

**Project Name:** Capitol East Parking Ramp

**Meeting Date:** October 21<sup>st</sup>, 2016

**Meeting Time:** 1PM - 2PM

**Meeting Location:** ATC Madison Office

**Prepared By:** Dan Windorski

**Client Project No.:**

**GRAEF Project No.:** 2016-5051.00

This document confirms and records the writer's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within three days, we will assume that the following interpretation or description is complete and accurate.

## MEETING ATTENDEES

NAME	REPRESENTING	OFFICE PHONE	CELL PHONE	E-MAIL
Mark Lillegard	ATC			
Chris Dailey	ATC			
Ronald Knapwurst	ATC			
William Putnam	ATC			
Fred Groth	GRAEF	608-242-1550		
Dan Windorski	GRAEF	608-242-1550		

## ITEMS OF DISCUSSION

- Purpose of Meeting** – Discuss alternative transmission line access proposal. Discuss clearance over the tunnel over ATC line.
- Progress Meeting Minutes**
  - Existing ATC conduit line has two pipes plus a spare. The conduits are encased in granular thermal sand.
  - GRAEF is proposing building a tunnel that would expose conduit. The walls of tunnel would be cast-in-place concrete, and the structural roof of tunnel would be a cast in place or precast plank with an additional cast-in-place slab on grade over structural cap.
  - Most common use of the tunnel is to repair leaks in the conduit
  - ATC may be OK to limit clear height of the level above the tunnel to 8'-2" (10' between the beams) if the tunnel is walkable.
  - Height of the tunnel, should be walkable but not below water table.
  - ATC believes that with 8'-2" clearance on the first level, all equipment needed for repair has to be carted in, which is potentially workable.
  - ATC wants the tunnel to be power ventilated.
  - GRAEF understands the roof of the tunnel will be permanent and will not be designed to be easily removed.
  - ATC is to provide truck design load for the roof of the tunnel.
  - One 40"x40" square manhole needs to be provided at each end of the tunnel for access.
  - GRAEF proposes to provide an anchor point in the second floor slab directly above each manhole entrance to lower repair equipment in the tunnel.
  - Within the tunnel, ATC may anchor lifting devices to the roof of the tunnel.
  - The cross-section of the tunnel should be such that concrete walking path is on one side and conduit on the other. This will potentially reduce width of the tunnel to less than 20 ft. wide.

- ATC may agree the width of the tunnel doesn't have to match the width of easement.
- ATC prefers vacuum excavation of conduit.
- GRAEF intends to require construction contractor to fully expose conduit prior to driving pile foundations. ATC requires notification when this occurs.
- At grade conduit location is only accurate to +/- 18".
- Memorandum of understanding needs to be created between ATC and City of Madison to describe how to access the tunnel.
- Actual replacement of conduit is a rare occurrence. When replaced, it will to be done in 10 ft. sections.

Prepared by,

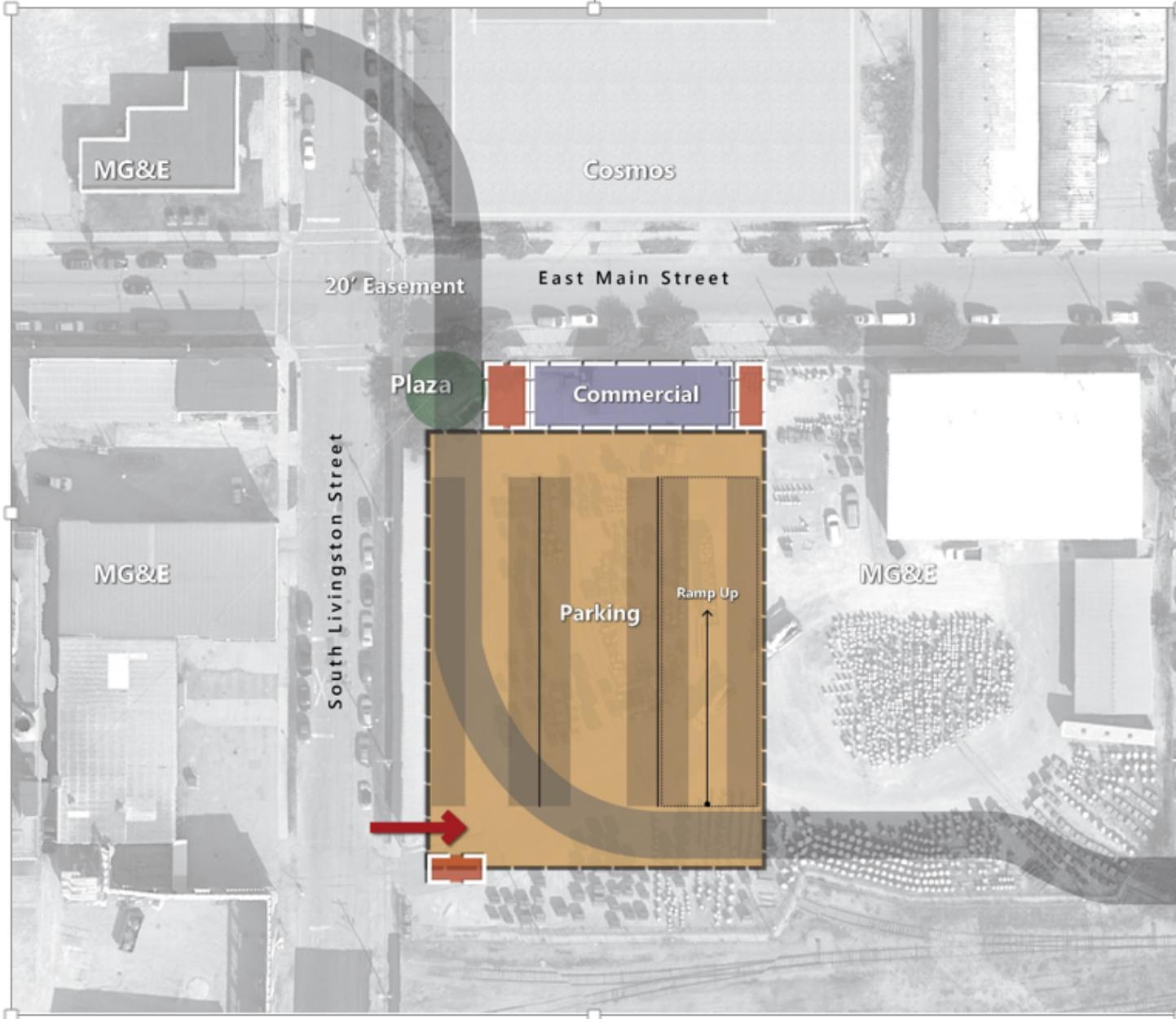
Dan Windorski  
Structural Engineer, PE

**NEXT MEETING**

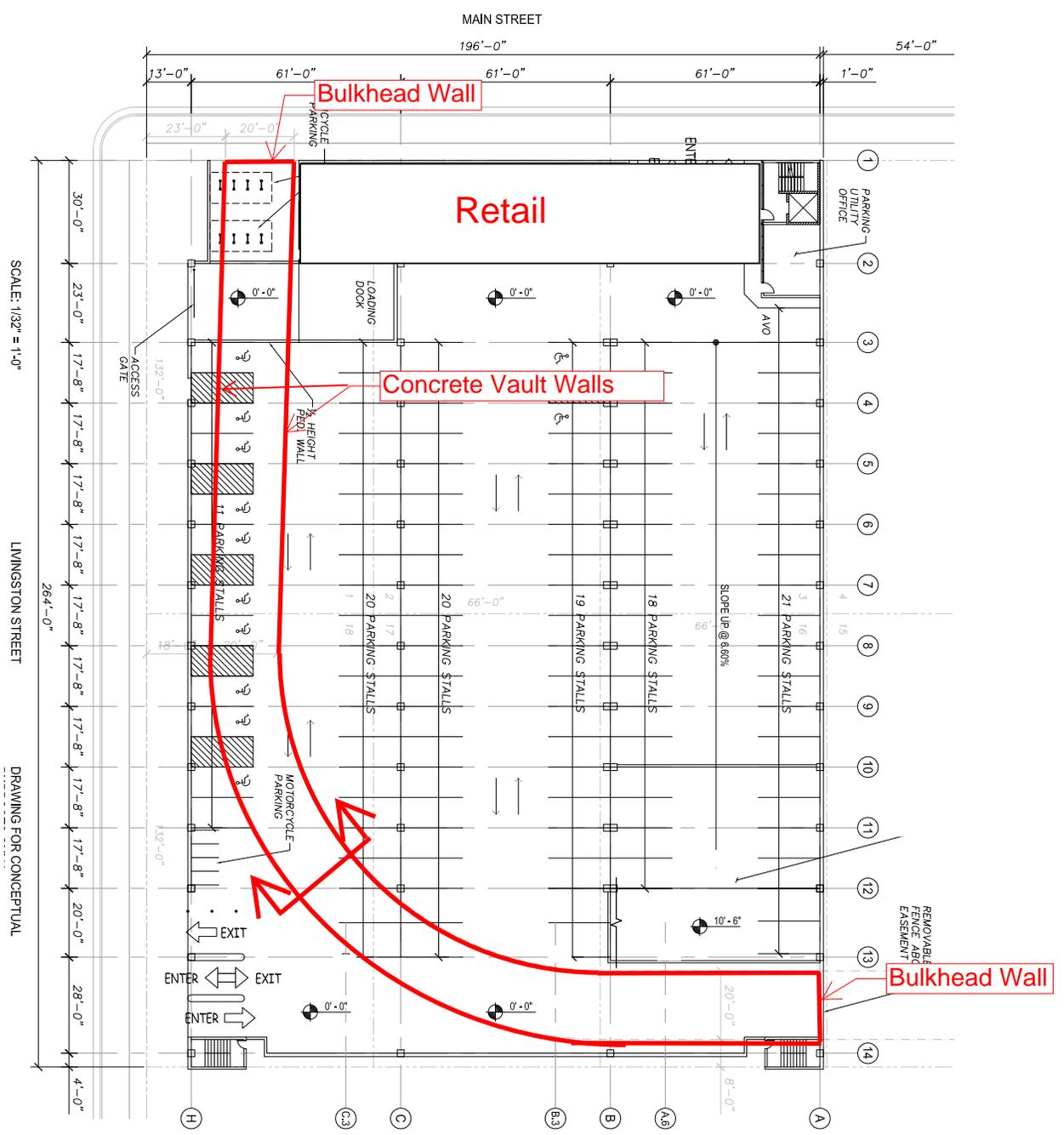
Thursday, November 10<sup>th</sup>  
ATC Madison Office  
To finalize transmission line access details.

Attachment: sketches

# Site Challenges



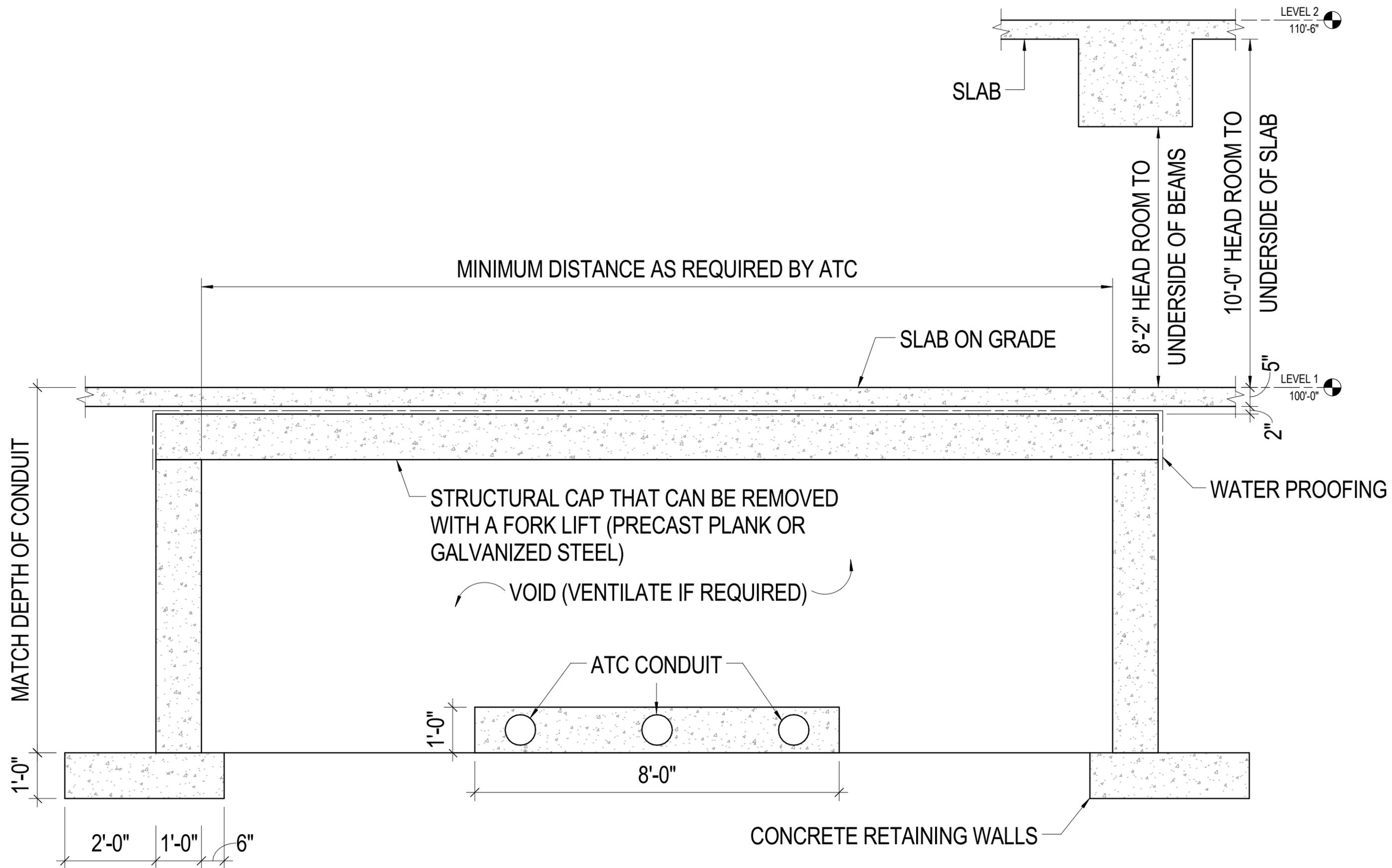
**ATC Easement**



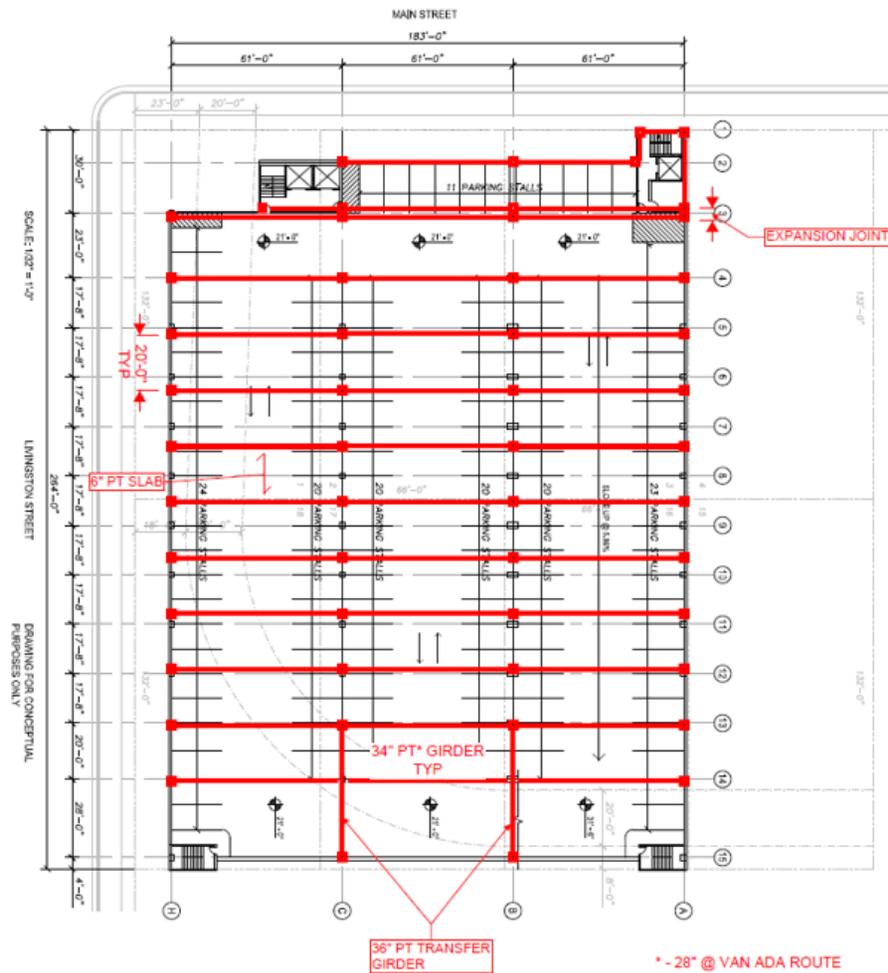
SCALE: 1/32" = 1'-0"

LIVINGSTON STREET

DRAWING FOR CONCEPTUAL



# Alternative ATC Strategies



**Typical Framing Plan  
with 16% less columns**