



SR 228 SEC 29D - DESIGN FIELD VIEW COST ESTIMATE

Updated Design Field View Cost Estimate - 4/29/24

ECMS #: 92908		CALC. BY:	NPB	DATE:	4/29/2024
ROUTE: 228		CHECK BY:	ECM	DATE:	4/29/2024
SECTION: 29D					
ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
----	EMBANKMENT (FOR INFORMATION ONLY)	CY	212801		\$0.00
0201-0001	CLEARING AND GRUBBING	LS	1	\$2,000,000.00	\$2,000,000.00
0202-0001	DEMOLITION - PARCEL 76	LS	1	\$20,000.00	\$20,000.00
0202-0002	DEMOLITION - PARCEL 74	LS	1	\$20,000.00	\$20,000.00
0203-0001	CLASS 1 EXCAVATION	CY	180986	\$15.50	\$2,805,283.00
0203-0001	CLASS 1 EXCAVATION - UNDERCUT	CY	61441	\$17.00	\$1,044,497.00
0203-0001	CLASS 1 EXCAVATION - BENCHING	CY	94471	\$17.00	\$1,606,007.00
0204-0001	CLASS 2 EXCAVATION	CY	6078	\$33.00	\$200,574.00
0205-0200	SELECTED BORROW EXCAVATION, 206 ROCK	CY	42743	\$35.00	\$1,496,005.00
0205-0264	SELECTED BORROW EXCAVATION ROCK, CLASS R-4	CY	318	\$90.00	\$28,620.00
0205-0266	SELECTED BORROW EXCAVATION ROCK, CLASS R-6	CY	1580	\$95.00	\$150,100.00
0212-0014	GEOTEXTILE, CLASS 4, TYPE A	SY	153825	\$3.00	\$461,475.00
0301-0006	PLAIN CEMENT CONCRETE BASE COURSE, 10" DEPTH	SY	62690	\$135.00	\$8,463,150.00
0313-0532	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 3 TO < 10 MILLION ESALS, 25.0 MM MIX, 9" DEPTH	SY	47239	\$66.00	\$3,117,774.00
0350-0112	SUBBASE 12" DEPTH (NO. 2A)	SY	110389	\$53.00	\$5,850,617.00
0413-0399	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64E-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, 1 1/2" DEPTH, SRL-G	SY	185788	\$12.50	\$2,322,350.00
0413-6095	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64E-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH	SY	163234	\$17.00	\$2,774,978.00
0413-7019	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE (LEVELING), PG 64E-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX	TON	49000	\$134.00	\$6,566,000.00
0460-0001	ASPHALT TACK COAT	SY	431370	\$0.35	\$150,979.50
0491-0019	MILLING OF ASPHALT PAVEMENT SURFACE, VARIABLE DEPTH, MILLED MATERIAL RETAINED BY CONTRACTOR	SY	79366	\$2.75	\$218,256.50
0501-0020	PLAIN CEMENT CONCRETE PAVEMENT, 4" DEPTH	SY	15163	\$90.00	\$1,364,670.00
0501-0032	PLAIN CEMENT CONCRETE PAVEMENT, 10" DEPTH	SY	377	\$200.00	\$75,400.00
0601-7511	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	LF	17654	\$260.00	\$4,590,040.00
0601-7517	24" REINFORCED CONCRETE PIPE, TYPE A, 7' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	LF	130	\$300.00	\$39,000.00



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0601-7526	30" REINFORCED CONCRETE PIPE, TYPE A, 7' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	LF	1517	\$325.00	\$493,025.00
0601-7536	36" REINFORCED CONCRETE PIPE, TYPE A, 7' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	LF	60	\$550.00	\$33,000.00
0601-7544	48" REINFORCED CONCRETE PIPE, TYPE A, 7' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	LF	130	\$750.00	\$97,500.00
0605-2401	MANHOLE FRAME AND COVER	SET	21	\$1,100.00	\$23,100.00
0605-2620	TYPE D-W ENDWALL	EA	7	\$6,800.00	\$47,600.00
0605-2640	TYPE D ENDWALL FOR 18" PIPE	EA	46	\$2,300.00	\$104,650.00
0605-2642	TYPE D ENDWALL FOR 24" PIPE	EA	10	\$3,200.00	\$31,200.00
0605-2644	TYPE D ENDWALL FOR 30" PIPE	EA	3	\$4,100.00	\$13,325.00
0605-2646	TYPE D ENDWALL FOR 36" PIPE	EA	3	\$5,050.00	\$16,412.50
0605-2650	TYPE D ENDWALL FOR 48" PIPE	EA	3	\$5,500.00	\$17,875.00
0605-2711	TYPE C CONCRETE TOP UNIT AND BICYCLE SAFE GRATE	SET	56	\$2,100.00	\$116,550.00
0605-2730	TYPE M CONCRETE TOP UNIT AND GRATE	SET	11	\$1,840.00	\$20,424.00
0605-2731	TYPE M CONCRETE TOP UNIT AND BICYCLE SAFE GRATE	SET	155	\$2,000.00	\$310,800.00
0605-2850	STANDARD INLET BOX, HEIGHT $\leq 10'$	EA	188	\$3,600.00	\$676,800.00
0605-2854	TYPE 4 INLET BOX, HEIGHT $\leq 10'$	EA	22	\$6,500.00	\$144,300.00
0605-2858	TYPE 5 INLET BOX, HEIGHT $\leq 10'$	EA	6	\$9,500.00	\$52,725.00
0605-2862	TYPE 6 INLET BOX, HEIGHT $\leq 10'$	EA	6	\$15,000.00	\$83,250.00
0605-3010	TYPE 4 MANHOLE, STORM WATER, HEIGHT $\leq 5'$	EA	7	\$6,200.00	\$43,400.00
0605-3021	TYPE 5 MANHOLE, STORM WATER, HEIGHT $>5'$ AND $\leq 10'$	EA	7	\$7,500.00	\$52,500.00
0605-3031	TYPE 6 MANHOLE, STORM WATER, HEIGHT $>5'$ AND $\leq 10'$	EA	7	\$12,000.00	\$84,000.00
0608-0001	MOBILIZATION	LS	1	\$4,750,000.00	\$4,750,000.00
0609-0002	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A	LS	1	\$400,000.00	\$400,000.00
0609-0009	EQUIPMENT PACKAGE	LS	1	\$50,000.00	\$50,000.00
0619-0470	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3 (ENERGY ABSORBING TERMINALS, TANGENT)	EA	8	\$3,300.00	\$26,400.00
0620-0400	TERMINAL SECTION, SINGLE	EA	17	\$120.00	\$2,040.00
0620-0503	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	LF	10663	\$2.25	\$23,991.75
0620-0872	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	EA	6	\$1,205.00	\$7,230.00
0620-1600	TYPE 31-S GUIDE RAIL	LF	14838	\$25.00	\$370,950.00
0620-1660	TYPE 31-STRONG POST ANCHOR TERMINAL	EA	9	\$1,250.00	\$11,250.00
0620-1670	TYPE 31-STRONG POST IN-LINE ANCHOR	EA	18	\$1,500.00	\$27,000.00
0627-3019	TEMPORARY BARRIER, TEST LEVEL 3, BARRIER DEFLECTION DISTANCE $\leq 1'$	LF	8200	\$40.00	\$328,000.00
0628-3019	RESET TEMPORARY BARRIER, TEST LEVEL 3, BARRIER DEFLECTION DISTANCE $\leq 1'$	LF	36800	\$8.00	\$294,400.00
0630-0001	PLAIN CEMENT CONCRETE CURB	LF	1968	\$75.00	\$147,600.00
4633-0200	PLAIN CEMENT CONCRETE CURB, TYPE A, MODIFIED	LF	34523	\$43.00	\$1,484,489.00
0633-0230	PLAIN CONCRETE MOUNTABLE CURB, ROUNDABOUT TRUCK APRON CURB	LF	327	\$65.00	\$21,255.00



ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0641-0005	PLAIN CEMENT CONCRETE CURB GUTTER	SY	331	\$200.00	\$66,200.00
0676-0001	CEMENT CONCRETE SIDEWALK	SY	2228	\$150.00	\$334,200.00
0676-0003	SIDEWALKS AND DRIVEWAY APRONS THROUGH DRIVEWAYS	SY	37	\$225.00	\$8,325.00
0677-0001	SELECTED MATERIAL SURFACING	CY	1529	\$125.00	\$191,125.00
0686-0020	CONSTRUCTION SURVEYING, TYPE B	LS	1	\$300,000.00	\$300,000.00
0686-0050	CONSTRUCTION SURVEYING, TYPE D	LS	1	\$18,000.00	\$18,000.00
0689-0003	CPM SCHEDULE	LS	1	\$25,000.00	\$25,000.00
0696-0610	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3	EA	15	\$3,750.00	\$56,250.00
0697-0610	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3	EA	58	\$1,250.00	\$72,500.00
0849-0010	ROCK CONSTRUCTION ENTRANCE	EA	59	\$8,950.00	\$528,050.00
0901-0450	3-LINE CHANGEABLE MESSAGE SIGN WITH TELECOMMUNICATIONS	EA	2	\$12,000.00	\$24,000.00
0901-0701	TEMPORARY TRAFFIC SIGNALS (PERMANENT ONLY)	EA	6	\$63,000.00	\$378,000.00
0910-4116	AWG 8 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	LF	12250	\$2.50	\$30,625.00
0931-0003	POST MOUNTED SIGNS, TYPE B, STEEL SQUARE POST	SF	240	\$45.00	\$10,800.00
0935-0001	POST MOUNTED SIGNS, TYPE F	SF	85	\$26.00	\$2,210.00
0936-0200	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS	SF	1040	\$80.00	\$83,200.00
0951-0135	TRAFFIC SIGNAL SUPPORT, 35' MAST ARM	EA	1	\$32,000.00	\$32,000.00
0951-0150	TRAFFIC SIGNAL SUPPORT, 50' MAST ARM	EA	4	\$41,000.00	\$164,000.00
0951-0155	TRAFFIC SIGNAL SUPPORT, 55' MAST ARM	EA	6	\$45,000.00	\$270,000.00
0951-0160	TRAFFIC SIGNAL SUPPORT, 60' MAST ARM	EA	3	\$47,500.00	\$142,500.00
0951-2130	TRAFFIC SIGNAL SUPPORT, 30' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT)	EA	1	\$30,000.00	\$30,000.00
0951-2135	TRAFFIC SIGNAL SUPPORT, 35' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT)	EA	1	\$33,000.00	\$33,000.00
0951-2145	TRAFFIC SIGNAL SUPPORT, 45' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT)	EA	3	\$41,000.00	\$123,000.00
0951-2150	TRAFFIC SIGNAL SUPPORT, 50' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT)	EA	10	\$45,000.00	\$450,000.00
0951-2155	TRAFFIC SIGNAL SUPPORT, 55' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT)	EA	3	\$48,000.00	\$144,000.00
0951-2160	TRAFFIC SIGNAL SUPPORT, 60' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT)	EA	9	\$53,000.00	\$477,000.00
0951-4014	TRAFFIC SIGNAL SUPPORT, 14' PEDESTAL	EA	14	\$6,200.00	\$86,800.00
0954-0012	2 INCH CONDUIT	LF	620	\$8.50	\$5,270.00
0954-0014	4 INCH CONDUIT	LF	4390	\$14.00	\$61,460.00
0954-0151	TRENCH AND BACKFILL, TYPE I	LF	15690	\$12.00	\$188,280.00
0954-0201	SIGNAL CABLE, 14 AWG, 3 CONDUCTOR	LF	9600	\$2.70	\$25,920.00
0954-0202	SIGNAL CABLE, 14 AWG, 5 CONDUCTOR	LF	18250	\$3.25	\$59,312.50
0954-0203	SIGNAL CABLE, 14 AWG, 7 CONDUCTOR	LF	3900	\$4.00	\$15,600.00
0954-0302	JUNCTION BOX, JB-27	EA	34	\$1,500.00	\$51,000.00
0954-0500	DIRECTIONAL BORING	LF	2025	\$100.00	\$202,500.00
0955-3208	VEHICULAR SIGNAL HEAD, THREE 12" SECTIONS	EA	69	\$1,200.00	\$82,800.00
0955-3209	VEHICULAR SIGNAL HEAD, FOUR 12" SECTIONS	EA	14	\$1,550.00	\$21,700.00
0955-3210	VEHICULAR SIGNAL HEAD, FIVE 12" SECTIONS	EA	10	\$2,000.00	\$20,000.00
0955-3722	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, TYPE A	EA	42	\$835.00	\$35,070.00



ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0956-0500	PEDESTRIAN PUSH BUTTON	EA	42	\$450.00	\$18,900.00
0962-1000	4" WHITE WATERBORNE PAVEMENT MARKINGS	LF	52010	\$0.25	\$13,002.50
0962-1001	6" WHITE WATERBORNE PAVEMENT MARKINGS	LF	26058	\$0.35	\$9,120.30
0962-1005	4" YELLOW WATERBORNE PAVEMENT MARKINGS	LF	49352	\$0.25	\$12,338.00
0963-0001	PAVEMENT MARKING REMOVAL	SF	1491	\$3.00	\$4,473.00
0963-0010	PAVEMENT MARKING REMOVAL (LEGENDS AND SYMBOLS)	EA	10	\$100.00	\$1,000.00
0964-0008	8" WHITE EPOXY PAVEMENT MARKINGS	LF	92	\$3.00	\$276.00
0964-0011	12" WHITE EPOXY PAVEMENT MARKINGS	LF	36	\$8.00	\$288.00
0964-0021	24" WHITE EPOXY PAVEMENT MARKINGS	LF	4023	\$15.00	\$60,345.00
0964-0022	24" YELLOW EPOXY PAVEMENT MARKINGS	LF	778	\$15.00	\$11,670.00
0964-0222	WHITE EPOXY LEGEND, "RIGHT ARROW", 12' - 0" X 3' - 0"	EA	64	\$300.00	\$19,200.00
0964-0224	WHITE EPOXY LEGEND, "LEFT ARROW", 12' - 0" X 3' - 0"	EA	89	\$300.00	\$26,700.00
0964-0255	WHITE EPOXY LEGEND, "YIELD LINE" , 12" X 18" TRIANGLE, (MIN 6 TRIANGLES PER LINE)	LF	54	\$45.00	\$2,430.00
0964-0404	WHITE EPOXY PAVEMENT LEGEND, "D", 8'-0"	EA	3	\$65.00	\$195.00
0964-0405	WHITE EPOXY PAVEMENT LEGEND, "E", 8'-0"	EA	3	\$65.00	\$195.00
0964-0409	WHITE EPOXY PAVEMENT LEGEND, "I", 8'-0"	EA	3	\$65.00	\$195.00
0964-0412	WHITE EPOXY PAVEMENT LEGEND, "L", 8'-0"	EA	3	\$65.00	\$195.00
0964-0425	WHITE EPOXY PAVEMENT LEGEND, "Y", 8'-0"	EA	3	\$65.00	\$195.00
4954-0403	ELECTRICAL SERVICE, TYPE C WITH UPGRADED SURGE PROTECTION	EA	8	\$4,500.00	\$36,000.00
9910-2828	LED LUMINAIRE, ARM MOUNT	EA	31	\$3,300.00	\$102,300.00
9951-0140	TRAFFIC SIGNAL SUPPORT, 40' MAST ARM, DECORATIVE	EA	1	\$42,000.00	\$42,000.00
9951-0150	TRAFFIC SIGNAL SUPPORT, 50' MAST ARM, DECORATIVE	EA	1	\$45,000.00	\$45,000.00
9951-2155	TRAFFIC SIGNAL SUPPORT, 55' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT), DECORATIVE	EA	1	\$50,000.00	\$50,000.00
9951-2160	TRAFFIC SIGNAL SUPPORT, 60' MAST ARM WITH LUMINAIRE ARM (30' MOUNTING HEIGHT), DECORATIVE	EA	3	\$55,000.00	\$165,000.00
9951-4014	TRAFFIC SIGNAL SUPPORT, 14' PEDESTAL, DECORATIVE	EA	3	\$8,800.00	\$26,400.00
9951-4570	TRAFFIC SIGNAL SUPPORT, STRAIN POLE, 8,000 LBS DESIGN TENSION, DECORATIVE	EA	4	\$35,000.00	\$140,000.00
9952-1030	CONTROLLER AND CABINET ASSEMBLY INSTALLATION WITH UNINTERRUPTIBLE SYSTEM, TYPE 1 MOUNTING	EA	8	\$40,000.00	\$320,000.00
9954-0012	1-1/4 INCH QUAD INTERCONNECT CONDUIT	LF	14900	\$14.00	\$208,600.00
9954-0148	SINGLE-MODE FIBER OPTIC CABLE, 48 CONDUCTOR	LF	14900	\$14.00	\$208,600.00
9954-0301	TRAFFIC SIGNAL INTERCONNECT JUNCTION BOX	EA	32	\$3,500.00	\$112,000.00
9954-0302	SINGLE-MODE FIBER OPTIC CABLE, SPLICE FOR MID SPAN ACCESS	EA	8	\$10,000.00	\$80,000.00
9954-0303	SINGLE-MODE FIBER OPTIC CABLE, SPLICE/TERMINATION	EA	2	\$5,000.00	\$10,000.00
9954-0600	UNINTERRUPTIBLE POWER SOURCE FOR TRAFFIC SIGNAL BATTERY VAULT	EA	8	\$3,100.00	\$24,800.00



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9956-0700	VIDEO DETECTION SYSTEM, AUTOSCOPE	EA	8	\$45,000.00	\$360,000.00
9956-0771	ADVANCE RADAR DETECTION SYSTEM	EA	8	\$20,000.00	\$160,000.00
9956-0802	ACOUSTIC EMERGENCY VEHICLE PREEMPTION SYSTEM - 3 APPROACHES, SONEM 2000	EA	2	\$16,000.00	\$32,000.00
9956-0803	ACOUSTIC EMERGENCY VEHICLE PREEMPTION SYSTEM - 4 APPROACHES, SONEM 2000	EA	6	\$18,000.00	\$108,000.00
9956-5000	CCTV FOR SIGNALIZED INTERSECTION, AXIS P.T.Z. VIDEO CAMERA	EA	8	\$9,200.00	\$73,600.00
1018-0001	REMOVAL OF EXISTING BRIDGE	LS	2	\$30,000.00	\$60,000.00
8510-0001	PRECAST REINFORCED CONCRETE BOX CULVERT	LS	1	\$1,888,200.00	\$1,888,200.00
8510-0002	PRECAST REINFORCED CONCRETE BOX CULVERT	LS	1	\$1,833,500.00	\$1,833,500.00
9000-0002	STORMWATER MANAGEMENT BASIN	LS	18	\$40,000.00	\$720,000.00
9000-0003	STREAM WORK, DAM AND PUMP	LS	2	\$20,000.00	\$40,000.00
SUBTOTAL:					\$67,649,233.55
EROSION AND SEDIMENT CONTROL (5%)					\$3,382,461.68
MAINTENANCE AND PROTECTION OF TRAFFIC (5%)					\$3,382,461.68
2% / year 3 years Through 2027					\$4,464,849.41
CONTINGENCY (20%):					\$13,529,846.71
CONSTRUCTION SUBTOTAL:					\$92,408,853.03
CONSTRUCTION ENGINEERING (10%):					\$9,240,885.30
TOTAL ESTIMATED COST:					\$101,650,000.00

**RIGHT-OF-WAY ACQUISITION COSTS AND UTILITY COSTS HAVE NOT BEEN CONSIDERED IN THESE ESTIMATES