

SECTION 20400

TRACK CONSTRUCTION

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Section includes specifications for track construction, including surfacing existing track and turnout and shifting and raising or lowering existing track.

1.02 REFERENCE STANDARDS

- A. American Railway Engineering and Maintenance of Way Association (AREMA):
 - 1. Manual for Railway Engineering (Manual)
 - 2. Portfolio of Trackwork Plans (Portfolio)
- B. Federal Railroad Administration (FRA):
 - 1. 49 CFR Part 213, Track Safety Standards
 - 2. 49 CFR Part 214, Subpart D Regulations, Roadway Maintenance Machine Safety
- C. Applicable General Orders of the California Public Utility Commission (CPUC)

1.03 SYSTEM DESCRIPTION

- A. Trackwork shall be constructed in accordance with the Contract Documents and AREMA Manual and Portfolio.

1.04 SUBMITTALS

- A. Submit plan for handling of materials and construction of tracks for Engineer's approval. Plan shall include proposed equipment used to line, surface, tamp, and compact the track structure; and regulate and sweep ballast.
- B. Methods and equipment proposed for achieving required thermal stress in the CWR to the Engineer prior to fastening rail to crossties.
- C. Plan for providing a signal support crew to protect and maintain the operating signal system. Refer to Section 01005, Contractor's Personnel and Equipment, for related submittals.
- D. If the Contractor proposes alternate construction staging plans, submit plans for the prior approval of the Engineer.

1.05 DELIVERABLES

- A. Submit rail temperature and fastening records on forms furnished by the Engineer for CWR installation.
- B. Submit the following prior to starting track construction:
 - 1. Report confirming subgrade meets Contract requirements.
 - 2. Survey documenting facilities in the track subgrade and their condition prior to starting track construction.
- C. Prior to beginning track construction, submit a report confirming the constructability of the Work based on the construction staging plans as indicated in the Contract Drawings.
- D. Submit rail fastening record forms to the Engineer before the end of the shift during which CWR was installed.
- E. Submit report confirming that track is ready for tamping, lining, and surfacing.
- F. Submit an as-built report with tabulation of the vertical and horizontal positions of the final track alignment to the Engineer for final acceptance of the track.

1.06 QUALITY ASSURANCE

- A. Qualifications: Manufacturer of track materials shall have successfully furnished track materials to Class 1 Freight, Passenger or Commuter Railroad. This does not include transit or light rail special trackwork. Track materials shall be new unless otherwise noted on in the Contract Documents to be used or second hand.
- B. Regulatory Requirements: Comply with the following:
 - 1. FRA 49 CFR Part 213 and Part 214
 - 2. Applicable General Orders (G.Os) of the California Public Utility Commission (CPUC)

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Replace damaged crossties, rail, other track material (OTM), and fastener assemblies. If track is constructed with track panels, inspect track panels and rail and store in a designated area within the work site prior to installation.

PART 2 – PRODUCTS

2.01 CONTRACTOR-FURNISHED MATERIALS

- A. Furnish all materials, equipment and labor required to complete all aspects of the track construction work as specified and shown in the Contract Documents

except for Owner-furnished materials, equipment and labor. Refer to Sections 01004, Owner Furnished Labor and Equipment, and 01600, Materials.

2.02 OWNER-FURNISHED MATERIALS

- A. Refer to Section 01600, Materials for description of Owner Furnished Materials.
- B. Salvaged track materials indicated on the Contract Drawings and specified Section 20200, Track Removal and Salvage, shall be considered as Owner-furnished materials if indicated for reuse in track construction.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Prior to commencement of trackwork construction, check the track subgrade as to line, grade, and cross section, and compaction. The track subgrade is the bottom of ballast. The track subgrade shall not vary from the design elevations and the line cross sections from the range of plus or minus 1/2 inch.
 - 1. Correct subgrade settlement discovered at this time by repairing the subgrade as specified in Section 02300, Earthwork.
 - 2. Place and compact subballast, if required, in accordance with the requirements of Section 02300, Earthwork.
 - 3. Submit to the Engineer a report confirming that all requirements for the subgrade are met according to the plans and as specified in Section 02300, Earthwork.

3.02 INSPECTION

- A. Survey and document the condition of facilities in the track subgrade, including buried conduits, conduit stub-ups, ductbanks, underdrains, and underground utilities. Incorporate the information in a report and submit to the Engineer prior to starting track construction work, operating heavy equipment, and allowing construction vehicles on the track subgrade.

3.03 GENERAL

- A. Refer to Section 01011, Work Planning, for plans and procedures regarding work both within and outside the railroad operating environment.
- B. Protect facilities in, under, or on the track subgrade during track construction. Repair damages to the facilities which were caused by the Contractor's operations and were not pre-existing as indicated in the Contractor's survey report.
- C. Secure screw spikes at right angles to the tie surface, straight down.

3.04 TRACK CONSTRUCTION

- A. Track construction shall include main line track construction, non-main line track construction, raise and shift track, and lining and surfacing track.
- B. Main line track construction as indicated in the Contract Drawings shall include placing ballast, placing ties, installing continuously welded rail (CWR), installing OTM, de-stressing rail, lining track, surfacing track, regulating ballast, and stabilizing track.
- C. Non-main line track construction as indicated in the Contract Drawings shall include placing ballast, placing timber ties, installing second hand CWR or jointed rail, installing OTM, lining track, surfacing track, destressing of rail, and regulating ballast.
- D. Raise and shift of main line track as indicated in the Contract Drawings shall include raising and shifting track to the final alignment, placing ballast, replacing damaged or defective ties, fastening loose ties, installing OTM, lining track, surfacing track, regulating ballast, and stabilizing track.
- E. Lining and surfacing track as indicated in the Contract Drawings shall include minor track raising and shifting without changing the existing ballast section, placing ballast as required for minor track raising, stabilizing track, and regulating ballast.
- F. Lining and surfacing track shall include at least 200 feet of track beyond limits of track construction to ensure smooth alignment transition between new track and existing track.

3.05 SEQUENCE OF THE WORK

- A. Schedule track construction work according to the requirements of Section 01040, Track Hours and Track Access.
- B. Schedule work in such a manner so that the best use of time under the allowable working time limits is made. Make arrangements to ensure that the materials, equipment and labor needed are planned and in place, including signal support crew.
- C. Refer to the construction staging plans, if applicable, in the Contract Drawings for the track construction work and other work that require relocating or reconstructing trackwork.
- D. Prior to construction, review the construction staging plans to ensure the constructability of the construction. Refer to submittals and deliverables specified herein for requirement in regard to construction staging plans.
- E. Track shall be constructed, brought to final line and grade, and fully ballasted before CWR is thermally adjusted.

3.06 INITIAL LAYER OF BALLAST

- A. Place an initial layer of ballast, compact it over prepared subgrade prior to placing track or raising and shifting track.

- B. Limit initial layer of ballast to a total compacted depth that will establish the track at an elevation between four (4) inches and six (6) inches below final top of rail elevations as indicated in the track profile of the Contract Drawings.
- C. Each lift of initial ballast layer shall not exceed a maximum of four (4) inches in thickness and shall be uniformly spread and compacted with a minimum of four (4) passes with vibratory compactor, unless otherwise approved by the Engineer.
- D. Place the initial layer of ballast for ballast deck bridges directly over the waterproofing membrane. Protect the waterproofing membrane and deck drainage pipes.
- E. Level the surface of the initial ballast layer and compact uniformly prior to crosstie distribution or track installation.

3.07 CROSSTIE DISTRIBUTION

- A. Distribute and place ties in their final locations. Install ties perpendicular to the track alignment based on the required tie spacing as indicated in Caltrain Standard Drawings.
- B. Position cross ties at joints or welds so that a "suspended joint" arrangement results unless otherwise required by the Engineer.
- C. Place ties within plus or minus 1/2 inch of required spacing. Discrepancies shall not be additive.
- D. Place ties with the heart wood down and ensure the bottom of each tie fully supported on the initial ballast layer.
- E. Replace damaged and defective ties.
- F. Before laying rail, clean the wearing surface of the tie and tie plate of any debris.

3.08 CUTTING AND DRILLING OF RAIL

- A. Use only approved rail saw and abrasive cutting wheel for cutting rail. Cuts shall be square and clean. When given the option of cutting existing rail or cutting the rail being installed, cut the existing rail. Do not use cutting torches on rail; rail cut with torches will be rejected.
- B. Drill new holes with a proper template. Do not punch, slot, or burn with torch. Mark and drill each hole location at centers, size, and location shown on the Caltrain Standard Drawings. Peen drilled bolt holes or grind to remove sharp edges. Chamfer holes and rail ends in accordance with Caltrain Standard Drawings. Tolerance for the diameter of drilled bolt holes is plus or minus 1/16 inch.

- C. Drill a single handling hole in the ends of CWR, at 9 inches or 15 inches from the end of the rail to suit joint bar hole spacing.

3.09 LAYING AND INSTALLING CONTINUOUSLY WELDED RAIL (CWR)

- A. Laying CWR:
 - 1. Lay CWR in-place in a manner that does not damage rail, crossties, tie plates, fasteners, or other appurtenances. Ensure that surface of tie plate or tie pad is free of ballast or other material that would prevent full bearing of the rail on the tie plate.
 - 2. Install prefabricated insulated joint rail plugs at locations as indicated in the Contract Drawings. End post insulation shall be centered in the tie crib closest to the specified location. Cut the CWR string at the insulated joint location and pull it ahead instead of removing a piece from the middle of the CWR string.
 - 3. Determine the rail temperature by means of an AREMA standard rail thermometer as specified in the AREMA Manual. Connect CWR strings with temporary joints that have gaps to provide for thermal adjustment from observed temperature to Desired Neutral Temperature (DNT) of 105 Degrees F.
 - 4. Heat the rail as specified herein to the following required Desired Neutral Temperature Ranges (DNTR): CWR shall be installed within 5 degree of the Desired Neutral Temperature (DNT) of 105 degrees F.
 - 5. If the rail temperature exceeds the maximum specified for that area, the Engineer reserves the right to suspend rail laying operations or require that the rail be cooled.
 - 6. Distribute and position CWR for fastening in a manner to minimize handling over tie plates and to prevent buckling. Use rollers to move strings of CWR. Do not drag CWR along the ground or along crossties.
 - 7. Place rails base down, parallel with track, avoiding excessive bending or damage, using suitable mechanical equipment. Avoid placing rails on manhole covers, electrical connections, or near other installations that could be susceptible to damage or cause damage to the rail.
 - 8. In advance of the rail fastening, determine rail temperature. Place thermometer on web or base of rail shaded from the sun, long enough to record the rail temperature accurately. Check and record rail temperature every 30 minutes during laying.
 - 9. Do not cut rail strings except as required for installation of turnouts, crossovers, and other special trackwork.
 - 10. Position CWR strings so that tie-in welds are staggered by a minimum of 15 feet, unless otherwise approved by the Engineer.

11. Place welds at 25 feet minimum from the edge of grade crossing panels and stagger by a minimum of 15 feet.
12. Pieces of rail longer than 15 feet shall remain the property of the Owner. Pieces of rail shorter than 15 feet shall be removed and disposed.

B. Rail Ends:

1. Cut rail to a tolerance of 1/32 inch from square. Remove burrs and make ends smooth. Chamfer edges in accordance to Caltrain Standard Drawings.
2. Any mismatch of rails at joints may not be more than 1/16 inch on the tread and 1/16 inch on gage side.
3. Rail batter is the distance in 1/1000 inch, between the bottom of the straight edge 24 inch long, applied along the centerline of the worn surface of the top of the rail. Limit welding to joints where one rail shows a batter of 1/16 inch or more. Where rail ends are not battered to an extent requiring welding, but where measurement shows a difference in the height of the rails of 1/16 inch or more, build up the low rail to the height of the high rail. Do not make welding repairs past the end of the joint bar or end repairs over a bolt hole.

C. Fastening CWR:

1. Install resilient fasteners, only after the rail has achieved a temperature within the specified range and has been de-stressed to relieve internal stresses.
2. Fasten rail only when its temperature is within 5 degrees F of the opposite rail's fastening temperature.
3. Prior to de-stressing rail, remove any joint bars or compromise joints installed at the Contractor's convenience and replace by thermite weld.
4. At the time of joining CWR strings by welding, ensure that the rail has been adjusted to zero thermal stress.

D. Adjustment by Heating:

1. Heat rail with an approved rail heater when installing rail with a rail temperature lower than the specified minimum for that area. Rail lengths of 200 feet or less may be adjusted by a rail puller. For rail lengths over 200 feet, use a rail heater.
2. Adjust rail temperature after it has been laid but before it is fastened or anchored, as applicable. Rail shall not be thermally adjusted before the track is constructed to final line and grade with a full ballast section.

3. At the time of welding, provide a gap at the end of each continuous welded rail equal to the amount of the expansion that is required for that rail plus the required gap for the weld.
4. Begin heating at the end of the rail and steadily apply moving forward without reversing direction until the required temperature range (Desired Neutral Temperature) has been achieved for that rail. Control uniformity of expansion by marking each quarter of the string and introducing expansion as follows:

1/4 Point	1/4 of total required expansion
1/2 Point	1/2 of total required expansion
3/4 Point	3/4 of total required expansion

 - a. Mark quarter points with a continuous line from the base of rail to the tie plate or shoulder of concrete tie so that the amount of expansion can be accurately determined. The reference shall be one that will not move as the rail expands.
5. Vibrate the rail along its entire length during heating or after it has achieved zero stress temperature to facilitate the relieving of internal rail stresses (destressing). Use only appropriate vibrators as approved by the Engineer. Do not strike the rail with objects which might damage the rail.
6. The fastening operation shall immediately follow destressing. Fastening of the rail shall occur within the temperature range as specified in this Section.

E. Gaps for Rail Distribution Adjustment:

1. During rail laying below the indicated zero thermal stress or desired temperature, determine the gap between CWR strings by using the following equation:

$$G = (t - T)LK + Q$$

G = Required rail gap (inches)

t = Desired Neutral Temperature (DNT) in degrees F

T = Actual rail temperature at time of laying in degrees F (before heating)

L = Length of rail in feet (total length of unrestrained rail)

K = Coefficient of thermal expansion for rail steel (0.000078 inch per foot per degree F)

Q = Rail gap as required by manufacturer of field weld

kit in inches

2. The Desired Neutral Temperature used in the formula above shall be 105 degrees F.

F. Rail Fastening Record:

1. Provide in an acceptable, reproducible, and separate form during installation the following data for each end of a CWR or at each 500 foot interval for rails longer than 1,500 feet:
 - a. Date and time
 - b. Track number (i.e. MT1) and rail (left or right looking up-station or milepost)
 - c. Railroad stationing
 - d. Weather, air, and base of rail temperature; the base of rail temperature shall be recorded every 30 minutes.
 - e. Type of fastener used
 - f. Length of rail being anchored or fastened

3.10 LAYING AND INSTALLING TRACK PANELS OR JOINTED RAIL

A. Installation and placement of track panels or jointed rail:

1. Place track panels on initial layer of ballast according to the final horizontal alignment as indicated in the Contract Drawings.
2. Place each sequential track panel close enough to install joint bars with minimal sliding or handling of track panels.
3. Place tie plates under rails on all crossties. Clean tie plates and center them on the tie so that the rail will have full bearing on the plate and the plate will have full bearing on the tie. Set tie plates at right angles to the rail with the outside shoulder having full bearing against the base of the rail.
4. Lay rail with staggered joints. The joints in each line of rail shall be not more than 30 inches from the center of the opposite rail on tangents and curves up to 6 degrees, or more than 4 feet on curves over 6 degrees. Rails of less than standard length shall be used to space the joints on curves.
5. Adjust rail with squared joints in track panels so rail joints will be staggered as required above.
6. Drill new holes. Remove chips and burrs from rail drilling before installing joints. Rail end drilling shall match joint bar.

7. Gap rails at time of laying, before joint bars and bolts are installed, in accordance with the following table for 39-foot rail:

Rail Temperature (degrees F)	Expansion (inches)
Below 6	5/16
6 to 25	1/4
26 to 45	3/16
46 to 65	1/8
66 to 85	1/16
Over 85	0

8. Completely bolt joint bars with all bolts torqued. Use expansion shims to provide proper rail gap. Use an AREMA standard rail thermometer to determine the thickness of shims in accordance with the recommendations in "Temperature Expansion for Laying Rails" Chapter 5 Part 5 of the AREMA Manual.
- B. Properly apply joint bars with full number and correct size of bolts, nuts and spring washers. Properly tighten joint bolts before spiking rail; tighten the two center bolts in advance of the end bolts. Except insulated joint bars, coat all joint bars on the rail fishing areas with approved track grease prior to assemblage. Similarly, clean all rail ends with a wire brush and apply grease in the areas of joint bar contact.
- C. Place bolts with the nuts alternately on the inside and outside of the rail. Place nuts with the flat side toward the rail. Lubricate track bolts. Check rail ends for mismatch. Rail end mismatch exceeding 1/16 inch on the head and 1/16 inch on the gage face of the rail shall be welded and ground prior to placing track in service.

3.11 TRACK TAMPING, LINING, AND SURFACING

- A. Tamp, line, and surface track as follows:
1. Completely construct, gage, spike, or fasten and weld or bolt track in conformance with the requirements specified in this Section prior to tamping, lining and surfacing. Align track with a full ballast section to the final horizontal alignment as indicated in the Contract Drawings.
 2. Check the track on the initial ballast layer to ensure all track components including ballast, tie, rail, and OTM meet the requirements specified in this Section and as indicated in the Contract Drawings. Refer to deliverables specified herein for required report confirming that the track is ready for tamping, lining and surfacing.
 3. Perform tamping of track including lifting, lining, and surfacing. The tamper shall meet the following requirements:

- a. The tamper shall be capable of external control of both line and grade and shall be capable of external control of alignment utilizing a laser guidance system.
 - b. The tamper shall be an automatic, vibratory, squeeze-type power tamper equipped with fully functional laser liner and 16 tamping heads, capable of raising both rails simultaneously and maintaining cross-level.
 - c. The tamper shall be a production type tamper-liner capable of lifting, lining, and surfacing track and turnouts within the specified track tolerances and with the specified ballast.
 - d. The tamper and equipment to be used for tamping operations will be subject to approval by the Engineer.
4. Every tie in the track shall receive two (2) or more full insertions of the tamping heads and shall be tamped from a point 15 inches inside each rail on both sides of the ties to the end of the ties. Tamping will not be permitted in the center of the tie between the above stated limits. Where raising the track has resulted in a void under the center of the tie, lightly fill the center space. Tamp both ends of a tie, inside and outside of the rail, simultaneously.
 5. Accomplish track surfacing by a method that will not cause undue bending of rail, straining of joints, and damaged rail fastenings. Raise both rails at one time and as nearly uniform as possible. Limit each track lift to an amount that will not endanger the horizontal, vertical, and longitudinal stability of the track. The maximum lift shall not exceed 4 inches. Raise the track so that a final lift of not less than one inch or more than 2-1/2 inches is necessary to bring the track to proper final grade.
 6. Lift all ties that are pulled loose during surfacing operations. Clean plate surface of dirt and ballast, plug, spike, and re-tamp to provide full bearing against the rail.
 7. Surface and align track to the tolerances specified in this Section. The number of surfacing passes shall be as necessary to obtain the Engineer's acceptance of the alignment.
 8. The runoff at the end of raise shall not exceed 1/4 inch in 31 feet of track unless otherwise approved by the Engineer.
 9. Tamp ties to provide solid bearing against the base of the rail after the track is raised to grade at final surfacing. Just prior to final dressing, stabilize track with a dynamic track stabilizer. Bring up all down ties to the base of rail and machine tamp. The resultant track surface and alignment shall be uniform and smooth.

10. Stabilize all track with a dynamic track stabilizer or work train as specified in the Contract Documents or required by the Engineer. The dynamic track stabilizer shall meet the following requirements:
 - a. The Dynamic Track Stabilizer shall be a well proven machine widely use by the railroad industry and capable of applying controlled, accurate stabilizing forces into the track structure at continuous speeds of up to 1mph.
 - b. The track may be stabilized with a work train. Refer to Contract Documents for the requirements for using a work train to stabilize the track.
 11. During track tamping and stabilizing, add, re-tamp, and re-compact ballast to maintain the depth of ballast indicated on the Contract Drawings.
 12. Upon completion of tamping, surfacing and lining operations, the track shall have been fully ballasted, tamped, surfaced, lined, stabilized, and dressed as shown on the Contract Drawings and specified in this Section.
 13. Remove excess ballast from the track. After completion, no ballast shall remain on the tops of the ties, tie plates, or fastening systems.
 14. Remove and replace overworked and excessively tamped or compacted ballast as determined by the Engineer.
- B. Maintain horizontal alignment during the raising operation. Use automated controls on tampers to satisfy this requirement.
- C. Apply rail bonding across any bolted joints in accordance with the requirements in Section 18400, Rail Bonding, and obtain approval of the bonding from the Engineer.
- D. Perform tests to ensure the operating signal system has been restored. Obtain approval of signal test results from the Engineer prior to opening the track to service.

3.12 TRACK CRITERIA AND TOLERANCES

- A. Construct track to the alignment and grade shown on the Contract Drawings. Gage shall be 4 feet 8-1/2 inches. Completed track shall conform to the following tolerances:
1. Deviation from correct gage timber ties: 1/8 inch
 2. Deviation from correct gage concrete ties: 1/16 inch

3. Track Surface
 - a. Runoff in any 31 feet of track at the end of a raise may not be more than: 1/4 inch
 - b. Change in cross level or super-elevation over any 31 feet of track may not be more than: 1/8 inch
 - c. Deviation from uniform profile on either rail at the mid-ordinate of a 62-foot chord may not be more than: 1/8 inch
 - d. Deviation from zero cross-level at point on tangent may not be more than: 1/8 inch
 - e. Deviation from design super-elevation may not be more than: 1/8 inch
 - f. Difference in cross-level between 2 points less than 62 feet apart on tangents may not be more than: 1/4 inch
 - g. Deviation from specified top of rail to top of platform: +0, -1/4 inch
 - h. Location of crosstie placement: 1/2 inch
4. Alignment: Maximum deviations for horizontal alignment shall not exceed:
 - a. Tangent Track: 1/4 inch at mid offset on a 62-foot chord.
 - b. Curved Track: 1/4 inch from correct mid-ordinate on a 62-foot chord.
5. Track shall be constructed to within 1/2 inch of correct horizontal and vertical position as indicated in the Contract Drawings and within the allowable tolerances specified above.
6. Constructed track shall conform to all required minimum tolerances; + (plus) as specified above and – (minus) zero.

3.13 RAISING AND SHIFTING TRACK

- A. Perform raising and shifting of existing track and turnouts to permanent new alignments at locations indicated in the Contract Drawings and in accordance with the requirements of these Specifications. Do not shift tracks more than two (2) feet in any single pass.
- B. Prior to raising and shifting track or turnout, widen the existing trackbed in conformance with Section 02300, Earthwork, as required to provide a full track subgrade in accordance with the typical section indicated in the Contract Drawings.

- C After track has been raised and shifted, reposition skewed ties and other track components to their proper spacing and alignment. Re-gage track not less than every fifth tie as necessary. When re-gaging track, remove spikes from ties. Destress rails in accordance with these Specifications.
- D Destress rails if track shift is 500 feet or longer on tangent track, or if track shift reduces the curvature of the track.
- E Add to accommodate increase in alignment due to track shift. Adding rail shall be performed as follows:
 - 1. Remove existing rail anchors
 - 2. Cut and remove a minimum of 15 feet of existing rail
 - 3. Install a new section of rail and weld joints
 - 4. Re-install existing rail anchors
 - 5. Destress rails in accordance with these specifications
- F Track raise and shift work shall include resurfacing of existing track adjacent to the track shift area as required to maintain the consistent track profile grade.

3.14 REPLACEMENT OF DEFECTIVE RAIL AND DAMAGED RAIL FASTENER ASSEMBLIES

- A Remove and replace rail that has been found to be defective during construction as follows:
 - 1. In tangent track: with 15 foot minimum length of defect-free rail.
 - 2. In curved track: with 30 foot minimum length of defect-free rail.
- B Weld defect-free rail into the rail in accordance with Section 20720, Thermite Rail Welding.
- C Replace rail fastener assemblies damaged during tamping, regulating or other track construction operation.

3.15 FIELD QUALITY CONTROL

- A After completion of trackwork construction, check the track alignment as to line, grade, and cross section.
 - 1. Track alignment and profile with errors exceeding construction tolerances specified in this Section shall be corrected by shifting, raising, or lowering the track.
 - 2. Submit to the Engineer a report with tabulation of the vertical and horizontal positions of the final track alignment.

3. The track construction is not accepted as complete until the Engineer has checked and verified the final track alignment data submitted by the Contractor.

3.16 TRACK BACK IN SERVICE

- A. Refer to Section 01011, Work Planning, for track back in service requirements. Complete the Return to Service Report attached at the end of this Section prior to returning track to service.
- B. Perform a visual inspection after installation, but prior to returning track to service to ensure ties and rails are properly fastened, lined, and free of defects that might be caused during installation.

ATTACHMENT FOLLOWS

RETURN TO SERVICE REPORT



Inspection is required to restore track to service following any significant work/outage. All involved parties (Contractor, JPB, Rail Operator) shall inspect and verify conditions. Inspectors shall be trained and qualified under JPB SPTM&C rules as well as the applicable regulations, and shall be familiar with the scope and progress of the work involved.

Reason for Outage					
Description of Work					
Date/Time			Weather/Temperature		
Location (Station & Milepost)	Track Number/Name		Timetable Speed	Current Speed	
Condition/Remarks			Corrective Action Taken		
Track is acceptable for return to service	Yes	No	N/A	Print Name & Date	Signature
Responsible Party	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Contractor Track	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
JPB Track	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Operator Track	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Contractor Signal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
JPB Signal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Operator Signal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Track Conditions			Corridor Conditions			Stations		Bridges					
Rail	<input type="checkbox"/>	Ties	<input type="checkbox"/>	Fasteners	<input type="checkbox"/>	Excavation	<input type="checkbox"/>	Signals	<input type="checkbox"/>	Crossings	<input type="checkbox"/>	Piles/Caps	<input type="checkbox"/>
Alignment	<input type="checkbox"/>	Gage	<input type="checkbox"/>	Turnouts	<input type="checkbox"/>	Shoring	<input type="checkbox"/>	Crossings	<input type="checkbox"/>	Platforms	<input type="checkbox"/>	Substructure	<input type="checkbox"/>
Surface	<input type="checkbox"/>	Anchors	<input type="checkbox"/>	Crossings	<input type="checkbox"/>	Footing	<input type="checkbox"/>	Clearances	<input type="checkbox"/>	Walkways	<input type="checkbox"/>	Superstructure	<input type="checkbox"/>
Joints	<input type="checkbox"/>	Spikes	<input type="checkbox"/>	Bolts	<input type="checkbox"/>	Falsework	<input type="checkbox"/>	Drainage	<input type="checkbox"/>	Clearances	<input type="checkbox"/>	Ballast Retainers	<input type="checkbox"/>

END OF ATTACHMENT

END OF SECTION