

- CONSTRUCTION SEQUENCE**
- ① Construct embankment fill to a level 6' below girders.
  - ② Loosen and re-tighten anchor bolts
  - ③ Construct Flowable Fill to a level 6" below girders.
  - ④ Remove bridge superstructure, rail, ties, abutment backwall and wingwalls.
  - ⑤ Construct sub-ballast layer.
  - ⑥ Pre-ballast track area.
  - ⑦ Lay pre-constructed track panels.
  - ⑧ Connect pre-constructed panels, complete ballast layer, tamp ballast, and line rail.
  - ⑨ Place embankment fill to surrounding level.
- (A) Total track closure time not to exceed 12 hrs.  
 (B) Work to be done by UPRR forces.

① Value used for estimating quantities. Minimize these dimensions as much as possible while maintaining embankment compaction requirements.

② For embankment construction, provide a minimum of one test per lift per span in this area according to Item 132.3.D.2 - Density Control.

**SECTION A-A**

RR MP -----  
 DOT = -----  
 DIVISION = TX  
 SUBDIVISION = -----

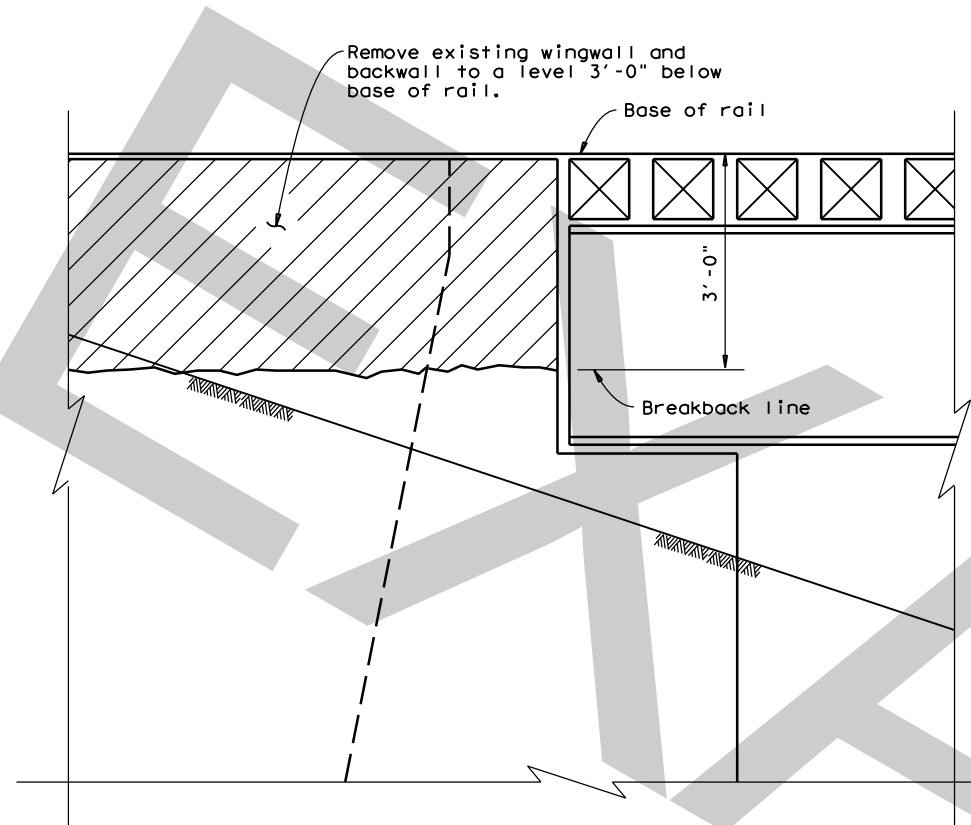


Texas Department of Transportation  
 Bridge Division

**EXHIBIT "A"**  
**REMOVAL AND BACKFILL  
 DETAIL AND ESTIMATED  
 QUANTITIES**

**UPRR UNDERPASS**

FILE#	DN#	CK#	DW#	CK#
© TXDOT	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS				
COUNTY		CONTROL	SECT	JOB HIGHWAY



**ABUTMENT REMOVAL DETAIL**

SUMMARY OF TRACKWORK QUANTITIES			
Item No.	Description	Unit	Quantity
0401 2001	Flowable Backfill	CY	2113
0496 2290	Remove Str (Brg Superstr and Abut)	EA	1
4616 2001	Ballasted Track Constr (Track)	LF	240
4616 2002	Subballast	CY	1028

CONSTRUCTION RESPONSIBILITIES		
Description	Provided by	
	TxDOT Contractor	UPRR
Pre-construct and deliver track panels		x
Construct embankment fill	x	
Construct flowable fill	x	
Pre-cut and re-connect rail		x
Loosen and re-tighten anchor bolts		x
Close track		x
Remove track	x	
Remove bridge girders	x	
Remove abutment backwalls & wingwalls	x	
Construct sub-ballast layer	x	
Provide ballast material	x	
Construct ballast layer		x
Place track panels	x	
Install bolted track panel connections		x
Tamp ballast and line rail		x

**Work to be done by Union Pacific Railroad (UPRR)**

1. Arrange for 12 hour construction curfew
2. Have bridge gang remove bridge mounting bolts before flowable fill is installed (about two weeks ahead of bridge removal)
3. Pre-cut rail and bolt connection at each rail tie-in
4. Build 240 ft track panel adjacent to the bridge
5. Pre-ballast track area over compacted crushed concrete sub-ballast
6. Finish ballast track once moved into place by TxDOT contract cranes.
7. Connect new track panel to exiting main track with angle bars and bolts
8. Tamp and align rail for train movement

**Work to be done by TxDOT Contractor**

1. Construct embankment fill
2. Construct flowable fill, after UPRR bridge gang has removed bridge mounting bolts
3. Remove bridge superstructure, rail, ties, abutment backwall, and wingwall portions
4. Construct sub-ballast layer to UPRR specifications shown in SS4616 Tables
5. Place pre-constructed track panels on pre-ballast
6. Salvage old rail, ties and OTM with transportation, loading, and unloading at San Angelo TXPF rail yard

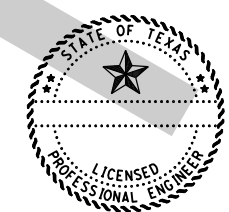
**GENERAL NOTES**

1. Coordinate construction efforts with TxDOT and UPRR. Comply with all requirements of referenced parties.
2. Coordinate with UPRR to schedule construction. Commence work only when UPRR has advised that track is closed.
3. Accomplish all TxDOT contractor and UPRR work requiring track closure within a 12-hour "absolute work window". Perform this work between January and March as scheduled and agreed to by UPRR.
4. Construct embankment fill and flowable fill layers prior to track closure.
6. UPRR shall be responsible for connecting track panels, tamping ballast, and aligning rail for train movements.
7. TxDOT contractor shall be at the ready to assist UPRR in their responsibilities.
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9. Salvaging of rail will not be paid for directly but will be considered subsidiary to Item 496 - Removing Structures.
10. UPRR shall deliver pre-constructed track panels and pre-cut/bolt rail tie-ins a minimum of 48 hrs prior to track closure.
11. Submit lifting plan for bridge superstructure removal to TxDOT District Construction Engineer and BRG Division for review and approval.
12. Provide a backup crew to be ready at all times during the 12-hour track closure.

TxDOT CONTRACTOR PROJECT TIME DETERMINATION (DURING RAILROAD CLOSURE) (HOURLY)									
Work Item No.	Description	Qty	Unit	Hourly Production Rate	Duration (hours)	Preceding Work Item No.	Required % Completion	Start Time (hrs)	Finish Time (hrs)
1	Torch cut rail and anchor bolts at abutments and bents	5	EA	10	0.5	-	100%	0:00	0:30
2	Unbolt rail at 2 surface track locations	2	EA	4	0.5	-	100%	0:00	0:30
3	Remove 2 track panels on grade	2	EA	2	1.0	1,2	100%	0:30	1:30
4	Remove 4 simple spans with track and girders attached	4	EA	1.6	2.5	1	100%	0:30	3:00
5	Excavate as necessary for removal behind abutments	60	CY	60	1.0	3	100%	1:30	2:30
6	Remove backwall & wingwalls at 2 abutments to 3' below rail	2	EA	1.33	1.5	4,5	100%	3:00	4:30
7	Place sub-ballast in 12" lifts	942	CY	157	2.0	4	100%	3:00	5:00
8	Place pre-constructed track panels	240	LF	240	1.0	9	100%	8:00	9:00

UPRR PROJECT TIME DETERMINATION (DURING RAILROAD CLOSURE) (HOURLY)									
Work Item No.	Description	Qty	Unit	Hourly Production Rate	Duration (hours)	Preceding Work Item No.	Required % Completion	Start Time (hrs)	Finish Time (hrs)
9	Construct ballast layer	240	LF	120	3.0	7	100%	5:00	8:00
10	Connect pre-constructed track panels with bolted connections	4	EA	8	0.5	8	100%	9:00	9:30
11	Tamp ballast and line rail	240	LF	686	2.5	10	100%	9:30	12:00

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		COUNTY	CONTROL	SECT
			JOB	HIGHWAY

TxDOT removing bridge at MP \_\_\_\_\_, DOT \_\_\_\_\_, Subd. TxDOT CSJ \_\_\_\_\_

Task	Contractor Supplied	UPRR Supplied	Contractor Construct/ Installed	UPRR Installed	Description	Track Phase
Pre-construct track panels		X		X	Build 240' of track panel adjacent to bridge. Minimum 48 hours prior to track closure	1
Construct embankment fill	X		X		To a level 6 feet below girders.	
Construct flowable fill	X		X		To a level 6 inches below girders	
Pre-cut/re-connect rail		X		X	At tie-ins on either side of bridge	
Loosen/re-tighten anchor bolts		X		X	By bridge gang approx. 2 weeks prior to bridge removal.	
Close Track		X		X	for 12-hr absolute work window.	
Remove Existing Track	X		X		240' track removal	
Remove bridge girders	X		X		4 steel girder simple spans	
Remove abutment backwalls and wingwalls	X		X		To a depth 3' below base of rail	
Construct sub-ballast layer	X		X		3'-2" depth	
Construct ballast layer	x			x	1'-7" depth	
Place track panels		X	X		Place on pre-ballast layer	
Install bolted track panel connections		X		X	Between track panels and at tie-ins	
Tamp ballast and line rail		X		X	Prepare rail for track opening	