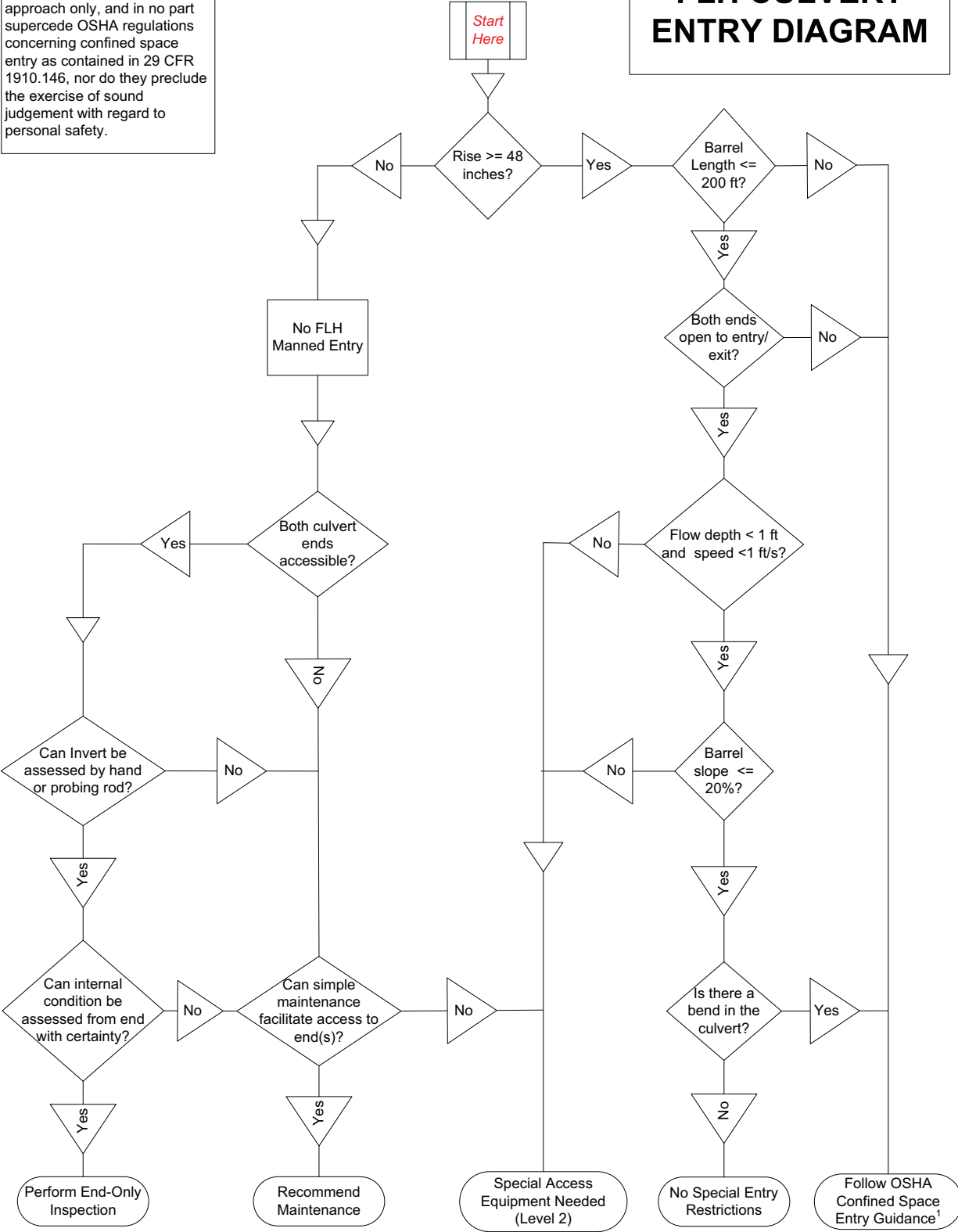


**APPENDIX A – FLH CULVERT ENTRY DIAGRAM AND ASSESSMENT FORM**



**Note 1:** These guidelines are a generally recommended approach only, and in no part supercede OSHA regulations concerning confined space entry as contained in 29 CFR 1910.146, nor do they preclude the exercise of sound judgement with regard to personal safety.

# FLH CULVERT ENTRY DIAGRAM



# FLH CULVERT ASSESSMENT FORM

<b>Overall Rating</b>
Good
Fair
Poor
Critical
Unknown
Performance Problems

Notes by: \_\_\_\_\_ Date: \_\_\_\_\_ Project: \_\_\_\_\_  
 Measurements by: \_\_\_\_\_ Time: \_\_\_\_\_

**Site Information:**

Facility Location: \_\_\_\_\_ Lat/Long \_\_\_\_\_  
 Milepost: \_\_\_\_\_ Project Station: \_\_\_\_\_ GPS Road CL Waypoint No. \_\_\_\_\_  
 Named waterway: \_\_\_\_\_ Direction of Flow: \_\_\_\_\_

**Culvert Information:**

No. of Barrels: \_\_\_\_\_ Barrel Length (approx): \_\_\_\_\_ Barrel Slope: Mild / Steep / \_\_\_\_\_

Skew (0 degrees = perpendicular to road): \_\_\_\_\_ Approx Cover: Upstream \_\_\_\_\_ Downstream \_\_\_\_\_

Barrel Shape (circle one)      Circular      Box      Elliptical      Pipe Arch      Arch

Diameter: \_\_\_\_\_ / Span \_\_\_\_\_ x Rise \_\_\_\_\_

Pipe Material (circle one):      Metal - Concrete / RCP - Corrugated Plastic - Smooth Plastic - Timber – Masonry

Appurtenances (circle one):

Upstream : Projecting / Mitered / Headwall / Headwall & Wingwalls / Flared End Section / \_\_\_\_\_

Downstream : Projecting / Mitered / Headwall / Headwall & Wingwalls / Flared End Section / \_\_\_\_\_

Flowing or standing water? N / Y    Depth: \_\_\_\_\_(ft)    Est. Flow Velocity: \_\_\_\_\_(ft/s)    Possible AOP/fish passage? Y / N

Utilities Present (list)? Y / N \_\_\_\_\_    Possible historic features? Y / N    Open Bottom? Y / N

**Culvert Condition and Performance (circle / check all that apply and provide appropriate explanations below)**

Category	Rating					
Invert deterioration	Good	Fair	Poor	Crit	Unk	N/A
Joints & Seams	Good	Fair	Poor	Crit	Unk	N/A
Corrosion / Chemical	Good	Fair	Poor	Crit	Unk	N/A
Cross-Section Deform	Good	Fair	Poor	Crit	Unk	N/A
Cracking	Good	Fair	Poor	Crit	Unk	N/A
Liner / Wall	Good	Fair	Poor	Crit	Unk	N/A
Mortar and Masonry	Good	Fair	Poor	Crit	Unk	N/A
Rot and Marine Borers	Good	Fair	Poor	Crit	Unk	N/A
Headwall/Wingwall	Good	Fair	Poor	Crit	Unk	N/A
Apron	Good	Fair	Poor	Crit	Unk	N/A
Flared End Section	Good	Fair	Poor	Crit	Unk	N/A
Pipe End	Good	Fair	Poor	Crit	Unk	N/A
Scour Protection	Good	Fair	Poor	Crit	Unk	N/A

Performance Problems Requiring Level 1 Action	
Debris/Veg Blockage > 1/3 of rise at inlet or outlet	<input type="checkbox"/>
Sediment Blockage 1/3 to 3/4 of rise at inlet/outlet	<input type="checkbox"/>
Buoyancy or Crushing-Related Inlet Failure	<input type="checkbox"/>
Poor Channel Alignment	<input type="checkbox"/>
Previous and/or Frequent Overtopping	<input type="checkbox"/>
Local Outlet Scour	<input type="checkbox"/>
Performance Problems Requiring Level 2 Action	
Embankment Piping	<input type="checkbox"/>
Channel Degradation / Headcut <i>(circle one)</i>	<input type="checkbox"/>
Embankment Slope Instability	<input type="checkbox"/>
Sediment Blockage > 3/4 Rise at Inlet or Outlet	<input type="checkbox"/>
Sediment Blockage > 1/3 Rise Throughout Barrel	<input type="checkbox"/>
Other Problems Requiring Level 2 Action	
No Access / Ends Totally Buried / Submerged	<input type="checkbox"/>
Aggressive Abrasion/Corrosion/Chemical <i>(circle)</i>	<input type="checkbox"/>
Exposed Footing (Open-Bottom Culvert Only)	<input type="checkbox"/>

**Photos (number):**    \_\_\_ Inlet    \_\_\_ Outlet    \_\_\_ Roadway (ahead)    \_\_\_ Roadway (back)    \_\_\_ View downstream  
 \_\_\_ View upstream    Others: \_\_\_\_\_

**Notes / Recommendations:**

\_\_\_\_\_

\_\_\_\_\_