



MADERA STATION RELOCATION PROJECT

APPENDIX F
PRELIMINARY PROJECT CAPITAL
COST ESTIMATES

SAN JOAQUIN JOINT POWERS AUTHORITY

JANUARY 2021

Madera Station Relocation Project - Preliminary Cost Estimate Summary

20-Aug-20

<u>Item Code</u>	<u>Description</u>	<u>Construction Cost</u>	<u>Project Cost</u>
MS-1	PHASE 1 - SAN JOAQUINS RELOCATED STATION	\$18,900,314	\$24,910,614
MS-2	PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (ACCESS ROAD)	\$22,327,288	\$29,427,365
MS-3	PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (HSR PLATFORM & PARKING AREA EXPANSION)	\$7,725,838	\$10,182,655
MS-4	PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (HSR TRACK)	\$49,567,609	\$65,330,109
<i>Project Total</i>		\$98,521,049	\$129,850,742
<u>Note:</u>			
	If intrusion protection is needed for the HSR Station Track (ADD)	\$10,800,000	\$14,234,400

Madera Station Preliminary Cost Estimate Summary

20-Aug-20

MS-1

PHASE 1 - SAN JOAQUINS RELOCATED STATION

<u>Item Description</u>	<u>Construction Cost</u>
Civil Works	\$9,054,493
Track, Signal & Train Control	\$3,489,549
Structures	\$0
Stations	\$4,003,696
Right of Way	\$650,000
Subtotal	\$17,197,738
Escalation from 2017 to 2020 (9.9%)	\$18,900,314
Project Cost	\$24,910,614

Madera Station Preliminary Cost Estimate Summary

20-Aug-20

MS-2

PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (ACCESS ROAD)

<u>Item Description</u>	<u>Construction Cost</u>
Civil Works	\$14,998,503
Track, Signal & Train Control	\$0
Structures	\$3,780,000
Stations	\$0
Right of Way	\$1,537,500
Subtotal	\$20,316,003
Escalation from 2017 to 2020 (9.9%)	\$22,327,288
Project Cost	\$29,427,365

Madera Station Preliminary Cost Estimate Summary

20-Aug-20

MS-3

PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (HSR PLATFORM & PARKING AREA EXPANSION)

<u>Item Description</u>	<u>Construction Cost</u>
Civil Works	\$880,874
Track, Signal & Train Control	\$0
Structures	\$0
Stations	\$6,149,006
Right of Way	\$0
Subtotal	\$7,029,880
Escalation from 2017 to 2020 (9.9%)	\$7,725,838
Project Cost	\$10,182,655

Madera Station Preliminary Cost Estimate Summary

20-Aug-20

MS-4

PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (HSR TRACK)

<u>Item Description</u>	<u>Construction Cost</u>
Civil Works	\$5,512,634
Track, Signal & Train Control	\$35,833,511
Structures	\$3,141,320
Stations	\$0
Right of Way	\$615,000
Subtotal	\$45,102,465
Escalation from 2017 to 2020 (9.9%)	\$49,567,609
Project Cost	\$65,330,109

STOCKTON SUBDIVISION

Rev1
8/20/2020

Rev 2

DATE

Rev 3

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MS-1 PHASE 1 - SAN JOAQUINS RELOCATED STATION

SCC Codes	Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS								\$9,054,493
40.01	14.2	CLEAR & GRUB LIGHT	AC	\$2,500	\$35,500	40.00%	\$49,700	
40.01		CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
40.01		DEMOLITION	SF	\$8	\$0	30.00%	\$0	
40.01	33260	EARTHWORK COMMON	BCY	\$25	\$831,500	30.00%	\$1,080,950	
40.01		EARTHWORK (EXCAVATION	BCY	\$50	\$0	30.00%	\$0	
40.01		EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
40.01	8000	BORROW	FCY	\$25	\$200,000	30.00%	\$260,000	
40.01		REMOVE HOV LANE CONT	LF	\$400	\$0	30.00%	\$0	
40.07		RECONSTRUCT FREEWAY L	SF	\$100	\$0	50.00%	\$0	
40.01		STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
40.05		RETAINING WALLS (0 TO 10	SF	\$35	\$0	20.00%	\$0	
40.05		RETAINING WALLS (10 TO 20	SF	\$60	\$0	30.00%	\$0	
10.08		SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
10.08		MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
40.05		SOUND WALL	LF	\$90	\$0	50.00%	\$0	
40.02		BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02		BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02	41752	DRAINAGE (DIA-INCH-FOOT	LF	\$12	\$501,027	40.00%	\$701,438	
40.02		DRAINAGE (DIA-INCH-FOOT	LF	\$12	\$0	40.00%	\$0	
40.01		IMPORTED BORROW ROADW	CY	\$25	\$0	25.00%	\$0	
40.07	165849	ROADWAY CONSTRUCTION	SF	\$27	\$4,477,924	25.00%	\$5,597,405	
40.07		AGGREGATE BASE ROADW	CY	\$45	\$0	25.00%	\$0	
40.07		ASPHALT CONCRETE ROAD	TONS	\$65	\$0	25.00%	\$0	
40.07		CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
40.07		GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
40.07		ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
40.07		STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
50.02		SIGNALLED STREET TRAFFIC	EACH	\$300,000	\$0	20.00%	\$0	
50.02		MODIFIED TRAFFIC SIGNAL	EACH	\$100,000	\$0	20.00%	\$0	
40.02	40	STREET LIGHTING	EACH	\$4,500	\$180,000	20.00%	\$216,000	

		TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0
		MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0
		K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0
		CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0
		STRIPPING	LF	\$1	\$0	20.00%	\$0
40.06	1000	PERMANENT FENCING	LF	\$35	\$35,000	20.00%	\$42,000
		VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0
40.04	9000	SILT FENCE and ORANGE FE	LF	\$15	\$135,000	20.00%	\$162,000
40.04		EROSION CONTROL TEMPOF	SF	\$7	\$0	30.00%	\$0
40.06	10000	LANDSCAPING PERMANENT	SY	\$15	\$150,000	30.00%	\$195,000
40.02	1	UTILITY ALLOCATION	LS	\$750,000	\$750,000	0.00%	\$750,000
40.02		DEVELOP PERMANENT WATI	LS	\$100,000	\$0	30.00%	\$0
40.02		YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0

TRACK WORK

\$2,061,549

40.01	488	REMOVE EXISTING TRACK	TF	\$40	\$19,520	20.00%	\$23,424
40.01		REMOVE EXISTING TURNOUT	EACH	\$25,000	\$0	10.00%	\$0
10.11		SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0
10.11		UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0
10.11	1853	TRACK (INCL RAIL, CONCRE	TF	\$500	\$926,500	25.00%	\$1,158,125
10.11		TRACK (INCL RAIL, WOOD TI	TF	\$450	\$0	25.00%	\$0
10.12		GRADE CROSSING TRACK C	TF	\$750	\$0	20.00%	\$0
10.12		TRACK PANELS	SF	\$75	\$0	30.00%	\$0
10.12		CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0
10.12		CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0
10.12		TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0
10.12		TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0
10.12		TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0
10.12		TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0
10.12		TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0
10.12		TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0
10.12	2	TURNOUT (#20)	EACH	\$400,000	\$800,000	10.00%	\$880,000
10.12		TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0
10.12		DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0
10.12		DERAIL	EACH	\$100,000	\$0	10.00%	\$0
10.12		BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0
10.11		UPGRADE MAINTRACK TO C	TF	\$100	\$0	30.00%	\$0

SIGNAL WORK

\$1,428,000

50.02		PEDESTRIAN GATES & SIGN	EACH	\$100,000	\$0	20.00%	\$0
50.02		CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0

50.01	2 DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000
40.02	2 NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000
50.01	NEW INTERMEDIATE SIGNAL	EACH	\$150,000	\$0	20.00%	\$0
50.01	NEW INTERMEDIATE SIGNAL	EACH	\$300,000	\$0	20.00%	\$0
50.01	2 NEW TURNOUT SIGNAL	EACH	\$325,000	\$650,000	20.00%	\$780,000
50.01	NEW CROSSOVER SIGNAL	EACH	\$500,000	\$0	20.00%	\$0
50.02	NEW GRADE CROSSING SIGNAL	EACH	\$250,000	\$0	20.00%	\$0
50.02	NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
50.01	UPGRADE SIGNALS TO CLASS 1	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

40.01	BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
10.04	RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
10.04	RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
10.04	RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04	HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
10.04	HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04	TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
10.04	PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
	BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
10.06	UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

50.01	POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
50.01	TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
50.01	TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
50.01	TRAIN CONTROL DIGITAL C	EACH	\$500,000	\$0	40.00%	\$0
50.01	COMPUTER TRAFFIC MANAGER	LS	\$1,500,000	\$0	30.00%	\$0
40.02	COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
40.02	LINE UTILITIES WITHIN TRACK	LF	\$30	\$0	30.00%	\$0
40.02	LINE UTILITIES CROSSING TRACK	EACH	\$2,500	\$0	30.00%	\$0
40.02	LINE UTILITIES FIBER OPTIC	LF	\$50	\$0	30.00%	\$0

STATIONS

\$4,003,696

20.01	TYPE A SMALL INTERMODEL	EACH	#####	\$0	20.00%	\$0
20.01	TYPE K LARGE INTERMODEL	EACH	#####	\$0	50.00%	\$0
20.01	9000 STATION PLATFORM STRUCTURE	SF	\$200	\$1,800,000	20.00%	\$2,160,000
20.01	2400 STATION SHELTERS / BUILDINGS	SF	\$75	\$180,000	20.00%	\$216,000
20.01	STATION PLATFORM STRUCTURE	SF	\$300	\$0	20.00%	\$0

40.01	1	STATION PRIMARY ELECTRIC	EACH	\$50,000	\$50,000	10.00%	\$55,000	
20.01		STATION AMENITIES	SF	\$65	\$0	30.00%	\$0	
30.02	30430	SIDEWALK	SF	\$10	\$304,300	30.00%	\$395,590	
40.07	102	PARKING LOTS	SPACES	\$3,000	\$306,000	25.00%	\$382,500	
20.06		PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0	
40.07	22245	BUS LANE AND UNLOADING	SF	\$25	\$556,125	25.00%	\$695,156	
40.02	102	PARKING LOT LIGHTING	SPACES	\$750	\$76,500	30.00%	\$99,450	
20.07		ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0	
20.07		ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0	
RIGHT OF WAY							\$650,000	
60.01		ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0	
60.01	260000	ROW AGRICULTURAL	SF	\$2	\$520,000	25.00%	\$650,000	
60.01		ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0	
60.01		ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0	
60.01		ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0	
60.01		ROW LIGHT INDUSTRIAL ARI	SF	\$14	\$0	25.00%	\$0	
60.01		ROW HEAVY INDUSTRIAL ARI	SF	\$16	\$0	25.00%	\$0	
			VALUE	\$1	\$0	0.00%	\$0	
		BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)						
60.02								
TUNNEL CONSTRUCTION							\$0	
		TUNNELING CONSTRUCTION	LF	\$12,000	\$0	30.00%	\$0	
		TUNNELING CONSTRUCTION	LF		\$0	30.00%	\$0	
		SINGLE BORE RESTORE (DI)	LF	\$12,000	\$0	30.00%	\$0	
		TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0	
GENERAL SUPPORT ITEMS							\$0	
		BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0	
		CALTRANS INTERFACE WOF	DAYS	\$900	\$0	20.00%	\$0	
ROLLING STOCK							\$0	
		ROLLING STOCK DMU EQUIP	EACH	\$8,000,000	\$0	0.00%	\$0	

TOTAL CONSTRUCTION COST	\$17,197,738
Escalation from 2017 to 2020 (9.9%)	\$18,900,314
Project Cost	\$24,910,614

216000

STOCKTON SUBDIVISION

Rev 1
8/20/2020

Rev 2

DATE

Rev 3

Rev 4

MS-2 PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (ACCESS ROAD)

SCC Codes	Estimate CODE	Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENT	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS									\$14,998,503
40.01	40.01	12	CLEAR & GRUB LIGHT	AC	\$2,500	\$30,000	40.00%	\$42,000	
40.01	40.02		CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
40.01	40.03		DEMOLITION	SF	\$8	\$0	30.00%	\$0	
40.01	40.04	25000	EARTHWORK COMMON	BCY	\$25	\$625,000	30.00%	\$812,500	
40.01	40.05		EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
40.01	40.01		EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
40.01		40000	BORROW	FCY	\$25	\$1,000,000	30.00%	\$1,300,000	
40.01			REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
40.07			RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
40.01			STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
40.05			RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
40.05			RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
10.08		8400	SOIL NAIL WALLS	SF	\$70	\$588,000	30.00%	\$764,400	
10.08			MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
40.05			SOUND WALL	LF	\$90	\$0	50.00%	\$0	
40.02			BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02			BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02		35284	DRAINAGE (DI-1/2-INCH-FOOT) - Including Storm W	LF	\$12	\$423,403	40.00%	\$592,764	
40.02	40.05		DRAINAGE (DI-1/2-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
40.01	40.05		IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
40.07		319373	ROADWAY CONSTRUCTION (BASE, PAVE, FINIS	SF	\$27	\$8,623,071	25.00%	#####	
40.07	41.01		AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
40.07	41.05		ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
40.07	30.02		CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
40.07	30.02		GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
40.07	41.01		ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
40.07	41.01		STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
50.02	41.01		SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
50.02		1	MODIFIED TRAFFIC SIGNAL	EACH	\$150,000	\$150,000	20.00%	\$180,000	
40.02	41.01	10	STREET LIGHTING	EACH	\$4,500	\$45,000	20.00%	\$54,000	
	41.01		TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
	41.01		MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
			K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
	41.01		CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
	41.01		STRIPPING	LF	\$1	\$0	20.00%	\$0	

40.06	20.3	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0
		VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0
40.04	50.02	5000 SILT FENCE and ORANGE FENCE	LF	\$15	\$75,000	20.00%	\$90,000
40.04		EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0
40.06	41.01	12000 LANDSCAPING PERMANENT	SY	\$15	\$180,000	30.00%	\$234,000
40.02		1 UTILITY ALLOCATION	LS	\$150,000	\$150,000	0.00%	\$150,000
40.02		DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0
40.02		YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0

TRACK WORK

\$0

40.01	10.03	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0
40.01	10.03	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0
10.11	10.03	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0
10.11	10.03	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0
10.11	10.11	TRACK (INCL RAIL, CONCRETE TIES, BALLAST &	TF	\$500	\$0	25.00%	\$0
10.11	10.11	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUE	TF	\$450	\$0	25.00%	\$0
10.12	10.12	GRADE CROSSING TRACK COMPLETE (T+T+B+SI	TF	\$750	\$0	20.00%	\$0
10.12	10.12	TRACK PANELS	SF	\$75	\$0	30.00%	\$0
10.12	10.12	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0
10.12	10.12	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0
10.12	10.12	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0
10.12	10.12	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0
10.12	10.12	DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0
10.12	10.12	DERAIL	EACH	\$100,000	\$0	10.00%	\$0
10.12	10.12	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0
10.11		UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0

SIGNAL WORK

\$0

50.02	50.02	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0
50.02	50.02	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0
50.01	50.1	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0
40.02	50.15	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0
50.01	50.02	NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
50.01	50.02	NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
50.01	50.02	NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
50.01	50.02	NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
50.02	50.02	NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
50.02	50.02	NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
50.01	50.02	UPGRADE SIGNALS TO CLASS 6	MLE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$3,780,000

40.01		BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
10.04		RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
10.04		RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
10.04		RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04	6300	HIGHWAY BRIDGE CONCRETE	SF	\$400	\$2,520,000	50.00%	\$3,780,000
10.04		HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04		TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
10.04		PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
		BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
10.06		UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

50.01		POSITIVE TRAIN CONTROL	MLE	\$2,000,000	\$0	25.00%	\$0
50.01	50.21	TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
50.01	50.25	TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
50.01	50.2	TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
50.01	40.75	COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
40.02	50.03	COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
40.02		LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
40.02		LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
40.02		LINE UTILITIES FIBER OPTIC PARALLEL TO TR	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

20.01		TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
20.01		TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
20.01	20.01	STATION PLATFORM STRUCTURES NEW	SF	\$200	\$0	20.00%	\$0
20.01	20.01	STATION SHELTERS / BUILDINGS	SF	\$75	\$0	20.00%	\$0
20.01	20.01	STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
40.01	20.01	STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$0	10.00%	\$0
20.01		STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
30.02	20.25	SIDEWALK	SF	\$10	\$0	30.00%	\$0
40.07	20.06	PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
20.06	20.26	PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
40.07		BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
40.02		PARKING LOT LIGHTING	SPACES	\$750	\$0	30.00%	\$0
20.07		ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
20.07		ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$1,537,500

60.01	60.01	ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
60.01		615000 ROW AGRICULTURAL	SF	\$2	\$1,230,000	25.00%	\$1,537,500
60.01	60.01	ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
60.01		ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
60.01		ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
60.01		ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0

60.01	ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0	
60.02	BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0	
	TUNNEL CONSTRUCTION						\$0
	TUNNELING CONSTRUCTION NEW SINGLE BO	LF	\$12,000	\$0	30.00%	\$0	
	TUNNELING CONSTRUCTION NEW TWIN BORE	LF		\$0	30.00%	\$0	
	SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0	
	TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0	
	GENERAL SUPPORT ITEMS						\$0
	BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0	
	CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0	
	ROLLING STOCK & CAPITAL INVESTMENTS						\$0
	ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0	
	TOTAL CONSTRUCTION COST						#####
	Escalation from 2017 to 2020 (9.9%)						\$22,327,288
	Project Cost						\$29,427,365

STOCKTON SUBDIVISION

Rev1 8/20/2020
 Rev 2
 DATE Rev 3
 Rev 4

MS-3 PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (HSR PLATFORM & PARKING AREA EXPANSION)

SCC Codes	Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS								\$880,874
40.01	2.5	CLEAR & GRUB LIGHT	AC	\$2,500	\$6,250	40.00%	\$8,750	
40.01		CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
40.01		DEMOLITION	SF	\$8	\$0	30.00%	\$0	
40.01	5000	EARTHWORK COMMON	BCY	\$25	\$125,000	30.00%	\$162,500	
40.01		EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
40.01		EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
40.01		BORROW	FCY	\$25	\$0	30.00%	\$0	
40.01		REMOVE HOV LANE CONTROLS SYSTEM	LF	\$400	\$0	30.00%	\$0	
40.07		RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
40.01		STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
40.05		RETAINING WALLS (0 TO 10 FEET TALL)	SF	\$35	\$0	20.00%	\$0	
40.05		RETAINING WALLS (10 TO 20 FEET TALL)	SF	\$60	\$0	30.00%	\$0	
10.08		SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
10.08		MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
40.05		SOUND WALL	LF	\$90	\$0	50.00%	\$0	
40.02		BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02		BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02	7351	DRAINAGE (DIA-INCH-FOOT) - Including Storm Wa	LF	\$12	\$88,209	40.00%	\$123,493	
40.02		DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
40.01		IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
40.07	9915	ROADWAY CONSTRUCTION (BASE, PAVE, FINISHE	SF	\$27	\$267,705	25.00%	\$334,631	
40.07		AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
40.07		ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
40.07		CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
40.07		GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
40.07		ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
40.07		STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
50.02		SIGNALLED STREET TRAFFIC CONTROL	EACH	\$300,000	\$0	20.00%	\$0	
50.02		MODIFIED TRAFFIC SIGNAL	EACH	\$150,000	\$0	20.00%	\$0	
40.02	10	STREET LIGHTING	EACH	\$4,500	\$45,000	20.00%	\$54,000	

	TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0
	MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0
	K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0
	CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0
	STRIPPING	LF	\$1	\$0	20.00%	\$0
40.06	PERMANENT FENCING	LF	\$35	\$0	20.00%	\$0
	VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0
40.04	SILT FENCE and ORANGE FENCE	LF	\$15	\$0	20.00%	\$0
40.04	EROSION CONTROL TEMPORARY	SF	\$7	\$0	30.00%	\$0
40.06	5000 LANDSCAPING PERMANENT	SY	\$15	\$75,000	30.00%	\$97,500
40.02	1 UTILITY ALLOCATION	LS	\$100,000	\$100,000	0.00%	\$100,000
40.02	DEVELOP PERMANENT WATER SUPPLY	LS	\$100,000	\$0	30.00%	\$0
40.02	YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0

TRACK WORK

\$0

40.01	REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0
40.01	REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0
10.11	SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0
10.11	UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0
10.11	TRACK (INCL RAIL, CONCRETE TIES, BALLAST & S	TF	\$500	\$0	25.00%	\$0
10.11	TRACK (INCL RAIL, WOOD TIES, BALLAST & SUBB.	TF	\$450	\$0	25.00%	\$0
10.12	GRADE CROSSING TRACK COMPLETE (T+T+B+SB+	TF	\$750	\$0	20.00%	\$0
10.12	TRACK PANELS	SF	\$75	\$0	30.00%	\$0
10.12	CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0
10.12	CROSSOVER No.20	EACH	\$1,000,000	\$0	20.00%	\$0
10.12	TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0
10.12	TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0
10.12	TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0
10.12	TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0
10.12	TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0
10.12	TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0
10.12	TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0
10.12	TURNOUT (#24)	EACH	\$450,000	\$0	10.00%	\$0
10.12	DIA MOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0
10.12	DERAIL	EACH	\$100,000	\$0	10.00%	\$0
10.12	BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0
10.11	UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0

SIGNAL WORK

\$0

50.02	PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0
50.02	CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0
50.01	DOG HOUSE (Signal House)	EACH	\$250,000	\$0	20.00%	\$0

40.02	NEW ELECTRIC SERVICE	EACH	\$20,000	\$0	20.00%	\$0
50.01	NEW INTERMEDIATE SIGNALS SINGLE TRACK	EACH	\$150,000	\$0	20.00%	\$0
50.01	NEW INTERMEDIATE SIGNALS DOUBLE TRACK	EACH	\$300,000	\$0	20.00%	\$0
50.01	NEW TURNOUT SIGNAL	EACH	\$325,000	\$0	20.00%	\$0
50.01	NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$0	20.00%	\$0
50.02	NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
50.02	NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
50.01	UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$0

40.01	BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
10.04	RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$0	30.00%	\$0
10.04	RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
10.04	RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04	HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
10.04	HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04	TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
10.04	PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
	BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
10.06	UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$0

50.01	POSITIVE TRAIN CONTROL	MILE	\$2,000,000	\$0	25.00%	\$0
50.01	TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
50.01	TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
50.01	TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
50.01	COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
40.02	COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
40.02	LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
40.02	LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
40.02	LINE UTILITIES FIBER OPTIC PARALLEL TO TRACK	LF	\$50	\$0	30.00%	\$0

STATIONS

\$6,149,006

20.01	TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
20.01	TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
20.01	15000 STATION PLATFORM STRUCTURES NEW	SF	\$200	\$3,000,000	20.00%	\$3,600,000
20.01	5000 STATION SHELTERS / BUILDINGS	SF	\$75	\$375,000	20.00%	\$450,000
20.01	STATION PLATFORM STRUCTURES UPGRADE	SF	\$300	\$0	20.00%	\$0
40.01	1 STATION PRIMARY ELECTRICAL SERVICE	EACH	\$50,000	\$50,000	10.00%	\$55,000
20.01	STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
30.02	30250 SIDEWALK	SF	\$10	\$302,500	30.00%	\$393,250

40.07	266	PARKING LOTS	SPACES	\$3,000	\$798,000	25.00%	\$997,500
20.06		PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
40.07	12605	BUS LANE AND UNLOADING	SF	\$25	\$315,125	25.00%	\$393,906
40.02	266	PARKING LOT LIGHTING	SPACES	\$750	\$199,500	30.00%	\$259,350
20.07		ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
20.07		ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

							\$0
60.01		ROW LAND ONLY	SF	\$4	\$0	25.00%	\$0
60.01		ROW AGRICULTURAL	SF	\$2	\$0	25.00%	\$0
60.01		ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
60.01		ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
60.01		ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
60.01		ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
60.01		ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
60.01		BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0
60.02							

TUNNEL CONSTRUCTION

							\$0
		TUNNELING CONSTRUCTION NEW SINGLE BORE (1	LF	\$12,000	\$0	30.00%	\$0
		TUNNELING CONSTRUCTION NEW TWIN BORE (DI	LF		\$0	30.00%	\$0
		SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
		TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0

GENERAL SUPPORT ITEMS

							\$0
		BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
		CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0

ROLLING STOCK & CAPITAL INVESTMENTS

							\$0
		ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0

TOTAL CONSTRUCTION COST **\$7,029,880**

Escalation from 2017 to 2020 (9.9%) **\$7,725,838**

Project Cost **\$10,182,655**

STOCKTON SUBDIVISION

DATE

Rev 1
8/20/2020

Rev 2

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MS-4 PHASE 2 - HSR INTERIM OPERATING SEGMENT STATION (HSR TRACK)

SCC Codes	Estimate Quantity	DESCRIPTION	UNITS	UNIT COSTS	BASE COST	CONTINGENCY	TOTAL PRICE	SUB TOTAL WORK ELEMENT
CIVIL WORKS								\$5,512,634
40.01	17	CLEAR & GRUB LIGHT	AC	\$2,500	\$42,500	40.00%	\$59,500	
40.01		CLEAR & GRUB HEAVY	AC	\$5,000	\$0	30.00%	\$0	
40.01		DEMOLITION	SF	\$8	\$0	30.00%	\$0	
40.01		EARTHWORK COMMON	BCY	\$25	\$0	30.00%	\$0	
40.01		EARTHWORK (EXCAVATION ROCK)	BCY	\$50	\$0	30.00%	\$0	
40.01		EMBANKMENT	FCY	\$10	\$0	30.00%	\$0	
40.01	120000	BORROW	FCY	\$25	\$3,000,000	30.00%	\$3,900,000	
40.01		REMOVE HOV LANE CONTROLS SYST	LF	\$400	\$0	30.00%	\$0	
40.07		RECONSTRUCT FREEWAY LANE 580	SF	\$100	\$0	50.00%	\$0	
40.01		STRUCTURE EXCAVATION	CY	\$40	\$0	25.00%	\$0	
40.05		RETAINING WALLS (0 TO 10 FEET TALL	SF	\$35	\$0	20.00%	\$0	
40.05		RETAINING WALLS (10 TO 20 FEET TAL	SF	\$60	\$0	30.00%	\$0	
10.08		SOIL NAIL WALLS	SF	\$70	\$0	30.00%	\$0	
10.08		MSE WALL ROADWAY	SF	\$55	\$0	25.00%	\$0	
40.05		INTRUSION PROTECTION	LF	\$2,400	\$0	30.00%	\$0	
40.02		BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02		BOX CULVERT	CY	\$1,000	\$0	30.00%	\$0	
40.02	49985	DRAINAGE (DIA-INCH-FOOT) - Including	LF	\$12	\$599,821	40.00%	\$839,750	
40.02		DRAINAGE (DIA-INCH-FOOT)	LF	\$12	\$0	40.00%	\$0	
40.01		IMPORTED BORROW ROADWAY	CY	\$25	\$0	25.00%	\$0	
40.07		ROADWAY CONSTRUCTION (BASE, PA	SF	\$27	\$0	25.00%	\$0	
40.07		AGGREGATE BASE ROADWAY	CY	\$45	\$0	25.00%	\$0	
40.07		ASPHALT CONCRETE ROADWAY	TONS	\$65	\$0	25.00%	\$0	
40.07		CONCRETE PAVEMENT	CY	\$210	\$0	20.00%	\$0	
40.07		GUARD RAIL ROADWAY	LF	\$30	\$0	25.00%	\$0	
40.07		ASPHALT DIKES ROADWAY	LF	\$4	\$0	25.00%	\$0	
40.07		STREET RESTORATIONS	SF	\$15	\$0	40.00%	\$0	
50.02		SIGNALLED STREET TRAFFIC CONTRC	EACH	\$300,000	\$0	20.00%	\$0	
50.02		MODIFIED TRAFFIC SIGNAL	EACH	\$150,000	\$0	20.00%	\$0	
40.02		STREET LIGHTING	EACH	\$4,500	\$0	20.00%	\$0	
		TRAFFIC CONTROL	DAYS	\$1,200	\$0	50.00%	\$0	
		MINOR CONCRETE	CY	\$400	\$0	30.00%	\$0	
		K RAIL TEMPORARY	LF	\$30	\$0	30.00%	\$0	
		CONCRETE BARRIER	LF	\$50	\$0	30.00%	\$0	
		STRIPPING	LF	\$1	\$0	20.00%	\$0	
40.06	13302	PERMANENT FENCING	LF	\$35	\$465,570	20.00%	\$558,684	
		VEHICULAR FENCE GATES	EACH	\$2,000	\$0	20.00%	\$0	
40.04		SILT FENCE and ORANGE FENCE	LF	\$15	\$0	20.00%	\$0	

40.04	17000	EROSION CONTROL TEMPORARY	SF	\$7	\$119,000	30.00%	\$154,700
40.06		LANDSCAPING PERMANENT	SY	\$15	\$0	30.00%	\$0
40.02		UTILITY ALLOCATION	LS	\$900,000	\$0	0.00%	\$0
40.02		DEVELOP PERMANENT WATER SUPPL'	LS	\$100,000	\$0	30.00%	\$0
40.02		YARD LIGHTING	EACH	\$2,500	\$0	20.00%	\$0

TRACK WORK

\$15,530,625

40.01		REMOVE EXISTING TRACK	TF	\$40	\$0	20.00%	\$0
40.01		REMOVE EXISTING TURNOUTS	EACH	\$25,000	\$0	10.00%	\$0
10.11		SHIFT EXISTING TRACK	TF	\$100	\$0	20.00%	\$0
10.11		UPGRADE EXISTING TRACK	TF	\$300	\$0	20.00%	\$0
10.11	17841	TRACK (INCL RAIL, CONCRETE TIES, E	TF	\$500	\$8,920,500	25.00%	\$11,150,625
10.11		TRACK (INCL RAIL, WOOD TIES, BALLA	TF	\$450	\$0	25.00%	\$0
10.12		GRADE CROSSING TRACK COMPLETE	TF	\$750	\$0	20.00%	\$0
10.12		TRACK PANELS	SF	\$75	\$0	30.00%	\$0
10.12		CROSSOVER No.15	EACH	\$800,000	\$0	20.00%	\$0
10.12	2	CROSSOVER No.20	EACH	\$1,000,000	\$2,000,000	20.00%	\$2,400,000
10.12		TURNOUT (#7)	EACH	\$200,000	\$0	10.00%	\$0
10.12		TURNOUT (#8)	EACH	\$210,000	\$0	10.00%	\$0
10.12		TURNOUT (#9)	EACH	\$220,000	\$0	10.00%	\$0
10.12		TURNOUT (#10)	EACH	\$250,000	\$0	10.00%	\$0
10.12		TURNOUT (#14)	EACH	\$325,000	\$0	10.00%	\$0
10.12		TURNOUT (#15)	EACH	\$350,000	\$0	10.00%	\$0
10.12		TURNOUT (#20)	EACH	\$400,000	\$0	10.00%	\$0
10.12	4	TURNOUT (#24)	EACH	\$450,000	\$1,800,000	10.00%	\$1,980,000
10.12		DIAMOND CROSSING	EACH	\$500,000	\$0	10.00%	\$0
10.12		DERAIL	EACH	\$100,000	\$0	10.00%	\$0
10.12		BUMPING POST	EACH	\$25,000	\$0	20.00%	\$0
10.11		UPGRADE MAINTRACK TO CLASS 6	TF	\$100	\$0	30.00%	\$0

SIGNAL WORK

\$3,408,000

50.02		PEDESTRIAN GATES & SIGNALS	EACH	\$100,000	\$0	20.00%	\$0
50.02		CANTILEVER SIGNAL	EACH	\$200,000	\$0	20.00%	\$0
50.01	2	DOG HOUSE (Signal House)	EACH	\$250,000	\$500,000	20.00%	\$600,000
40.02	2	NEW ELECTRIC SERVICE	EACH	\$20,000	\$40,000	20.00%	\$48,000
50.01		NEW INTERMEDIATE SIGNALS SINGLE	EACH	\$150,000	\$0	20.00%	\$0
50.01		NEW INTERMEDIATE SIGNALS DOUBLE	EACH	\$300,000	\$0	20.00%	\$0
50.01	4	NEW TURNOUT SIGNAL	EACH	\$325,000	\$1,300,000	20.00%	\$1,560,000
50.01	2	NEW CROSSOVER SIGNALLING	EACH	\$500,000	\$1,000,000	20.00%	\$1,200,000
50.02		NEW GRADE CROSSING SIGNALS	EACH	\$250,000	\$0	20.00%	\$0
50.02		NEW CROSSING GATES & SIGNALS	EACH	\$400,000	\$0	20.00%	\$0
50.01		UPGRADE SIGNALS TO CLASS 6	MILE	\$200,000	\$0	30.00%	\$0

BRIDGE STRUCTURES

\$3,141,320

40.01		BRIDGE REMOVAL	SF	\$200	\$0	50.00%	\$0
10.04	6041	RAILROAD SHORT BRIDGE CONCRETE	SF	\$400	\$2,416,400	30.00%	\$3,141,320
10.04		RAILROAD AERIAL GUIDEWAY	SF	\$500	\$0	30.00%	\$0
10.04		RAILROAD BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0

10.04	HIGHWAY BRIDGE CONCRETE	SF	\$400	\$0	50.00%	\$0
10.04	HIGHWAY BRIDGE STEEL	SF	\$500	\$0	30.00%	\$0
10.04	TRESTLE BRIDGE STEEL	SF	\$550	\$0	30.00%	\$0
10.04	PEDESTRIAN BRIDGE	SF	\$400	\$0	30.00%	\$0
	BARRIER RAIL PERMANENT	LF	\$100	\$0	25.00%	\$0
10.06	UNDERPASS STRUCTURE	CY	\$750	\$0	25.00%	\$0

TRAIN CONTROL

\$16,894,886

50.01	3.4 SYSTEM FACILITIES (OCS, COMMS, IN	MILE	\$4,000,000	\$13,515,909	25.00%	\$16,894,886
50.01	TRAIN CONTROL SYSTEM	EACH	\$200,000	\$0	30.00%	\$0
50.01	TRAIN CONTROL CABLING	LF	\$12	\$0	30.00%	\$0
50.01	TRAIN CONTROL DIGITAL CBOSS	EACH	\$500,000	\$0	40.00%	\$0
50.01	COMPUTER TRAFFIC MANAGEMENT	LS	\$1,500,000	\$0	30.00%	\$0
40.02	COMMERCIAL ELECTRICAL SERVICE	EACH	\$50,000	\$0	25.00%	\$0
40.02	LINE UTILITIES WITHIN TRACKWAY	LF	\$30	\$0	30.00%	\$0
40.02	LINE UTILITIES CROSSING TRACKS	EACH	\$2,500	\$0	30.00%	\$0
40.02	LINE UTILITIES FIBER OPTIC PARALLI	LF	\$50	\$0	30.00%	\$0

STATIONS

\$0

20.01	TYPE A SMALL INTERMODEL STATION	EACH	\$13,000,000	\$0	20.00%	\$0
20.01	TYPE K LARGE INTERMODEL STATION	EACH	\$32,000,000	\$0	50.00%	\$0
20.01	STATION PLATFORM STRUCTURES NE	SF	\$200	\$0	20.00%	\$0
20.01	STATION SHELTERS / BUILDINGS	SF	\$75	\$0	20.00%	\$0
20.01	STATION PLATFORM STRUCTURES UP	SF	\$300	\$0	20.00%	\$0
40.01	STATION PRIMARY ELECTRICAL SERVI	EACH	\$50,000	\$0	10.00%	\$0
20.01	STATION AMENITIES	SF	\$65	\$0	30.00%	\$0
30.02	SIDEWALK	SF	\$10	\$0	30.00%	\$0
40.07	PARKING LOTS	SPACES	\$3,000	\$0	25.00%	\$0
20.06	PARKING STRUCTURES	SPACES	\$20,000	\$0	25.00%	\$0
40.07	BUS LANE AND UNLOADING	SF	\$25	\$0	25.00%	\$0
40.02	PARKING LOT LIGHTING	SPACES	\$750	\$0	30.00%	\$0
20.07	ELEVATORS	EACH	\$450,000	\$0	25.00%	\$0
20.07	ESCALATOR	EACH	\$300,000	\$0	25.00%	\$0

RIGHT OF WAY

\$615,000

60.01	82000 ROW LAND ONLY	SF	\$6	\$492,000	25.00%	\$615,000
60.01	ROW AGRICULTURAL	SF	\$2	\$0	25.00%	\$0
60.01	ROW ORCHARDS	SF	\$6	\$0	25.00%	\$0
60.01	ROW PAVED AREAS	SF	\$8	\$0	25.00%	\$0
60.01	ROW RESIDENTIAL AREA	SF	\$10	\$0	25.00%	\$0
60.01	ROW LIGHT INDUSTRIAL AREA	SF	\$14	\$0	25.00%	\$0
60.01	ROW HEAVY INDUSTRIAL AREA	SF	\$16	\$0	25.00%	\$0
	BUSINESS RELOCATIONS (Value of business, relocation, goodwill, legal, appraisal, etc.)	VALUE	\$1	\$0	0.00%	\$0
60.02						

TUNNEL CONSTRUCTION

\$0

TUNNELING CONSTRUCTION NEW SI	LF	\$12,000	\$0	30.00%	\$0
TUNNELING CONSTRUCTION NEW TV	LF		\$0	30.00%	\$0
SINGLE BORE RESTORE (DIA)	LF	\$12,000	\$0	30.00%	\$0
TWIN BORE RESTORE (DIA)	LF		\$0	30.00%	\$0
GENERAL SUPPORT ITEMS					
BART INTERFACE	DAYS	\$900	\$0	20.00%	\$0
CALTRANS INTERFACE WORK	DAYS	\$900	\$0	20.00%	\$0
ROLLING STOCK & CAPITAL INVESTMENTS					
ROLLING STOCK DMU EQUIPMENT	EACH	\$8,000,000	\$0	0.00%	\$0
TOTAL CONSTRUCTION COST					\$45,102,465
Escalation from 2017 to 2020 (9.9%)					\$49,567,609
Project Cost					\$65,330,109