



MARICOPA COUNTY
Department of Transportation

MEMORANDUM

Date: May 21, 2014 Revised 2014-08-14
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 (ACP) in new Valve Box Installations.

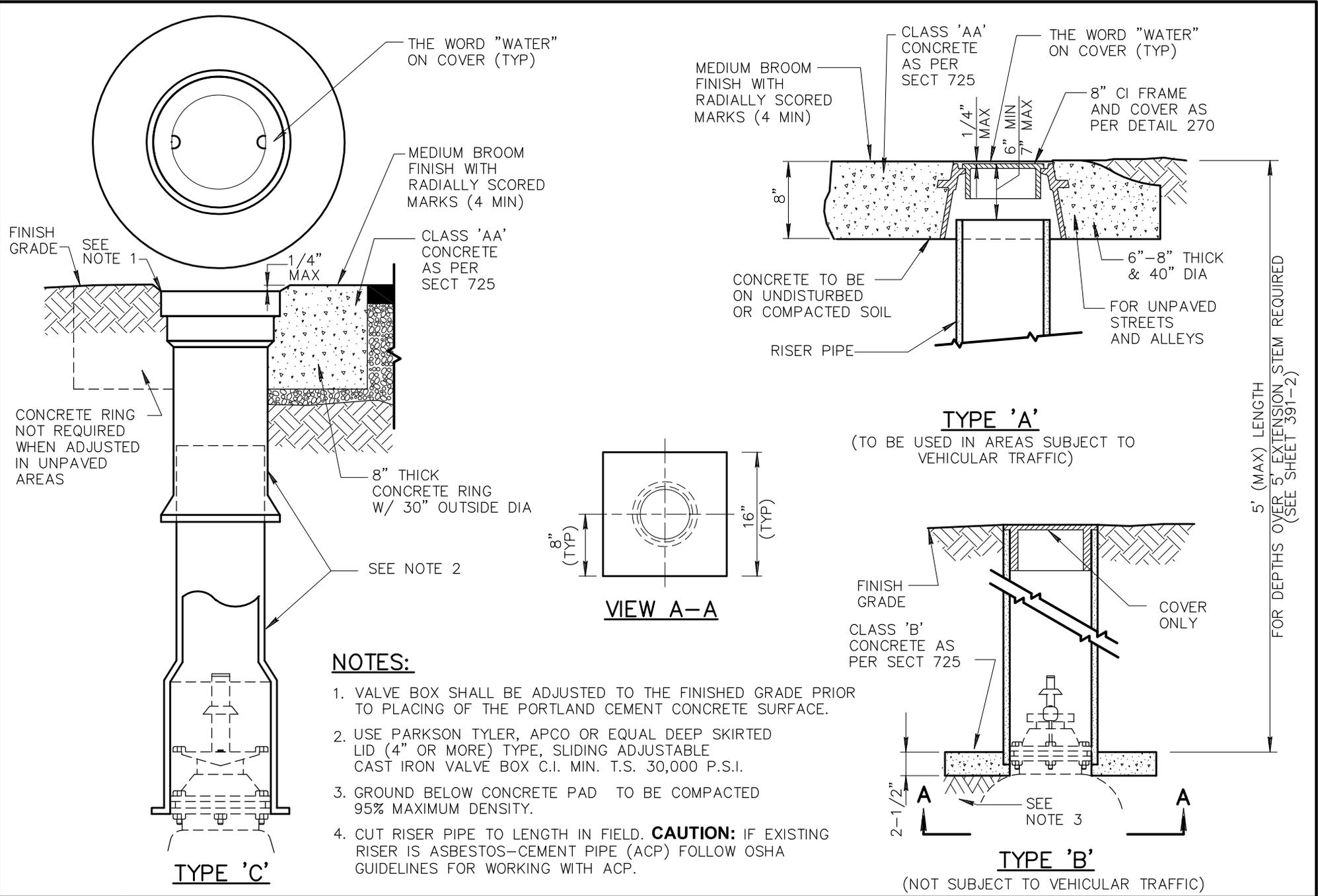
REVISIONS:

1. Replaced ACP with PVC C900 pipe or approved equal.
2. Pictorial adjustments made to Details 391-1, 391-2, and 392.
3. Deleted the brick alternative for supporting the valve box riser pipe as requested by the committee.
4. Deleted requirement for a 12" riser pipe for lengths greater than 10' as requested by the committee.

Detail 391-1 Added Note 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 391-2, Revised the first sentence of Note 2 to read: If two or more sections of pipe are used to make the valve box riser, they shall be coupled or bonded to form debris-tight joints.

Detail 392: Deleted from the end of note 1 the following: "Once installed the cap must withstand, without slippage, a minimum vertical force of 50 pounds at a loading rate of 1 inch/minute."



DETAIL NO.
391-1



STANDARD DETAIL
ENGLISH

VALVE BOX INSTALLATION AND GRADE ADJUSTMENT

REVISED
01-01-2015

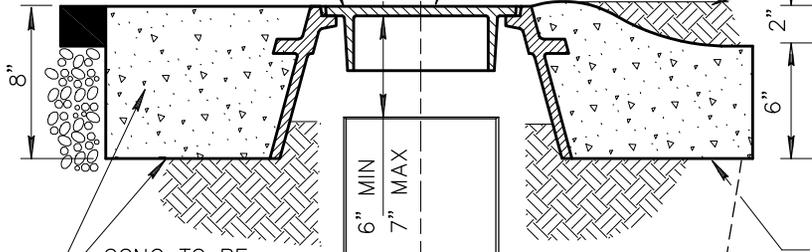
DETAIL NO.
391-1

THE WORD 'WATER'
ON COVER (TYP)

CENTER LINE OF VALVE BOX TO BE
PLUMB OVER Q_L OF OPERATING NUT

8" CI FRAME
AND COVER AS PER
DETAIL 270

GROUND



CONC TO BE
ON UNDISTURBED
OR COMPACTED
SOIL

CLASS 'AA' CONC
AS PER SECT 725
RADIALLY SCORE
JOINTS. MEDIUM
BROOM FINISH

SEE DETAIL OF
DISC & COLLAR
RIGHT

SEE NOTE 1

6" MIN
7" MAX

POURED CONC.
COLLAR 6"-8" THICK AND
40" SQUARE OR ROUND
VALVE BOX CENTERED

COMPACTED BACKFILL
IN LAYERS SO AS
NOT TO DISTURB THE
RISER PIPE, DENSITY
PER TABLE 601-2
IN SPEC SECT 601

RISER 8" C-900 PVC
PER AWWA C900 OR
APPROVED EQUAL
SEE NOTE 2

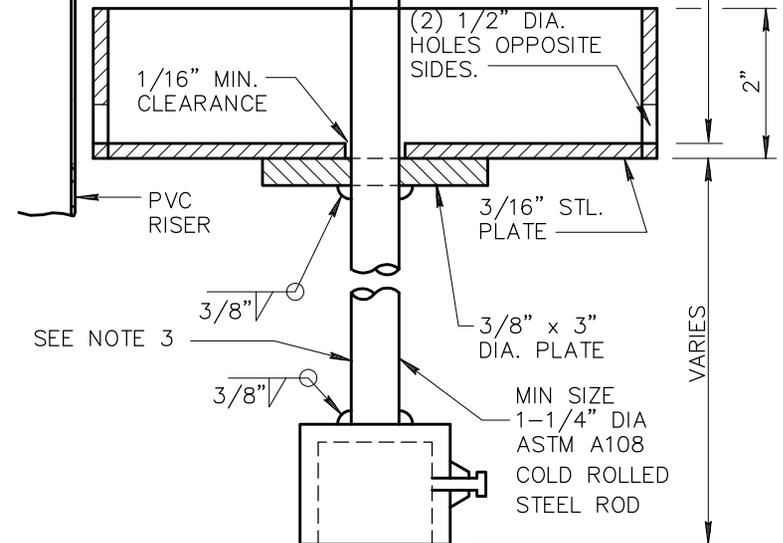
SEE NOTE 3
SHEET 1

TOP VALVE BOX COVER

2" SQUARE OPER.
NUT TO BE HELD DOWN
WITH NUT ON THREADED
SHAFT AS STD VALVE
STEM NUT ATTACHMENT

THIS PART OF
STEM SQUARE
WITH 4 SIDES
TAPERED

3/16"
1/4"
ALL SIDES



SEE NOTE 3

3/8"

3/8"

MIN SIZE
1-1/4" DIA
ASTM A108
COLD ROLLED
STEEL ROD

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 SECTIONS OF PIPE ARE USED TO MAKE THE VALVE BOX RISER, THEY SHALL BE COUPLED OR BONDED TO FORM DEBRIS-TIGHT JOINTS.
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

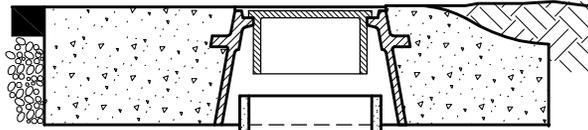


STANDARD DETAIL
ENGLISH

**VALVE BOX INSTALLATION
AND GRADE ADJUSTMENT**

REVISED
01-01-2015

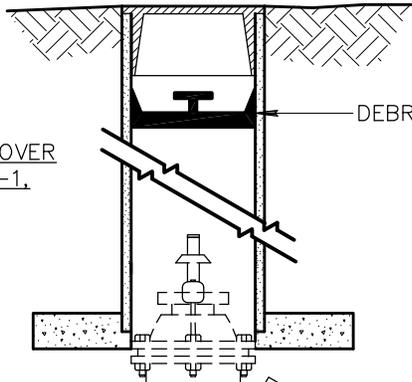
DETAIL NO.
391-2



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

DEBRIS CAP

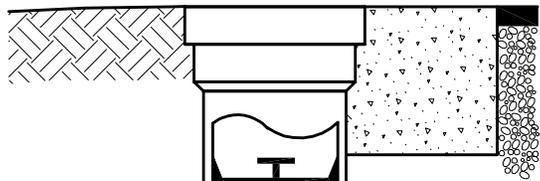
TYPE 'A'



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.
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 CAP SHALL BE INSTALLED IN ALL VALVE HOUSINGS AS REQUIRED BY THE CONTRACT DOCUMENTS OR BY THE AGENCY'S POLICIES.