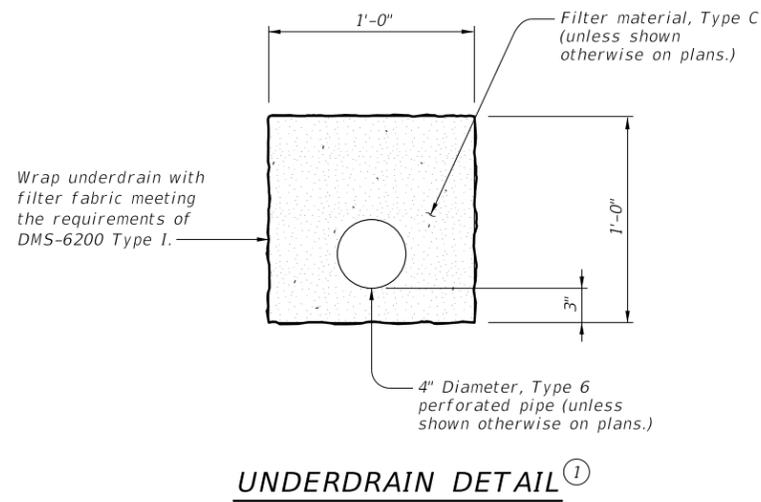
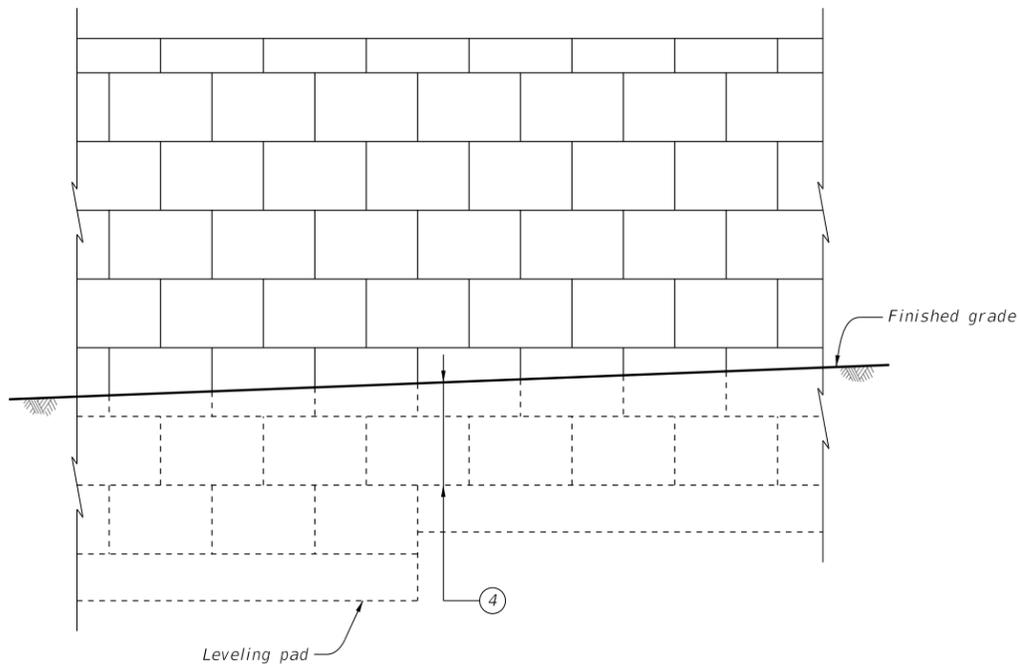
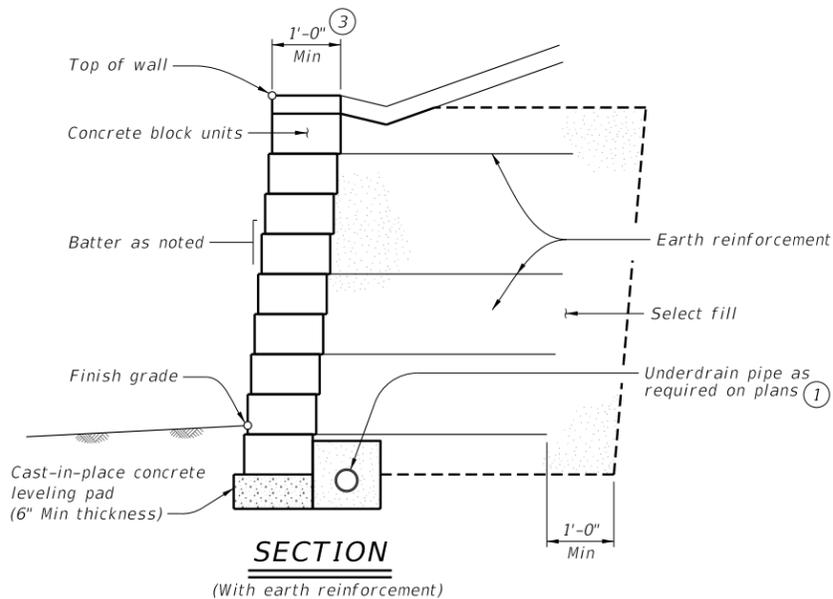
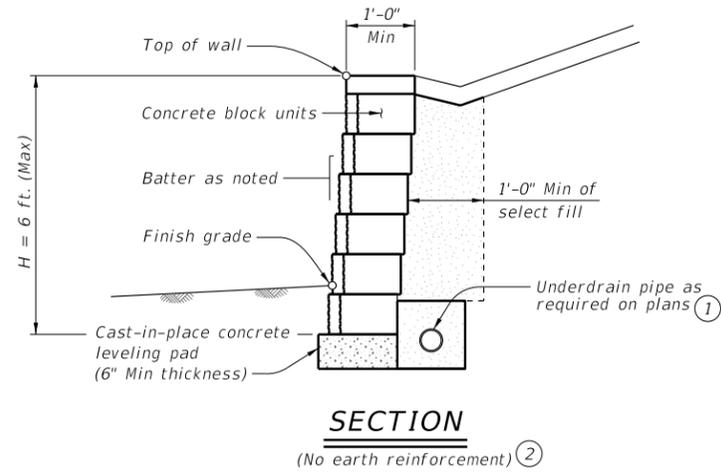


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DATE:
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- (1) Provide underdrain pipe and filter material in accordance with Item 556, "Pipe Underdrains."
- (2) For walls which are designated as landscape walls and are less than 6 feet tall, the following modifications to the design criteria will be allowed:

Factor of safety in sliding > 1.2.
Factor of safety in overturning > 1.5.
Connection strength factor of safety of 1.0 at 3/4" strain.
Walls may be constructed without earth reinforcement if all stability criteria are met with the blocks alone. If all stability criteria are not satisfied, provide earth reinforcement with a 4-foot minimum length.

The above modified criteria does not apply to walls over 6 feet tall regardless of designation.

- (3) For systems utilizing continuous structural pins passing through a minimum of 3 block layers, use a minimum block depth of 8 inches. Provide 24-inch maximum vertical spacing of primary reinforcement on these systems. Intermediate reinforcement will not be required.
- (4) Minimum embedment conforming to values given on the Concrete Block Retaining Wall Design Data (RW[CB]DD) standard.
- (5) Base soil design parameters on long term soil strength. List design parameters on the RW[CB]DD standard sheet.

DESIGN CRITERIA NOTES:

Design Parameters:
Base design of retaining walls on the following design parameters unless stated elsewhere in the plans:

Retained Soil	Unit Weight = 125 pcf $\phi = (5)$ C = 0 psf
Foundation Soil	$\phi = (5)$ C = 0 psf
Select Backfill	Unit Weight = See Table (6) $\phi = 34^\circ$ C = 0 psf
Cement Stabilized Select Backfill	Unit Weight = 125 pcf $\phi = 45^\circ$ C = 0 psf

Stability Criteria:
Base design on the following factors of safety: (2)

Sliding along the base of the structure	Factor of Safety ≥ 1.5
Overturning	Factor of Safety ≥ 2.0

Design the wall such that the base pressure resultant falls within the middle third of the retaining wall.

EARTH REINFORCEMENT:

Calculate the long term design strength (LTDS) of earth reinforcement in accordance with current AASHTO Standard Specifications for Highway Bridges and Interim Specifications.

Determine soil-geogrid pullout coefficient values in accordance with Geosynthetics Research Institute (GRI) Method GG-5, "Guidelines for Evaluating Geogrid Pullout."

Provide connection strength data for the combination of concrete block and geogrid chosen. Limit the allowable connection load to the connection strength developed at 3/4" displacement, divided by a 1.5 safety factor. (2)
Assume the failure plane originates at the back of the concrete blocks for internal stability calculations.

Determine the factor of safety against pullout of the earth reinforcement from test data evaluated at 3/4" strain.

Space the primary earth reinforcement layers at a maximum vertical spacing of 40 inches. (3)

The minimum length of primary earth reinforcement for structural walls (non-landscaped) is 8 feet or 70% of the wall height, measured from the front of the blocks as shown on the Concrete Block Retaining Wall Design Data (RW[CB]DD) standard. (2)

Provide a layer of intermediate reinforcement between primary reinforcement when the spacing between primary layers exceeds twice the horizontal depth of the concrete block unit. Provide a minimum intermediate reinforcement length of 4 feet to provide local stability for the concrete block units. (3)

Extend select backfill (including unit fill) a minimum of 1 foot horizontally beyond the end of the earth reinforcement from the back of the blocks.

GENERAL NOTES:

Sections and typical elevation shown are for informational purposes only. Determine specific geometry based on wall layouts and other plan information.

Limit wall batter to a maximum of 3 inches per foot unless otherwise shown in the plans. Place blocks horizontally and provide a positive means of obtaining batter such as pins, keyways, or concrete lips.

Type AS, BS & DS	SELECT BACKFILL UNIT WEIGHT		
	Unit Weight	Internal Stability	External Stability
	105 pcf	Pullout	Sliding, Overturning, Eccentricity
	125 pcf	Rupture	Bearing

Bridge Division Standard

CONCRETE BLOCK RETAINING WALL

RW(CB)

FILE: RW-CB-22.dgn	DN: TxDOT	CK: TxDOT	DW: JER	CK: RLE
(C)TxDOT June 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY	SHEET NO.	