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**DIVISION OF ENGINEERING SERVICES**  
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**\*\* WARNING \*\* WARNING \*\* WARNING \*\* WARNING \*\***  
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June 8, 2007

04-Ala-92,880-7.8/10.9,25.1/28.3  
04-016014

Addendum No. 6

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in ALAMEDA COUNTY IN HAYWARD ON ROUTE 880 FROM 0.3 KM NORTH OF TENNYSON ROAD OVERCROSSING TO 0.5 KM SOUTH OF WINTON AVENUE OVERCROSSING AND ON ROUTE 92 FROM 0.1 KM WEST OF MOUNT EDEN OVERHEAD TO 0.2 KM EAST OF SANTA CLARA STREET.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on June 27, 2007.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, and the Proposal and Contract.

Project Plan Sheets 1, 8, 21, 41, 45, 84, 105, 126, 130, 133, 135, 149, 163, 180, 223, 233, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 260, 264, 265, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 276A, 276B, 277, 310, 316, 337, 338, 343, 344, 347, 348, 350, 353, 355, 365, 369, 370, 377, 383, 395, 406, 411, 426, 429, 432, 434, 437, 442, 443, 448, 449, 459, 472, 473, 475, 476, 479, 505, 507, 508, 510, 520, 542, 545, 553, 559, 570, 602, 612, 613, 614, 618, 635, 641, 653, 661, 671, 672, 683, 684, 689, 736, 739, 740, 741, 742, 744, 745, 748, 751, 779, 806, 922, 923, 959, 960, 962, 996, 1015, 1028, 1029, 1030, 1031, 1043, 1044, 1047, 1050, 1072, 1078, 1079, 1081, 1082, 1083, 1103, 1106, 1140, 1193, 1207, 1208, 1209, 1210, 1217, 1220, 1223, 1224, 1260, and 1275 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheets 140A, 336A, 387, 388, 411A, 563, 605A, 626A, 636A, 636B, 636C, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071 and 1301A are added. Half-sized copies of the added sheets are attached for addition to the project plans.

In the "NOTICE TO CONTRACTORS," the following paragraph is added after the fifth paragraph:

"A Contractor Outreach Meeting is scheduled for Wednesday, June 13, 2007 from 4:00 to 6:00 PM. The meeting will be held in the Parkview Room on the 15<sup>th</sup> floor of the District 4 Office located at 111 Grand Avenue, Oakland, CA. 94612-3717. The purpose of the meeting is to familiarize the contractor with the project and address any questions."

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In the Special Provisions, Section 3, "AWARD AND EXECUTION OF CONTRACT," the third paragraph is revised as follows:

"Bids will be compared on the basis of the Engineer's Estimate of the quantities of work to be done and the number of working days bid for completion of the work. The award of the contract, if it be awarded, will be made within 60 days after the opening of the proposals. This period will be subject to extension for such further period as may be agreed upon in writing between the Department and the bidder concerned. The award, if made, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed and who has met the goal for DVBE participation or had demonstrated, to the satisfaction of the Department, good faith effort to do so. The lowest bid will be determined on the basis of the "Total Basis for Comparison of Bids (A+B)" set forth in the proposal. The contract price for the awarded contract will be the "Total Bid (A)" set forth in the proposal."

In the Special Provisions, Section 4, "BEGINNING OF WORK, TIME OF COMPLETION, AND LIQUIDATED DAMAGES," is replaced as attached.

In the Special Provisions, Section 5-1.17, "PROJECT INFORMATION," the sixth paragraph is revised as follows:

"Plans of the existing bridges may be requested by fax from the Office of Structure Maintenance and Investigations, 1801 30th Street, Sacramento, CA, Fax (916) 227-8357. Plans of existing retaining walls, sound walls, and soil nail walls to be removed as part of construction of retaining walls and sound walls A, F1, G, O and K1 are available for use by the Contractor from the District 4 Duty Senior. Requests for existing plans can be made by e-mail to the Duty Senior at "duty\_senior\_district04@dot.ca.gov"."

In the Special Provisions, Section 9, "DESCRIPTION OF BRIDGE WORK," the following paragraph is added as the seventh paragraph:

"Mount Eden Overhead (Widen)  
 Bridge No. 33-0092R"

Widen the existing box girder bridge with a three span reinforced concrete box girder bridge founded on Class 625 and 400 piles."

In the Special Provisions, Section 10-1.21, "MAINTAINING TRAFFIC," the following table is added as the last table under the fifth paragraph:

"Mt. Eden Overhead (Widen)  
 Bridge Number 33-0092R  
 (Structure Identification; i.e. Str. No.,  
 Street Name or Route No., etc)

	Number	Width	Height
Vehicle Openings	1 - UPPR	7.32	7.45
Pedestrian Openings	N/A	N/A	N/A
	Location	Spacing	
Falsework Pavement Lighting	N/A	N/A	

(Width and Height in meters)  
 (R = Right side of traffic. L = Left side of traffic)  
 (C = Centered overhead)"

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In the Special Provisions, Section 10-1.21, "MAINTAINING TRAFFIC," Lane Closure Charts 24, 25, 26, 27 and 28 are added as attached.

In the Special Provisions, Section 10-1.31, "EXISTING HIGHWAY FACILITIES," Subsection "BRIDGE REMOVAL" "Bridge Removal (Portion), Location F" is revised, and "Bridge Removal (Portion), Location E", "Bridge Removal (Portion), Location H", "Bridge Removal, (Portion), Location I", "Bridge Removal, (Portion), Location J" and "Bridge Removal, Location K" are added as follows:

"Bridge Removal, (Portion) Location E  
Mount Eden Overhead (Widen)  
(Br. No. 33-0092R)

Bridge removal (portion), location E shall consist of removing the existing concrete barrier railing, overhang and portions of wingwall and abutment as shown on the plans at this location.

Bridge Removal, (Portion) Location F  
Retaining Wall No. G  
Bridge No. 33RWSW G

Bridge removal (portion), location F shall consist of removing the existing precast sound wall panels, supports, supporting piles, and removing an existing retaining wall as shown on the plans. The piles shall be removed completely and backfilled with slurry cement backfill material as provided in Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications.

Bridge Removal, (Portion) Location H  
Retaining Wall A  
(Br. No. 33E0021)

Bridge removal (portion), location H shall consist of removing the existing sound wall as shown on the plans at this location.

Bridge Removal, (Portion) Location I  
Retaining Wall F1  
(Br. No. 33E0022)

Bridge removal (portion), location I shall consist of removing the existing retaining wall as shown on the plans at this location.

Bridge Removal, (Portion) Location J  
Retaining Wall Soundwall O

Bridge removal (portion), location J shall consist of removing the existing soil nail wall as shown on the plans at this location.

Bridge Removal, Location K  
Rte 92 / 880 Separation Pump Plant  
(Br. No. 33-0683W)

Bridge removal location K shall consist of removing the existing concrete reinforced pumping plant storage box complete, including all piping and miscellaneous metal contained within the pump plant as shown on the plans at this location."

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In the Special Provisions, Section 10-1.31, "EXISTING HIGHWAY FACILITIES," Subsection "BRIDGE REMOVAL" the table of the sixteenth paragraph is revised as follows:

Structure or Portion of Structure	Review Time - Weeks
Bridge Removal Location A	5
Bridge Removal Location B	4
Bridge Removal Location C	4
Bridge Removal Location D	3
Bridge Removal (portion) Location E	6

In the Special Provisions, Section 10-1.31, "EXISTING HIGHWAY FACILITIES," Subsection "BRIDGE REMOVAL" following paragraphs are added as the seventeenth and eighteenth paragraphs:

"For bridge removal over railroads, approval by the Engineer of the bridge removal plans will be contingent upon the drawings being satisfactory to the railroad company involved.

Temporary support shoring, temporary bracing, and protective covers over railroads, shall conform to the latest guidelines of the railroad company involved and shall provide the minimum clearances required under "Relations with Railroad Company" of these special provisions for the passage of railroad traffic."

In the Special Provisions, Section 10-1.35, "EARTHWORK," the table of the twelfth paragraph is revised as follows:

"Bridge Name or Number	Abutment Number	Bent Number	Surcharge Height (meters)	Settlement Period (days)
Calaroga Ave OC Bridge Number 33-0446	1 & 3	N/A	0.0	60
Mt. Eden OH (Widen) Bridge Number 33-0092 L/R	1 & 4	N/A	0.0	60
92/880 Separation (Replace) Bridge Number 33-0677	1 & 7		2.0	30
Northbound 880 to Westbound 92 Bridge Number 33-0676G	1 & 4		0.0	45
Eastbound 92 to Northbound 880 Connector Bridge Number 33-0679G	1 & 8		0.0	45
Westbound 92 to Southbound 880 Connector Bridge Number 33-0678F	1 & 5		0.0	45

\* At this location, the surcharge embankment shall be constructed by extending the grading plane (GP) in the "Elevation" view of the "Bridge Embankment Surcharge" detail of Standard Plan A62B horizontally to the centerline of abutment."

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In the Special Provisions, Section 10-1.64, "PILING," Subsection "Driving System Submittal" the table of the first paragraph is revised as follows:

"Bridge Number	Control Location
33-0677	All pile locations
33-0679G	All pile locations
33-0678F	All pile locations
33-0676G	All pile locations
33-0446	All pile locations
33-0282	All pile locations
33-0092R	All pile locations"

In the Special Provisions, Section 10-1.67, "CONCRETE STRUCTURES," Subsection "FALSEWORK," the following paragraph is added as the second paragraph:

"Attention is directed to "Railroad Relations and Insurance" of these special provisions for additional requirements for falsework over railroads."

In the Special Provisions, Section 10-1.67, "CONCRETE STRUCTURES," Subsection "FALSEWORK," the table of the third paragraph is revised as follows:

"Structure or Portion of Structure	Total Review Time - Weeks
Mt. Eden Overhead (Widen)	9
Eastbound Rte 92 / Northbound Rte 880 Connector	5
Westbound Rte 92 / Southbound Rte 880 Connector	5"

In the Special Provisions, Section 10-1.101, "SLOPE PAVING," is revised as attached.

In the Special Provisions, Section 10-1.1011, "SLOPE PAVING (MASONRY BLOCK)," is added as attached.

In the Special Provisions, Section 13, "RAILROAD RELATIONS AND INSURANCE REQUIREMENTS," is added as attached.

In the Proposal and Contract, the Engineer's Estimate Items 20, 22, 25, 27, 28, 29, 45, 46, 47, 49, 53, 70, 76, 80, 81, 82, 83, 84, 87, 92, 99, 101, 115, 122, 141, 142, 149, 150, 151, 152, 155, 158, 162, 171, 175, 178, 200, 205, 224, 246, 249, 254, 258, 273, 290, 298, 299, 303, and 304 are revised, Items 334, 335, 336, 337, 338, 339, 340, 341, 342, and 343 are added and Items 57 and 333 are deleted as attached.

Addendum No. 6  
Page 6  
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To Proposal and Contract book holders:

Replace the entire Engineer's Estimate in the Proposal with the attached revised Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the NOTICE TO CONTRACTORS section of the Notice to Contractors and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This office is sending this addendum by GSO overnight mail to Proposal and Contract book holders to ensure that each receives it. A copy of this addendum is available for the contractor's use on the Internet Site:

**[http://www.dot.ca.gov/hq/esc/oe/weekly\\_ads/addendum\\_page.html](http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addendum_page.html)**

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL, Chief  
Office of Plans, Specifications & Estimates  
Division of Engineering Services - Office Engineer

Attachments

#### **SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION, AND LIQUIDATED DAMAGES**

The first working day is the twenty-fifth day after contract approval.

The Contractor shall not begin work at the job site, except for measuring controlling field dimensions and locating utilities, until the following submittals are received and approved by the Engineer:

1. Baseline Progress Schedule (Critical Path Method)
2. Storm Water Pollution Prevention Plan (SWPPP)
3. Notification of Dispute Review Board (DRB) nominee and disclosure statement

In addition to the above submittals, the Contractor shall not begin work at the job site, except for measuring controlling field dimensions and locating utilities, until the following submittals are received by the Engineer:

1. Notice of Materials To Be Used.
2. Contingency plan for reopening closures to public traffic.
3. Written statement from the vendor that the order for the sign panels has been received and accepted by the vendor. The statement shall show the dates that the materials will be shipped.
4. Written statement from the vendor that the order for electrical material has been received and accepted by the vendor. The statement shall show the dates that the materials will be shipped.

The Contractor may begin work at the job site before the twenty-fifth day after contract approval if:

1. The Contractor submits and obtains required approvals for the submittals before the twenty-fifth day
2. Authorized by the Engineer in writing

The Department will grant time extensions for delays only that are beyond the Contractor's control and that prevent the Contractor from starting work at the job site on the first working day.

The work shall be diligently prosecuted to completion before the expiration of the number of working days bid.

The Contractor shall pay to the State of California the sum of \$ 14,600 per day for each day's delay in finishing the work in excess of the number of working days bid and until work requiring closure of lanes or shoulders on State Highway Route 92/880 is complete.

The Contractor shall pay to the State of California the sum of \$ 14,600 per day for each day's delay in finishing the work in excess of the number of working days bid if no further lane or shoulder closures are required on State Highway Route 92/880 to complete the work.

In no case will liquidated damages of more than \$ 14,600 per day be assessed.

Chart No. 24																														
Complete Ramp Closure Hours/Ramp Lane Requirements																														
County: Alameda					Route/Direction: 92/ Westbound										KP: 9.04					PM: 5.617										
Closure Limits: On the Hesperian Blvd. On-ramp																														
FROM HOUR TO HOUR 24 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24																														
Mondays through Thursdays		C	C	C	C	C																			C	C	C	C	C	
Fridays		C	C	C	C	C																					C	C	C	C
Saturdays		C	C	C	C	C	C	C	C																		C	C	C	C
Sundays		C	C	C	C	C	C	C	C	C																	C	C	C	C
Legend:																														
<input type="checkbox"/> C		Ramp may be closed completely																												
<input type="checkbox"/>		No work permitted																												
REMARKS: See Detour No. 24																														

Chart No. 25																														
Complete Ramp Closure Hours/Ramp Lane Requirements																														
County: Alameda					Route/Direction: 92/ Eastbound										KP: 9.4					PM: 5.839										
Closure Limits: On the Hesperian Blvd. on-ramp																														
FROM HOUR TO HOUR 24 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24																														
Mondays through Thursdays		C	C	C	C	C																						C	C	
Fridays		C	C	C	C	C																						C	C	
Saturdays		C	C	C	C	C	C	C																				C	C	
Sundays		C	C	C	C	C	C	C	C																			C	C	C
Legend:																														
<input type="checkbox"/> C		Ramp may be closed completely																												
<input type="checkbox"/>		No work permitted																												
REMARKS: See Detour No. 25																														

Chart No. 26																									
Complete Ramp Closure Hours/Ramp Lane Requirements																									
County: Alameda					Route/Direction: 92/Westbound										KP: 9.55					PM: 5.937					
Closure Limits: On the Hesperian Blvd. collector-distributor off-ramp																									
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C	1																		1	C
Fridays	C	C	C	C	C	1																		1	C
Saturdays	C	C	C	C	C	C	C	1														1	1	1	C
Sundays	C	C	C	C	C	C	C	C	1	1											1	1	C	C	C
Legend:																									
1	Provide at least one ramp lane, not less than 3.3 m in width, open in direction of travel																								
C	Ramp may be closed completely																								
	No work permitted																								
REMARKS:																									

Chart No. 27																									
Complete Ramp Closure Hours/Ramp Lane Requirements																									
County: Alameda					Route/Direction: 92/ Eastbound										KP: 9.061					PM: 5.631					
Closure Limits: On the Hesperian Blvd. off-ramp																									
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C	C	C																C	C	C
Fridays	C	C	C	C	C	C	C																C	C	C
Saturdays	C	C	C	C	C	C	C	C	C	C										C	C	C	C	C	C
Sundays	C	C	C	C	C	C	C	C	C	C	C	C								C	C	C	C	C	C
Legend:																									
C	Ramp may be closed completely																								
	No work permitted																								
REMARKS: Advance signing to notify traffic to use the upstream off-ramp																									

**Chart No. 28  
Complete Ramp Closure Hours/Ramp Lane Requirements**

County: Alameda	Route/Direction: 92/ Eastbound	KP: 8.47	PM: 5.011																								
Closure Limits: On the Industrial Blvd. off-ramp																											
FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Mondays through Thursdays	C	C	C	C	C	C																		C	C	C	
Fridays	C	C	C	C	C	C																			C	C	C
Saturdays	C	C	C	C	C	C	C	C	C	C	C	C	C	C									C	C	C	C	C
Sundays	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C								C	C	C	C	C

Legend:

C Ramp may be closed completely

No work permitted

REMARKS:

**10-1.101 SLOPE PAVING**

Slopes under the ends of bridges, where shown on the plans, shall be paved in conformance with the provisions in Section 72-6, "Slope Paving," of the Standard Specifications.

### **10-1.1011 SLOPE PAVING (MASONRY BLOCK)**

Slopes under the bridge ends where shown on the plans shall be paved in conformance with the provisions in Section 72-6, "Slope Paving," of the Standard Specifications and these special provisions.

The location of construction joints shall be subject to the approval of the Engineer. Placement of slope paving shall be scheduled so that the work, including placement, finishing, and application of curing, is completed in any section bounded by permissible construction joints on the same day that the work is started in that section.

Areas of slope paving shown on the plans to have a grooved finish shall be scored by dragging a finishing tool over the struck-off surface or by any other means which will result in a surface conforming to the details shown on the plans.

Prior to placing the permanent slope paving, the Contractor shall construct a test panel at least 1.2 m by 1.8 m at the site for approval by the Engineer. The test panel shall be constructed of the same materials as are proposed for the permanent work and shall be finished and cured as specified for the permanent work. Additional test panels shall be constructed as necessary until a panel is produced which conforms to the requirements herein, before constructing other slope paving.

Masonry block for slope paving shall be concrete pavers conforming to ASTM Designation: C 90, Type-II. The surface exposed to view shall have split face texture.

The nominal size of concrete pavers shall be 203 mm x 51 mm x 406 mm. Head and bed mortar joints shall be 13 mm thick.

Portland cement shall conform to the provisions in Section 90-2.01, "Portland Cement," of the Standard Specifications.

Hydrated lime shall conform to ASTM Designation: C 207, Type S.

Mortar sand shall be commercially produced for masonry work and free of organic impurities and lumps of clay and shale.

Mortar for laying concrete pavers shall consist, by volume, of one part portland cement, 0 to 1/2 part of hydrated lime, and 2 1/4 to 3 parts of mortar sand. Sufficient water shall be added to make a workable mortar. Each batch of mortar shall be accurately measured and thoroughly mixed. Mortar shall be freshly mixed as required. Mortar shall not be retempered more than one hour after mixing. The amount of lime shall be reduced as necessary to prevent leaching and efflorescence on finished surfaces.

A proprietary, premixed packaged blend of cement, lime, and sand, without color, that requires only water to prepare for use as brick mortar or grout may be furnished for mortar. Packages of premix shall bear the manufacturer's name, brand, weight, and color identification. The manufacturer's recommended mixing proportions and procedures shall be furnished to the Engineer.

The top surface of the air-blown mortar or concrete base shall be lightly and evenly scored horizontally and vertically with a metal scratcher having grooves not more than one inch apart.

The air-blown mortar or concrete base shall be cured by the water method for at least 2 days.

Concrete pavers shall be laid and embedded in approximately 25 mm thick mortar. Embedment shall be shoved tight so that mortar is flushed into the joints to a depth of approximately 13 mm.

Joints shall be straight and of uniform and equal width.

Surfaces of completed masonry, concrete, and other such materials exposed to view shall be protected from spillage, splatters and other deposits of cementitious materials from masonry construction. All such deposits shall be removed without damage to the materials or exposed surfaces. Stains, efflorescence, laitance, splashes or spots on the faces of masonry exposed to view shall be removed. Cleaning agents shall conform to the concrete paver manufacturers recommendations. Cleaning agents shall be applied to a sample area acceptable to the Engineer, and their performance and the cleaning methods approved by the Engineer before proceeding with cleaning beyond the sample area.

Slope paving (masonry block) will be measured by the square meter. The quantity of slope paving (masonry block) to be paid for shall be the limits shown on the plans for the surface area of the entire slope pavement including the cast in place concrete, mortar bed and masonry block.

The contract price paid per square meter for slope paving (masonry block) shall include full compensation for furnishing all labor, materials (including concrete pavers, mortar bed grout and reinforcement), tools, equipment, and incidentals and for doing all the work involved in slope paving, complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

## **SECTION 13. RAILROAD RELATIONS AND INSURANCE REQUIREMENTS**

### **SECTION 13-1. RELATIONS WITH RAILROAD COMPANY**

#### **13-1.01 GENERAL**

The term "Railroad" shall mean the Union Pacific Railroad Company.

It is expected that the Railroad will cooperate with the Contractor to the end that the work may be handled in an efficient manner. However, except for the additional compensation provided for hereinafter for delays in completion of specific unit of work to be performed by the Railroad, and except as provided in Public Contracts Code Section 7102, the Contractor shall have no claim for damages, extension of time, or extra compensation in the event his work is held up by railroad train operations or other work performed by the Railroad.

The Contractor must understand the Contractor's right to enter the Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on the Railroad's property to cease if, in the opinion of the Railroad, the Contractor's activities create a hazard to the Railroad's property, employees, and operations.

The Contractor acknowledges its receipt from the State of a copy of the Contractor's Right of Entry Agreement that has been executed by the Railroad and the State. The Contractor agrees to execute and deliver to the Railroad the Contractor's Endorsement that is attached hereto as Appendix 1 and to provide to the State and/or the Railroad all insurance policies, binders, certificates or endorsements that are set forth in Exhibit B of the Contractor's Right of Entry Agreement.

#### **13-1.02 RAILROAD REQUIREMENTS**

The Contractor shall provide to Mr. Terrel Anderson, Manager, Industry and Public Projects, 10031 Foothill Boulevard, Roseville, California 95747, Telephone: (916) 789-6334 and the Engineer, in writing, the advance notice requirements set forth in Section 1 of Exhibit A of the Right of Entry Agreement before performing any work on, or adjacent to the property or tracks of the Railroad.

The Contractor shall cooperate with the Railroad where work is over or under the tracks, or within the limits of the Railroad property to expedite the work and avoid interference with the operation of railroad equipment.

The Contractor shall comply with the rules and regulations of the Railroad or the instructions of its representatives in relation to protecting the tracks and property of the Railroad and the traffic moving on such tracks, as well as the wires, signals and other property of the Railroad, its tenants or licensees, at and in the vicinity of the work during the period of construction. The responsibility of the Contractor for safe conduct and adequate policing and supervision of its work at the job site shall not be lessened or otherwise affected by the presence at the work site of the Railroad representatives, or by the Contractor's compliance with any requests or recommendations made by the Railroad representatives.

The Contractor shall perform work so as not to endanger or interfere with the safe operation of the tracks and property of the Railroad and traffic moving on such tracks, as well as wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the work.

The Contractor shall take protective measures to keep the Railroad facilities, including track ballast, free of sand or debris resulting from his operations. Damage to the Railroad facilities resulting from the Contractor's operations will be repaired or replaced by the Railroad and the cost of such repairs or replacement shall be deducted from the Contractor's progress and final pay estimates.

The Contractor shall contact the Railroad's "Call Before You Dig" at least forty-eight (48) hours prior to commencing work, at 1-800-336-9193 during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays – also a 24-hour, 7-day number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near the Railroad property, the Contractor will coordinate with the Railroad and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near Railroad property.

The Contractor shall not pile or store any materials nor park any equipment closer than 25'-0" (7.62 m) to the centerline of the nearest track, unless directed by the Railroad's representative.

The Contractor shall also abide by the following temporary clearances during the course of construction:

- A. 3.66 meter (12'-0") horizontally from centerline of track
- B. 6.40 meter (21'-0") vertically above top of rail

The temporary vertical construction clearance above provided will not be permitted until authorized by the Public Utilities Commission. It is anticipated that authorization will be received not later than fifteen (15) days after the approval of the contract by the Attorney General. In the event authorization is not received by the time specified, and, if in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of authorization not being received by the said time, the Licensee will compensate the Contractor for such delay to the extent provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications and not otherwise.

Walkways with railing shall be constructed by the Contractor over open excavation areas when in close proximity of tracks, and railings shall not be closer than 2.60-meter (8'-6") horizontally from centerline of the nearest track, if tangent, or 2.90-meter (9'-6") if curved.

Infringement on the above temporary construction clearances by the Contractor's operations shall be submitted to the Railroad by the Engineer, and shall not be undertaken until approved by the Railroad, and until the Engineer has obtained any necessary authorization from any governmental body or bodies having jurisdiction thereover. No extension of time or extra compensation will be allowed in the event the Contractor's work is delayed pending Railroad approval and governmental authorization.

When the temporary vertical clearance is less than 6.86-meter (22'-6") above top of rail, the Railroad shall have the option of installing tell-tales or other protective devices the Railroad deems necessary for protection of the Railroad trainmen or rail traffic.

Four (4) sets of plans, in 279 mm x 432 mm (11" x 17") format, and two (2) sets of calculations showing details of construction affecting the Railroad's tracks and property not included in the contract plans, including but not limited to shoring and falsework, shall be submitted to the Engineer for review prior to submittal to the Railroad for final approval. Falsework shall comply with the Railroad guidelines. Demolition of existing structures shall comply with the Railroad guidelines. Shoring shall be designed in accordance with the Railroad's shoring requirement of Drawing No. 106613 and guidelines for shoring and falsework, latest edition, issued by the Railroad's Office of Chief Engineer. Shoring and falsework plans and calculations shall be prepared and signed by a professional engineer registered in California. This work shall not be undertaken until such time as the Railroad has given such approval, review by the Railroad may take up to six (6) weeks after receipt of necessary information.

The Contractor shall notify the Engineer in writing, at least twenty-five (25) calendar days but not more than forty (40) days in advance of the starting date of installing temporary work with less than permanent clearance at each structure site. The Contractor shall not be permitted to proceed with work across railroad tracks until this requirement has been met. No extension of time or extra compensation will be allowed if the Contractor's work is delayed due to failure to comply with the requirements in this paragraph.

Blasting will be permitted only when approved by the Railroad.

The Contractor shall, upon completion of the work covered by this Contract to be performed by the Contractor upon the premises or over or beneath the tracks of the Railroad, promptly remove from the premises of the Railroad, the Contractor's tools, implements and other materials, whether brought upon said premises and cause said premises to be left in a clean and presentable condition.

Under track pipeline installations shall be constructed in accordance with the Railroad's current standards which may be obtained from the Railroad. The general guidelines are as follows:

- A. Edges of jacking or boring pit excavations shall be a minimum of 6.10-meter (20 feet) from the centerline of the nearest track:
- B. If the pipe to be installed under the track is 100mm (4 inches) in diameter or less, the top of the pipe shall be at least 42 inches below base of rail.
- C. If the pipe diameter is greater than 100-meter (4 inches) in diameter, it shall be encased and the top of the steel pipe casing shall be at least 1.60-meter (66 inches) below base of rail.
- D. Installation of pipe or conduit under the Railroad's tracks shall be done by dry bore and jack method.
- E. Hydraulic jacking or boring will not be permitted.

Safety of personnel, property, rail operations and the public is of paramount importance. As reinforcement and in furtherance of overall safety measures to be observed by the Contractor (and not by way of limitation), the following special safety rules shall be followed:

- A. The Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. The Contractor shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any person that may be injured on the job site. The Contractor shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. The Contractor shall have a non-delegable duty to control its employees while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that may inhibit the safe performance of work by the employee.
- B. The employees of the Contractor shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. The employees should wear sturdy and protective work boots and at least the following protective equipment:
  - 1. Protective head gear that meets American National Standard-Z89. 1-latest revision. It is suggested that all hardhats be affixed with the Contractor's or the subcontractor's company logo or name.
  - 2. Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and
  - 3. Hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site.
- C. All heavy equipment provided or leased by the Contractor shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative any of the Contractor's or the subcontractor's equipment is unsafe for use on the Railroad's right-of-way, the Contractor, at the request of the Railroad representative, shall remove such equipment from the Railroad's right-of-way.

### **13-1.03 PROTECTION OF RAILROAD FACILITIES**

Upon the advance notification provided to the Railroad as set forth in Section 1 of Exhibit A of the Contractor's Right of Entry Agreement, the Railroad representatives, conductors, flagmen or watchmen will be provided by the Railroad to protect its facilities, property and movements of its trains or engines. Notice shall be made to the Railroad's Manager of Track Maintenance at (402) 501-3774. At the time of notification, the Contractor shall provide the Railroad with a schedule of dates that flagging services will be needed, as well as times, if outside normal working hours. Subsequent deviation from the schedule shall require ten (10) working days' advance notice from the first affected date. The Railroad will furnish such personnel or other protective devices:

- A. When equipment is standing or being operated within 25 feet (7.62 m) , measured horizontally, from centerline of any track on which trains may operate, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
- B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad's representative, track or other Railroad facilities may be subject to settlement or movement.
- C. During any clearing, grubbing, grading or blasting in proximity to the Railroad which, in the opinion of the Railroad's representative, may endanger the Railroad facilities or operations.
- D. During any of the Contractor's operations when, in the opinion of the Railroad's representatives, the Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines or pipe lines, may be endangered.

The cost of flagging and inspection provided by the Railroad during the period of constructing that portion of the project located on or near the Railroad property, as deemed necessary for the protection of the Railroad's facilities and trains, will be borne by the State. The Railroad has indicated that its estimated flagging rate will be around One Thousand Dollars (\$1,000.00) per day and that the Railroad has estimated a total of one hundred (100) days of flagging. The State shall pay the Railroad for all actual flagging costs incurred by the Railroad under this Project.

### **13-1.04 WORK BY RAILROAD**

The following work by the Railroad will be performed by Railroad forces and is not a part of the work under this Contract.

- A. The Railroad will perform preliminary engineering and inspection (if any) and flagging as specified in Section 13-1.03, "Protection of Railroad Facilities," of these special provisions.
- B. Underground railroad communication line in vicinity of proposed Structure.
- C. Remove advertising signboards and signboard appurtenances.
- D. Temporary crossings at grade over tracks of Railroad for the purpose of hauling earth, rock, paving or other materials will not be permitted. If the Contractor, for the purpose of constructing highway-railway grade separation structures, including construction ramps thereto, desires to move equipment or materials across Railroad's tracks, the Contractor shall first obtain permission from Railroad via the State Engineer. Should Railroad approve the temporary crossing, State shall execute a Service Contract with Railroad for Railroad to construct the temporary crossing. Under the Service Contract, State shall bear the cost of the crossing surface, warning devices and other components that might be required. Notwithstanding State's Service Contract with Railroad, the Contractor is required to execute Railroad's form of Contractor's Haul Road Crossing Agreement. Railroad, at State's expense, shall provide flagmen to control movements of vehicles across the temporary crossing. State and its Contractor shall prevent the use of such temporary crossing by unauthorized persons and vehicles.

### **13-1.05 DELAYS DUE TO WORK BY RAILROAD.**

If delays due to work by the Railroad occur, and the Contractor sustains loss which, in the opinion of the Engineer, could not have been avoided by the judicious handling of forces, equipment and plant, the amount of said loss shall be determined as provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

If a delay due to work by the Railroad occurs, an extension of time determined pursuant to the provisions in Section 8-1.07, "Liquidated Damages," of the Standard Specifications will be granted.

### **13-1.06 LEGAL RELATIONS**

The provisions of Section 13-1, "Relations with Railroad Company," and the provisions of Section 13-2, "Railroad Protective Insurance," of these special provisions shall inure directly to the benefit of the Railroad.

## **SECTION 13-2. RAILROAD PROTECTIVE INSURANCE**

### **13-2.01 GENERAL**

In addition to any other form of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the kinds and in the amounts hereinafter specified.

Such insurance shall be approved by the Railroad before any work is performed on the Railroad's property and shall be carried until all work required to be performed on or adjacent to the Railroad's property under the terms of the contract is satisfactorily completed as determined by the Engineer, and thereafter until all tools, equipment and materials have been removed from the Railroad's property and such property is left in a clean and presentable condition.

Full compensation for all premiums which the Contractor is required to pay on all the insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under the contract, and no additional allowance will be made thereof or for additional premiums which may be required by extensions of the policies of insurance.

The following insurance coverage will be required:

- A. Commercial General Liability insurance. This insurance shall contain a single limit of at least \$5,000,000 each occurrence or claim and an aggregate limit of at least \$10,000,000 and include broad form contractual liability coverage. Coverage must be purchased on a post 1998 ISO or equivalent form, including but not limited to coverage for the following:
  - 1. Bodily injury including death and personal injury
  - 2. Property damage
  - 3. Fire legal liability
  - 4. Products and completed operations

The policy shall also contain the following endorsements which shall be indicated on the certificate of insurance:

1. The worker's compensation and employee related exclusions in the above policy apply only to the Contractor's employees.
2. The exclusions for railroads [except where the Job site is more than fifty feet (50') (15.24 m) from any railroad including, but not limited to, tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings], and explosion, collapse and underground hazard shall be removed.
3. Coverage for the Contractor's employees shall not be excluded.
4. Waiver of subrogation

If the Contractor will be using, storing and/or handling hazardous materials, the Contractor, in addition to the other endorsements to be obtained by the Contractor as provided in this exhibit, must also ensure that the Commercial General Liability Insurance policy contains a Designated Premises Pollution Coverage (CG00-39) endorsement. Evidence of the endorsement must also be indicated on the certificate of insurance that is provided to the Railroad.

- B. Business Automobile Coverage insurance. This insurance shall contain a combined single limit of at least \$5,000,000 per occurrence or claim, including but not limited to coverage for the following:

1. Bodily injury and property damage
2. Any and all motor vehicles including owned, hired and non-owned

The policy shall also contain the following endorsements which shall be indicated on the certificate of insurance:

1. The worker's compensation and employee related exclusions in the above policy apply only to the Contractor's employees.
2. The exclusions for railroads [except where the Job Site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings], and explosion, collapse and underground hazard shall be removed.

- C. Worker's Compensation and Employer's Liability insurance including but not limited to:

1. The Contractor's statutory liability under the workers' compensation laws of the State of California
2. Employer's Liability (Part B) with limits of at least
3. \$500,000 each accident, \$500,000 disease policy limit
4. \$500,000 each employee

If the State of California requires participants in a state worker's compensation fund and if Worker's Compensation insurance will not cover the liability of the Contractor in the State of California, the Contractor shall comply with such laws. If the Contractor is self-insured, evidence of state approval must be provided along with evidence of excess worker's compensation coverage. Coverage shall include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy shall also contain the following endorsement which shall be indicated on the certificate of insurance:

1. Alternate Employer Endorsement

- D. Umbrella or Excess Policies In the event the Contractor utilizes Umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy.
- E. Railroad Protective Liability insurance naming only the Railroad as the insured with a combined single limit of \$2,000,000 per occurrence with a \$6,000,000 aggregate. The policy shall be broad form coverage for "Physical Damage to Property" (ISO Form CG 00 35 07 98 or equivalent). A binder stating the policy is in place must be submitted to the Railroad until the original policy is forwarded to the Railroad.

## Other Requirements

- F. Punitive damage exclusion must be deleted, which deletion shall be indicated on the certificate of insurance.
- G. The Contractor agrees to waive its right of recovery, and its insurers, through policy endorsement, agree to waive their right of subrogation against the Railroad. The Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against the Railroad for loss of its owned or leased property or property under its care, custody and control. The Contractor's insurance shall be primary with respect to any insurance carried by the Railroad. All waivers of subrogation shall be indicated on the certificate of insurance.
- H. All policy(ies) required above (excluding Workers Compensation) shall provide severability of interests and shall name the Railroad as an additional insured. The coverage provided to the Railroad as additional insured shall provide coverage for the Railroad's negligence whether sole or partial, active or passive, and shall not be limited by the Contractor's liability under the indemnity provisions of this Agreement. Severability of interest and naming the Railroad as additional insured shall be indicated on the certificate of insurance.
- I. Prior to commencing the Work, the Contractor shall furnish to the Railroad original certificate(s) of insurance evidencing the required coverage, endorsements, and amendments. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify the Railroad in writing of any cancellation or material alteration. Upon request from the Railroad, a certified duplicate original of any required policy shall be furnished.
- J. Any insurance policy shall be written by a reputable insurance company acceptable to the Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.
- K. The Contractor WARRANTS that this Agreement has been thoroughly reviewed by the Contractor's insurance agent(s)/broker(s), who have been instructed by the Contractor to procure the insurance coverage required by this Agreement and acknowledges that the Contractor's insurance coverage will be primary.
- L. If the Contractor fails to procure and maintain insurance as required, the Railroad may elect to do so at the cost of the Contractor plus a 25% administration fee.
- M. The fact that insurance is obtained by the Contractor the or Railroad on behalf of the Contractor shall not be deemed to release or diminish the liability of the Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by the Railroad shall not be limited by the amount of the required insurance coverage.

13-2.02 APPENDIX 1

CONTRACTOR'S ENDORSEMENT

A. As a condition to entering upon the Railroad's right-of-way to perform Work pursuant to this agreement, State's contractor, \_\_\_\_\_ (Name of Contractor)

whose address is

\_\_\_\_\_, (Contractor's Mailing Address)

(hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of the attached Caltrans Right of Entry Agreement that was signed by Union Pacific Railroad Company ("Railroad") and the State of California, Department of Transportation ("State") relating to the Work to be performed and the insurance requirements set forth in Exhibit B of the Right of Entry Agreement. The Contractor further acknowledges and agrees that the reference to Cal. Gov. Code §14662.5 in Sections 5.b) and 8.b) of Exhibit A to the Right of Entry Agreement does not apply to the Contractor and in no way limits the indemnities set forth in those provisions, to which the Contractor agrees to be bound.

B. Before the Contractor commences any Work, the Contractor will provide the Railroad with (i) a binder of insurance for the Railroad Protective Liability Insurance described in Section 13-2 of the Contract Special Provisions, hereto attached, and the original policy, or a certified duplicate original policy when available, and (ii) a certificate issued by its insurance carrier providing the other insurance coverage and endorsements required pursuant to Section 13-2 of the Contract Special Provisions.

C. All insurance correspondence, binders or originals shall be directed to:

Union Pacific Railroad Company
Attn: Real Estate Department
1400 Douglas Street, MS 1690
Omaha, Nebraska 68179-1690
Attn.: Senior Manager - Contracts
Folder No. 2308-65

D. Please note that fiber optic cable may be buried on the Railroad's property. Prior to commencing any work, the Contractor agrees to contact the Railroad's Telecommunications Operation Center as provided in Section 5 of Exhibit A of the Right of Entry Agreement to determine if any fiber optic cable is located on the Railroad's property on or near the location where the work is to be performed. If there is, the Contractor must comply with the terms and conditions of Section 5 of Exhibit A before commencing any work on the Railroad's property.

E. The Contractor agrees to also provide to the Railroad's Manager-Track Maintenance at (402) 501-3774 the advance notice required in Section 1 of Exhibit A of the Right of Entry Agreement prior to working on the Railroad's property in order for the Railroad to coordinate the Contractor's work with the Railroad's operations and to make arrangements for flagging protection (if applicable).

This endorsement shall be completed and sent to the person named in Paragraph C above.

\_\_\_\_\_, (Name of Contractor)

By \_\_\_\_\_

Title: \_\_\_\_\_

## **SECTION 13-3. UNION PACIFIC RAILROAD MINIMUM REQUIREMENTS**

### **13-3.01 DESCRIPTION - GENERAL**

This project includes construction work within the Right-of-Way and/or properties of the Union Pacific Railroad Company "UPRR" and adjacent to tracks, wire lines and other facilities. This section describes the special requirements for coordination with UPRR when work by the Contractor will be performed upon, over or under the UPRR Right-of-Way or may impact current or future UPRR operations. The Contractor will coordinate with UPRR while performing the work outlined in this Contract, and shall afford the same cooperation with UPRR as it does with the Agency. All submittals and work shall be completed in accordance with UPRR Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the UPRR Designated Representative.

For purposes of this project, the UPRR Designated Representative shall be the person or persons designated by the UPRR Manager of Industry and Public Projects to handle specific tasks related to the project.

### **13-3.02 DEFINITION OF AGENCY AND CONTRACTOR**

As used in these UPRR requirements, the term "Agency" shall mean the State of California, by and through its Department of Transportation.

As used in these UPRR requirements, the term "Contractor" shall mean the contractor or contractor's hired by the Agency to perform any project work on any portion of UPRR's property and shall also include the contractor's subcontractors and the contractor's and subcontractor's respective officer, agents and employees, and others acting under its or their authority.

### **13-3.03 UPRR CONTACTS**

The primary UPRR point of contact for this project is:

Terrell Anderson  
Manager Industry and Public Projects  
Union Pacific Railroad Company  
10031 Foothills Boulevard  
Roseville, California 95747  
Phone: 916-789-6334  
Fax: 916-789-6333

For UPRR flagging services and track work, contact:

James T. Howard  
Manager Track Maintenance  
Union Pacific Railroad Company  
37950 Central Court, #B  
Newark, California 94560  
Phone: (402) 501-3774  
Fax: (402) 501-2888  
E-mail: JTHOWARD@UP.COM

### **13-3.04 REQUEST FOR INFORMATION / CLARIFICATION**

All Requests for Information ("RFI") involving work within any UPRR Right-Of-Way shall be in accordance with the procedures listed elsewhere in these bid documents. All RFI's shall be submitted to the Engineer of Record. The Engineer of Record will submit the RFI to the UPRR Designated Representative for review and approval for corresponding to work within the UPRR Right-Of-Way. The Contractor shall allow four (4) weeks for the review and approval process by UPRR.

### **13-3.05 PLANS / SPECIFICATIONS**

The plans and specifications for this project, affecting the UPRR, are subject to the written approval by the UPRR and changes in the plans may be required after award of the Contract. Such changes are subject to the approval of the Agency and the UPRR.

### **13-3.06 UTILITIES AND FIBER OPTIC**

All installations shall be constructed in accordance with current AREMA recommendations and UPRR specifications and requirements. UPRR general guidelines and the required application forms for utility installations can be found on the UPRR website at [www.uprr.com](http://www.uprr.com).

### **13-3.07 GENERAL**

- A. Contractor shall perform all work in compliance with all applicable UPRR and FRA rules and regulations. Contractor shall arrange and conduct all work in such manner and at such times as shall not endanger or interfere with the safe operation of the tracks and property of UPRR and the traffic moving on such tracks, or the wires, signals and other property of UPRR, its tenants or licensees, at or in the vicinity of the work. UPRR shall be reimbursed by Contractor or Agency for train delay costs and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction work or other activities.
- B. Construction activities will be permitted within 12 feet (3.65 m) of the centerline of operational tracks only if absolutely necessary and UPRR's Designated Representative grants approval. Construction activities within 12 feet of the operational track(s) must allow the tracks to stay operational.
- C. Track protection is required for all work equipment (including rubber tired equipment) operating within 25 feet (7.62 m) from nearest rail.
- D. The Contractor is also advised that new railroad facilities within the project may be built by UPRR and that certain Contractor's activities cannot proceed until that work is completed. The Contractor shall be aware of the limits of responsibilities and allow sufficient time in the schedule for that work to be accomplished and shall coordinate its efforts with the UPRR.

### **13-3.08 RAILROAD OPERATIONS**

- A. The Contractor shall be advised that trains and/or equipment are expected on any track, at any time, in either direction. Contractor shall become familiar with the train schedules in this location and structure its bid assuming intermittent track windows in this period, as defined in Paragraph B below.
- B. All railroad tracks within and adjacent to the Contract Site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with railroad operations.
- C. Work windows for this Contract shall be coordinated with the Agency's and the UPRR's Designated Representatives. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:
  - 1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and adjacent to the railroad tracks within 25 feet (7.62 m) of the nearest track, a UPRR flag person will be required. At the direction of the UPRR flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet (7.62 m), or as directed by the UPRR Designated Representative, from the tracks). Conditional Work Windows are available for the Project.
  - 2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the railroad tracks and/or signals must be completely operational for train operations and all UPRR, Public Utilities Commission (PUC) and Federal Railroad Administration (FRA) requirements, codes and regulations for operational tracks must be complied with. In the situation where the operating tracks and/or signals have been affected, the UPRR will perform inspections of the work prior to placing that track back into service. UPRR flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for UPRR review.

### **13-3.09 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES**

- A. Prior to beginning any work on or over the property of, or affecting the facilities of, the UPRR, the Contractor shall execute the Contractor's Endorsement that is a part of the Right of Entry Agreement to be signed by UPRR and Agency. There is a fee for processing of the agreement. This cost shall be borne by the Contractor. Contractor shall submit a copy of the executed agreement and the insurance policies, binders, certificates and endorsements set forth therein to the Agency prior to commencing work on UPRR property. The right of entry agreement shall specify working time frames, flagging and inspection requirements, and any other items specified by the UPRR.
- B. The Contractor shall give the advance notice to the UPRR as required in the Right of Entry Agreement before commencing work in connection with construction upon or over UPRR's Right-of-Way and shall observe UPRR's rules and regulations with respect thereto.
- C. All work upon UPRR's Right-of-Way shall be done at such times and in such manner so as not to interfere with or endanger the operations of UPRR. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to UPRR's Designated Representative for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor, which requires flagging and/or inspection service, shall be deferred until the flagging protection required by UPRR is available at the job site. See Section 13-3.24 for railroad flagging requirements.
- D. The Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of any work. The written request must include:
  - 1. Exactly what the work entails.
  - 2. The days and hours that work will be performed.
  - 3. The exact location of work, and proximity to the tracks.
  - 4. The type of window requested and the amount of time requested.
  - 5. The designated contact person.

The Contractor shall provide a written confirmation notice to the UPRR at least 48 hours before commencing work in connection with approved work windows when work will be performed within 25 feet (7.62 m) of any track center line. All work shall be performed in accordance with previously approved work plans.

- E. Should a condition arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of UPRR, the Contractor shall make such provisions. If in the judgment of UPRR's Designated Representative such provisions are insufficient, the UPRR's Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the UPRR. UPRR or the Agency shall have the right to order Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the UPRR's Designated Representative, the Contractor's operations could endanger UPRR's operations. In the event such an order is given, Contractor shall immediately notify the Agency of the order.

### **13-3.10 INSURANCE**

Contractor shall not begin work upon or over UPRR's Right-of-Way until UPRR has been furnished the insurance policies, binders, certificates and endorsements required by the Right-of-Entry Agreement and UPRR's Designated Representative has advised the Agency that such insurance is in accordance with the Agreement. The required insurance shall be kept in full force and effect during the performance of work and thereafter until Contractor removes all tools, equipment, and material from UPRR's property and cleans the premises in a manner reasonably satisfactory to UPRR.

### **13-3.11 RAILROAD SAFETY ORIENTATION**

All personnel employed by the Contractor and all subcontractors must complete the UPRR course "Orientation for Contractor's Safety", and be registered prior to working on UPRR property. This orientation is available at [www.contractororientation.com](http://www.contractororientation.com). This course is required to be completed annually.

### **13-3.12 COOPERATION**

UPRR will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of UPRR's right-of-way in performing the work.

**13-3.13 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES**

The Contractor shall abide by the following minimum temporary clearances during the course of construction:

- A. 3.66 m (12' – 0") horizontal from centerline of track
- B. 6.40 m (21' – 0") vertically above top of rail.

For construction clearance less than listed above, local Operating Unit review and approval is required.

**13-3.14 APPROVAL OF REDUCED CLEARANCES**

- A. The minimum track clearances to be maintained by the Contractor during construction are specified in Section 13-3.13 herein.
- B. Any proposed infringement on the specified minimum clearances due to the Contractor's operations shall be submitted to UPRR's Designated Representative through the Agency at least 30 days in advance of the work and shall not be undertaken until approved in writing by the UPRR's Designated Representative.
- C. No work shall commence until the Contractor receives in writing assurance from UPRR's Designated Representative that arrangements have been made for flagging service, as may be necessary and receives permission from UPRR's Designated Representative to proceed with the work.

**13-3.15 CONSTRUCTION AND AS-BUILT SUBMITTALS**

- A. Submittals are required for construction materials and procedures as outlined below. The submittals shall include all review comments from the Agency and the Engineer of Record. All design submittals shall be stamped and signed by a Professional Engineer registered in the State of California.
- B. The tables below provide UPRR's minimum submittal requirements for the construction items noted. Submittal requirements are in addition to those specified elsewhere in these bid documents. The minimum review times indicated below represent UPRR's requirements only. The Contractor shall allow additional time for the Agency's review time as stated elsewhere in these bid documents.
- C. Submittals shall be made by the Agency to the UPRR Manager of Industry and Public Projects unless otherwise directed by the Railroad. Items in Table 1 shall be submitted for both railroad overpass and underpass projects, as applicable. Items in Table 2 shall be submitted for railroad underpass projects only.

TABLE 1

ITEM	DESCRIPTION	SETS REQUIRED	UPRR's Minimum Review Time
1	Shoring design and details	4	4 weeks
2	Falsework design and details	4	4 weeks
3	Drainage design provisions	4	4 weeks
4	Erection diagrams and sequence	4	4 weeks
5	Demolition diagram and sequence	4	4 weeks

Prior to or during construction of railroad underpass structures, the UPRR requires the review of drawings, reports, test data and material data sheets to determine compliance with the specifications. Product information for items noted in Table 2 be submitted to UPRR's Designated Representative through the Agency for their own review and approval of the material. The signed submittal and the Agency's review comments will be reviewed by UPRR or their consultant. If a consultant performs the reviews, the consultant may reply directly to the Agency or its Designated Representative after consultation with UPRR. Review of the submittals will not be conducted until after review by the Agency or its Designated Representative. Review of the submittal items will require a minimum of four (4) weeks after receipt from the Agency.

TABLE 2

ITEM	DESCRIPTION	SETS REQUIRED	NOTES
1	Shop drawings	4	Steel and Concrete members
2	Bearings	4	For entire structures
3	Concrete Mix Designs	4	For entire structures
4	Rebar & Strand certifications	4	For superstructure only
5	28 day concrete strength	4	For superstructure only
6	Waterproofing material certifications and installation procedure	4	Waterproofing & protective boards
7	Structural steel certifications	4	All fracture critical members & other members requiring improved notch toughness
8	Fabrication and Test reports	4	All fracture critical members & other members requiring improved notch toughness
9	Welding Procedures and Welder Certification	4	AWS requirements
10	Foundation Construction Reports	4	Pile driving, drilled shaft construction, bearing pressure test reports for spread footings
11	Compaction testing reports for backfill at abutments	4	Must meet 95% maximum dry density, Modified Proctor ASTM D1557

D. As-Built Records shall be submitted to the UPRR within 60 days of completion of the structures. These records shall consist of the following items:

1. Overpass Projects
  - a. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
  - b. Hard copies of all structure design drawings with as-constructed modifications shown.
2. Underpass Projects
  - a. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
  - b. Hard copies of all structure design drawings with as-constructed modifications shown.
  - c. Final approved copies of shop drawings for concrete and steel members.
  - d. Foundation Construction Reports
  - e. Compaction testing reports for backfill at abutments

### 13-3.16 APPROVAL OF DETAILS

The details of the construction affecting the UPRR tracks and property not already included in the Contract Plans shall be submitted to UPRR's Designated Representative through the Agency for UPRR's review and written approval before such work is undertaken. Review and approval of these submittals will require a minimum of four (4) weeks in addition to the Agency's review time as stated elsewhere in these bid documents.

### 13-3.17 MAINTENANCE OF RAILROAD FACILITIES

- A. The Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from Contractor's operations; to promptly repair eroded areas within UPRR's right of way and to repair any other damage to the property of UPRR, or its tenants.
- B. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.
- C. The Contractor must submit a proposed method of erosion control and have the method reviewed by the UPRR prior to beginning any grading on the Project Site. Erosion control methods must comply with all applicable local, state and federal regulations.

### **13-3.18 SITE INSPECTIONS BY UPRR'S DESIGNATED REPRESENTATIVE**

- A. In addition to the office reviews of construction submittals, site inspections may be performed by UPRR's Designated Representative at significant points during construction, including but not limited to the following:
  - 1. Preconstruction meetings.
  - 2. Pile driving, drilling of caissons or drilled shafts.
  - 3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
  - 4. Erection of precast concrete or steel bridge superstructure.
  - 5. Placement of waterproofing (prior to placing ballast on bridge deck).
  - 6. Completion of the bridge structure.
- B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by UPRR.
- C. A detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed, shall be provided to the Agency for submittal to UPRR's Designated Representative for review prior to commencement of work. This schedule shall also include the anticipated dates when the above listed events will occur. This schedule shall be updated for the above listed events as necessary, but at least monthly so that site visits may be scheduled.

### **13-3.19 UPRR REPRESENTATIVES**

- A. UPRR representatives, conductors, flag person or watch person will be provided by UPRR at expense of the Agency or Contractor (as stated elsewhere in these bid documents) to protect UPRR facilities, property and movements of its trains or engines. In general, UPRR will furnish such personnel or other protective services as follows:
  - 1. When any part of any equipment is standing or being operated within 25 feet (7.62 m), measured horizontally, from centerline of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot(7.62 m) limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
  - 2. For any excavation below elevation of track subgrade if, in the opinion of UPRR's Designated Representative, track or other UPRR facilities may be subject to settlement or movement.
  - 3. During any clearing, grubbing, excavation or grading in proximity to UPRR facilities, which, in the opinion of UPRR's Designated Representative, may endanger UPRR facilities or operations.
  - 4. During any contractor's operations when, in the opinion of UPRR's Designated Representative, UPRR facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.
  - 5. The Contractor shall arrange with the UPRR Designated Representative to provide the adequate number of flag persons to accomplish the work.

### **13-3.20 WALKWAYS REQUIRED**

Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than twelve feet (12') (3.65 m) from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while UPRR's flagman service is provided shall be removed before the close of each work day. Walkways with railings shall be constructed by Contractor over open excavation areas when in close proximity of track, and railings shall not be closer than 8' – 6" (2.60 m) horizontally from center line of tangent track or 9' – 6" (2.90 m) horizontally from centerline of curved track.

### **13-3.21 COMMUNICATIONS AND SIGNAL LINES**

If required, UPRR will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by UPRR's forces in connection with its operation at expense of the Agency. This work by UPRR will be done by its own forces and it is not a part of the Work under this Contract.

### **13-3.22 TRAFFIC CONTROL**

Contractor's operations that control traffic across or around UPRR facilities shall be coordinated with and approved by the UPRR's Designated Representative.

### **13-3.23 CONSTRUCTION EXCAVATIONS**

- A. The Contractor shall be required to take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA and UPRR "Guidelines for Temporary Shoring".
- B. The Contractor shall contact UPRR's "Call Before Your Dig" at least 48 hours prior to commencing work at 1-800-336-9193 during normal business hours (6:30 a.m. to 8:00 p.m. central time, Monday through Friday, except holidays - also a 24 hour, 7 day a week number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near UPRR property, the Contractor will co-ordinate with UPRR and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near UPRR property.

### **13-3.24 RAILROAD FLAGGING**

Performance of any work by the Contractor in which person(s) or equipment will be within twenty-five (25) feet (7.62 m) of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach within twenty-five (25) feet (7.62 m) of any track, may require railroad flagging services or other protective measures. Contractor shall give the advance notice to the UPRR as required in the "Contractor's Right of Entry Agreement" before commencing any such work, so that the UPRR may determine the need for flagging or other protective measures to ensure the safety of the railroad's operations. Contractor shall comply with all other requirements regarding flagging services covered by the "Contractor's Right of Entry Agreement". Any costs associated with failure to abide by these requirements will be borne by the Contractor.

### **13-3.25 CLEANING OF RIGHT-OF-WAY**

Contractor shall, upon completion of the work to be performed by Contractor upon the premises, over or beneath the tracks of UPRR, promptly remove from the Right-of-Way of UPRR all of Contractor's tools, implements, and other materials whether brought upon the Right-of-Way by Contractor or any subcontractors, employee or agent of Contractor or of any subcontractor, and leave the Right-of-Way in a clean and presentable condition to satisfaction of UPRR.

**ENGINEER'S ESTIMATE**  
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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	070012	PROGRESS SCHEDULE (CRITICAL PATH METHOD)	LS	LUMP SUM	LUMP SUM	
2	070018	TIME-RELATED OVERHEAD	LS	LUMP SUM	LUMP SUM	
3 (S)	071322	TEMPORARY FENCE (TYPE CL-1.8)	M	500		
4 (S)	010979	TEMPORARY FENCE (TYPE CL-1.8, SLATTED)	M	1020		
5	071325	TEMPORARY FENCE (TYPE ESA)	M	1300		
6	074019	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	LUMP SUM	LUMP SUM	
7	074020	WATER POLLUTION CONTROL	LS	LUMP SUM	LUMP SUM	
8	010980	DEWATERING AND NON-STORM WATER DISCHARGE CONTROL	LS	LUMP SUM	LUMP SUM	
9	074029	TEMPORARY SILT FENCE	M	1800		
10	074032	TEMPORARY CONCRETE WASHOUT FACILITY	EA	10		
11	074033	TEMPORARY CONSTRUCTION ENTRANCE	EA	10		
12	074037	MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL)	EA	4		
13	074038	TEMPORARY DRAINAGE INLET PROTECTION	EA	50		
14	074040	TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)	M2	42 500		
15	010981	TEMPORARY SLOPE PAVING	M3	70		
16 (S)	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
17 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
18 (S)	120120	TYPE III BARRICADE	EA	7		
19 (S)	120149	TEMPORARY PAVEMENT MARKING (PAINT)	M2	290		
20 (S)	120159	TEMPORARY TRAFFIC STRIPE (PAINT)	M	99 300		

**ENGINEER'S ESTIMATE**  
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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21 (S)	120165	CHANNELIZER (SURFACE MOUNTED)	EA	510		
22 (S)	120300	TEMPORARY PAVEMENT MARKER	EA	25 800		
23 (S)	121161	TEMPORARY TERMINAL SECTION (TYPE K)	EA	10		
24	128650	PORTABLE CHANGEABLE MESSAGE SIGN	EA	4		
25 (S)	129000	TEMPORARY RAILING (TYPE K)	M	45 200		
26 (S)	129100	TEMPORARY CRASH CUSHION MODULE	EA	1160		
27 (S)	129150	TEMPORARY TRAFFIC SCREEN	M	45 200		
28	150206	ABANDON CULVERT	M	2660		
29	150221	ABANDON INLET	EA	62		
30	150224	ABANDON MANHOLE	EA	1		
31	150241	ABANDON SEWER	M	280		
32	010982	ABANDON WATER	M	560		
33	150605	REMOVE FENCE	M	150		
34	150608	REMOVE CHAIN LINK FENCE	M	800		
35 (S)	150662	REMOVE METAL BEAM GUARD RAILING	M	1730		
36 (S)	010983	REMOVE THRIE BEAM BARRIER	M	360		
37	150668	REMOVE FLARED END SECTION	EA	1		
38	150704	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE	M	13 300		
39	150714	REMOVE THERMOPLASTIC TRAFFIC STRIPE	M	18 800		
40	150715	REMOVE THERMOPLASTIC PAVEMENT MARKING	M2	450		

**ENGINEER'S ESTIMATE**  
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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
41	150722	REMOVE PAVEMENT MARKER	EA	10 800		
42	150742	REMOVE ROADSIDE SIGN	EA	115		
43 (S)	150760	REMOVE SIGN STRUCTURE	EA	13		
44 (S)	150767	REMOVE BRIDGE MOUNTED SIGN	EA	6		
45	150805	REMOVE CULVERT	M	330		
46	150820	REMOVE INLET	EA	24		
47	150821	REMOVE HEADWALL	EA	9		
48	010984	REMOVE MANHOLE (SEWER)	EA	3		
49	150860	REMOVE BASE AND SURFACING	M3	16 500		
50	151227	SALVAGE FRAME AND GRATE	EA	2		
51	152354	RELOCATE REMOTE CONTROL VALVE	EA	2		
52	152386	RELOCATE ROADSIDE SIGN-ONE POST	EA	1		
53	152430	ADJUST INLET	EA	27		
54	152604	MODIFY INLET	EA	24		
55	010985	MODIFY MANHOLE (SEWER)	EA	2		
56 (S)	153103	COLD PLANE ASPHALT CONCRETE PAVEMENT	M2	108 000		
57	BLANK					
58	153211	REMOVE CONCRETE SIDEWALK AND DRIVEWAY	M3	180		
59	010986	REMOVE CELLULAR CONCRETE	M3	130		
60	153214	REMOVE CONCRETE CURB	M3	190		

**ENGINEER'S ESTIMATE**  
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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
61	153221	REMOVE CONCRETE BARRIER	M	2320		
62 (F)	153235	CLEAN BRIDGE DECK	M2	5040		
63	155003	CAP INLET	EA	8		
64	156590	REMOVE CRASH CUSHION (SAND FILLED)	EA	3		
65	040913	PUMP PLANT EQUIPMENT REMOVAL	LS	LUMP SUM	LUMP SUM	
66	157551	BRIDGE REMOVAL, LOCATION A	LS	LUMP SUM	LUMP SUM	
67	157552	BRIDGE REMOVAL, LOCATION B	LS	LUMP SUM	LUMP SUM	
68	157553	BRIDGE REMOVAL, LOCATION C	LS	LUMP SUM	LUMP SUM	
69	157554	BRIDGE REMOVAL, LOCATION D	LS	LUMP SUM	LUMP SUM	
70	157565	BRIDGE REMOVAL (PORTION), LOCATION E	LS	LUMP SUM	LUMP SUM	
71	157566	BRIDGE REMOVAL (PORTION), LOCATION F	LS	LUMP SUM	LUMP SUM	
72	157567	BRIDGE REMOVAL (PORTION), LOCATION G	LS	LUMP SUM	LUMP SUM	
73	010987	SURVEY OF EXISTING NON HIGHWAY FACILITIES	LS	LUMP SUM	LUMP SUM	
74	160101	CLEARING AND GRUBBING	LS	LUMP SUM	LUMP SUM	
75	170101	DEVELOP WATER SUPPLY	LS	LUMP SUM	LUMP SUM	
76	190101	ROADWAY EXCAVATION	M3	145 000		
77	190106	ROADWAY EXCAVATION (TYPE Z-3) (AERIALY DEPOSITED LEAD)	M3	120		
78	190108	ROADWAY EXCAVATION (TYPE Y-2) (AERIALY DEPOSITED LEAD)	M3	12 600		
79	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
80 (F)	192003	STRUCTURE EXCAVATION (BRIDGE)	M3	2445		

## ENGINEER'S ESTIMATE

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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
81 (F)	192020	STRUCTURE EXCAVATION (TYPE D)	M3	3434		
82 (F)	192026	STRUCTURE EXCAVATION (PUMPING PLANT)	M3	4680		
83 (F)	192027	STRUCTURE BACKFILL (PUMPING PLANT)	M3	3180		
84 (F)	192037	STRUCTURE EXCAVATION (RETAINING WALL)	M3	6405		
85 (F)	192040	STRUCTURE EXCAVATION (LAGGING WALL)	M3	6964		
86 (F)	192050	STRUCTURE EXCAVATION (TIEBACK WALL)	M3	383		
87 (F)	193003	STRUCTURE BACKFILL (BRIDGE)	M3	4808		
88 (F)	193009	STRUCTURE BACKFILL (LAGGING WALL)	M3	2503		
89 (F)	193013	STRUCTURE BACKFILL (RETAINING WALL)	M3	3272		
90 (F)	193026	STRUCTURE BACKFILL (TIEBACK WALL)	M3	11		
91	193030	PERVIOUS BACKFILL MATERIAL	M3	22.7		
92	193114	SAND BACKFILL	M3	520		
93 (F)	193119	LEAN CONCRETE BACKFILL	M3	13		
94	010988	LIGHTWEIGHT MATERIAL (CELLULAR CONCRETE)	M3	130		
95 (F)	197021	EARTH RETAINING STRUCTURE, LOCATION A	M2	685		
96 (F)	197022	EARTH RETAINING STRUCTURE, LOCATION B	M2	325		
97 (F)	197023	EARTH RETAINING STRUCTURE, LOCATION C	M2	650		
98 (F)	197024	EARTH RETAINING STRUCTURE, LOCATION D	M2	325		
99	198001	IMPORTED BORROW	M3	122 000		
100	198009	IMPORTED BORROW (LIGHTWEIGHT AGGREGATE)	M3	11 000		

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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
101	010989	GEOSYNTHETIC REINFORCED EMBANKMENT	M2	4730		
102	010990	SETTLEMENT INSTRUMENTATION	LS	LUMP SUM	LUMP SUM	
103	010991	GROUND IMPROVEMENT	M3	13 500		
104 (S)	010992	EROSION CONTROL (NETTING)	M2	1500		
105 (S)	203003	STRAW (EROSION CONTROL)	TONN	20		
106 (S)	203014	FIBER (EROSION CONTROL)	KG	3200		
107 (S)	203021	FIBER ROLLS	M	7800		
108 (S)	203024	COMPOST (EROSION CONTROL)	M3	80		
109 (S)	203026	MOVE-IN/MOVE-OUT (EROSION CONTROL)	EA	8		
110 (S)	203045	PURE LIVE SEED (EROSION CONTROL)	KG	360		
111 (S)	203061	STABILIZING EMULSION (EROSION CONTROL)	KG	710		
112	BLANK					
113 (S)	010993	50 MM SPRINKLER CONTROL CONDUIT	M	130		
114	208023	75 MM GALVANIZED STEEL PIPE (SUPPLY LINE)	M	130		
115	208038	NPS 3 SUPPLY LINE (BRIDGE)	M	236		
116 (S)	010994	200 MM PLASTIC PIPE (PR200) (RECLAIMED WATER)	M	580		
117 (S)	208304	WATER METER	EA	2		
118 (S)	208731	200 MM CORRUGATED HIGH DENSITY POLYETHYLENE PIPE CONDUIT	M	490		
119 (S)	010995	450 MM CORRUGATED HIGH DENSITY POLYETHYLENE CONDUIT PIPE (RECLAIMED WATER)	M	33		
120 (S)	208909	EXTEND 200 MM CONDUIT	M	18		

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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
121	250401	CLASS 4 AGGREGATE SUBBASE	M3	34 000		
122	260201	CLASS 2 AGGREGATE BASE	M3	4060		
123	260301	CLASS 3 AGGREGATE BASE	M3	14 600		
124	280000	LEAN CONCRETE BASE	M3	9190		
125	290201	ASPHALT TREATED PERMEABLE BASE	M3	2070		
126	390102	ASPHALT CONCRETE (TYPE A)	TONN	65 100		
127	390106	ASPHALT CONCRETE (OPEN GRADED)	TONN	9100		
128	390108	ASPHALT CONCRETE BASE (TYPE A)	TONN	8050		
129	394002	PLACE ASPHALT CONCRETE (MISCELLANEOUS AREA)	M2	6570		
130	394044	PLACE ASPHALT CONCRETE DIKE (TYPE C)	M	130		
131	394048	PLACE ASPHALT CONCRETE DIKE (TYPE E)	M	6310		
132	394049	PLACE ASPHALT CONCRETE DIKE (TYPE F)	M	650		
133	394054	SHOULDER RUMBLE STRIP (AC, GROUND-IN INDENTATIONS)	STA	37		
134	395000	LIQUID ASPHALT (PRIME COAT)	TONN	14		
135	401000	CONCRETE PAVEMENT	M3	6490		
136	404092	SEAL PAVEMENT JOINT	M	13 300		
137 (S)	040914	760 MM CAST-IN-DRILLED-HOLE CONCRETE PILING	M	4984		
138 (S)	040915	914 MM CAST-IN-DRILLED-HOLE CONCRETE PILING	M	50		
139	490700	FURNISH PILING (CLASS 900) (ALTERNATIVE W)	M	10 512		
140 (S)	490701	DRIVE PILE (CLASS 900) (ALTERNATIVE W)	EA	462		

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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
141	490753	FURNISH PILING (CLASS 625)	M	663		
142	490754	DRIVE PIE (CLASS 625)	EA	33		
143	490772	FURNISH PILING (CLASS 625) (ALTERNATIVE W)	M	13 440		
144 (S)	490773	DRIVE PILE (CLASS 625) (ALTERNATIVE W)	EA	626		
145	499030	FURNISH CAST-IN-STEEL-SHELL CONCRETE PILING (610 MM)	M	584		
146 (S)	499031	DRIVE CAST-IN-STEEL-SHELL CONCRETE PILE (610 MM)	EA	24		
147 (S)	500001	PRESTRESSING CAST-IN-PLACE CONCRETE	LS	LUMP SUM	LUMP SUM	
148 (S)	500050	TIEBACK ANCHOR	EA	82		
149 (F)	510051	STRUCTURAL CONCRETE, BRIDGE FOOTING	M3	1847		
150 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	M3	11 725		
151 (F)	510060	STRUCTURAL CONCRETE, RETAINING WALL	M3	3707		
152 (F)	040916	STRUCTURAL CONCRETE, SOUND WALL FOOTING	M3	13		
153 (F)	510069	STRUCTURE CONCRETE (PUMPING PLANT)	M3	720		
154 (F)	510072	STRUCTURAL CONCRETE, BARRIER SLAB	M3	477		
155 (F)	510085	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE EQ)	M3	32		
156 (F)	510086	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	M3	479		
157	510104	CLASS A CONCRETE (BOX CULVERT)	M3	12		
158 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	M3	531		
159 (F)	510700	MINOR CONCRETE (PILE CAP)	M3	226		
160	010996	INSTALL PERCAST MEDALLION PANEL	EA	4		

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Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
161 (F)	511035	ARCHITECTURAL TREATMENT	M2	5027		
162	511106	DRILL AND BOND DOWEL	M	103		
163 (S)	512233	FURNISH PRECAST PRESTRESSED CONCRETE GIRDER (25 M - 30 M)	EA	2		
164 (S)	512234	FURNISH PRECAST PRESTRESSED CONCRETE GIRDER (30 M - 35 M)	EA	2		
165 (S)	512401	ERECT PRECAST CONCRETE GIRDER	EA	4		
166 (F)	513501	CONCRETE CLOSURE WALL	M2	280		
167	515020	REFINISH BRIDGE DECK	M2	54		
168 (S-F)	518002	SOUND WALL (MASONRY BLOCK)	M2	4849		
169 (S)	518050	PTFE BEARING	EA	32		
170 (S)	519117	JOINT SEAL (MR 30 MM)	M	6		
171 (S)	519120	JOINT SEAL (MR 15 MM)	M	23		
172 (S)	519127	JOINT SEAL ASSEMBLY (MR 90 MM)	M	43		
173 (S)	519128	JOINT SEAL ASSEMBLY (MR 100 MM)	M	69		
174 (S)	519144	JOINT SEAL (MR 50 MM)	M	123		
175 (S-F)	520102	BAR REINFORCING STEEL (BRIDGE)	KG	2 336 043		
176 (S-F)	520103	BAR REINFORCING STEEL (RETAINING WALL)	KG	929 629		
177 (S-F)	520107	BAR REINFORCING STEEL (BOX CULVERT)	KG	1178		
178 (S-F)	520113	BAR REINFORCING STEEL (PUMPING PLANT)	KG	84 600		
179 (F)	530100	SHOTCRETE	M3	123		
180	540102	TREAT BRIDGE DECK	M2	5040		

**ENGINEER'S ESTIMATE****04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
181	540109	FURNISH BRIDGE DECK TREATMENT MATERIAL (LOW ODOR)	L	2290		
182 (F)	560203	FURNISH SIGN STRUCTURE (BRIDGE MOUNTED WITH WALKWAY)	KG	6656		
183 (S-F)	560204	INSTALL SIGN STRUCTURE (BRIDGE MOUNTED WITH WALKWAY)	KG	6656		
184 (F)	560218	FURNISH SIGN STRUCTURE (TRUSS)	KG	152 200		
185 (S-F)	560219	INSTALL SIGN STRUCTURE (TRUSS)	KG	152 200		
186	560233	FURNISH FORMED PANEL SIGN (OVERHEAD)	M2	547		
187	560234	FURNISH LAMINATED PANEL SIGN (25.4 MM-TYPE A)	M2	74		
188	560238	FURNISH SINGLE SHEET ALUMINUM SIGN (1.6 MM-UNFRAMED)	M2	45		
189	560239	FURNISH SINGLE SHEET ALUMINUM SIGN (2.0 MM-UNFRAMED)	M2	57		
190	560241	FURNISH SINGLE SHEET ALUMINUM SIGN (1.6 MM-FRAMED)	M2	10		
191	560242	FURNISH SINGLE SHEET ALUMINUM SIGN (2.0 MM-FRAMED)	M2	5		
192 (S)	561013	1372 MM CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	M	73		
193 (S)	561015	1524 MM CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	M	52		
194 (F)	562002	METAL (BARRIER MOUNTED SIGN)	KG	110		
195 (F)	010997	METAL (SOUND WALL MOUNTED SIGN)	KG	700		
196	566011	ROADSIDE SIGN - ONE POST	EA	80		
197	566012	ROADSIDE SIGN - TWO POST	EA	10		
198	568001	INSTALL SIGN (STRAP AND SADDLE BRACKET METHOD)	EA	4		
199	568016	INSTALL SIGN PANEL ON EXISTING FRAME	M2	43		
200	620910	450 MM ALTERNATIVE PIPE CULVERT (TYPE A)	M	3190		

**ENGINEER'S ESTIMATE**  
**04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
201	620911	450 MM ALTERNATIVE PIPE CULVERT (TYPE B)	M	230		
202	620914	600 MM ALTERNATIVE PIPE CULVERT (TYPE A)	M	1340		
203	620915	600 MM ALTERNATIVE PIPE CULVERT (TYPE B)	M	500		
204	620919	750 MM ALTERNATIVE PIPE CULVERT	M	4.8		
205	620925	900 MM ALTERNATIVE PIPE CULVERT (TYPE A)	M	800		
206	620926	900 MM ALTERNATIVE PIPE CULVERT (TYPE B)	M	16		
207	620929	975 MM ALTERNATIVE PIPE CULVERT	M	1		
208	620931	1050 MM ALTERNATIVE PIPE CULVERT (TYPE A)	M	150		
209	620932	1050 MM ALTERNATIVE PIPE CULVERT (TYPE B)	M	63		
210	620933	1200 MM ALTERNATIVE PIPE CULVERT	M	66		
211	681066	150 MM PLASTIC PIPE	M	130		
212	010998	200 MM PLASTIC PIPE	M	34		
213	641132	300 MM PLASTIC PIPE	M	96		
214	010999	457 MM HIGH DENSITY POLYETHYLENE PIPE (OPEN TRENCH)	M	13		
215	011000	533 MM HIGH DENSITY POLYETHYLENE PIPE (OPEN TRENCH)	M	220		
216	011001	762 MM HIGH DENSITY POLYETHYLENE PIPE CONCRETE CASING (OPEN TRENCH)	M	53		
217	011002	457 MM POLYVINYL CHLORIDE PIPE (OPEN TRENCH)	M	250		
218	654329	900 MM REINFORCED CONCRETE PRESSURE PIPE (CLASS III)	M	190		
219	011003	1050 MM REINFORCED CONCRETE PRESSURE PIPE (CLASS III)	M	80		
220	011004	JACKED 300 MM REINFORCED CONCRETE PIPE (UNDERDRAIN)	M	40		

**ENGINEER'S ESTIMATE**  
**04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
221	655365	JACKED 450 MM REINFORCED CONCRETE PIPE (CLASS III)	M	36		
222	656360	JACKED 1200 MM REINFORCED CONCRETE PIPE (CLASS III, RUBBER GASKET JOINT)	M	40		
223	656361	JACKED 1500 MM REINFORCED CONCRETE PIPE (CLASS III, RUBBER GASKET JOINT)	M	75		
224	664008	300 MM CORRUGATED STEEL PIPE	M	120		
225	667050	525 MM X 375 MM CORRUGATED STEEL PIPE ARCH (2.01 MM THICK)	M	2.8		
226	681132	GEOCOMPOSITE DRAIN	M2	499		
227	681134	80 MM PLASTIC PIPE (EDGE DRAIN)	M	4680		
228	681137	80 MM PLASTIC PIPE (EDGE DRAIN OUTLET)	M	260		
229	011005	DRAINAGE WICK	M	91 100		
230	682049	CLASS 3 PERMEABLE MATERIAL (BLANKET)	M3	17 000		
231	685062	150 MM ALTERNATIVE PIPE UNDERDRAIN	M	2250		
232	685067	200 MM ALTERNATIVE PIPE UNDERDRAIN	M	2700		
233	685070	300 MM ALTERNATIVE PIPE UNDERDRAIN	M	95		
234	011006	450 MM ALTERNATIVE SLOTTED PIPE	M	970		
235	703271	450 MM CORRUGATED STEEL PIPE RISER (2.01 MM THICK)	M	0.8		
236	703450	WELDED STEEL PIPE CASING (BRIDGE)	M	66		
237	011007	305 MM WELDED STEEL PIPE (BURIED PIPE)	M	82		
238	011008	305 MM WELDED STEEL PIPE (IN BRIDGE)	M	78		
239	705336	450 MM ALTERNATIVE FLARED END SECTION	EA	10		
240	707133	900 MM PRECAST CONCRETE PIPE INLET	M	4		

## ENGINEER'S ESTIMATE

04-016014

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
241	011009	203 MM HIGH DENSITY POLYETHYLENE PIPE (JACK AND BORE)	M	23		
242	011010	533 MM HIGH DENSITY POLYETHYLENE PIPE (MICROTUNNELING)	M	85		
243	011011	457 MM DUCTILE IRON PIPE (MICROTUNNELING)	M	170		
244	011012	CONSTRUCT MANHOLE (SEWER)	EA	8		
245	721010	ROCK SLOPE PROTECTION (BACKING NO. 1, METHOD B)	M3	48		
246 (F)	721810	SLOPE PAVING (CONCRETE)	M3	7		
247	011013	GABION-FACED REINFORCED EMBANKMENT	M3	1090		
248	729010	ROCK SLOPE PROTECTION FABRIC	M2	96		
249	731502	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	M3	780		
250 (F)	731517	MINOR CONCRETE (GUTTER)	M3	111		
251	011014	MINOR CONCRETE (BROOM FINISH)	M3	280		
252 (S)	740500	DRAINAGE PUMPING EQUIPMENT	LS	LUMP SUM	LUMP SUM	
253 (S)	741001	PUMPING PLANT ELECTRICAL EQUIPMENT	LS	LUMP SUM	LUMP SUM	
254 (S-F)	750001	MISCELLANEOUS IRON AND STEEL	KG	46 376		
255 (S-F)	750500	MISCELLANEOUS METAL	KG	1742		
256 (S-F)	750501	MISCELLANEOUS METAL (BRIDGE)	KG	2800		
257 (S-F)	750503	MISCELLANEOUS METAL (RESTRAINER)	KG	355		
258 (S-F)	750520	PUMPING PLANT METAL WORK	KG	10 400		
259 (S)	800382	CHAIN LINK FENCE (TYPE CL-0.9, VINYL-CLAD)	M	260		
260 (S-F)	800392	CHAIN LINK FENCE (TYPE CL-1.8, VINYL-CLAD)	M	390		

**ENGINEER'S ESTIMATE**  
**04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
261 (S)	800701	WOOD FENCE	M	150		
262 (S)	802595	3.0 M CHAIN LINK GATE (TYPE CL-1.8)	EA	2		
263 (S)	802596	3.7 M CHAIN LINK GATE (TYPE CL-1.8)	EA	1		
264 (S)	802674	5.5 M CHAIN LINK GATE (TYPE CL-1.8)	EA	1		
265 (S)	011015	5.1 M CHAIN LINK GATE (TYPE CL-1.8)	EA	1		
266	810116	SURVEY MONUMENT (TYPE D)	EA	12		
267	820110	MILEPOST MARKER	EA	8		
268	700617	DRAINAGE INLET MARKER	EA	32		
269	820141	OBJECT MARKER (TYPE K-1)	EA	4		
270	820151	OBJECT MARKER (TYPE L-1)	EA	37		
271 (S)	832003	METAL BEAM GUARD RAILING (WOOD POST)	M	1020		
272 (S-F)	833032	CHAIN LINK RAILING (TYPE 7)	M	595		
273 (F)	833125	CONCRETE BARRIER (TYPE 25)	M	75		
274 (F)	833140	CONCRETE BARRIER (TYPE 26)	M	212		
275 (S)	839310	DOUBLE THRIE BEAM BARRIER	M	60		
276 (S)	011016	REPLACE CONCRETE BARRIER (PULL BOX)	M	11		
277 (S-F)	839521	CABLE RAILING	M	40		
278 (S)	839541	TRANSITION RAILING (TYPE WB)	EA	19		
279 (S)	839568	TERMINAL ANCHOR ASSEMBLY (TYPE SFT)	EA	25		
280 (S)	839584	ALTERNATIVE IN-LINE TERMINAL SYSTEM	EA	6		

**ENGINEER'S ESTIMATE**  
**04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
281 (S)	839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	29		
282 (S)	839591	CRASH CUSHION, SAND FILLED	EA	6		
283 (S)	839601	CRASH CUSHION (TYPE CAT)	EA	1		
284 (S)	839602	CRASH CUSHION (TYPE CAT) BACKUP	EA	1		
285 (S)	839603	CRASH CUSHION (ADIEM)	EA	2		
286 (S)	839604	CRASH CUSHION (REACT 9CBB)	EA	2		
287	839701	CONCRETE BARRIER (TYPE 60)	M	840		
288	839703	CONCRETE BARRIER (TYPE 60C)	M	1960		
289 (F)	839704	CONCRETE BARRIER (TYPE 60D)	M	2184		
290	839705	CONCRETE BARRIER (TYPE 60E)	M	1250		
291 (F)	839717	CONCRETE BARRIER (TYPE 732 MODIFIED)	M	1277		
292 (F)	040917	CONCRETE BARRIER (TYPE 742 MOD)	M	544		
293 (F)	839726	CONCRETE BARRIER (TYPE 736A)	M	165		
294 (F)	040918	CONCRETE BARRIER (TYPE 736A MOD)	M	357		
295 (S)	840515	THERMOPLASTIC PAVEMENT MARKING	M2	420		
296 (S)	840561	100 MM THERMOPLASTIC TRAFFIC STRIPE	M	32 000		
297 (S)	840562	150 MM THERMOPLASTIC TRAFFIC STRIPE	M	350		
298 (S)	840563	200 MM THERMOPLASTIC TRAFFIC STRIPE	M	8190		
299 (S)	840564	200 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 3.66 M - 0.92 M)	M	4530		
300 (S)	840567	100 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 1.83 M - 0.30 M)	M	95		

**ENGINEER'S ESTIMATE****04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
301 (S)	840571	100 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 5.18 M - 2.14 M)	M	1060		
302 (S)	011017	150 MM THERMOPLASTIC TRAFFIC STRIPE (BROKEN 2.44 M - 1.22 M)	M	60		
303 (S)	850101	PAVEMENT MARKER (NON-REFLECTIVE)	EA	7130		
304 (S)	850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	5980		
305 (S)	860251	SIGNAL AND LIGHTING (LOCATION 1)	LS	LUMP SUM	LUMP SUM	
306 (S)	860252	SIGNAL AND LIGHTING (LOCATION 2)	LS	LUMP SUM	LUMP SUM	
307 (S)	860253	SIGNAL AND LIGHTING (LOCATION 3)	LS	LUMP SUM	LUMP SUM	
308 (S)	860298	SIGNAL AND LIGHTING (STAGE CONSTRUCTION)	LS	LUMP SUM	LUMP SUM	
309 (S)	860402	LIGHTING (CITY STREET)	LS	LUMP SUM	LUMP SUM	
310 (S)	011018	LIGHTING AND SIGN ILLUMINATION (STAGE CONSTRUCTION)	LS	LUMP SUM	LUMP SUM	
311 (S)	860460	LIGHTING AND SIGN ILLUMINATION	LS	LUMP SUM	LUMP SUM	
312 (S)	011019	TRAFFIC OPERATIONS SYSTEM	LS	LUMP SUM	LUMP SUM	
313 (S)	011020	CAMERA UNIT	EA	6		
314 (S)	011021	PAN/TILT UNIT	EA	6		
315 (S)	011022	CAMERA CONTROL UNIT	EA	4		
316 (S)	011023	VIDEO ENCODER UNIT	EA	4		
317 (S)	011024	INTEGRATED SERVICES DIGITAL NETWORK TERMINAL ADAPTER UNIT	EA	4		
318 (S)	011025	EXTINGUISHABLE MESSAGE SIGN PANEL (LED)	EA	9		
319 (S)	011026	GENERAL PACKET RADIO SYSTEM (GPRS) WIRELESS MODEM ASSEMBLY	EA	9		
320 (S)	011027	LONG LEAD-IN CABLE LOOP DETECTOR (LLLD) SENSOR UNIT	EA	4		

## ENGINEER'S ESTIMATE

04-016014

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
321 (S)	011028	FIBER OPTIC CONDUIT	LS	LUMP SUM	LUMP SUM	
322	BLANK					
323	073000	TEMPORARY CULVERT	M	260		
324	011849	TEMPORARY INLET	EA	10		
325	011850	TEMPORARY FLARED END SECTION	EA	8		
326	011851	TEMPORARY CRASH CUSHION (ADIEM)	EA	2		
327 (S)	490655	400 MM CAST-IN-DRILLED-HOLE CONCRETE PILING	M	174		
328	620904	300 MM ALTERNATIVE PIPE CULVERT	M	8		
329	656359	JACKED 1050 MM REINFORCED CONCRETE PIPE (CLASS III, RUBBER GASKET JOINT)	M	130		
330	664008	450 MM CORRUGATED STEEL PIPE (1.63 MM THICK)	M	3		
331	705334	300 MM ALTERNATIVE FLARED END SECTION	EA	5		
332	705337	600 MM ALTERNATIVE FLARED END SECTION	EA	16		
333	BLANK					
334	157568	BRIDGE REMOVAL (PORTION), LOCATION H	LS	LUMP SUM	LUMP SUM	
335	157569	BRIDGE REMOVAL (PORTION), LOCATION I	LS	LUMP SUM	LUMP SUM	
336	157570	BRIDGE REMOVAL (PORTION), LOCATION J	LS	LUMP SUM	LUMP SUM	
337	157571	BRIDGE REMOVAL, LOCATION K	LS	LUMP SUM	LUMP SUM	
338	620940	1500 MM ALTERNATIVE PIPE CULVERT	M	14		
339	664014	450 MM CORRUGATED STEEL PIPE (1.63 MM THICK)	M	10		
340	721811	SLOPE PAVING (MASONRY BLOCK)	M2	3303		

**ENGINEER'S ESTIMATE  
04-016014**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
341	012267	CONCRETE BARRIER (TYPE 60E MODIFIED)	M	110		
342	839731	CONCRETE BARRIER (TYPE 736B)	M	160		
343	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

**TOTAL BID (A):** = \_\_\_\_\_

**TOTAL BID (B):**

**\$14,600.00** x \_\_\_\_\_ = \_\_\_\_\_

(Cost Per Day) **(Enter Working Days Bid)**  
(Not To Exceed 1000 Days)

**TOTAL BASIS FOR COMPARISON OF BIDS:** **(A + B):** = \_\_\_\_\_