McWANE DUCTILE | IRON STRONG

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BRIDGE INSTALLATIONS
BEST PRACTICE RECOMMENDATIONS

This document is provided by McWane Ductile as a guide to properly plan and specify products to be used in aerial spans such as pipelines along bridges or similar structures.

PLANS AND SPECIFICATION CHECKLIST:

- Products specified will perform as required — are they the best option? (TR Flex® recommended)
- **Ensure the pipe manufacturer can provide material to meet specifications.**
  - ☐ Any special coatings required?
  - ☐ Are there lining requirements?
- Review layout to make sure Bill of Material will align with spacing for supports.
  - ☐ Are there existing supports, or will they be newly installed?
  - ☐ Are supports within 2 feet of the joints and on the bell side of the joint?
- Review hanger system to ensure it will provide necessary perpendicular and lateral support.
  - ☐ One hanger per joint minimum.
  - ☐ Hourglass supports may be single or double.
  - ☐ Single roller supports require a strap over the pipe to prevent upward movements under pressure or surges.
  - ☐ Are lateral tie-backs needed to prevent hanger sway or pipeline snaking?
- The hanger system supports the entire weight of pipe and contained fluids. McWane Pocket Engineer Volume Calculator and Tonnage Calculator can be used to determine these weights. Add 5 to 15 pounds/foot for cement lining depending on pipe diameter.
- Review the entrance and exit of the piping on the bridge.
  - ☐ Will the entry or exit be fixed in-place, Link-Seal, or grouting through an abutment or other structure? If so, pressurization and/or full extension of the entire pipeline must be accomplished first.
  - ☐ Are casing spacers required?
  - ☐ Type of fittings?
- Are there any “specials” to be aware of?
  - ☐ Expansion joints or Flex Couplings?
    - Expansion joints are typically not needed when using TR Flex.
  - ☐ Placement of expansion joints, if required, should be in conjunction with expansion joints within the bridge.
    - Guideline for thermal expansion/contraction: 1,000 feet of Ductile iron pipe can expand/contract 0.75 inches through a 10-degree temperature change. Each TR Flex joint contains 0.36 to 0.60 inches of expansion/contraction depending on pipe diameter. There can be 55 joints in 1,000 feet of TR Flex pipe lending 20 to 33 inches of total available expansion.
  - ☐ Air Release Valves?
  - ☐ Drainage point provided?
  - ☐ Will each pipe length scheduled land its bell face 2 feet ahead of each hanger/support?
- Class of pipe is dictated by internal pressure/test pressure.