CONSTRUCTION DRAWINGS
PREPARED FOR:

HURON RIVER DRIVE
SLOPE STABILIZATION DESIGN
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

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NOTICE:
UNDERGROUND UTILITIES.
BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL
LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO
BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED
NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY
RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF
ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF AGS.
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CONSTRUCTION NOTES AUGER – CAST PILES

SPECIFICATIONS FOR AUGER–CAST PILES

MATERIALS

Grout for auger–cast piles shall have a minimum compressive strength f’c of 4,000 psi at 28 days.

The contractor shall be responsible for producing grout used in work complying with the following specifications:

- Grout mix consistency: Tested in accordance with ASTM C 669.
- Portland Cement: Conform to ASTM C 150.
- Aggregates: Finely proportioned aggregate materials that possess the property of maintaining time intervals during placement of Portland cement. Aggregates shall be such that the aggregate particles will not be forced through the jets. The use of fine aggregate shall be enough to maintain maximum density as specified for the shop drawings and to ensure proper location within the grout column.
- Reinforcing steel shall be placed accurately as shown on the project plans while the grout is still fluid. Use of rebar or grout bars as required to maintain minimum cover as specified for the shop drawings and to ensure proper location within the grout column.
- The mixing and pumping of grout

Use only carefully screened, continuous mixing and pumping equipment in preparation for handling of grout. Grout shall be made and pumped with care, with pressure gauges in good working condition to monitor pressure at which grout is placed. Removal of any other final inhibitors from mixing drums and grout pumps.

If ready-mix grout is used, use agitating storage tank of sufficient size between ready-mix truck and grout pump to ensure homogeneous operation, grout must be recirculated through pump.

Materials shall provide homogeneous grout of desired consistency. Prior to placement in holes, test grout consistency in accordance with ASTM C 69; results shall be within 1%–5% of design mix test results. Test grout mix by making 1 set of test cylinders for each day of placement or for every 100 cubic yards of grout placed in one day. Set of cylinders 1 cylinder tested 7 days, 3 cylinders tested 28 days, and 1 hold cylinder. Cylinders 1 hold cylinder, 3 hold cylinders in accordance with ASTM C 1079.

Prior to the start of grout pumping, the grout shall be released 8 to 12 inches above the injection point along the central axis of the injection point. The grout shall be pumped with sufficient pressure to ensure filling of the auger hole and proper displacement of the surrounding soil.

During the pumping of grout, to form the pile, the auger shall be withdrawn by a smooth continuous motion.

A head of at least (5) feet of grout above the injection point shall be maintained by the grout being forced out of the auger. The final depth of the pile shall be extended to the original depth and the pile reformed if the grout in the shaft has not begun to set. A discontinuous installation operation may be caused for rejection.

INSTALLATION OF REINFORCING STEEL

Reinforcing steel shall be placed accurately as shown on the project plans while the grout is still fluid. The use of rebar or grout bars as required to maintain minimum cover as specified for the shop drawings and to ensure proper location within the grout column.

TOLERANCES

Excavate and level site as specified in accordance with the project plans and specifications. The depth of excavation shall be such that a minimum of 18 inches will be permitted, except as specifically provided.
SPECIFICATIONS FOR DRILLED SHAFTS ALTERNATIVE

DEFINITIONS
A. The term "drilled shaft" shall mean a drilled shaft foundation as defined in ACI 351.1.
B. The term "drilled shear" and "drilled pile" are used interchangeably.

REFERENCES
A. ACI: American Concrete Institute
B. Specification for Concrete Foundation Drilling

SAFETY AND SCHEDULE
A. Unassembled equipment shall be provided by the contractor and placed at the site by the contractor. The equipment shall be assembled as required by the specifications and shall be ready for use at the time of assembly. The contractor shall be responsible for the safety of the equipment at all times.
B. Do not permit the use of any equipment that is damaged or not properly maintained. The equipment shall be inspected and maintained by the contractor at all times.
C. Ensure that all equipment is properly tagged and labeled for identification and safety.
D. Ensure that all equipment is properly maintained and serviced as required by the specifications.
E. Ensure that all equipment is properly loaded and unloaded as required by the specifications.
F. Ensure that all equipment is properly stored and secured as required by the specifications.
G. Ensure that all equipment is properly cleaned and maintained as required by the specifications.

QUALITY ASSURANCE
A. Concrete Standards: Concrete shall be placed in accordance with the applicable requirements of ACI 318-11 and ACI 351-11, and shall be in accordance with the standards and specifications for the Foundation Drilling Industry.
B. Design Criteria
1. Drilled shafts shall consist of several precast concrete drilled piles placed at the site as indicated on Figure 3 of this plan.
2. Drilled shafts shall be straight vertical shafts as indicated.
3. Drilled shafts shall extend from the finished concrete surface to the required depth.

TOLERANCES
A. Position of the center of any shaft foundation from the required location shall be measured at the ground surface.
B. Depth of drilled shafts shall be measured as required by the specifications and shall be within 1/4 of the actual depth.
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