

## **Basis of Design**

This section applies to the design and installation of sub-grade and site retaining walls that support lateral earth pressure.

### **Design Criteria**

- Use only concrete construction. Masonry is not allowable.
- Design sub-grade and site retaining walls for the equivalent fluid pressure recommended in the Geotechnical Engineering Report for the project.
- Design sub-grade walls that will permanently extend below the water table for the hydrostatic pressure due to the seasonal high-water table. Indicate on the drawings the minimum extent of the structure that is necessary to be built to provide sufficient dead load to resist hydrostatic uplift prior to discontinuing temporary dewatering.
- Place below-grade building walls in lengths limited to 40 feet.
- Space vertical expansion joints in site concrete retaining walls no more than 20 feet on center. Show specific location of joints on the drawings.
- Provide 3-inch round weep holes at 10'-0" on center maximum spacing in site concrete retaining walls.
- Show joint details on the drawings.
- Provide waterstops at all construction joints below grade.

## **Design Evaluation**

**The following information is required to evaluate the design:**

- Schematic Design Phase: Plan showing sub-grade and site retaining wall locations.
- Design Development Phase: Thickness of walls, location of vertical expansion joints in site concrete retaining walls. Typical wall section for each type of wall. Draft specifications.
- Construction Document Phase: All information required for the installation of structural sub-grade and site retaining walls. Final specifications.

## **Construction Submittals**

- See Facilities Services Design Guide - Concrete

## **Related Sections**

- Facilities Services Design Guide - General Requirements - Structural
- Facilities Services Design Guide - Foundations
- Facilities Services Design Guide - Concrete
- Facilities Services Design Guide - Earthwork
- Facilities Services Design Guide - Thermal and Moisture Protection

**Products, Materials and Equipment**

- See Facilities Services Design Guide - Concrete

**Installation, Fabrication and Construction**

- See Facilities Services Design Guide - Concrete

END OF DESIGN GUIDE SECTION