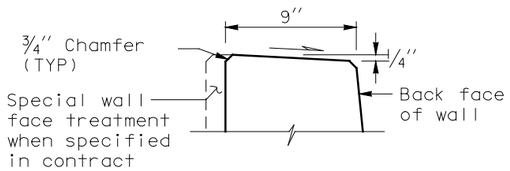
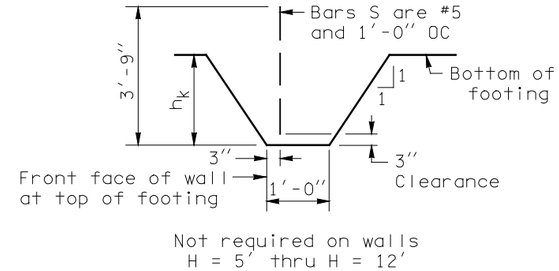
NOTES

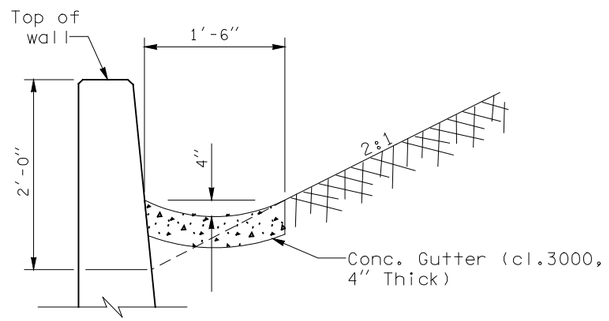
1. All concrete shall be Class 4000 except as noted.
2. For backfill requirements, see Standard Plan "D-4".
3. When Wall Type 3-SW (saltwater) is specified, the concrete cover over steel in the front face and the total wall thickness shall be increased by 1".
4. When Wall Type 3-SW (saltwater) is specified, concrete in the table column "Material Quantity" shall be increased by 0.003 x H CY/LF.
5. Concrete in the 24 foot wall sections shall be placed separately between expansion joints with a minimum 12 hour period between concrete placement.



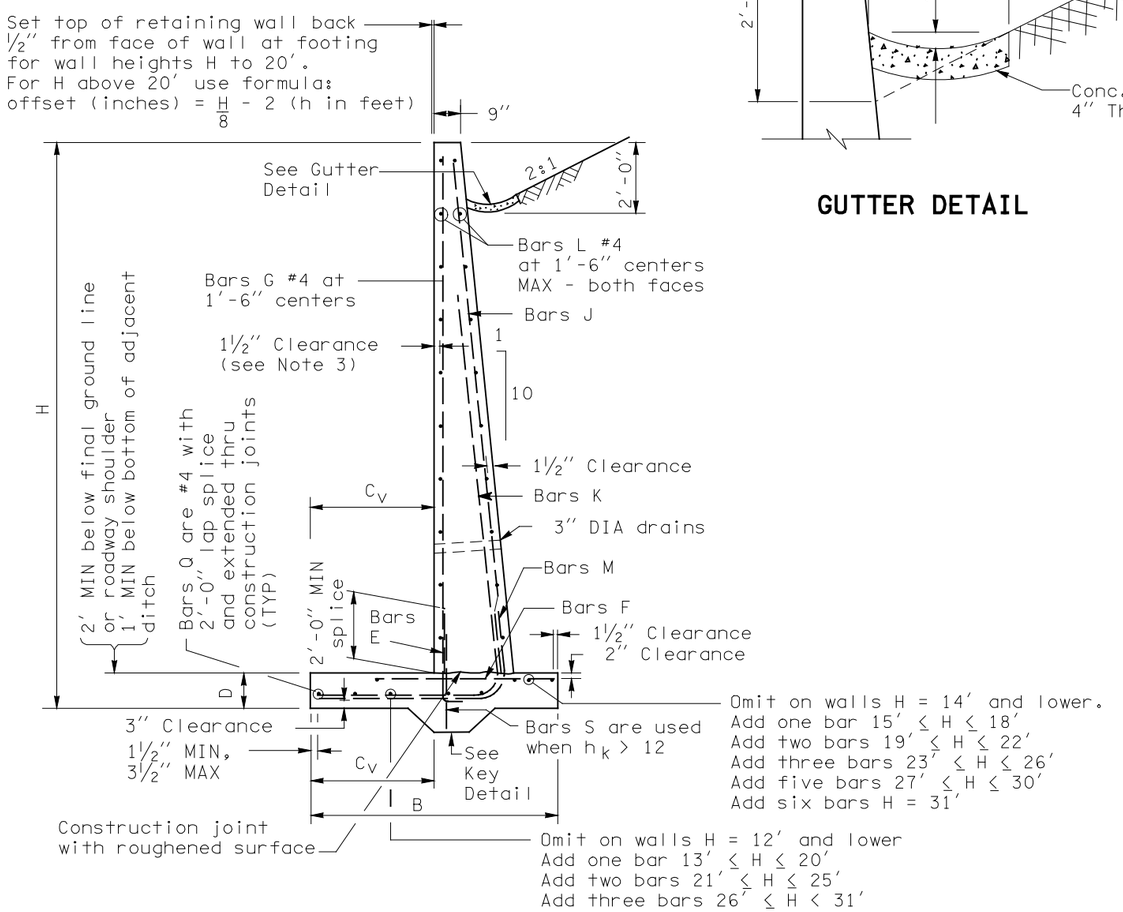
WALL TOP DETAIL



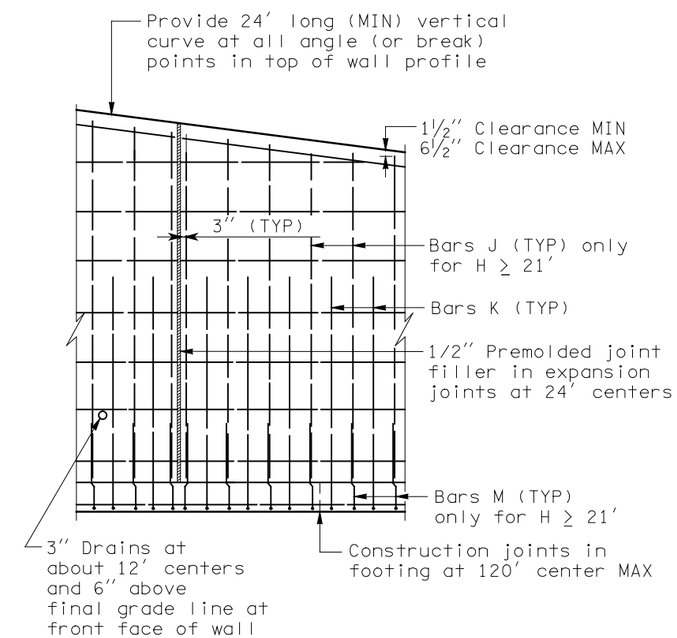
KEY DETAIL



GUTTER DETAIL



SECTION - VERTICAL FACE



ELEVATION

WALL DESIGN WITH VERTICAL FRONT FACE AND 2:1 BACKSLOPE

EXPIRES JUNE 29, 2000

REINFORCED CONCRETE RETAINING WALL TYPE 3 AND 3 SW STANDARD PLAN D-1c

SHEET 1 OF 2 SHEETS

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

DATE	REVISION	BY
10/99	Added note 5.	TWS

APPROVED FOR PUBLICATION

Clifford E. Mansfield *10/06/99*

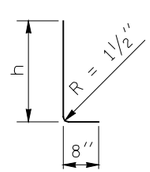
DEPUTY STATE DESIGN ENGINEER — DATE

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON

DIMENSIONS					FOOTING REINFORCEMENT																STEM REINFORCEMENT				MATERIAL QUANTITY		
					BAR E (size #4)		BAR F			BAR K					BAR M					BAR J			BAR G (size #4)			
H (ft)	P	C_V	D	h_K	LENGTH	h	SIZE	SPACING	LENGTH	SIZE	SPACING	LENGTH	h	b	SIZE	SPACING	LENGTH	h	b	SIZE	SPACING	LENGTH	LENGTH	CONCRETE (CY/LF)	STEEL (LBS/LF)	H (ft)
5	3'-0"	1'-3"	1'-0"	0	3'-5"	2'-9"	#4	1'-0"	2'-6"	#5	1'-0"	6'-6"	4'-7"	2'-4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3'-10"	0.252	21.698	5
6	3'-6"	1'-6"	1'-0"	0	3'-5"	2'-9"	#4	1'-0"	2'-6"	#5	1'-0"	7'-10"	5'-7"	2'-8"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4'-10"	0.315	24.870	6
7	3'-9"	1'-9"	1'-0"	0	3'-5"	2'-9"	#4	1'-0"	2'-6"	#5	1'-0"	9'-2"	6'-7"	3'-0"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5'-10"	0.372	26.706	7
8	4'-3"	1'-9"	1'-0"	0	3'-5"	2'-9"	#4	1'-0"	2'-6"	#5	1'-0"	10'-2"	7'-7"	3'-0"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6'-10"	0.443	29.531	8
9	4'-9"	2'-0"	1'-0"	0	3'-5"	2'-9"	#4	1'-0"	2'-6"	#5	1'-0"	11'-6"	8'-7"	3'-4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7'-10"	0.517	32.703	9
10	5'-3"	2'-3"	1'-0"	0	3'-5"	2'-9"	#4	1'-0"	2'-6"	#5	1'-0"	12'-11"	9'-7"	3'-9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8'-10"	0.594	34.625	10
11	6'-0"	2'-9"	1'-0"	0	3'-5"	2'-9"	#4	10"	2'-8"	#5	10"	14'-6"	10'-7"	4'-4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9'-10"	0.685	41.550	11
12	6'-6"	3'-0"	1'-0"	0	3'-5"	2'-9"	#4	8"	2'-10"	#5	8"	15'-4"	11'-7"	4'-8"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10'-10"	0.770	49.874	12
13	7'-0"	3'-3"	1'-0"	1'-0"	3'-5"	2'-9"	#5	10"	3'-4"	#5	7"	17'-2"	12'-7"	5'-0"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11'-10"	0.933	62.676	13
14	7'-9"	3'-6"	1'-0"	1'-0"	3'-5"	2'-9"	#5	7"	3'-8"	#6	7"	18'-7"	13'-7"	5'-4"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12'-10"	1.035	83.997	14
15	8'-6"	3'-9"	1'-0"	1'-0"	3'-6"	2'-9"	#5	6"	4'-1"	#6	6"	20'-0"	14'-7"	5'-9"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13'-10"	1.141	100.638	15
16	9'-3"	4'-0"	1'-3"	1'-0"	3'-8"	2'-9"	#6	6"	5'-0"	#6	6"	21'-4"	15'-7"	6'-1"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14'-10"	1.315	111.591	16
17	10'-0"	4'-3"	1'-3"	1'-0"	3'-8"	3'-0"	#6	6"	5'-5"	#6	5"	22'-8"	16'-7"	6'-5"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15'-7"	1.434	118.632	17
18	10'-6"	4'-3"	1'-6"	1'-0"	3'-8"	3'-0"	#6	5"	5'-10"	#6	5"	23'-8"	17'-7"	6'-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16'-7"	1.620	126.835	18
19	11'-3"	4'-6"	1'-6"	1'-6"	3'-11"	3'-3"	#7	6"	7'-1"	#6	6"	26'-0"	18'-7"	6'-10"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17'-4"	1.817	168.319	19
20	12'-0"	4'-6"	1'-9"	1'-6"	4'-2"	3'-6"	#7	5"	7'-9"	#7	5"	26'-2"	19'-7"	7'-0"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18'-1"	2.040	203.989	20
21	12'-6"	5'-0"	2'-0"	1'-6"	4'-5"	3'-9"	#8	8"	8'-8"	#7	11"	19'-11"	12'-11"	7'-7"	#8	11"	12'-9"	5'-9"	7'-7"	#8	11"	18'-11"	18'-11"	2.261	225.015	21
22	13'-6"	5'-3"	2'-3"	1'-6"	4'-8"	4'-0"	#8	7"	9'-1"	#8	11"	20'-9"	13'-5"	7'-11"	#8	11"	13'-4"	6'-1"	7'-11"	#8	11"	19'-8"	19'-7"	2.514	239.973	22
23	14'-0"	5'-6"	2'-3"	1'-6"	4'-8"	4'-0"	#8	6"	9'-6"	#8	10"	21'-6"	13'-10"	8'-3"	#8	10"	13'-8"	6'-1"	8'-3"	#8	10"	20'-8"	20'-7"	2.679	272.571	23
24	14'-9"	5'-9"	2'-6"	1'-6"	4'-11"	4'-3"	#8	6"	9'-11"	#8	9"	22'-4"	14'-4"	8'-8"	#8	9"	14'-4"	6'-4"	8'-8"	#8	9"	21'-5"	21'-4"	2.958	304.464	24
25	15'-6"	6'-0"	2'-9"	1'-6"	5'-2"	4'-6"	#8	6"	10'-4"	#8	10"	24'-4"	16'-0"	9'-0"	#9	10"	15'-10"	7'-8"	9'-0"	#9	10"	22'-2"	22'-1"	3.252	335.260	25
26	16'-3"	6'-3"	3'-0"	1'-6"	5'-5"	4'-9"	#8	5"	10'-9"	#9	9"	25'-2"	16'-6"	9'-4"	#9	9"	16'-5"	7'-11"	9'-4"	#9	9"	22'-11"	22'-10"	3.563	386.608	26
27	16'-9"	6'-6"	3'-3"	1'-6"	5'-8"	5'-0"	#8	5"	10'-11"	#9	8"	25'-11"	17'-0"	9'-8"	#9	8"	17'-0"	8'-2"	9'-8"	#9	8'	23'-8"	23'-7"	3.859	432.355	27
28	17'-6"	6'-9"	3'-6"	1'-6"	5'-11"	5'-3"	#8	5"	11'-5"	#9	8"	25'-10"	17'-7"	10'-0"	#9	8"	17'-7"	8'-5"	10'-0"	#9	8"	24'-6"	24'-4"	4.200	448.327	28
29	18'-3"	7'-0"	3'-9"	1'-6"	6'-2"	5'-6"	#8	5"	11'-10"	#9	9"	29'-0"	19'-5"	10'-4"	#10	9"	19'-5"	10'-0"	10'-4"	#10	9"	25'-3"	25'-1"	4.556	494.468	29
30	19'-0"	7'-3"	4'-0"	1'-6"	6'-5"	5'-9"	#9	6"	13'-4"	#10	8"	30'-0"	20'-0"	10'-9"	#10	8"	20'-1"	10'-3"	10'-9"	#10	8"	26'-0"	25'-10"	4.928	534.648	30
31	19'-6"	7'-6"	4'-3"	1'-6"	6'-8"	6'-0"	#9	5"	13'-6"	#10	8"	30'-10"	20'-6"	11'-1"	#10	8"	20'-8"	11'-1"	11'-1"	#10	8"	26'-9"	26'-7"	5.277	559.628	31

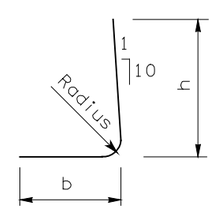
WALL DESIGN WITH VERTICAL
FRONT FACE AND 2:1 BACKSLOPE

Bar	MIN Splice
#4	2'-0"
#5	2'-0"
#6	2'-1"
#7	2'-11"
#8	3'-9"
#9	4'-9"
#10	6'-1"



BAR E
at 1'-6" centers

Bar	Radius
#5	9"
#6	11"
#7	1'-1"
#8	1'-3"
#9	1'-6"
#10	1'-8"



BARS K AND M

JEROME A. WEIGEL
STATE OF WASHINGTON
14742
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES JUNE 29, 2000

REINFORCED CONCRETE RETAINING WALL TYPE 3 AND 3 SW STANDARD PLAN D-1c

SHEET 2 OF 2 SHEETS

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DATE	REVISION	BY
10/99	New approval date.	TWS

APPROVED FOR PUBLICATION

Clifford E. Mansfield *10/06/99*

DEPUTY STATE DESIGN ENGINEER — DATE

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON