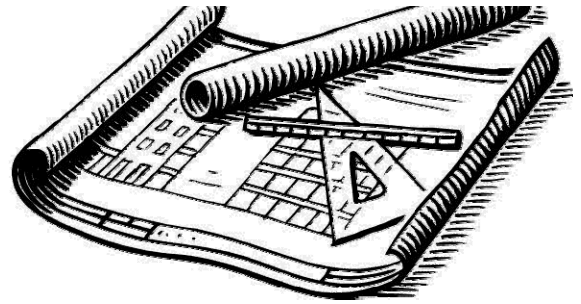




# Memorandum



**Date:** October 16, 2015

**To:** Staff

**From:** Marshall Labadie, Director, Development Services Department  
Nancy Kolinski, P.E., Township Consulting Engineer

**Re:** Township Ordinance 8-312(a) 22 and 23 - Retaining Wall Calculations and Requirements

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The intent of this memo is to provide additional information and direction requiring the requirements of sections 8-312(a) 22 and 23 of the Charter Township Code of Ordinances:

- (22) All proposed retaining walls shall be shown on the grading and soil erosion plan. Calculations by a registered civil engineer shall accompany all retaining walls of thirty (30) inches or greater in height.
- 1. Additional Information:** The grading plan shall include: a) the cross section(s) of the proposed wall(s), b) construction details, c) material, and d) top and bottom of wall elevations.
  - 2. Additional Information:** Calculations by a registered civil engineer shall accompany all retaining walls of thirty (30) inches or greater in height". The calculations shall include the following:
    - Applicable dead and live loads
    - Sliding
    - Overturning including toe and heel pressures
    - Soil Bearing based on soil boring or International Building Code IBC 2012 table 1806.2
    - Factors of Safety (1.5 minimum)
- (23) Retaining walls that are forty-two (42) inches or greater in height and are adjacent to driveways, walkways, patios and other such structures shall include a safety railing that is at least thirty-six (36) inches in height with a four-inch maximum width between spindles per Michigan Building Code regulations. All other retaining walls that do not have the above mentioned conditions may not require a safety rail unless deemed appropriate.
- 1. Additional Information:** Include a note on the construction detail stating "Provide a safety railing that is at least thirty-six (36) inches in height with a four-inch maximum width between spindles per Michigan Building Code regulations".