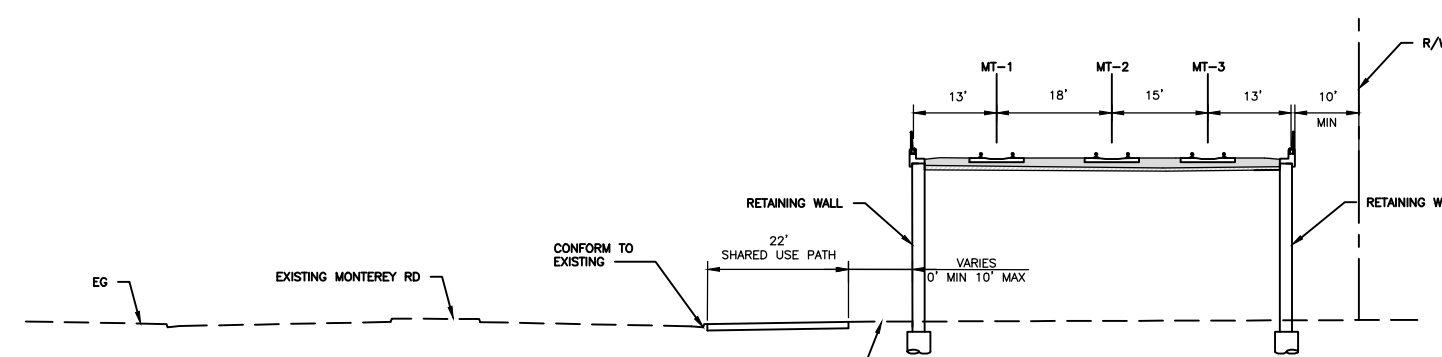
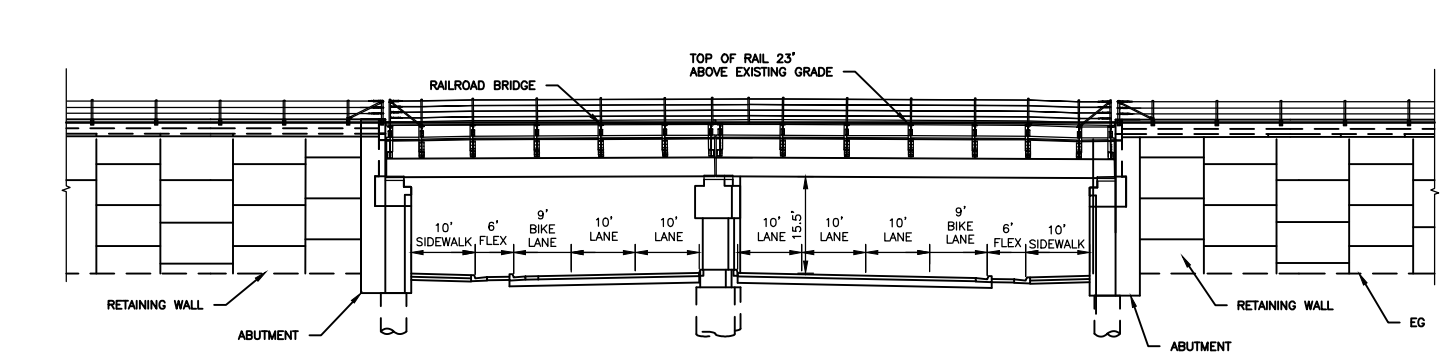


① TYPICAL INTERSECTION
SCALE: NTS



② MONTEREY RD SECTION
SCALE: NTS

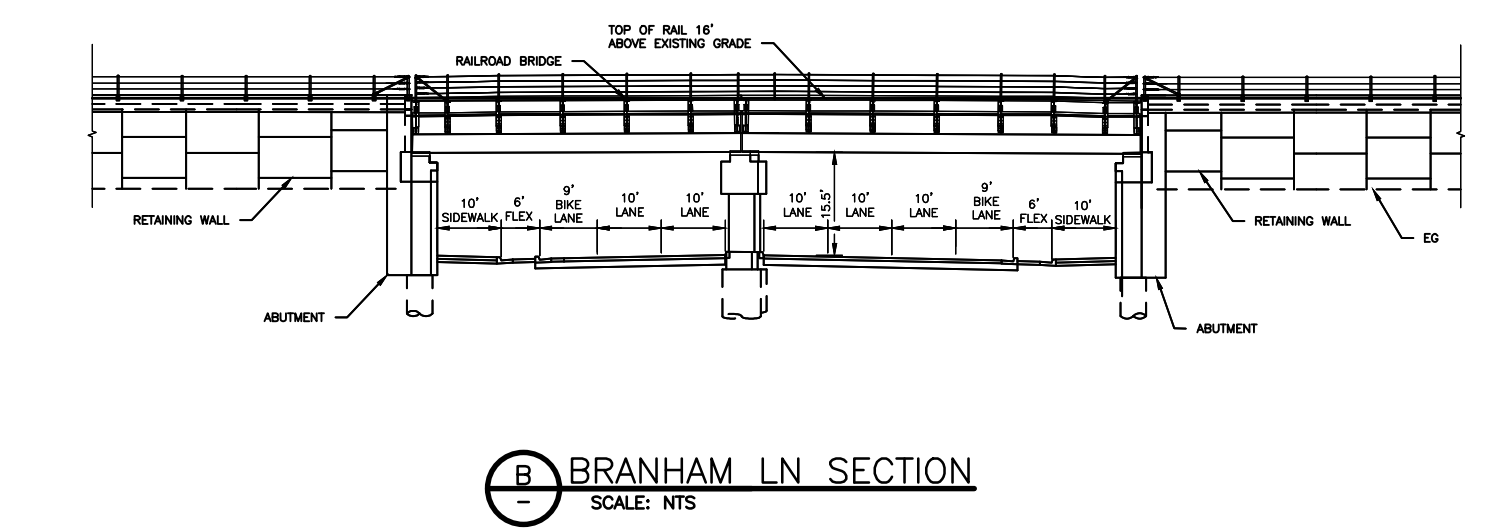
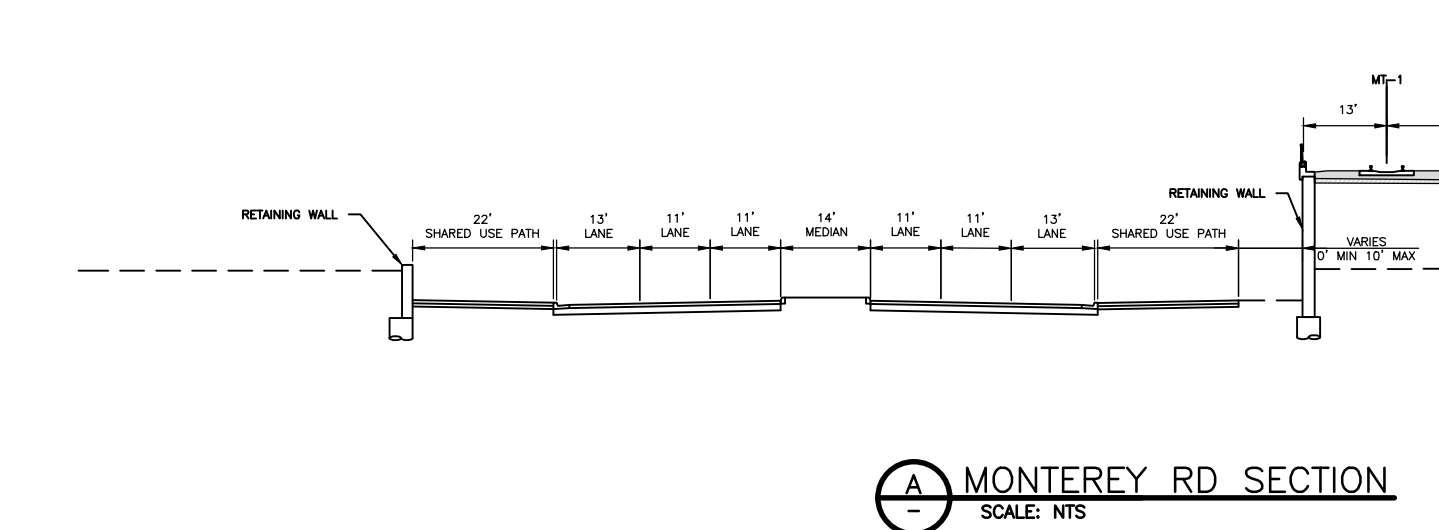
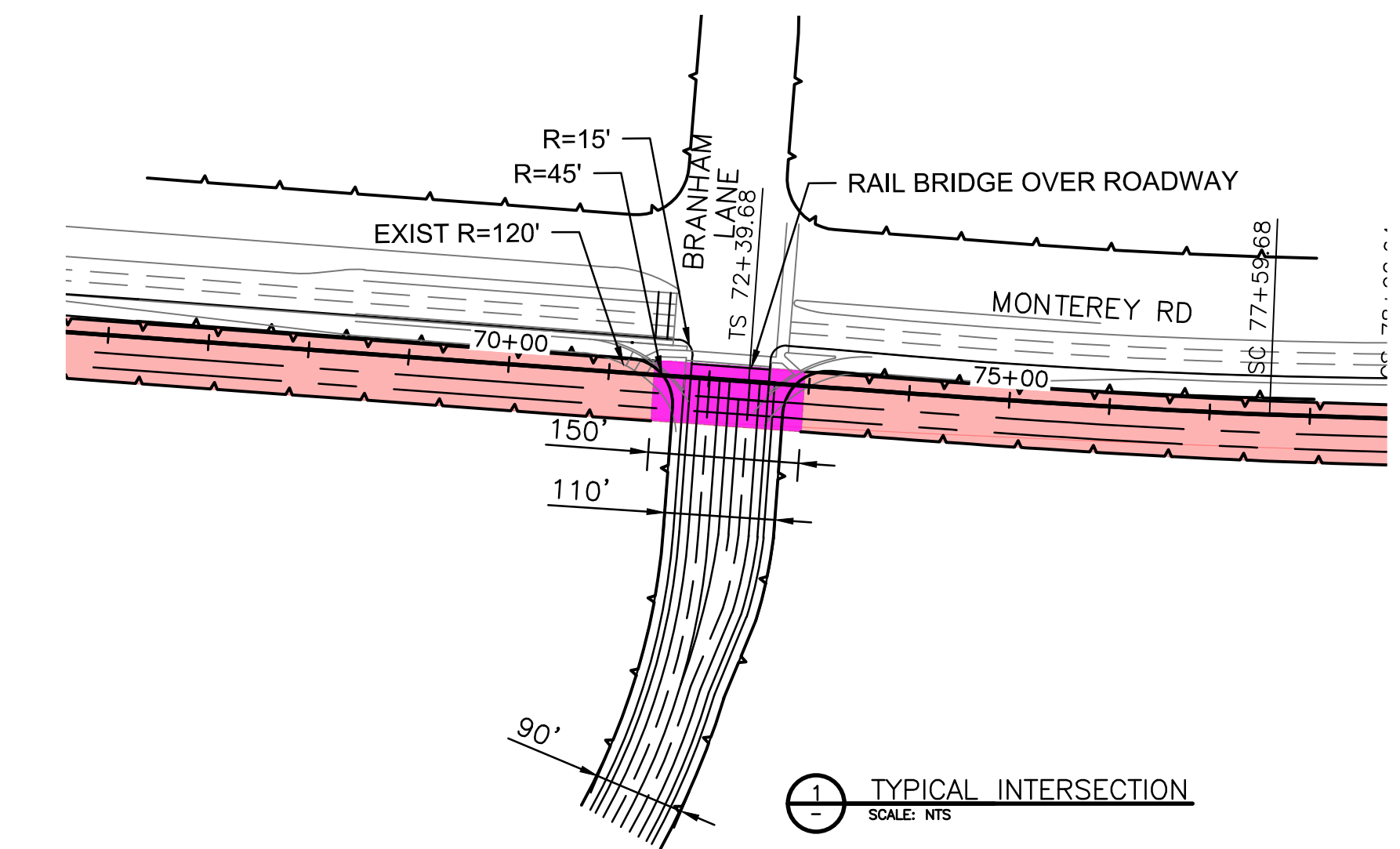
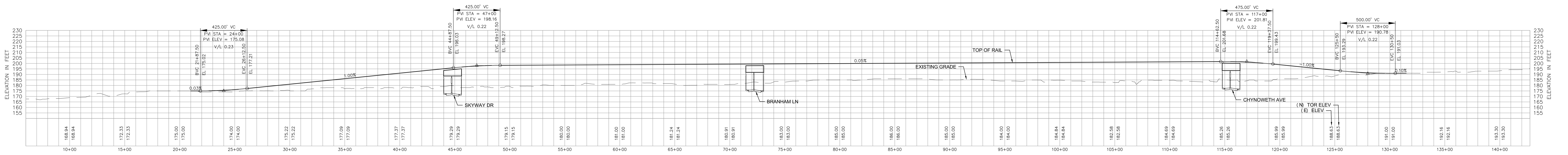
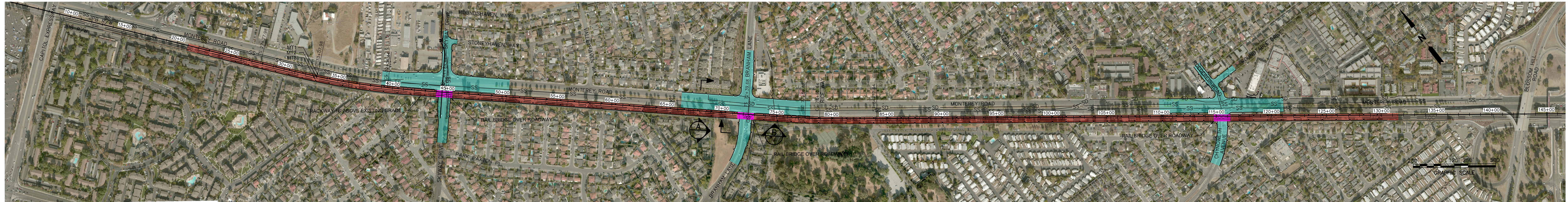


③ BRANHAM LN SECTION
SCALE: NTS

- LEGEND
- MSE WALLS
 - BRIDGE
 - DEPRESSED TRACK

CONCEPTUAL - FOR DISCUSSION ONLY

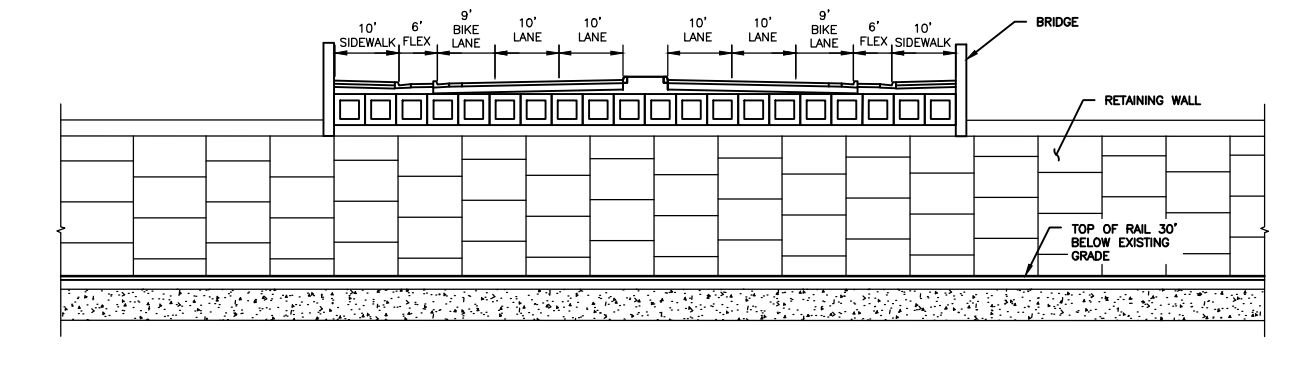
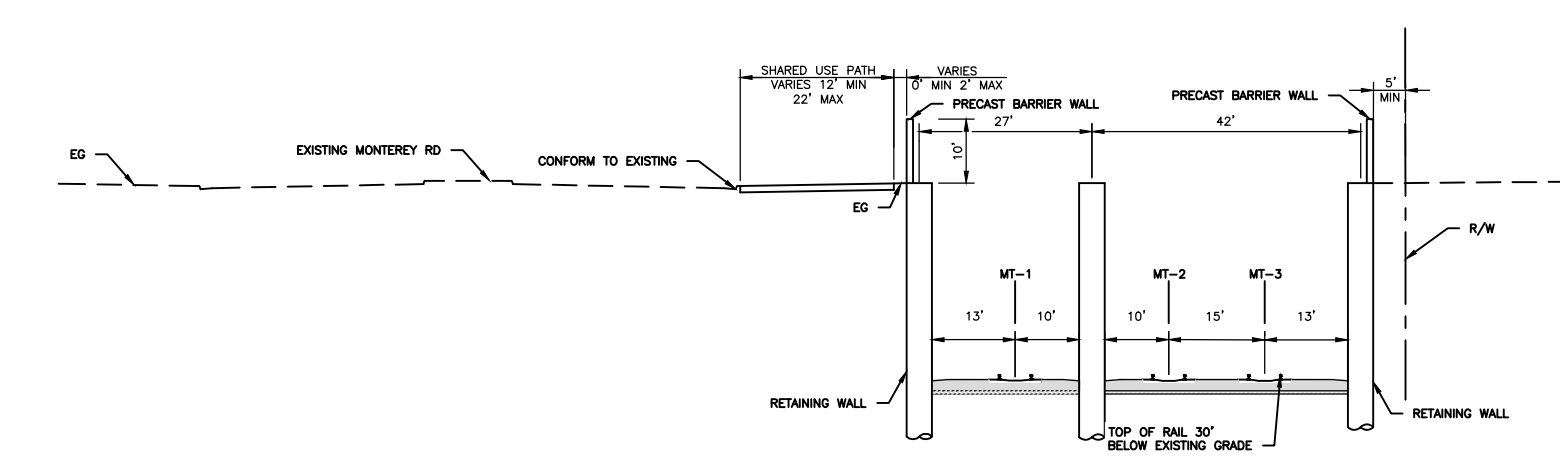
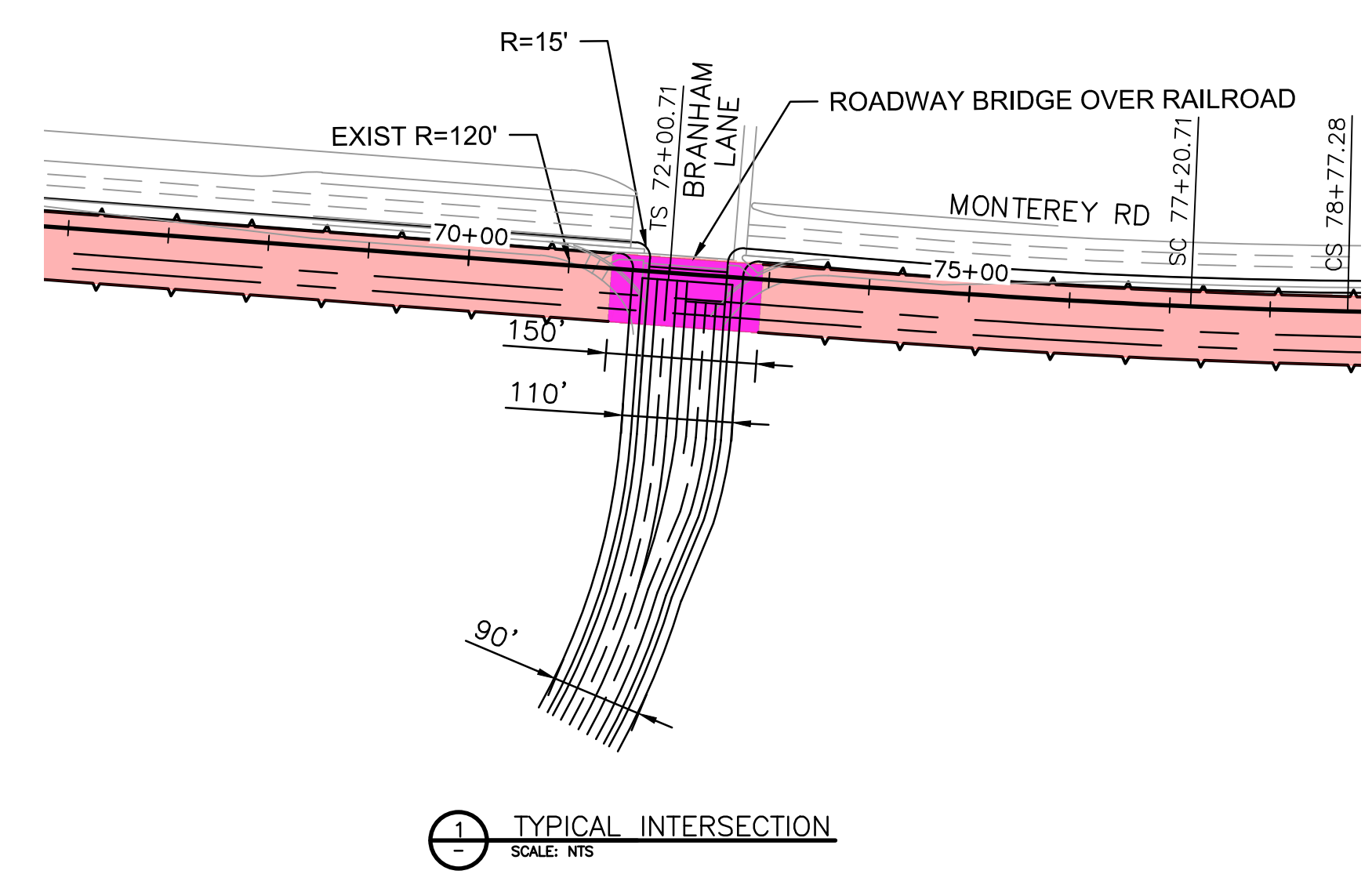
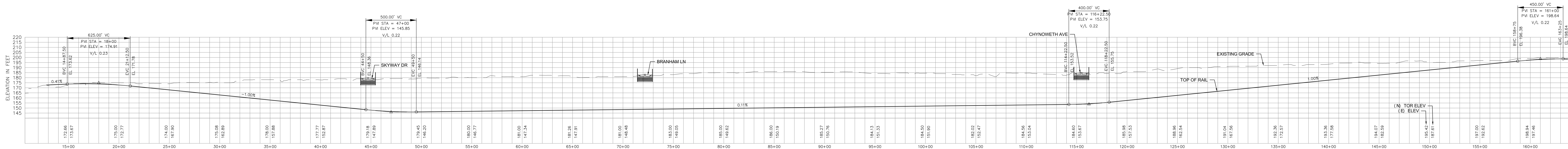




- LEGEND
- MSE WALLS
 - BRIDGE
 - ELEVATED TRACK
 - DEPRESSED ROADWAY LIMITS

CONCEPTUAL - FOR DISCUSSION ONLY





- LEGEND
- MSE WALLS
 - BRIDGE
 - DEPRESSED TRACK

CONCEPTUAL - FOR DISCUSSION ONLY



Comparison of Alternative Features/Considerations
 Monterey Road Grade Separation Study

Features/Considerations	Alternative A – 25' Elevated Embankment Guideway	Alternative B – 15' Elevated Embankment Guideway	Alternative C – Trench Guideway
Rail Relocation Length (Miles)	2.43	2.09	2.87
Total Project Cost (2030\$)	\$488,000,000	\$484,000,000	\$1,406,000,000
Visual obstruction/impact to adjacent backyards	High (H=35')	High (H=25')	Low/Medium (H=10')
Blossom Hill Station Relocation	No	No	Yes
Overall Utility Relocation Impacts	Low	Moderate	High
Impacts to existing Roadways	Low	High	Low
Remove Blossom Hill Connector Ramp	No	No	Yes
Retrofit of Blossom Hill Overpass (Bent 3)	No	No	Yes
Replace Xander POC	No	No	Yes
Relocate Fiber Optic Duct Bank	Yes	Yes	Yes
Noise Impacts	?	?	?
Vibration	?	?	?
Air Quality	?	?	?
Opportunity to extend backyards (easement)	10'	10'	5'
Business Access Impacts	Low	Medium/High	Low
Compatibility with Corridor Complete Streets Program	Yes	Yes	No

Brainstorm for this: Direct fixed track, ballasted tracks, electric trains for passenger, diesel for freight, no at grade crossings (no train hori
 Brainstorm for this: Direct fixed track, ballasted tracks, electric trains for passenger, diesel for freight, assume vibration will be lower
 Brainstorm: Diesel vs electric

City of San Jose - Monterey Road Grade Separation Study (March 2019)	Alternative A	Alternative B	Alternative C
	+25' Elevated Embankment Guideway	+15' Elevated Embankment Guideway	-30' Trench Guideway
Total Construction Cost (2019\$)	\$305,170,000	\$302,660,000	\$878,740,000
Project Development Cost (20%)	\$61,030,000	\$60,530,000	\$175,750,000
Total Project Cost (2019\$)	\$366,200,000	\$363,190,000	\$1,054,490,000
Total Project Cost (2030\$)	\$488,000,000	\$484,000,000	\$1,406,000,000

H= 25
 North Trans L= 3600
 Skyway to Branham 2750
 Branham to Chynoweth 4300
 South Trans L= 2200

Alternative A – 25' Elevated Embankment Guideway

Description: Elevate the three proposed mainline tracks approximately 25' above existing grade to provide sufficient vertical clearance to pass over each of the three streets (Skyway, Branham and Chynoweth). The tracks would be supported by earth fill retained between typical reinforced concrete retaining walls or MSE walls. Construction would be staged so that one existing mainline track remains in service throughout construction, as follows:

Stage 1 - Remove MT1 track and retain service on MT2. Construct the eastern retaining wall (closest to Monterey Road) and a second "temporary" interior wall approximately 26' west of the exterior wall. Within the 26' width, construct the fill between the walls and install ballast and track for MT1.

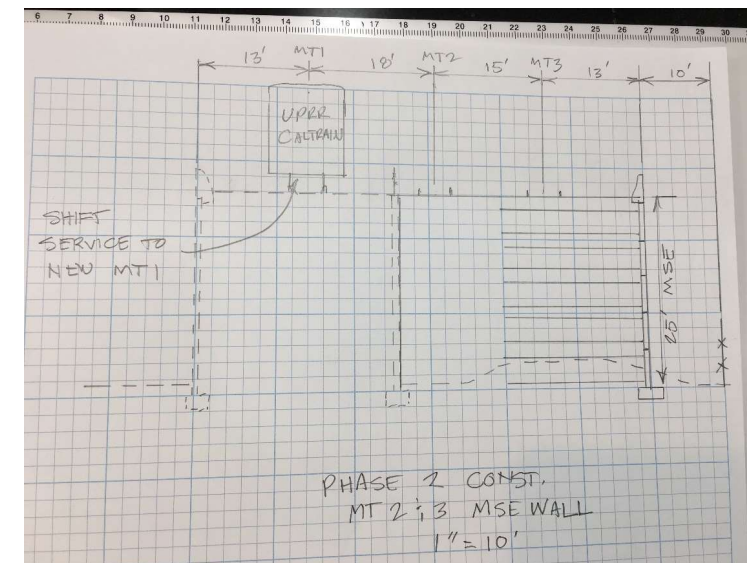
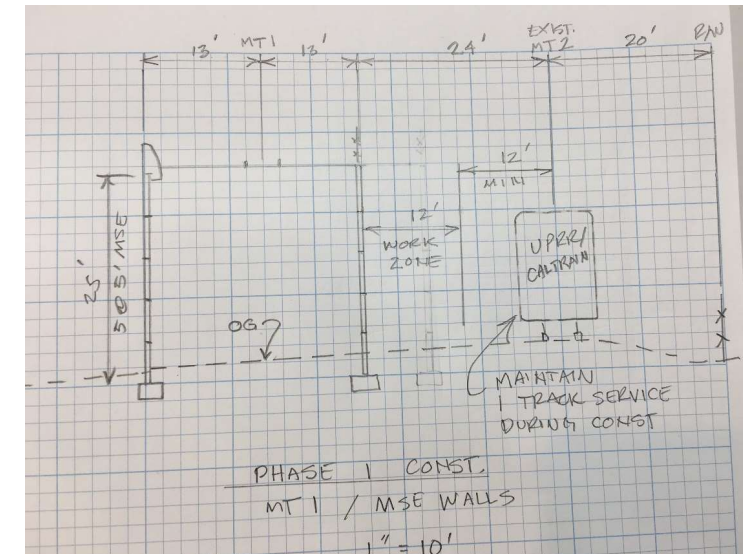
Stage 2 – Route train traffic to the newly completed MT1. Construct the western retaining wall about 10' from the western R/W fence. Once complete, construct the fill between the temporary interior wall and the western retaining wall and install ballast and track for MT2 and MT3.

Item Description	Segment Length	Quantity	Unit	Unit Cost	Allocated Cost (2019 \$)	Allocated Contingency	TOTAL COST
Stage 1							
Remove MT 1 Track/Ballast	13,000	13,000	LF	\$20	\$260,000	20%	\$312,000
Relocate Fiber Optic	12,850	12,850	LF	\$500	\$6,425,000	20%	\$7,710,000
Utility Relocation	NA	3	EA	\$500,000	\$1,500,000	20%	\$1,800,000
Staging/Traffic Handling Allowance	NA	3	EA	\$250,000	\$750,000	20%	\$900,000
Retaining Wall - North Transition	3,600	45,000	SF	\$250	\$11,250,000	20%	\$13,500,000
Retaining Wall - Skyway to Branham	2,750	68,750	SF	\$250	\$17,187,500	20%	\$20,625,000
Retaining Wall - Branham to Chynoweth	4,300	107,500	SF	\$250	\$26,875,000	20%	\$32,250,000
Retaining Wall - South Transition	2,200	27,500	SF	\$250	\$6,875,000	20%	\$8,250,000
Temporary RW - North Transition	3,600	45,000	SF	\$250	\$11,250,000	20%	\$13,500,000
Temporary RW - Skyway to Branham	2,750	68,750	SF	\$250	\$17,187,500	20%	\$20,625,000
Temporary RW - Branham to Chynoweth	4,300	107,500	SF	\$250	\$26,875,000	20%	\$32,250,000
Temporary RW - South Transition	2,200	27,500	SF	\$250	\$6,875,000	20%	\$8,250,000
Structure Backfill - North Transition	3,600	43,333	CY	\$40	\$1,733,333	20%	\$2,080,000
Structure Backfill - Skyway to Branham	2,750	66,204	CY	\$40	\$2,648,148	20%	\$3,177,778
Structure Backfill - Branham to Chynoweth	4,300	103,519	CY	\$40	\$4,140,741	20%	\$4,968,889
Structure Backfill - South Transition	2,200	26,481	CY	\$40	\$1,059,259	20%	\$1,271,111
Skyway OC (150'x26')	150	3,900	SF	\$600	\$2,340,000	20%	\$2,808,000
Branham OC (150'x26')	150	3,900	SF	\$600	\$2,340,000	20%	\$2,808,000
Chynoweth OC (150'x26')	150	3,900	SF	\$600	\$2,340,000	20%	\$2,808,000
Track/Ballast (MT1)	12,850	12,850	Track Feet	\$400	\$5,140,000	20%	\$6,168,000
Stage 2							
Remove MT 2 Track/Ballast	12,850	12,850	LF	\$20	\$257,000	20%	\$308,400
Remove At Grade Crossings	NA	3	EA	\$250,000	\$750,000	20%	\$900,000
Retaining Wall - North Transition	3,600	45,000	SF	\$250	\$11,250,000	20%	\$13,500,000
Retaining Wall - Skyway to Branham	2,750	68,750	SF	\$250	\$17,187,500	20%	\$20,625,000
Retaining Wall - Branham to Chynoweth	4,300	107,500	SF	\$250	\$26,875,000	20%	\$32,250,000
Retaining Wall - South Transition	2,200	27,500	SF	\$250	\$6,875,000	20%	\$8,250,000
Structure Backfill - North Transition	3,600	56,667	CY	\$40	\$2,266,667	20%	\$2,720,000
Structure Backfill - North Transition	2,750	86,574	CY	\$40	\$3,462,963	20%	\$4,155,556
Structure Backfill - North Transition	4,300	135,370	CY	\$40	\$5,414,815	20%	\$6,497,778
Structure Backfill - North Transition	2,200	34,630	CY	\$40	\$1,385,185	20%	\$1,662,222
Skyway OC (150'x34')	150	5,100	SF	\$600	\$3,060,000	20%	\$3,672,000
Branham OC (150'x34')	150	5,100	SF	\$600	\$3,060,000	20%	\$3,672,000
Chynoweth OC (150'x34')	150	5,100	SF	\$600	\$3,060,000	20%	\$3,672,000
2 - Track/Ballast (MT 2 and 3)	12,850	25,700	Track Feet	\$500	\$12,850,000	20%	\$15,420,000
Intersection Modifications	NA	3	EA	\$500,000	\$1,500,000	20%	\$1,800,000

Total Construction Cost (2019\$) 305,170,000
Project Development Cost (20%) 61,030,000
Total Project Cost (2019\$) 366,200,000

Total Project Cost (2030\$) \$488,000,000

3.5% Annual Escalation



H= 15
 North Trans L= 2400
 Skyway to Branham 2750
 Branham to Chynoweth 4300
 South Trans L= 1600

Alternative B – 15’ Elevated Embankment Guideway

Description: Construct the three proposed mainline tracks on an elevated guideway approximately 15’ above existing grade to provide sufficient vertical clearance to pass over each of the three streets (Skyway, Branham and Chynoweth), all of which would be lowered approximately 8’. The tracks would be supported by earth fill retained between typical reinforced concrete retaining walls or MSE walls. Construction would be staged so that one existing mainline track remains in service throughout construction, as follows:

Stage 1 -Remove MT1 track and retain service on MT2. Construct the eastern retaining wall (closest to Monterey Road) and a second “temporary” interior wall approximately 26’ west of the exterior wall. Within the 26’ width, construct the fill between the walls and install ballast and track for MT1. The retaining walls would stop short of crossing each of the Skyway, Branham and Chynoweth. At the same time, lower 2 lanes of Monterey Road and each of the cross streets to provide detour for subsequent stage. These detours would stop short of crossing the MT2. Street lowering could be sequentially, closing each of the three streets and routing traffic to the other two still open to traffic.

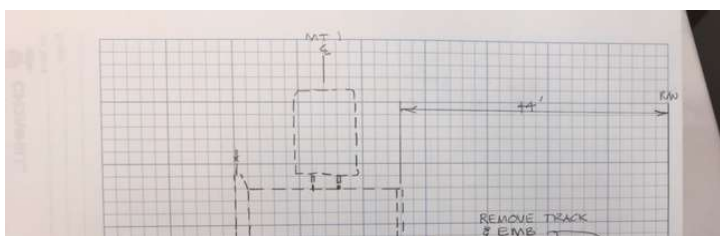
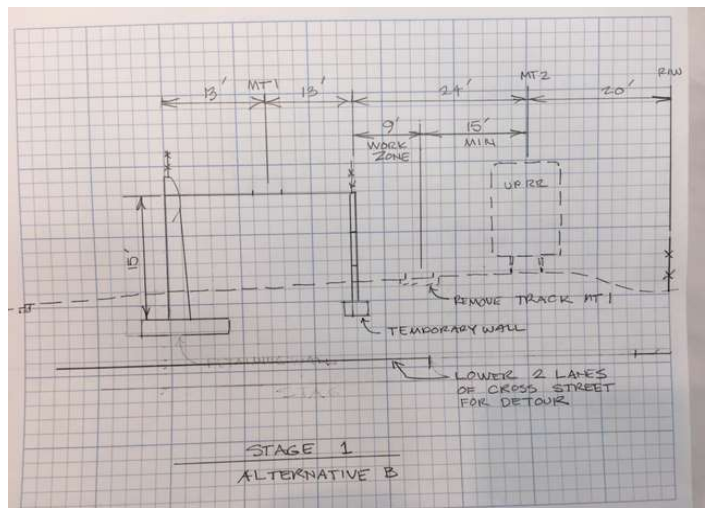
Stage 2a – Close all three streets for 1-2 weeks. Drop in overhead spans/track at each of the three crossings. Route train traffic to new MT1.

Stage 2b – Close all three streets for 1-2 weeks. Complete lowered street detours by removing short segment of existing MT2 track and excavate at each of the tree crossings. Reopen to streets to traffic (2 lanes)

Stage 3 –Construct the western retaining wall about 10’ from the western R/W fence. Once complete, construct the fill between the temporary interior wall and the western retaining wall and install ballast and track for MT2 and MT3. Complete the lowering of all lanes of Monterey Road and each of the three cross streets.

Item Description	Segment Length	Quantity	Unit	Unit Cost	Allocated Cost (2019 \$)	Allocated Contingency	TOTAL COST
Stage 1							
Remove MT 1 Track/Ballast	13,000	13,000	LF	\$20	\$260,000	20%	\$312,000
Retaining Wall - North Transition	2,400	18,000	SF	\$250	\$4,500,000	20%	\$5,400,000
Retaining Wall - Skyway to Branham	2,750	41,250	SF	\$250	\$10,312,500	20%	\$12,375,000
Retaining Wall - Branham to Chynoweth	4,300	64,500	SF	\$250	\$16,125,000	20%	\$19,350,000
Retaining Wall - South Transition	1,600	12,000	SF	\$250	\$3,000,000	20%	\$3,600,000
Temporary RW - North Transition	2,400	18,000	SF	\$250	\$4,500,000	20%	\$5,400,000
Temporary RW - Skyway to Branham	2,750	41,250	SF	\$250	\$10,312,500	20%	\$12,375,000
Temporary RW - Branham to Chynoweth	4,300	64,500	SF	\$250	\$16,125,000	20%	\$19,350,000
Temporary RW - South Transition	1,600	12,000	SF	\$250	\$3,000,000	20%	\$3,600,000
Structure Backfill - North Transition	2,400	17,333	CY	\$40	\$693,333	20%	\$832,000
Structure Backfill - Skyway to Branham	2,750	39,722	CY	\$40	\$1,588,889	20%	\$1,906,667
Structure Backfill - Branham to Chynoweth	4,300	62,111	CY	\$40	\$2,484,444	20%	\$2,981,333
Structure Backfill - South Transition	1,600	11,556	CY	\$40	\$462,222	20%	\$554,667
Track/Ballast (MT1)	11,050	11050.0	Track Feet	\$500	\$5,525,000	20%	\$6,630,000
Lower Skyway/Monterey (Partial 2 lane)		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Lower Branham/Monterey (Partial 2 lane)		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Lower Chynoweth/Monterey (Partial 2 lane)		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Relocate Fiber Optic	11,050	11,050	LF	\$500	\$5,525,000	20%	\$6,630,000
Staging/Traffic Handling Allowance	NA	3	EA	\$1,000,000	\$3,000,000	20%	\$3,600,000
Utility Relocation	NA	3	EA	\$2,000,000	\$6,000,000	20%	\$7,200,000
Skyway - Relocate 72" Water/Pump Sta (Feasibility?)		1	LS	\$25,000,000	\$25,000,000	20%	\$30,000,000
Skyway - Relocate 33" Storm Drain/Pump Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Branham - Relocate 42" Storm Drain/Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Branham South - Relocate 30" Sanitary Sewer/Pump Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000

Stage 2a

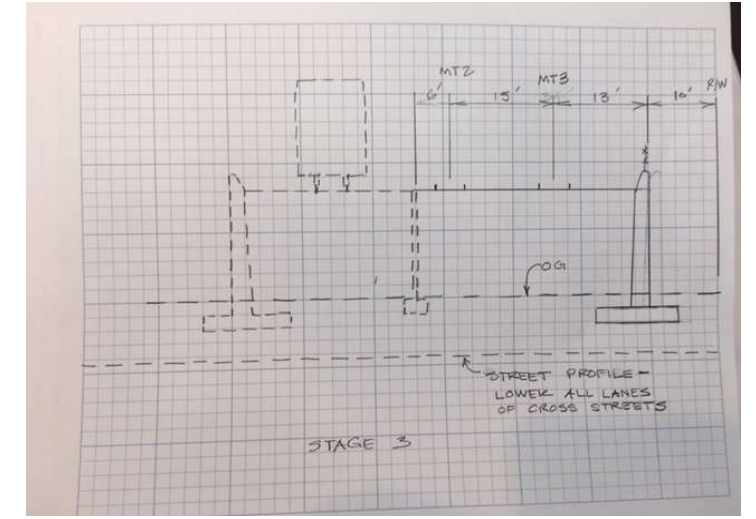
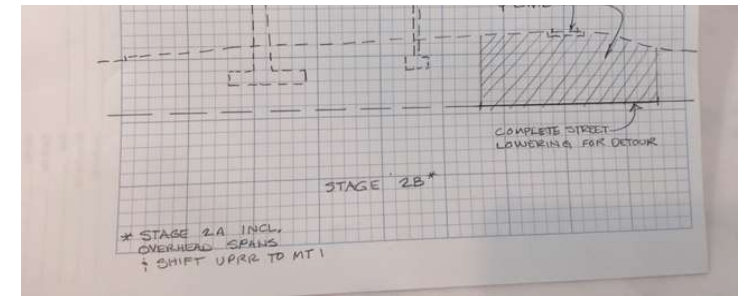


Skyway OC (150'x26')	150	3,900	SF	\$600	\$2,340,000	20%	\$2,808,000
Branham OC (150'x26')	150	3,900	SF	\$600	\$2,340,000	20%	\$2,808,000
Chynoweth OC (150'x26')	150	3,900	SF	\$600	\$2,340,000	20%	\$2,808,000
Remove at grade crossing	NA	3	EA	\$100,000	\$300,000	20%	\$360,000
Excavate and complete street lowering for detour	NA	3	EA	\$500,000	\$1,500,000	20%	\$1,800,000

Stage 2b							
Remove at grade crossing	NA	3	EA	\$50,000	\$150,000	20%	\$180,000
Excavate and complete street lowering for detour	NA	3	EA	\$250,000	\$750,000	20%	\$900,000
Remove MT 2 Track/Ballast	11,050	13,000	LF	\$20	\$260,000	20%	\$312,000

Stage 3							
Lower Skyway/Monterey (Complete)		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Lower Branham/Monterey (Complete)		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Lower Chynoweth/Monterey (Complete)		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Retaining Wall - North Transition	2,400	18,000	SF	\$250	\$4,500,000	20%	\$5,400,000
Retaining Wall - Skyway to Branham	2,750	41,250	SF	\$250	\$10,312,500	20%	\$12,375,000
Retaining Wall - Branham to Chynoweth	4,300	64,500	SF	\$250	\$16,125,000	20%	\$19,350,000
Retaining Wall - South Transition	1,600	12,000	SF	\$250	\$3,000,000	20%	\$3,600,000
Structure Backfill - North Transition	2,400	22,667	CY	\$40	\$906,667	20%	\$1,088,000
Structure Backfill - Skyway to Branham	2,750	51,944	CY	\$40	\$2,077,778	20%	\$2,493,333
Structure Backfill - Branham to Chynoweth	4,300	81,222	CY	\$40	\$3,248,889	20%	\$3,898,667
Structure Backfill - South Transition	1,600	15,111	CY	\$40	\$604,444	20%	\$725,333
2 - Track/Ballast (MT 2 and 3)	11,050	22,100	Track Feet	\$500	\$11,050,000	20%	\$13,260,000

Total Construction Cost (2019\$)	302,660,000
Project Development Cost (20%)	60,530,000
Total Project Cost (2019\$)	363,190,000
Total Project Cost (2030\$)	\$484,000,000



3.5% Annual Escalation

H=	30
North Trans L=	3200
Skyway to Branham	2750
Branham to Chynoweth	4300
South Trans L=	4900
Strut Spacing	24

Alternative C – Trench Guideway

Description: Construct the three proposed mainline tracks in a trench guideway approximately 30' below existing grade to provide sufficient vertical clearance to pass beneath each of the three streets (Skyway, Branham and Chynoweth), all of which would remain essentially at grade. Overcrossings of the trench would be provided at each of the street crossings (Skyway, Branham and Chynoweth). These would be 2-span structures with a center support located between MT1 and MT2. The width of the trench is wider than the elevated alternatives to accommodate the width of the center support. Construction would be staged so that one existing mainline track remains in service throughout construction, as follows:

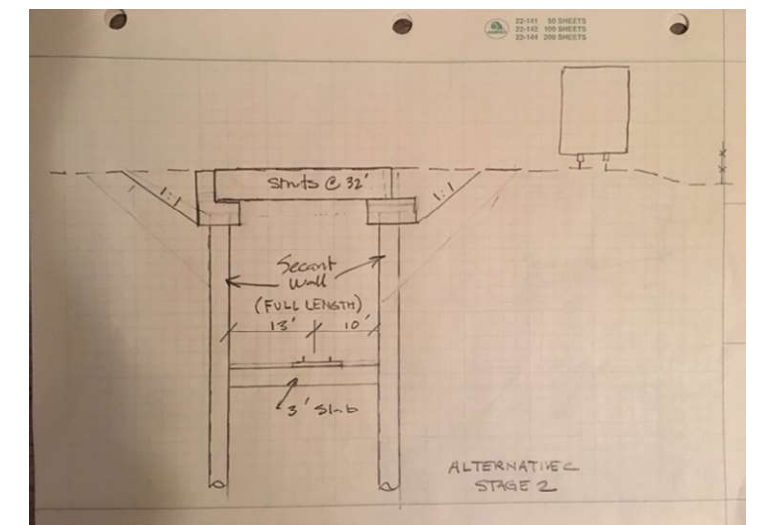
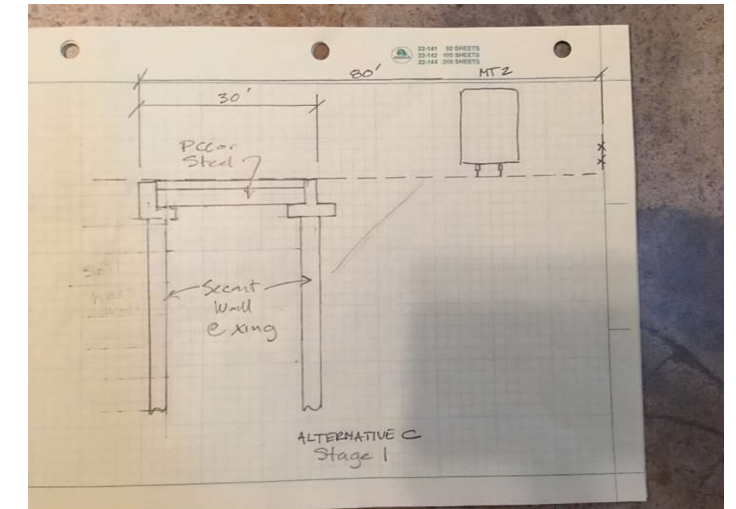
Stage 1 - Retain service on MT 2. Remove MT 1 track. Construct east span of overcrossings at Skyway, Branham and Chynoweth utilizing top down construction of secant walls, abutment caps and steel/PCC girders and deck. Raise grade of streets by 2-3' to conform with new bridge deck. Maintain traffic with typical partial closures, detours and night work.

Stage 2 - Construct the east trench wall (along Monterey Road) and interior wall between MT 1 and MT 2 utilizing secant pile wall. Erect PCC or steel struts between walls. Construct floor slab and track for MT1.

Stage 3 - Route train traffic to the newly completed MT1. Remove MT2 track. Construct west span of overcrossings at Skyway, Branham and Chynoweth utilizing top down construction of secant wall, abutment cap and steel/PCC girders and deck. Raise grade of streets by 2-3' to conform with new bridge deck. Maintain traffic with typical partial closures, detours and night work.

Stage 4 - Construct the west trench wall (along R/W fence) utilizing secant pile construction and cap. No supports/anchors can extend into backyards. Excavate remaining portion of trench. Erect PCC or steel struts between walls. Construct track and ballast for MT2 and MT3. Install facing/finish to secant walls.

Item Description	Segment Length	Quantity	Unit	Unit Cost	Allocated Cost (2019 \$)	Allocated Contingency	TOTAL COST
Stage 1							
Remove MT 1 Track/Ballast	15,150	15,150	LF	\$20	\$303,000	20%	\$363,600
Skyway OC East Span (30'x100')		3,000	SF	\$1,000	\$3,000,000	20%	\$3,600,000
Branham OC East Span (30'x100')		3,000	SF	\$1,000	\$3,000,000	20%	\$3,600,000
Chynoweth OC East Span (30'x100')		3,000	SF	\$1,000	\$3,000,000	20%	\$3,600,000
Raise Skyway/Monterey 2'		1	LS	\$5,000,000	\$5,000,000	20%	\$6,000,000
Raise Branham/Monterey 2'		1	LS	\$5,000,000	\$5,000,000	20%	\$6,000,000
Raise Chynoweth/Monterey 2'		1	LS	\$5,000,000	\$5,000,000	20%	\$6,000,000
Senter Road - Relocate 27" Storm Drain / Pump Station		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Skyway - Relocate 72" Water/Pump Sta (Feasibility?)		1	LS	\$25,000,000	\$25,000,000	20%	\$30,000,000
Skyway - Relocate 33" Storm Drain/Pump Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Branham - Relocate 42" Storm Drain/Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Branham South - Relocate 30" Sanitary Sewer/Pump Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Blossom Hill North - Relocate 12"/36" San Sewer/Pump Sta		1	LS	\$8,000,000	\$8,000,000	20%	\$9,600,000
Blossom Hill South - Relocate 12"/12" San Sewer/Pump Sta		1	LS	\$5,000,000	\$5,000,000	20%	\$6,000,000
Relocate Fiber Optic	15,150	15,150	LF	\$500	\$7,575,000	20%	\$9,090,000
Stage 2							
Remove Capitol Expy/Detour		1	LS	\$2,000,000	\$2,000,000	20%	\$2,400,000
Replace Capitol Expy OC (330'x120')		39,600	SF	\$500	\$19,800,000	20%	\$23,760,000
Remove SB Connector to Blossom Hill/Detour		1	LS	\$1,000,000	\$1,000,000	20%	\$1,200,000
Replace SB Connector to Blossom Hill (900'x30')		27,000	SF	\$500	\$13,500,000	20%	\$16,200,000
Retrofit/Modify Blossom Hill OC Bent 3 Foundations		2	EA	\$1,000,000	\$2,000,000	20%	\$2,400,000
Remove/Replace Xander POC		1	LS	\$1,000,000	\$1,000,000	20%	\$1,200,000
Relocate Blossom Hill Station Platform and POC		1	LS	\$5,000,000	\$5,000,000	20%	\$6,000,000
East Ret Wall - North Transition	3,200	48,000	SF	\$350	\$16,800,000	20%	\$20,160,000



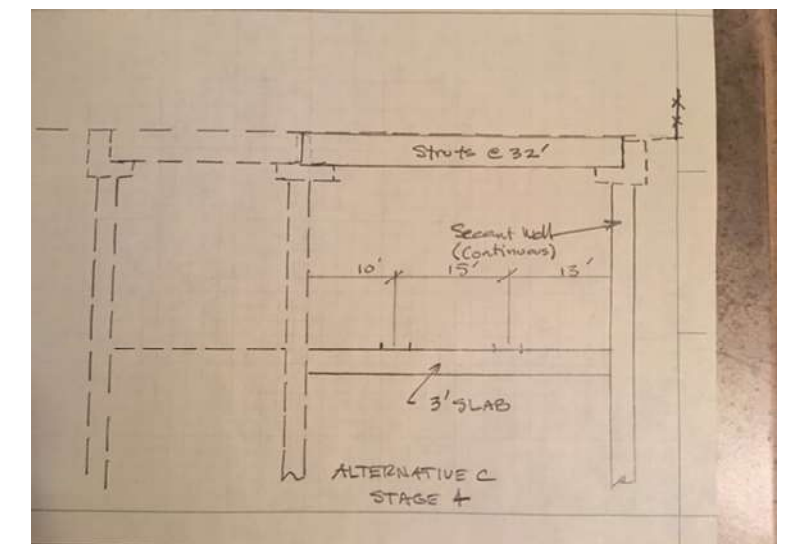
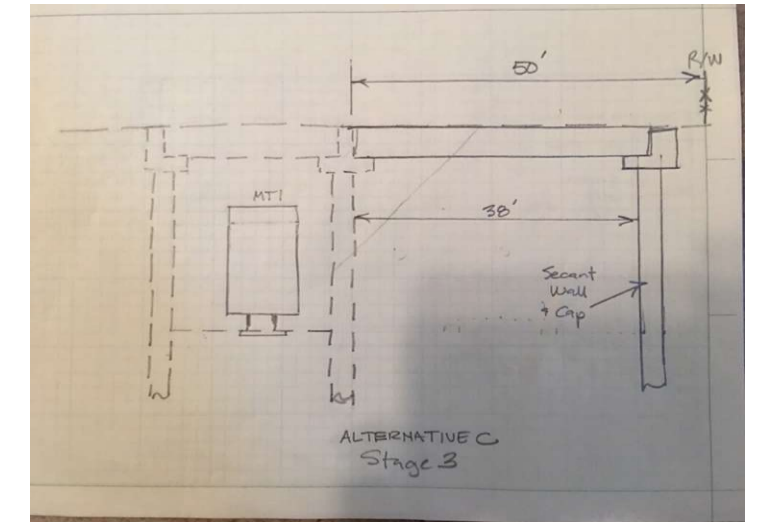
East Ret Wall - Skyway to Branham	2,750	82,500	SF	\$350	\$28,875,000	20%	\$34,650,000
East Ret Wall - Branham to Chynoweth	4,300	129,000	SF	\$350	\$45,150,000	20%	\$54,180,000
East Ret Wall - South Transition	4,900	73,500	SF	\$350	\$25,725,000	20%	\$30,870,000
Interior Ret Wall - North Transition	3,200	48,000	SF	\$350	\$16,800,000	20%	\$20,160,000
Interior Ret Wall - Skyway to Branham	2,750	82,500	SF	\$350	\$28,875,000	20%	\$34,650,000
Interior Ret Wall - Branham to Chynoweth	4,300	129,000	SF	\$350	\$45,150,000	20%	\$54,180,000
Interior Ret Wall - South Transition	4,900	73,500	SF	\$350	\$25,725,000	20%	\$30,870,000
Excavation - North Transition	3,200	40,889	CY	\$40	\$1,635,556	20%	\$1,962,667
Excavation - Skyway to Branham	2,750	70,278	CY	\$40	\$2,811,111	20%	\$3,373,333
Excavation - Branham to Chynoweth	4,300	109,889	CY	\$40	\$4,395,556	20%	\$5,274,667
Excavation - South Transition	4,900	62,611	CY	\$40	\$2,504,444	20%	\$3,005,333
Wall Struts - North Transition	3,200	160	CY	\$1,500	\$240,000	20%	\$288,000
Wall Struts - Skyway to Branham	2,750	688	CY	\$1,500	\$1,031,250	20%	\$1,237,500
Wall Struts - Branham to Chynoweth	4,300	1,075	CY	\$1,500	\$1,612,500	20%	\$1,935,000
Wall Struts - South Transition	4,900	245	CY	\$1,500	\$367,500	20%	\$441,000
Floor Slab - North Transition	3,200	8,178	CY	\$1,500	\$12,266,667	20%	\$14,720,000
Floor Slab - Skyway to Branham	2,750	7,028	CY	\$1,500	\$10,541,667	20%	\$12,650,000
Floor Slab - Branham to Chynoweth	4,300	10,989	CY	\$1,500	\$16,483,333	20%	\$19,780,000
Floor Slab - South Transition	4,900	12,522	CY	\$1,500	\$18,783,333	20%	\$22,540,000
Track/Ballast (MT1)	15,150	15,150	Track Feet	\$500	\$7,575,000	20%	\$9,090,000

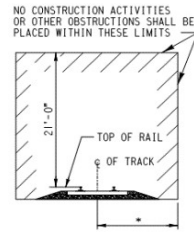
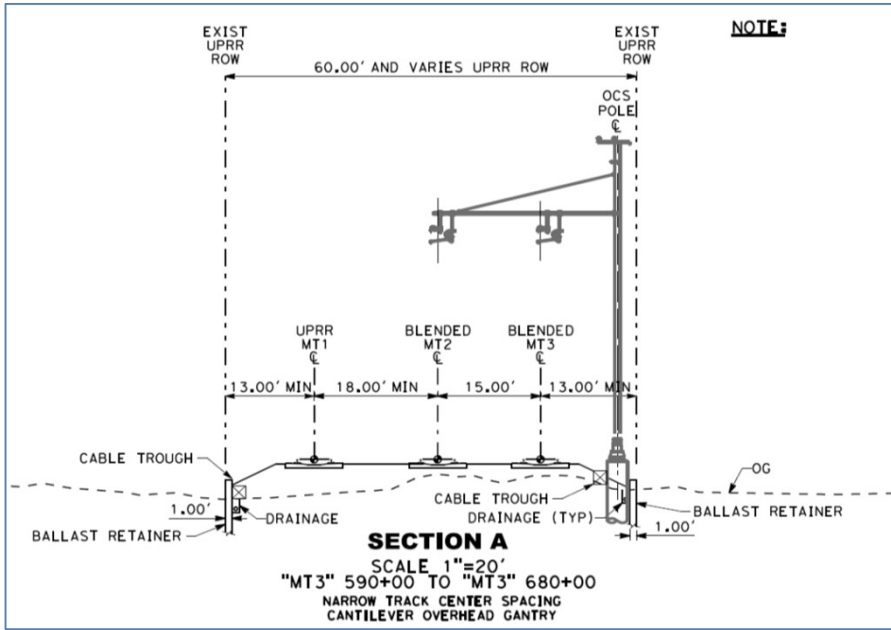
Stage 3							
Remove MT 2 Track/Ballast	15,150	15,150	LF	\$20	\$303,000	20%	\$363,600
Skyway OC East Span (40'x100')		4,000	SF	\$1,000	\$4,000,000	20%	\$4,800,000
Branham OC East Span (40'x100')		4,000	SF	\$1,000	\$4,000,000	20%	\$4,800,000
Chynoweth OC East Span (40'x100')		4,000	SF	\$1,000	\$4,000,000	20%	\$4,800,000
Raise Skyway/Monterey 2-3'		1	LS	\$3,000,000	\$3,000,000	20%	\$3,600,000
Raise Branham/Monterey 2-3'		1	LS	\$3,000,000	\$3,000,000	20%	\$3,600,000
Raise Chynoweth/Monterey 2-3'		1	LS	\$3,000,000	\$3,000,000	20%	\$3,600,000

Stage 4							
West Ret Wall - North Transition	3,200	48,000	SF	\$350	\$16,800,000	20%	\$20,160,000
West Ret Wall - Skyway to Branham	2,750	82,500	SF	\$350	\$28,875,000	20%	\$34,650,000
West Ret Wall - Branham to Chynoweth	4,300	129,000	SF	\$350	\$45,150,000	20%	\$54,180,000
West Ret Wall - South Transition	4,900	73,500	SF	\$350	\$25,725,000	20%	\$30,870,000
Excavation - North Transition	3,200	67,556	CY	\$40	\$2,702,222	20%	\$3,242,667
Excavation - Skyway to Branham	2,750	116,111	CY	\$40	\$4,644,444	20%	\$5,573,333
Excavation - Branham to Chynoweth	4,300	181,556	CY	\$40	\$7,262,222	20%	\$8,714,667
Excavation - South Transition	4,900	103,444	CY	\$40	\$4,137,778	20%	\$4,965,333
Wall Struts - North Transition	3,200	249	CY	\$1,500	\$373,333	20%	\$448,000
Wall Struts - Skyway to Branham	2,750	1,069	CY	\$1,500	\$1,604,167	20%	\$1,925,000
Wall Struts - Branham to Chynoweth	4,300	1,672	CY	\$1,500	\$2,508,333	20%	\$3,010,000
Wall Struts - South Transition	4,900	381	CY	\$1,500	\$571,667	20%	\$686,000
Floor Slab - North Transition	3,200	13,511	CY	\$1,500	\$20,266,667	20%	\$24,320,000
Floor Slab - Skyway to Branham	2,750	11,611	CY	\$1,500	\$17,416,667	20%	\$20,900,000
Floor Slab - Branham to Chynoweth	4,300	18,156	CY	\$1,500	\$27,233,333	20%	\$32,680,000
Floor Slab - South Transition	4,900	20,689	CY	\$1,500	\$31,033,333	20%	\$37,240,000
2 - Track/Ballast (MT 2 and 3)	15,150	30,300	Track Feet	\$500	\$15,150,000	20%	\$18,180,000

Total Construction Cost (2019\$) 878,740,000
Project Development Cost (20%) 175,750,000
Total Project Cost (2019\$) 1,054,490,000

Total Project Cost (2030\$) \$1,406,000,000





DESIGN BY: RAF | DRAWN BY: KCM | CHECKED BY: VDU
 APPROVED: *K.H. Jamison*
 BNSF - ASSISTANT DIRECTOR STRUCTURES DESIGN
George J. Meyer
 UPRR - WORK SPECIAL PROJECTS STRUCTURES DESIGN

BNSF RAILWAY
BRIDGE STANDARDS
 GRADE SEPARATION GUIDELINES (OVERPASS)
CONSTRUCTION NOTES
 FILE OWNER: UPRR | DATE: 12/04/97
 PLAN NO.: 71100 | SHEET: 3

