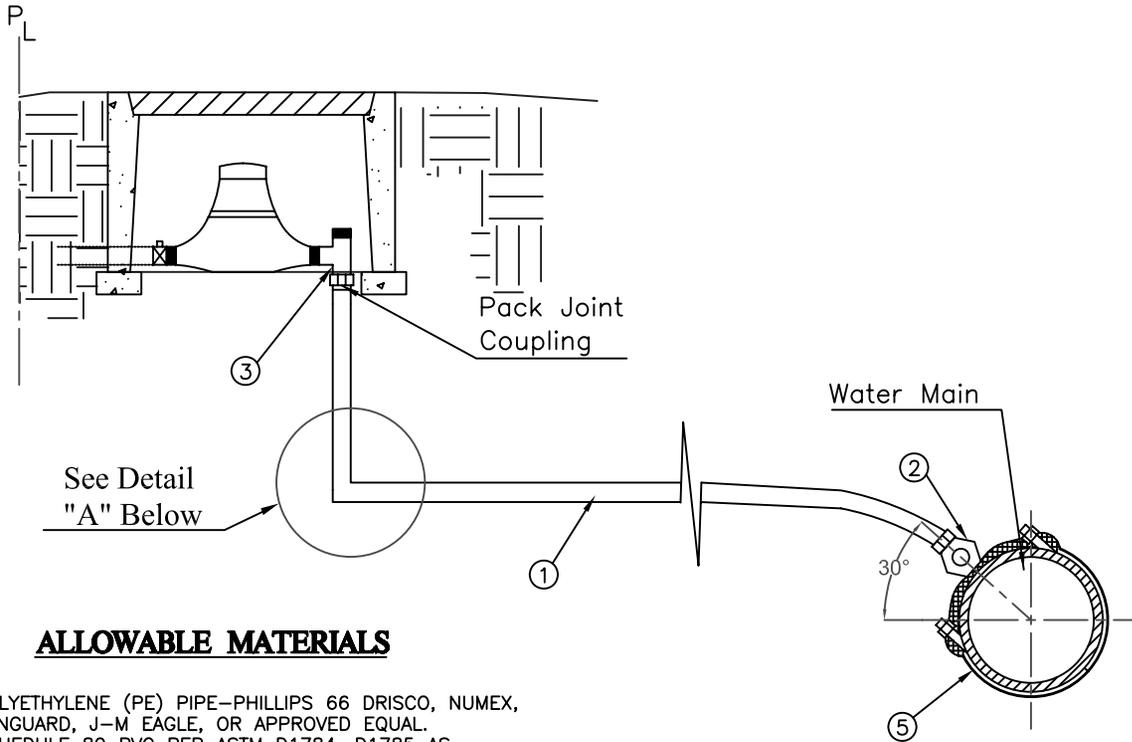
1. EDGE OF TAPPING SLEEVE TO BE PLACED A MINIMUM OF 18" FROM ANY BELL, COUPLING VALVE, FITTING OR OTHER OBSTRUCTION.
2. CONTRACTOR SHALL EXCAVATE AS SHOWN AND SHALL SET TAPPING SLEEVE AND VALVE AND TIGHTEN ALL BOLTS PRIOR TO THE PRESSURE TEST.
3. ALL TAPPING SLEEVES AND VALVES MUST BE PRESSURE TESTED PRIOR TO BLOCKING OR TAPPING. THE TEST MUST BE WITNESSED AND APPROVED BY THE INSPECTOR.
4. CONCRETE THRUST BLOCKS SHALL BE CLASS 'B' PER SECT. 725.
5. TAPS SHALL BE MADE BY THE CONTRACTOR FOR 3" TAPS AND LARGER. THE CONTRACTOR MAKING THE TAP MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO BEGINNING ANY WORK.
6. THIS DETAIL COVERS TAPPING SLEEVES 3" THROUGH 12" IN SIZE ON DUCTILE IRON, CAST IRON, PVC AND ASBESTOS CEMENT PIPE. ANY OTHER SIZE OR TYPE OF PIPE WILL REQUIRE A SEPARATE SUBMITTAL AND APPROVAL BY THE ENGINEER.

NOMINAL PIPE SIZE MAX TAP SIZE

NOMINAL PIPE SIZE	MAX TAP SIZE
3"	3"
4"	4"
6"	6"
8"	8"
10"	10"
12"	12"

SIZE OF NEW LINE TO BE CONSTRUCTED	MINIMUM THRUST AREA REQUIRED EQUALS (AxB) (SQUARE FEET)
4" AND LESS	3
6"	4
8"	6
10"	9
12"	13

DETAIL NO. 340	STANDARD DETAIL	INSTALLING TAPPING SLEEVES AND VALVES 3" AND LARGER	CITY OF KINGMAN	N.T.S. DETAIL NO. 340
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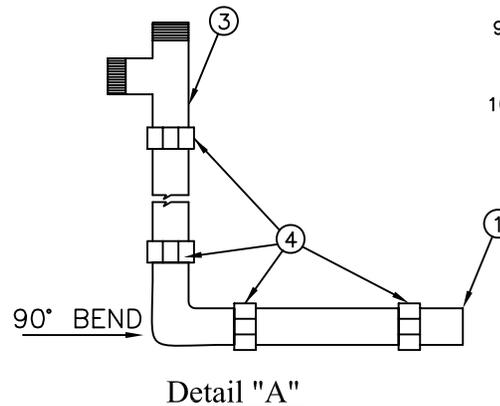
NOTES:

1. METER STOPS SHALL BE BURIED ONE FOOT DEEP. THE METER STOP SHALL BE LOCATED PER COK DETAILS 344-2 & 344-3 OR AS DIRECTED BY THE CITY OF KINGMAN WATER SUPERINTENDENT.
2. ALL FITTINGS SHALL BE THE PACK JOINT TYPE. FLARED FITTINGS AND COUPLINGS WILL NOT BE ACCEPTED.
3. METER BOXES SHALL BE IN ACCORDANCE WITH CITY OF KINGMAN STANDARD DETAIL 320, METER BOX COVERS SHALL BE IN ACCORDANCE WITH COK STANDARD DETAILS 310, 311, 312, 313, OR 314.
4. METER BOXES AND COVERS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR CONTRACTOR.
5. SERVICE SADDLES AT THE WATER MAIN SHALL BE LOCATED A MINIMUM OF 18 INCHES FROM COUPLINGS, COLLARS, OR OTHER SADDLES.
6. THE MAXIMUM SIZE OUTLET FOR USING STRAP SERVICE CLAMPS IS 2". THE MAXIMUM PIPE DIA THAT CAN BE TAPPED IS 12".
7. WATER SERVICE LINES SHALL BE PRODUCED FROM HIGH DENSITY, ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (PE) PIPE COMPOUNDS. ALL WATER SERVICE LINES SHALL MEET THE REQUIREMENTS OF THE APPLICABLE CODES AND STANDARDS FOR POTABLE WATER CONVEYANCE INCLUDING: AWWA, ANSI, ASTM, NSF, UPC, AND MAG. ALL WATER SERVICE LINES SHALL BE IRON PIPE SIZE (IPS) DIAMETER, SDR 7, RATED TO 200 PSI.
8. WATER SERVICE LINES SHALL BE BURIED A MINIMUM OF 18 INCHES DEEP IN PAVED AREAS. THE BURIAL DEPTH SHALL BE INCREASED TO 24 INCHES MINIMUM IN UNPAVED AREAS.
9. LOCATOR WIRE SHALL BE INSTALLED IN THE SERVICE LINE TRENCH FROM THE MAIN TO THE METER BOX, IN ACCORDANCE WITH CITY OF KINGMAN DETAIL 392.
10. THE METER BOX SHALL BE ADJUSTED TO FINISH GRADE INCLUDING THE METER AS DIRECTED BY THE CITY ENGINEER. ALL ASSOCIATED WORK SHALL BE CONSIDERED INCIDENTAL.

ALLOWABLE MATERIALS

- ① POLYETHYLENE (PE) PIPE—PHILLIPS 66 DRISCO, NUMEX, VANGUARD, J—M EAGLE, OR APPROVED EQUAL. SCHEDULE 80 PVC PER ASTM D1784, D1785 AS APPROVED BY THE WATER SUPERINTENDENT
- ② CORPORATION STOPS
FORD F1101 OR
FORD F500 WITH FORD C16-33
OR C16-44 COUPLING
- ③ ANGLE METER STOPS.
FORD KV63-332W (3/4 INCH LINES) OR FORD KV63-342W (1 INCH LINES)
FORD FLANGE METER COUPLING (1 1/2 - 2 INCH LINES
WITH FORD C86-33 OR C86-44 M-COUPLINGS
- ④ PACK JOINT FITTINGS AS APPROVED
- ⑤ SERVICE SADDLES ON PVC WATER MAINS SHALL BE BRASS FULL CIRCLE SINGLE CLAMPS MADE SPECIFICALLY FOR AWWA C-900 PVC PIPE, FORD S-90 OR APPROVED EQUAL

A.C. STEEL, DIP. SHALL BE BRASS DOUBLE STRAP SERVICE SADDLES FORD F-202 OR APPROVED EQUAL



N.T.S.

DETAIL NO.

344-1

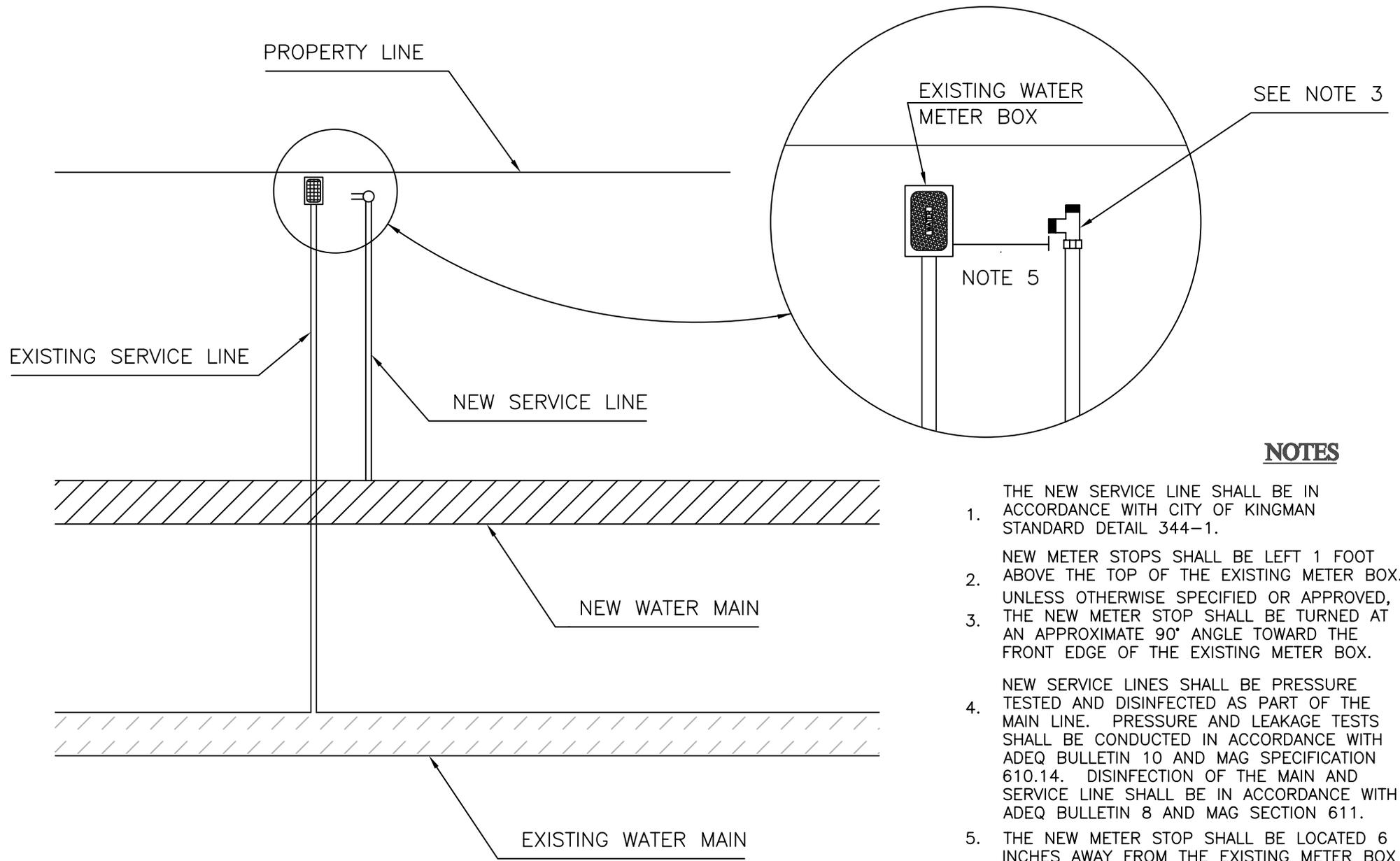
STANDARD DETAIL

1" - 2" WATER SERVICE INSTALLATION

CITY OF KINGMAN

DETAIL NO.

344-1

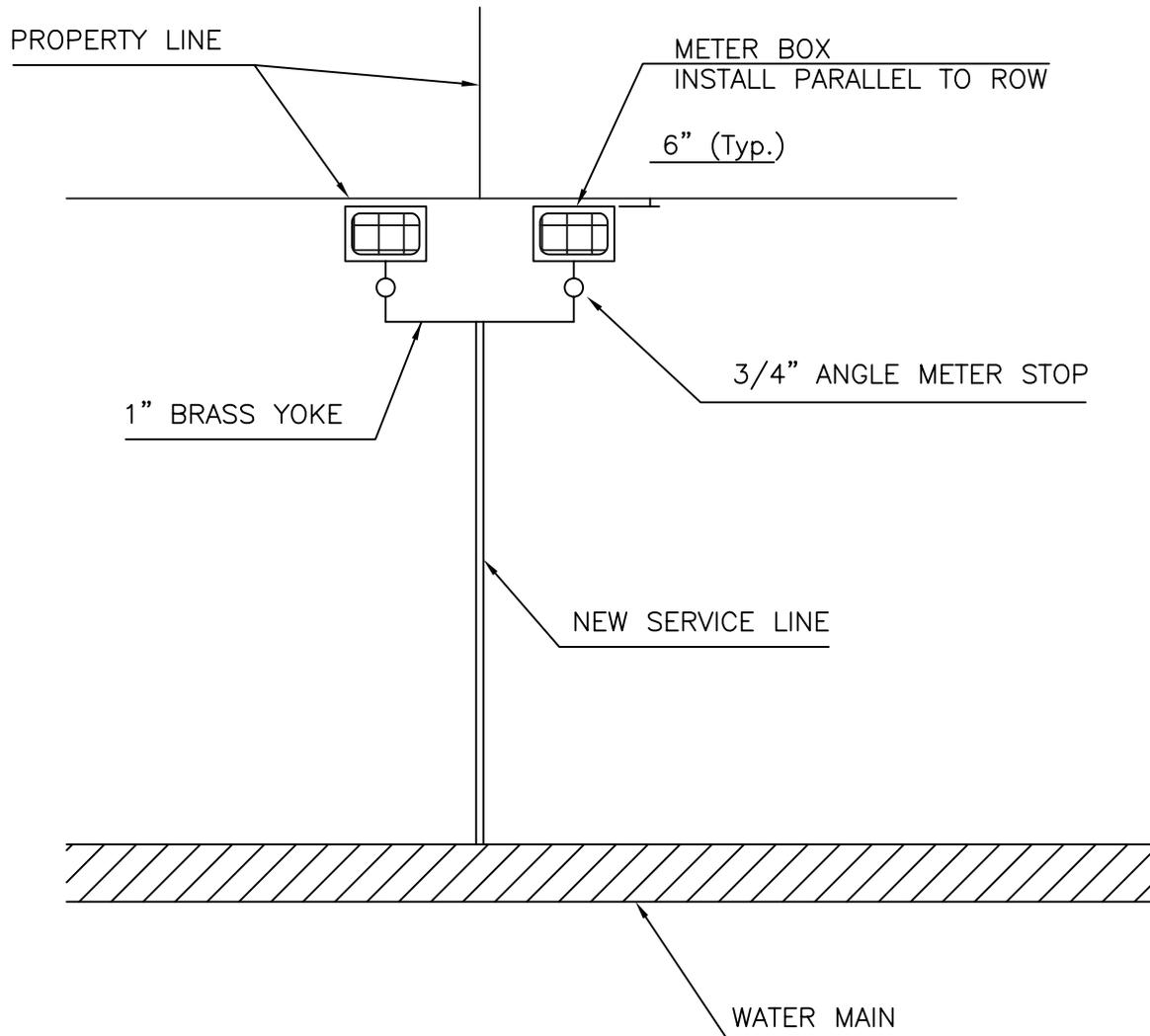


NOTES

1. THE NEW SERVICE LINE SHALL BE IN ACCORDANCE WITH CITY OF KINGMAN STANDARD DETAIL 344-1.
2. NEW METER STOPS SHALL BE LEFT 1 FOOT ABOVE THE TOP OF THE EXISTING METER BOX.
3. UNLESS OTHERWISE SPECIFIED OR APPROVED, THE NEW METER STOP SHALL BE TURNED AT AN APPROXIMATE 90° ANGLE TOWARD THE FRONT EDGE OF THE EXISTING METER BOX.
4. NEW SERVICE LINES SHALL BE PRESSURE TESTED AND DISINFECTED AS PART OF THE MAIN LINE. PRESSURE AND LEAKAGE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ADEQ BULLETIN 10 AND MAG SPECIFICATION 610.14. DISINFECTION OF THE MAIN AND SERVICE LINE SHALL BE IN ACCORDANCE WITH ADEQ BULLETIN 8 AND MAG SECTION 611.
5. THE NEW METER STOP SHALL BE LOCATED 6 INCHES AWAY FROM THE EXISTING METER BOX FOR 3/4 AND 1 INCH SERVICES. THE NEW METER STOP SHALL BE LOCATED 18 INCHES AWAY FROM THE EXISTING METER BOX FOR 2 INCH AND LARGER SERVICES.

N.T.S.

DETAIL NO. 344-2	STANDARD DETAIL	WATER SERVICE REPLACEMENT	CITY OF KINGMAN	DETAIL NO. 344-2
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NOTES

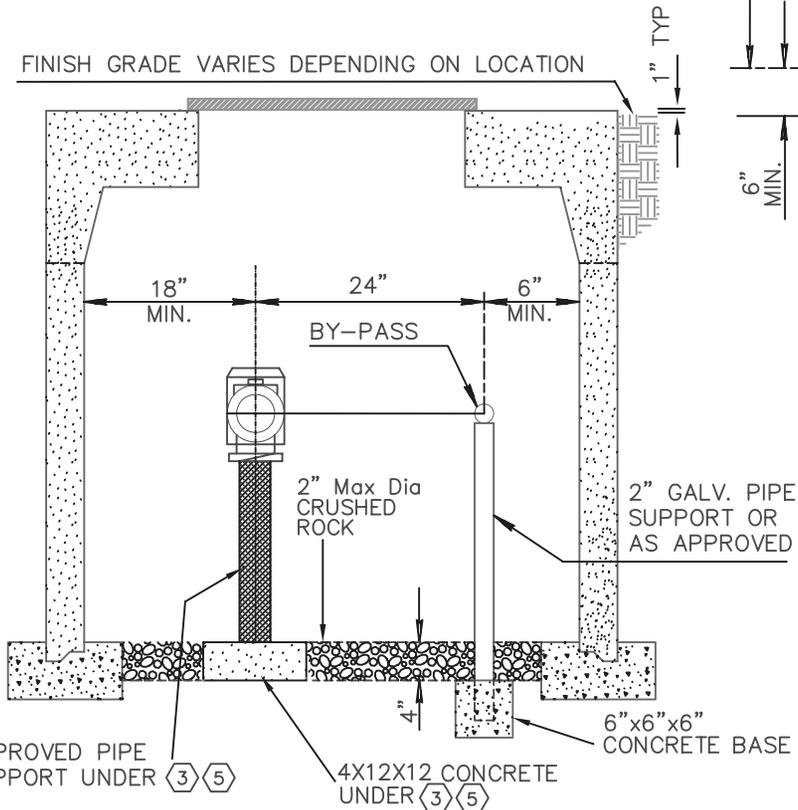
1. NEW WATER SERVICE LINES SHALL BE IN ACCORDANCE WITH CITY OF KINGMAN STANDARD DETAIL 344-1.
2. THE 1 INCH BRASS YOKE SHALL BE FORD UV 63-42W-14 OR APPROVED EQUAL.
3. A 1 INCH BALL VALVE OR CURB STOP SHALL BE USED FOR CONNECTION TO THE YOKE, WHEN REPLACING EXISTING SERVICE LINES.
4. METER BOXES SHALL BE IN ACCORDANCE WITH MAG STANDARD DETAIL 320, NO. 1.
5. METER BOX COVERS SHALL BE IN ACCORDANCE WITH MAG STANDARD DETAIL 310.
6. SERVICE SADDLES AT THE WATER MAIN SHALL BE LOCATED A MINIMUM OF 18 INCHES FROM A COUPLING, COLLAR, OR OTHER SADDLE.

DETAIL NO. 344-3	STANDARD DETAIL	DOUBLE WATER SERVICE	CITY OF KINGMAN	N.T.S. DETAIL NO. 344-3
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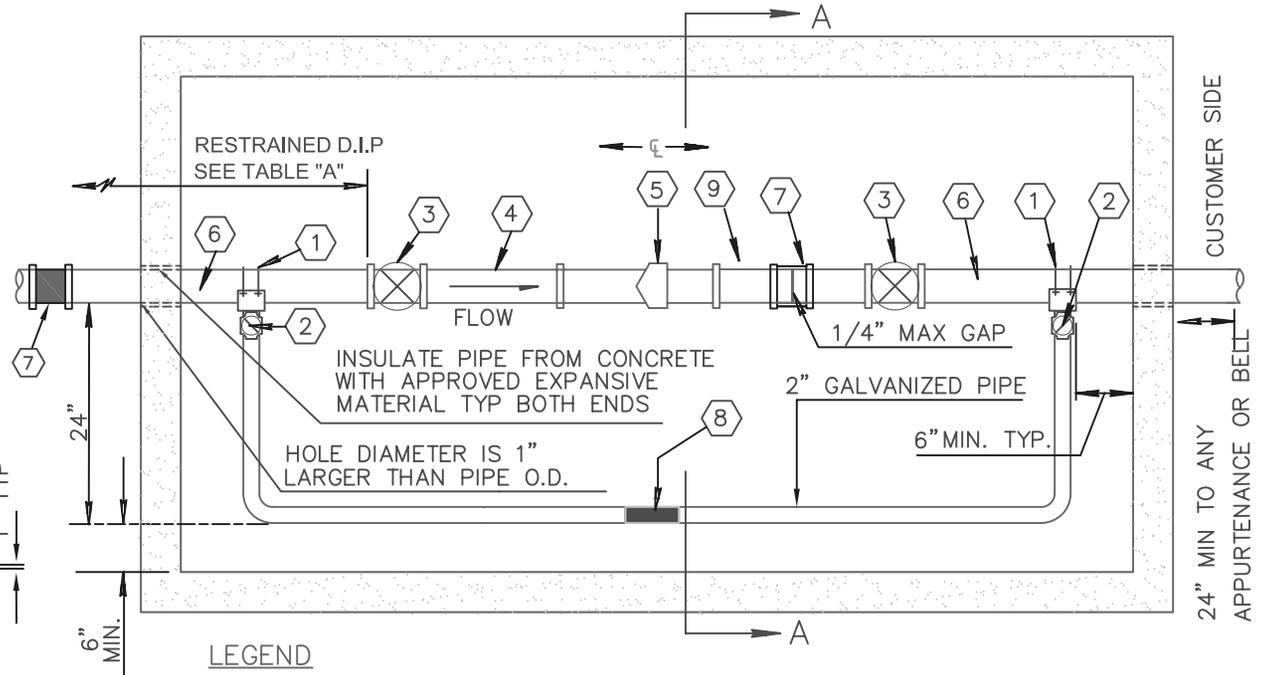
NOTES

1. AN APPROVED VALVE SHALL BE INSTALLED AT THE MAIN FOR THE SUPPLY LINE LEADING TO THE METER.
2. INSTALLATION FOR WATER METER SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO CONNECT TO THE SUPPLY LINE. (TAPPING SLEEVE, TEE, VALVES, SERVICE SADDLES, THRUST BLOCKS ETC) ALL PIPE, FITTINGS, TRENCHING, AND MATERIALS NEEDED FOR THE CONSTRUCTION FROM THE CONNECTION POINT TO THE METER. (ALL COMPONENTS OF THE METER ASSEMBLY AND VAULT).
3. FOR VAULT CONSTRUCTION SEE CITY OF KINGMAN DETAIL 321 OR 322.

FINISH GRADE VARIES DEPENDING ON LOCATION



SECTION A-A



LEGEND

- ① DOUBLE STRAP ALL BRONZE SERVICE SADDLES.
- ② CORP. STOP, 2" (BALL TYPE).
- ③ FLANGED RESILIENT WEDGE GATE VALVE WITH HAND WHEEL, OPEN LEFT.
- ④ FLANGED SPOOL (24" LENGTH).
- ⑤ TURBOMETER U.L. APPROVED: ROCKWELL W-5000 DR. OR W-2000 DR, OR HERSEY F.M.-C.T. OR NEPTUNE TURBINE-F.S.-U.L. OR APPROVED BY WATER SUPERINTENDENT.
- ⑥ FLANGED SPOOL, OR DUCTILE IRON PIPE WITH MEGA-LUGS.
- ⑦ DUCTILE IRON SLEEVE RESTRAINED WITH MEGA-LUGS. (TYPICAL).
- ⑧ BOLTED FLEXIBLE COUPLING (GASKETED SLEEVE TYPE, FORD OR APPROVED EQUAL).
- ⑨ 24" DIP SPOOL CUT IN HALF AT THE CENTER.

TABLE A

MINIMUM RESTRAINED PIPE LENGTH CITY SERVICE SIDE (FEET)	
3" ASSEMBLY	54
4" ASSEMBLY	72
6" ASSEMBLY	102

DETAIL NO.

345-1

STANDARD DETAIL

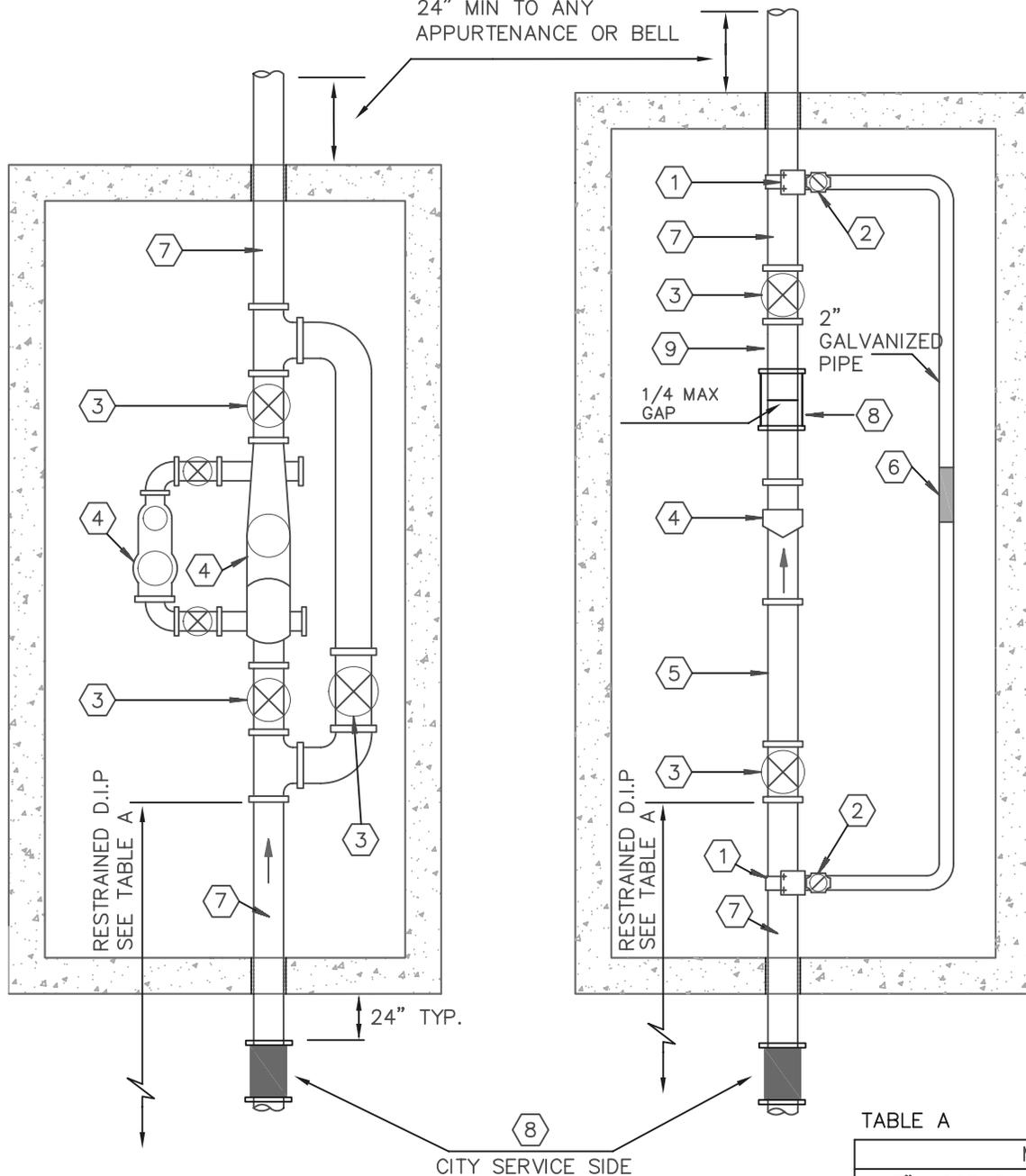
3", 4", 6" WATER METER

CITY OF KINGMAN

N.T.S.
DETAIL NO.

345-1

CUSTOMER SIDE
24" MIN TO ANY
APPURTENANCE OR BELL



LEGEND

- ① ALL BRONZE DOUBLE STRAP SERVICE SADDLES.
- ② CORP. STOP, 2" (BALL TYPE).
- ③ RESILIENT WEDGE GATE VALVE, FLANGED, WITH HAND WHEEL TO OPEN LEFT.
- ④ TURBOMETER U.L. APPROVED: ROCKWELL W-5000 DR. OR W-2000 DR. OR HERSEY F.M.-C.T. OR NEPTUNE TURBINE-F.S.-U.L. OR AS APPROVED BY WATER SUPERINTENDENT.
- ⑤ FLANGED SPOOL (24" MIN LENGTH).
- ⑥ BOLTED FLEXIBLE COUPLING (GASKETED SLEEVE TYPE, FORD OR APPROVED EQUAL).
- ⑦ FLANGED SPOOL, OR DUCTILE IRON PIPE WITH MEGA LUGS.
- ⑧ DUCTILE IRON SLEEVE RESTRAINED WITH MEGA-LUGS.
- ⑨ FLANGED SPOOL 24" MIN LENGTH CUT IN HALF AT CENTER

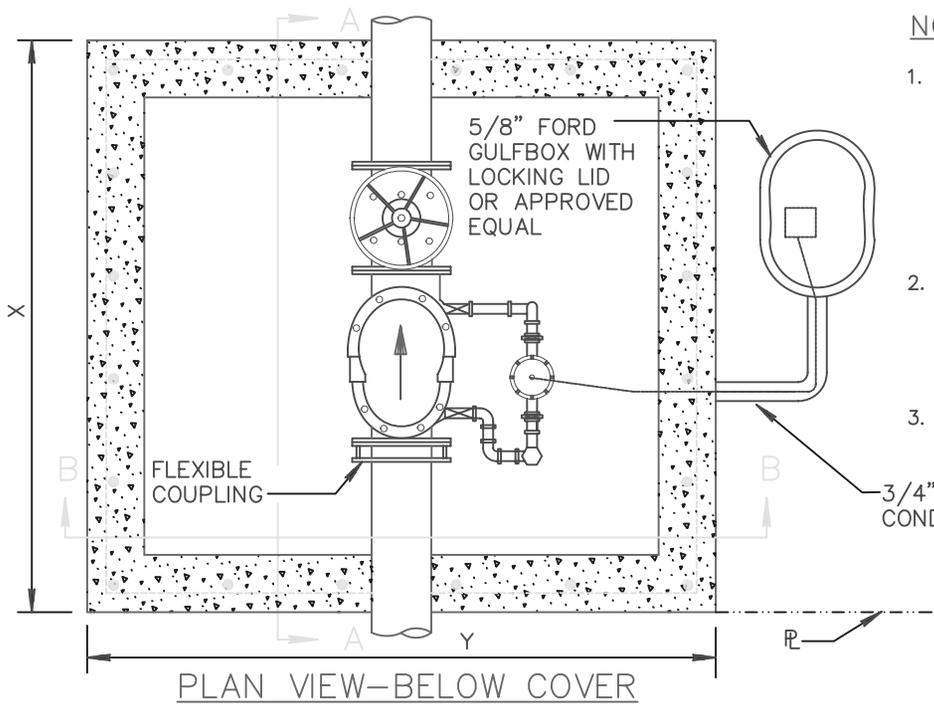
NOTES

1. FOR VAULT CONSTRUCTION SEE COK DETAIL 321 AND 322.
2. FOR LARGER METERS, SPECIAL VAULT DESIGN IS REQUIRED.
3. REQUIREMENT OF REMOTE READING DEVICE IS AT THE OPTION OF THE UTILITY.
4. AT LEAST THREE APPROVE PIPE SUPPORTS ON 4X12X12 CONCRETE FOOTINGS SHALL BE PLACED UNDER THE ASSEMBLY AS DIRECTED BY THE CITY ENGINEER.
5. AN APPROVED VALVE SHALL BE PLACED ON THE SUPPLY LINE AT THE MAIN.
6. INSTALLATION FOR WATER METER SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO CONNECT TO THE SUPPLY LINE. (TAPPING SLEEVE, TEE, VALVES, SERVICE SADDLES, THRUST BLOCKS ETC) ALL PIPE, FITTINGS, TRENCHING, AND MATERIALS NEEDED FOR THE CONSTRUCTION FROM THE CONNECTION POINT TO THE METER.
7. STRAINER (3", 4", 6") AVAILABLE FROM METER MANUFACTURER. INSTALL ONLY WHEN "TURBO" IS USED AS DIRECTED BY THE CITY WATER SUPERINTENDENT.

TABLE A

MINIMUM RESTRAINED PIPE LENGTHS (FEET)			
3" ASSEMBLY - 54	4" ASSEMBLY - 72	6" ASSEMBLY - 102	N.T.S.

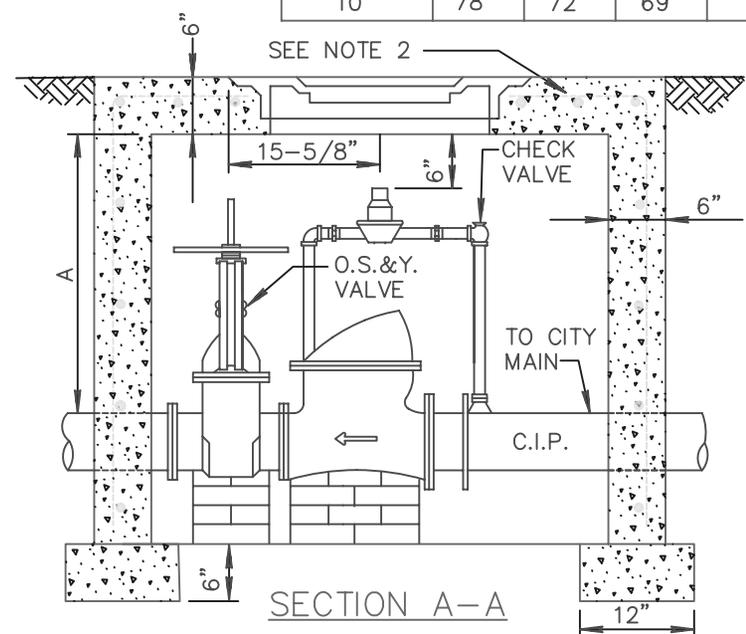
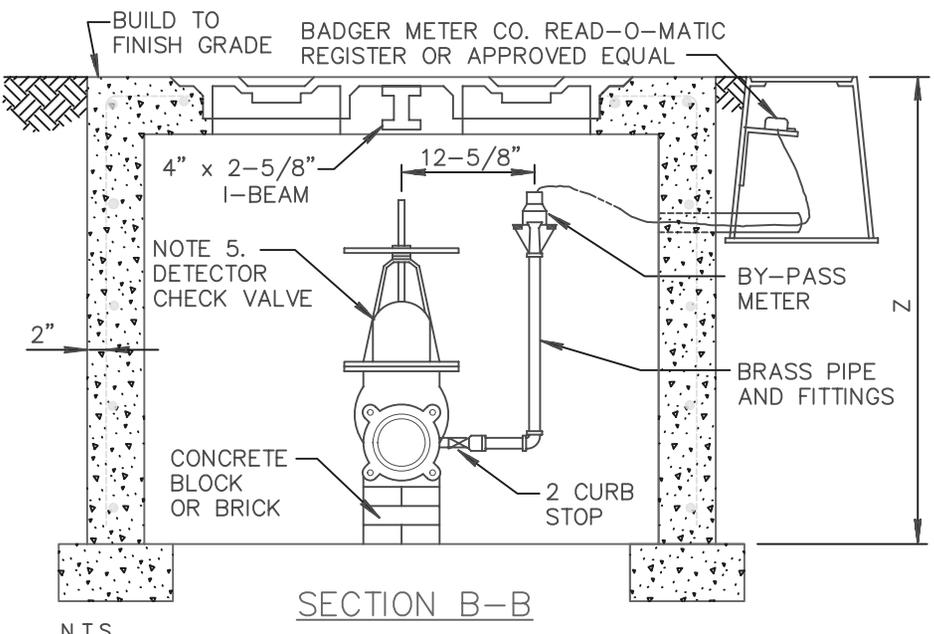
DETAIL NO. 345-2	STANDARD DETAIL	3", 4", 6" WATER METER WITH ON-SITE FIRE HYDRANTS	CITY OF KINGMAN	DETAIL NO. 345-2
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NOTES:

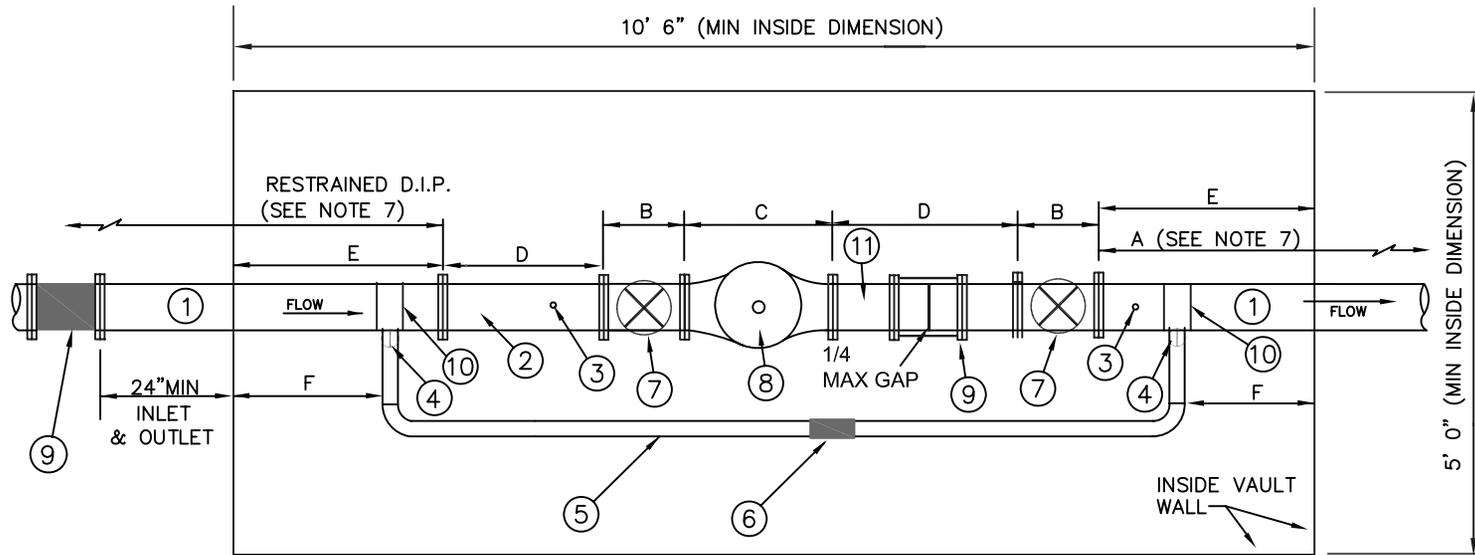
1. FIRELINE PIPE WITHIN VAULT AND VAULT WALLS TO BE CONSTRUCTED OF DUCTILE IRON PIPE (REPLACES CAST IRON PIPE). FIRELINE PIPE FROM EXTERIOR OF VAULT TO CITY MAIN TO BE AN APPROVED PIPE MATERIAL PER CITY OF KINGMAN.
2. REINFORCING TO BE 1/2" DIAMETER REBAR ON 6" CENTERS EACH WAY ON TOP AND 12" CENTERS EACH WAY ON THE SIDES.
3. COVERS TO CONSIST OF TWO METER BOX COVERS DET. 314.
4. BY-PASS METER TO BE ACCORDING TO GOVERNING AGENCY.
5. CHECK VALVE TO BE GLOBE MODEL "A" GRINNEL, HERSEY MODEL D.C., VIKING MODEL "A" OR APPROVED EQUAL.
6. VAULT SHALL BE CONSTRUCTED IN OWNERS PROPERTY AGAINST THE FRONT PROPERTY LINE OR ANOTHER APPROVED LOCATION. WALLS AND FENCES SHALL NOT OBSTRUCT ACCESS.
7. CITY CONTROL VALVE TO BE REQUIRED AT MAIN.
8. PARTS OF PIPE TO BE EMBEDDED IN CONC. SHALL BE WRAPPED WITH 30 LB ASPHALT ROOFING FELT.
9. REMOTE READING DEVICE SHALL BE OF SELF GENERATING ELECTRICAL TYPE. HYDRAULIC OR MECHANICAL DRIVE REGISTERS WILL NOT BE ACCEPTABLE.
10. CONCRETE TO BE CLASS 'B' PER SECT. 725.

DIA. OF PIPE	X	Y	Z	BY-PASS METER SIZE	A
4"	60"	66"	49"	5/8" x 3/4"	30"
6"	66"	72"	49"	5/8" x 3/4"	30"
8"	72"	72"	58"	1"	36"
10"	78"	72"	69"	1-1/2"	36"



11. INLET PIPE MATERIAL TO BE DUCTILE IRON WITH RESTRAINTS OR FLANGED SPOOLS FROM SUPPLY VALVE TO PRV ASSEMBLY.

DETAIL NO.	346	STANDARD DETAIL	FIRE LINE DETECTOR CHECK VAULT	CITY OF KINGMAN	DETAIL NO.	346
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MATERIALS

- ① FLANGED DUCTILE IRON SPOOL, OR DUCTILE IRON PIPE WITH MEGA-LUGS.
- ② FLANGED DUCTILE IRON SPOOL.
- ③ 3/4" BRASS BALL VALVE (THREADED TAP) OR 1/4" TAP & VALVE WITH STAINLESS STEEL GLYCERIN FILLED PRESSURE GAUGE (RANGE 0-160 P.S.I.).
- ④ CORP STOP 2" (BALL TYPE).
- ⑤ 2" BY-PASS LINE OF SCHEDULE 40 GALVANIZED STEEL, THREADED FITTINGS.
- ⑥ BOLTED FLEXIBLE COUPLING (GASKETED SLEEVE TYPE, FORD OR EQUAL).
- ⑦ FLANGED RESILIENT WEDGE GATE VALVE WITH HAND WHEEL PER MAG SPECIFICATION 630.3.
- ⑧ FLANGED PRESSURE REDUCING VALVE, CLASS 125 OR 150 PER THE UTILITIES SUPERINTENDENT (GLOBE TYPE, CLAYTON 90-G-01AB).
- ⑨ APPROVED DUCTILE IRON SLEEVE RESTRAINED WITH MEGA-LUGS. TYPICAL INLET & OUTLET IF NEEDED.
- ⑩ ALL BRONZE DOUBLE STRAP SERVICE SADDLE.
- ⑪ FLANGED DUCTILE IRON SPOOL CUT IN HALF.

NOTES

1. SEE CITY OF KINGMAN STANDARD DETAIL 348 FOR VAULT SPECIFICATIONS.
2. PRESSURE REDUCING VALVE ASSEMBLIES LARGER THAN 8 INCHES SHALL BE DESIGNED BY AN ARIZONA REGISTERED PROFESSIONAL ENGINEER. THE DESIGN SHALL BE SUBMITTED TO THE CITY OF KINGMAN FOR REVIEW AND APPROVAL, PRIOR TO INSTALLATION.
3. EXPANSIVE MATERIAL SHALL BE INSTALLED AROUND THE PIPE PRIOR TO GROUTING THE VAULT WALLS.
4. PRESSURE REDUCING VALVE SHALL BE SUPPORTED WITH APPROVED SUPPORT ON 4X12X12 CONCRETE FOOTING ALONG WITH AT LEAST TWO ADDITIONAL SUPPORTS PLACED UNDER THE ASSEMBLY AS DIRECTED BY THE CITY ENGINEER.
5. AN APPROVED VALVE SHALL BE PLACED ON THE SUPPLY LINE AT THE MAIN.
6. INSTALLATION SHALL INCLUDE ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO CONNECT TO THE SUPPLY LINE. (TAPPING SLEEVE, TEE, VALVES, THRUST BLOCKING ETC) ALL PIPE, FITTINGS, TRENCHING, AND MATERIALS NEEDED FOR THE CONSTRUCTION FROM THE CONNECTION POINT TO THE PRV.
7. FLANGED DUCTILE IRON SPOOL OR RESTRAINED JOINT DUCTILE IRON PIPE. 6" ASSEMBLIES MINIMUM RESTRAINED DISTANCE 102 FEET - 8" ASSEMBLIES MINIMUM RESTRAINED DISTANCE IS 133 FEET.

TYPICAL DIMENSIONS (Inches)

	B	C	D	E	F
6"	10 1/2	20	24	18	12
8"	11 1/2	25 3/8	24	14	8

DETAIL NO.

347

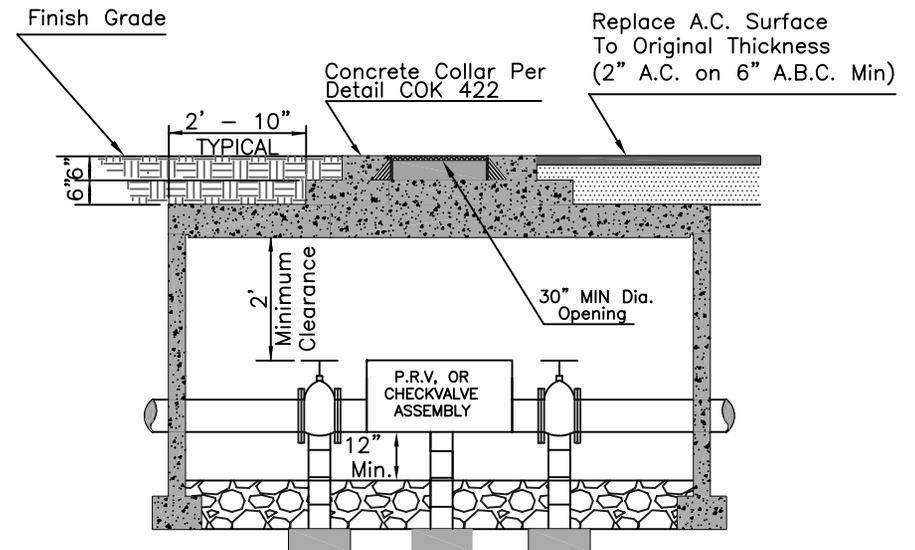
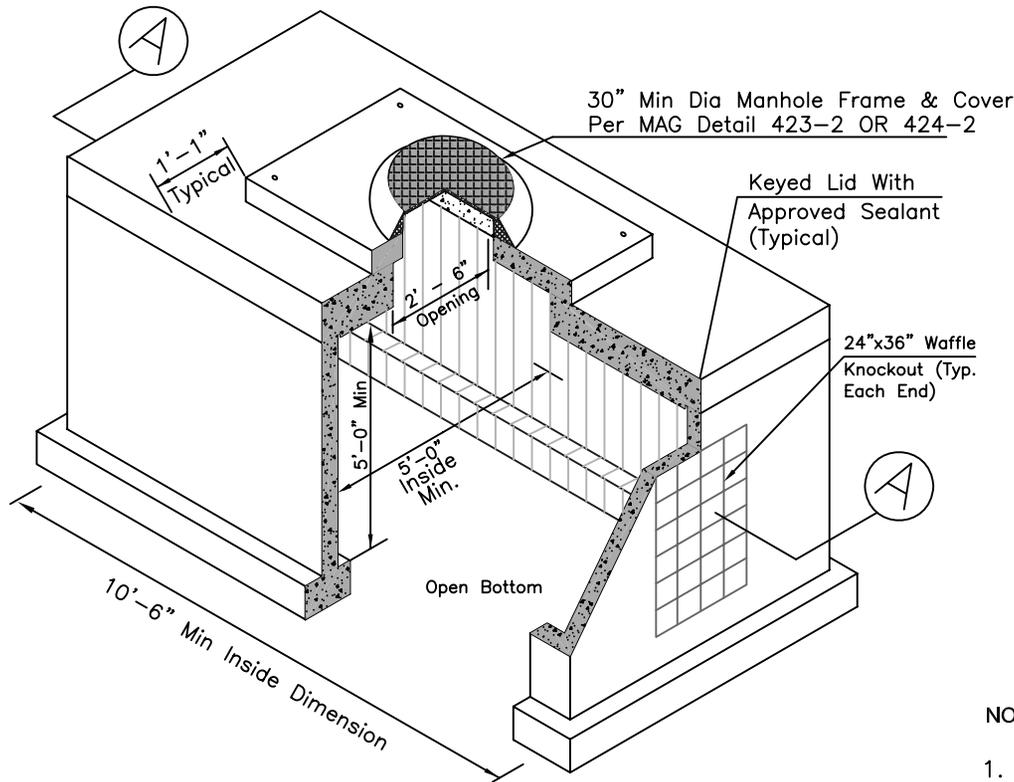
STANDARD DETAIL

**6 AND 8 INCH PRESSURE REDUCING VALVE
ASSEMBLY**

CITY OF KINGMAN

N.T.S.
DETAIL NO.

347



SECTION A-A

NOTES:

1. This Detail Applies To Pressure Reducing Valve And Double Check Backflow Assemblies Up To 8 Inches In Diameter. Larger Assemblies May Require A Larger Vault. All Dimensions Shown Are Minimum.
2. The Vault Floor Shall Consist Of 2 Inch Max. Diameter Crushed Rock, Per MAG Specifications Section 701, Placed To a 1 Foot Minimum Depth.
3. The Contractor Shall Submit Shop Drawings, Construction Specifications, And Details From The Manufacturer, For Review And Approval By The City, Prior To Installing The Precast Vault and Entry Hardware.

SPECIFICATIONS

1. Concrete Shall Be Class AA In Accordance With MAG Specification Section 725.
2. Reinforcing Steel Shall Be In Accordance With ASTM A-615, Grade 60.
3. Vaults Shall Be Designed For Heavy Traffic Conditions (HS20-44).

N.T.S.

DETAIL NO.

348

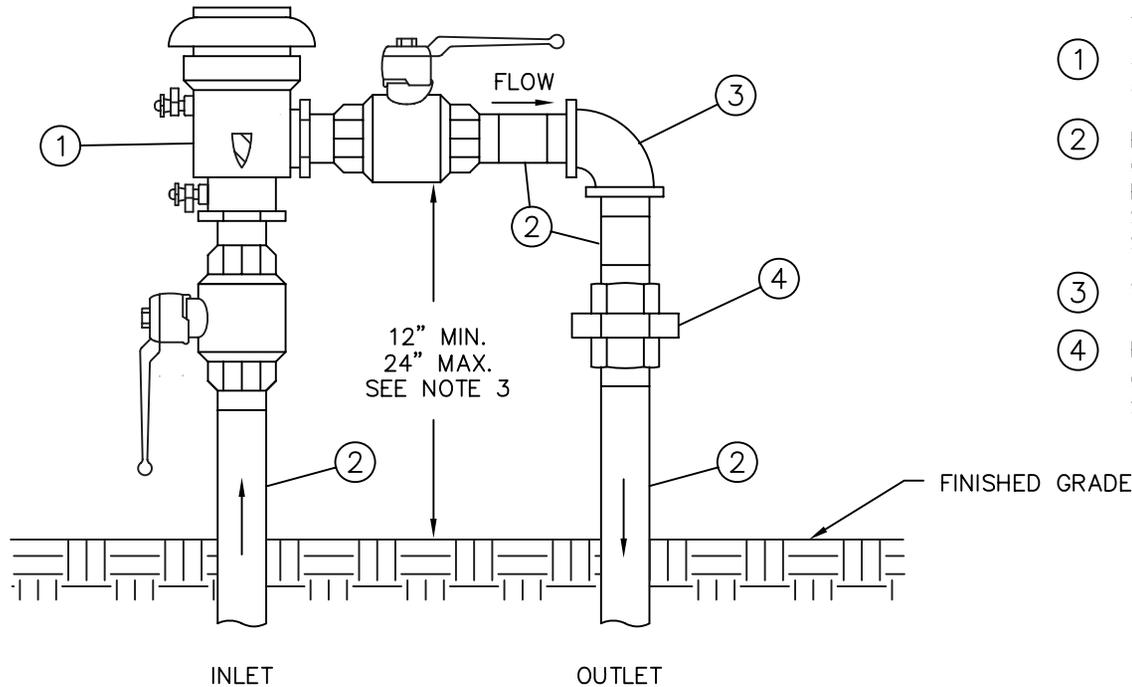
STANDARD DETAIL

PRECAST PRV OR CHECKVALVE VAULT

CITY OF KINGMAN

DETAIL NO.

348



LIST OF MATERIALS

- ① APPROVED PRESSURE VACUUM BREAKER ASSEMBLY, INCLUDING BALL VALVES.
- ② PIPE SPOOL, TYPE "K" COPPER, TYPE "L" COPPER, OR WRAPPED GALVANIZED STEEL PIPE. WRAPPED COATING ON GALVANIZED STEEL PIPE SHALL BE PER MAG SPECIFICATIONS SECTION 753.
- ③ 90° COPPER ELBOW.
- ④ PIPE UNION, BRASS OR COPPER (DIELECTRIC REQUIRED ON GALVANIZED STEEL PIPE).

NOTES:

1. CONTACT CITY OF KINGMAN UTILITIES DIVISION FOR LATEST LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES OR CERTIFIED TESTERS.
2. PRESSURE VACUUM BREAKERS MUST BE INSTALLED AT LEAST 12" ABOVE ALL DOWNSTREAM PIPING AND THE HIGHEST OUTLET ON THE SYSTEM.
3. IF THIS DISTANCE EXCEEDS 24 INCHES, A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY MUST BE UTILIZED. SEE DETAILS 352 & 353.
4. TWO TEST COCKS SHALL BE INSTALLED AS PER UNIVERSITY OF SOUTHERN CALIFORNIA (USC) REQUIREMENTS.
5. SHUT OFF BALL VALVES MUST BE RESILIENT SEATED VALVES AS PER UNIVERSITY OF SOUTHERN CALIFORNIA (USC) REQUIREMENTS.
6. A COPPER/BRASS UNION MUST BE INSTALLED IN THE MIDDLE OF THE DOWNSTREAM RISER.
7. BACKFLOW PREVENTERS MUST BE TESTED BY AN INDEPENDENT CERTIFIED TESTER BEFORE FINAL APPROVAL IS ISSUED.
8. ASSEMBLY SHALL BE APPROVED BY LATEST EDITION OF UNIVERSITY OF SOUTHERN CALIFORNIA (USC) FOUNDATION MANUAL ON CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
9. ADEQUATE FREEZE PROTECTION THAT WILL NOT INTERFERE WITH TESTING PROCEDURES TO BE PROVIDED BY OWNER/DEVELOPER.
10. COPPER FITTINGS SHALL BE CONNECTED WITH LEAD FREE SOLDER.

DETAIL NO.

349

STANDARD DETAIL

**PRESSURE VACUUM BREAKER ASSEMBLY
2" OR LESS**

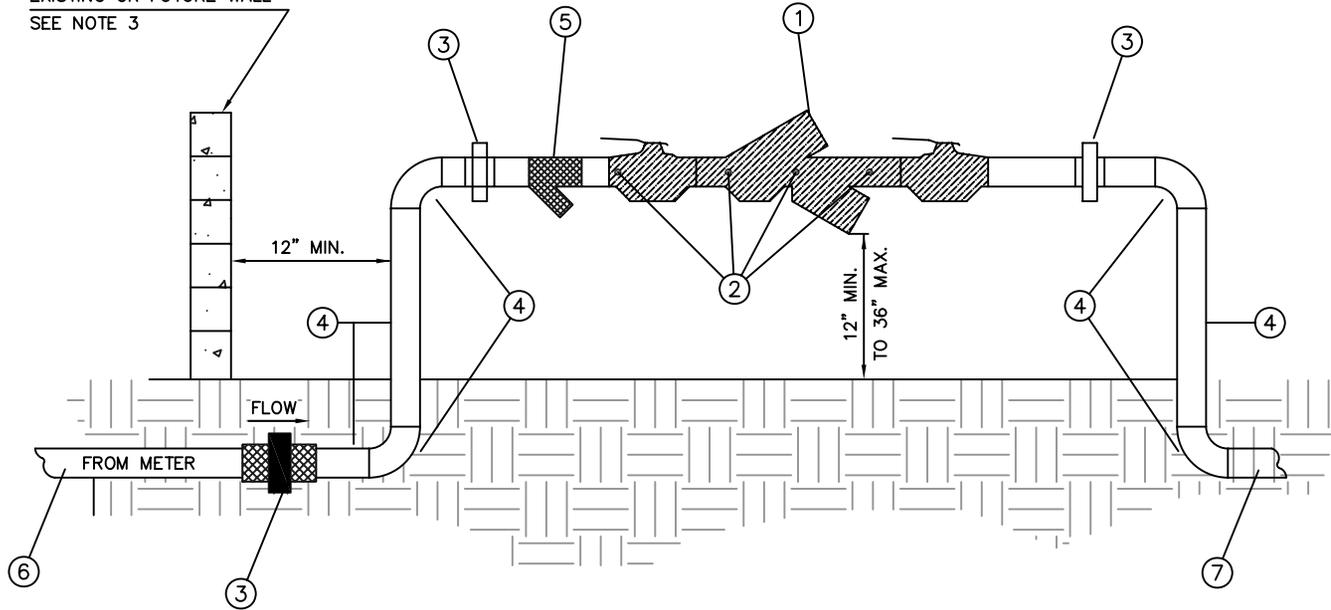
CITY OF KINGMAN

N.T.S.

DETAIL NO.

349

EXISTING OR FUTURE WALL
SEE NOTE 3



LIST OF MATERIALS

- ① APPROVED DOUBLE CHECK BACKFLOW ASSEMBLY.
- ② TEST COCKS (FOUR REQUIRED)
- ③ 3 PIECE BRASS UNION
- ④ TYPE "K" COPPER INCLUDING ELBOW
- ⑤ INSTALL WYE STRAINER BEFORE ASSEMBLY (OPTIONAL).
- ⑥ TYPE "K" COPPER
- ⑦ MATERIAL VARIES

NOTES:

1. CONTACT CITY OF KINGMAN WATER DIVISION FOR LATEST LIST OF APPROVED ASSEMBLIES. ALL MATERIALS FROM THE METER, THE ASSEMBLY AND RELATED COMPONENTS SHALL BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
2. CLEARANCES: MINIMUM 12 INCHES AWAY FROM ANY WALL OR STRUCTURE. MINIMUM 12" ABOVE FINISH GRADE, MAXIMUM 36 INCHES.
3. BACKFLOW PREVENTERS MUST BE TESTED BY AN INDEPENDENT CERTIFIED TESTER BEFORE FINAL APPROVAL IS ISSUED.
4. APPROVED FREEZE PROTECTION THAT WILL NOT INTERFERE WITH TESTING PROCEDURES TO BE PROVIDED BY OWNER/DEVELOPER.
5. ONE UNION IS REQUIRED, EXCEPT IN VAULT INSTALLATIONS, TWO UNIONS SHALL BE REQUIRED. VAULTS FOR BACKFLOW ASSEMBLIES MUST BE APPROVED BY THE CITY ENGINEER.
6. ALL COPPER JOINTS SHALL BE SOLDERED. THE SOLDER ALLOY SHALL COMPLY WITH NSF61 AND ASTM B 32 HAVING A SILVER CONTENT OF NOT LESS THAN 3.4% INTENDED FOR JOINING COPPER PIPES FOR POTABLE WATER SYSTEMS (GRADES SN 94 OR SN 95). THE FLUX SHALL BE TYPE OA FOR GENERAL SOLDERING ON COPPER.

DETAIL NO.

350

STANDARD DETAIL

**DOUBLE CHECK BACKFLOW ASSEMBLY
(3/4 TO 2")**

CITY OF KINGMAN

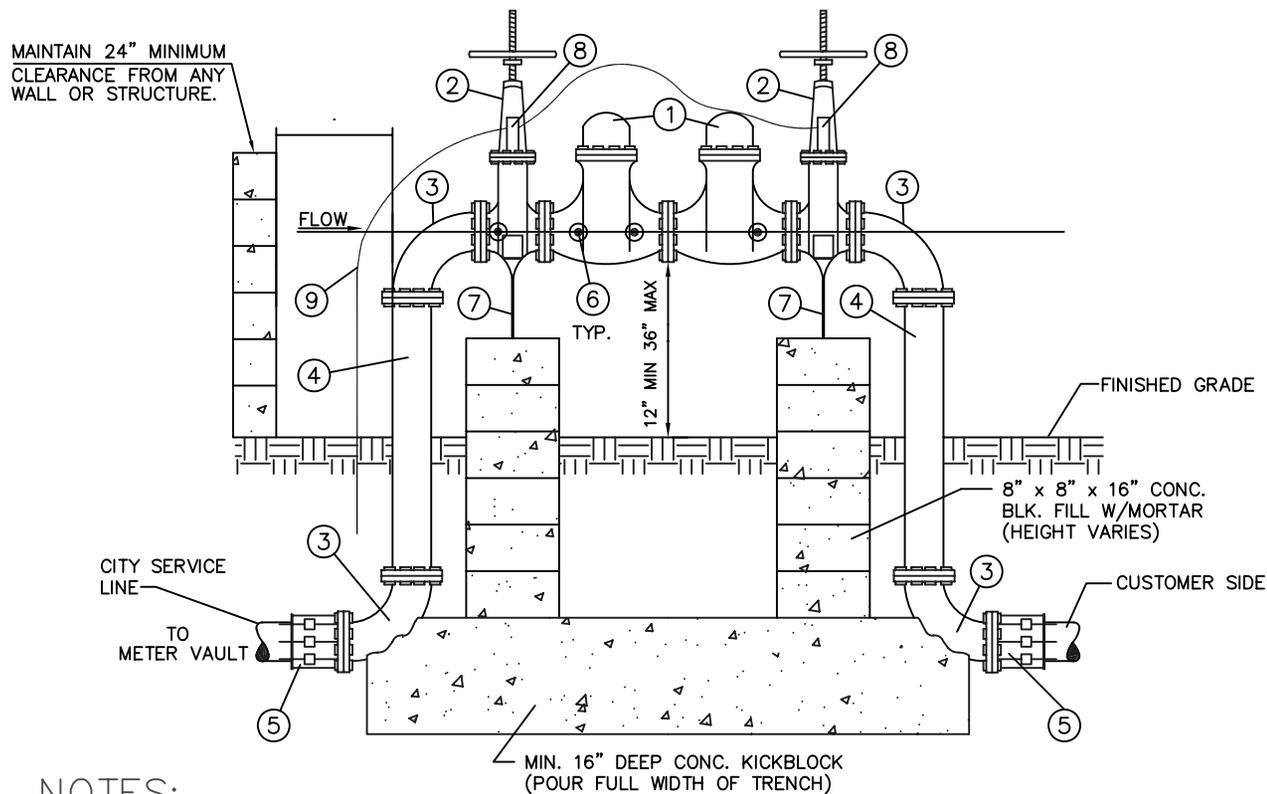
N.T.S.

DETAIL NO.

350

LIST OF MATERIALS

- ① APPROVED DOUBLE CHECK BACKFLOW ASSEMBLY.
- ② RESILIENT SEATED VALVE N.R.S. (NON-FIRE) OR OS&Y (FIRELINE).
- ③ 90° BEND (FLANGED D.I.P. 3" THRU 10").
- ④ PIPE SPOOL (FLANGED D.I.P. 3" THRU 10").
- ⑤ FLANGED ADAPTER (WHEN REQUIRED).
- ⑥ TEST COCKS (FOUR REQUIRED).
- ⑦ ADJUSTABLE PIPE SUPPORTS (4" AND LARGER).
- ⑧ TAMPER SWITCH (FIRELINE ONLY).
- ⑨ ELECTRICAL CONDUIT FOR TAMPER SWITCH (FIRELINE ONLY).



NOTES:

1. CONTACT THE CITY OF KINGMAN PUBLIC WORKS DEPARTMENT FOR THE LATEST LIST OF APPROVED ASSEMBLIES, INSPECTION, AND TESTING.
2. FIRE PROTECTION SYSTEMS MAY REQUIRE A DOUBLE CHECK DETECTOR VALVE ASSEMBLY (DCDVA) AS A BACKFLOW ASSEMBLY.
3. BACKFLOW PREVENTERS MUST BE TESTED BY AN INDEPENDENT CERTIFIED TESTER BEFORE FINAL APPROVAL IS ISSUED.
4. ASSEMBLY SHALL BE APPROVED BY LATEST EDITION OF UNIVERSITY OF SOUTHERN CALIFORNIA (USC) FOUNDATION MANUAL ON CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
5. ADEQUATE FREEZE PROTECTION THAT WILL NOT INTERFERE WITH TESTING PROCEDURES TO BE PROVIDED BY OWNER/DEVELOPER.
6. INSTALLATION SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO CONNECT TO THE SUPPLY LINE. (TAPPING SLEEVE, TEES, VALVES, THRUSTING, ETC) ALL PIPE, FITTINGS, TRENCHING, AND MATERIALS NEEDED FOR THE CONSTRUCTION FROM THE SUPPLY LINE TO THE ASSEMBLY.

N.T.S.

DETAIL NO.

351

STANDARD DETAIL

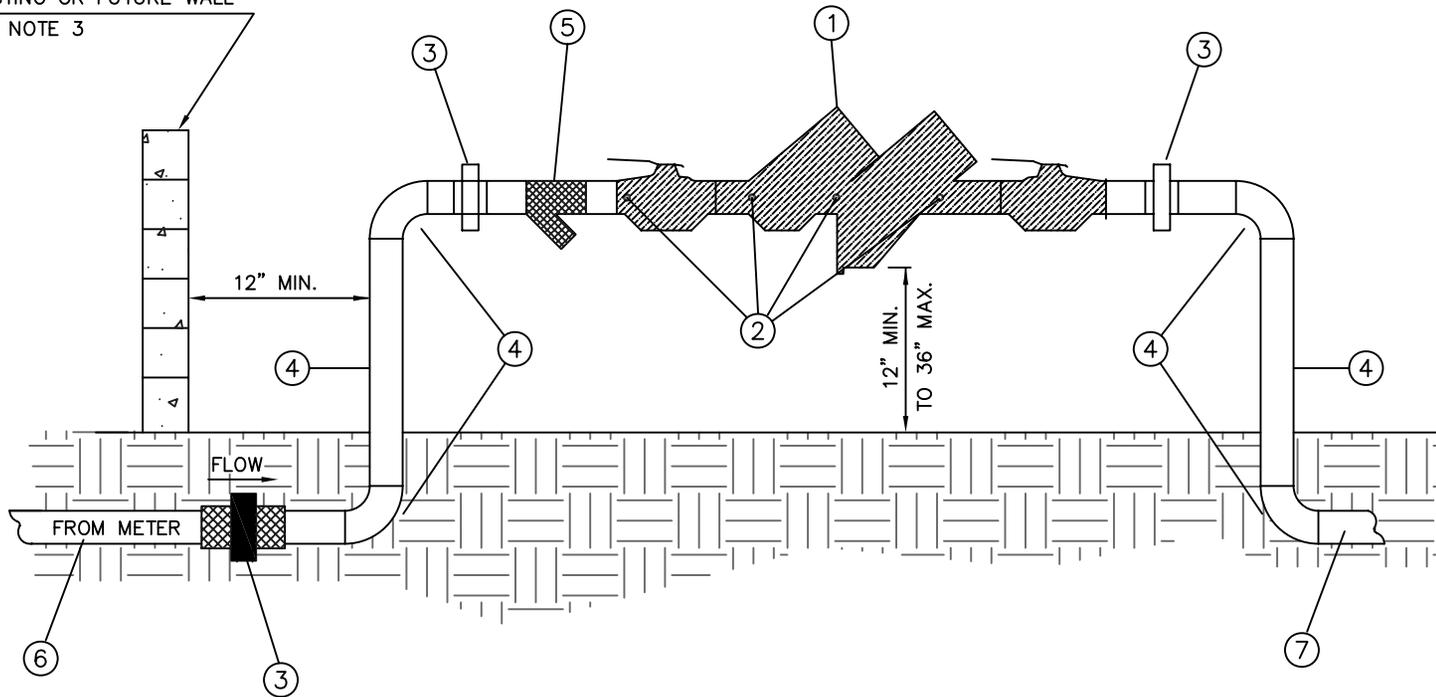
**DOUBLE CHECK AND DOUBLE DETECTOR
CHECK BACKFLOW ASSEMBLY (3" TO 10")**

CITY OF KINGMAN

DETAIL NO.

351

EXISTING OR FUTURE WALL
SEE NOTE 3



LIST OF MATERIALS

- ① APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY.
- ② TEST COCKS (FOUR REQUIRED)
- ③ 3 PIECE BRASS UNION .
- ④ TYPE "K" COPPER INCLUDES ELBOW.
- ⑤ INSTALL WYE STRAINER BEFORE ASSEMBLY (OPTIONAL).
- ⑥ TYPE "K" COPPER.
- ⑦ MATERIAL VARIES

NOTES:

1. CONTACT CITY OF KINGMAN WATER DIVISION FOR LATEST LIST OF APPROVED ASSEMBLIES. ALL MATERIALS FROM THE METER, THE ASSEMBLY AND RELATED COMPONENTS SHALL BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
2. CLEARANCES: MINIMUM 12 INCHES AWAY FROM ANY WALL OR STRUCTURE. MINIMUM 12" ABOVE FINISH GRADE, MAXIMUM 36 INCHES.
3. BACKFLOW PREVENTERS MUST BE TESTED BY AN INDEPENDENT CERTIFIED TESTER BEFORE FINAL APPROVAL IS ISSUED.
4. APPROVED FREEZE PROTECTION THAT WILL NOT INTERFERE WITH TESTING PROCEDURES TO BE PROVIDED BY OWNER/DEVELOPER.
5. ONE UNION IS REQUIRED, EXCEPT IN VAULT INSTALLATIONS, TWO UNIONS SHALL BE REQUIRED. VAULTS FOR BACKFLOW ASSEMBLIES MUST BE APPROVED BY THE CITY ENGINEER.
6. ALL COPPER JOINTS SHALL BE SOLDERED. THE SOLDER ALLOY SHALL COMPLY WITH NSF61 AND ASTM B 32 HAVING A SILVER CONTENT OF NOT LESS THAN 3.4% INTENDED FOR JOINING COPPER PIPES FOR POTABLE WATER SYSTEMS (GRADES SN 94 OR SN 95). THE FLUX SHALL BE TYPE OA FOR GENERAL SOLDERING ON COPPER.

N.T.S.

DETAIL NO.

352

STANDARD DETAIL

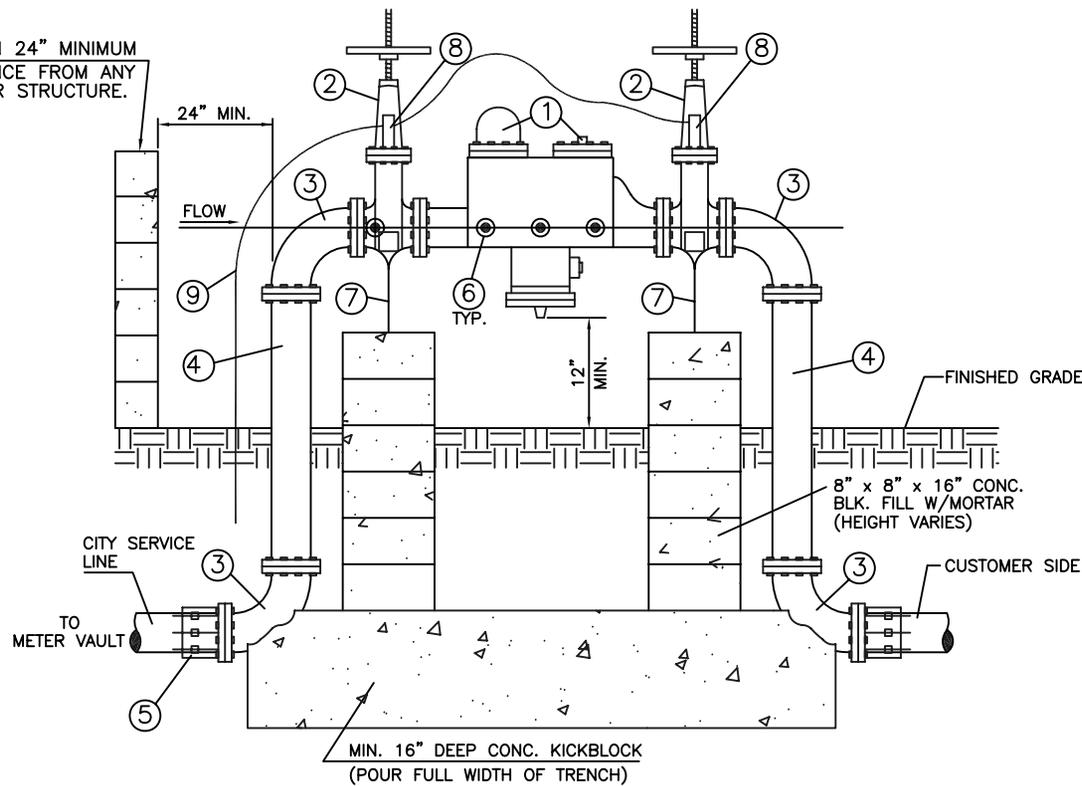
**REDUCED PRESSURE BACKFLOW
ASSEMBLY (3/4" TO 2")**

CITY OF KINGMAN

DETAIL NO.

352

MAINTAIN 24" MINIMUM CLEARANCE FROM ANY WALL OR STRUCTURE.



LIST OF MATERIALS

- ① APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY.
- ② RESILIENT SEATED VALVE N.R.S. (NON-FIRE) OR OS&Y (FIRELINE).
- ③ 90° BEND (FLANGED D.I.P. 3" THRU 10").
- ④ PIPE SPOOL (FLANGED D.I.P. 3" THRU 10").
- ⑤ FLANGED ADAPTER (WHEN REQUIRED).
- ⑥ TEST COCKS (FOUR REQUIRED).
- ⑦ ADJUSTIBLE PIPE SUPPORTS (4" AND LARGER).
- ⑧ TAMPER SWITCH (FIRELINE ONLY).
- ⑨ ELECTRICAL CONDUIT FOR TAMPER SWITCH (FIRELINE ONLY).

NOTES:

1. CONTACT THE CITY OF KINGMAN PUBLIC WORKS DEPARTMENT FOR THE LATEST LIST OF APPROVED ASSEMBLIES, INSPECTION, AND TESTING.
2. FIRE PROTECTION SYSTEMS MAY REQUIRE A DOUBLE CHECK DETECTOR VALVE ASSEMBLY (DCDVA) AS A BACKFLOW ASSEMBLY.
3. COPPER FITTINGS SHALL BE CONNECTED WITH LEAD FREE SOLDER.
4. BACKFLOW PREVENTERS MUST BE TESTED BY AN INDEPENDENT CERTIFIED TESTER BEFORE FINAL APPROVAL IS ISSUED.
5. ASSEMBLY SHALL BE APPROVED BY LATEST EDITION OF UNIVERSITY OF SOUTHERN CALIFORNIA (USC) FOUNDATION MANUAL ON CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
6. ADEQUATE FREEZE PROTECTION THAT WILL NOT INTERFERE WITH TESTING PROCEDURES TO BE PROVIDED BY OWNER/DEVELOPER.

DETAIL NO.

353

STANDARD DETAIL

**REDUCED PRESSURE BACKFLOW
ASSEMBLY (3" TO 10")**

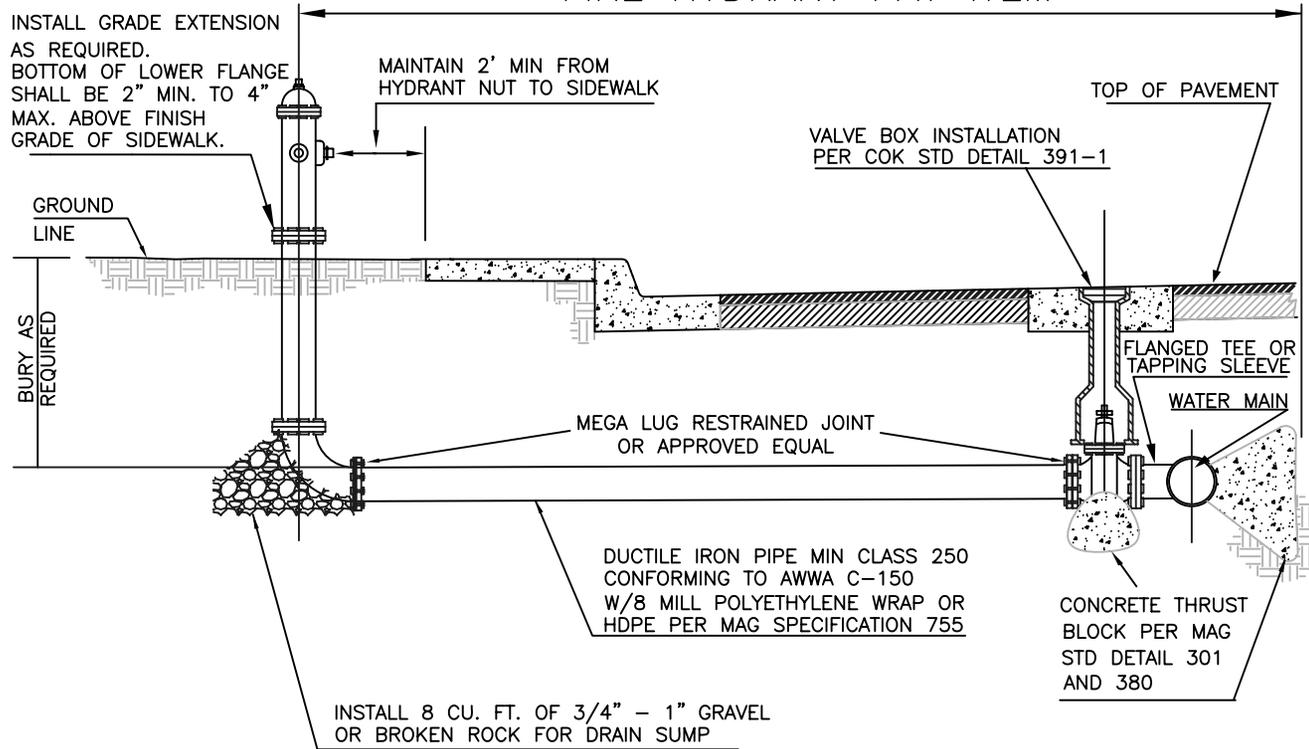
CITY OF KINGMAN

N.T.S.

DETAIL NO.

353

FIRE HYDRANT PAY ITEM



NOTES

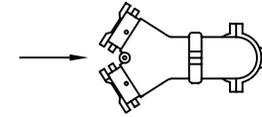
- 1 FIRE HYDRANTS ON GROUND LEVEL SHALL HAVE A MINIMUM OF 3 FEET SIDE CLEARANCE FROM ALL OBSTRUCTIONS, SUCH AS UTILITY POLES, SIGNS, TREES, FENCES, ETC.
- 2 PIPE, FITTINGS, VALVE, AND FIRE HYDRANTS SHALL CONFORM TO AWWA, ASTM, ANSI AND OTHER APPLICABLE STANDARDS.
- 3 THE MINIMUM SIZE OF MAIN OR LATERAL SERVING A FIRE HYDRANT SHALL BE 6 INCHES.
- 4 FIRE HYDRANT SPACING SHALL BE PER CITY OF KINGMAN (UTILITY REGULATIONS) AND/OR AS SHOWN ON THE PLANS.
- 5 HYDRANT LOCATION SHALL BE AUTHORIZED BY THE KINGMAN FIRE DEPARTMENT.
- 6 BENDS USED BETWEEN VALVE AND HYDRANT MUST BE APPROVED BY CITY ENGINEER IN ADVANCE.
- 7 WATER LINE LOCATOR WIRE IS REQUIRED ALONG THE FIRE HYDRANT LINE AS SPECIFIED IN CITY OF KINGMAN STANDARD DETAIL NO. 392.
- 8 NOZZLE SIZE REQUIREMENTS ARE AS FOLLOWS (NST THREADS):
 1- EACH 4 1/2 INCH DIAMETER NOZZLE
 2- EACH 2 1/2 INCH DIAMETER NOZZLE.
- 9 ACCEPTABLE MANUFACTURER'S AND MODELS OF FIRE HYDRANTS INCLUDE: KENNEDY "K81D", WATEROUS "PACER", CLOW "MEDALLION" AND AMERICAN (AVK) CO. "MODEL 2700". USE OF OTHERS REQUIRES APPROVAL BY THE FIRE DEPARTMENT.

DETAIL NO. 360	STANDARD DETAIL	FIRE HYDRANT INSTALLATION	CITY OF KINGMAN	N.T.S. DETAIL NO. 360
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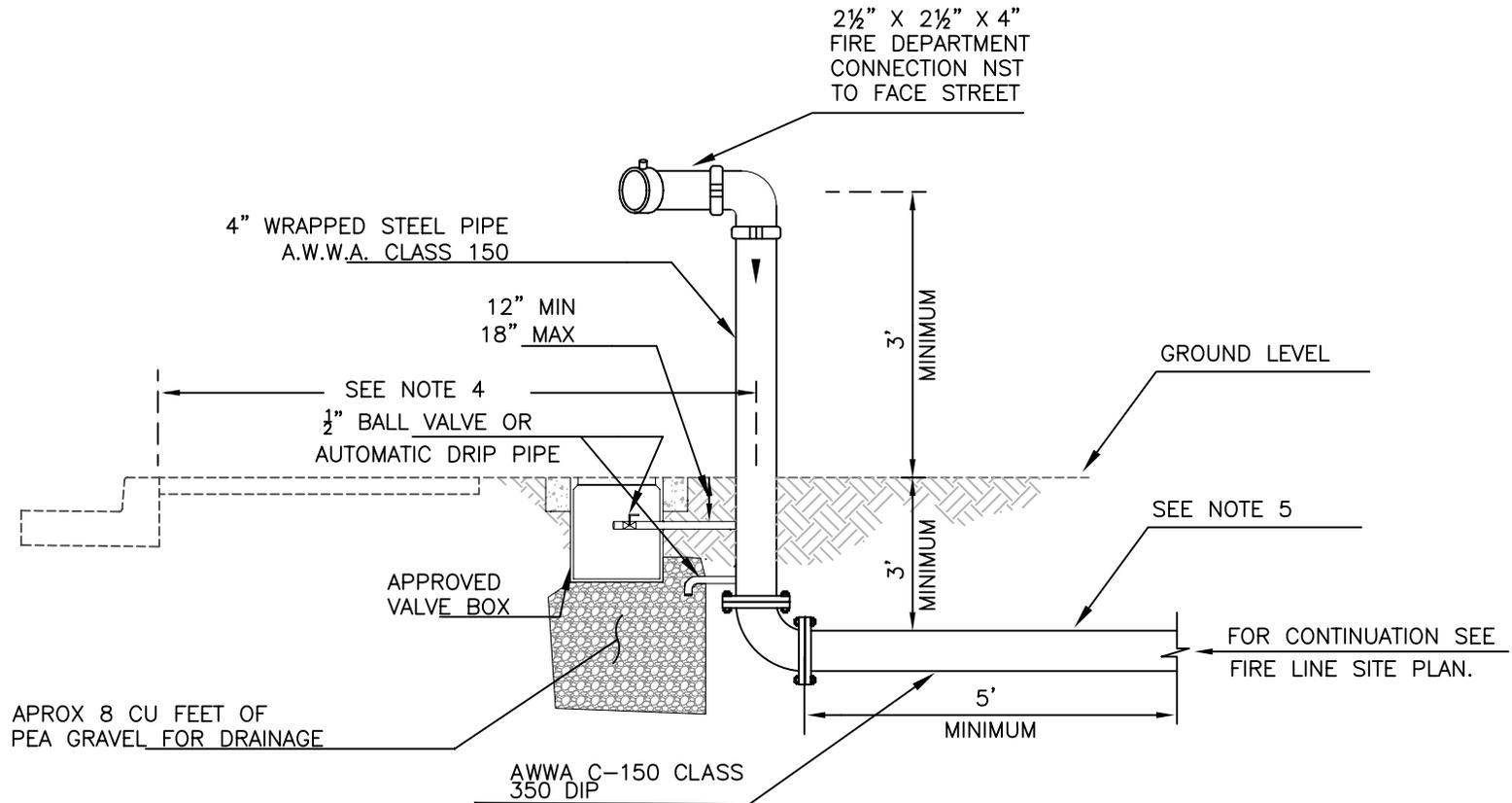
NOTES

1. PROVIDE BUILDING I.D. ON REMOTE FIRE DEPT. CONNECTION.
2. NO TREES, BUSHES OR WALLS WITHIN 5' RADIUS OF FIRE DEPT. CONNECTION
3. IF FIRE SPRINKLER DESIGN INDICATES DEMAND OF 1000 GPM OR GREATER, THE UNDERGROUND FIRE DEPT. CONNECTION LINE SHALL BE INCREASED TO 6" DIAMETER WITH A THREE WAY 2½" FIRE DEPT. HOSE CONNECTION
4. 4' MIN. TO BACK OF CURB, OR 2' MIN TO BACK OF SIDEWALK, OR WHEN NO CURB, 4' MAX. OUTSIDE THE CLEAR ZONE.
5. PIPE BELOW GROUND LEVEL SHALL BE POLYWRAPPED PER SEC 610.

2½" X 2½" X 4"
FIRE DEPARTMENT
CONNECTION NST



TOP VIEW



DETAIL NO.

363

STANDARD DETAIL

REMOTE FIRE DEPT. CONNECTION

CITY OF KINGMAN

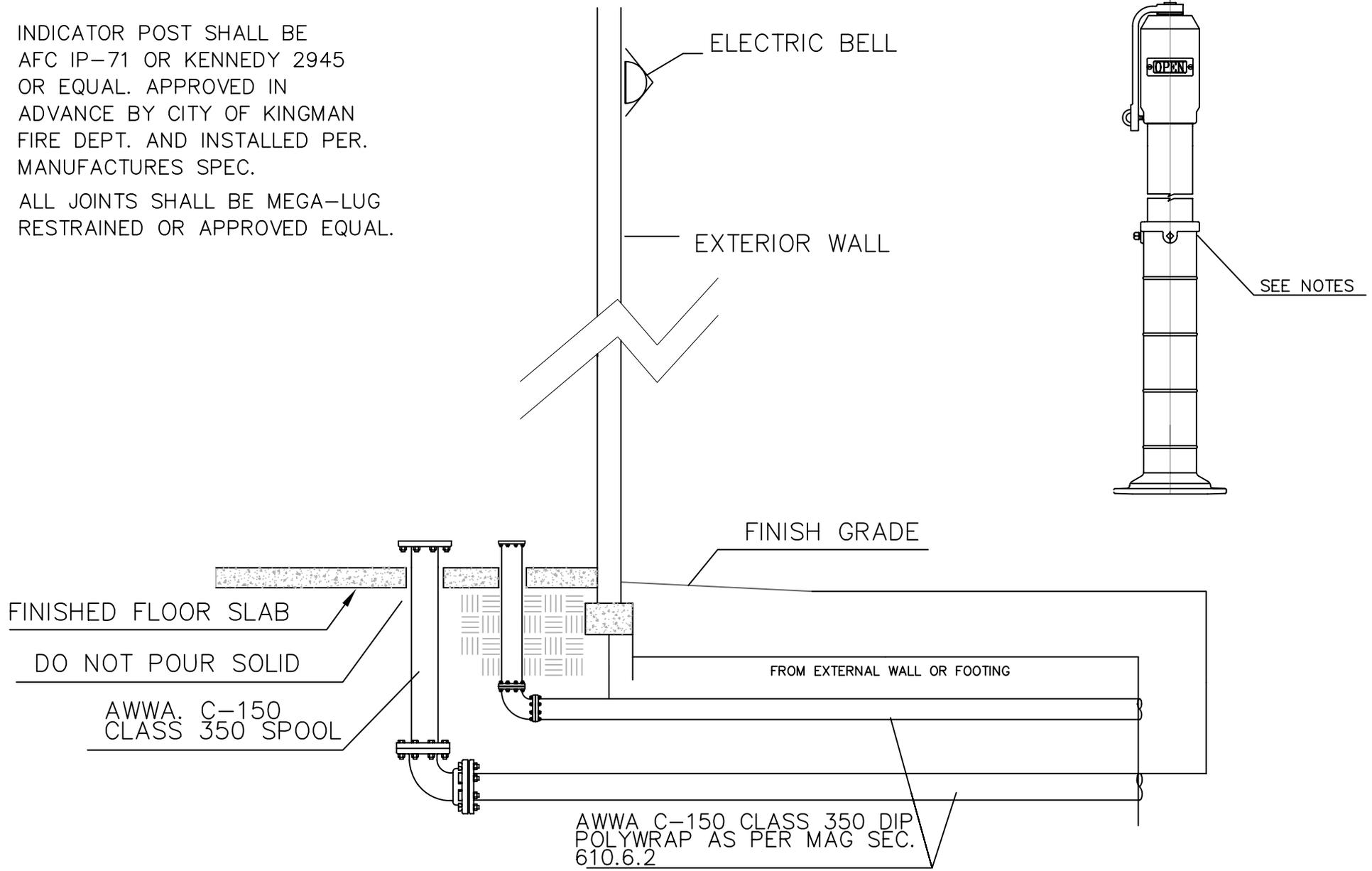
N.T.S.
DETAIL NO.

363

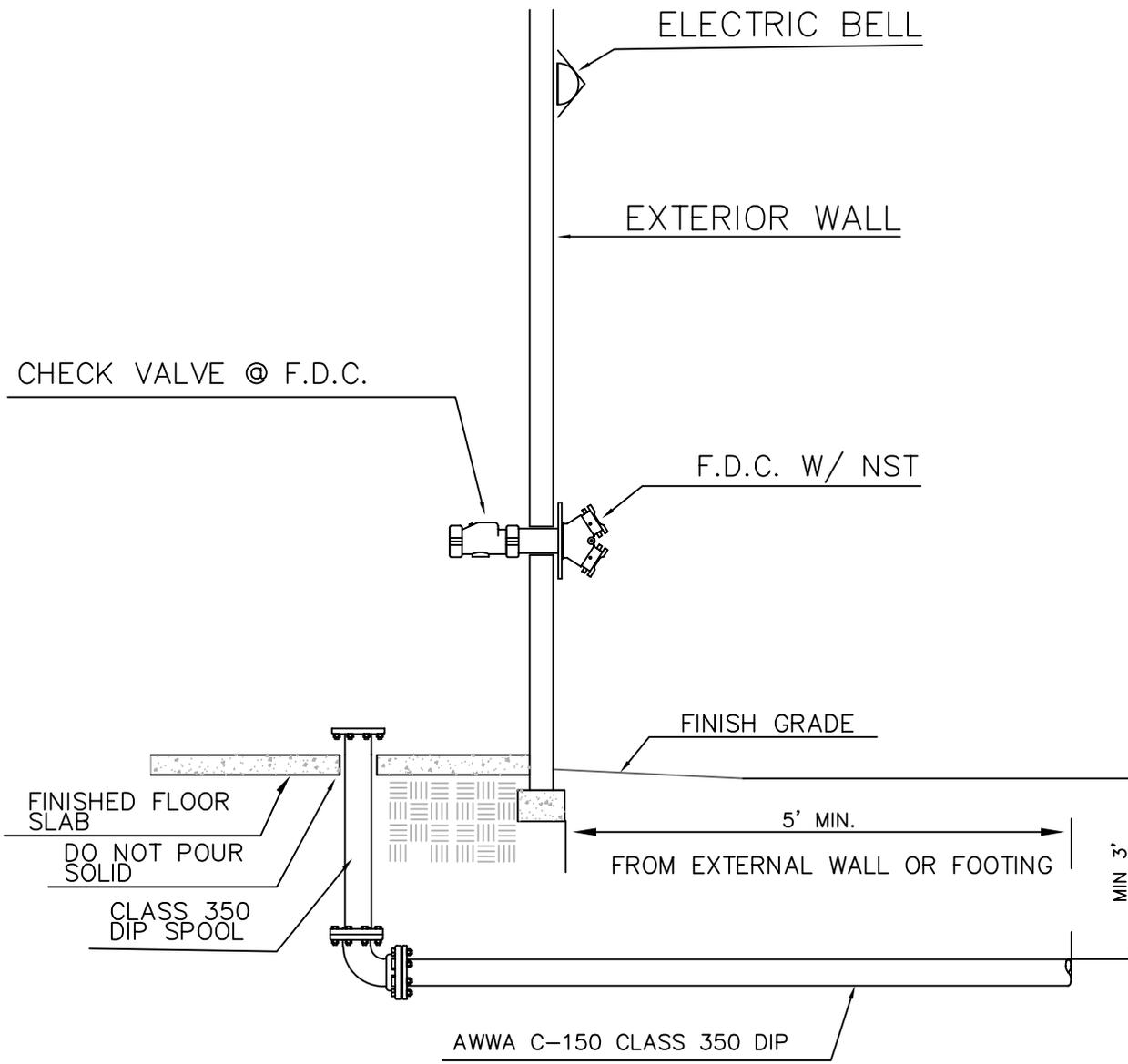
NOTES

INDICATOR POST SHALL BE AFC IP-71 OR KENNEDY 2945 OR EQUAL. APPROVED IN ADVANCE BY CITY OF KINGMAN FIRE DEPT. AND INSTALLED PER. MANUFACTURES SPEC.

ALL JOINTS SHALL BE MEGA-LUG RESTRAINED OR APPROVED EQUAL.



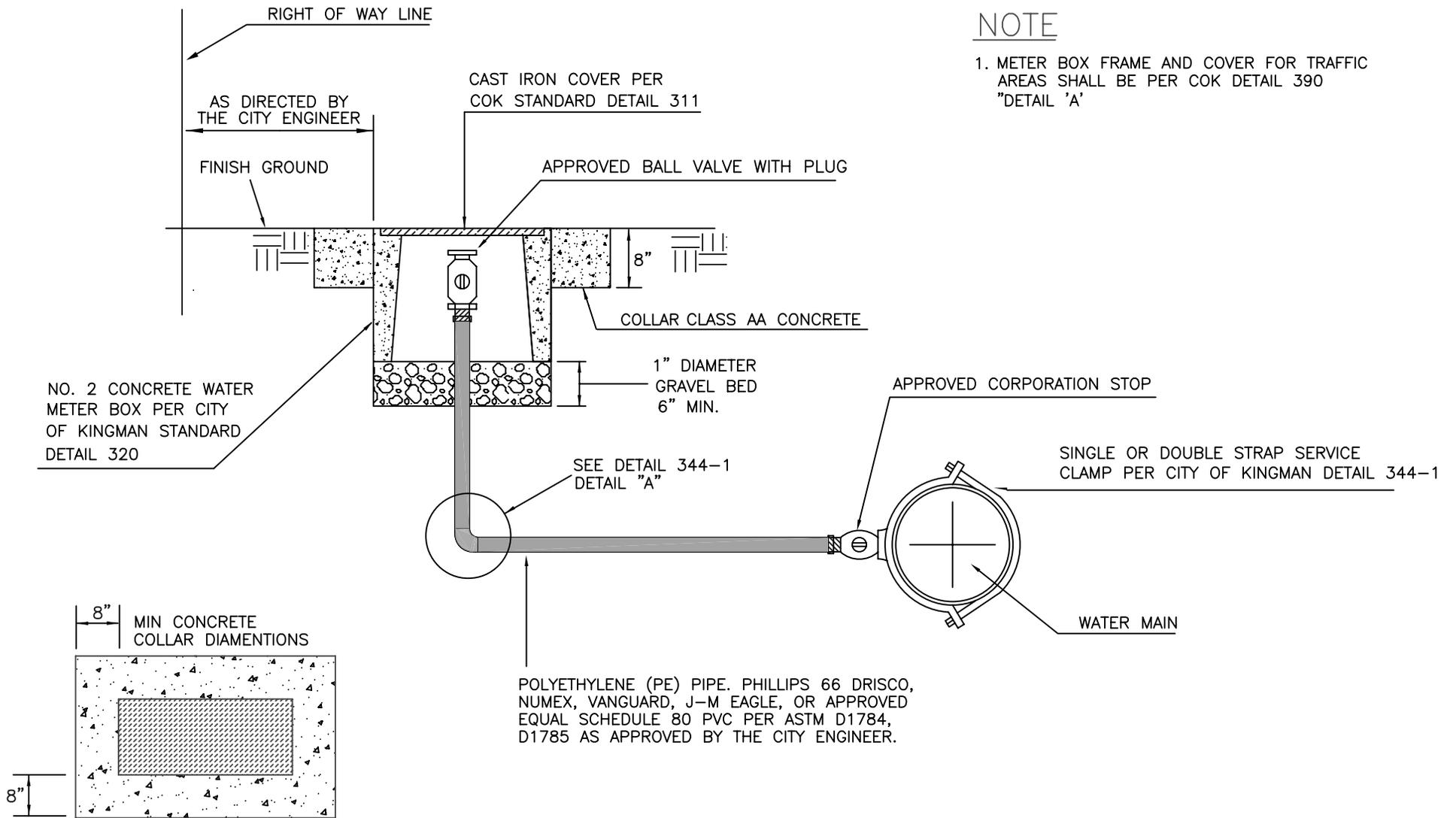
DETAIL NO. 364	STANDARD DETAIL	UNDERGROUND STUB UP DETAIL WITH REMOTE FDC.	CITY OF KINGMAN	N.T.S. DETAIL NO. 364
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NOTES

1. ALL PIPE SHALL BE AWWA. C-150 CLASS 350 DIP FROM FEED VALVE AT MAIN TO BACKFLOW PREVENTION ASSEMBLY.
2. ALL JOINTS SHALL BE MEGA-LUG RESTRAINED OR APPROVED EQUAL.
3. ALL PIPE SHALL BE POLYWRAPPED PER MAG. SEC 610

DETAIL NO. 365	STANDARD DETAIL	FIRE SPRINKLER RISER DETAIL WITH WALLMOUNT FD CONNECTION	CITY OF KINGMAN	N.T.S. DETAIL NO. 365
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NOTE

1. METER BOX FRAME AND COVER FOR TRAFFIC AREAS SHALL BE PER COK DETAIL 390 "DETAIL 'A'"

POLYETHYLENE (PE) PIPE. PHILLIPS 66 DRISCO, NUMEX, VANGUARD, J-M EAGLE, OR APPROVED EQUAL SCHEDULE 80 PVC PER ASTM D1784, D1785 AS APPROVED BY THE CITY ENGINEER.

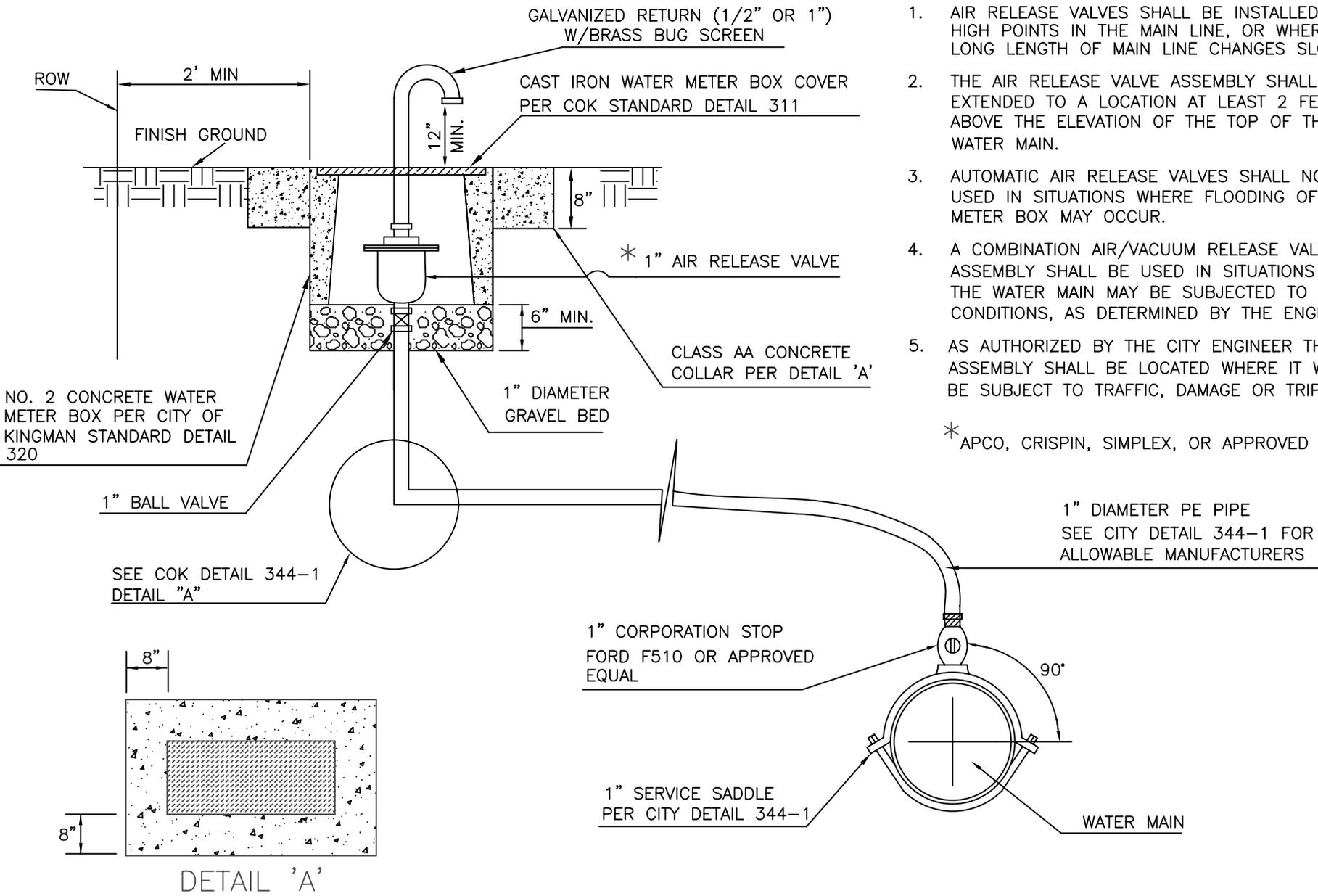
N.T.S.

DETAIL NO. 387	STANDARD DETAIL	2 INCH BLOWOFF ASSEMBLY	CITY OF KINGMAN	DETAIL NO. 387
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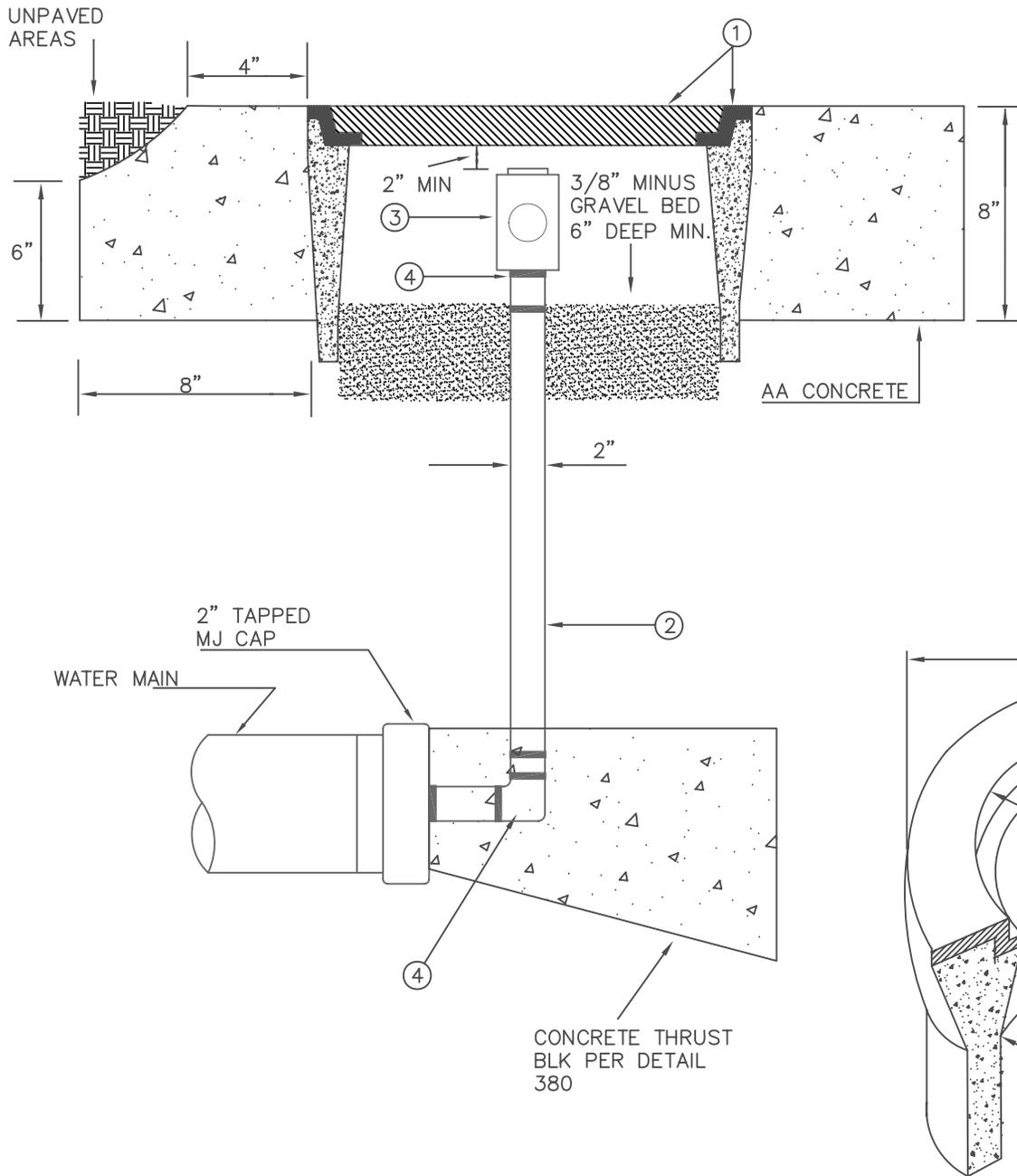
NOTES

1. AIR RELEASE VALVES SHALL BE INSTALLED AT HIGH POINTS IN THE MAIN LINE, OR WHERE A LONG LENGTH OF MAIN LINE CHANGES SLOPE.
2. THE AIR RELEASE VALVE ASSEMBLY SHALL BE EXTENDED TO A LOCATION AT LEAST 2 FEET ABOVE THE ELEVATION OF THE TOP OF THE WATER MAIN.
3. AUTOMATIC AIR RELEASE VALVES SHALL NOT BE USED IN SITUATIONS WHERE FLOODING OF THE METER BOX MAY OCCUR.
4. A COMBINATION AIR/VACUUM RELEASE VALVE ASSEMBLY SHALL BE USED IN SITUATIONS WHERE THE WATER MAIN MAY BE SUBJECTED TO VACUUM CONDITIONS, AS DETERMINED BY THE ENGINEER.
5. AS AUTHORIZED BY THE CITY ENGINEER THE ASSEMBLY SHALL BE LOCATED WHERE IT WILL NOT BE SUBJECT TO TRAFFIC, DAMAGE OR TRIP HAZARD.

* APCO, CRISPIN, SIMPLEX, OR APPROVED EQUAL



DETAIL NO.	STANDARD DETAIL	AIR RELEASE VALVE	CITY OF KINGMAN	N.T.S.
388				388

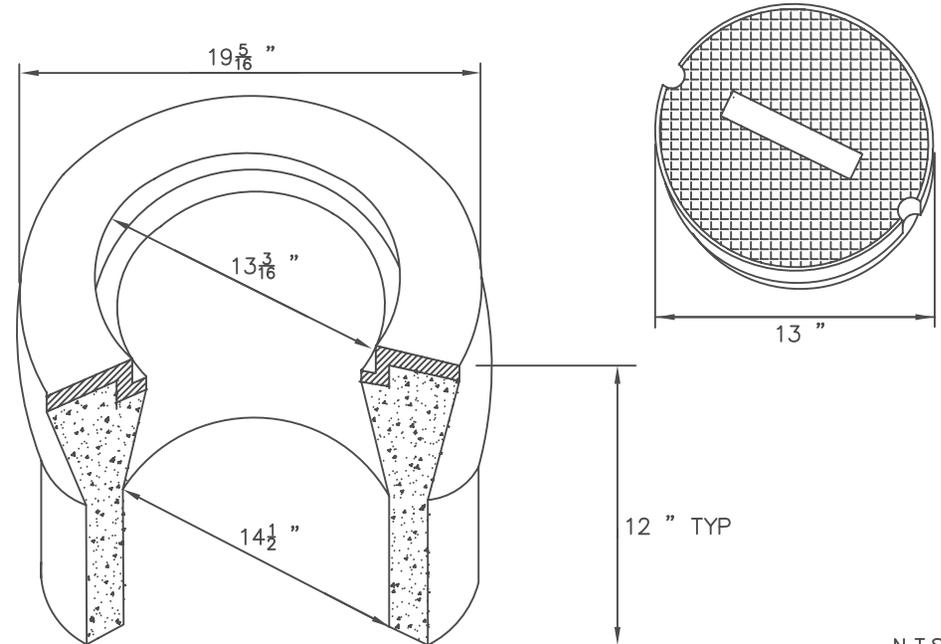


NOTES:

1. ALL FLUSH VALVE LOCATIONS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
2. COMPACTION OF THE BACKFILL AROUND THE VALVE BOX AND BELOW THE CONCRETE COLLAR PER SECT 301 & 601.
3. ALL PIPING, FITTINGS, VALVES ETC SHALL MEET NSF61.

ALLOWABLE MATERIALS

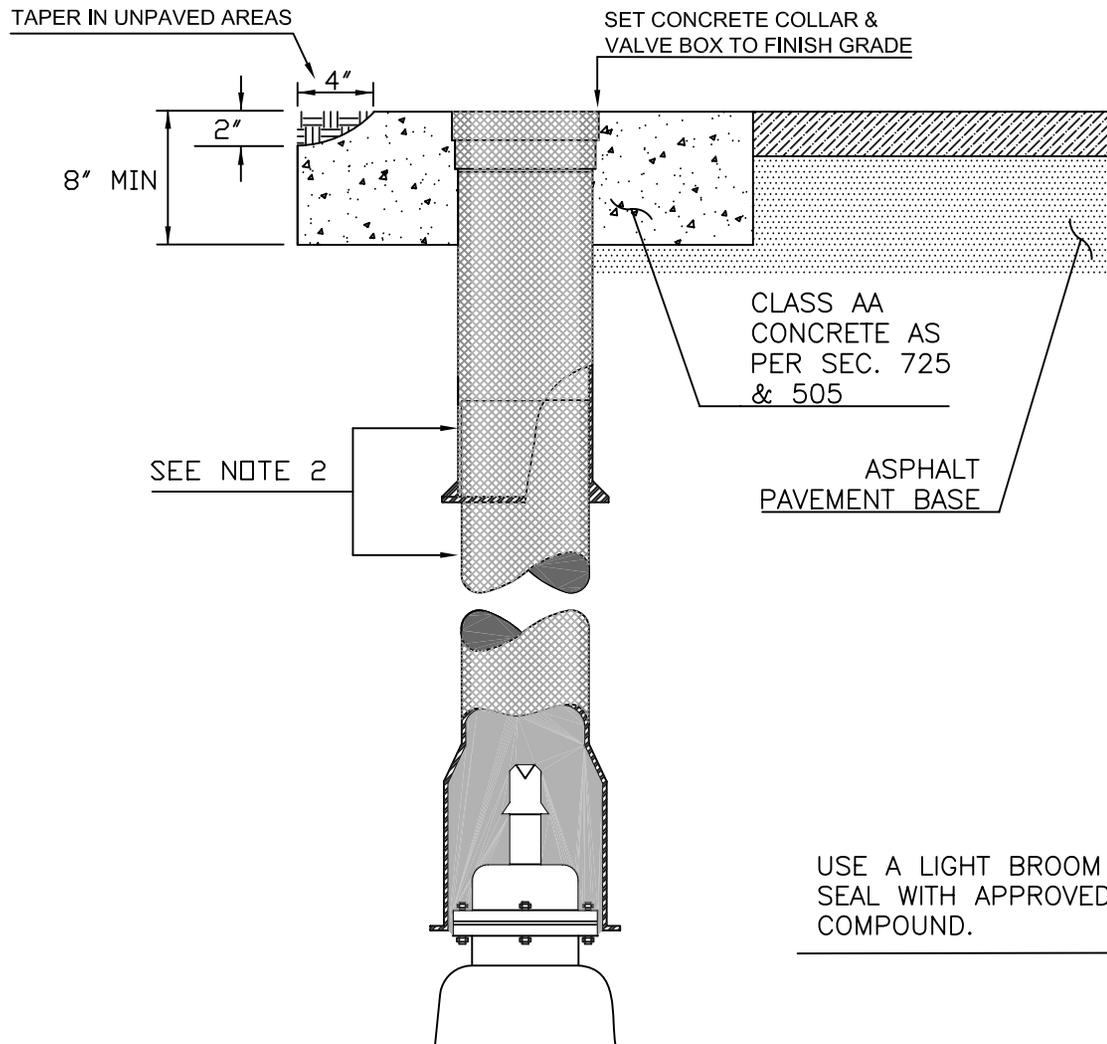
- ① FRAME AND COVER SHALL BE TRAFFIC RATED H-20 MIN AS MANUFACTURED BY OLDCASTLE PRECAST/CHRISTY PART NO. G12 OR APPROVED EQUAL.
- ② POLYETHYLENE (PE) PIPE—PHILLIPS 66 DRISCO, NUMEX, VANGUARD, J-M EAGLE, OR APPROVED EQUAL. SCHEDULE 80 PVC PER ASTM D1784, D1785 AS APPROVED BY THE WATER SUPERINTENDENT
- ③ FORD BALL VALVE OR APPROVED EQUAL WITH PLUG.
- ④ FORD PACK JOINT FITTINGS OR APPROVED EQUAL.



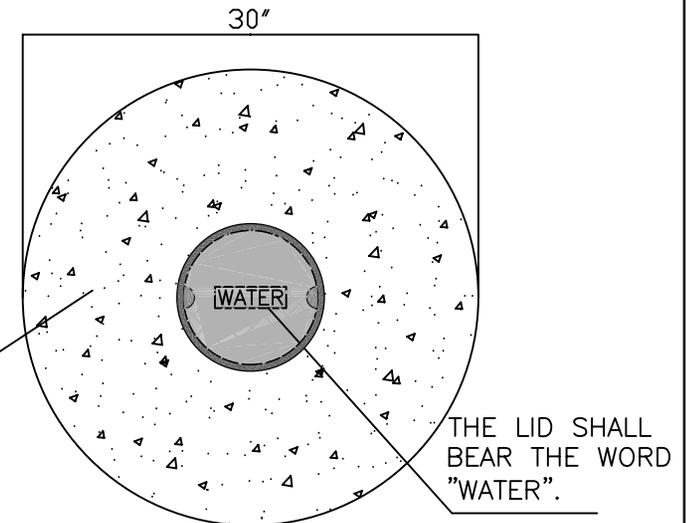
DETAIL NO. 390	STANDARD DETAIL	FLUSHING PIPE	CITY OF KINGMAN	N.T.S. DETAIL NO. 390
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NOTES

1. THE CONTRACTOR SHALL ADJUST ALL VALVE BOXES AND COLLARS TO FINISH GRADE. THE ADJUSTMENT SHALL BE MADE AFTER PLACEMENT OF ANY REQUIRED ASPHALT CONCRETE PAVEMENT.
2. VALVE BOXES SHALL BE THE SLIDING ADJUSTABLE TYPE MADE OF CAST IRON WITH A 4 INCH OR GREATER DEEP SKIRTED LID AS MANUFACTURED BY TYLER, APCO, OR OTHER APPROVED EQUAL. CAST IRON SHALL HAVE A MINIMUM TENSILE STRENGTH OF 30,000 PSI.
3. BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF KINGMAN STANDARD DETAIL 392. COMPACTION OF BACKFILL AROUND THE VALVE BOX AND BELOW THE CONCRETE COLLAR SHALL BE TO 95% OF MAX. DENSITY.
4. 12 GAUGE BLUE INSULATED COPPER LOCATOR WIRE SHALL EXTEND ALONG THE OUTSIDE OF THE BOTTOM BOX SECTION AND ALONG THE INSIDE OF THE UPPER BOX SECTION.
5. EXTENSIONS TO VALVE STEMS SHALL BE REQUIRED FOR ALL VALVES WHERE THE OPERATING NUT IS 5 FEET OR GREATER BELOW THE FINISHED GRADE SURFACE. SEE COK STANDARD DETAIL 391-2.
6. ALL CONCRETE SHALL BE FREE OF DEFECTS INCLUDING CRACKS OR CHIPS.



ELEVATION VIEW



PLAN VIEW

DETAIL NO.

391-1

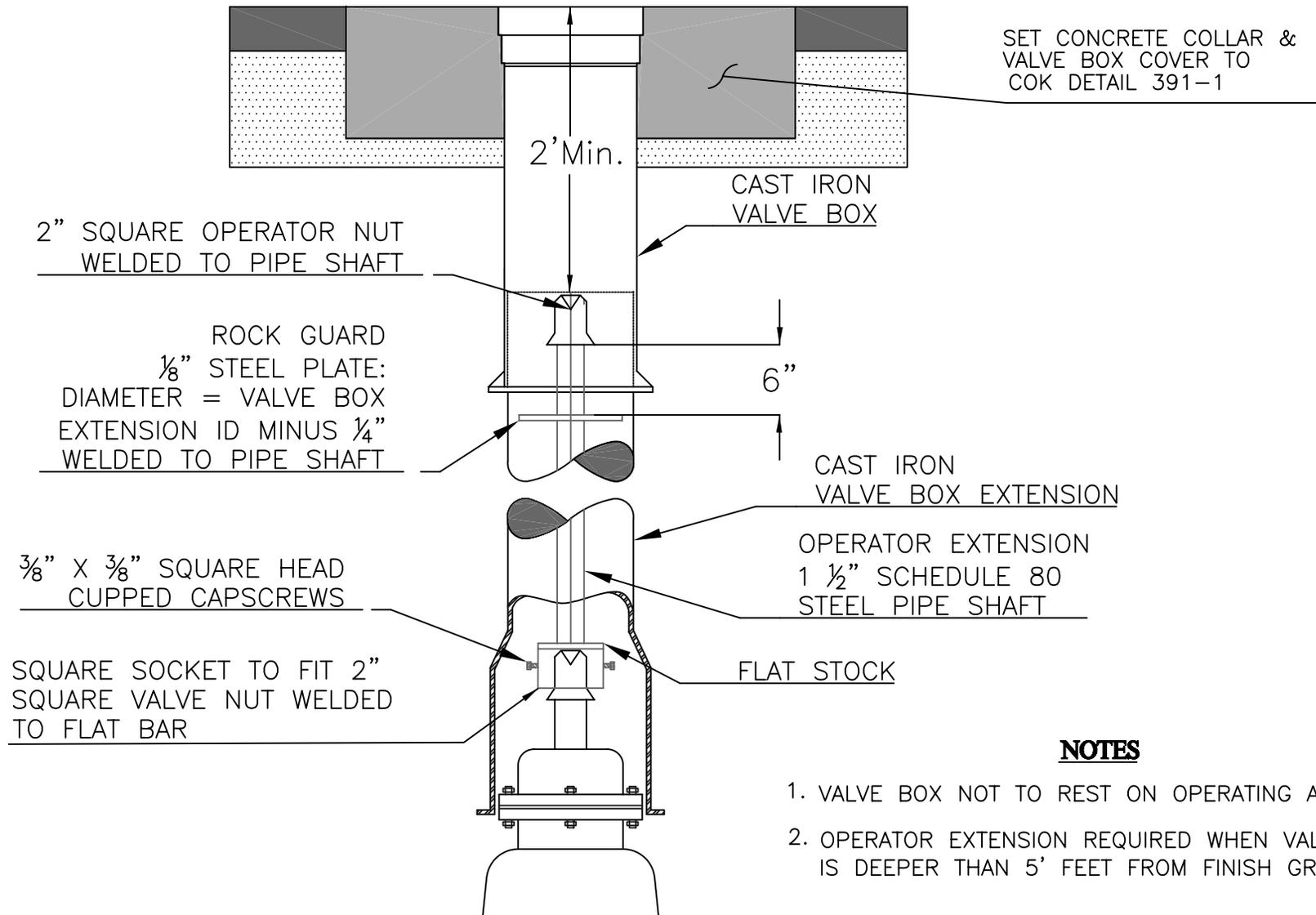
STANDARD DETAIL

VALVE BOX INSTALLATION

CITY OF KINGMAN

N.T.S.
DETAIL NO.

391-1



ELEVATION VIEW

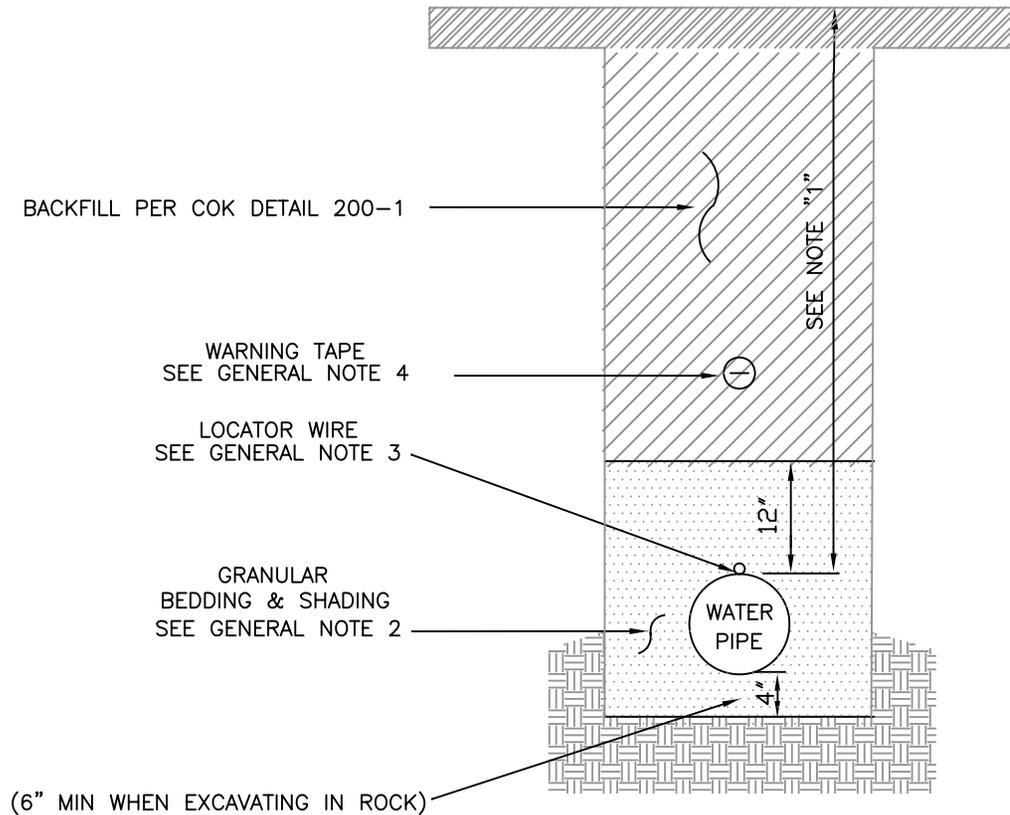
NOTES

1. VALVE BOX NOT TO REST ON OPERATING ASSEMBLY.
2. OPERATOR EXTENSION REQUIRED WHEN VALVE NUT IS DEEPER THAN 5' FEET FROM FINISH GRADE.

DETAIL NO. 391-2	STANDARD DETAIL	VALVE BOX OPERATOR EXT. ASSEMBLY	CITY OF KINGMAN	N.T.S. DETAIL NO. 391-2
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GENERAL NOTES

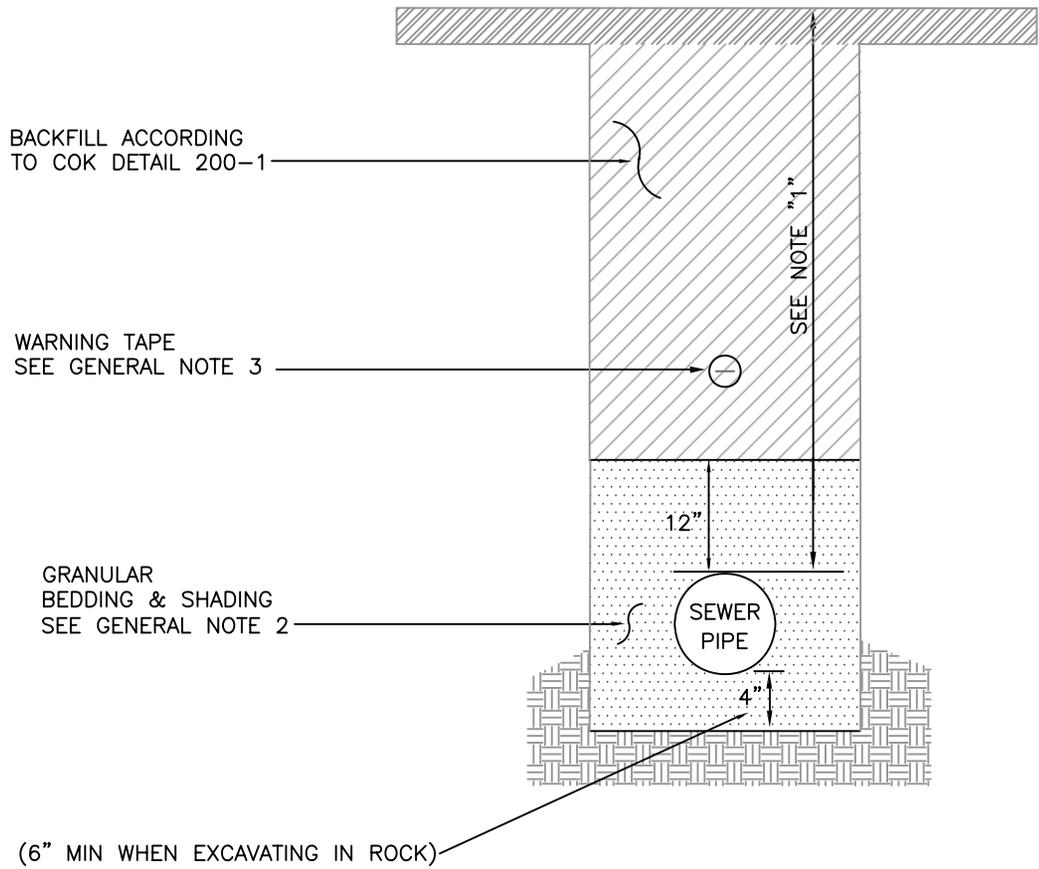
1. THE MINIMUM COVER FOR WATER LINES UNDER ASPHALT PAVEMENT SHALL BE 36 INCHES. THE MINIMUM COVER FOR WATER LINES IN UNPAVED AREAS SHALL BE 42 INCHES. THE MINIMUM COVER FOR WATER LINES 12" AND LARGER, IN ALL AREAS, SHALL BE 48 INCHES. MINIMUM COVER SHALL MEASURED FROM EXISTING OR PROPOSED FINISH GRADE OF PAVEMENT, OR FROM NATURAL GROUND, WHICHEVER IS DEEPER.
2. BEDDING AND SHADING MATERIAL SHALL CONFORM TO ONE OF THE FOLLOWING: (1) IMPORTED A.B.C. IN ACCORDANCE WITH MAG SECTION 702, OR (2) GRANULAR MATERIAL IN ACCORDANCE WITH MAG SPECIFICATION 601.4.6. IF NATIVE MATERIAL IS USED FOR OPTION (2), THE CONTRACTOR SHALL PROVIDE SOILS TESTS (AT HIS COST) TO DEMONSTRATE CONFORMANCE TO THE SPECIFIED REQUIREMENTS.
3. PLACED DIRECTLY ON TOP OF THE WATER MAIN AND FASTENED WITH DUCT TAPE AT EVERY 10 FEET. LOCATOR WIRE IS ALSO REQUIRED ON SERVICE LINES, FIRE HYDRANT LINES, FLUSH VALVES AND AIR RELEASE VALVES (ARV'S). WIRE FOR FIRE HYDRANTS SHALL LOOP COMPLETELY AROUND OR CLAMP ABOVE THE FLANGED FITTING AT THE BASE OF THE HYDRANT. WIRE FOR SERVICE LINES AND ARV'S SHALL EXTEND TO THE METER BOX AND WRAP AROUND THE CORP STOP OR THE ARV, WITH 1 FOOT MINIMUM SLACK. REFER TO NOTE 4, COK DETAIL 391-1, FOR INSTALLING LOCATOR WIRE ON VALVE BOXES. LOCATOR WIRE SHALL BE SPLICED BY USING 3M DBY-6 600V DIRECT BURY/SPLICE KIT OR APPROVED EQUAL. THE CONTRACTOR SHALL CONDUCT CONTINUITY TEST ON ALL LOCATOR WIRE.
4. WARNING TAPE SHALL BE NON-METALLIC TAPE, BURIED WITHIN 12 TO 18 INCHES BELOW FINISH GRADE. WARNING TAPE SHALL BE USED ON ALL MAIN LINE, FIRE LINE, ARV, FLUSH VALVE AND SERVICE LINE TRENCHES. ALL TAPE ENDS SHALL BE TIED OR OVERLAPPED TO FORM ONE CONTINUOUS LENGTH. TAPE SHALL BE 3 INCHES WIDE, WITH BLACK LETTERING "CAUTION: WATER LINE BURIED BELOW" ON A BLUE BACKGROUND, AS MANUFACTURED BY GRIFFOLYN TERRS OR APPROVED EQUAL.
5. TRENCH WIDTHS PER MAG SECTION 601 TABLE 601-1



NOTES

ALL DIMENSIONS SPECIFIED ARE MINIMUM.

DETAIL NO. 392	STANDARD DETAIL	WATERLINE TRENCH AND BACKFILL	CITY OF KINGMAN	N.T.S. DETAIL NO. 392
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GENERAL NOTES

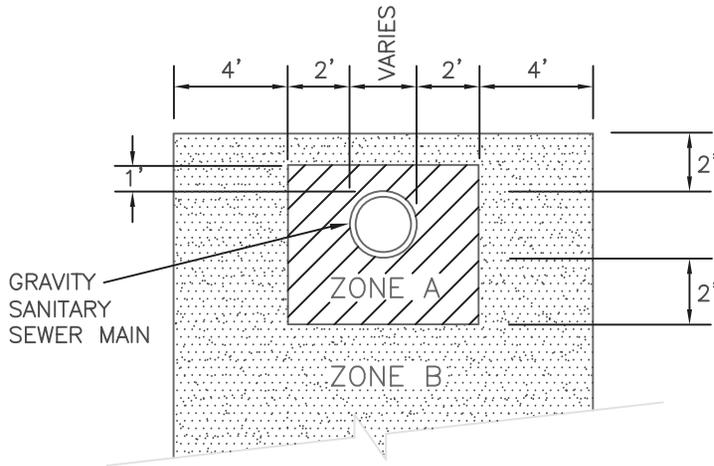
1. THE MINIMUM COVER FOR SEWER LINE EXTENSIONS SHALL BE 36 INCHES. THE MINIMUM COVER FOR SEWER LINES IN NEW SUBDIVISIONS SHALL BE 48 INCHES. MINIMUM COVER SHALL BE MEASURED FROM EXISTING OR PROPOSED FINISH GRADE OF PAVEMENT, OR FROM NATURAL GROUND, WHICHEVER IS DEEPER.
 2. BEDDING AND SHADING MATERIAL SHALL CONFORM TO ONE OF THE FOLLOWING: (1) CLASS 1 COURSE GRAIN/CRUSHED STONE (1/4" TO 1") PER ASTM D-448, USING SHOVEL SLICE PLACEMENT, OR (2) 3/4 INCH MINUS GRANULAR MATERIAL IN ACCORDANCE WITH MAG SPECIFICATION 601.4.6. IF NATIVE MATERIAL IS USED FOR OPTION (2), THE CONTRACTOR SHALL PROVIDE SOILS TESTS (AT HIS COST) TO DEMONSTRATE CONFORMANCE TO THE SPECIFIED REQUIREMENTS.
 3. WARNING TAPE SHALL BE NON-METALLIC TAPE, BURIED WITHIN 12 TO 18 INCHES BELOW FINISH GRADE. WARNING TAPE SHALL BE USED ON ALL MAIN LINE AND SERVICE LINE TRENCHES. ALL TAPE ENDS SHALL BE TIED OR OVERLAPPED TO FORM ONE CONTINUOUS LENGTH. TAPE SHALL BE 3 INCHES WIDE, WITH BLACK LETTERING "CAUTION SEWER LINE BURIED BELOW", ON A GREEN BACKGROUND, AS MANUFACTURED BY GRIFFOLYN TERRS OR APPROVED EQUAL.
- TRENCH WIDTHS PER MAG SECTION 601 TABLE 601-1

NOTES

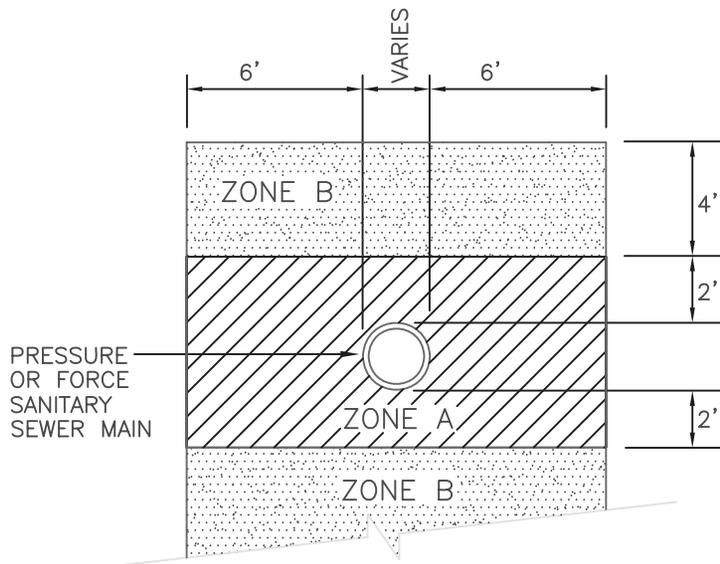
ALL DIMENSIONS SPECIFIED ARE MINIMUM.

DETAIL NO. 400	STANDARD DETAIL	SEWERLINE TRENCH AND BACKFILL	CITY OF KINGMAN	N.T.S. DETAIL NO. 400
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GRAVITY SANITARY SEWER



PRESSURIZED SANITARY SEWER



NOTES:

1. ZONE A: NO WATER LINES ALLOWED / MINIMUM SEPARATION.
ZONE B: EXTRA PROTECTION REQUIRED FOR WATER LINES.
2. CONCRETE ENCASEMENT SHALL NOT BE UTILIZED AS A MEANS TO PROVIDE EXTRA PROTECTION UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
3. REFER TO MAG STANDARD SPECIFICATION 610 FOR EXTRA PROTECTION REQUIREMENTS.

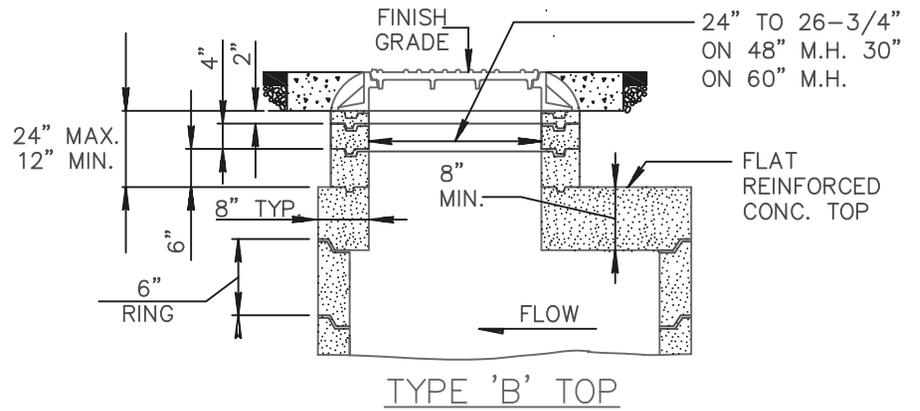
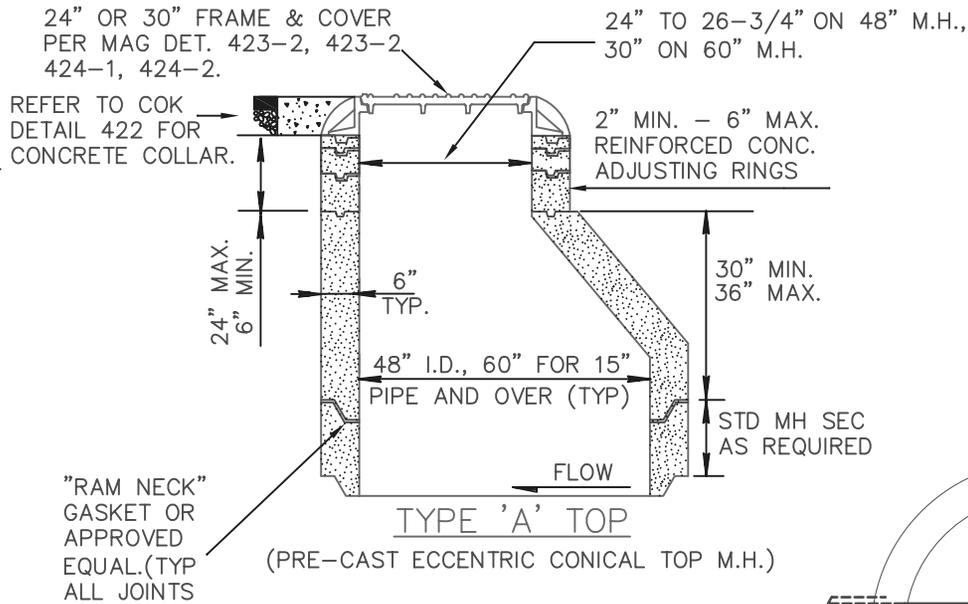
DETAIL NO.
404-1

STANDARD DETAIL

WATER AND SANITARY SEWER
SEPARATION / PROTECTION

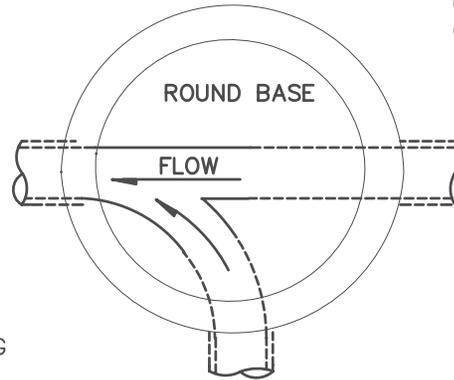
CITY OF KINGMAN

DETAIL NO.
404-1

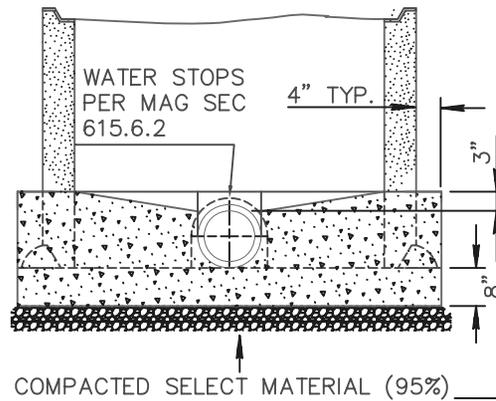
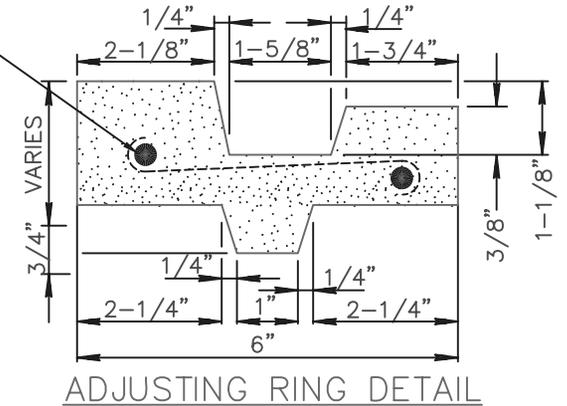


NOTES:

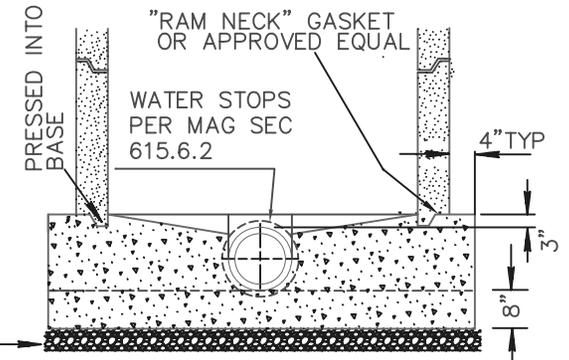
1. PRE-CAST M.H. SECTIONS AND GRADE RINGS, SHALL BE MANUFACTURED IN ACCORDANCE WITH A.S.T.M. C-478 EXCEPT AS MODIFIED HEREIN. CLASS A CONCRETE MIN.
2. MORTAR MEETING TYPE C REQUIREMENTS PER MAG SPEC, 776 TO BE PLACED AT ALL PRECAST MANHOLE SECTIONS INCLUDING STEEL MANHOLE RINGS AND ADJUSTMENT RINGS ON THE INTERIOR OF MANHOLES. GROUT SHALL ALSO BE APPLIED IN AREAS AROUND THE PIPE AND THE PRECAST BASE INCLUDING: BETWEEN THE PIPE AND THE WALL, BETWEEN THE PIPE AND THE FLOOR, AND BETWEEN THE PIPE AND THE CHANNEL.
3. NEW MANHOLES AND TIES TO EXISTING MANHOLES SHALL BE CONSTRUCTED TO ALLOW NO SUBSIDENCE IN THE SURROUNDING ASPHALT BY ONE OF THE FOLLOWING:
 - A. 100% ABC PLACEMENT USING MECHANICAL COMPACTION METHODS AROUND THE ENTIRE MANHOLE.
 - B. PLACEMENT OF A ONE SACK ABC SLURRY BACKFILL PER CITY DETAIL 200-1 IN THE AREA BETWEEN THE MANHOLE AND THE SURROUNDING UNDISTURBED EARTH MATERIAL.
4. CONCRETE SHALL BE CLASS 'A' PER MAG SEC 725 & 505 FOR CAST IN PLACE BASE.
5. ALLOW 24 HOURS FOR BASE TO CURE BEFORE VERTICAL MANHOLE CONSTRUCTION.
6. DEPTH OF CONCRETE BASE SHALL BE 12" ON MANHOLES OVER 13'.



(2) NO.2 HOOPS FOR 4" RING TIED WITH NO. 4 A.S.& W. GAUGE WIRE. 6" & 8" RING REQUIRE (4) NO. 2 HOOPS.



PRECAST BASE



CAST IN PLACE BASE

N.T.S.

DETAIL NO.

420-1

STANDARD DETAIL

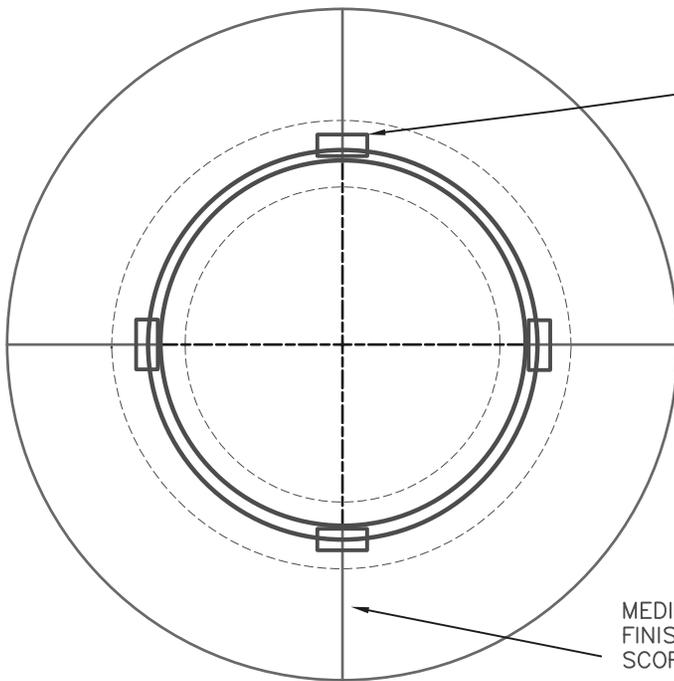
**PRECAST CONCRETE
SEWER MANHOLE**

CITY OF KINGMAN

DETAIL NO.

420-1

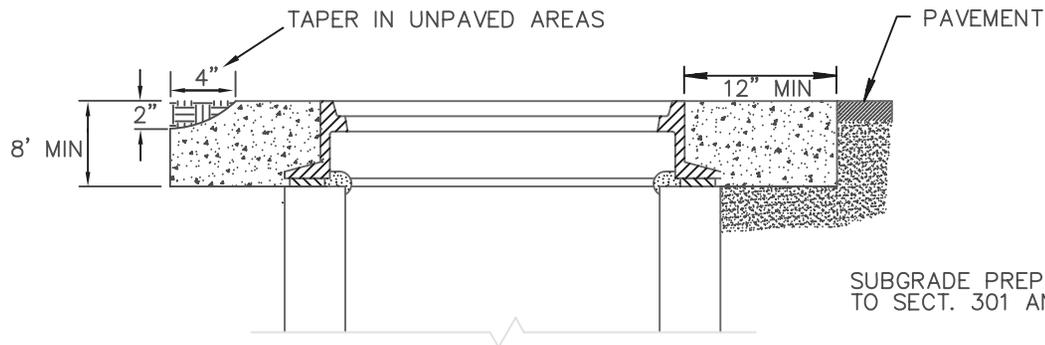
FOUR STEEL SPACERS, 4"x2" THICKNESS AS REQUIRED FROM 1/2" TO 2". WHEN THICKNESS IS LESS THAN 1/2" USE MOTAR. IN ALL CASES SPACER MATERIAL AND LOCATIONS SHALL BE APPROVED BY THE CITY ENGINEER.



MEDIUM BROOM FINISH WITH RADIALLY SCORED MARKS (4 MIN.)

NOTES:

1. IF AN EXISTING MANHOLE IS DISTURBED DURING CONSTRUCTION OR AN EXCAVATION MADE AROUND THE MANHOLE, THE CONCRETE COLLAR IS TO BE REMOVED (IF EXISTING) AND A NEW CONCRETE COLLAR PLACED PER THIS DETAIL TO INCLUDE NECESSARY GROUTING OF EXISTING MANHOLE LID AND ADJUSTMENT RINGS.
2. CLASS AA CONCRETE PER MAG SECT. 725 & 505.
3. MANHOLE FRAME AND COVER PER MAG SECT. 625.



SUBGRADE PREPARATION TO CONFORM TO SECT. 301 AND 601

DETAIL NO.

422

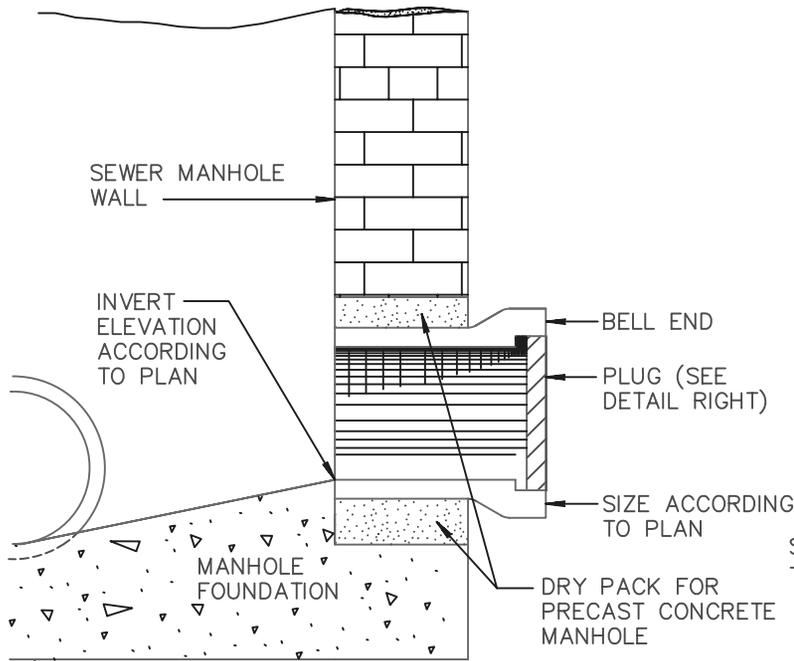
STANDARD DETAIL

**SEWER MANHOLE
COVER FRAME ADJUSTMENT**

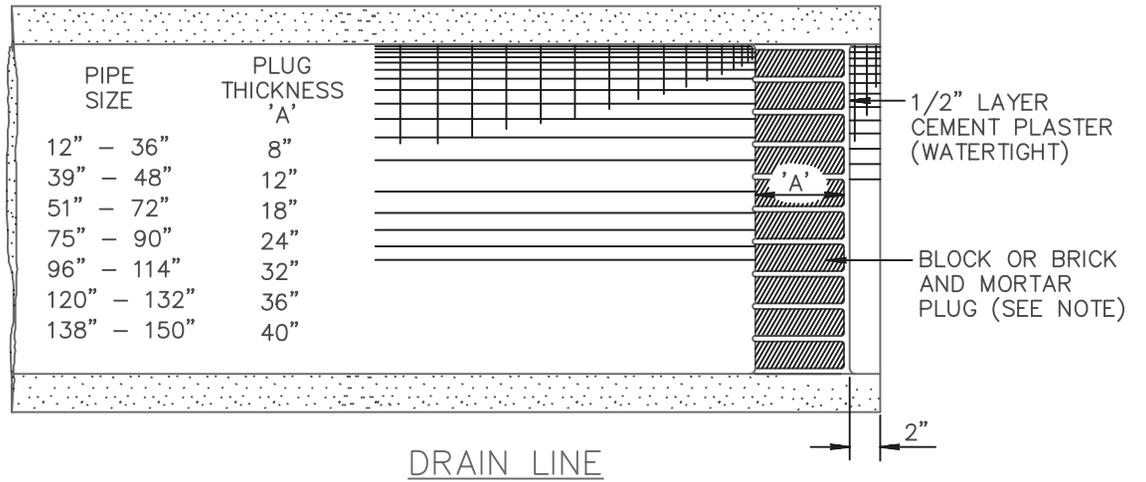
CITY OF KINGMAN

N.T.S.
DETAIL NO.

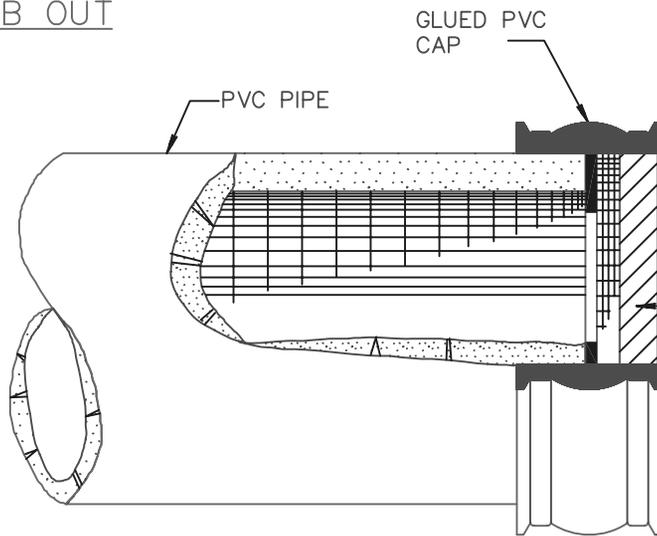
422



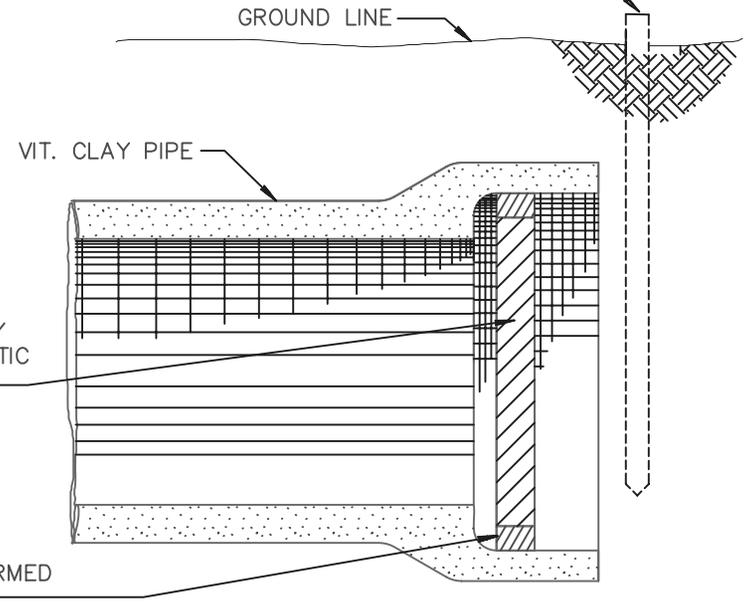
TYPICAL STUB OUT



STUBOUTS SHALL BE MARKED WITH A 1/2 INCH SCHEDULE 40 PVC PIPE AND #12 COPPER WIRE. THE INSULATION ON THE MARKING WIRE SHALL BE GREEN. THE PVC PIPE SHALL BE PAINTED GREEN.



SEWER LINE



NOTES:

- NOTE: COMPACT SOIL AT END OF PIPE TO 95% OF MAXIMUM DENSITY.
- IF DEPTH OF COVER IS LESS THAN 5' OR GREATER THAN 10' INCREASE PLUG THICKNESS A MIN. OF 4".
- USE GLUE ON CAP IF PVC.

DETAIL NO.

427

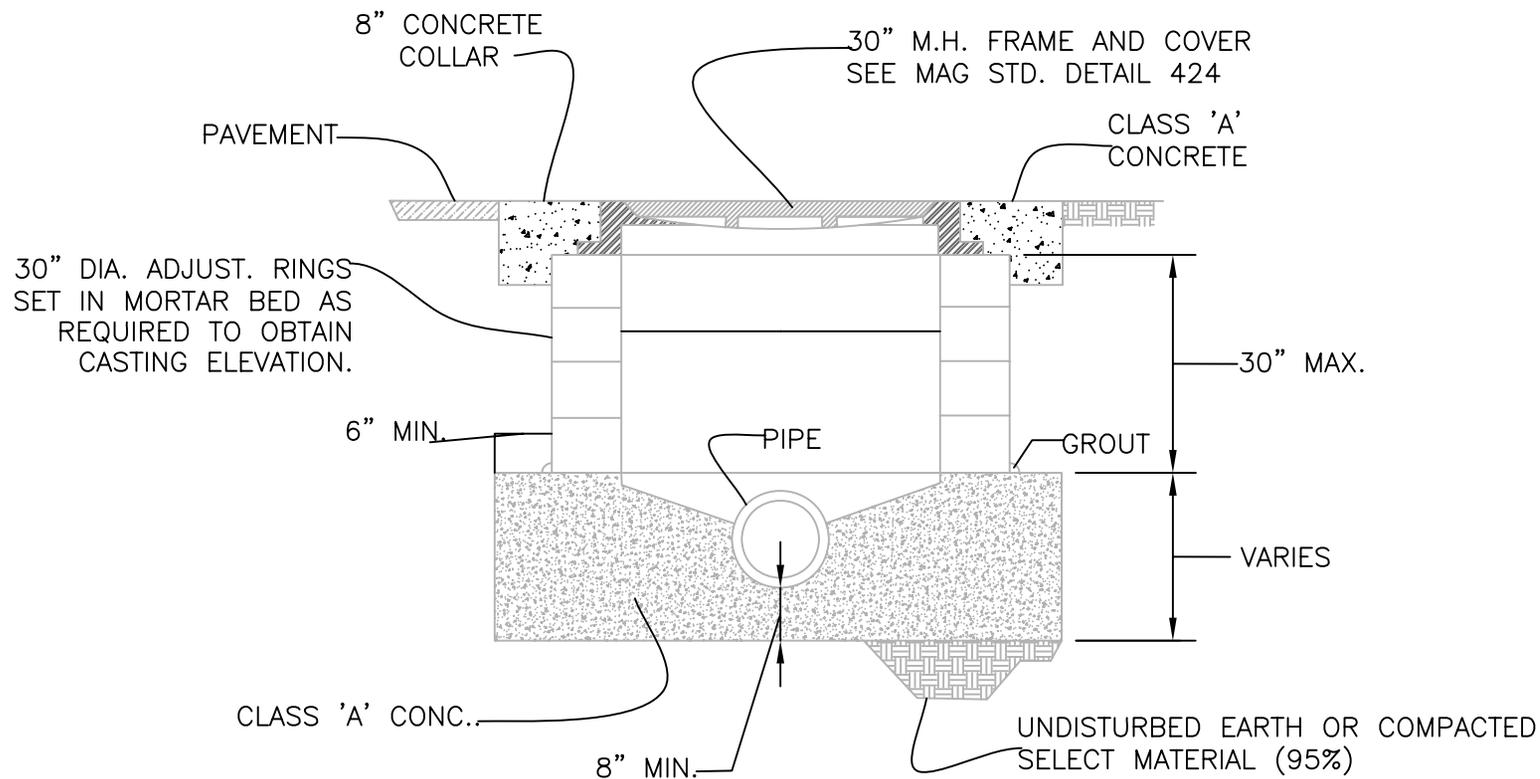
STANDARD DETAIL

STUB OUT AND PLUGS

CITY OF KINGMAN

N.T.S.
DETAIL NO.

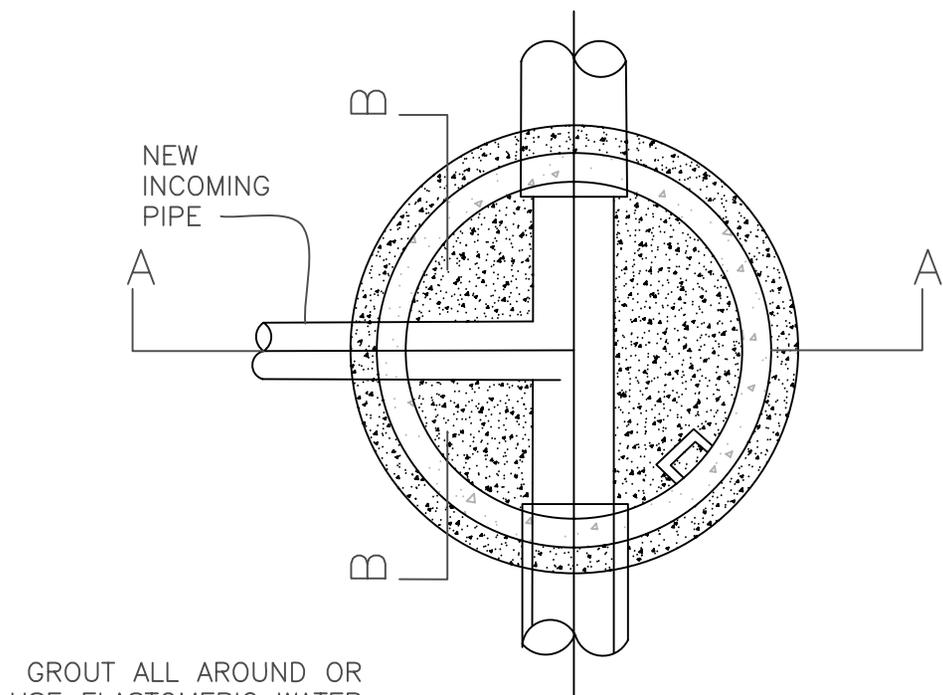
427



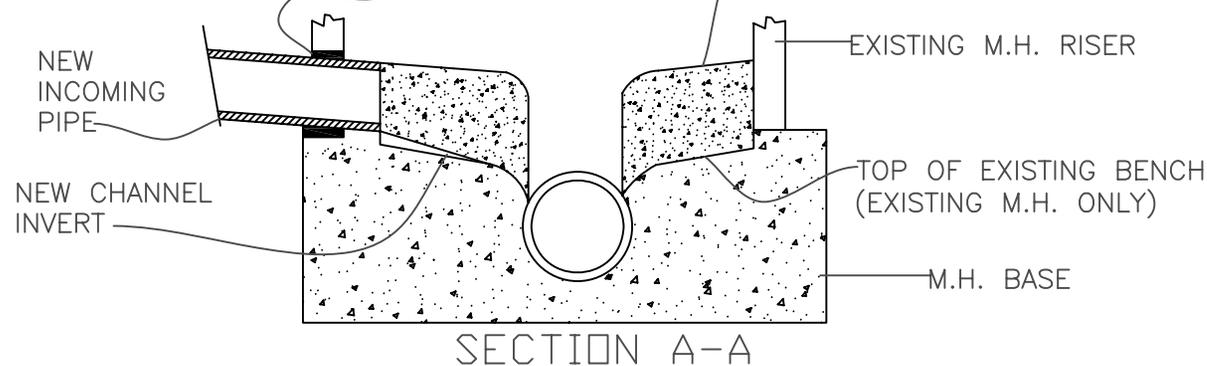
NOTE:

1. USE OF THIS TYPE OF MANHOLE IS SUBJECT TO SPECIAL APPROVAL BY THE CITY ENGINEER.

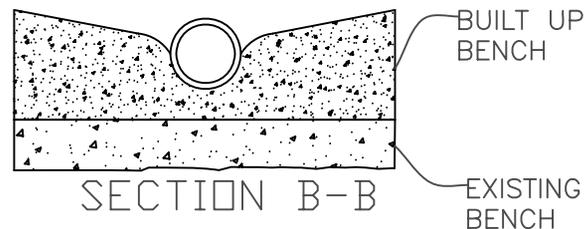
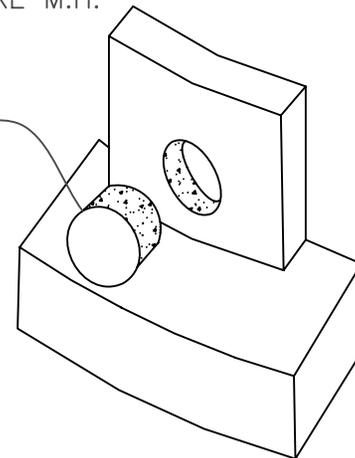
DETAIL NO. 430	STANDARD DETAIL	SHALLOW MANHOLE	CITY OF KINGMAN	N.T.S. DETAIL NO. 430
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GROUT ALL AROUND OR USE ELASTOMERIC WATER STOP TO PROVIDE WATERTIGHT SEAL.



CONCRETE CORE M.H. RISER TO ACCOMMODATE COUPLING OR WATER STOP.



NOTE:

1. EXISTING M.H. BENCH TO BE THOROUGHLY CLEANED PRIOR TO CONSTRUCTING NEW BUILT UP BENCH. NEW BENCH SHALL BE CLASS 'A' CONCRETE W/ TYPE II PORTLAND CEMENT. USE OF AN APPROVED CONCRETE BONDING ADHESIVE IS REQUIRED.
2. ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE INSPECTED AND APPROVED BY THE CITY OF KINGMAN.
3. SHAPE NEW CHANNEL TO PROVIDE FOR A SMOOTH TRANSITION OF FLOW FROM NEW INCOMING PIPE TO OUTGOING MAIN.

DETAIL NO.

431

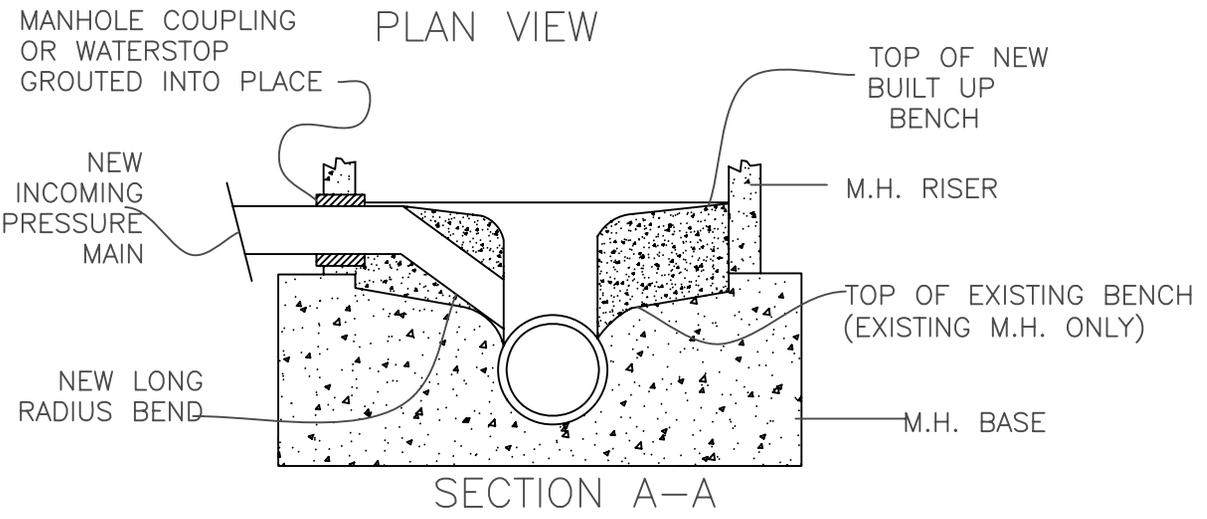
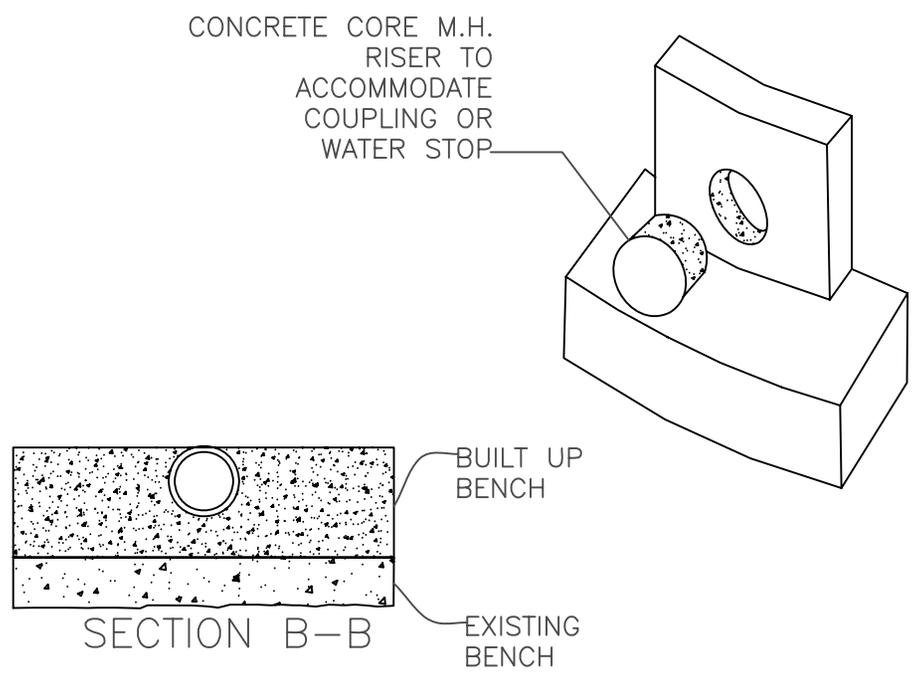
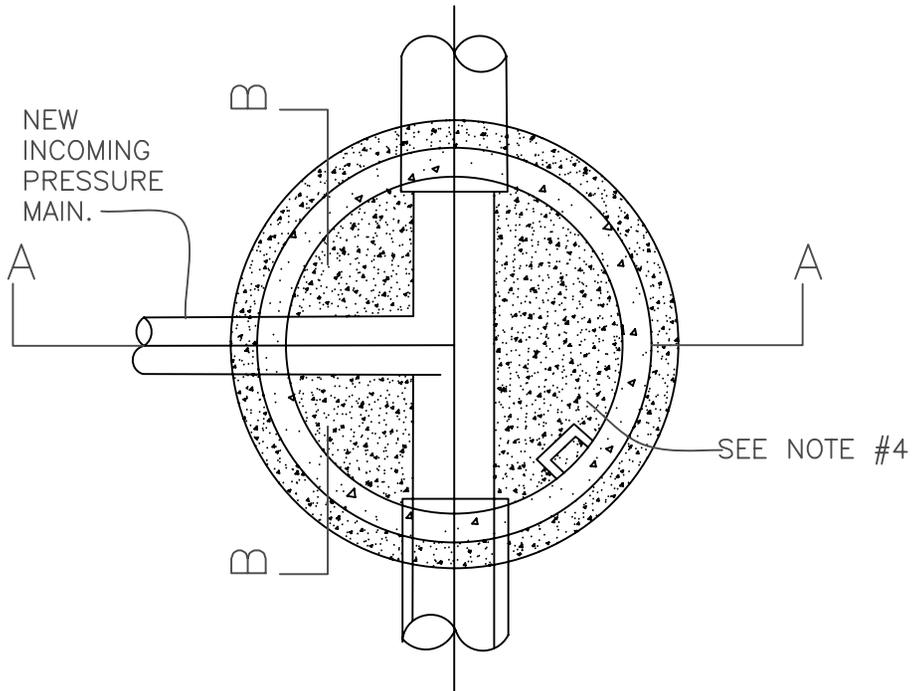
STANDARD DETAIL

**CONNECTION TO EXISTING MANHOLE
(NON-REINFORCED BASE)**

CITY OF KINGMAN

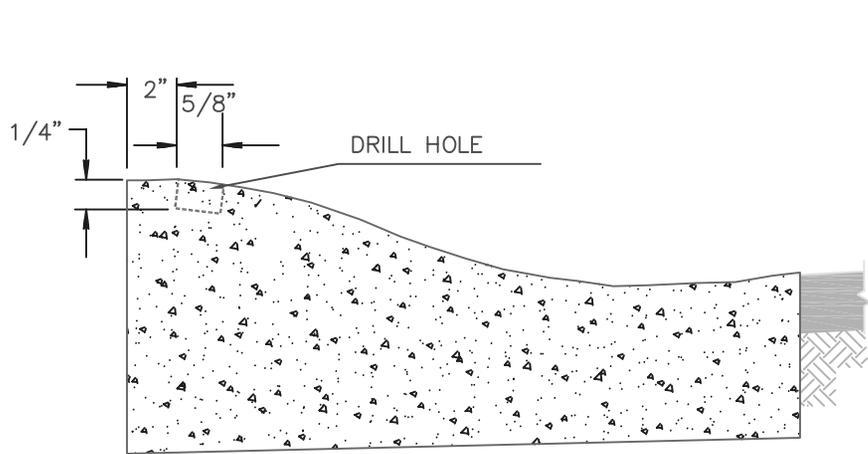
N.T.S.
DETAIL NO.

431

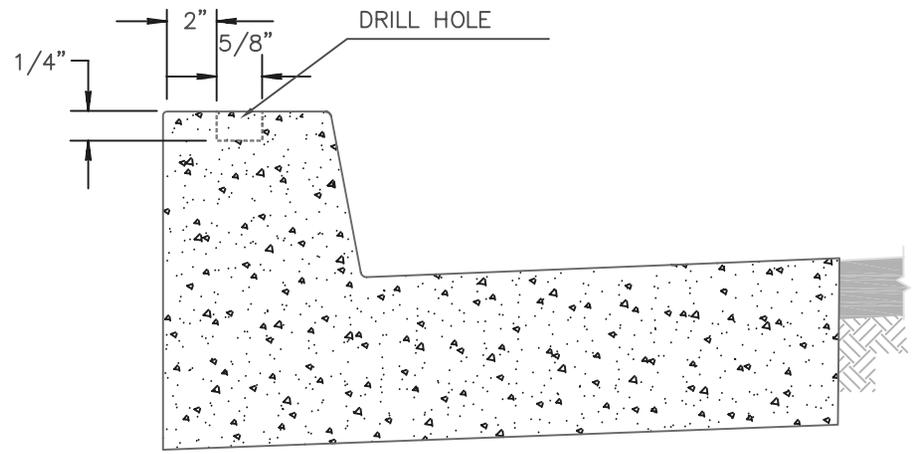


- NOTES:
1. THIS DETAIL MAY BE USED FOR PRESSURE SEWER CONNECTIONS TO EXISTING OR NEW MANHOLES.
 2. EXISTING M.H. BENCH TO BE THOROUGHLY CLEANED PRIOR TO CONSTRUCTING NEW BUILT UP BENCH. NEW BENCH SHALL BE CLASS 'A' CONCRETE W/ TYPE II PORTLAND CEMENT. USE OF AN APPROVED CONCRETE BONDING ADHESIVE IS REQUIRED.
 3. IF CONNECTING TO TERMINAL MANHOLE, BRING PRESSURE MAIN INTO MANHOLE STRAIGHT ALIGNMENT WITH OUTLET MAIN.
 4. INTERIOR OF MANHOLE TO BE PROTECTED WITH TNEMEC SERIES 104 H.S. EPOXY 15-20 MIL. DFT.

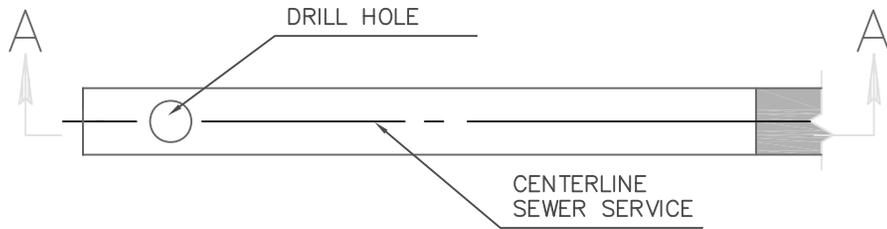
DETAIL NO. 432	STANDARD DETAIL	PRESSURE MAIN CONNECTION EXISTING MANHOLE	CITY OF KINGMAN	N.T.S. DETAIL NO. 432
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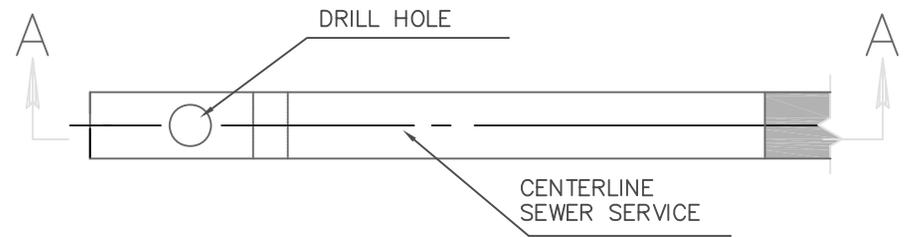
SECTION A-A



SECTION A-A



CURB MARK ROLLED CURB



CURB MARK VERTICAL CURB

NOTES:

1. DRILL TOP OF CURB WITH 5/8" BY 1/4" DEEP HOLE TO DESIGNATE SEWER SERVICE LINE CROSSING.

DETAIL NO.

440-4

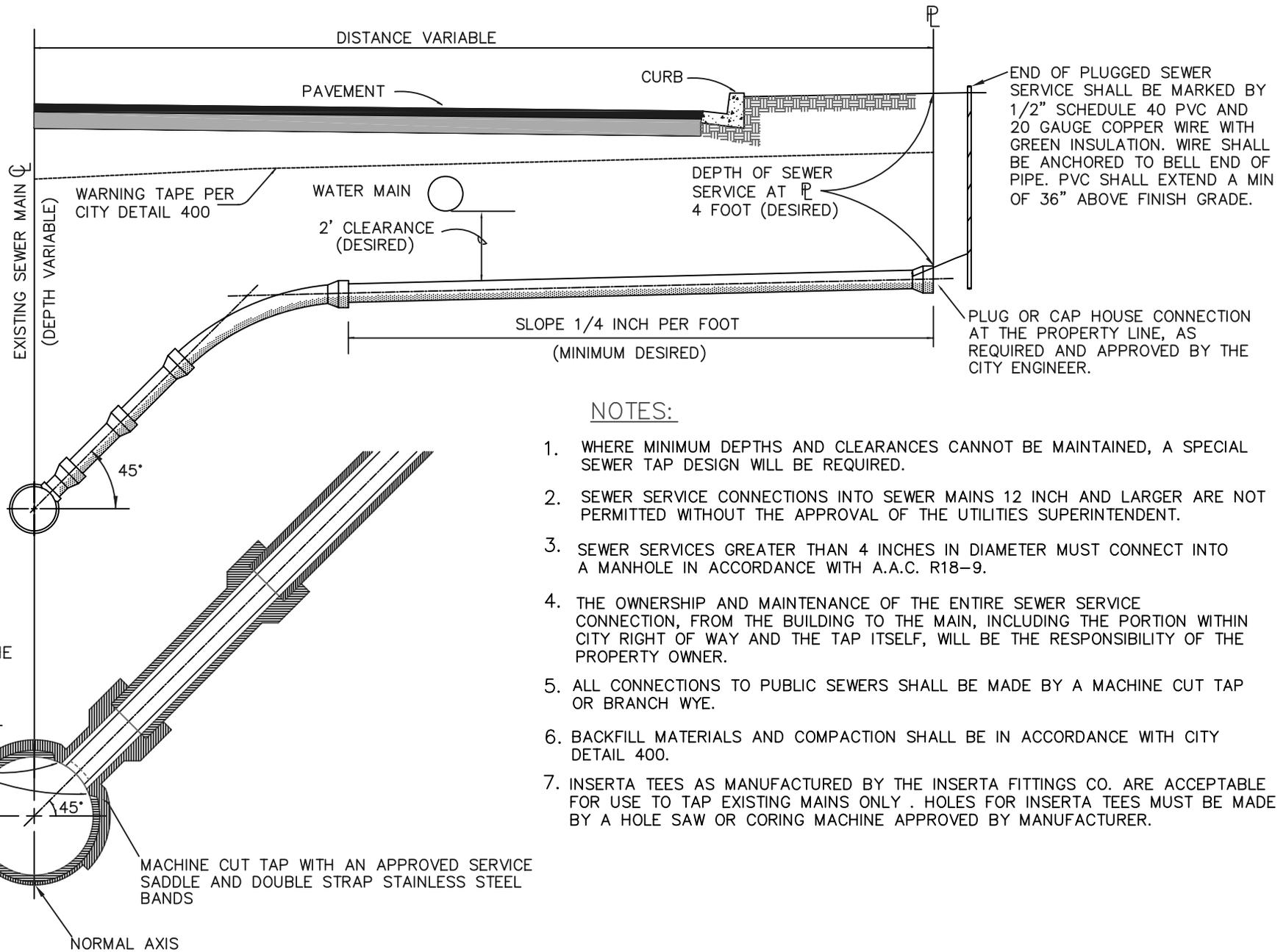
STANDARD DETAIL

**SEWER SERVICE CURB CROSSING
MARK DETAIL**

CITY OF KINGMAN

N.T.S.
DETAIL NO.

440-4



NOTES:

1. WHERE MINIMUM DEPTHS AND CLEARANCES CANNOT BE MAINTAINED, A SPECIAL SEWER TAP DESIGN WILL BE REQUIRED.
2. SEWER SERVICE CONNECTIONS INTO SEWER MAINS 12 INCH AND LARGER ARE NOT PERMITTED WITHOUT THE APPROVAL OF THE UTILITIES SUPERINTENDENT.
3. SEWER SERVICES GREATER THAN 4 INCHES IN DIAMETER MUST CONNECT INTO A MANHOLE IN ACCORDANCE WITH A.A.C. R18-9.
4. THE OWNERSHIP AND MAINTENANCE OF THE ENTIRE SEWER SERVICE CONNECTION, FROM THE BUILDING TO THE MAIN, INCLUDING THE PORTION WITHIN CITY RIGHT OF WAY AND THE TAP ITSELF, WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
5. ALL CONNECTIONS TO PUBLIC SEWERS SHALL BE MADE BY A MACHINE CUT TAP OR BRANCH WYE.
6. BACKFILL MATERIALS AND COMPACTION SHALL BE IN ACCORDANCE WITH CITY DETAIL 400.
7. INSERTA TEES AS MANUFACTURED BY THE INSERTA FITTINGS CO. ARE ACCEPTABLE FOR USE TO TAP EXISTING MAINS ONLY. HOLES FOR INSERTA TEES MUST BE MADE BY A HOLE SAW OR CORING MACHINE APPROVED BY MANUFACTURER.

DETAIL NO.

442

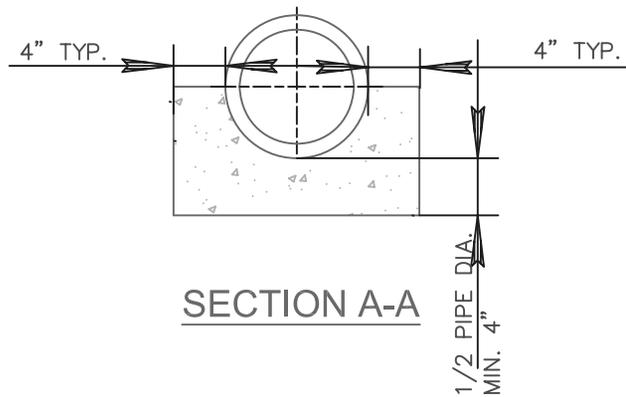
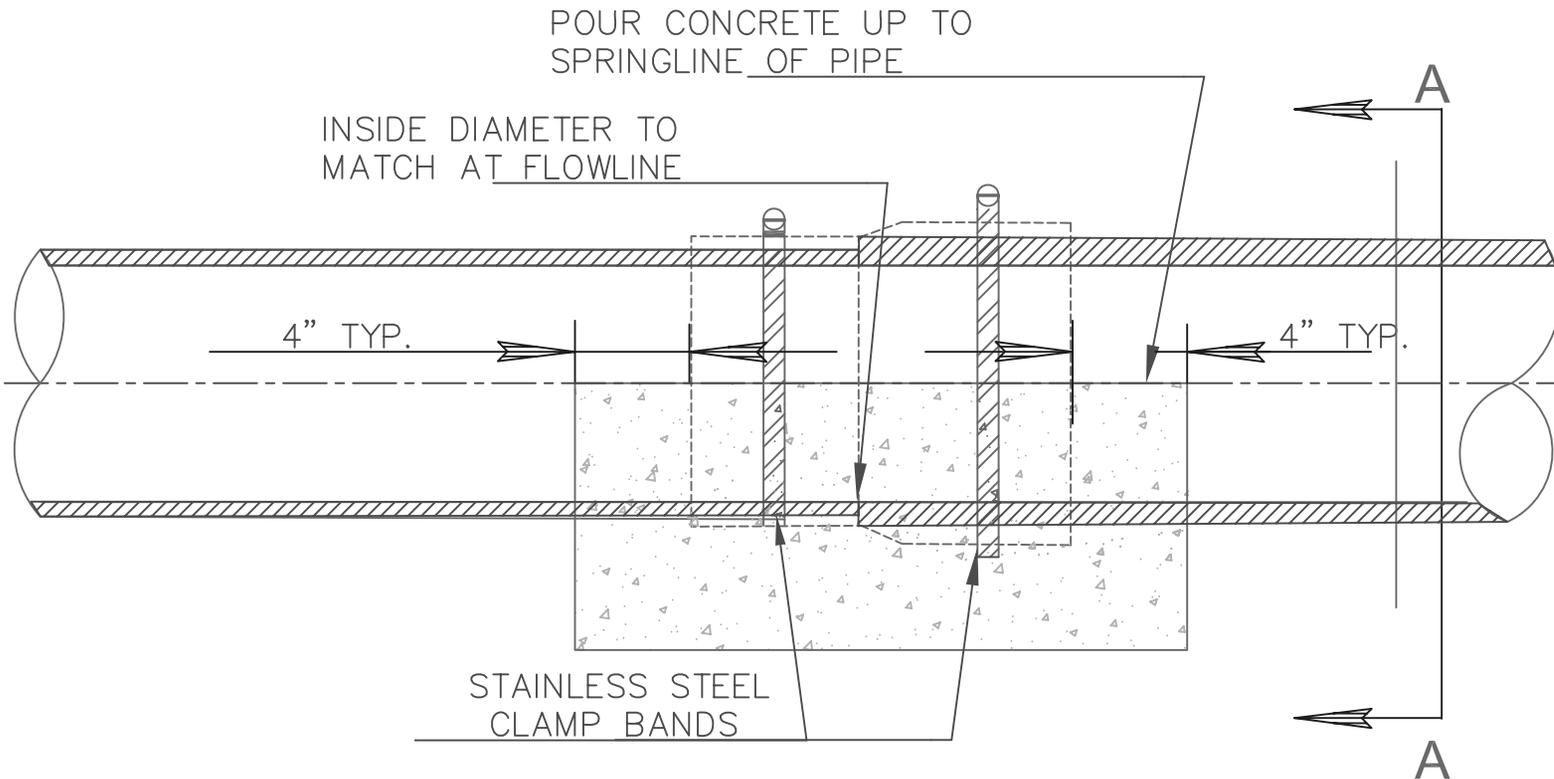
STANDARD DETAIL

SERVICE TAP TO EXISTING MAIN

CITY OF KINGMAN

N.T.S.
DETAIL NO.

442



NOTES:

1. ALL COUPLINGS SHALL APPLY TO THIS DETAIL.
2. USE LOW ALKALI CLASS "B" CONCRETE PER SEC.725
3. ALL COUPLINGS USED SHALL BE APPROVED BY THE CITY OF KINGMAN ENGINEER.

N.T.S.
DETAIL NO.
443

STANDARD DETAIL

**SEWER PIPE COUPLING
DETAIL**

CITY OF KINGMAN

DETAIL NO.
443