OPINION OF COST FOR NASHUA SIGNAL w/ OVERLAY

PROJECT : Bedford School Study

LOCATION Wallace Drive

STATE PROJECT NO.

FEDERAL PROJECT NO.

ESTIMATE TYPE Study Report

DATE PREPARED: August 15, 2007
Rev. October 22, 2007
Rev. November 21, 2007

ESTIMATED BY: LCG

CHECKED BY: FMK

NASHUA OPTION - OVERALL

ITEM NO	ITEM DESCRIPTION	UNIT	NOTE	UNIT PRICE	Widening of lanes along 101		Widening of Nashua		Emergency Access @ Chestnut		Right turn only @ Bell Hill	
					QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST
201.1	CLEARING AND GRUBBING (F)	A		$ 10,000.00	0.3	$3,000		$0	0.5	$6,000		$0
203.1	COMMON EXCAVATION	CY		$ 10.00	17000	$170,000	4000	$40,000	610	$6,100	25	$250
203.2	ROCK EXCAVATION	CY	50% FOR NASHUA & CHESTNUT, 20% FOR 101	$ 20.00	3400	$68,000	2000	$40,000	305	$6,100	5	$100
203.6	EMBANKMENT-IN-PLACE (F)	CY		$ 7.00	8900	$62,300	200	$1,400	1250	$8,750	25	$175
206.1	COMMON STRUCTURE EXCAVATION	LS	ADD 15% OF TOTAL COST of COM. EXC. & ROCK EXC. COST			$35,700		$12,000		$1,830		$53
206.19	COMMON STRUCTURE EXCAVATION EXPLORATORY											
206.2	ROCK STRUCTURE EXCAVATION											
207.3	UNCLASSIFIED CHANNEL EXCAVATION											
304.1	SAND	CY		$ 15.00	4000	$60,000		$0		$0		$0
304.2	GRAVEL	CY		$ 25.00	4000	$100,000	165	$4,125	300	$7,500		$0
304.3	CRUSHED GRAVEL	CY		$ 25.00	5000	$125,000	200	$5,000	150	$3,750		$0
304.421	CONCRETE CLASS F -FLOWABLE FILL EXCAVATABLE	CY		$ 200.00		$0		$0		$0		$0
403.1105	HOT BITUMINOUS PAVEMENT, MACHINE METHOD (WIDENING)	TON		$ 65.00	3500	$227,500	110	$7,150	170	$11,050	55	$3,575
403.1105	HOT BITUMINOUS PAVEMENT, MACHINE METHOD (OVERLAY)	TON		$ 65.00	700	$45,500	140	$9,100		$0		$0
403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	TON	1% FOR NASHUA & CHESTNUT, 5% FOR 101 OF HBP MACH. COST		250	$11,375	11	$72		$111	1	$36
403.99	TEMPORARY BITUMINOUS PAVEMENT	TON	10% OF MACHINE METHOD QUANTITY	$ 65.00	350	$22,750	11	$715	17	$1,105	6	$358
411.43	PLANT MIX SURFACE TREAT- MENT (ASPHALT CEMENT 3/8")	TON		$ 50.00	0	$0		$0		$0		$0
417	COLD PLANING BITUMINOUS SURFACES (F)	SY		$ 3.00	0	$0		$0		$0		$0
606.14	BEAM GUARDRAIL (STANDARD SECTION- WOOD POSTS)	LF		$ 18.00	1400	$25,200		$0	200	$3,600		$0
606.141	BEAM GUARDRAIL (CURVED W/CRT POSTS)	LS	ADD 40% OF COST OF GUARD RAIL			$10,080		$0		$1,440		$0
606.1454	BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT)											
606.147	BEAM GUARDRAIL (TERMINAL UNIT TYPE G-2)											
606.41291	MODIFIED CONCRETE MEDIAN BARRIER, PRECAST - STANDARD	LF		$ 115.00	0	$0		$0		$0		$0
606.84	ANCHOR FOR CURVED GUARD- RAIL W/CRT POSTS	LS	ADD 40% OF COST OF GUARD RAIL			$10,080		$0		$0		$0
608.26	6" CONCRETE SIDEWALK	SY		$ 40.00	0	$0		$0		$0		$0
609.01	STRAIGHT GRANITE CURB	LF		$ 15.00	300	$4,500		$0		$0	100	$1,500
609.02	CURVED GRANITE CURB	LF	5% OF STRAIGHT CURB QUANTITY	$ 25.00	15			$0		$0		$0
609.21	STRAIGHT GRANITE SLOPE CURB	LF		$ 12.00	0	$0		$0		$0		$0
609.811	BITUMINOUS CURB, TYPE B (4" REVEAL)	LF	75% OF GUARD RAIL QUANTITY	$ 3.00	350	$1,050	0	$0	50	$150	0	$0
609.5	RESET GRANITE CURB	LF	20% OF TOTAL GRANITE CURB QUANTITY	$ 6.00	60	$360	0	$0	0	$0	20	$120
214	FINE GRADING	LS	10% OF TOTAL SUB BASE COST			$25,500		$913		$1,125		$0
	SUBTOTAL A					$1,010,895		$120,474		$57,611		$6,166
	MISCELLANEOUS ITEMS (SAMPLE ITEMS BELOW)											
202.31	FILL ABANDONED PIPE	CY	USE 15% OF SUBTOTAL "A" COST									
201.6	CLEARING FOR FENCE LINES (F)	A										
202.41	REMOVAL OF EXISTING PIPE 0-24" DIAMETER	LF										
202.5	REMOVAL OF CATCH BASINS, DROP INLETS, AND MANHOLES	EA										
202.7	REMOVAL OF GUARDRAIL (F)	LF										
304.32	CRUSHED GRAVEL FOR SHOULDER LEVELING /DRIVES	CY										
503	GEOTEXTILE FABRICS	SY										
604.45	ADJUSTING CATCH BASIN DROP INLET GRATE AND FRAMES	EA										
604.55	ADJUSTING MANHOLE COVERS AND FRAMES	EA										
604.922	DROP INLET SEDIMENT TRAP OUTLET	EA										
607.665	CHAIN LINK FENCE WITH VINYL-COATED STEEL FABRIC 6' HIGH	LF										
607.669	POST ASSEMBLIES FOR CHAIN LINK FENCE, 6 FT. HIGH	EA										
608.4	CONCRETE STAIRS	U										
621.2	RETROREFLECTIVE BEAM GUARDRAIL DELINEATOR	EA										
621.31	DELINEATORS WITH POST	EA										
622.1	STEEL WITNESS MARKERS, BOUNDS	EA										
628.1	SAWED PAVEMENT	LF										
608.52	DETECTABLE WARNING PAVERS (SIDEWALK RAMPS)											

645.22	FERTILIZER	TON												
644.82	GRASS SEED, TYPE 82	LB												
645.22	SLOPE STABILIZATION & CHANNEL STABILIZATION	SY												
646.11	TURF ESTABLISHMENT	SY												
659.201	BARK MULCH MATERIAL	CY												
693	ON-THE-JOB TRAINING OF UNSKILLED WORKERS	$												
698.12	FIELD OFFICE TYPE & LAB	MON												
615.012	TRAFFIC SIGN TYPE A,B,C,AA,BB,CC	SF												
	MICELLANEOUS COST SUBTOTAL						$151,031		$18,071		$8,642		$925	
	SUBTOTAL B						$1,162,529		$138,545		$66,252		$7,091	
DRAINAGE COSTS (SAMPLE ITEMS BELOW)														
	STONE FILL, CLASS B,C,D	CY												
	PIPE (24,000 LF)	LF												
	STEEL END SECTIONS	EA												
	CATCH BASINS (180 CB'S)	U												
604.32	DRAINAGE MANHOLES	U												
604.4	RECONSTRUCTING CATCH BASINS & DROP INLETS	LF	USE 10% OF SUBTOTAL "B" COST											
604.85	WATER REPELLENT FOR EXISTING CB'S AND DI'S	EA												
605.79	UNDERDRAIN FLUSHING BASINS	EA												
605.82151	18" AGGREGATE UNDERDRAIN TYPE 2, WITH 6" PIPE	LF												
605.82221	24" AGGRE UND. TYPE 2, WITH OPTION PIPE	LF												
605.906	6" PIPE UNDERDRAIN (CON- TRACTORS OPTION)	LF												
	DRAINAGE COST SUBTOTAL						$116,253		$13,856		$6,625		$709	
	SUBTOTAL C						$1,278,782		$152,400		$72,877		$7,800	
STORMWATER QUALITY/TREATMENT														
	STORMWATER QUALITY/TREATMENT COST SUBTOTAL		USE 10% OF SUBTOTAL "C" COST				$127,878		$15,240		$7,288		$780	
	SUBTOTAL D						$1,406,660		$167,640		$80,165		$8,580	
OTHER COSTS (SAMPLE ITEMS BELOW)														
615.20001	OVERHEAD SIGN STRUCTURES CANTILEVER	EA	USE $1000/LF	$ 1,000.00			$0		$0		$0		$0	
	OVERHEAD SIGN STRUCTURES SPAN	EA	USE $1200/LF	$ 1,200.00			$0		$0		$0		$0	
592.1	RETAINING WALLS	SF	USE $35/SF	$ 35.00			$0		$0		$0		$0	
594.2	SOUND WALL	SF	USE $20 /SF	$ 25.00			$0		$0		$0		$0	
616	TRAFFIC SIGNALS	EA	SIGNAL AT NASHUA		1		$40,000	1	$100,000		$0		$0	
625	LIGHT POLES AND BASES	EA	USE $2,000/ POLE	$ 2,500.00			$0		$0		$0		$0	
618.61	UNIFORMED OFFICERS WITH VEHICLE		USE 2.0 TIMES MAINT OF TRAFFIC COST				$84,400		$10,056		$4,810		$2,300	
618.7	FLAGGERS		USE 20% OF UNIFORMED OFFICER COST				$16,880		$2,012		$962		$0	
619.1	MAINTENANCE OF TRAFFIC	UNIT	USE 3% OF SUBTOTAL "D" COST				$42,200		$5,029		$2,405		$1,000	
606.417	PORTABLE CONCRETE BARRIER FOR TRAFFIC CONTROL	LF		$ 20.00			$0		$0		$0		$0	
	OTHER COSTS SUBTOTAL						$183,479		$147,099		$8,177		$3,300	
MISCELLANEOUS TRAFFIC CONTROL														
619.252	PORTABLE CHANGEABLE MESSAGE SIGN-		USE 55% OF MAINTENANCE OF TRAFFIC											
619.27	TRAILER-MOUNTED SPEED LIMIT SIGN													
619.62	TRUCK-MOUNTED IMPACT ATTENUATOR, TEST LEVEL 2													
678.14	IMPACT ATTENUATION DEVICE													
	MISCELLANEOUS TRAFFIC CONTROL SUBTOTAL						$23,210		$2,706		$1,323		$550	
EROSION, SEDIMENT & POLLUTION CONTROL														
645.51	HAY BALES FOR TEMPORARY EROSION CONTROL	EA												
645.52	RYEGRASS FOR TEMPORARY EROSION CONTROL	LB												
645.531	SILT FENCE	LF	USE 5% OF DRAINAGE COST											
645.7	EROSION AND SEDIMENT CONTROL STORMWATER MGMT PLAN	U												
645.71	MONITORING EROSION AND SEDIMENT CONTROL	HR												
699	TEMPORARY PROJECT WATER POLLUTION CONTROL	$												
	EROSION, SEDIMENT & POLLUTION CONTROL SUBTOTAL						$5,813		$693		$331		$35	
	SUBTOTAL E						$1,619,162		$318,198		$89,998		$12,465	
	ROADWAY MOBILIZATION		USE 5% OF SUBTOTAL E				$80,958		$15,910		$4,500		$623	
	(A)DESIGN/PERMITTING/GEOTECH + (B)CONST. ENG. + (C)CONTINGENCIES		USE 27% OF SUBTOTAL E				$437,174		$85,913		$24,299		$3,366	
	[(A = 10%) + (B = 7%) + (C = 10%) = 27%]													
	MISCELLANEOUS (landscaping, fuel adjust,alterations)		USE 5% OF SUBTOTAL E				$80,958		$15,910		$4,500		$623	
	SUBTOTAL						$2,218,252		$435,931		$123,294		$17,077	
	TOTAL						$2,800,000							

			Cost Inflation 7%/year for 2 years				$2,540,000		$500,000		$140,000		$20,000	
							$3,200,000							