



MARICOPA COUNTY
Department of Transportation

MEMORANDUM

Date: May 21, 2014
To: MAG Specifications and Details Committee
From: Robert Herz, MCDOT Representative
Subject: Delete the use of Asbestos-Cement Pipe in Valve Box Installations **Case 14-11**

PURPOSE: Delete the use of Asbestos-Cement Pipe in Valve Box Installations.

REVISION: Replace ACP with PVC C900 pipe in Detail 391-2 and make associated drawing changes to Details 391-1 and 392. See the attached marked-up drawings. Also revise specification Section 610.7 as needed to accommodate the change. This change is patterned after City of Phoenix Detail P1391.

610.7 VALVES:

Valves shall be installed in accordance with AWWA C-600 or AWWA C-603 modified as follows:

All tapping sleeves, gate valves, butterfly valves, air release and vacuum valves and corporation stops shall be in accordance with Section 630.

Just before installation in the trench, valves shall be fully opened and closed to check the action, and a record made of the number of turns required to fully open or close the valve. For valves 16 inches and larger, a member of the water utility shall be present to check the action and record the number of turns. The inside of all valves shall then be thoroughly cleaned and the valve installed.

Valves 12 inches and smaller in size shall be supported by concrete blocks, in accordance with the standard details.

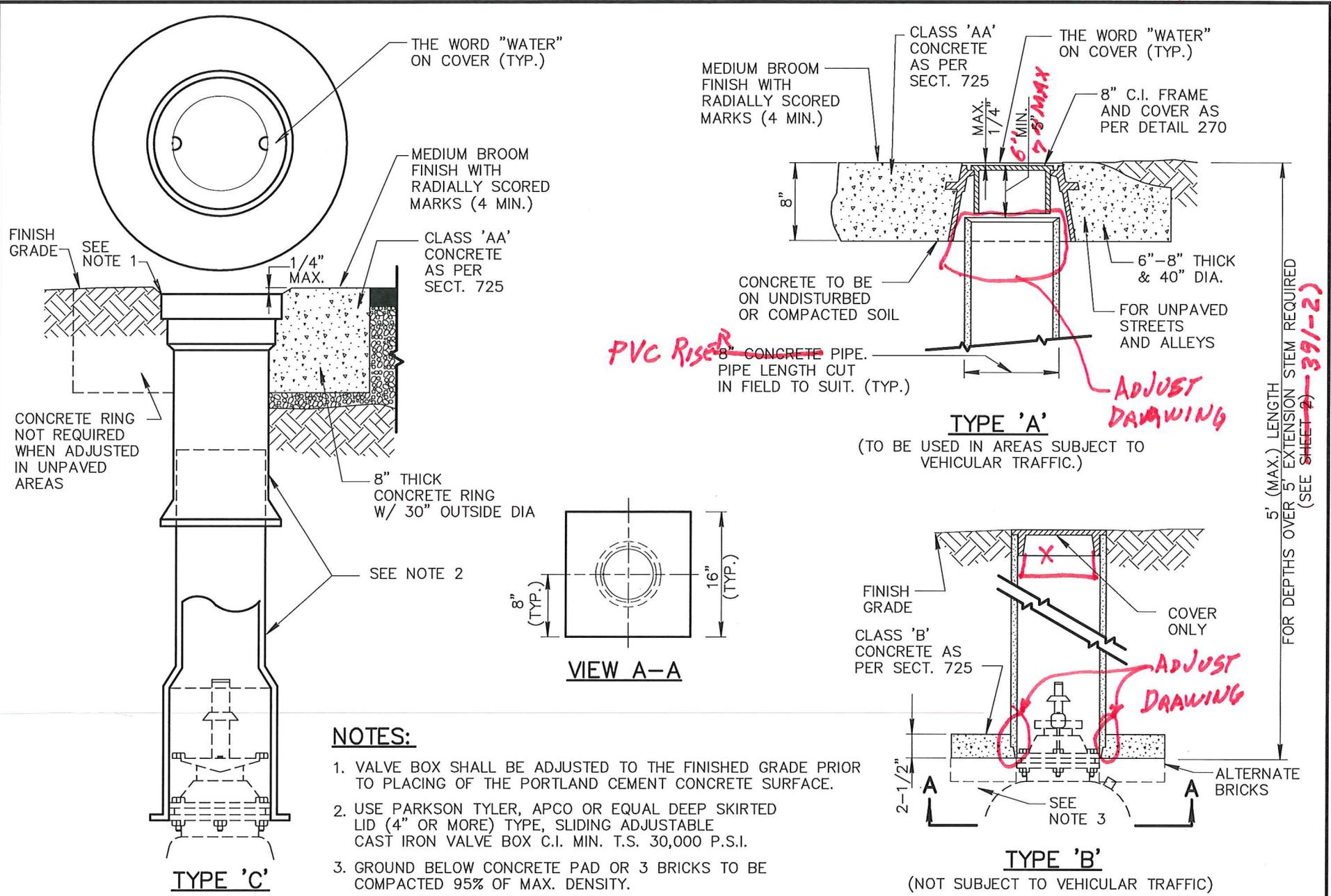
Valves 16 inches and larger in size along with their bypass valves, shall be supported on concrete slabs, and/or concrete piers, as indicated on the plans.

Concrete supports shall be provided under valves in vaults and manholes, and shall be constructed an inch low, then grouted with non-shrink grout. Adjustable pipe supports shall be as indicated on the plans. Buried valves shall be supported on concrete blocks as detailed on the plans.

Valve boxes shall be installed over all buried valves in accordance with standard details.

Standard couplings or matching joints shall be used when more than one length of pipe is required, or when two or more pieces are joined, to form the valve box riser. Install extension stems on all valves where the operating nut is 5 feet or more below grade.

CASE 14-11



PVC Riser

ADJUST DRAWING

ADJUST DRAWING

391-2

DETAIL NO.
391-1



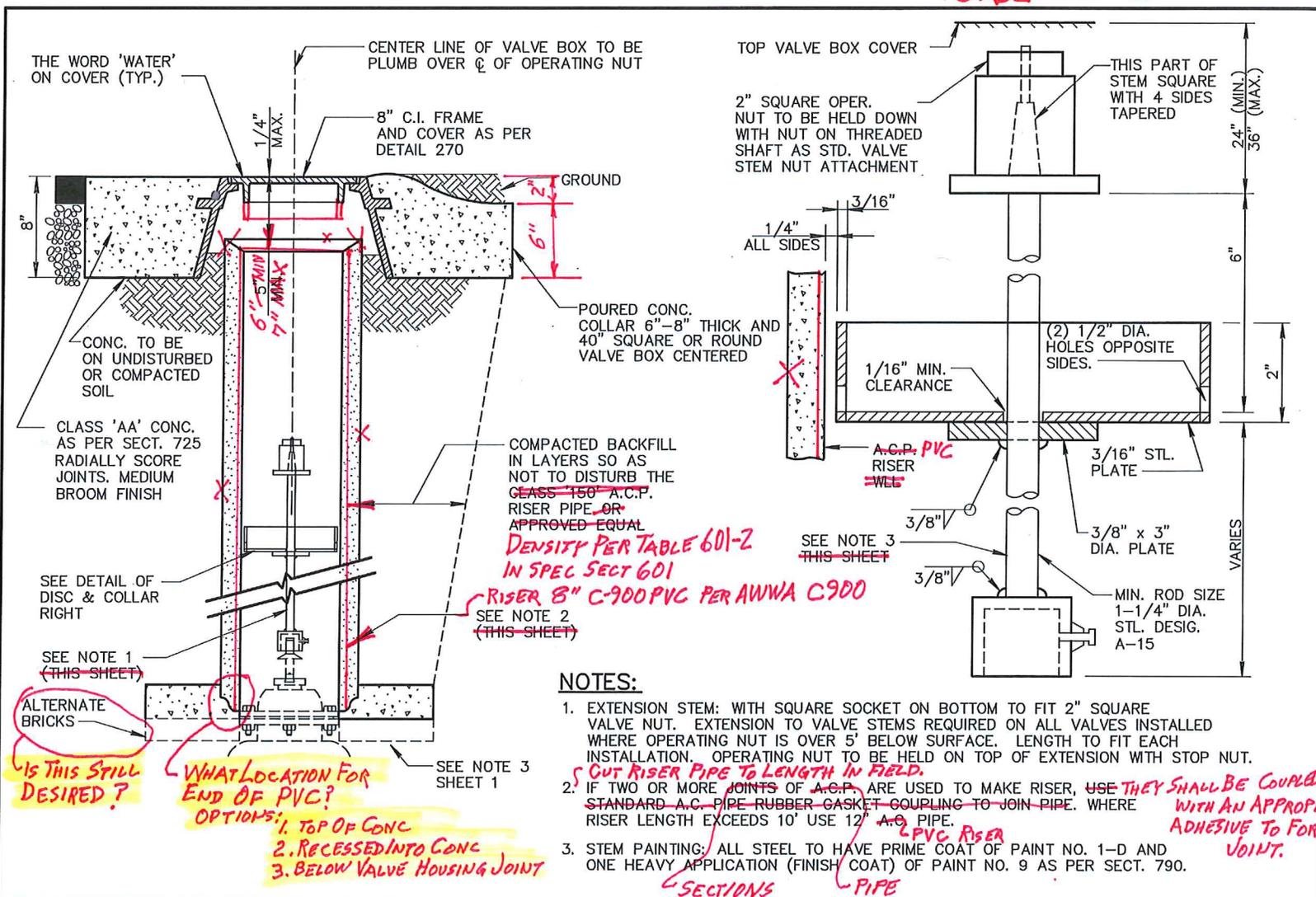
STANDARD DETAIL
ENGLISH

VALVE BOX INSTALLATION
AND GRADE ADJUSTMENT

REVISED
01-01-2014

DETAIL NO.
391-1

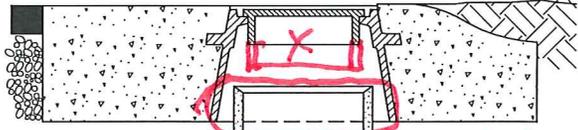
CASE 14-11



NOTES:

1. EXTENSION STEM: WITH SQUARE SOCKET ON BOTTOM TO FIT 2" SQUARE VALVE NUT. EXTENSION TO VALVE STEMS REQUIRED ON ALL VALVES INSTALLED WHERE OPERATING NUT IS OVER 5' BELOW SURFACE. LENGTH TO FIT EACH INSTALLATION. OPERATING NUT TO BE HELD ON TOP OF EXTENSION WITH STOP NUT.
2. IF TWO OR MORE JOINTS OF A.C.P. ARE USED TO MAKE RISER, USE THEM SHALL BE COUPLED AND BONDED WITH AN APPROPRIATE PVC ADHESIVE TO FORM A DEBRIS-TIGHT JOINT. STANDARD A.C. PIPE RUBBER GASKET COUPLING TO JOIN PIPE. WHERE RISER LENGTH EXCEEDS 10' USE 12" A.C. PIPE.
3. STEM PAINTING: ALL STEEL TO HAVE PRIME COAT OF PAINT NO. 1-D AND ONE HEAVY APPLICATION (FINISH COAT) OF PAINT NO. 9 AS PER SECT. 790.

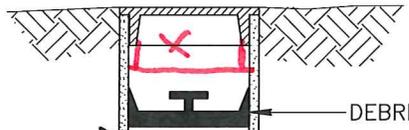
DETAIL NO. 391-2	MARICOPA ASSOCIATION of GOVERNMENTS	STANDARD DETAIL ENGLISH	VALVE BOX INSTALLATION AND GRADE ADJUSTMENT	REVISED 01-01-2001	DETAIL NO. 391-2
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VALVE BOX AND COVER
FOR DETAIL 391-1,
TYPE A

DEBRIS CAP

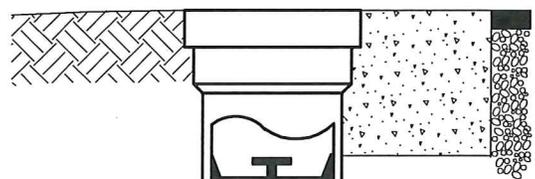
TYPE 'A'



VALVE BOX AND COVER
FOR DETAIL 391-1,
TYPE B

DEBRIS CAP

TYPE 'B'



VALVE BOX AND COVER
FOR DETAIL 391-1,
TYPE C

DEBRIS CAP

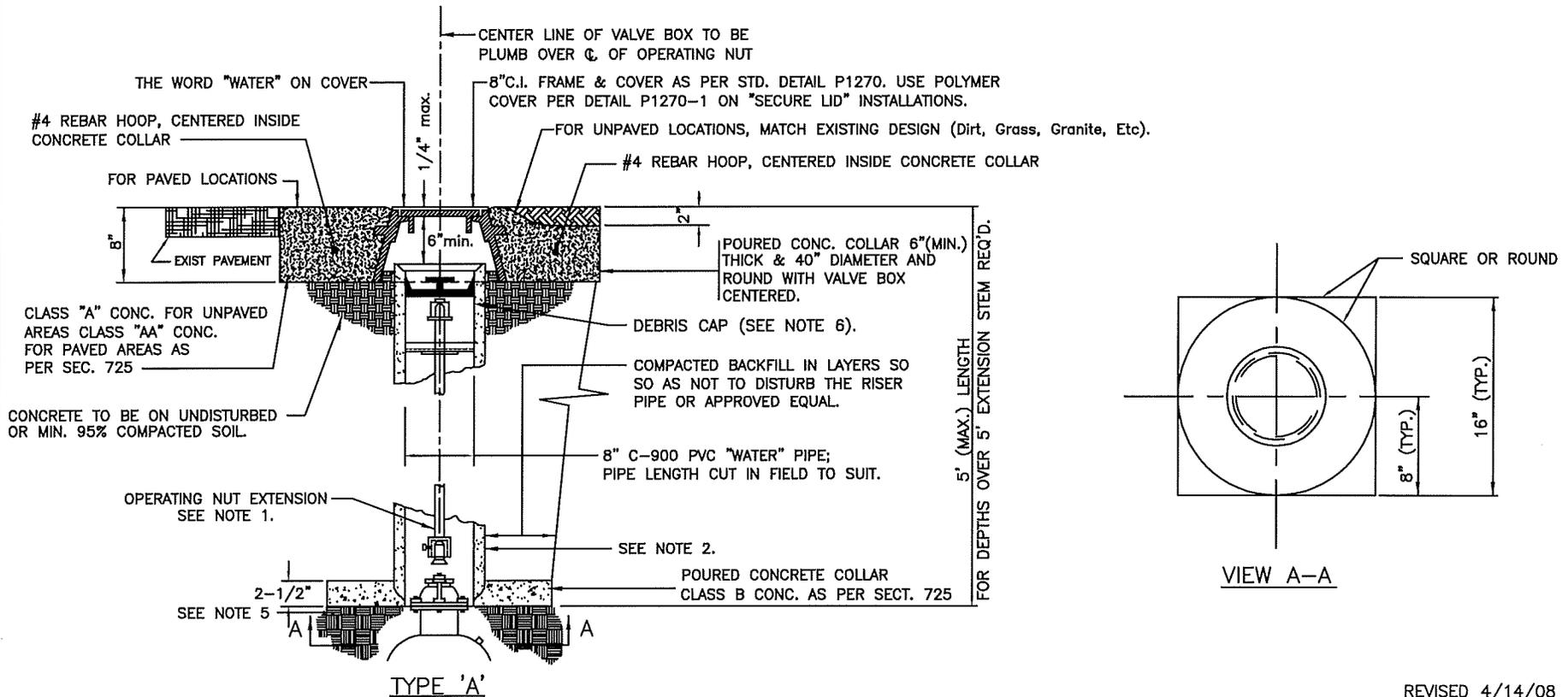
TYPE 'C'

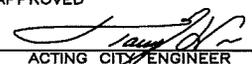
NOTES:

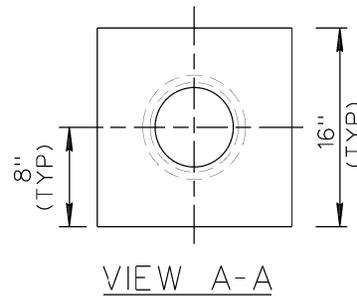
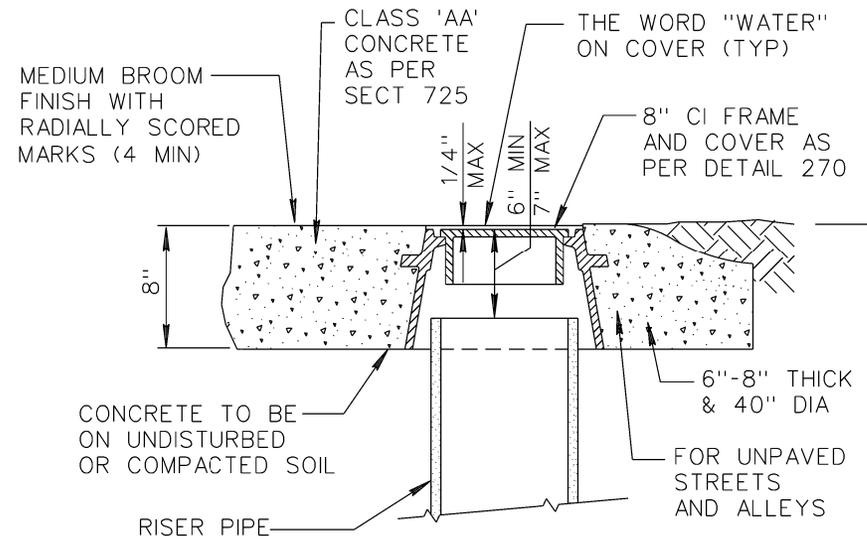
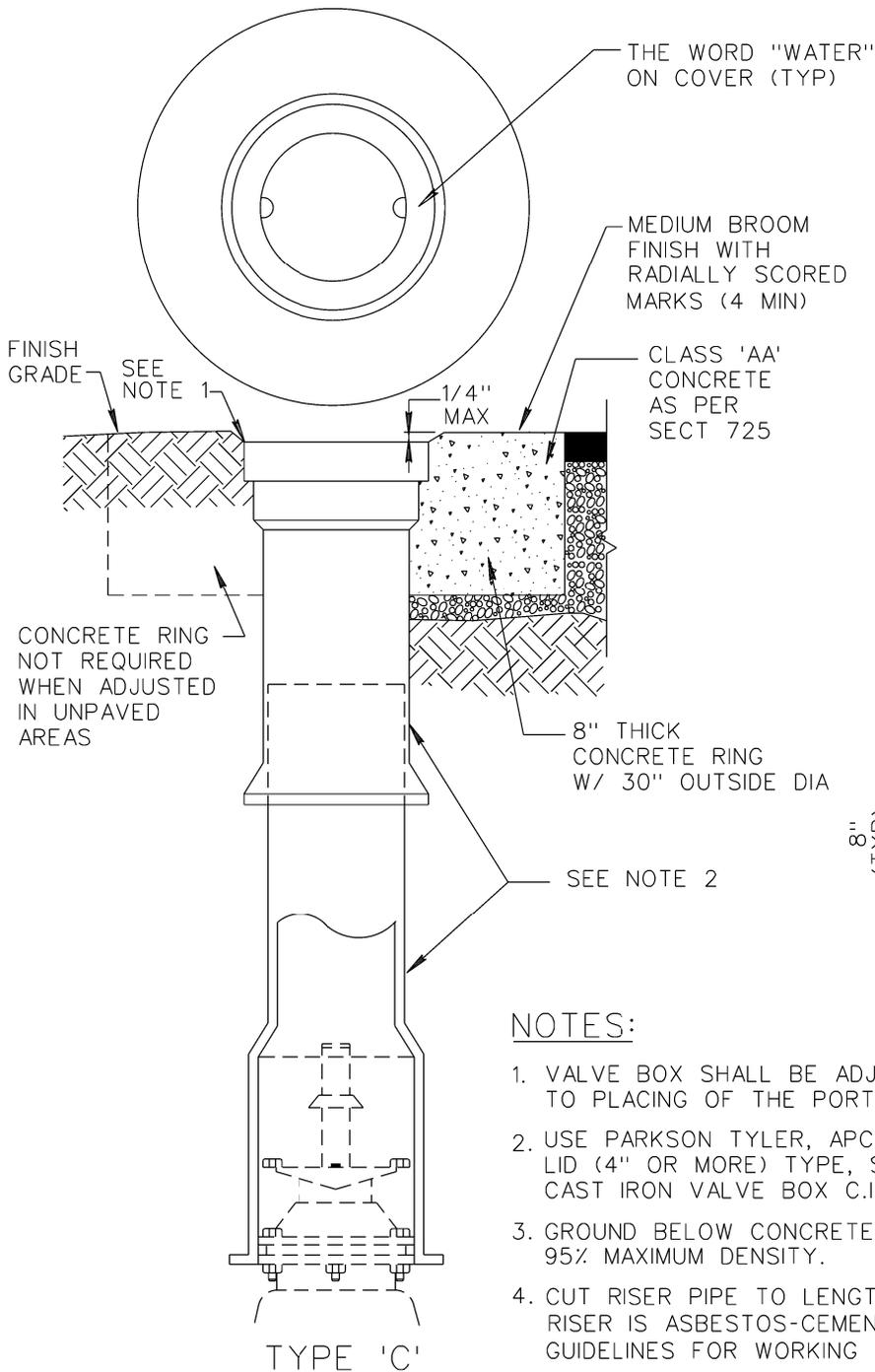
1. THE DEBRIS CAP SHALL BE DESIGNED AND INSTALLED TO PREVENT DEBRIS SUCH AS DIRT, DUST SAND, ETC., FROM PASSING AROUND THE CAP AND DOWN INTO THE VALVE HOUSING. THE CAP SHALL BE HELD IN PLACE BY A MECHANISM WHICH WILL NOT DAMAGE THE VALVE HOUSING. ONCE INSTALLED THE CAP MUST WITHSTAND, WITHOUT SLIPAGE, A MINIMUM VERTICAL FORCE OF 50 POUNDS AT A LOADING RATE OF 1 INCH/MINUTE.
2. THE CAP SHALL BE MANUFACTURED OF CORROSIVE RESISTANT MATERIALS.
3. DEBRIS CAP SHALL BE INSTALLED AS CLOSE UNDER THE CAST IRON COVER WITHOUT INTERFERING WITH COVER OPERATION.
4. THE CAP SHALL BE CAPABLE OF SECURELY HOLDING A STANDARD LOCATING COIL, "SCOTCH MARK" 4 DISK MARKER BY 3M OR EQUAL.
5. THE CAP SHALL BE CONSTRUCTED TO ALLOW THE DEVICE TO BE SECURED BY A LOCK. THE LOCK (PAD, BARREL, ETC.) SHALL BE SUPPLIED BY THE AGENCY.
6. THE HANDLE AND/OR BODY OF THE CAP SHALL BE INTEGRALLY COLORED IF REQUIRED BY THE AGENCY. IF REQUIRED, THE COLOR SHALL CONFORM TO THE ONE CALL LOCATING SERVICE (BLUE STAKE) COLORS (ARS 40-360.21).
7. THE CAP SHALL BE INSTALLED IN ALL VALVE HOUSINGS AS REQUIRED BY THE CONTRACT DOCUMENTS OR BY THE AGENCY'S POLICIES.
8. THE DEBRIS CAP SHALL BE MANUFACTURED BY SW SERVICES, INC. PHOENIX, ARIZONA OR EQUAL.

NOTES:

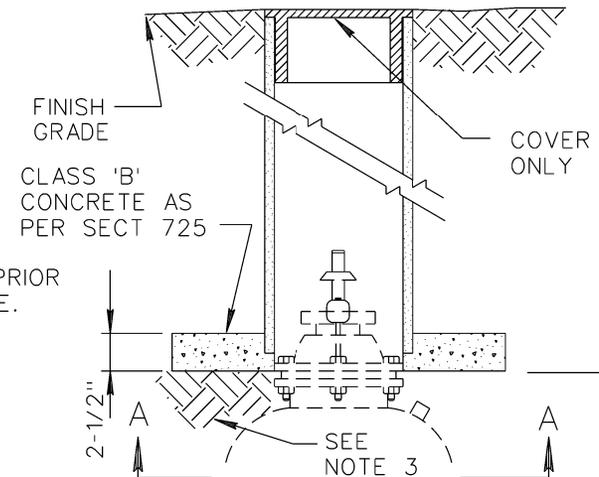
1. VALVE OPERATION NUT EXTENSION: SEE DETAIL P1391-1
EXTENSION TO VALVE STEMS REQUIRED ON ALL VALVES WHERE OPERATING
NUT IS OVER 5' BELOW SURFACE. LENGTH TO FIT EACH INSTALLATION.
2. IF TWO OR MORE JOINTS OF C900 PVC "WATER" PIPE RISER ARE NEEDED, THEY SHALL BE
COUPLED AND GLUED WITH APPROPRIATE PVC GLUE TO FORM A DEBRIS-TIGHT JOINT.
3. VALVE BOX SHALL BE ADJUSTED TO THE FINISH GRADE AFTER PLACING
THE ASPHALTIC CONCRETE SURFACE.
4. USE PARKSON TYLER, APCO, OR EQUAL DEEP SKIRTED COVER LID (4" DEEP OR MORE)
C.I. MIN. T.S. 30,000 P.S.I. USE SECURE POLYMER VALVE BOX LID WITH LID-RETENTION
ELASTOMERIC SEAL PER DETAIL P1270-1 WHERE "SECURE" LIDS ARE SPECIFIED.
5. GROUND BELOW CONCRETE PAD TO BE COMPACTED TO MIN. 95% OF MAX DENSITY.
6. INSTALL DEBRIS CAP PER DETAIL P1165.



DETAIL NO. P1391	 City of Phoenix STANDARD DETAIL	VALVE BOX INSTALLATION	APPROVED  ACTING CITY ENGINEER	REVISED 4/14/08 7/31/08 DATE DETAIL NO. P1391
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TYPE 'A'
(TO BE USED IN AREAS SUBJECT TO VEHICULAR TRAFFIC)



TYPE 'B'
(NOT SUBJECT TO VEHICULAR TRAFFIC)

NOTES:

1. VALVE BOX SHALL BE ADJUSTED TO THE FINISHED GRADE PRIOR TO PLACING OF THE PORTLAND CEMENT CONCRETE SURFACE.
2. USE PARKSON TYLER, APCO OR EQUAL DEEP SKIRTED LID (4" OR MORE) TYPE, SLIDING ADJUSTABLE CAST IRON VALVE BOX C.I. MIN. T.S. 30,000 P.S.I.
3. GROUND BELOW CONCRETE PAD TO BE COMPACTED 95% MAXIMUM DENSITY.
4. CUT RISER PIPE TO LENGTH IN FIELD. **CAUTION:** IF EXISTING RISER IS ASBESTOS-CEMENT PIPE (ACP) FOLLOW OSHA GUIDELINES FOR WORKING WITH ACP.

DETAIL NO.

391-1



STANDARD DETAIL
ENGLISH

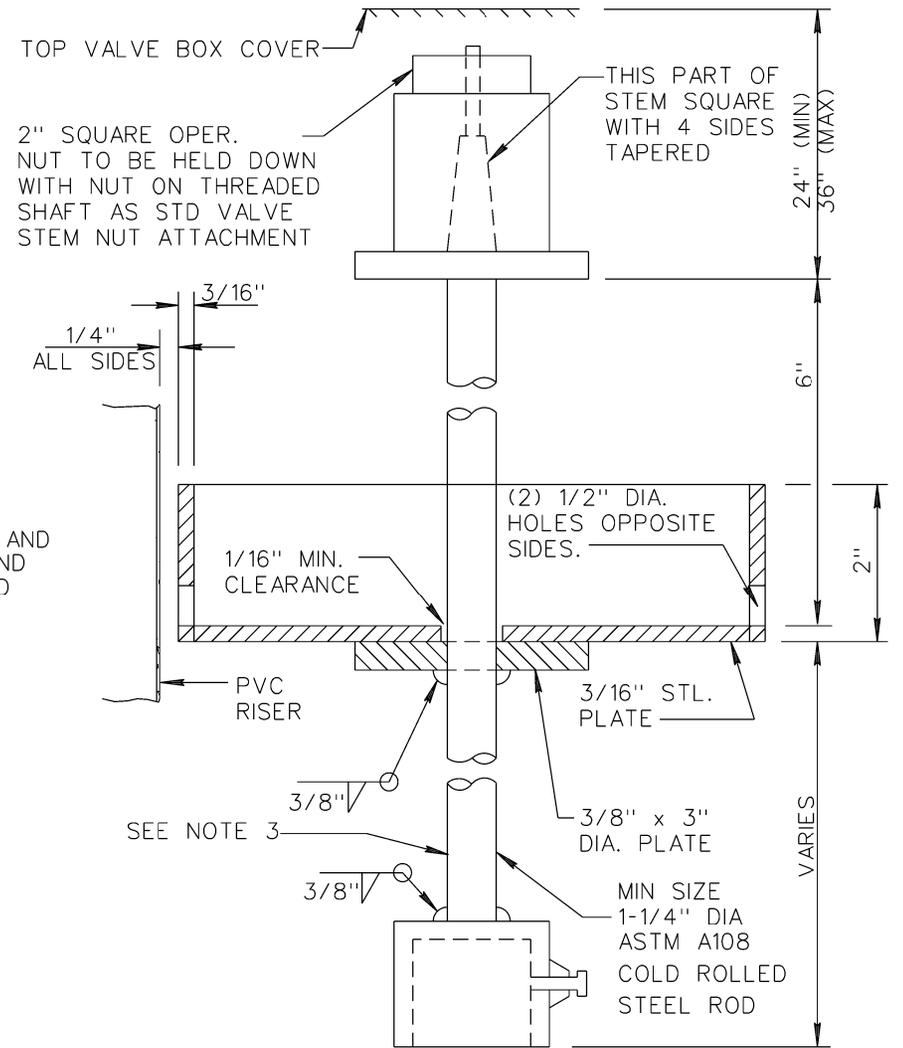
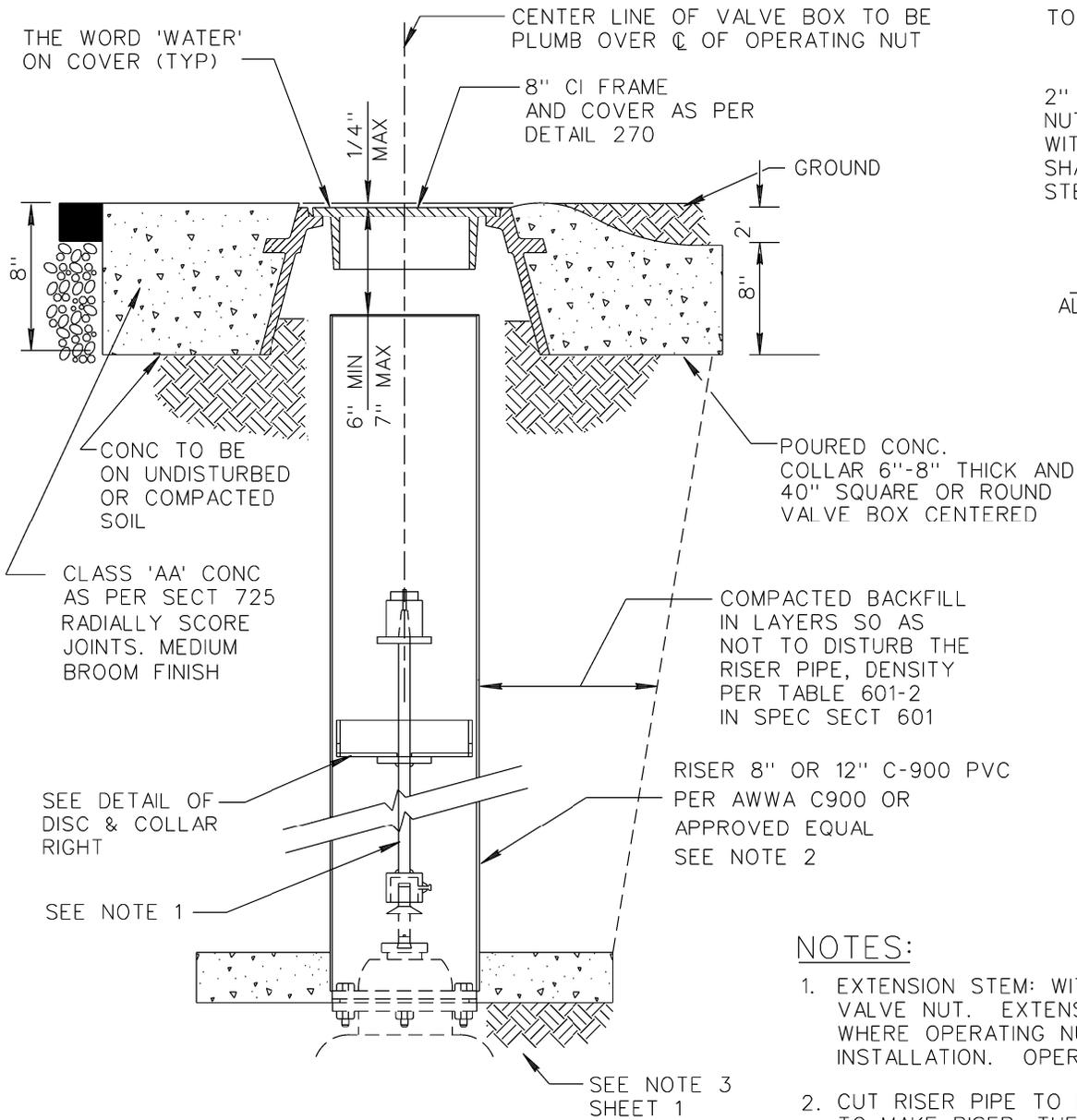
VALVE BOX INSTALLATION
AND GRADE ADJUSTMENT

REVISED

01-01-2015

DETAIL NO.

391-1



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2. CUT RISER PIPE TO LENGTH IN FIELD. IF TWO OR MORE SECTIONS OF PIPE ARE USED TO MAKE RISER, THEY SHALL BE COUPLED AND BONDED WITH AN APPROPRIATE ADHESIVE TO FORM A DEBRIS-TIGHT JOINT. WHERE RISER LENGTH EXCEEDS 10' USE 12" RISER PIPE.
3. STEM PAINTING: ALL STEEL TO HAVE PRIME COAT OF PAINT NO. 1-D AND ONE HEAVY APPLICATION (FINISH COAT) OF PAINT NO. 9 AS PER SECT. 790.

DETAIL NO.
391-2

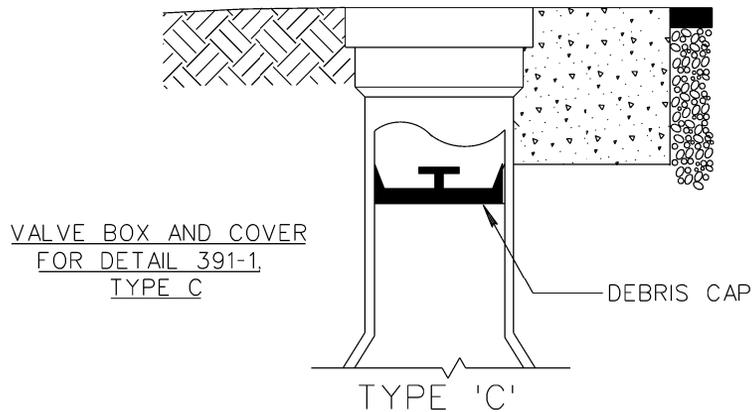
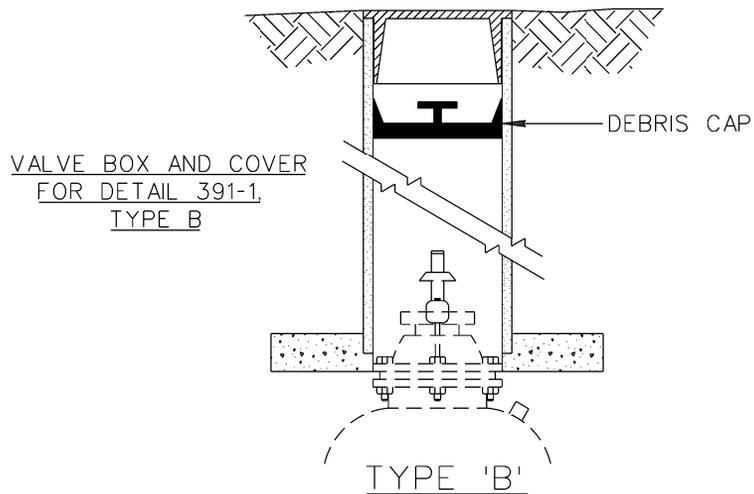
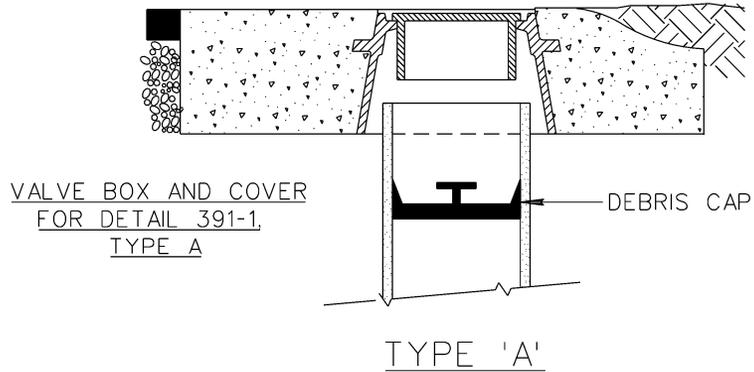


STANDARD DETAIL
ENGLISH

VALVE BOX INSTALLATION
AND GRADE ADJUSTMENT

REVISED
01-01-2015

DETAIL NO.
391-2



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DETAIL NO.

392



STANDARD DETAIL
ENGLISH

DEBRIS CAP INSTALLATION

REVISED

01-01-2015

DETAIL NO.

392