

APPENDIX H

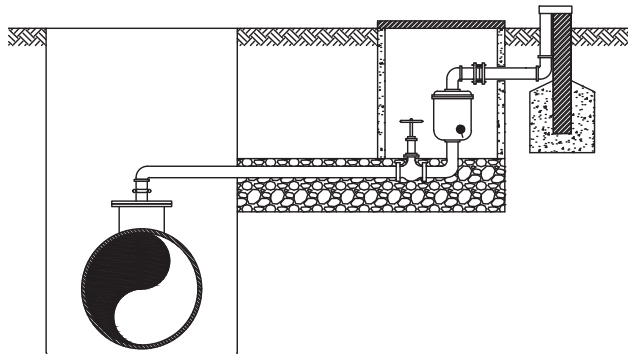
STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER*

**APPENDIX H - STANDARD CONSTRUCTION DETAILS:
WATER LINES AND SANITARY SEWER**

**STANDARD
CONSTRUCTION
DETAILS**

WATER

REVISED - MAY 2017



ALLEN LAND DEVELOPMENT CODE

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WATER DETAILS

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APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER

GENERAL NOTES

POLYVINYL CHLORIDE (P.V.C.) WATER PIPE

1. UNPLASTICIZED POLYVINYL CHLORIDE (P.V.C.) WATER PIPE SHALL MEET OR EXCEED REQUIREMENTS OF AWWA C900. P.V.C. PIPE WITH CAST IRON OUTSIDE DIMENSIONS, PIPE SHALL BE LISTED BY UNDERWRITERS LABORATORIES AND SHALL BE APPROVED FOR USE IN CITIES AND TOWNS OF THE STATE OF TEXAS BY THE STATE BOARD INSURANCE.
2. P.V.C. WATER PIPE SHALL BE FURNISHED WITH A LOCKED-IN OR DUAL-DUROMETER RUBBER RING AT EACH JOINT AND AN INTEGRAL THICKENED BELL AS A PART OF EACH JOINT. THE PIPE CLASS SHALL BE A MINIMUM CLASS DR 14 FOR 6" PIPE AND CLASS 150 DR 18 FOR 8" AND LARGER PIPE. LAYING LENGTHS SHALL BE ± 20 FEET. PIPE AND FITTINGS MUST BE ASSEMBLED WITH NON TOXIC LUBRICANT.
3. ALL FIRE MAINS SHALL BE CLASS DR14.
4. FITTINGS FOR P.V.C. WATER PIPE SHALL BE GRAY IRON OR DUCTILE IRON OF MECHANICAL JOINT TYPE AND SHALL BE CLASS 250 IN ACCORDANCE WITH AWWA C110-77 (ANSI A21 10).
5. UNLESS OTHERWISE SPECIFIED ON PLANS OR SHOWN IN PROFILES, P.V.C. WATER PIPE SHALL BE INSTALLED TO CLEAR ALL UTILITY LINES.
6. DOUBLE STRAPPED BRONZE SADDLES SHALL BE USED FOR MAKING 2" OR SMALLER TAPS.

SPECIFICATIONS FOR WATER PIPE

1. ALL WATER LINES SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. ALL CAST IRON FITTINGS SHALL BE MECHANICAL JOINT FOR D.I. PIPE .
OR MECHANICAL JOINT FOR P.V.C. WATER PIPE.
3. ALL WATER MAINS SHALL HAVE THE FOLLOWING MINIMUM COVER OR SUFFICIENT COVER TO CLEAR OTHER UTILITIES.
6" AND SMALLER = 42"
8" = 48"
10" AND 12" = 54" TO 60"
4. REMOVE ALL BLEEDER LINES UPON COMPLETION OT TESTING.
5. ALL WATER MAINS SHALL BE PURGED BY THE "POLY PIG" METHOD.
6. ALL DUCTILE IRON OR CAST IRON PIPE AND OR FITTINGS SHALL BE POLLY-WRAPPED.
7. WHERE CONFLICTS OCCUR WARP WATER LINE AROUND INLETS TO OBTAIN 1' MIN. CLEARANCE.
8. WATERLINES SHALL BE TESTED BOTH BACTERIOLOGICALLY AND HYDROSTATICALLY. WATER TO CHARGE AND BLEED THE LINES SHALL BE METERED BY THE CONTRACTOR AT HIS EXPENSE, SO AS TO ACCURATELY DOCUMENT WATER USED.



GENERAL NOTES

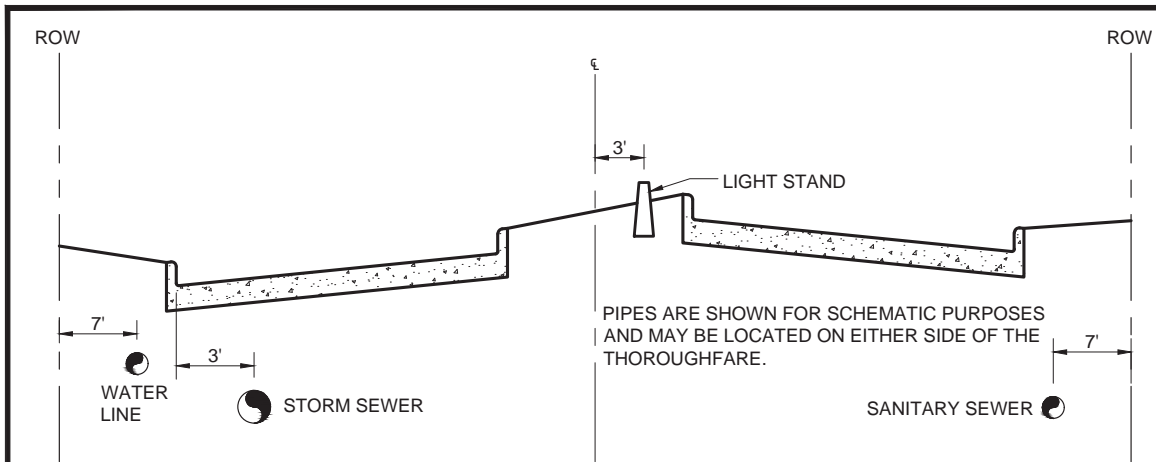
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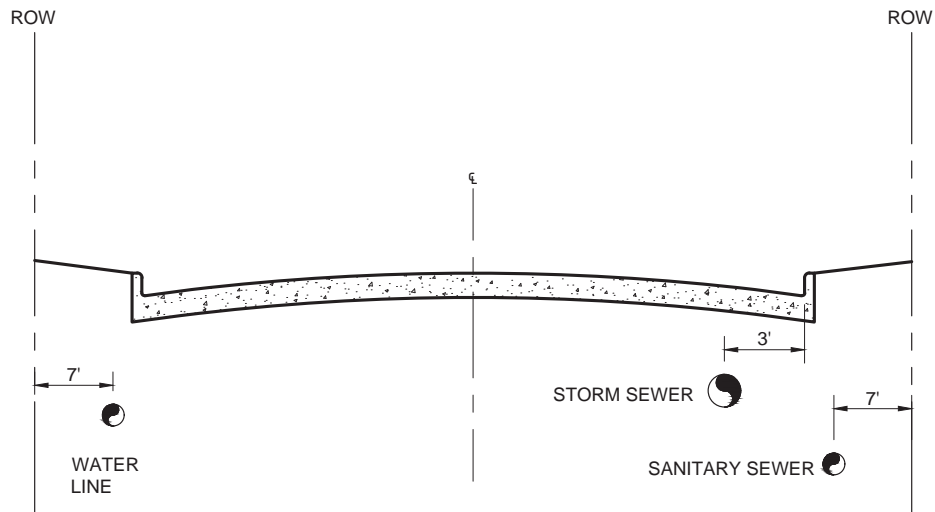
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SD-W01

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TYPICAL LOCATION UTILITIES STRAIGHT CROWN STREETS



TYPICAL LOCATION UTILITIES PARABOLIC CROWN STREETS



TYPICAL LOCATION UTILITIES

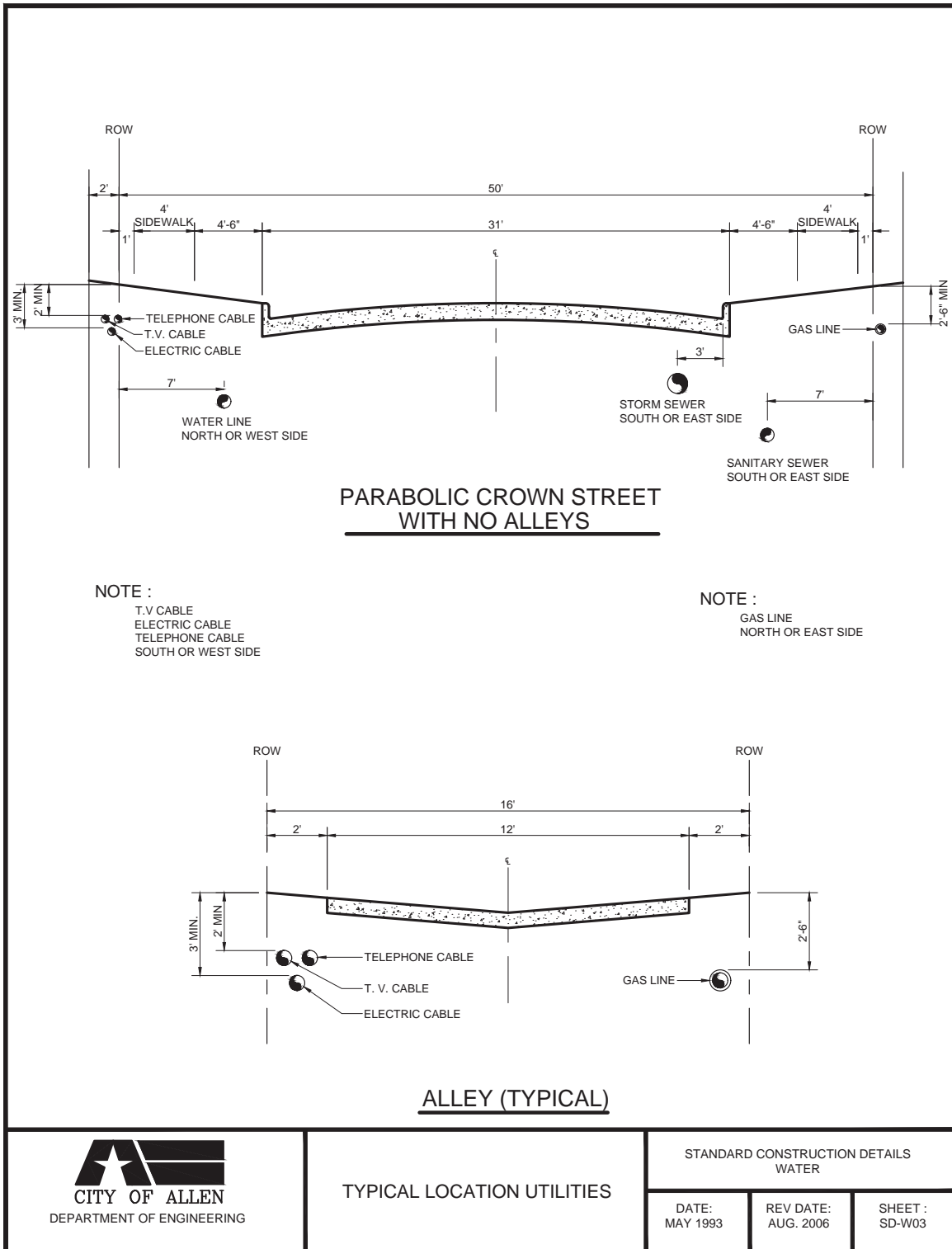
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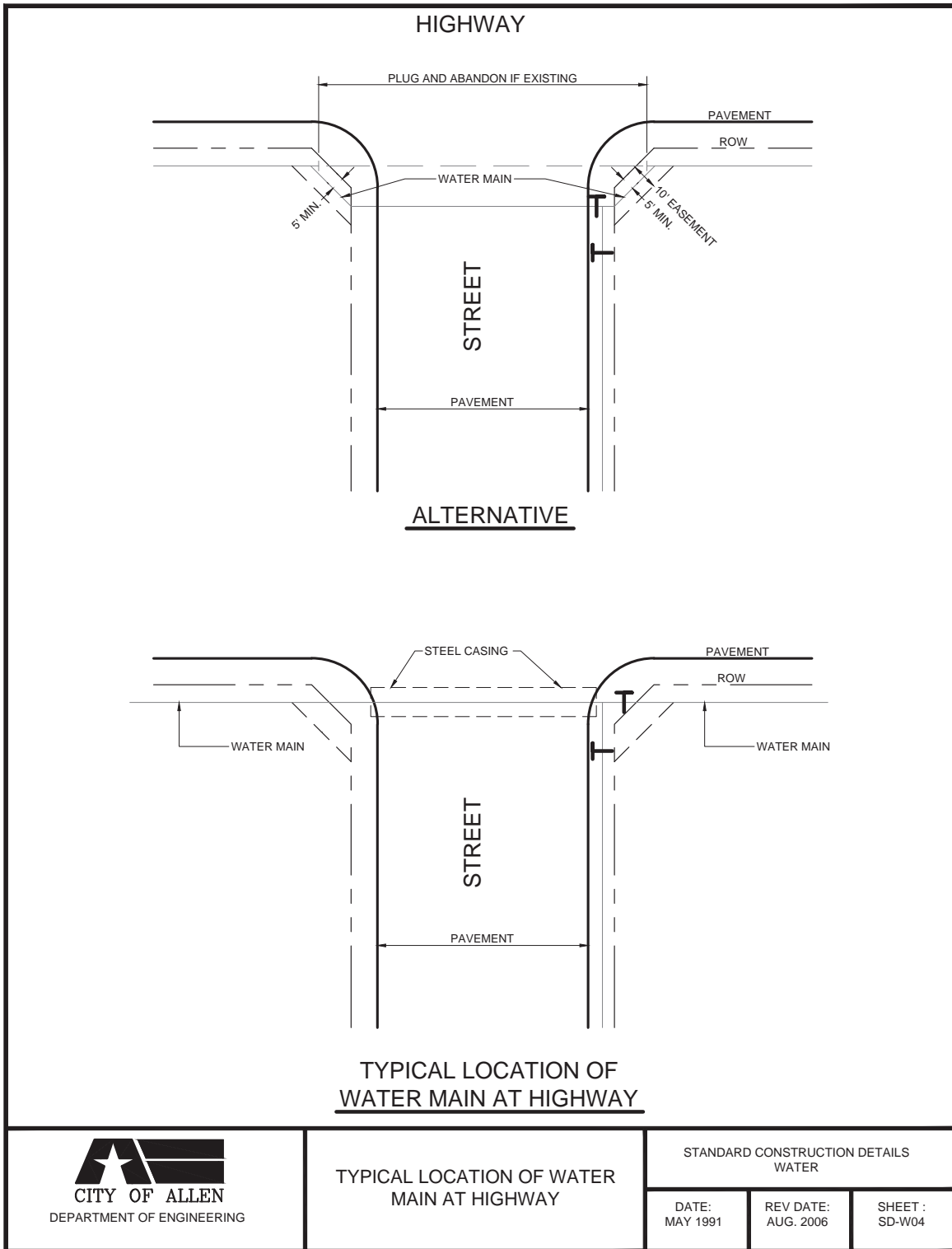
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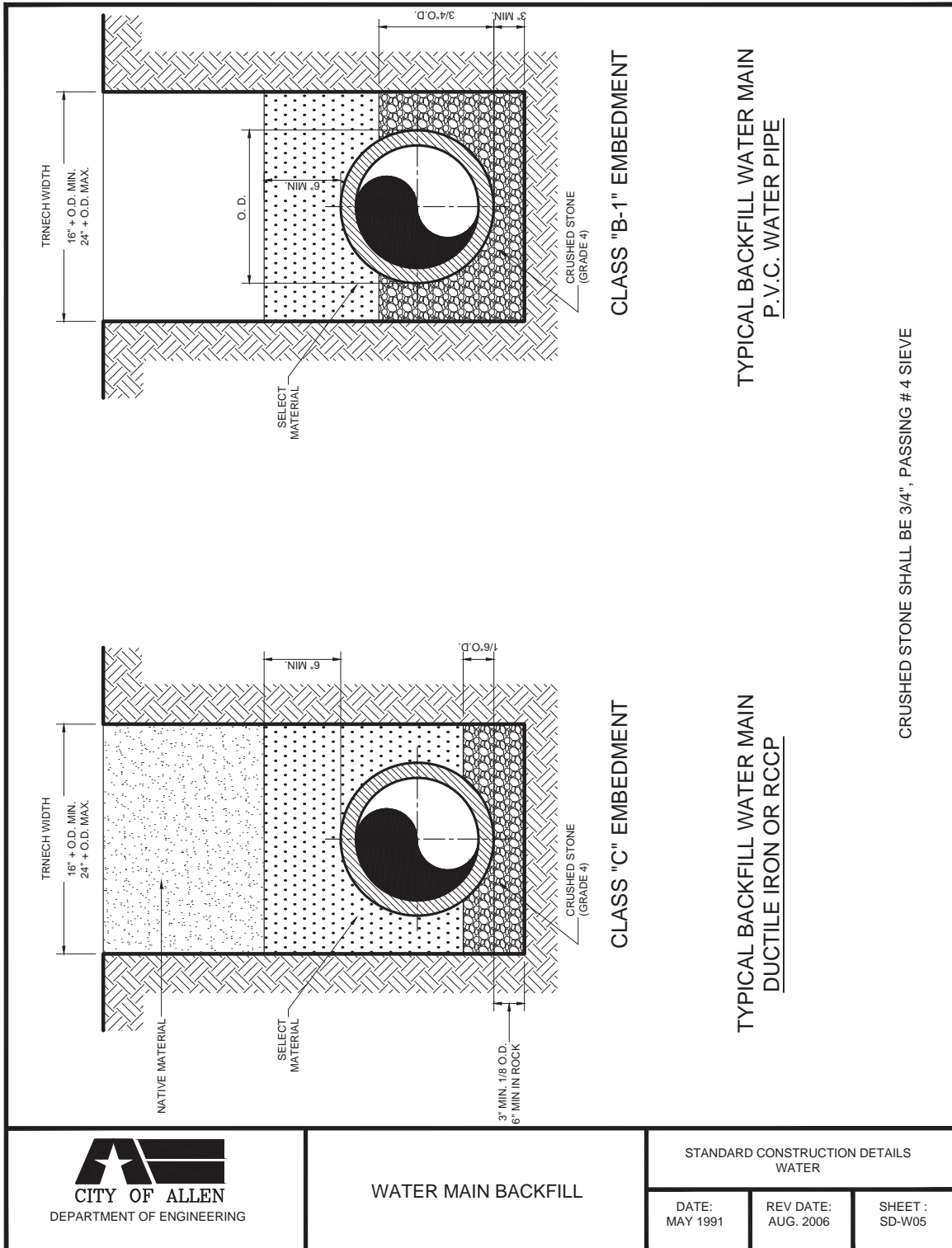
APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



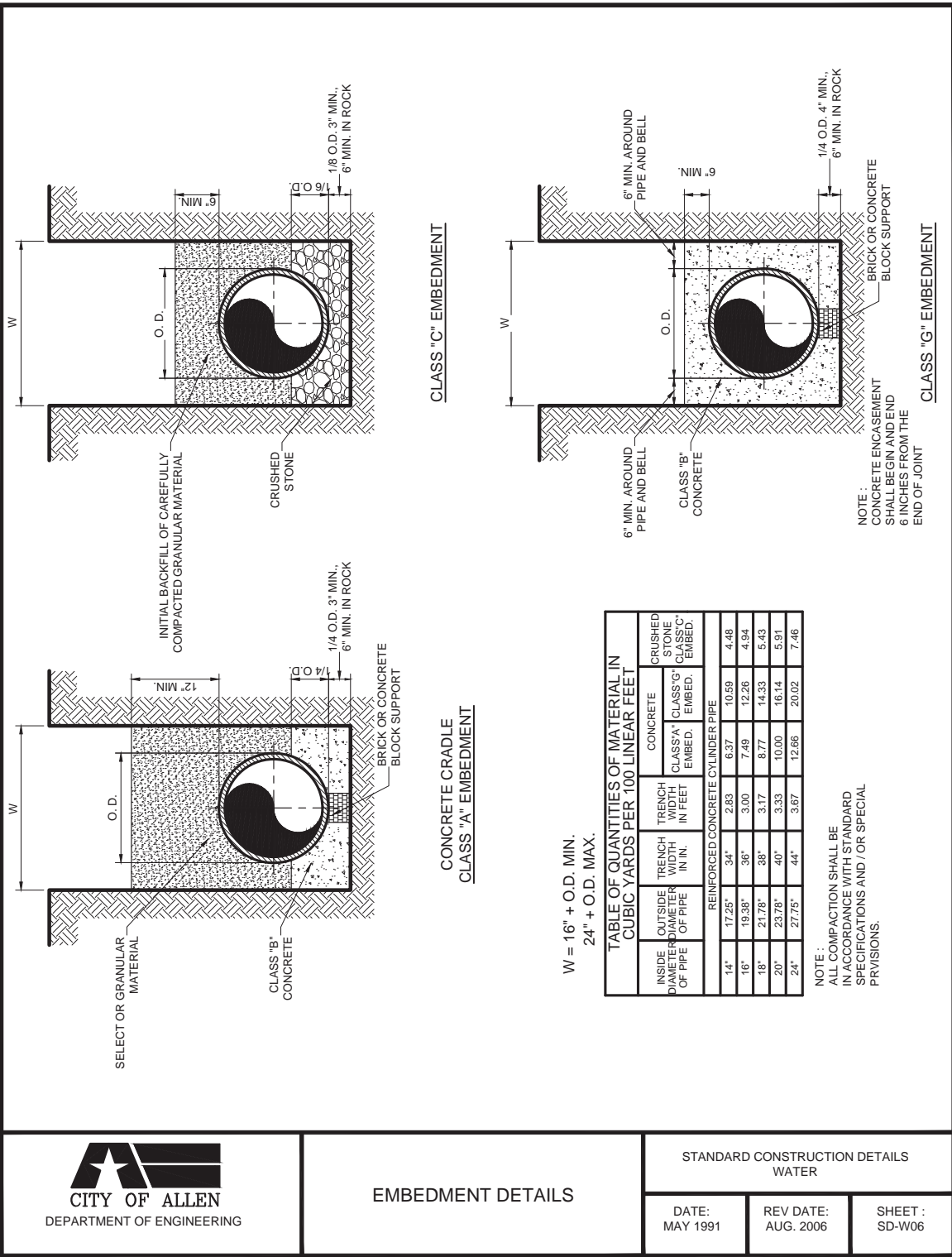
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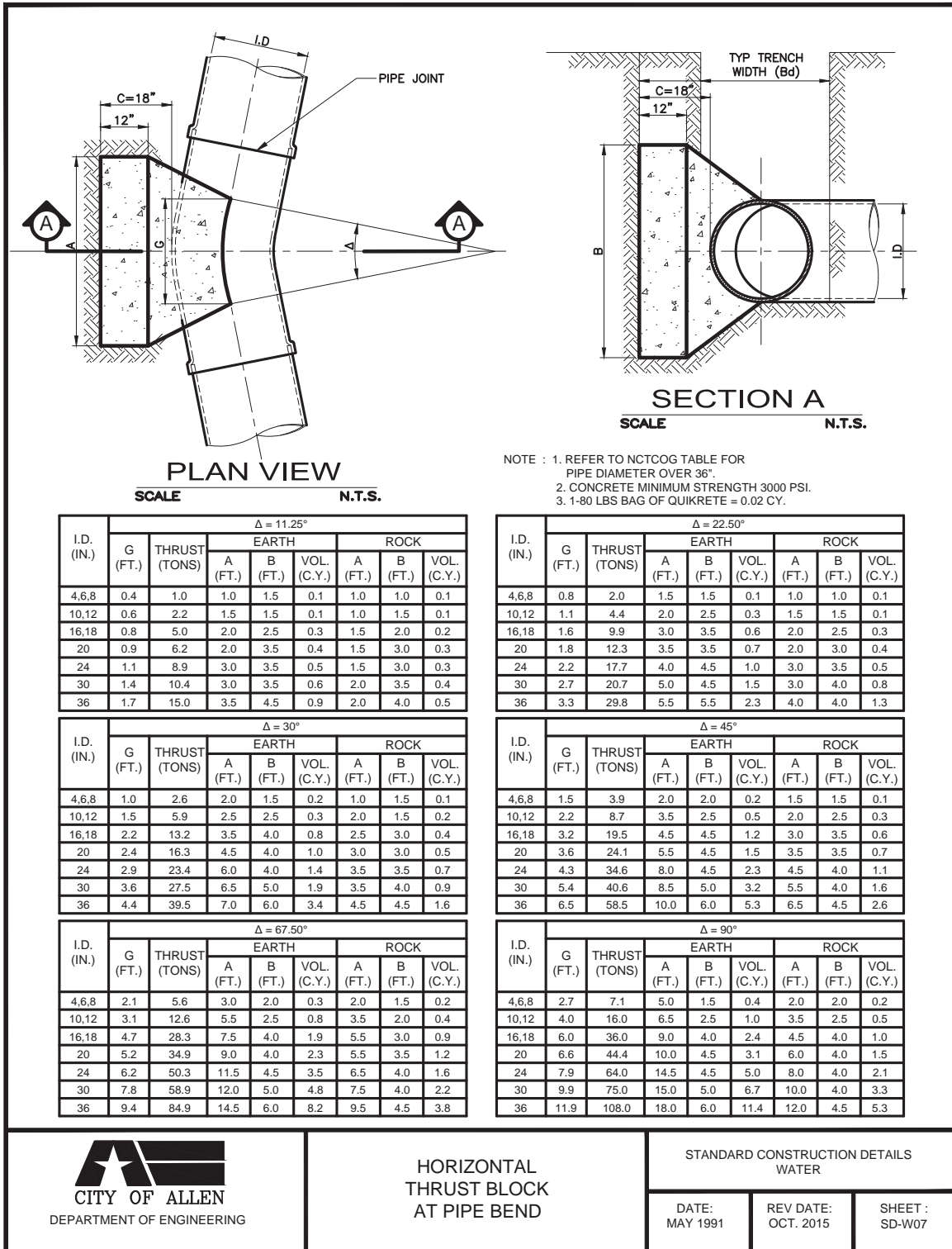
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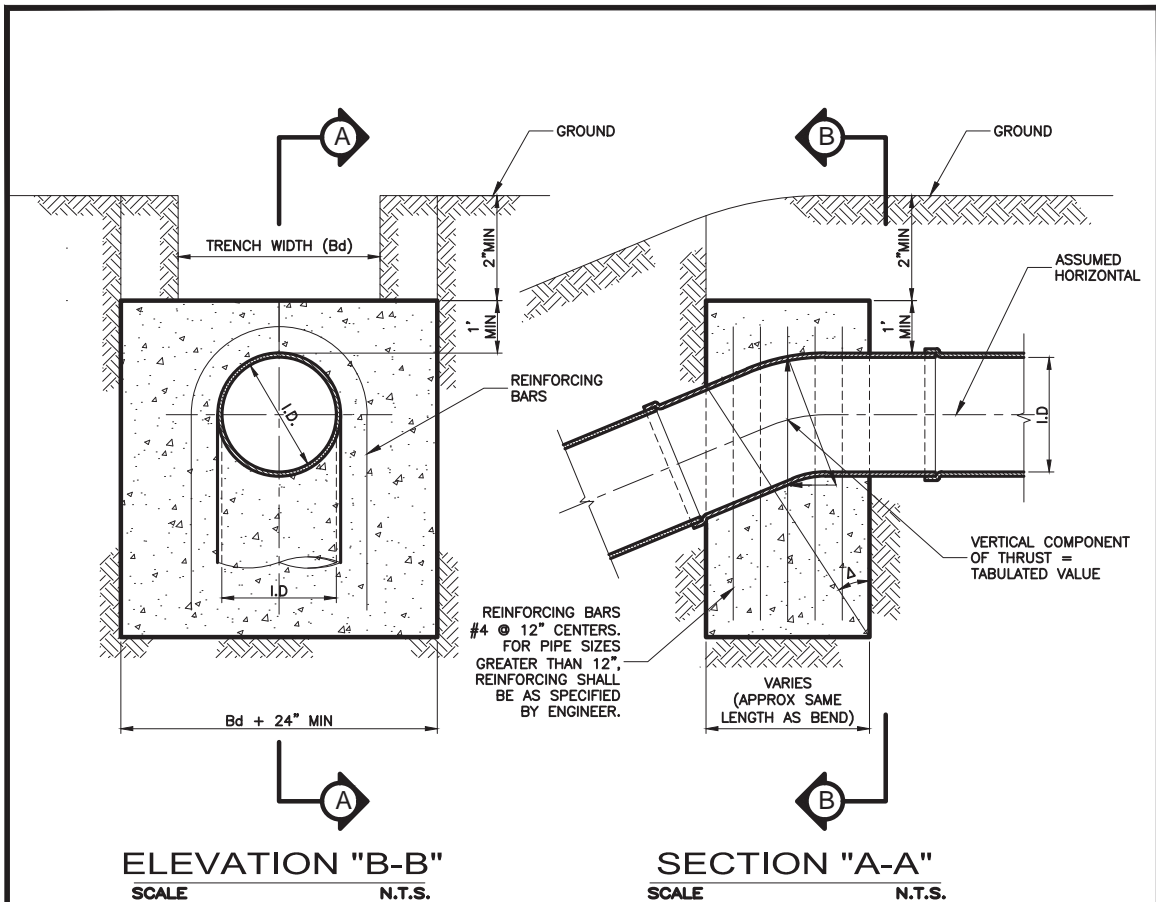
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Δ	11.25°		22.50°		30°		45°		67.50°		90°	
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2

- NOTE : 1. REFER TO NCTCOG TABLE FOR
PIPE DIAMETER OVER 36".
2. CONCRETE MINIMUM STRENGTH 3000 PSI.
3. 1-80 LBS BAG OF QUIKRETE = 0.02 CY.



VERTICAL
THRUST BLOCK
AT PIPE BEND

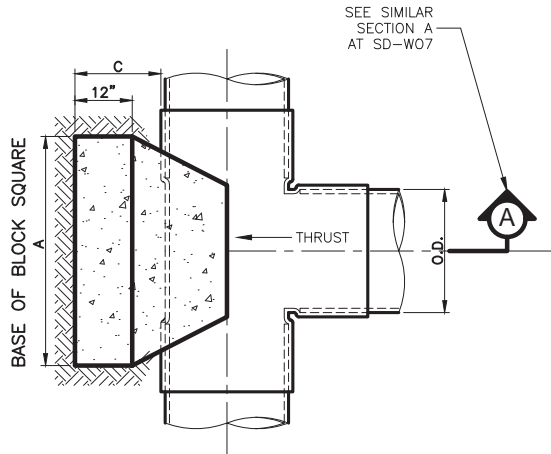
STANDARD CONSTRUCTION DETAILS
WATER

DATE:
OCT 2015

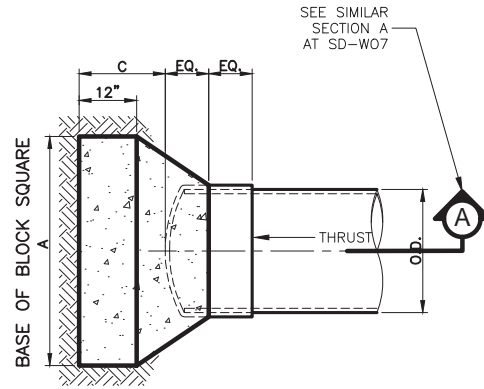
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PLAN OF TEE THRUST BLOCK
SCALE N.T.S.



PLAN OF PLUG THRUST BLOCK
SCALE N.T.S.

I.D. (IN.)	C (FT.)	THRUST (TONS)	EARTH		ROCK	
			A (FT.)	VOL. (C.Y.)	A (FT.)	VOL. (C.Y.)
4,6,8	1.5	5.1	2.5	0.3	2.0	0.2
10,12	1.5	11.3	3.5	0.6	2.5	0.3
16,18	2.0	25.5	5.5	1.6	4.0	0.9
20	2.0	31.5	6.0	1.9	4.0	0.9
24	2.5	45.2	7.0	3.1	5.0	1.7
30	3.0	53.0	7.5	4.1	5.5	2.4
36	4.0	76.3	9.0	7.3	6.5	4.2

NOTE : 1. REFER TO NCTCOG TABLE FOR
PIPE DIAMETER OVER 36".
2. CONCRETE MINIMUM STRENGTH 3000 PSI.
3. 1-80 LBS BAG OF QUIKRETE = 0.02 CY.



HORIZONTAL
THRUST BLOCK
AT TEES AND PLUGS

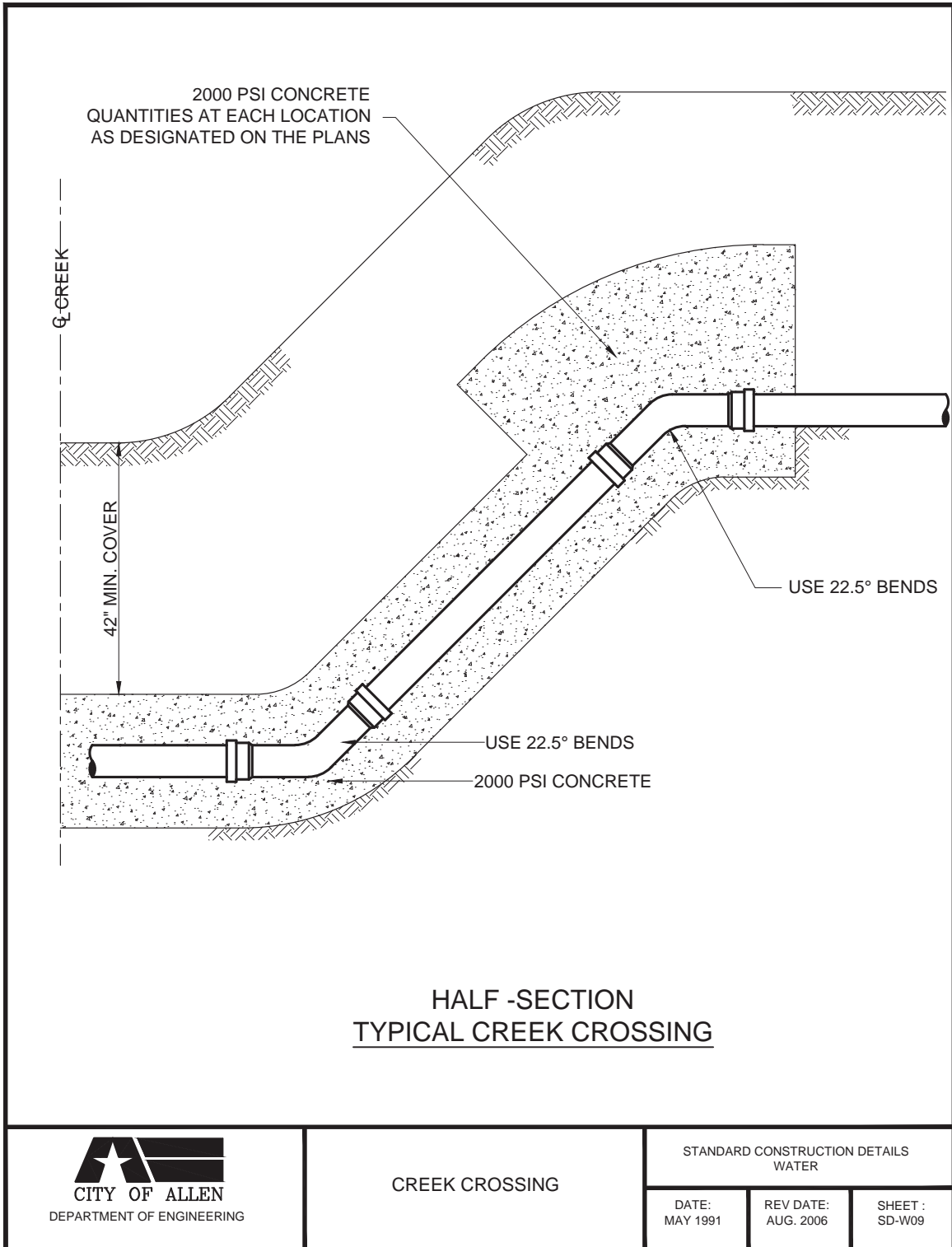
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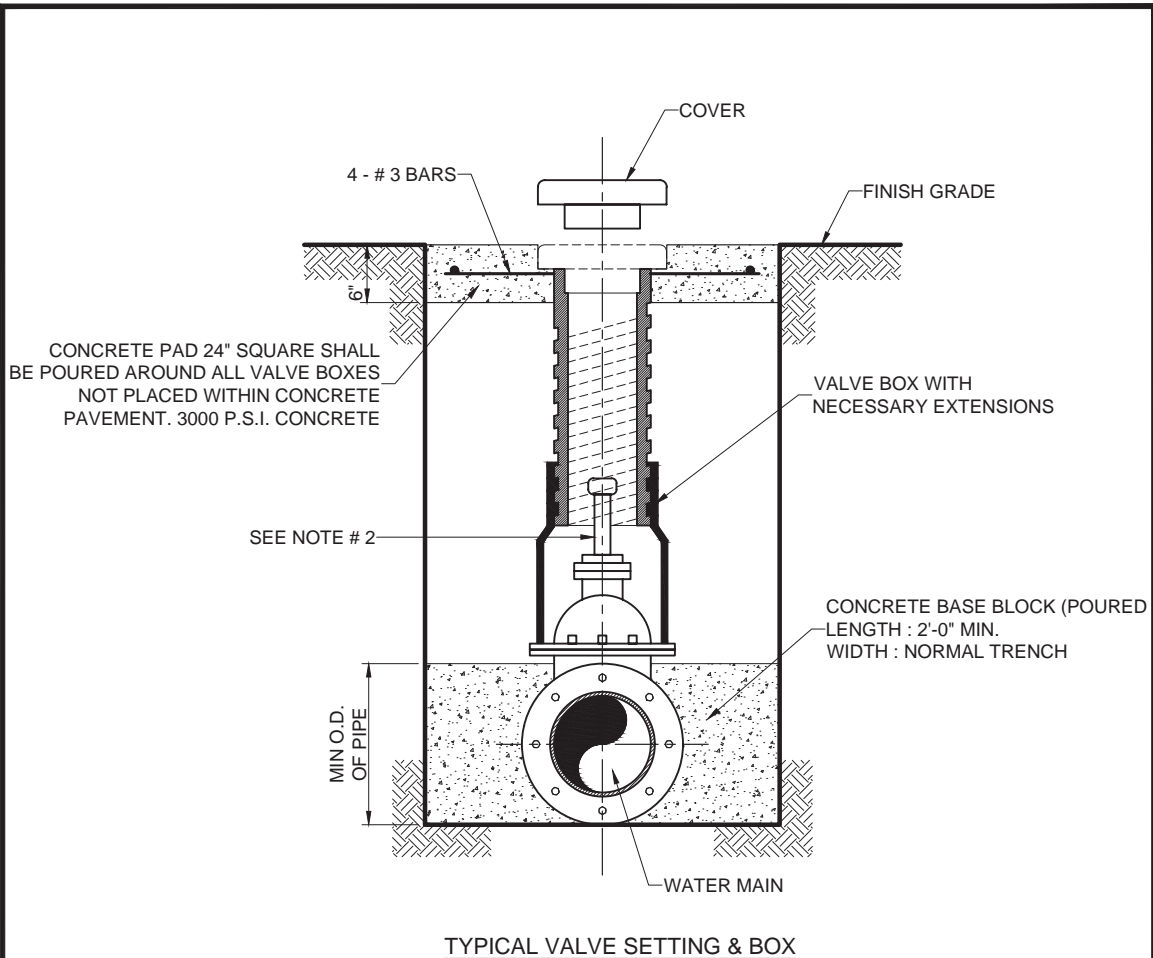
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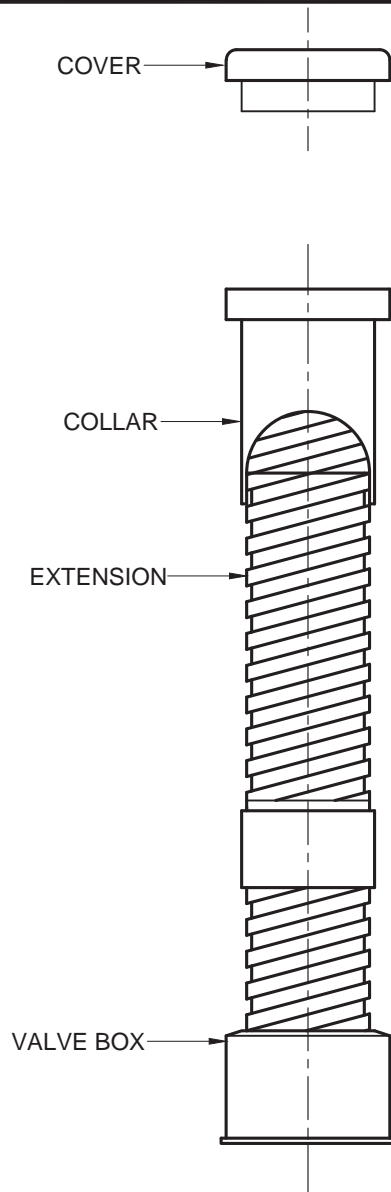
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NOTE:

1. 4"-12" R.S. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-509
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE THATS OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4 FEET OF VALVE BOX LID.
3. DUCTILE IRON OR C-900 PVC PIPE SHALL BE USED FOR VALVE STACKS WITH TWO PIECE ADJUSTABLE (SHORTY) VALVE BOXES.
4. A "V" SHALL BE PLACED ON NEAREST CURB WHERE VALVE IS IN FRONT OF CURB, AND AN "A" SHALL BE PLACED ON NEAREST CURB FOR INSTALLATIONS BEHIND THE CURB. SYMBOL SHALL BE SAWCUT INTO CURB AND PAINTED BLUE.
5. ALL CAST IRON MATERIALS SHALL BE DOMESTIC.

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VALVE BOX WITH EXTENSION

ALL CAST IRON FITTINGS SHALL BE DOMESTIC.



VALVE BOX WITH EXTENSION

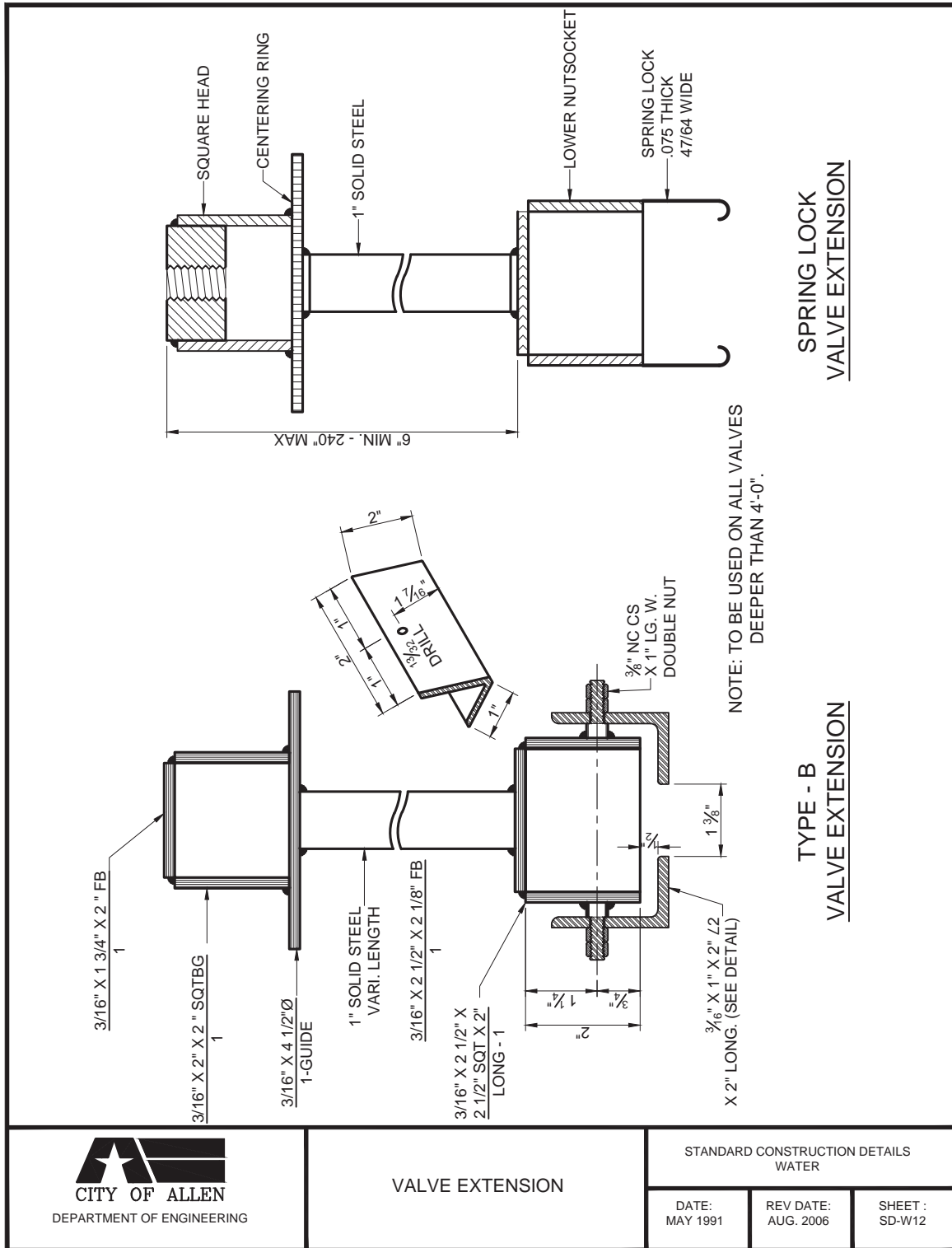
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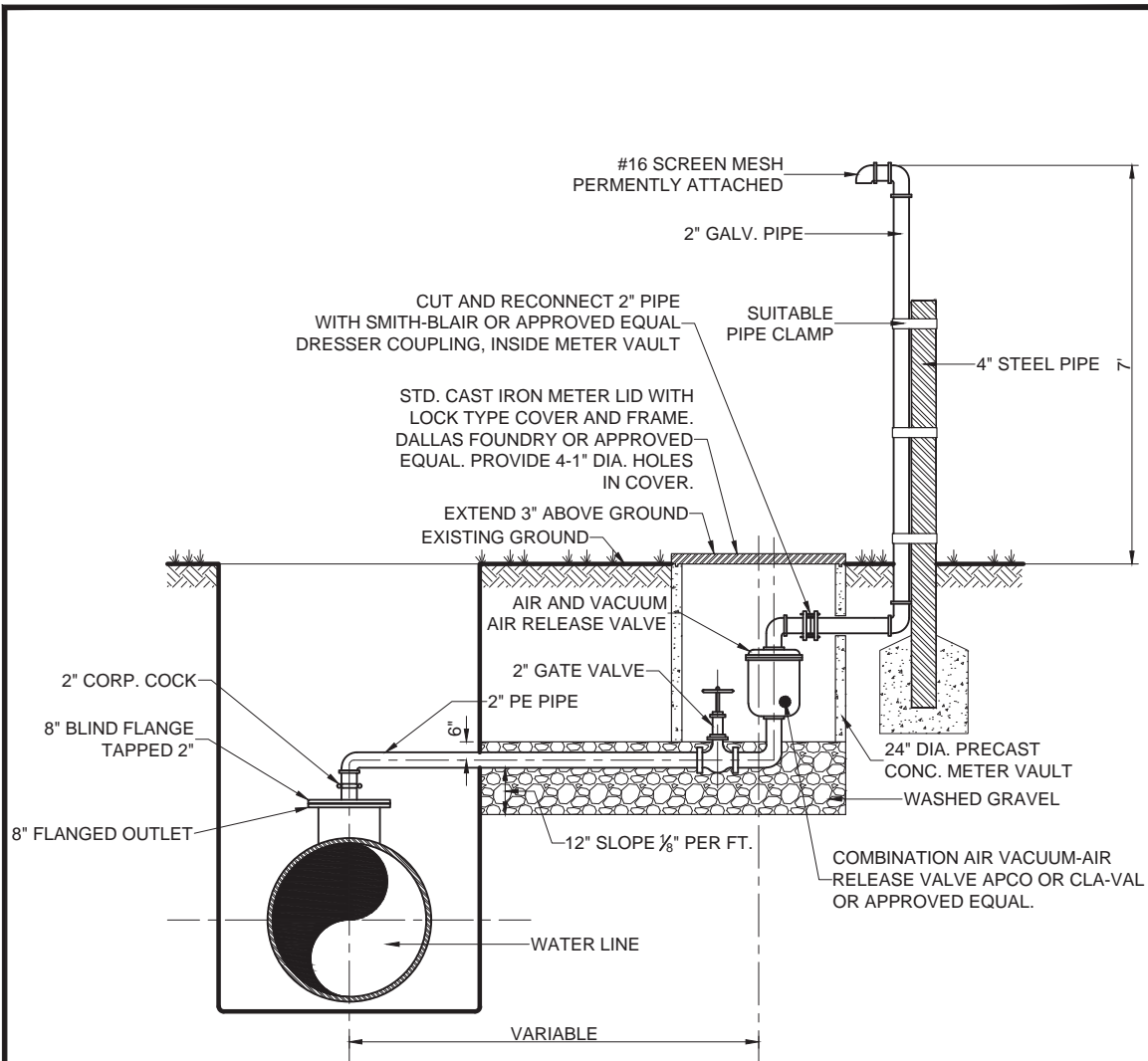
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TYPICAL AIR AND VACUUM-AIR RELEASE VALVE INSTALLATION



AIR AND VACUUM-AIR RELEASE VALVE INSTALLATION

STANDARD CONSTRUCTION DETAILS

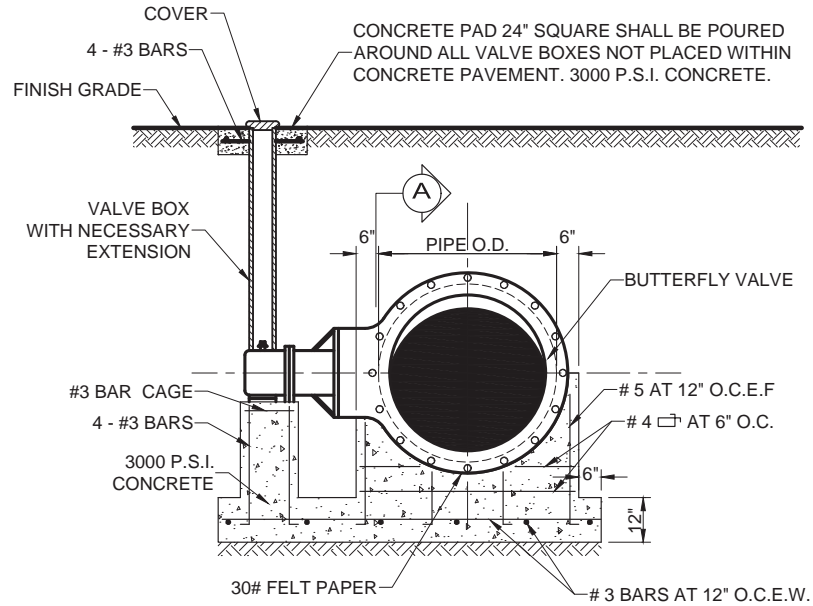
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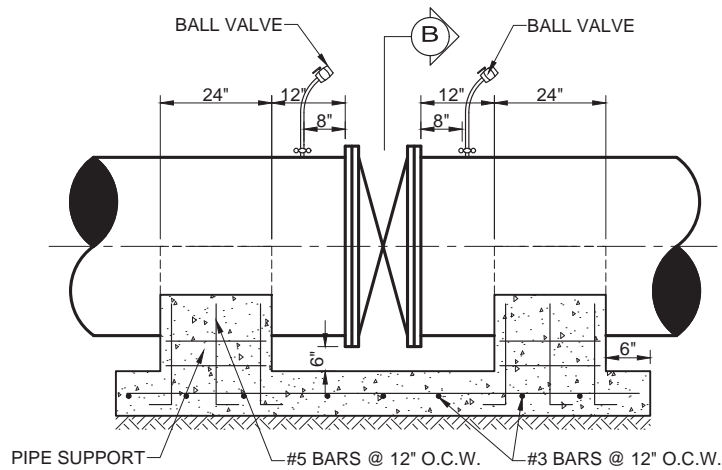
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SECTION B

SCALE N.T.S.



SECTION A

SCALE N.T.S.



BUTTERFLY VALVE

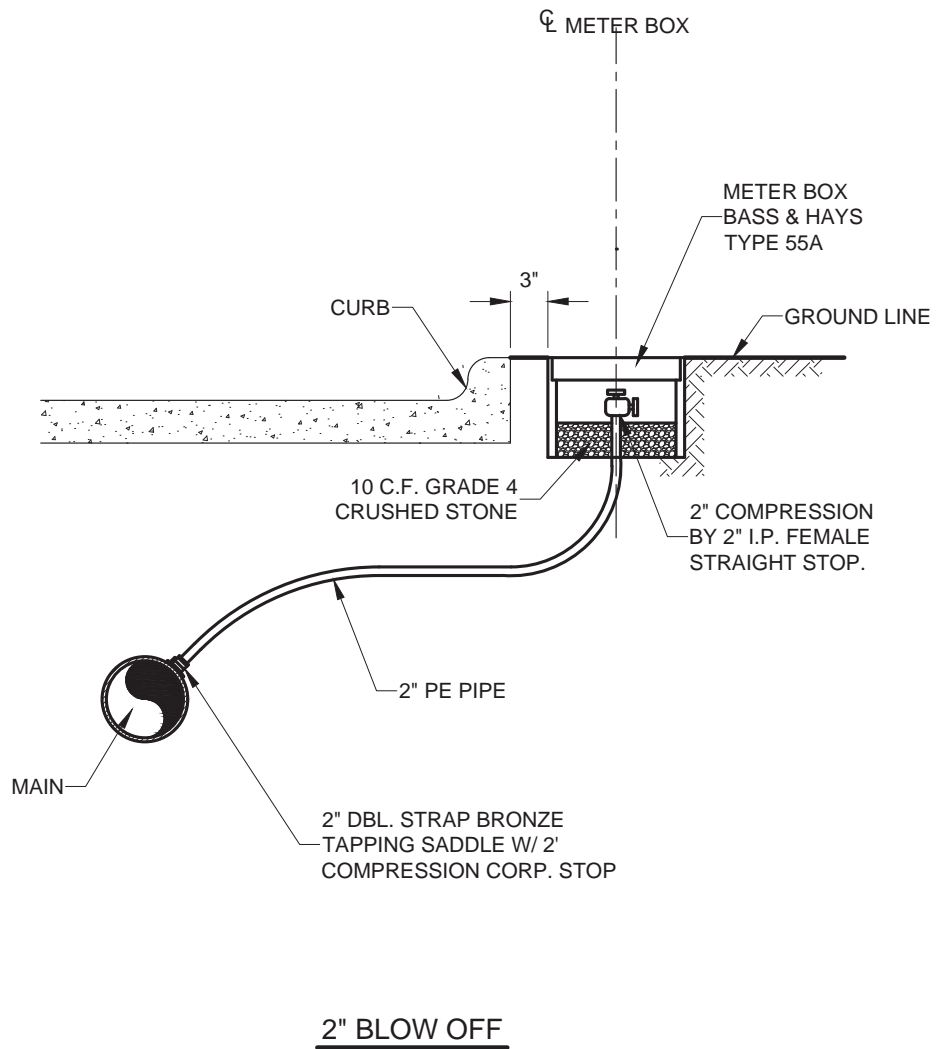
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2" BLOW OFF
WITH METER BOX

STANDARD CONSTRUCTION DETAILS
WATER

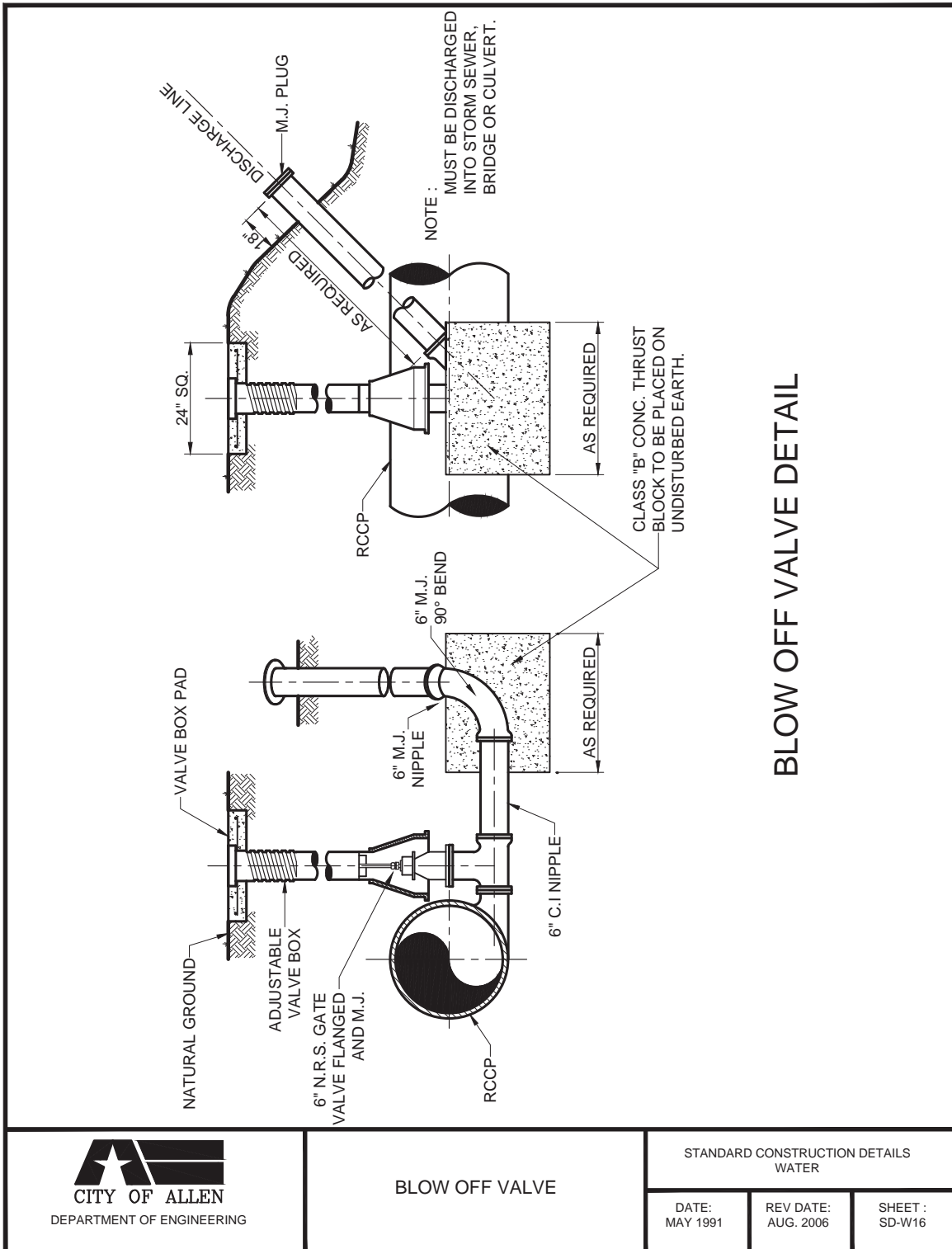
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SD-W15

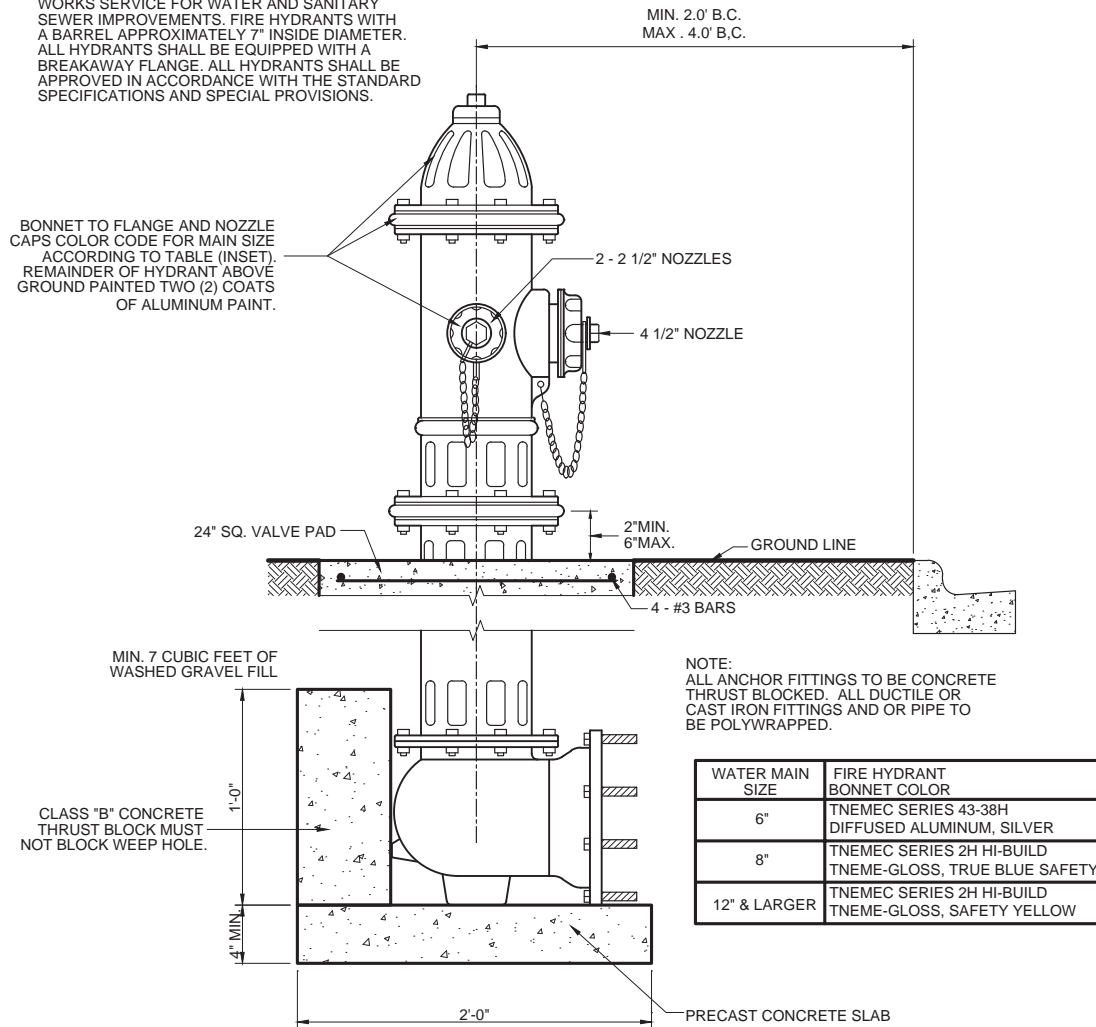
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NOTE:
MUELLER "CENTURIAN" OR EQUAL.
IN GENERAL, ALL FIRE HYDRANTS SHALL
CONFORM TO AWWA STANDARD SPECIFICATIONS
FOR FIRE HYDRANTS FOR ORDINARY WATER
WORKS SERVICE FOR WATER AND SANITARY
SEWER IMPROVEMENTS. FIRE HYDRANTS WITH
A BARREL APPROXIMATELY 7" INSIDE DIAMETER.
ALL HYDRANTS SHALL BE EQUIPPED WITH A
BREAKAWAY FLANGE. ALL HYDRANTS SHALL BE
APPROVED IN ACCORDANCE WITH THE STANDARD
SPECIFICATIONS AND SPECIAL PROVISIONS.



TYPICAL FIRE HYDRANT INSTALLATION



FIRE HYDRANT INSTALLATION

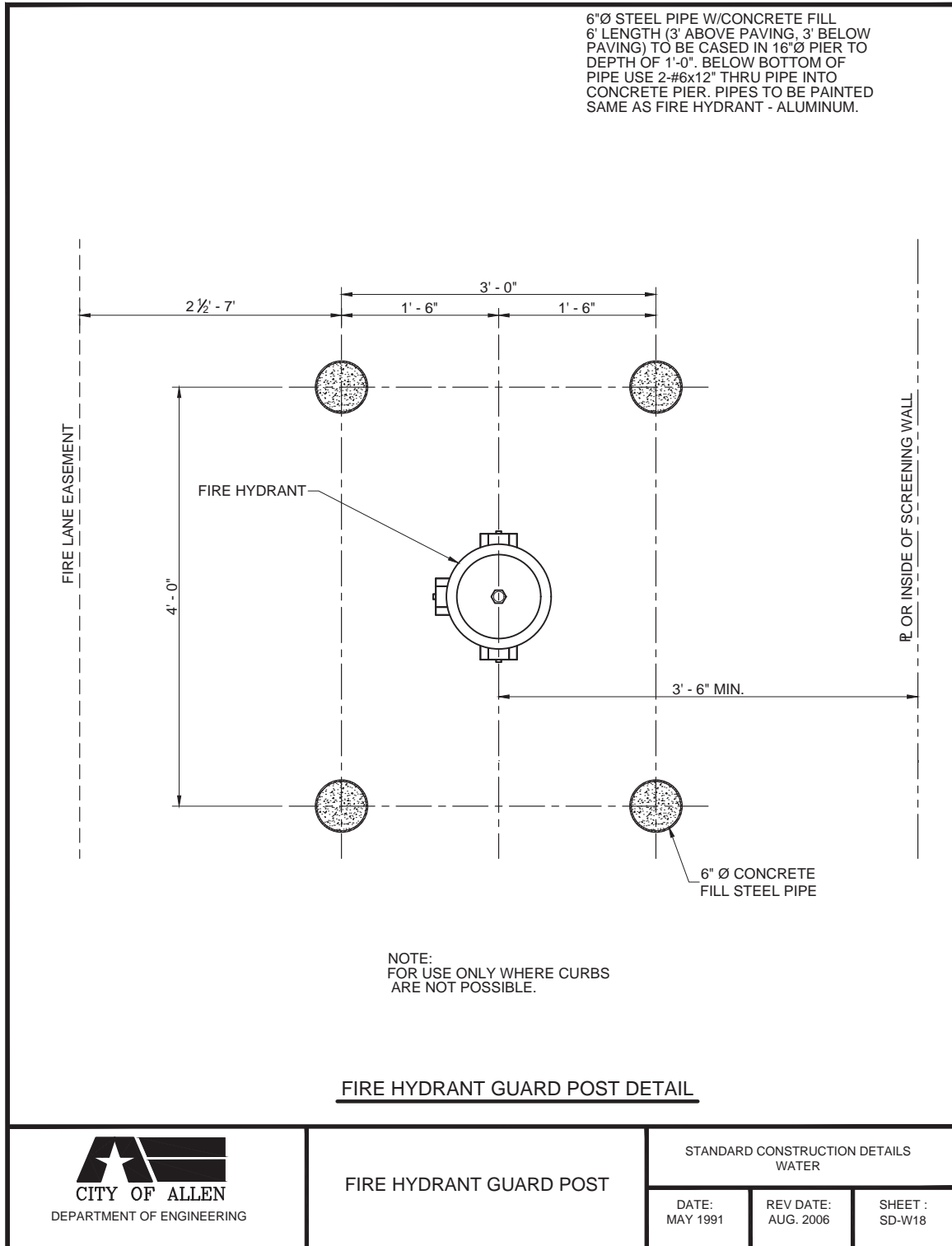
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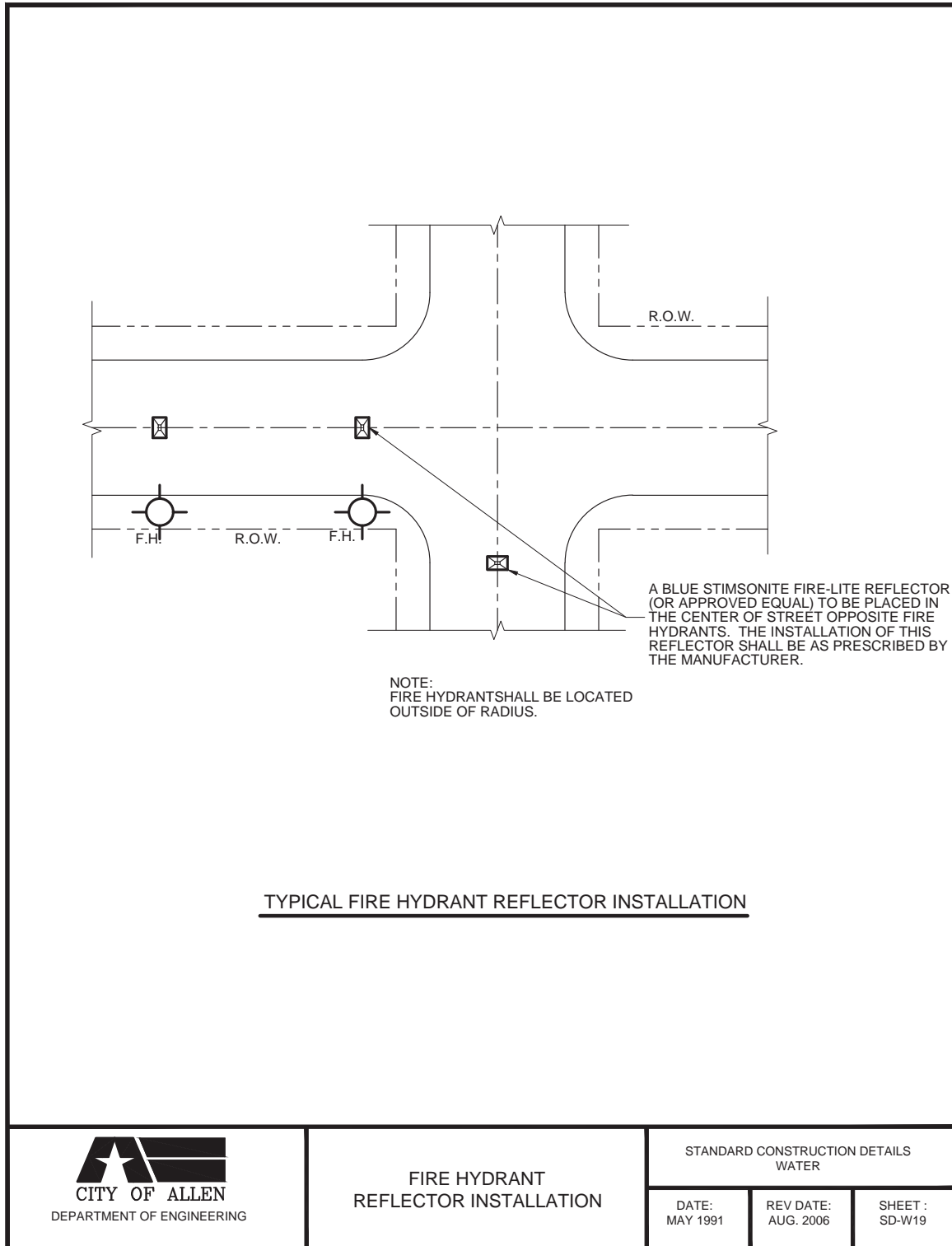
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SD-W17

APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



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NOTE :
WATER SERVICES SHALL NOT BE CONNECTED TO FIRE HYDRANT LINES. ALL MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND/OR SPECIAL PROVISIONS.

FOR 1" OR SMALLER METER

METER BOX SHALL BE CORRUGATED METAL, 18" DIAMETER, 14" DEEP, SLOTTED FOR SERVICE PIPE FITTED WITH CAST IRON TOP AND LID WITH TOUCH READER OPENING (SEE VIEW BELOW). LID SHALL BE C.I. BASS & HAYS DOMESTIC MFG. LID WITH #3P HAIRPIN LOCK OR TYLER RING #6200-R & WESTERN IRON WORKS #DWIW 92/20 OR EQUIVALENT. WATER METER SHALL BE PLACED IN CENTER OF LOT WITH SANITARY SEWER HOUSE CONNECTION LOCATED 10 FEET DOWN STREAM. ALL TAPS SHALL BE MADE AT 45° ANGLE TO L OF PIPE.

NOTE: ALL METERS WILL BE PURCHASED FROM CITY OF ALLEN

TABLE:

AWWA C901 PE SERVICE PIPE	DOUBLE STRAP BRONZE SERVICE SADDLE WITH C.C. THREADS	BASS & HAYS SLOTTED METER BOX
3/4 INCH	3/4 INCH	34AS
1 INCH	1 INCH	34AS
1 1/2 INCH	1 1/2 INCH	55AS
2 INCH	2 INCH	55AS

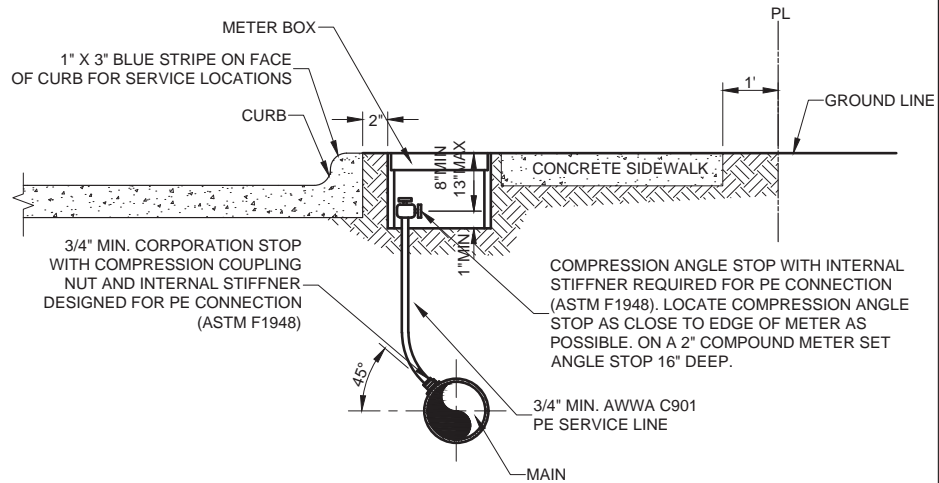
TYPICAL SERVICE CONNECTION WITH METER BOX

ALL CAST IRON MATERIALS SHALL BE DOMESTIC

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NOTE :

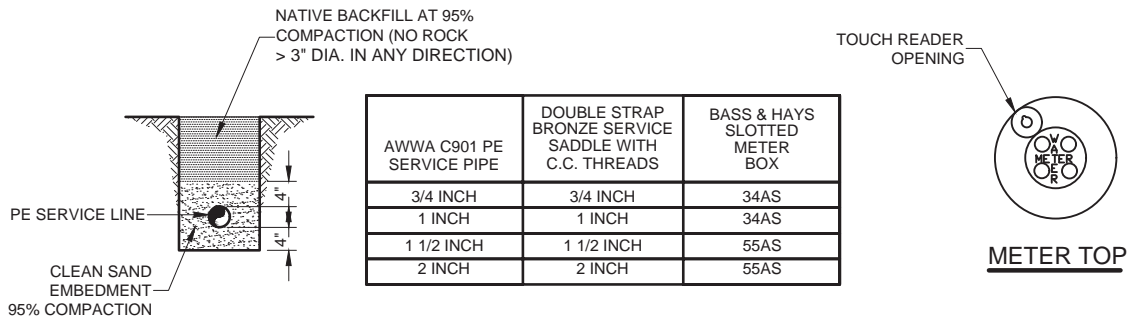
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NOTE: ALL METERS WILL BE PURCHASED FROM CITY OF ALLEN



TYPICAL SERVICE CONNECTION WITH METER BOX

ALL CAST IRON MATERIALS SHALL BE DOMESTIC



SERVICE CONNECTION WITH METER BOX

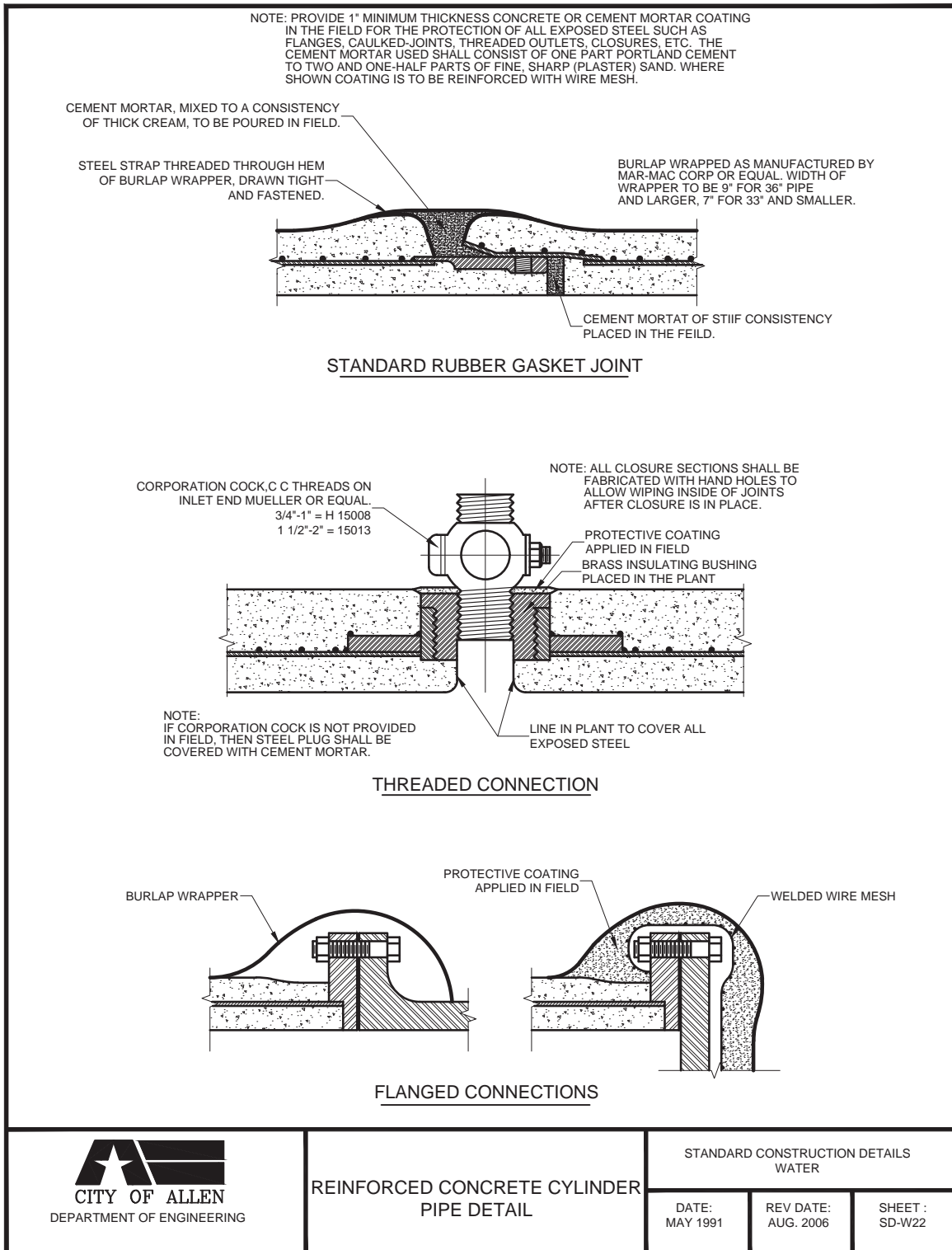
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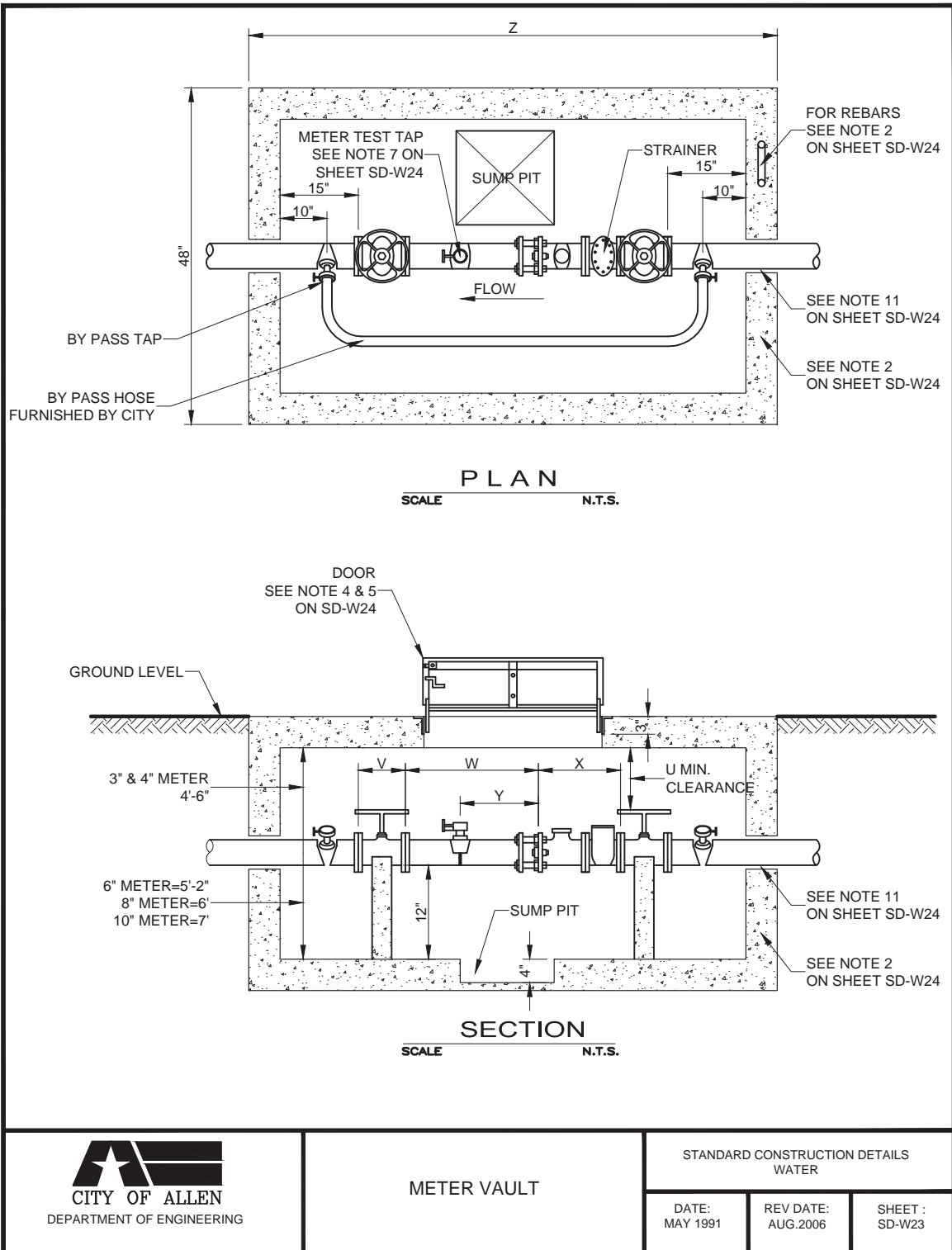
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METER VAULT & BY-PASS SPECIFICATIONS

1. NOTIFY THE ENGINEERING DEPARTMENT PRIOR TO CONSTRUCTION OF VAULT OR BY-PASS ASSEMBLY.
2. THE METER VAULT CAN BE EITHER POURED IN PLACE OR PREFABRICATED. CONCRETE SHALL BE 6" THICK AND BE 3000 P.S.I. WITH #4 REINFORCEMENT STEEL ON 12" CENTERS EACH WAY IF VAULT IS POURED IN PLACE. PREFABRICATED VAULTS SHALL BE 4" THICK AND BE 4,500 P.S.I. CONCRETE WITH #4 REINFORCEMENT STEEL ON 8" CENTERS EACH WAY. THESE ARE MINIMAL SPECIFICATIONS.
3. THE VAULT WILL NOT BE PUT IN ANY DRIVE OR PARKING AREAS AND MUST BE LOCATED IN A UTILITY EASEMENT.
4. THE VAULT LID SHALL BE A BILCO LID, TYPE Q-4 SINGLE LEAF DESIGN. ANGLE FRAME IS 1/4" STEEL WITH STRAP ANCHORS BOLTED TO THE EXTERIOR. THE LEAF IS 1/4" STEEL DIAMOND PATTERN PLAT, PIVOTING ON TORSION BARS FOR EASY OPERATION. THE MINIMUM LIVE LOAD CAPACITY IS 150 LBS. PER SQUARE FOOT. THE SIZE OF THE LID IS 3' BY 3'.
5. THE LID SHALL BE PAINTED WITH 43-38 TNESEC DIFFUSED ALUMINUM PAINT OR APPROVED EQUAL.
6. THE CONTRACTOR SHALL MAKE THE BY-PASS AND METER TEST TAP INSIDE THE VAULT. IF THE SERVICE IS USED AS A STRICTLY DOMESTIC/IRRIGATION COMBINATION, TAP A ON THIS DRAWING IS NOT NECESSARY. IF THE SERVICE IS USED STRICTLY FOR IRRIGATION, TAP A IS REQUIRED. TAP A MUST BE AT LEAST TWO PIPE DIAMETERS DOWNSTREAM OF THE METER. TAPS B & C MUST BE MADE AT AN APPROXIMATE 45° ANGLE ON EACH END OF THE PIPE AND CENTERED 10 INCHES AWAY FROM THE WALL. ALL TAPS SHALL BE 2" AWAY FROM THE WALL. ALL TAPS SHALL BE 2" AND THE CONTRACTOR SHALL INSTALL A ROCKWELL NO. 317-045514-000 FOR 3" x 2"; ROCKWELL NO. 317-056314-000 FOR 4" x 2"; ROCKWELL NO. 317-076014-000 FOR 6" x 2" AND ROCKWELL NO. 317-121214-000 SERVICE SADDLES WITH BRASS NIPPLES AND NO. 7500 OHIO BRASS OR APPROVED EQUAL GATE VALVES.
7. THE STRAINER, METER AND FLEXIBLE COUPLING WILL BE PROVIDED AND INSTALLED BY THE CITY OF ALLEN AT THE CONTRACTOR'S EXPENSE.
8. THE STRAINER, METER AND FLEXIBLE COUPLING WILL NOT BE SET UNTIL THE METER VAULT AND TAPS ARE ACCEPTED BY THE CITY OF ALLEN, ENGINEERING DEPARTMENT. ALL UTILITIES MUST ALSO HAVE BEEN ACCEPTED AND RELEASED BY THE ENGINEERING DEPARTMENT PRIOR TO METER INSTALLATION.
9. THE VALVES SHALL BE ANY RESILIENT WEDGE DESIGN VALVE WHICH HAS RECEIVED FORMAL APPROVAL FROM THE CITY OF ALLEN. ALL VALVES SHALL BE FLANGED BOTH ENDS AND HAVE HAND WHEELS.
10. THE BOTTOM OF THE METER VAULT MUST BE 6" THICK CONCRETE WITH #4 REBAR ON 12" CENTERS AND HAVE A 4" FILL SAND CUSHION UNDERNEATH. A SUMP 4" DEEP AND 12" IN DIAMETER SHALL BE INSTALLED TO ONE SIDE IN THE CENTER OF THE BOTTOM SLAB. IF PRECAST VAULT IS USED, WHERE SIDES JOIN THE BOTTOM, A LAYER OF RAM-NEK SHALL BE USED TO SEAL THE JOINT.
11. CONTRACTOR SHALL HAVE A CHOICE OF EITHER HAVING A LINK SEAL WALL SLEEVE MODEL WS-6-28-S-6 FOR 3" PIPE, MODEL WS-8-32-S-6 FOR 4" PIPE, MODEL WS-10-36-S-6 FOR 6" PIPE AND MODEL WS-14-37-S-6 FOR 10" PIPE, CAST IN THE WALL OF THE VAULT. THE ABOVE MENTIONED WALL SLEEVE SHALL USE THE FOLLOWING LINK SEALS: FOR 3" PIPE AND 5 NO. LS-325-C, FOR 4" PIPE, 5 NO. LS-400-C, FOR 6" PIPE, 7 NO. LS-400-C AND FOR A 10" PIPE, 12 NO. LS-325-C. THE CONTRACTOR MAY HAVE THE VAULT WALL CORED BEFORE INSTALLATION OF VAULT AND PIPING. IF THE WALL IS CORED THE FOLLOWING SPECIFICATION SHALL BE USED: FOR 3" PIPE CORE SIZE SHALL BE 6" AND USE 5 NO. LS-325-C LINK SEALS, FOR 4" PIPE CORE SIZE SHALL BE 8" AND USE 5 NO. LS-400-C LINK SEALS, FOR 6" PIPE CORE SIZE SHALL BE 10" AND USE 7 NO. LS-400-C LINK SEALS AND FOR 10" PIPE CORE SIZE SHALL BE 14" AND USE 11 NO. LS-425-C LINK SEALS. BREAKING OF THE WALL WITH A JACKHAMMER OR USING PRE-CAST KNOCKOUT PANELS IS NOT PERMITTED.
12. UNDER EACH VAULT WILL BE A CONCRETE SUPPORT.
13. DEPTH OF VAULT SHALL BE A MINIMUM OF 4 1/2 FEET.
14. ALL PIPING INSIDE THE VAULT SHALL BE DUCTILE IRON WITH FLANGED FITTINGS. THE OUTSIDE DIMENSION OF THE PIPING SHALL BE WITHIN THE FOLLOWING RANGES: 3" DUCTILE IRON PIPE - 3.74 - 3.86; 4" DUCTILE IRON PIPE - 4.74 - 4.90; 6" DUCTILE IRON PIPE - 6.871 - 6.96; 8" DUCTILE IRON PIPE - 8.98 - 9.20; 10" DUCTILE IRON PIPE - 11.04 - 11.16; VARIATION FROM THESE DIMENSIONS WILL RESULT IN THE VAULT BEING REJECTED.

METER VAULT													
DOMESTIC							IRRIGATION						
METER SIZE	U	V	W	X	Y	Z	METER SIZE	U	V	W	X	Y	Z
3"	25"	8"	11 1/2"	24"	—	6'-10"	3"	25"	8"	16 1/2"	19"	9"	6'-10"
4"	22"	9"	13 1/2"	29"	—	7'-7"	4"	22"	9"	19 1/2"	23"	10"	7'-7"
6"	26"	10 1/2"	13 1/2"	33"	—	8'-2"	6"	26"	10 1/2"	19 1/2"	27"	13"	8'-2"
							8"	31"	11 1/2"	25 1/2"	30"	17"	9'-1"
							10"	37"	13"	29 1/2"	41"	21"	10'-7"



METER VAULT NOTES

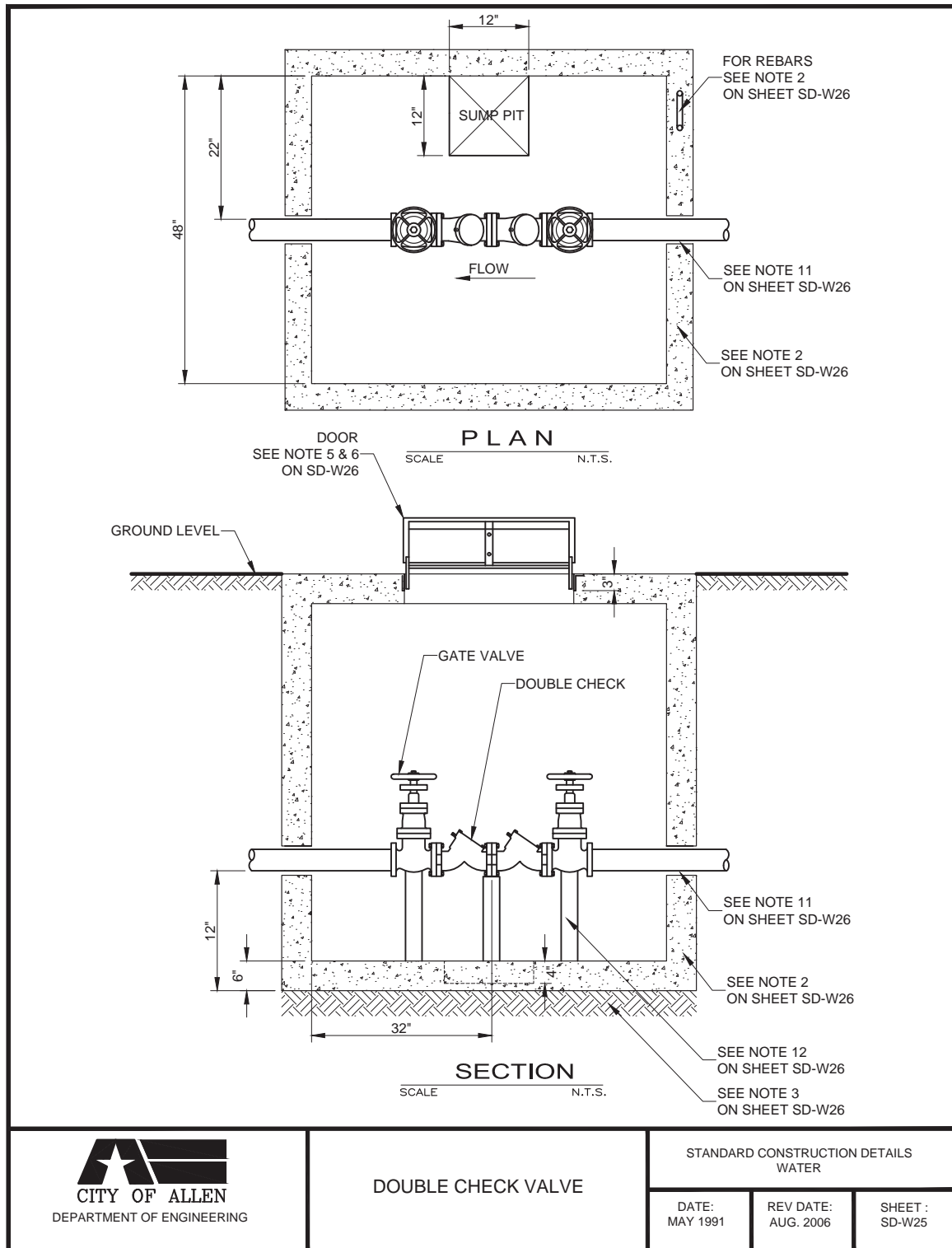
STANDARD CONSTRUCTION DETAILS WATER

DATE:
DEC. 1992

REV DATE:
AUG. 2006

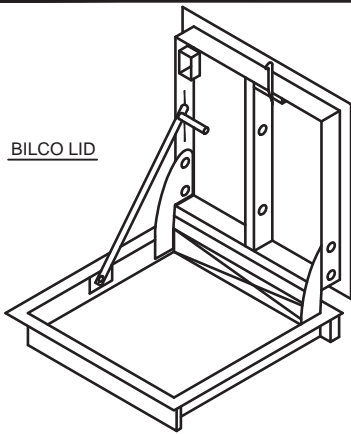
SHEET :
SD-W24

ALLEN LAND DEVELOPMENT CODE



LDCH:30

APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



BILCO LID

DOUBLE CHECK VAULT		
DOUBLE CHECK SIZE	"X"	"Y"
4"	4'-7"	9"
6"	5'-4"	10 1/2"
8"	5'-8"	11 1/2"

DOUBLE CHECK VAULT SPECIFICATIONS

1. NOTIFY THE ENGINEERING DEPARTMENT PRIOR TO CONSTRUCTION OF VAULT OR BY-PASS ASSEMBLY.
2. THE VAULT CAN EITHER BE POURED IN PLACE OR PREFABRICATED. CONCRETE SHALL BE 6" THICK AND BE 3000 P.S.I. REINFORCED WITH #4 STEEL BARS ON 12" CENTERS EACH WAY IF THE VAULT IS POURED IN PLACE. PREFABRICATED VAULTS SHALL BE 4" THICK AND BE 4,500 P.S.I. CONCRETE WITH #4 STEEL BARS ON 8" CENTER. THESE ARE MINIMUM SPECIFICATIONS.
3. THE BOTTOM OF THE VAULT SHALL BE 6" THICK CONCRETE WITH #4 STEEL BARS ON 12" CENTERS BOTH WAYS. A SUMP 4" DEEP AND 12" IN DIAMETER SHALL BE INSTALLED TO ONE SIDE IN THE CENTER OF THE BOTTOM SLAB. A 4" FILL SAND CUSHION SHALL BE INSTALLED UNDER THE SLAB. IF A PRECAST VAULT IS TO BE USED, A LAYER OF REM-NEK SHALL BE INSTALLED BETWEEN THE WALLS AND BOTTOM.
4. THE VAULT WILL NOT BE PUT IN ANY DRIVE OR PARKING AREAS AND MUST BE LOCATED IN A UTILITY EASEMENT.
5. THE VAULT LID SHALL BE A BILCO LID. TYPE Q-4 LEAF DESIGN. ANGLE FRAME IS 1/4" STEEL WITH STRAP ANCHORS BOLTED TO THE EXTERIOR. THE LEAF IS 1/4" STEEL DIAMOND PATTERN PLATE, PIVOTING ON TORSION BARS FOR EASY OPERATION. THE MINIMUM LIVE LOAD CAPACITY IS 150 LBS. PER SQUARE FOOT. THE SIZE OF THE LID IS 3' BY 3'.
6. THE LID SHALL BE PAINTED WITH 43-38 TNEDEC ALUMINUM PAINT OR APPROVED REPLACEMENT.
7. ALL PIPING INSIDE VAULT SHALL BE DUCTILE IRON WITH FLANGED FITTINGS. THE OUTSIDE DEMENSION OF THE PIPING SHALL BE WITHIN THE FOLLOWING RANGES: 3" DUCTILE IRON PIPE - 3.74-3.86; 4" DUCTILE IRON PIPE - 4.74-4.90; 6" DUCTILE IRON PIPE - 6.81-6.96; 8" DUCTILE IRON PIPE - 8.98-9.20; 10" DUCTILE IRON PIPE - 11.04-11.16. VARIATIONS FROM THESE DIMENSIONS WILL RESULT IN THE VAULT BEING REJECTED.
8. THE DOUBLE CHECK SHALL BE A MUELLER A-2130-6 AND EQUIPPED WITH AN ALL BRASS METER TRIM PACKAGE IN THE FOLLOWING SIZES: FOR A 4" THROUGH 8" DOUBLE CHECK, 1" TRIM PACKAGE; FOR A 10" DOUBLE CHECK, 2" TRIM PACKAGE. THE METER FOR THE TRIM PACKAGE WILL BE FURNISHED BY THE CITY AT THE CONTRACTORS EXPENSE. A FLANGED ADAPTER COUPLING WILL ALSO BE FURNISHEDDD BY THE CITY AT THE CONTRACTORS EXPENSE.
9. THE GATE VALVES SHALL BE MUELLER #A-2078-6 OUTSIDE STEM AND YOKE AND SHALL HAVE AN UNDERWRITERS LABORATORY LISTING.
10. ALL PIPING INSIDE THE VAULT AND THE VAULT ITSELF SHALL HAVE TO BE APPROVED BY THE CITY OF ALLEN ENGINEERING DEPARTMENT.
11. CONTRACTORS SHALL HAVE THE CHOICE OF EITHER HAVING LINK SEAL WALL SLEEVE MODEL WS-8-32-S-6 FOR 4" PIPE, MODEL MODEL WS-10-36-S-6 FOR 6" PIPE AND MODEL WS-12-37-S-6 FOR 8" PIPECAST IN THE WALL OF THE VAULT. THE ABOVE MENTIONED WALL SLEEVE SHALL USE THE FOLLOWING LNK SEALS: FOR 4" PIPE, 5NO.LS-400-C; FOR 6" PIPE, 7 NO. LS-400-C; FOR 8" PIPE, 9 NO. LS-400-C. THE CONTRACTOR MAY HAVE THE WALL CORED BEFORE INSTALLATIONOF VAULTAND PIPING. THE FOLLOWING SPECIFICATION SHALL BE YSED:FOR 4" PIPE CORESIZE SHALL BE 8" AND USE 5 NO. LS-400-C LINK SEALS; FOR 6" PIPE CORE SIZE SHALL BE 10" AND USE 7 NO. LS-400-C LINK SEALS AND FOR 8" PIPE CORE SIZE SHALL BE 12" AND USE 9 NO. LS-400-C LINK SEALS. BREAKING OF THE WALL WITH A JACKHAMMER OR USING PRE-CAST KNOCKOUT PANELS IS NOT PERMITTED.
12. THERE WILL BE CONCRETE SUPPORT UNDER EACH VALVE AND UNDER THE DOUBLE CHECK VALVE.
13. DEPTH OF VAULT SHALL BE A MINIMUM OF 4'-6".



DOUBLE CHECK VAULT

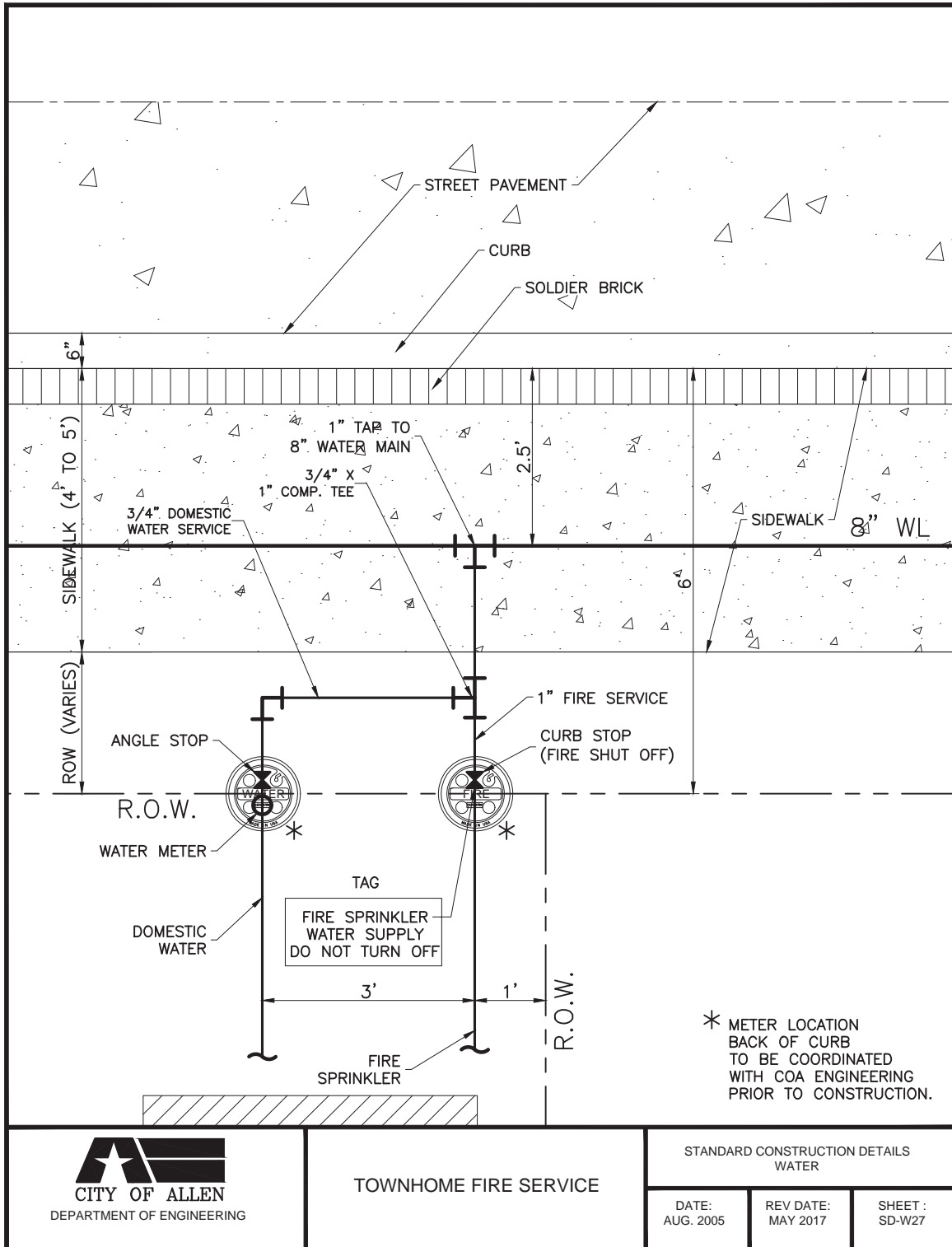
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WATER

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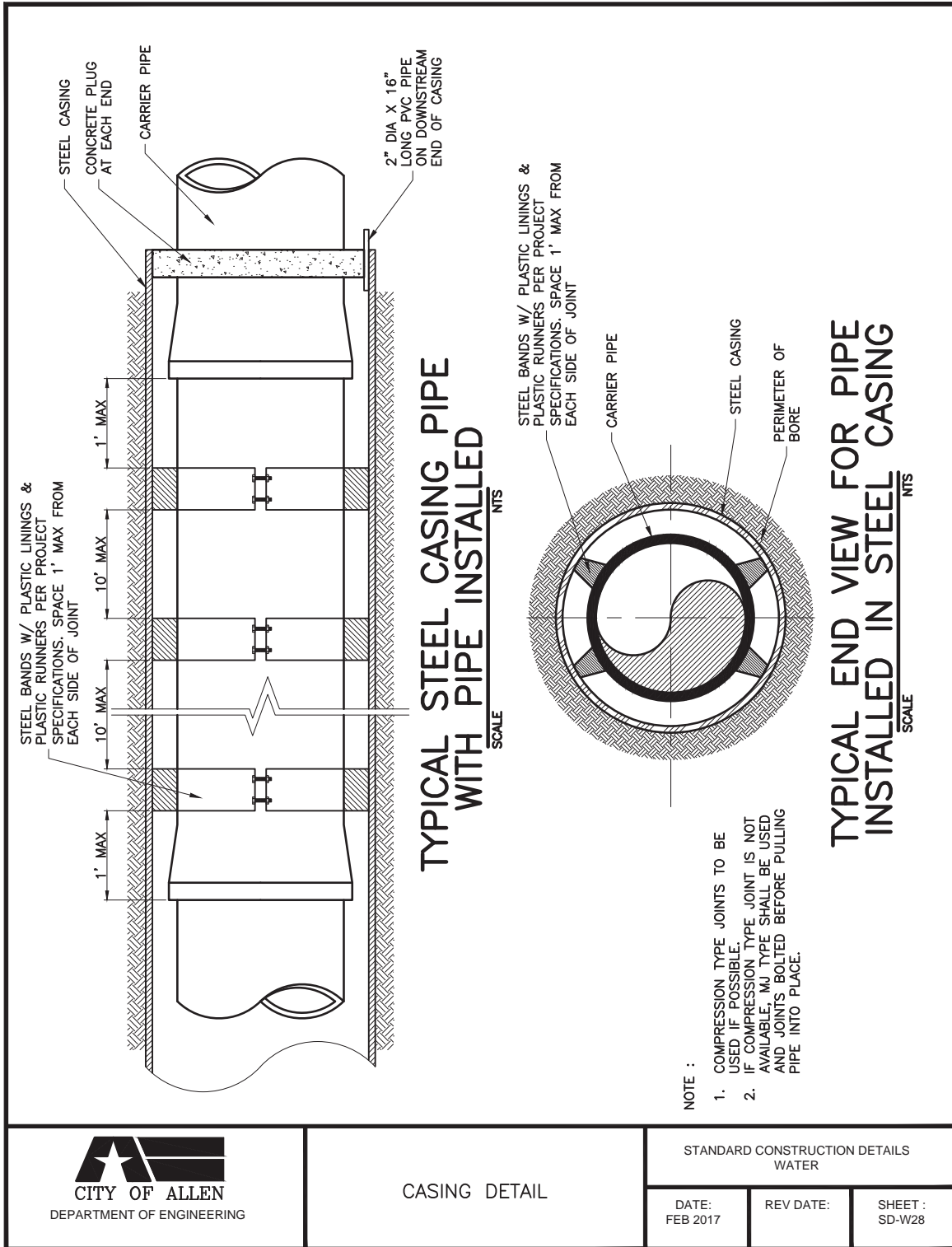
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SHEET :
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ALLEN LAND DEVELOPMENT CODE



APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER

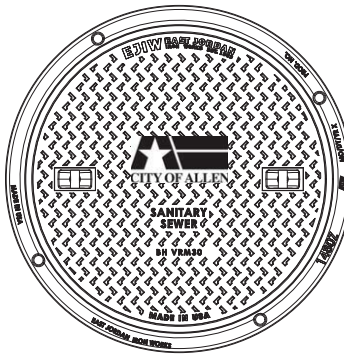


ALLEN LAND DEVELOPMENT CODE

STANDARD CONSTRUCTION DETAILS

SANITARY SEWER

REVISED MAY 2017



DEPARTMENT OF ENGINEERING

**APPENDIX H - STANDARD CONSTRUCTION DETAILS:
WATER LINES AND SANITARY SEWER**

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ALLEN LAND DEVELOPMENT CODE

GENERAL NOTES

1. ALL SANITARY SEWER PIPE SHALL BE P.V.C. SDR-35 PIPE. OTHER PIPES SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
2. SANITARY SEWER LATERALS SHALL INCLUDE 4" TEE WYE BEND, PIPE INSTALLED 10 FEET DOWNSTREAM FROM THE WATER MAIN SERVICE ON EACH LOT, UNLESS OTHERWISE INDICATED ON THE PLANS. 6" LATERALS REQUIRE MANHOLE AT MAIN SEWER PIPE.
3. SANITARY SEWER PIPE JOINTS SHALL CONFORM TO ASTM DESIGNATIONS FOR P.V.C. PIPE.
4. UNLESS OTHERWISE NOTED, ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATION AND/OR SPECIAL PROVISIONS.
5. IN THE EVENT AN ITEM IS NOT COVERED IN THE CITY OF ALLEN SPECIFICATIONS, THE CITY ENGINEERS'S DECISION SHALL APPLY.
6. DROP MANHOLE REQUIRED FOR GRADE DIFFERENCES OF 18" OR GREATER.
7. TV CAMERA, MANDREL, AIR TEST AND VACUUM TEST SANITARY SEWER LINE/MANHOLE AFTER ALL UTILITIES HAVE BEEN INSTALLED.
8. SANITARY SEWER LINE WILL BE RE-AIR TESTED AFTER PAVING AND ALL UTILITIES HAVE BEEN INSTALLED.
9. TWENTY ONE (21) MONTHS INTO MAINTENANCE PERIOD, ALL SANITARY SEWER LINES WILL BE CAMERA INSPECTED FOR SAGS, SETTLEMENTS, SEPARATION, ETC.,.
10. SHALLOWER PARALLEL LINE REQUIRED WHEN FLOW LINE OF SANITARY SEWER EXCEEDS 12 FT. DEPTH. VERTICAL DROP CONNECTIONS NOT PERMITTED.



GENERAL NOTES

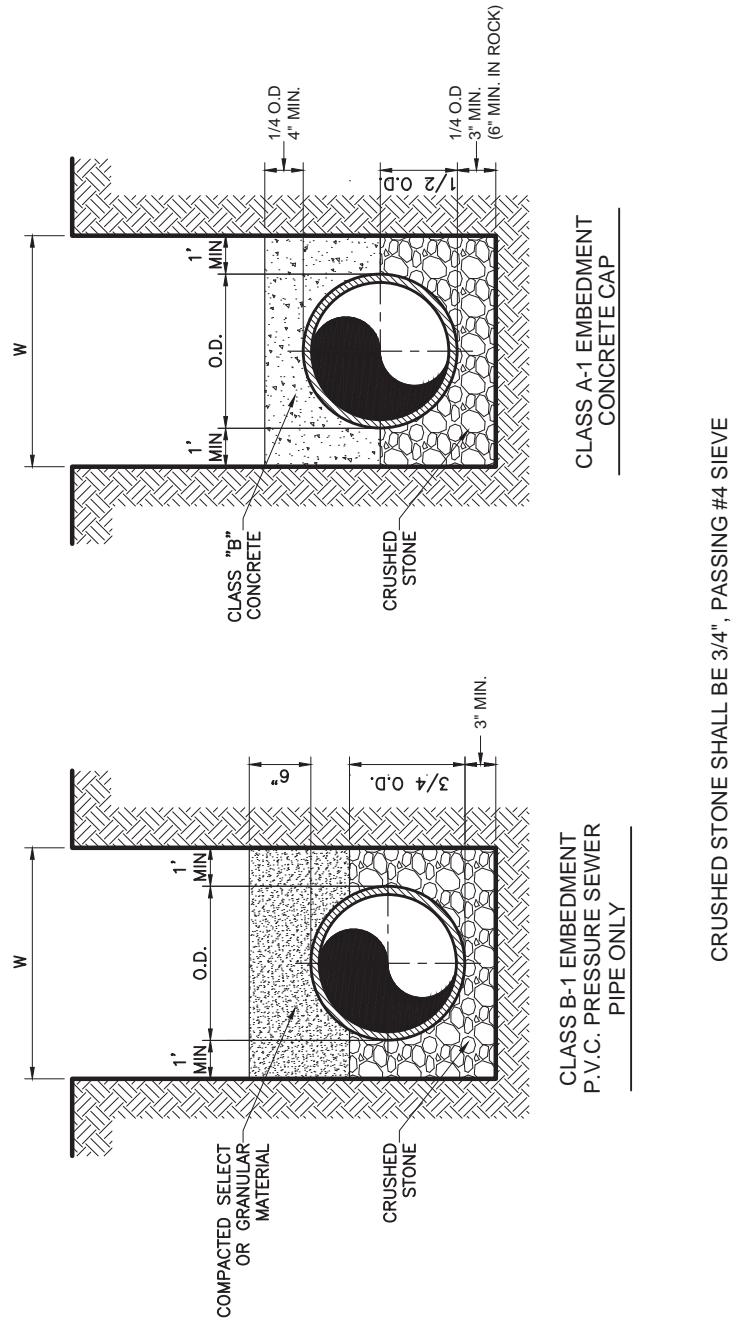
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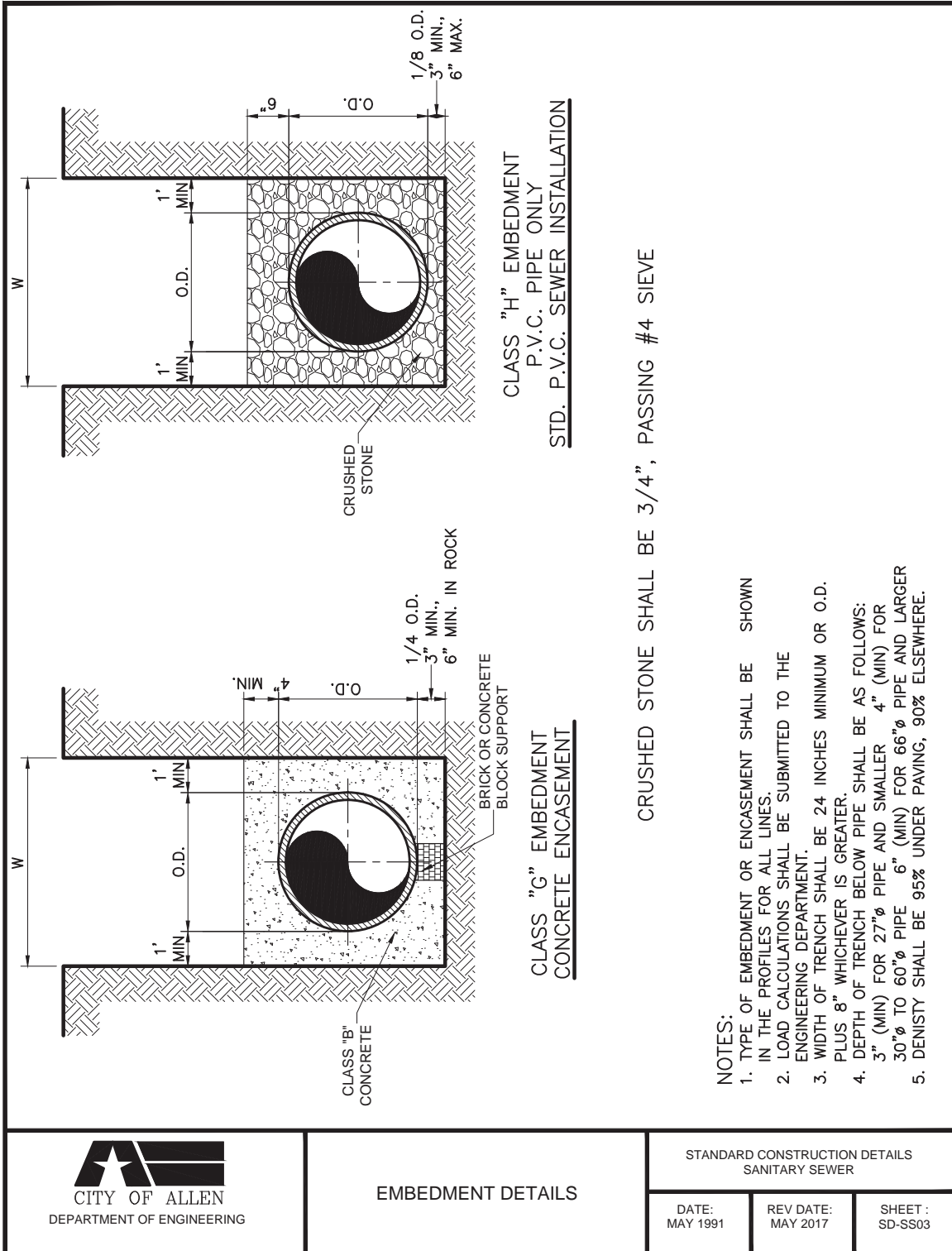
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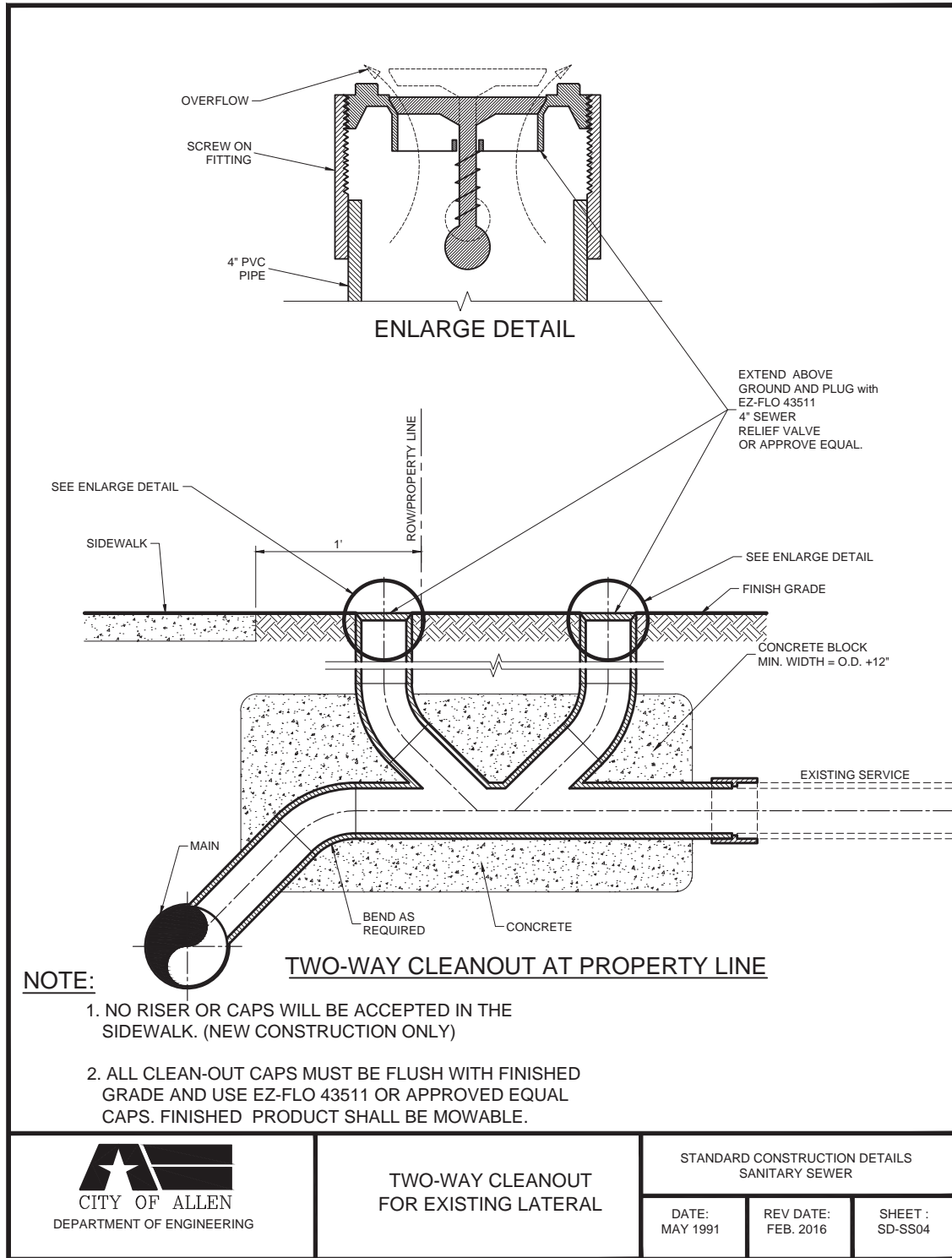
APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



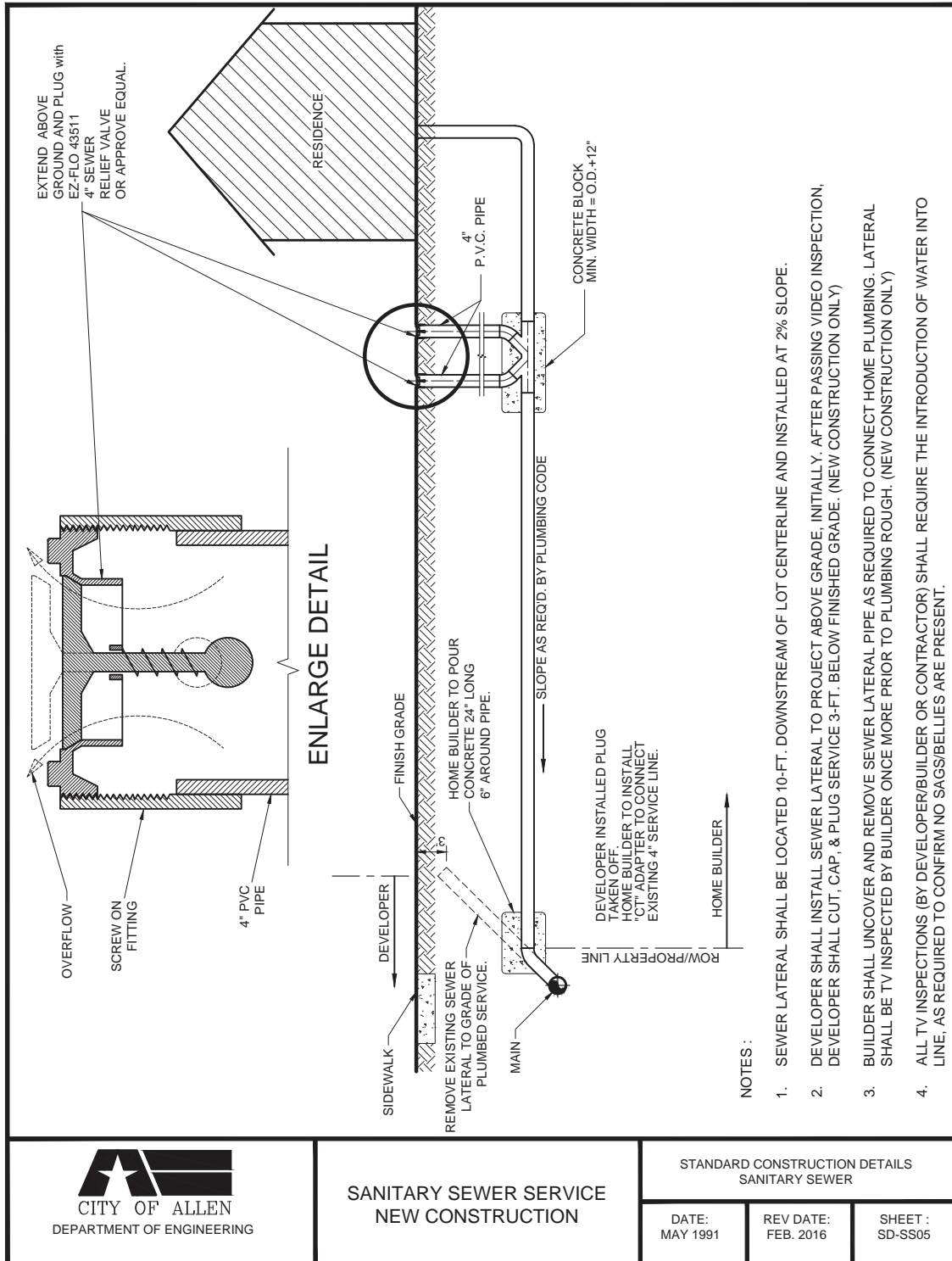
ALLEN LAND DEVELOPMENT CODE



APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



ALLEN LAND DEVELOPMENT CODE



SANITARY SEWER SERVICE NEW CONSTRUCTION

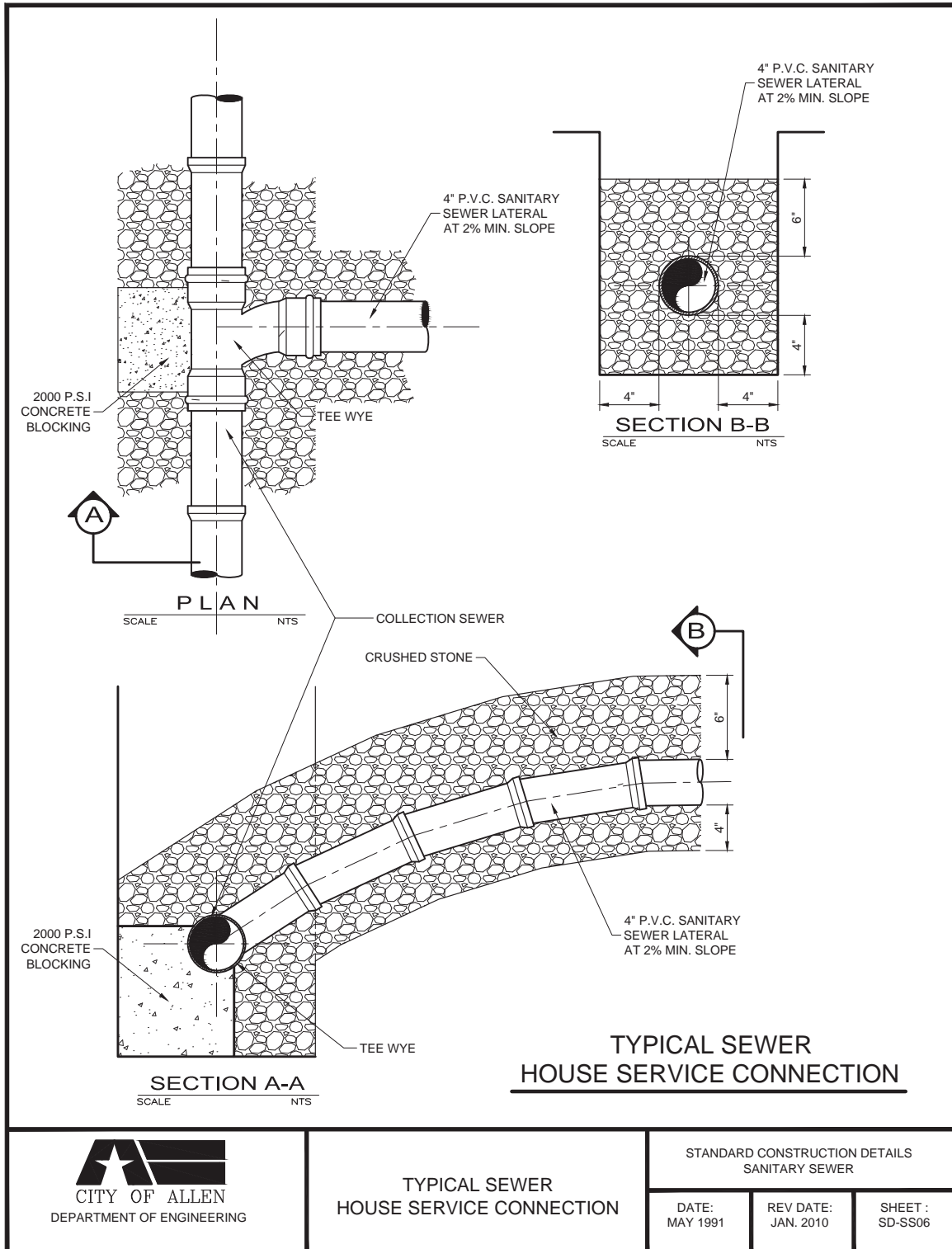
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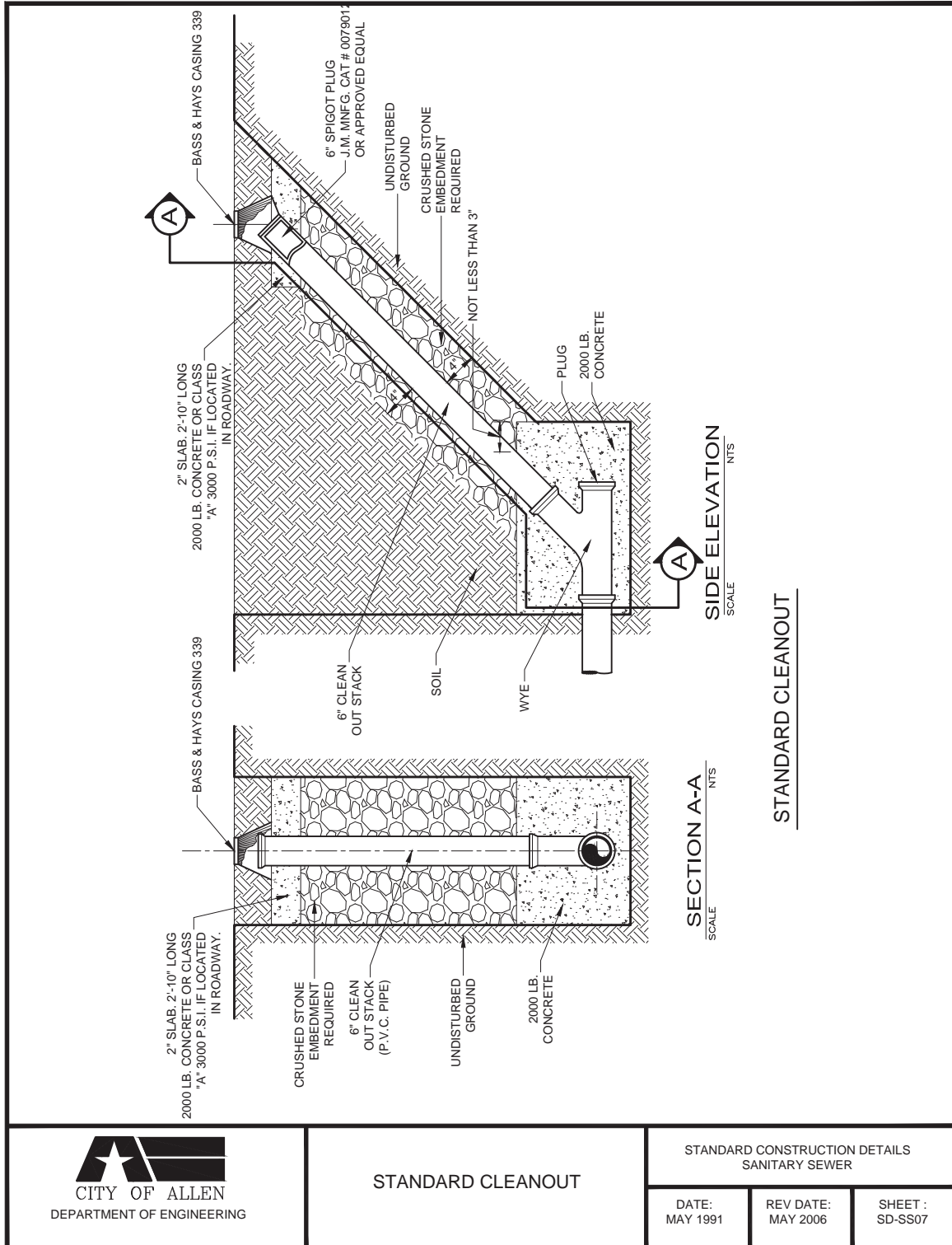
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FEB. 2016

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APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



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STANDARD CLEANOUT

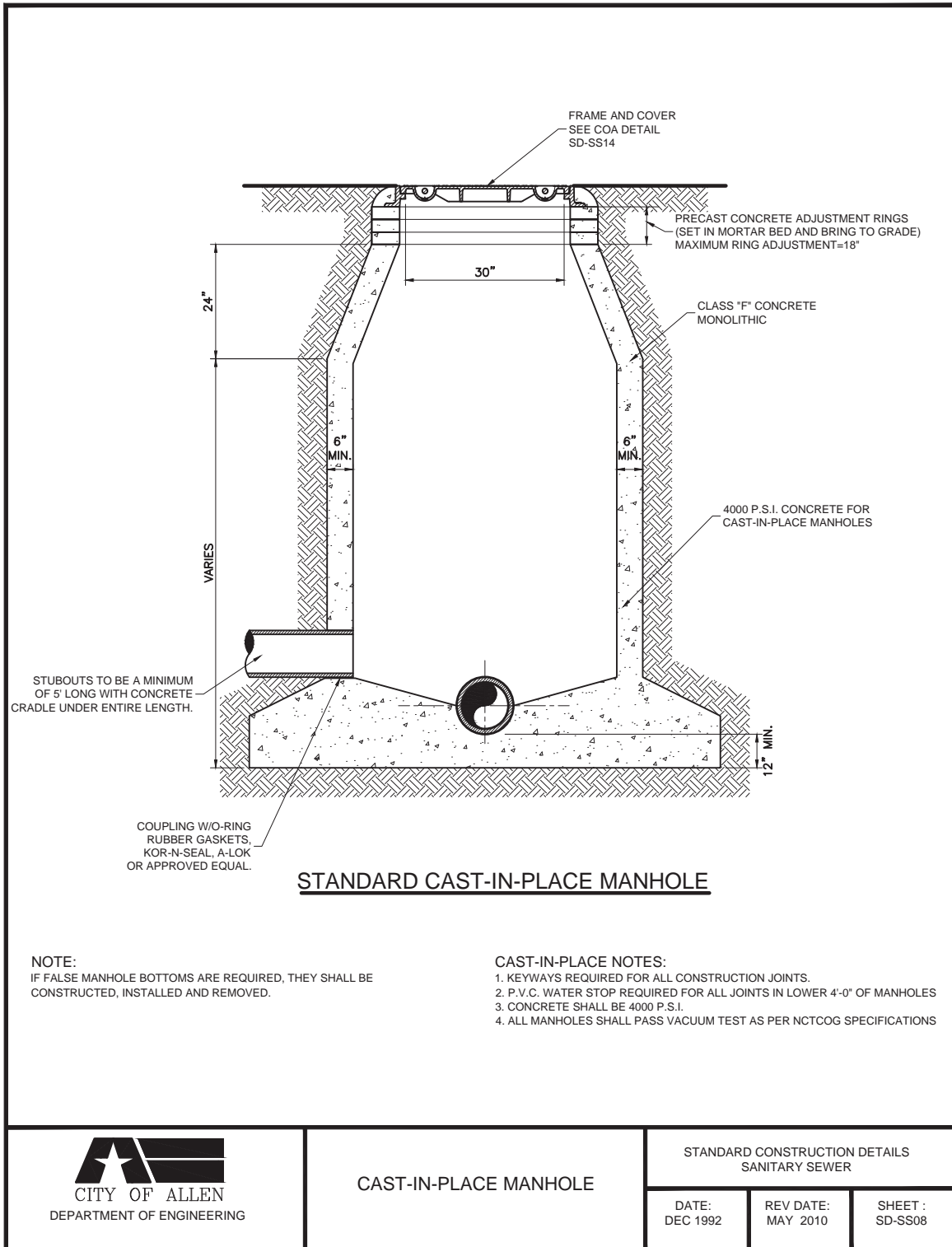
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SANITARY SEWER

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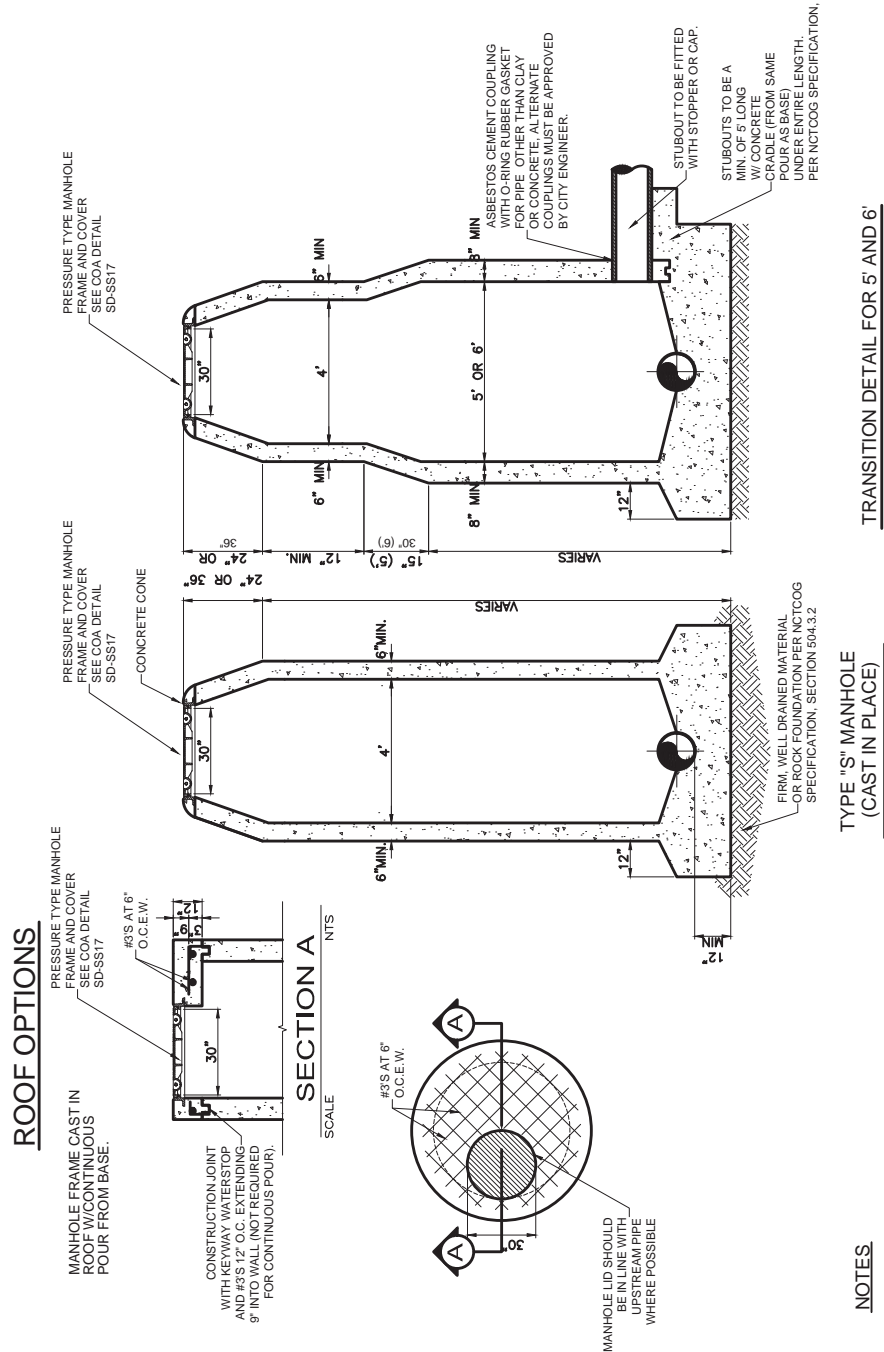
REV DATE:
MAY 2006

SHEET :
SD-SS07

APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



ALLEN LAND DEVELOPMENT CODE



NOTES

1. IF FALSE MANHOLE BOTTOMS REQUIRED, THEY SHALL BE CONSTRUCTED, INSTALLED AND REMOVED.
2. ALL MANHOLES SHALL PASS VACUUM TEST AS PER NCTCOG SPECIFICATIONS



TYPE "S" MANHOLE
CAST IN PLACE

STANDARD CONSTRUCTION DETAILS

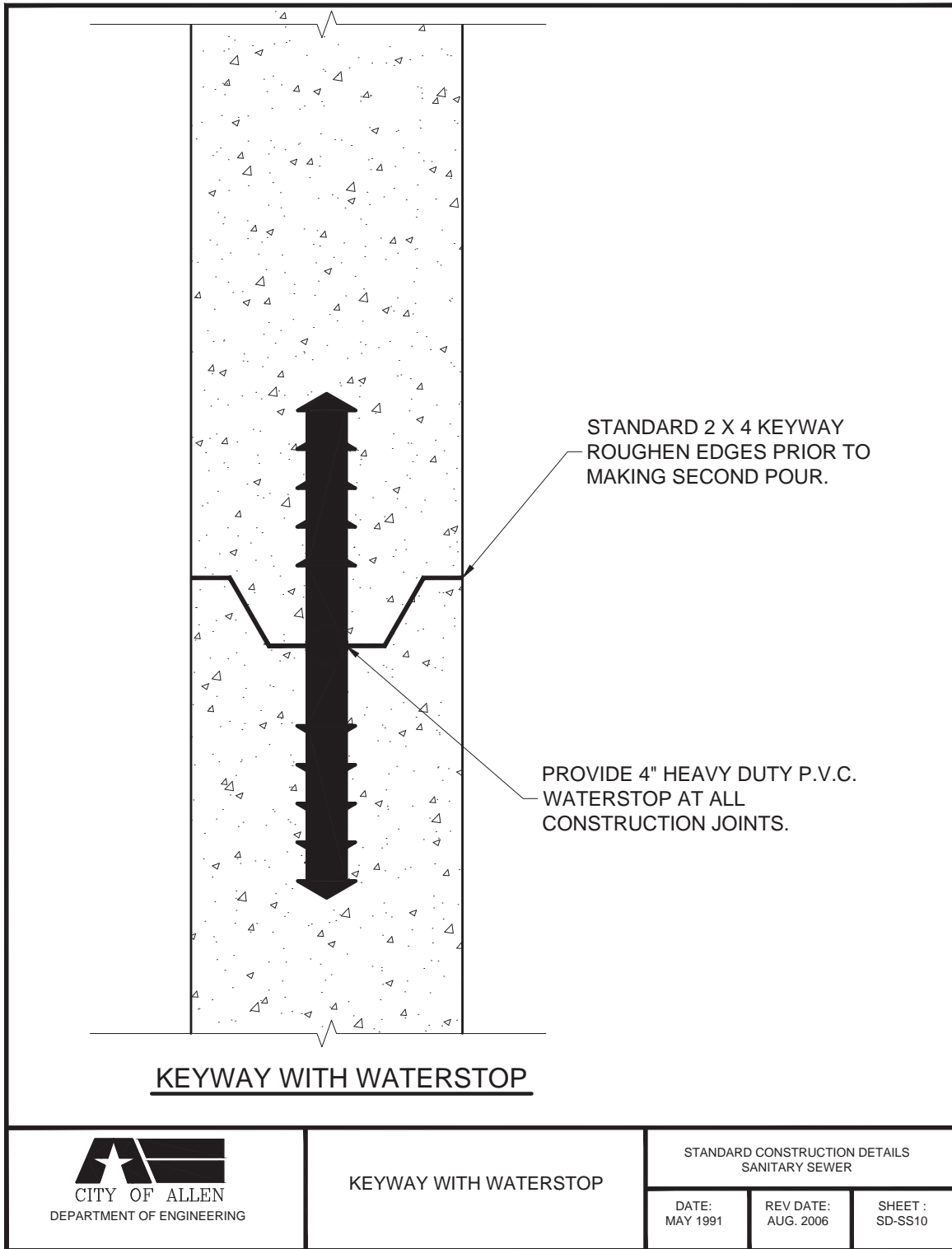
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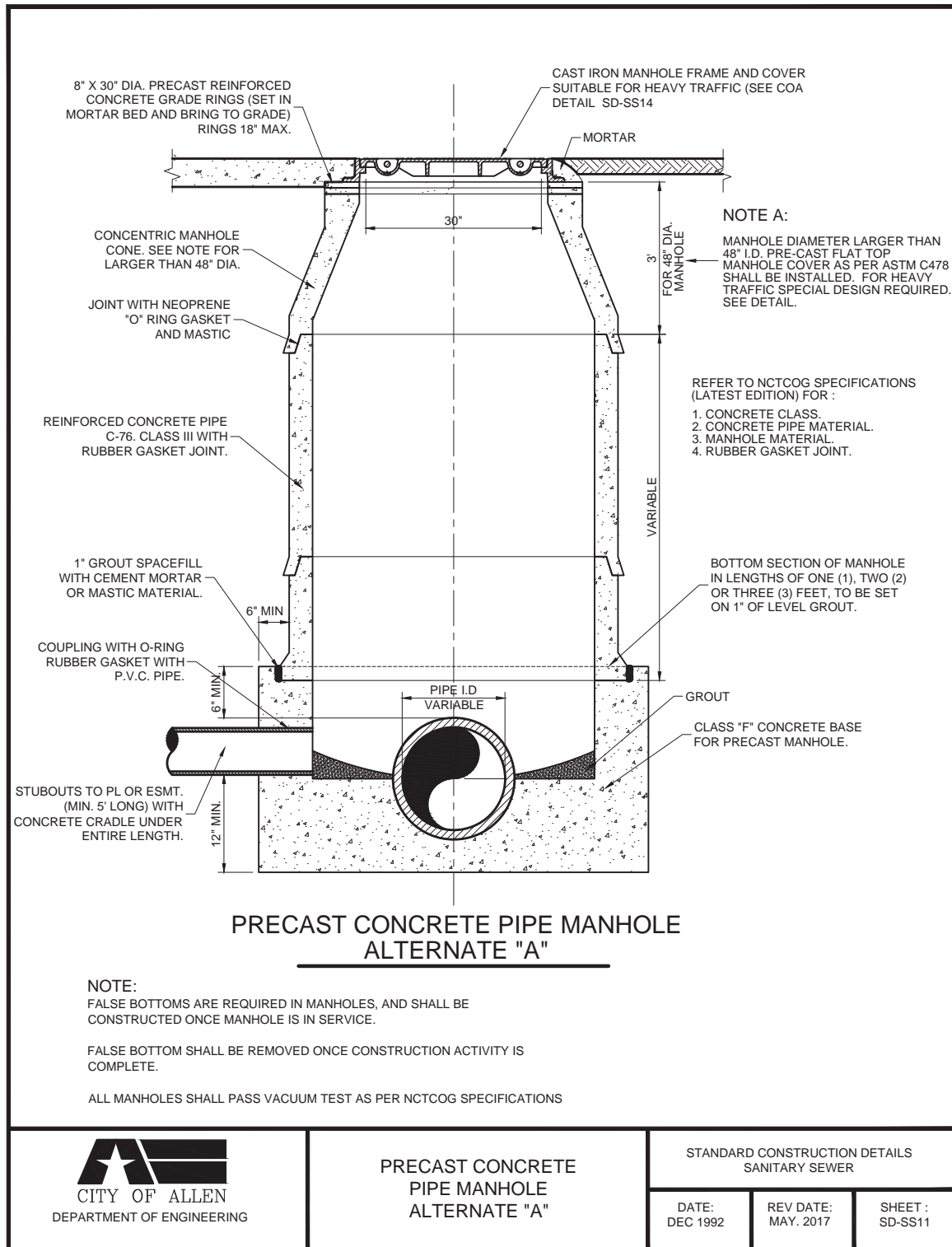
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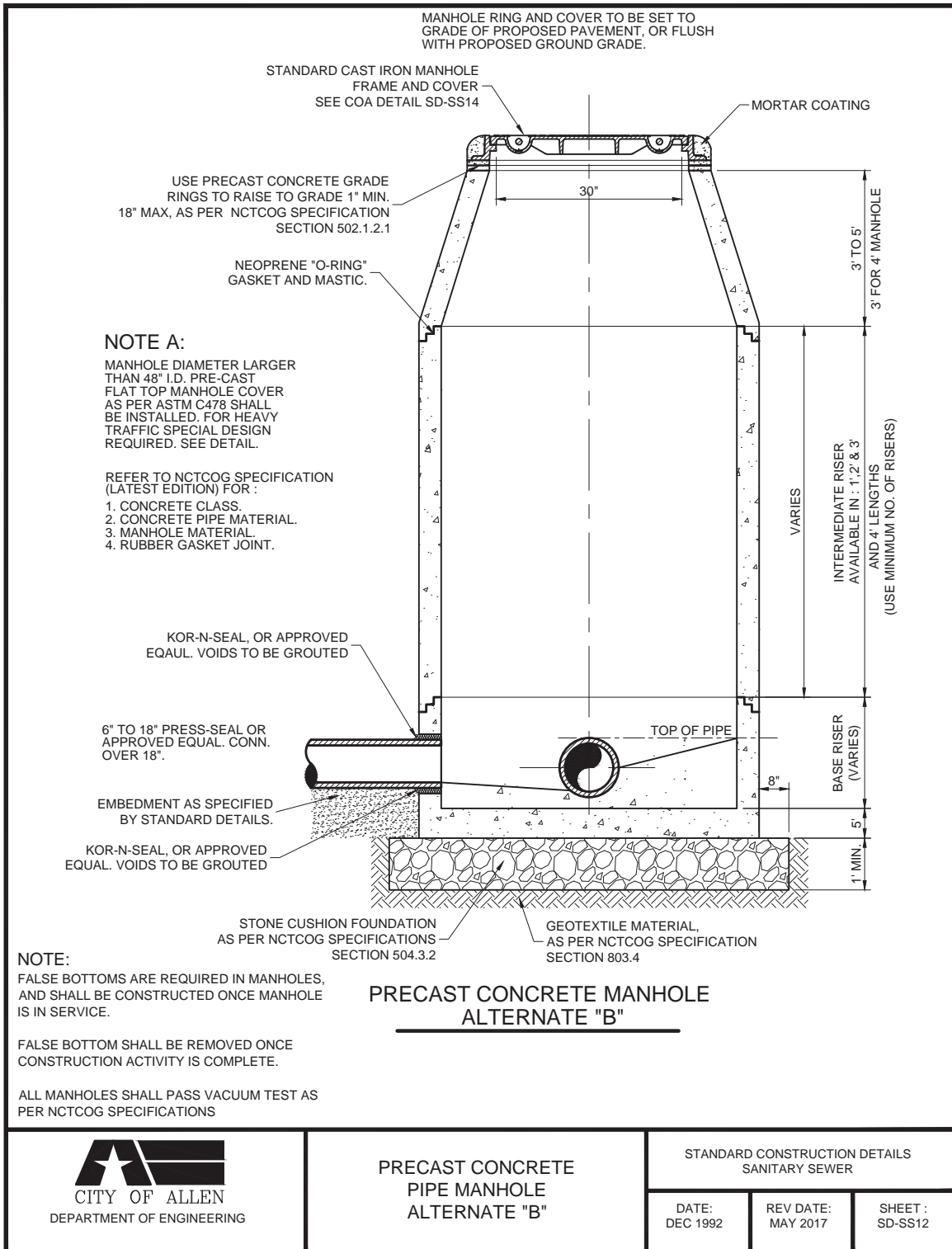
APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



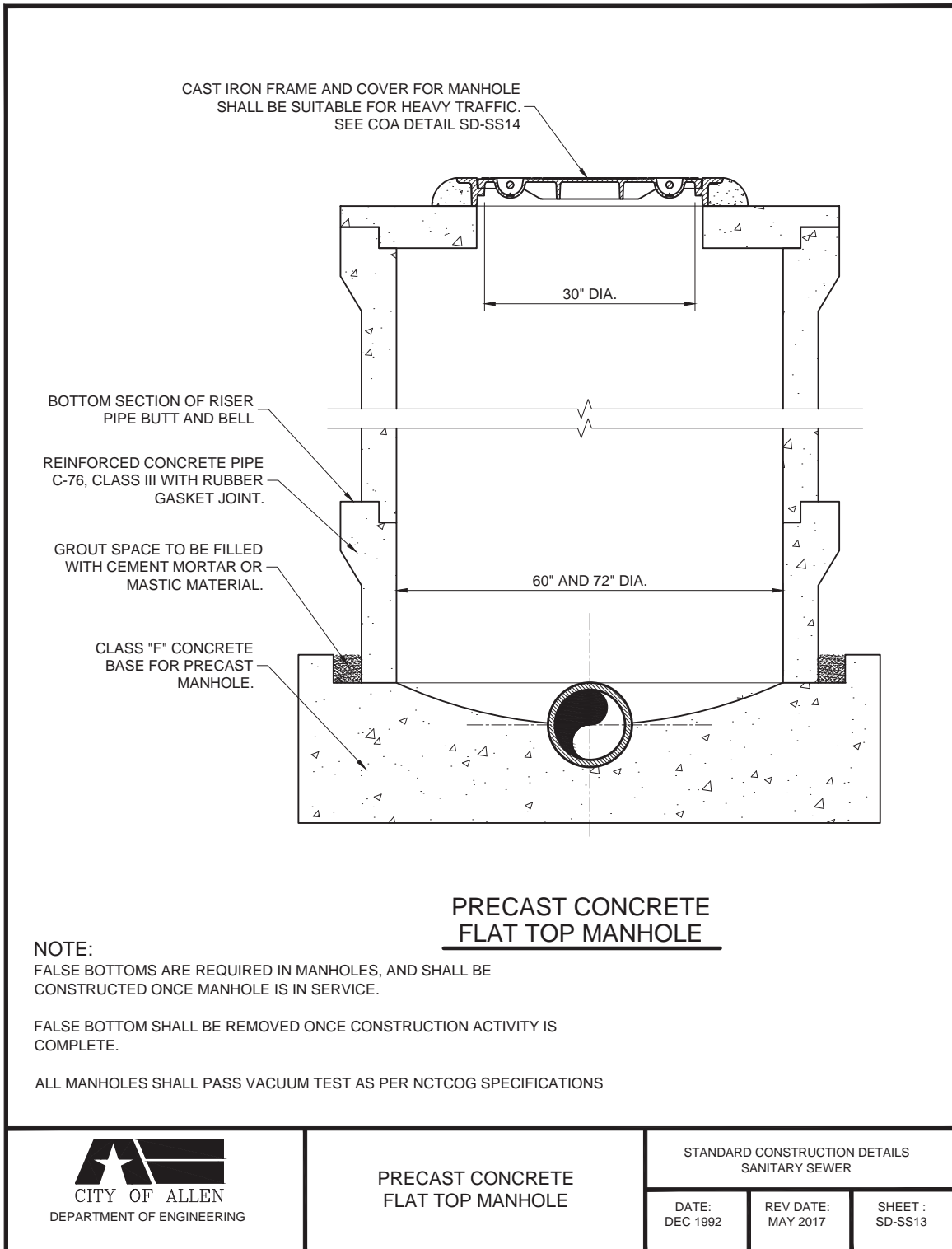
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APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER

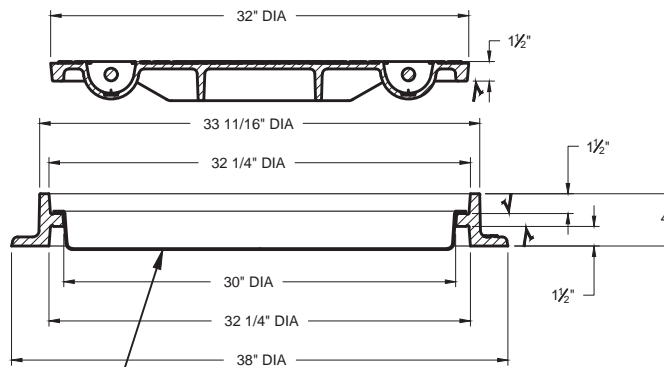
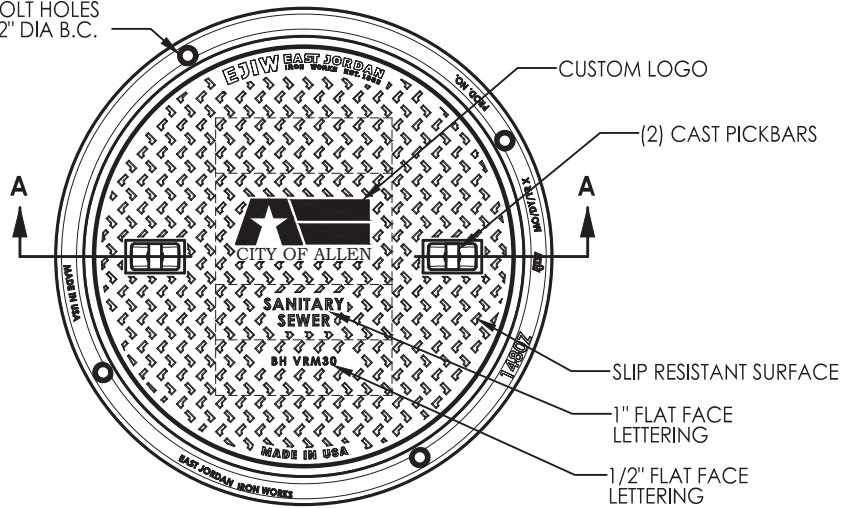


ALLEN LAND DEVELOPMENT CODE



APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER

(4) Ø 7/8" BOLT HOLES
ON A 35 1/2" DIA B.C.



CRETEX VENTED
IN FLOW DISH
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262-542-8153,
800-345-3764)
OR APPROVED EQUAL

SECTION A-A

NOTE! FRAME IS REVERSIBLE
CAN BE INSTALLED AS A
TOP FLANGE UNIT.

PRODUCT NUMBER

NCR09-2064A

SPECIAL FEATURES

SLIP RESISTANT SURFACE
EON LOCK™
BOLTING
GASKET

DESIGN FEATURES

MATERIALS	DESIGN LOAD	COATING
COVER-DUCTILE IRON ASTM A536	HEAVY DUTY	UNDIPPED
FRAME-GRAY IRON ASTM A48 CL35B		

√ DESIGNATES MACHINE SURFACE



CAST IRON GRATE AND FRAME

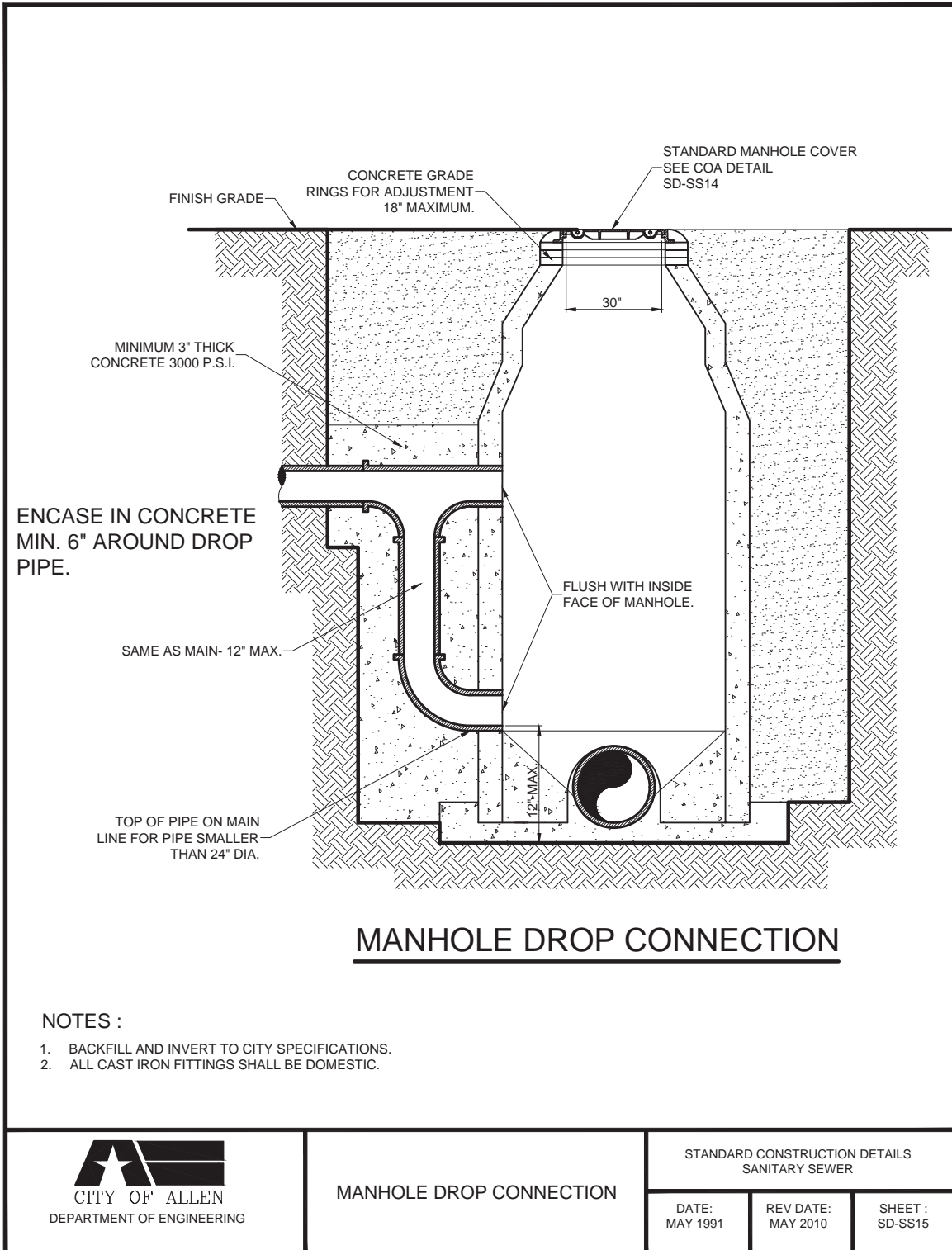
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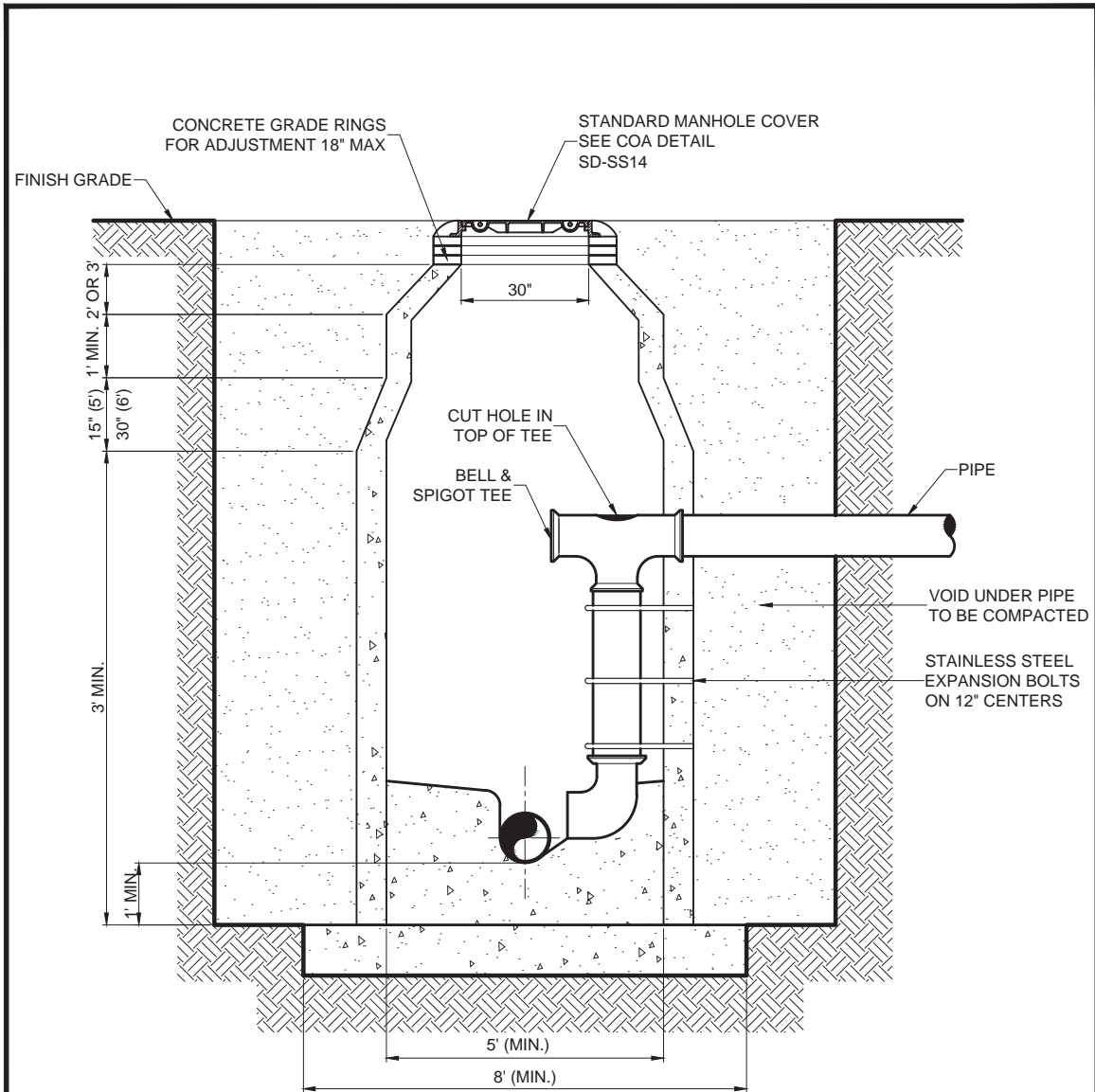
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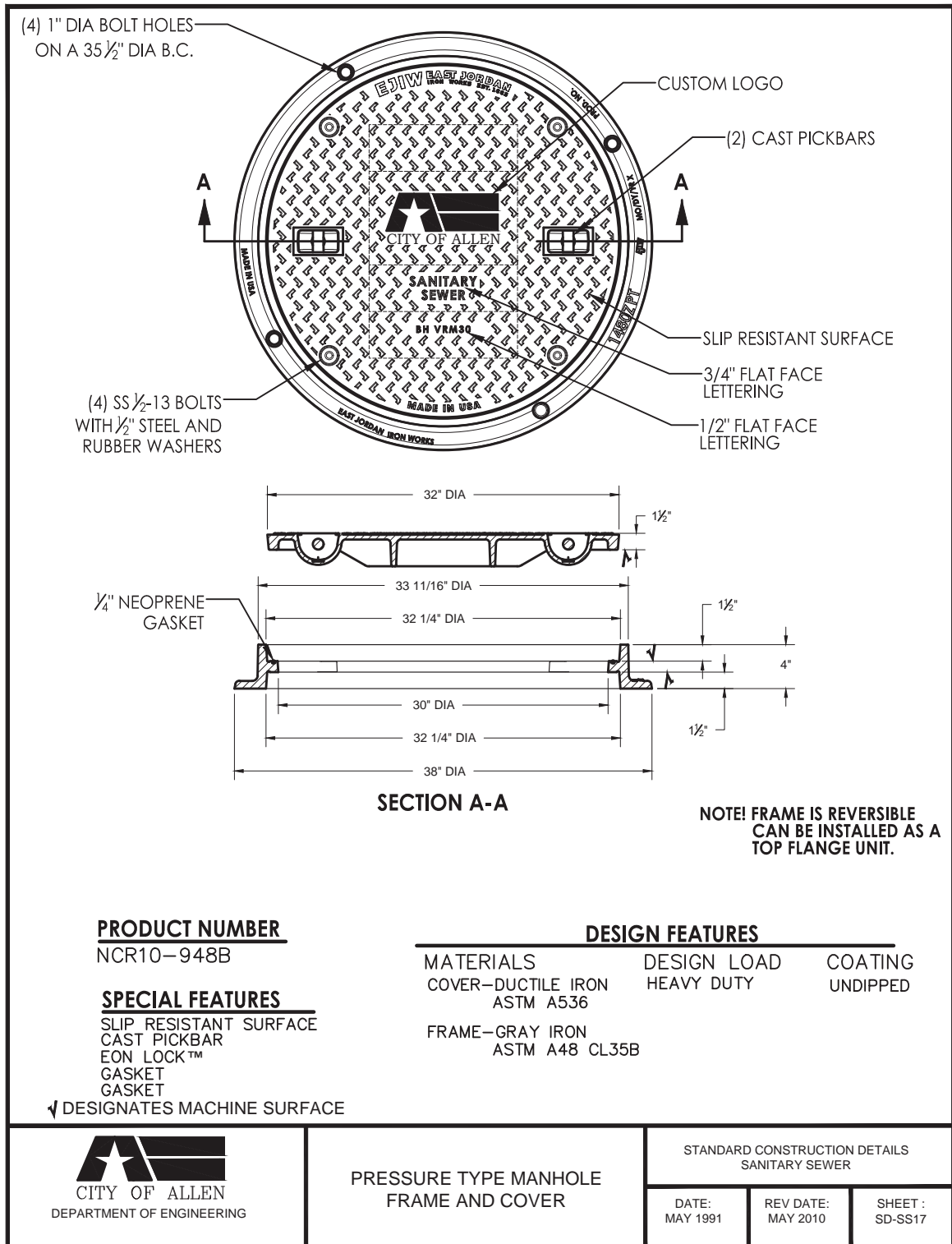


APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER



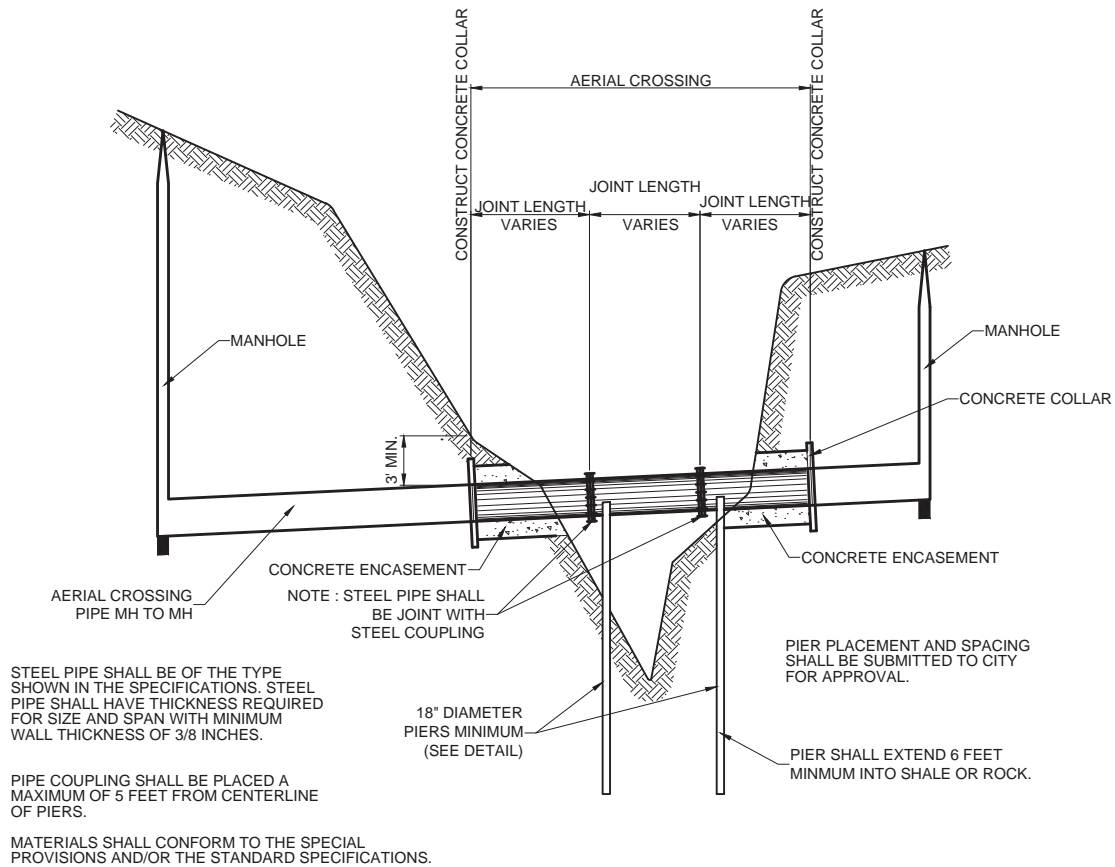
INTERIOR DROP MANHOLE DETAIL

ALLEN LAND DEVELOPMENT CODE



APPENDIX H - STANDARD CONSTRUCTION DETAILS: WATER LINES AND SANITARY SEWER

ENGINEERING DESIGN SHALL BE SUBMITTED FOR EACH CROSSING. PIERS SHALL BE PLACED AT MAXIMUM SPAN DISTANCE AS DICTATED BY DESIGN.



MANHOLE TO MANHOLE
AERIAL CROSSING DETAIL



AERIAL CROSSING

STANDARD CONSTRUCTION DETAILS
SANITARY SEWER

DATE:
MAY 1991

REV DATE:
AUG 2006

SHEET :
SD-SS18

ALLEN LAND DEVELOPMENT CODE

