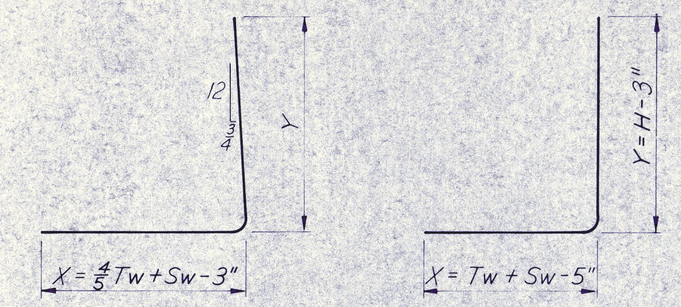
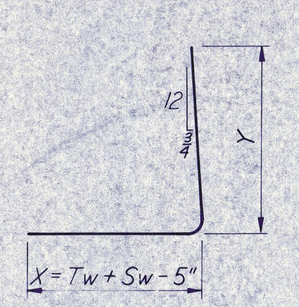
WALL PROPERTIES									REINFORCING STEEL FOR A 30'-0" WALL PANEL																														QUANTITIES PER LIN. FT. OF WALL	
DIMENSIONS							MAX. SOIL PRESS. (T/ft²)	MIN. As REQD. (in²/ft)	A1 @ 12"					A2 @ 12"					A3 @ 12"			A4 @ 12"			B1 @ 12"			B2 @ 12"				C @ 18"			*D @ 18"			H @ 18"			T @ 18"			**S @ 9"				
H	Fw	Tw	Sw	Hw	Ft	Tt		STEM	SIZE	NO.	X	Y	LGTH.	SIZE	NO.	X	Y	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	Y	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	SIZE	NO.	LGTH.	CONC.(C.Y.)	REINF. (LB.)
4'	3'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-2"	0.53	0.33	0.13	#6	30	1'-7"	3'-9"	5'-4"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	#5	30	3'-9"	4'-3"	#5	21	2'-6"	#5	9	29'-6"	#5	3	31'-9"	#5	2	31'-9"	#5	40	8'-10"	0.156	22.8
6'	4'-0"	1'-10"	1'-0"	1'-2"	1'-0"	1'-1 3/16"	0.58	0.38	0.13	#6	30	2'-5"	5'-9"	8'-2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			5'-9"	6'-3"			3'-6"		11			4			3					0.271	34.2
8'	5'-0"	2'-8"	1'-0"	1'-4"	1'-0"	1'-0 5/16"	0.64	0.49	0.13	#6	30	3'-3"	7'-9"	11'-0"	#6	29	2'-9"	2'-1"	5'-8"	—	—	—	—	—	—	#5	30	6'-9"			2'-6"	3'-0"			4'-6"		15			5			4					0.384	56.8
10'	6'-0"	3'-6"	1'-0"	1'-6"	1'-0"	0'-11 1/2"	0.70	0.64	0.24	#6	30	4'-1"	9'-9"	13'-10"	#6	29	3'-4"	4'-1"	8'-3"	—	—	—	—	—	—			8'-9"			2'-6"	3'-0"			5'-6"		17			6			4					0.495	70.8
12'	7'-0"	4'-4"	1'-0"	1'-8"	1'-0"	0'-10 1/16"	0.77	0.88	0.41	#6	30	4'-11"	11'-9"	16'-8"	#6	29	4'-0"	6'-11"	10'-11"	—	—	—	—	—	—			10'-9"			2'-6"	3'-0"			6'-6"		19			6			5					0.604	84.9
14'	8'-0"	5'-2"	1'-0"	1'-10"	1'-0"	0'-9 13/16"	0.84	1.22	0.65	#6	30	5'-9"	13'-9"	19'-6"	#8	29	4'-7"	8'-11"	13'-6"	—	—	—	—	—	—			12'-9"			2'-6"	3'-0"			7'-6"		21			7			5					0.710	114.1
16'	8'-10"	5'-6 9/16"	1'-9 7/16"	1'-6"	1'-5"	1'-2 7/16"	1.01	0.76	0.63	#6	29	5'-11"	7'-9"	13'-8"	#6	30	6'-11"	2'-10"	9'-9"	#6	30	7'-6"	#6	30	9'-3"			14'-4"			2'-11"	3'-5"			8'-4"		25			7			6					1.116	117.5
18'	10'-2"	6'-9 3/16"	1'-10 13/16"	1'-6"	1'-7"	1'-3 1/4"	1.01	0.93	0.82	#7	29	7'-1"	9'-9"	16'-10"	#6	30	8'-3"	3'-0"	11'-3"	#6		9'-4"			9'-3"			16'-2"			3'-1"	3'-7"			9'-8"		27			8			7					1.362	143.3
20'	11'-6"	7'-11 3/16"	2'-0 3/16"	1'-6"	1'-9"	1'-4"	1.02	1.12	1.03	#7	29	8'-2"	9'-2"	17'-4"	#7	30	9'-7"	3'-8"	13'-3"	#7		11'-2"			9'-3"			18'-0"			3'-3"	3'-9"			11'-0"		29			9			7					1.630	169.4
22'	12'-10"	9'-2 7/16"	2'-1 9/16"	1'-6"	1'-11"	1'-4 13/16"	1.05	1.34	1.26	#8	29	9'-3"	11'-2"	20'-5"	#7	30	10'-11"	3'-10"	14'-9"	#7		13'-0"			9'-3"			19'-10"			3'-5"	3'-11"			12'-4"		31			10			8					1.914	202.1
24'	14'-2"	10'-5 1/8"	2'-2 15/16"	1'-6"	2'-1"	1'-5 9/16"	1.08	1.59	1.51	#8	29	10'-4"	11'-3"	21'-7"	#8	30	12'-3"	4'-8"	16'-11"	#8		14'-10"			9'-3"			21'-8"			3'-7"	4'-1"			13'-8"		35			11			9					2.219	242.4
26'	15'-6"	11'-7 11/16"	2'-4 5/16"	1'-6"	2'-3"	1'-6 5/8"	1.11	1.87	1.80	#9	29	11'-5"	12'-1"	23'-6"	#9	30	13'-7"	5'-5"	19'-0"	#9	30	16'-8"	#6	30	9'-3"	#5	30	23'-6"	#5	30	3'-9"	4'-3"	#5	21	15'-0"	#5	37	29'-6"	#5	12	31'-9"	#5	9	31'-9"	#5	40	8'-10"	2.544	306.7



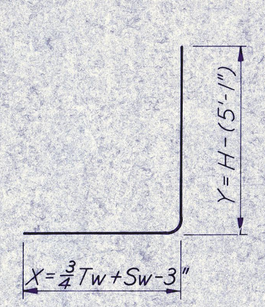
H > 14'

H ≤ 14'

BARS A1

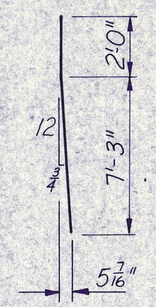


H > 14'

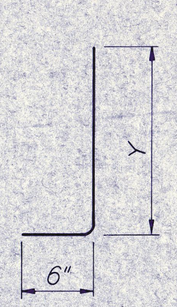


H ≤ 14'

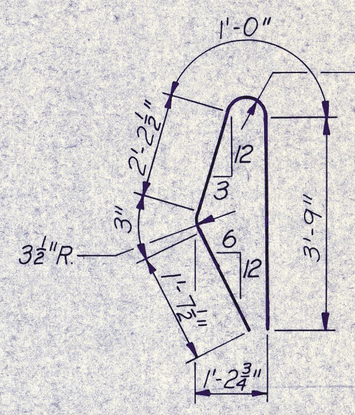
BARS A2



BARS A4



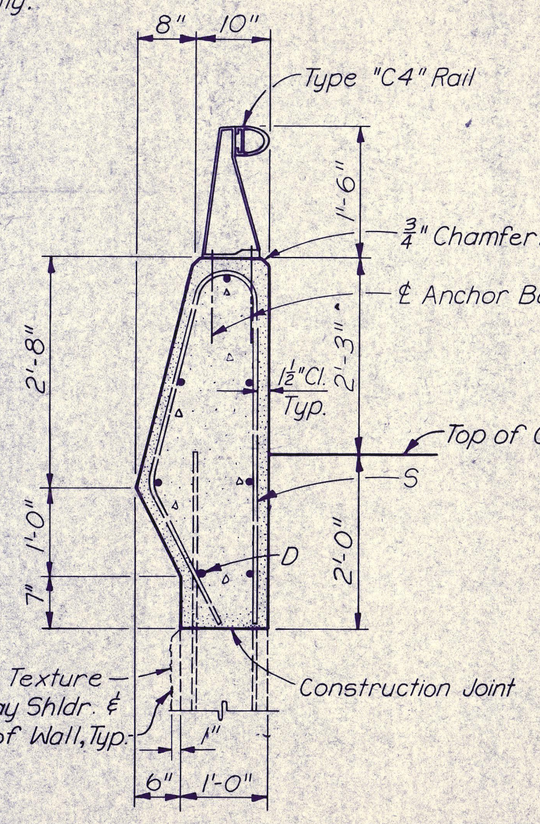
BARS B2



BARS S

* 7 - bars "D" in parapet are included for Contractor's information only.

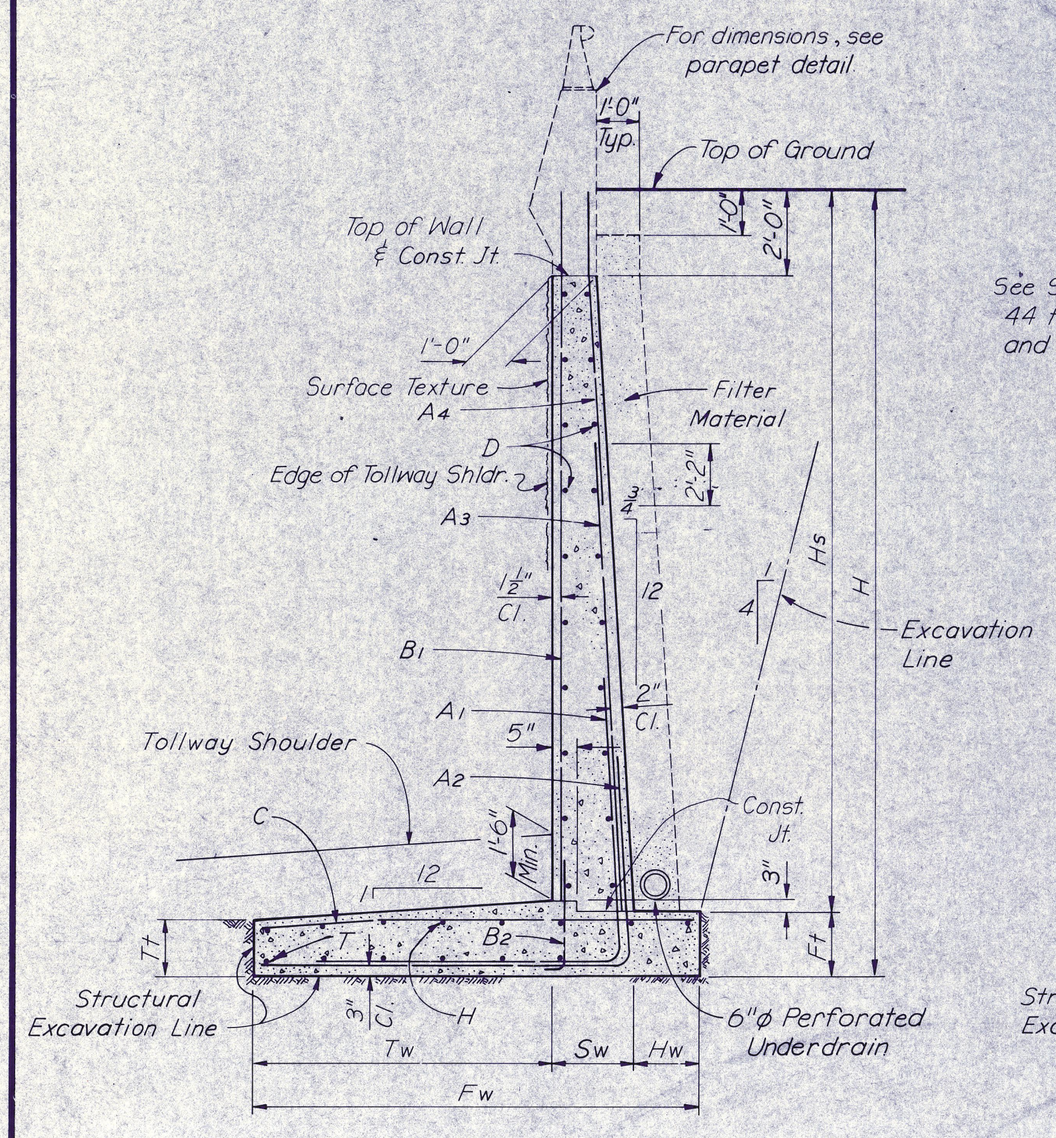
** Bars for parapet are included for Contractor's information only.



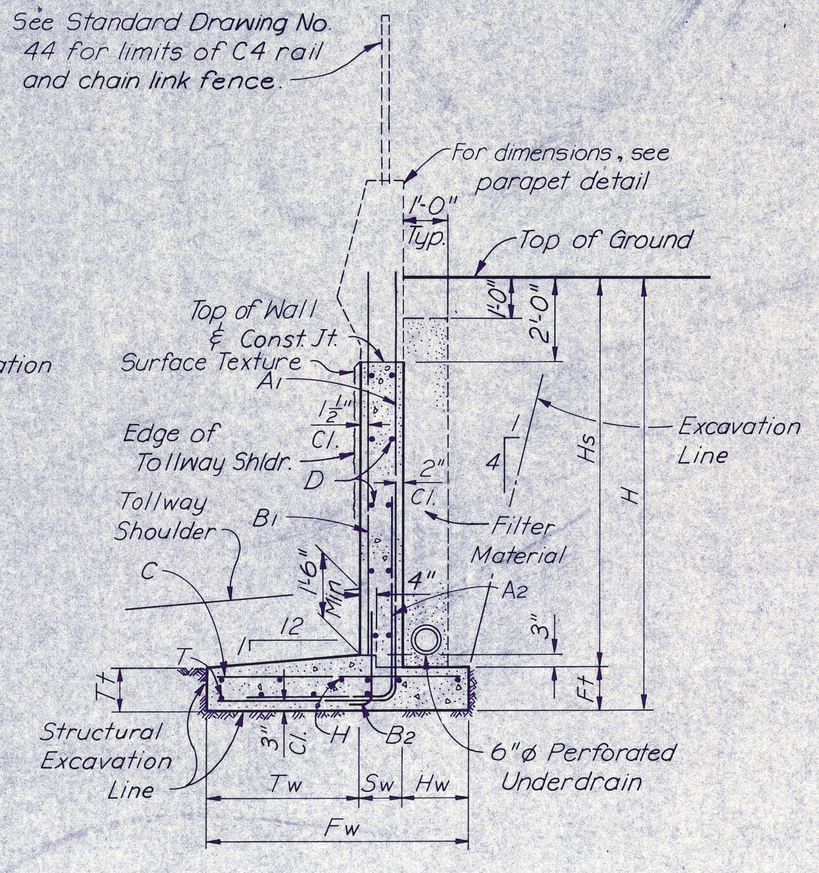
PARAPET DETAIL

GENERAL NOTES:

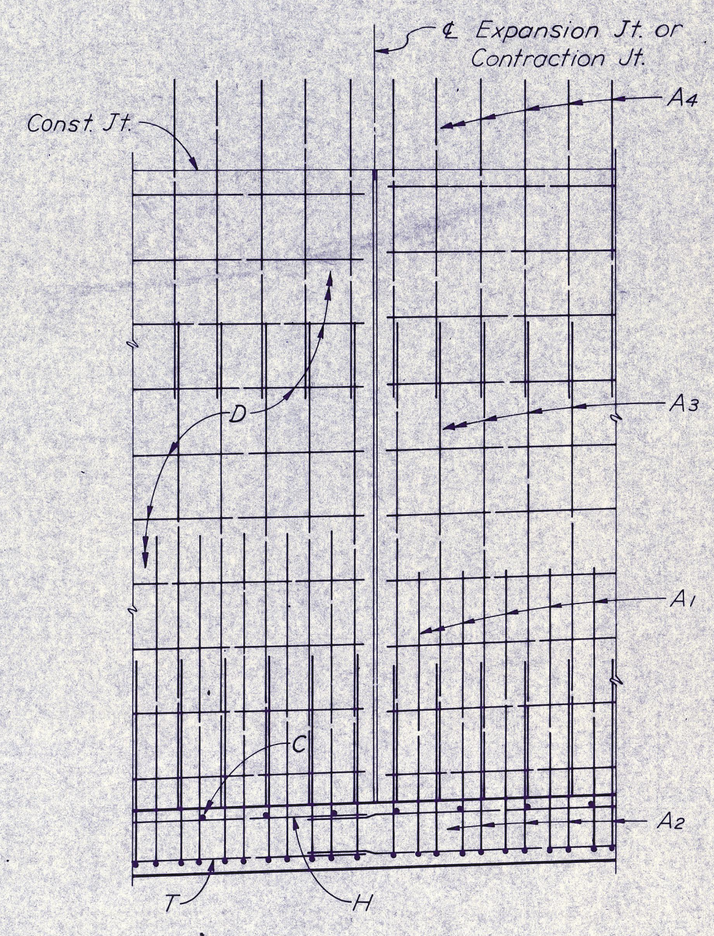
- Designed according to AASHTO 1977 Standard Specifications and Interim Specifications thru 1982.
- Walls are designed using a 30 p.s.f. eq. fluid pressure and a 2'-0" live load surcharge.
- All concrete to be Class C, f'c = 3,600 p.s.i.; fc = 1,440 p.s.i.
- All reinforcing steel to be ASTM A-615, Grade 60. Bar dimensions are given out to out of bar. Radii are given to the inside of the bar.
- The bottom of the footing shall be placed 1'-0" below the top of unweathered rock.
- Expansion joints shall be placed at 90 ft. centers. Contraction joints shall be placed at all other panel points.
- Quantities include wall and footing only.
- For additional details, see Standard Drawing No. 43.
- If this wall construction type is selected, the Contractor shall develop all necessary reinforcing steel schedules and shop drawings necessary to complete the work and submit these drawings and schedules for approval prior to beginning fabrication and construction.
- Footings shall be poured to neat lines against undisturbed material.
- Wall areas given are measured between the top of wall and the top of footing. The parapet or parapet and rail shall be paid for under Item 450, "Railing".
- See Standard Drawing No. 33 for details of C4 aluminum railing.



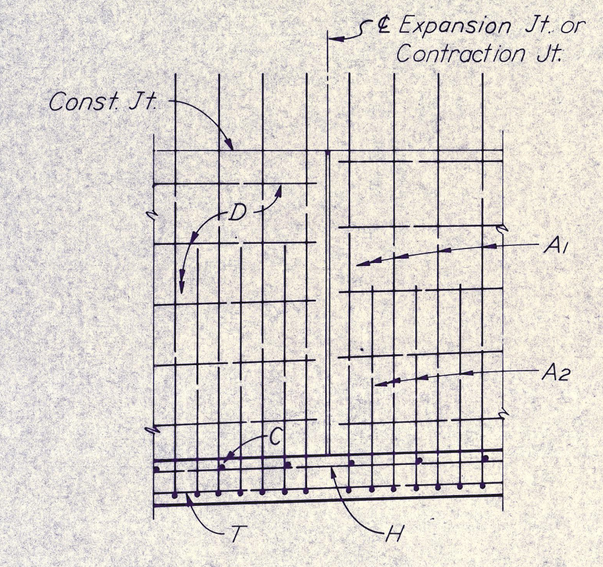
SECTION
H > 14'



SECTION
H ≤ 14'



REAR ELEVATION
H > 14'



REAR ELEVATION
H ≤ 14'

NO.	REVISION	BY	DATE

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

DEPRESSED ROADWAY SECTION
CAST-IN-PLACE CONCRETE
RETAINING WALL DETAILS

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SECTION VII

DRAWN J.T.K. DATE 3-29-83 | DESIGNED J.B.L. DATE 3-10-83
CHECKED Y.A.L. DATE 4-29-83 | SCALE None

STANDARD DRAWING NO. 42

CONTRACT NO. DNT-115