



T-WALL & STONE STRONG Retaining Walls

PRODUCT GUIDE & TECHNICAL REFERENCE MANUAL

Providing the right solutions.





T-WALL

The T-WALL, Retaining Wall System is a gravity structure constructed of individual precast T-WALL, units. Each T-WALL; unit consists of a front face panel and a stem, which extends back into and engages the soil. The standard height for the face panel and stem is 750mm. The face panel typically has a width of 1500mm. Stem lengths vary and are selected on the basis of wall height and stability.

The design for each T-WALL, structure is carried out by Professional Engineers as part of the wall supply service. The wall structure is checked to ensure adequate safety factors for overturning, pullout and sliding. The bearing pressure along the underside of the wall is calculated using the Meyerhof method and checked against the allowable bearing capacity. Stamped shop drawings are available for each project

T-WALL

The modular nature of the T-WALL, unit provides flexibility for wall layout and allows on-site modifications when unexpected conditions such as rock outcrops or existing services are encountered. Shaw Precast Solutions provides the joint materials, filter fabric, special lifting devices and all other materials required for complete on-site wall erection.

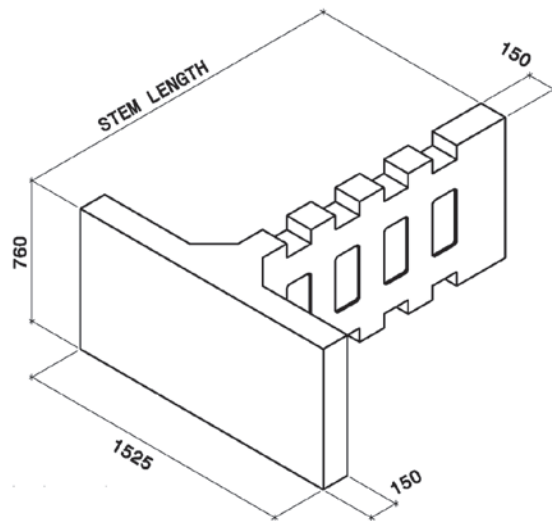
Shaw Precast Solutions offers one on one consultation for layout and design of T-WALL, projects. We will assist on the project from the conceptual stage, through to final design and on-site installation.

APPLICATIONS

T-WALL, provides cost effective solutions to a number of site conditions commonly encountered in commercial, industrial and public works. Typical applications include:

- Highways, roads, and parking lots
- Bridge abutments and wingwalls
- Site development
- Bank stabilization
- Retaining walls

| T-WALL® UNIT WEIGHTS | |
|----------------------|-------------|
| Stem Length (mm) | Weight (kg) |
| 1219 | 726 |
| 1829 | 839 |
| 2438 | 953 |
| 3048 | 1066 |
| 3658 | 1179 |
| 4267 | 1315 |
| 4877 | 1429 |
| 5486 | 1542 |
| 6096 | 1656 |



T-WALL CONSTRUCTION PROCEDURES

All the components required for complete on-site erection of a T-WALL, structure are supplied and delivered to site by Shaw Precast Solutions. A Shaw Precast Solutions representative is available at the start of wall erection to provide hands on technical assistance. An overview of the straightforward construction steps for a T-WALL, structure follows:

FOUNDATION PREPARATION: The foundation is prepared by grading level and proof rolling the area where the T-WALL, units are to be placed. Unsuitable materials below subgrade are removed and replaced with compacted granular backfill.

LEVELING PAD: A nonstructural, non-reinforced concrete leveling pad is placed along the line of the wall face to provide a working platform for placement of the T-WALL, units. A chalk line is established on the leveling pad to mark the front face of the wall.

FIRST T-WALL, COURSE: Starting at a fixed point such as a corner of the wall or an existing structure the first course of units is set using the chalk line on the leveling pad to line up the front faces.

BACKFILLING: Prior to initial backfilling a 300mm wide filter fabric is cut into lengths equal to the height of the wall at each vertical joint. These strips are placed across the vertical joints between the units to prevent migration of the backfill material through the joints. The Backfill material is dumped directly on the tops of the stems to fill both sides equally and prevent lateral movement of the unit. The backfill is compacted in 300mm lifts.

SUBSEQUENT T-WALL, COURSES: Joint material is placed in the horizontal joints between the units at the front face to prevent concrete to concrete contact and to act as a gasket against loss of fines through these joints. Precast shear keys are placed in the blockouts in the top of the stems to provide an alignment guide and prevent movement of the units during backfilling. Backfilling and compaction of each lift of T-WALL, units is completed before the next course is started.

T-WALL ADVANTAGES

A T-WALL, STRUCTURE WILL PROVIDE:

A HIGH QUALITY PRODUCT: Fabrication of the T-WALL, units by experienced crews in a controlled environment ensures a high quality product. Units are cast in the plant under comprehensive quality control eliminating the drawbacks imposed by weather and site conditions.

ECONOMY: T-WALL, structures are cost competitive with traditional cast in place retaining walls.

QUICK AND EASY ON-SITE INSTALLATION: The installation of a T-WALL, structure involves preparation of the site, placement and backfilling of wall units. Depending on project size, preparation of the site may be completed in a matter of hours. Placement of wall units can be carried out by on site equipment such as a large excavator and is a straight forward and rapid operation.

SCHEDULE: Precast fabrication of T-WALL, reduces the amount of work on-site and possible impact of weather on project schedules. The wall units can be installed, backfilled and placed into service immediately upon delivery to the site. T-WALL, units can be preordered to allow projects to proceed on-site in early spring.

REDUCED WATER CONTROL COSTS: On projects where the work site involves a water course, a precast structure eliminates the need to maintain a dry site for the entire duration of the project reducing water control requirements and costs.

DURABILITY: Precast concrete products have all the durability advantages of high quality concrete, without the concern of breakdown of protective coatings, corrosion or other problems associated with other materials.

EASE OF INSPECTION: The Purchaser has the option to inspect the T-WALL, units at the plant prior to delivery. With cast in place structures, deficiencies such as low concrete strength represent a costly problem as the product is already in place

VERTICAL T-WALLS – LEVEL EMBANKMENT

| Course | Distance from top of wall (mm) | WALL HEIGHT (mm) | | | | | | | | |
|--------|--------------------------------|------------------|------|------|------|------|------|------|------|------|
| | | 2286 | 3048 | 3810 | 4572 | 5334 | 6096 | 6858 | 7620 | 8382 |
| | | STEM LENGTH (mm) | | | | | | | | |
| 1 | 762 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 |
| 2 | 1524 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 |
| 3 | 2286 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 |
| 4 | 3048 | | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 |
| 5 | 3810 | | | 2438 | 2438 | 2438 | 2438 | 2438 | 2438 | 2438 |
| 6 | 4572 | | | | 3048 | 3048 | 3048 | 3048 | 3048 | 3048 |
| 7 | 5334 | | | | | 3048 | 3048 | 3048 | 3048 | 3048 |
| 8 | 6096 | | | | | | 3658 | 3658 | 3658 | 3658 |
| 9 | 6858 | | | | | | | 4267 | 3658 | 3658 |
| 10 | 7620 | | | | | | | | 4267 | 4267 |
| 11 | 8382 | | | | | | | | | 4877 |

VERTICAL T-WALLS – SLOPED EMBANKMENT

| Course | Distance from top of wall (mm) | WALL HEIGHT (mm) | | | | | | | | |
|--------|--------------------------------|------------------|------|------|------|------|------|------|------|------|
| | | 2286 | 3048 | 3810 | 4572 | 5334 | 6096 | 6858 | 7620 | 8382 |
| | | STEM LENGTH (mm) | | | | | | | | |
| 1 | 762 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 |
| 2 | 1524 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 | 1219 |
| 3 | 2286 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 | 1829 |
| 4 | 3048 | | 2438 | 2438 | 2438 | 2438 | 2438 | 2438 | 2438 | 2438 |
| 5 | 3810 | | | 3048 | 3048 | 2438 | 2438 | 2438 | 2438 | 2438 |
| 6 | 4572 | | | | 3658 | 3048 | 3048 | 3048 | 3048 | 3048 |
| 7 | 5334 | | | | | 3658 | 3658 | 3658 | 3658 | 3658 |
| 8 | 6096 | | | | | | 4267 | 4267 | 4267 | 4267 |
| 9 | 6858 | | | | | | | 4877 | 4877 | 4877 |
| 10 | 7620 | | | | | | | | 5486 | 5486 |
| 11 | 8382 | | | | | | | | | 6096 |





STONE® STRONG SYSTEMS

Five years since Shaw Precast Solutions launched Stone Strong Systems, the retaining wall product that transformed the way both designers and property developers evaluate and choose retaining wall block. At 24 square feet per unit, the Stone Strong block is the largest precast block in the marketplace, twice as large as any competitive product. Placement of 24 square feet of wall area every time you set one block – compared to many multiple sections of any other system, allowing you to build a substantial wall very quickly. The blocks' tapered sides also make it easy to create both straight and winding designs, even convex, concave, and circular designs.

Since 2007, sales have grown enormously. Now you can see Stone Strong everywhere you turn – from highways to railroads to shoreline preservation projects. “Recent installations include multi-unit apartment and condo sites, subdivision developments, and highway twinning projects.

The big news this year is the launch of the new 24-62 and 24-86 blocks making the Stone Strong System even more competitive in the marketplace. Giving new meaning to the word huge, these new forms have double the depth – at three feet high, eight feet long, and seven feet deep, the new blocks weigh more than 3,500 kilograms. This means that enormous free-standing gravity walls can now be built. In the recent past, if a wall was higher than ten feet, expensive tie-backs or geo-grid systems (reinforcement with woven polyester

or polypropylene mesh) would need to be used. These new large base blocks eliminate those expensive requirements. Contractors and customers are not only saving money, but the actual construction of these gravity walls is much faster. A wall recently completed in Lower Sackville that is 18 feet high and is totally a gravity installation. Due to the site property boundaries, Stone Strong was considered the product of choice. No other wall system could offer that height without encroaching on neighboring properties. Without the need for expensive tie-back systems, it allowed the owner and contractor to eliminate the need for over-excavation. Utilizing the new base block units, this gravity wall was constructed quickly and efficiently.

As land steadily increases in price and developers are looking to get the most value out of every site, retaining walls continue to be a creative way to use all the available space and work around topographical challenges. Building bigger, higher, and longer walls can be part of the solution.

If you require a wall that is economical, quick and easy to install, readily available, and comes with a supplier that can provide design-build expertise we suggest you consider Shaw Precast Solutions and the Stone Strong System for your next retaining wall application.



REVISED DECEMBER 2, 2012



STONE® STRONG SYSTEMS



