1. **GENERAL**
   1. **SECTION INCLUDES**
      1. Trench covers with Trench Liner.
      2. Related Sections
         1. Section 03 30 00, Concrete.
   2. **REFERENCES**
      1. Trench covers in Accessible Path of Travel to conform to CBC Chapter 11B.
      2. American Society for Testing and Materials (ASTM):
         1. ASTM A 36, Structural Steel
         2. ASTM B 209, Aluminum and Aluminum-Alloy Sheet and Plate.
         3. ASTM B 221, Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
   3. **SYSTEM DESCRIPTION**
      1. Trench covers shall be cast-in-place installation.
      2. Trench covers shall cover the trench completely and access covers shall be flush with surrounding finish floor surfaces to allow unrestricted pedestrian traffic.
      3. Allowable load on trench covers shall be 4730 psf uniform load and 1690 lbs concentrated load for Balco TST-12-250 with no more than 1/8 inch deflection. In absence of load selections, allowable load on trench cover shall be 200 pounds square foot (or 2,000 pounds concentrated for heavy-duty models) with 1/4 inch deflection.
      4. Trench liners shall be water-resistant (leak resistant).
         1. Additional waterproofing (silicone sealant) shall be provided where hydrostatic pressure is present.
   4. **SUBMITTALS**
      1. Within Ten days of Contract award to avoid project delay.
         1. Manufacturer’s specifications and technical data, including Material Safety Data Sheets, installation instructions, and, as required, catalog cuts and templates explaining construction and providing for incorporation of product into project.
         2. Certificates, copies of independent test reports, or research reports showing compliance with specified performance requirements.
         3. Shop drawings showing complete fabrication details for trench covers trench liners, including required anchorage to surrounding construction, recesses, blocking, and connections between similar and dissimilar trench cover assemblies.
   5. **QUALITY ASSURANCE**
      1. Manufacturer: Furnish assemblies from one manufacturer with minimum of five years of experience in fabrication of trench cover and trench liner assemblies.
      2. Installer: Firm with not less than three years of successful experience in installation of systems similar to those required by this project and acceptable to manufacturer of system.
   6. **DELIVERY, STORAGE AND HANDLING**
      1. Provide temporary protective cover on anodized aluminum finished surfaces.
      2. Deliver trench covers and trench liner to jobsite in new, clean, unopened crates of sufficient size and strength to protect materials during transit.
      3. Store components in original containers in clean, dry location.
      4. Handle components with equipment of sufficient size to preclude hazard to personnel or damage to components.
   7. **WARRANTY**
      1. Submit manufacturer’s warranty that materials furnished will perform as specified for period of not less than One year when installed in accordance with manufacturer’s recommendations.
2. **PRODUCTS**
   1. **ACCEPTABLE MANUFACTURERS**
      1. Products of following manufacturers form basis for design and quality intended.
         1. Balco, Inc., Wichita, KS.
         2. Architectural Art Mfg., Inc., Wichita, KS.
         3. MM Systems, Pendergrass, GA
      2. Or equal as approved in accordance with Division 1, General Requirements for substitutions.
   2. **MATERIALS**
      1. Trench Covers: Balco TST-12-250, 1/4 inch thick, tile recessed, 12 inches wide, Aluminum, ASTM B 209, alloy 6061-T651 for plate; Frames: Aluminum, ASTM B221, alloy 6063-T5 for extrusions.
      2. Trench liners
         1. Aluminum: ASTM B 209, alloy 5052–H32, 0.063 inch.
      3. Fasteners, accessories, and other materials required for complete installation to manufacturer's instructions.
   3. **FABRICATION**
      1. Fabricate trench cover and trench liner assemblies as detailed. Provide splice covers and closures as necessary for complete installation.
         1. Fabricate trench covers and trench liner:
         2. Fabricate splices, special transitions, corner units, corner fittings, intersections, and end closures as required.
         3. Miter and weld joints shall be factory manufactured.
         4. Provide necessary and related parts, devices, anchors, and other items required for water-resistant installations.
      2. Trench covers shall have smooth surface.
   4. **FINISHES**
      1. Aluminum:
         1. Exposed aluminum surfaces shall be mill finish.
         2. Aluminum surfaces in contact with concrete shall be prime painted.
      2. Galvanized Steel: Galvanized steel surfaces in contact with concrete shall be prime painted.
3. **EXECUTION**
   1. **EXAMINATION**
      1. Contractor shall verify that field measurements are as shown on shop drawings prior to releasing materials for fabrication by manufacturer.
      2. Installer shall examine conditions under which Work is to be performed and shall notify Contractor in writing of unsatisfactory conditions. Installer shall not proceed until unsatisfactory conditions have been corrected in manner acceptable to installer.
   2. **INSTALLATION**
      1. Install trench covers trench liners in accordance with manufacturer’s written installation instructions. Anchors shall be spaces at 10 inches on centers maximum.
      2. Align work plumb, level, and, as required, flush with adjacent surfaces.
      3. Make allowances for change in trench size due to difference between installation and existing building construction.
   3. **CLEANING**
      1. Clean exposed surfaces as recommended by manufacturer.
   4. **ADJUSTING AND PROTECTION**
      1. Inspect system components for proper fit. Adjust, repair or replace components not conforming to requirements. Repair or replacement of an individual unit shall be as approved by Architect.
      2. Finished units shall be without damage. Units damaged during shipping or construction shall be repaired at expense of party damaging material, in accordance with contract requirements.
      3. Protect installation from damage by work of other Sections. Where required, remove and store trench covers (access covers) and install temporary protection over trench; re-install trench covers (access covers) prior to Substantial Completion of Work.

**END OF SECTION**