

***Considerations for Pipe
Replacement in Maintenance***

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INDOT

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Considerations for Pipe Replacement in Maintenance

Presented by: Russell A. Fowler, P.E.

Pre-Job Considerations

- **Utility Location**
- **Detour Requirements**
- **Structure Size**
- **Pipe Material Selection**
- **Special Equipment Requirements**
- **Establishment of Grade**

Utility Locations

- Local Utilities
- Holey Moley
 - 1-800-382-5544

Detour Requirements

- Project to be performed under traffic?
- Closure required through Traffic Section

Structure Size

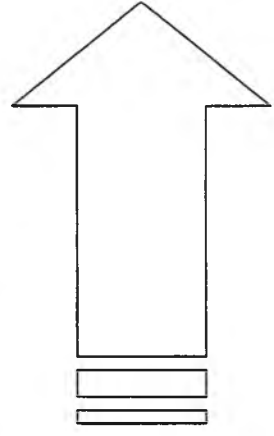
- Minimum 15" under highway
- Match existing unless flood history, then use HY 8
- Maintenance typically installs < 48"

Pipe Material Selection Maintenance

- Purchase by Quantity Purchase Award
(Pre-bid prices for specific items)
- Polymer Pre-coated Galvanized Steel
 - 12, 14, 16 gauge
- Aluminized (ACS2) Corrugated Steel
 - 12, 14, 16 gauge

Pipe Material Selection Contracts

- Cover
- Abrasiveness
- pH
- Service Life: 50/75 yrs
- Pipe Type
- % Slope
- Circular/Deformed
- Interior Requirements
- Pay Diameter



Material Options

Special Equipment Requirements

- **Excavator**
- **Trench Boxes/Shoring**
- **Compaction Equipment**

Establishment of Grade

- Match Existing
- Re-adjust based on eroded flowlines

On-Site Considerations

- **Trenching**
- **Backfill**
- **Patching**
- **Erosion Control**

Trenching

- Saw cut pavement (Minimum 12" either side of structure)
- Backslope (Typical 1:1)
- Undercut to remove unstable material (Typical 12")
- Disposal Site

Backfill

- Sand - Not recommended in Maintenance
- Open Graded Stone (#11 or #12) in less than 6" mechanically compacted lifts
- Dirt Plugs (Typical 2')
- Flowable fill
 - New Alternative
 - Low Density Concrete

Erosion Control

- **Seed/straw mat**
- **Excelsior blanket**
- **Hydroseed**

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