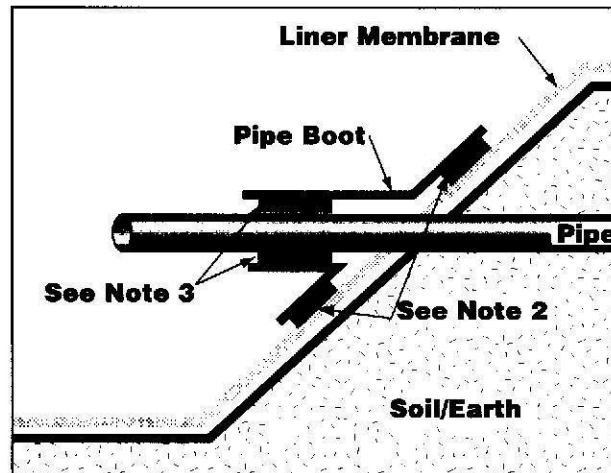


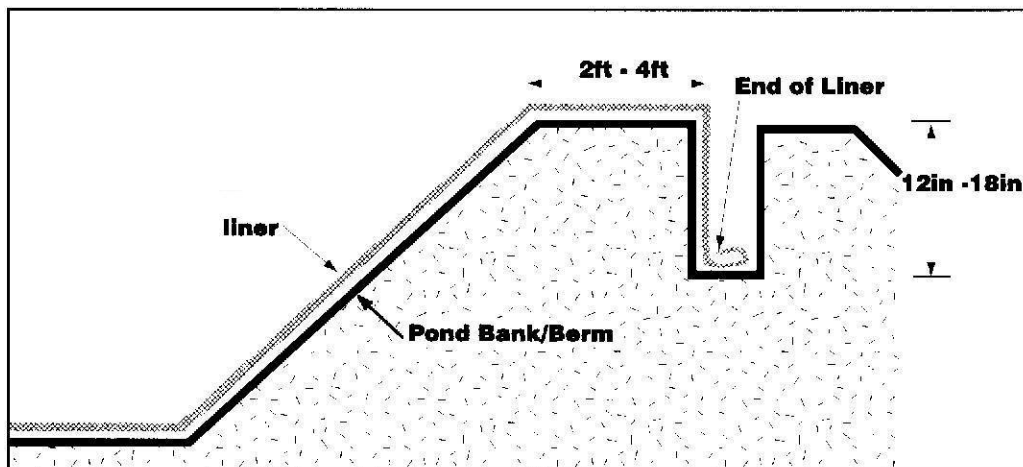
PIPE INTRUSION THROUGH HDPE ALLOY



INSTRUCTIONS

- 1 Place pipe intrusion through liner membrane.
 - 2 Affix liner membrane to pipe boot membrane using a compatible tape.
 - 3 Affix pipe boot membrane to pipe using compatible tape or clamps.
- Contractor must provide exact pipe diameter

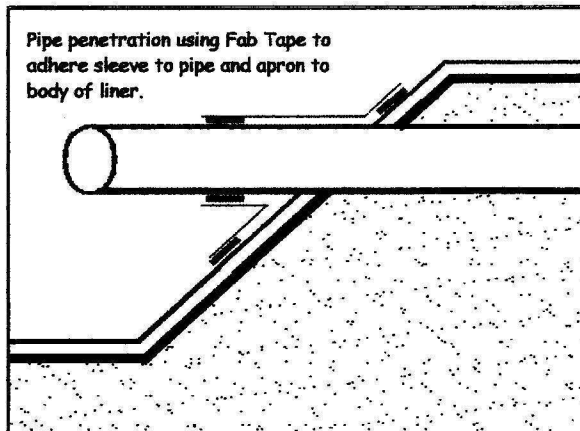
BACKFILL INSTRUCTIONS



INSTRUCTIONS

- 1 Backfill material should consist of sand or like material and should not contain rocks or hard clay.
- 2 Sides and base of pond should be clear of large rocks and other debris. Only smooth rocks less than 1/4 inch in diameter should remain.
- 3 Outer bank side of anchor trench should be slightly lower to prevent dirt from washing into canal or pond.
- 4 Liner should not be stretched in hot weather because it will contract when cool and cause stress points to occur.

Pipes and other penetrations through the liner can be sealed by using a pipe boot. This is a flanged tube fabricated at the factory using the liner material. The tube fits over the pipe and the flange is sealed to the liner using Fab Tape. If required, the open end of the tube may be sealed with Fab Tape or gasketed and mechanically sealed.



Section 8

Finishing the installation

SECURING THE LINER

After the liner has been aligned as necessary and no further shifting is required, the liner can be permanently secured. Sandbags or other ballast may be required to remain on the cover until other fill materials are placed on the liner. Spacing of this ballast is determined on a job-by-job basis. Along the perimeter the liner needs to be adequately secured in the anchor trench. A standard anchor trench is approximately 12"-18" deep and approximately 6"-12" in width. The edge of the liner should be placed into the trench and extend along the bottom of the trench. Backfill materials should be used to secure the liner but should not contain any items (rock, wood, scrap metal) which may damage the liner. If excess liner is present, the excess liner can be placed in the anchor trench or trimmed off.

Section 9

Field Repairs

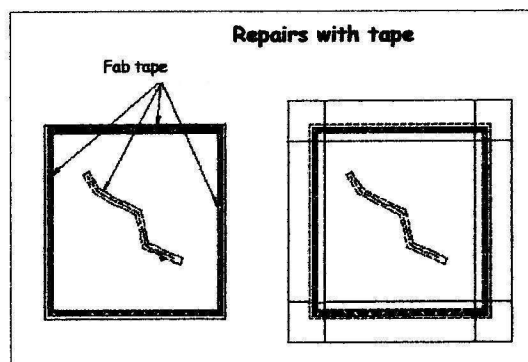
Repairs to liners can be made in the field and consist of patching over cuts or punctures, additions to existing liners or projects where sections of liner need to be removed and new sections added. The condition of the existing liner must be carefully evaluated to determine if a patch or repair is possible.

The success of the patch or repair depends on the liner's environment during use, the type of exposure to which the liner has been subjected, (weather or chemical) and the location. Seaming should be performed on sections of the liner which have retained their integrity. A liner that has degraded due to long-term exposure may not be repairable and may need to be replaced.

Once the state or condition of the liner has been determined, the area where the repairs or seams will occur should be evaluated. For liners, the subgrade must be reviewed. Welding needs to be accomplished on a smooth, firm substrate.

The following steps should be followed when preparing an area for welding:

1. The area where the welding is to occur should be clean. All dirt or residue must be totally removed from the weld area. After removal of these deposits, the surface can be cleaned with isopropyl alcohol.
2. Seaming surfaces must be free from moisture. If the weld area is wet or damp the area must be dried. Additionally, field seaming cannot be performed during rain or drizzle or snow conditions.
3. The ambient temperature should be greater than 45 degrees Fahrenheit. Lower temperatures produce greater difficulties in achieving an effective weld. If welding is required below this temperature, seam integrity should be closely monitored.
4. The liner and patch material should be positioned as required minimizing the amount of wrinkles or folds in the weld area. Care should be taken to insure that sufficient material is positioned to insure the liner will not be placed under tension during use. Thermal contraction during cold weather should also be considered.



Small rips and tears in the liner can be repaired with Fabrication Tape and Seam Tape.

Surround cut with Fabrication Tape.
Use this tape liberally.

Press patch or Seam Tape firmly into the Fabrication Tape.