DESIGN REQUIREMENTS

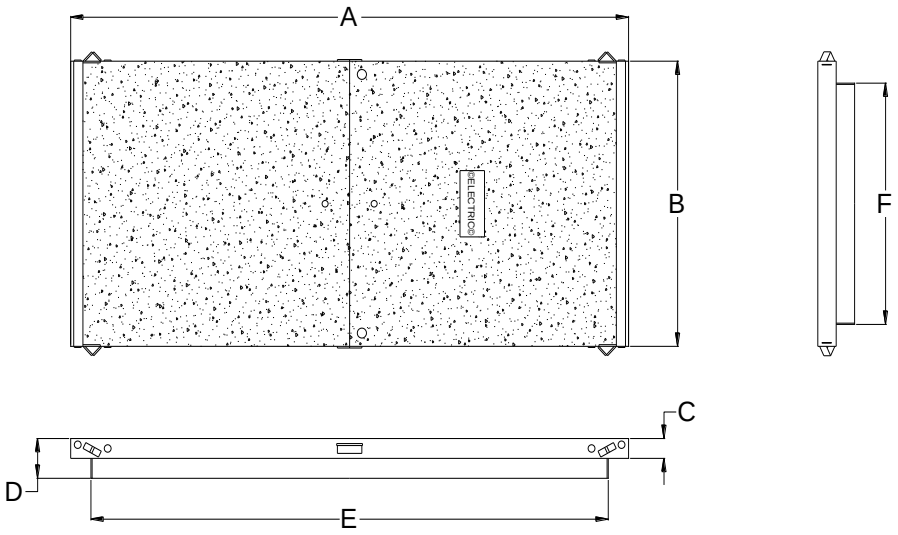

Figure 1: TORSION ASSISTED LIDS

HATCH	Adjustable Limit	DIMENSIONS (inch)					
		A	B	C	D	E	F
RS-80 H	3”	54	36	3	6	47 - 3/8	29 - 3/8
RS-82A H	3”	91	43	3	6	84 - 3/8	36 - 3/8
RS-81A H	3”	78	42	3	6	71 - 3/8	35 - 3/8
RS-81B H	5”	77	41	4.73	7.54	71 - 3/8	35 - 3/8

1. TORSION-ASSISTED LIDS

1. “ELE” in 1” letters, centered, bead welded or impressed into the top of one lid section. NOTE: “NVE COMM” shall be used instead of “ELE” on all NVE communications lids.
2. Two 5/8” slotted holes with two captive ½” – 13 UNC 304 stainless steel penta-head bolts attached to a latching mechanism and two angle brackets (see Figure 3), which shall be welded continuously to the side of the frame under the slotted holes. Bolts shall be furnished with castle nuts and cotter pins.
3. Both lid sections level to the top of the frame.
4. A 1” diameter hole (for a typical lifting hook), in covering lid section, with a permanent internal safety cover.
5. Two stainless steel (filled with grease) or brass bearing hinges for each lid section.
6. A stainless steel safety pin and chain lanyard shall be installed with each hinge, and provision shall be made to secure each pin when not in use (see Figures 4 and 5 below). McMaster – Carr Cat. No. 92730A120 and Cat. No. 98416A011, or equivalent shall be supplied.

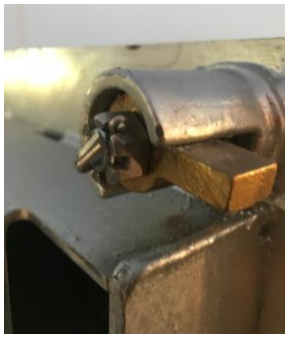

Figure 3

Figure 4

Figure 5

7. Manufacturer shall provide provision(s) to lock each lid in the 90 degree open position.
8. Manufacturer shall provide a maximum 1/8" horizontal and vertical gap around lid with a debris shield welded on the back side of the lid (see Figure 6).
9. Manufacturer shall provide anchoring provision(s) at both ends of the frame.
10. Two (2) ½" hexagon torsion bars are to be used for each lid. The material shall be 4140 Annealed or 5160 ASQ. Bars to be heat treated to R/C 42-44 and straightened and then cold galvanized or electroplated to prevent corrosion. Design is to allow for easy replacement of torsion bars. Material and heat treating certifications shall be provided on request.
11. Maximum 35 lb. pulling force required to open each lid section.
12. The open angle (by torsion bars) not to exceed 15 degrees between the lid and the frame.
13. An identification tag with the cover manufacturer name, model number and year of manufacture shall be installed on the inside frame.
14. Every twentieth top section assembled shall be tested by opening and closing the lid 25 times.
15. Four (4) captive ½'' bolts shall be attached to the frame one in each corner of lid not to interfere with safety latch, for adjusting the cover to grade variations. Bolt length shall be sized to limit adjustment to that listed in the table above.
16. Manufacturer shall provide a place to attach bonding wire at each end of lid frame and install a 3'- #4 copper (stranded) covered bonding wire, shall be green in color using listed connectors.(see Figure 8).
17. The lid shall have a slip resistant surface with a minimum coefficient of friction of 0.6 verified with an ASTM-F2508 certified tribometer.

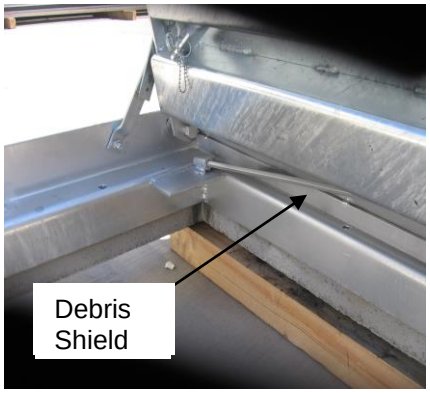

Figure 6

Figure 7

Figure 8

DESIGN REQUIREMENTS – RS-82B H

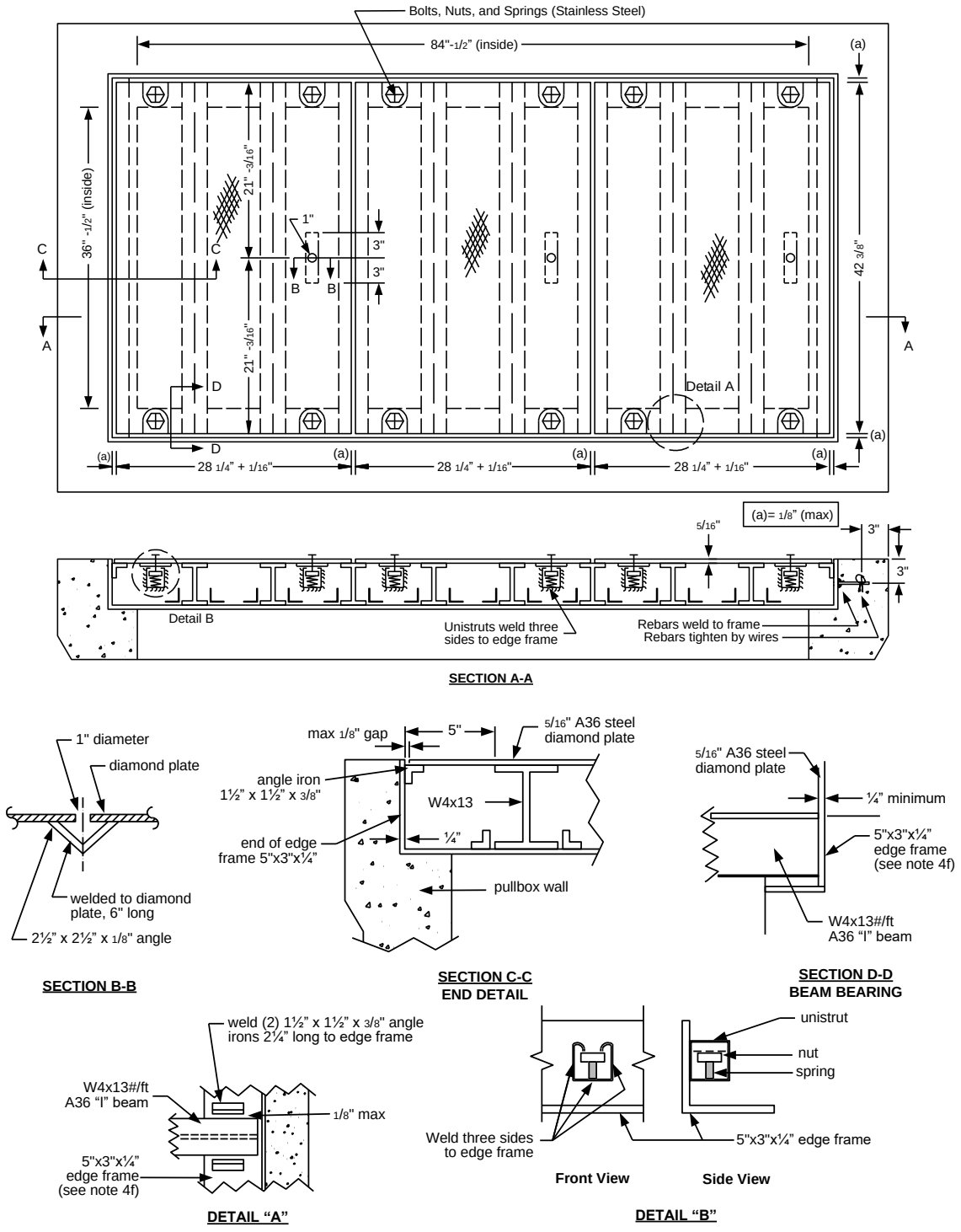

Figure 2: Three Piece Lid

2. THREE PIECE LID

1. The lid shall have:
   - A. "ELE" in 1'' letters, centered, bead welded or impressed into the top of one lid section.
   - B. Three pieces of 5/16'' steel diamond plate.
   - C. A 1'' diameter hole (for typical lifting hook) in each plate with a permanent internal safety cover.
   - D. Lid sections level to the top of the frame.
   - E. A maximum 1/8'' horizontal and vertical gap around lids.
   - F. Intentionally Omitted.
2. The top section shall have:
   - A. Eight I –beams (type W4x13#/ft.)
   - B. Four ½"-13 UNC stainless steel penta head hold down bolts per plate.
   - C. The I beams held in place by ¼" x 2" x 2"-1/4" long angle irons.
   - D. A 5"x3"x1/4" edge frame connected to rebar's.
   - E. The unistrut nut brackets welded on three sides to the vertical side of the frame below top level of I beams.
   - F. A 1-1/2" x 1-1/2" x 3/8" angle iron welded into the top edge frame along the entire length of each 36" wall.
   - G. Anchoring provision(s) at both ends of the frame.
   - H. The frame bolted to the precast extension and the gap sealed with mastic or similar material approved by NVE.
3. All parts must meet dimensional tolerance requirements in Figure 9. NOTE: The three piece lid is permitted for applications with High Voltage Metering Enclosure (RPM-407) or with the approval of supervisor, T&D Standards.
4. Manufacturer shall provide a place to attach bonding wire at each end of lid frame and install a 3'- #4 copper (stranded) covered bonding wire, shall be green in color using listed connectors.(see Figure 8).