KEYSTONE® RETAINING WALL SYSTEMS
A CONTECH COMPANY

Retaining Excellence™

Field Monitoring Observation Checklist

1. Review retaining wall plans and specifications
    a. Review the basic requirements of design plans and specifications.
    b. Review the inspection requirements (Quality Assurance Provisions on plans).
    c. Note the expected foundation conditions and applied bearing pressures.
2. Review and verify materials to be used on the specific retaining wall
    a. Soils – Verify that the proposed backfill soils are consistent with design plan requirements for type, gradation, plasticity, and shear strength.
    b. Soil Compaction – Verify that correct Proctor curves are available for the proposed backfill material.
    c. Soil Reinforcement – Verify that the geogrid material types noted on the design plans are available onsite. No substitutions are permitted without prior written approval.
    d. Keystone units – Verify the correct unit type, pins, finish, and color are available onsite.
3. Review and verify site grading and foundation conditions
    a. Verify that adequate survey staking is in place to establish proper wall alignment, steps, and footing elevations.
    b. Verify that the existing topography along the retaining wall alignment is consistent with site grading plans used to establish the base of wall and required embedment. Any major deviations will require reanalysis of the wall design and layout.
    c. Note that the wall foundation is the entire width of reinforced zone and must be competent for the loads imposed.
    d. Verify that the limits of excavation are sufficient for the design reinforcement lengths.
    e. Verify that groundwater conditions are as expected and any drainage conditions such as seepage or springs are addressed prior to wall construction.
    f. Verify that the foundation soils are acceptable after any corrections are made to improve bearing as determined by the site engineer.
4. Leveling pad
    a. Verify elevations of leveling pad at appropriate stations along wall face.
    b. Verify proper embedment based on design plans and existing topography.
    c. Verify that the leveling pad is a minimum 6 inches thick and 12 inches wider than face unit depth. Oversize as required for local soil conditions.
5. Face unit placement
    a. Verify that base units are level front to back and side to side. A small, but consistent tilt back is permissible based on the contractor's experience.
    b. Verify that pin placement is correct for desired wall batter.
    c. Verify that the correct alignment and offset is being maintained by checking actual batter and alignment against reference points.
    d. Verify that units are level from front to back at geogrid layers, shimming above or below, but not on the geogrid course. Shims should be continuous and compressible.

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6. Unit and drainage fill placement
    a. Verify that open graded drainage fill is placed within, between and to a minimum of 12 inches behind the tail of Keystone units or as shown on the plans.
7. Backfill placement
    a. Verify that all backfill used meets design requirements (see above).
    b. Verify that backfill moisture content when compacted is within acceptable range.
    c. Verify that backfill is placed and compacted slightly higher than the back of Keystone unit prior to geogrid placement (no dips and never lower than the top of unit).
    d. Verify that backfill is carefully placed to avoid wrinkling or causing slack in reinforcement. Placement and compaction should always run parallel to the wall face.
    e. Verify that the fill in front of wall is placed and compacted as soon as practical but before the wall is greater than 5 feet in height.
8. Compaction
    a. Verify and test compaction throughout the reinforced zone, not just near the face or at end of geogrid layers.
    b. Note that only light equipment should be used within approximately 3 feet of the face of units.
    c. Verify 8 inch compacted lifts or less as necessary to achieve compaction.
9. Reinforcement placement
    a. Verify that the compacted backfill is slightly higher than the back of Keystone unit prior to geogrid placement (no dips).
    b. Verify that the geogrid is the proper type and length for the wall station and elevation.
    c. Verify that the geogrid is placed over pins, extended perpendicular to wall face, and pulled taught prior to fill placement.
10. Positive drainage away from wall face at the end of each day.
    a. Verify that daily grading prevents water from collecting or cascading over wall face at the top or collecting or running along wall face at the toe causing erosion problems.