Investigation of existing slabs

(for supporting *new* line and concentrated loads) ...

1. Look at the condition (quality) of the existing slab. If it is already cracked all over the place, and particularly in the location of investigation, or if the quality of the concrete appears dreadfully poor ... *forget it!* (Forget using the existing concrete – we'll put in a new footing and as needed new slab.)

   But, if the slab appears usable, then ...

2. Determine: depth (thickness) of slab ...

   Are Construction Documents available?

   Physically measure thickness ... perhaps even by drilling.

3. Assess concrete (compressive) strength ... Construction Docs, hardness or other tests.

   Code requires that concrete with compressive strength of 2500 psi *was to have been used* ... for interior slabs, greater strength for outdoor and garage slabs (See R402.2).

   But was the concrete that strength?

4. Determine (if) rebar, and at what depth.

5. Determine loads ...

6. Determine concrete shear strength ...

7. Design Check ...
   Is factored strength ≥ factored load?

   If yes, ... SWEET!

   If no ... come up with ...

8. REMEDY

   Cut/remove existing slab and design and construct new footing ...

   Other ... such as spreading the load bearing and thus shear area out (with column loads).