# CONSTRUCTION SPECIFICATIONS FOR ANGLEWALL™ NOISE BARRIER SYSTEM

1) Description: This work is the construction of ground supported noise barriers.
2) Material – Prior to the fabrication, submit shop drawing for review and acceptance.
   a) Wall Panels.
      (1) Precast Reinforced Concrete Panels – per concrete noise barrier specification
      ii) Finish – Texture and or color coating of panels to be as indicated, specified or approved and uniform from panel to panel
   b) Compacted Crushed Stone Foundations
      (1) Graded Aggregate Base with less than 8% passing 200 seive
3) Construction
   a) As indicated on the design contract drawings and approved shop drawings and as follows:
   b) Design – Determine final ground line elevations for ground mounted noisebarrier. Furnish these elevations to the wall supplier to develop the shop plans including complete elevation view of each wall section indicating top and bottom elevations as well as the roadway grade. Protect final ground elevations, established in the field, for the duration of the project and do not adjust without prior approval. Provide fire hydrant openings or other highway access as indicated, specified, or directed. Provide adequate reinforcement around panel openings to preclude cracking. Show reinforcement details on the shop drawings.
   c) Shop Drawings – Before beginning construction submit for approval shop drawings showing fabrication details and handling transportation, construction procedures for all wall elements, including connections.
   d) Fabrication – Prior to fabrication, submit shop drawings for review and approval. Fabricate the panels in accordance with approved drawings and approved Quality Control plan. Fabricate samples panels as required. Architectural treatment for both sample panels and subsequent production shall be approved at a viewing distance of 30 feet. Panels not conforming to the approved test sample will be rejected. Approved sample panels may be incorporated into the project, in the final stages of construction after all production has been completed and approved.
   e) Color - The natural concrete color of the precast panel will not be judged on the basis of color. The colors are attained by application of a surface coating to be applied by the contractor after installation.
   f) Acoustical Properties
      i) NRC Rating – Sound Absorption: NRC 0.80 AcoustaCrete® where required.
      ii) STC Rating – Transmission Loss: Due to the mass of concrete panels, STC is judged to be sufficient. The completed construction may be viewed from shadow toward a light source on the opposite side of the wall to identify light leaks, to be sealed as approved.

g) Installation – Install sound barrier wall as indicated, as shown on approved shop drawings, and in accordance with the manufacturer's recommendations. Confirm bearing capacity of embankment materials prior to installation of foundation. Excavate trench for foundation from well compacted embankment material. Confirm gradation of graded aggregate base to confirm less than 8% passing No 200 sieve. Once the trench is excavated, place and compact graded aggregate base with vibrating tamper until additional passes no longer show further consolidation. Place 1 to 2 inches of stone dust or other clean fine aggregate ( 0 to 8% passing No 200 sieve ) to provide a leveling course for panels. Layout panel alignment, locating center of panel ball with surveyor's nail or paint. Place panels plumb, using appropriate bracing to stabilize first panel until two panels are joined in place. Secure panels to provide a vibration free installation and provide joints and connections with no visible openings. Construct finished ground as indicated or directed so that surface water is channeled away from foundations.

h) Tolerances
   i) Fabrication Tolerances
      (1) Precast Panels
         (a) Height + / - ¼ inch
         (b) Length + / - ½ inch
         (c) Thickness + / - ½ inch except at rake finish
         (d) Warp + / - panel warp shall be evidenced by an inability to vertically align successive panels within tolerance
         (e) Square + / - ½ inch measured as the difference in length between the two diagonals

i) Erection Tolerances
   i) Vertical alignment – for walls up to 20 ft in height, 3/4"; and for walls greater than 20 ft in height, 1".

j) Rejection
   i) Reject individual AngleWall panels for any of the following as determined by the Engineer.
   ii) Fracture or cracks through the panel
   iii) Exposed reinforcing steel
   iv) Damage to panel surfaces that in the cannot be repaired to the satisfaction of the Engineer
   v) Damage to panel ends that would prevent safe connection to contiguous panel

k) Technical Assistance
   i) Have a trained representative available to go to the project site during installation procedures to assist the contractor and Engineer as needed for the start of construction. Provide a technical representative to assist in the event unusual problems or special circumstances arise.

4) Measurement and Payment – panel surface area per approved shop drawings