Index 6010 C-I-P Cantilever Retaining Wall (Rev. 07/13)

Design Criteria

AASHTO LRFD Bridge Design Specifications, 6th Edition; Structures Design Guidelines (SDG)

Design Assumptions and Limitations

Use this standard with Indexes 6100 and 6200 Series as appropriate.

The Retaining Wall Standard Drawings consist of **Design Standards** Index 6010 and companion Data Tables, located in the FDOT Structures Bar Menu as MicroStation CADD cells. These Standard Drawings are intended to work in conjunction with each other and the **LRFD** Retaining Wall Program, developed by the Structures Design Office.

Design assumptions used in the development of the Standard Drawings may be found in 'Retaining Wall Notes' within the Program. The Standard Drawings and Program are intended for C-I-P cantilever retaining walls only, not abutments. At a minimum, the EOR should consider the applicability of the following: overall stability, settlement and seismic loading.

The Engineer of Record (EOR) shall be responsible for the Retaining Wall Design in its entirety. The EOR should complete and/or alter the Standard Drawings to suit the particular design. The EOR should consider the appropriateness of the use of the Standard Drawings and Program if the particulars of the design conflict significantly with the assumptions used in the development of the Standard Drawings.

The Standard Drawings are intended to work in conjunction with Retaining Wall Control Drawings located within the Plans. The Control Drawings should define geometrics, locations and other specifics of the Retaining Wall such that when used in conjunction with the Standard Drawings, the Contractor has sufficient information for construction.

Table 6010-1 Durability Requirements for Applicable FDOT Wall Type

Augulia de la EDOT	D	urability Requiremer	nts
Applicable FDOT Wall Types	Concrete Cover (in.)*	Concrete Class	Pozzolan Additions (Y/N)**
Type 1A	2	II	No
Type 1B	2	IV	No
Type 1C	3	IV	No
Type 1D	3	IV	Yes

^{*} See SDG for concrete cover requirements for external surfaces cast against earth.

^{**} See SDG 1.4.3.G

Plan Content Requirements

Prepare Wall Control Drawings and related drawings as specified in SDM Chapter 19 and PPM Vol. 1, Chapter 30, and include them in the plans.

The Program outputs five text files:

- retwall line1.txt
- retwall_line2.txt
- retwall_line3.txt
- retwall line4.txt
- retwall_line5.txt use data to complete Summary of Quantities table by pay item number in the plans

Text files for lines 1-4 correspond sequentially to the four Retaining Wall Data tables contained in the companion Data Tables for Index 6010. Complete these data tables using the four text files and include the Data Tables in the plans. Text file line 5 contains quantity values that must be included separately in the Summary of Quantities table for the project. Complete the Notes and add/modify/delete as necessary. If enhanced aesthetics are required, include drawings or reference a texture from Index 5200 in the Retaining Wall Notes. See Introduction I.3 for more information regarding use of Data Tables.

The text files can be inserted into the tables by using the 'Include' Key-In Utility in MicroStation at the active points in each table. True Type Font, 'FDOT Mono' must be used to align inserted text with table columns.

C-I-P CANTILEVER RETAINING WALLS DATA TABLES

WALL DIMENSIONS Table Date												ible Date (01-01-11												
Wall	Ве	gin	E	nd	- Ro	Hei gin	_	nd	W	all ngth	D	W	L _f	oot	L _t	oe	Slope	D	oil	L	Dkey	V step			FtgCov (bot.)
No.	Station	Offset	Station	Offset	ft.	in.	ft.	in.	ft.	in.	in.	in.	ft.	in.	ft.	in.	Bkwall	ft.	in.	in.	in.	in.	in.	in.	in.
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Bars J							Bars K											Bars M												
Wall No.	Size	No.	Spacing	Ве	gin	A E	nd		В		rage Length	Size	No.	Spacing	Be	gin ,	4 <i>Ei</i>	nd	,	3	Ave. Total	rage Length	Size	No.	,	4	ı	3	Total :	Length
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	Bars H Bars G1								Bars R Bars Z								Bars A					A						
Wall			Spacing	lar	ath				No. of	Total	Length			Ler	ath			Spacing	l or	ngth				Ler	gth			rage
No.	Size	No.	Spacing	LCI	igen	Size	No.	Spacing	Lap		Lengen	Size	No.	Len	igen	Size	No.	Spacing	LC	igen	Size	No.	Be	gin	E	nd	Len	igth
L			in.	ft.	in.			in.	Splices	ft.	in.			ft.	in.			in.	ft.	in.			ft.	in.	ft.	in.	ft.	in.
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	BILL OF REINFORCING STEEL												Ta	Table Date 01-01-11				
	Bars F											5 G2		Bars D				
Wall			Spacing		Ler	igth		Average				Length				Lor	ngth	
No.	Size	No.	Spacing	Be	gin	E	nd	Len	gth	Size	No.	Length		Size	No.	Le1.	igtii	
			in.	ft.	in.	ft.	in.	ft.	in.			ft.	in.			ft.	in.	

NOTES:

- Work these Data Tables with Index No. 6010.
 Concrete Class _____ (f'c = ____psi) with/without silica fume, metakaolin or ultrafine fly ash.
 Wall exposed face surface texture shall be ______
- 4. Environmental Classification is
- 5. Minimum Soil Nominal Bearing Resistance =
- A value of '0' for Slope Backwall indicates front and back of wall are parallel.
- 7. Dsoil is typical depth of soil and is used for design purposes only. See Control Drawings for actual ground line.
- 8. Non-zero values for Lkey and Dkey indicate the existence of a shear key.
- 9. A non-zero value for Vstep indicates the existence of a footing step, see Control Drawings for location. 10. Bars J, K, A and F vary uniformly between begin and end wall heights as indicated by begin and end dimensions.
- 11. The number of G1 Bars includes 2 additional bars when a shear key is specified.
- 12. For walls with variable begin/end height, Bars G2 shall be fanned such that they are evenly spaced throughout length of wall.

Payment

Item number	Item description	Unit Measure
400-2-11	Concrete Class II, Retaining Walls	CY
400-4-11	Concrete Class IV, Retaining Walls	CY
415-1-3	Reinforcing Steel - Retaining Wall	LB

Commentary: Retaining Wall quantities shall not include concrete nor reinforcing steel for Index 6100 Series Traffic Railings.

See Instructions for Design Standards Index 6100 Series for Traffic Railing/Junction Slab Pay Items as required.