



J. P. CARRARA & SONS, INC
CONCRETE CONTRACTORS
ARCHITECTURAL / STRUCTURAL PRECAST CONTRACTORS

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CONCRETE MIX DESIGN

DATE :	March 28, 2015			
PROJECT :	VAOT - Projects	STATE:	VT	
ENGINEER/ARCH :				
CONTRACTOR :				
CONCRETE SUPPLIER :	J.P. Carrara & Sons, Inc., Middlebury, VT		G _{s, SSD}	
CEMENT SOURCE & TYPE :	Lafarge Type III		3.103	
FLY ASH SOURCE & CLASS:	Headwaters Resources - Class F - Brayton Point		2.35	
COARSE AGGREGATE(I):	J.P. Carrara & Sons, Inc., Middlebury, VT	P-stone (3/4")	ABS = 1.24%	2.58
FINE AGGREGATE :	J.P. Carrara & Sons, Inc., Middlebury, VT	JPC sand	ABS = 0.98%	2.613
AIR ENTRAINING AGENT :	Sika AEA-14			
RETARDING AGENT :	Sika Plastiment			
SELF-CONSOLIDATING ADMIX:	Sika Viscocrete 6100	HRWR + Superplasticizer		
VISCOSITY MODIFIER:	Sika Stabilizer 4R	Not Required; Dosed on an as needed basis		

QUANTITIES PER CUBIC YARD

Identification # : 445MSCC
 Mix Description : Standard SCC - 5,000 & 6,000psi Design; 3,500 @ 18hrs

SPECIFICATIONS REQUIREMENT,	28	Day Strength (psi)	5ksi & 6ksi	750 # Total Cementitious (CM)	Yield
Lafarge Type III	(lbs)		563		2.91
Fly Ash, Class F	(lbs)		188	25% by weight of CM	1.28
P-stone (3/4")	(lbs)(SSD)		1340	47% by weight of total agg.	8.32
JPC sand	(lbs)(SSD)		1520	53% by weight of total agg.	9.32
WATER (gallons) : (Maximum Water =	33.3	Gal.)	31.0		4.14
W/C RATIO (lbs/lb) : (Max W/C =	0.37)	0.34		
Sika AEA-14	(0-20 range) (oz/yd ³)		5.0	7.0% + / -- 2.0%	1.35
Sika Plastiment	(0-6 range) (oz/cwt)		1.0		
Sika Viscocrete 6100	(6-11 range) (oz/cwt)		8.8	24" spread + / -- 4"	
Sika Stabilizer 4R	(0-7 range) (oz/cwt)		0.0	Not Required; Dosed on an as needed basis	
					27.3

Mix Properties:

Max unit wt (#/ft³)
 141.6

Prepared By:

Benjamin L. Cota
 Benjamin L. Cota, Precast Production Engineer

*Approved by James White, V.A.O.T.
 Composite Materials Engineer 4/2/15*