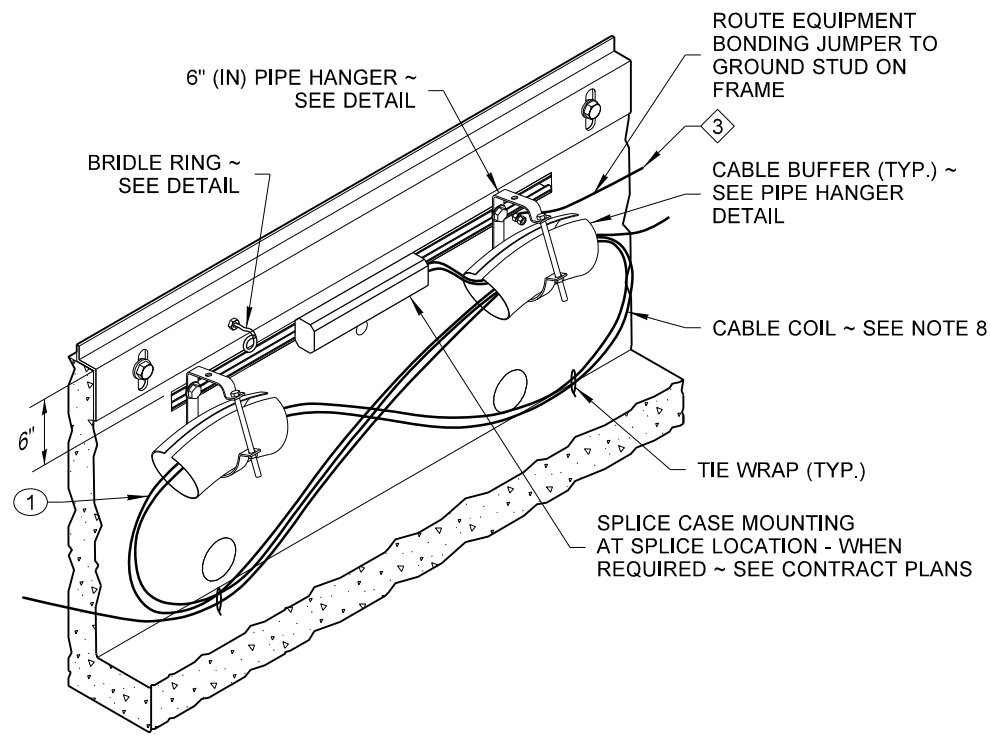
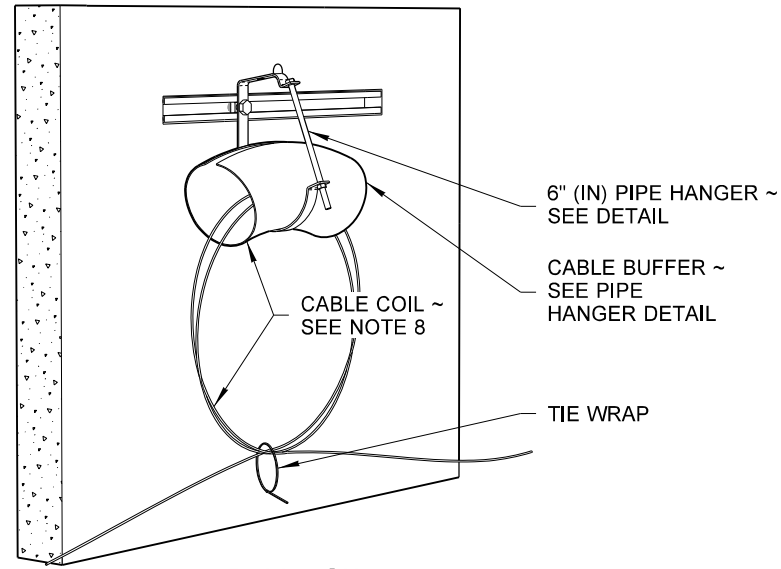


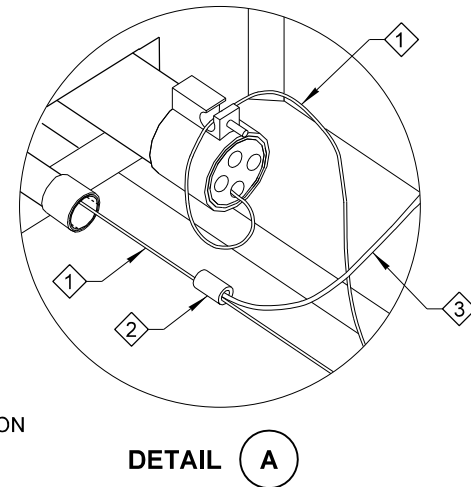
DRAWN BY: BILL BERENS



**CABLE VAULT  
INTERNAL ISOMETRIC VIEW**

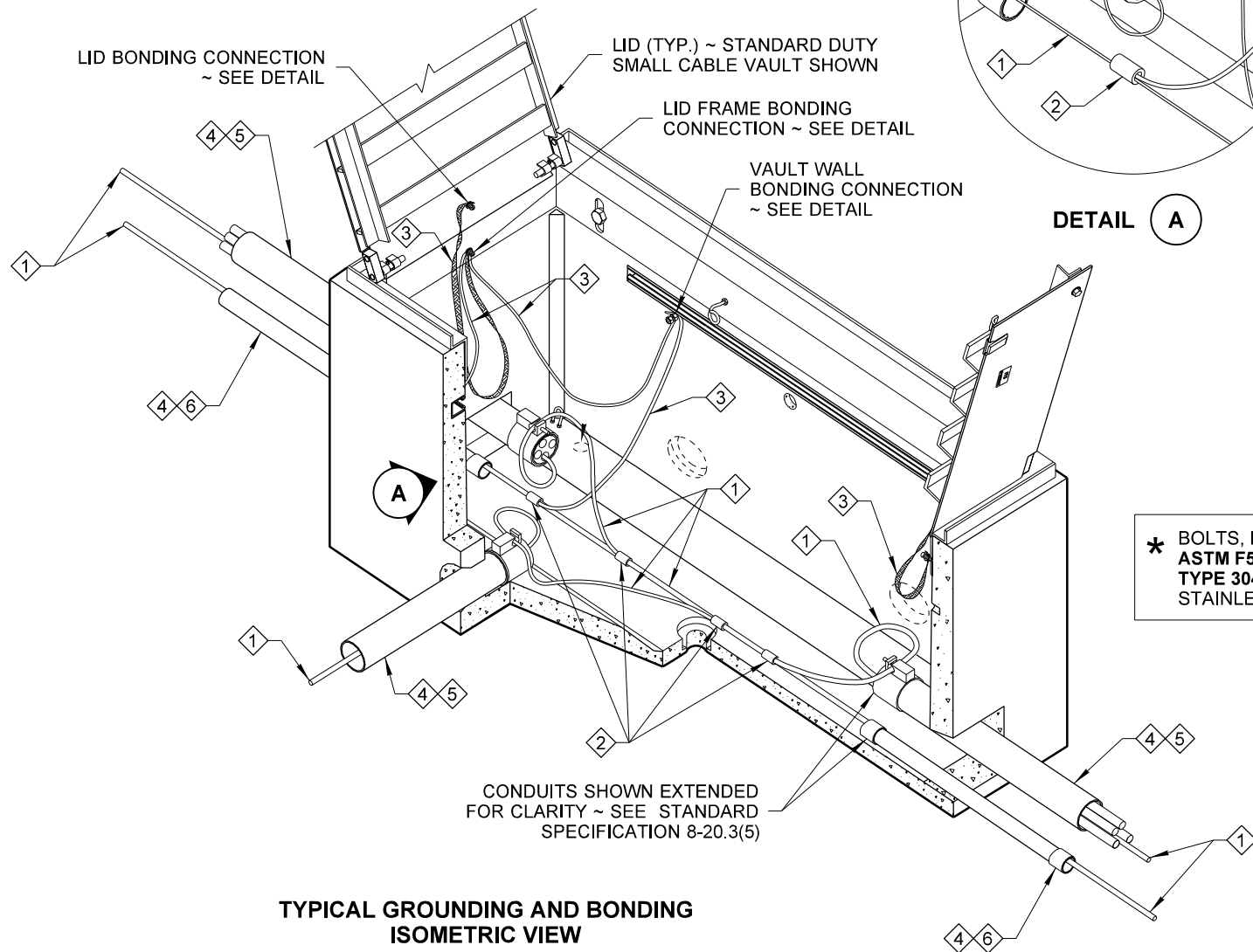


**PULL BOX  
INTERNAL OBLIQUE VIEW**



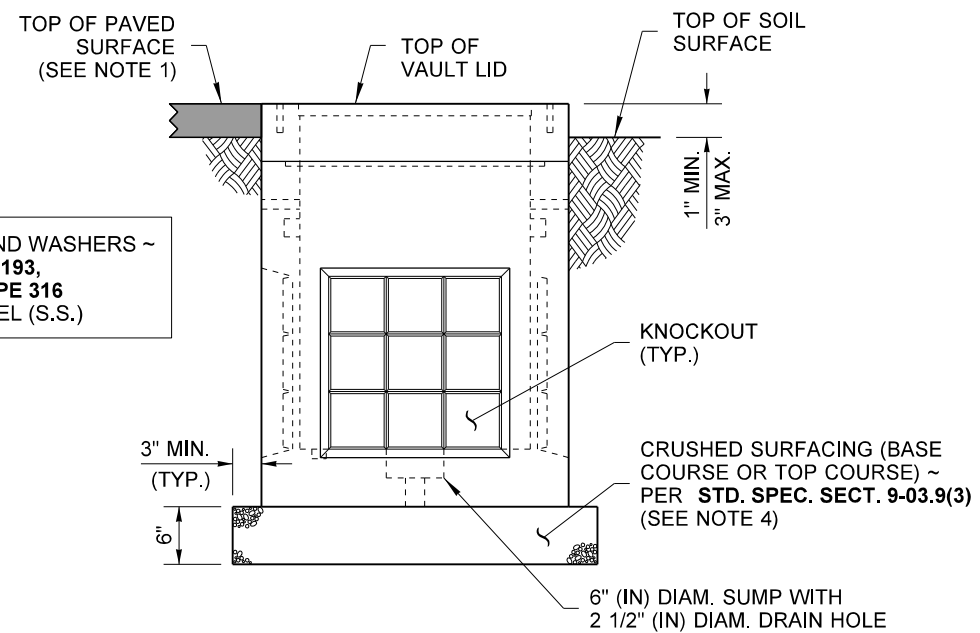
**KEY NOTES**

- ① EQUIPMENT GROUNDING CONDUCTOR
- ② COPPER SOLDERLESS CRIMP CONNECTOR
- ③ EQUIPMENT BONDING JUMPER (SEE NOTES 6 & 7)
- ④ SEE CONTRACT FOR CONDUIT SIZE AND NUMBER
- ⑤ RMC SHOWN ~ SEE CONTRACT FOR CONDUIT TYPE
- ⑥ PVC OR HDPE (PVC SHOWN) ~ SEE CONTRACT FOR CONDUIT TYPE



**TYPICAL GROUNDING AND BONDING  
ISOMETRIC VIEW**

\* BOLTS, NUTS AND WASHERS ~  
ASTM F593 OR A193,  
TYPE 304 OR TYPE 316  
STAINLESS STEEL (S.S.)



**TYPICAL VAULT PLACEMENT  
END VIEW**

**NOTES**

1. Vaults (including Pull Boxes) installed within the traveled way or paved shoulder must use Heavy Duty Lids. Small Cable Vaults (**Standard Plan J-90.21**) shall not be installed in the traveled way or paved shoulder.
2. Vaults installed in sidewalks, walkways, and shared-use paths shall have a slip-resistant coating on the lid and shall be installed with the surface flush with and matched to the grade of the sidewalk, walkway, and shared-use paths.
3. Small Cable Vaults for WSDOT Projects shall only be installed with the lid frame bearing on the concrete portion of cable vault.
4. Vault shall be installed on 6" (in) crushed surfacing pad in accordance with **Standard Specification Section 8-20.3(6)**.
5. Conduit Capacities (sum total conduit of all conduit diameters):  
- Pull Box and Small Cable Vault = 40" (in)  
- Cable Vault = 60" (in)
6. The bonding jumper shall be #8 AWG min. x 1' (ft) of tinned braided copper between the lid and the frame, and shall be #8 AWG min. from the frame to the hex coupling nut. See Contract Plans and **Standard Plan J-60.05** for bonding jumper requirements.
7. Connect the equipment grounding conductor(s) to the vault wall bonding connection with a #8 AWG (min.) equipment bonding jumper. For RMC conduits, the conduit end bushing shall be bonded between the equipment ground conductor and the vault wall bonding connection.
8. Each cable shall be coiled such that the cable's minimum bending radius limitations are not compromised. For coils in pull boxes, form a figure 8 loop first, then fold it in half (cable should twist slightly, not bend) to form a single loop.
9. Knockouts shall be restored with grout after conduit installation ~ see **Standard Specification section 8-20.3(6)**. For open bottom vaults, field bend #3 reinforcing bars to allow conduit into vault, then field bend back into place. Restored #3 bars shall be wire tied in two places, and the vault floor and wall completed with commercial concrete.

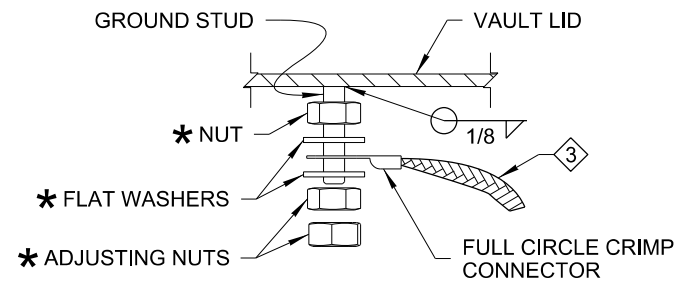


**VAULT INSTALLATION  
DETAILS**  
**STANDARD PLAN J-90.50-00**

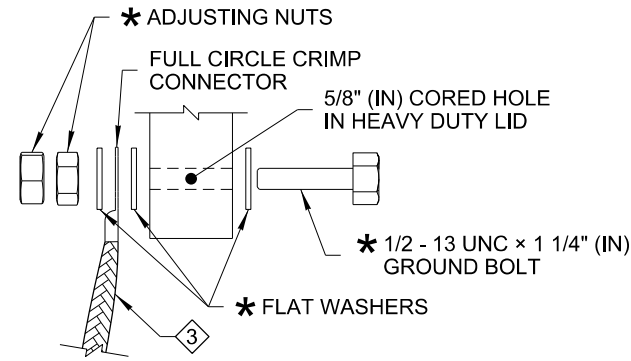
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

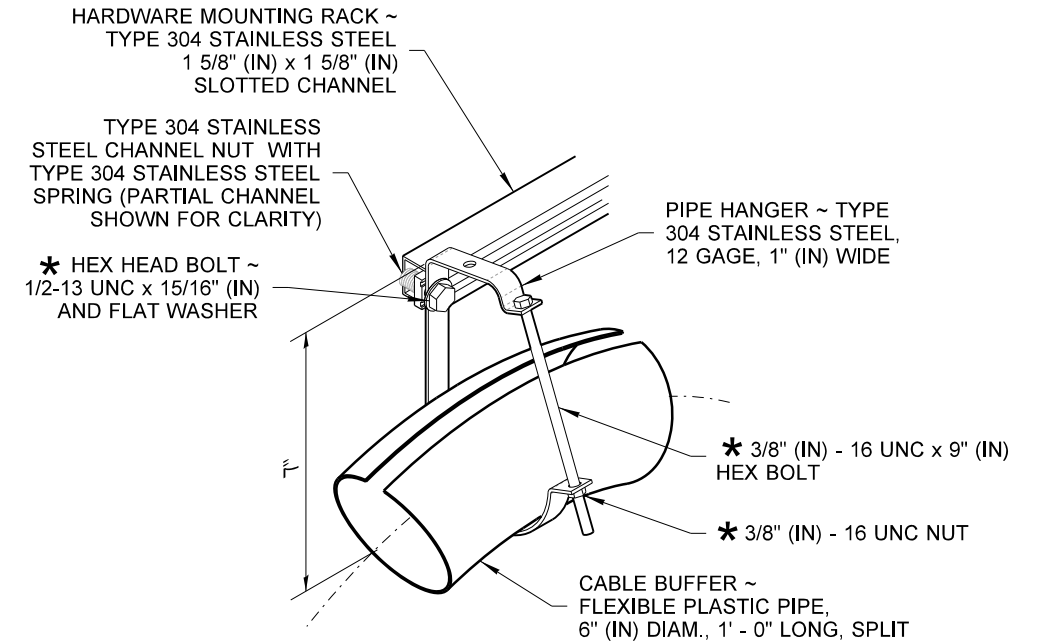
STATE DESIGN ENGINEER  
Washington State Department of Transportation



**STANDARD DUTY LID BONDING CONNECTION DETAIL**

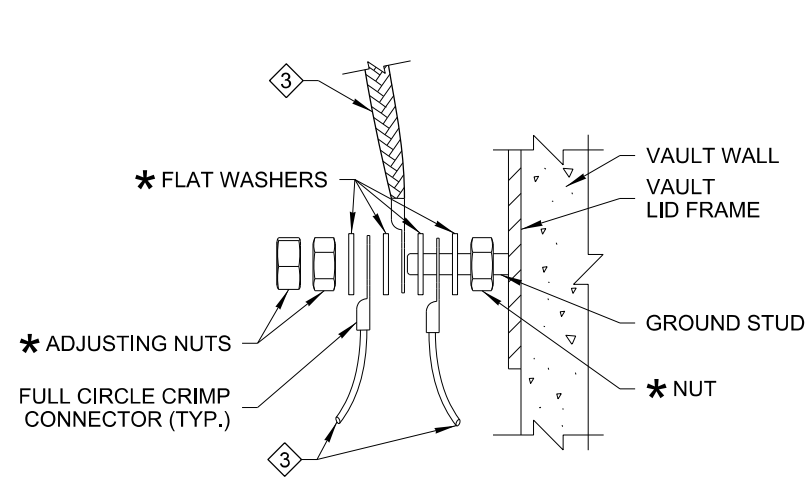


**HEAVY DUTY LID BONDING CONNECTION DETAIL**

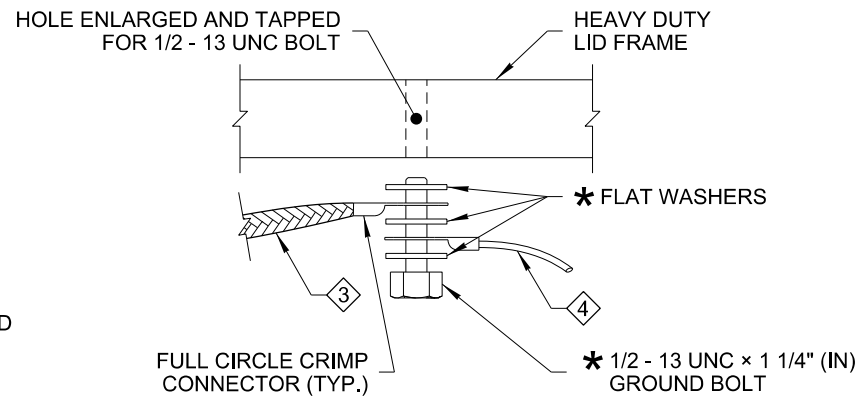


**PIPE HANGER DETAIL**

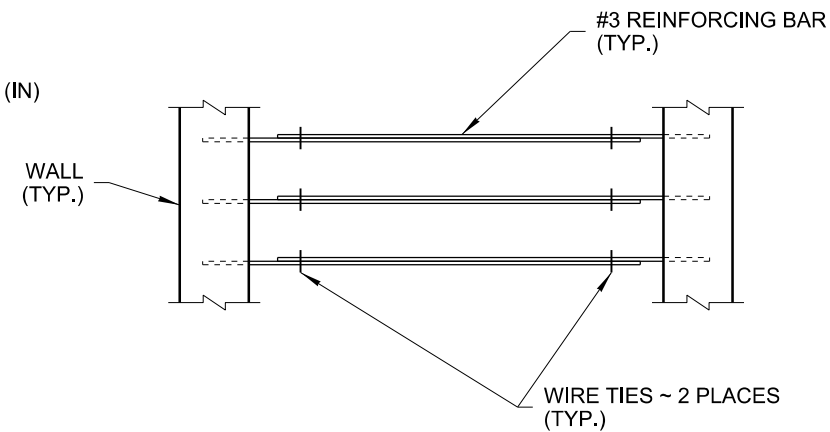
FABRICATE IF NOT AVAILABLE COMMERCIALY



**STANDARD DUTY LID FRAME BONDING CONNECTION DETAIL**



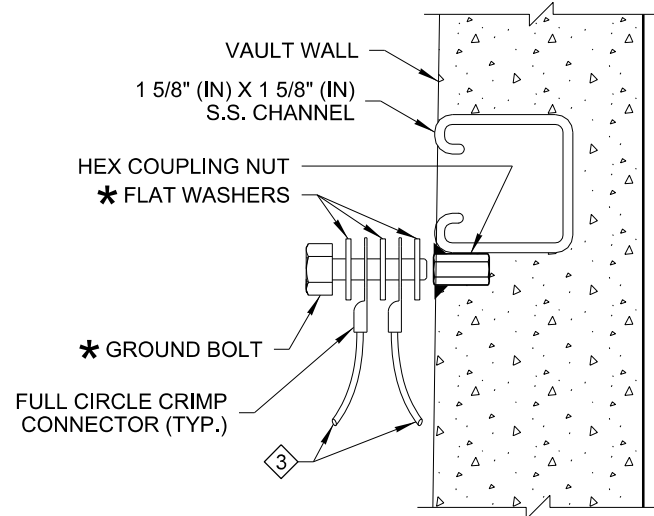
**HEAVY DUTY LID FRAME BONDING CONNECTION DETAIL**



**OPEN BOTTOM VAULT FINISHING DETAIL**

(SEE NOTE 9)

\* BOLTS, NUTS AND WASHERS ~ ASTM F593 OR A193, TYPE 304 OR TYPE 316 STAINLESS STEEL (S.S.)



**VAULT WALL BONDING CONNECTION DETAIL**

**KEY NOTES**

- ① EQUIPMENT GROUNDING CONDUCTOR
- ② COPPER SOLDERLESS CRIMP CONNECTOR
- ③ EQUIPMENT BONDING JUMPER (SEE NOTES 6 & 7)
- ④ SEE CONTRACT FOR CONDUIT SIZE AND NUMBER
- ⑤ RMC SHOWN ~ SEE CONTRACT FOR CONDUIT TYPE
- ⑥ PVC OR HDPE (PVC SHOWN) ~ SEE CONTRACT FOR CONDUIT TYPE



**VAULT INSTALLATION DETAILS**

**STANDARD PLAN J-90.50-00**

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER  
Washington State Department of Transportation