

**MODULAR BLOCK WALL REINFORCEMENT LAYOUT**

CASE 4 - 1:3 FILL SLOPE																
MBW REINFORCEMENT CLASS	STRENGTH OF SOIL REINF. (PLF)		① MINIMUM REINFORCEMENT LENGTH, L (FT.)	MAXIMUM WALL HEIGHT (FT.)	② NOMINAL BLOCK WIDTH (IN.)	WALL BATTER RANGE (DEGREES)		③ MAXIMUM UNREINFORCED WALL HT., A (IN.)	ZONE 1		ZONE 2		ZONE 3			
	LG. TERM (T <sub>d</sub> )	DESIGN (T <sub>d</sub> )				≥	<		H1 (FT.)	S1 MAX (IN.)	H2 (FT.)	S2 MAX (IN.)	H3 (FT.)	S3 MAX (IN.)		
MBW-700	1050	700	0.7 H	12.0	12	0	3	24	8.5	24	3.5	16				
						3	7	24	9.2	24	2.8	16				
						7	10	24	11.2	24	0.8	16				
						10	15	24	12.0	24						
						0	3	32	4.6	32	3.9	24	3.5	16		
						3	7	32	5.2	32	3.9	24	2.9	16		
MBW-1050	1575	1050	0.7 H	12.0	12	0	3	24	12.0	24						
						3	7	24	12.0	24						
						7	10	24	12.0	24						
						10	15	24	12.0	24						
						0	3	42	5.6	42	3.3	32	3.1	24		
						3	7	42	8.2	42	2.6	32	1.2	24		
MBW-1400	2100	1400	0.7 H	12.0	12	0	3	24	12.0	24						
						3	7	24	12.0	24						
						7	10	24	12.0	24						
						10	15	24	12.0	24						
						0	3	42	8.9	42	3.1	32				
						3	7	42	10.8	42	1.2	32				

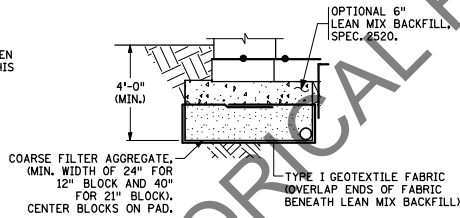
**INSTRUCTIONS TO CONTRACTOR:**

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM Mn/DOT APPROVED PRODUCTS LISTS LOCATED AT [www.mrrr.dot.state.mn.us/geotechnical/foundations/foundations.asp](http://www.mrrr.dot.state.mn.us/geotechnical/foundations/foundations.asp).

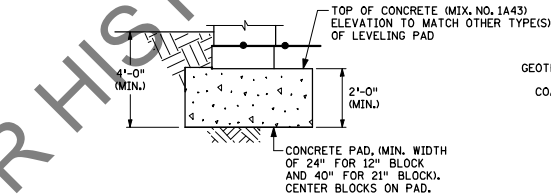
**NOTES TO CONTRACTOR:**

- OR 4 FT. MINIMUM, WHICHEVER IS GREATER.
- WIDTH - AS MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.
- MAXIMUM DISTANCE FROM TOP OF WALL TO FIRST REINFORCEMENT LAYER. UNREINFORCED WALLS ARE NOT INCLUDED IN THIS STANDARD BUT MAY BE CONSTRUCTED UP TO AT LEAST THE HEIGHT GIVEN IN THE TABLE FOR A GIVEN NOMINAL BLOCK WIDTH AND THE SPECIFIED FILL MATERIALS CONTAINED IN THIS STANDARD.
- PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.
- THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".
- INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.
- PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK.
- IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT DRAIN AND USE "CONCRETE PAD WITHOUT DRAIN" DETAIL.
- 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE I GEOTEXTILE, SPEC. 3133 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.
- S<sub>MAX</sub> = 0.5 S<sub>1 MAX</sub> IF THE WALL HEIGHT IS WITHIN ZONE 1.  
S<sub>MAX</sub> = 0.5 S<sub>2 MAX</sub> IF THE WALL HEIGHT IS WITHIN ZONE 2.  
S<sub>MAX</sub> = 0.5 S<sub>3 MAX</sub> IF THE WALL HEIGHT IS WITHIN ZONE 3.
- THE REINFORCED WALL FILL DRAIN MAY BE CONNECTED INTO FOOTING DRAIN, INSTEAD OF OUT LETTING THROUGH THE WALL, IF CAPACITY IS ADEQUATE TO TRANSMIT THE FLOW.



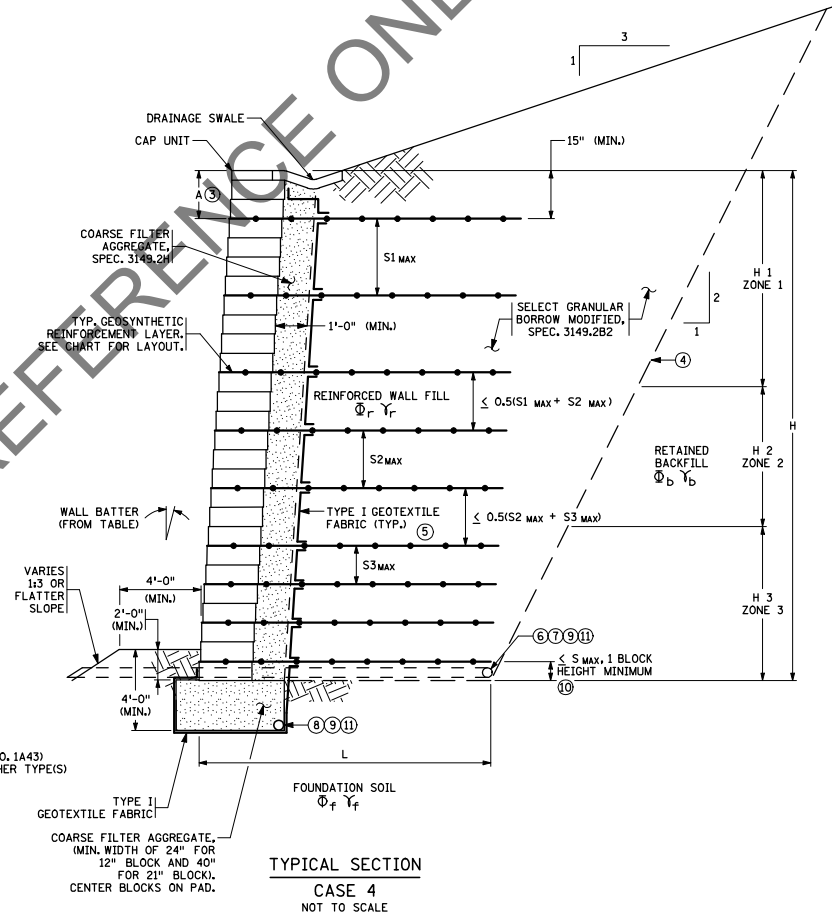
OPTIONAL CONCRETE LEVELING PAD

NOT TO SCALE



CONCRETE PAD WITHOUT DRAIN

NOT TO SCALE



TYPICAL SECTION

CASE 4  
NOT TO SCALE

REVISED: 11-12-02  
APPROVED: JULY 12, 2002  
STATE BRIDGE ENGINEER

STANDARD SHEET NO. 5-297.644  
TITLE: MODULAR BLOCK RETAINING WALL  
SOIL REINFORCEMENT FOR 1:3 FILL SLOPE, CASE 4  
STATE PROJ. NO. (TH ) SHEET NO. OF SHEETS

REVISION DATE 11-12-02