S.D. Ireland
Concrete Construction Corporation
802-863-6222 • Fax: 802-860-1528
www.sdireland.com

CONCRETE MIX DESIGN

6000 psi

SCC

SDI MIX CODE: P60TER

DATE: January 21, 2013 **PLANT:** Burlington, VT

PROJECT: **General DOT Precast - 2013**

FINE AGGREGATE:
ASTM C 33

Source:	Hinesburg Sand & Gravel
Specific Gravity:	2.65 (Abs.: 1.34%)
Fineness Modulus:	2.65

COARSE AGGREGATE#1:
ASTM C 33

Source:	S.D. Ireland, Brownell Quarry
Specific Gravity:	2.80 (Abs.: 0.30%)
Description	3/4" 100% Crushed Stone (Size #67)

COARSE AGGREGATE#2:
ASTM C 33

Source:	Hinesburg Sand & Gravel
Specific Gravity:	2.64 (Abs.: 1.72%)
Description	3/8" to No.8 Round Stone (Size #8)

CEMENT: Ternary Blend Cement; Lefarge North America Lakes and Seaway Re St. Constant, Quebec Specific Gravity: 3.02

ADMIXTURES: High Range Water Reducer (HRWR): Glenium 7500; BASF
Air Entraining Agent: Darex II AEA; Grace Concrete Chemicals

CONSTITUENTS (LBS. /YD³)

		Abs.Vol.
Coarse Aggregate (SSD) #1	1500	8.58
Coarse Aggregate (SSD) #2	250	1.52
Fine Aggregate (SSD)	1028	6.22
Cement	800	4.25
Water	300	4.81
Air Content (Entrained)	6.0%	1.62
Total	3878	27.00ft³

MIX PROPERTIES

Water Cement Ratios: 0.37
Dry Unit Weight: 143 ± pcf
Entrained Air Content: 5.0 % – 9.0%

Approved by James Wild, VAOT structural concrete Engineer. Background break data shows Mix can meet the 6000 psi @ 28 day requirement, but not consistently. Approval does not relieve the precaster from meeting the 6000 psi at 28 day requirement 3/4/13

***ADMIXTURE(S) DOSEAGE (OZ. /YD³)**

Glenium 7500 (HRWR)	48 - 64
Darex II AEA	2.5

*Admixture dosage rates are subject to change.

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DATE: Tuesday, December 18, 2012
SUBJECT: Precast Concrete Compression Test Report
PROJECT: STP RS 0284 (11) JOB #: 11707
MIX: P60TER

DATE CAST	SERIES	AGE (DAYS)	REQUIRED 28 DAY STRENGTH (PSI)	ACTUAL STRENGTH (PSI)	SPREAD (INCHES)	% AIR CONTENT	CONC. TEMP. °F	PIECE CAST	NOTES
10/31/12	1A	18(hrs)	-	2680*	22.75	6.9	63	WW-1A (Footing) BC-2 (1st)	*Pieces were left in forms to gain strength for the 3000PSI stripping requirement.
	B	1	-	3070					
	C	7	-	4490					
	D	7	-	4380					
	E	28	5000	5950					
	F	28	5000	6000					
	G	28	5000	5880					
	H	28	5000	6050					
11/01/12	2A	1	-	3060	24.25	6.8	63	Cut-Off Wall 1A	
	B	1	-	3080					
	C	7	-	4180					
	D	7	-	4180					
	E	27	5000	6250					
	F	27	5000	6370					
	G	28	5000	6330					
	H	28	5000	6320					
11/02/12	3A	3	-	4450	22	7.2	65	BC-1 WW-1A Wall Section	Morning Pour
	B	3	-	4560					
	C	7	-	4790					
	D	7	-	4740					
	E	26	5000	5890					
	F	26	5000	5940					
	G	28	5000	6090					
	H	28	5000	6110					

11/02/12	4A	3	-	4250	22	6.7	65	BC-2 (2end)	Afternoon Pour
	B	3	-	4250				WW-1B Footing Only	
	C	7	-	4450				CW-1B	
	D	7	-	4310					
	E	26	5000	5650					
	F	26	5000	5760					
	G	28	5000	6250					
	H	28	5000	6230					
11/05/12	5A	2	-	3410	23.5	6.1	65	BC-2 (3erd)	
	B	2	-	3480				WW-2B Footing	
	C	7	-	4330				WW-1B Complete	
	D	7	-	4470					
	E	23	5000	5630					
	F	23	5000	5730					
	G	28	5000	6190					
	H	28	5000	6040					
11/06/12	6A	2	-	3440	23.5	6.3	64	BC-2 (4th)	
	B	2	-	3630				CW-2	
	C	7	-	4440				BC-1 Headwall	
	D	7	-	4390					
	E	22	5000	5890					
	F	22	5000	5820					
	G	28	5000	6180					
	H	28	5000	6260					
11/07/12	7A	2	-	3430	25.25	5.5	64	BC-2 (5th)	
	B	2	-	3460				WW-2B	Wall Section
	C	7	-	4850				WW-2A	Footing
	D	7	-	4930					
	E	21	5000	6280					
	F	21	5000	6160					
	G	28	5000	6390					
	H	28	5000	6530					

11/08/12	8A	4	-	4220	21.5	5.9	64	BC-2 (6th)	
	B	4	-	4270				CW-2 (2end)	
	C	7	-	4640					
	D	7	-	4570					
	E	20	5000	5390					
	F	20	5000	5510					
	G	28	5000	5890					
	H	28	5000	6080					
11/09/12	9A	3	-	4530	22	7.5	65	BC-2 (7th)	
	B	3	-	4390				WW-2A Wall	
	C	7	-	4750					
	D	7	-	4640					
	E	19	5000	6230					
	F	19	5000	6110					
	G	28	5000	5860					
	H	28	5000	6050					
11/12/12	10A	2	-	3930	22.5	6.7	66	BC-3	
	B	2	-	4090				CW-1D	
	C	7	-	4700					
	D	7	-	4810					
	E	16	5000	5710					
	F	16	5000	5850					
	G	28	5000	5730					
	H	28	5000	5830					
11/13/12	11A	2	-	3230	22	6.8	65	BC-2 (8th)	
	B	2	-	3300					
	C	7	-	3940					
	D	7	-	3860					
	E	15	5000	5090					
	F	15	5000	5110					
	G	28	5000	5570					
	H	28	5000	5660					

11/14/12	12A	2	-	4020	22.5	6.8	65	BC-2 (9th)	
	B	2	-	4120				CW-1C	
	C	7	-	5040				HW on BC-3	
	D	7	-	4900					
	E	14	5000	5490					
	F	14	5000	5370					
	G	28	5000	5880					
	H	28	5000	5730					
11/15/12	13A	2	-	4730	22	6	65	BC-2 (10th)	LAST POUR
	B	2	-	4610					
	C	11	-	5480					
	D	11	-	5410					
	E	13	5000	5520					
	F	13	5000	5410					
	G	28	5000	6540					
	H	28	5000	6620					