#### COUNTY SECTION \* \* 72

\* 113(RS-5.BR) & 114RS-2 \* \* CHAMPAIGN & VERMILION CONTRACT NO. 90864

# **X0301232 - SURVEY MARKER VAULT**

TO BE INSTALLED IN RIGID OR COMPOSITE PAVEMENT FOR PRESERVING LAND SURVEY MONUMENTS (SECTION OR SUBSECTION CORNERS)

-CAPTURED SCREW

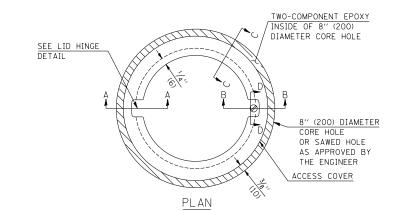
3/6" (5) HOLE
DRILLED AT 30°

PAVEMENT

STRUCTURE

FINE AGGREGATE

EXISTING SUB-BASE OR SUB-GRADE



(138)

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SEC. A-A

SEC. D-D4

71/4′′(184)

[5<sup>1</sup>/<sub>2</sub>'' (140)

SEC. D-D

ALUMINUM TABLET

MAGNET

SEC. B-E

SEC. B-B

ALLIMINI IM CASTING

> 6" (150) P.V.C. PIPE

#5 X 48 (#15 X 1.2 m)

SPECIFICATIONS FOR ACCESS COVER FOR USE WITH SURVEY MARKER VAULT(S) AND SURVEY MARKER COVER ASSEMBLY(S): THE ACCESS COVER WILL BE CAST FROM A SPECIAL ALUMINUM ALLOY THAT IS COMPARABLE TO BRON7F IN HARDNESS. THE ACCESS COVER SHALL BE SPECIALLY ENGINEERED AND DESIGNED TO PROVIDE A SNUG FIT, INCORPORATING EQUIDISTANT LOCKING RIDGES, INSIDE A STANDARD 6" (150 mm) DIAMETER, OR OUTSIDE A STANDARD 5" (125 mm) DIAMETER, SCHEDULE 40 PVC PIPE. THE ACCESS COVER SHALL HAVE SPECIAL UNIFORM 1" (25 mm) THICK TOP SURFACE TO PERMIT INFORMATION TO BE EASILY MACHINE-STAMPED INTO IT. THE ACCESS COVER SHALL INCLUDE A STAINLESS CAPTURED SCREW AND AN OPPOSING RECESSED HINGE ASSEMBLY AS ITS LOCKING MECHANISM. THE ACCESS COVER SHALL INCORPORATE A SPECIAL ACCESS HOLE FOR CLEANING AND DRAINAGE, DRILLED AT 30° INSIDE THE RING OF THE ACCESS COVER, TO THE DRILLED AND TAPPED HOLE PROVIDED FOR THE STAINLESS CAPTURED SCREW. COMPOSITION: ALUMINUM 92-93%: MAGNESIUM 6.5-7.5%. STRENGTH: YIELD - 19,000-21,000 PSI (131-145 MPa); TENSILE - 38,000-44,000 PSI (262-303 MPa); ELONGATION - 10-15% IN 2" (50 mm). SPECIFICATIONS: ALLOY 535.0; QQ-A-601Es. NO EXCEPTIONS.

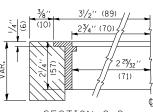
# ALUMINUM CASTING TWO-COMPONENT EPOXY

LEGEND

5" (125) OR 6" (150) P.V.C. PIPE

T = THICKNESS OF

PAVEMENT STRUCTURE H = THE THICKNESS OF THE SUB-BASE GRANULAR + 1" (25)



SECTION C-C

DRILL 3/6" (5) FOR

LID HINGE DETAIL

RE-BAR-SURVEY MARKER, TYPE I, (SPECIAL) TO BE FURNISHED BY THE CONTRACTOR AND SET BY AN ILLINOIS PROFESSIONAL LAND SURVEYOR (SEE SPECIAL DETAIL SHEET FOR ALUMINUM TABLET AND RE-BAR SPECIFICATIONS).

# GENERAL NOTES

1. ALUMINUM CASTING SHALL BE EITHER PLACED OVER A 5" (125 mm) P. V. C. PIPE OR INSIDE OF A 6" (150 mm) P. V. C. PIPE.

ELEVATION

2. BACKFILL WITH FINE AGGREGATE - FA-01/02.

5" (125)

PLASTIC INSULATOR FOR

CORROSION PREVENTION

P.V.C. PIPE

PROVIDE 1/16" (2) CLEARANCE AROUND LID

" (200) DIA.

DRILL CUT

CORE HOLE

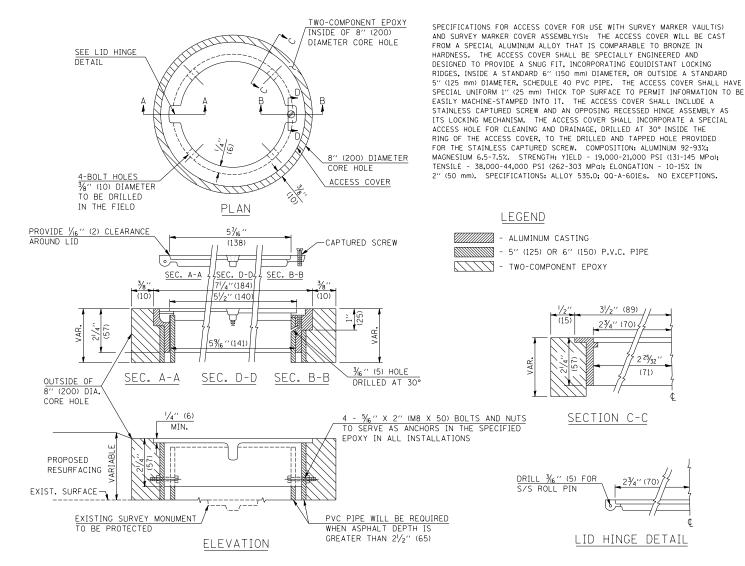
- 3. WORK SHALL NOT START ON THIS ITEM UNTIL THE FINAL LIFT OF SURFACE HAS BEEN COMPLETED.
- 4. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR SURVEY MARKER VAULT WHICH PRICE SHALL INCLUDE ALL LABOR AND MATERIAL AS SPECIFIED INCLUDING CORING, EPOXY AND FA-01/02 AGGREGATE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 5. THE CASTING SHALL BE ANCHORED IN THE 8" (200 mm) DIAMETER CORE HOLE WITH TWO-COMPONENT EPOXY CONFORMING TO APPLICABLE PORTIONS OF ARTICLE 1025.01 OF THE STANDARD SPECIFICATIONS.
- 6. ALL SURVEY MARKER (VAULTS) SHALL BE PLACED 1/4" (6 mm) ± BELOW THE EINAL SURFACE.
- 7. THE 8" (200 mm) DIAMETER CORE HOLE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

### BILL OF MATERIAL

ALUMINUM CASTING OF THE DIMENSIONS AND SPECIFICATIONS SHOWN OR OTHER SUBJECT TO ENGINEER'S APPROVAL OF SHOP DRAWINGS, " OR 6" (125 mm OR 150 mm) DIAMETER P.V.C. PIPE, SCHEDULE 40, ALUMINUM TABLET, STAMPED IN ACCORDANCE WITH STANDARD 667101.  $\frac{5}{8}$ " X 48" (#15 X 1.2 m ) RE-BAR, EPOXY AND FA-01/02 AGGREGATE.

# **Z0070100 – SURVEY MONUMENT COVER ASSEMBLY**

TO BE INSTALLED IN ALL PAVEMENT TYPES FOR PRESERVING PERMANENT SURVEY MARKERS (PI'S, PT'S, PC'S, POC'S, & POT'S) AND LAND SURVEY MONUMENTS (SECTION OR SUBSECTION CORNERS)



#### GENERAL NOTES

- 1. WORK SHALL NOT START ON THIS ITEM UNTIL THE FINAL LIFT OF SURFACE HAS BEEN COMPLETED.
- 2. THE SURVEY MONUMENT COVER ASSEMBLY SHALL BE CENTERED ABOVE THE SURVEY MONUMENT TO BE PROTECTED.
- 3. MODIFICATION OF THE ALUMINUM CASTING SHALL BE DONE BY GRINDING OR SAWING WHEN HEIGHT REDUCTION IS REQUIRED.
- 4. ALL SURVEY MONUMENT COVER ASSEMBLIES SHALL BE PLACED 1/4" (6 mm) ± BELOW THE FINAL SURFACE.
- 5. ALUMINUM CASTING SHALL BE PLACED OVER A 5" (125 mm) P.V.C. PIPE OR INSIDE OF A 6" (150 mm) P.V.C. PIPE WHEN AN INCREASE IN HEIGHT IS REQUIRED.
- 6. THE CASTING SHALL BE ANCHORED IN THE 8" (200 mm) DIAMETER CORE HOLE WITH TWO-COMPONENT EPOXY CONFORMING TO APPLICABLE PORTIONS OF ARTICLE 1025.01 OF THE STANDARD SPECIFICATIONS.
- 7. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR SURVEY MONUMENT COVER ASSEMBLY WHICH PRICE SHALL INCLUDE ALL LABOR AND MATERIAL AS SPECIFIED INCLUDING CORING THE NEW PAVEMENT SURFACE AND EPOXY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 8. THE 8" (200 mm) DIAMETER CORE HOLE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

#### BILL OF MATERIAL

ALUMINUM CASTING OF THE DIMENSIONS AND SPECIFICATIONS SHOWN OR OTHER SUBJECT TO ENGINEER'S APPROVAL OF SHOP DRAWINGS, 4 EACH -  $\frac{5}{6}$ " X 2" (M8 X 50) BOLTS WITH NUTS, EPOXY, 5" OR 6" (125 mm OR 150 mm) DIAMETER P.V.C. PIPE, SCHEDULE 40 (WHEN REQUIRED).

	NAME	DATE	REVISIONS	
DESIGNED	A.W.H.	2-28-91	NAME	DATE
CHECKED	J.H.M.	2-28-91	D.L.P.	10/96
CADD NO.	D-I.04		K.A.G.	08/04

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.