



Southern Alameda County Rail Integrated Analysis

Appendix B-2: Construction Cost Estimates Detail

May 17, 2023

In partnership with:



**UNION CITY INTERMODAL STATION PHASE 3 PROJECT (INCL. LAYOVER FACILITY)
CONSTRUCTION COST ESTIMATES DETAIL**

	CITY-PREFERRED DESIGN Avoid Loop Road At-Grade Crossing	CITY-PREFERRED DESIGN At-Grade Crossing Potential Future	ALTERNATIVE DESIGN Pedestrian Underpass	ALTERNATIVE DESIGN Ped. Underpass Potential Future
TRACK CONSTRUCTION ITEMS	\$7,000,000	\$2,500,000	\$6,600,000	\$2,600,000
REMOVE TRACK ITEMS	\$50,000	\$30,000	\$30,000	\$30,000
TRACK CONSTRUCTION ITEMS – MP 25.6-30.5	\$11,000,000	—	\$11,000,000	—
REMOVE TRACK ITEMS MP 25.6-30.5	\$100,000	—	\$100,000	—
PARTIAL WCA EXCAVATION, RAIL-HAUL, DISPOSAL AND REMEDIATION COSTS	\$70,000,000	—	\$70,000,000	—
ROW AND EASEMENT ACQUISITION	See Note 1	See Note 1	See Note 1	See Note 1
CIVIL CONSTRUCTION	\$19,000,000	\$10,000,000	\$22,000,000	\$13,000,000
QUARRY LAKES PARKWAY BRIDGE	\$2,000,000	—	\$2,000,000	—
REMOVE CIVIL ITEMS	\$330,000	\$40,000	\$390,000	\$90,000
MISCELLANEOUS ITEMS	\$5,400,000	\$5,300,000	\$5,400,000	\$5,300,000
STATION AND LAYOVER FACILITY FIXTURES AND UTILITIES	\$4,200,000	\$2,600,000	\$5,200,000	\$2,000,000
ADDITIONAL UP IMPROVEMENTS REQUIRED ELSEWHERE	\$34,000,000	—	\$34,000,000	—
SUBTOTAL	\$154,000,000	\$21,000,000	\$157,000,000	\$24,000,000
30% CONTINGENCY	\$45,000,000	\$7,000,000	\$48,000,000	\$8,000,000
ESTIMATED CONSTRUCTION COST	\$199,000,000	\$28,000,000	\$205,000,000	\$32,000,000
ESTIMATED FULL-BUILD COST	\$227,000,000		\$237,000,000	

NOTES:

1. The Right-of-Way (ROW) and Easement Acquisition costs are currently unknown but will be considered as part of the local match by Union City.
2. Additional UP improvements could be required as a result of coordination with UP which are accounted here.

UNION CITY INTERMODAL STATION PHASE 3 PROJECT (INCL. LAYOVER FACILITY)
CONSTRUCTION COST ESTIMATES DETAIL

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
CONSTRUCT BALLASTED MAIN TRACK (136# RAIL)	TF	\$530	2,200	\$1,170,000	1,100	\$590,000	Oakland Seventh Street
CONSTRUCT LAYOVER TRACK (136# RAIL)	TF	\$530	2,800	\$1,490,000	200	\$110,000	Oakland Seventh Street
RAILROAD TRACK SHIFT (50% TIE RENEWAL)	TF	\$135	-	-	-	-	Oakland Seventh Street
SURFACE TRACK (50% TIE RENEWAL)	TF	\$550	2,900	\$1,600,000	-	-	Oakland Seventh Street
INSTALL TRANSITION RAILS (115/136#)	PR	\$2,000	6	\$12,000	-	-	KPC
INSTALL CONCRETE CROSSING PANELS @ 8' TF	TF	\$600	88	\$52,800	-	-	Oakland Seventh Street
INSTALL BUMPING POSTS	EA	\$5,000	2	\$10,000	1	\$5,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
INSTALL No. 11 TURNOUTS POTO	TF	\$325,000	-	-	2	\$650,000	KPC
INSTALL No. 15 TURNOUTS POTO	TF	\$145,500	1	\$145,500	-	-	KPC
INSTALL No. 11 TURNOUTS HTTO	EA	\$70,000	-	-	-	-	KPC but escalated based off Oakland Seventh Street cost for a No. 9 HTTO
INSTALL No. 9 TURNOUTS HTTO	EA	\$35,000	2	\$70,000	2	\$70,000	Oakland Seventh Street
INSTALL No. 9 DOUBLE-SLIP TURNOUTS HTTO	EA	\$1,000,000	-	-	1	\$1,000,000	Puzzle Switch Replacement Port of Beaumont, TX Installed in August 2022 Pro-Rated Costs
INSTALL No. 15 TURNOUTS HTTO	TF	\$325,000	2	\$650,000	-	-	KPC
DOUBLE SWITCH POINT DERAIL EL	EA	\$75,000	1	\$75,000	-	-	EBB
DOUBLE SWITCH POINT DERAIL PO	EA	\$125,000	1	\$125,000	-	-	EBB

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
INSTALL NEW CP 27.3	EA	\$535,000	1	\$535,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
INSTALL NEW EWL 27.7	EA	\$208,000	1	\$208,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
INSTALL NEW CP F027	EA	\$54,000	1	\$54,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
SIGNAL HOUSE	EA	\$50,000	3	\$150,000	-	-	TAMC Salinas Rail Extension Package 2 100% Submittal
TRACK GROUNDING	LS	\$10,000	1	\$10,000	1	\$10,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
INSTALL / CONSTRUCT TRACK SUBTOTAL			\$7,000,000		\$2,500,000		
REMOVE TRACK ITEMS							
TRACK REMOVAL AND SALVAGE	TF	\$50	810	\$40,500	250	\$12,500	Oakland Seventh Street
REMOVE CONCRETE CROSSING PANELS @ 8' TF	TF	\$110	-	-	-	-	Oakland Seventh Street
REMOVE No. 11 TURNOUTS HTTO	EA	\$22,000	-	-	-	-	Estimate
REMOVE No. 9 TURNOUTS HTTO	EA	\$11,000	-	-	1	\$11,000	Oakland Seventh Street
REMOVE No. 11 TURNOUTS POTO	EA	\$50,000	-	-	-	-	KPC
REMOVE SIGNAL	EA	\$1,000	2	\$2,000	-	-	KPC
REMOVE TRACK SUBTOTAL			\$50,000		\$30,000		
INSTALL / CONSTRUCT TRACK ITEMS – OFFSITE BETWEEN MP 25.6 (WHIPPLE ROAD) AND MP 30.5 (CP NILES JUNCTION)							
CONSTRUCT BALLASTED MAIN TRACK (136# RAIL)	TF	\$530	500	\$270,000	-	-	Oakland Seventh Street
CONSTRUCT LAYOVER TRACK (136# RAIL)	TF	\$530	-	-	-	-	Oakland Seventh Street
RAILROAD TRACK SHIFT (50% TIE RENEWAL)	TF	\$135	1,500	\$210,000	-	-	Oakland Seventh Street

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
SURFACE TRACK (50% TIE RENEWAL)	TF	\$550	12,100	\$6,700,000	-	-	Oakland Seventh Street
INSTALL TRANSITION RAILS (115/136#)	PR	\$2,000	2	\$10,000	-	-	KPC
INSTALL CONCRETE CROSSING PANELS @ 8' TF	TF	\$600	-	-	-	-	Oakland Seventh Street
INSTALL BUMPING POSTS	EA	\$5,000	-	-	-	-	TAMC Salinas Rail Extension Package 2 – 100% Submittal
INSTALL No. 11 TURNOUTS POTO	TF	\$325,000	-	-	-	-	KPC
INSTALL No. 15 TURNOUTS POTO	TF	\$145,500	1	\$150,000	-	-	KPC
INSTALL No. 11 TURNOUTS HTTO	EA	\$70,000	-	-	-	-	KPC but escalated based off Oakland Seventh Street cost for a No. 9 HTTO
INSTALL No. 9 TURNOUTS HTTO	EA	\$35,000	-	-	-	-	Oakland Seventh Street
INSTALL No. 9 DOUBLE-SLIP TURNOUTS HTTO	EA	\$1,000,000	-	-	-	-	Puzzle Switch Replacement Port of Beaumont, TX Installed in August 2022 Pro-Rated Costs
INSTALL No. 15 TURNOUTS HTTO	TF	\$325,000	-	-	-	-	KPC
DOUBLE SWITCH POINT DERAIL EL	EA	\$75,000	-	-	-	-	EBB
DOUBLE SWITCH POINT DERAIL PO	EA	\$125,000	-	-	-	-	EBB
INSTALL CP F025 (MP 25.6)	EA	\$115,000	-	-	-	-	Chad Baker at HDR Estimate dated 11/30/2022
INSTALL CP WEST FREMONT (MP 29.3)	EA	\$532,000	1	\$532,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
INSTALL CP FREMONT (MP 30.17)	EA	\$532,000	1	\$532,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
INSTALL CP NILES JCT. (MP 30.5)	EA	\$574,000	1	\$574,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
DECOTO ROAD CROSSING SIGNAL IMPROVEMENTS	EA	\$577,000	1	\$577,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
F STREET CROSSING SIGNAL IMPROVEMENTS	EA	\$346,000	1	\$346,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
H STREET CROSSING SIGNAL IMPROVEMENTS	EA	\$340,000	1	\$340,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
I STREET CROSSING SIGNAL IMPROVEMENTS	EA	\$340,000	1	\$340,000	-	-	Chad Baker at HDR Estimate dated 11/30/2022
SIGNAL HOUSE	EA	\$50,000	6	\$300,000	-	-	TAMC Salinas Rail Extension Package 2 – 100% Submittal
TRACK GROUNDING	LS	\$10,000	1	\$10,000	-	-	TAMC Salinas Rail Extension Package 2 – 100% Submittal
INSTALL / CONSTRUCT TRACK SUBTOTAL			\$11,000,000		-		
REMOVE TRACK ITEMS – OFFSITE BETWEEN WHIPPLE ROAD AND CP NILES JUNCTION							
TRACK REMOVAL AND SALVAGE	TF	\$50	700	\$35,000	-	-	Oakland Seventh Street
REMOVE CONCRETE CROSSING PANELS @ 8' TF	TF	\$110	-	-	-	-	Oakland Seventh Street
REMOVE No. 11 TURNOUTS HTTO	EA	\$22,000	-	-	-	-	Estimate
REMOVE No. 9 TURNOUTS HTTO	EA	\$11,000	-	-	-	-	Oakland Seventh Street
REMOVE No. 11 TURNOUTS POTO	EA	\$50,000	1	\$50,000	-	-	KPC
REMOVE SIGNAL	EA	\$1,000	10	\$10,000	-	-	KPC
REMOVE TRACK SUBTOTAL			\$100,000		-		
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS							
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS	LS	\$70,000,000	1	\$70,000,000	-	-	SEE SEPARATE TAB FOR DETAILED COST ESTIMATE
RIGHT-OF-WAY AND EASEMENT ITEMS (SEE NOTE 1)							
EASEMENT IN UPRR R/W	AC		1.7	-	-	-	TBD

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
EASEMENT IN BART R/W	AC		-	-	-	-	TBD
TEMPORARY EASEMENT IN CITY-OWNED R/W	AC		4.9	-	-	-	TBD (See Note 1)
ACQUIRE CITY-OWNED R/W FOR TRACK IMPROVEMENTS	AC		2.9	-	0.5	-	TBD (See Note 1)
ACQUIRE CITY-OWNED R/W FOR ROAD IMPROVEMENTS	AC		1.4	-	-	-	TBD (See Note 1)
RIGHT-OF-WAY AND EASEMENT SUBTOTAL			-		-		
CIVIL CONSTRUCTION ITEMS							
CLEARING AND GRUBBING	AC	\$400,000	12	\$4,800,000	1	\$400,000	Oakland Seventh Street
ROADWAY EXCAVATION	CY	\$140	18,100	\$2,534,000	-	-	Oakland Seventh Street
TRACK EMBANKMENT (IMPORTED BORROW)	CY	\$105	65,800	\$6,909,000	61,500	\$6,458,000	Oakland Seventh Street
HOT MIX ASPHALT	TON	\$215	2,800	\$602,000	-	-	Oakland Seventh Street
CLASS 2 AGGREGATE BASE	CY	\$280.13	2,600	\$730,000	-	-	Caltrans Contract Cost Data Item 260203
MINOR CONCRETE (CURB AND GUTTER)	CY	\$964.82	200	\$200,000	-	-	Caltrans Contract Cost Data Item 731504
CONSTRUCT SIDEWALK (6" THICK) MINOR CONCRETE (SIDEWALK)	CY	\$726.67	300	\$219,000	-	-	Caltrans Contract Cost Data Item 731521
STRUCTURAL CONCRETE (RETAINING WALL)	CY	\$1,300.00	-	-	200	\$260,000	Oakland Seventh Street
STRUCTURAL CONCRETE (PIER PROTECTION)	CY	\$2,100.00	-	-	-	-	Oakland Seventh Street
STRUCTURAL CONCRETE, BOX CULVERT	CY	\$1,700.00	260	\$450,000	190	\$330,000	Oakland Seventh Street
MINOR CONCRETE (STATION ADA RAMPS AND STEPS)	CY	\$1,750.00	300	\$530,000	600	\$1,050,000	Union City At-Grade Crossing 100% Submittal

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
BAR REINFORCING STEEL, (RETAINING WALL)	LB	\$3.02	-	-	118,000	\$360,000	Caltrans Contract Cost Data Item 520103
BAR REINFORCING STEEL, (PIER PROTECTION)	LB	\$2.25	-	-	-	-	Oakland Seventh Street
BAR REINFORCING STEEL, BOX CULVERT	LB	\$2.25	73,000	\$165,000	42,000	\$95,000	Oakland Seventh Street
STATION PLATFORM - CONCRETE	CY	\$300	260	\$78,000	250	\$75,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
STATION PLATFORM - REBAR	LB	\$4.50	15,600	\$80,000	15,000	\$70,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
ARCHITECTURAL TREATMENT (FORM LINERS FOR RETAINING WALL)	SF	\$30.00	-	-	7,000	\$210,000	Oakland Seventh Street
PEDESTRIAN BARRICADE	EA	\$1,150	10	\$12,000	5	\$6,000	Oakland Seventh Street
PIPE HANDRAILING	LF	\$249.66	1,100	\$280,000	400	\$100,000	Caltrans Contract Cost Data Items 833085
PARKING BUMPER (PRECAST CONCRETE)	EA	\$160	100	\$16,000	-	-	Oakland Seventh Street
CHAIN LINK FENCE (TYPE CL-8)	LF	\$70	160	\$12,000	-	-	Oakland Seventh Street
CHAIN LINK FENCE GATE (TYPE CL-6)	EA	\$4,200	1	\$4,200	-	-	Oakland Seventh Street
EXPANDED METAL MESH FENCE, 8' TALL	LF	\$100	3,200	\$320,000	-	-	TAMC Salinas Rail Extension Package 3 – 100% Submittal
20 FT. EXPANDED METAL MESH TRACK GATE	LF	\$5,000	4	\$20,000	-	-	TAMC Salinas Rail Extension Package 2 – 100% Submittal
8" TRACK UNDERDRAIN (INSIDE UPRR R/W)	LF	\$75.88	1,360	\$110,000	-	-	Caltrans Contract Cost Data Item 680905
6" TRACK UNDERDRAIN (OUTSIDE UPRR R/W)	LF	\$59.20	2,225	\$140,000	1,250	\$80,000	Caltrans Contract Cost Data Item 680902
MODIFY INLET	EA	\$2,828.57	1	\$3,000	-	-	Caltrans Contract Cost Data Item 680902
4" WHITE STRIPE	LF	\$2.00	-	-	-	-	TAMC Salinas Rail Extension Package 3 – 100% Submittal

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
CIVIL CONSTRUCTION ITEMS SUBTOTAL			\$19,000,000		\$10,000,000		
QUARRY LAKES PARKWAY UNDERPASS							
STRUCTURAL CONCRETE (RR BRIDGE)	CY	\$1,400.00	280	\$392,000	-	-	Oakland Seventh Street
STRUCTURAL CONCRETE (RETAINING WALL)	CY	\$1,300.00	100	\$130,000	-	-	Caltrans Contract Cost Data Item 510060
BAR REINFORCING STEEL (RR BRIDGE)	LB	\$1.75	338,000	\$591,500	-	-	Oakland Seventh Street
BAR REINFORCING STEEL, (RETAINING WALL)	LB	\$3.02	18,000	\$55,000	-	-	Caltrans Contract Cost Data Item 520103
PIPE HANDRAILING	LF	\$249.66	340	\$85,000	-	-	Caltrans Contract Cost Data Item 833085
SPRAY-APPLIED WATERPROOFING WITH BALLAST PROTECTION MAT (RR BRIDGE)	SF	\$42.00	1,300	\$54,600	-	-	Oakland Seventh Street
PREFORMED MEMBRANE WATERPROOFING (RR BRIDGE)	SF	\$15.00	2,600	\$39,000	-	-	Oakland Seventh Street
DRAIN PIPE (RR BRIDGE)	LF	\$100.00	260	\$26,000	-	-	Oakland Seventh Street
QUARRY LAKES PARKWAY BRIDGE SUBTOTAL			\$2,000,000		-		
REMOVE CIVIL ITEMS							
REMOVE ASPHALT CONCRETE PAVEMENT	SF	\$6.00	1,200	\$7,200	1,300	\$7,800	TAMC Salinas Rail Extension Packages 2 and 3 100% Submittal
REMOVE CONCRETE CURB	LF	\$35.42	-	-	-	-	Caltrans Contract Cost Data Item 731710
REMOVE CONCRETE (CURB AND GUTTER)	LF	\$69.64	155	\$10,800	-	-	Caltrans Contract Cost Data Item 731840
REMOVE CONCRETE SIDEWALK	CY	\$424.76	20	\$8,500	-	-	Caltrans Contract Cost Data Item 731850

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
REMOVE STATION PLATFORM	SF	\$40.00	–	–	–	–	TAMC Salinas Rail Extension Package 2 – 100% Submittal
REMOVE CHAIN LINK FENCE	LF	\$18.38	1,170	\$21,600	–	–	Caltrans Contract Cost Data Item 803020
REMOVE CONCRETE (STATION ADA RAMPS AND STEPS)	CY	\$474.76	–	–	35	\$16,700	Caltrans Contract Cost Data Item 731850
REMOVE METAL RAILING	LF	\$20	–	–	750	\$15,000	Oakland Seventh Street
REMOVE CONCRETE CHANNEL	CY	\$507.00	400	\$202,800	–	–	Caltrans Contract Cost Data Item 710260
REMOVE INLET	EA	\$1,752.44	1	\$1,800	–	–	Caltrans Contract Cost Data Item 710150
REMOVE PAINTED TRAFFIC STRIPE	LF	\$0.94	–	–	–	–	Caltrans Contract Cost Data Item 846020
REMOVE TREE	EA	\$3,250	6	\$20,000	–	–	Oakland Seventh Street
REMOVE CIVIL ITEMS SUBTOTAL			\$330,000		\$40,000		
MISCELLANEOUS ITEMS							
TRAFFIC MANAGEMENT PLAN - PUBLIC INFORMATION	LS	\$20,000	1	\$20,000	1	\$20,000	TAMC Salinas Rail Extension Packages 2 and 3 100% Submittal
UTILITY RELOCATIONS BY OTHERS ²	LS	\$500,000	1	\$500,000	1	\$500,000	Estimate
UPRR FORCES - MOBILIZATION AND LABOR	LS	\$550,000	1	\$550,000	1	\$550,000	TAMC Salinas Rail Extension Package 3 – 100% Submittal
UPRR FLAGGING	LS	\$75,000	1	\$75,000	1	\$75,000	KPC
REMOVAL AND DISPOSAL OF BALLAST (MAY CONTAIN HAZARDOUS WASTE)	LS	\$50,000	1	\$50,000	1	\$50,000	TAMC Salinas Rail Extension Package 3 – 100% Submittal
CONSTRUCTION SURVEYS	LS	\$600,000	1	\$600,000	1	\$600,000	Oakland Seventh Street
EXISTING UTILITY VERIFICATION	LS	\$350,000	1	\$350,000	1	\$350,000	Oakland Seventh Street

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			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	\$15,000	1	\$15,000	1	\$15,000	Oakland Seventh Street
JOB SITE MANAGEMENT	LS	\$85,000	1	\$85,000	1	\$85,000	Oakland Seventh Street
LEAD COMPLIANCE PLAN	LS	\$20,000	1	\$20,000	1	\$20,000	Oakland Seventh Street
ASBESTOS COMPLIANCE PLAN	LS	\$20,000	1	\$20,000	1	\$20,000	Oakland Seventh Street
HEALTH AND SAFETY PLAN	LS	\$6,000	1	\$6,000	1	\$6,000	Oakland Seventh Street
NOISE MONITORING	LS	\$55,000	1	\$55,000	1	\$55,000	Oakland Seventh Street
SOIL MANAGEMENT PLAN	LS	\$340,000	1	\$340,000	1	\$340,000	Oakland Seventh Street
EQUIPMENT RENTAL	LS	\$350,000	1	\$350,000	1	\$350,000	KPC
PERMITS AND FEES	LS	\$100,000	1	\$100,000	1	\$100,000	KPC
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)	LS	\$100,000	1	\$100,000	1	\$100,000	KPC
SITE SPECIFIC POLLUTION CONTROL / RESOURCE PROTECTION PLANS	LS	\$100,000	1	\$100,000	1	\$100,000	KPC
ADMINISTRATION / PLANNING (UPRR)	LS	\$500,000	1	\$500,000	1	\$500,000	KPC
GRADING - MOBILIZATION	LS	\$900,000	1	\$900,000	1	\$900,000	KPC
TRACK MOBILIZATION (CONTRACTOR)	LS	\$300,000	1	\$300,000	1	\$300,000	KPC
ENGINEER'S FIELD OFFICE	MO	\$12,000	18	\$216,000	12	\$144,000	Oakland Seventh Street
MISCELLANEOUS ITEMS SUBTOTAL			\$5,400,000		\$5,300,000		
STATION AND LAYOVER FACILITY FIXTURES AND UTILITIES							
TICKET VENDING MACHINES	LS	\$50,000	1	\$50,000	1	\$50,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
STATION FIXTURES	LS	\$312,500	1	\$312,500	1	\$312,500	Caltrain 25th Avenue Grade Separation – Escalated by 25%

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
STATION MECHANICAL AND PLUMBING	LS	\$400,000		–		–	Caltrain 25th Avenue Grade Separation
PLATFORM ELECTRICAL SYSTEM	LS	\$265,000	1	\$265,000	0.5	\$132,500	TAMC Salinas Rail Extension Package 2 – 100% Submittal
PLATFORM SIGNAGE	LS	\$100,000	1	\$100,000	1	\$100,000	Caltrain 25th Avenue Grade Separation – Escalated by 25%
LAYOVER FACILITY ELECTRICAL SYSTEM	LS	\$550,000	1	\$550,000	1	\$550,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
CREW BASE BUILDING ELECTRICAL SYSTEM	LS	\$145,000	1	\$90,000	1	\$145,000	TAMC Salinas Rail Extension Package 3 – 100% Submittal
SITE LIGHTING	LS	\$80,000	1	\$80,000	1	\$80,000	TAMC Salinas Rail Extension Package 3 – 100% Submittal
STATION POWER SUPPLIES AND DISTRIBUTION	LS	\$350,000	1	\$350,000	0.5	\$175,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
FIRE HYDRANT, ISOLATION GATE VALVE, AND FIRE SERVICE LATERAL	LS	\$10,000	2	\$20,000	–	–	TAMC Salinas Rail Extension Packages 2 and 3 100% Submittal
8" FIRE SERVICE LINE	LF	\$150	4,200	\$630,000	–	–	TAMC Salinas Rail Extension 100% Submittal
FIRE HYDRANTS	EA	\$17,000	16	\$272,000	–	–	Oakland Seventh Street
COMMUNICATIONS NETWORK	LS	\$600,000	1	\$600,000	0.5	\$300,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
FARE COLLECTION SYSTEM	LS	\$20,000	1	\$20,000	0.5	\$10,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
CLIPPER SYSTEM ³	LS	\$70,000	1	\$70,000	1	\$70,000	TAMC Salinas Rail Extension Package 2 – 100% Submittal
CLOSED CIRCUIT TELEVISION CAMERA SYSTEMS (CCTV)	LS	\$125,000	1	\$125,000	1	\$125,000	TAMC Salinas Rail Extension 100% Submittal
SHELTERS	SF	\$625	600	\$375,000	600	\$375,000	Caltrain 25th Avenue Grade Separation – Escalated by 25%

ITEM	UNIT	UNIT COST	CITY-PREFERRED DESIGN At-Grade Crossing		CITY-PREFERRED DESIGN 8 Car Train Avoid Loop Road Potential Future		SOURCE OF UNIT COSTS
			QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
INSTALL / CONSTRUCT TRACK ITEMS							
BENCHES AT SHELTERS	EA	\$3,125	3	\$9,375	3	\$9,375	Caltrain 25th Avenue Grade Separation – Escalated by 25%
DETECTABLE WARNING TILES	LF	\$88	745	\$65,188	745	\$65,188	Caltrain 25th Avenue Grade Separation – Escalated by 25%
DETECTABLE GUIDE TACTILES	LF	\$38	75	\$2,813	75	\$2,813	Caltrain 25th Avenue Grade Separation – Escalated by 25%
CREW BUILDING 10' X 40' MODULAR BUILDING	SF	\$500	400	\$200,000	–	–	Estimate
STATION AND LAYOVER FACILITY FIXTURES SUBTOTAL			\$4,200,000		\$2,600,000		
ADDITIONAL UP IMPROVEMENTS REQUIRED ELSEWHERE			\$34,000,000		– This accommodates any requests UP will make during the next phase of design once coordination commences		
SUBTOTAL ALL CATEGORIES			\$154,000,000		\$21,000,000		
30% Contingency			\$45,000,000		\$7,000,000		
ESTIMATED TOTAL COST			\$199,000,000		\$28,000,000		
ESTIMATED FULL-BUILD TOTAL COST			\$227,000,000				

NOTES:

1. The Right-of-Way (ROW) and Easement Acquisition costs are currently unknown but will be considered as part of the local match by Union City.
2. Subject to change through Utility Coordination Process
3. Placeholder Cost. Clipper equipment is furnished, installed and managed by MTC.
4. Oakiana Seventh Street Grade Separation Project unit costs are based on the average of the three companies submitting bids which were released on March 14, 2022
5. TAMC Salinas Rail Extension unit costs were obtained from the 100% Submittal construction cost estimate dated September 2022.
6. Caltrain 25th Avenue Grade Separation unit costs were obtained from the 100% Unit Price Cost Estimate dated December 2016. These values have been increased by 25% to obtain January 2023 values per the online CPI Inflation Calculator. https://www.bls.gov/data/inflation_calculator.htm
7. Unit costs from KPC and EBB are rough orders of magnitude provided by Pat Casey and Buzz Berger at HDR based on past UPRR project experience.

**WASTE CONSOLIDATION AREA (WCA)
ESTIMATED EXCAVATION VOLUMES**

Station	Distance (ft)	SoCo Rail WCA Cut Area (SF)	SoCo Rail WCA Cut Volume (CY)	Total WCA Area (SF)	Total WCA Volume (CY)	Clean Cut Area (SF) (See Note 1)	Clean Cut Volume (CY)	Fill Area (SF)	Backfill Depth (FT) (See Note 2)	Fill Volume (CY)
724+50	50.000	947.720	–	1,817.412	–	54.878	–	–	–	–
725+00	50.000	1,187.638	1,977.183	2,295.711	3,808.447	66.647	123.420	–	–	–
725+50	50.000	1,384.521	2,381.629	2,988.802	4,893.067	53.711	99.465	–	–	–
726+00	50.000	1,573.722	2,739.113	3,577.144	6,079.580	53.657	99.365	–	–	–
726+50	50.000	1,821.695	3,143.904	4,366.532	7,355.256	58.395	108.139	–	–	–
727+00	50.000	2,084.132	3,616.506	5,211.045	8,868.127	57.380	106.259	–	–	–
727+50	50.000	2,337.122	4,093.753	6,025.640	10,404.339	62.786	116.270	–	–	–
728+00	50.000	2,574.811	4,548.086	6,791.692	11,867.900	52.538	97.292	–	–	–
728+50	100.000	2,931.763	10,197.360	7,590.798	26,634.241	55.470	205.443	–	–	–
729+00	100.000	3,026.884	11,034.531	8,068.613	28,998.910	60.586	224.392	–	–	–
730+00	100.000	3,071.769	11,293.801	8,460.767	30,609.964	61.044	226.090	–	–	–
731+00	100.000	3,111.695	11,450.859	8,658.308	31,701.990	58.778	217.695	–	–	–
732+00	100.000	3,119.190	11,538.676	8,858.444	32,438.428	56.533	209.383	–	–	–
733+00	100.000	3,131.840	11,575.981	9,060.684	33,183.570	61.092	226.266	–	–	–
734+00	100.000	3,140.423	11,615.301	9,261.124	33,929.275	54.790	202.924	–	–	–
735+00	100.000	3,153.856	11,656.072	9,450.231	34,650.657	66.134	244.941	–	–	–
736+00	700.000	3,161.541	81,866.252	9,625.521	247,278.267	65.851	1,707.256	–	–	–
737+00	100.000	3,168.764	11,722.786	9,602.242	35,606.970	70.139	259.774	–	–	–
738+00	100.000	3,133.040	11,670.006	9,283.621	34,973.821	65.199	241.478	–	–	–
739+00	100.000	3,045.508	11,441.755	8,930.110	33,729.131	68.085	252.166	–	–	–
740+00	100.000	2,976.980	11,152.756	8,533.524	32,340.061	62.690	232.185	–	–	–
741+00	100.000	2,955.590	10,986.241	8,220.462	31,025.899	66.427	246.027	–	–	–
741+50	50.000	2,683.529	5,221.406	7,436.638	14,497.315	64.990	120.352	–	–	–
742+00	50.000	1,950.881	4,291.120	5,431.326	11,914.781	69.610	128.908	–	–	–
742+50	50.000	1,181.075	2,899.959	2,380.520	7,233.191	73.334	135.804	–	–	–
743+00	50.000	802.442	1,836.589	924.053	3,059.790	66.338	129.326	–	–	–
TOTAL VOLUMES		266,000		750,000		14,000			–	

NOTES:

1. Assume the excavation area in the UPRR R/W is clean and not contaminated.
2. Assume that WCA backfill is included in WCA items 11015 - Import Soil Backfill and 11020 - Place and Compact so it is not included here.
3. According to the SCS Report, the total volume of the WCA slag pile is 750,000 CY.

**UNION CITY INTERMODAL STATION PHASE 3 PROJECT
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS**

ITEM	UNIT	SCS REPORT UNIT COST MAY 2018	UNIT COST IN FEB. 2023 DOLLARS	SoCo RAIL PARTIAL EXCAVATION		TOTAL WCA EXCAVATION		SPLIT-PHASE REMAINING WCA EXCAVATION		SOURCE OF UNIT COSTS
				QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
1 - PRE-CONSTRUCTION SITE CLEARANCE										
WORK PLAN, H&S PLAN, MEETINGS AND PRELIMINARY FIELDWORK	LS	\$10,000	\$12,000	1	\$12,000	1	\$12,000	1	\$12,000	Feasibility Report: Technical/Cost Analysis of Off-Haul and Redevelopment Potential: Waste Consolidation Area, Union City, California (SCS Report) Attachment B May 9, 2018
DRILLER	DAYS	\$5,000	\$6,000	5	\$30,000	10	\$60,000	5	\$30,000	
PROJECT PROFESSIONAL	DAYS	\$2,500	\$3,000	5	\$15,000	10	\$30,000	5	\$15,000	
FIELD STAFF	DAYS	\$2,200	\$2,640	5	\$13,200	10	\$26,400	5	\$13,200	
PROJECT MANAGEMENT / SUPPORT STAFF	DAYS	\$2,000	\$2,400	5	\$12,000	10	\$24,000	5	\$12,000	
MISC. SUPPLIES AND EQUIPMENT	LS	\$18,000	\$22,000	1	\$22,000	1	\$22,000	1	\$22,000	
LAB ANALYSES	SAMPLES	\$250	\$300	30	\$9,000	60	\$18,000	30	\$9,000	
WASTE MANAGEMENT	LS	\$15,000	\$18,000	1	\$18,000	1	\$18,000	1	\$18,000	
REPORT	LS	\$20,000	\$24,000	1	\$24,000	1	\$24,000	1	\$24,000	
SUBTOTAL					\$160,000		\$240,000		\$160,000	
2 - ENGINEERING - PRELIMINARY AND CONCEPTUAL										
GEOTECHNICAL INVESTIGATION	LS	\$100,000	\$120,000		-		-		-	TO BE ESTIMATED SEPARATELY
STABILITY ANALYSIS	LS	\$30,000	\$36,000		-		-		-	
UTILITY SURVEY	LS	\$20,000	\$24,000		-		-		-	
PRELIMINARY RAILWAY DESIGN	LS	\$20,000	\$24,000		-		-		-	
HUMAN HEALTH RISK (HHR) ASSESSMENT	LS	\$50,000	\$60,000		-		-		-	
CONCEPTUAL DESIGN PLANS	LS	\$100,000	\$120,000		-		-		-	
SUBTOTAL					-		-		-	
3 - ENGINEERING - PLANS / SPECIFICATIONS / BID PACKAGE / CONSTRUCTION										
EXCAVATION / GRADING / SWPPP PLANS	LS	\$125,000	\$150,000		-		-		-	TO BE ESTIMATED SEPARATELY
SPECIFICATIONS	LS	\$20,000	\$24,000		-		-		-	
COST ESTIMATES	LS	\$15,000	\$18,000		-		-		-	
ENGINEERING - CONSTRUCTION SUPPORT (5% OF ITEMS 5, 6, 7 & 11)		5% OF ITEMS 5, 6, 7 AND 11		1	\$800,000	1	\$1,300,000	1	\$1,000,000	
SUBTOTAL					\$800,000		\$1,300,000		\$1,000,000	
4 - PERMITTING										
CEQA / PUBLIC NOTIFICATION	LS	\$1,000,000	\$1,200,000	1	\$1,200,000	1	\$1,200,000	1	\$1,200,000	Feasibility Report: Technical/Cost Analysis of Off-Haul and Redevelopment Potential: Waste Consolidation Area, Union City, California (SCS Report) Attachment B May 9, 2018
ALAMEDA COUNTY WATER DISTRICT (WELL DEST. AND REPLACEMENT)	LS	\$10,000	\$12,000	1	\$12,000	1	\$12,000	1	\$12,000	
UNION CITY GRADING PERMIT	LS	\$20,000	\$24,000	1	\$24,000	1	\$24,000	1	\$24,000	
AIR PERMIT / NOTIFICATION	LS	\$25,000	\$30,000	1	\$30,000	1	\$30,000	1	\$30,000	
UPRR PERMIT	LS	\$50,000	\$60,000	1	\$60,000	1	\$60,000	1	\$60,000	
DTSC - UPDATE COVENANT AND LAND USE RESTRICTION	LS	\$50,000	\$60,000	1	\$60,000	1	\$60,000	1	\$60,000	
DTSC - UPDATE O&M PLAN	LS	\$50,000	\$60,000	1	\$60,000	1	\$60,000	1	\$60,000	
DTSC - RAP / PUBLIC COMMENT PERIOD	LS	\$150,000	\$180,000	1	\$180,000	1	\$180,000	1	\$180,000	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS

ITEM	UNIT	SCS REPORT UNIT COST MAY 2018	UNIT COST IN FEB. 2023 DOLLARS	SoCo RAIL PARTIAL EXCAVATION		TOTAL WCA EXCAVATION		SPLIT-PHASE REMAINING WCA EXCAVATION		SOURCE OF UNIT COSTS
				QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
SUBTOTAL					\$1,700,000		\$1,700,000		\$1,700,000	
5 - MONITORING WELL DECOMMISSIONING AND REPLACEMENT										
WORK PLANS AND H&S PLAN	EA	\$5,000	\$6,000	2	\$12,000	2	\$12,000	2	\$12,000	<u>Feasibility Report:</u> <u>Technical/Cost Analysis of</u> <u>Off-Haul and</u> <u>Redevelopment Potential:</u> <u>Waste Consolidation Area,</u> <u>Union City, California</u> <u>(SCS Report)</u> <u>Attachment B</u> <u>May 9, 2018</u>
DRILLER	DAYS	\$4,000	\$4,800	4	\$19,200	8	\$38,400	4	\$19,200	
PROJECT PROFESSIONAL	DAYS	\$2,500	\$3,000	4	\$12,000	8	\$24,000	4	\$12,000	
PROJECT MANAGEMENT / SUPPORT STAFF	DAYS	\$1,000	\$1,200	4	\$4,800	8	\$9,600	4	\$4,800	
LAB ANALYSES	SAMPLES	\$250	\$300	10	\$3,000	20	\$6,000	10	\$3,000	
WASTE MANAGEMENT	LS	\$5,000	\$6,000	1	\$6,000	1	\$6,000	1	\$6,000	
REPORT	LS	\$5,000	\$6,000	2	\$12,000	2	\$12,000	2	\$12,000	
SUBTOTAL					\$70,000		\$110,000		\$70,000	
6 - RAILWAY IMPROVEMENTS										
WORK PLAN AND H&S PLAN	LS	\$25,000	\$30,000	1	\$30,000	1	\$30,000	1	\$30,000	<u>Feasibility Report:</u> <u>Technical/Cost Analysis of</u> <u>Off-Haul and</u> <u>Redevelopment Potential:</u> <u>Waste Consolidation Area,</u> <u>Union City, California</u> <u>Attachment B</u> <u>May 9, 2018</u>
DESIGN / PERMITTING	LS	\$150,000	\$180,000	1	\$180,000	1	\$180,000	1	\$180,000	
RAIL CONSTRUCTION	LS	\$3,373,000	\$4,048,000	-	-	-	-	-	-	Assume mainly uses the layover tracks constructed by SoCo Rail Project and temporary trackwork is listed individually below
RAILROAD TRACK SHIFT (50% TIE RENEWAL)	TF	N/A	\$135	500	\$68,000	500	\$68,000	5,500	\$743,000	Oakland Seventh Street
CONSTRUCT BALLASTED MAIN TRACK (136# RAIL)	TF	N/A	\$530	3,700	\$1,961,000	3,700	\$1,961,000	4,800	\$2,544,000	Oakland Seventh Street
INSTALL TRANSITION RAILS (115/136#)	PR	N/A	\$2,000	2	\$4,000	2	\$4,000	4	\$8,000	Oakland Seventh Street
INSTALL CONCRETE CROSSING PANELS @ 8' TF	TF	N/A	\$600	64	\$39,000	64	\$39,000	216	\$130,000	Oakland Seventh Street
INSTALL No. 15 TURNOUTS HTTO	EA	N/A	\$145,500	1	\$145,500	1	\$145,500	2	\$291,000	KPC
INSTALL No. 11 TURNOUTS HTTO	EA	N/A	\$70,000	1	\$70,000	1	\$70,000	2	\$140,000	KPC but escalated based off Oakland Seventh Street cost for No. 9 HTTO
INSTALL No. 9 TURNOUTS HTTO	EA	N/A	\$35,000	2	\$70,000	2	\$70,000	2	\$70,000	Oakland Seventh Street
INSTALL DSPD DERAIL	EA	N/A	\$75,000	2	\$150,000	2	\$150,000	2	\$150,000	EBB
INSTALL BUMPING POSTS	EA	N/A	\$5,000	-	-	-	-	2	\$10,000	TAMC Salinas Rail Extension 100% Submittal
TEMPORARY ACCESS ROADS	SF	N/A	N/A	37,000	-	37,000	-	20,000	-	N/A Charged by CY
ASSUME 10" THICK CLASS 2 AGGREGATE BASE	CY	N/A	\$280	1,200	\$337,000	1,200	\$337,000	700	\$197,000	Oakland Seventh Street
TRACK REMOVAL AND SALVAGE	LS	N/A	\$50	3,700	\$185,000	3,700	\$185,000	550	\$27,500	Oakland Seventh Street
STRUCTURAL CONCRETE (RETAINING WALL)	LF	N/A	N/A	-	-	-	-	1,330	-	N/A Charged by CY
ASSUME 3' TALL x 9" THICK	SF	N/A	N/A	-	-	-	-	3,000	-	
	CY	N/A	\$1,300	-	-	-	-	100	\$130,000	Oakland Seventh Street

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS

ITEM	UNIT	SCS REPORT UNIT COST MAY 2018	UNIT COST IN FEB. 2023 DOLLARS	SoCo RAIL PARTIAL EXCAVATION		TOTAL WCA EXCAVATION		SPLIT-PHASE REMAINING WCA EXCAVATION		SOURCE OF UNIT COSTS
				QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
BAR REINFORCING STEEL (RETAINING WALL) Assume #6 bars @ 1.502 LB/LF	FT/FT	N/A	N/A	34	–	34	–	34	–	N/A Charged by LB
	FT	N/A	N/A	–	–	–	–	45,000	–	
	LB	N/A	\$3.0	–	–	–	–	68,000	\$210,000	Oakland Seventh Street
STRUCTURAL CONCRETE (PIER PROTECTION) ASSUME 13' TALL x 3' THICK	LF	N/A	N/A	12	–	12	–	–	–	N/A Charged by CY
	SF	N/A	N/A	39	–	39	–	–	–	
	CY	N/A	\$2,100	20	\$42,000	20	\$42,000	–	–	Oakland Seventh Street
BAR REINFORCING STEEL (PIER PROTECTION) Assume 300 lb / CY based off Oakland Seventh Street Cost Estimate	CY	N/A	N/A	20	–	20	–	–	–	N/A Charged by LB
	LB	N/A	\$2.25	6,000	\$20,000	6,000	\$13,500	–	–	Oakland Seventh Street
REMOVE CONCRETE CROSSING PANELS @ 8' TF	TF	N/A	\$110	64	\$8,000	64	\$8,000	216	\$24,000	Oakland Seventh Street
REMOVE NO. 15 HTO	LS	N/A	\$44,000	1	\$44,000	1	\$44,000	2	\$88,000	Estimate costs twice as much as Oakland Seventh Street No. 9 HTO removal based off installation cost differences
REMOVE NO. 11 HTO	LS	N/A	\$22,000	1	\$22,000	1	\$22,000	2	\$44,000	Estimate costs twice as much as Oakland Seventh Street No. 9 HTO removal based off installation cost differences
REMOVE NO. 9 HTO	LS	N/A	\$11,000	2	\$22,000	2	\$22,000	2	\$22,000	Oakland Seventh Street
REMOVE DSPD DERAIL	EA	N/A	\$50,000	2	\$100,000	2	\$100,000	2	\$100,000	Estimate
ADDITIONAL DUMP LOCATION RAILROAD ENHANCEMENTS	LS	N/A	\$1,500,000	1	\$1,500,000	1	\$1,500,000	1	\$1,500,000	Steve Young at HDR Estimate dated 11/10/2022
SUBTOTAL					\$5,000,000		\$5,000,000		\$6,700,000	
7 - WASTE EXCAVATION / LOADOUT										
7010 - MOBILIZATION AND DEMOBILIZATION	LS	N/A	\$185,000	1	\$185,000	1	\$185,000	1	\$185,000	Steve Young at HDR Estimate dated 11/10/2022
7020 - TEMPORARY INFRASTRUCTURE	LS	N/A	\$250,000	1	\$250,000	1	\$250,000	1	\$250,000	
7030 - SITE PREPARATION, CLEARING AND GRUBBING	LS	N/A	\$26,000	1	\$26,000	2	\$52,000	1	\$26,000	
7040 - REUSE SOIL EXCAVATION	LS	N/A	\$102,000	1	\$102,000	2	\$204,000	1	\$102,000	
7050 - EXCAVATION LOAD OUT	LS	N/A	\$1,333,000	1	\$1,333,000	3	\$3,759,060	2	\$2,666,000	
7060 - EXCAVATION / STOCK PILE NON-IMPACTED	LS	N/A	\$60,000	1	\$60,000	2	\$120,000	1	\$60,000	
7070 - ON-SITE TREATMENT	LS	N/A	\$656,000	1	\$656,000	2	\$1,312,000	1	\$656,000	
7080 - LOAD OUT, CONVEY AND HOPPER	LS	N/A	\$1,437,000	1	\$1,437,000	3	\$4,052,340	2	\$2,874,000	
7082 - MOBILE RAIL CAR MOVER	LS	N/A	\$771,000	1	\$771,000	3	\$2,174,220	2	\$1,542,000	
7090 - CONSTRUCTION MANAGEMENT	LS	N/A	\$1,428,000	1	\$1,428,000	2	\$2,856,000	1	\$1,428,000	
7100 - INDIRECT COST TRAIL, ETC.	LS	N/A	\$82,000	1	\$82,000	2	\$164,000	1	\$82,000	
7110 - SHORING TEMPORARY	LS	N/A	\$386,000	1	\$386,000	1	\$386,000	1	\$386,000	

**UNION CITY INTERMODAL STATION PHASE 3 PROJECT
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS**

ITEM	UNIT	SCS REPORT UNIT COST MAY 2018	UNIT COST IN FEB. 2023 DOLLARS	SoCo RAIL PARTIAL EXCAVATION		TOTAL WCA EXCAVATION		SPLIT-PHASE REMAINING WCA EXCAVATION		SOURCE OF UNIT COSTS
				QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
7120 - RAIL SPUR PLATFORM	LS	N/A	\$210,000	1	\$210,000	1	\$210,000	1	\$210,000	
7130 - SURVEY	LS	N/A	\$49,000	1	\$49,000	2	\$98,000	1	\$49,000	
7140 - E&S DUST CONTROL AND SWEEPER	LS	N/A	\$224,000	1	\$224,000	3	\$631,680	2	\$448,000	
7150 - FEES	LS	N/A	\$800	1	\$800	1	\$800	1	\$800	
SUBTOTAL					\$7,200,000		\$16,500,000		\$11,000,000	
8 - HEALTH & SAFETY DURING CONSTRUCTION										
8010 - H&S PLAN	LS	N/A	\$20,000	1	\$20,000	1	\$20,000	1	\$20,000	Steve Young at HDR Estimate dated 11/10/2022
8020 - PPE	LS	N/A	\$11,000	1	\$11,000	2	\$22,000	1	\$11,000	
8030 - ON-SITE MONITORING PERSONNEL	LS	N/A	\$212,000	1	\$212,000	3	\$597,840	2	\$424,000	
8040 - AIR MONITORING EQUIPMENT	LS	N/A	\$62,000	1	\$62,000	3	\$174,840	2	\$124,000	
8050 - ANALYSIS	LS	N/A	\$7,000	1	\$7,000	3	\$19,740	2	\$14,000	
SUBTOTAL					\$320,000		\$840,000		\$600,000	
9 - WASTE TRANSPORTATION										
9010 - RELIC FOUNDATION TRUCKING	LS	N/A	\$25,000	1	\$25,000	2	\$50,000	1	\$25,000	Steve Young at HDR Estimate dated 11/10/2022
9020 - IMPACTED SOILS RAIL TRANSPORTATION TO YUMA, ARIZONA	LS	N/A	\$28,241,000	1	\$28,241,000	3	\$79,639,620	2	\$56,482,000	
9030 - IMPACTED SOILS 10 MILES BY TRUCK FROM SPUR TO YUMA, ARIZONA	LS	N/A	\$1,346,000	1	\$1,346,000	3	\$3,795,720	2	\$2,692,000	
9040 - TRANS- LOADING RAIL SPUR NEAR YUMA, ARIZONA	LS	N/A	\$572,000	1	\$572,000	1	\$572,000	1	\$572,000	
SUBTOTAL					\$30,200,000		\$84,100,000		\$59,800,000	
10 - WASTE ACCEPTANCE TESTING / DISPOSAL										
10005 - WASTE PROFILE	LS	N/A	\$386,000	1	\$386,000	3	\$1,088,520	2	\$772,000	Steve Young at HDR Estimate dated 11/10/2022
10015 - WASTE DUMP FEES	LS	N/A	\$11,387,000	1	\$11,387,000	3	\$32,111,340	2	\$22,774,000	
SUBTOTAL					\$11,800,000		\$33,200,000		\$23,600,000	
11 SITE RESTORATION										
11005 - SITE GRADING	LS	N/A	\$212,000	1	\$212,000	2	\$424,000	1	\$212,000	Steve Young at HDR Estimate dated 11/10/2022
11015 - IMPORT SOIL BACKFILL	LS	N/A	\$1,205,000	1	\$1,205,000	2	\$1,807,500	1	\$1,205,000	
11020 - PLACE AND COMPACT	LS	N/A	\$156,000	1	\$156,000	2	\$234,000	1	\$156,000	
11025 - PLACE REINFORCEMENT FABRIC	LS	N/A	\$460,000	1	\$460,000	0.5	\$230,000	1	\$460,000	
11030 - DRAINAGE IMPROVEMENTS	LS	N/A	\$33,000	1	\$33,000	2	\$66,000	1	\$33,000	
11035 - LANDSCAPE SCREENING	LS	N/A	\$20,000	1	\$20,000	2	\$40,000	1	\$20,000	
SUBTOTAL					\$2,100,000		\$2,900,000		\$2,100,000	
12 - CONTRACTOR MARK-UP AND BONDS										
CONTRACTOR MARK- UP (15% OF ITEMS 5-7 & 9-11)	LS	15% OF ITEMS 5-7 AND 9-11		1	\$8,456,000	1	\$21,272,000	1	\$15,491,000	
CONTRACTOR BOND (2% OF ITEMS 5-7 & 9-11)	LS	2% OF ITEMS 5-7 AND 9-11		1	\$1,128,000	1	\$2,837,000	1	\$2,066,000	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
WASTE CONSOLIDATION AREA (WCA) ESTIMATED EXCAVATION, DISPOSAL AND REMEDIATION COSTS

ITEM	UNIT	SCS REPORT UNIT COST MAY 2018	UNIT COST IN FEB. 2023 DOLLARS	SoCo RAIL PARTIAL EXCAVATION		TOTAL WCA EXCAVATION		SPLIT-PHASE REMAINING WCA EXCAVATION		SOURCE OF UNIT COSTS
				QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	QUANTITY	ESTIMATED COST	
SUBTOTAL					\$10,000,000		\$25,000,000		\$18,000,000	
TOTAL ESTIMATED WCA EXCAVATION, DISPOSAL AND REMEDICATION COSTS					\$70,000,000		\$171,000,000		\$125,000,000	

NOTES:

1. The Feasibility Report: Technical/Cost Analysis of Off-Haul and Redevelopment Potential: Waste Consolidation Area, Union City, California was created by SCS Engineers in Pleasanton, CA and dated May 9, 2018. Attachment B contains the WCA WASTE REMOVAL/SITE RESTORATION COST ESTIMATE WORKSHEETS used to estimate the costs.
2. The May 2018 unit costs were increased by 20% to obtain February 2023 values per the online CPI Inflation Calculator.
https://www.bls.gov/data/inflation_calculator.htm
3. The SoCo Rail Project impacts 35.5% of the WCA volume and 49.5% of the surface area. All quantities involving surface area are increased by 100% and all quantities involving volume are increased by 200% to estimate the cost required for excavating the entire WCA slag pile. Some quantities are left as 1 since increasing the extent of excavation are assumed to not impact these categories.

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
INSTALL MAIN TRACK (136# RAIL)	2,200	TF	See Right		1,100	TF	See Right	
INSTALL LAYOVER TRACK (136# RAIL)	2,800	TF	See Right		200	TF	See Right	
SHIFT TRACK	–	TF	Required for Track Shooflies		–	TF	No Track Shift	
SURFACE TRACK	2,900	TF			–	TF		
TIMBER CROSSTIES - 8.5' TIES @ 18" SPACING	1,000	EA	Assume 18" Tie Spacing 30% Tie Renewal for Track Shift 50% Tie Renewal for Track Surface		–	EA	Assume 18" Tie Spacing 30% Tie Renewal for Track Shift 50% Tie Renewal for Track Surface	
INSTALL TRANSITION RAILS (115/136#)	6	EA	4 on Track MT near layover yard 2 on Shoofly Track		–	EA		
INSTALL CROSSING PANELS @ 8' LF 9' WIDE	88	TF	88 TF at North End of Track YT2		–	TF		
BUMPING POST	2	EA	Track ST1 and YT2		1	EA	North end of second station track	
INSTALL No. 11 TURNOUTS POTO	–	EA	N/A		2	EA	Both ends of Track XO2	
INSTALL No. 15 TURNOUTS POTO	1	EA	South end of Track ST1		–	EA	N/A	
INSTALL No. 11 TURNOUTS HTTO	–	EA	N/A		–	EA	N/A	
INSTALL No. 9 TURNOUTS HTTO	2	EA	Both ends of Track XO1		2	EA	Both ends of Track XO2	
INSTALL No. 9 DOUBLE-SLIP TURNOUTS HTTO	–	EA	N/A		1	EA	Crossing of Tracks XO2, YT1 and YT2	
INSTALL No. 15 TURNOUTS HTTO	2	EA	South end of Track YT1		–	EA	Both ends of Track XO2	
DOUBLE SWITCH POINT DERAIL EL	1	EA	Track YT1		–	EA		
DOUBLE SWITCH POINT DERAIL PO	1	EA	Track ST1		–	EA		
INSTALL NEW CP 27.3	1	EA	South end of Track YT1		–	EA	N/A	
INSTALL NEW EWL 27.7	1	EA	South end of Track ST1		–	EA	N/A	
INSTALL NEW CP F027	1	EA	Replacing existing Hold Signal F027		–	EA	N/A	
SIGNAL HOUSE	3	EA	One signal house at each signal		–	EA	N/A	
REMOVE TRACK ITEMS								
REMOVE TRACK (115# RAIL)	805.58	TF	See Right		–	TF	See Right	
REMOVE TRACK (136# RAIL)	–	TF	See Right		246.58	TF	See Right	
REMOVE CROSSING PANELS @ 8' LF	–	TF	N/A		–	TF	N/A	
REMOVE No. 9 TURNOUTS HTTO	–	EA			1	EA	Replaced by Double-Slip Turnout	
REMOVE No. 11 TURNOUTS POTO	–	EA			–	EA		
REMOVE No. 15 TURNOUTS POTO	–	EA			–	EA		
REMOVE SIGNAL	2	EA	2 @ HOLD SIGNAL F027 (MP 27.6)		–	EA		
RIGHT-OF-WAY AND EASEMENT ITEMS								
EASEMENT IN IDRR ROW	1.65	AC	72,000 SF on the east side		–	AC	N/A	

Install Track (136# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	TYPE OF TRACK	Main Track Length	Layover Track Length
Shoofly Track	N/A		N/A	TF	MAIN	–	–
Shoofly Track	Measured in CADD file		300.00	TF	MAIN	300.00	–
Track MT	731+29.51	731+79.51	50.00	TF	MAIN	50.00	–
Track XO1	Measured in CADD file		259.25	TF	LAYOVER	–	259.25
Track ST1	99+85.00	108+80.86	895.86	TF	MAIN	895.86	–
Track ST1	109+88.44	119+38.63	950.19	TF	MAIN	950.19	–
Track YT1	114+78.78	129+57.43	1,478.65	TF	LAYOVER	–	1,478.65
Track YT2	Measured in CADD file		1,000.00	TF	LAYOVER	–	1,000.00
Total Install Track						2,196.05	2,737.90

Future Install Track (136# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	TYPE OF TRACK	Main Track Length	Layover Track Length
Track ST2	99+85.00	108+80.86	895.86	TF	MAIN	895.86	–
Track ST2	110+05.45	111+98.53	193.08	TF	LAYOVER	–	193.08
Track XO2	Measured in CADD file		186.00	TF	MAIN	186.00	–
			–	TF		–	–
			–	TF		–	–
Total Future Install Track						1,081.86	193.08

Shift / Surface Track (115# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	WORK TYPE	Shift Length	Surface Length
Track MT	740+49.66	748+48.30	798.64	TF	SURFACE	–	798.64
Track MT	750+52.08	771+50.00	2,097.92	TF	SURFACE	–	2,097.92
			–	TF		–	–
			–	TF		–	–
Total Shift /Surface Track						–	2,896.56

Note: Track MT is initially shifted to the Shoofly Track and then shifted back to its original location so the

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
EASEMENT IN BART R/W	–	AC	0.0 SF on the west side		–	AC	N/A	
EASEMENT IN BART R/W	–	AC	N/A		–	AC	N/A	
TEMPORARY EASEMENT IN CITY-OWNED R/W	4.89	AC	213,000 SF including the emergency access road, drainage and WCA slag pile cut slope		–	AC	N/A	
ACQUIRE CITY-OWNED R/W FOR TRACK IMPROVEMENTS	2.82	AC	123,000 SF on the east side		0.46	AC	20,000 SF on the east side	
ACQUIRE CITY-OWNED R/W FOR ROAD IMPROVEMENTS	1.38	AC	60,250 SF on the east side		–	AC	N/A	
		AC				AC		
CIVIL CONSTRUCTION ITEMS								
CLEARING AND GRUBBING	11.90	AC	Assume 10% greater than R/W acquisition and easement areas		0.60	AC	Assume 10% greater than R/W acquisition and easement areas	
	11.90	AC	TOTAL AREA		0.60	AC	TOTAL AREA	
ROADWAY EXCAVATION	4,100.00	CY	Assume same volume as construct roadway and aggregate base		–	CY	Assume same volume as construct roadway and aggregate base	
	14,000.00	CY	WCA Clean Excavation		–	CY		
	18,100.00	CY	TOTAL EXCAVATION VOLUME		–	CY	TOTAL EXCAVATION VOLUME	
TRACK EXCAVATION	–	CY			–	CY		
UPRR TRACK EXCAVATION	–	CY			–	CY		
TRACK EMBANKMENT (IMPORTED BORROW)	65,750.00	CY	Assume 5.5' under platform Assume 2.5' under platform track		61,500.00	CY	Assume 5.5' under platform Assume 1.0' under platform track	
	–	CY	WCA Backfill Volume		–	CY	WCA Backfill Volume	
	65,750	CY	TOTAL EMBANKMENT VOLUME		61,500	CY	TOTAL EMBANKMENT VOLUME	
CONSTRUCT HOT MIX ASPHALT	58,000	SF	60,500 SF of Public Roads Minus the area of Parking Lots		–	SF	N/A	
	29,000	CF	Volume of 6" Thick Streets		–	CF	Volume of 6" Thick Streets	
	24,800	SF	25,500 SF of access roads Minus area of concrete panels		–	SF	N/A	
ASSUMED THICKNESSES:								
6" THICK HMA PUBLIC ROADS	8,300	CF	Volume of 4" Thick Access Roads		–	CF	Volume of 4" Thick Access Roads	
4" THICK HMA PARKING LOTS	2,500	SF	2,500 SF Crew Parking Lot		–	SF	Area of Parking Lots	
4" THICK HMA ACCESS ROAD	900	CF	Volume of 4" Parking Lots		–	CF	Volume of 4" Thick Parking Lots	
	38,200	CF	<i>SUBTOTAL - SEE BELOW</i>		–	CF	<i>SUBTOTAL - SEE BELOW</i>	
	5,409,000	LB	Density of 145 pounds per CF		–	LB	Density of 145 pounds per CF	
	2,800	TON	CHARGED BY TONS		–	TON	CHARGED BY TONS	

length measured in the CADD file is doubled

Remove Track (115# Rail)								
Track	Begin Station	End Station	Length (TF)	Unit	WORK BY	UPRR Length	Contractor Length	
Track MT	731+29.51	731+79.51	50.00	TF	UPRR	50.00	–	
Track MT	738+21.87	740+49.66	227.79	TF	UPRR	227.79	–	
Track MT	748+24.53	750+52.32	227.79	TF	UPRR	227.79	–	
Shoofly Track	Length of Shoofly Install		N/A	TF	UPRR	–	–	
Shoofly Track	Length of Shoofly Install		300.00	TF	UPRR	300.00	–	
				TF		–	–	
Total Remove Track						TF	805.58	–

Note: Assume the Shoofly Track is too far from the proposed tracks to be shifted into place.

Future Remove Track (136# Rail)								
Track	Begin Station	End Station	Length (TF)	Unit	WORK BY	UPRR Length	Contractor Length	
Track YT1	112+65.13	113+89.71	124.58	TF	UPRR	124.58	–	
Track XO1	Measured in CADD file		75.00	TF	UPRR	75.00	–	
Track XO1	Measured in CADD file		47.00	TF	UPRR	47.00	–	
			–	TF		–	–	
			–	TF		–	–	
Total Future Remove Track						TF	246.58	–

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
CLASS 2 AGGREGATE BASE ASSUMED THICKNESSES: 8" THICK AB PUBLIC ROADS 10" THICK AB ACCESS ROAD 10" THICK AB PARKING LOTS 4" THICK AB SIDEWALKS 4" THICK BELOW CURBS 4" THICK BELOW CURBS AND GUTTERS	58,000	SF	Area of streets		–	SF	Area of streets	
	38,700	CF	Volume of 8" Thick Streets		–	CF	Volume of 8" Thick Streets	
	24,800	SF	Area of Access Roads		–	SF	Area of Access Roads	
	20,700	CF	Volume of 10" Thick Access Roads		–	CF	Volume of 10" Thick Access Roads	
	2,500	SF	Area of Parking Lots		–	SF	Area of Parking Lots	
	2,100	CF	Volume of 10" Thick Parking Lots		–	CF	Volume of 10" Thick Parking Lots	
	20,200	SF	Area of Sidewalks		–	SF	Area of Sidewalks	
	6,800	CF	Volume of 4" Below Sidewalks		–	CF	Volume of 4" Below Sidewalks	
	160	LF	Length of Curbs		–	LF	Length of Curbs	
	100	CF	Volume of 4" Below Curbs		–	CF	Volume of 4" Below Curbs	
	2,350	LF	Length of Curbs and Gutters		–	LF	Length of Curbs and Gutters	
	1,600	CF	Volume of 4" Below Curbs and Gutters		–	CF	Volume of 4" Below Curbs and Gutters	
	70,000	CF	SUBTOTAL - SEE BELOW		–	CF	SUBTOTAL - SEE BELOW	
	2,600	CY	CHARGED BY CUBIC YARDS		–	CY	CHARGED BY CUBIC YARDS	
CONSTRUCT CALTRANS TYPE A1-6 CURB	160.00	LF	160 LF in the crew parking lot		–	LF	N/A	
	4.14	CY	CALTRANS STD DWG A87A VOLUME 0.02585 CY/LF		–	CY	CALTRANS STD DWG A87A VOLUME 0.02585 CY/LF	
		CY	SUBTOTAL - SEE BELOW		–	CY	SUBTOTAL - SEE BELOW	
CONSTRUCT UNION CITY STANDARD CURB AND GUTTER PER UNION CITY DRAWING NO. STD-208	2,350	LF	1,050 LF west side Loop Road 750 LF east side Loop Road Block 5 550 LF east side Loop Road WCA		–	LF	N/A	
	3,200	CF	Area of 1.3299 SF / LF		–	CF	Area of 1.3299 SF / LF	
	120	CY	SUBTOTAL - SEE BELOW		–	CY	SUBTOTAL - SEE BELOW	
MINOR CONCRETE (CURB AND GUTTER)	200	CY	TOTAL MINOR CONCRETE (CURB AND GUTTER) VOLUME		–	CY	TOTAL MINOR CONCRETE (CURB AND GUTTER) VOLUME	
CONSTRUCT SIDEWALK (4" THICK) Per Union City DRAWING NO. STD-203	20,200.00	SF	2,550 SF between platform and at-grade crossing 50 SF south end of Plaza 8,800 SF west side Loop Road 7,100 SF east side Loop Road Block 5 1,700 SF east side Loop Road WCA		–	SF	N/A	
	300.00	CY	COST IS PER CY		–	CY	COST IS PER CY	
INSTALL CURB RAMP	–	EA	Included in Construct Sidewalk		–	EA	Included in Construct Sidewalk	
	–	LF	N/A		1,050	LF	1,050 LF along Future Track ST2 Design based on TAMC Salinas Rail Extension 100% Submittal	
	–	CF	Retaining Wall Surface Area		7,000	CF	Retaining Wall Surface Area	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
CONSTRUCT RETAINING WALL (ASSUMED 9" THICK)			Assume 6' Avg. Height				Assume 6' Avg. Height	
	–	LF	N/A		–	LF	N/A	
	–	SF	Retaining Wall Surface Area Assume 3' Avg. Height		–	SF	Retaining Wall Surface Area Assume 6' Avg. Height	
	–	CF	SUBTOTAL - SEE BELOW		5,300	CF	SUBTOTAL - SEE BELOW	
	–	CY	CHARGED BY CUBIC YARDS		200	CY	CHARGED BY CUBIC YARDS	
BAR REINFORCING STEEL (RETAINING WALL)	67.00	FT/FT	Design based on TAMC Salinas Rail 100% Submittal Assume 6' Average Height		67.00	FT/FT	Design based on TAMC Salinas Rail 100% Submittal Assume 6' Average Height	
	33.50	FT/FT	Design based on TAMC Salinas Rail 100% Submittal Assume 3' Average Height		33.50	FT/FT	Design based on TAMC Salinas Rail 100% Submittal Assume 3' Average Height	
	–	LF	SUBTOTAL - CHARGED BY POUNDS Assume #6 bars @ 1.502 LB/LF		78,000	LF	SUBTOTAL - CHARGED BY POUNDS Assume #6 bars @ 1.502 LB/LF	
	–	LB	TOTAL WEIGHT		118,000	LB	TOTAL WEIGHT	
STRUCTURAL CONCRETE, PIER PROTECTION	–	LF	ALVARADO - NILES ROAD OVERPASS ASSUME 12' LONG PER UPRR-BNSF GRADE SEPARATION STANDARDS PLAN No. 71100		–	LF	N/A	
	39.00	SF	CROSS SECTION AREA ASSUME 13' TALL x 3' THICK		39.00	SF	CROSS SECTION AREA ASSUME 13' TALL x 3' THICK	
	–	CY	TOTAL VOLUME		–	CY	TOTAL VOLUME	
BAR REINFORCING STEEL (PIER PROTECTION)	–	CY			–	CY		
	–	LB	ASSUME 300 LB / CY BASED ON OAKLAND SEVENTH STREET COST ESTIMATE		–	LB	ASSUME 300 LB / CY BASED ON OAKLAND SEVENTH STREET COST ESTIMATE	
CONSTRUCT PEDESTRIAN UNDERPASS	–	LF	N/A		30.00	LF	30 LF Egress underpass on the east side underneath Track ST2 Assume 20' x 10' inside clearance	
CONSTRUCT 10' RCB CULVERT	145.00	LF	Measured off the CADD file Assumed 10' x 10' inside clearance		–	LF	N/A	
STRUCTURAL CONCRETE, BOX CULVERT	–	CF	Assume Pedestrian Underpass would be 20' x 10' box culvert Assume 2' thick walls 145 CF / LF Concrete		5,000	CY	Assume Pedestrian Underpass would be 20' x 10' box culvert Assume 2' thick walls 145 CF / LF Concrete	
			Caltrans Std. Dwg. D80				Caltrans Std. Dwg. D80	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
	7,000	CF	Assumed 10' x 10' box culvert 96 CF / LF Concrete		–	CY	Assumed 10' x 10' box culvert 96 CF / LF Concrete	
	260	CY	TOTAL VOLUME		190	CY	TOTAL VOLUME	
BAR REINFORCING STEEL, BOX CULVERT	–	LB	Assumed 20' x 10' box culvert 1,400 LB / LF Concrete		42,000	LB	Assumed 20' x 10' box culvert 1,400 LB / LF Concrete	
	73,000	LB	Caltrans Std. Dwg. D80 Assumed 10' x 10' box culvert 950 LB / LF Concrete		–	LB	Caltrans Std. Dwg. D80 Assumed 10' x 10' box culvert 425 LB / LF Concrete	
	73,000	LB	TOTAL WEIGHT		42,000	LB	TOTAL WEIGHT	
CONSTRUCT PEDESTRIAN VERTICAL ACCESS RAMP AND STAIRWAY TO STREET LEVEL (HEIGHT = 8')	2	EA	North end of the platform Platform egress stairway on the east side		–	EA	N/A	
	120.00	CY	Assume 60 CY volume due to longer length and width than 35 CY in the Union City At-Grade Ped. Crossing IFB Submittal Estimate		–	CY	Assume 60 CY volume due to longer length and width than 35 CY in the Union City At-Grade Ped. Crossing IFB Submittal Estimate	
	240	CY	<i>SUBTOTAL - SEE BELOW</i>		–	CY	<i>SUBTOTAL - SEE BELOW</i>	
CONSTRUCT PEDESTRIAN VERTICAL ACCESS RAMP AND STAIRWAY TO PLATFORM (HEIGHT = 15')	–	EA	N/A		2	EA	Both ends of the vertical access to the platform egress underpass	
	–	CY	Assume requires 140 CY due to roughly four times longer length and greater width than the Union City At-Grade Ped Crossing IFB Submittal		280	CY	Assume requires 140 CY due to roughly four times longer length and greater width than the Union City At-Grade Ped Crossing IFB Submittal	
	–	CY	<i>SUBTOTAL - SEE BELOW</i>		560.00	CY	<i>SUBTOTAL - SEE BELOW</i>	
MINOR CONCRETE (STATION ADA RAMPS AND STEPS)	300	CY	TOTAL VOLUME Includes all pedestrian vertical access ramps and stairways		600	CY	TOTAL VOLUME Includes all pedestrian vertical access ramps and stairways	
STATION PLATFORM - CONCRETE	11,500	SF	11,500 SF Station Platform Area		11,000	SF	11,000 SF Station Platform Area	
	5,750	CF	Assume 6" Thick station platform <i>SUBTOTAL - SEE BELOW</i>		5,500	CF	Assume 6" Thick station platform <i>SUBTOTAL - SEE BELOW</i>	
	200	CF	Mini-High ADA Platform at 25" above T/R		200	CF	Mini-High ADA Platform at 25" above T/R	
	2	EA	Locations		2	EA	Locations	
	400	CF	<i>SUBTOTAL - SEE BELOW</i>		400	CF	<i>SUBTOTAL - SEE BELOW</i>	
	400	CF	Mini-High ADA Platform at 48" above T/R		400	CF	Mini-High ADA Platform at 48" above T/R	
	2	EA	Locations		2	EA	Locations	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
	800	CF	SUBTOTAL - SEE BELOW		800	CF	SUBTOTAL - SEE BELOW	
	260	CY	TOTAL VOLUME Includes Station Platform and the Mini-High Platforms		250	CY	TOTAL VOLUME Includes Station Platform and the Mini-High Platforms	
STATION PLATFORM - REBAR	15,600	LB	Assume 60 LB / CY Based off TAMC Salinas Rail Extension 100% Submittal		15,000	LB	Assume 60 LB / CY Based off TAMC Salinas Rail Extension 100% Submittal	
PIPE HANDRAILING TUBULAR HANDRAILING	750	LF	750 LF Handrail along edge of single-sided platform		–	LF	Not required for center two-sided platform	
	500	LF	Handrail along both sides of platform access walkway		–	LF	N/A	
	50	LF	Handrail along Mini-High ADA Platform at 25" Above T/R		50	LF	Handrail along Mini-High ADA Platform at 25" Above T/R	
	2	EA	Locations		2	EA	Locations	
	100	LF	SUBTOTAL - SEE BELOW		100	EA	SUBTOTAL - SEE BELOW	
	115	LF	Handrail along Mini-High ADA Platform at 48" Above T/R		115	LF	Handrail along Mini-High ADA Platform at 48" Above T/R	
	2	EA	Locations		2	EA	Locations	
	230	LF	SUBTOTAL - SEE BELOW		230	EA	SUBTOTAL - SEE BELOW	
		1,100	LF	TOTAL LENGTH along platform edge and mini-high platforms		400	LF	TOTAL LENGTH along platform edge and mini-high platforms
PARKING BUMPER (PRECAST CONCRETE)	13.00	EA	13 Parking spaces in the Crew Parking Lot		–	EA	N/A	
CHAIN LINK FENCE (TYPE CL-8)	160.00	LF	180 LF fence at north end of the WCA site minus length of road gate		–	LF	N/A	
20' CHAIN LINK FENCE GATE (TYPE CL-6)	1.00	EA	20' wide road gate at north end of the WCA site		–	EA	N/A	
EXPANDED METAL MESH FENCE, 8' TALL	3,200.00	LF	2,000 LF on east side of Track YT2 1,250 LF on west side of Track YT1 Minus length of gates		–	LF	N/A	
20' EXPANDED METAL MESH GATE, 8' TALL	4.00	EA	20' wide road gate at north end 40' wide road gate at north end 20' wide track gate at south end		–	EA	N/A	
8" TRACK UNDERDRAIN (INSIDE UPRR R/W)	1,360.00	LF	1,250 LF along platform face 100 LF along Track YT1		–	LF	N/A	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
6" TRACK UNDERDRAIN (OUTSIDE UPRR R/W)	2,225.00	LF	1,100 LF along Layover Track YT1 1,125 LF along Layover Track YT2		1,250.00	LF	1,250 LF along Track ST2 / YT2	
MODIFY INLET	1	EA	Intersection at south end of east side plaza at the shifted Loop Road		–	EA	N/A	
4" WHITE STRIPE	–	LF	N/A		–	LF	N/A	
	–	LF	TOTAL LENGTH		–	LF	TOTAL LENGTH	
PLANT TREES	8	EA	Assume 25% more than Remove Trees		–	EA	Assume 25% more than Remove Trees	
SHELTERS	3	EA	Assumption		3	EA	Assume same quantity as in the Initial Phase	
	600.00	SF	Assume 200 SF per shelter		600.00	SF	Assume 200 SF per shelter	
DETECTABLE WARNING TILES	745.00	LF	Along platform edge		745.00	LF	Along Platform Edge	
CREW BUILDING 10' X 40' MODULAR BUILDING	400	SF	Assume 10' x 40' Modular Building		–	SF	N/A	
QUARRY LAKES PARKWAY BRIDGE								
BRIDGE LENGTH	130.00	LF	70 LF Northern Span 60 LF Southern Span		–	LF	N/A	
STRUCTURAL CONCRETE (RR BRIDGE) ASSUME PRECAST CONCRETE DOUBLE CELL BOX BEAMS TWO BOX BEAMS PER TRACK 6'-0" FROM B/R TO T/R	13.50	SF	Assumed Approximate Cross Section of each individual box girder		–	LF	N/A	
	3,600.00	CF	Total Box Girder Volume 2 box girders side-by-side by 130 LF		–	CF	N/A	
	650.00	CF	2.5 SF Walkway Supports on both sides of the bridge		–	CF	N/A	
	1,350.00	CF	Abutment and Pier Caps - Assume 5' Tall x 4.5' Long x 20' Long		–	CF	N/A	
	1,200.00	CF	Center Pier (Excluding Cap) - Assume 3' Thick x 20' Long x 20' Tall		–	CF	N/A	
	280	CY	TOTAL VOLUME		–	CY	TOTAL VOLUME	
CONSTRUCT ABUTMENT RETAINING WALL (ASSUMED 18" THICK)	60.00	LF	Assume reconstruct 30 LF of retaining wall on both ends of the bridge		–	LF	N/A	
	360.00	SF	Retaining Wall Surface Area Assume 6' Avg. Height		–	SF	Retaining Wall Surface Area Assume 6' Avg. Height	
	600	CF	SUBTOTAL - SEE BELOW		–	CF	SUBTOTAL - SEE BELOW	
	100	CY	CHARGED BY CUBIC YARDS		–	CY	CHARGED BY CUBIC YARDS	
	15,000	LF	Assume 50 LF transverse rebar per		–	LF	N/A	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
BAR REINFORCING STEEL (RR BRIDGE)				double cell box beam @ 12" OC				
	7,000	LF		Assume 24 longitudinal post-tensioned strands per box beam	–	LF		N/A
	32,000	LF		Abutment and Pier Caps - Assume 6 x 20' long longitudinal beams @ 12" O.C. Assume 20 x 5' long vertical beams @ 12" O.C.	–	LF		N/A
	103,000	LF		Center Pier - Assume 6 x 20' long longitudinal beams @ 12" O.C. Assume 30 X 20' long vertical beams @ 12" O.C.	–	LF		N/A
	165,000	LF		<i>SUBTOTAL - CHARGED BY POUNDS</i> Assume #7 bars @ 2.044 LB/LF	–	LF		<i>SUBTOTAL - CHARGED BY POUNDS</i> Assume #7 bars @ 2.044 LB/LF
	338,000	LB		TOTAL WEIGHT	–	LB		TOTAL WEIGHT
BAR REINFORCING STEEL (RETAINING WALL)	140	FT/FT		Design based on TAMC Salinas Rail 100% Submittal Assume 6' Average Height	140.00	FT/FT		Design based on TAMC Salinas Rail 100% Submittal Assume 6' Average Height
	8,400	LF		<i>SUBTOTAL - CHARGED BY POUNDS</i> Assume #7 bars @ 2.044 LB/LF	–	LF		<i>SUBTOTAL - CHARGED BY POUNDS</i> Assume #7 bars @ 2.044 LB/LF
	18,000	LB		TOTAL WEIGHT	–	LB		TOTAL WEIGHT
PIPE HANDRAILING TUBULAR HANDRAILING	260.00	LF		Handrail along both sides of the bridge	–	LF		N/A
	80.00	LF		Assume extends 20 LF beyond the bridge at all four quadrants	–	LF		N/A
	340	LF		TOTAL LENGTH along bridge	–	CY		TOTAL LENGTH
SPRAY-APPLIED WATERPROOFING W/ BALLAST PROTECTION MAT (RR BRIDGE)	1,300.00	SF		Assume one-half the area of the Membrane Waterproofing Based off the Oakland Seventh Street Quantities	–	SF		
PREFORMED MEMBRANE WATERPROOFING (RR BRIDGE)	2,600.00	SF		Assume 20 LF per foot of bridge length	–	SF		N/A
DRAIN PIPE (RR BRIDGE)	260.00	LF		Assume two drain pipes which run the length of the bridge	–	LF		N/A
REMOVE CIVIL ITEMS								
REMOVE ASPHALT CONCRETE PAVEMENT	1,200.00	SF		1,200 SF Shifted Loop Road at the southern intersection	1,300.00	SF		1,300 SF Shifted Loop Road at southern intersection

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
REMOVE CONCRETE CURB	–	LF	N/A		–	LF		
REMOVE CURB AND GUTTER	155.00	LF	75 LF west side of Loop Road in front of the Plaza 80 LF east side of Loop Road south of southern intersection		–	LF	N/A	
REMOVE SIDEWALK	650.00	SF	650 SF at southeast corner of Loop Road		350.00	SF	350 SF at north end of future platform	
	300.00	CF	Assumed 4" thick sidewalk per UNION CITY DRAWING NO. STD-203		200.00	CF	Assumed 4" thick sidewalk per UNION CITY DRAWING NO. STD-203	
	–	SF	N/A At-Grade Crossing remains in use		–	SF	N/A	
	–	CF	9" thick UNION CITY PED CROSSING IFB PLAN SET - JUNE 2022		–	CF	9" thick UNION CITY PED CROSSING IFB PLAN SET - JUNE 2022	
	20	CY	TOTAL VOLUME		–	CY	TOTAL VOLUME	
REMOVE PLATFORM	–	SF	N/A		–	SF	N/A	
REMOVE FENCE	1,170	LF	770 LF on east side of UPRR R/W along Block 5 350 LF on the north end of WCA 50 LF on the south end		–	LF	N/A	
REMOVE METAL RAILING	–	LF	N/A		750.00	LF	Remove platform edge railing when the platform is widened	
REMOVE PEDESTRIAN VERTICAL ACCESS RAMP AND STAIRWAY TO STREET LEVEL (HEIGHT = 8')	–	EA	N/A At-Grade Crossing remains in use		1	EA	Remove platform egress stairway on the east side	
	–	CY	35 CY Volume based off the UNION CITY PED CROSSING IFB PLAN SET - JUNE 2022		35.00	CY	35 CY Volume based off the UNION CITY PED CROSSING IFB PLAN SET - JUNE 2022	
REMOVE CONCRETE CHANNEL	2,200	LF	2,200 LF channel on the west sides of the WCA site		–	LF	N/A	
	5	SF	Assume Box Channel 3' High x 3' Wide x 6" Thick		–	SF	N/A	
	400	CY	TOTAL VOLUME		–	CY	TOTAL VOLUME	
REMOVE INLET	1	EA	North end of WCA Channel		–	EA	N/A	
REMOVE PAINTED TRAFFIC STRIPE	–	LF	N/A		–	LF	N/A	
	–	LF	N/A		–	LF	N/A	

UNION CITY INTERMODAL STATION PHASE 3 PROJECT
CITY-PREFERRED DESIGN – 745' LONG PLATFORM WITH AN AT-GRADE CROSSING AND AVOIDING IMPACTS TO LOOP ROAD

CITY-PREFERRED DESIGN WITH AT-GRADE CROSSING – CONCEPTUAL DESIGN QUANTITIES								
	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
ITEM	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
	–	LF	TOTAL LENGTH		–	LF	TOTAL LENGTH	
REMOVE TREE	6.00	EA	Assume removal of 6 trees on the west side of Loop Road		–	EA		
REMOVE BRIDGE	1.00	EA	10 TF Length		–	EA		

**UNION CITY INTERMODAL STATION PHASE 3 PROJECT
UP OAKLAND SUBDIVISION IMPROVEMENTS BETWEEN WHIPPLE ROAD AND CP NILES JUNCTION (MP 25.6 to 30.5)**

IMPROVEMENTS BETWEEN WHIPPLE ROAD AND CP NILES JUNCTION (MP 25.6 to 30.5) – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
INSTALL / CONSTRUCT TRACK ITEMS								
INSTALL MAIN TRACK (136# RAIL)	490	TF	See Right		–	TF	See Right	
INSTALL LAYOVER TRACK (136# RAIL)	–	TF	See Right		–	TF	See Right	
SHIFT TRACK	1,500	TF	Required for Track Shooflies		–	TF	No Track Shift	
SURFACE TRACK	12,100	TF			–	TF		
TIMBER CROSSTIES - 8.5' TIES @ 18" SPACING	4,400	EA	Assume 18" Tie Spacing 30% Tie Renewal for Track Shift 50% Tie Renewal for Track Surface		–	EA	Assume 18" Tie Spacing 30% Tie Renewal for Track Shift 50% Tie Renewal for Track Surface	
INSTALL TRANSITION RAILS (115/136#)	2	EA	2 at the No. 15 POTO at MP 30.5		–	EA		
INSTALL CROSSING PANELS @ 8' LF 9' WIDE	–	TF	N/A		–	TF		
BUMPING POST	–	EA	N/A		–	EA	N/A	
INSTALL No. 11 TURNOUTS POTO	–	EA	N/A		–	EA	N/A	
INSTALL No. 15 TURNOUTS POTO	1	EA	Left-Hand at MP 30.52		–	EA	N/A	
INSTALL No. 11 TURNOUTS HTO	–	EA	N/A		–	EA	N/A	
INSTALL No. 9 TURNOUTS HTO	–	EA	N/A		–	EA	N/A	
INSTALL No. 9 DOUBLE-SLIP TURNOUTS HTO	–	EA	N/A		–	EA	N/A	
INSTALL No. 15 TURNOUTS HTO	–	EA	N/A		–	EA	N/A	
DOUBLE SWITCH POINT DERAIL EL	–	EA	N/A		–	EA	N/A	
DOUBLE SWITCH POINT DERAIL PO	–	EA	N/A		–	EA	N/A	
INSTALL CP F025 (MP 25.6)	–	EA	MP 25.6 .North of Whipple Road		–	EA	N/A	
INSTALL CP WEST FREMONT (MP 29.3)	1	EA	MP 29.3 at south end of the Alameda Creek Bridge		–	EA	N/A	
INSTALL CP FREMONT (MP 30.17)	1	EA	MP 30.17		–	EA	N/A	
INSTALL CP NILES JCT. (MP 30.5)	1	EA	MP 30.5 East of Mission Blvd Underpass		–	EA	N/A	
DECOTO ROAD	1	EA	Crossing Signal Improvements		–	EA	N/A	
F STREET	1	EA	Crossing Signal Improvements		–	EA	N/A	
H STREET	1	EA	Crossing Signal Improvements		–	EA	N/A	
I STREET	1	EA	Crossing Signal Improvements		–	EA	N/A	
SIGNAL HOUSE	6	EA	One signal house at each signal		–	EA	N/A	
	–	EA	N/A		–	EA	N/A	
	–	EA	N/A		–	EA	N/A	
REMOVE TRACK ITEMS								
REMOVE TRACK (115# RAIL)	700	TF	See Right		–	TF	See Right	

Install Track (136# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	TYPE OF TRACK	Main Track Length	Layover Track Length
Track MT	Measured in CADD file		83.00	TF	MAIN	83.00	–
Mission Connection	Measured in CADD file		402.00	TF	MAIN	402.00	–
Total Install Track						485.00	–

Future Install Track (136# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	TYPE OF TRACK	Main Track Length	Layover Track Length
			–	TF		–	–
			–	TF		–	–
			–	TF		–	–
Total Future Install Track						–	–

Shift / Surface Track (115# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	WORK TYPE	Shift Length	Surface Length
Track MT	771+50.00	834+59.94	6,309.94	TF	SURFACE	–	6,309.94
Track MT	835+65.00	848+99.19	1,334.19	TF	SURFACE	–	1,334.19
Track MT	850+19.69	874+19.91	2,400.22	TF	SURFACE	–	2,400.22
Track MT	875+95.91	888+90	1,294.09	TF	SURFACE	–	1,294.09
Track MT	889+00	895+89.25	689.25	TF	SURFACE	–	689.25
Track MT	Measured off CADD File		261.00	TF	SHIFT	522.00	–
Track MT	Measured off CADD File		227.00	TF	SHIFT	454.00	–
Mission Connection	Measured off CADD File		231.00	TF	SHIFT	462.00	–
			–	TF		–	–
			–	TF		–	–
Total Shift /Surface Track						1,438.00	12,027.69

**UNION CITY INTERMODAL STATION PHASE 3 PROJECT
UP OAKLAND SUBDIVISION IMPROVEMENTS BETWEEN WHIPPLE ROAD AND CP NILES JUNCTION (MP 25.6 to 30.5)**

IMPROVEMENTS BETWEEN WHIPPLE ROAD AND CP NILES JUNCTION (MP 25.6 to 30.5) – CONCEPTUAL DESIGN QUANTITIES								
ITEM	QUANTITY SUMMARY				POTENTIAL FUTURE QUANTITIES			
	QUANTITY	UNIT	BEG STA.	END STA.	QUANTITY	UNIT	BEG STA.	END STA.
REMOVE TRACK (136# RAIL)	–	TF	See Right		–	TF	See Right	
REMOVE CROSSING PANELS @ 8' LF	–	TF	N/A		–	TF	N/A	
REMOVE No. 9 TURNOUTS HTTO	–	EA			–	EA	N/A	
REMOVE No. 11 TURNOUTS POTO	1	EA	MP 30.52		–	EA		
REMOVE No. 15 TURNOUTS POTO	–	EA			–	EA		
REMOVE SIGNAL	10.00	EA	2 @ HOLD SIGNAL F025 (MP 25.6) 2 @ CP WEST FREMONT (MP 29.3) 3 @ CP FREMONT (MP 30.17) 3 @ CP NILES JCT. (MP 30.5)		–	EA		
RIGHT-OF-WAY AND EASEMENT ITEMS								
EASEMENT IN UPRR R/W	–	AC	72,000 SF on the east side 0.0 SF on the west side		–	AC	N/A	
EASEMENT IN BART R/W	–	AC	N/A		–	AC	N/A	
TEMPORARY EASEMENT IN CITY-OWNED R/W	–	AC	210,000 SF including the emergency access road and WCA slag pile cut slope		–	AC	N/A	
ACQUIRE CITY-OWNED R/W FOR TRACK IMPROVEMENTS	–	AC	123,000 SF on the east side		0.46	AC	20,000 SF on the east side	
ACQUIRE CITY-OWNED R/W FOR ROAD IMPROVEMENTS	–	AC	60,250 SF on the east side		–	AC	N/A	
		AC				AC		

Remove Track (115# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	WORK BY	UPRR Length	Contractor Length
Track MT	899+90.01	901+83.01	193.00	TF	UPRR	193.00	–
			–	TF	UPRR	–	–
			–	TF	UPRR	–	–
			83.00	TF	UPRR	83.00	–
			402.00	TF	UPRR	402.00	–
Total Remove Track				TF		678.00	–

Note: Assume the Shoofly Track is too far from the proposed tracks to be shifted into place.

Future Remove Track (136# Rail)							
Track	Begin Station	End Station	Length (TF)	Unit	WORK BY	UPRR Length	Contractor Length
			–	TF	UPRR	–	–
			–	TF		–	–
			–	TF		–	–
Total Future Remove Track				TF		–	–