1. The cross section below is intended to represent various options for controlling and removing surface water, high ground water, and laterally flowing ground water. Final design for water management is the responsibility of the wall and site designer.

2. Site grading and topography should be designed to manage water at the top of the retaining wall. Refer to drawing #304 for several top of wall water management options.

3. It is recommended that a standard chimney drain and drain tile be installed for all walls to facilitate drainage of incidental surface water and potential below grade water. Refer to drawing #302 and #303 for more information on standard and alternate drain tile placement locations.

4. Blanket drains and heel chimney drains should be utilized where high ground water elevations are anticipated as well as locations where lateral groundwater flow into the retained or reinforced soil zones may occur. Additionally, a heel drain tile may be installed to help facilitate water drainage. Heel drain tile may be tied into standard drain tile with exits out of the face of wall or tied into site drainage.

Disclaimer: This drawing has been prepared by ReCon Wall Systems, Inc. and to the best of its knowledge, accurately represents the product use in the application that it is illustrated. This drawing is intended for conceptual purposes only. Anyone making use of this drawing does so at their own risk and assumes all liability for such use. Final design for construction purposes must be completed by a registered professional engineer who is familiar with the product and who has taken into account specific site conditions.
**PARTIAL CROSS SECTION**

4" PVC DRAIN TILE 
DAYLIGHT THROUGH 
WALL EVERY 50' OR AS 
DIRECTED PER ENGINEER

DRAINAGE STONE

39M

45B

4" PERFORATED PVC 
WRAPPED IN FILTER 
FABRIC AS REQUIRED

**ISOMETRIC VIEW**

NOTCH CORNER OF 
BLOCK TO ALLOW 
FOR DRAIN TILE AS 
SHOWN BELOW

**PARTIAL WALL PROFILE**

4" PVC DRAIN TILE 
DAYLIGHT AT LOWEST ELEVATION 
EVERY 50' OR AS DIRECTED BY 
ENGINEER

FINISHED GRADE 
BOTTOM OF WALL

**DETAIL**

NOTCH BLOCK AS SHOWN 
TO ALLOW FOR DRAIN TILE 
TO DAYLIGHT THROUGH 
FACE OF WALL NOTCH 
MAY BE MADE ON TOP OR 
BOTTOM EDGE OF BLOCK 
WITH DIMENSIONS SHOWN

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STANDARD DRAIN TILE DETAILS

RECON WALL SYSTEMS, INC. 
7600 W. 27th STREET, #229 
ST. LOUIS PARK, MN 55426 
952-922-0027 
www.reconwalls.com

DRAWING #302
PARTIAL CROSS SECTION
ALTERNATE DRAINTILE LOCATION

DRAINAGE STONE
4" PERFORATED PVC WRAPPED IN FILTER FABRIC AS REQUIRED
INSTALL DRAINTILE IN ALTERNATE LOCATION
AS SHOWN WHEN TYING INTO SITE DRAINAGE

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NOTES:

1. WHEN UTILIZING OPTION 1, ENSURE THAT SWALE CAN BE PITCHED ADEQUATELY ALONG THE LENGTH OF THE WALL TO FACILITATE WATER MOVEMENT AND PREVENT WATER PONDING.

2. IF ADEQUATE SWALE PITCH CANNOT BE ACHIEVED ALONG THE LENGTH OF WALL, FINISH TOP OF WALL USING OPTION 2. NOTE THAT SOME WATER STAINING MAY OCCUR FROM DRAINING WATER OVER THE FACE. PROVIDE ADEQUATE TOE PROTECTION (SCOUR) AND EMBEDMENT AT BASE OF WALL TO PREVENT EROSION.

3. IF THE PROPOSED TOP OF WALL GRADE HAS A SLOPE THAT IS LESS THAN 1H:15V IT IS RECOMMENDED THAT THE TOP OF WALL HEIGHT BE INCREASED OR DECREASED, AS SHOWN IN OPTION 3. IT IS ONLY RECOMMENDED THAT THE WALL HEIGHT BE INCREASED IF WATER WILL BE COLLECTED BEHIND THE WALL USING SITE DRAINAGE METHODS SUCH AS CATCH BASINS. COORDINATE WITH SITE CIVIL AND WALL DESIGNER PRIOR TO MAKING ANY CHANGES TO RETAINING WALL HEIGHTS.

4. THE OPTIONS SHOWN ARE INTENDED TO ILLUSTRATE A FEW OF THE OPTIONS OF MANAGING WATER AT THE TOP OF WALL. WALL DESIGNER AND SITE CIVIL SHALL BE RESPONSIBLE FOR FINAL DESIGN.

OPTION 1 - TOP OF WALL DRAINAGE SWALE

OPTION 2 - TOP OF WALL SLOPE

OPTION 3 - TOP OF WALL RE-GRADING

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NOTE: REFER TO DRAWING #103 - TYPICAL GRAVITY WALL CROSS SECTION - FOR ADDITIONAL CROSS SECTION INFORMATION

FINISHED GRADE AT TOP OF WALL SHALL BE DESIGNED FOR PROPER DRAINAGE TO PREVENT PONDING. SEE DRAWING #304 FOR ADDITIONAL INFORMATION

8" LOW PERMEABLE SOIL

24T
24M
24M
39M
39M
45M
45M
60M
60B

12" MIN

12" ABOVE HWL

HIGH WATER LEVEL (HWL)

NORMAL WATER LEVEL

VARES

GEOTEXTILE FABRIC

WALL TOE PROTECTION (RIP RAP)

FOUNDATION SOIL

RETIRED SOIL

GEOTEXTILE FABRIC

 APPROXIMATE LIMITS OF EXCAVATION

IN SITU SOIL

FREE DRAINING BACKFILL (3/4" CRUSHED STONE)

UNREINFORCED OR CRUSHED STONE LEVELING PAD

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NOTE: REFER TO DETAIL DRAWING #104 - TYPICAL GEOGRID WALL CROSS SECTION - FOR ADDITIONAL CROSS SECTION INFORMATION

FINISHED GRADE AT TOP OF WALL SHALL BE DESIGNED FOR PROPER DRAINAGE TO PREVENT PONDING. SEE DRAWING #304 FOR ADDITIONAL INFORMATION

8" LOW PERMEABLE SOIL

12" MIN

12" ABOVE HWL

HIGH WATER LEVEL (HWL)

NORMAL WATER LEVEL

VARIES

GEOTEXTILE FABRIC

WALL TOE PROTECTION (RIP RAP)

UNREINFORCED OR CRUSHED STONE LEVELING PAD

GEOGRID

FREE DRAINING BACKFILL (1/4" CRUSHED STONE)

IN SITU SOIL

GEOGRID FABRIC

RETAINED SOIL

FOUNDATION SOIL

APPROXIMATE LIMITS OF EXCAVATION

GEOGRID WALL CROSS SECTION

RECON WALL SYSTEMS, INC.
7600 W. 27th STREET, #229
ST. LOUIS PARK, MN 55426
952-922-0027
www.reconwalls.com