



EXCAVATION AND SHORING DESIGN

Since 2001 our firm has designed over 500 excavation systems for shallow, deep and drop-shaft designs. We routinely work with the Board of Underground.

Our Services Include:

- Excavation Certification
- Board of Underground Designs
- Braced Sheet Piling Design
- Soldier Pile Design
- Tie-Back Systems
- Mechanically Stabilized Earth Retention Systems
- Construction Observation Services
- "Peer" Engineering Review Services
- Excavation Cost Estimates



Typical braced sheeting system to achieve an excavation depth less than 12'-0" depth. Chicago, IL



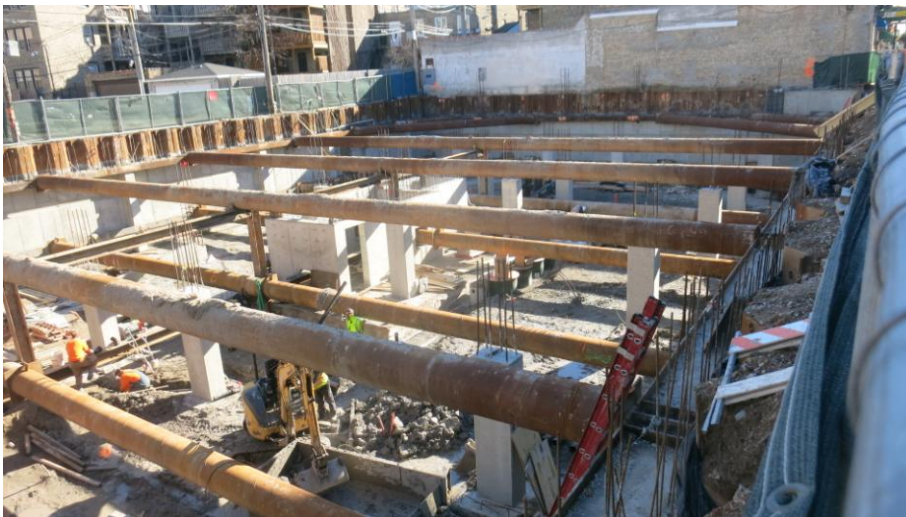
Above - Basement level wall bracing design for The Park in Rosemont. Thrust resistance from wall was designed using helical anchors grouping diagonally embedded in the soil.



Left – Bracing for 4 story condominium on N. Fremont Avenue in Chicago.



Above Left - Wall bracing to create resistance for lateral soil pressure at **The Park** in Rosemont. Diagonals shown resist tension forces. **Above Right** - Overview of wall bracing installed to resist forces from soil backfill at **The Park** in Rosemont.



Left - Structural engineering design for a two level below grade double-braced shoring system along **Broadway Ave.** in Chicago. Excavation depth exceeded 22'-0" to accommodate a below grade garage.



Left - Cary, IL - Earth retention system for Fienburg Court Roadway.

Grade differential varied to a maximum of 16'-0".

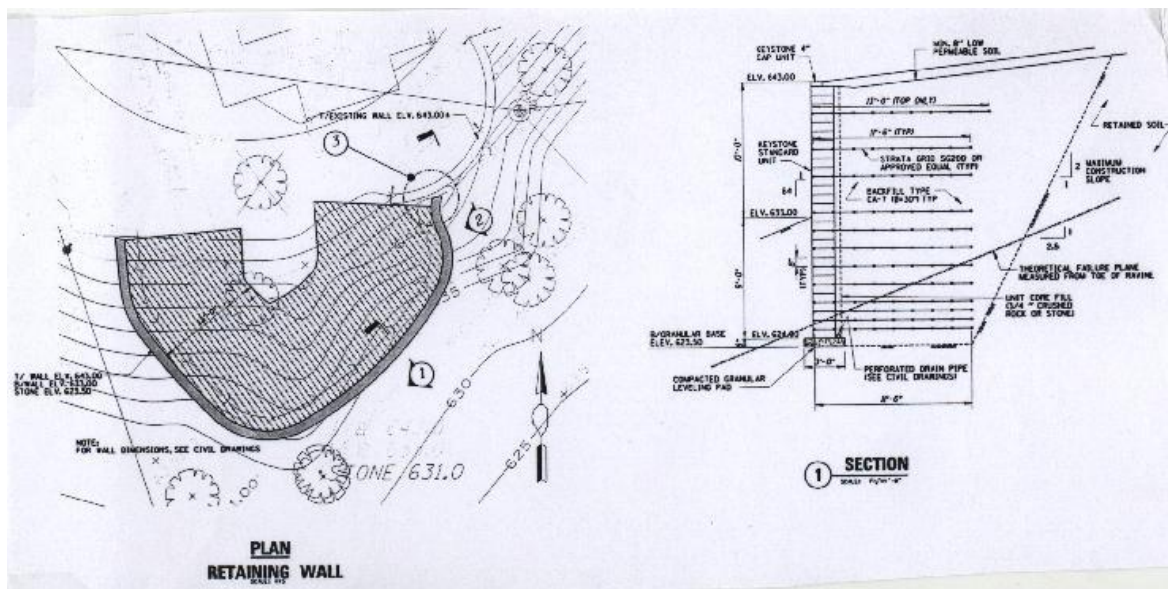
Retention system designed to meet all IDOT live load criteria.



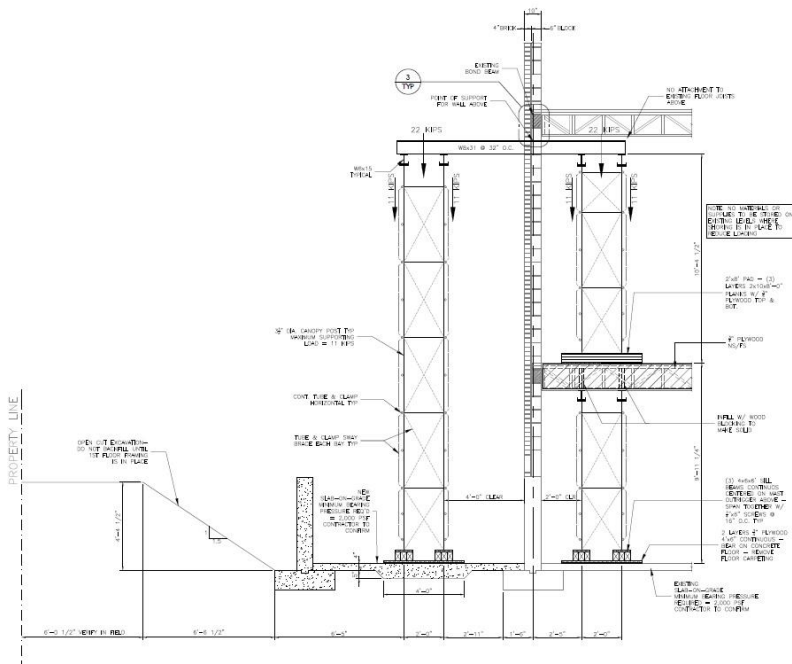
Left - Construction begins on excavation site.

J. V. Henik, Inc. - Structural Engineering Services provides construction phase services.

Construction services should begin early on before excavation begins to document site conditions.

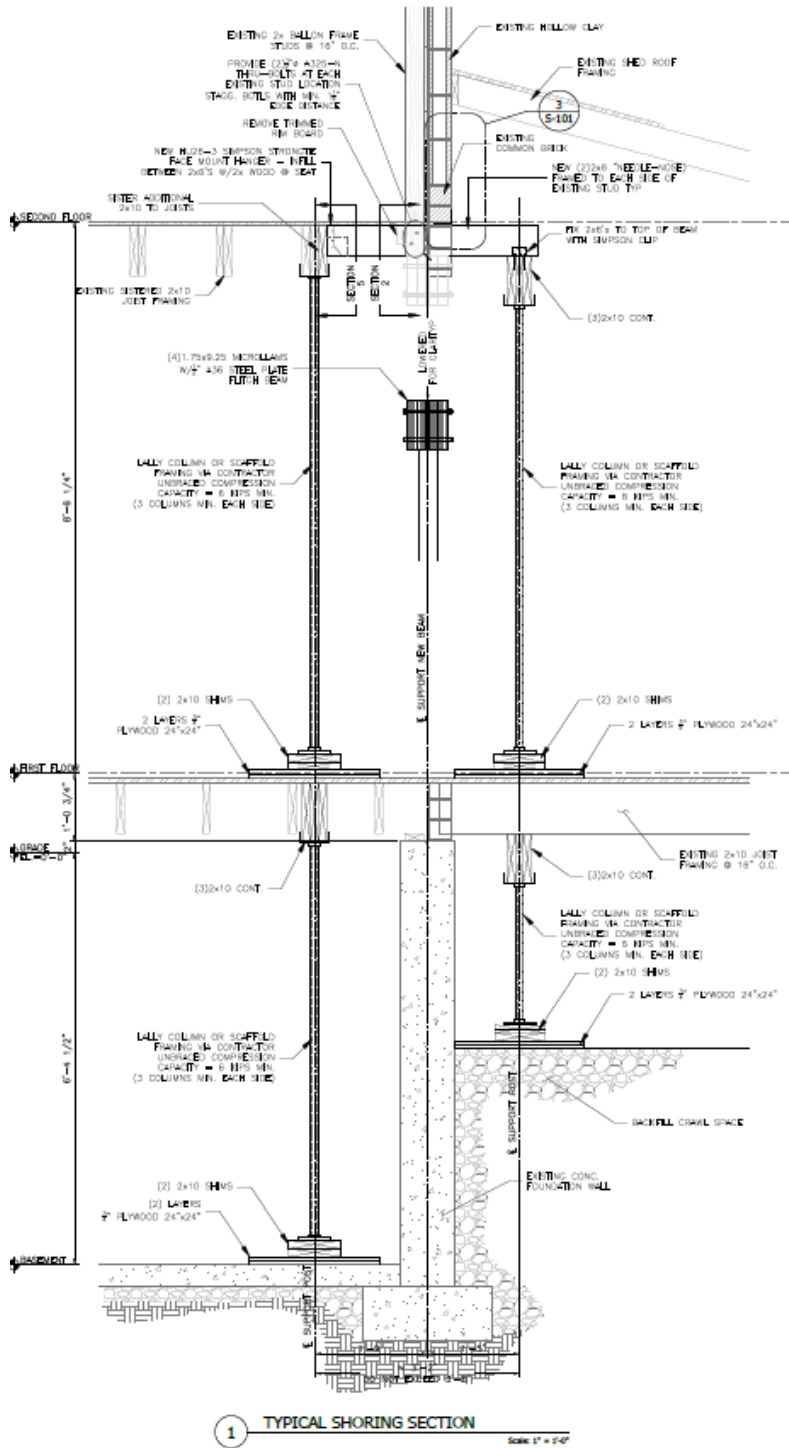


Above - Mechanically Stabilized Earth Wall with 14'- 0" Grade Differential - Glencoe, IL



Left - Example of structural documents provided for residential shoring design for a new 20'-0' wall opening on Mohawk Avenue Chicago IL

Below and Right - Glen Ellyn Residential Renovation – Shoring Design and installation of new flitch beam design in 16'-0" masonry facade.





Left – Northbrook, IL
– Soldier Pier and wood lagging system designed for Ancient Tree Condominiums.



Above Left- North Milwaukee Avenue – Chicago. Earth retention system with an excavation depth greater than 12'-0" required Board of Underground review. **Above Right – Chicago** - Design based on Board of Underground criteria for a mat foundation. Included structural design for condominium and retail facility. Excavation depth was also greater than 12'-0" Board of Underground was required.



Left – Cantilever sheeting design and installation for retention of soil at pond at the Ancient Tree Condominium Complex in Northbrook, IL