

**MAINTENANCE PLANNING GUIDELINES**

2/2014

**ACTIVITY:** Pipe Culvert Repairs (R319)

**ACTION:** Replace Pipe & Box Culverts (LF)

**MAJOR & MINOR**

**DEFINITION:** The time and expenses incurred from removing and replacing pipe culverts. Includes time and expenses incurred for installing a new lining in an existing culvert and cleaning and repairing culverts.

**PURPOSE:** To replace deteriorated pipe and box culverts, which have caused the roadway or entrance to settle.

**SCHEDULING:** As needed.

J	F	M	A	M	J	J	A	S	O	N	D
A	E	A	P	A	U	U	U	E	C	O	E
N	B	R	R	Y	N	L	G	P	T	V	C

**RECOMMENDED EQUIPMENT:**

- Trucks
- Backhoe, Excavator, Loader, or Motorgrader
- Mechanical Compactor
- Dragline
- Crane
- Breaker
- Trenching Protective System/Sheeting
- Traffic Control Equipment, (See EPG [616.23 Traffic Control for Field Operations](#))

**RECOMMENDED PROCEDURE:**

1. Contact Dig Rite and others to mark utilities.
2. Consult with Design for culvert drainage design requirements.
3. Develop trenching safety plan with competent person and supervisor.
4. Place traffic control devices as needed.
5. Remove existing pipe or box.
6. Install protective system in trench, if necessary.
7. Prepare subgrade.
8. Place new pipe or box and seal joints.
9. Remove protective system.
10. Compact material in lifts around and over pipe or box.
11. Place and compact surfacing material.
12. Clean work area.
13. Remove traffic control devices.

**RECOMMENDED MATERIAL:**

- Pipe & Accessories
- Joint Compound
- Roadway Surface Material
- Precast Box Culvert
- Backfill Material

**SAFETY:** Refer to the [Comprehensive Safety Program sharepoint portal](#). Wear all appropriate PPE. Refer to the [Risk Based Assessment](#) for additional information

**OTHER CONSIDERATIONS:** If entire roadway is to be closed, local news media, schools, emergency services, and law enforcement agencies should be informed in advance. Check if Corps of Engineers permit is needed.

**REFERENCES:** Missouri Standard Specifications for Highway Construction Sections [725](#), [726](#), [733](#).