

"How to core through the floors to install new electrical conduits and mechanical lines without cutting prestressed strands or rebar and compromising the structural integrity of slabs consisting of prestressed concrete planks".

Based on the meeting, recommend that you include the following notes in all of your current and future projects when applicable.

1. From the top of the slab, locate electrical conduits and reinforcing using non destructive testing (NDT) method.

*Note: Mid-Pac Testing Institute (James Merriman @ 676-2720) can perform the NDT using a magnetic imaging device (Rebar Datascan by James Instrument Inc.).*

2. Drill pilot hole. Stop drilling if rebar or strand is hit.

*Note: Drill operator will know when rebar or strand is hit. The drill bit is likely be damaged if it hits a prestressing strand but the strand will not suffer significant damage. However, the drill could go through rebar.*

3. Drill another pilot hole that clears rebar and strand.

4. From the underside of the slab, locate prestressing strands and reinforcing around the pilot hole using NDT method. Adjust final location of the hole based on clearance between the pilot holes and strand.

5. Drill or core the hole required.

During design, electrical and mechanical designers should follow the procedure below:

1. Prior to setting location of holes, check the As-builts to determine approximate spacing of strands to verify that the size of the hole is less than the spacing of the strands. Keep in mind that the size of the hole is usually one inch larger than the conduit or pipes and account for insulation.

2. If the strands must be "cut", have a structural engineer verify that the slab will have adequate strength for the current and potential future use of the slab.

Obtain TAMC approval to cut the strand.

3. The best location for holes is 0.2 times the length of the plank from the supporting beam or wall (i.e. 5 ft from the beam or wall if the span is 25 ft).