8 FOOT HIGH SPEED TUNNEL

Procedure 1

- Remove lead paint from exposed bolts
- Sand blast all concrete surfaces.
- Sound surface and remove all suspected unsound concrete.
- Sand blast all exposed reinforcing steel.
- Remove deteriorated expansion joint seals, clean joint, and repair joint surface as required.
- Prime exposed reinforcing steel with cement based, polymer modified, zinc oxide primer.
- Repair cracks, voids, and spalled areas in concrete with trowel applied high strength patching mortar. Use polymer modified structural repair mortar applied with use of formwork where larger repairs are necessary.
- Apply two coat cementitious waterproof coating (mixed with acrylic bonding agent) to tunnel surface. Brush apply first coat to all concrete substrates and finish with spray applied second coat of plaster mix. Finish color shall be concrete gray.
- Paint exposed bolts, etc. with alternative system.
- Install new compression seals in all.
8 FOOT HIGH SPEED TUNNEL

Procedure 2

- Use self-contained vacuum blast method to remove lead based paint from exposed bolts.
- Pressure wash (2500 psi min.) the entire concrete substrate.
- Clean all exposed reinforcing steel by mechanical hand methods; needle gun, wire brush, etc.
- Remove deteriorated expansion joint seals, clean joints, and repair joint surfaces as necessary.
- Prime exposed reinforcing steel and bolt heads with cement based, polymer modified, zinc oxide primer.
- Remove visibly unsound concrete and clean all spalled areas with chisels, etc. to expose sound substrate. Repair cracks, voids, and spalled areas in concrete with trowel applied high strength patching mortar.
- Apply two coat cementitious waterproof coating to tunnel surface. Acrylic bonding agent will be added to ensure improved bond.
- Install new compression seals in all expansion joints.
PROCEDURE 1

COST ESTIMATE

CONSTRUCTION COSTS

- Abrasive Blast Cleaning $88,000
- Lead Paint Removal $20,000
- Concrete Repair $40,000
- Coating System $84,000
- Expansion Joint Replacement $9,000
- Painting $3,000
- Field and Environmental $49,000

$293,000

STUDY AND DESIGN COSTS $20,000
PROCEDURE 2
COST ESTIMATE

CONSTRUCTION COSTS

- Pressure Wash $12,000
- Lead Paint Removal $20,000
- Concrete Repair $18,000
- Coating System $84,000
- Expansion Joint Replacement $9,000
- Field and Environmental $29,000

$172,000

STUDY AND DESIGN COSTS $20,000