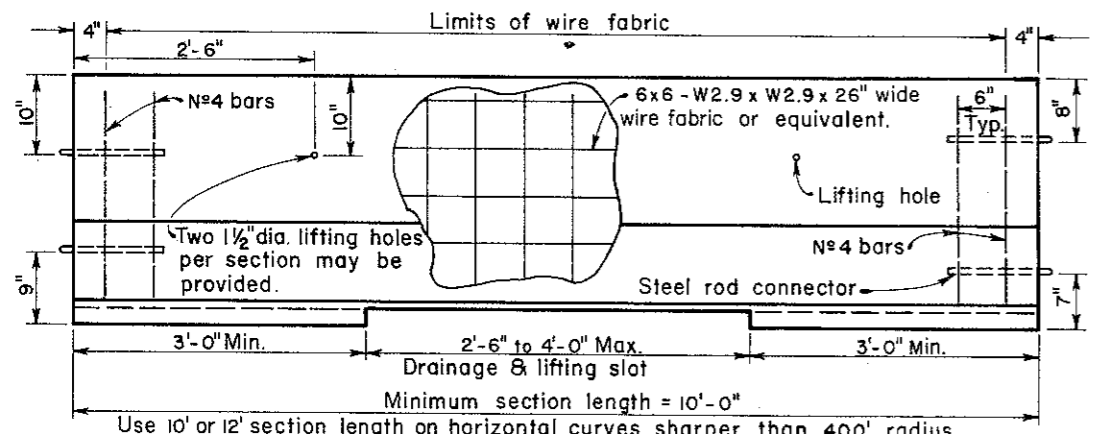
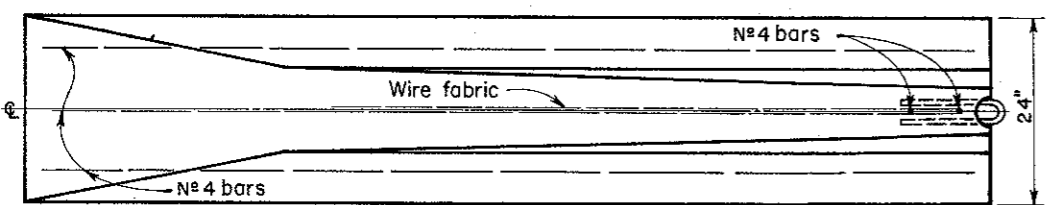


PLAN

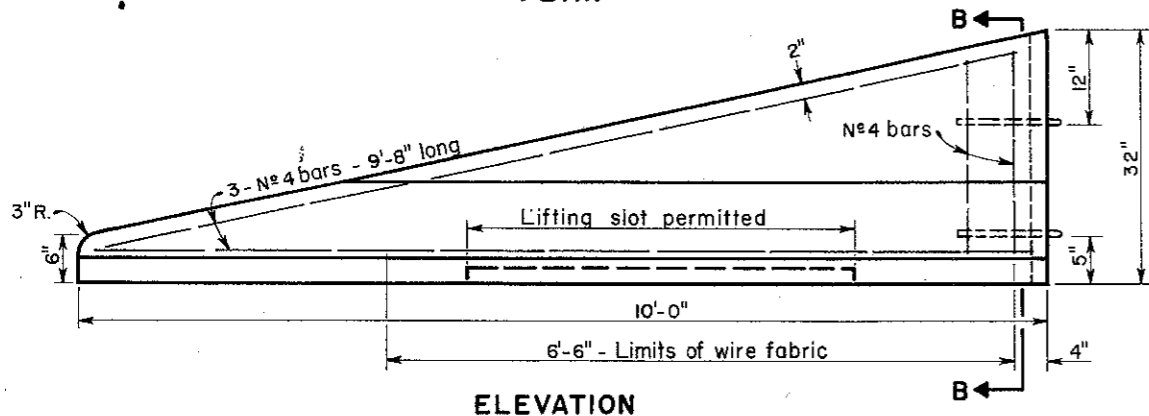


ELEVATION

BARRIER DETAIL (Connecting pin design)

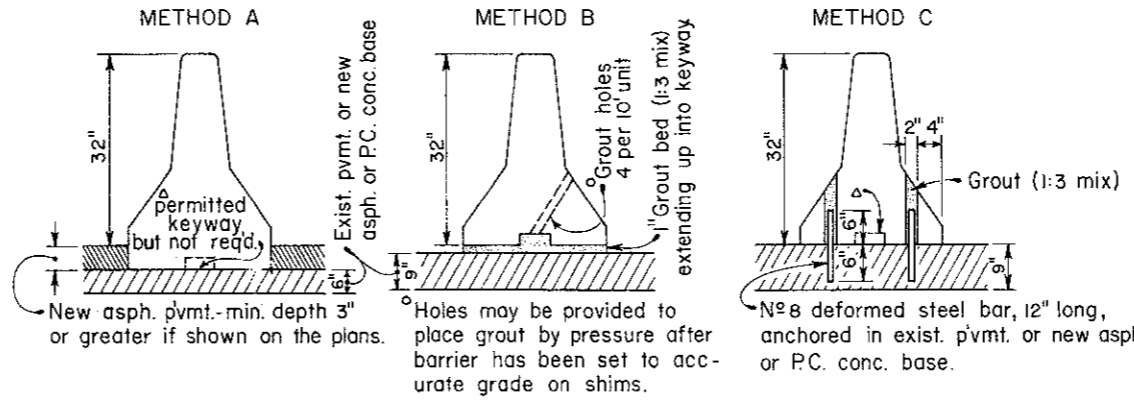


PLAN



ELEVATION

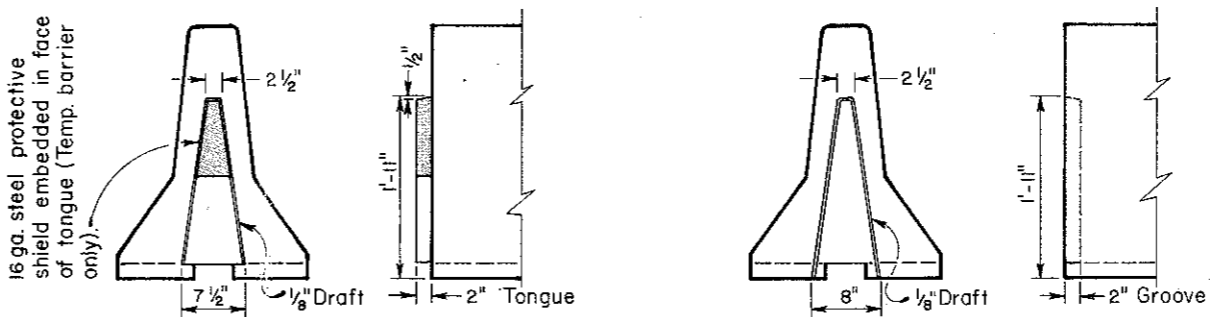
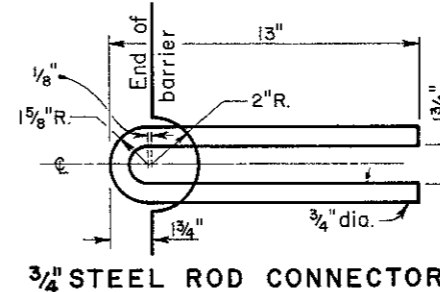
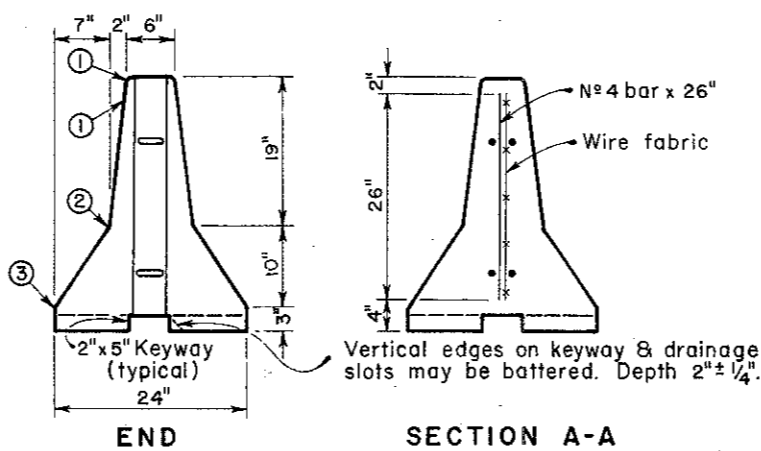
TEMPORARY END TERMINAL DETAIL



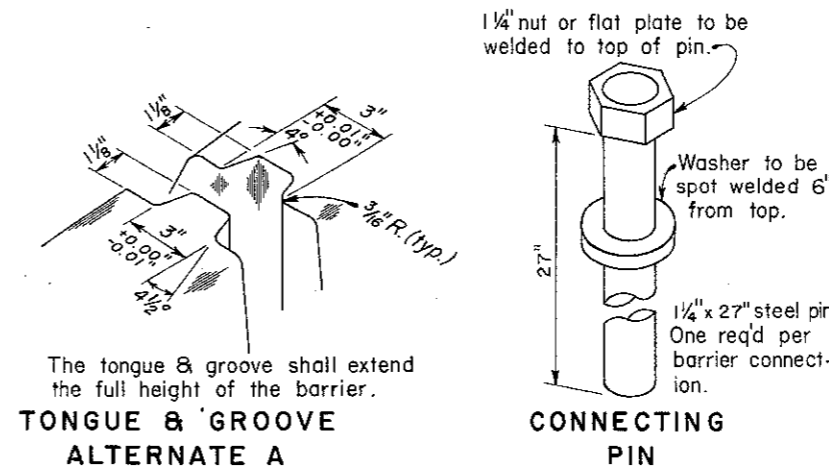
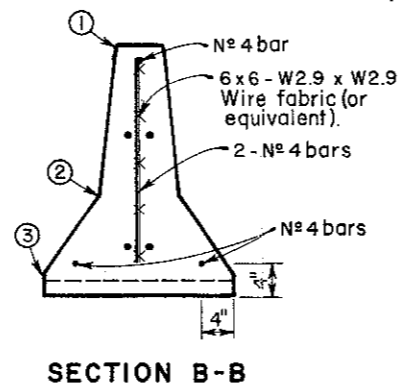
PERMANENT INSTALLATIONS

LEGEND

- ① 1" Radius or 3/4" Chamfer, all ends and corners.
- ② Permissible 10" radius
- ③ Permissible 1" radius



TONGUE & GROOVE ALTERNATE B



NOTES

CONCRETE shall meet the requirements of 706.13 with 4000 psi at 28 days and 6±2% air void content.

REINFORCING bars, wire fabric, keyway and drainage slot, as shown on the connecting pin design, shall be the same for the tongue and groove designs, except the four N#4 bars may be deleted.

CONNECTING PIN, steel rod connector and steel protective shield shall meet the requirements of 711.01 and be galvanized after fabrication per 711.02.

TONGUE & GROOVE sections shall be cast with the same configuration on both ends, either both tongues or both grooves.

PERMANENT INSTALLATION of all types of precast barrier is permitted by anchoring according to Methods A, B or C. The permanent precast barrier shall be cast without the drainage slot. For these installations, a one piece, 20' long end terminal shall be used, with reinforcement similar to that shown for the 10' temporary end terminal, if an impact attenuator end treatment is not specified elsewhere on the plans.

TEMPORARY PRECAST BARRIER may be constructed without reinforcement. However, the contractor must be responsible for the condition of the barrier, any broken or cracked sections will be rejected.

HANDLING DEVICES may be used in lieu of the lifting slot for moving the barrier. They may be of any design sufficient to handle the weight of the section being lifted. No protruding handling device shall remain on permanent installations.

At locations where lateral movement can not be tolerated (such as bridge deck edge) the barrier shall be stabilized by using a one to three foot wide by one inch thick layer of asphalt concrete on the opposite side of the barrier from traffic. Other methods of lateral support may be used as approved by the Engineer.

PAYMENT shall be in accordance with item 622, and when precast is specifically required on the plan, the description shall be either "Temporary Precast Concrete Barrier" or "Precast Concrete Barrier".

FLUSH JOINTS (no protruding tongue or steel rod) may be used between permanent precast barrier and inlets, sign or light pole foundations or pier transitions. A cast-in-place section between a precast run and inlets, etc. must be at least 10 feet long.

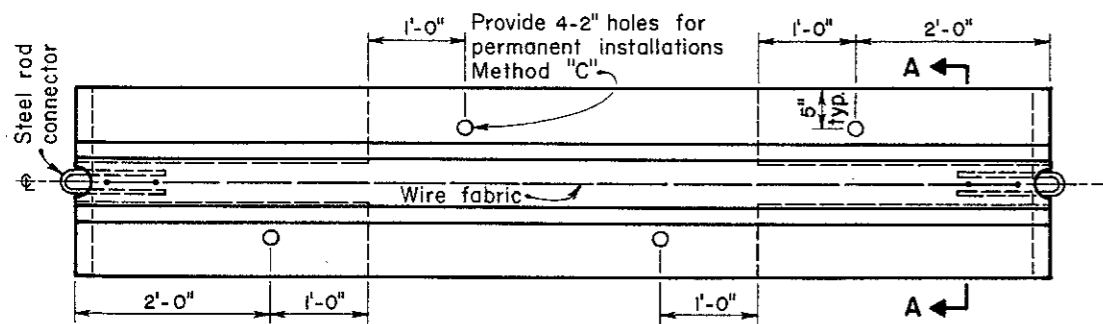
BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

PRECAST
CONCRETE
BARRIER

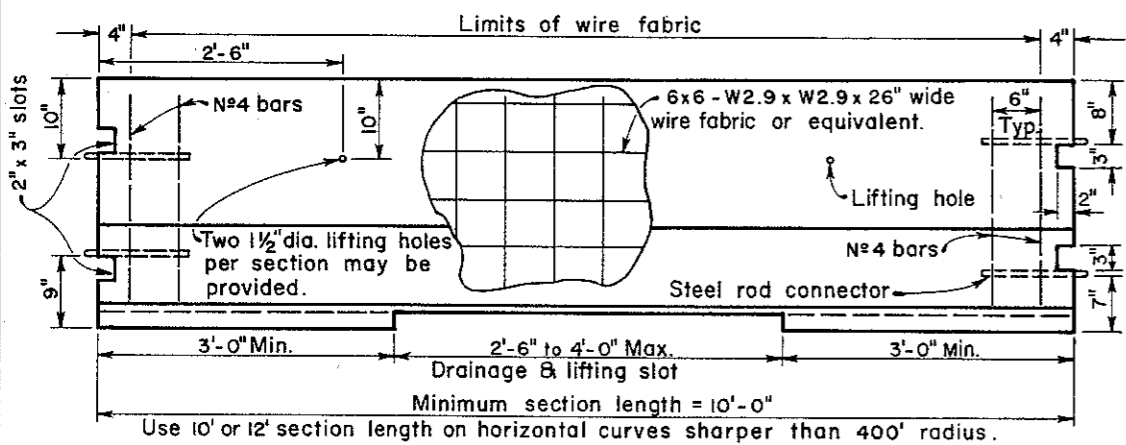
STANDARD
CONSTRUCTION
DRAWING
APPROVED *W. J. Cunningham* ENGR., L. & D.

DATE
4-1-80

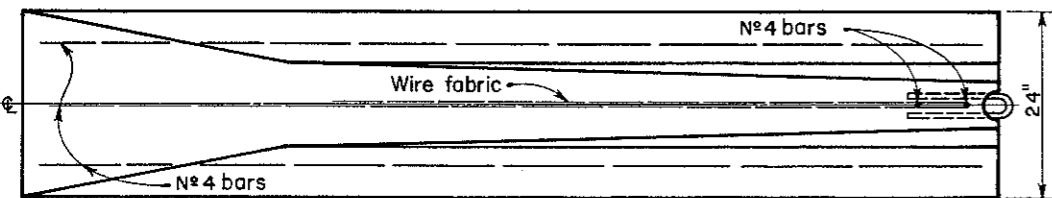
MC-9A



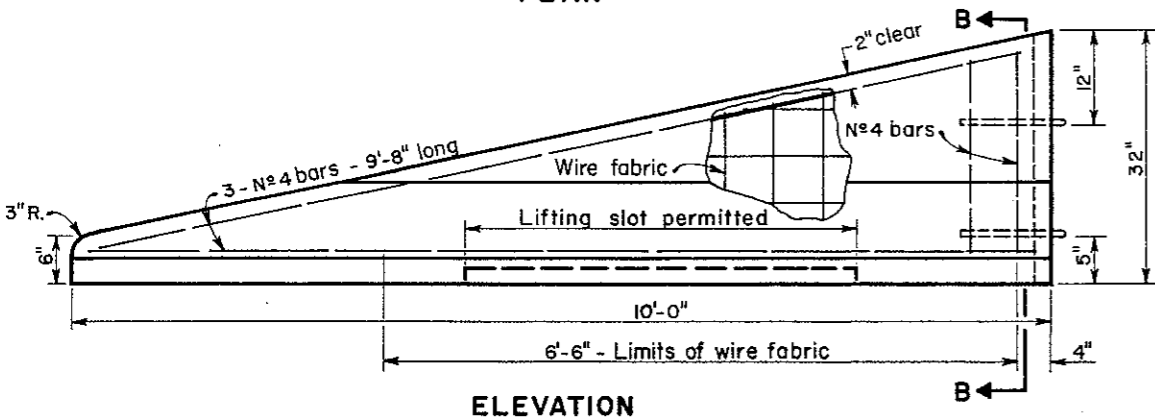
PLAN



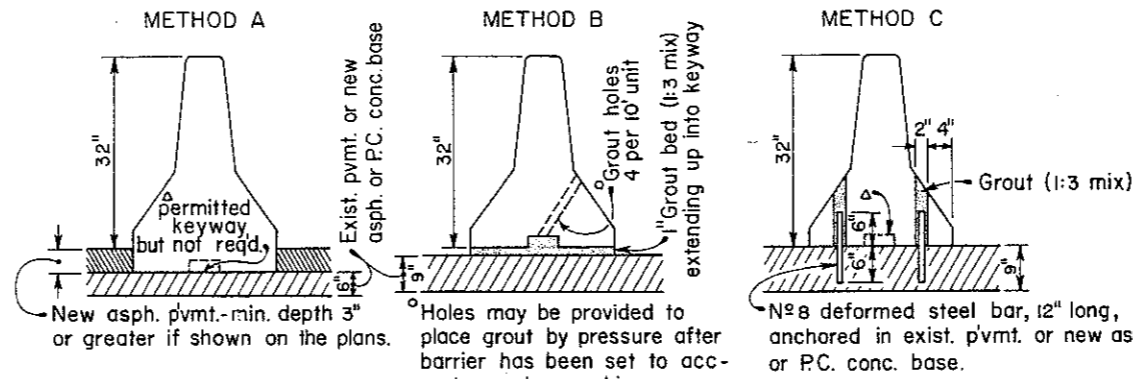
BARRIER DETAIL (Connecting pin design)



PLAN



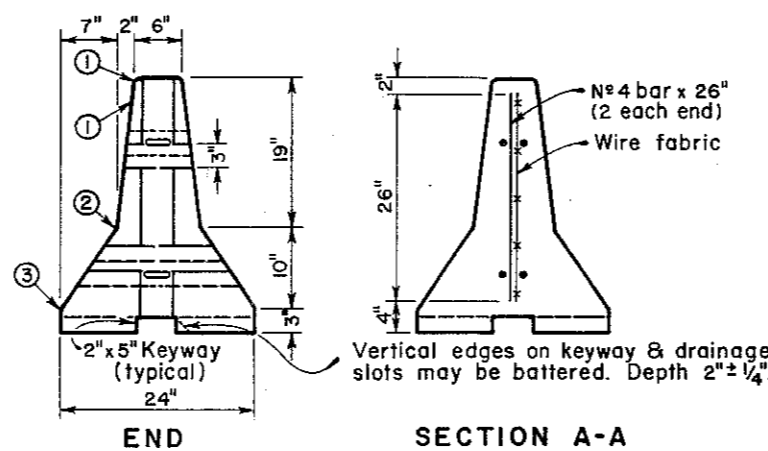
TEMPORARY END TERMINAL DETAIL



PERMANENT INSTALLATIONS

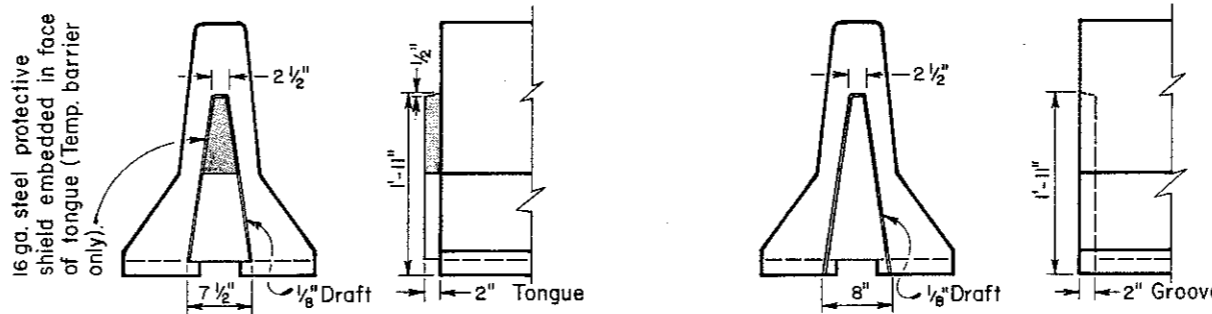
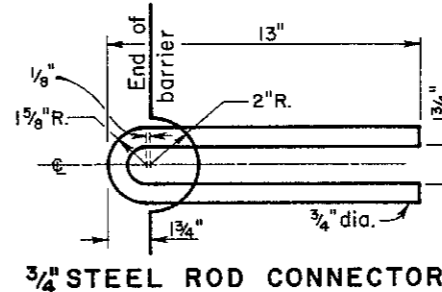
LEGEND

- ① 1" Radius or 3/4" Chamfer, all top and end corners.
- ② Permissible 10" radius
- ③ Permissible 1" radius



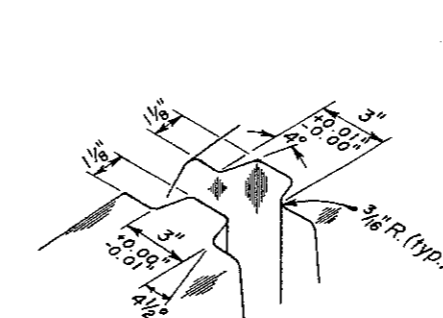
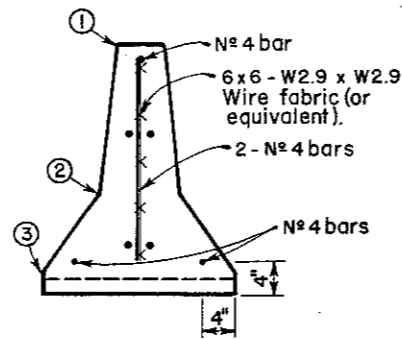
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SECTION A-A



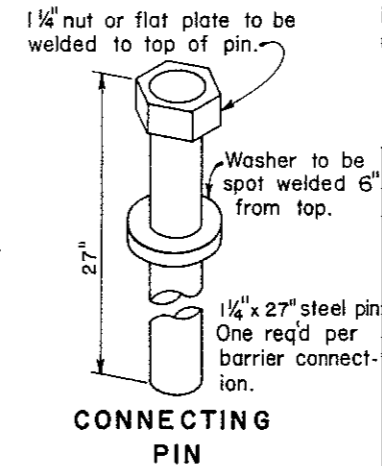
SECTION B-B

TONGUE & GROOVE ALTERNATE B



Each section shall have one tongue and one groove end that extends the full height of the barrier.

TONGUE & GROOVE ALTERNATE A



NOTES

CONCRETE shall meet the requirements of 706.13 with 4000 psi at 28 days and 6 ± 2% air void content.

REINFORCING bars, wire fabric, keyway and drainage slot, as shown on the connecting pin design, shall be the same for the tongue and groove designs, except the four N#4 bars may be deleted.

CONNECTING PIN, steel rod connector and steel protective shield shall meet the requirements of 711.01 and be galvanized after fabrication per 711.02.

TONGUE & GROOVE Alternate B sections shall have the same configuration on both ends, either both tongues or both grooves and installed with a tongue and groove at each connection.

PERMANENT INSTALLATION of all types of precast barrier is permitted by anchoring according to Methods A, B or C. The permanent precast barrier shall be cast without the drainage slot. For these installations, a one piece, 20' long end terminal shall be used, with reinforcement similar to that shown for the 10' temporary end terminal, if an impact attenuator end treatment is not specified elsewhere on the plans.

TEMPORARY PRECAST BARRIER may be constructed without reinforcement. However, the contractor must be responsible for the condition of the barrier, any broken or cracked sections will be rejected.

HANDLING DEVICES may be used in lieu of the lifting slot for moving the barrier. They may be of any design sufficient to handle the weight of the section being lifted. No protruding handling device shall remain on permanent installations.

At locations where lateral movement can not be tolerated (such as bridge deck edge) the barrier shall be stabilized by using a one to three foot wide by one inch thick layer of asphalt concrete on the opposite side of the barrier from traffic. Other methods of lateral support may be used as approved by the Engineer.

FLUSH JOINTS (no protruding tongue or steel rod) may be used between permanent precast barrier and inlets, sign or light pole foundations or pier transitions. A cast-in-place section between a precast run and inlets, etc. must be at least 10 feet long.

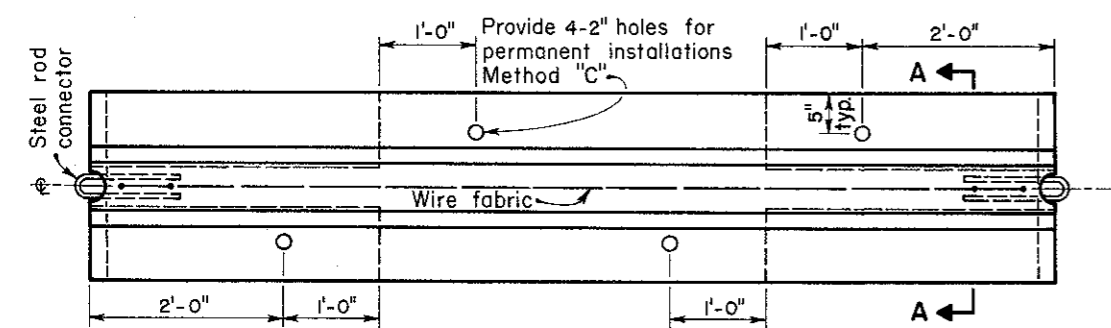
BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BARRIER

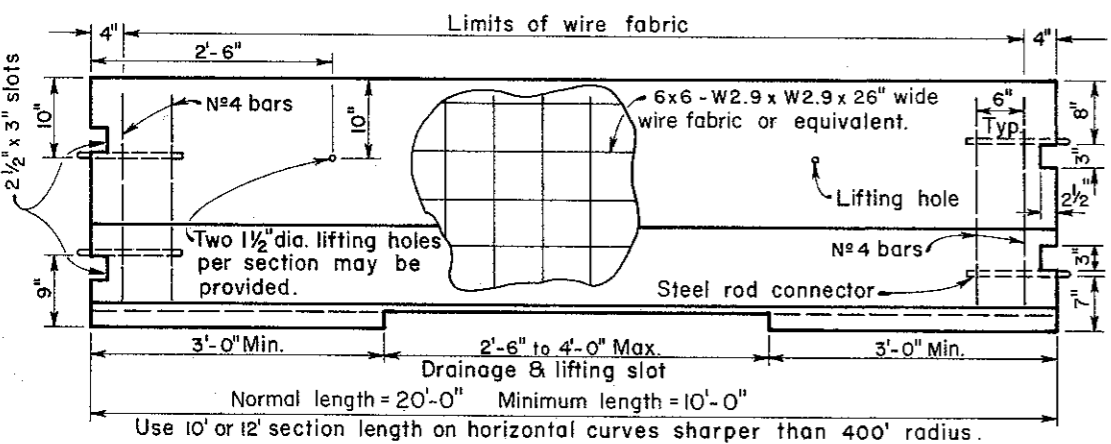
DATE
 4-1-80
 5-1-81

STANDARD CONSTRUCTION DRAWING MC-9A

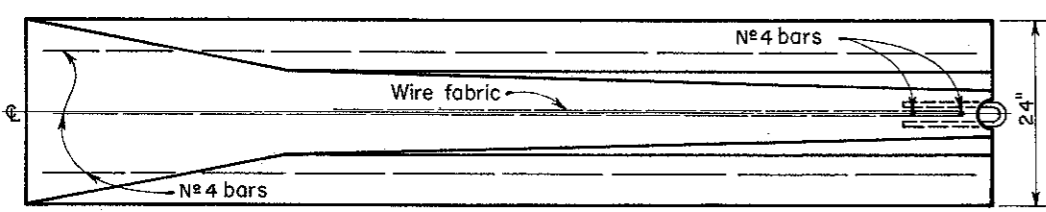
APPROVED: [Signature] ENGR., L. & D.



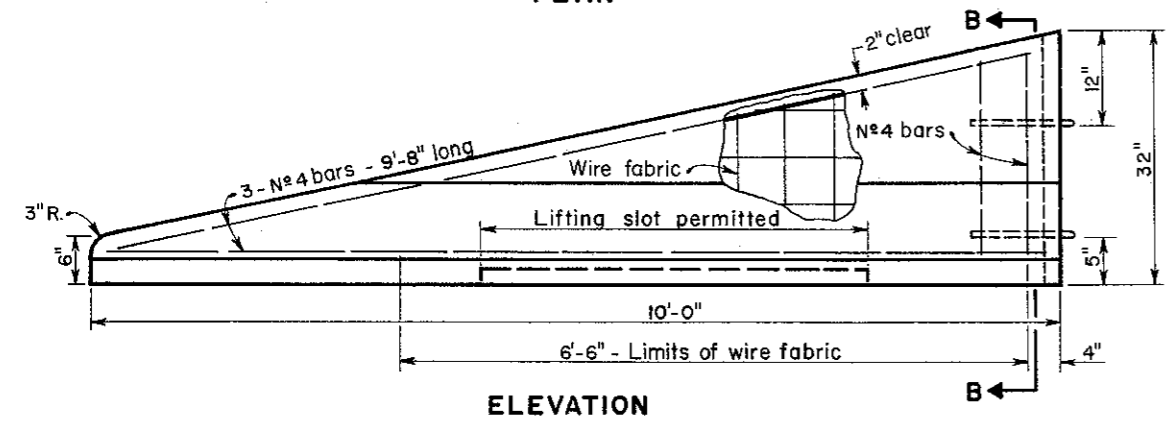
PLAN



ELEVATION
BARRIER DETAIL (Pin and loop design)

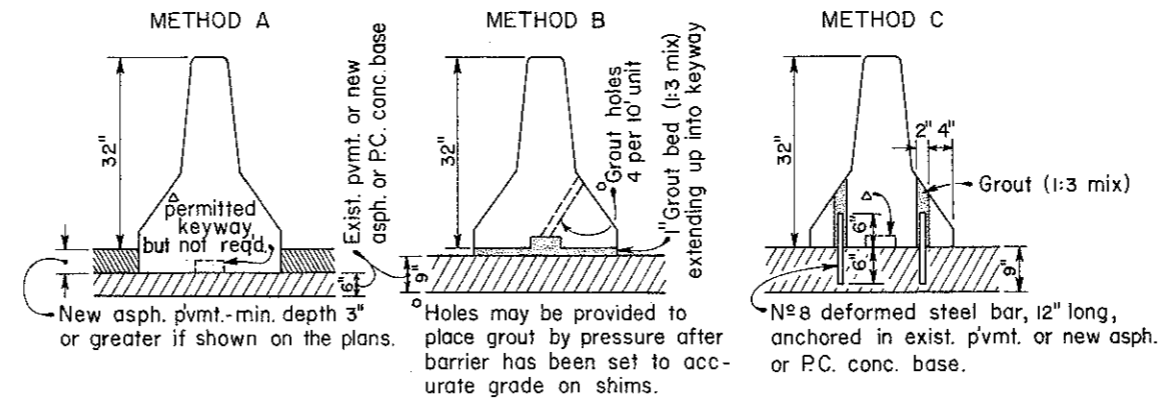


PLAN

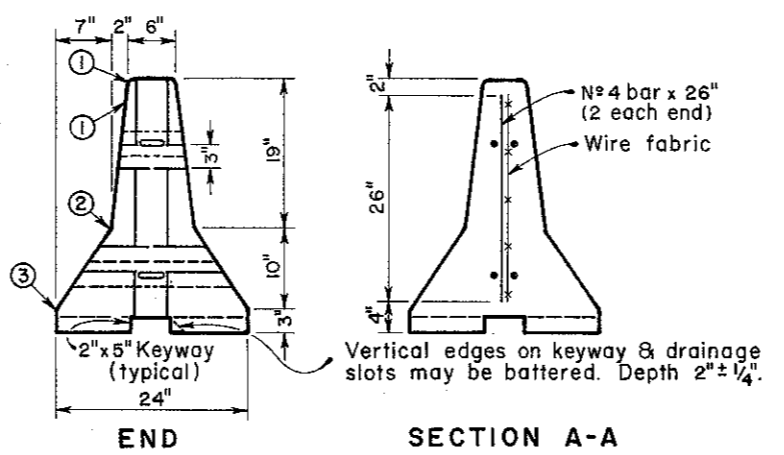


ELEVATION

TEMPORARY END TERMINAL DETAIL



PERMANENT INSTALLATIONS

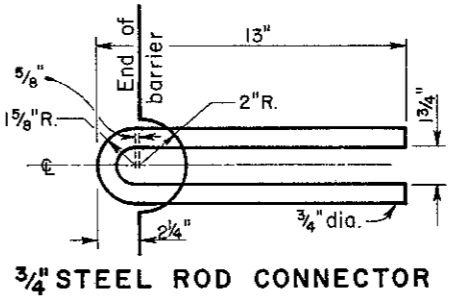


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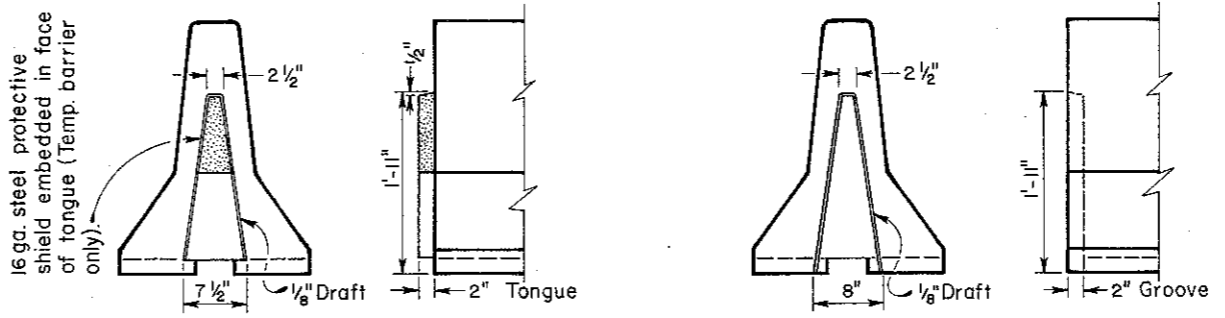
SECTION A-A

LEGEND

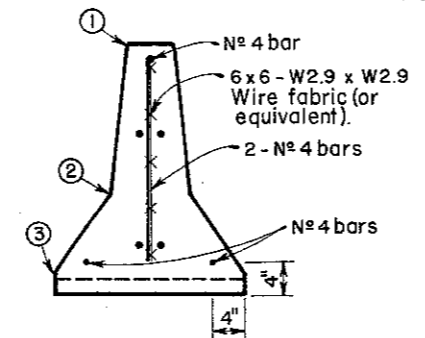
- ① 1" Radius or 3/4" Chamfer, all top and end corners.
- ② Permissible 10" radius
- ③ Permissible 1" radius



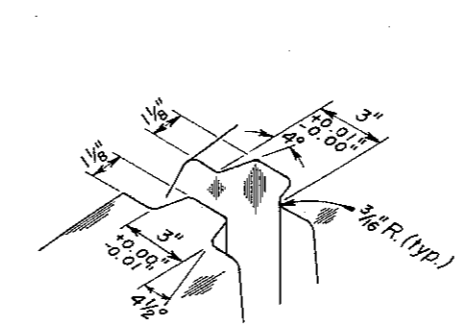
3/4 STEEL ROD CONNECTOR



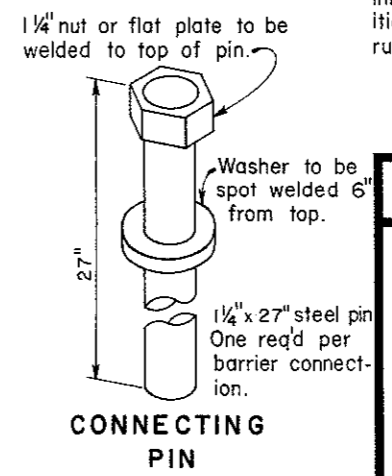
TONGUE & GROOVE ALTERNATE B



SECTION B-B



TONGUE & GROOVE ALTERNATE A



CONNECTING PIN

NOTES

CONNECTING PIN, steel rod connector and steel protective shield shall meet the requirements of 711.01 and be galvanized after fabrication per 711.02.

REINFORCING bars, wire fabric, keyway and drainage slot, as shown on the pin and loop design, shall be the same for the tongue and groove designs, except the four N#4 bars may be deleted.

TONGUE & GROOVE type barriers shall not be aligned with a degree of curvature sharper than 6 degrees.

Tongue & groove Alternate B sections shall have the same configuration on both ends, either both tongues or both grooves and installed with a tongue and groove at each connection. PERMANENT INSTALLATION of all types of precast barrier is permitted by anchoring according to Methods A, B or C. The permanent precast barrier shall be cast without the drainage slot. For these installations, a one piece, 20' long end terminal shall be used, with reinforcement similar to that shown for the 10' temporary end terminal, if an impact attenuator end treatment is not specified elsewhere on the plans.

TEMPORARY PRECAST BARRIER may be constructed without reinforcement. However, the contractor must be responsible for the condition of the barrier, any broken or cracked sections will be rejected.

HANDLING DEVICES may be used in lieu of the lifting slot for moving the barrier. They may be of any design sufficient to handle the weight of the section being lifted. No protruding handling device shall remain on permanent installations.

BASE RESTRAINTS: Whenever temporary precast barrier is installed on the outside of curves, installed next to open ditches, used as a traffic separator in medians narrower than 5', or used in other locations sensitive to lateral deflection, it shall be restrained at the base. This may be accomplished by means of a narrow strip of asphalt 1' to 2' high placed next to the barrier base on the side away from traffic; or if traffic is on both sides, by temporarily fastening two 1' sections of steel channel to the pavement so that they fit in the base keyway; or if dowel holes are provided in the barrier, by temporarily installing two 1" dowels in the pavement to fit in the dowel holes. Other methods for base restraint may be approved by the Engineer. Temporary precast barriers shall not be used on bridge decks as an exterior parapet or railing without being anchored to the deck or braced in a manner satisfactory to the Engineer.

FLUSH JOINTS (no protruding tongue or steel rod) may be used between permanent precast barrier and inlets, sign or light pole foundations or pier transitions. A cast-in-place section between a precast run and inlets, etc. must be at least 10 feet long.

| | |
|--|-------|
| BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION | |
| PRECAST CONCRETE BARRIER | |
| STANDARD CONSTRUCTION DRAWING | MC-9A |
| APPROVED <i>E. J. [Signature]</i> ENGR., L. & D. | |
| DATE 4-1-80 5-1-81 1-11-85 | |