

### 3.8 UNDERPINNING:

A. Installer Qualifications:

A firm with a minimum of 5 years of successful experience in foundation underpinning. Previous underpinning experiences must be in similar soils, design complexity, and to the extent indicated for this Project.

B. Design of the underpinning system is the responsibility of the Contractor and should be designed by a registered professional engineer and is subject to review and approval by the COTR. Underpinning of existing building foundations, as indicated on structural drawings, or where excavation undermines existing foundations, shall be accomplished in the following manner:

1. Make general excavation for new construction, where new foundations are to be below existing foundations, to elevation of new foundations (or sized stone subbase), maintaining a 34 degree sloped berm.
2. Underpin existing foundations by excavating pits to depth shown on drawings skipping 3 sections at any one time to maintain support for footing.
3. Underpin intervening sections one at a time; no adjacent sections shall be underpinned until concrete in adjacent sections shall have reached 20 MPa (2500 psi) strength and have been dry packed with non-shrink grout to obtain positive bearing.
4. Sheet and brace underpinning pits if soil will not stand on a vertical cut during this operation, or as required for safety of workmen. Fill voids behind sheeting to prevent sloughing which could cause settlement of existing foundations.
5. It shall be sole responsibility of the Contractor to guard against objectionable movement or settlement and to preserve integrity of existing structures.