California High-Speed Rail Authority

RFP No.: HSR 14-32

Request for Proposal for Design-Build Services for Construction Package 4

Book IV, Part D.1 - Cost and Scheduling Controls Program

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1 General Requirements

1.1 Project Schedule Definitions

Baseline Schedule - The Baseline Schedule comprises the plan and schedule that the Contractor intends to use to perform and complete the Work. Upon approval by the Authority, the Baseline Schedule shall be the schedule of record from which entitlement for adjustments in the Completion Deadline shall be measured until such time as a Revised Baseline Schedule is approved by the Authority.

Critical Path - The Critical Path is defined as the longest continuous series of activities through the network to the Substantial Completion Deadline.

Current Baseline Schedule - The latest Baseline Schedule shall be considered the Current Baseline Schedule or the schedule of record. The Current Baseline Schedule shall be updated to reflect the actual progress of the Work and the Contractor's current plan for the timely completion of the Work.

Interim Schedule – The Interim Schedule and schedule narrative describes the activities to be performed within the first 180 days after NTP and their interdependencies subject to all requirements of the Contract. The Interim Schedule shall include a separate proposed Payment Milestone plan for its duration, which upon written approval by the Authority shall be used by the Contractor for payment purposes during the Interim Schedule period.

Payment Breakdown - A Payment Breakdown is a list of cost loaded activities that are used to determine the amount of earned value during a given time frame. A payment breakdown will be submitted with the Baseline Schedule and the Interim Schedule

Progress Report – A report (Section 4.5) generated from the monthly schedule update to indicate the value of work performed for a billing period

Proposed Schedules - Proposed Schedules are schedules in which the Contractor proposes revisions and/or changes to the Current Baseline Schedule for the Authority's acceptance. If and when a Proposed Schedule is accepted by the Authority it shall be incorporated into a Revised Baseline Schedule and all work progress shall be reported against the Revised Baseline.

Quality Milestones - Quality Milestones are summary level activities that group cost loaded activities by specific work locations or work types on the project (e.g. a specific bridge). They are used to collect Quality Control and Quality Assurance documentation into specific packages for auditing purposes.

Quality Milestone Data Pack (QMDP) - Quality Milestone Data Packs (Section 4.6) are the collection of Quality Control and Quality Assurance documents generated to support the documentation of the completion of the work associated with a Quality Milestone in accordance with Contract requirements for auditing purposes.

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Revised Baseline Schedule - A Revised Baseline Schedule is submitted by the Contractor whenever changes in the Current Baseline Schedule are required to accurately reflect any changes in the Contractor's plan for performing the Work or the impact of any approved changes in the Work. The Revised Baseline Schedule, once approved by the Authority, becomes the Current Baseline Schedule from which progress and entitlement for adjustments to the Completion Deadline is measured.

Schedule Progress Updates - Schedule Progress Updates are submitted monthly by the Contractor to update the Current Baseline Schedule with status during the period of the update and to reflect the Contractor's current plan for performing the Work as further defined in Section 4.

Short Term Schedule - The Short Term Schedules are day-to-day work plans covering a 90 day period unless a different time frame is requested by the Authority.

Three Week Look-ahead Schedule - A schedule, submitted by the Contractor, of all planned work to be performed over the next three weeks in sufficient detail to enable the tracking of the day to day field activities. The detail and format are as directed by the Authority. These Three Week Look-ahead Schedules are submitted weekly by the Contractor in addition to the Contractor's monthly Schedule Progress Updates.

Total Float – Total Float (TF) for an activity shall be defined as the number of days from the Early Finish Date (EF) to the Late Finish date (LF) of the activity. When the LF is later than the EF, the Total Float shall be positive. When the LF and the EF are the same, the Total Float shall be zero. When the LF is earlier than the EF, the Total Float shall be negative. Unless otherwise specified, all references to "float" shall mean "Total Float." Total Float shall be calculated relative to the Substantial Completion Deadline.

1.2 Purpose of Project Schedules

The above listed documents (collectively, the "Project Schedules") shall be used for evaluating all issues related to time for this Contract. The Project Schedules shall be used by the Authority and Contractor for the following purposes as well as any other purpose where the issue of time is relevant:

a. To communicate to the Authority the Contractor's current plan for carrying out the Work;

b. To identify work paths that are critical to the timely completion of the Work;

c. To identity upcoming activities on the critical path(s);

d. To evaluate the best course of action for mitigating the impact of unforeseen events;

e. As the basis of establishing the predecessors for each Quality Milestone;

f. As the basis for analyzing the time impact of changes in the Work;

g. As a reference in determining the cost associated with increases or decreases in the Work;

h. To prioritize activities for which the Authority is responsible;

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i. To document the actual progress of the Work;

j. To evaluate resource requirements of the Contractor;

k. To integrate the Work with the operational requirements of the Authority's facilities;

l. To schedule and coordinate interfaces with adjacent contracts;

m. As a basis for determining valid acceleration plans;

n. To facilitate efforts to complete the Work in a timely manner; and

o. To general a progress report which is used to indicate the value of work performed for a billing period.

The Project Schedules provide a basis for Authority decisions that may impact the Work under this Contract, as well as other concurrent or future contracts. Contractor shall submit schedule submittals in a timely manner. The Project Schedules shall at all times accurately reflect the Contractor's current plan for the Work and shall be updated as described in this specification.

1.2.1 Scheduling Terms

Unless otherwise stated herein or elsewhere in the Contract Documents, scheduling terms shall be as defined by the latest edition of McGraw Hill's "CPM in Construction Management".

1.2.2 Schedule Type

All Project Schedules shall be a computer generated, Critical Path Method (CPM) network utilizing the precedence diagram method of scheduling.

The Authority shall request Project Schedules be presented in linear format in addition to CPM format. The linear schedule shall be created in a format compatible with TILOS software, version 7.1 or higher or as specified by the Authority.

1.2.3 Software

The Project Schedule in CPM format (the "CPM schedule") shall be created in a format compatible with the latest version of Primavera P6, or as otherwise specified by the Authority. The Contractor shall purchase and maintain a valid software maintenance agreement for each license of software necessary to produce the Project Schedules. The Contractor shall not upgrade to a new version of the scheduling software unless previously approved in writing by the Authority.

1.2.4 Use of Total Float

Float and Late Date calculations versus any interim milestone date shall be so described, and expressed together with the float calculation relative to the Substantial Completion Deadline.

Extensions of the Substantial Completion Deadline may be granted in accordance with the terms in the Contract only to the extent that the activity or activities affected impact the Substantial Completion Deadline. Float is not for the exclusive use or benefit of either the

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Authority or the Contractor, but is an expiring resource available to all parties, acting in good faith, as needed to meet the Substantial Completion Deadline.

1.2.5 Pacing

If the Work is delayed on the Critical Path due to a delay caused by the Authority thereby creating additional float on any other path, then use of such float shall be construed as a concurrent delay to any delay caused by the Authority, consistent with Section 23.3 of the General Provisions. The Contractor shall maintain its original schedule on the other paths and activities not affected by the delay.

2 Baseline Schedule Preparation and Submittal

In achieving an approved Baseline Schedule there will be no adjustment in the Contract Price. In general the Baseline Schedule shall demonstrate a complete understanding of the Work, inclusive of all phasing and sequencing considerations and shall include, but not be limited to:

a. The order in which the Contractor intends to prosecute the Work, outlining the intended flow of Work, including design, procurement, and construction, as well as the updated submittal schedule, samples, intended maintenance of traffic, pollution control measures, utility interfaces, right-of-way, and other information as required by the Contract;

b. All relevant work constraints to performing the Work including, but not limited to, right-of-way access constraints (with clear logical connections to the commencement of various Work), accommodation of utility relocations, permitting restrictions, and environmental/seasonal constraints;

c. The dates on which the Contractor plans to start and complete various Work stages, operations, and principal items of Work, including procurement of materials and plant, Substantial Completion Deadline and Final Acceptance Deadline;

d. Interfaces with other entities such as Utility Owners, Third Parties and other stakeholders;

e. All major submittals to the Authority; and

f. The Quality Milestones and scope definitions shall be identified.

g. The Baseline Schedule will be accompanied by a payment breakdown. This breakdown will identify the costs associated with each schedule activity.

h. All submittals shall be in accordance with Section 8: Submittal Requirements of the General Provisions.

2.1 Completion, Timeliness and Review of Submittals

To promote the efficient use of Contractor and Authority scheduling resources, the submittal requirements have been phased. Part of the Authority's review of the proposed Baseline Schedule will be a concurrent and repetitive process with the Contractor's preparation of the Baseline Schedule. The Contractor shall complete and submit portions of the Baseline

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Schedule in accordance with the submittal deadlines contained in Table 1Table 1. For the determination of submittal deadline dates, the date of NTP shall be working day No. 1.

Baseline Schedule submittals will be reviewed for conformity with the Contract. Each submittal required by this section shall reflect the incorporation of all of the Authority's comments on the Baseline Schedule to date. With each submittal, the Contractor shall provide a written response to each of the Authority's comments to-date, to enhance the Authority's ability to conduct timely, efficient reviews of the submittals.

Failure of the Contractor to provide complete, timely Baseline Schedule submittals as specified and in the sequence and time frames, as specified below, may result in delays or extensions to the Authority review periods. Baseline Schedule Submittals may be rejected for incompleteness or failure to meet the specification requirements and re-submittal will be required. The Authority will not be obligated to accelerate its review to compensate for the Contractor's failure to meet submittal requirements or deadlines. The Contractor may submit information earlier than required in the Baseline Schedule Submittal Schedule in Table 1Table 1, however, the Authority will not be obligated to complete its review of that information any earlier than the deadline specified for its review.

Activity codes are essential to the Authority's review for accessing the information contained in the Baseline Schedule. If the values of any activity code are incorrectly assigned the submittal may be returned, at the Authority's discretion, for correction and re-submittal.

2.2 Weekly Meetings

The Contractor shall meet, at a minimum, once each week with the Authority and its representatives, until the proposed Baseline Schedule is approved, to discuss the preparation of the Baseline Schedule and the administration of the Project Schedules. Members of the Contractor's project management staff, and/or, sub-contractors and suppliers shall be present at the Contractor's discretion or when requested by the Authority. Meeting minutes shall be taken by the Contractor in accordance with Section 8.2.1 Meeting and Reporting Requirements of the General Provisions.

2.3 Preliminary Baseline Schedule Information

At each weekly meeting, if requested by the Authority, the Contractor shall provide an electronic data file containing the Baseline Schedule in its current state. These schedule files will be for informational purposes only.

2.4 Baseline Schedule Submittal

In the course of developing the Baseline Schedule, the Contractor shall submit the following deliverables for Authority review in accordance with the following schedule:

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Table 1: Baseline Schedule Submittal Schedule

Step	Description	Submittal Deadline[1]	Authority Review Period[2]
1	Schedule Framework and initial proposed Payment Breakdown	10	30
2	Schedule Framework Re-submittal	20	30
3	CPM Logic with coding and Narrative Submittal and Project Schedule Administration Plan	35	30
4	Activity Resource Loading and Cost Loading	60	30
5	Logic, Narrative, Resource and Cost Re-submittal	85	30
6	Baseline Schedule Submittal	95	30
7	Corrected Baseline Schedule Submittal	115	30

All submittals shall be in accordance with Section 8: Submittal Requirements of the General Provisions.

2.4.1 Schedule Framework Submittal (Step 1)

No later than the deadline specified in the Baseline Schedule Submittal Schedule (in Table 1), the Contractor shall submit for SONO the Schedule Framework Submittal, which shall include the following components:

a. Activity Codes - All Contractor defined activity code values with identification of those required to meet the Authority's reporting requirements;

b. Calendars –As detailed in Section 3.4; and

c. Submittal List - All submittals required by the Contract.

2.4.2 Schedule Framework Re-submittal (Step 2)

No later than the deadline specified in the Baseline Schedule Submittal Schedule, the Contractor shall resubmit for SONO the updated and corrected Schedule Framework Submittal with the addition of:

a. Resource Definitions - Including labor resources and work types, and incorporating all Authority comments to date.

[1] Working days after NTP
[2] Calendar days after Contractor submittal

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2.4.3 CPM Logic and Narrative Submittal (Step 3)

No later than the deadline specified in the Baseline Schedule Submittal Schedule, the Contractor shall complete the CPM logic submittal including all activities and CPM logic representing all Work and in accordance to this specification. The CPM logic submittal for SONO shall include the coding for each activity. The CPM logic submittal shall include the following:

a. Narrative Report;

b. Electronic Schedule Files; and

c. Project Schedule Administration Plan (see Section 7).

2.4.4 Activity Resource and Cost Loading of Submittal (Step 4)

No later than the deadline specified in the Baseline Schedule Submittal Schedule, the Contractor shall complete the resource loading of all major construction activities in the schedule. The Contractor shall also complete the cost loading of all activities that will carry over into the Payment Breakdown. The resource and cost loading submittal for SONO shall include the following:

a. Electronic schedule file;

b. Activity Budget Report;

c. Identification and explanation of all logic changes since the logic submittal;

d. The cost loaded schedule activities coded to the Authority-provided WBS, which roll up to a summary cost for each Quality Milestone;

e. Labor man hours loaded to the entire schedule for all the Work; and

f. Activities representing provisional sums and Hazmat allowances.

This step will involve the discussions to agree to the Quality Milestones and to the Payment Breakdown, and is likely to require workshops with the Contractor and Authority to achieve this submittal.

2.4.5 CPM Logic, Narrative, Resource and Cost Re-submittal (Step 5)

No later than the deadline specified in the Baseline Schedule Submittal Schedule, the Contractor shall complete the CPM logic re-submittal for SONO including all activities and CPM logic representing all Work required by the Contract. The CPM logic re-submittal shall meet all of the requirements and include the following:

a. Narrative Report;

b. Electronic schedule files; and

c. Identification and explanation of all CPM logic, resource, and cost changes, since the resource and cost loading submittal.

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2.4.6 Baseline Schedule Submittal (Step 6)

No later than the deadline specified in the Baseline Schedule Submittal Schedule, the Contractor shall complete the Baseline Schedule submittal for approval representing all Work required by the Contract. The Baseline Schedule submittal shall include three copies of the following:

a. Narrative Report including a materials and an equipment resource report.

b. Electronic schedule files.

c. Contract Payment Breakdown Report – a report detailing all costs loaded to the schedule per cost accounts.

d. Labor Resource Report – a report detailing all resources assigned throughout the schedule.

e. Predecessor / Successor Report – a report detailing each activity's list of predecessors and successors.

f. Quality Milestone Report – a report detailing all Quality Milestones for the project with milestone scope definitions.

g. Submittal Report – a report detailing all submittal, review and approval activities contained in the schedule per detail in Section 3.9.

h. Cumulative and monthly total project cost curves, reflecting the total contract amount. Similar curves shall also be furnished for each FRA Category/Subcategory.

i. Cumulative and monthly resource curves.

j. Planned production curves by craft for individual sections and the entire Project.

k. Network Plots depicting CPM logic of the Critical Path and near critical paths in the project and the CPM logic for individual project segments.

2.4.7 Corrected Baseline Submittal (Step 7)

In the event that the Baseline Schedule submittal is not approved, no later than the deadline specified in the Baseline Schedule Submittal Schedule, the Contractor shall complete the corrected Baseline Schedule. The Contractor shall correct this Baseline Schedule submittal for approval by incorporating all of the Authority's comments on the initial Baseline Schedule submittal. No additional changes shall be made. The corrected Baseline Schedule submittal shall be revised and resubmitted until receipt of Authority approval without qualification. The Authority will provide guidance on schedule name designation to be used until the unqualified approval of the Baseline Schedule is reached.

2.5 Interim Schedule Submittal

The Contractor shall submit, within 10 Working Days after NTP, an Interim Schedule detailing activities to be performed within the first 180 days after NTP. The Authority will review and may approve an acceptable Interim Schedule within 30 calendar days of submittal. The

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Authority may require the full Interim Schedule or parts thereof to be resubmitted throughout the review period.

The Interim Schedule shall include a separate proposed Payment Breakdown plan for its duration, which upon written approval by the Authority shall be used by the Contractor for payment purposes during the Interim Schedule period.

Payment Breakdown in the Interim Schedule shall be consistent with the approach detailed in Section 2 above.

APPROVAL OF THE INTERIM SCHEDULE IS A CONDITION PRECEDENT FOR PAYMENT.

3 Schedule Requirements

For the purpose of enabling both the Authority and the Contractor to readily evaluate the Project Schedules, including derived data and reports, the Project Schedules shall be administered in accordance with the following requirements.

3.1 Oracle Primavera P6 Settings

P6 Settings shall be as follows:

A. P6 Project WBS

1. At Level 1 the Project ID will be “CP4”, appended as described in the following Section titled “Project ID Suffix”, and the Project Name shall be “CHSR Construction Package CP4”.
2. At Level 2 nested under the Project ID/Name, the first WBS node will have WBS Code “EXEC” and WBS Name “Executive Summary” and shall be populated with sufficient LOE activities and milestones to provide management with an overview of the contract. The second WBS node will be for “Quality Milestones”. Beyond that the Contractor can determine the P6 Project WBS, ensuring that the structure is sufficiently robust to segregate, manage, and present the various work types, segments, elements and locations.

B. Project ID Suffix

1. Each schedule submittal shall have a unique identifier appended to the Project ID specified in the previous Section titled “P6 Project WBS”, in the form of:
   a. For Baseline Schedules, “-BLaa”, where aa corresponds to the numbering in Section 2.4, Table 1 of the Cost and Scheduling Controls Program (CSCP) in Book IV, Part D, Subpart 1.
   b. For Proposed Schedules, “-Pbbb”, where bbb is sequential starting at 001.
   c. For Revised Baseline Schedules, “-Rccc”, where ccc is sequential starting at 001.

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d. For Schedule Progress Updates, "-Myymm", where yy and mm correspond to the year and month of the monthly submittal.

C. Resources

1. The top level of the Resource hierarchy will consist of 3 Resource ID's – CP4LABOR (Resource Type = Labor), CP4EQPT (Resource Type = Nonlabor), and CP4COST (Resource Type = Labor). The Contractor may populate the hierarchy under CP4LABOR and CP4EQPT with staff, craft, and construction equipment whereas CP4COST will have no subordinates.

2. Activities shall be resource loaded with CP4LABOR and CP4EQPT (or subordinates as applicable), and all activities shall be resource loaded with CP4COST.

D. Cost Accounts

1. The Cost Account hierarchy will correspond to the "P6 Cost Account Structure" attached to this document as Appendix A. The Cost Account ID at the top level of the hierarchy will be CHSRWBS. Level 2 segregates activities by Environmental Section. It is anticipated that the CP4Contractor will utilize only the "CHSRWBS.040 – FB – Fresno to Bakersfield" nodes at Level 2. At Levels 3 and 4 the Cost Accounts duplicate the FRA Standard Cost Categories for Capital Projects/Programs, thereby fulfilling a reporting requirement for this program.

2. For cost loading of all activities, Contractor will assign resource CP4COST to each activity along with a corresponding Cost Account per Paragraph (1.) above. The approved amount will then be assigned as a Budgeted Cost. The resource may be assigned to an activity more than once if multiple Cost Accounts are warranted.

E. Activity Codes

1. Activity Codes must be maintained at the Project level.

2. The following Activity Codes, at a minimum, shall be established and assigned to each activity as applicable to integrate into the program level schedules maintained by the Authority:

a. "Location" with Code Value/Description "040 – Fresno to Bakersfield".

b. "Function" with Code Values/Descriptions "DD – Environmental", "FF – Right-of-Way", "GG – Project Management", "JJ – Final Design", "KK – Construction", or "QQ – Professional Services-Other".

c. "Contract Segment" with Code Value/Description "CP4– CP4".

d. "Phase" with a Code Value/Description of "1 – Phase 1" only.

e. "Construction Element" with Code Values/Descriptions identifying major construction element categories such as Earthwork, Viaduct, etc.

f. "Stationing" with Code Values/Descriptions as appropriate.

g. "Responsibility" identifying the party responsible for the work including the Authority, third parties, subcontractors, etc.

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F. Constraints

1. Constraint Types, if approved for use in the schedule, shall be limited to “Start On or After” (Start-No-Earlier-Than) and “Finish On or Before” (Finish-No-Later-Than).

G. Calendars

1. Calendars must be maintained at the Project level.
2. Calendars shall be created to account for all work scenarios in the Contract including seasonal restrictions, river restrictions, CA State holidays, etc.

H. P6 Settings

1. Duration Type shall be “Fixed Duration & Units”.
2. Percent Complete Type shall be “Physical”.

3.2 Activity Data

Activity Identification - each activity in the Project Schedules shall have an activity identifier (Activity ID). The Contractor shall utilize an Activity ID that is simple and allows space between existing activities for the future addition of activities for continuing sort and display capability. The Activity ID of an existing activity shall not be modified or assigned to another activity, nor should any Activity ID be deleted from the Project Schedule. Any Activity ID that is no longer required should be closed and moved to a section of the schedule marked as ‘Deleted Activities.’ The scope of work for an activity shall not be substantially changed once the Baseline Schedule is approved since this would result in re-use of the Activity ID for a different scope of work.

Activity Description - the activity description shall identify the unique scope of the activity. There shall not be any two activities with the same activity description. It shall not be necessary to investigate activity code assignments or logic relationships to identify the scope of an activity. For example, the description "POUR FOOTING" will not be acceptable; the description “POUR FOOTING RAMP RT-Sta. 42+0O-42+5O will be acceptable. At the same time the Activity Description shall be concise enough so as to not require excessive column width in the Oracle Primavera P6 layout. The terms “Miscellaneous," "Misc." or other vague adjectives shall not be used as an activity description. The Contractor shall standardize the use of terms and their spelling in all activity descriptions. Abbreviations used in activity descriptions shall be consistent with the abbreviations used throughout the Contract and the Contractor’s design drawings.

Activity descriptions shall not be modified, except at the direction or with the consent of the Authority.

Activity Duration – Unless otherwise specified construction activities shall have duration from five (5) to thirty (30) working days. At the request of the Authority, the Contractor shall substantiate the need for specific activities having shorter or longer durations than stated herein. After approval of the Baseline Schedule, changes in activity durations shall be addressed exclusively through the use of the Duration Remaining data field.

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Activity Type - The implementation of scheduling software features that may impact schedule calculations shall be in accordance with the software manufacturer's recommendations unless otherwise directed by the Authority. For example, P6 has the default activity type of "task."

Activity Dates - Early and Late start and finish dates of activities shall be calculated for each activity based upon the schedule data date, actual dates, schedule logic, schedule constraints, calendars, and original duration or remaining duration, in accordance with the scheduling parameters defined in this specification.

Activity Predecessors and Successors - every activity shall have logically assigned predecessors and successors in conformance with the requirements of this section. The logical predecessors for each activity will be limited to those activities whose scope of work necessarily must be completed in order to perform the current activity. Unless otherwise specified, NTP shall be the only activities in the Project Schedules without predecessors. Unless otherwise specified, Final Acceptance Deadline shall be the only activity in the Project Schedules without a successor.

Activity Constraints - Activity Constraints can affect activity float calculations and shall not be used unless approved by the Authority. Unless otherwise authorized by the Authority, constraint types shall be limited to Start-No-Earlier-Than, and Finish-No-Later-Than. The imposition of a date constraint on any activity other than the Completion Deadlines will only be permitted when the Contractor substantiates the need for the constraint to the satisfaction of the Authority. All date constraints shall be reviewed and corrected as part of the monthly update procedure, which includes review during the joint monthly update meeting.

Activity Percent Complete - Activity remaining durations and percent complete shall be entered in the Project Schedules by the Contractor as appropriate to indicate activity progress and status as of the current Data Date for the update. The Contractor is to insure that progress is based on a current estimate of remaining duration to complete the Work and not the activity's percent complete which calculates the remaining duration based on the original estimated duration.

Quality Milestones – The schedule will be broken down into Quality Milestones. Each Milestone will have a finish to finish predecessor activity called a Quality Milestone Data Pack (QMDP). The QMDP activity will be cost loaded at a value of one tenth of one percent of the total value of the Quality Milestone it resides in. Each QMDP represents the final step in the completion of each Quality Milestone. QMDP shall be considered complete upon a Statement of No Objection from the Authority of all the Quality Control and Quality Assurance documentation for that Milestone. This package will be submitted to the Authority once the work involved in that Milestone is complete.

3.3 Activity Codes

The Project Schedules shall contain activity code classifications and code values. The coding shall also incorporate the appropriate Authority provided WBS data elements to allow

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reporting by any individual element or a combination thereof. These WBS codes shall be the first codes defined for the activities, followed by any other codes, and shall use the values in the WBS to be provided by the Authority following award. The Contractor may add additional codes to satisfy its own requirements.

In addition to the Authority's WBS codes the Contractor shall propose a coding structure for the Authority's review and acceptance. The activity code structure combined with the activity identification number shall provide the capability to organize information by location, road or ramp, structure, work type, subcontractor, discipline, etc., as deemed necessary by the Authority.

3.4 Activity Calendar

The planning unit for the Work shall be working days. The use of other calendars may be used as required with a clear definition within the calendar description and/or the Baseline Schedule Narrative as to what the calendar is intended to be used for and/or what specific non-working periods they include.

Shifts and shift hours shall be discussed in the narrative with each Project Schedule submittal.

3.5 Resource Loading

All Project Schedules shall be resource loaded with labor man hours for both the Contractor and all of its sub-contractors.

3.6 Cost Loading

The Project Schedules shall be cost loaded. All costs necessary to meet the particular requirements of each payment activity will be included in the payment breakdown, and that breakdown will total up to the Contract Price.

Change Orders will be represented in the schedule with new activities and the associated cost of the Change Order. They will be included in the revised cost loaded schedule and Payment Breakdown.

3.7 CPM Logic

The Contractor shall be responsible for developing the CPM logic of the Baseline Schedule and for updating that CPM logic each month to accurately reflect the progress of the Work to-date and the Contractor's current plan for the timely completion of the Work.

a. Activity Relationships - The schedule CPM logic for each activity shall be constructed in conformance with the following requirements:

   i. Determine predecessors - Activities that must be completed before the activity can start.

   ii. Determine parallel activities - Activities that can occur concurrently with the activity.

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iii. Determine successors - Activities that cannot start until the activity is complete.

Determine the impact of all resource limitations on activity sequencing, activity durations and activity dates.

All paths through the Project Schedules shall proceed in the direction representing the progression of time. Activity lag durations shall not have a negative value. Activity lags shall not be used in lieu of activities. Redundant ties to preceding activities in a sequential series of activities will not be permitted. For example, if activity C is the successor in a Finish-Start relationship to activity B, and activity B is the successor in a Finish-Start relationship to activity A, then activity A shall not have a redundant Finish-Start relationship to activity C. A tie representing a different constraint will not be considered redundant. For example, a logic tie showing that the completion of the work scope of a predecessor is required before the successor can start is different from a logic tie representing a resource limitation and will not be considered redundant.

The Quality Milestones in the CPM schedule shall not be open ends. They will be tied to logical predecessor activities and shall be tied to an administrative activity or milestone such as contract close-out as a successor.

3.8 Narratives

3.8.1 Baseline Schedule Narrative

The Baseline Schedule narrative shall demonstrate a feasible approach to achieving or improving the planned schedule and contains the following information:

a. Identification of the Data Date and schedule file name.

b. A description of the planned flow of work, identifying all key or driving resources. Identify key constraints and potential problems influencing the Contractor's approach to the work. Describe all construction interfaces with third parties at the Project site. Also identify temporary Contractor plants, facilities or fixed equipment that the Contractor or subcontractor plan to use within the right-of-way. Include in this discussion the length of time the plant is to be used, any planned moves, and any potential conflicts that could arise, if the plan is not adhered to.

c. A summary of planned labor utilization for the Contract, identifying the average and maximum number of workers on site each month based on the resource loaded Project Schedules. Identify actual and potential labor resource limitations.

d. A summary of planned equipment utilization for the Contract, identifying each type of operated equipment to be used on the Work, the planned quantity of each type of operated equipment utilized each month, and the criteria for mobilizing and demobilizing each piece of equipment to and from the site. Identify actual and potential equipment resource limitations.

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e. An explanation of how adverse weather conditions have been addressed in the Baseline Schedule. Identify all activities, if any, that contain contingency days for adverse weather conditions and the duration of such contingency included for each.

f. An explanation of special calendars that only allow work to take place during a pre-defined window of time.

g. The narrative shall address the Contractor's material procurement plan and identify the strategy for any long lead item(s). There shall be no fabrication and delivery activities for concrete and asphalt concrete. Fabrication and delivery activities for short lead-time items shall not be included in the project schedules "Short lead-time" shall be defined as a period of two weeks or less from placement of order to delivery of material to the Project site.

3.8.2 Schedule Progress Update Narrative

All Schedule Progress Update submittals shall include a narrative containing the following information:

a. Identification of the update period, the Data Date, and the schedule file name.

b. Identification of activities with critical or near critical float (within 14 Days of the Critical Path) that were planned to occur during the update period, of which did not occur or occurred later than the scheduled Late Start or Late Finish date, and an explanation of these delays. Provide a listing of all activities which may overrun or have overrun their planned duration by more than 20 percent and any justification for maintaining original planned durations for future activities of like Work.

c. Identification of delays occurring to activities taking place off the Project site, e.g., submittal preparation, fabrication, and delivery activities.

d. A summary of planned labor utilization for the Contract, identifying the average and maximum number of workers on site each month. Identify actual and potential labor resource limitations. A summary of the actual labor utilization used over the past month.

e. A summary of planned equipment utilization for the Project, identifying each type of operated equipment to be used on the Work, the planned quantity of each type of operated equipment utilized each month, and all changes to the criteria for mobilizing and demobilizing each piece of equipment to and from the Project site. Identify actual and potential equipment resource problems. A summary of the actual equipment utilized over the past month.

f. Revisions to logic or duration(s) by the Contractor to effectively use labor and resources which have no adverse effect on Completion Deadlines or Contract Price shall be detailed in the update. These revisions shall contain the following information:

   i. Identification of the activities changed.

   ii. A description of the scope of the logic change and identification of the advantages and disadvantages of implementing the change.

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iii. Identification of all driving resources, if any.

iv. Identification of key constraints influencing the Contractor's approach to the Work.

3.9 Required Submittal and Delivery Activities

3.9.1 Submittal List

The Contractor shall submit a list of all submittals required by the Contract, as part of the Schedule Framework Submittal, not later than the deadline identified in Table 1.

The submittal list shall conform to the following format or any other format approved by the Authority:

Table 2: Submittal List Format

Submittal List		
Submittal Reference Number	**Description of Submittal**	**Activity ID**

3.9.2 Submittal Activities

Submittal activities shall be included in the Project Schedules in a manner consistent with the level of detail shown below:

Table 3: Submittal Activity Detail

Activity	Abbreviation in Activity Description
Prepare and Submit	P/S
Review and Approve	R/A
Revise and Re-submit	R/R
Fabricate and Deliver (Material or Equipment)	F/D or FAB or DEL

3.9.3 Submittals with Multiple Activities

When multiple items are included in a single submittal, that submittal shall be represented in the schedule by an activity in accordance with the following conditions:

a. The "Review and Approve" activity for that submittal shall be a predecessor to every activity representing the fabrication and delivery of any of the materials submitted.

b. If the submittal is returned and the disposition is sufficient to enable the commencement of a successor activity, then the original submittal activity shall be broken down into multiple activities, as necessary, to accurately reflect the logic of the Contractor's current plan.

c. As part of the monthly update procedure, submittal activities shall be reviewed and modified to ensure that the scope and logic of the activities are consistent with the Contractor's current plan.

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3.9.4 Delivery Activities

Activities representing the delivery of materials or equipment for more than one installation activity will be permitted in accordance with the following conditions:

a. The material delivery activity shall be a predecessor to the first activity representing the installation of that material in each area;

b. When partial deliveries are received and those deliveries are adequate to enable the commencement of some, but not all, successor activities, then the original delivery activity shall be broken down into multiple activities, as necessary to accurately reflect the logic of the Contractor's current plan;

c. As part of the monthly update procedure and during the joint update schedule meeting, a discussion of delivery activities shall be reviewed and modified to ensure that the scope and logic of delivery activities are consistent with the Contractor's current plan; and

d. There shall be no fabrication and delivery activities for concrete and asphalt concrete. Fabrication and delivery activities for short lead-time items shall not be included in the project Schedules "Short-lead time" shall be defined as a period of two weeks or less from placement of order to delivery of material to the Project site.

3.10 Timely Completion

Unless otherwise specified, timely completion shall refer to completion on or before a date that supports the Completion Deadlines.

3.11 Resource Distribution

The Contractor may elect to use nonlinear resource distribution curves. The Contractor may elect to use resource lags and resource durations. If the Contractor does utilize this resource option the use shall be explained in its Baseline Schedule narrative and any other narrative that changes the Baseline Schedule resource assumptions.

3.12 Use of Constraints or Float Suppression Techniques

Any use of Early Start constraints within the schedule shall be documented in the activity notebook and discussed within the schedule narrative. The only instance where a Late Finish constraint may be used is for the Substantial Completion Deadline. Any other use of constraints is prohibited. This includes the following: Zero Free Float, Start on, Expected Finish, Mandatory Start or Finish. The use of negative lags or the use of any other float suppression techniques is also prohibited from use in project schedules.

3.13 Resource Leveling

In schedule submittals to the Authority the Contractor shall not use P6 restraints to optimize and/or level manpower and equipment requirements. Activities shall be duration driven.

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3.14 Default Progress Data

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in the CPM scheduling software systems.

3.15 Out-of-Sequence Logic

The Contractor shall correct all incorrect logic relationships in the schedule update to eliminate any out-of-sequence logic. The Contractor shall make all changes in the logic or other adjustments found to be incorrect by the Authority.

3.16 Electronic Schedule Naming and Formatting

The Authority will provide guidance on schedule name designation to be used. The Contractor shall not submit any two schedules with the same file name.

3.16.1 Electronic Project Schedule Files

Each electronic file submission shall be on electronic storage media and shall be labeled identifying the Contract number, the submittal letter number and date, the name of the schedule file, the media number and the total number of electronic media for the submittal (e.g., "CD 2 of 4"). Electronic schedule files shall be in ".xer" format compatible with Oracle Primavera P6. Electronic narrative files shall be in readable, OCR enabled, PDF format (not scanned).

4 Schedule Progress Updates

The Contractor shall update the Current Baseline Schedule on a monthly basis. This shall not constitute a modification of the Current Baseline Schedule. The purpose of Schedule Progress Updates shall be to accurately document the progress of the Work to-date and to correct the schedule to accurately reflect the Contractor's current plan for the timely completion of the Work. Schedule Progress Updates shall be used to record progress for payment purposes and to reflect how the Work is being performed.

Schedule Progress Updates shall never be used as the basis for any adjustment in the Completion Deadlines. Any acceptance of the Schedule Progress Update by the Authority, either expressed or implied, shall only apply to the issue of progress and not to any issue of acceptability or accuracy of the Schedule Progress Update for use as a basis for measuring adjustments in Completion Deadlines. The Schedule Progress Update submittal shall be due with Contractor's invoice for payment, and shall be a prerequisite to payment by the Authority.

4.1 Monthly Schedule Progress Update Period

A monthly Schedule Progress Update of the Current Baseline Schedule shall be submitted for each calendar month from the date of the NTP through the date of Final Acceptance. The Data Date of each monthly Schedule Progress Update shall be the first calendar day of the

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following month, meaning that the progress of the Work to date shall be documented through the last day of the month.

4.2 Monthly Schedule Progress Update Data

A joint monthly update meeting shall be scheduled in the last week of the month. The purpose of this meeting is to review and discuss the contents of the forthcoming Schedule Progress Update submittal. Monthly Schedule Progress Update data shall be submitted within the first week of the month following the update period. The Authority review period for the monthly Schedule Progress Update data submittal is 10 working days. The Schedule Progress Update data submittal shall consist of the following submittal components:

a. A schedule narrative consistent with Section 3.8.2 above;

b. Electronic files with record schedule incorporating all submitted Schedule Update Data (UXXX);

c. The actual progress achieved on each operation and its effect upon the timing of the remaining work;

d. An activity cost report listing all Quality Milestones submitted for partial payment for the current period;

e. An activity cost report listing all Quality Milestones submitted for partial payment to date;

f. An activity cost report listing total Contract Price sorted by Quality Milestone;

g. Progress Report listing all activity progress submitted for payment for the current period which is sorted by FRA Code;

h. All required documentation required under the Contract in support of the invoice;

i. A comparison report showing all changes made to the schedule since the last Schedule Update;

j. Production curves showing the approved baseline production (planned) values and the actual production values;

k. Should any Work be conducted on a time and materials basis then this update shall contain all necessary data to record progress; and

l. Single level of effort activities representing Work conducted against each provisional sums and allowance.

In the event of discrepancies between the submitted data and Authority's records of progress, the Authority's records shall govern. The Authority's decision shall be final regarding all Schedule Progress Update data. The submittal of incomplete, illegible, or unchecked data or of reports that do not conform to the requirements of this specification may result in the rejection of Schedule Progress Update data, and as such will require a revision and re-submittal.

APPROVAL OF THE BASELINE SCHEDULE IS A CONDITION PRECEDENT FOR PAYMENT BEYOND THE INTERIM SCHEDULE. SUBMITTAL TO THE AUTHORITY OF

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THE CONTRACTOR'S MONTHLY SCHEDULE PROGRESS UPDATE IS A CONDITION PRECEDENT FOR PAYMENT TO BE INITIATED. Acceptance of the Schedule Progress Update shall not relieve the Contractor of its obligation to make appropriate corrections to all of the Project Schedules.

The Authority shall not be liable for delays to the Contractor's Work that occur during a time when the Contractor has failed to provide a Schedule Progress Update in accordance with the requirements of the Contract, when having the Schedule Progress Update at the specified time could have influenced the Authority's decisions or actions.

The Schedule Progress Update submittal shall reflect updated progress to the Data Date, forecasted finish for in-progress activities, and re-forecasted Early Dates and Late Dates for remaining activities. The Contractor shall submit any changes in activity durations, logic ties or constraints for review and acceptance by the Authority prior to inclusion of the change into the current Schedule Progress Update. The Authority may also submit changes to the Contractor for inclusion in the current Schedule Progress Update. These changes should be forwarded to the Contractor for review prior to the joint monthly update meeting for discussion in that meeting.

4.3 Weekly Schedule Coordination Meetings

The Contractor shall meet with the Authority on a weekly basis to coordinate scheduling activities. Meeting minutes shall be taken by the Contractor in accordance with Section 8.2.1 Meeting and Reporting Requirements of the General Provisions.

4.4 Progress Delays

The Contractor shall identify and promptly report to the Authority as soon as they become aware of any matter which could:

a. Increase the project budgeted cost or Contract Price,

b. Delay Substantial Completion Deadline,

c. Delay meeting a key date (if applicable),

d. Impair the performance of the works in use,

e. Affect the work of the Authority, Third-Party or other works required to support future CHSR elements.

The Contractor shall promptly develop a schedule recovery or mitigation plan whenever the Contractor's actual physical progress is behind schedule by 30 days when compared to the Current Baseline Schedule or could potentially be delayed by 30 days, or within 10 days of a written request by the Authority. The Contractor shall submit a schedule recovery or mitigation plan in the form of a Proposed Schedule, whenever the Project Schedule becomes 30 or more Days late to Substantial Completion. The submission of the recovery or mitigation plan shall be at no cost to the Authority and shall be submitted within thirty (30) days of the submittal of the Schedule Progress Update that indicates the Project is thirty (30) or more Days late or the Authority's request. Failure to submit such a recovery plan within the

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stated time frame shall provide a basis for future withholdings for payment, either in whole, or in part, by the Authority.

In support of the Authority's Risk Management process, either the Authority or the Contractor may instruct the other to attend a risk assessment and mitigation workshop to discuss the Proposed Schedule to cooperate in:

1. Making and considering proposals for how the effect of the potential or actual delay could be avoided or reduced,
2. Seeking solutions that will bring advantage to all those who will be affected,
3. Deciding on the actions which will be taken and who, in accordance with this Contract, will take them and
4. Deciding which risks have now been avoided or have passed and can be removed from the Risk Register as per the Authority's Risk Management process.

The Authority revises the risk register or risk items of significance to record the decisions made at each risk assessment and mitigation workshop. If a decision requires a Change Order to the terms and conditions of the Contract Documents, then the Authority will issue a Change Order at the time the risk register is updated and issued. For the avoidance of doubt, the Contractor's only entitlement to a Time Extension and Price Increase is in accordance with the requirements set forth in Section 17 "Changes" (Book I, Part B, Subpart 2: General Provisions).

4.5 Monthly Progress & Invoice Reports

Each monthly invoice shall be accompanied by a monthly progress report to support the amount invoiced for and document progress on the Work. Two versions of this report will be submitted with each invoice. One report will show the work performed sorted by the FRA codes, and the other report will show the work performed by the Quality Milestone that it pertains to.

On a monthly basis, at a minimum, the Contractor shall meet with the Authority to review the percent complete of work performed prior to submitting the invoice, including the following:

- Activity percent completes, which are based on physical percent complete estimated by the field personnel relating to a resource and cost loaded schedule activity. To streamline this process, earning rules will be established to detail how various activities are progressed and partially paid. These rules will describe how discrete elements of work are to be measured for the purposes of measuring percent completion and be submitted in conjunction with the resource and cost loaded baseline schedules.
- Incorporation of approved Change Orders as individual activities with proper title, coding by Change Order number, associated logic, duration, as well as cost/resource loading.
- Verification of any unit price or time and material items.

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- Backup documentation for cost reimbursable procurement and Change Order schedule activities.

The monthly progress report and invoice submittal will follow the following format:

I. Title Page
   1. The title page shall include:
      a. Contractor name
      b. Report/Invoice title
      c. Contract number
      d. Invoice number
      e. Date the Invoice was submitted
      f. Period covered by the invoice
      g. Signed Certification from the Contractor's Quality Manager that the contents of the invoice have been checked for completeness, accuracy, and relevance to billing period.

II. Progress Report
   1. Table of Contents
   2. A copy of the progress report that was approved in the Monthly Schedule Progress Update Meeting, which is the basis of the invoice.
   3. The Contractor's Progress Report shall include the following monthly reports (These reports indicate information/results that are generated during the pay period):
      a. Summary of work performed during the previous month (this will be a copy of the schedule update narrative).
      b. Digital color photographs of the Project progress.
      c. Safety/Security report per GP 26.2.2
         i. Summary of Project accidents (frequency and severity) and corrective actions taken
         ii. Updates to emergency services access points to the Project Site
         iii. Updates on safety training provided
      d. Small Business Narrative Progress reports
      e. Quality Report per GP 54.6
         i. Log of Material Certifications, source inspection and materials releases, and field release certifications for each material.
         ii. Logs of all sampling and testing for each item including type of test, frequency, and cumulative frequency, results, corrective action when necessary and corresponding passing results.
         iii. Listing of non-conformances and resolutions
         iv. Log of Approved Work Plans
         v.- Log of Design Change Notices and Field Change Notices
         vi.- Log of Agreed Contract Amendments or Change Orders
      f. Public Information updates GP 53.9 and 53.11
         i. Summary of public input received and responses
         ii. Summary of media contacts
         iii. Summary of complaints and resolution
      g. Unincorporated Materials
         i. Summary Report
         ii. Backup Invoices for the prior month's changes
      h. Environmental Compliance
         i. A report will be generated from the EMMA System showing the monthly environmental compliance on the project.

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i. Verification, Validation and Self-Certification
   i. Monthly VV&SC reports per Verification, Validation and Self-Certification Procedures

III. Monthly Invoice
1. An invoice showing the total amount owed by FRA Code
2. This invoice will have columns detailing
   a. FRA #
   b. Contract Value
   c. Previous/Current/To date amounts
   d. Retainage Withheld
   e. % Complete
   f. Balance to finish

4.6 Quality Milestone Data Pack

A Quality Milestone Data Pack is to be submitted for each Quality Milestone to support the Contractor's assertion that a milestone is 100 percent complete. The intent of a Quality Milestone data pack is to direct the Authority to the supporting documentation that relates to the specific Milestone and not to re-produce previously submitted documentation.

As Quality Control and Quality Assurance documents are generated, they will be stored in Milestone specific folders on the Contractor's SharePoint site. This site will be accessible to all Authority personnel at all times for auditing purposes. Once all of the activities within a milestone are complete, this data will be transmitted and uploaded into the Authorities' Web Portal for final storage. This will complete the Quality Milestone Data Pack Activity and the Milestone itself will be 100% complete.

A Quality Milestone can only be considered complete if it is contractually and technically compliant, which is checked through the verification, validation and self-certification, quality and contract administration processes.

4.6.1 Determining individual milestone requirements

Quality Milestones are established in the approved Contractor's Baseline Schedule. During the review of the Baseline Schedule the Contractor and Authority will meet and establish the detailed requirements of each Quality Milestone, per this specification. This shall also apply to new Quality Milestones approved as a result of Contract changes.

4.6.2 Submittal Requirements

Quality Milestone Data Packs are to be transmitted electronically to the Authority's web portal (Sharepoint).

4.7 Quality Milestone Data Pack Contents

The Quality Milestone Data Pack shall consist of the following:

4.7.1 Summary Report

The Summary Report shall include:

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a. Construction Package Title
b. Contract number
c. Quality Milestone number and description
e. Date
f. Design-Builder Contractor name
g. A brief Narrative describing the milestone and the contents of the data pack.
h. Signed Certification from the Design-Builder Contractor's Quality Manager that the contents of the Milestone Data Pack have been checked for completeness, accuracy, and relevance to the milestone.

4.7.2 Folder Structure

A detailed illustration of how the data is organized within the data pack shall be provided. This architecture will aid the Authority in navigating through the data in each Milestone folder.

4.7.3 Environmental compliance

The Contractor shall provide a log of all applicable environment compliance requirements inclusive of:

a. Requirement identifier
b. Requirement status

Some environmental requirements will not be able to be reported as complete due to being more global in nature (e.g. air quality). Those requirements shall be clearly identified.

4.7.4 Verification, Validation and Self-Certification

The Contractor shall provide a log of all relevant certifications, submittal tracking numbers and submission dates inclusive of:

a. Contractor self-certifications
b. Requirements management documentation

4.7.5 Third Party Requirements

Where a Quality Milestone relates to Third Party/Utility work then this section shall include a log of drawings, documents and records that demonstrate Third Party/Utility concurrence of 100 percent completion and acceptance.

4.7.6 Photographic Evidence

The Contractor shall provide photographic evidence that a Quality Milestone is 100 percent complete per Standard Specification 02 21 33. Photos will be saved by station, date, and description in a global project photo folder in SharePoint. This folder will be referenced in the Folder Structure Architecture Illustration that is submitted with each data pack. By saving photos globally, photos that may cover multiple milestones will not be duplicated in multiple folders.

Where work is covered from view then photographs of that work taken prior to coverage shall be included unless supported by a test result logged and identified as “in lieu of photographic evidence”.

4.7.7 Operations and Maintenance Requirements

Where a Quality Milestone has associated operations and maintenance requirements then this section shall include a log of all documents and records that demonstrate that those requirements are complete.

4.7.8 Disposition of Comments

Where a drawing, document, or record associated with the Quality Milestone received comments from the Authority then this section shall log where the comments were closed out during design and construction reviews.

4.7.9 Quality

4.7.9.1 Materials Certifications

Log of materials certifications, source inspection and materials releases, and field release certifications for each material.

Statement of certification of materials, including any deviation from specifications.

4.7.9.2 Sampling and Testing

Logs of all sampling and testing for each item including type of test, frequency, and cumulative frequency, results, corrective action when necessary and corresponding passing result. This will be based on the quality control plans and inspection test plans used by the Contractor during the conduct of the work inclusive of work completed by sub-contractors.

Logs shall include lists of special tests or inspection equipment and the date that the equipment was calibrated. Calibration certificates shall be retained by the Contractor.

Log shall be approved by the Contractor’s Quality Manager.

4.7.9.3 Non-conformance Reports

A log certifying that all non-conformance reports related to the Quality Milestone have been corrected and closed out. The log shall be approved by the Contractor’s Quality Manager and by the Independent Checking Engineer or Independent Site Engineer.

4.7.9.4 Work Plans

Log of approved Work Plans.

4.7.9.5 Design Change Notices and Field Change Notices

Log of all Design Change Notices and Field Change Notices and approved responses.

4.7.10 Contract Amendments or Change Orders

Log of all agreed Contract Amendments or Change Orders.

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4.7.11 Drawings, Documents and Records

The Contractor shall provide a log of all additional documents, drawings and records that support 100 percent completeness of the Quality Milestone, inclusive of, but not limited to, as built drawings.

5 Revised Baseline Schedules

Any proposed changes and/or revisions to the Current Baseline Schedule approved by the Authority pursuant to its review of -Change Orders shall be incorporated into the Current Baseline Schedule and submitted as a Revised Baseline Schedule Submittal. A Revised Baseline Schedule Submittal shall be due with the invoice for payment following the Authority's approval of the changes and/or revisions, as submitted in executed Change Orders. The Revised Baseline Schedule shall include a cost distribution for added Work and will be submitted for review and approval by the Authority.

Revised Baseline Schedule Submittals shall include a comprehensive listing of all activities added to or deleted from the Current Baseline Schedule as well as a complete listing of all logic and activity relationship changes which have been made. All changes in the schedule must be fully described in an accompanying narrative. No Revised Baseline Schedule Submittal will be approved unless it satisfies the following:

a. Any out-of-sequenced logic is corrected or explained to the satisfaction of the Authority;

b. Start and Finish dates are verified for accuracy; and

c. The schedule accurately reflects the Contractor's plan for completing the remaining Work.

Once a Revised Baseline Schedule Submittal is approved by the Authority it shall become the Current Baseline Schedule of record (and be used for subsequent Schedule Progress Update Submittals), and shall be referred to by its revision number.

Except as otherwise designated by Change Order, no Revised Baseline Schedule that extends performance beyond a Completion Deadline shall qualify as a Current Baseline Schedule, or schedule of record, allowing it to be used to demonstrate entitlement to an extension in a Completion Deadline. In no case shall a Schedule Progress Update be construed as a Revised Baseline Schedule or schedule of record unless it is specifically submitted and approved as such by the Authority pursuant to this section.

6 Short Term Schedule

Short Term Schedules shall be submitted by the Contractor upon request from the Authority and shall be provided for within the Contract Price. The Authority will specify the time frame the Short Term Schedule shall encompass. The Contractor shall provide the Short Term Schedule, electronically produced, in bar chart format, that details the daily work activities, including multiple shift work that the Contractor intends to conduct. The daily activities shall

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correspond to the Current Baseline Schedule activities but shall be at a greater level of detail. The Contractor shall be prepared to discuss the Short Term Schedules, in detail, with the Authority to coordinate field inspection staff requirements, schedule of Work affecting any abutting and corresponding work with affected utilities.

7 Project Schedule Program Administration Plan

The Contractor shall submit a Project Schedule Program Administration Plan consistent with item 3 of Table 1: Baseline Schedule Submittal Schedule, which shall explain how the Contractor intends to meet the scheduling requirements of the Contract. The Project Schedule Administration Plan submittal shall consist of a narrative explaining the Contractor's plan for providing a Project Schedule Program consistent with the requirements of the Contract. At a minimum the narrative shall address the following:

a. The Schedule Progress Update requirements, the Revised Baseline Schedule requirements, and the preparation of requests for time extensions including the following:
   i. Data input into the Project Schedules.
   ii. Verification that the Project Schedules accurately represent the progress of the Work to date.
   iii. Verification that the Project Schedules accurately represent the Contractor's current plan for the timely completion of the Work.
   iv. Preparation of schedule submittals.
   v. Internal quality control of schedule submittals prior to submission to the Authority.
b. The Project Schedule Administration Plan shall identify all personnel who will administer the Project Schedules. The plan shall include an organizational chart indicating the flow of communication and lines of authority for ensuring the Project Schedules are administered in accordance with the requirements of the Contract.
c. The purpose of the Project Schedule Administration Plan is the use of a joint scheduling meeting between the Contractor and the Authority. The purpose of this meeting is to agree on actual start and finish dates, actual progress on activities and remaining duration of these in-progress activities.
d. The review of submitted subnets from both the Contractor and the Authority, which if agreed to shall be placed into the current update schedule. Review of productivity trending charts, along with discussion as to the effect the trending has on the Work and whether duration adjustments are warranted.

The Authority's acceptance of the Contractor's Project Schedule Administration Plan shall be a condition precedent to approval of the Baseline Schedule by the Authority.

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8 Review, Acceptance and Approval of Project Schedule Submittals

Failure to meet any of the following conditions shall result in the non-acceptance of the schedule submittal:

a. The project budgeted cost shall equal the Contract Price;

b. The schedule submittal shall show the timely completion of each activity, as well as, reflect all contractual access requirements and limitations of operations specified;

c. All activity relationships and date constraints shall comply with the requirements of the Contract Documents; and

d. The Submittal shall be complete in accordance with the requirements of this Specification.

If the schedule submittal is returned to the Contractor with comments, the submittal shall not be considered accepted until all of the Authority's comments are incorporated into the schedule to the Authority's satisfaction. If the comments are not satisfactorily incorporated into the schedule by the Contractor the submittal shall be deemed unacceptable by the Authority.

It is the Contractor's responsibility to ensure that all Project Schedule documents are in compliance with the requirements of the Contract. Errors in any Project Schedule document accepted by the Authority, including but not limited to activity durations, relationships between activities, resource allocation or other float suppression techniques that do not accurately reflect the Work, may be identified at any time and once identified, shall be corrected by the Contractor. The Authority is not responsible for any erroneous assumptions or information in any Project Schedule document, regardless of origin.

During the review of any Project Schedule document, if any of the following conditions are discovered, the document may be returned by the Authority without further review for correction and re-submittal:

1. The document is incomplete.
2. The document does not comply with the specified format.
3. A component of the document has not been prepared in accordance with the requirements of this section.
4. The quality of the document indicates that the Contractor has failed to perform an internal quality control review prior to submission.
5. There is an inconsistency between electronic files and printed material.
6. The Contractor has made unauthorized changes to any Project Schedule document.
7. The Contractor has failed to incorporate Authority comments concerning the Project Schedule document.

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The Authority's failure to return a submittal shall not be construed to mean that the submittal is in compliance with the requirements of the Contract. The Authority may, at its discretion, choose to complete a review even though the submittal fails to meet one or more of the conditions for rejection stated herein. The Contractor shall be responsible for all delays due to its failure to submit complete Project Schedule submittals in accordance with the requirements of the Contract.

The Authority's acceptance or approval of a Project Schedule document indicates only that the submittal appears to comply with the requirements of the Contract. It is the Contractor's responsibility to ensure that each submittal is in compliance with the requirements of the Contract. Inconsistencies or errors in any Project Schedule document, including but not limited to activity durations, relationships between activities, resource allocation or other float suppression techniques that do not accurately reflect the Work, may be identified at any time and once identified, shall be immediately corrected by the Contractor.

The Authority shall review schedule submittals for conformance with the requirements of the Contract. Review comments by the Authority may address whether items of Work are omitted, activity durations are reasonable or that the level of labor, materials, and equipment, the means, methods, timing and sequencing of the Work are practicable. The planning, scheduling or execution of the Work and the accuracy of any Project Schedule shall remain the sole responsibility of the Contractor.

Notwithstanding any review, review comments, approval, acceptance, scheduling assistance or direction to change and/or revise any Project Schedule by the Authority the Project Schedules shall at all times be the Contractor's schedule for performing the Work and not be considered as any Authority direction constituting a change. The Contractor shall not be relieved from completing the Work within the Completion Deadlines due to the failure of the Contractor to submit acceptable Project Schedule documents.

9 Requirements for Demonstrating Entitlement to an Adjustment in the Contract Time or Obtaining Approval of a Plan to Recover Delay

9.1 Schedule Analysis Requirements

The Contractor shall develop and submit a time impact analysis and a Proposed Schedule when one or more of the following conditions occur:

a. The Contractor's plan for the Work as reflected in the Current Baseline Schedule is materially changed;

b. The Authority has approved a Change Order that affects the Critical Path of the Work necessitating an adjustment in a Completion Deadline;

c. The Contractor's progress on the Work is behind the Substantial Completion date by thirty (30) Days or more;

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d. In the Authority's opinion, the Current Baseline Schedule no longer accurately reflects the Contractor's plan for performing the Work;

e. The Contractor is required by the Contract or chooses to submit a time impact analysis demonstrating entitlement to an adjustment to a Completion Deadline or to submit a plan demonstrating how the Contractor intends to recover delay; or

f. Any allowable change has occurred according to the Contract.

The Contractor shall submit a time impact analysis and a Proposed Schedule within fourteen (14) Days following a request by the Authority or within 14 days from the written notice, as described in Section 17.4 "Proposal for Adjustment" in the General Provisions. This required fourteen (14) day period may be extended as necessary subject to the approval of the Authority. The Proposed Schedule shall be developed using duplicate electronic files of the Current Baseline Schedule and shall include all status to reflect current progress using information from agreed to Schedule Progress Updates, but shall not allocate costs to any proposed activities. Multiple delays will be analyzed chronologically in the order of occurrence. Costs may be allocated to activities only when the Change Order Proposal has been approved by the Authority. Under no circumstances shall a time impact analysis based on Schedule Progress Update(s) be acceptable as a basis for an adjustment to a Completion Deadline.

Proposed Schedules shall be used by the Contractor to:

1. Request revisions to logic ties and activities in the Current Baseline Schedule,
2. Propose changes in the Current Baseline Schedule required to implement schedule recovery plans,
3. To negotiate the schedule impact of a Change Order Proposal with the Authority as described in Section 17: Changes in the General Provisions, or
4. To propose changes for any other reason in the Current Baseline Schedule.

Proposed Schedules shall code affected and added activities to each Change Order Proposal or schedule recovery plan. Furthermore, Proposed Schedules shall accurately reflect all revisions and/or adjustments made to activities, logic ties and restraints that are necessary to reflect the Contractor's current approach for Work remaining. At a minimum, Proposed Schedules shall:

- Incorporate all proposed activities and logic ties required to implement any proposed revisions.
- Detail all impacts on pre-existing activities and logic ties.
- Attach separate time scaled logic diagrams with the proposed and pre-existing activities and logic ties involved in or affected by each Change Order Proposal or other proposed revision.
- Include a narrative describing the causes of any delay and actions planned to recover schedule to meet Completion Deadlines.

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Each Proposed Schedule shall include a subnet demonstrating how the Contractor plans to incorporate a Change Order Proposal or other change and/or revision into the Current Baseline Schedule. A subnet is defined as a sequence of new or revised activities that are proposed to be added to the Current Baseline Schedule.

Notwithstanding any other provision or provisions to the contrary, the Contractor shall have no claim for damages of any kind, or extension or increase to a Completion Deadline, or adjustment of Contract Price, on account of any delay, interruption or suspension of the Work or any portion thereof (herein after collectively referred to as “Delay"), due to whatever cause, unless in addition to all other requirement of the Contract Documents the prerequisites of this section are strictly complied with.

If the Contractor does not submit a time impact analysis for a specific change order or delay within the specified period of time, the Contractor shall be deemed to have irrevocably waived any rights to additional time and cost.

9.2 Mitigation of Delays

The Contractor shall be responsible to develop mitigation measures for all delays, regardless of responsibility for the delays, and to identify all time and cost impacts to the Work associated with those mitigation measures. Unless circumstances otherwise require, the Contractor shall not pursue mitigation action for which it expects the Authority to be liable, prior to notifying the Authority and receiving Authority authorization to proceed with the mitigation action.

All Contractor proposals for mitigation action, including proposed revisions for timely completion, shall confirm that the Contractor has verified the accuracy of all critical paths to the Substantial Completion Deadline.

Whenever it is possible for the Contractor to mitigate delay without added cost, the Contractor shall do so. The Contractor shall mitigate all delays as efficiently and economically as possible, with the objective of minimizing both the time and cost impact of the delay, regardless of responsibility for the delay. The Authority will not be liable for damages that the Contractor could have avoided by reasonable means, such as prudent scheduling of the Work and judicious handling of forces, equipment, or materials.

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Appendix A: Primavera P6 Cost Account Structure

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California High-Speed Rail

Primavera Settings-Contractor's Schedule CP2-3

Cost Account ID	Cost Account Name
CHSRWBS	CHSR WBS (FRA Standard Cost Categories)
CHSRWBS.000	PW - Programwide
CHSRWBS.010	FJ - San Francisco to San Jose
CHSRWBS.020	JM - San Jose to Merced
CHSRWBS.030	MF - Merced to Fresno
CHSRWBS.040	FB - Fresno to Bakersfield
CHSRWBS.050	BP - Bakersfield to Palmdale
CHSRWBS.060	PL - Palmdale to Los Angeles
CHSRWBS.070	LO - Los Angeles to Anaheim
CHSRWBS.080	LD - Los Angeles to San Diego
CHSRWBS.090	MS - Sacramento to Merced
CHSRWBS.100	AJ - Altamount

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS	CHSR WBS (FRA Standard Cost Categories)
CHSRWBS.000	PW - Programwide
CHSRWBS.000.10	Track Structures & Track
CHSRWBS.000.20	Stations / Terminals / Intermodal
CHSRWBS.000.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.000.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.000.50	Communications & Signaling
CHSRWBS.000.60	Electric Traction
CHSRWBS.000.70	Vehicles
CHSRWBS.000.80	Professional Services
CHSRWBS.000.90	Unallocated Contingency
CHSRWBS.000.100	Finance Charges
CHSRWBS.010	FJ - San Francisco to San Jose
CHSRWBS.010.10	Track Structures & Track
CHSRWBS.010.20	Stations / Terminals / Intermodal
CHSRWBS.010.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.010.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.010.50	Communications & Signaling
CHSRWBS.010.60	Electric Traction
CHSRWBS.010.70	Vehicles
CHSRWBS.010.80	Professional Services
CHSRWBS.010.90	Unallocated Contingency
CHSRWBS.010.100	Finance Charges
CHSRWBS.020	JM - San Jose to Merced
CHSRWBS.020.10	Track Structures & Track
CHSRWBS.020.20	Stations / Terminals / Intermodal
CHSRWBS.020.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.020.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.020.50	Communications & Signaling
CHSRWBS.020.60	Electric Traction
CHSRWBS.020.70	Vehicles
CHSRWBS.020.80	Professional Services
CHSRWBS.020.90	Unallocated Contingency
CHSRWBS.020.100	Finance Charges
CHSRWBS.030	MF - Merced to Fresno
CHSRWBS.030.10	Track Structures & Track
CHSRWBS.030.20	Stations / Terminals / Intermodal
CHSRWBS.030.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.030.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.030.50	Communications & Signaling
CHSRWBS.030.60	Electric Traction
CHSRWBS.030.70	Vehicles
CHSRWBS.030.80	Professional Services
CHSRWBS.030.90	Unallocated Contingency
CHSRWBS.030.100	Finance Charges
CHSRWBS.040	FB - Fresno to Bakersfield
CHSRWBS.040.10	Track Structures & Track
CHSRWBS.040.20	Stations / Terminals / Intermodal

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.040.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.040.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.040.50	Communications & Signaling
CHSRWBS.040.60	Electric Traction
CHSRWBS.040.70	Vehicles
CHSRWBS.040.80	Professional Services
CHSRWBS.040.90	Unallocated Contingency
CHSRWBS.040.100	Finance Charges
CHSRWBS.050	BP - Bakersfield to Palmdale
CHSRWBS.050.10	Track Structures & Track
CHSRWBS.050.20	Stations / Terminals / Intermodal
CHSRWBS.050.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.050.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.050.50	Communications & Signaling
CHSRWBS.050.60	Electric Traction
CHSRWBS.050.70	Vehicles
CHSRWBS.050.80	Professional Services
CHSRWBS.050.90	Unallocated Contingency
CHSRWBS.050.100	Finance Charges
CHSRWBS.060	PL - Palmdale to Los Angeles
CHSRWBS.060.10	Track Structures & Track
CHSRWBS.060.20	Stations / Terminals / Intermodal
CHSRWBS.060.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.060.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.060.50	Communications & Signaling
CHSRWBS.060.60	Electric Traction
CHSRWBS.060.70	Vehicles
CHSRWBS.060.80	Professional Services
CHSRWBS.060.90	Unallocated Contingency
CHSRWBS.060.100	Finance Charges
CHSRWBS.070	LO - Los Angeles to Anaheim
CHSRWBS.070.10	Track Structures & Track
CHSRWBS.070.20	Stations / Terminals / Intermodal
CHSRWBS.070.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.070.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.070.50	Communications & Signaling
CHSRWBS.070.60	Electric Traction
CHSRWBS.070.70	Vehicles
CHSRWBS.070.80	Professional Services
CHSRWBS.070.90	Unallocated Contingency
CHSRWBS.070.100	Finance Charges
CHSRWBS.080	LD - Los Angeles to San Diego
CHSRWBS.080.10	Track Structures & Track
CHSRWBS.080.20	Stations / Terminals / Intermodal
CHSRWBS.080.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.080.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.080.50	Communications & Signaling
CHSRWBS.080.60	Electric Traction

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California High-Speed Rail

Primavera Settings-Contractor's Schedule CP2-3

Cost Account ID	Cost Account Name
CHSRWBS.080.70	Vehicles
CHSRWBS.080.80	Professional Services
CHSRWBS.080.90	Unallocated Contingency
CHSRWBS.080.100	Finance Charges
CHSRWBS.090	MS - Sacramento to Merced
CHSRWBS.090.10	Track Structures & Track
CHSRWBS.090.20	Stations / Terminals / Intermodal
CHSRWBS.090.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.090.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.090.50	Communications & Signaling
CHSRWBS.090.60	Electric Traction
CHSRWBS.090.70	Vehicles
CHSRWBS.090.80	Professional Services
CHSRWBS.090.90	Unallocated Contingency
CHSRWBS.090.100	Finance Charges
CHSRWBS.100	AJ - Altamount
CHSRWBS.100.10	Track Structures & Track
CHSRWBS.100.20	Stations / Terminals / Intermodal
CHSRWBS.100.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.100.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.100.50	Communications & Signaling
CHSRWBS.100.60	Electric Traction
CHSRWBS.100.70	Vehicles
CHSRWBS.100.80	Professional Services
CHSRWBS.100.90	Unallocated Contingency
CHSRWBS.100.100	Finance Charges

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS	CHSR WBS (FRA Standard Cost Categories)
CHSRWBS.000	PW - Programwide
CHSRWBS.000.10	Track Structures & Track
CHSRWBS.000.10.01	Track Structure: Viaduct
CHSRWBS.000.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.000.10.03	Track Structure: Undergrade Bridges
CHSRWBS.000.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.000.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.000.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.000.10.07	Track Structure: Tunnel
CHSRWBS.000.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.000.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.000.10.10	Track New Construction: Non-Ballasted
CHSRWBS.000.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.000.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.000.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.000.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.000.10.15	Track: Major Interlockings
CHSRWBS.000.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.000.10.17	Track: Vibration and Noise Dampening
CHSRWBS.000.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.000.20	Stations / Terminals / Intermodal
CHSRWBS.000.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.000.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.000.20.03	Platforms
CHSRWBS.000.20.04	Elevators, Escalators
CHSRWBS.000.20.05	Joint Commercial Development
CHSRWBS.000.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.000.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.000.20.08	Fare Collection Systems & Equipment
CHSRWBS.000.20.09	Station Security
CHSRWBS.000.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.000.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.000.30.02	Light Maintenance Facility
CHSRWBS.000.30.03	Heavy Maintenace Facility
CHSRWBS.000.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.000.30.05	Yard & Yard Track
CHSRWBS.000.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.000.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.000.40.02	Site Utilities, Utility Relocation
CHSRWBS.000.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.000.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.000.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.000.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.000.40.07	Purchase or Lease of Real Estate
CHSRWBS.000.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.000.40.09	Relocation of Existing Households & Businesses
CHSRWBS.000.50	Communications & Signaling

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.000.50.01	Wayside Signaling Equipment
CHSRWBS.000.50.02	Signal Power Access & Distribution
CHSRWBS.000.50.03	On-board Signaling Equipment
CHSRWBS.000.50.04	Traffic Control & Dispatching Systems
CHSRWBS.000.50.05	Communications
CHSRWBS.000.50.06	Grade Crossing Protection
CHSRWBS.000.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.000.50.08	Station Train Approach Warning System
CHSRWBS.000.60	Electric Traction
CHSRWBS.000.60.01	Traction Power Transmission: High Voltage
CHSRWBS.000.60.02	Traction Power Supply: Substations
CHSRWBS.000.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.000.60.04	Traction Power Control
CHSRWBS.000.70	Vehicles
CHSRWBS.000.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.000.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.000.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.000.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.000.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.000.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.000.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.000.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.000.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.000.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.000.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.000.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.000.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.000.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.000.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.000.70.15	Spare Parts
CHSRWBS.000.80	Professional Services
CHSRWBS.000.80.01	Service Development Plan / Service Environmental
CHSRWBS.000.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.000.80.03	Final Design
CHSRWBS.000.80.04	Project Management for Design & Construction
CHSRWBS.000.80.05	Construction Administration & Management
CHSRWBS.000.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.000.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.000.80.08	Surveys, Testing, Investigations
CHSRWBS.000.80.09	Engineering Inspections
CHSRWBS.000.80.10	Start-Up
CHSRWBS.000.90	Unallocated Contingency
CHSRWBS.000.100	Finance Charges
CHSRWBS.010	FJ - San Francisco to San Jose
CHSRWBS.010.10	Track Structures & Track
CHSRWBS.010.10.01	Track Structure: Viaduct
CHSRWBS.010.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.010.10.03	Track Structure: Undergrade Bridges

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.010.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.010.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.010.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.010.10.07	Track Structure: Tunnel
CHSRWBS.010.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.010.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.010.10.10	Track New Construction: Non-Ballasted
CHSRWBS.010.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.010.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.010.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.010.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.010.10.15	Track: Major Interlockings
CHSRWBS.010.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.010.10.17	Track: Vibration and Noise Dampening
CHSRWBS.010.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.010.20	Stations / Terminals / Intermodal
CHSRWBS.010.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.010.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.010.20.03	Platforms
CHSRWBS.010.20.04	Elevators, Escalators
CHSRWBS.010.20.05	Joint Commercial Development
CHSRWBS.010.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.010.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.010.20.08	Fare Collection Systems & Equipment
CHSRWBS.010.20.09	Station Security
CHSRWBS.010.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.010.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.010.30.02	Light Maintenance Facility
CHSRWBS.010.30.03	Heavy Maintenace Facility
CHSRWBS.010.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.010.30.05	Yard & Yard Track
CHSRWBS.010.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.010.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.010.40.02	Site Utilities, Utility Relocation
CHSRWBS.010.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.010.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.010.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.010.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.010.40.07	Purchase or Lease of Real Estate
CHSRWBS.010.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.010.40.09	Relocation of Existing Households & Businesses
CHSRWBS.010.50	Communications & Signaling
CHSRWBS.010.50.01	Wayside Signaling Equipment
CHSRWBS.010.50.02	Signal Power Access & Distribution
CHSRWBS.010.50.03	On-board Signaling Equipment
CHSRWBS.010.50.04	Traffic Control & Dispatching Systems
CHSRWBS.010.50.05	Communications
CHSRWBS.010.50.06	Grade Crossing Protection

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.010.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.010.50.08	Station Train Approach Warning System
CHSRWBS.010.60	Electric Traction
CHSRWBS.010.60.01	Traction Power Transmission: High Voltage
CHSRWBS.010.60.02	Traction Power Supply: Substations
CHSRWBS.010.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.010.60.04	Traction Power Control
CHSRWBS.010.70	Vehicles
CHSRWBS.010.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.010.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.010.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.010.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.010.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.010.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.010.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.010.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.010.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.010.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.010.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.010.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.010.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.010.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.010.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.010.70.15	Spare Parts
CHSRWBS.010.80	Professional Services
CHSRWBS.010.80.01	Service Development Plan / Service Environmental
CHSRWBS.010.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.010.80.03	Final Design
CHSRWBS.010.80.04	Project Management for Design & Construction
CHSRWBS.010.80.05	Construction Administration & Management
CHSRWBS.010.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.010.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.010.80.08	Surveys, Testing, Investigations
CHSRWBS.010.80.09	Engineering Inspections
CHSRWBS.010.80.10	Start-Up
CHSRWBS.010.90	Unallocated Contingency
CHSRWBS.010.100	Finance Charges
CHSRWBS.020	JM - San Jose to Merced
CHSRWBS.020.10	Track Structures & Track
CHSRWBS.020.10.01	Track Structure: Viaduct
CHSRWBS.020.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.020.10.03	Track Structure: Undergrade Bridges
CHSRWBS.020.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.020.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.020.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.020.10.07	Track Structure: Tunnel
CHSRWBS.020.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.020.10.09	Track New Construction: Conventional Ballasted

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APPENDIX A

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RFP No.: HSR 14-32 – Addendum No. 2 – 10/09/2015

Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.020.10.10	Track New Construction: Non-Ballasted
CHSRWBS.020.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.020.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.020.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.020.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.020.10.15	Track: Major Interlockings
CHSRWBS.020.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.020.10.17	Track: Vibration and Noise Dampening
CHSRWBS.020.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.020.20	Stations / Terminals / Intermodal
CHSRWBS.020.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.020.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.020.20.03	Platforms
CHSRWBS.020.20.04	Elevators, Escalators
CHSRWBS.020.20.05	Joint Commercial Development
CHSRWBS.020.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.020.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.020.20.08	Fare Collection Systems & Equipment
CHSRWBS.020.20.09	Station Security
CHSRWBS.020.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.020.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.020.30.02	Light Maintenance Facility
CHSRWBS.020.30.03	Heavy Maintenace Facility
CHSRWBS.020.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.020.30.05	Yard & Yard Track
CHSRWBS.020.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.020.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.020.40.02	Site Utilities, Utility Relocation
CHSRWBS.020.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.020.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.020.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.020.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.020.40.07	Purchase or Lease of Real Estate
CHSRWBS.020.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.020.40.09	Relocation of Existing Households & Businesses
CHSRWBS.020.50	Communications & Signaling
CHSRWBS.020.50.01	Wayside Signaling Equipment
CHSRWBS.020.50.02	Signal Power Access & Distribution
CHSRWBS.020.50.03	On-board Signaling Equipment
CHSRWBS.020.50.04	Traffic Control & Dispatching Systems
CHSRWBS.020.50.05	Communications
CHSRWBS.020.50.06	Grade Crossing Protection
CHSRWBS.020.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.020.50.08	Station Train Approach Warning System
CHSRWBS.020.60	Electric Traction
CHSRWBS.020.60.01	Traction Power Transmission: High Voltage
CHSRWBS.020.60.02	Traction Power Supply: Substations
CHSRWBS.020.60.03	Traction Power Distribution: Catenary & Third Rail

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APPENDIX A

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RFP No.: HSR 14-32 – Addendum No. 2 – 10/09/2015

Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.020.60.04	Traction Power Control
CHSRWBS.020.70	Vehicles
CHSRWBS.020.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.020.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.020.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.020.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.020.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.020.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.020.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.020.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.020.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.020.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.020.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.020.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.020.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.020.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.020.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.020.70.15	Spare Parts
CHSRWBS.020.80	Professional Services
CHSRWBS.020.80.01	Service Development Plan / Service Environmental
CHSRWBS.020.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.020.80.03	Final Design
CHSRWBS.020.80.04	Project Management for Design & Construction
CHSRWBS.020.80.05	Construction Administration & Management
CHSRWBS.020.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.020.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.020.80.08	Surveys, Testing, Investigations
CHSRWBS.020.80.09	Engineering Inspections
CHSRWBS.020.80.10	Start-Up
CHSRWBS.020.90	Unallocated Contingency
CHSRWBS.020.100	Finance Charges
CHSRWBS.030	MF - Merced to Fresno
CHSRWBS.030.10	Track Structures & Track
CHSRWBS.030.10.01	Track Structure: Viaduct
CHSRWBS.030.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.030.10.03	Track Structure: Undergrade Bridges
CHSRWBS.030.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.030.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.030.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.030.10.07	Track Structure: Tunnel
CHSRWBS.030.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.030.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.030.10.10	Track New Construction: Non-Ballasted
CHSRWBS.030.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.030.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.030.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.030.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.030.10.15	Track: Major Interlockings

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.030.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.030.10.17	Track: Vibration and Noise Dampening
CHSRWBS.030.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.030.20	Stations / Terminals / Intermodal
CHSRWBS.030.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.030.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.030.20.03	Platforms
CHSRWBS.030.20.04	Elevators, Escalators
CHSRWBS.030.20.05	Joint Commercial Development
CHSRWBS.030.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.030.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.030.20.08	Fare Collection Systems & Equipment
CHSRWBS.030.20.09	Station Security
CHSRWBS.030.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.030.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.030.30.02	Light Maintenance Facility
CHSRWBS.030.30.03	Heavy Maintenace Facility
CHSRWBS.030.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.030.30.05	Yard & Yard Track
CHSRWBS.030.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.030.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.030.40.02	Site Utilities, Utility Relocation
CHSRWBS.030.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.030.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.030.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.030.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.030.40.07	Purchase or Lease of Real Estate
CHSRWBS.030.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.030.40.09	Relocation of Existing Households & Businesses
CHSRWBS.030.50	Communications & Signaling
CHSRWBS.030.50.01	Wayside Signaling Equipment
CHSRWBS.030.50.02	Signal Power Access & Distribution
CHSRWBS.030.50.03	On-board Signaling Equipment
CHSRWBS.030.50.04	Traffic Control & Dispatching Systems
CHSRWBS.030.50.05	Communications
CHSRWBS.030.50.06	Grade Crossing Protection
CHSRWBS.030.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.030.50.08	Station Train Approach Warning System
CHSRWBS.030.60	Electric Traction
CHSRWBS.030.60.01	Traction Power Transmission: High Voltage
CHSRWBS.030.60.02	Traction Power Supply: Substations
CHSRWBS.030.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.030.60.04	Traction Power Control
CHSRWBS.030.70	Vehicles
CHSRWBS.030.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.030.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.030.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.030.70.03	Vehicle Acquisition:Diesel Multiple Unit

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.030.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.030.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.030.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.030.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.030.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.030.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.030.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.030.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.030.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.030.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.030.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.030.70.15	Spare Parts
CHSRWBS.030.80	Professional Services
CHSRWBS.030.80.01	Service Development Plan / Service Environmental
CHSRWBS.030.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.030.80.03	Final Design
CHSRWBS.030.80.04	Project Management for Design & Construction
CHSRWBS.030.80.05	Construction Administration & Management
CHSRWBS.030.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.030.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.030.80.08	Surveys, Testing, Investigations
CHSRWBS.030.80.09	Engineering Inspections
CHSRWBS.030.80.10	Start-Up
CHSRWBS.030.90	Unallocated Contingency
CHSRWBS.030.100	Finance Charges
CHSRWBS.040	FB - Fresno to Bakersfield
CHSRWBS.040.10	Track Structures & Track
CHSRWBS.040.10.01	Track Structure: Viaduct
CHSRWBS.040.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.040.10.03	Track Structure: Undergrade Bridges
CHSRWBS.040.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.040.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.040.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.040.10.07	Track Structure: Tunnel
CHSRWBS.040.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.040.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.040.10.10	Track New Construction: Non-Ballasted
CHSRWBS.040.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.040.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.040.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.040.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.040.10.15	Track: Major Interlockings
CHSRWBS.040.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.040.10.17	Track: Vibration and Noise Dampening
CHSRWBS.040.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.040.20	Stations / Terminals / Intermodal
CHSRWBS.040.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.040.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.040.20.03	Platforms
CHSRWBS.040.20.04	Elevators, Escalators
CHSRWBS.040.20.05	Joint Commercial Development
CHSRWBS.040.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.040.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.040.20.08	Fare Collection Systems & Equipment
CHSRWBS.040.20.09	Station Security
CHSRWBS.040.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.040.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.040.30.02	Light Maintenance Facility
CHSRWBS.040.30.03	Heavy Maintenace Facility
CHSRWBS.040.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.040.30.05	Yard & Yard Track
CHSRWBS.040.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.040.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.040.40.02	Site Utilities, Utility Relocation
CHSRWBS.040.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.040.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.040.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.040.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.040.40.07	Purchase or Lease of Real Estate
CHSRWBS.040.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.040.40.09	Relocation of Existing Households & Businesses
CHSRWBS.040.50	Communications & Signaling
CHSRWBS.040.50.01	Wayside Signaling Equipment
CHSRWBS.040.50.02	Signal Power Access & Distribution
CHSRWBS.040.50.03	On-board Signaling Equipment
CHSRWBS.040.50.04	Traffic Control & Dispatching Systems
CHSRWBS.040.50.05	Communications
CHSRWBS.040.50.06	Grade Crossing Protection
CHSRWBS.040.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.040.50.08	Station Train Approach Warning System
CHSRWBS.040.60	Electric Traction
CHSRWBS.040.60.01	Traction Power Transmission: High Voltage
CHSRWBS.040.60.02	Traction Power Supply: Substations
CHSRWBS.040.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.040.60.04	Traction Power Control
CHSRWBS.040.70	Vehicles
CHSRWBS.040.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.040.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.040.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.040.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.040.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.040.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.040.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.040.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.040.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.040.70.09	Vehicle Refurbishment: Non-electric Locomotive

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RFP No.: HSR 14-32 – Addendum No. 2 – 10/09/2015

Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.040.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.040.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.040.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.040.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.040.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.040.70.15	Spare Parts
CHSRWBS.040.80	Professional Services
CHSRWBS.040.80.01	Service Development Plan / Service Environmental
CHSRWBS.040.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.040.80.03	Final Design
CHSRWBS.040.80.04	Project Management for Design & Construction
CHSRWBS.040.80.05	Construction Administration & Management
CHSRWBS.040.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.040.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.040.80.08	Surveys, Testing, Investigations
CHSRWBS.040.80.09	Engineering Inspections
CHSRWBS.040.80.10	Start-Up
CHSRWBS.040.90	Unallocated Contingency
CHSRWBS.040.100	Finance Charges
CHSRWBS.050	BP - Bakersfield to Palmdale
CHSRWBS.050.10	Track Structures & Track
CHSRWBS.050.10.01	Track Structure: Viaduct
CHSRWBS.050.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.050.10.03	Track Structure: Undergrade Bridges
CHSRWBS.050.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.050.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.050.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.050.10.07	Track Structure: Tunnel
CHSRWBS.050.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.050.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.050.10.10	Track New Construction: Non-Ballasted
CHSRWBS.050.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.050.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.050.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.050.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.050.10.15	Track: Major Interlockings
CHSRWBS.050.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.050.10.17	Track: Vibration and Noise Dampening
CHSRWBS.050.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.050.20	Stations / Terminals / Intermodal
CHSRWBS.050.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.050.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.050.20.03	Platforms
CHSRWBS.050.20.04	Elevators, Escalators
CHSRWBS.050.20.05	Joint Commercial Development
CHSRWBS.050.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.050.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.050.20.08	Fare Collection Systems & Equipment

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.050.20.09	Station Security
CHSRWBS.050.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.050.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.050.30.02	Light Maintenance Facility
CHSRWBS.050.30.03	Heavy Maintenace Facility
CHSRWBS.050.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.050.30.05	Yard & Yard Track
CHSRWBS.050.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.050.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.050.40.02	Site Utilities, Utility Relocation
CHSRWBS.050.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.050.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.050.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.050.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.050.40.07	Purchase or Lease of Real Estate
CHSRWBS.050.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.050.40.09	Relocation of Existing Households & Businesses
CHSRWBS.050.50	Communications & Signaling
CHSRWBS.050.50.01	Wayside Signaling Equipment
CHSRWBS.050.50.02	Signal Power Access & Distribution
CHSRWBS.050.50.03	On-board Signaling Equipment
CHSRWBS.050.50.04	Traffic Control & Dispatching Systems
CHSRWBS.050.50.05	Communications
CHSRWBS.050.50.06	Grade Crossing Protection
CHSRWBS.050.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.050.50.08	Station Train Approach Warning System
CHSRWBS.050.60	Electric Traction
CHSRWBS.050.60.01	Traction Power Transmission: High Voltage
CHSRWBS.050.60.02	Traction Power Supply: Substations
CHSRWBS.050.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.050.60.04	Traction Power Control
CHSRWBS.050.70	Vehicles
CHSRWBS.050.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.050.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.050.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.050.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.050.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.050.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.050.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.050.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.050.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.050.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.050.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.050.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.050.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.050.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.050.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.050.70.15	Spare Parts

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.050.80	Professional Services
CHSRWBS.050.80.01	Service Development Plan / Service Environmental
CHSRWBS.050.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.050.80.03	Final Design
CHSRWBS.050.80.04	Project Management for Design & Construction
CHSRWBS.050.80.05	Construction Administration & Management
CHSRWBS.050.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.050.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.050.80.08	Surveys, Testing, Investigations
CHSRWBS.050.80.09	Engineering Inspections
CHSRWBS.050.80.10	Start-Up
CHSRWBS.050.90	Unallocated Contingency
CHSRWBS.050.100	Finance Charges
CHSRWBS.060	PL - Palmdale to Los Angeles
CHSRWBS.060.10	Track Structures & Track
CHSRWBS.060.10.01	Track Structure: Viaduct
CHSRWBS.060.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.060.10.03	Track Structure: Undergrade Bridges
CHSRWBS.060.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.060.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.060.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.060.10.07	Track Structure: Tunnel
CHSRWBS.060.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.060.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.060.10.10	Track New Construction: Non-Ballasted
CHSRWBS.060.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.060.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.060.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.060.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.060.10.15	Track: Major Interlockings
CHSRWBS.060.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.060.10.17	Track: Vibration and Noise Dampening
CHSRWBS.060.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.060.20	Stations / Terminals / Intermodal
CHSRWBS.060.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.060.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.060.20.03	Platforms
CHSRWBS.060.20.04	Elevators, Escalators
CHSRWBS.060.20.05	Joint Commercial Development
CHSRWBS.060.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.060.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.060.20.08	Fare Collection Systems & Equipment
CHSRWBS.060.20.09	Station Security
CHSRWBS.060.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.060.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.060.30.02	Light Maintenance Facility
CHSRWBS.060.30.03	Heavy Maintenace Facility
CHSRWBS.060.30.04	Storage or Maintenance-of-Way Building/Bases

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Primavera Settings-Contractor's Schedule CP2-3

California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.060.30.05	Yard & Yard Track
CHSRWBS.060.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.060.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.060.40.02	Site Utilities, Utility Relocation
CHSRWBS.060.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.060.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.060.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.060.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.060.40.07	Purchase or Lease of Real Estate
CHSRWBS.060.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.060.40.09	Relocation of Existing Households & Businesses
CHSRWBS.060.50	Communications & Signaling
CHSRWBS.060.50.01	Wayside Signaling Equipment
CHSRWBS.060.50.02	Signal Power Access & Distribution
CHSRWBS.060.50.03	On-board Signaling Equipment
CHSRWBS.060.50.04	Traffic Control & Dispatching Systems
CHSRWBS.060.50.05	Communications
CHSRWBS.060.50.06	Grade Crossing Protection
CHSRWBS.060.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.060.50.08	Station Train Approach Warning System
CHSRWBS.060.60	Electric Traction
CHSRWBS.060.60.01	Traction Power Transmission: High Voltage
CHSRWBS.060.60.02	Traction Power Supply: Substations
CHSRWBS.060.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.060.60.04	Traction Power Control
CHSRWBS.060.70	Vehicles
CHSRWBS.060.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.060.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.060.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.060.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.060.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.060.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.060.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.060.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.060.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.060.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.060.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.060.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.060.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.060.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.060.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.060.70.15	Spare Parts
CHSRWBS.060.80	Professional Services
CHSRWBS.060.80.01	Service Development Plan / Service Environmental
CHSRWBS.060.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.060.80.03	Final Design
CHSRWBS.060.80.04	Project Management for Design & Construction
CHSRWBS.060.80.05	Construction Administration & Management

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.060.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.060.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.060.80.08	Surveys, Testing, Investigations
CHSRWBS.060.80.09	Engineering Inspections
CHSRWBS.060.80.10	Start-Up
CHSRWBS.060.90	Unallocated Contingency
CHSRWBS.060.100	Finance Charges
CHSRWBS.070	LO - Los Angeles to Anaheim
CHSRWBS.070.10	Track Structures & Track
CHSRWBS.070.10.01	Track Structure: Viaduct
CHSRWBS.070.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.070.10.03	Track Structure: Undergrade Bridges
CHSRWBS.070.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.070.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.070.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.070.10.07	Track Structure: Tunnel
CHSRWBS.070.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.070.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.070.10.10	Track New Construction: Non-Ballasted
CHSRWBS.070.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.070.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.070.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.070.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.070.10.15	Track: Major Interlockings
CHSRWBS.070.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.070.10.17	Track: Vibration and Noise Dampening
CHSRWBS.070.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.070.20	Stations / Terminals / Intermodal
CHSRWBS.070.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.070.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.070.20.03	Platforms
CHSRWBS.070.20.04	Elevators, Escalators
CHSRWBS.070.20.05	Joint Commercial Development
CHSRWBS.070.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.070.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.070.20.08	Fare Collection Systems & Equipment
CHSRWBS.070.20.09	Station Security
CHSRWBS.070.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.070.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.070.30.02	Light Maintenance Facility
CHSRWBS.070.30.03	Heavy Maintenace Facility
CHSRWBS.070.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.070.30.05	Yard & Yard Track
CHSRWBS.070.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.070.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.070.40.02	Site Utilities, Utility Relocation
CHSRWBS.070.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.070.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.070.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.070.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.070.40.07	Purchase or Lease of Real Estate
CHSRWBS.070.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.070.40.09	Relocation of Existing Households & Businesses
CHSRWBS.070.50	Communications & Signaling
CHSRWBS.070.50.01	Wayside Signaling Equipment
CHSRWBS.070.50.02	Signal Power Access & Distribution
CHSRWBS.070.50.03	On-board Signaling Equipment
CHSRWBS.070.50.04	Traffic Control & Dispatching Systems
CHSRWBS.070.50.05	Communications
CHSRWBS.070.50.06	Grade Crossing Protection
CHSRWBS.070.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.070.50.08	Station Train Approach Warning System
CHSRWBS.070.60	Electric Traction
CHSRWBS.070.60.01	Traction Power Transmission: High Voltage
CHSRWBS.070.60.02	Traction Power Supply: Substations
CHSRWBS.070.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.070.60.04	Traction Power Control
CHSRWBS.070.70	Vehicles
CHSRWBS.070.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.070.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.070.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.070.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.070.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.070.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.070.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.070.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.070.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.070.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.070.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.070.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.070.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.070.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.070.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.070.70.15	Spare Parts
CHSRWBS.070.80	Professional Services
CHSRWBS.070.80.01	Service Development Plan / Service Environmental
CHSRWBS.070.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.070.80.03	Final Design
CHSRWBS.070.80.04	Project Management for Design & Construction
CHSRWBS.070.80.05	Construction Administration & Management
CHSRWBS.070.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.070.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.070.80.08	Surveys, Testing, Investigations
CHSRWBS.070.80.09	Engineering Inspections
CHSRWBS.070.80.10	Start-Up
CHSRWBS.070.90	Unallocated Contingency

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.070.100	Finance Charges
CHSRWBS.080	LD - Los Angeles to San Diego
CHSRWBS.080.10	Track Structures & Track
CHSRWBS.080.10.01	Track Structure: Viaduct
CHSRWBS.080.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.080.10.03	Track Structure: Undergrade Bridges
CHSRWBS.080.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.080.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.080.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.080.10.07	Track Structure: Tunnel
CHSRWBS.080.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.080.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.080.10.10	Track New Construction: Non-Ballasted
CHSRWBS.080.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.080.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.080.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.080.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.080.10.15	Track: Major Interlockings
CHSRWBS.080.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.080.10.17	Track: Vibration and Noise Dampening
CHSRWBS.080.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.080.20	Stations / Terminals / Intermodal
CHSRWBS.080.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.080.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.080.20.03	Platforms
CHSRWBS.080.20.04	Elevators, Escalators
CHSRWBS.080.20.05	Joint Commercial Development
CHSRWBS.080.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.080.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.080.20.08	Fare Collection Systems & Equipment
CHSRWBS.080.20.09	Station Security
CHSRWBS.080.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.080.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.080.30.02	Light Maintenance Facility
CHSRWBS.080.30.03	Heavy Maintenace Facility
CHSRWBS.080.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.080.30.05	Yard & Yard Track
CHSRWBS.080.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.080.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.080.40.02	Site Utilities, Utility Relocation
CHSRWBS.080.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.080.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.080.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.080.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.080.40.07	Purchase or Lease of Real Estate
CHSRWBS.080.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.080.40.09	Relocation of Existing Households & Businesses
CHSRWBS.080.50	Communications & Signaling

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.080.50.01	Wayside Signaling Equipment
CHSRWBS.080.50.02	Signal Power Access & Distribution
CHSRWBS.080.50.03	On-board Signaling Equipment
CHSRWBS.080.50.04	Traffic Control & Dispatching Systems
CHSRWBS.080.50.05	Communications
CHSRWBS.080.50.06	Grade Crossing Protection
CHSRWBS.080.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.080.50.08	Station Train Approach Warning System
CHSRWBS.080.60	Electric Traction
CHSRWBS.080.60.01	Traction Power Transmission: High Voltage
CHSRWBS.080.60.02	Traction Power Supply: Substations
CHSRWBS.080.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.080.60.04	Traction Power Control
CHSRWBS.080.70	Vehicles
CHSRWBS.080.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.080.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.080.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.080.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.080.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.080.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.080.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.080.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.080.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.080.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.080.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.080.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.080.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.080.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.080.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.080.70.15	Spare Parts
CHSRWBS.080.80	Professional Services
CHSRWBS.080.80.01	Service Development Plan / Service Environmental
CHSRWBS.080.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.080.80.03	Final Design
CHSRWBS.080.80.04	Project Management for Design & Construction
CHSRWBS.080.80.05	Construction Administration & Management
CHSRWBS.080.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.080.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.080.80.08	Surveys, Testing, Investigations
CHSRWBS.080.80.09	Engineering Inspections
CHSRWBS.080.80.10	Start-Up
CHSRWBS.080.90	Unallocated Contingency
CHSRWBS.080.100	Finance Charges
CHSRWBS.090	MS - Sacramento to Merced
CHSRWBS.090.10	Track Structures & Track
CHSRWBS.090.10.01	Track Structure: Viaduct
CHSRWBS.090.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.090.10.03	Track Structure: Undergrade Bridges

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California High-Speed Rail

Cost Account ID	Cost Account Name
CHSRWBS.090.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.090.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.090.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.090.10.07	Track Structure: Tunnel
CHSRWBS.090.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.090.10.09	Track New Construction: Conventional Ballasted
CHSRWBS.090.10.10	Track New Construction: Non-Ballasted
CHSRWBS.090.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.090.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.090.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.090.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.090.10.15	Track: Major Interlockings
CHSRWBS.090.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.090.10.17	Track: Vibration and Noise Dampening
CHSRWBS.090.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.090.20	Stations / Terminals / Intermodal
CHSRWBS.090.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.090.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.090.20.03	Platforms
CHSRWBS.090.20.04	Elevators, Escalators
CHSRWBS.090.20.05	Joint Commercial Development
CHSRWBS.090.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.090.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.090.20.08	Fare Collection Systems & Equipment
CHSRWBS.090.20.09	Station Security
CHSRWBS.090.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.090.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.090.30.02	Light Maintenance Facility
CHSRWBS.090.30.03	Heavy Maintenace Facility
CHSRWBS.090.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.090.30.05	Yard & Yard Track
CHSRWBS.090.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.090.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.090.40.02	Site Utilities, Utility Relocation
CHSRWBS.090.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.090.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.090.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.090.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.090.40.07	Purchase or Lease of Real Estate
CHSRWBS.090.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.090.40.09	Relocation of Existing Households & Businesses
CHSRWBS.090.50	Communications & Signaling
CHSRWBS.090.50.01	Wayside Signaling Equipment
CHSRWBS.090.50.02	Signal Power Access & Distribution
CHSRWBS.090.50.03	On-board Signaling Equipment
CHSRWBS.090.50.04	Traffic Control & Dispatching Systems
CHSRWBS.090.50.05	Communications
CHSRWBS.090.50.06	Grade Crossing Protection

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Cost Account ID	Cost Account Name
CHSRWBS.090.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.090.50.08	Station Train Approach Warning System
CHSRWBS.090.60	Electric Traction
CHSRWBS.090.60.01	Traction Power Transmission: High Voltage
CHSRWBS.090.60.02	Traction Power Supply: Substations
CHSRWBS.090.60.03	Traction Power Distribution: Catenary & Third Rail
CHSRWBS.090.60.04	Traction Power Control
CHSRWBS.090.70	Vehicles
CHSRWBS.090.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.090.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.090.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.090.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.090.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.090.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.090.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.090.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.090.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.090.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.090.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.090.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.090.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.090.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.090.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.090.70.15	Spare Parts
CHSRWBS.090.80	Professional Services
CHSRWBS.090.80.01	Service Development Plan / Service Environmental
CHSRWBS.090.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.090.80.03	Final Design
CHSRWBS.090.80.04	Project Management for Design & Construction
CHSRWBS.090.80.05	Construction Administration & Management
CHSRWBS.090.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.090.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.090.80.08	Surveys, Testing, Investigations
CHSRWBS.090.80.09	Engineering Inspections
CHSRWBS.090.80.10	Start-Up
CHSRWBS.090.90	Unallocated Contingency
CHSRWBS.090.100	Finance Charges
CHSRWBS.100	AJ - Altamount
CHSRWBS.100.10	Track Structures & Track
CHSRWBS.100.10.01	Track Structure: Viaduct
CHSRWBS.100.10.02	Track Structure: Major/Movable Bridge
CHSRWBS.100.10.03	Track Structure: Undergrade Bridges
CHSRWBS.100.10.04	Track Structure: Culverts & Drainage Structures
CHSRWBS.100.10.05	Track Structure: Cut and Fill (>4' Height/Depth)
CHSRWBS.100.10.06	Track Structure: At-grade (Grading & Subgrade Stabilization)
CHSRWBS.100.10.07	Track Structure: Tunnel
CHSRWBS.100.10.08	Track Structure: Retaining Walls & Systems
CHSRWBS.100.10.09	Track New Construction: Conventional Ballasted

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Cost Account ID	Cost Account Name
CHSRWBS.100.10.10	Track New Construction: Non-Ballasted
CHSRWBS.100.10.11	Track Rehabilitation: Ballast & Surfacing
CHSRWBS.100.10.12	Track Rehabilitation: Ditching & Drainage
CHSRWBS.100.10.13	Track Rehabilitation: Component Replacement (Rail, Ties)
CHSRWBS.100.10.14	Track: Special Track Work (Switches, Turnouts)
CHSRWBS.100.10.15	Track: Major Interlockings
CHSRWBS.100.10.16	Track: Switch Heaters (w/ Power & Control)
CHSRWBS.100.10.17	Track: Vibration and Noise Dampening
CHSRWBS.100.10.18	Other Linear Structures including Fencing, Sound Walls
CHSRWBS.100.20	Stations / Terminals / Intermodal
CHSRWBS.100.20.01	Station Buildings: Intercity Passenger Rail Only
CHSRWBS.100.20.02	Station Buildings: Joint Use (Commuter Rail, Intercity Bus)
CHSRWBS.100.20.03	Platforms
CHSRWBS.100.20.04	Elevators, Escalators
CHSRWBS.100.20.05	Joint Commercial Development
CHSRWBS.100.20.06	Pedestrian/Bike Access & Accomodation, Landscaping, Parking Lots
CHSRWBS.100.20.07	Automobile, Bus, Van Accessways, Including Roads
CHSRWBS.100.20.08	Fare Collection Systems & Equipment
CHSRWBS.100.20.09	Station Security
CHSRWBS.100.30	Support Facilities: Yards, Shops, Admin, Bldgs
CHSRWBS.100.30.01	Administration Building: Office, Sales, Storage, Revenue Counting
CHSRWBS.100.30.02	Light Maintenance Facility
CHSRWBS.100.30.03	Heavy Maintenace Facility
CHSRWBS.100.30.04	Storage or Maintenance-of-Way Building/Bases
CHSRWBS.100.30.05	Yard & Yard Track
CHSRWBS.100.40	Sitework / ROW / Land / Existing Improvements
CHSRWBS.100.40.01	Demolition, Clearing, Site Preparation
CHSRWBS.100.40.02	Site Utilities, Utility Relocation
CHSRWBS.100.40.03	Hazardous Material, Contaminated Soil Removal/Mitigation, Ground Water Treatments
CHSRWBS.100.40.04	Environmental Mitigation: Wetlands, Historic / Archeology, Parks
CHSRWBS.100.40.05	Site Structures Including Retaining Walls, Sound Walls
CHSRWBS.100.40.06	Temporary Facilities and Other Indirect Costs during Construction
CHSRWBS.100.40.07	Purchase or Lease of Real Estate
CHSRWBS.100.40.08	Highway / Pedestrian Overpass / Grade Separations
CHSRWBS.100.40.09	Relocation of Existing Households & Businesses
CHSRWBS.100.50	Communications & Signaling
CHSRWBS.100.50.01	Wayside Signaling Equipment
CHSRWBS.100.50.02	Signal Power Access & Distribution
CHSRWBS.100.50.03	On-board Signaling Equipment
CHSRWBS.100.50.04	Traffic Control & Dispatching Systems
CHSRWBS.100.50.05	Communications
CHSRWBS.100.50.06	Grade Crossing Protection
CHSRWBS.100.50.07	Hazard Detectors: Dragging Equipment High Water, Slide, etc.
CHSRWBS.100.50.08	Station Train Approach Warning System
CHSRWBS.100.60	Electric Traction
CHSRWBS.100.60.01	Traction Power Transmission: High Voltage
CHSRWBS.100.60.02	Traction Power Supply: Substations
CHSRWBS.100.60.03	Traction Power Distribution: Catenary & Third Rail

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Cost Account ID	Cost Account Name
CHSRWBS.100.60.04	Traction Power Control
CHSRWBS.100.70	Vehicles
CHSRWBS.100.70.00	Vehicle Acquisition:Electric Locomotive
CHSRWBS.100.70.01	Vehicle Acquisition:Non-electric Locomotive
CHSRWBS.100.70.02	Vehicle Acquisition:Electric Multiple Unit
CHSRWBS.100.70.03	Vehicle Acquisition:Diesel Multiple Unit
CHSRWBS.100.70.04	Vehicle Acquisition: Loco-Hauled Passenger Cars w/ Ticketed Space
CHSRWBS.100.70.05	Vehicle Acquisition: Loco-Hauled Passenger Cars w/o Ticketed Space
CHSRWBS.100.70.06	Vehicle Acquisition:Maintenance of Way Vehicles
CHSRWBS.100.70.07	Vehicle Acquisition:Non-Railroad Support Vehicles
CHSRWBS.100.70.08	Vehicle Refurbishment: Electric Locomotive
CHSRWBS.100.70.09	Vehicle Refurbishment: Non-electric Locomotive
CHSRWBS.100.70.10	Vehicle Refurbishment: Electric Multiple Unit
CHSRWBS.100.70.11	Vehicle Refurbishment: Diesel Multiple Unit
CHSRWBS.100.70.12	Vehicle Refurbishment: Passenger Loco-Hauled Car w/ Ticketed Space
CHSRWBS.100.70.13	Vehicle Refurbishment: Passenger Loco-Hauled Car w/o Ticketed Space
CHSRWBS.100.70.14	Vehicle Refurbishment: Maintenance of Way Vehicles
CHSRWBS.100.70.15	Spare Parts
CHSRWBS.100.80	Professional Services
CHSRWBS.100.80.01	Service Development Plan / Service Environmental
CHSRWBS.100.80.02	Preliminary Engineering / Project Environmental
CHSRWBS.100.80.03	Final Design
CHSRWBS.100.80.04	Project Management for Design & Construction
CHSRWBS.100.80.05	Construction Administration & Management
CHSRWBS.100.80.06	Professional Liability & Other Non-Construction Insurance
CHSRWBS.100.80.07	Legal; Permits; Review Fees by Other Agencies, Cities, etc.
CHSRWBS.100.80.08	Surveys, Testing, Investigations
CHSRWBS.100.80.09	Engineering Inspections
CHSRWBS.100.80.10	Start-Up
CHSRWBS.100.90	Unallocated Contingency
CHSRWBS.100.100	Finance Charges

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Appendix B: Work Breakdown Structure Cost Codes

WBS Cost Code	Title	Description
40-FC-1001	Track structure: Viaduct	Includes construction of elevated track structure of significant length consisting of multiple spans of generally equal length.
40-FC-1002	Track structure: Major/Movable Bridge	Includes construction of all elevated track structures with a movable span, and/or with a span of significant length (generally of approximately 400 ft. or longer).
40-FC-1003	Track structure: Undergrade Bridges	Includes construction of elevated track structures of greater than 20 feet that do not fall into Category and Subcategory 10.01 and 10.02.
40-FC-1004	Track structure: Culverts and drainage structures	Includes construction of all minor undergrade passageways, such as culverts and drainage structures (generally of 20 feet or less in width).
40-FC-1005	Track structure: Cut and Fill (> 4' height/depth)	Includes construction of cut and fill sections of more than 4 feet height/dept. Also includes grading and subgrade stabilization of roadbed.
40-FC-1006	Track structure: At-grade (grading & subgrade stabilization)	Track structure at grade construction work, including all grading and subgrade stabilization of roadbed not included under cost Categories and Subcategories 10.01 through 10.05 and 10.07.
40-FC-1007	Track structure: Tunnel	Construction of track structure in tunnel.
40-FC-1008	Track structure: Retaining walls and systems	Construction of retaining walls and systems in track structure.
40-FC-1009	Track new construction: Conventional ballasted	New construction of ballasted track, Including all ballasted track construction on prepared subgrade, on new or existing rights-of-way.
40-FC-1010	Track new construction: Non-ballasted	New construction of non-ballasted track, including all slab, direct fixation, embedded, and other non-ballasted track construction on prepared subgrade, on new or existing rights-of-way.
40-FC-1011	Track rehabilitation: Ballast and surfacing	Rehabilitation of track ballast and surfacing, including undercutting, ballast cleaning, tamping, and surfacing not associated with new track construction. Includes: Girders, DF Fasteners, Special Trackwork, Welding, Other Track Material, Concrete Base Slabs, Infill (Second Pour) Concrete, Dynamic Envelop Delineation.
40-FC-1012	Track rehabilitation: Ditching and drainage	Ditching and drainage work associated with track rehabilitation.
40-FC-1013	Track rehabilitation: Component replacement	Replacement of components, including rails, ties, etc. associated with track rehabilitation work.
40-FC-1014	Track: Special track work (switches, turnouts, insulated joints)	Special track work including switches minor turnouts and interlocking, such as crossovers and turnouts at the ends of passing tracks, and insulated joints.

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WBS Cost Code	Title	Description
40-FC-1015	Track: Major interlockings	Significant track interlockings work at major stations and where routes converge from three or more directions.
40-FC-1016	Track: Switch heaters (with power and control)	Construction work associated with track switch heaters (with power and control). Includes cost of power distribution equipment from commercial power source to interlocking location.
40-FC-1017	Track: Vibration and noise dampening	Track work associated with vibration and noise dampening.
40-FC-1018	Other linear structures including fencing, sound walls	Work on non-track linear structures, including fencing, sound walls, etc.
40-FC-2001	Station buildings: Intercity passenger rail only	Construction work on intercity passenger station buildings.
40-FC-2002	Station buildings: Joint use (commuter rail, intercity bus)	Construction work on joint use (commuter rail, intercity, etc.) passenger station buildings.
40-FC-2003	Platforms	Construction work on station platforms.
40-FC-2004	Elevators, escalators	Work associated with elevators, escalators, etc., inclusive of procurement.
40-FC-2005	Joint Commercial Development	Construction at station sites intended to support non-transportation commercial activities (shopping, restaurants, residential, office space). Do not include cost of incidental commercial use of station space intended for use by passengers (newsstands, snack bars, etc.). Costs may not be allowable for Federal reimbursement.
40-FC-2006	Pedestrian/Bike Access & Accommodation, Landscaping, Parking	Include sidewalks, paths, plazas, landscape, site and station furniture, site lighting, signage, public artwork, bike facilities, permanent fencing.
40-FC-2007	Automobile, bus, van accessways including roads	Construction work for automobile, bus, van accessways and roads, including all on-grade paving.
40-FC-2008	Fare collection systems and equipment	Include fare sales and swipe machines, fare counting equipment.
40-FC-2009	Station security	Construction of all station security related items.
40-FC-3001	Administration Building: Office, sales, storage, revenue	Construction work on administration buildings and support facilities, including offices, sales, storage, revenue counting, etc.
40-FC-3002	Light maintenance facility	Construction work on light maintenance facilities, Including service, inspection, and storage facilities and equipment.
40-FC-3003	Heavy Maintenance Facility	Construction work for heavy maintenance facilities, including overhaul facilities and equipment.

WBS Cost Code	Title	Description
40-FC-3004	Storage or maintenance-of-way building/bases	Construction work on storage or maintenance of way buildings/bases.
40-FC-3005	Yard and yard track	Includes construction of yard and track associated with yard.
40-FC-4001	Demolition, clearing, site preparation	Include construction material and labor associated with project/program-wide clearing, demolition and fine grading.
40-FC-4002	Site utilities, utility relocation	Include construction material and labor associated with all site utilities-storm, sewer, water, gas, electric.
40-FC-4003	Hazardous material, contaminated soil removal/mitigation, gr	Include construction material and labor associated with underground storage tanks, fuel tanks, other hazardous materials and treatments, etc.
40-FC-4004	Environmental Mitigation: wetlands, historic/archeology, par	Include construction material and labor associated with other environmental mitigation not listed elsewhere, such as wetland, historic areas, archeological areas, parks, etc.
40-FC-4005	Site structures including retaining walls, sound walls	Definition self-explanatory
40-FC-4006	Temporary facilities and other indirect costs during construction	Cost of temporary facilities and other indirect costs during construction.
40-FC-4007	Purchase or lease of real estate	Includes the cost of acquiring the properties or easement rights necessary for the project. It includes but is not limited to the costs of the properties, acquisition costs (including ROW acquisition services), title searches, appraisals, title insurance, etc. If the value of right-of-way, land, and existing improvements is to be used as in-kind local match to the Federal funding of the project/program, include the total cost on this line item. In backup documentation, separate cost for land from cost for improvements.
40-FC-4008	Highway/pedestrian overpass/grade separations	Grade separations only for highway and pedestrian overpasses. Other than the grade separations included in this line item, highway-rail grade crossing safety enhancements generally fall under 50.06.
40-FC-4009	Relocation of existing households and businesses	Relocation of existing households and businesses necessary to complete the project. Relocation must be in compliance with the Uniform Relocation Act.
40-FC-5001	Wayside signaling equipment	Definition Self-explanatory
40-FC-5002	Signal power access and distribution	Definition Self-explanatory
40-FC-5003	On-board signaling equipment	Include on-board cab signal, Automatic Train Control (ATC), and Positive Train Control (PTC) related equipment.

WBS Cost Code	Title	Description
40-FC-5004	Traffic control and dispatching systems	Definition self-explanatory
40-FC-5005	Communications	Definition self-explanatory
40-FC-5006	Grade crossing protection	Includes all types of highway-rail grade crossing safety enhancements except for grade separation projects, which fall under Category and Subcategory 40.08.
40-FC-5007	Hazard detectors: dragging equipment high water, slide, etc.	Definition self-explanatory
40-FC-5008	Station train approach warning system	Definition self-explanatory
40-FC-6001	Traction power transmission: High voltage	Definition self-explanatory
40-FC-6002	Traction power supply: Substations	Definition self-explanatory
40-FC-6003	Traction power distribution: Catenary and third rail	Definition self-explanatory
40-FC-6004	Traction power control	Definition self-explanatory
40-FC-7000	Vehicle acquisition: Electric locomotive	Definition self-explanatory
40-FC-7001	Vehicle acquisition: Non-electric locomotive	Definition self-explanatory
40-FC-7002	Vehicle acquisition: Electric multiple unit	Definition self-explanatory
40-FC-7003	Vehicle acquisition: Diesel multiple unit	Definition self-explanatory
40-FC-7004	Veh acq: Loco-hauled passenger cars w/ ticketed space	Purchase of locomotive hauled rail passenger cars which provide ticketed space, such as cars with coach space, sleeping compartments, etc.
40-FC-7005	Veh acq: Loco-hauled passenger cars w/o ticketed space	Purchase of locomotive hauled rail passenger cars which do not provide ticketed space, such as cars for dedicated food service, lounge, baggage and other service support cars.
40-FC-7006	Vehicle acquisition: Maintenance of way vehicles	Definition self-explanatory
40-FC-7007	Vehicle acquisition: Non-railroad support vehicles	Includes acquisition of vehicles used in support functions and which are not rail based, such as hi-rail bucket trucks, and other highway vehicles.
40-FC-7008	Vehicle refurbishment: Electric locomotive	Definition self-explanatory

WBS Cost Code	Title	Description
40-FC-7009	Vehicle refurbishment: Non-electric locomotive	Definition self-explanatory
40-FC-7010	Vehicle refurbishment: Electric multiple unit	Definition self-explanatory
40-FC-7011	Vehicle refurbishment: Diesel multiple unit	Definition self-explanatory
40-FC-7012	Vehicle refurb.: Passeng. loco-hauled car w/ ticketed space	Refurbishment of locomotive hauled passenger rail vehicles, including coaches, sleeping cars, etc. which provide ticketed space.
40-FC-7013	Vehic refurb: Non-passeng loco-hauled car w/o ticketed space	Refurbishment of locomotive hauled non-passenger rail vehicles, including food service, lounge, baggage and other service support cars which do not have ticketed space.
40-FC-7014	Vehicle refurbishment: Maintenance of way vehicles	Definition self-explanatory
40-FC-7015	Spare parts	Definition self-explanatory
40-FC-8001	Service Development Plan / Service Environmental	Professional services associated with the preparation of feasibility studies such as the Service Development Plan, Transit Oriented Development Plan, etc.
40-FC-8002	Preliminary Engineering / Project Environmental	Professional services associated with the preparation of preliminary engineering and environmental documents.
40-FC-8003	Final Design	Professional services associated with the preparation of final design. This Category and Subcategory also includes the costs for final design by a contractor on a Design / Build type of contract.
40-FC-8004	Project Management for Design and Construction	Professional services for project management tasks in the project. This Category and Subcategory also includes the costs for project management by a contractor on a Design / Build type of contract.
40-FC-8005	Construction Administration and Management	Includes professional services for the administration and management of construction; also includes professional liability insurance and other non-construction insurance (unless the insurance costs are already included in other line items). This Category and Subcategory also includes the costs for construction administration and management by a contractor on a Design / Build type of contract.
40-FC-8006	Professional Liability and Other Non-Construction Insurance	

WBS Cost Code	Title	Description
40-FC-8007	Legal; Permits; Review Fees by Other Agencies, Cities, etc.	The Professional Services provided under this category and subcategory include, but are not limited to: Legal Services, Permits, Document Reviews by other agencies (local, state or federal), Travel Services, Information Technology (IT), Peer Review, Transcription, Accounting, Public Information. This Category and Subcategory also includes the costs for the aforementioned services by a contractor on a Design / Build type of contract. This Category and Subcategory do not include ROW acquisition services (see 040-07).
40-FC-8008	Surveys, Testing, Investigations	Includes the cost of surveys, testing and investigations necessary to build the project and also for QA purposes. This Category and Subcategory also includes the costs for surveys, testing and investigations by a contractor on a Design / Build type of contract.
40-FC-8009	Engineering Inspections	Engineering inspections of construction, materials, or fabrication of components. This Category and Subcategory also includes the costs for engineering inspections by a contractor on a Design / Build type of contract.
40-FC-8010	Start-Up	This includes the cost of tasks, activities and deliverables associated with commissioning, system start-up and turn-over, (including O&M Manuals, training, etc.). This Category and Subcategory also includes the costs for start-up tasks by a contractor.
40-FC-9000	Unallocated Contingency	Includes unallocated contingency, project and/or program reserves.